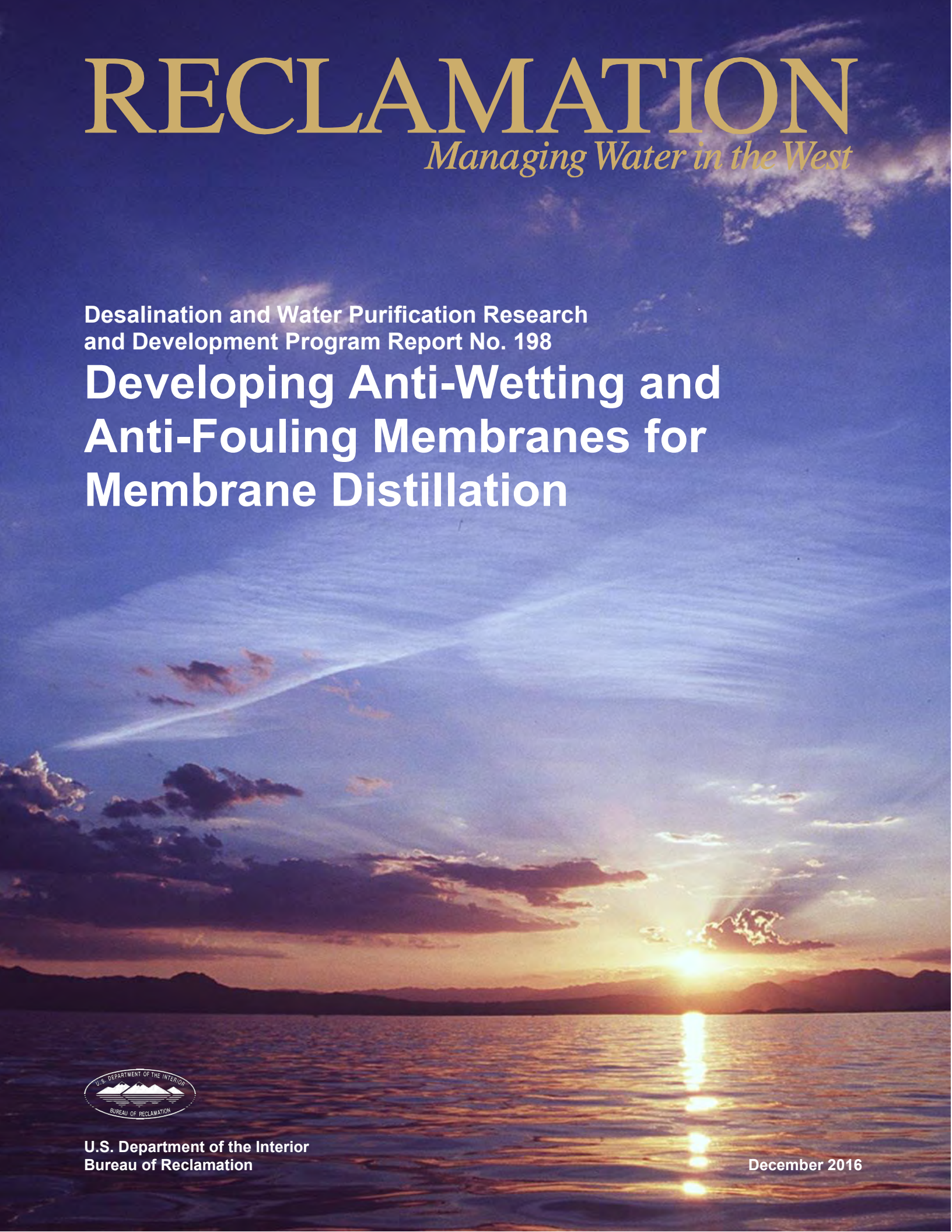

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Managing Water in the West

Desalination and Water Purification Research and Development Program Report No. 198

Developing Anti-Wetting and Anti-Fouling Membranes for Membrane Distillation

U.S. Department of the Interior
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14. ABSTRACT

This project aims to develop effective strategies via materials innovation to mitigate fouling and wetting in membrane distillation (MD). Conventional MD membranes are hydrophobic and thus highly susceptible to fouling by hydrophobes (e.g., oil) and to wetting by amphiphiles (e.g., surfactants). In this study, we developed an omniphobic membrane to mitigate MD wetting by surfactants, and composite membranes with asymmetric wettability to alleviate membrane fouling by oil. Using contact angle measurements, MD fouling and wetting experiments, as well as oil-probe force spectroscopy, we systematically investigated the impacts of solution composition and surface properties on the effectiveness of fouling and wetting mitigation in MD. The results of this study provide important insights to enhance MD performance and enable MD for wider applications.

15. SUBJECT TERMS

membrane distillation, membrane fouling, membrane wetting, special wetting property, force spectroscopy

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Developing Anti-Wetting and Anti-Fouling Membranes for Membrane Distillation

Prepared for Reclamation under Agreement No. R15AC00088

by
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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Acronyms and Abbreviations

AB	acid-based
AFM	atomic force spectroscopy
AGMD	air gap membrane distillation
CA	contact angle
CMC	critical micelle concentration
CTAB	cetrimonium bromide
CTS	chitosan
DCMD	direct contact membrane distillation
DI	deionized
DLS	dynamic light scattering
DLVO	Derjaguin Landau Verwey Overbeek
EDL	electrical double layer
EDS	energy dispersive X-ray spectroscopy
FAS	fluorinated alkyl silane
FAS@SFM	fluorinated alkyl silane modified silica fibrous membrane
FAS@SiNPs-SFM	fluorinated alkyl silane modified
FS	fluorosurfactant
FTIR	Fourier transform infrared spectroscopy
LEP	liquid entry pressure
MD	membrane distillation
MEMS	micro-electromechanical-sensor
MSF	multi-stage flash distillation
PVA@SFM	PVA blended electrospun silica fibrous membranes
PVA@SiNPs-SFM	PVA blended electrospun silica fibrous membranes with silica nanoparticles
PVDF	polyvinylidene fluoride
PZC	point of zero charge
RO	reverse osmosis
SEM	scanning electron microscopy
SFM	silica fibrous membrane
SGMD	sweeping gas membrane distillation
TEM	transmission electron microscopy
TEOS	tetraethoxysilane
TP	temperature polarization
vdW	van der Waals
VMD	vacuum membrane distillation
x-DLVO	extended Derjaguin Landau Verwey Overbeek
ZLD	zero liquid discharge

Chemical Abbreviations

C	carbon
F	fluorine
H	hydrogen
H_2O	water
H_3PO_4	phosphoric acid
HCl	hydrogen chloride
KCl	potassium chloride
NaCl	sodium chloride
NaOH	sodium hydroxide
O	oxygen
O/W	oil-in-water
PDA	polydopamine
PDDA	poly(diallyldimethylammonium chloride)
PEG	polyethylene glycol
PFO	sodium perfluorooctanoate
PP	polypropylene
SI	silica
SiNP	silica nanoparticles
SiO_2	silicon dioxide
TiO_2	titanium dioxide

Measurements

ºC	Celsius
cm	centimeter
cm/s	centimeters per second ()
g	gram
g/L	grams per liter
L	liter
LMH	liter per square meter per hour
M	moles per liter
mL	milliliter
mm	millimeter
mM	millimolar
MPa	megapascal
mV	millivolt
nm	nanometers
ppm	parts per million
PTFE	polytetrafluroethylene
PVA	polyvinyl alcohol
rpm	revolutions per minute
SDS	sodium dodecyl sulfate
wt	weight
wt %	percent weight
µm	micrometer
µn	used in figure 24 adhesion force and figure 37

Definition of Wettability

Wettability [a]	**Definition**	**Water CA**	**Oil CA**
hydrophilic	attractive to water	< 90 º	
superhydrophilic	strongly attractive to water	< 10 º (b)	
hydrophobic	repulsive to water	> 90 º	
superhydrophobic	strongly repulsive to water	> 150 º (c)	
oleophilic	attractive to oil		< 90 º
superoleophilic	strongly attractive to water		< 10 º
oleophobic	repulsive to oil	> 90 º	
superoleophobic	strongly repulsive to oil	> 150 º	
amphiphobic (or omniphobic)	repulsive to both water and oil	> 90 º	> 90 º
superamphiphobic	strongly repulsive to both water and oil	> 150 º	> 150 º

(a). Unless specified, the wettability is defined with air being the medium because contact angles (CA) are measured as in-air CAs.
(b) and (c). The specific CA cut-offs for the definition of super-wetting and super-anti-wetting can vary in other conventions.

Executive Summary

Membrane distillation (MD) is a membrane-based process capable of desalinating hypersaline brine water using low-grade thermal energy. MD has been proposed as a promising technology for treating hypersaline fracking wastewater as well as the brine concentration component for reducing brine volume in in-land brackish water reverse osmosis (RO) and for zero liquid discharge (ZLD). However, conventional MD membranes are hydrophobic and thus susceptible to membrane fouling by hydrophobic contaminants, such as oil or natural organic matter, or to membrane wetting by amphiphilic contaminants, such as natural or synthetic surfactants. This project's goal was to develop novel MD membranes that resist wetting or fouling even in the presence of amphiphilic or hydrophobic contaminants. These membranes would enable MD to operate with a wider range of feed water with different compositions. Specifically, we have developed MD membranes with special wetting properties by engineering both the membrane morphology and surface energy, and tested these membranes in direct contact MD experiments with feed solutions containing either oil, surfactants, or both.

Our original hypothesis was that an in-air omniphobic membrane, which resists wetting by both water and oil, could sustain robust MD performance against wetting by surfactants and fouling by oil. Experimental studies in this project revealed that such a hypothesis was only partly true: omniphobic membrane could mitigate membrane wetting by surfactants or membrane fouling by oil droplets that are stabilized by excess synthetic surfactants, but **not** membrane fouling by oil droplets in an oil-in-water (O/W) emulsion without excess surfactants. In other words, an in-air omniphobic membrane is **not** underwater oleophobic but rather underwater oleophilic, which renders it attractive to hydrophobic oil droplets.

To resist fouling by O/W emulsion without excess surfactants, we developed composite membranes comprising a hydrophobic substrate and an underwater superoleophobic skin layer, and showed that such composite membranes could effectively resist oil fouling and sustain long-term MD operation with stable performance. Such composite membranes, however, are not resistant to pore wetting by free surfactants in feed water. In summary, while fouling and wetting can indeed be mitigated via engineering MD membranes with special wetting properties, there no one-size-fits-all solution is available.

This study does not only develop novel MD membranes with special wettability to mitigate membrane fouling or wetting, but also provides a systematic and fundamental understanding regarding how special wetting properties can be tailored to address specific fouling and wetting problems in MD.

1. BACKGROUND

1.1. Mechanism and Potential Applications of MD

Membrane distillation (MD) is thermal distillation process using a microporous hydrophobic membrane (Lawson and Lloyd, 1997). In a direct contact MD (DCMD) process, the hydrophobic membrane creates a vapor gap that separates the hot salty stream (i.e., the feed stream) and the cold pure water stream (i.e., the distillate stream) (Alkhudhiri et al., 2012). The temperature difference between the feed and the distillate streams induces a partial vapor pressure difference between the liquid-membrane interfaces that drives the vapor to transfer from the feed-membrane interface to the distillate-membrane interface (Figure 1). The vapor condensing at the distillate-membrane interface increases the volume of the pure distillate, leaving all non-volatile species in the feed solution, and effectively desalinating part of the salty feed stream.

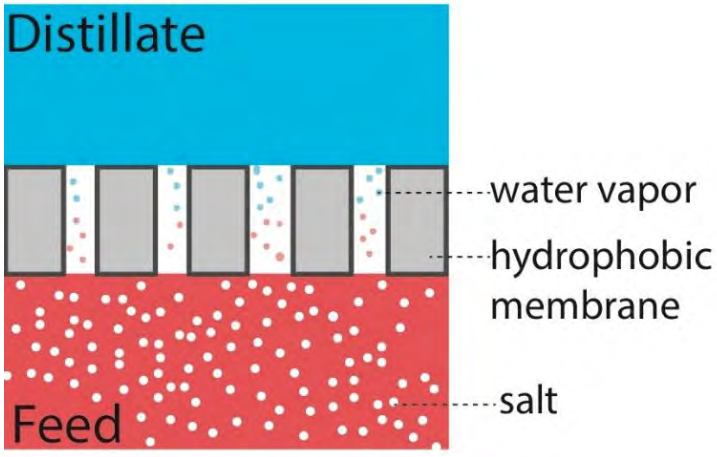

Figure 1.—illustration of the principle for DCMD. The hot salty feed stream (in red) and the cold pure distillate stream (in blue) are separated by a hydrophobic membrane.

In addition to DCMD, there are three other major types of MD (Figure 2):

- **DCMD:** the hot feed stream and cold distillate stream are both in direct contact with the membrane.

- **Air gap MD (AGMD):** in AGMD, the feed stream is in contact with the membrane, but the cold stream is in contact with a condenser that is separated from the membrane by an air gap. Water evaporating from the feed-membrane interface condenses on the condenser surface and exits the air gap as the distillate.

- **Sweeping gas MD (SGMD):** the vaporized water from the hot feed stream is swept by the air flow and condenses in an external condenser.

- **Vacuum MD (VMD):** the vapor is sucked by a vacuum and condenses externally as in SGMD.

(See El-Bourawi et al., 2006).

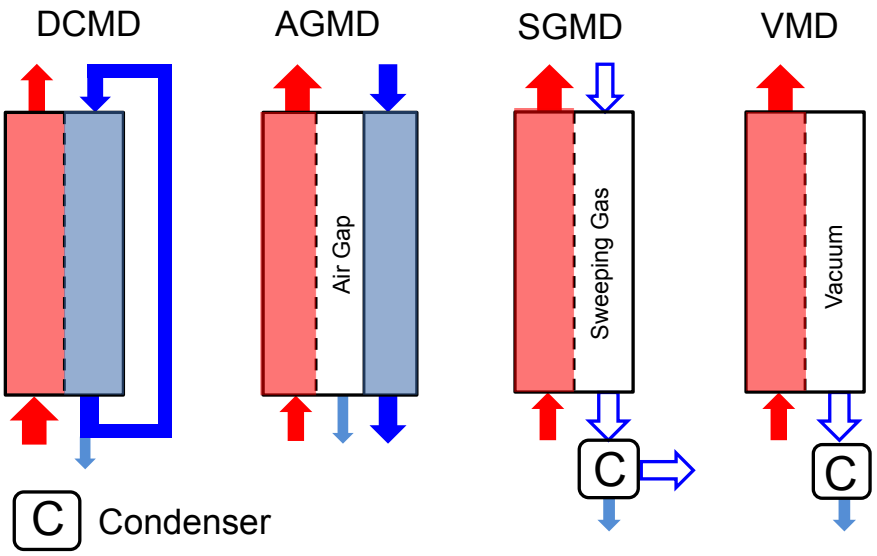

Figure 2.—Four major configurations of MD.

Unlike DCMD, in which condensation occurs microscopically at the distillate-membrane interface, in all three other MD configurations, condensation occurs macroscopically in the phase transition. It has been suggested that DCMD and AGMD are best suited for applications where water is the major component in the trans-membrane vapor flux (SGMD and VMD may have better performance when the processes aim to remove volatile species from the feed solution) (Lawson and Lloyd, 1997). Moreover, DCMD and AGMD have lower capital cost and smaller footprint due to the absence of an external condenser.

Several advantages of MD render it a highly promising desalination technology in certain emerging applications. First, because MD can operate at relatively low temperature, it can use low-grade thermal energy, such as waste heat from energy and industrial sectors, geothermal energy, and solar thermal energy, to considerably reduce the energy cost and carbon footprint for desalination compared to other fuel or electricity driven processes (El-Bourawi et al., 2006). Secondly, MD is a low capital cost desalination process compared to other conventional desalination processes (e.g., reverse osmosis (RO), multi-stage flash distillation (MSF)) which either require costly components such as high-pressure pumps and vessels or have a large spatial footprint.

Moreover, as a thermal process, MD can treat the highly saline brine with an osmotic pressure that far exceeds the maximum working pressure of RO, and is thus a promising technology for volume reduction of RO brines (Martinetti et al., 2009). In fact, MD can even concentrate RO brine to the extent of crystallization for mineral recovery (Chan et al., 2005 and Hickenbottom and Cath, 2014). For a similar reason, MD can be employed to desalinate the hyper-saline shale gas and oil wastewaters, which have a salinity level far beyond RO's treatment capability (Shaffer et al., 2013).

Last but not least, the relatively simple setup, low electric energy demand, and small equipment footprint of MD make it highly suitable for small-scale mobile desalination applications in remote regions where RO and conventional thermal desalination processes are not viable options due to their reliance on grid-power and expensive components that are not readily adaptable for small-scale systems.

1.2. General Criteria for MD Membranes

Regardless of the configuration used, an MD membrane plays the same critical role as a medium for vapor transfer but a barrier for liquid and salt transfer. There are four major criteria in evaluating the performance of an MD membrane: wetting resistance, salt rejection, permeability, and thermal conductivity.

The wetting resistance is usually characterized by liquid entry pressure (LEP), which quantifies the hydraulic pressure at which the liquid starts to overcome the surface tension and intrude the membrane pores. Assuming an ideal cylindrical pore of a radius of r, the LEP can be calculated from the properties of the membrane and the liquid (Franken et al., 1987 and Garcia-Payo et al., 2000) as shown in Equation 1:

$$LEP \approx -\frac{2\gamma_L cos\theta}{r} \quad (1)$$

Where:

γ_L is the surface tension of the liquid

θ is the intrinsic contact angle for a liquid-solid system with the solid being the membrane material.

A geometric factor can be applied to account for the difference between a cylindrical pore and the actual pore structure for a realistic membrane. Because a certain hydraulic pressure needs to be applied to circulate the streams along the feed and distillate channels, it is important to ensure that the hydraulic pressure anywhere in the module always remains lower than LEP. Because a realistic membrane typically has a distribution of pore sizes, theoretically, the maximum pore radius, r_{max}, should be used when calculating the minimum LEP.

Theoretically, a perfectly non-wetted membrane should yield a rejection of 100% for non-volatile species. However, even when the hydraulic pressure is higher than the LEP, an MD membrane can still function if only a very small fraction of the pores are wetted, in which case the salt rejection will be slightly lower than 100% (desalination practice typically requires a rejection > 99%). In practice, the LEP is measured by increasing the hydraulic pressure until observable trans-membrane water flow develops (Garcia-Payo et al., 2000).

Membrane permeability relates the vapor flux to partial vapor pressure difference across the membrane. In general, a membrane of smaller thickness, higher porosity, and lower tortuosity will have a higher permeability (Schofield et al., 1990a and Schofield et al., 1990b). A more permeable membrane can typically lead to a higher flux with the same temperature difference, and thus reduces the membrane area and the overall system scale required to achieve a target production capacity. The vapor flux across the membrane depends not only on the membrane properties and the bulk temperature difference, but also on the hydrodynamics of the feed and distillate streams, which can drastically affect the degree of temperature polarization (TP) and the trans-membrane driving force (Phattaranawik et al., 2003; Phattaranawik and Jiraratananon, 2001; Qtaishat et al., 2008; and Schofield et al., 1987).

Finally, a membrane with higher thermal efficiency is important for energy efficient MD operations. Heat transfer occurs not only in the form of latent heat carried by the trans-membrane vapor flow, but also via conduction through the membrane/vapor matrix (Gryta and Tomaszewska, 1998; Phattaranawik et al., 2003; Qtaishat et al., 2008; Schofield et al., 1987; and Termpiyakul et al., 2005). Conductive heat transfer is detrimental to an MD process as it reduces the driving force without contributing to any mass transfer. To quantify this detrimental impact, we usually use thermal efficiency, which is a performance-based parameter defined as the contribution of heat transfer carried by the trans-membrane vapor flow to the overall heat transfer across the membrane including the conductive heat transfer (Phattaranawik and Jiraratananon, 2001 and Schofield et al., 1987). Theoretically, an MD membrane with larger thickness, higher porosity, and solid material of lower thermal conductivity is preferred for minimizing the overall conductance of the membrane matrix. However, varying membrane thickness has conflicting impacts on the permeability and conductance, whereas increasing the porosity favors both aspects.

1.3. Potential Problems with Hydrophobic Membranes

Current commercial MD membranes are primarily made of several classes of hydrophobic polymer materials, including polytetrafluroethylene (PTFE), polypropylene (PP), and polyvinylidene fluoride (PVDF) (Alkhudhiri et al., 2012 and Alklaibi and Lior, 2005), although other hydrophobic copolymers have also been used in lab-scale development of MD membranes (García-Payo et al., 2009). In this section, we describe two potential problems with hydrophobic membranes when MD is used for highly challenging applications such as desalinating hypersaline brine with high levels of hydrophobic and/or amphiphilic contaminants (e.g., desalinating fracking wastewater and industrial brine). We note that even for more conventional applications of MD where the concentration of hydrophobic and/or amphiphilic contaminants is relatively low in the feed water, the same problem of fouling and/or wetting is still a concern as the contaminants' concentrations will eventually increase to a challengingly high level if the water recovery rate is high.

Because an MD membrane serves as a medium for vapor transfer but a barrier for liquid and salt transfer, it is important to maintain the functionality of an MD membrane by preventing it from wetting and fouling:

- **Wetting.** If an MD membrane is wetted and the micron-sized pores are flooded with water, the feed stream can pass through the flooded pores in its liquid form, failing the membrane as a barrier for salts, macromolecules, and other submicron size particles Figure 3(A) shows an example of this where surfactants wet the membrane: the hydrophobic tails of the surfactants attach to the membrane pore surface and hydrophilic heads of the surfactants align to create a channel for the feed stream to pass through (the pores), thereby leaking the ions to the distillate stream.

- **Fouling:** Alternatively, if an MD membrane is fouled and the pores are blocked by foulants, available space for vapor transfer will significant decrease, which undermines the MD membrane as a medium for vapor transfer Figure 3(B) shows an example of this where oil fouls the membrane: the oil droplets have the tendency to accumulate onto the hydrophobic membrane, thereby blocking the pores and reducing the available space for vapor transfer.

Figure 3.—Mechanisms of MD membrane failure by wetting or fouling.

When the feed solution has hydrophobic contaminants, the hydrophobic constituents in the wastewater tend to attach to and bind strongly with the hydrophobic membranes due to the strong long-range hydrophobic interaction (Israelachvili and Pashley, 1982; Meyer et al., 2006; and Tsao et al., 1993). This binding consequently blocks the membrane pores and reduces the available channels for vapor transfer (Zuo and Wang, 2013). Organic fouling experiments using proteins and polysaccharides as foulants have been conducted with a PP membrane. It was found that organic fouling can significantly reduce the permeate flux which can be mostly recovered using chemical cleaning (citric acid) followed by membrane drying (Gryta et al., 2001). Fouling with oil emulsions, however, were observed to be barely reversible (Gryta, 2008).

When the feed solution is abundant in amphiphilic contaminants, the attachment of these amphiphilic molecules onto the membrane pore surfaces (via hydrophobic tail anchoring) renders the membrane pores hydrophilic, thereby facilitating the transport of feed water through the membrane as liquid and resulting in unacceptable salt rejection. In addition, the amphiphilic contaminants can also reduce the overall surface tension of the feed solution, resulting in a lower LEP based on Equation 1. Using ethanol to wet the MD membranes to

reduce the overall surface tension of the feed solutions has been investigated (Peng et al., 2005 and Razmjou et al., 2012). Razmjou et al. (2012) observed that a superhydrophobic membrane or a composite membrane incorporating a hydrophilic layer on a hydrophobic membrane could mitigate the wetting problem to a certain extent. However, the superhydrophobic membrane was eventually wetted as the surface tension of the feed solution continued to decrease. Because membrane wetting in those experiments were induced by reducing the overall surface tension of the feed solution via introducing miscible solvents, it is unclear how the composite or superhydrophobic MD membranes perform in the presence of amphiphiles (e.g., surfactants).

1.4. Membranes with Special Wetting Properties

"Special wettability" typically refers to surface wetting properties that are not common encountered in daily life. The recent advancements in elucidating the mechanisms of special wetting properties observed in biological surfaces have inspired the development of artificial materials with various types of special wettability (Blossey, 2003; Feng et al., 2004; Grinthal and Aizenberg, 2014; Kota et al., 2014; K. Liu et al., 2010; Sun et al., 2005; Wong et al., 2013, 2011; and Yan et al., 2011). This biomimetic approach emphasizes the indispensable role of appropriate surface morphology in imparting the desired wetting properties that cannot be achieved by tailoring the material chemistry alone (Bhushan and Jung, 2011; Guo et al., 2011; Kota et al., 2013; Liu et al., 2010; Tuteja et al., 2008, 2007; and Xia and Jiang, 2008). Based on this approach, a large number of techniques have been developed to fabricate interfacial materials with special wettability by either bottom-up synthesis or modification of existing substrates to acquire the requisite surface chemistry and morphology (Li et al., 2007; Liu et al., 2012b; Roach et al., 2008; and Yan et al., 2011).

Some of the investigated surfaces of special wettability include those that are extremely repellent to water (superhydrophobic) (Ma and Hill, 2006), repellent to oil (superoleophobic) (Kota et al., 2013, 2012b and K. Liu et al., 2012b), or simultaneously repellent to both (omniphobic) (Wong et al., 2011 and Tuteja et al., 2008). There are also surfaces that are hydrophilic but oleophobic (i.e., wetted by water but not oil) (Liu et al., 2012b), which is more challenging to develop because liquids of a low surface tension, such as oil, usually wet a surface more readily than water which has a very high surface tension. In addition to surfaces of homogeneous wettability, some surfaces of patterned wettability are partially hydrophobic and partially hydrophilic (Garrod et al., 2007; Jung and Bhushan, 2008; Kietzig et al., 2009; and Zhai et al., 2006). Smart surfaces that can switch its wettability in response to environmental stimuli have also been developed (K. Liu et al., 2012b; Wischerhoff et al., 2008; Xia and Jiang, 2008; and Zhang et al., 2012).

The wettability of a membrane is one of the most critical material properties that dictate its performance. Some membrane processes dependent strongly on surface

wetting, such as membrane distillation (e.g., Lawson and Lloyd, 1997) and membrane-based gas stripping (e.g., Baker, 2002 and Feng et al., 2012) in which non-wetting condition is pivotal to the process viability. However, even for membrane processes based on other mechanisms such as size exclusion (e.g., nano- and ultra-filtration) and osmosis (e.g., reverse osmosis and forward osmosis), wettability still plays an important role on the membrane performance and is a standard characterization that has been investigated in most membrane fabrication or modification studies (Ghosh et al., 2008; Kang et al., 2007; Luo et al., 2005; Roudman and Digiano, 2000; and Tiraferri et al., 2012a).

Recently, our group developed an omniphobic MD membrane by perfluorinating a silica fibrous membrane decorated with nanoparticles (Lin et al., 2014). The omniphobic membrane is superior to a commercial PTFE membrane because it resists wetting by low-surface tension liquids including mineral oil, ethanol, and decane. The oleophobicity of this MD membrane stems from both the low surface tension and the multi-scale (i.e., both the fiber and the nanoparticle scales) re-entrant structures of the membrane. This versatile wetting resistance of the omniphobic membrane translates to its superior anti-wetting performance in an MD process: we showed that by adding surfactants into the feed solution, the salt rejection of an MD process was drastically crippled with a PTFE membrane but unaffected with an omniphobic membrane. Building on this success, this study aims to:

- Develop more facile approaches to fabricate omniphobic membranes with controllable properties

- Test whether omniphobic membranes are also resistant wetting against other types of surfactants and to fouling of hydrophobic contaminants

On the other hand, membrane processes based on size exclusion and osmosis mechanisms can also benefit substantially from enhanced surface wetting properties (Goosen et al., 2005 and Rana and Matsuura, 2010). For example, it has been well established that increasing the hydrophilicity of membranes can improve the membrane performance by mitigating organic or biological fouling in ultrafiltration (Madaeni et al., 2011), nanofiltration (Roudman and Digiano, 2000), reverse osmosis (Kang et al., 2007 and Zou et al., 2011) and forward osmosis (Romero-Vargas Castrillón et al., 2014; Shaffer et al., 2015; and Tiraferri et al., 2012b).

The underlying mechanism is: the hydration layer formed on a highly hydrophilic surface creates an energetic barrier that the organic or biological foulants have to overcome (i.e., to dehydrate the surface) before they can attach onto the membrane substrate surface (Chen et al., 2010). Typical organic or biological foulants are either hydrophobic or have hydrophobic moieties, and thus have a stronger tendency to bind with a hydrophobic surface due to the long-range hydrophobic interaction in water (Israelachvili and Pashley, 1982 and Meyer et

al., 2006). In this regard, the mechanism of superhydrophilic membrane for fouling mitigation is similar to superhydrophilic-underwater oleophobic filters for oil-water separation. Numerous studies have reported preparating superhydrophilic membranes by coating highly hydrophilic nanoparticles (e.g., Li et al., 2009; Luo et al., 2005; and Tiraferri et al., 2012b) or grafting polymers (e.g., Freger et al., 2002; Kang et al., 2007; Wavhal and Fisher, 2002; and Zhao et al., 2010), demonstrating that the modified membrane with improved wettability can lead to better performance with slower flux decline over time.

Surfaces with special wettability can enhance the anti-fouling performance to the next level. Recent studies suggest that novel ultrafiltration membranes with in-air hydrophilicity and oleophobicity offer anti-fouling performance that is unmatched by membranes that are in-air oleophilic (Zhu et al., 2013 and Zhu et al., 2014). The hydrophilic/oleophobic membranes were developed by incorporating a functional polymer that contains both hydrophilic and oleophobic moieties into a PVDF membrane. Compared to PVDF membranes without any modifier or with polyethylene glycol (PEG)—a common surface coating agent to impart hydrophilicity, the hydrophilic/oleophobic PVDF membrane demonstrated superior resistance against fouling by protein (bovine serum albumin), natural organic matter (humic acid), oil-water emulsion, as well as bacteria (*Escherichia coli* and *Staphylococcu aureus*) The enhanced anti-fouling performance was as evidenced not only by significantly slower flux declines but also remarkably higher performance recovery upon membrane cleaning (Zhu et al., 2013). In this study, we used some of these concepts and methodologies to develop anti-fouling MD membranes.

2. CONCLUSIONS AND RECOMMENDATIONS

The results from the experimental studies in this project lead us to the following key conclusions and recommendations:

- Conventional hydrophobic membranes are readily susceptible to pore wetting by surfactants in the feed solution, leading to unacceptable salt rejection rates.

- Omniphobic membranes, which resist wetting by both water and oil in air, can successfully prevent pore wetting by feed solutions containing anionic, cationic, and non-ionic surfactants.

- Conventional hydrophobic membranes are prone to membrane fouling by oil in the feed solution if the oil droplets are not stabilized by excess surfactants. The consequence of membrane fouling is the decline of water vapor flux in a very short period time.

- Composite membranes with a hydrophobic substrate and an (in-air) superhydrophilic skin layer can effectively mitigate oil fouling. The extent to which oil fouling is mitigated depends on the properties of the superhydrophilic skin layer. However, composite membranes are susceptible to pore wetting by surfactants.

- For oil-water (O/W) emulsion stabilized by an excess amount of surfactants, conventional hydrophobic membranes are subject to both fouling and wetting. Composite membranes with superhydrophilic skin layer are susceptible to wetting. Omniphobic membranes, which resist surface wetting, can also sustain MD against fouling because the surfaces of the oil droplets are rendered hydrophilic by the excess surfactants.

3. EXPERIMENTAL METHODS

3.1. Membrane Distillation Testing System

The majority of the experiments for quantifying the membrane performance were performed using a DCMD set up (Figure 4). The feed solution (0.6 moles per liter [M] sodium chloride [NaCl]) solution mixed with wetting and/or fouling agents) circulated through a heat exchanger submerged in a hot water bath. In all experiments, the feed temperature was maintained at 60 degrees Celsius (ºC) which was measured using a thermometer at the entrance of the feed channel of the membrane. The distillate stream was deionized (DI) water circulated through a heat exchanger submerged in a chiller. The distillate temperature, measured at the entrance of the distillate channel, was maintained at 20 ºC.

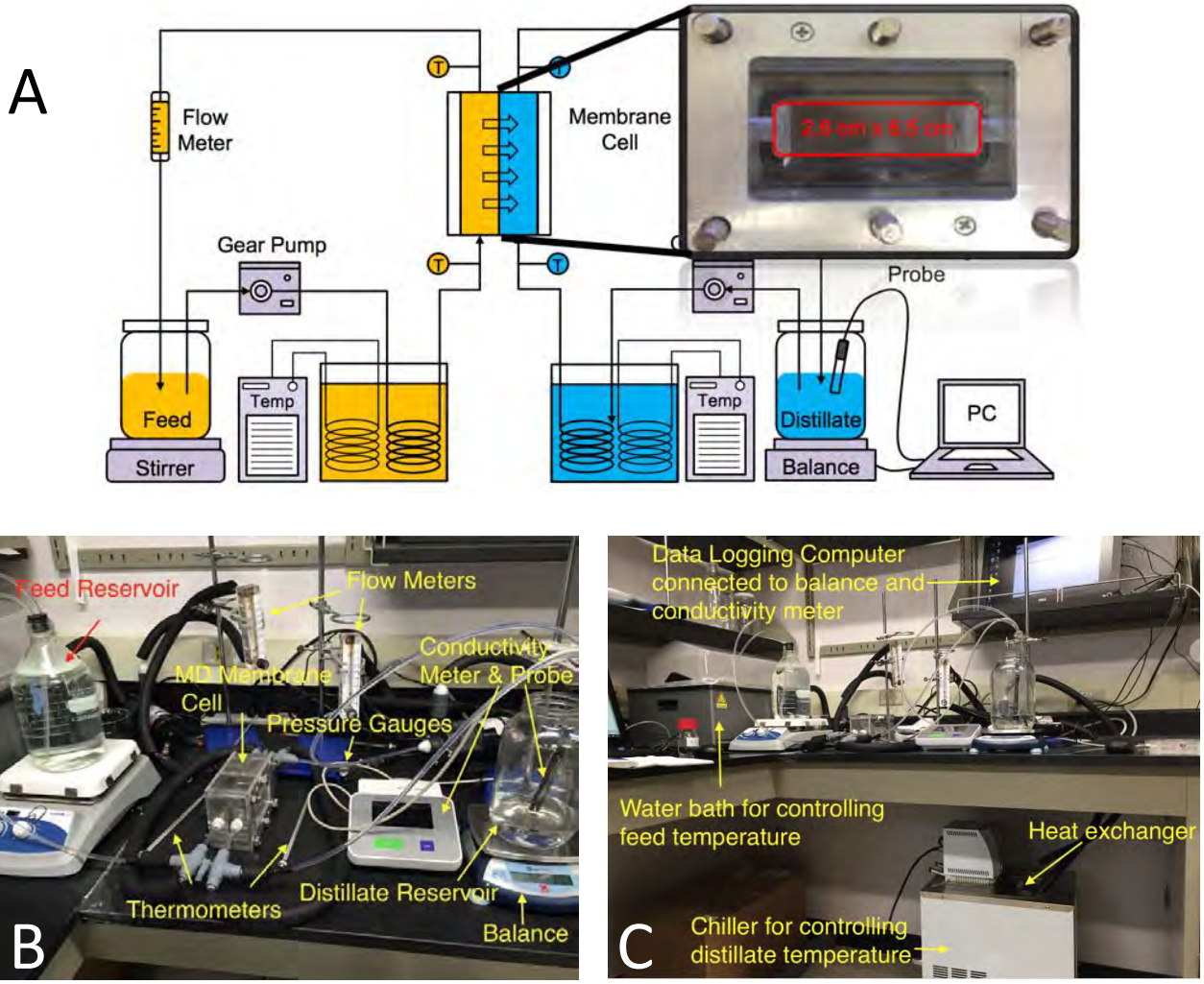

Figure 4.—(A) The schematic of a DCMD system used in our experiments. (B) and (C) Photographic images of an actual DCMD system with explanations of components.

The membrane cell housed an MD membrane that separated the feed and the distillate flow channels. The flow rates of the feed and distillate streams could be controlled independently using gear pumps. We operated our experiments in a co-current flow configuration. In all experiments, we intentionally maintained a higher flow rate for the feed stream than for the distillate stream, which led to a slightly higher hydraulic pressure in the feed stream than in the distillate stream. With such an operation condition, if the pores of the MD membrane were wetted, the liquid flow would be directed from the feed stream to the distillate stream under the hydraulic pressure gradient. This process increases both the measured trans-membrane flux and the salinity of the distillate stream, providing unequivocal evidences of membrane pore wetting.

In all experiments, we measured the mass and the electrical conductivity of the distillate over time. The trans-membrane flow rate was calculated by dividing the mass increment in the distillate reservoir, $m(t + \Delta t) - m(t)$, over a unit time period, Δt. The real-time flux, $J(t)$, is calculated by dividing the trans-membrane flow rate over the membrane area, $J(t)$. The trans-membrane flow rate was calculated as shown in Equation 2:

$$J(t) = \frac{m(t + \Delta t) - m(t)}{\rho A_m \Delta t} \tag{2}$$

The salinity of the distillate was calculated based on the measured electrical conductivity using a pre-established calibration curve relating salinity to conductivity for the NaCl solution. The real-time salt rejection rate was calculated by dividing the increase of total salt content in the distillate tank over the expected increase of salt content if the trans-membrane flow were 100% liquid flow (i.e., when the membrane was assumed to be fully wetted). The equation for calculating the real-time salt rejection is given in Equation 3:

$$R(t) = \frac{c_D(t + \Delta t)m(t + \Delta t) - c_D(t)m(t)}{\rho J(t) A_m \Delta t c_F(t)} \tag{3}$$

Where:
c_D is the salinity of the distillate stream
c_F is the salinity of the feed stream

While c_D was measured constantly, $c_F(t)$ could be calculated simply by mass balance given the cumulative amount of water and salt permeating through the membrane from time 0 to *t*.

3.2. Oil-Probe Force Spectroscopy for Elucidating Membrane Oil Fouling

To mechanistically elucidate the different fouling propensities of different membrane samples, we measured the force curves for the interaction between an oil droplet and membrane surfaces underwater using a force tensiometer (Sigma701, Attension, Finland) (Heng et al., 2011; Liu et al., 2012a; Liu et al., 2012b; and Yao et al., 2011). Figure 5(A) shows the schematic and photographic image of an oil droplet force probe, as well as the tensiometer we employed to conduct the force spectroscopy. A small oil droplet was carefully hung onto a ring at the bottom of a metallic wire (i.e., the force probe, T114, Attension, Finland) via syringe ejection of oil underwater. The other end of the force probe was connected to a micro-electromechanical-sensor (MEMS) on the top of the measurement chamber.

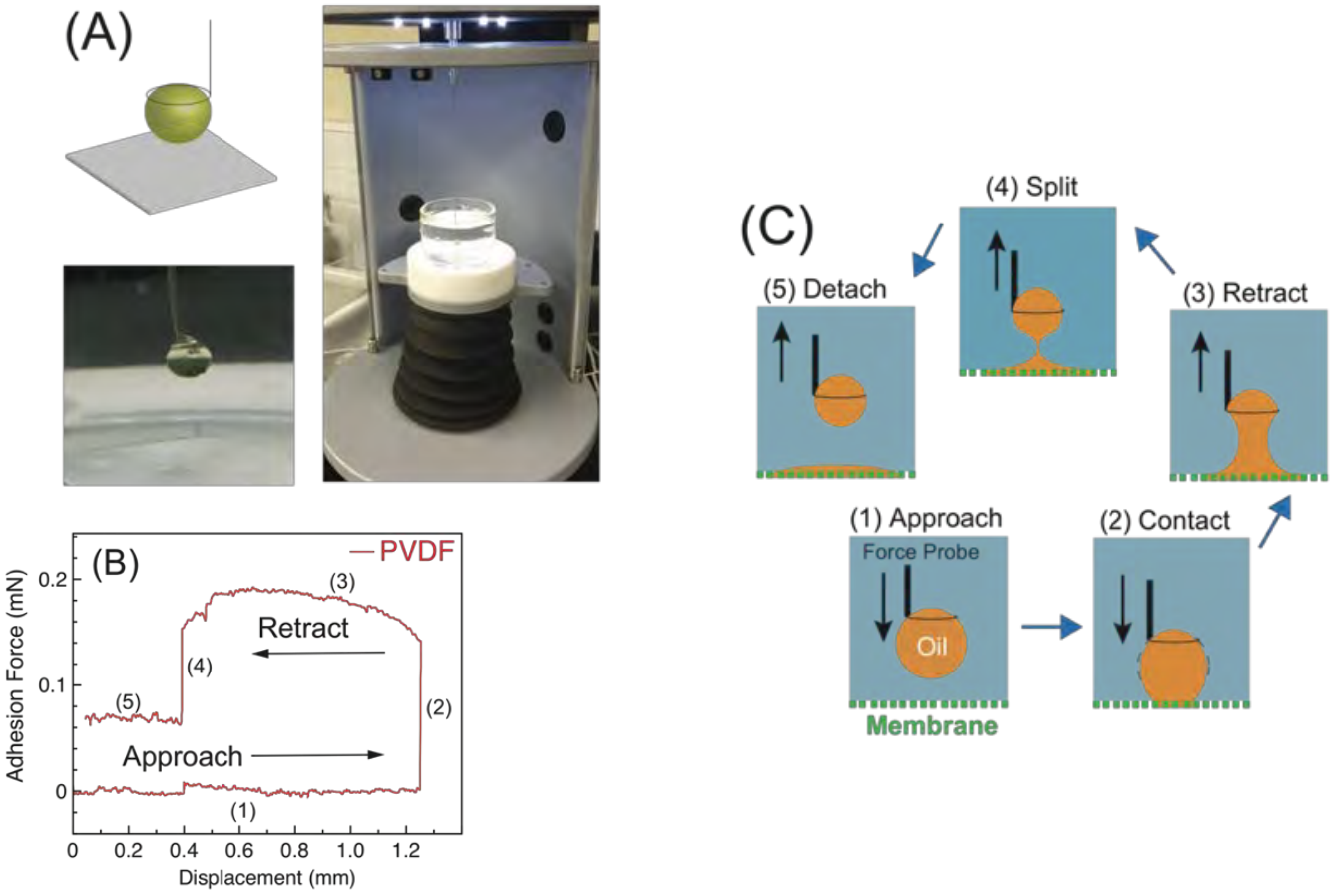

Figure 5.—(A) A schematic (top left) and a photographic image (bottom left) of an oil probe used in oil-probe force spectroscopy performed with a tensiometer (right); (B) An example force curve obtained by probing the interaction between an oil droplet and a pristine PVDF membrane. (C) The five distinct events during the dynamic interaction between oil and the substrate surface.

In these measurements, we fixed the membrane to the bottom of a transparent cell with double-sided tape before the cell was filled with water. The adhesion force probe, with an oil droplet attached, approached the membrane surface at a constant speed of 0.3 millimeters (mm) per minute until the oil droplet contacted the membrane surface, and then retracted from the membrane surface at the same speed. The results from the force spectroscopy are presented as force being a function of displacement of the adhesion force probe. An example of such a force spectroscopy is shown in Figure 5(B).

The five distinct events of a force curve are explained in Figure 5(C). The advancing parts of the force curves represent the approaching of the oil droplet toward the membrane surface before any interaction occurred and are therefore mostly flat (Event 1: Approach). The force measured by the MEMS in this event was set to zero by default (discussed in more detail below). With certain membranes (e.g., conventional hydrophobic membranes) that are attractive to the oil droplet, the oil droplet experienced a strong and abrupt attraction to the membrane surface immediately upon the initial physical contact, as reflected by a sudden increase in adhesion force (Event 2: Contact). The adhesion force continued to increase as the oil droplet moved away from the membrane surface (Event 3: Retract) until the oil droplet split into two smaller parts (Event 4: Spilt), one remaining on the force probe and the other retained by the hydrophobic membrane surface. The residual "adhesion force" measured after droplet breakage in the receding stage (Event 5: Detach) was an artifact that stemmed from the change of oil droplet volume that affected the flotation force of the oil droplet and thus the pulling force on the MEMS.

This can be illustrated by calculating the displayed force, F, measured by the MEMS when the movement of oil droplet reaches a steady state (i.e., constant speed) in Equation 4:

$$F = (\rho_o - \rho_w)Vg + 6\pi\eta v\left(\frac{3V}{4\pi}\right)^{\frac{3}{2}} + k \quad (4)$$

Where:

ρ_o is the density of oil
ρ_w is the density of water,
V is the volume of the oil droplet
η is the viscosity of wate
v is the speed of the oil droplet movement
g is the gravitational acceleration
k is the difference between the displayed force and the measured force in the advancing stage (i.e., Event 1: Approach) so that the displayed force in event 1 is always zero as calculated in Equation 5:

$$(\rho_o - \rho_w)V_1 g + 6\pi\eta v\left(\frac{3V_1}{4\pi}\right)^{\frac{3}{2}} + k = 0 \quad (5)$$

Where:
V_1 is the volume of the oil droplet in Event 1: Approach.

After the oil droplet split, its volume was reduced to V_5, and the displayed force, F_5, is then given by Equation 6:

$$F_5 = (\rho_o - \rho_w) \quad {}_5 g + 6\pi\eta v\left(\frac{3V_5}{4\pi}\right)^{\frac{3}{2}} + k \quad (6)$$

which is also equivalent to Equation 7:

$$F_5 = (\rho_o - \rho_w)(V_5 - V_1)g + 6\pi\eta v\left(\frac{3}{4\pi}\right)^{\frac{3}{2}}(V_5{}^{\frac{3}{2}} - V_1{}^{\frac{3}{2}}) \quad (7)$$

Because the speed of the droplet movement, v, was very low, the second term in Equation 7 is negligible compared to the first term. Therefore, Equation 8 can be reduced to

$$F_5 \approx (\rho_o - \rho_w)(V_5 - V_1)g \quad (8)$$

which suggests that the displayed force in Event 5: Detach was proportional to the change of the droplet volume (which is also the volume of the oil retained by the membrane).

Although our ultimate intention was to probe the interaction between the oil droplet and the membrane surface, the force tensiometer actually measured the force sensed by the MEMS pulled by the adhesion force probe (similar to a small version of a Du Noüy ring) hanging the oil droplet. When acquiring the force curves, we set the initiation point of the retraction, which demarcated the advancing and receding stages, at the moment right after the advancing oil droplet contacted the membrane surface. We measured this way to avoid actively pressing the oil droplet by the force probe after the oil was in contact with the membrane surface, as the ring-shaped force probe could be forced into the oil droplet and generate irrelevant information that complicates the data interpretation.

4. FOULING AND WETTING OF HYDROPHOBIC MEMBRANES

4.1. Fouling of Hydrophobic Membranes by Oil-in-Water Emulsion (without Excess Surfactants)

We conducted MD experiments using three different types of commercial hydrophobic membranes with feed solutions containing crude oil to demonstrate the propensity of membrane fouling by oily feed solution. The oily feed solution was prepared by vigorously mixing 2 grams (g) of crude oil and 2 liters (L) of NaCl aqueous solution (600 millimolar [mM]) using an emulsifier at 16,000 revolutions per minute (rpm) for 15 minutes. The crude oil concentration of the prepared feed solution was 1,000 parts per million (ppm) percent weight (wt%). The morphology of oil droplets in the suspension was observed using an optical microscopy (Nikon LV100, Japan). The size distribution of the oil droplets in the emulsion was determined by dynamic light scattering (DLS) using a Zetasizer (Malvern Nano ZS, United Kingdom).

The crude oil emulsion with 1,000 ppm oil prepared using physical emulsification was highly turbid and stable for at least 24 hours without observable phase separation (Figure 6[A]). The kinetic stability of the crude oil emulsion is attributable to the presence of naturally occurring emulsifiers such as asphaltenes, naphthenic acid, carboxylic acid, and other oil-soluble acids and bases.(Langevin et al., 2004 and Sullivan and Kilpatrick, 2002) Figure 6(B) and Figure 6(C) show the photographic and microscopic images of oil suspension, respectively, as well as the size distribution of oil droplets in the suspension as measuring using DLS. The DLS measurement suggested a size distribution of 4.9±0.8 micrometers (μm). The average zeta potential of the oil droplets was calculated to be -16.4±0.8 millivolts (mV) based on the measured electrophoretic mobility. The overall size of the oil droplet in the emulsion was significantly larger than the nominal pore size of the pristine PVDF membrane (0.45 μm) and even larger than the coated surface of the composite membrane. Therefore, if the oil droplets have a strong affinity toward the membrane surface, they will readily block the membrane pores and lead to significant membrane fouling.

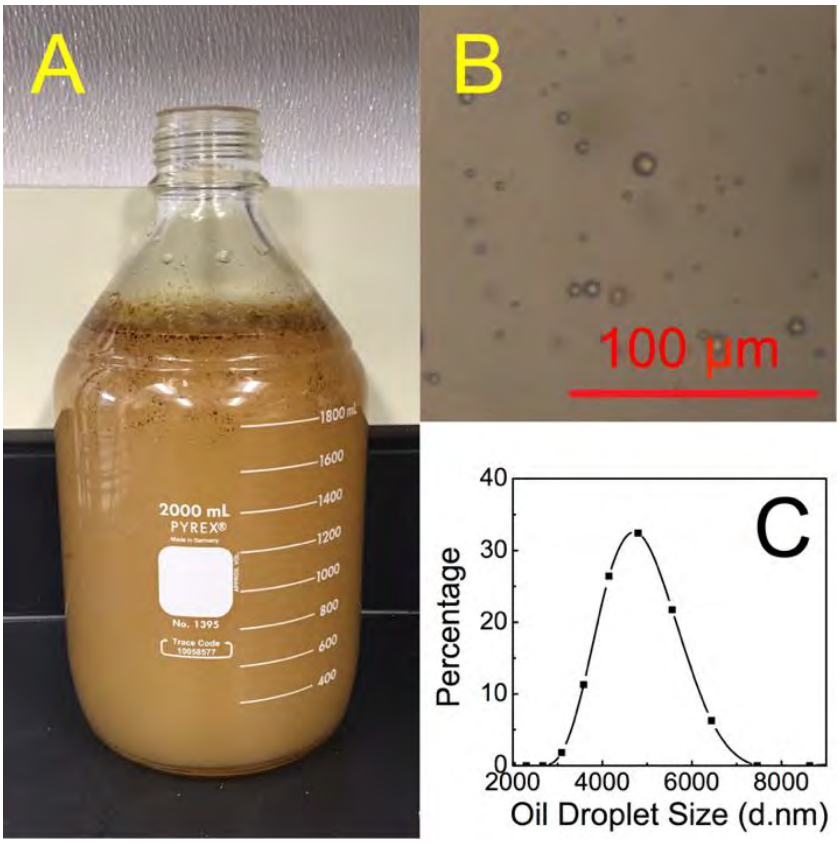

Figure 6.—(A) Feed solution with 1,000 ppm crude oil. (B) Optical microscopic image of the oil droplets in water. (C) Distribution of oil droplet size (diameter) as measured by dynamic light scattering.

Figure 7(A) shows the relative vapor fluxes (normalized by the initial fluxes) along time for experiments using three different commercial hydrophobic membranes (PVDF, PTFE, and PP) with the oily feed solution described above. The flux decline was almost immediate upon the initiation of the experiment, with 70% to 80% of flux reduction observed within 6 hours of operation. The flux decline is a detrimental effect of the oil-fouling: as the membrane pores are blocked by the oil, available pores for vapor transfer are significantly reduced, leading to a considerable decline of vapor flux. This detrimental impact of oil fouling on vapor flux was observed with all commercial hydrophobic membranes tested, including PVDF, PTFE and PP membranes. These results confirmed the hypothesis stated in our proposal: that conventional hydrophobic membrane will suffer from significant fouling when the feed water contains hydrophobic constituents. We also note that *in-situ* cross-flow flushing of the fouled hydrophobic membrane with DI water could not recover the flux to any appreciable degree, which suggests that the membrane fouling was irreversible.

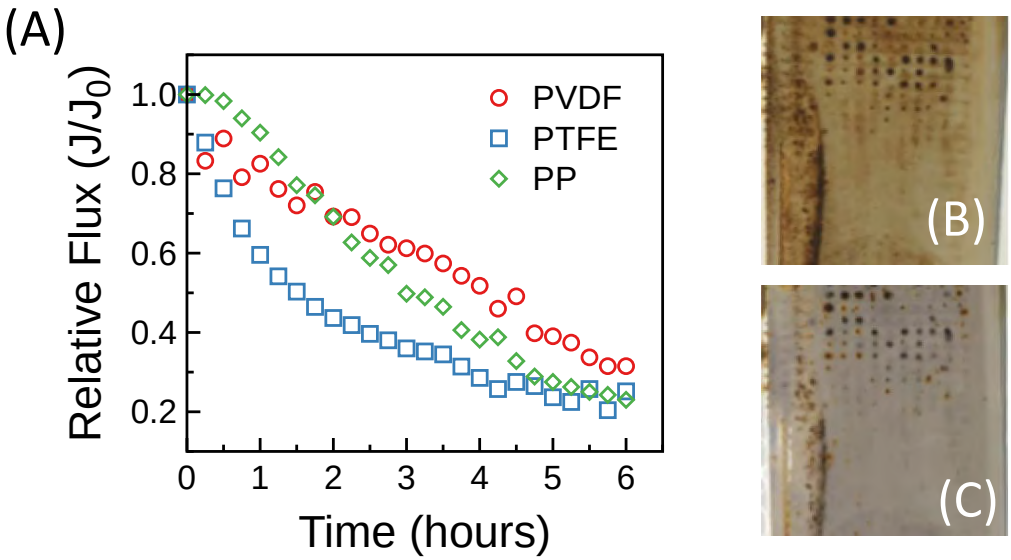

Figure 7.—(A) Experimentally measured relative vapor flux (normalized by initial flux) along time. (B) The front (in contact with the feed stream) of a PVDF membrane after an oil fouling experiment. (C) The back (in contact with the distillate stream) of a PVDF membrane after an oil fouling experiment. The dotted pattern was due to the pressing of the membrane by the feed stream against the spacer in the distillate channel.

Visual inspection of the membranes after the fouling experiments revealed that the oil attached irreversibly onto the hydrophobic membranes. The side of the membrane that was in contact with the feed solution (Figure 7[B]) was obviously darker than the other side that was in contact with the distillate stream (Figure 7[C]). The fact that oil can be observed on the side of the membrane that was in contact with the distillate stream indicates that oil can actually permeate through the membrane pores.

To unravel the mechanism of membrane fouling shown in Figure 8, we conducted oil probe force spectroscopy to measure the interaction between an oil droplet and the PVDF membrane. Figure 8 shows the force curve that quantifies the force measured by the tensiometer as a function of the oil probe displacement. The advancing parts of the force curves in Figure 8 represent the approaching of the oil droplet toward the membrane surface before any interaction occurred and are therefore mostly flat (Event 1: Approach). When interacting with the pristine PVDF membrane, the oil droplet experienced a strong attraction to the membrane immediately upon the initial physical contact, as reflected by a sudden increase in adhesion force (Event 2: Contact). The adhesion force continued to increase as the oil droplet moved away from the PVDF membrane surface (Event 3:Retract) until the oil droplet split into two smaller parts (Event 4: Split), one remaining on the force probe and the other retained by the hydrophobic membrane surface. The residual “adhesion force” measured after droplet breakage in the receding stage (Event 5: Detach) was an artifact that stemmed from the change of oil droplet

volume that affected the flotation force of the oil droplet and thus the pulling force on the MEMS.

Several features can be observed from the force curve on Figure 8. First, there was a strong and abrupt increase in adhesion force upon the contact between the oil probe and the PVDF membrane (Event 2: Contact) due to the strong hydrophobic-hydrophobic attraction. Second, after the oil droplet stretches in the receding stage (Event 3: Retract), a sudden force reduction was observed in response to the oil droplet split (Event 4: Split). As the probe continued to recede, a new and non-zero force baseline was established due to the change of volume of the oil droplet remaining on the probe (Event 5: Detach). The difference between the original baseline in the advancing stage (Event 1: Approach), which was set to zero by default, and the final baseline in the receding stage (Event 5: Detach), can serve as a semi-quantitative measure of the volume of oil remaining on the membrane, which has been explained in detail in Section 3-2: *Oil-Probe Force Spectroscopy for Elucidating Membrane Oil Fouling.*

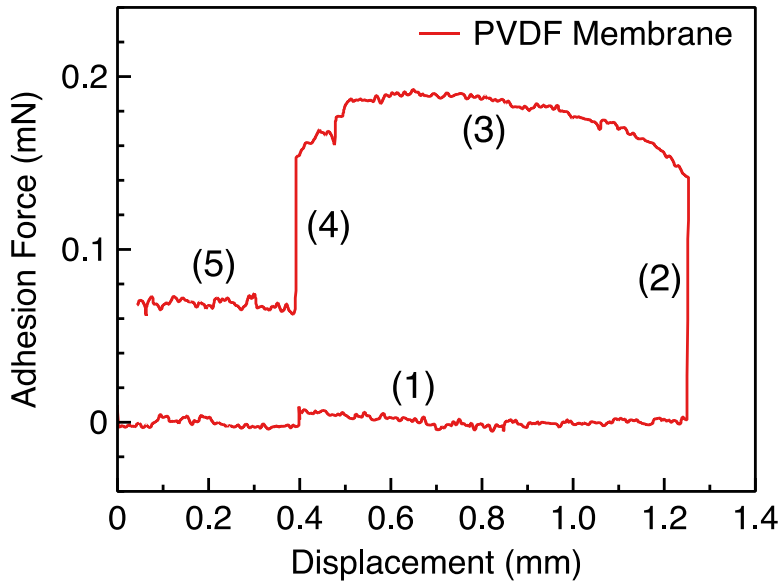

Figure 8.—Force-displacement curves (or force curves) recorded in experiments where a mineral oil droplet interacted with the composite membrane and the pristine PVDF membrane underwater.

4.2. Wetting of Hydrophobic Membranes by Surfactants

Surface active agents, such as surfactants, can wet a hydrophobic membrane and thus fail an MD process by drastically undermining the salt rejection. Specifically, the hydrophobic tails of the surfactants bind to the hydrophobic membrane substrate via the hydrophobic interaction, leaving the hydrophilic heads exposed and rendering the membrane pores hydrophilic (Figure **9**[A]). At the same time,

the surfactants also reduce the surface tension of the feed solution and facilitate liquid permeation into the pores by reducing the liquid-entry-pressure. The combination of these effects leads to membrane wetting in which some or all of the membrane pores become permeable to liquid water so that the high salinity feed water directly permeates through the membrane to the distillate stream and thereby increases the salinity of the distillate stream. To assess the performance of hydrophobic membranes with feed solution containing surfactants, we challenged the hydrophobic MD membranes with feed solution dosed with surfactants. We compared these results with our previous results obtained from MD experiments performed using a PTFE membrane with a feed solution with increasing concentration of an anionic surfactant, sodium dodecyl sulfate (SDS). As Figure **9**(B) shows, the salt rejection rate continued to decrease as the SDS concentration increased, which was a clear sign of aggravated membrane pore wetting. The increase of flux and reduction of salinity thus indicate the occurrence of pore wetting. These data were reported in our previous publication.

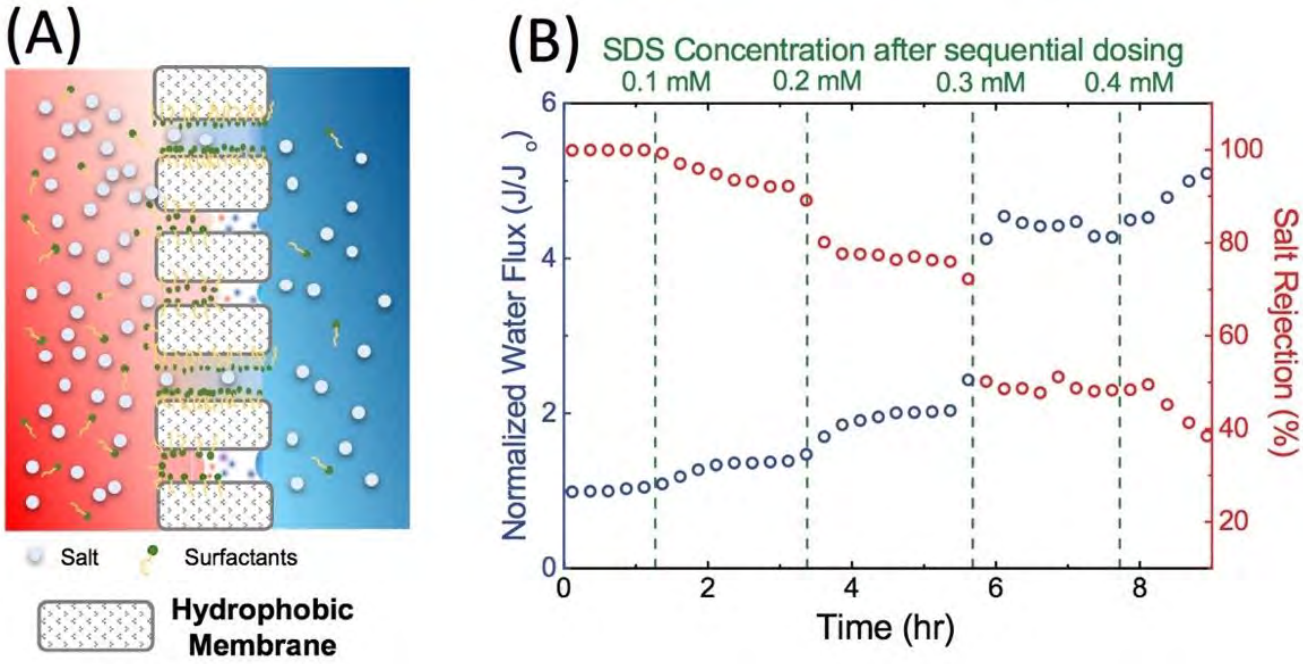

Figure 9.—(A) An illustration of MD membrane pore wetting by surfactants. (B) Flux and rejection measured in DCMD experiments with feed solution with increasing SDS concentration (indicated on the top x-axis in green) over time.

To further evaluate whether a conventional hydrophobic membrane is susceptible to wetting by surfactants of other types (anionic vs. cation and non-ionic surfactants), we challenged a PVDF membrane (the most commonly used hydrophobic membrane in MD tests) with three surfactants: SDS (anionic), cetrimonium bromide (CTAB) (cationic) and Triton-X (non-ionic) at the same concentration of 0.2 mM (Figure 10). In all cases, we first initiated the MD experiments until the system reached a steady state as reflected by a stable flux.

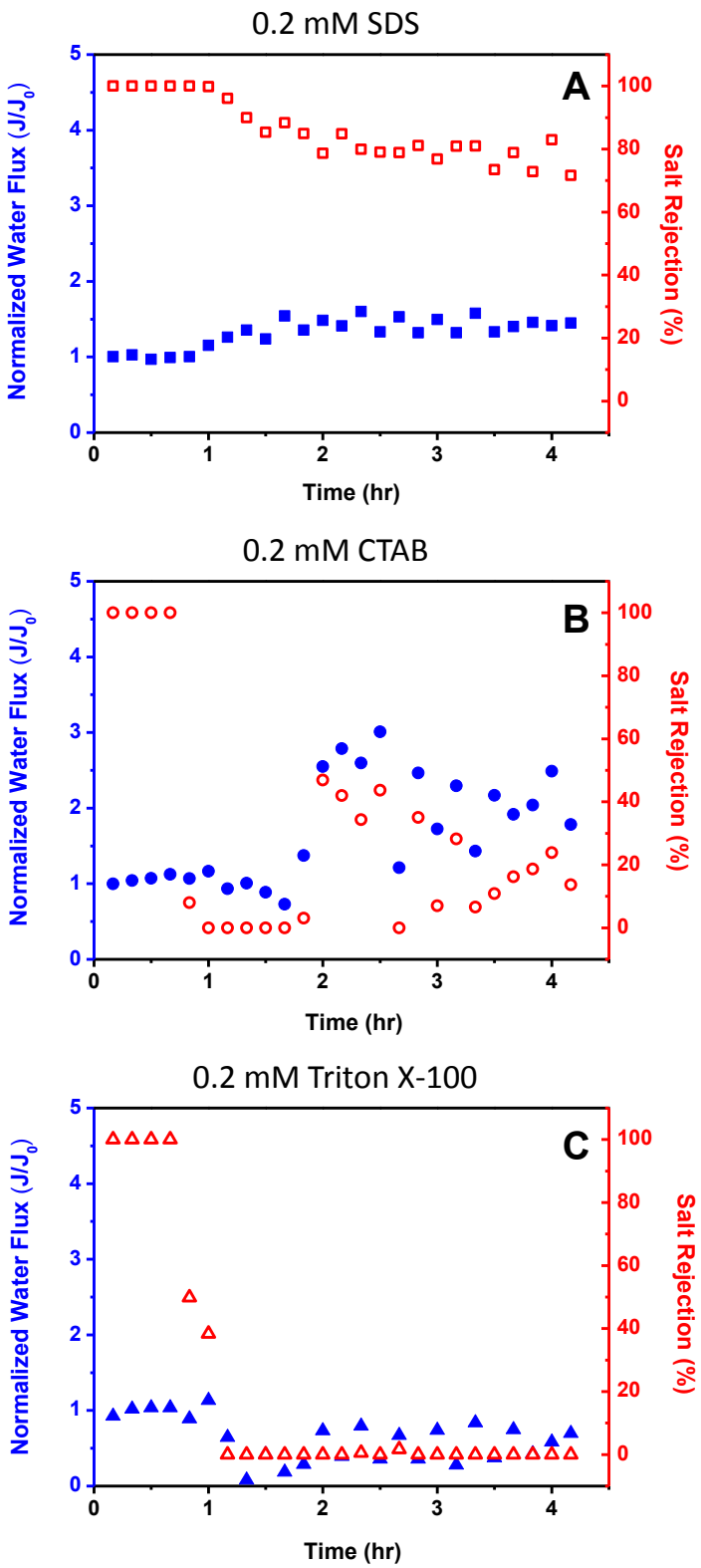

Figure 10.— Normalized water flux (blue) and salt rejection rate (red) in MD experiments with PVDF membranes and different types of surfactants added into the feed solution: (A) SDS, (B) CTAB, and (C) Triton X , all with a concentration of 0.2 mM.

The surfactants were added to the feed solution one hour after the data recording was started. High concentration stock solutions of the surfactants were added in volumes in doses that ensured that the final surfactant concentrations of the feed solution after dosing were consistently 0.2 mM.

In all experiments, wetting of the PVDF membranes was observed, although to different extents. For SDS, the salt rejection decreased to around 80% and then maintained stable within the time frame of the MD experiment, which suggests that only a small portion of the pores were wetted and became available to direct liquid transfer Figure 10(A). Specifically, 80% of the mass transfer was due to vapor transfer through non-wetted pores (which yields a rejection rate of approximately 100%) and 20% of mass transfer was caused by the direct permeation of the feed solution in its liquid form. Note that this does not mean that 20% of the total pores were wetted because the mass flux through a unit area of membrane (or a given number of pores) is drastically higher for liquid water than for vapor.

In comparison, CTAB Figure 10(B) and Triton X-100 Figure 10(C).at the same concentration (i.e., 0.2 mM) were significantly more effective in wetting the PVDF membrane than SDS. Very low rejection rates were observed in MD experiments with feed solutions containing either CTAB or Triton X-100. This difference in wetting effectiveness between different surfactants might be explained by the fact that they have different “power” in reducing the surface tension of the feed solution with the same molar concentration. In fact, SDS has the highest critical micelle concentration (CMC) among three surfactants. The CMC in DI water for SDS, CTAB, and Triton X-100 were 6-8 mM, 0.9-1.0 mM, and 0.22-0.24 mM, respectively. That means 0.2 mM was far below the CMC of SDS but much closer to the CMC of CTAB and Triton X-100, which could qualitatively explain the difference of these different types of surfactants at the same molar concentration in their capacity of inducing membrane wetting. The data for the MD performance with feed solution with CTAB was unstable after wetting, which may be attributable to the unsteady hydraulic pressure in the feed channel. Nonetheless, we can conclude with confidence, from the drastically reduced salt rejection rate, that commercial hydrophobic membranes were wetted by surfactant dosed feed solution regardless the type of surfactants.

4.3. MD Performance of Hydrophobic Membranes with Surfactant-Stabilized Oil-in-Water Emulsion

We have already shown that hydrophobic membranes were wetted when the feed stream was dosed with surfactants (Section 4.2: *Wetting of Hydrophobic Membranes by Surfactants*) and were fouled when the feed stream contained crude oil droplets that were mechanically emulsified without the addition of excess surfactants (Section 4.1:*Fouling of Hydrophobic Membranes by Oil-in-Water Emulsion (without excess surfactants*)). In addition to these two scenarios, we also investigated the performance of a hydrophobic PVDF membrane in MD

operation with an O/W emulsion prepared with vigorous mixing in the presence of surfactants.

The O/W emulsion with surfactants was prepared by mixing a NaCl solution (600 mM) with 500 ppm of crude oil and 100 ppm of Triton X-100, rigorously stirred at 16,000 rpm for 15 minutes using a laboratory homogenizer (Figure 11). The crude oil typically has a small amount of naturally occurring surfactants, and it is difficult to determine the concentration levels of those surfactants. We note that 100 ppm of Triton X-100 is below the critical micelle concentration (CMC) for Triton-X 100. We inspected the O/W emulsion using optical microscope, quantified its size distribution using DLS, and measured the average zeta potential using a Zeta-Sizer similar to what we did to characterize the surfactant free O/W emulsion.

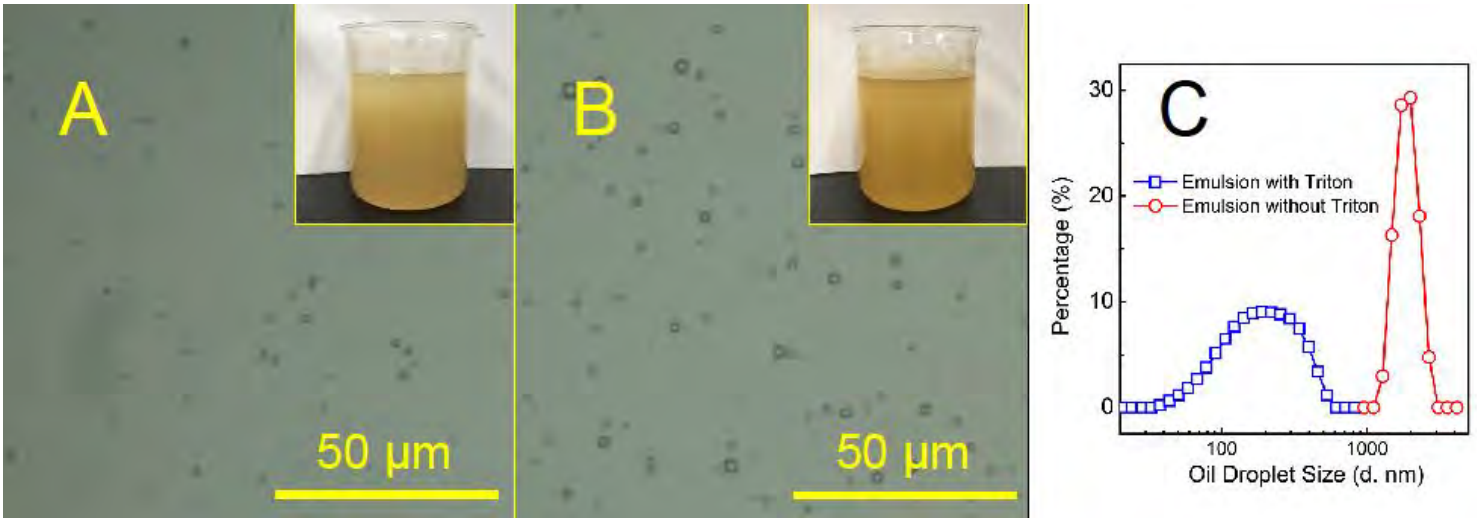

Figure 11.—(A) O/W emulsion (500 ppm crude oil) prepared with vigorous mixing in the presence of 100 ppm of Triton X-100. (B) O/W emulsion (500 ppm crude oil) prepared with vigorous mixing without any addition of synthetic surfactant. (C) Distribution of oil droplet size (diameter) measured by DLS for both the O/W emulsions (as in A and B).

The average size of the oil droplets became significantly smaller (Figure 11[A]) when Triton X-100, was added than when it was not (Figure 11[B]) which can be observed from the microscopic images and confirmed from the DLS measurement (Figure 11[C]). The average hydrodynamic diameter of oil droplets in the surfactant-free O/W emulsion was several micrometers—roughly an order of magnitude higher than that in the O/W emulsion prepared using Triton X-100.

The MD experiments with a PVDF membrane and O/W emulsion stabilized by Triton X-100 as the feed solution yielded interesting results regarding the membrane performance (Figure 12).

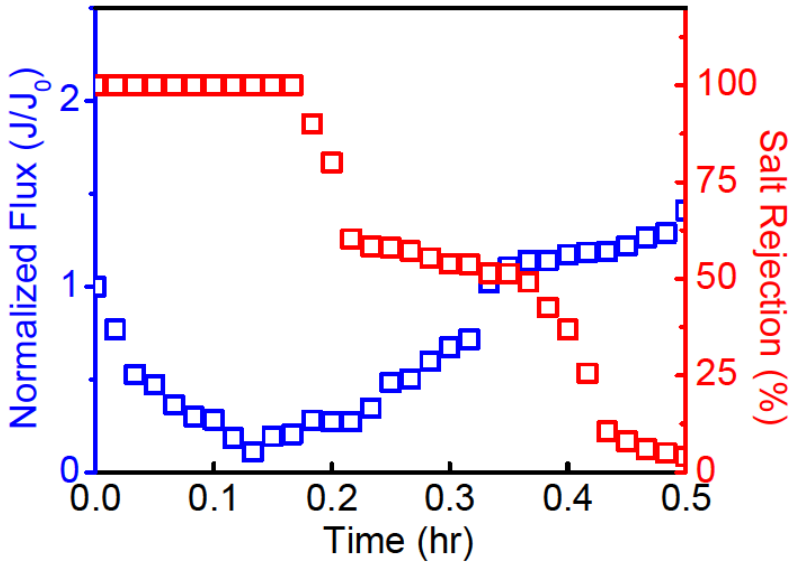

Figure 12.—Normalized flux and salt rejection measured in DCMD experiments with PVDF membrane and 1,000 ppm O/W solution with 100 ppm non-ionic surfactant Triton X-100.

Soon after the experiment started, a rapid decline of the water vapor flux was observed as a result of fouling. During the stage of fouling-induced flux decline, the salt rejection rate was uncompromised, which indicates the absence of any membrane pore wetting. The flux decline in this case was even faster than that with a feed solution of a surfactant free O/W emulsion. Most interestingly, the fouling stage only lasted for about 10 minutes before pore wetting became dominant. Both the increase of permeate flux, which eventually surpassed the initial flux, as well as the dramatically reduced salt rejection, which eventually became zero, suggest rapid and severe pore wetting. Our experiments with surfactant-dosed feed solution have shown failure of MD due to membrane pore wetting by unbound surfactants. Here, the wetting could be caused by either the surfactants that bound directly to the membrane pores or by surfactants that bound to the absorbed oil on the surface of the membrane pores, although the exact contributions are difficult to determine.

5. DEVELOPMENT AND PERFORMANCE OF OMNIPHOBIC MEMBRANES

5.1. Development of Omniphobic Membrane by Coaxial Electrospinning

5.1.1. Fabrication of Omniphobic Membrane by Electrospinning

We used an electrospinning instrument (Figure 13[A]) to create the fibrous structure that serves as the skeleton for the omniphobic membrane. The key to achieve omniphobicity is to create a reentrant structure that can sustain a metastable Cassie-Baxter state even with low-surface-tension liquids. To develop a robust omniphobic surface, we created multiscale reentrant structure composed of nanoparticle coated fibers obtained using co-axial electrospinning. The detailed procedures for fabricating electrospun fibrous membranes with and without nanoparticles are described in this section.

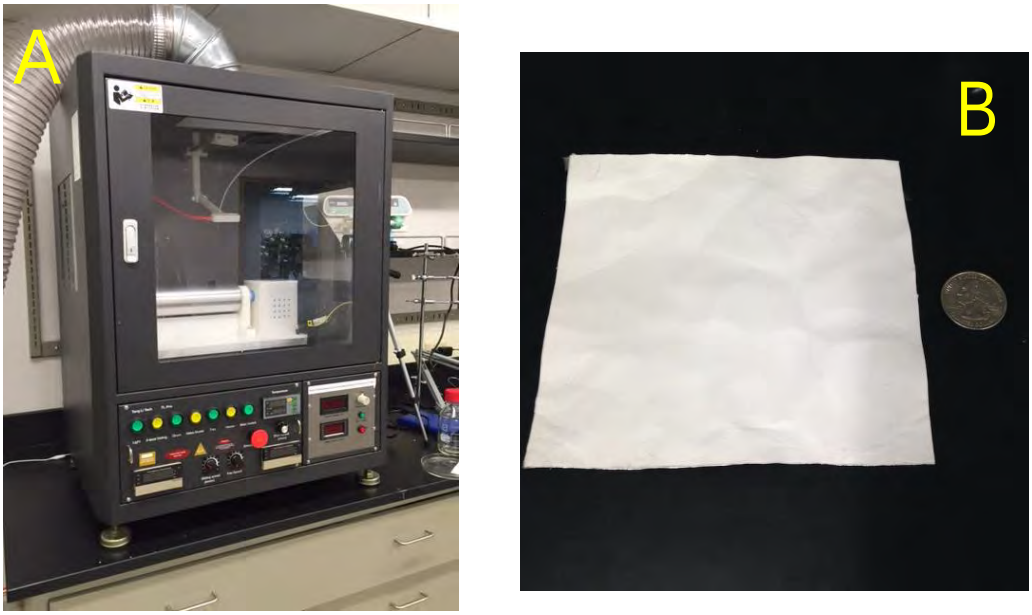

Figure 13.— (A) A photographic image of the electrospinning instrument employed for membrane fabrication; (B) A membrane sample obtained via electro spinning.

In coaxial electrospinning, the core solution and the sheath solution were simultaneously delivered to a core-sheath spinneret. Mono-axial electrospinning was also conducted as the control. The mono-axial electrospinning solution was a mixture of polyvinyl alcohol (PVA) and silica gel formed by hydrolysis of tetraethoxysilane (TEOS) (Guo et al., 2010). Briefly, a 10 wt% PVA stock solution was prepared by dissolving PVA in DI water at 80 °C. A silica gel suspension was prepared by dropwise addition of H_3PO_4 to a solution of TEOS

under vigorous stirring at room temperature for 6 h, with the molar composition of TEOS: phosphoric acid:water (H_3PO_4:H_2O) at 1:0.01:11. The formed silica gel was then mixed with the PVA stock solution with a mass ratio of 1:1 for another 6 hours. Hydrolysis and polycondensation formed the silica gel. The formed silica gel was then mixed with a PVA solution (10 wt%) for another 6 hours under active stirring. The PVA served as the binder for fiber formation and viscosity enhancer but was burned off in later steps.

The as-prepared PVA/silica solution was used as the core solution in co-axial electrospinning. To prepare the sheath solution, 5 grams (g) of Ludox silica nanoparticles suspension (40% w/w), was dispersed in 15 g of the aqueous PVA stock solution. The mixture was stirred for one hour to ensure the homogeneous dispersion of silica nanoparticles (SiNP). For both monoaxial and co-axial spinning, the PVA in the core solution served as a viscosity enhancer and as a polymeric binder to facilitate fiber formation. In the case of coaxial electrospinning, the PVA in the sheath solution also served to immobilize the SiNPs. The PVA was removed in later stage of the fabrication by calcination.

Figure **14** shows the schematics of the membrane preparation. The electrospinning was conducted using a commercial electrospinning instrument with a rotating drum collector (TL-01, Tongli Tech., China). In mono-axial electrospinning, the feeding rate of the PVA/silica solution was controlled to be 0.6 mL h^{-1} using a syringe pump. The spun fibers were collected on aluminum foil that covered a grounded stainless cylindrical drum with a rotating speed of 150 rpm. The applied voltage was 15 kilovolts (kV), and the distance between the spinneret and the rotating drum collector was 20 centimeters (cm).

In co-axial electrospinning, the total feeding rate was also 0.6 mL h^{-1}, with both the core and the sheath solutions contributing 0.3 mL h^{-1}. Other parameters were the same as that in the mono-coaxial electrospinning, except that a higher voltage (23 kV) was employed. In both cases, the temperature was 26 ºC and the spinning time was 30 hours. In the following discussion, the PVA blended electrospun silica fibrous membranes (SFM) with and without the addition of SiNPs are referred to as PVA@SFM and PVA@SiNPs-SFM, respectively.

The as-prepared PVA@SFM and PVA@SiNPs-SFM were calcined at 800 °C in air for 2 hours to remove the PVA binder. In the case of co-axially spun membrane, the calcination also served to sinter the SiNPs onto the underlying silica fibers to ensure robust attachment. The inorganic membranes after calcination were highly hydrophilic due to the strong interaction between silica and water. To reduce the surface energy of the membrane, surface fluorination was carried out by immersing the membrane into a hexane solution of 3 wt% fluorinated alkyl silane (FAS) for 24 hours at room temperature. The membranes were then dried in air at 80 °C in an oven. The FAS-modified SFM and SSFM are denoted as FAS@SFM and FAS@SiNPs-SFM, respectively.

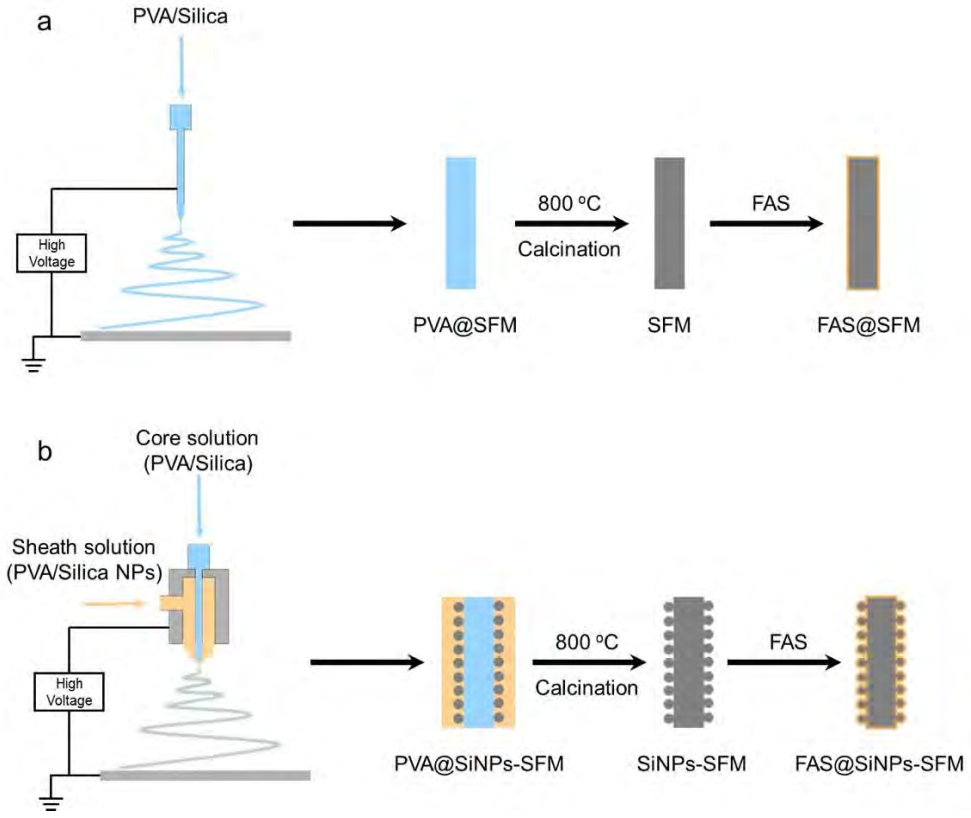

Figure 14.—Schematics of the preparation procedures for (A) FAS@SFM and (B) FAS@SiNPs-SFM.

The fabrication of the FAS@SFM involved the creation of a fibrous network via monoaxial electrospinning using a blend of PVA/silica as the precursor. The electrospun fibrous membrane was then calcined to obtain the SFM which is fluorinated by FAS to result in FAS@SFM. The fabrication procedures of the FAS@SiNPs-SFM were similar to that of the FAS@SFM with the exception that coaxial, instead of monoaxial, electrospinning was used with a suspension of SiNPs as the sheath solution. The SiNPs in the sheath solution created local roughness on the fiber surface.

5.1.2. Characterizations of Omniphobic Membranes

The morphology of fabricated membranes was characterized by scanning electron microscopy (SEM) (Zeiss Merlin) and transmission electron microscopy (TEM) (FEI Tecnai Osiris). The SEM images of the fabricated membranes with and without coaxial spinning are shown in Figure 15. The insets in (a) and (d) show the diameter distributions of the nano fibers. Compared to the smooth fibers in the SFM (Figure 15[A]), spindle structures were observed in the SiNPs-SFM (Figure 15[D]), which could be attributed to the lower viscosity of the sheath solution than the core solution (Fong et al., 1999). For this reason, the SiNPs-SFM showed larger mean fiber diameter and standard deviation (324.8 ± 124.4 nm) compared with the SFM (188.9 ± 16.4 nm).

The TEM image of the SFM Figure 15[C]) showed no distinct crystalline structure, indicating that the silica fiber in SFM was amorphous (Figure 15[C]). The SEM and TEM images in (Figure 15[E and D]) clearly show the presence of SiNPs on the fiber surface.For the co-axial electrospun SiNPs-SFM, a homogeneous and complete coating of the fibers by SiNPs was clearly observed (Figure 15[E and F), suggesting that the core-sheath structure was successfully achieved. The presence of SiNPs introduced local roughness and reentrant structure on the fiber surface, which could potentially improve the robustness of wetting resistance. The effective pore size for the SFM and SiNPs-SFM were 0.85 ± 0.12 and 0.84 ± 0.15 μm, respectively, as suggested by results from capillary flow porometry.

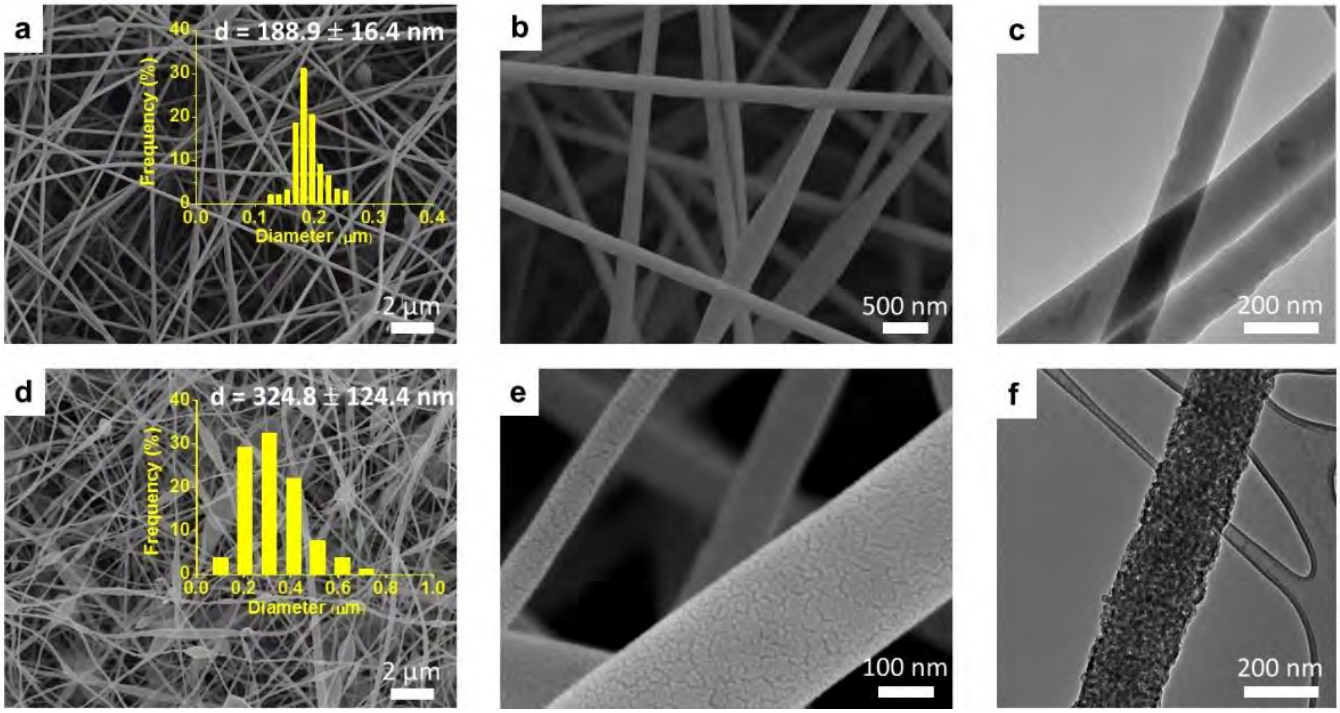

Figure 15. SEM and TEM images of the SFM (a, b for SEM and c for TEM) and co-axially electrospun SiNPs-SFM (d, e for SEM and f for TEM).

The changes of surface chemistry during the membrane fabrication were characterized by Fourier transform infrared spectroscopy (FTIR), and the results are shown in Figure 16. In this figure, vibrational modes are shown for: O-H (~3,300 cm-^{1}), C-H (~2,940 cm-^{1}), C=O (~1,650 cm-^{1} and ~1,150 – 1,050 cm-^{1}), C-C (1,420 cm-^{1}), Si-O (~1,150 – 1,050 cm-^{1}), Si-OH (950 cm-^{1}), Si-O-Si (~800 cm-^{1} and ~480 cm-^{1}), and C-F (~1,100 cm-^{1} to 1,200 cm-^{1}, 690 cm-^{1}, and 650 cm-^{1}).

For the PVA@SFM and PVA@SiNPs-SFM prior to calcination, the broad band located at about 3,300 cm^{-1} is the typical vibration originating from O-H stretching. The weak but identifiable peak at 2,940 cm^{-1} indicated the presence of

a C-H bond. The peaks located at around 1,650 cm^{-1} and 1420 cm^{-1} could be attributed to the C=O and C-C stretching, respectively (Mansur et al., 2004). These characteristic absorption peaks verified the presence of PVA. Besides, the strong absorption band from 1150 to 1050 cm^{-1} was the combination of C-O and Si-O vibrations (Georgakilas et al., 2008). The symmetric stretching vibrations of Si-O-Si appeared at 800 cm^{-1}, while its bending mode appeared at 480 cm^{-1}. Since the silica was prepared through TEOS hydrolysis, Si-OH bond was also observable at around 950 cm^{-1} (Al-Oweini and El-Rassy, 2009).

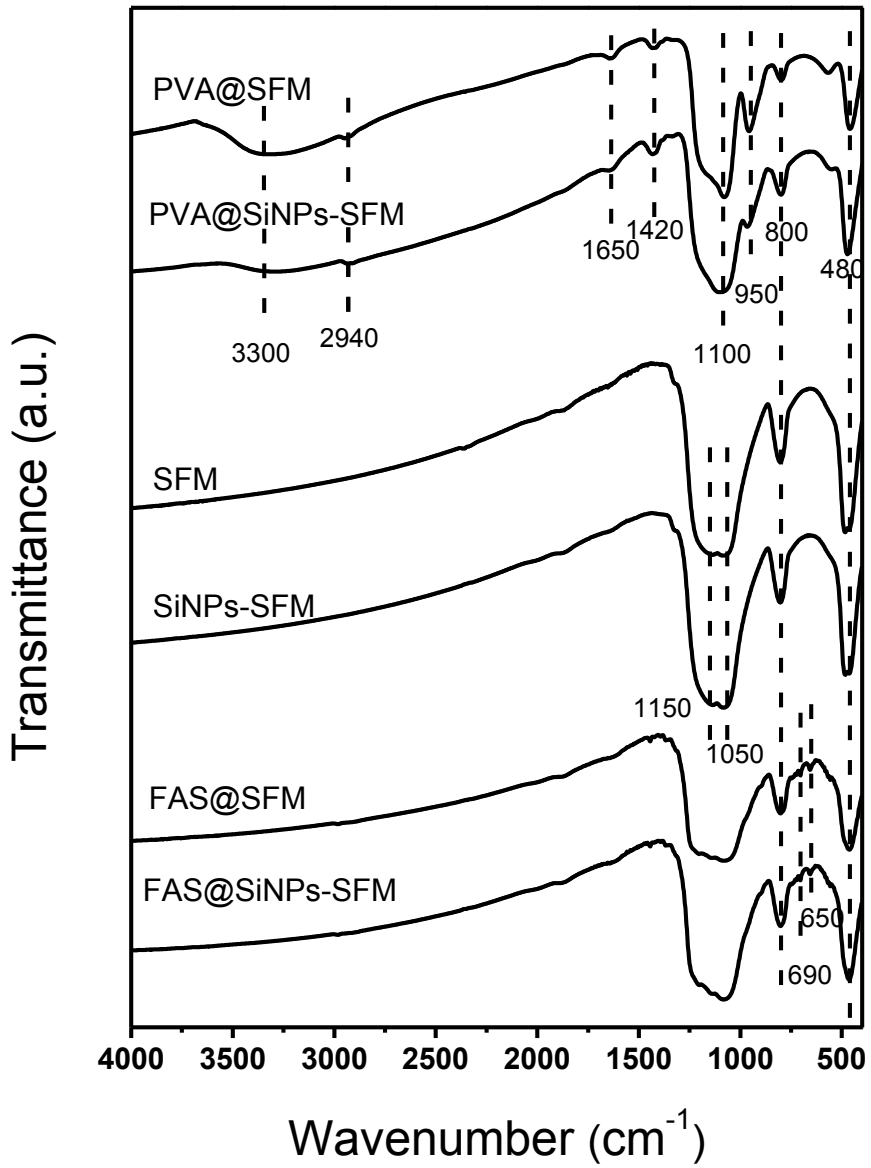

Figure 16.—FTIR spectra of the membranes in different preparation stages. Arrows indicate the approximated absorption band/peak location.

After calcination at 800 °C for 2 hours, PVA was completely removed, as evidenced by the disappearance of the absorption peaks characteristic of PVA. Meanwhile, the Si-OH absorption peak also disappeared—the main absorption

peaks remaining in the spectra were characteristic of Si-O. Such results confirmed that the SFM and SiNPs-SFM after calcination were inorganic membranes composed of SiO_2. FTIR spectra of the FAS modified membranes were similar to that of the calcined SFM and SiNPs-SFM before fluorination. According to previous studies, the absorption bands for C-F bond locate from about 1,100 cm^{-1} to 1,200 cm^{-1} and thus overlap with that of the Si-O (Legeay et al., 1998). Nevertheless, the shape change of the absorption band from around 1,000 cm^{-1} to 1,300 cm^{-1}, which is believed to result from the presence of C-F bonds, could still be clearly identified. In addition, small peaks at 690 cm^{-1} and 650 cm^{-1} could also be attributed to the C-F bond. Overall, these results showed that the membrane surface had been successfully modified with FAS.

The SFM and SSFM after calcination were both superhydrophilic, as indicated by the instant wicking by water. After surface fluorination with the low-surface-energy FAS, both membranes exhibited amphiphobicity. The water and oil contact angle (CA) for the FAS@SFM were 134.4 ± 2.8° and 117.3 ± 7.2°, respectively (Figure 17). In contrast, a commercial hydrophobic PVDF membrane has a water CA of 107.2 ± 4.6° and was wicked by mineral oil. The fact that FAS@SFM without SiNPs was also resistant to oil suggests that electrospun fibrous structure itself already has the reentrant architecture required for achieving oleophobicity. In fact, electrospinning technique has been employed in previous studies to create surfaces that are amphiphobic (Guo et al., 2010 and Lin et al., 2013).

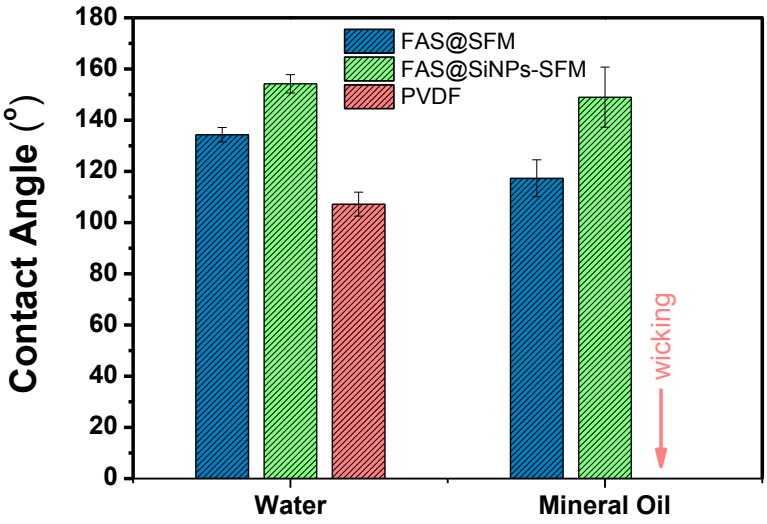

Figure 17.—Figure 5-5. Sessile drop CA of DI water (left) and mineral oil (right) on the FAS@SFM (blue bars), FAS@SiNPs-SFM (green bars), and commercial PVDF membrane (red bars).

The FAS@SFM was amphiphobic; the FAS@SiNPs-SFM was superamphiphobic; and the commercial PVDF membrane was slightly hydrophobic but oleophilic.

In comparison, the FAS@SiNPs-SFM were superamphiphobic, with its water and oil CA measured to be 154.2 ± 3.6º and 149 ± 11.7º, respectively. The higher CA could be attributed to the core-sheath structure of the FAS@SiNPs-SFM with which the SiNPs on the individual fibers provided an additional level of reentrant texture. The importance of hierarchical texture in imparting superamphiphobicity has been theoretically addressed in literature (Kota et al., 2014).

Quantitatively, the apparent CA for surface with dual-scale reentrant texture, θ_2^*, can be described using the following equation derived by applying the Cassie-Baxter relation twice (Chhatre et al., 2010) in Equation 9:

$$cos\theta_2^* = \left(1 - f_{LG,m}\right)\left[\left(1 - f_{LG,f}\right)cos\theta - f_{LG,f}\right] - f_{LG,m} \quad (9)$$

Where:

- θ is the intrinsic CA of the material, which could only be measured with a perfectly non-textured surface made of the same material (FAS in this case)
- $f_{LG,f}$ is the areal fraction of the liquid-gas interface at the single fiber scale which corresponds to the contact of liquid with air trapped between SiNPs on a fiber
- $f_{LG,m}$ is the areal fraction of the liquid-gas interface at the membrane scale which concerns the contact of liquid with air trapped between fibers.

For FAS@SFM, only one level of reentrant texture is present, and the above equation is thus reduced to Equation 10:

$$cos\theta_1^* = \left(1 - f_{LG,m}\right)cos\theta - f_{LG,m} \quad (10)$$

Where:

- θ_1^* is the apparent CA for a fibrous network where the only reentrant texture is created by the fibers themselves.

It can be easily proved that θ_1^* is always lower than θ_2^* because the sufficient condition for $\theta_1^* < \theta_2^*$ is $cos\theta_2^* < cos\theta_1^*$ when the θ is from 0 to 180º, which is indeed the case as shown by Equation 11, which is obtained from Equations 9 and 10:

$$cos\theta_2^* - cos\theta_1^* = -\left(1 - f_{LG,m}\right)f_{LG,f}\ (1 + cos\theta) < 0 \quad (11)$$

This analysis suggests that the second scale reentrant structure was responsible for enhancing the amphiphobicity of the membrane and render it superamphiphobic.

5.2. Performance of Omniphobic Membrane against Surfactant Wetting

The fabricated membrane samples were tested in our MD cell. During the course of the MD experiments, SDS was added sequentially to the feed solution so that

the SDS concentrations of the feed solution after each addition were 0.1, 0.2, 0.3, and 0.4 mM. The SDS was added to the feed stream to reduce the surface tension of the solution and thereby to induce pore wetting, if the membranes were wettable (Figure 18).

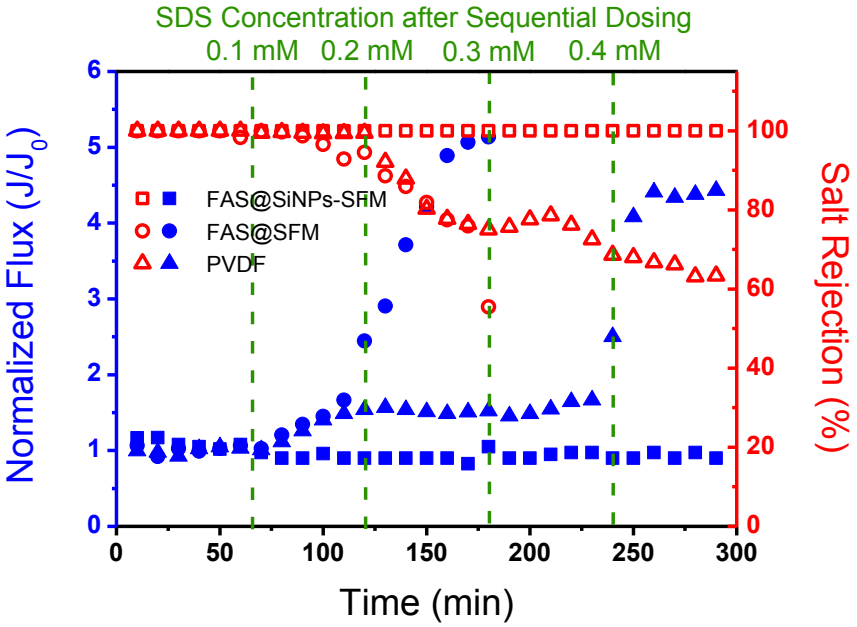

Figure 18.—Water flux (blue) and salt rejection rate (red) for the fabricated FAS@SiNPs-SFM (square), FAS@SFM (circle), and the commercial PVDF membrane (triangle). The green dash lines indicate the addition of SDS, with the numbers on the top representing the final SDS concentration of the feed solution after the addition.

The MD experiment for the FAS@SFM was stopped prematurely because the salt rejection rate dropped to an unacceptable level. The water fluxes are normalized to the initial flux of each membrane. The initial water fluxes for FAS@SiNPs-SFM, FAS@SFM, and PVDF membranes were 21.9 ± 1.2 L m^{-2} h^{-1}, 17.1 ± 0.9 L m^{-2} h^{-1}, and 45.9 ± 1.9 Lm^{-2} h^{-1}, respectively.

With the addition of SDS into the feed stream, however, severe wetting was observed on the FAS@SFM and PVDF membrane as indicated by the dramatic changes of water flux and salt rejection rate. Because we intentionally controlled the feed hydraulic pressure to be slightly higher than that of the distillate, liquid unequivocally flows from the feed stream to the distillate stream and thereby increases both the transmembrane water flux (including liquid and vapor) and the solute flux. Interestingly, the FAS@SFM seems to be even more susceptible to SDS wetting than the hydrophobic but oleophilic PVDF membrane, as the changes of water flux and salt rejection was more severe for the FAS@SFM than for PVDF membrane when the SDS concentration of the feed stream was raised to 0.2 mM and above. This is probably due to the higher effective pore size of FAS@SFM membrane (~0.85 μm) compared to that of the commercial PVDF membrane (~0.45 μm), which resulted in a lower liquid entry pressure for the

FAS@SFM membrane. The rejection rates for both membranes were below the acceptable level for any practical MD application (Figure 19).

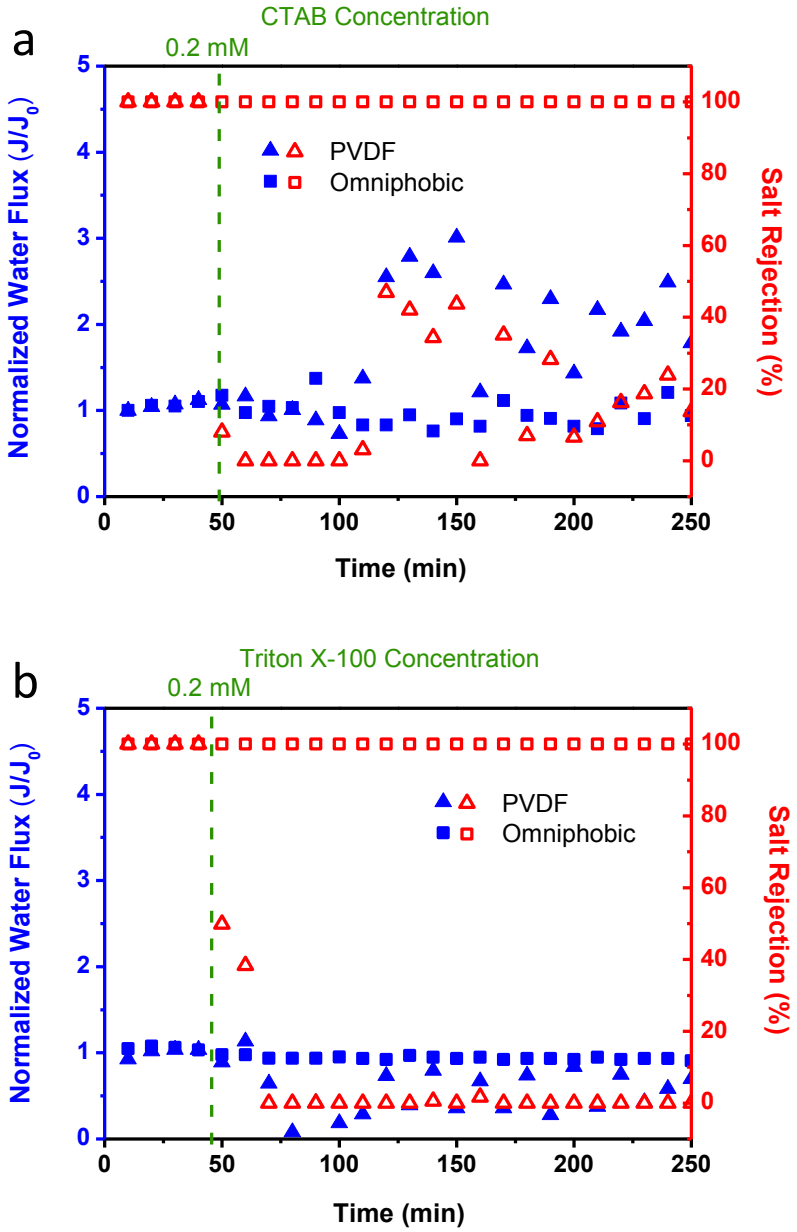

Figure 19.—Water flux (blue) and salt rejection rate (red) for the omniphobic membrane (square) and the commercial PVDF membrane (triangle).

The green dash lines in Figure 19 indicate the addition of CTAB (a) and Triton X-100 (b), with the numbers on the top representing the final concentrations of the feed solutions after the addition. The water fluxes are normalized to the initial flux of each membrane.

In comparison, the performance of FAS@SiNPs-SFM remained stable over the course of the entire MD test. Neither water flux nor the salt rejection rate was affected by the SDS dosing—even up to a concentration of 0.4 mM. This suggests that the robust performance of the co-axially spun FAS@SiNPs-SFM against surfactant wetting. Similar results were observed using CTAB, a cationic surfactant, and Triton X-100, a nonionic surfactant (Figure 19). The omniphobic membrane maintained stable flux and salt rejection rate in the presence of either CTAB or Triton X-100, showing that the anti-wetting property is universal to the surfactants with different charges. The commercial PVDF membrane, however, significantly reduced salt rejection after the addition of surfactants in both cases, indicating that the membranes were fully wetted. The stronger anti-wetting property of FAS@SiNPs-SFM as compared to FAS@SFM is attributable to the second scale of roughness introduced by the SiNPs on the fiber surface, which rendered the local wetting of individual fibers more difficult.

The importance of the multiscale reentrant structure in enhancing the superhydrophobicity or amphiphobicity of membranes has been relatively well understood (Fong et al., 1999; Georgakilas et al., 2008; Guo et al., 2010; and Mansur et al., 2004). In previous studies, local reentrant structure was added by coating fluorinated TiO2 or SiO2 nanoparticles onto the existing membrane substrates, which has been shown to be very effective in mitigating membrane wetting (Al-Oweini and El-Rassy, 2009; Kota et al., 2014; Legeay et al., 1998; Lin et al., 2013). Here, we demonstrate for the first time that an effective anti-wetting MD membrane with hierarchical roughness can also be fabricated by leveraging on coaxial electrospinning to create a second scale of reentrant structure.

5.3. Performance of Omniphobic Membrane against Oil Fouling

Our original hypothesis was that an omniphobic membrane should be anti-oil-fouling. The rationale behind such a hypothesis is that an omniphobic membrane is both hydrophobic and oleophobic. However, we observed from MD experiments that an omniphobic membrane is actually prone to oil fouling in MD operation, if the feed solution is an O/W emulsion is prepared purely by vigorous mechanical emulsification without adding excess surfactant. We believe the high fouling propensity of the omniphobic membrane results from the attractive interaction between the omniphobic membrane, which is made of low-surface-energy material, and the oil droplets, which also have low surface energy, when both membranes and droplets are underwater. In fact, although usually not explicitly, the omniphobicity of a surface is defined for its in-air wetting phenomena, i.e., an omniphobic surface is in-air hydrophobic and oleophobic. Now it appears clear to us that an omniphobic surface should be underwater oleophophilic (i.e., attractive to oil) due to its low surface tension.

We measured the CA for both the omniphobic membrane and the PVDF membrane (as a reference) with water and oil in air and with oil in water (**Error! Reference source not found.**). The in-air water CA measurements suggest that the PVDF membrane was hydrophobic, but the omniphobic membrane was more even hydrophobic. The in-air oil CA measurements suggest that the PVDF membrane in-air superoleopholic (i.e., the membrane was completely wicked by the oil droplet) whereas the omniphobic membrane was slightly oleophobic (92.5±3.5°). The underwater oil CA for the PVDF membrane was 23.8±1.8°, suggesting that the membrane was underwater oleophilic, whereas the underwater CA for the PVDF membrane was 73.8±0.7°, suggesting that the omniphobic membrane was also slightly oleophilic.

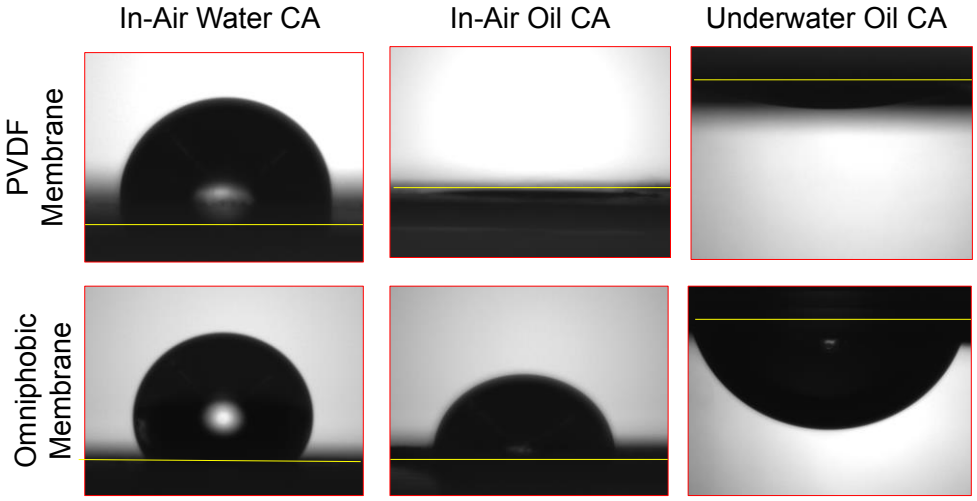

Figure 20.—CA for PVDF and omniphobic membranes measured in air (with water and oil) and underwater (with oil)

The MD experiments with O/W emulsion (without excess surfactants) showed that the omniphobic membrane was also fouled very rapidly, similar to the hydrophobic PVDF membrane (Figure 21). The fouling of omniphobic membrane was due to oil spreading on an omniphobic surface underwater, which is thermodynamically favorable. Such oil spreading eliminated the available pores of the omniphobic membrane for vapor transfer and thereby led to significant flux decline. The major difference in fouling between the PVDF and the omniphobic membranes, however, was the permeation of oil into the pores of the PVDF membrane but not the omniphobic membrane. Visual inspection of the DI water rinsed omniphobic membrane and PVDF membrane after the fouling experiments revealed that, contrary to the PVDF membrane, the omniphobic membrane had very few oil stains remaining on the membrane surface or within the membrane pore (pictures not shown).

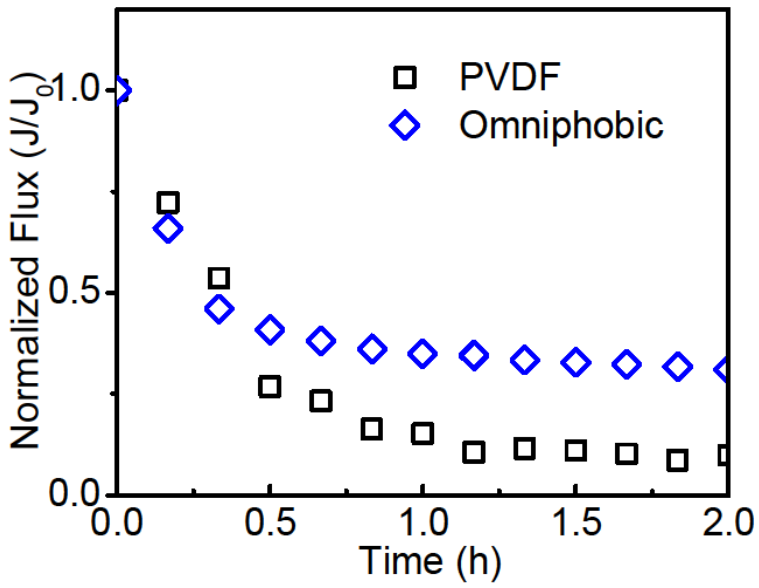

Figure 21.—Normalized flux for PVDF and omniphobic membrane with O/W emulsion being the feed solution.

Fast and significant fouling was observed for both membranes. The initial fluxes for the PVDF and the omniphobic membranes were 35.67 and 25.19 L m^{-2} h^{-1}, respectively.

The fact that the oil on the omniphobic membrane surface can be washed off can be explained by the reentrant structure of the omniphobic membrane that prevents the wicking of low-surface-tension liquids in air. Such a reentrant structure still served to resist permeation of oil into the membrane pores even when the membrane was underwater, because the oil-membrane interaction within the pores should be the same regardless the membrane was in air or underwater—only the oil-membrane interaction at the interface depended on the third phase. In other words, although oil tends to spread on the surface of both the omniphobic membrane and the hydrophobic membrane, it only penetrates into the hydrophobic membrane's pores but not the omniphobic membrane's pores.

Similar to the attraction observed in the PVDF membrane, a strong attraction was observed upon the contact between the oil probe and the omniphobic membrane. Unlike that for PVDF membrane, however, the omniphobic membrane retained significantly less oil.

Oil probe force spectroscopy with the omniphobic membrane confirmed the above explanation (**Error! Reference source not found.**). Similar to the interaction with a PVDF membrane, a sudden increase in adhesion force was observed at the end of the advancing stage due to the hydrophobic-hydrophobic interaction. This is consistent with the results of our fouling experiments which

showed similar fouling behaviors for both the hydrophobic PVDF membrane and the omniphobic membrane. However, the fraction of oil retained by the omniphobic membrane was significantly lower than the amount of oil retained by the PVDF membrane, as indicated by the very low "adhesion force" measured in the baseline of the receding stage. In this regard, the omniphobic membrane can be considered "attractive but not adhesive" to oil, which is consistent with the observation in the CA measurements that the oil droplet spread reasonably well on the omniphobic membrane surface but did not penetrate into the membrane pores because of the reentrant structure.

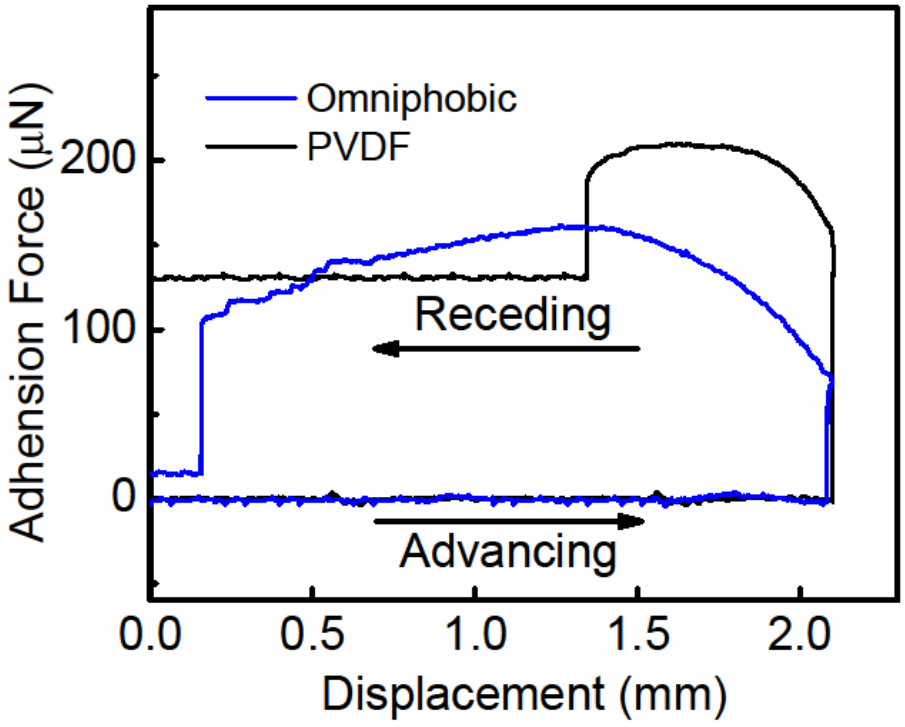

Figure 22.—Force curves for PVDF and omniphobic membrane.

5.4. Performance of Omniphobic Membrane with Surfactant-Stabilized Oil-in-Water Emulsion

The behavior of an omniphobic membrane in MD experiments with surfactant stabilized O/W emulsion as the feed solution was drastically different from that for a hydrophobic PVDF membrane (Section 4.3 *MD Performance of Hydrophobic Membranes*) or that for an omniphobic membrane with surfactant free O/W emulsion (Section 5.3 *Performance of Omniphobic Membrane against Oil Fouling*). In the presence of Triton X-100 stabilized O/W emulsion, no flux decline was observed with the omniphobic membrane, which suggests the absence of membrane fouling (Figure 23). Compared to the case using the surfactant-free O/W emulsion as the feed solution, here, the amphiphilic

surfactant molecules "wrapped" the oil droplets and rendered the surface of these oil droplets hydrophilic. When these hydrophilic oil droplets interact with the omniphobic membrane surface, an energetic barrier exists for attachment to the surface, possibly due to:

1) The dehydration of the hydrophilic head of the surfactant, or/and

2) Interfacial rearrangement of the surface density distribution of the surfactants to create a surfactant depleted zone for oil-membrane contact.

Another possible impact exerted by the surfactants might be the adsorption of surfactants to the low-surface-energy membrane surface, which rendered the membrane surface hydrophilic. In this case, oil droplet attachment onto the membrane surface became even more unfavorable with hydration on both interacting surfaces (oil and membrane) that contributes to a stronger repulsive force upon physical contact. Although which of these mechanisms dominates remains unclear, it is confident to conclude the significantly mitigated membrane fouling was attributable to the reduced attractive interaction between surfactant-stabilized oil droplets and the omniphobic membrane surface.

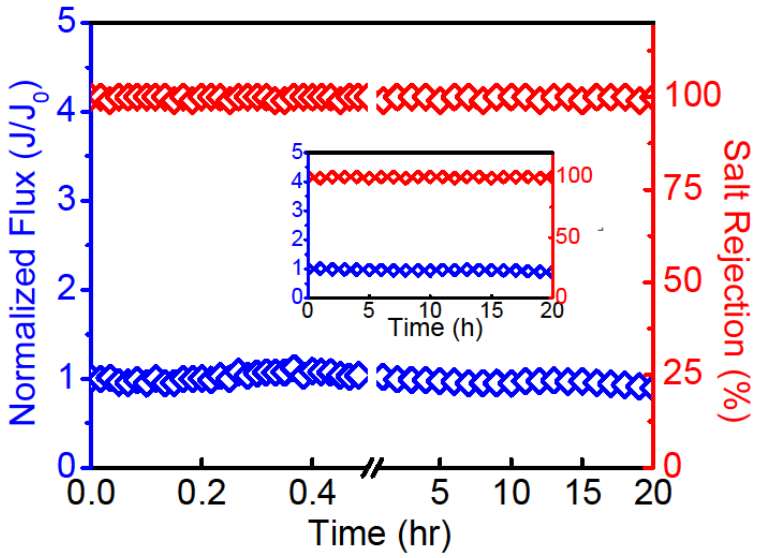

Figure 23.—Normalized flux and salt rejection measured in DCMD experiments with omniphobic membrane and 1,000 ppm O/W solution with 100 ppm non-ionic surfactant Triton X-100.

No fouling or wetting phenomenon was observed. The initial flux was 24.46 L m^{-2} h^{-1}.

To further elucidate the impact of Triton X-100 on the interaction between oil droplets and the omnipobic membrane, we conducted an oil-probe force spectroscopy and added Triton X-100 into the aqueous solution where the oil-membrane interaction occurred. The force curve of such a measurement is reported on Figure 24.

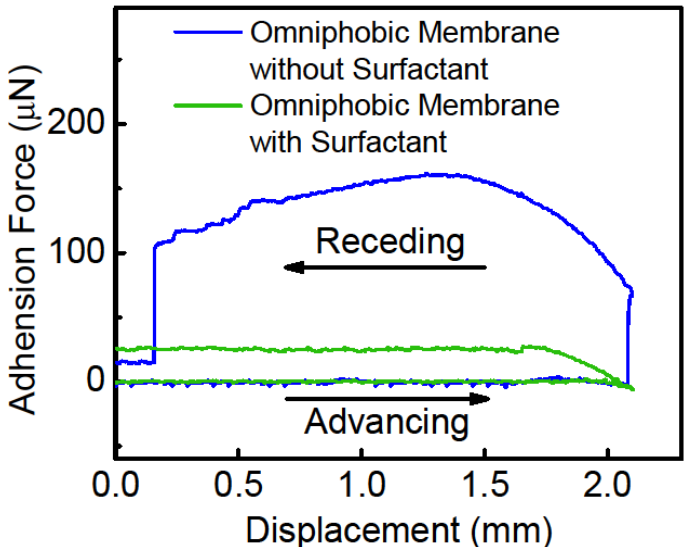

Figure 24.—Force curves for the interaction between an omniphobic membrane and an oil droplet with and without Triton X-100 in the solution.

Similar to the interaction with PVDF membrane, a sudden increase in adhesion force was observed at the end of the advancing stage due to the hydrophobic-hydrophobic interaction. This is consistent with the results of our fouling experiments, which showed similar fouling behaviors for both the hydrophobic PVDF membrane and the omniphobic membrane. However, the fraction of oil retained by the omniphobic membrane was significantly lower than that retained by the PVDF membrane, as indicated by the very low pseudo-adhesion force measured in the baseline of the receding stage. In this regard, the omniphobic membrane can be considered “attractive but not adhesive” to oil, which is consistent with the observation in the CA measurements that the oil droplet spread reasonably well on the omniphobic membrane surface but did not penetrate into the membrane pores because of the reentrant structure.

In the presence of Triton X-100, the attractive interaction upon oil-membrane contact vanished and the amount of oil retained by the membrane after retraction was very small.

6. DEVELOPMENT AND PERFORMANCE OF COMPOSITE MEMBRANES

We fabricated a composite membrane with asymmetric wetting properties for anti-oil-fouling MD operation. The composite membrane has a PVDF hydrophobic substrate and a nanoparticle-polymer composite surface coating that is in-air superhydrophilic and underwater superoleophobic. We compared the morphology and wetting properties of the composite membrane and the pristine PVDF membrane. We then conducted comparative DCMD experiments with saline feed solution containing a high concentration of crude oil to show the different fouling propensities between these two membranes. Finally, we measured the force spectroscopy for both the composite membrane and the pristine PVDF membrane with an oil droplet underwater to unravel the mechanism behind the different fouling propensities of these membranes.

6.1. Development of Composite Membrane with Superhydrophilic Surface

6.1.1. CTS/PFO-SiNPs Composite Membrane Fabrication

The in-air superhydrophilic and underwater superoleophobic coating was synthesized using a 4-step procedure.(Liu et al., 2005 and J. Yang et al., 2014) First, 0.2 g chitosan (CTS) was dissolved in 100 milliters (mL) of 1% acetic acid solution with a mixer. Second, 0.3g silica nanoparticles (SiNP) with an average diameter of 20 nanometers (nm) were dispersed in the CTS suspension under sonication for 15 minutes to form a dispersion of CTS-SiNPs. After that, a 20 mL aqueous solution of sodium perfluorooctanoate (PFO, 0.1M), resulting from the reaction of PFO acid with NaOH, was added to the CTS-SiNPs solution drop-wise under stirring. The PFO anions coordinate to the amino group of the CTS, forming a white suspension of SiNPs coated with a mixture of CTS and PFO (CTS-PFO/SiNPs). Finally, the product was filtered and rinsed first with deionized water and then ethanol before drying at room temperature.

To prepare the coating suspension, 0.3 g of the synthesized nanocomposite particles (CTS-PFO/SiNPs) were dispersed in 20 mL of ethanol using bath sonication. The nanocomposite suspension was spray-coated onto one side of a commercial hydrophobic PVDF membrane substrate with an area of 20 cm × 20 cm using a spray gun with 0.2 megapascal (MPa) of air. Special caution was taken to ensure that the hydrophobic PVDF membrane was not fully wetted by the ethanol based suspension, so that only the wetting property of the top surface (but not that of the entire porous structure) was modified. The coated membrane was heat treated at 80 °C for 1 hour to remove any remaining solvent and to strengthen the interaction between the nanocomposite coating and the substrate PVDF membrane.

6.1.2. Characterization of Membrane morphology

The surface morphology of the pristine PVDF membrane and fabricated composite membrane was observed using SEM. The porosity of the pristine and modified membrane was measured by gravimetric method with a wetting agent (Porefil, IB-GT GmbH, Germany) of a low surface tension of 16 mN/m. Furthermore, we measured the pore size distributions for both membranes with a capillary flow porometer (Poroflux 1000, IB-FT GmbH, Germany).

The modified surface of the composite membrane (Figure 25[B]) exhibited a very different surface morphology than the pristine PVDF membrane (Figure 25[A]) due to the presence of the CTS-PFO/SiNPs nanocomposite coating. Figure 25(B) suggests that the nanocomposite coating thoroughly covers the surface of the PVDF substrate and even forms agglomerates that block some of the membrane pores. These nanocomposite agglomerates, together with the inherent roughness of the pristine membrane, create a hierarchical structure with a high degree of surface roughness. According to the Wenzel theory, roughness is of critical importance in enhancing the intrinsic wetting property of a surface.

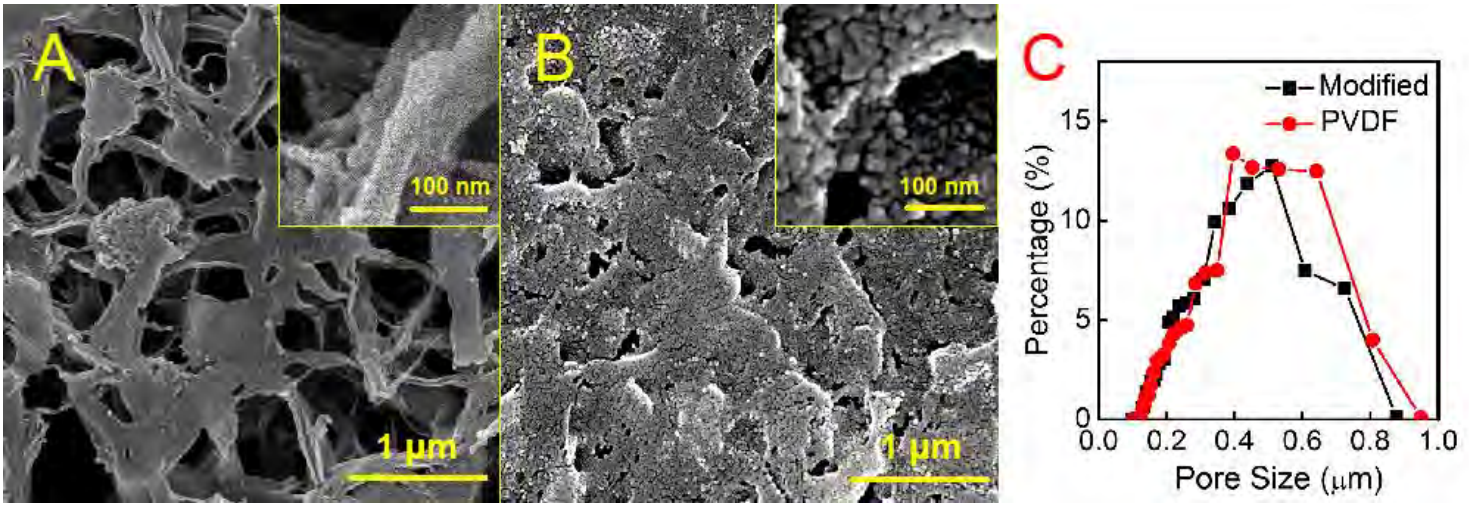

Figure 25.—SEM images featuring the morphology of (A) a commercial PVDF membrane and (B) a composite membrane modified by coating the commercial PVDF membrane with a CTS-PFO/SiNPs nanocomposite layer. The inset images in (A) and (B) show the local morphology of the PVDF membrane and composite membrane, respectively. (C). Pore size distributions of the pristine and modified PVDF membrane.

The measured porosity of the modified membrane was 72.5 ± 0.2%, which was only slightly lower than that of the pristine membrane (75.1 ± 0.1%). Similarly, the pore size distribution was not significantly affected by the modification (Figure 25[C]), as the average pore size of pristine PVDF membrane is 392 ± 23 nm and the modified membrane is 388 ± 28 nm. The relatively small change in the structural property of the porous membrane was expected, as the modification only affected the top surface of the membrane by adding about 4% to the overall thickness of pristine the membrane (172.6 ± 7.6 μm for pristine membrane vs 180.1 ± 7.1 μm for the modified membrane).

6.1.3. Membrane Wettability

To compare the wetting properties of the two membranes, we measured their static CA using an optical tensiometer (TL100, Attension, Finland). Both the in-air sessile drop CA with water and underwater CA with crude oil were measured. Before measuring the in-air water CA, we immersed the membranes in a water bath for 2 minutes, removed the membranes from water, and then further removed any water puddles remaining on the membrane surfaces using blotting paper. Sessile drop CA measurements using this approach yield more relevant information compared to those conducted without conditioning the membrane surfaces with water, because in actual MD operations the membrane surfaces are in constant contact with the feed and distillate solutions. The measurement of underwater CA is similar to the captive bubble CA measurement, but with the bubble being replaced by a crude oil droplet. We note that the density of the crude oil is lower than that of water.

The pristine PVDF membrane and the fabricated composite membrane showed drastically different wetting properties. After a brief soaking in water, the modified surface of the composite membrane was fully wetted in air (**Error! Reference source not found.**[A]), with a clearly observable film of bounded water; while the unmodified surface of the composite membrane and both surfaces of the pristine PVDF membrane still remained non-wetted in air (**Error! Reference source not found.**[B and C]), with water droplets beading up on the surfaces. More quantitatively, the in-air sessile drop CA with water were 106.6±0.2° for the pristine PVDF membrane (**Error! Reference source not found.**[F]), 104.1±0.5° for the unmodified surface of the composite membrane (**Error! Reference source not found.**[E]), which indicates that both surfaces were reasonably hydrophobic in air. In contrast, the sessile drop CA was zero for the modified surface of the composite membrane (**Error! Reference source not found.**[D]), which suggests that the modified surface of the composite membrane was in-air superhydrophilic.

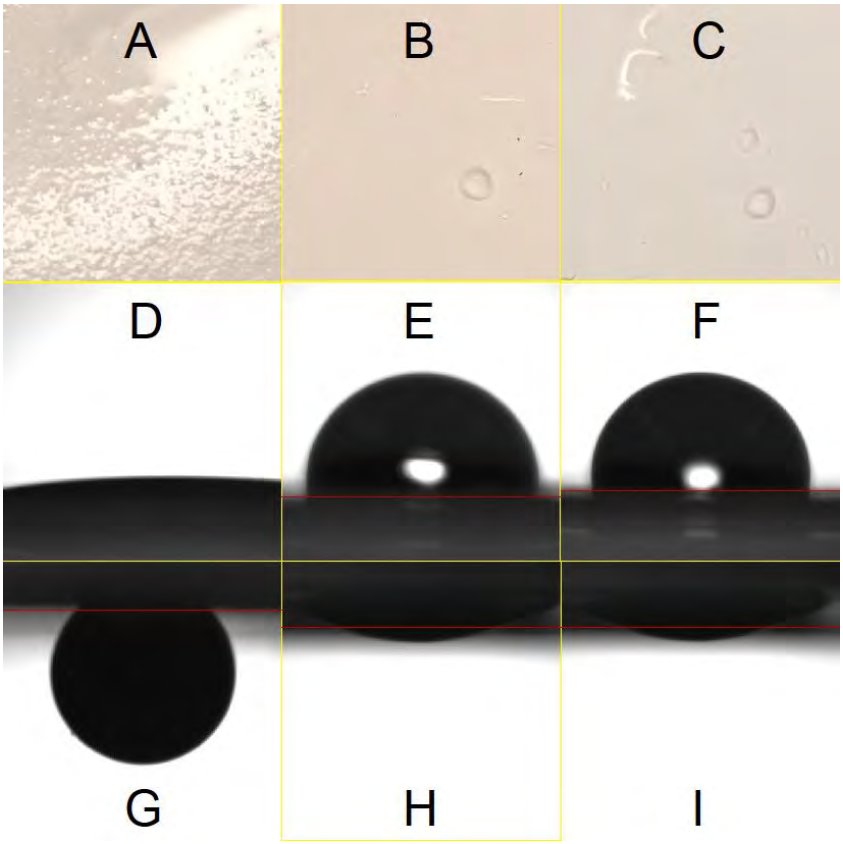

Figure 26.—Photographic images of water wetting on (A) the modified surface of the composite membrane, (B) the unmodified surface of the composite membrane, and (C) the pristine PVDF membrane. These images were taken right after the membranes were removed from water after being soaked for 2 minutes. In-air water CA of (D) the modified surface of the composite membrane, (E) the unmodified surface of the composite membrane, and (F) the pristine PVDF membrane. These CA were measured with membranes preconditioned by soaking in water. Underwater–oil CA of (G) the modified surface of the composite membrane, (H) the unmodified surface of the composite membrane, and (I) the pristine PVDF membrane. Crude oil, which served as the foulant in subsequent MD experiments, was the oil phase for these underwater–oil CA measurements.

6.1.4. Membrane Performance in Direct Contact Membrane Distillation

DCMD experiments, with feed solution containing crude oil (1,000 ppm wt%), using the fabricated composite membrane and pristine PVDF membrane, demonstrated drastically different fouling behaviors between the two membranes (Figure 27). Significant fouling was observed in DCMD with the pristine PVDF membrane experiments, as indicated by an appreciable decline of water vapor flux in a short period of time (open red circles in Figure 27). Since the pristine PVDF membrane (**Error! Reference source not found.**[I]) was underwater oleophilic, the oil droplets would tend to attach onto the hydrophobic surface of the pristine PVDF membrane via the long-range hydrophobic-hydrophobic interaction.

The attachment and accumulation of the oil droplets on the membrane surface resulted in blocking the membrane pores that served as the pathways for water vapor, and consequently the decline of water vapor flux. In addition, because the oil droplets were larger than the membrane pore size, the fouling occurred almost immediately after the MD operation started.

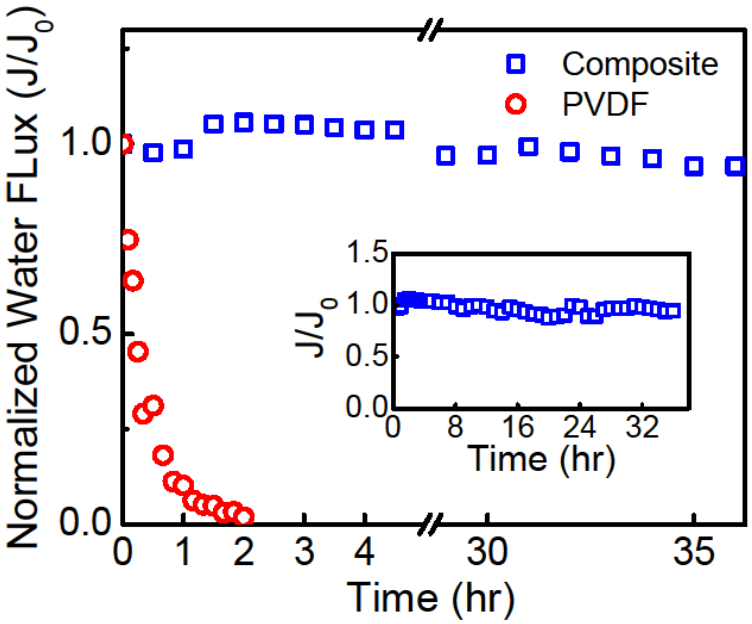

Figure 27.—Normalized water (vapor) flux for the fabricated composite membrane (solid squares) and pristine PVDF membrane (open circles) with feed solution containing 1,000 ppm (% wt) crude oil in the DCMD experiments.

The normalized water fluxes were the time-dependent water fluxes normalized by the initial water fluxes. The cross-flow velocities of the streams in the membrane module of all DCMD experiments were 9.6 centimeters per second (cm/s) and 4.3 cm/s in the feed stream and distillate stream, respectively. The initial water fluxes for PVDF membrane and composite membrane were 33.2 L m^{-2} h^{-1}, and 24.6 L m^{-2} h^{-1}, respectively. The salt rejection rates for each membrane were all over 99.9% during the operation process.

6.1.5. Underwater Oil-Adhesion Force Measurements

To further understand the anti-oil-fouling behavior of the composite membrane in DCMD experiments, underwater dynamic oil adhesion measurements with the modified surface of the composite membrane and the pristine PVDF membrane were conducted. A mineral oil droplet was employed as the force probe that interacted with membrane surfaces. The force curves, which quantify the position-dependent interaction force between the oil droplet and the membrane surfaces, are presented in Figure 28[A] for both membranes tested. The “adhesion force” reported in Figure 28[A] was in essence the force experienced by the MEMS due to the pulling of the adhesion force probe.

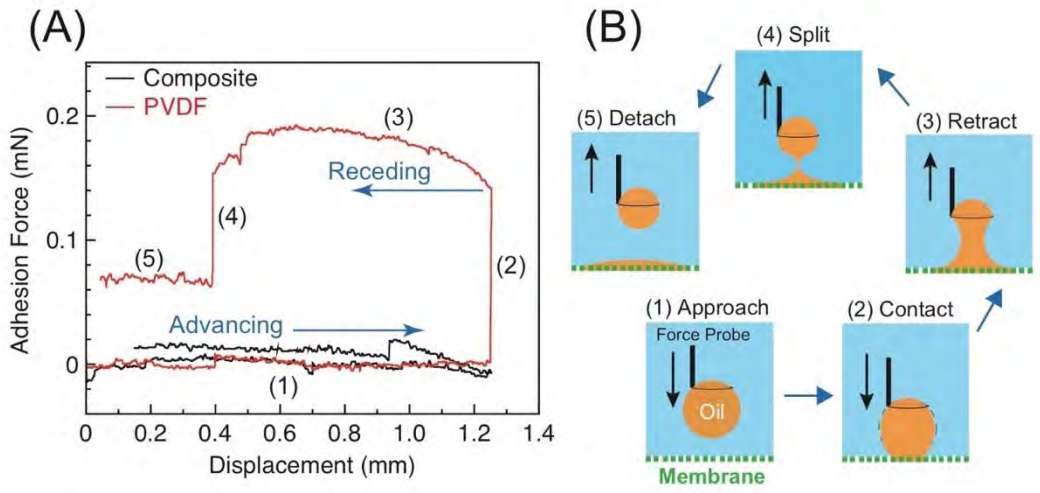

Figure 28.—(A) Force–displacement curves (or force curves) recorded in experiments where a mineral oil droplet interacted with the composite membrane (black curve) and the pristine PVDF membrane (red curve) underwater. (B) The five distinct events during the dynamic interaction between oil and the substrate surface.

In strong contrast, the interaction between the oil droplet and the fabricated composite membrane was very weak, which was supported by several features of the corresponding force curve (black curve on Figure 28[A]). Most prominently, the abrupt increase of adhesion (Event 2: Contact) observed with pristine PVDF membrane did not occur for the composite membrane. Instead, zero or even slightly negative adhesion force (which suggests possible repulsion) was observed upon the initial contact between the oil droplet and the composite membrane. Oil-membrane adhesion did occur after extended and forced contact, as evidenced by the presence of the gradual growth, and, more clearly, by a precipitous drop of the adhesion force (Event 3: Retract and Event 4: Split, respectively). However, the strength of the adhesion was significantly lower than that for the pristine PVDF membrane. Last by not least, the artificial "adhesion force" measured in Event 5: Detach was appreciably smaller than that for the pristine PVDF membrane, which implies that considerably less oil was retained by the composite membrane than by the pristine PVDF membrane. These evidences collectively demonstrate that the oil droplet has significantly lower affinity toward the underwater oleophobic surface of the composite membrane than the pristine hydrophobic PVDF membrane, which convincingly explained the markedly enhanced anti-oil-fouling performance of the composite membrane observed in DCMD experiments.

6.1.6. Conclusion

The requirement of non-wetted pores in MD, which typically entails the MD membranes to be hydrophobic, poses a unique challenge to MD for desalinating feed waters containing hydrophobic contaminants such as oil. The strong, long-ranged, and attractive hydrophobic-hydrophobic interaction renders a hydrophobic membrane particularly prone to oil fouling. Interfacial materials with

special wettability, such as the in-air superhydrophilic and underwater superoleophobic CTS/PFO-PVDF membrane presented in this study, might be an effective solution to overcome the challenge of oil fouling.

The comparison of fouling resistance between the CTS/PFO-PVDF and the CTS-PVDF membranes suggests that the presence of low-surface-energy perfluoroalkyl functional groups on the surface can significantly improve the anti-fouling performance of the MD membrane. This observation is largely consistent with a plethora of studies on fouling mitigation in pressurized membrane processes using materials with heterogeneous wettability (Ju et al., 2008; Louie et al., 2006; McCloskey et al., 2012; Ochoa et al., 2003; and Zhou et al., 2009). The positive impact of blending low-surface-energy moieties into a hydrogel matrix has been postulated to be the promotion of foulants release upon local hydrodynamic perturbation (Li et al., 2014a, 2014b; Werber et al., 2016; Zhao et al., 2012; and X. Zhu et al., 2013), although no direct proof has been provided either experimentally or through simulation. On the other hand, the overabundance of low-surface-energy functional groups has shown a marked detrimental impact on fouling resistance, most likely by reducing the exposure of hydrophilic moieties and impairing the positive effect of hydration-based mitigation of foulant attachment.

6.2. Performance of Composite Membrane against Oil Fouling

6.2.1. Impact of Low-Surface-Energy Functional Groups

The general consensus on the anti-fouling mechanism of a superhydrophilic surface emphasizes that forming a hydration layer plays a critical role due to the hydrogen bonds between water and the hydrophilic function groups on the surface. Such a hydration layer mitigates the attachment of hydrophobic foulants to membrane surfaces, because the attachment entails surface dehydration which is energetically highly unfavorable (Anjali Devi et al., 2005; Pashley, 1981a, 1981b; and Rinaudo, 2006). This mechanism, known as hydration force, has been a pivotal guiding principle for developing anti-oil-fouling surfaces (Chen et al., 2010; Dudchenko et al., 2015; and Fe et al., 2016).

Recent studies have suggested that integrating low-surface-tension functional groups into a hydrophilic matrix to form a surface with heterogeneous wettability can further enhance the anti-fouling performance the surface. Such an integration can assume different forms, including block-co-polymers with hydrophilic and low-surface-energy chains, polymer composites of hydrophilic polymers blended with low-surface-tension compounds, and layered structures with low-surface-tension polymer partially overlaying the hydrophilic substrate. While numerous experiments have shown that surfaces with heterogeneous wettability can deliver improved anti-fouling performance in pressurized filtration compared to purely hydrophilic surfaces, the exact mechanism of performance enhancement by the

low-surface-energy moieties remains unclear. It has been speculated that the low-surface-energy functional groups can facilitate the release of foulants (Howarter and Youngblood, 2009 and Werber et al., 2016). However, low-surface-energy functional groups themselves are also inherently hydrophobic and would certainly promote foulants adhesion in the first place if they were not part of a matrix with heterogeneous wettability. Furthermore, no study has been reported to specifically assess the impact of low-surface-energy moieties on the membrane anti-fouling performance in MD, which differ appreciably from pressure driven membrane processes.

In this section, we fabricated three composite membranes with different amounts of low-surface-energy perfluoroalkyl functional groups on their surfaces. We compared the morphology and wetting properties of these composite membranes with a hydrophobic PVDF membrane. We then conducted direct contact membrane distillation (DCMD) experiments with saline crude oil emulsion as feed solution to induce fouling and compare the anti-oil-fouling performance of the composite membranes and the PVDF membrane. Finally, we measured the interaction force between an oil droplet and the membrane surface for each membrane using a force tensiometer and related the oil-membrane interaction to the fouling behavior in DCMD experiments.

6.2.2. Fabrication of CTS-PVDF Composite Membrane

CTS solution was prepared by dissolving 2 g CTS in 100 mL of acetic acid solution (2 wt%), and dispersing 3 g silica nanoparticles in the solution under magnetic stirring for 24 hours. An aliquot of 0.37 mL GA solution (1 wt%) was added to the prepared CTS solution as the cross-linker. The mixture was stirred for another 24 hours for the crosslinking to complete. After that, the stirring was stopped for the crosslinked CTS solution to de-gas. To obtain CTS-PVDF composite membrane, the de-gassed CTS solution was casted on the pristine PVDF membrane using a casting knife (Doctor Blade) with a controlling thickness of 20 μm. The casted CTS-PVDF membrane was dried under room temperature and then immersed in NaOH solution (4 wt%) for 1 minute. The CTS-PVDF membrane was ready to use after being taken out from the NaOH solution and washed with deionized water (Zhang et al., 2013).

6.2.3. Fabrication of CTS/PFO-PVDF Composite Membranes

The fabrication of CTS/PFO membrane was described in Section 6.1.1.

CTS/PFO-SiNPs Composite Membrane Fabrication. A polymer-nanocomposite (CTS/PFO) made of perfluorooctanoate (PFO, acquired from the reaction between perfluorooctanoic acid and sodium hydroxide) and silica nanoparticles was obtained by adding 20 mL aqueous solution of PFO (0.1 M) to 100 mL CTS and silica nanoparticles mixture solution (0.2 g CTS and 0.3 g silica nanoparticles in 100 mL 1% acetic acid solution) dropwise under rigorous mixing, then rinsing and drying the resulting suspension at room temperature.

Preparing the CTS/PFO coated PVDF membrane involved spray-coating a commercial PVDF membrane coupon (20 cm × 10 cm) with 20 ml of an ethanol suspension of 0.3g CTS/PFO. The air pressure of the spray gun was again 0.2 MPa. The resulting CTS/PFO-PVDF membrane was heated at 80 °C for one hour. Similar to the CTS-PVDF membrane, the CTS/PFO-PVDF membrane was expected to be overall in-air hydrophilic and underwater oleophobic. The major difference is the presence of the low-surface-energy perfluoroalkyl functional groups in the CTS/PFO coating, which imparts heterogeneous surface energy on the membrane surface.

6.2.4. Fabrication FS/CTS/PFO-PVDF Composite Membranes

To further enrich the low-surface-energy perfluoroalkyl functional groups on the membrane surface, we spray-coated 10 ml ethanol solution of 0.5 g anionic fluorosurfactant (FS) onto the CTS/PFO-PVDF membrane. The membrane was then heated under 80 °C for 1 hour. The resulting membrane is named FS/CTS/PFO-PVDF. Due to the abundant perfluoroalkyl functional groups on the surface, the FS/CTS/PFO-PVDF is expected to have very different wetting property compared to the CTS or CTS/PFO coated PVDF membrane surfaces, discussed later.

6.2.5. Morphology of the Composite Membranes

The SEM images (
Figure 29) show that the pristine PVDF membrane (
Figure 29[A]) and the modified composite membranes (
Figure 29[B, C and D]) have drastically different surface morphologies. Compared with the pristine PVDF membrane, the composite membranes were largely covered with coatings with a portion of surface pores being blocked, although coating layers were relatively thin compared to the PVDF substrate. The thicknesses of the CTS-PVDF, CTS/PFO-PVDF, and FS/CTS/PFO-PVDF composite membranes, measured with a caliber, were 183.3±5.8, 177.5±9.6, and 180±10 μm, respectively, which were roughly about 10% thicker than the substrate PVDF membrane (with a thickness of 163.3±5.8 μm).

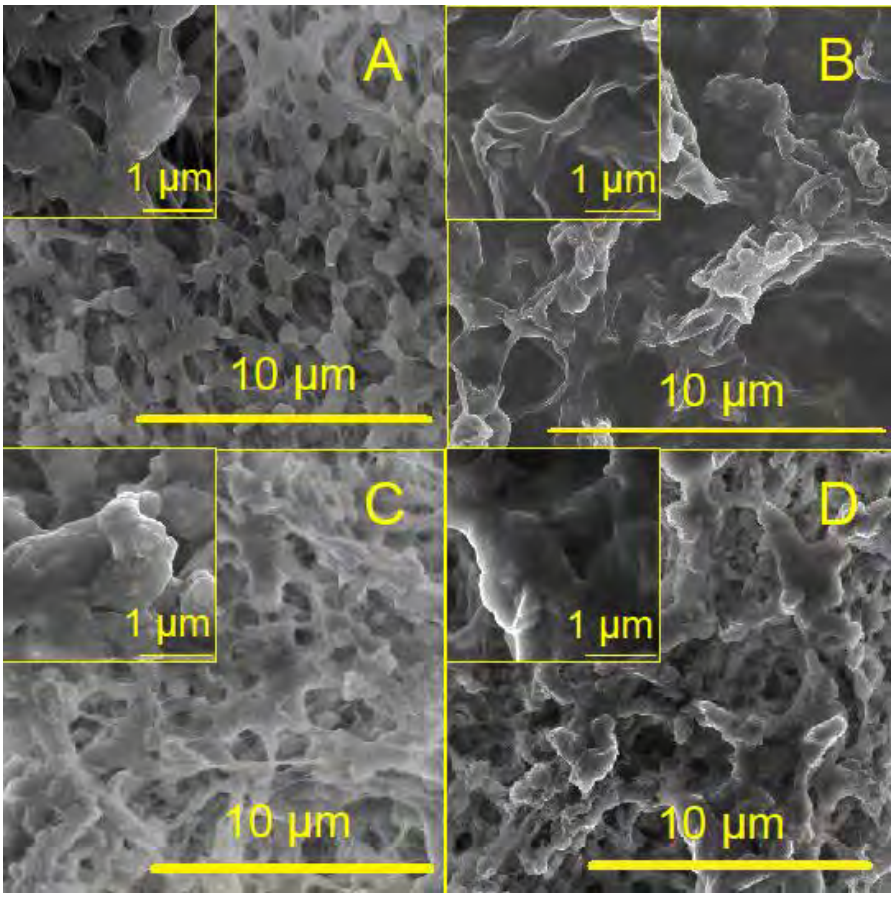

Figure 29.—SEM images featuring the morphology of (A) pristine PVDF membrane, (B) CTS-PVDF composite membrane, (C) CTS/PFO-PVDF composite membrane and (D) FS/CTS/PFO-PVDF composite membrane. The inset images show the local morphology of the membranes.

To confirm the presence of different coatings applied on the membrane, we used energy dispersive X-ray spectroscopy (EDS) to analyze the chemical composition of the membrane surface SEM images in Figure 29 with the results summarized in Table 1. The PVDF membrane surface was composed of C and F elements with a molar ratio of about 1:1. In comparison, the CTS-PVDF membrane surface was composed of O, Si and Na elements but without F, suggesting that the PVDF membrane surface was fully covered by CTS coating. The other two composite membranes, CTS/PFO-PVDF and FS/CTS/PFO-PVDF, both contained the four elements of C, F, O and Si on their surfaces as a result of the presence of CTS, SiNPs, PFO and fluoro-surfactants on the surfaces. Compared to the CTS/PFO coating, the FS/CTS/PFO coating was slightly more abundant in fluorine due to the presence of fluoro-surfactants and significantly less abundant in oxygen due to the partial coverage of the CTS.

Table 1. Relative Abundance of Different Elements on the Surface of Different Membranes

	C wt%	F wt%	O wt%	Si wt%	Na wt%	Total wt%
PVDF	38.13	61.87	N/A	N/A	N/A	100
CTS-PVDF	46.36	N/A	45.25	0.57	7.82	100
CTS/PFO-PVDF	37.21	57.80	4.41	0.57	N/A	100
FS/CTS/PFO-PVDF	37.93	58.71	2.78	0.58	N/A	100

The LEPs of all the membranes fell within the range of 3.0±0.2 bar. In spite of the significantly different morphology resulting from surface coating, the LEPs of the composite membranes were similar to that of the pristine PVDF membrane. This is because the surface coatings on the composite membranes were thin and mostly hydrophilic, which allowed water to permeate through the coating layer freely with little resistance. Therefore, the overall LEP of the composite membranes were mainly determined by the surface tension and pore structure of the hydrophobic substrates, which were mostly unaffected by the surface coating. For the same reason, the surface coatings would not significantly curtail the vapor permeability of the composite membranes. The influences of the surface coatings on the membrane vapor permeability will be deliberated in later discussions.

6.2.6. Membrane Wettability

The membrane wetting properties were quantified by CA measurements
(
Figure 30). The pristine PVDF membrane was hydrophobic with an in-air water CA of 105.3±2.1°, whereas the composite membranes were all hydrophilic with in-air water CA of less than 90° (blue bars in
Figure 30). The hydrophilicity of the composite membranes can be attributed to the hydrophilic CTS in the coating layers of the composite membranes. Compared to the highly hydrophilic CTS-PVDF and CTS/PFO-PVDF membranes with in-air water CA of 16.9±3.8° and 15±1.3°, respectively, the FS/CTS/PFO-PVDF membrane was only slightly hydrophilic with an in-air water CA of 79.7±1.7°. The relatively high CA of the FS/CTS/PFO-PVDF was consequent of the excess fluoro-surfactants on the membrane top surface.

The in-air oil CA was also measured for each membrane (red bars in
Figure 30). The pristine PVDF membrane and the CTS-PVDF membrane were in-air superoelophilic, with no measurable oil CA due to pores wicking. For the CTS/PFO-PVDF membrane, the CA was initially 55.4±0.9° but dropped to zero (i.e., complete wicking) in about 10 minutes. In comparison, the FS/CTS/PFO-PVDF membrane was oleophobic with a stable in-air oil CA of 139.3±0.6°. The ability of the FS/CTS/PFO-PVDF membrane to resist wetting can be attributed to both the re-entrant structure enabled by the nanoscale roughness and the presence of the low-surface-energy perfluoroalkyl functional groups on the surface (Boo et al., 2016; Hoefnagels et al., 2007; Liu et al., 2009; and Tuteja et al., 2007). This can also partly explain the initial resistance of the CTS/PFO-PVDF membrane to

oil wetting, as the CTS/PFO also contained perfluoroalkyl functional groups. However, the appreciably lower concentration of perfluoroalkyl function groups on the surface rendered the oil wetting resistance significantly weaker and only temporary, whereas the FS/CTS/PFO coating achieved more robust resistance.

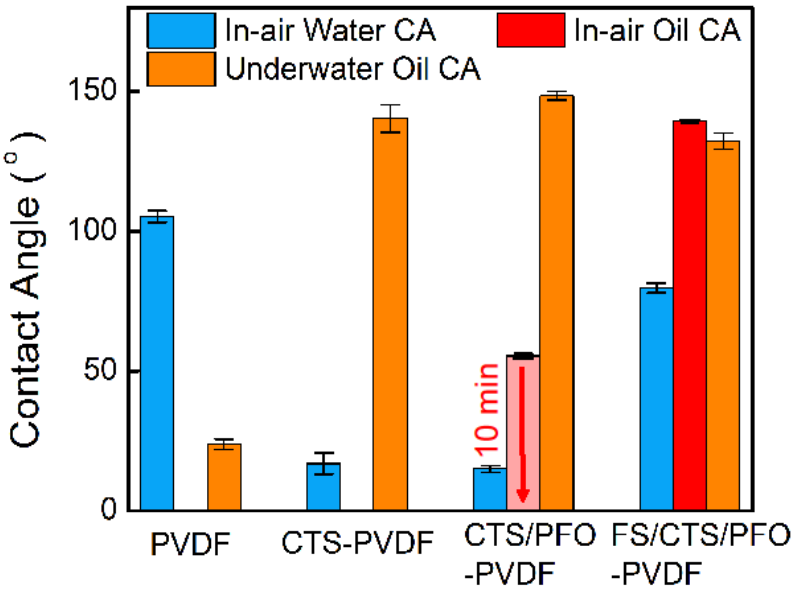

Figure 30.—Comparison of the in-air water CA (blue bars), in-air oil CA (red bars) and underwater oil CA (orange bars) among the pristine PVDF membrane and the modified membranes.

No in-air oil CA can be observed for the in-air oil CAs of the PVDF and the CTS-PVDF membranes as the mineral oil wicked the membranes promptly. The initial in-air oil CA of the CTS/PFO-PVDF composite membrane was 55.4±0.9° which decreased to zero in 10 minutes due to gradual oil wicking. The in-air oil CA for the FS/CTS/-PVDF membrane was high (79.7±1.7º) and stable.

To acquire the wetting property that is directly relevant to MD operation, we measured underwater oil CA for each membrane (orange bars in Figure 30). For the pristine PVDF membrane, a low underwater oil CA (23.8±1.8°) was observed, indicating that the membrane was underwater oleophilic. In comparison, the three composite membrane all exhibited underwater oleophobicity with the measured underwater oil CA over 130°. The oleophobicity is consequent of the strong interaction between water and the hydrophilic, hydrogen-bond forming, functional groups on the CTS hydrogel layer: the spreading of oil phase on the hydrogel surface requires the elimination of the hydration layer surrounding the hydrophilic polymer, which is thermodynamically highly unfavorable (Anjali Devi et al., 2005; Chen et al., 2010; Howarter et al., 2011; Howarter and Youngblood, 2009; and Rinaudo, 2006).

Although the low-surface-energy perfluoroalkyl functional groups were present in both CTS/PFO and FS/CTS/PFO composites, they did not seem to reduce the underwater oil CA of the coated membranes. For a composite with both high-surface-energy (e.g., hydrogen bond forming moieties) and low-surface-energy (e.g., perfluoroalkyl moieties) functional groups, it has been suggested that the heterogeneous surface can undergo structural reconfiguration upon contacting liquids with different surface tension. In the case of CTS/PFO and FS/CTS/PFO coatings, the carboxyl and hydroxyl functional groups were directly exposed to, and formed hydrogen bonds with, the contacting water. A hydration layer forms consequently, imparting the interfacial resistance against oil wetting underwater (Brown et al., 2014; Kota et al., 2012a; and Yang et al., 2012). The measured CA suggest that such an interfacial reconfiguration mechanism is effective—even with high concentration of low-surface-energy function groups as in the case of FS/CTS/PFO. However, we found that the underwater oil CA can eventually become zero (i.e., the membrane was underwater superoleophilic) if we continued to increase the amount of FS sprayed onto the CTS/PFO-PVDF membrane.

6.2.7. Membrane Performance in DCMD

The fouling behaviors of the composite membranes and pristine PVDF membrane were remarkably different in DCMD experiments with the oil-in-water emulsion as feed solution (Figure 31). Because the salt rejection rate for every membrane tested in the DCMD experiments was over 99.9% as confirmed by the constantly decreasing conductivity of the distillate, we conclude that no wetting occurred in any of the experiments. For the same reason, no permeation of oil was observed, leading to ultrapure distillate water. Therefore, in the following discussion, we only focus on the difference between the water vapor fluxes for different membranes.

Among all tested membranes, the fouling of the pristine PVDF membrane was most significant, indicated by the fastest flux decline in a short period of time (red circles in Figure 31). As suggested by the CA measurements, the PVDF membrane was in-air hydrophobic and underwater oleophilic. The very strong long-range hydrophobic-hydrophobic interaction between the PVDF membrane and the crude oil droplets underwater promoted the attachment of the oil droplets on the PVDF membrane surface. Since the oil droplets were significantly larger than the membrane pores, the attached oil droplets blocked the membrane pores and consequently engendered the fast and significant decline of water vapor flux.

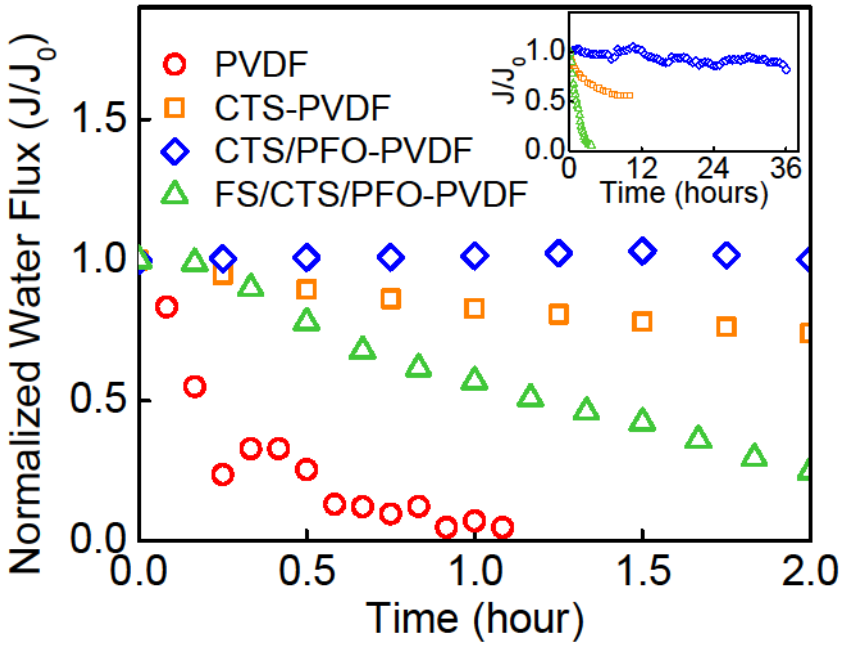

Figure 31—Normalized water flux for the pristine PVDF membrane (red circles), CTS-PVDF composite membrane (orange squares), CTS/PFO-PVDF composite membrane (blue diamonds), and FS/CTS/PFO-PVDF composite membrane (green triangles) with 1,000 ppm (% by weight) crude oil-in-water emulsion as feed solution in the DCMD experiments.

The normalized water fluxes were the time-dependent water fluxes normalized by the initial water fluxes. The cross-flow velocities of the feed stream and permeate stream in the cell were 9.6 cm/s and 4.8 cm/s, respectively. The initial water fluxes for the PVDF membrane, CTS-PVDF composite membrane, CTS/PFO-PVDF composite membrane, and FS/CTS/PFO-PVDF composite membrane were 30.96 L m^{-2} h^{-1}, and 28.43 m^{-2} h^{-1}, 27.51 m^{-2} h^{-1}, and 25.77 m^{-2} h^{-1}, respectively. The main graph in Figure 31 only shows measured fluxes for two hours to show the difference. The inset figure presents results from a longer period of timed for the composite membranes.

Compared to the pristine PVDF membrane, the CTS-PVDF composite membrane delivered a more stable MD performance as reflected by an appreciably slower flux decline (orange squares in Figure 31). The improvement of the anti-oil fouling performance of the CTS-PVDF membrane can be attributed to the hydrophilicity of the CTS coating on the membrane surface. The hydrophilic moieties on the CTS coating strongly interacted with the water molecules and formed a hydration layer on the membrane surface. Such a hydration layer acted as an energy barrier for the oil droplets to overcome before they can attach onto the membrane surface. However, despite the significant performance improvement enabled by the CTS coating, the CTS-PVDF membrane was still not sufficiently robust against oil fouling. The vapor flux dropped by about 50% in about 10 hours (Figure 31 inset). Although the crude oil droplets are overall

hydrophobic, the naturally occurring surfactants on the surface of the emulsified oil droplets could, upon extended physical contact, possibly interact with the abundant amino, carboxyl, and hydroxyl functional groups on the CTS coating via local electrostatic interaction. Because such an interaction requires reconfiguration and lateral movement of the surfactants on the oil-water interface, its impact was not as significant and responsive as hydrophobic-hydrophobic interaction between the oil and the pristine PVDF membrane.

On the other hand, the CTS/PFO-PVDF composite membrane exhibited highly stable performances in the DCMD experiments. This additional fouling resistance can be attributable to the presence of low-surface-energy PFO in the surface coating. Paradoxically, previous studies on ultrafiltration membranes suggest the presence of low-surface-energy functional groups, such as the perfluoroalkyl groups on PFO, can facilitate the release of foulants in the presence of local perturbation. Such an enhancement in overall fouling resistance by the presence of low-surface-energy moieties has been widely observed in experiments with pressurized membrane processes (Li et al., 2014a, 2014b; Werber et al., 2016; Zhao et al., 2012; and X. Zhu et al., 2013), even though the exact mechanism at the molecular level remains unclear. If the foulants can be easily removed from the surface by the cross-flow, the time for contact with the CTS/PFO-PVDF membrane surface can be significantly lower than that with the CTS-PVDF membrane, which minimizes the possibility of local electrostatic interactions. The combination of foulant attachment mitigation due to the formation of hydration layer with the hydrophilic moieties on CTS and the promotion of foulant release by the low-surface-energy functional groups rendered the CTS/PFO an exceptionally robust coating layer for fouling control.

While the presence of perfluoroalkyl functional groups enhanced the fouling resistance in the case of CTS/PFO-PVDF, a surfeit of low-surface-energy moieties might have an adverse impact on the membrane fouling resistance. The FS/CTS/PFO-PVDF composite membrane was more prone to fouling than the CTS/PFO-PVDF membrane, indicated by the rapid water vapor flux decline (green triangles in Figure 31). Indeed, the anti-fouling performance of FS/CTS/PFO-PVDF was even worse than the CTS-PVDF without any perfluoroalkyl functional groups. As with PFO, fluorosurfactant (FS) is commonly used and has a backbone of highly hydrophobic perfluorocarbons. The additional layer of FS on the top surface of the membrane, which rendered the membrane more hydrophobic as confirmed by CA measurements, increased the overall underwater affinity between the oil droplets and the membrane surface. The interaction of an oil droplet with the surface of an FS/CTS/PFO-PVDF composite membrane likely resembled the interaction with a PVDF membrane in the sense that oil readily spread over the membrane-water interface and blocked the available pores for vapor transfer. The major difference, however, is that oil can readily penetrate into the pores of a PVDF membrane—but not the FS/CTS/PFO-PVDF membrane due to the presence of the underlying CTS/PFO hydrogel layer of the FS/CTS/PFO coating.

The initial fluxes of the CTS-PVDF composite membrane (28.43 liter per square meter per hour [LMH]), CTS/PFO-PVDF composite membrane (27.51 LMH) and FS/CTS/PFO-PVDF composite membrane (25.77 LMH) were all slightly lower than that of the pristine PVDF membrane (30.96 LMH). The flux decline was attributed to the surface coating, which not only blocked part of the membrane pores, but also enhanced temperature polarization (TP)—a heat transfer rate limitation that is detrimental to the kinetics of trans-membrane vapor transfer (Cath et al., 2004; Martínez-Díez and Vázquez-González, 1999; Qtaishat et al., 2008; and Shaffer et al., 2014). Because the water trapped in the hydrophilic coating layer was not subject to the flow-induced hydrodynamic mixing in the feed channels, TP was enhanced within the coating layer, resulting in small but discernable reductions in the initial fluxes of the composite membranes compared to that of the PVDF membrane.

6.2.8. Force Spectroscopy

Force spectroscopy quantifying the interaction between a mineral oil droplet and the membrane surfaces was conducted underwater to further explain the different fouling propensities between the tested membranes. The results of these measurements are shown in Figure 32. Each force curve represents an interaction comprising two stages. The first is the advancing stage (the bottom parts on the force curves in Figure 32, proceeding from left to right) in which the oil droplet moved toward the membrane surface. Flat force curves were observed for the first stage as no interaction occurred before the oil droplet contacted the surface. The second is the receding stage (the top parts on the force curves in Figure 32, proceeding from right to left), in which the oil droplet retracted from the membrane surface. The difference in the oil-membrane interactions between different membranes are mainly reflected in the different shapes of the force curves in the receding stage.

In the receding stage, as the oil probe retracted from the membrane surface, the measured attractive force first increased as the oil droplet became stretched but eventually plummeted due to the split of the oil droplet. The force curve again became flat after splitting as the oil droplet no longer interacted with the membrane surface. However, the flat force curves in the receding stage did not overlap with those in the advancing stage. The positive “adhesion force” was an artifact resulting from the reduction of the oil droplet volume and the consequent change in the flotation and gravitation forces on the oil droplet. As a result, the “adhesion force” after the split is proportional to the amount of oil remaining on membrane surface and can thus be used to quantify the attractive interaction between the oil droplet and the membrane surface.

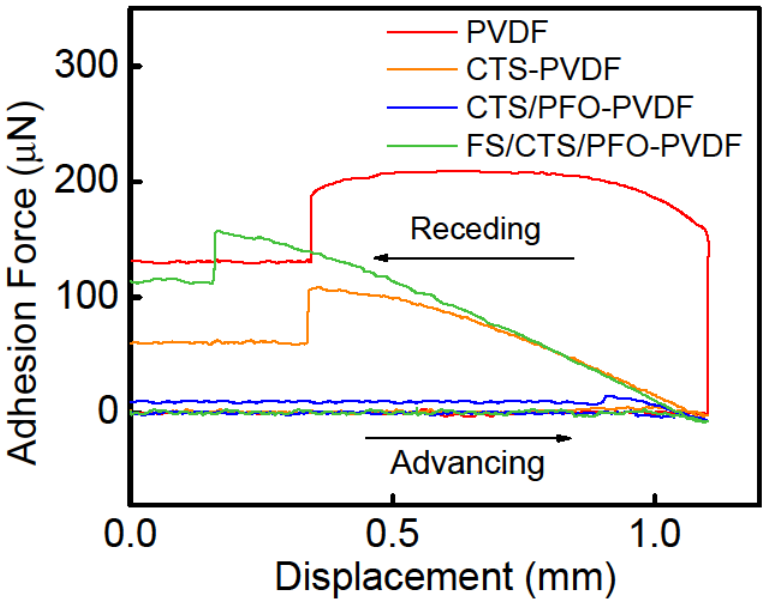

Figure 32—Force curves for the interactions of a crude oil droplet with the pristine PVDF membrane (red curve), the CTS-PVDF composite membrane (orange curve), the CTS/PFO-PVDF composite membrane (blue curve) and the FS/CTS/PFO-PVDF composite membrane (green curve).

The initial position of the oil droplet was set as zero. The advancing stage is reflected by the flat force curves proceeding from left to right, representing the movement of the oil droplet toward the membrane surface at a constant speed. After contacting the membrane surface, the force probe retracted from the surface at a constant speed and stretched the oil droplet until it split. For the PVDF membrane (red curve in Figure 32), a sudden jump in the interaction force was observed immediately upon the contact between the oil droplet and the membrane, which resulted from their strong hydrophobic interaction. Such an abrupt and strong attraction was not present in the interactions between oil and the three composite membranes (orange, blue, and green curves in Figure 32). In contrast, a small yet discernable repulsive force was observed upon the contact between the oil droplet and the composite membranes. For each interaction curve, a precipitous drop of the interaction force was observed at the receding stage, corresponding to the split of the oil droplet. The final "adhesion force" after the precipitous drop quantifies the amount of oil remaining on the membrane surface after the oil droplet split.

The interaction between the PVDF membrane and the oil droplet was drastically different from the interactions between the composite membranes and the oil droplet. First of all, a sudden rise in the force curve was observed immediately upon the oil-membrane contact, which resulted from the very strong attraction between the hydrophobic oil droplet and the hydrophobic PVDF membrane. Secondly, a large portion of the oil droplet was retained by the PVDF membrane (red curve in Figure 32), again as a result of the very strong attractive oil-

membrane interaction. In comparison, small but discernable repulsive interactions, indicated by the negative "adhesion force," were observed when the oil droplet contacted the composite membranes. Because the ring-shaped force probe in this specific tensiometer could be forced into the oil phase and generate data that were irrelevant to the oil-membrane interaction, we did not further drive the oil droplet against the membrane after the oil-membrane contact and could not accurately assess the strength of the repulsive interactions.

For CTS/PFO-PVDF membrane, which performed the best in fouling mitigation, the adhesion force was very weak throughout the interaction and only a minute portion of the oil droplet remained on the membrane after the split (blue curve in Figure 32). The ready detachment of oil from the CTS/PFO-PVDF surface is consistent with the hypothesis that CTS/PFO facilitates release of hydrophobic foulants. The force curves for the CTS-PVDF membrane and the FS/CTS/PFO-PVDF membrane were qualitatively similar to that for the CTS/PFO-PVDF membrane, but the interactions were quantitatively significantly stronger. The ranking of the maximum "adhesive forces" on different force curves and the amount of oil retained by the membranes corroborates well with ranking of fouling propensities quantified in the MD fouling experiments.

6.2.9. Conclusion

Requiring non-wetted pores in MD, which typically entails the MD membranes to be hydrophobic, poses a unique challenge to MD for desalinating feed waters containing hydrophobic contaminants such as oil. The strong, long-ranged, and attractive hydrophobic-hydrophobic interaction renders a hydrophobic membrane particularly prone to oil fouling. Interfacial materials with special wettability, such as the in-air superhydrophilic and underwater superoleophobic CTS/PFO-PVDF membrane presented in this study, might be an effective solution to overcome the challenge of oil fouling.

The comparison of fouling resistance between the CTS/PFO-PVDF and the CTS-PVDF membranes suggests that the presence of low-surface-energy perfluoroalkyl functional groups on the surface can significantly improve the anti-fouling performance of the MD membrane. This observation is largely consistent with a plethora of studies on fouling mitigation in pressurized membrane processes using materials with heterogeneous wettability (Ju et al., 2008; Louie et al., 2006; McCloskey et al., 2012; Ochoa et al., 2003; and Zhou et al., 2009). The positive impact of blending low-surface-energy moieties into a hydrogel matrix has been postulated to be the promotion of foulants release upon local hydrodynamic perturbation (Li et al., 2014a, 2014b; Werber et al., 2016; Zhao et al., 2012; and X. Zhu et al., 2013), although no direct proof has been provided either experimentally or through simulation. On the other hand, the overabundance of low-surface-energy functional groups has shown a marked detrimental impact on fouling resistance, most likely by reducing the exposure of hydrophilic moieties and impairing the positive effect of hydration-based mitigation of foulant attachment.

6.3. The Impact of Surface Potential (Charge)

It is well known in surface science that a hydrogen-bond forming, superhydrophilic surface can resist the adhesion of hydrophobic substances underwater due to the formation of a surface hydration layer that serves as an energetic barrier for hydrophobic foulants to attach onto substrate surface (Anjali Devi et al., 2005; Chen et al., 2010; Pashley, 1981a, 1981b; and Rinaudo, 2006). This mechanism, namely the hydration force, has been a pivotal guiding principle for developing fouling resistant membranes and anti-oil-adhesion surfaces (Dudchenko et al., 2015 and Fe et al., 2016). Although the effect of hydration force is indeed prominent, another important factor, surface charge, plays a critical role in colloidal interaction but is nonetheless often neglected in developing underwater oelophobic surfaces (Chen and Xu, 2013; Shi et al., 2016; Zeng and Guo, 2014; and Y. Zhu et al., 2013). Surface charge plays a significant role as it both functions as an electrical double layer (EDL) interaction and controls interfacial tension (C. J. Van Oss et al., 1988 and van Oss et al., 1990).

A recent study where a PVDF MD membrane was coated with titanium dioxide (TiO_2) nanoparticles and PEG to acquire resistance to mineral oil fouling, observed that varying the pH around the isoelectric point of the modified PVDF slightly affected the fouling kinetics (Zuo and Wang, 2013). However, such an effect was not appreciable, which may be explained by the fact that both the modified PVDF membrane and the mineral oil emulsion have similar isoelectric points and their interaction is thus always repulsive—regardless of the solution pH. On the other hand, many studies conducted to develop underwater superoleophobic meshes or membranes for oil-water separation only focused on engineering the surface wetting properties and largely overlooked the surface charge impacts. Because both the electrostatic interaction and the hydration force may be important as suggested by the extended Derjaguin Landau Verwey Overbeek (x-DVLO) theory (Van Oss, 1993), we systematically assessed the impacts of these two interactions on the oil-membrane interaction and consequently on the propensity of an MD membrane to be fouled by an oil-in-water emulsion.

In this section, we compared the performance of three membranes with different surface wetting and charge properties in DCMD experiments with feed water containing crude oil. A hydrophobic and negatively charged PVDF membrane was used as the reference. The other two membranes were composite membranes prepared by modifying the hydrophobic PVDF membranes with nanocomposite coating comprising silica nanoparticles and hydrophilic polymers with different surface charges. We characterized these membranes to acquire information regarding their morphological and wetting properties and conduct DCMD experiments with these membranes to compare their fouling kinetics. We also measured the force spectroscopy using a force tensiometer to probe the underwater interactions between a crude oil droplet and the different membranes,

and applied these force curves to elucidate the difference of these membranes in their fouling propensity.

6.3.1. Fabrication of Composite Membrane Coated with Polydopamine and Silica Nanoparticles

The first composite membrane was prepared by coating a PVDF membrane with a layer of negatively charged nanocomposite of polydopamine (PDA) and SiNPs (PDA/SiNPs). We prepared this composite membrane by first spray-coating the substrate membrane with SiNPs and then dip-coating the SiNPs coated membrane with PDA (Liu, 2008 and H.-C. Yang et al., 2014). For spray coating, 0.5 g SiNPs were dispersed in 100 mL acetone under sonication for 5 minutes to obtain a 5 grams per liter (g/L) SiNPs suspension. 20 mL of SiNPs suspension were spray-coated onto a PVDF membrane substrate with an area of 20 cm × 10 cm using a spray gun with 0.2 MPa air.

After briefly drying in air, the SiNPs coated membrane was submerged in a dopamine solution prepared by dissolving 0.1 g dopamine powder in 100 mL of a 15 mM Trizma hydrochloride buffer solution with the pH adjusted to 8.5. A layer of PDA formed as a result of self-polymerization of dopamine, covering the SiNPs and the top surface of the PVDF membrane. The PVDF membrane was taped around on a glass substrate to ensure that only the SiNPs coated surface of the membrane was exposed to the dopamine suspension. Because the hydrophilic PDA solution could not wet the hydrophobic pores of the PVDF membrane, the hydrophobicity of the inner pore structure of the PVDF substrate was not compromised (i.e., only the wetting property of the membrane surface, not that of the entire membrane, was altered by this membrane modification approach). After 24-hour self-polymerization of dopamine, the PDA/SiNPs coated PVDF (PDA/SiNPs-PVDF) membrane was washed with deionized water and dried at room temperature.

6.3.2. Composite membrane coated with PDDA and SiNPs

The second composite membrane with poly(diallyldimethylammonium chloride) (PDDA) and SiNPs nanocomposite (PDDA/SiNPs) was fabricated via layer-by-layer spray coating (Brown and Bhushan, 2015). All the spray coating steps were conducted using a spray gun with 0.2 MPa pressurized air. First, a PVDF membrane substrate with an area of 20 cm × 10 cm was spray coated with a layer of PDDA with 5 mL aqueous PDDA solution (52g/L) and then dried at room temperature. Second, 10 mL SiNPs suspension (5g/L in acetone) was sprayed onto the PDDA coated membrane to form a SiNPs suspension layer. The function of first PDDA layer was to impart positive charge to the PVDF substrate so that the SiNPs can attach onto the PDDA coated membrane via electrostatic interaction. Lastly, the air-dried membrane with the SiNPs suspension layer was spray coated with another layer of PDDA solution (1 ml, 52 g/L). The resulting was heated at 100 °C for 1 hour. The coating applied using this approach as developed elsewhere has been tested to be mechanically robust (Brown and Bhushan, 2015).

6.3.3. Morphology of the Membranes

The surface morphology of the pristine PVDF membrane and the two fabricated composite membranes was observed using SEM and atomic force spectroscopy (AFM, Dimension Icon, Bruker, Billerica, Massachusetts). The pore size distribution and the LEP of each membrane were determined by using a capillary flow porometer (Poroflux 1000, IB-GT GmbH, Germany) (Khayet and Matsuura, 2001 and Smolder and Franken, 1989).

The SEM and AFM images of the pristine PVDF membrane (Figure 33[A, D, and G]), the PDA/SiNPs-PVDF membrane (Figure 33[B, E, and H]), and the PDDA/SiNPs-PVDF (Figure 33[C, F, and I]), show that surface modifications drastically affected the morphology of the PVDF membranes. Specifically, both the top view (Figure 33[B and C]) and the cross-section view (Figure 33[E and F]) of the SEM images suggest that the nanocomposite coatings thoroughly cover the surface of the PVDF substrate and block most of the membrane pores on the surface. However, the modifications did not significantly affect the pore size distribution and liquid entry pressure (LEP) of the membrane because the thickness of coating layer is very small compared to the thickness of the PVDF membrane (176.4±7.3 μm).

The surface modifications did not lead to any appreciable change in LEP, either. The PVDF membrane had an LEP of 2.93 bar, and the PDDA/SiNPs and PDA/SiNPs modified PVDF membranes had an LEP of 2.98 and 3.01 bar respectively. Although the surface modification significantly reduced the size of the membrane surface pores, the strongly hydrophilicity of the coating layer facilitated the permeation of water with little extra resistance. Consequently, the LEP should still be primarily determined by the wetting property and pore size of the hydrophobic substrate which in all three cases was the same PVDF membrane. For similar reason, the coated membranes still maintained significantly water vapor permeability. The hydrophilic nanocomposite PDA/SiNPs and PDDA/SiNPs coatings exhibit hierarchical roughness which, according to the Wenzel theory, enhances the hydrophilicity of the surface (Wenzel, 1936, 1949).

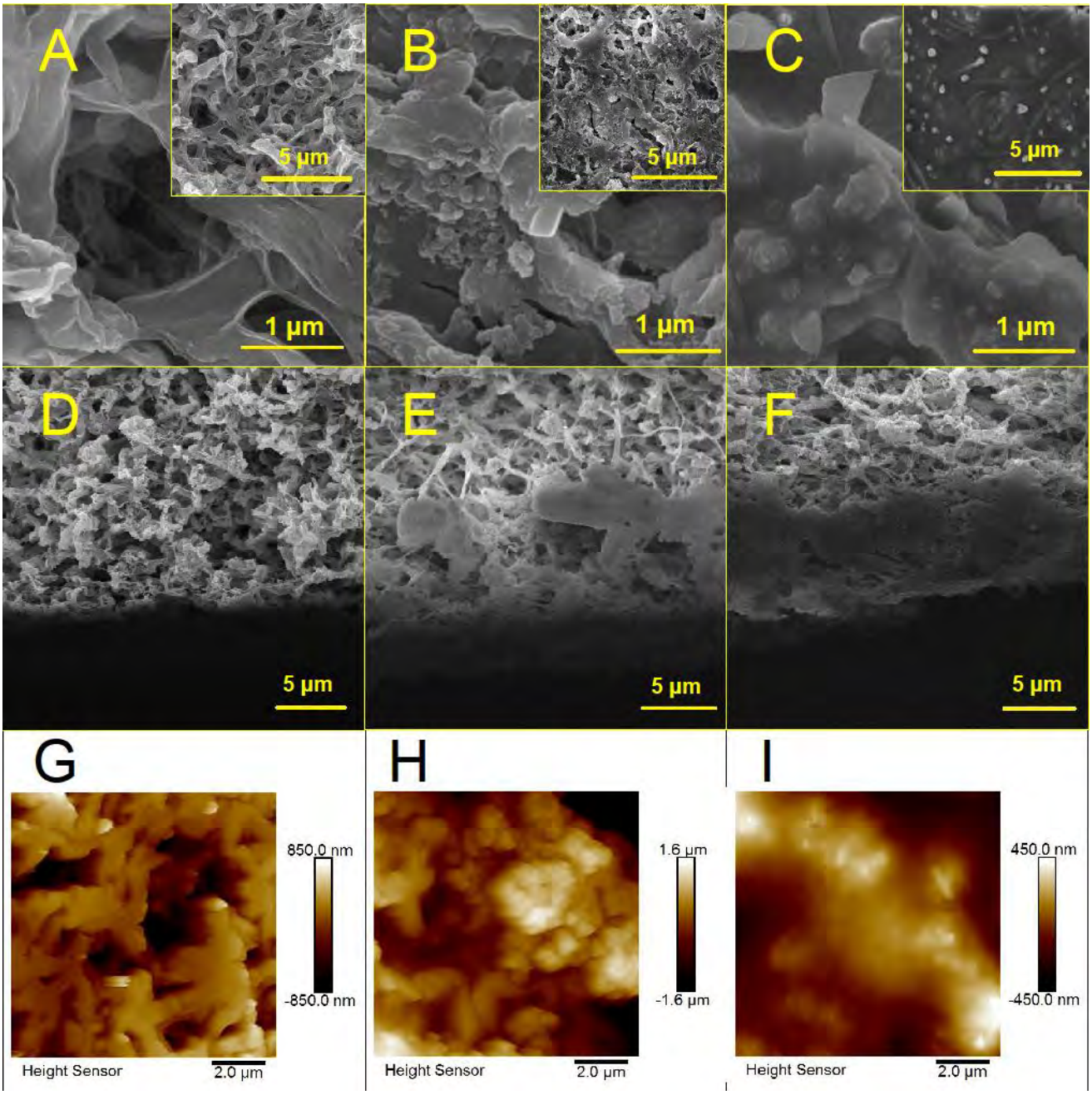

Figure 33—SEM images featuring the local morphology of (A) the commercial PVDF membrane, (B) the PDA/SiNPs-PVDF composite membrane, and (C) the PDDA/SiNPs-PVDF composite membrane. The inset images show the membranes surface at a larger scale. The PDA/SiNPs and PDDA/SiNPs coatings covered most of the membrane pores. Cross-section SEM images of (D) the commercial PVDF membrane, (E) the PDA/SiNPs-PVDF composite membrane, and (F) the PDDA/SiNPs-PVDF composite membrane. Surface AFM images of (G) the commercial PVDF membrane, (H) the PDA/SiNPs-PVDF composite membrane, and (I) the PDDA/SiNPs-PVDF composite membrane.

6.3.4. Membrane Surface Potential

We measured the zeta potential of the pristine PVDF membranes and the composite membranes using a streaming potential analyzer (SurPASS, Anton Paar, Ashland, Virginia). In these measurements, the membrane coupons were taped onto two parallel and opposing planar surfaces across a slit with adjustable width. The electrolyte solution flowed, in alternating directions, along the slit (which was composed of the two parallel surfaces covered by the membrane samples). This flow of electrolyte solution generated streaming potentials from which the zeta potential of the membrane surface can be calculated using the Helmholtz–Smoluchowski equation (Delgado et al., 2007 and Xie et al., 2011). The electrolyte solution was 1 mM potassium chloride (KCl) and the pH was automatically adjusted by the addition of KOH and HCl. We measured the zeta potentials of each membrane at different pH (Figure 34). The zeta potential varied with pH due to protonation or deprotonation of surface functional groups (Boussu et al., 2006 and Elimelech et al., 1994). Throughout the entire pH range tested, the pristine PVDF membrane was negatively charged (green triangles in Figure 34) and the PDDA/SiNPs-PVDF composite membrane was positively charged (red circles in Figure 6-10). The point of zero charge (PZC) for the PDA/SiNPs-PVDF membrane was slightly below 4, which was significantly lower than the pH of the saline crude oil emulsion, which was between 5 and 6.

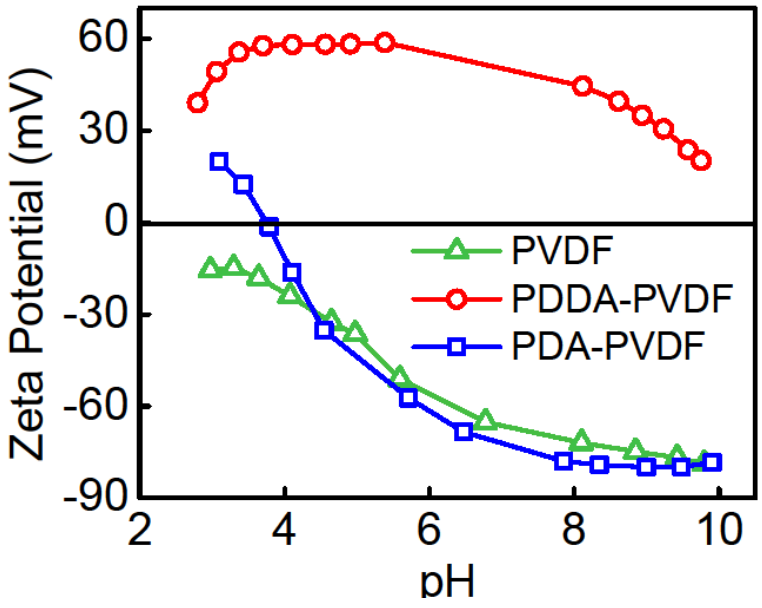

Figure 34.—Zeta potentials of the unmodified PVDF membrane (green triangles) and the PDDA/SiNPs-PVDF composite membrane (red circles) and PDA/SiNPs composite membrane (blue squares) as a function of pH. The background electrolyte concentration was 1 mM KCl.

6.3.5. Membrane Surface Wetting Property

The wetting properties of the composite membranes were drastically different from that of the pristine PVDF membrane. The in-air water CAs (blue bars in Figure 35) of the pristine PVDF, the PDA/SiNPs-PVDF composite membrane, and the PDDA/SiNPs-PVDF composite membrane were 106.7±3.7°, 35.1±5° and 17.9±2°, respectively. Both nanocomposite coatings imparted strong hydrophilicity to the PVDF membrane that was originally hydrophobic, which can be explained by the strong attractive interaction between water and the hydrophilic polymer on the modified membrane surfaces.

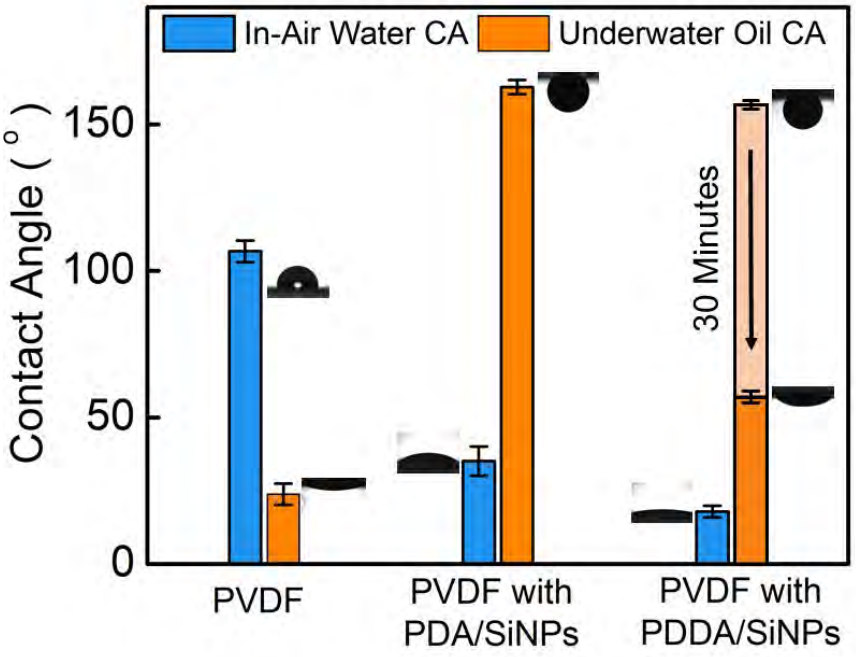

Figure 35.—Comparison of in-air water CA (blue bars) and underwater oil CA (orange bars) between the pristine PVDF membrane and the fabricated composite membranes.

The images for the sessile water drop and captive oil drop are juxtaposed with the corresponding CA. The underwater oil CA for the PDDA/SiNPs-PVDF composite membrane decreased along time (shown in the bar chart) and eventually became zero as the crude oil wicked the membrane.

To obtain the membrane wettability information directly relevant to oil fouling in MD, we also measured the underwater CA with crude oil for the three membranes (orange bars in Figure 35). The unmodified PVDF membrane was instantly wetted by the crude oil with a negligibly small oil CA, indicating that the membrane was underwater superoleophilic. In comparison, the PDA/SiNPs-PVDF composite membrane exhibited underwater superoleophobicity with a very

high oil CA (162.8±2.4°). Such underwater superoleophobicity is attributable to the strong interaction between the water and the hydrophilic surface coating (i.e., the hydration force). As a hydrogel material, PDA has a variety of amide and alcohol functional groups that can form hydrogen bonds with water and create an interfacial hydration layer on the membrane surface (Anjali Devi et al., 2005; Chen et al., 2010; Howarter et al., 2011; Howarter and Youngblood, 2009; and Rinaudo, 2006). Wetting the hydrogel coated membrane by the crude oil requires surface dehydration, which is energetically highly unfavorable.

Under a similar principle that PDDA is also a highly hydrophilic polymer that forms abundant hydrogen bonds with water, underwater superoleophobicity was also expected for the PDDA/SiNPs-PVDF composite membrane. Indeed, the initial underwater oil CA for PDDA/SiNPs-PVDF membrane was also very high (157.7±1.5°), indicating the composite membrane was superoleophobic upon immediate contact with water. However, the oil CA decreased with time to 57.1±2° in about 30 minutes, which implies that the PDDA/SiNPs-PVDF composite membrane becomes oleophilic if sufficient time is given for the oil-membrane interaction to reach equilibrium. In comparison, the underwater oil CA for the PDA/SiNPs-PVDF membrane was very stable with no observable change in one hour.

Such a difference between the two composite membranes in their dynamic wetting behavior is most likely attributable to the difference in their surface charges and hence the electrostatic interaction with the crude oil. In fact, the x-DLVO theory accounts for the electrical double layer, van der Waals, and the Lewis acid-based (AB) interactions, two of which depend on surface charge (C. J. Van Oss et al., 1988; and Van Oss, 1993). The x-DLVO theory can in part explain the observed difference in the wetting behaviors between the two composite membranes, as the electrostatic interaction between the PDA/SiNPs-PVDF membrane and the oil droplet was repulsive and the electrostatic interaction between the PDDA/SiNPs-PVDF membrane and the oil droplet was attractive. Section 6.3.8 *Implications of Electrostatic Interaction* and and Section 6.3.9 further discuss the applicability of the x-DLVO theory in explaining the oil-membrane interaction.

6.3.6. Membrane Performances in MD Experiments

DCMD experiments with the saline crude oil emulsion using the pristine PVDF membrane and the two composite membranes showed drastically different fouling behaviors (Figure 36). In each experiment, the conductivity of the distillate was decreased as more feed water was recovered, yielding a salt rejection rate of over 99.9% for every membrane tested. The fouling of the pristine PVDF membrane was very fast as indicated by drastic decline of water vapor flux in a short period of time (green triangles in Figure 36). In fact, the water flux dropped to almost zero in only about two hours. Since the PVDF membrane was in-air hydrophobic and underwater oleophilic as suggested by the CA measurements, the very strong long-range hydrophobic-hydrophobic interaction between the crude oil droplets

and the membrane surface promoted the retention of oil droplets on the membrane surface and resulted in blocking the membrane pores that serve as the pathways for water vapor flux.

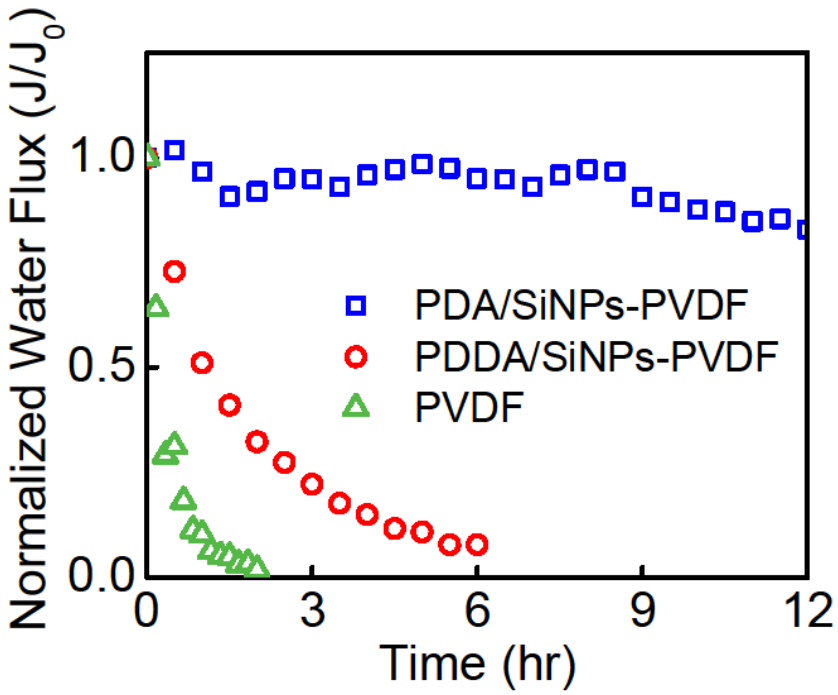

Figure 36.—Normalized water (vapor) flux for PDA/SiNPs-PVDF composite membranes (blue squares), PDDA/SiNPs-PVDF composite membrane (red circles), and pristine PVDF membrane (green triangles) with a saline feed solution containing 1000 ppm (% wt) crude oil in the DCMD experiments.

The normalized water fluxes were the time-dependent water fluxes normalized by the initial water fluxes of the respective membranes. The initial water fluxes for PVDF membrane and composite membranes with PDA/SiNPs and PDDA/SiNPs were 30.96 L m^{-2} h^{-1}, and 24.29 L m^{-2} h^{-1} and 23.6 L m^{-2} h^{-1}, respectively.

In comparison, the DCMD performance of the PDA/SiNPs-PVDF composite membrane was appreciably more stable. The PDA/SiNPs-PVDF composite membrane was able to maintain a nearly constant water vapor flux along the 12 hours MD operation (blue squares in Figure 36) with the same crude oil emulsion that severely fouled the pristine PVDF membrane. The more robust MD performance of the PDA/SiNPs-PVDF composite membrane can be explained by the underwater superoleophobicity of the composite membrane, as suggested by its underwater oil CA. The strong hydration force due to the presence of the highly hydrophilic PDA polymer, and the electrostatic repulsion between the nanocomposite and the oil droplets both contributed to mitigating the adhesion of the oil droplets to the membrane surface.

The PDDA/SiNPs nanocomposite coating slowed down the membrane fouling as reflected by the appreciably slower flux decline of the water vapor flux (red

circles in Figure 36) as compared to that with the pristine PVDF membrane. However, the fouling control was significantly less effective with the PDDA/SiNPs nanocomposite than with the PDA/SiNPs nanocomposite. The difference in anti-fouling performance between these two nanocomposite membranes is in good accordance with the results observed in underwater oil CA measurements. The initial underwater superoleophicity of the PDDA/SiNPs-PVDF membrane, which was a result of the repulsive hydration force, contributed to the slower flux decline as compared to the pristine PVDF membrane. However, the PDDA/SiNPs-PVDF membrane gradually lost its oleophobicity—possibly due to electrostatic attraction, which led to significant membrane fouling within a relatively short time. In comparison, the PDA/SiNPs-PVDF was able to sustain a much more robust MD performance due to the presence of both hydration force and electrostatic repulsion.

The initial fluxes of the PDDA/SiNPs-PVDF composite membrane (23.6 LMH) and PDA/SiNPs-PVDF composite membrane (24.3 LMH) were lower than that of the pristine PVDF membrane (31.0 LMH). The flux reduction was obviously consequent of the surface modification that blocked a significant portion of the membrane. On the other hand, the percentages of flux reduction were clearly not in proportion to the fraction of pore blockage shown in the SEM images. Because the nanocomposite layers were porous hydrogel networks, the liquid feed water should be able to permeate through layer with limited resistance. We therefore speculate that the reduction of vapor flux was mostly attributable to the enhanced temperature polarization in the coating layer. The hydrated nanocomposite coating is hydraulically stagnant layer, which is not susceptible to the cross-flow induced mixing in the feed channel (Lawson and Lloyd, 1997; Martínez-Díez and Vázquez-González, 1999; and Qtaishat et al., 2008). Similar to the internal concentration polarization in forward osmosis which has a detrimental impact on mass transfer (Shaffer et al., 2014), the temperature polarization across the hydrated nanocomposite layer was also “internal” in the sense that it occurred within the membrane structure. This additional temperature polarization served to reduce the driving force for vapor transfer across the MD membranes.

6.3.7. Force Spectroscopy with Oil Droplet Probe

To acquire more fundamental insights into the interaction between the oil droplet and the membrane surface and to explain the different fouling behaviors with different membranes, we conducted force spectroscopy with an oil droplet as the force probe and water as the medium. The position-dependent interaction forces between an oil droplet and different membrane surfaces are presented in Figure 37 for comparison.

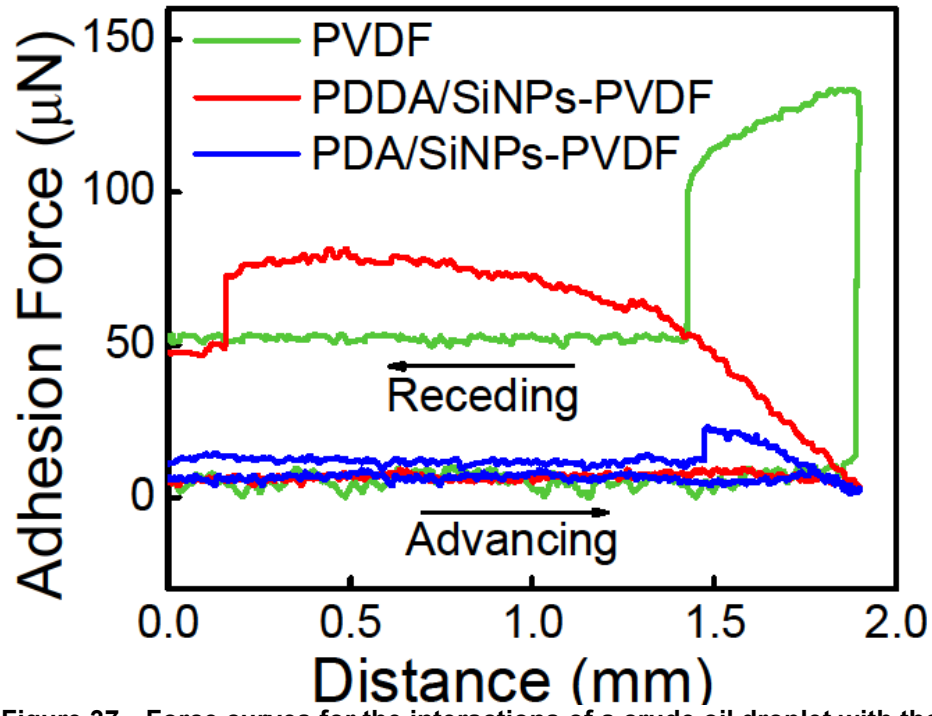

Figure 37—Force curves for the interactions of a crude oil droplet with the pristine PVDF membrane (green curve), the PDA/SiNPs-PVDF membrane (blue curve) and the PDDA/SiNPs-PVDF membrane (red curve).

The advancing stage was represented by the flat baselines with close-to-zero adhesion force measured when the oil droplet probe approached the membrane surface (the bottom parts on the force curves, proceeding from left to right). There was no difference between the three tested membranes in the force curves during the advancing stage since no interaction with the membrane had occurred. The remaining parts of the force curves were obtained from the receding stage in which the oil droplet probe was pulled away from the surface (proceeding from right to left on the figure). This part of the force curve was distinctive for each membrane as it was strongly dependent on the oil-membrane interaction. A precipitous drop in adhesion force was present in every single force curve, representing the oil droplet probe splitting into two parts: with one remaining on the probe and the other staying on the membrane surface. A constant "adhesion force" was measured, without exception, in the end of the each force curve because the oil droplet probe no long interacted with the membrane after the split. The non-zero and constant "adhesion forces" at the end of all force curves were nothing but artifacts (i.e., they do not represent actual adhesion), resulting from the change of oil droplet volume and thus the forces measured by the tensiometer.

Before the oil droplet force probe contacted the surface, the "adhesion force" was set to zero by default, as there was no physical interaction between the oil droplet and the membrane. A strong and sudden attraction was detected on contact between the oil droplet force probe and the pristine PVDF membrane. This strong

attraction can be attributed to the hydrophobic interaction between the oil droplet and the PVDF membrane (Israelachvili, 2010; Israelachvili and Pashley, 1982; and Tsao et al., 1993). As the force probe retracted, it experienced an attractive force until the split of the oil droplet. The oil droplet split was reflected on the force curve as a precipitous drop in the "adhesion force."

Finite "adhesion force" was measured after the split of the oil droplet, which was an artifact resulting from a smaller oil droplet remaining on the force probe. The new "baseline" was non-zero because the difference between buoyancy and gravity for the remaining oil droplet was smaller than that of the original oil droplet (Wang et al., 2016a). However, there was no physical oil-membrane interaction or "adhesion" corresponding to the finite "adhesion force," because the oil droplet had already detached from the surface. Although such an "adhesion force" measured by the tensiometer was an artifact in essence, its magnitude positively correlates with the size of the oil droplet remaining on the force probe, which still yields a useful piece of information regarding the affinity between oil droplet and the membrane surface.

For the PDA/SiNPs-PVDF composite membrane, no strong and sudden attraction between the oil droplet and the membrane was observed. On the contrary, a slight repulsive interaction was detected as suggested by the negative "adhesion force" measured upon the contact between the oil droplet and the composite membrane. We did not attempt to quantify such a repulsive force by further pressing the oil probe against the membrane, as the ring-shaped force probe could be forced into the compressed oil droplet and generate irrelevant interaction information. Therefore, the force probe was retracted almost instantly after the oil droplet contacted the membrane.

Nonetheless, the repulsion between the oil droplet and the PDA/SiNPs-PVDF composite membrane upon their first contact was conspicuous from the recorded force curve. The retraction of force probe resulted in an attraction between the oil droplet and the membrane as evidenced by the increasing adhesion force during the receding stage, before the oil droplet split. However, such an adhesion force is very small for the PDA/SiNPs-PVDF composite membrane, as revealed by the force curve (blue curve in Figure 37). Furthermore, the remaining part of the force curve after oil droplet split only shifted slightly from the original baseline, indicating that only a small proportion of the oil droplet remained on the membrane surface.

The shape of the force curve for the interaction of an oil droplet with the PDDA/SiNPs-PVDF composite membrane resembled that for the interaction with the PDA/SiNPs-PVDF membrane. For instance, repulsion was also observed upon the initial contact between the oil droplet and the composite membrane. However, the attractive interaction between the oil droplet and the PDDA/SiNPs-PVDF was significantly stronger than the attractive interaction between the oil droplet and the PDA/SiNPs-PVDF membrane during the force probe retraction.

Since the primary difference between the two composite membranes was the surface zeta potential, it is likely that electrostatic interaction played an important role that differentiated two composite membranes in their interactions with the oil droplet probe.

6.3.8. Implications of Electrostatic Interaction

The results from the force spectroscopy can be employed to explain the different fouling behaviors observed with different MD membranes. The pristine PVDF membrane was most susceptible to fouling as evidenced by the fastest flux decline among three membranes. This can be explained by the instant and very strong attraction between the oil droplets and the PVDF membrane via the strong hydrophobic interaction.

On the other hand, the other two underwater oleophobic membranes both mitigated membrane fouling due to the presence of the repulsive hydration force. However, the extents to which membrane fouling was alleviated by the two composite membranes were very different due to the different surface charges and consequently different electrostatic interactions. The attractive electrostatic interaction between the positively charged PDDA/SiNPs-PVDF membrane and the negatively charged crude oil particles offset the repulsive hydration force, leading to a membrane fouling rate between that of the hydrophobic and underwater oleophilic PVDF membrane and that of the underwater oleophobic and negatively charged PDA/SiNPs-PVDF membrane.

The response for the wettability-based interaction seemed to be much faster than that for the electrostatic interaction. This phenomenon was observed in both the underwater oil CA measurements and the oil droplet probe force spectroscopy. In the underwater oil CA measurement using the PDDA/SiNPs-PVDF membrane, the initial underwater oil CA was very high due to the in-air hydrophilic surface coating of the PDDA/SiNPs. The gradual transition of the membrane surface from being underwater superoleophobic to underwater oleophilic can be attributed to electrostatic interaction which did not take effect immediately after the initial oil-membrane contact.

Different responsiveness based on the interaction mechanisms was also observed in force spectroscopy. For example, the precipitous attraction upon the first contact between the membrane and the oil droplet was manifest for PVDF membrane but absent for the PDDA/SiNPs-PVDF membrane, which can be explained by their different surface wetting properties. The relatively significant electrostatic interaction between the positively charged PDDA/SiNPs-PVDF membrane and the negatively charged oil droplet did not become effective until the oil droplet force probe was being retracted from the membrane surface.

The experimental evidences from CA measurements, force spectroscopy, and fouling experiments consistently lead to a cogent conclusion that surface potentials (charges) play a critical role, in addition to wettability, in determining the oil-membrane interaction in water. However, electrostatic interaction is a rather broad concept with many manifestations. For example, ionic bonding, electrical double layer interaction, or even the Keesom type of van der Waals (vdW) interaction (e.g., hydrogen bond) can all be considered as electrostatic interaction (Israelachvili, 2010). The exact mechanism of electrostatic interaction relevant to our experimental observations in this study still needs to be explicated. In the following subsections, we discuss the impact of the surface potentials on the oil-membrane interaction from both the DLVO and the interfacial tension perspectives.

6.3.9. Mechanism of Electrostatic Interaction

The Derjaguin Landau Verwey Overbeek (DLVO) theory has been often cited for theoretical explanations of the particle-membrane interaction (Brant and Childress, 2004; Hoek et al., 2003; and Subramani and Hoek, 2008). The DLVO theory states that the affinity between a particle and a surface is primarily determined by the EDL interaction and the van der Waals (vdW) interaction. The attachment efficiency, defined as the probability for successful attachment per collision, has been employed to quantify such an affinity (Elimelech et al., 1998).

However, the applicability of the DLVO theory for explaining the experimental results of membrane fouling in our study is questionable. One major problem is that the EDL interaction, which comprises both osmotic and Columbic contributions (Israelachvili, 2010 and Lin and Wiesner, 2012), should theoretically have negligible impact on the overall interaction due to the very short Debye length (calculated to be ~0.4 nm for the feed solution used). Within such a short Debye length, the vdW force should dominate the overall interaction and eclipse any difference in the EDL interaction. Therefore, the EDL interaction was unlikely the manifestation of the differential electrostatic interactions between the PDA/SiNPs-PVDF and PDDA/SiNPs-PVDF membranes that led to drastically different fouling behaviors.

To account for the impact of surface wetting properties, the x-DLVO theory has often been cited to quantify the affinity between a particle and a membrane surface (Brant and Childress, 2002). The x-DLVO theory incorporates the Lewis AB interaction that accounts for the wetting property based short-range interactions such as hydration force. The short range vdW and AB interactions contribute to the interfacial tension and the free energy of adhesion that not only determine the how easy a particle can attach onto the membrane surface (i.e., the attachment efficiency) but also determine how readily a particle can detach from the membrane surface upon local perturbation.

According to Van Oss, the AB component of the interfacial tension involves interaction between electron acceptors and electron donors and only takes effect

when the two interacting surfaces are both polar (C. Van Oss et al., 1988; Van Oss, 1993) (Brant and Childress, 2002; Tiraferri et al., 2012b; and Van Oss, 1993). The surface charges of the membranes and the oil droplets have significant impact on the electron donor and electron acceptor parameters, which can explain the drastically different wetting, adhesion, and fouling behaviors between the positively charged PDDA/SiNPs-PVDF membrane and the negatively charged PDA/SiNPs-PVDF membrane. In other words, the electrostatic interaction most likely exerted its impact via the polar interaction component in surface adhesion, rather than the EDL interaction.

However, as free energy of adhesion is a thermodynamic property, it still cannot explain the dynamic behaviors of the PDA/SiNPs-PVDF membrane in the CA measurement and force spectroscopy. We speculate that such dynamic wetting behavior involves the redistribution of natural anionic surfactants at the interface between crude oil and water. These anionic surfactants have lateral mobility along the interface and thus can migrate under the influence of electric field. When the oil droplet was in contact with a positively charged surface, these anionic surfactants gradually concentrated toward the contact area and thereby increased the local electronegativity, which resulted in a higher electron donor parameter of the oil surface and thus a stronger attractive AB interaction between the oil droplet and the membrane.

6.3.10. Conclusion

In this section, we tested a hydrophobic PVDF membrane, a PDA/SiNPs-PVDF composite membrane with a hydrophilic and negatively charged surface, and a PDDA/SiNPs-PVDF composite membrane with a hydrophilic and positively charged surface in membrane distillation experiments with a saline crude oil emulsion. While the fouling resistance of the PVDF membrane was expectably poor, both composite membranes were effective in fouling control, but to different extents. The negatively charged PDA/SiNPs-PVDF membrane was highly effective and robust in mitigating the fouling of the negatively charged crude oil emulsion; whereas the positively charged PDDA/SiNPs-PVDF membrane only offered limited improvements over the hydrophobic PVDF membrane. The difference in the fouling behaviors between the three membranes was, to a high degree, corroborated by results obtained from underwater oil CA measurement and from oil droplet probe force spectroscopy.

Dynamic behaviors of the wetting and adhesion when the negatively charged crude oil droplet interacted with the hydrophilic but positively charge PDDA/SiNPs-PVDF membrane. The fundamental mechanism underlying this dynamic behavior remains uncertain. We also considered the relative irrelevance of the x-DLVO approach and the applicability of the interfacial tension approach for elucidating the oil-membrane interaction with multiple mechanisms involved. One possible explanation for the dynamic wetting and adhesion behaviors was the redistribution of charge-baring surfactant at the oil water interface under the electrostatic influence of the oppositely charged membrane, which led to

increasing attractive interaction between the crude oil droplet and the PDDA/SiNPs-PVDF membrane.

6.4. Performance of Composite Membrane against Surfactant Wetting

We compared the composite membrane and the PVDF membrane against SDS wetting (Figure 38). As SDS was added into the feed stream, wetting was observed on both the composite and PVDF membrane as indicated by the dramatic changes of water flux and salt rejection rate. Interestingly, the composite membrane did not get wetted until a relatively high SDS concentration (0.4 mM) was achieved, as indicated by the drop of salt rejection rate. This is probably because the composite layer has certain amount of capacity to absorb the SDS. When the SDS finally penetrated the composite layer, the membrane got wetted. Compared with the increased flux of the PVDF, the flux of the composite membrane decreased a little bit after wetting. As membrane wetting should theoretically lead to a significantly increased water flux, further investigation is required to explicate this unexpected phenomenon.

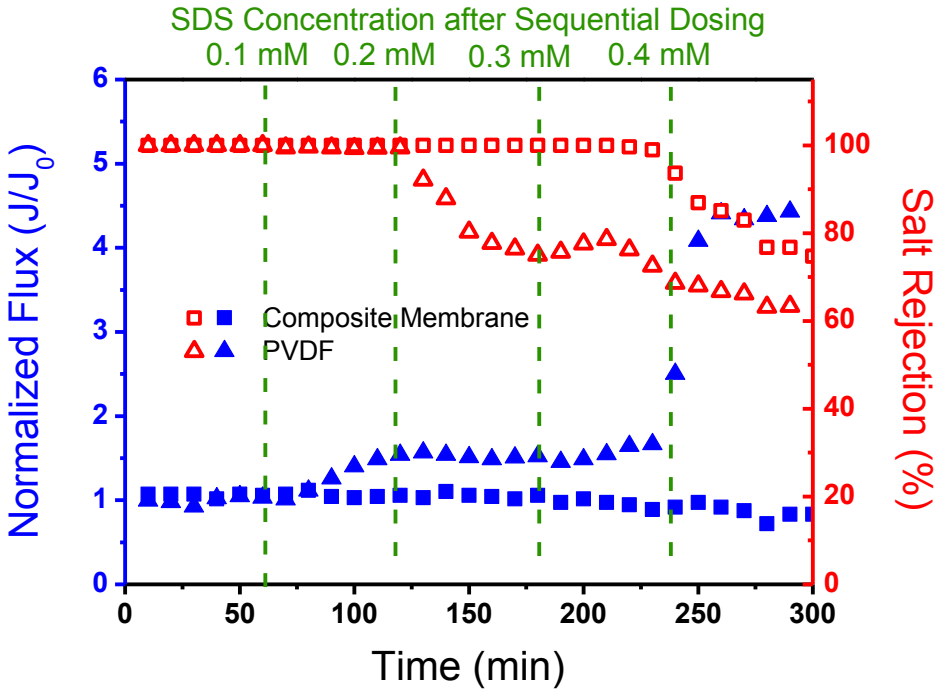

Figure 38.—Water flux (blue) and salt rejection rate (red) for the fabricated composite membrane (square), and the commercial PVDF membrane (triangle). The green dash lines indicate the addition of SDS, with the numbers on the top representing the final SDS concentration of the feed solution after the addition.

The water fluxes are normalized to the initial flux of each membrane. The initial water fluxes for the composite membrane and PVDF membrane were 21.3 ± 0.4 LMH and 45.9 ± 1.9 LMH, respectively.

6.5. Performance of Composite against with Surfactant-Stabilized Oil-in-Water Emulsion

The development of omniphobic membranes and composite membranes with superhydrophilic skin layer has significantly expanded the applicability of MD and enabled MD to desalinate more challenging feed water (Boo et al., 2016 and Wang et al., 2016b). However, systematic understanding is still lacking regarding how these membranes perform with feed water with different characteristics. For example, a previous study reported that a composite membrane with both hydrophilic and hydrophobic layers effectively prevented wetting from feed water containing ethanol, which seems to suggest that a composite membrane may also resist wetting from feed water with surfactants. It is also intriguing to investigate whether each of these two membranes, or both of them, can deliver stable MD performance in complex feed water, such as an oil-in-water emulsion stabilized by surfactants.

In this section, we employ DCMD to systematically investigate the anti-fouling and anti-wetting performance of the composite membrane when used to treat oil-in-water emulsion without added synthetic surfactants. Two membranes with distinct wetting properties, including a hydrophobic (but oleophilic) PVDF membrane and CTS/PFO-PVDF composite membrane are compared for their MD performances. We also conduct force spectroscopy to assess the underwater interaction between an oil droplet and the two different membranes to elucidate the different observed fouling behaviors.

6.5.1. Membrane performance with oil-in-water emulsion stabilized by synthetic surfactants.

When the crude oil-in-water emulsion stabilized by synthetic surfactants (Triton X-100) was used as the feed solution in MD, it completely changed the membrane performance. For the PVDF membrane, very rapid fouling was observed, leading to drastic flux decline within 10 minutes (Figure 39). During this fouling stage, the salt rejection remained nearly perfect (Figure 39), implying that the membrane pores were not yet wicked through by the feed solution. Most interestingly, the fouling stage only lasted for about 10 minutes before pore wetting became dominant. Both the increase of permeate flux, which eventually surpassed the initial flux, as well as the dramatically reduced salt rejection, which eventually became zero, suggest rapid and severe pore wetting. Previous studies have shown MD failures due to membrane pore wetting by unbound anionic surfactants (Boo et al., 2016; Lee et al., 2016; and Lin et al., 2014). Here, the wetting could be caused by either the surfactants that bound directly to the membrane pores or by surfactants that bound to the absorbed oil on the surface of the membrane pores, although the exact contributions are difficult to determine.

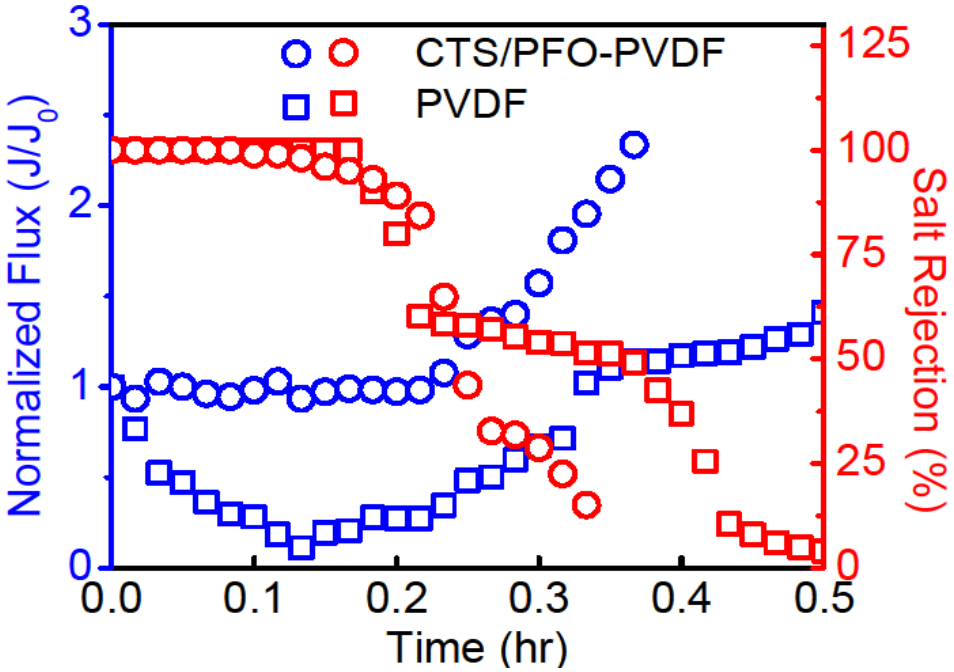

Figure 39.— Normalized water fluxes for the PVDF membrane (blue squares) and the composite membrane (blue diamonds) over time in DCMD experiments using surfactant stabilized crude oil-in-water emulsion as feed.

The cross-flow velocities on the membrane for the feed and distillate streams were 10.7 and 5.4 cm/s, respectively. The initial fluxes for the PVDF membrane and composite membrane were 36.15 and 30.76 LMH, respectively. The right y-axis shows the corresponding salt rejection rates for the PVDF membrane (red squares) and the composite membrane (red diamonds) over time in the DCMD experiments.

The composite membrane, which robustly resisted fouling against crude oil-in-water emulsion without synthetic surfactant, was highly susceptible to pore wetting when the feed solution contained Triton X-100 (Figure 39). The absence of flux decline suggests that no fouling occurred. Therefore, the wetting was attributable to the free surfactants (i.e., unbound to oil droplets) but not to oil-bound surfactants. The unbound surfactants were able to transport across the superhydrophilic skin layer and absorb onto the underlying hydrophobic PVDF substrates, which rendered the membrane pores hydrophilic, appreciably reduced the liquid entry pressure (LEP), and allowed direct permeation of the saline feed water through the pores. The failure of the composite membrane in MD performance was similar to that of the PVDF membrane in both the degree and the kinetics of wetting: the salt rejection rate decreased to almost zero in just about half an hour (Figure 39). The major difference was the absence of the fouling stage for the composite membrane with superhydrophilic surface.

6.5.2. Conclusion

Although the composite membrane performed much better than the PVDF membrane in DCMD operations with oil emulsion, performance was stabilized only by the limited amount of naturally occurring surfactants. Both the composite membrane and the hydrophobic PVDF membrane with the feed solution containing crude oil droplets stabilized by excess synthetic surfactants were completely wetted by the excess surfactants eventually, leading to near-zero salt rejection. While no fouling of the composite membrane was observed, the PVDF membrane was rapidly fouled before wetting occurred.

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Desalination and Water Purification Research and Development Program Report No. 198

Developing Anti-Wetting and Anti-Fouling Membranes for Membrane Distillation

Data Appendix

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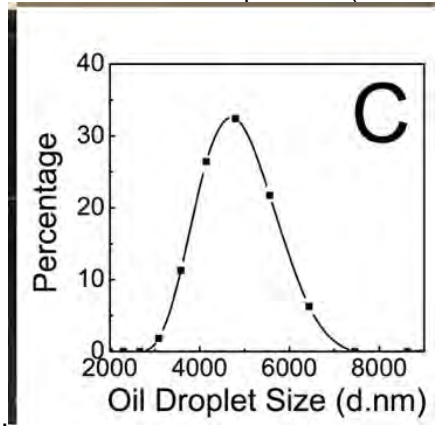
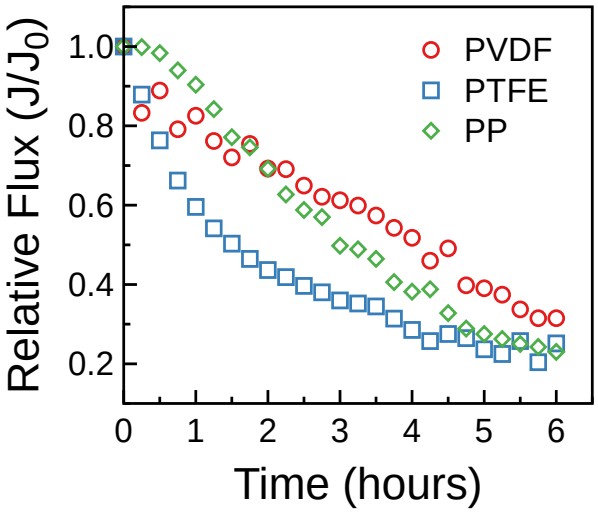
Figure 6(C)

Distribution of oil droplet size (diameter) as measured by dynamic light scattering



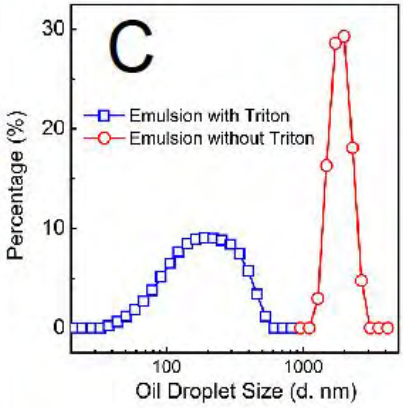
Size (nm)	Number Percentage (%)
1990	0
2300	0
2670	0
3090	1.83
3580	11.3
4150	26.4
4800	32.4
5560	21.7
6440	6.27
7460	0
8630	0
10000	0

Figure 7
Experimentally measured relative vapor flux (normalized by initial flux) along time.



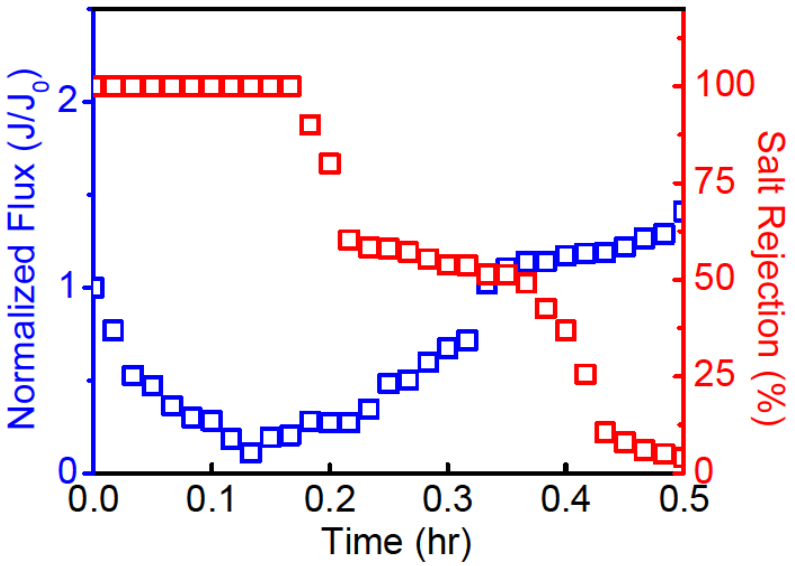
	Relative flux		
Time (min)	PVDF	PTFE	PP
0	1	1	1
15	0.83284	0.878847	0.998496
30	0.889053	0.763443	0.983459
45	0.79142	0.662083	0.93985
60	0.825444	0.59577	0.903759
75	0.761834	0.541512	0.842105
90	0.720414	0.503044	0.771429
105	0.754438	0.464576	0.745865
120	0.692308	0.436465	0.691729
135	0.690828	0.41871	0.627068
150	0.649408	0.396517	0.58797
165	0.621302	0.380363	0.569925
180	0.612426	0.359771	0.497744
195	0.599112	0.352131	0.488722
210	0.573964	0.344733	0.464662
225	0.542899	0.313978	0.406015
240	0.517751	0.285551	0.381955
255	0.460059	0.25744	0.38797
270	0.491124	0.275195	0.32782
285	0.397929	0.264838	0.288905
300	0.390533	0.236727	0.275148
315	0.37426	0.22489	0.262641
330	0.337278	0.25744	0.250135
345	0.315089	0.204177	0.242631
360	0.315089	0.251522	0.230124

Figure 11(C)



size (nm)	Fraction (%)	size (nm)	Fraction (%)
21	0	955	0
24.4	0	1110	0
28.2	0	1280	2.97
32.7	0	1480	16.3
37.8	0.209	1720	28.6
43.8	0.644	1990	29.3
50.7	1.18	2300	18.1
58.8	1.83	2670	4.75
68.1	2.68	3090	0
78.8	3.8	3580	0
91.3	5.13	4150	0
106	6.5		
122	7.67		
142	8.49		
164	8.91		
190	9.03		
220	8.99		
255	8.83		
295	8.4		
342	7.44		
396	5.72		
459	3.39		
531	1.16		
615	0		
712	0		
825	0		

Figure 12



PVDF Membrane		
Time (hr)	Normalized Flux	Salt Rejection Rate
0	1	99.99255
0.01667	0.76813	99.99255
0.03333	0.5245	99.99243
0.05	0.47126	99.99139
0.06667	0.36345	99.98911
0.08333	0.29885	99.98889
0.1	0.28183	99.98765
0.11667	0.18391	99.98455
0.13333	0.11061	99.98351
0.15	0.1922	99.98114
0.16667	0.20428	99.9774
0.18333	0.27958	89.97545
0.2	0.27139	79.97086
0.21667	0.27217	60.26688
0.23333	0.34483	58.30896
0.25	0.48276	58.01227
0.26667	0.50094	57.13131
0.28333	0.59793	55.3742
0.3	0.67305	53.91525
0.31667	0.71517	53.72753
0.33333	1.02	51.44726

PVDF Membrane		
Time (hr)	Normalized Flux	Salt Rejection Rate
0.35	1.10581	51.28819
0.36667	1.13923	49.1528
0.38333	1.13923	42.54081
0.4	1.17241	36.8503
0.41667	1.18369	25.5325
0.43333	1.18843	10.52407
0.45	1.21839	8
0.46667	1.26437	6
0.48333	1.28736	5
0.5	1.40915	4

Figure 15 (A and D)

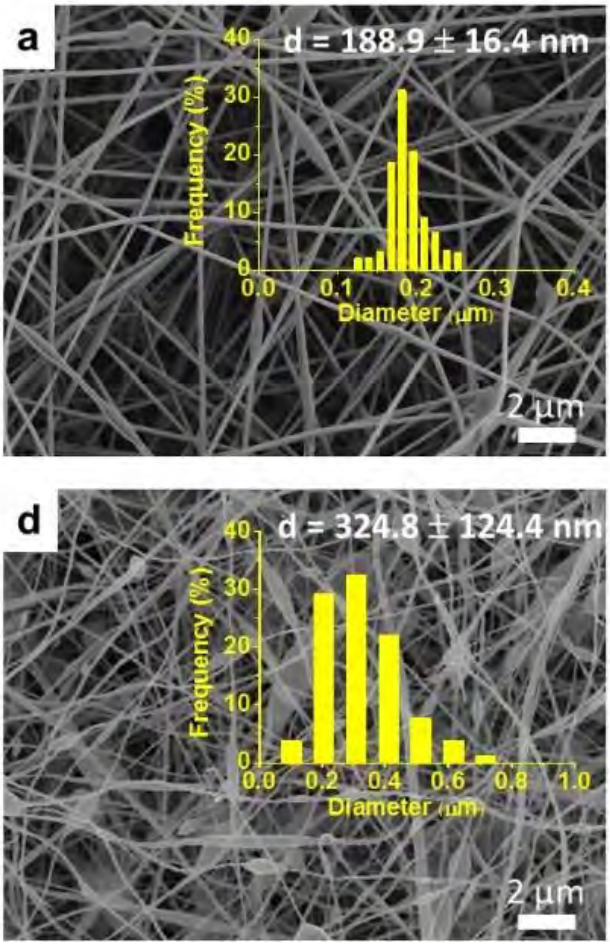


Figure 15a		Figure 15d	
Diameter/μm	Percentage/%	Diameter/μm	Percentage/%
0.12617	2.04623	0.10256	3.75
0.14019	2.1978	0.20513	29.18478
0.15421	3.25881	0.30769	32.5
0.16822	18.71921	0.41026	21.95652
0.18224	31.14816	0.51282	7.6087
0.19626	20.50019	0.61538	3.80435
0.21028	9.17014	0.71795	1.19565
0.2243	6.44183		
0.23832	3.48617		
0.25234	3.03145		

Figure 16

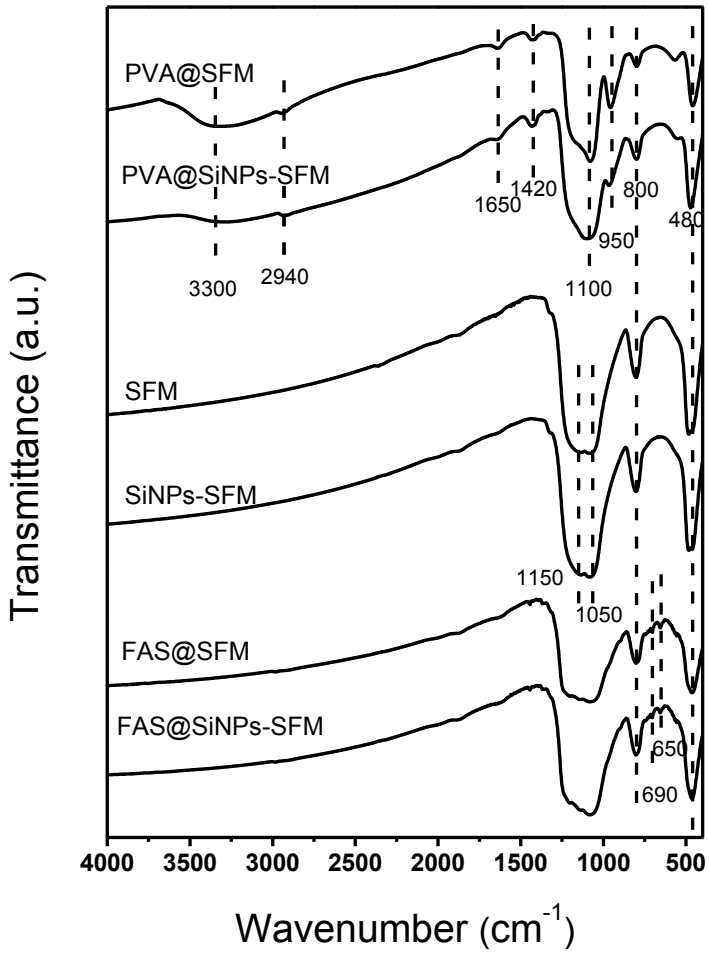


Figure 16.—FTIR spectra of the membranes in different preparation stages. Arrows indicate the approximated absorption band/peak location.

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3996.41047	0.40909	0.13664	0.23459	0.32633	0.02355	0.15916
3994.4817	0.40938	0.13679	0.23471	0.32652	0.02354	0.1593
3992.55293	0.40966	0.13695	0.23486	0.32669	0.02347	0.15948
3990.62416	0.40994	0.13709	0.23508	0.32683	0.02345	0.15969
3988.69539	0.41025	0.13723	0.23534	0.32696	0.02352	0.15988
3986.76662	0.4106	0.13738	0.23555	0.32712	0.02361	0.16002
3984.83785	0.41095	0.1375	0.23569	0.32728	0.02365	0.16014
3982.90908	0.41127	0.1376	0.23578	0.32745	0.02363	0.16028
3980.98031	0.41159	0.13773	0.2359	0.32767	0.02362	0.16042
3979.05154	0.41192	0.13786	0.23615	0.32793	0.02366	0.16052
3977.12277	0.41225	0.13798	0.23639	0.32819	0.0237	0.16064
3975.194	0.41254	0.13813	0.2365	0.32838	0.02369	0.1608

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3973.26523	0.41286	0.13831	0.23662	0.32852	0.02365	0.16096
3971.33646	0.41324	0.13848	0.23686	0.32866	0.02361	0.1611
3969.4077	0.41361	0.13861	0.23709	0.32881	0.02361	0.16121
3967.47893	0.41393	0.13873	0.23725	0.32894	0.02367	0.16132
3965.55016	0.41417	0.13886	0.23745	0.32909	0.02377	0.16144
3963.62139	0.41434	0.13904	0.23769	0.32925	0.02386	0.16156
3961.69262	0.41451	0.13925	0.23782	0.3294	0.02388	0.16172
3959.76385	0.41478	0.13941	0.23792	0.32955	0.02384	0.16191
3957.83508	0.41521	0.13951	0.23808	0.32972	0.02378	0.16211
3955.90631	0.4157	0.13962	0.23825	0.3299	0.02376	0.16228
3953.97754	0.41615	0.13979	0.23842	0.33008	0.02379	0.16242
3952.04877	0.41651	0.13995	0.23861	0.33025	0.02386	0.16255
3950.12	0.41673	0.14009	0.23873	0.33042	0.0239	0.1627
3948.19123	0.41689	0.14026	0.2388	0.33055	0.02388	0.16288
3946.26246	0.41717	0.14042	0.23893	0.3307	0.02385	0.16304
3944.33369	0.41749	0.14051	0.23902	0.3309	0.02388	0.16314
3942.40492	0.4177	0.14062	0.23904	0.33112	0.02393	0.16327
3940.47615	0.41792	0.1408	0.23926	0.33132	0.02396	0.16344
3938.54738	0.41833	0.14098	0.2397	0.33148	0.02394	0.1636
3936.61861	0.41885	0.14114	0.24011	0.33158	0.02393	0.16378
3934.68984	0.41932	0.14129	0.24028	0.33156	0.02395	0.16396
3932.76107	0.41954	0.14147	0.24017	0.33159	0.02399	0.16416
3930.8323	0.4196	0.14168	0.24009	0.33184	0.024	0.16438
3928.90354	0.41988	0.14182	0.24041	0.33218	0.02403	0.16453
3926.97477	0.42039	0.14187	0.24077	0.33244	0.02409	0.1646
3925.046	0.42079	0.14199	0.24085	0.33263	0.02412	0.16469
3923.11723	0.4211	0.14221	0.24095	0.33277	0.02411	0.16484
3921.18846	0.42153	0.14238	0.2412	0.33284	0.0241	0.16496
3919.25969	0.42189	0.14247	0.24133	0.33288	0.02411	0.16506
3917.33092	0.42198	0.1426	0.24132	0.33302	0.02413	0.16524
3915.40215	0.42211	0.14281	0.24157	0.3333	0.02415	0.16548
3913.47338	0.4226	0.14303	0.24212	0.33361	0.0242	0.16566
3911.54461	0.42326	0.14324	0.24261	0.33382	0.02424	0.16581
3909.61584	0.42393	0.14344	0.24287	0.33394	0.02428	0.16598
3907.68707	0.42459	0.14356	0.24299	0.33401	0.02436	0.1661
3905.7583	0.42493	0.14358	0.24274	0.33408	0.02443	0.16621
3903.82953	0.42474	0.14367	0.24208	0.33414	0.02441	0.16635
3901.90076	0.42437	0.14387	0.24159	0.3343	0.02434	0.16649
3899.97199	0.42426	0.14413	0.24165	0.3346	0.02429	0.16664
3898.04322	0.42455	0.14442	0.24225	0.33482	0.02428	0.16687
3896.11445	0.42531	0.14461	0.24322	0.33488	0.02434	0.16708
3894.18568	0.42622	0.14466	0.24397	0.33495	0.02442	0.16716
3892.25691	0.42668	0.14474	0.24397	0.33515	0.02438	0.16728

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3890.32814	0.42679	0.14495	0.24379	0.3354	0.02427	0.16748
3888.39937	0.42718	0.14511	0.24419	0.33557	0.02424	0.16762
3886.47061	0.42759	0.14525	0.24437	0.3357	0.0243	0.16774
3884.54184	0.42766	0.14552	0.24405	0.33582	0.02438	0.16796
3882.61307	0.42778	0.14573	0.24413	0.33592	0.0245	0.16811
3880.6843	0.428	0.14587	0.24437	0.33604	0.02457	0.16822
3878.75553	0.4283	0.14612	0.24466	0.33616	0.02454	0.16838
3876.82676	0.42896	0.14637	0.24527	0.33628	0.02453	0.16851
3874.89799	0.42976	0.14655	0.24556	0.33646	0.02453	0.16863
3872.96922	0.43027	0.1467	0.24544	0.33669	0.02453	0.16877
3871.04045	0.43037	0.14684	0.24517	0.33693	0.02453	0.16891
3869.11168	0.43025	0.14705	0.24488	0.33715	0.02454	0.16913
3867.18291	0.43044	0.14725	0.24519	0.3373	0.02458	0.16933
3865.25414	0.43088	0.1474	0.24567	0.3374	0.02465	0.16944
3863.32537	0.43111	0.14762	0.24581	0.33747	0.02465	0.16961
3861.3966	0.43143	0.14792	0.2462	0.33752	0.02462	0.16986
3859.46783	0.43237	0.14813	0.24693	0.33762	0.02463	0.17007
3857.53906	0.4338	0.14809	0.24765	0.33788	0.02473	0.17007
3855.61029	0.4346	0.14789	0.24763	0.33838	0.02482	0.16993
3853.68152	0.43367	0.14796	0.24583	0.33895	0.02478	0.17002
3851.75275	0.43223	0.14847	0.24467	0.33924	0.0247	0.17044
3849.82398	0.4323	0.14891	0.24605	0.33915	0.02473	0.17081
3847.89521	0.43361	0.14907	0.24789	0.33894	0.02482	0.17098
3845.96645	0.43491	0.14914	0.24882	0.3389	0.02489	0.1711
3844.03768	0.43571	0.14933	0.24877	0.33903	0.0249	0.17123
3842.10891	0.43618	0.14958	0.24837	0.33922	0.02488	0.17137
3840.18014	0.43644	0.14978	0.2481	0.33947	0.02491	0.17149
3838.25137	0.43636	0.14998	0.2478	0.33985	0.02496	0.17169
3836.3226	0.43621	0.15021	0.24773	0.34023	0.02499	0.17196
3834.39383	0.43644	0.15039	0.24828	0.34045	0.02499	0.17213
3832.46506	0.43697	0.15052	0.24901	0.34053	0.02497	0.17223
3830.53629	0.43753	0.1507	0.2496	0.34061	0.02495	0.17237
3828.60752	0.4381	0.15091	0.25008	0.34072	0.02496	0.1726
3826.67875	0.43877	0.15111	0.25041	0.34085	0.02498	0.17284
3824.74998	0.43955	0.15125	0.25069	0.34102	0.02503	0.17297
3822.82121	0.4401	0.15138	0.25057	0.34131	0.02509	0.17305
3820.89244	0.44013	0.15164	0.24972	0.34166	0.02512	0.17323
3818.96367	0.44006	0.15187	0.24961	0.34195	0.02515	0.17336
3817.0349	0.4402	0.15198	0.25025	0.34215	0.02516	0.17339
3815.10613	0.44031	0.15219	0.25057	0.34235	0.0251	0.17355
3813.17736	0.44073	0.15248	0.25125	0.34253	0.02508	0.17383
3811.24859	0.4417	0.15264	0.25234	0.34268	0.02516	0.17401
3809.31982	0.44268	0.15271	0.25288	0.34289	0.02526	0.17411

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3807.39105	0.44313	0.15292	0.25242	0.34314	0.02529	0.17428
3805.46229	0.44336	0.15325	0.25194	0.34335	0.0253	0.17448
3803.53352	0.44371	0.15345	0.25209	0.34355	0.02532	0.17459
3801.60475	0.44384	0.15362	0.25184	0.34382	0.02532	0.17475
3799.67598	0.44379	0.15382	0.25168	0.34413	0.0253	0.17502
3797.74721	0.44407	0.15396	0.25238	0.34439	0.02531	0.17523
3795.81844	0.44462	0.1541	0.25315	0.34462	0.0253	0.17537
3793.88967	0.44521	0.1543	0.25384	0.34485	0.02528	0.17552
3791.9609	0.44586	0.15448	0.25458	0.34508	0.02532	0.17566
3790.03213	0.44649	0.15466	0.25505	0.34528	0.02538	0.17581
3788.10336	0.44702	0.1549	0.25523	0.34545	0.02543	0.17598
3786.17459	0.44748	0.15518	0.25524	0.34562	0.02545	0.1762
3784.24582	0.44792	0.15545	0.25525	0.34585	0.02547	0.17643
3782.31705	0.44836	0.15568	0.25544	0.34615	0.02552	0.17662
3780.38828	0.44867	0.15589	0.25554	0.34644	0.02557	0.17677
3778.45951	0.44883	0.15613	0.25555	0.34665	0.02557	0.17694
3776.53074	0.44919	0.15637	0.25594	0.34674	0.02553	0.17714
3774.60197	0.44991	0.15656	0.25655	0.3468	0.02552	0.1773
3772.6732	0.45067	0.15671	0.25685	0.34689	0.02556	0.17742
3770.74443	0.45105	0.15691	0.25658	0.34701	0.02561	0.17755
3768.81566	0.45107	0.15719	0.2562	0.34711	0.02566	0.17771
3766.88689	0.45115	0.15751	0.25628	0.34719	0.02568	0.17791
3764.95812	0.45154	0.15783	0.25664	0.34727	0.02566	0.17814
3763.02936	0.45217	0.15811	0.2571	0.34737	0.02565	0.17834
3761.10059	0.45276	0.15835	0.25735	0.34749	0.02567	0.17847
3759.17182	0.45313	0.15865	0.25709	0.34758	0.02571	0.17864
3757.24305	0.45361	0.15897	0.25704	0.34764	0.02573	0.17889
3755.31428	0.45454	0.15919	0.25755	0.34771	0.02576	0.17909
3753.38551	0.45543	0.15934	0.2577	0.34785	0.02578	0.1792
3751.45674	0.45557	0.15964	0.25666	0.34808	0.0258	0.17936
3749.52797	0.45528	0.16009	0.25569	0.34829	0.02584	0.17956
3747.5992	0.45543	0.16035	0.25624	0.34838	0.02591	0.17962
3745.67043	0.4557	0.16045	0.25678	0.34847	0.02595	0.17964
3743.74166	0.45557	0.16075	0.25634	0.34869	0.02592	0.17995
3741.81289	0.45587	0.16117	0.2569	0.34894	0.02597	0.18031
3739.88412	0.45711	0.16141	0.25838	0.34912	0.02608	0.18044
3737.95535	0.45835	0.16151	0.25896	0.34923	0.02615	0.18047
3736.02658	0.45865	0.1617	0.25809	0.34942	0.02613	0.1806
3734.09781	0.45834	0.16204	0.25733	0.34974	0.02606	0.18079
3732.16904	0.45832	0.16243	0.25783	0.35005	0.02599	0.18097
3730.24027	0.45896	0.1627	0.25905	0.35019	0.02596	0.18111
3728.3115	0.45994	0.16286	0.26008	0.35019	0.02598	0.18122
3726.38273	0.46075	0.16301	0.26033	0.35029	0.02599	0.18137

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3724.45396	0.4612	0.16324	0.26015	0.35063	0.02599	0.18155
3722.5252	0.46149	0.16352	0.26025	0.35108	0.02603	0.1817
3720.59643	0.46185	0.16385	0.26066	0.35146	0.02609	0.18187
3718.66766	0.46247	0.16419	0.26126	0.35173	0.02615	0.1821
3716.73889	0.46342	0.1645	0.26196	0.35193	0.02619	0.18234
3714.81012	0.46439	0.1647	0.26238	0.35215	0.02621	0.18247
3712.88135	0.4648	0.16488	0.26195	0.35242	0.02622	0.18255
3710.95258	0.46454	0.16518	0.26092	0.35273	0.02618	0.18269
3709.02381	0.46437	0.16556	0.26086	0.35297	0.02613	0.18289
3707.09504	0.46489	0.16586	0.26188	0.3531	0.02612	0.18303
3705.16627	0.46582	0.16604	0.26289	0.35323	0.02613	0.18309
3703.2375	0.46651	0.16619	0.26318	0.35342	0.02617	0.18313
3701.30873	0.46669	0.16645	0.26298	0.35363	0.02621	0.18325
3699.37996	0.4668	0.16677	0.26316	0.35377	0.02624	0.18342
3697.45119	0.46723	0.16707	0.26371	0.35385	0.02626	0.18362
3695.52242	0.46794	0.16733	0.26412	0.35393	0.02628	0.18384
3693.59365	0.46865	0.16754	0.2642	0.35409	0.02631	0.18398
3691.66488	0.46894	0.16769	0.26384	0.35437	0.02635	0.18405
3689.73611	0.46841	0.16784	0.26304	0.35466	0.02638	0.18413
3687.80734	0.46748	0.16803	0.26268	0.35483	0.02636	0.18427
3685.87857	0.46713	0.16819	0.26344	0.35482	0.02633	0.18438
3683.9498	0.46749	0.1683	0.26459	0.35473	0.02634	0.18444
3682.02104	0.46801	0.16843	0.26521	0.35472	0.02636	0.18455
3680.09227	0.46831	0.16852	0.26524	0.35485	0.0264	0.18467
3678.1635	0.46813	0.16847	0.26493	0.35512	0.02644	0.18473
3676.23473	0.46705	0.16843	0.26386	0.35548	0.02645	0.18487
3674.30596	0.46555	0.16853	0.26299	0.35578	0.02645	0.18511
3672.37719	0.46455	0.16852	0.26361	0.35597	0.02649	0.18518
3670.44842	0.46363	0.1684	0.26414	0.35618	0.0265	0.18517
3668.51965	0.46241	0.16843	0.26435	0.35644	0.02648	0.1853
3666.59088	0.46158	0.16853	0.26547	0.35658	0.0265	0.18542
3664.66211	0.46127	0.16856	0.26681	0.35666	0.02658	0.18552
3662.73334	0.46093	0.16859	0.2675	0.3568	0.02664	0.18574
3660.80457	0.46037	0.16864	0.26778	0.35702	0.02668	0.186
3658.8758	0.45956	0.16864	0.26791	0.35727	0.02669	0.18614
3656.94703	0.45842	0.1687	0.26762	0.35753	0.02667	0.18632
3655.01826	0.45739	0.16888	0.26733	0.35775	0.02666	0.18664
3653.08949	0.45697	0.16897	0.26758	0.35791	0.02676	0.18687
3651.16072	0.45637	0.16894	0.26723	0.35798	0.02689	0.18693
3649.23195	0.45464	0.16899	0.2657	0.35809	0.02694	0.18705
3647.30318	0.45266	0.16916	0.26526	0.35829	0.0269	0.18728
3645.37441	0.45178	0.16931	0.26672	0.35849	0.02685	0.18744
3643.44564	0.45181	0.16936	0.26844	0.35863	0.02685	0.18751

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3641.51687	0.45184	0.1694	0.26941	0.3588	0.02688	0.18762
3639.58811	0.4515	0.16948	0.26979	0.359	0.02691	0.18782
3637.65934	0.45099	0.16962	0.27002	0.35919	0.02694	0.18807
3635.73057	0.45058	0.16982	0.27011	0.35935	0.02694	0.18834
3633.8018	0.45042	0.17002	0.27011	0.35956	0.02698	0.18853
3631.87303	0.45028	0.17005	0.27014	0.35983	0.02711	0.1885
3629.94426	0.44935	0.17001	0.26953	0.36015	0.02719	0.18845
3628.01549	0.44757	0.17026	0.26855	0.36048	0.02712	0.1887
3626.08672	0.4465	0.17066	0.26916	0.36067	0.02704	0.18907
3624.15795	0.44667	0.1709	0.27066	0.36076	0.02706	0.18929
3622.22918	0.44701	0.17099	0.27151	0.36094	0.02712	0.18939
3620.30041	0.44655	0.17111	0.27124	0.3612	0.02719	0.18952
3618.37164	0.44546	0.17136	0.27057	0.36137	0.02723	0.18975
3616.44287	0.44464	0.17159	0.27064	0.36139	0.02727	0.18995
3614.5141	0.44427	0.17169	0.27115	0.36144	0.0273	0.19011
3612.58533	0.4439	0.17177	0.2715	0.36158	0.02731	0.19028
3610.65656	0.4433	0.17189	0.27176	0.36175	0.02732	0.19044
3608.72779	0.44245	0.17205	0.27187	0.36197	0.02736	0.19059
3606.79902	0.44161	0.17225	0.27213	0.3623	0.02739	0.19081
3604.87025	0.44111	0.1724	0.27292	0.36262	0.02742	0.19102
3602.94148	0.44077	0.17244	0.27366	0.36288	0.02749	0.19119
3601.01271	0.44019	0.17252	0.27388	0.36309	0.02757	0.19138
3599.08395	0.43947	0.17265	0.27386	0.36325	0.02764	0.19157
3597.15518	0.43874	0.17271	0.27388	0.36339	0.02765	0.19169
3595.22641	0.43788	0.17272	0.27394	0.36357	0.02762	0.19183
3593.29764	0.43702	0.1728	0.27419	0.36379	0.02761	0.19205
3591.36887	0.43646	0.17288	0.27469	0.36394	0.02767	0.19221
3589.4401	0.43584	0.17288	0.27486	0.36409	0.02774	0.19231
3587.51133	0.43461	0.17296	0.27445	0.36445	0.02778	0.1925
3585.58256	0.43329	0.17317	0.27452	0.36494	0.0278	0.19276
3583.65379	0.43256	0.1733	0.27541	0.36525	0.02782	0.19292
3581.72502	0.43212	0.17329	0.27625	0.36539	0.02786	0.19302
3579.79625	0.43148	0.17323	0.27663	0.36551	0.02789	0.19316
3577.86748	0.43062	0.17319	0.27678	0.36567	0.0279	0.19333
3575.93871	0.42972	0.17321	0.27699	0.36589	0.02787	0.19353
3574.00994	0.4289	0.17331	0.27729	0.36609	0.02783	0.19378
3572.08117	0.42824	0.17342	0.2776	0.36618	0.02783	0.19402
3570.1524	0.42757	0.17343	0.27763	0.36615	0.02791	0.19415
3568.22363	0.42632	0.17339	0.277	0.36617	0.02798	0.19427
3566.29486	0.42459	0.17338	0.27633	0.36646	0.02803	0.19452
3564.36609	0.42332	0.17338	0.27676	0.36692	0.02807	0.19477
3562.43732	0.42272	0.17336	0.27776	0.36729	0.02809	0.19495
3560.50855	0.42217	0.17335	0.27847	0.36756	0.02805	0.1951

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3558.57979	0.42138	0.17335	0.27889	0.36776	0.02806	0.19527
3556.65102	0.42048	0.17332	0.27924	0.36794	0.02814	0.19545
3554.72225	0.41951	0.17326	0.27942	0.3681	0.02821	0.19562
3552.79348	0.41838	0.1732	0.27944	0.36829	0.02821	0.19582
3550.86471	0.41725	0.17315	0.27956	0.36848	0.02819	0.19603
3548.93594	0.41625	0.17305	0.27981	0.36862	0.02824	0.19623
3547.00717	0.4152	0.17298	0.27993	0.36885	0.02837	0.19646
3545.0784	0.41396	0.17296	0.28002	0.36924	0.0285	0.19674
3543.14963	0.41273	0.17287	0.2804	0.3696	0.02855	0.19694
3541.22086	0.41169	0.17266	0.28091	0.36981	0.02853	0.19702
3539.29209	0.41069	0.17243	0.28129	0.36996	0.02852	0.19713
3537.36332	0.40954	0.17229	0.2815	0.37014	0.02852	0.19735
3535.43455	0.40821	0.17221	0.28166	0.37035	0.02847	0.1976
3533.50578	0.40689	0.17205	0.28189	0.37053	0.02841	0.19777
3531.57701	0.40567	0.17179	0.2821	0.37068	0.02842	0.19788
3529.64824	0.40438	0.17151	0.28215	0.37085	0.02848	0.19807
3527.71947	0.40298	0.1713	0.28221	0.37105	0.02855	0.19835
3525.7907	0.40161	0.17115	0.28244	0.3713	0.02863	0.19862
3523.86193	0.40025	0.171	0.28272	0.37156	0.0287	0.19881
3521.93316	0.39883	0.17077	0.28297	0.37182	0.02871	0.19894
3520.00439	0.39745	0.17046	0.28328	0.37206	0.02867	0.19906
3518.07562	0.39611	0.17017	0.28363	0.37231	0.02866	0.19922
3516.14686	0.39478	0.16998	0.28398	0.37257	0.02871	0.19943
3514.21809	0.39346	0.16976	0.28428	0.37279	0.02877	0.19964
3512.28932	0.39208	0.16942	0.28443	0.37295	0.0288	0.1998
3510.36055	0.39056	0.16905	0.28447	0.3731	0.02882	0.19993
3508.43178	0.38903	0.16877	0.28459	0.37328	0.02883	0.20012
3506.50301	0.38764	0.16852	0.28486	0.37349	0.02886	0.20036
3504.57424	0.38628	0.16822	0.28509	0.37373	0.02897	0.20061
3502.64547	0.38473	0.16789	0.28527	0.37401	0.02906	0.20087
3500.7167	0.38315	0.16751	0.28559	0.37428	0.02908	0.20107
3498.78793	0.3817	0.16708	0.28598	0.3745	0.02904	0.20121
3496.85916	0.38027	0.16666	0.28623	0.37468	0.02904	0.20137
3494.93039	0.37878	0.16628	0.28641	0.37485	0.02907	0.20154
3493.00162	0.37733	0.16592	0.28668	0.37505	0.02914	0.20167
3491.07285	0.37591	0.16555	0.28698	0.37527	0.02922	0.2018
3489.14408	0.37446	0.16518	0.28719	0.37553	0.02925	0.20202
3487.21531	0.37299	0.16482	0.28741	0.3758	0.0292	0.2023
3485.28654	0.37154	0.16444	0.28769	0.37605	0.02913	0.20254
3483.35777	0.37011	0.16403	0.2879	0.37627	0.02914	0.20271
3481.429	0.36864	0.16361	0.28809	0.37654	0.02922	0.2029
3479.50023	0.3672	0.1632	0.28834	0.37679	0.02928	0.20308
3477.57146	0.36581	0.16277	0.28858	0.37695	0.0293	0.2032

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3475.6427	0.36442	0.16233	0.28873	0.37712	0.02933	0.20334
3473.71393	0.36301	0.16191	0.28893	0.37735	0.0294	0.20356
3471.78516	0.3617	0.16155	0.28927	0.37766	0.02951	0.20385
3469.85639	0.36047	0.16121	0.28967	0.37799	0.02961	0.20417
3467.92762	0.35917	0.16083	0.28998	0.37823	0.02966	0.20442
3465.99885	0.35775	0.16034	0.29012	0.37835	0.02962	0.20455
3464.07008	0.35633	0.15981	0.29021	0.37844	0.02957	0.20463
3462.14131	0.35499	0.15935	0.29037	0.37859	0.02959	0.2048
3460.21254	0.35368	0.15893	0.29061	0.37882	0.02961	0.20504
3458.28377	0.35242	0.15847	0.29087	0.37907	0.02961	0.20525
3456.355	0.3512	0.15797	0.29111	0.37931	0.0296	0.20539
3454.42623	0.34998	0.15752	0.29133	0.37955	0.02961	0.20555
3452.49746	0.34875	0.15708	0.29155	0.37976	0.02965	0.20574
3450.56869	0.34753	0.1566	0.2918	0.37996	0.02974	0.20592
3448.63992	0.34633	0.15612	0.29199	0.38022	0.02984	0.20612
3446.71115	0.34513	0.15568	0.29212	0.38047	0.02987	0.20634
3444.78238	0.344	0.15521	0.29232	0.38064	0.02983	0.20656
3442.85361	0.34295	0.1547	0.29261	0.38083	0.02981	0.20678
3440.92484	0.34188	0.15422	0.29298	0.38112	0.02988	0.207
3438.99607	0.34085	0.15381	0.29344	0.38144	0.03003	0.20725
3437.0673	0.33993	0.15341	0.29387	0.38177	0.03018	0.20753
3435.13854	0.33901	0.15299	0.29414	0.38206	0.03026	0.20774
3433.20977	0.33802	0.15257	0.29428	0.38226	0.03028	0.20786
3431.281	0.337	0.1522	0.29441	0.38244	0.03025	0.20802
3429.35223	0.33599	0.15182	0.29461	0.38262	0.03022	0.20824
3427.42346	0.33494	0.15131	0.29478	0.38281	0.03019	0.20849
3425.49469	0.33395	0.15077	0.29495	0.383	0.03017	0.20871
3423.56592	0.33308	0.15028	0.29514	0.38319	0.03019	0.2089
3421.63715	0.33224	0.14979	0.29536	0.38338	0.03025	0.20907
3419.70838	0.33136	0.1493	0.29562	0.38363	0.03028	0.20924
3417.77961	0.33048	0.14886	0.29593	0.38389	0.03026	0.20938
3415.85084	0.32969	0.14846	0.29626	0.38418	0.0303	0.20957
3413.92207	0.32894	0.14813	0.29659	0.3845	0.0304	0.20984
3411.9933	0.3282	0.14779	0.29688	0.38478	0.0305	0.21009
3410.06453	0.32744	0.14735	0.29713	0.38498	0.03057	0.21028
3408.13576	0.32669	0.14688	0.29735	0.38512	0.03061	0.21043
3406.20699	0.32602	0.14649	0.29757	0.38531	0.03064	0.2106
3404.27822	0.32546	0.14618	0.29791	0.38563	0.03075	0.21087
3402.34945	0.32493	0.14587	0.29835	0.38603	0.03096	0.21125
3400.42068	0.32431	0.14549	0.29868	0.38628	0.03107	0.2116
3398.49191	0.32359	0.14506	0.2988	0.38614	0.03096	0.21173
3396.56314	0.32293	0.14459	0.29889	0.38626	0.03083	0.21181
3394.63437	0.32241	0.14424	0.29916	0.38658	0.03087	0.21201

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3392.70561	0.32196	0.14399	0.29951	0.38699	0.03101	0.21234
3390.77684	0.32145	0.14367	0.29977	0.38733	0.03105	0.2126
3388.84807	0.32088	0.14323	0.29993	0.38753	0.03098	0.21274
3386.9193	0.32034	0.14281	0.30009	0.38768	0.03093	0.21289
3384.99053	0.31985	0.14247	0.3003	0.38785	0.03092	0.21308
3383.06176	0.31938	0.14216	0.30057	0.38809	0.03095	0.21331
3381.13299	0.31896	0.14184	0.30089	0.3884	0.03104	0.21355
3379.20422	0.3186	0.14154	0.30118	0.3887	0.03116	0.21377
3377.27545	0.31826	0.14125	0.30142	0.38894	0.03124	0.21396
3375.34668	0.31789	0.14095	0.30164	0.38917	0.03126	0.21417
3373.41791	0.31755	0.14071	0.30188	0.38946	0.03132	0.21445
3371.48914	0.31737	0.14056	0.30222	0.38981	0.03149	0.21482
3369.56037	0.31724	0.14039	0.30262	0.39016	0.03165	0.21514
3367.6316	0.31698	0.14014	0.3029	0.39039	0.03165	0.21533
3365.70283	0.3166	0.13985	0.30302	0.39051	0.03153	0.21546
3363.77406	0.31626	0.13956	0.30315	0.39064	0.03147	0.21561
3361.84529	0.31605	0.1393	0.3034	0.39083	0.03153	0.21582
3359.91652	0.31584	0.13906	0.30368	0.39106	0.03162	0.21601
3357.98775	0.31558	0.13881	0.30392	0.39127	0.03167	0.2162
3356.05898	0.31537	0.13858	0.30417	0.39151	0.03169	0.2164
3354.13021	0.31529	0.13842	0.30448	0.39186	0.03175	0.21665
3352.20145	0.31528	0.13833	0.30487	0.39228	0.03188	0.21695
3350.27268	0.31523	0.13821	0.30524	0.39259	0.03198	0.21722
3348.34391	0.3151	0.13799	0.30545	0.39279	0.03196	0.21739
3346.41514	0.31496	0.13776	0.30561	0.39301	0.03189	0.21757
3344.48637	0.31485	0.13764	0.30585	0.39328	0.0319	0.21784
3342.5576	0.31474	0.13757	0.30619	0.39355	0.03198	0.21815
3340.62883	0.31468	0.13749	0.30655	0.39383	0.0321	0.21842
3338.70006	0.31466	0.13739	0.30686	0.39411	0.03221	0.21865
3336.77129	0.31463	0.13724	0.30705	0.39429	0.03223	0.21888
3334.84252	0.31458	0.13708	0.30718	0.39446	0.03219	0.21909
3332.91375	0.31453	0.13694	0.30739	0.39469	0.03218	0.21931
3330.98498	0.31447	0.1368	0.30769	0.39495	0.03224	0.21954
3329.05621	0.31441	0.13669	0.30802	0.39523	0.03235	0.21977
3327.12744	0.31444	0.13662	0.30833	0.39549	0.03245	0.22004
3325.19867	0.31452	0.13656	0.30857	0.39571	0.03246	0.22029
3323.2699	0.31454	0.13648	0.30877	0.39593	0.03243	0.22051
3321.34113	0.31449	0.1364	0.309	0.3962	0.03243	0.22073
3319.41236	0.31444	0.13631	0.3093	0.39651	0.03248	0.22097
3317.48359	0.31443	0.13623	0.30962	0.3968	0.03255	0.22122
3315.55482	0.31449	0.13617	0.3099	0.39705	0.03263	0.22149
3313.62605	0.31457	0.13611	0.31018	0.39727	0.03275	0.22176
3311.69729	0.31463	0.13609	0.31048	0.39751	0.03292	0.22203

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3309.76852	0.31472	0.13616	0.31085	0.39785	0.0331	0.22233
3307.83975	0.31485	0.13626	0.31129	0.39828	0.03326	0.22267
3305.91098	0.31495	0.1363	0.31171	0.39867	0.03333	0.22297
3303.98221	0.31493	0.1362	0.31196	0.39891	0.03324	0.22313
3302.05344	0.31485	0.13607	0.31207	0.39907	0.03309	0.22326
3300.12467	0.31487	0.136	0.31223	0.39929	0.03305	0.22347
3298.1959	0.31498	0.13599	0.31251	0.39961	0.03319	0.22378
3296.26713	0.3151	0.136	0.31289	0.39994	0.03337	0.22412
3294.33836	0.31516	0.136	0.31326	0.4002	0.03349	0.22443
3292.40959	0.31517	0.136	0.31351	0.40039	0.03352	0.22463
3290.48082	0.31514	0.13598	0.31367	0.40057	0.0335	0.22478
3288.55205	0.31514	0.13595	0.31389	0.40078	0.03349	0.22497
3286.62328	0.3152	0.13593	0.31418	0.40099	0.03353	0.22522
3284.69451	0.31525	0.13592	0.31446	0.40119	0.03357	0.22545
3282.76574	0.31528	0.13593	0.31475	0.40141	0.03359	0.22565
3280.83697	0.31535	0.13599	0.31502	0.40167	0.03361	0.22585
3278.9082	0.31546	0.13605	0.31527	0.40196	0.03365	0.22608
3276.97943	0.31556	0.13611	0.31553	0.40228	0.03373	0.22638
3275.05066	0.31568	0.13616	0.31586	0.40263	0.03388	0.22673
3273.12189	0.31585	0.13619	0.31627	0.40302	0.03407	0.22704
3271.19312	0.316	0.13621	0.31665	0.4034	0.03418	0.2273
3269.26436	0.31606	0.1362	0.31688	0.40365	0.03413	0.2275
3267.33559	0.31607	0.13621	0.31703	0.40382	0.03406	0.22767
3265.40682	0.31612	0.13627	0.31724	0.404	0.03408	0.22789
3263.47805	0.31623	0.13634	0.31755	0.40426	0.03414	0.22814
3261.54928	0.31639	0.13638	0.31787	0.40456	0.03418	0.22839
3259.62051	0.31657	0.13644	0.31818	0.40484	0.03424	0.22864
3257.69174	0.31675	0.13656	0.31849	0.40511	0.03436	0.22892
3255.76297	0.3169	0.13667	0.31876	0.40538	0.03444	0.2292
3253.8342	0.317	0.13675	0.31898	0.40562	0.03444	0.22944
3251.90543	0.31713	0.13683	0.31924	0.40589	0.03443	0.22968
3249.97666	0.31733	0.13692	0.31962	0.40622	0.03456	0.22998
3248.04789	0.31757	0.13704	0.32	0.40654	0.03475	0.23035
3246.11912	0.31775	0.13714	0.32025	0.40677	0.03485	0.23064
3244.19035	0.31789	0.13723	0.32045	0.40696	0.03484	0.23083
3242.26158	0.31802	0.13733	0.32073	0.40721	0.03483	0.23099
3240.33281	0.31818	0.13747	0.32106	0.40751	0.03488	0.2312
3238.40404	0.31837	0.13764	0.32137	0.40781	0.03499	0.23146
3236.47527	0.31866	0.13784	0.32172	0.40813	0.03514	0.23179
3234.5465	0.31899	0.13805	0.32214	0.40848	0.03525	0.23214
3232.61773	0.31923	0.13819	0.32245	0.40876	0.03525	0.23241
3230.68896	0.3194	0.13828	0.32261	0.40895	0.03518	0.2326
3228.7602	0.3196	0.13838	0.32278	0.40916	0.03521	0.2328

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3226.83143	0.31986	0.1385	0.32302	0.40944	0.0353	0.23302
3224.90266	0.32014	0.13865	0.32332	0.40976	0.03535	0.23326
3222.97389	0.32041	0.13883	0.32365	0.41006	0.03539	0.23351
3221.04512	0.32073	0.13901	0.32395	0.41036	0.03547	0.23376
3219.11635	0.32108	0.13918	0.32424	0.41066	0.03558	0.234
3217.18758	0.32142	0.13935	0.32453	0.41093	0.03563	0.23425
3215.25881	0.32172	0.13953	0.3248	0.41117	0.03562	0.23452
3213.33004	0.322	0.1397	0.3251	0.41141	0.03561	0.23479
3211.40127	0.32229	0.13987	0.32541	0.41168	0.03567	0.23503
3209.4725	0.32262	0.14003	0.3257	0.41198	0.03579	0.23527
3207.54373	0.323	0.14023	0.326	0.41234	0.03589	0.23553
3205.61496	0.32341	0.14047	0.32633	0.4127	0.03597	0.23581
3203.68619	0.32381	0.14072	0.32663	0.413	0.03605	0.2361
3201.75742	0.32422	0.14095	0.32691	0.41324	0.03612	0.23638
3199.82865	0.32465	0.14117	0.32718	0.41346	0.03616	0.23663
3197.89988	0.32506	0.1414	0.32749	0.41371	0.03623	0.23689
3195.97111	0.32544	0.14166	0.32782	0.41401	0.0363	0.23716
3194.04234	0.32587	0.14194	0.32816	0.41434	0.03635	0.23742
3192.11357	0.32633	0.1422	0.32849	0.4147	0.03639	0.2377
3190.1848	0.32679	0.14244	0.32882	0.41505	0.03645	0.23799
3188.25604	0.32724	0.14269	0.3291	0.41529	0.0365	0.23823
3186.32727	0.32771	0.14293	0.3293	0.4155	0.03654	0.23846
3184.3985	0.32817	0.14318	0.32955	0.41578	0.03662	0.23873
3182.46973	0.32862	0.14345	0.3299	0.41611	0.03671	0.23902
3180.54096	0.32906	0.14373	0.33025	0.41643	0.0368	0.2393
3178.61219	0.32951	0.14398	0.33057	0.41672	0.03688	0.23957
3176.68342	0.32999	0.14423	0.33091	0.41702	0.03696	0.23983
3174.75465	0.33049	0.14451	0.33125	0.41731	0.03705	0.24011
3172.82588	0.33099	0.14481	0.33155	0.41758	0.03714	0.2404
3170.89711	0.33149	0.14513	0.3318	0.41785	0.03721	0.2407
3168.96834	0.33199	0.14544	0.33208	0.41816	0.03727	0.24099
3167.03957	0.33249	0.1457	0.33242	0.4185	0.03735	0.24126
3165.1108	0.33296	0.14595	0.33278	0.41883	0.03744	0.24153
3163.18203	0.33345	0.14623	0.33312	0.41913	0.03752	0.24181
3161.25326	0.33398	0.14655	0.33344	0.41946	0.03757	0.2421
3159.32449	0.33452	0.14686	0.33378	0.41982	0.03762	0.24239
3157.39572	0.33506	0.14715	0.33415	0.42018	0.03772	0.24268
3155.46695	0.33566	0.1475	0.33458	0.42055	0.03792	0.24303
3153.53818	0.3363	0.1479	0.335	0.42091	0.03814	0.24339
3151.60941	0.33687	0.14826	0.3353	0.42117	0.03824	0.24367
3149.68064	0.33732	0.14852	0.33553	0.42138	0.03819	0.24384
3147.75187	0.33774	0.14874	0.33578	0.42162	0.03812	0.24404
3145.82311	0.33822	0.149	0.33608	0.4219	0.03814	0.24436

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3143.89434	0.33878	0.14933	0.33641	0.42221	0.03825	0.24474
3141.96557	0.33942	0.14971	0.33678	0.4226	0.03844	0.2451
3140.0368	0.34007	0.1501	0.33718	0.423	0.03864	0.24542
3138.10803	0.34067	0.1504	0.33751	0.42329	0.03871	0.24567
3136.17926	0.34116	0.15062	0.33773	0.42346	0.03867	0.24587
3134.25049	0.34161	0.15089	0.33793	0.42366	0.03867	0.24609
3132.32172	0.34214	0.15124	0.33822	0.42399	0.03877	0.24638
3130.39295	0.34276	0.15163	0.33859	0.42435	0.03891	0.24669
3128.46418	0.34335	0.15198	0.33891	0.42463	0.039	0.24697
3126.53541	0.34388	0.15227	0.33915	0.42487	0.03906	0.24725
3124.60664	0.34444	0.15259	0.33946	0.42516	0.03918	0.24756
3122.67787	0.3451	0.15298	0.33991	0.42556	0.03939	0.24797
3120.7491	0.34577	0.15343	0.34041	0.42599	0.03962	0.24842
3118.82033	0.34641	0.15384	0.34084	0.42637	0.03976	0.24882
3116.89156	0.34701	0.15416	0.34118	0.42665	0.03979	0.24909
3114.96279	0.34754	0.1544	0.34143	0.42689	0.03976	0.24926
3113.03402	0.34801	0.15462	0.34168	0.42713	0.03972	0.24942
3111.10525	0.34858	0.15492	0.34202	0.42746	0.03977	0.24967
3109.17648	0.34921	0.15529	0.3424	0.42783	0.03986	0.24998
3107.24771	0.34979	0.15564	0.34268	0.42814	0.03989	0.25024
3105.31895	0.3503	0.15596	0.34289	0.42837	0.03991	0.2505
3103.39018	0.35085	0.15629	0.34316	0.42861	0.04002	0.25081
3101.46141	0.35147	0.15663	0.34352	0.42892	0.04018	0.25113
3099.53264	0.35209	0.15696	0.34389	0.42927	0.04029	0.25142
3097.60387	0.35269	0.15727	0.34419	0.42955	0.04032	0.25168
3095.6751	0.3533	0.15761	0.34447	0.4298	0.04035	0.25196
3093.74633	0.35399	0.158	0.34484	0.43017	0.04048	0.25233
3091.81756	0.35472	0.15841	0.34528	0.43061	0.04067	0.25275
3089.88879	0.3554	0.15884	0.34567	0.43101	0.04081	0.2531
3087.96002	0.35603	0.15922	0.34601	0.43137	0.04091	0.25338
3086.03125	0.35669	0.15957	0.34642	0.43173	0.04104	0.25367
3084.10248	0.35735	0.15992	0.34684	0.43206	0.04118	0.25402
3082.17371	0.358	0.16032	0.34718	0.43236	0.04131	0.25438
3080.24494	0.35867	0.16076	0.34751	0.4327	0.04145	0.25475
3078.31617	0.35935	0.16113	0.34783	0.43306	0.04154	0.25507
3076.3874	0.35996	0.16139	0.34807	0.43334	0.04151	0.25529
3074.45863	0.36055	0.16166	0.34829	0.43357	0.04142	0.25547
3072.52986	0.36118	0.162	0.34862	0.4338	0.04142	0.25569
3070.60109	0.36187	0.16239	0.34903	0.4341	0.04153	0.256
3068.67232	0.36258	0.16278	0.34941	0.43445	0.0417	0.25639
3066.74355	0.36325	0.16315	0.3497	0.43477	0.04182	0.25677
3064.81479	0.3639	0.16349	0.34995	0.43506	0.04185	0.25708
3062.88602	0.36457	0.16383	0.35024	0.43538	0.04186	0.25734

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
3060.95725	0.36527	0.1642	0.35058	0.43571	0.04193	0.25758
3059.02848	0.366	0.16461	0.35094	0.43603	0.04205	0.25786
3057.09971	0.36671	0.16502	0.3513	0.43634	0.04219	0.2582
3055.17094	0.36743	0.16544	0.35166	0.43667	0.04232	0.25854
3053.24217	0.36816	0.16584	0.35207	0.43704	0.04245	0.25886
3051.3134	0.3689	0.16622	0.35246	0.4374	0.04255	0.25919
3049.38463	0.36961	0.16657	0.35277	0.43772	0.04263	0.25954
3047.45586	0.37035	0.16695	0.3531	0.43806	0.04276	0.25991
3045.52709	0.37115	0.16738	0.35355	0.43847	0.04297	0.26029
3043.59832	0.37199	0.16783	0.35399	0.43888	0.04313	0.26066
3041.66955	0.37275	0.16822	0.35432	0.43924	0.04318	0.26097
3039.74078	0.37341	0.16857	0.3546	0.43954	0.04316	0.26122
3037.81201	0.3741	0.16896	0.3549	0.43981	0.04321	0.26149
3035.88324	0.37491	0.16942	0.35525	0.44011	0.04336	0.26182
3033.95447	0.37574	0.16988	0.35559	0.44038	0.04347	0.26214
3032.0257	0.37646	0.17027	0.35585	0.44061	0.04349	0.26242
3030.09693	0.37716	0.17064	0.35612	0.44087	0.04348	0.26272
3028.16816	0.37792	0.17102	0.35648	0.4412	0.04353	0.26303
3026.23939	0.37875	0.17141	0.35688	0.44157	0.04365	0.26333
3024.31062	0.37956	0.17182	0.35725	0.44195	0.0438	0.26363
3022.38186	0.38036	0.17227	0.35761	0.44234	0.04394	0.26395
3020.45309	0.38121	0.17276	0.35798	0.44273	0.0441	0.26431
3018.52432	0.38209	0.17328	0.3584	0.44313	0.04426	0.26467
3016.59555	0.38295	0.17381	0.35884	0.44354	0.04442	0.26504
3014.66678	0.38378	0.17431	0.35926	0.4439	0.04458	0.26539
3012.73801	0.38457	0.17478	0.35962	0.44419	0.04471	0.26566
3010.80924	0.3853	0.17522	0.35988	0.44443	0.04472	0.2658
3008.88047	0.38602	0.17563	0.3601	0.44466	0.04465	0.26586
3006.9517	0.38681	0.17604	0.36036	0.44493	0.04459	0.26598
3005.02293	0.38764	0.17646	0.36067	0.44523	0.04464	0.26613
3003.09416	0.38845	0.17692	0.36101	0.44555	0.04473	0.26622
3001.16539	0.38927	0.17744	0.36138	0.44591	0.04484	0.26623
2999.23662	0.39011	0.17797	0.3618	0.44631	0.04497	0.26617
2997.30785	0.39091	0.17851	0.3622	0.44662	0.0451	0.26605
2995.37908	0.39169	0.17903	0.36255	0.44689	0.0452	0.26578
2993.45031	0.39248	0.17959	0.36292	0.44724	0.04529	0.26537
2991.52154	0.39323	0.18011	0.36325	0.4476	0.0453	0.26483
2989.59277	0.3939	0.18054	0.36349	0.44786	0.04526	0.26418
2987.664	0.39451	0.18099	0.36372	0.44812	0.04527	0.26357
2985.73523	0.39512	0.18152	0.36404	0.44847	0.04535	0.26309
2983.80646	0.3957	0.18209	0.36446	0.44889	0.04552	0.2628
2981.8777	0.3962	0.18265	0.36494	0.44932	0.04573	0.26279
2979.94893	0.39655	0.18316	0.36538	0.4497	0.04589	0.26303

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2978.02016	0.39677	0.18356	0.36571	0.44998	0.04597	0.26348
2976.09139	0.39692	0.18389	0.366	0.45023	0.04605	0.26421
2974.16262	0.39694	0.18419	0.36631	0.45052	0.04618	0.26511
2972.23385	0.39678	0.18443	0.36662	0.45081	0.04629	0.26604
2970.30508	0.3965	0.18459	0.36694	0.45108	0.0464	0.26692
2968.37631	0.39603	0.18466	0.36729	0.45136	0.04654	0.26767
2966.44754	0.3953	0.1846	0.36766	0.45167	0.04666	0.2683
2964.51877	0.39437	0.18437	0.36803	0.45201	0.04677	0.26883
2962.59	0.39338	0.184	0.36836	0.45232	0.0469	0.26926
2960.66123	0.39234	0.18346	0.36868	0.45261	0.047	0.26955
2958.73246	0.39131	0.18269	0.369	0.45292	0.04707	0.26974
2956.80369	0.39039	0.18172	0.36935	0.4533	0.04718	0.26987
2954.87492	0.38961	0.18059	0.36976	0.45373	0.04732	0.27004
2952.94615	0.38899	0.17938	0.3702	0.45415	0.04746	0.27023
2951.01738	0.3886	0.17813	0.37062	0.4545	0.04758	0.2704
2949.08861	0.38849	0.17689	0.37103	0.45485	0.04774	0.27064
2947.15984	0.38867	0.17576	0.37145	0.45525	0.04796	0.27098
2945.23107	0.38906	0.17478	0.37183	0.45562	0.04812	0.27132
2943.3023	0.3896	0.17399	0.37212	0.45591	0.04818	0.27156
2941.37354	0.3903	0.17342	0.37236	0.45617	0.04816	0.27169
2939.44477	0.39119	0.1731	0.37264	0.45644	0.04818	0.2718
2937.516	0.39216	0.17301	0.37301	0.45675	0.04829	0.27191
2935.58723	0.39306	0.17311	0.37341	0.45709	0.04842	0.27207
2933.65846	0.39392	0.17334	0.37385	0.45746	0.0486	0.27233
2931.72969	0.3948	0.17367	0.37429	0.45784	0.04885	0.27267
2929.80092	0.39559	0.17399	0.37468	0.4582	0.04907	0.27304
2927.87215	0.39618	0.17424	0.37496	0.45848	0.04917	0.27332
2925.94338	0.39667	0.17442	0.37522	0.45872	0.0492	0.27351
2924.01461	0.39718	0.17454	0.37554	0.45899	0.04927	0.27367
2922.08584	0.39777	0.17463	0.37591	0.45928	0.04938	0.27386
2920.15707	0.39848	0.17469	0.37632	0.45964	0.04955	0.27403
2918.2283	0.39933	0.17469	0.3768	0.46008	0.04977	0.27423
2916.29953	0.40031	0.17469	0.37732	0.46054	0.04999	0.27454
2914.37076	0.40147	0.17467	0.37781	0.46101	0.05016	0.27496
2912.44199	0.40276	0.17462	0.37823	0.46142	0.0502	0.27543
2910.51322	0.40414	0.17462	0.37857	0.46179	0.05018	0.27588
2908.58445	0.40572	0.17477	0.37889	0.46215	0.05021	0.27633
2906.65568	0.40749	0.17512	0.37924	0.46252	0.05035	0.27676
2904.72691	0.40935	0.17564	0.37965	0.46291	0.0505	0.27715
2902.79814	0.41121	0.17632	0.38006	0.46332	0.05062	0.27754
2900.86937	0.41306	0.17711	0.38046	0.46372	0.05075	0.27794
2898.94061	0.41486	0.17798	0.3809	0.46414	0.05096	0.27835
2897.01184	0.41658	0.17893	0.38139	0.4646	0.05118	0.27874

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2895.08307	0.41817	0.1799	0.38182	0.465	0.05133	0.27907
2893.1543	0.41966	0.18086	0.38218	0.46534	0.05142	0.27936
2891.22553	0.42107	0.18176	0.38255	0.46572	0.05154	0.27966
2889.29676	0.42237	0.18262	0.38293	0.46613	0.05167	0.28
2887.36799	0.4236	0.18344	0.38328	0.46654	0.05178	0.28041
2885.43922	0.42477	0.18422	0.38365	0.4669	0.05189	0.28089
2883.51045	0.42591	0.18495	0.38408	0.46724	0.05205	0.28143
2881.58168	0.42703	0.18562	0.38453	0.4676	0.05221	0.28201
2879.65291	0.42813	0.18625	0.38497	0.46798	0.05235	0.28256
2877.72414	0.42921	0.18684	0.3854	0.46836	0.05254	0.2831
2875.79537	0.43032	0.18745	0.38585	0.4688	0.05283	0.28368
2873.8666	0.4314	0.18808	0.38627	0.46925	0.05311	0.28428
2871.93783	0.43237	0.18864	0.38663	0.46962	0.05324	0.28482
2870.00906	0.43325	0.18912	0.38698	0.46995	0.05327	0.28535
2868.08029	0.43415	0.1896	0.38735	0.47031	0.05336	0.28591
2866.15152	0.4351	0.19009	0.38772	0.47066	0.05348	0.28649
2864.22275	0.43607	0.19054	0.3881	0.471	0.05363	0.28702
2862.29398	0.43702	0.19097	0.38853	0.47136	0.05381	0.28751
2860.36521	0.43793	0.19143	0.38897	0.47172	0.05399	0.28798
2858.43645	0.43883	0.19188	0.38935	0.47205	0.05412	0.28838
2856.50768	0.43976	0.19228	0.38971	0.47239	0.05422	0.28871
2854.57891	0.44071	0.19269	0.3901	0.47275	0.05434	0.28901
2852.65014	0.44166	0.19313	0.39048	0.47309	0.05449	0.28934
2850.72137	0.44263	0.1936	0.39087	0.47345	0.05466	0.28974
2848.7926	0.44364	0.19408	0.39132	0.47388	0.05485	0.29024
2846.86383	0.44465	0.19454	0.39179	0.47434	0.05501	0.29079
2844.93506	0.44565	0.19499	0.39222	0.47479	0.05516	0.29138
2843.00629	0.4467	0.19549	0.39266	0.47527	0.05538	0.29198
2841.07752	0.44778	0.19603	0.39315	0.47581	0.05566	0.2926
2839.14875	0.44882	0.19658	0.39367	0.47632	0.05591	0.29319
2837.21998	0.44979	0.19711	0.39413	0.47671	0.05603	0.29366
2835.29121	0.45074	0.19766	0.39451	0.47703	0.05608	0.29406
2833.36244	0.45172	0.1982	0.39491	0.47738	0.05616	0.29443
2831.43367	0.45271	0.19871	0.39533	0.47776	0.05625	0.29481
2829.5049	0.4537	0.19921	0.39575	0.47816	0.05637	0.29521
2827.57613	0.45469	0.19971	0.39616	0.47861	0.05655	0.29561
2825.64736	0.45569	0.20022	0.39658	0.47908	0.05676	0.29601
2823.71859	0.45669	0.20072	0.397	0.47949	0.05696	0.29643
2821.78982	0.45768	0.20124	0.3974	0.47985	0.05714	0.29686
2819.86105	0.45865	0.20177	0.3978	0.48021	0.05728	0.29726
2817.93229	0.45961	0.20231	0.39825	0.48059	0.05741	0.29767
2816.00352	0.46058	0.20285	0.39869	0.481	0.05754	0.29808
2814.07475	0.46154	0.20341	0.3991	0.48142	0.05773	0.29851

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2812.14598	0.46252	0.20399	0.39952	0.48186	0.05798	0.29895
2810.21721	0.46352	0.20456	0.39998	0.48225	0.0582	0.29939
2808.28844	0.4645	0.2051	0.4004	0.48261	0.05835	0.2998
2806.35967	0.46544	0.20562	0.40077	0.48296	0.05845	0.3002
2804.4309	0.46637	0.20618	0.40117	0.48336	0.05854	0.30061
2802.50213	0.4673	0.20676	0.40162	0.48377	0.05871	0.30103
2800.57336	0.4682	0.20736	0.40211	0.48422	0.05898	0.30151
2798.64459	0.4691	0.20792	0.40257	0.48465	0.05925	0.30201
2796.71582	0.46999	0.20842	0.40298	0.48504	0.05943	0.30242
2794.78705	0.47084	0.2089	0.40338	0.48543	0.05958	0.30277
2792.85828	0.47168	0.20942	0.40384	0.48587	0.05978	0.30315
2790.92951	0.47258	0.20998	0.40433	0.48633	0.06	0.30358
2789.00074	0.47347	0.21054	0.40478	0.48675	0.06018	0.30398
2787.07197	0.47431	0.21105	0.40516	0.48713	0.06031	0.30435
2785.1432	0.47513	0.21151	0.40554	0.48749	0.06043	0.3047
2783.21443	0.47595	0.21195	0.40597	0.48787	0.06056	0.30507
2781.28566	0.47678	0.21241	0.40642	0.48826	0.06071	0.30547
2779.35689	0.47759	0.2129	0.40686	0.48869	0.06091	0.30587
2777.42812	0.4784	0.2134	0.40731	0.48914	0.06117	0.3063
2775.49936	0.47922	0.2139	0.40776	0.48958	0.06141	0.30674
2773.57059	0.48003	0.21438	0.40818	0.48996	0.06157	0.30712
2771.64182	0.48082	0.21481	0.40858	0.49032	0.0617	0.30749
2769.71305	0.48156	0.21522	0.40901	0.49071	0.06186	0.30791
2767.78428	0.48232	0.21564	0.40946	0.49114	0.06204	0.30834
2765.85551	0.4831	0.21611	0.40989	0.49158	0.06221	0.30875
2763.92674	0.48386	0.21659	0.41033	0.492	0.06237	0.30918
2761.99797	0.48459	0.21702	0.41079	0.49238	0.06253	0.30961
2760.0692	0.48536	0.21744	0.41127	0.49274	0.06271	0.31002
2758.14043	0.48613	0.2179	0.41172	0.49313	0.06291	0.31041
2756.21166	0.48688	0.21835	0.41216	0.49356	0.0631	0.31079
2754.28289	0.48765	0.21877	0.41259	0.49402	0.0633	0.31118
2752.35412	0.48845	0.21921	0.41302	0.49448	0.06354	0.31158
2750.42535	0.48921	0.21969	0.41351	0.49494	0.06379	0.312
2748.49658	0.48996	0.22016	0.41401	0.49538	0.06399	0.31239
2746.56781	0.49073	0.22062	0.41444	0.4958	0.06415	0.31272
2744.63904	0.49151	0.22106	0.41485	0.49619	0.0643	0.31304
2742.71027	0.49228	0.22148	0.4153	0.4966	0.06449	0.31343
2740.7815	0.49303	0.22193	0.41577	0.49701	0.06469	0.31387
2738.85273	0.49379	0.22243	0.41621	0.49743	0.0649	0.31429
2736.92396	0.49455	0.22294	0.41662	0.49784	0.06511	0.31468
2734.9952	0.49532	0.2234	0.41705	0.49824	0.0653	0.31508
2733.06643	0.49609	0.22385	0.4175	0.49863	0.0655	0.31551
2731.13766	0.49684	0.22431	0.41795	0.49905	0.06572	0.31597

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2729.20889	0.49757	0.22478	0.41841	0.4995	0.06597	0.31643
2727.28012	0.49832	0.22525	0.41889	0.49997	0.06624	0.31688
2725.35135	0.49908	0.22572	0.41938	0.50042	0.06648	0.31731
2723.42258	0.49982	0.22618	0.41985	0.50085	0.06666	0.31773
2721.49381	0.50057	0.22662	0.42029	0.50127	0.06681	0.31816
2719.56504	0.50134	0.22708	0.4207	0.50168	0.06696	0.3186
2717.63627	0.50209	0.22756	0.42114	0.5021	0.06716	0.31903
2715.7075	0.50278	0.22802	0.4216	0.50253	0.0674	0.31946
2713.77873	0.50345	0.22846	0.42205	0.50294	0.06763	0.31989
2711.84996	0.50415	0.2289	0.42251	0.50333	0.06784	0.32032
2709.92119	0.50488	0.22937	0.42298	0.50375	0.06805	0.32075
2707.99242	0.50562	0.22986	0.42346	0.50422	0.06827	0.32117
2706.06365	0.50633	0.23033	0.42394	0.50467	0.0685	0.3216
2704.13488	0.50701	0.23077	0.42443	0.50509	0.06872	0.32203
2702.20611	0.50773	0.23123	0.42492	0.50552	0.06893	0.32244
2700.27734	0.50846	0.23172	0.42539	0.50596	0.06913	0.32284
2698.34857	0.50917	0.23219	0.42586	0.50641	0.06936	0.32325
2696.4198	0.50984	0.23262	0.42633	0.50687	0.06958	0.32371
2694.49104	0.51054	0.23305	0.42678	0.50732	0.06978	0.32419
2692.56227	0.51127	0.23351	0.42721	0.50776	0.06998	0.32465
2690.6335	0.51198	0.23399	0.42768	0.50821	0.07024	0.32507
2688.70473	0.51267	0.23445	0.42819	0.50865	0.07052	0.32551
2686.77596	0.51335	0.2349	0.42868	0.50906	0.07079	0.32596
2684.84719	0.51405	0.23536	0.42912	0.50947	0.07105	0.32643
2682.91842	0.51473	0.23583	0.42959	0.50993	0.0713	0.32688
2680.98965	0.51541	0.23632	0.43009	0.51041	0.07156	0.32729
2679.06088	0.51611	0.2368	0.43059	0.51088	0.07182	0.32768
2677.13211	0.5168	0.23725	0.43107	0.51135	0.07206	0.32809
2675.20334	0.51747	0.23772	0.43155	0.5118	0.07226	0.32851
2673.27457	0.51813	0.23822	0.43205	0.51223	0.07246	0.32893
2671.3458	0.5188	0.23868	0.43254	0.51265	0.07269	0.32936
2669.41703	0.51948	0.23913	0.43302	0.5131	0.07295	0.32982
2667.48826	0.52017	0.23959	0.43349	0.51355	0.07319	0.33028
2665.55949	0.52085	0.24008	0.43395	0.51396	0.07343	0.33073
2663.63072	0.52155	0.24058	0.43443	0.5144	0.07369	0.33116
2661.70195	0.52225	0.24106	0.43493	0.51488	0.07396	0.33158
2659.77318	0.52293	0.24151	0.43542	0.51535	0.0742	0.33202
2657.84441	0.52361	0.24196	0.43592	0.51581	0.07444	0.33248
2655.91564	0.5243	0.24242	0.43642	0.51627	0.07466	0.33293
2653.98687	0.52497	0.2429	0.43692	0.51672	0.07488	0.33336
2652.05811	0.52562	0.2434	0.43741	0.51718	0.07513	0.33379
2650.12934	0.52627	0.2439	0.43789	0.51763	0.07538	0.33423
2648.20057	0.52697	0.24438	0.43838	0.51806	0.07563	0.33467

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2646.2718	0.52765	0.24487	0.43888	0.51848	0.0759	0.33511
2644.34303	0.52827	0.24536	0.43938	0.51893	0.07616	0.33555
2642.41426	0.5289	0.24586	0.43986	0.51941	0.07639	0.33599
2640.48549	0.52957	0.24637	0.44033	0.51988	0.07662	0.33641
2638.55672	0.53025	0.24687	0.44082	0.52035	0.07686	0.33681
2636.62795	0.53089	0.24734	0.44133	0.52084	0.07712	0.33722
2634.69918	0.53153	0.24783	0.44181	0.5213	0.0774	0.33766
2632.77041	0.5322	0.24834	0.44227	0.52174	0.07769	0.33811
2630.84164	0.53287	0.24883	0.44276	0.52218	0.07796	0.33857
2628.91287	0.53353	0.24932	0.44328	0.52265	0.07822	0.33902
2626.9841	0.53418	0.24983	0.4438	0.52312	0.07848	0.33946
2625.05533	0.53484	0.25037	0.44431	0.52359	0.07875	0.3399
2623.12656	0.53551	0.2509	0.44482	0.52405	0.07901	0.34035
2621.19779	0.53618	0.25141	0.44534	0.52453	0.07926	0.3408
2619.26902	0.53686	0.25192	0.44584	0.52501	0.07951	0.34124
2617.34025	0.53754	0.25245	0.44631	0.52546	0.07979	0.34168
2615.41148	0.5382	0.25298	0.44678	0.52591	0.08009	0.34212
2613.48271	0.53881	0.25351	0.44729	0.52638	0.08038	0.34257
2611.55395	0.53943	0.25404	0.44785	0.52686	0.08064	0.34304
2609.62518	0.54008	0.25457	0.4484	0.52734	0.0809	0.34352
2607.69641	0.54071	0.25513	0.44889	0.52781	0.08117	0.34397
2605.76764	0.54134	0.25567	0.44936	0.5283	0.08146	0.34439
2603.83887	0.54198	0.25617	0.44985	0.52879	0.08176	0.34485
2601.9101	0.54262	0.25669	0.45039	0.52929	0.08204	0.34534
2599.98133	0.54326	0.25722	0.45095	0.52976	0.08231	0.34582
2598.05256	0.5439	0.25775	0.4515	0.53022	0.08261	0.34627
2596.12379	0.54455	0.2583	0.45202	0.53069	0.08295	0.3467
2594.19502	0.54519	0.25886	0.45254	0.53118	0.08328	0.34714
2592.26625	0.54581	0.25939	0.45306	0.53167	0.08356	0.34762
2590.33748	0.54645	0.25991	0.45358	0.53216	0.08382	0.3481
2588.40871	0.5471	0.26044	0.45411	0.53264	0.08409	0.34855
2586.47994	0.54771	0.26099	0.45464	0.53313	0.08436	0.34901
2584.55117	0.5483	0.26153	0.45517	0.53362	0.08464	0.34949
2582.6224	0.5489	0.26206	0.45569	0.53412	0.08494	0.34996
2580.69363	0.54953	0.26258	0.45619	0.53461	0.08524	0.35042
2578.76486	0.55015	0.26312	0.45669	0.53506	0.08553	0.35088
2576.83609	0.55076	0.26368	0.45721	0.53551	0.08584	0.35134
2574.90732	0.55137	0.26422	0.45774	0.536	0.08617	0.35183
2572.97855	0.55199	0.26474	0.45828	0.53654	0.08651	0.35233
2571.04979	0.55259	0.26526	0.45883	0.53709	0.08686	0.35281
2569.12102	0.55316	0.2658	0.45938	0.53763	0.08717	0.35328
2567.19225	0.55375	0.26634	0.45993	0.53814	0.08745	0.35376
2565.26348	0.55435	0.26687	0.46049	0.53862	0.08774	0.35422

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2563.33471	0.55493	0.26738	0.46103	0.5391	0.08806	0.3547
2561.40594	0.55551	0.26791	0.46152	0.53957	0.08839	0.35518
2559.47717	0.5561	0.26847	0.46203	0.54006	0.08873	0.35567
2557.5484	0.55669	0.26902	0.4626	0.54055	0.08907	0.35614
2555.61963	0.55724	0.26955	0.46318	0.54106	0.08939	0.35662
2553.69086	0.55781	0.27008	0.46372	0.54157	0.08972	0.35711
2551.76209	0.55837	0.2706	0.46426	0.54206	0.09008	0.3576
2549.83332	0.55891	0.27112	0.46479	0.54255	0.09042	0.35808
2547.90455	0.55945	0.27164	0.46533	0.54308	0.09074	0.35854
2545.97578	0.56002	0.27217	0.46588	0.54363	0.09106	0.35901
2544.04701	0.56058	0.2727	0.46646	0.54415	0.09136	0.3595
2542.11824	0.56114	0.27322	0.46702	0.54464	0.09166	0.35999
2540.18947	0.56169	0.27376	0.46758	0.54514	0.09199	0.36048
2538.2607	0.56224	0.27432	0.46813	0.54564	0.09234	0.36096
2536.33193	0.56278	0.27487	0.46865	0.54614	0.09271	0.36145
2534.40316	0.56332	0.27542	0.46918	0.54665	0.09306	0.36193
2532.47439	0.56385	0.27597	0.46974	0.54716	0.09341	0.36241
2530.54562	0.5644	0.2765	0.47033	0.54766	0.09374	0.36289
2528.61686	0.56499	0.27702	0.4709	0.54817	0.09407	0.36336
2526.68809	0.56554	0.27755	0.47146	0.5487	0.0944	0.36385
2524.75932	0.56605	0.27807	0.472	0.54926	0.09473	0.36438
2522.83055	0.56657	0.27859	0.47256	0.54982	0.09507	0.3649
2520.90178	0.56712	0.27915	0.47313	0.55035	0.0954	0.36538
2518.97301	0.56766	0.27973	0.4737	0.55087	0.09576	0.36585
2517.04424	0.56816	0.28028	0.47427	0.55139	0.09615	0.36634
2515.11547	0.56866	0.28081	0.47482	0.55188	0.09652	0.36685
2513.1867	0.56922	0.28135	0.47536	0.55238	0.09689	0.36736
2511.25793	0.56981	0.2819	0.47591	0.55291	0.09726	0.36784
2509.32916	0.57037	0.28246	0.47647	0.55345	0.0976	0.36832
2507.40039	0.57089	0.28305	0.47703	0.55397	0.09792	0.36881
2505.47162	0.57141	0.28365	0.47759	0.55447	0.09826	0.3693
2503.54285	0.57194	0.28423	0.47816	0.55498	0.09864	0.36979
2501.61408	0.57248	0.28481	0.47874	0.55551	0.09903	0.37029
2499.68531	0.57301	0.28538	0.47933	0.55605	0.09941	0.3708
2497.75654	0.57353	0.28595	0.47991	0.5566	0.09976	0.3713
2495.82777	0.57407	0.28651	0.48049	0.55716	0.10011	0.37177
2493.899	0.57462	0.28707	0.48107	0.55771	0.10047	0.37222
2491.97023	0.57515	0.28765	0.48163	0.55823	0.10084	0.37266
2490.04146	0.57566	0.28822	0.48219	0.55875	0.10122	0.37311
2488.1127	0.57614	0.28879	0.48276	0.55927	0.10158	0.3736
2486.18393	0.57664	0.28936	0.48335	0.55979	0.10195	0.37412
2484.25516	0.57716	0.28995	0.48394	0.56031	0.10233	0.37465
2482.32639	0.5777	0.29054	0.48451	0.56085	0.10273	0.37515

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2480.39762	0.57824	0.29112	0.48505	0.5614	0.10311	0.37561
2478.46885	0.57875	0.2917	0.48558	0.56192	0.10349	0.37607
2476.54008	0.57924	0.29227	0.48611	0.56243	0.10385	0.37654
2474.61131	0.57972	0.29282	0.4867	0.56296	0.10421	0.37701
2472.68254	0.58023	0.29337	0.48731	0.56351	0.1046	0.3775
2470.75377	0.58075	0.29393	0.48791	0.56407	0.10501	0.37799
2468.825	0.58125	0.29451	0.48849	0.56459	0.1054	0.37848
2466.89623	0.58174	0.29507	0.48906	0.56512	0.10579	0.37896
2464.96746	0.58222	0.29563	0.48965	0.56566	0.10619	0.37945
2463.03869	0.58269	0.29621	0.49024	0.56619	0.10658	0.37994
2461.10992	0.58315	0.29677	0.49081	0.56673	0.10697	0.38041
2459.18115	0.58362	0.29733	0.49138	0.56727	0.10736	0.38088
2457.25238	0.58412	0.29791	0.49196	0.5678	0.10776	0.38137
2455.32361	0.58461	0.29849	0.49256	0.56832	0.10816	0.38186
2453.39484	0.58507	0.29905	0.49314	0.56887	0.10856	0.38236
2451.46607	0.58551	0.2996	0.49373	0.56941	0.10898	0.3829
2449.5373	0.58596	0.30017	0.49431	0.56993	0.1094	0.38345
2447.60854	0.58644	0.30072	0.49488	0.57044	0.10982	0.38395
2445.67977	0.58691	0.30127	0.49544	0.57095	0.11023	0.38445
2443.751	0.58737	0.30184	0.49604	0.57147	0.11065	0.38497
2441.82223	0.58782	0.3024	0.49666	0.57201	0.11105	0.38548
2439.89346	0.58829	0.30294	0.49726	0.57255	0.11146	0.38596
2437.96469	0.58876	0.30349	0.49784	0.5731	0.11189	0.38645
2436.03592	0.58923	0.30405	0.49843	0.57363	0.11233	0.38695
2434.10715	0.58968	0.3046	0.49904	0.57416	0.11275	0.38748
2432.17838	0.59011	0.30516	0.49967	0.57469	0.11315	0.38799
2430.24961	0.59054	0.30571	0.50027	0.57522	0.11356	0.38847
2428.32084	0.59098	0.30626	0.50083	0.57575	0.11397	0.38894
2426.39207	0.59142	0.30682	0.50138	0.57628	0.11441	0.38945
2424.4633	0.59185	0.30741	0.50197	0.57681	0.11486	0.38996
2422.53453	0.59225	0.30799	0.50255	0.57736	0.1153	0.39047
2420.60576	0.59263	0.30856	0.50314	0.57794	0.11572	0.391
2418.67699	0.59305	0.30914	0.50375	0.57851	0.11613	0.39154
2416.74822	0.59352	0.30973	0.50437	0.57906	0.11658	0.39207
2414.81945	0.59396	0.31028	0.505	0.57962	0.11705	0.39258
2412.89068	0.59441	0.31083	0.5056	0.58018	0.11752	0.39309
2410.96191	0.59485	0.31141	0.50619	0.58077	0.118	0.39362
2409.03314	0.5953	0.31199	0.5068	0.58136	0.11846	0.39414
2407.10437	0.59573	0.31255	0.50742	0.58194	0.1189	0.39467
2405.17561	0.59616	0.31311	0.50805	0.58248	0.11939	0.3952
2403.24684	0.59657	0.31369	0.50865	0.58299	0.11988	0.39573
2401.31807	0.59696	0.31426	0.50926	0.58351	0.12033	0.39627
2399.3893	0.59735	0.3148	0.50989	0.58406	0.12077	0.39678

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2397.46053	0.59776	0.31534	0.51051	0.58462	0.12121	0.39729
2395.53176	0.59819	0.31589	0.51111	0.58522	0.12167	0.39782
2393.60299	0.59862	0.31646	0.51172	0.58584	0.12215	0.39836
2391.67422	0.59905	0.31705	0.51236	0.5865	0.12264	0.39894
2389.74545	0.59948	0.31764	0.51298	0.58717	0.12311	0.39957
2387.81668	0.59991	0.31822	0.51354	0.58783	0.12356	0.40023
2385.88791	0.60034	0.31878	0.51402	0.58843	0.12397	0.40091
2383.95914	0.6008	0.31932	0.51438	0.58896	0.12434	0.4016
2382.03037	0.60128	0.31986	0.51459	0.5894	0.1247	0.40228
2380.1016	0.6018	0.32041	0.51463	0.58983	0.12505	0.40295
2378.17283	0.60235	0.32099	0.51455	0.59031	0.12544	0.40361
2376.24406	0.60293	0.32161	0.5144	0.5909	0.12588	0.40428
2374.31529	0.60353	0.32227	0.5141	0.59164	0.12638	0.40497
2372.38652	0.60413	0.32296	0.51364	0.59254	0.12694	0.40567
2370.45775	0.60471	0.32368	0.5131	0.59361	0.12754	0.40637
2368.52898	0.60525	0.32439	0.51256	0.59477	0.12819	0.407
2366.60021	0.60571	0.32508	0.51208	0.59595	0.12889	0.40753
2364.67145	0.60605	0.32572	0.51173	0.59698	0.12965	0.40796
2362.74268	0.60627	0.32626	0.51152	0.59775	0.13048	0.4083
2360.81391	0.60639	0.32667	0.5115	0.59817	0.13135	0.40852
2358.88514	0.60642	0.32687	0.51187	0.59819	0.13219	0.40855
2356.95637	0.60631	0.32694	0.51264	0.59801	0.13297	0.40849
2355.0276	0.60615	0.32717	0.5138	0.59817	0.13368	0.40866
2353.09883	0.60615	0.32783	0.51537	0.59915	0.13421	0.40941
2351.17006	0.6066	0.32891	0.51743	0.60064	0.13445	0.4107
2349.24129	0.60756	0.32996	0.51966	0.60156	0.1344	0.41194
2347.31252	0.60873	0.33064	0.52118	0.60134	0.13432	0.41265
2345.38375	0.60965	0.33105	0.52127	0.60075	0.13453	0.41297
2343.45498	0.61015	0.33153	0.52062	0.60101	0.13519	0.41331
2341.52621	0.6104	0.33218	0.52063	0.60225	0.13608	0.41381
2339.59744	0.61064	0.33289	0.52126	0.60375	0.13692	0.41442
2337.66867	0.61093	0.33354	0.52203	0.60489	0.13759	0.41502
2335.7399	0.61125	0.33405	0.52282	0.60547	0.13817	0.41554
2333.81113	0.61154	0.3344	0.52363	0.60564	0.13875	0.41599
2331.88236	0.61177	0.33468	0.52432	0.60565	0.13935	0.41641
2329.95359	0.61196	0.33502	0.52496	0.60574	0.13994	0.41685
2328.02482	0.61216	0.33544	0.52585	0.60596	0.14051	0.41734
2326.09605	0.61239	0.33588	0.52694	0.60625	0.14106	0.41784
2324.16729	0.61262	0.33627	0.52798	0.60646	0.14163	0.41828
2322.23852	0.61285	0.33664	0.52894	0.6067	0.14223	0.41866
2320.30975	0.61314	0.33712	0.53002	0.60717	0.14281	0.4191
2318.38098	0.61355	0.33775	0.53126	0.60788	0.14332	0.41968
2316.45221	0.61404	0.33841	0.5325	0.60856	0.14378	0.42032

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2314.52344	0.61449	0.33897	0.5336	0.60901	0.14425	0.42088
2312.59467	0.61487	0.33945	0.53455	0.60937	0.14479	0.4214
2310.6659	0.61524	0.33995	0.53552	0.60984	0.14538	0.42195
2308.73713	0.61568	0.34055	0.53657	0.61047	0.14598	0.42257
2306.80836	0.61618	0.34122	0.53766	0.61118	0.14656	0.42322
2304.87959	0.61671	0.34192	0.53875	0.61191	0.1471	0.42387
2302.95082	0.61725	0.34261	0.53978	0.61256	0.14763	0.42449
2301.02205	0.61777	0.34327	0.54075	0.61317	0.14814	0.4251
2299.09328	0.61825	0.34394	0.54165	0.61379	0.14869	0.42571
2297.16451	0.61872	0.34463	0.54252	0.61444	0.14928	0.42633
2295.23574	0.6192	0.3453	0.54335	0.61509	0.14989	0.42696
2293.30697	0.61968	0.34597	0.5442	0.61575	0.1505	0.42759
2291.3782	0.62016	0.34662	0.54504	0.61642	0.15109	0.42822
2289.44943	0.62064	0.34726	0.54584	0.61706	0.15169	0.42884
2287.52066	0.62112	0.34789	0.54663	0.61771	0.1523	0.42944
2285.59189	0.62159	0.34853	0.54747	0.61841	0.15289	0.43006
2283.66312	0.62204	0.34917	0.5483	0.61912	0.15349	0.43072
2281.73436	0.62249	0.34983	0.54906	0.61978	0.15411	0.43139
2279.80559	0.62294	0.35047	0.54976	0.62038	0.15474	0.43204
2277.87682	0.62342	0.3511	0.55041	0.62099	0.15537	0.43267
2275.94805	0.62389	0.35171	0.55104	0.62162	0.15601	0.43329
2274.01928	0.62435	0.35231	0.5517	0.62228	0.15667	0.43392
2272.09051	0.62478	0.35294	0.55237	0.62294	0.15734	0.43456
2270.16174	0.6252	0.35358	0.55304	0.6236	0.15803	0.43519
2268.23297	0.62562	0.3542	0.55374	0.62427	0.1587	0.43581
2266.3042	0.62605	0.3548	0.55447	0.62494	0.15935	0.43643
2264.37543	0.62651	0.35541	0.55518	0.62558	0.16	0.43707
2262.44666	0.62697	0.35604	0.5559	0.6262	0.16065	0.43771
2260.51789	0.6274	0.35666	0.55663	0.62681	0.16132	0.43832
2258.58912	0.62781	0.35726	0.55736	0.62745	0.16201	0.43893
2256.66035	0.62825	0.35787	0.5581	0.62809	0.1627	0.43955
2254.73158	0.62872	0.35849	0.55885	0.62873	0.16339	0.44019
2252.80281	0.62919	0.35912	0.55958	0.62937	0.16408	0.44085
2250.87404	0.62963	0.35977	0.56031	0.6299	0.16477	0.4415
2248.94527	0.63001	0.36038	0.56104	0.63017	0.16541	0.44206
2247.0165	0.63048	0.36107	0.56176	0.63092	0.1661	0.44271
2245.08773	0.63096	0.36173	0.56249	0.63166	0.16681	0.44339
2243.15896	0.63145	0.36239	0.56325	0.63239	0.16752	0.44407
2241.2302	0.63194	0.36307	0.56402	0.63313	0.16824	0.44473
2239.30143	0.63241	0.36374	0.56476	0.63387	0.16896	0.44538
2237.37266	0.63287	0.36439	0.56549	0.63458	0.16969	0.44603
2235.44389	0.63333	0.36505	0.56622	0.63526	0.17043	0.44669
2233.51512	0.63383	0.36574	0.56694	0.63592	0.17116	0.44736

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2231.58635	0.63436	0.36642	0.56767	0.63659	0.17189	0.44804
2229.65758	0.63486	0.36708	0.5684	0.63727	0.17264	0.4487
2227.72881	0.63531	0.36774	0.56915	0.63796	0.17339	0.44935
2225.80004	0.63576	0.36841	0.5699	0.63864	0.17412	0.45002
2223.87127	0.63622	0.36909	0.57064	0.63932	0.17486	0.4507
2221.9425	0.63668	0.36976	0.57138	0.63999	0.17563	0.45138
2220.01373	0.63716	0.37045	0.57214	0.64068	0.17639	0.45204
2218.08496	0.63765	0.37114	0.57289	0.64137	0.17715	0.45269
2216.15619	0.63813	0.37181	0.57363	0.64203	0.1779	0.45333
2214.22742	0.63861	0.37245	0.57438	0.64268	0.17866	0.454
2212.29865	0.63908	0.37311	0.57513	0.64335	0.17943	0.45469
2210.36988	0.63956	0.3738	0.57587	0.64405	0.18021	0.45537
2208.44111	0.64006	0.37449	0.57661	0.64474	0.18099	0.45604
2206.51234	0.64055	0.37517	0.57736	0.64541	0.18179	0.45672
2204.58357	0.64104	0.37585	0.57811	0.64609	0.18259	0.45741
2202.6548	0.64154	0.37654	0.57885	0.64677	0.18339	0.45811
2200.72604	0.64205	0.37725	0.57962	0.64746	0.1842	0.4588
2198.79727	0.64254	0.37796	0.58039	0.64816	0.185	0.45948
2196.8685	0.64302	0.37868	0.58116	0.64885	0.1858	0.46014
2194.93973	0.64352	0.37941	0.58192	0.64953	0.18659	0.46082
2193.01096	0.64401	0.3801	0.58269	0.65021	0.18738	0.46153
2191.08219	0.6445	0.38076	0.58347	0.65091	0.18818	0.46223
2189.15342	0.64503	0.38143	0.58426	0.65161	0.18901	0.46289
2187.22465	0.64558	0.38216	0.58505	0.6523	0.18987	0.46354
2185.29588	0.64609	0.38288	0.58581	0.65299	0.19073	0.4642
2183.36711	0.64656	0.3836	0.58654	0.65369	0.19156	0.46487
2181.43834	0.64707	0.38432	0.5873	0.65437	0.1924	0.46558
2179.50957	0.64761	0.38505	0.58808	0.65506	0.19325	0.4663
2177.5808	0.64814	0.38577	0.58887	0.65577	0.19409	0.467
2175.65203	0.64865	0.38649	0.58966	0.65648	0.19494	0.46768
2173.72326	0.64917	0.3872	0.59046	0.65718	0.19581	0.46837
2171.79449	0.64967	0.3879	0.59125	0.65788	0.19667	0.46907
2169.86572	0.65016	0.38861	0.59202	0.65859	0.19753	0.46978
2167.93695	0.65068	0.38933	0.59279	0.65929	0.1984	0.47049
2166.00818	0.65124	0.39009	0.59358	0.65999	0.19926	0.4712
2164.07941	0.65179	0.39086	0.59438	0.66068	0.2001	0.47191
2162.15064	0.6523	0.39163	0.59516	0.66137	0.20097	0.47261
2160.22187	0.65281	0.39239	0.59594	0.66207	0.20185	0.4733
2158.29311	0.65334	0.39313	0.59673	0.66278	0.20276	0.47399
2156.36434	0.65388	0.39384	0.59749	0.66347	0.20368	0.47469
2154.43557	0.6544	0.39455	0.59824	0.66415	0.20459	0.47541
2152.5068	0.65495	0.3953	0.59901	0.66486	0.20549	0.47612
2150.57803	0.65551	0.39605	0.59982	0.6656	0.2064	0.47682

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2148.64926	0.65604	0.3968	0.60064	0.66633	0.2073	0.47753
2146.72049	0.65657	0.39756	0.60144	0.66703	0.20819	0.47825
2144.79172	0.6571	0.39833	0.60223	0.66774	0.2091	0.47894
2142.86295	0.65766	0.39911	0.60302	0.66846	0.21001	0.47961
2140.93418	0.65821	0.39988	0.60381	0.66915	0.21093	0.48032
2139.00541	0.65875	0.40067	0.60461	0.66983	0.21184	0.48103
2137.07664	0.65929	0.40145	0.60543	0.67052	0.21274	0.48174
2135.14787	0.65983	0.4022	0.60625	0.67124	0.21368	0.48243
2133.2191	0.66038	0.40291	0.60705	0.67197	0.21464	0.48312
2131.29033	0.66093	0.40366	0.60785	0.67271	0.21559	0.48385
2129.36156	0.66147	0.40446	0.60867	0.67342	0.21652	0.4846
2127.43279	0.66202	0.40527	0.60948	0.67412	0.21746	0.48534
2125.50402	0.66258	0.40606	0.61026	0.67484	0.21842	0.48606
2123.57525	0.66314	0.40685	0.61105	0.67556	0.2194	0.48677
2121.64648	0.66369	0.40764	0.61186	0.67628	0.22039	0.48749
2119.71771	0.66425	0.40843	0.61267	0.677	0.2214	0.48823
2117.78895	0.66479	0.40924	0.61348	0.6777	0.22239	0.489
2115.86018	0.66536	0.41005	0.61429	0.6784	0.22333	0.48975
2113.93141	0.66594	0.41086	0.61511	0.67913	0.2243	0.49047
2112.00264	0.66652	0.41168	0.61595	0.67989	0.2253	0.49118
2110.07387	0.66711	0.41249	0.61679	0.68064	0.2263	0.4919
2108.1451	0.66769	0.41331	0.61759	0.68135	0.22729	0.49261
2106.21633	0.66825	0.41412	0.61839	0.68207	0.22827	0.49335
2104.28756	0.6688	0.41493	0.61919	0.68279	0.22924	0.4941
2102.35879	0.66938	0.41574	0.61997	0.6835	0.23021	0.49482
2100.43002	0.66998	0.41655	0.62075	0.68419	0.23119	0.49551
2098.50125	0.67058	0.41739	0.62155	0.68483	0.23216	0.49622
2096.57248	0.67117	0.4182	0.62237	0.6855	0.23314	0.49692
2094.64371	0.67175	0.41902	0.62315	0.68618	0.23411	0.49763
2092.71494	0.67233	0.41986	0.62388	0.68686	0.23508	0.4983
2090.78617	0.6729	0.42069	0.62461	0.68754	0.23605	0.49898
2088.8574	0.67345	0.4215	0.62536	0.68821	0.23701	0.49967
2086.92863	0.67402	0.4223	0.62613	0.68886	0.23795	0.50036
2084.99986	0.67462	0.4231	0.62689	0.68952	0.23889	0.50103
2083.07109	0.67524	0.42393	0.62763	0.69017	0.23984	0.50169
2081.14232	0.67583	0.42476	0.62837	0.69082	0.24078	0.50231
2079.21355	0.6764	0.42557	0.6291	0.69145	0.2417	0.50292
2077.28479	0.67699	0.42641	0.6298	0.69206	0.2426	0.50354
2075.35602	0.6776	0.42725	0.63046	0.69264	0.24347	0.50417
2073.42725	0.67821	0.42809	0.63113	0.69324	0.24434	0.50479
2071.49848	0.67883	0.42893	0.63179	0.69383	0.24519	0.5054
2069.56971	0.67946	0.42977	0.63244	0.6944	0.24602	0.50601
2067.64094	0.68003	0.43058	0.63301	0.69494	0.24687	0.50661

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
2065.71217	0.68056	0.43135	0.63356	0.69546	0.24772	0.50716
2063.7834	0.68112	0.43215	0.63415	0.69598	0.24851	0.50767
2061.85463	0.68173	0.43299	0.6348	0.69647	0.24927	0.50816
2059.92586	0.68232	0.4338	0.63542	0.69695	0.25003	0.50866
2057.99709	0.68289	0.43459	0.63599	0.69744	0.25078	0.50914
2056.06832	0.68347	0.43538	0.63655	0.69792	0.25151	0.50961
2054.13955	0.68405	0.43618	0.63706	0.6984	0.25224	0.51008
2052.21078	0.68461	0.43696	0.63755	0.69885	0.25295	0.51053
2050.28201	0.68517	0.43772	0.63806	0.69928	0.25365	0.51096
2048.35324	0.68574	0.43847	0.63859	0.69969	0.25433	0.5114
2046.42447	0.68632	0.43924	0.63908	0.70009	0.255	0.51182
2044.4957	0.68688	0.44003	0.63954	0.70049	0.25565	0.5122
2042.56693	0.68741	0.44078	0.63997	0.70092	0.25631	0.51261
2040.63816	0.68795	0.44151	0.64041	0.70134	0.25696	0.51301
2038.70939	0.68851	0.44224	0.64091	0.70172	0.25758	0.51341
2036.78062	0.68907	0.44301	0.64141	0.7021	0.25819	0.5138
2034.85186	0.68961	0.44375	0.64187	0.7025	0.25881	0.51419
2032.92309	0.69016	0.44449	0.64231	0.70287	0.25944	0.51458
2030.99432	0.69071	0.44524	0.64275	0.70323	0.26008	0.51496
2029.06555	0.69121	0.44599	0.64321	0.70362	0.26073	0.51535
2027.13678	0.69167	0.44674	0.64368	0.70403	0.26137	0.51573
2025.20801	0.69218	0.44747	0.64413	0.70444	0.26202	0.51611
2023.27924	0.69272	0.4482	0.64459	0.70485	0.26267	0.5165
2021.35047	0.69323	0.44893	0.64501	0.70526	0.26332	0.51696
2019.4217	0.69372	0.44965	0.64535	0.70566	0.26405	0.51745
2017.49293	0.69419	0.45039	0.64572	0.70609	0.26486	0.51791
2015.56416	0.69466	0.45111	0.64631	0.70655	0.26561	0.51833
2013.63539	0.69514	0.45182	0.64703	0.70702	0.26628	0.51875
2011.70662	0.69562	0.45255	0.64768	0.7075	0.26695	0.51921
2009.77785	0.6961	0.45331	0.64824	0.70798	0.26769	0.51969
2007.84908	0.69659	0.45406	0.64879	0.70848	0.26848	0.52018
2005.92031	0.6971	0.4548	0.64938	0.70901	0.26929	0.5207
2003.99154	0.6976	0.45556	0.65	0.70954	0.27012	0.52125
2002.06277	0.69808	0.45634	0.65062	0.71005	0.27097	0.52183
2000.134	0.69856	0.45711	0.65122	0.71056	0.27184	0.52243
1998.20523	0.69903	0.45788	0.65185	0.71111	0.27271	0.52306
1996.27646	0.6995	0.45868	0.65246	0.71167	0.27361	0.5237
1994.3477	0.69995	0.4595	0.65289	0.7122	0.27464	0.52433
1992.41893	0.70036	0.46029	0.65325	0.71278	0.27582	0.52496
1990.49016	0.70077	0.46104	0.65394	0.71344	0.27692	0.52558
1988.56139	0.70127	0.46179	0.65491	0.71415	0.27788	0.5262
1986.63262	0.7018	0.46256	0.65589	0.71486	0.27883	0.52687
1984.70385	0.7023	0.46335	0.65682	0.71555	0.27985	0.52757

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1982.77508	0.70279	0.46415	0.65769	0.71626	0.28096	0.52829
1980.84631	0.70331	0.46498	0.65853	0.71697	0.28212	0.52903
1978.91754	0.70383	0.46583	0.65936	0.71769	0.28328	0.52979
1976.98877	0.70432	0.46668	0.66022	0.71845	0.28447	0.53059
1975.06	0.70479	0.46754	0.66109	0.71923	0.2857	0.53142
1973.13123	0.7053	0.46843	0.66196	0.72002	0.28695	0.53227
1971.20246	0.70583	0.46932	0.66278	0.72078	0.28819	0.53314
1969.27369	0.70632	0.47019	0.66346	0.72156	0.28955	0.534
1967.34492	0.70678	0.47104	0.66412	0.72235	0.29102	0.53485
1965.41615	0.70728	0.47188	0.66511	0.72316	0.29239	0.53567
1963.48738	0.70784	0.47275	0.6663	0.724	0.29363	0.53648
1961.55861	0.7084	0.47364	0.66738	0.72488	0.2949	0.53737
1959.62984	0.70894	0.47456	0.66836	0.72575	0.29624	0.53829
1957.70107	0.70948	0.4755	0.66929	0.72655	0.29763	0.5392
1955.7723	0.70998	0.47644	0.67017	0.72733	0.29903	0.54008
1953.84354	0.7105	0.47735	0.67111	0.72814	0.30041	0.54095
1951.91477	0.71105	0.47825	0.67211	0.72895	0.30174	0.54181
1949.986	0.71162	0.47919	0.67307	0.72975	0.30305	0.5427
1948.05723	0.71221	0.48021	0.67391	0.73057	0.30437	0.54365
1946.12846	0.71281	0.48125	0.67455	0.73137	0.30576	0.54459
1944.19969	0.71337	0.48223	0.67494	0.73215	0.30737	0.54545
1942.27092	0.71387	0.48312	0.67557	0.73291	0.30898	0.54615
1940.34215	0.7144	0.48396	0.67684	0.73368	0.31021	0.54676
1938.41338	0.71502	0.48485	0.67825	0.73445	0.31117	0.54744
1936.48461	0.71568	0.48582	0.67928	0.73521	0.31221	0.54821
1934.55584	0.71632	0.4868	0.68007	0.7359	0.31337	0.54894
1932.62707	0.71691	0.48772	0.6808	0.73652	0.31451	0.5496
1930.6983	0.7175	0.48863	0.68152	0.73711	0.31558	0.55022
1928.76953	0.71811	0.4896	0.6822	0.73769	0.31657	0.55085
1926.84076	0.71873	0.49059	0.68273	0.73821	0.31751	0.55152
1924.91199	0.71928	0.49151	0.68295	0.73869	0.31858	0.55219
1922.98322	0.7198	0.49239	0.68309	0.73915	0.31969	0.55281
1921.05445	0.72038	0.49329	0.68348	0.73958	0.32062	0.55326
1919.12568	0.72095	0.49411	0.6838	0.74003	0.32157	0.55357
1917.19691	0.72145	0.49481	0.68424	0.74043	0.32246	0.55377
1915.26814	0.72202	0.49551	0.68518	0.74071	0.3229	0.55393
1913.33937	0.7227	0.49633	0.68597	0.74093	0.32312	0.55419
1911.41061	0.72333	0.49717	0.68616	0.74116	0.32357	0.55449
1909.48184	0.72384	0.49791	0.68618	0.74142	0.32419	0.55466
1907.55307	0.72434	0.49858	0.6865	0.74165	0.32463	0.5547
1905.6243	0.72488	0.49924	0.68699	0.74185	0.32487	0.55472
1903.69553	0.72541	0.49991	0.68731	0.74199	0.32504	0.55474
1901.76676	0.72592	0.50056	0.6875	0.74211	0.32522	0.55476

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1899.83799	0.72642	0.50122	0.68762	0.74218	0.32538	0.55478
1897.90922	0.72689	0.50188	0.68758	0.74223	0.3256	0.5548
1895.98045	0.72731	0.50251	0.68738	0.74224	0.3259	0.55484
1894.05168	0.7277	0.50313	0.68732	0.74224	0.32611	0.5549
1892.12291	0.7281	0.50373	0.68725	0.74231	0.32635	0.55494
1890.19414	0.72846	0.50424	0.68698	0.74246	0.32684	0.55494
1888.26537	0.72878	0.5047	0.68713	0.74256	0.32726	0.55486
1886.3366	0.72917	0.50519	0.68782	0.74263	0.3274	0.55481
1884.40783	0.7296	0.50575	0.68837	0.74278	0.32754	0.55492
1882.47906	0.73001	0.50634	0.68873	0.74301	0.32786	0.55513
1880.55029	0.7304	0.50694	0.68909	0.74329	0.32834	0.55538
1878.62152	0.73076	0.50755	0.68948	0.7436	0.32892	0.55569
1876.69275	0.73114	0.50825	0.68992	0.74392	0.32954	0.55606
1874.76398	0.73157	0.50907	0.69038	0.74429	0.33015	0.55662
1872.83521	0.73201	0.51001	0.69056	0.74473	0.33093	0.55741
1870.90645	0.73237	0.51091	0.69002	0.74531	0.3324	0.55826
1868.97768	0.73259	0.5116	0.68945	0.74604	0.33451	0.55894
1867.04891	0.73289	0.51218	0.69048	0.74675	0.33618	0.55941
1865.12014	0.73345	0.51288	0.69268	0.74744	0.33706	0.55998
1863.19137	0.73413	0.51379	0.6945	0.7482	0.3379	0.56087
1861.2626	0.73474	0.51482	0.69569	0.74906	0.33919	0.56196
1859.33383	0.73529	0.51586	0.69676	0.74997	0.34079	0.56307
1857.40506	0.73585	0.51691	0.69793	0.75096	0.34251	0.56419
1855.47629	0.73647	0.51801	0.69917	0.75201	0.3443	0.56537
1853.54752	0.73712	0.51915	0.7004	0.75308	0.34619	0.56664
1851.61875	0.73775	0.52034	0.70155	0.75412	0.34813	0.56805
1849.68998	0.7384	0.52165	0.70249	0.75519	0.3501	0.56966
1847.76121	0.73911	0.52308	0.70307	0.75633	0.35229	0.57135
1845.83244	0.73976	0.52437	0.7033	0.75766	0.35521	0.57283
1843.90367	0.74029	0.52537	0.70418	0.75908	0.35851	0.57398
1841.9749	0.74096	0.52633	0.70665	0.76025	0.36087	0.57501
1840.04613	0.74188	0.52753	0.70928	0.76121	0.36238	0.57625
1838.11736	0.74279	0.52891	0.71106	0.7623	0.36414	0.57777
1836.18859	0.7436	0.53031	0.71254	0.76356	0.36628	0.57938
1834.25982	0.74441	0.53174	0.71396	0.7649	0.3685	0.58105
1832.33105	0.74523	0.53321	0.71462	0.76636	0.37116	0.5828
1830.40229	0.74594	0.53457	0.71481	0.76785	0.37444	0.58444
1828.47352	0.74659	0.53577	0.71599	0.76913	0.37749	0.58579
1826.54475	0.74732	0.53688	0.71791	0.77029	0.37999	0.58696
1824.61598	0.74813	0.53801	0.71992	0.77155	0.38233	0.58818
1822.68721	0.74898	0.53918	0.72227	0.77282	0.38442	0.58945
1820.75844	0.74984	0.54038	0.72445	0.77402	0.38631	0.59077
1818.82967	0.75064	0.54164	0.72602	0.77519	0.38838	0.59218

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1816.9009	0.75141	0.54293	0.7274	0.77639	0.39063	0.59358
1814.97213	0.7522	0.54426	0.72873	0.77762	0.39294	0.59498
1813.04336	0.75296	0.54558	0.72962	0.77884	0.39546	0.59637
1811.11459	0.75367	0.5468	0.73041	0.78007	0.3982	0.59765
1809.18582	0.75436	0.54795	0.73185	0.78123	0.40066	0.59878
1807.25705	0.75508	0.54915	0.73369	0.78226	0.40258	0.59996
1805.32828	0.75579	0.55048	0.73511	0.78308	0.40432	0.6013
1803.39951	0.75642	0.55186	0.73569	0.78376	0.40651	0.60269
1801.47074	0.75699	0.55313	0.73596	0.78463	0.40928	0.60391
1799.54197	0.75761	0.55427	0.73696	0.78582	0.41194	0.60501
1797.6132	0.75836	0.55548	0.73864	0.78703	0.41385	0.6062
1795.68443	0.75915	0.55683	0.73972	0.7882	0.41563	0.60757
1793.75566	0.75979	0.55804	0.73971	0.78949	0.41844	0.6088
1791.82689	0.76024	0.55892	0.74022	0.79066	0.42172	0.60962
1789.89812	0.76079	0.55978	0.74271	0.7914	0.42378	0.61027
1787.96936	0.76153	0.56095	0.74537	0.79186	0.42473	0.61119
1786.04059	0.76226	0.56232	0.7468	0.79243	0.426	0.61241
1784.11182	0.7629	0.5636	0.74761	0.79337	0.42808	0.61367
1782.18305	0.76354	0.56472	0.74842	0.79459	0.43052	0.61482
1780.25428	0.76418	0.56586	0.74946	0.7957	0.4327	0.61591
1778.32551	0.76484	0.56718	0.75081	0.79663	0.4343	0.61714
1776.39674	0.76555	0.56871	0.75163	0.79769	0.43584	0.61862
1774.46797	0.7662	0.57017	0.75112	0.7991	0.43847	0.62006
1772.5392	0.76662	0.57123	0.75033	0.80044	0.4422	0.62105
1770.61043	0.76691	0.57194	0.75155	0.80109	0.44534	0.62153
1768.68166	0.76738	0.57272	0.75431	0.80132	0.44691	0.62202
1766.75289	0.76809	0.57382	0.75698	0.80192	0.44768	0.62298
1764.82412	0.76886	0.5751	0.75863	0.80301	0.44881	0.62427
1762.89535	0.76946	0.57631	0.75906	0.80422	0.4509	0.62553
1760.96658	0.76988	0.57735	0.75967	0.80521	0.45341	0.62654
1759.03781	0.7703	0.57833	0.76098	0.80594	0.45553	0.62739
1757.10904	0.7708	0.57943	0.76223	0.80665	0.45717	0.62838
1755.18027	0.77134	0.58069	0.76346	0.80744	0.45859	0.62961
1753.2515	0.77183	0.58197	0.76388	0.80829	0.46052	0.63095
1751.32273	0.77215	0.58305	0.76293	0.80919	0.46362	0.63212
1749.39396	0.77238	0.58386	0.76269	0.81001	0.46702	0.63292
1747.4652	0.77274	0.58463	0.76447	0.81063	0.46924	0.63358
1745.53643	0.77326	0.58555	0.76668	0.81128	0.4704	0.63446
1743.60766	0.77381	0.58659	0.76815	0.81219	0.4716	0.63558
1741.67889	0.77429	0.58762	0.76892	0.81335	0.47334	0.63672
1739.75012	0.77472	0.58863	0.76979	0.81453	0.47512	0.63786
1737.82135	0.77521	0.58969	0.77086	0.81572	0.47676	0.63909
1735.89258	0.77557	0.59051	0.77056	0.81705	0.47946	0.64017

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1733.96381	0.77556	0.59082	0.76962	0.81823	0.48348	0.64074
1732.03504	0.77545	0.59098	0.77151	0.81869	0.48652	0.64089
1730.10627	0.77566	0.59153	0.77489	0.81878	0.48741	0.64129
1728.1775	0.77605	0.59245	0.77776	0.81909	0.48744	0.64217
1726.24873	0.77637	0.59341	0.77967	0.81968	0.48786	0.64335
1724.31996	0.77652	0.5944	0.78057	0.82042	0.48882	0.64474
1722.39119	0.77662	0.59553	0.78086	0.82137	0.49014	0.6464
1720.46242	0.77665	0.59664	0.77986	0.82264	0.49252	0.64809
1718.53365	0.77634	0.59724	0.77729	0.82392	0.49667	0.64923
1716.60488	0.77579	0.5972	0.77644	0.82465	0.50116	0.64948
1714.67611	0.7755	0.59714	0.77943	0.82477	0.5035	0.64943
1712.74734	0.77561	0.59767	0.78321	0.82471	0.50355	0.64991
1710.81857	0.77587	0.59875	0.78562	0.82494	0.50317	0.65108
1708.8898	0.77603	0.60001	0.78615	0.82556	0.50385	0.65261
1706.96104	0.77605	0.60127	0.78534	0.82638	0.50562	0.65415
1705.03227	0.77607	0.60253	0.78491	0.82728	0.50763	0.6556
1703.1035	0.7762	0.60375	0.78475	0.8284	0.50986	0.65691
1701.17473	0.77621	0.60466	0.78318	0.82969	0.51321	0.65784
1699.24596	0.77605	0.60503	0.78236	0.83073	0.51718	0.65809
1697.31719	0.77598	0.60506	0.78417	0.83125	0.52007	0.65783
1695.38842	0.77607	0.60518	0.78742	0.83135	0.52118	0.65764
1693.45965	0.7763	0.60572	0.79122	0.8312	0.52075	0.65802
1691.53088	0.77663	0.60678	0.79345	0.83116	0.51986	0.65914
1689.60211	0.77696	0.60811	0.79381	0.83171	0.51975	0.6608
1687.67334	0.77714	0.60921	0.79307	0.833	0.52138	0.66241
1685.74457	0.77692	0.60953	0.79052	0.8346	0.52528	0.66327
1683.8158	0.7763	0.60898	0.78879	0.83561	0.52975	0.66314
1681.88703	0.7758	0.60839	0.79193	0.83567	0.53164	0.66277
1679.95826	0.77571	0.60846	0.79583	0.8356	0.5309	0.66311
1678.02949	0.77573	0.60891	0.79738	0.83624	0.53028	0.66412
1676.10072	0.77544	0.60916	0.79693	0.83736	0.53134	0.66517
1674.17195	0.77481	0.6091	0.79666	0.83827	0.53336	0.6659
1672.24318	0.77402	0.60888	0.7968	0.83881	0.53541	0.66637
1670.31441	0.77311	0.60846	0.79653	0.83921	0.53729	0.66661
1668.38564	0.77214	0.60792	0.79802	0.83945	0.53841	0.66665
1666.45687	0.77129	0.60757	0.80083	0.83958	0.53855	0.66684
1664.52811	0.77044	0.60738	0.80187	0.8398	0.53882	0.66726
1662.59934	0.7694	0.60711	0.80186	0.84003	0.53964	0.66768
1660.67057	0.76835	0.60695	0.80313	0.84014	0.53998	0.66815
1658.7418	0.76758	0.60733	0.80447	0.84045	0.53956	0.66917
1656.81303	0.76692	0.60803	0.8035	0.84148	0.54014	0.67065
1654.88426	0.76581	0.6082	0.79935	0.84303	0.54356	0.67156
1652.95549	0.76411	0.60741	0.79628	0.84415	0.5485	0.67122

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1651.02672	0.76268	0.60663	0.79927	0.84426	0.55132	0.6705
1649.09795	0.76194	0.60656	0.80134	0.84414	0.55203	0.67041
1647.16918	0.76143	0.60666	0.80151	0.84439	0.55279	0.67054
1645.24041	0.76094	0.60651	0.80427	0.84478	0.55346	0.6704
1643.31164	0.76071	0.60666	0.80839	0.84503	0.55308	0.67053
1641.38287	0.76077	0.60752	0.81052	0.84546	0.5525	0.67144
1639.4541	0.7609	0.60876	0.81017	0.84649	0.5535	0.67276
1637.52533	0.76092	0.60966	0.80786	0.84803	0.55696	0.67359
1635.59656	0.76085	0.60992	0.80688	0.84944	0.56142	0.67345
1633.66779	0.76104	0.61008	0.81048	0.85017	0.56406	0.67294
1631.73902	0.76169	0.61088	0.8144	0.85045	0.56454	0.67302
1629.81025	0.76269	0.61233	0.81579	0.85095	0.56499	0.67382
1627.88148	0.76385	0.61397	0.81595	0.8519	0.56675	0.67481
1625.95271	0.76518	0.61552	0.81622	0.8531	0.5696	0.67559
1624.02395	0.76675	0.61701	0.81667	0.85432	0.57271	0.67618
1622.09518	0.7686	0.61866	0.81835	0.85545	0.57522	0.67683
1620.16641	0.77072	0.62058	0.82038	0.85669	0.57736	0.67769
1618.23764	0.77304	0.62263	0.82069	0.85819	0.58039	0.67856
1616.30887	0.77549	0.62462	0.82121	0.85962	0.58424	0.67919
1614.3801	0.77806	0.62669	0.82419	0.86059	0.5872	0.6798
1612.45133	0.78073	0.62917	0.8271	0.86131	0.58898	0.68084
1610.52256	0.78347	0.63201	0.8286	0.86226	0.59086	0.68228
1608.59379	0.78621	0.63494	0.8298	0.86356	0.59353	0.6838
1606.66502	0.78888	0.63784	0.83148	0.865	0.59665	0.68516
1604.73625	0.79147	0.64069	0.83329	0.86646	0.5999	0.68638
1602.80748	0.79395	0.64351	0.83497	0.86793	0.60319	0.68747
1600.87871	0.7963	0.64626	0.83676	0.8694	0.60647	0.68852
1598.94994	0.79849	0.6489	0.83852	0.87087	0.60977	0.6897
1597.02117	0.80055	0.65144	0.83995	0.87229	0.6132	0.69123
1595.0924	0.80251	0.65387	0.8413	0.87365	0.61676	0.69317
1593.16363	0.80437	0.65618	0.84293	0.87494	0.62026	0.69545
1591.23486	0.80613	0.6584	0.84467	0.87617	0.62361	0.69791
1589.30609	0.80779	0.66053	0.84637	0.87734	0.62684	0.7004
1587.37732	0.80935	0.6626	0.84803	0.87843	0.62998	0.70281
1585.44855	0.81082	0.66462	0.8496	0.87942	0.63297	0.70514
1583.51979	0.81219	0.66669	0.851	0.88031	0.63571	0.70749
1581.59102	0.8135	0.66887	0.85217	0.88124	0.63834	0.70993
1579.66225	0.81475	0.67102	0.85236	0.88239	0.64156	0.71232
1577.73348	0.81588	0.67281	0.85124	0.88371	0.64608	0.71431
1575.80471	0.81691	0.67418	0.85139	0.88484	0.65097	0.7158
1573.87594	0.81795	0.67557	0.8542	0.88556	0.65446	0.71721
1571.94717	0.81904	0.67724	0.8558	0.88618	0.65703	0.71889
1570.0184	0.82007	0.67893	0.85576	0.8869	0.66001	0.72062

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1568.08963	0.82103	0.68046	0.85719	0.88751	0.66281	0.72219
1566.16086	0.82206	0.68223	0.85961	0.88808	0.66426	0.72402
1564.23209	0.82323	0.68455	0.86098	0.88919	0.66514	0.72661
1562.30332	0.82438	0.687	0.85991	0.89124	0.66802	0.72963
1560.37455	0.82522	0.6887	0.85486	0.89374	0.67492	0.732
1558.44578	0.82575	0.6892	0.85177	0.89531	0.68333	0.73287
1556.51701	0.82634	0.68941	0.85718	0.89519	0.68765	0.73289
1554.58824	0.82717	0.69031	0.86292	0.89433	0.68747	0.73347
1552.65947	0.82812	0.6919	0.86619	0.89376	0.68621	0.73493
1550.7307	0.82907	0.69378	0.868	0.89377	0.68589	0.73686
1548.80193	0.83001	0.69584	0.86931	0.89427	0.68648	0.73902
1546.87316	0.83091	0.6981	0.86948	0.89522	0.68799	0.74144
1544.94439	0.83171	0.70043	0.86737	0.89662	0.6912	0.74396
1543.01562	0.8324	0.70235	0.86383	0.89832	0.69671	0.74585
1541.08686	0.83298	0.70337	0.86119	0.89978	0.70333	0.7464
1539.15809	0.83359	0.70378	0.86423	0.90034	0.70766	0.74608
1537.22932	0.83436	0.70465	0.8702	0.90008	0.70803	0.74621
1535.30055	0.83526	0.70626	0.87276	0.89995	0.70723	0.74728
1533.37178	0.83613	0.70806	0.87348	0.90036	0.70764	0.74871
1531.44301	0.83694	0.7098	0.87568	0.90099	0.70862	0.75009
1529.51424	0.83772	0.71166	0.87738	0.9017	0.70958	0.75164
1527.58547	0.83846	0.7137	0.87696	0.90265	0.71121	0.75346
1525.6567	0.83913	0.71574	0.87599	0.90383	0.71394	0.75524
1523.72793	0.83974	0.71751	0.87486	0.90506	0.71769	0.75663
1521.79916	0.84029	0.71886	0.87393	0.90601	0.72196	0.75746
1519.87039	0.84087	0.71992	0.87509	0.90644	0.72542	0.75788
1517.94162	0.84155	0.72102	0.87719	0.90656	0.72715	0.75829
1516.01285	0.84233	0.72235	0.87975	0.90672	0.72727	0.75902
1514.08408	0.84313	0.72406	0.88266	0.90706	0.72649	0.76034
1512.15531	0.84388	0.72623	0.88378	0.90773	0.72631	0.76239
1510.22654	0.84448	0.72846	0.88181	0.90893	0.72876	0.76464
1508.29777	0.84491	0.72984	0.87775	0.91062	0.73457	0.76584
1506.369	0.84537	0.73004	0.878	0.9121	0.74055	0.76545
1504.44023	0.84608	0.73022	0.88496	0.91264	0.74196	0.76488
1502.51146	0.84697	0.73149	0.88998	0.91263	0.73977	0.76569
1500.5827	0.84777	0.73337	0.89096	0.91311	0.7386	0.76751
1498.65393	0.84833	0.73476	0.89008	0.91428	0.7405	0.76905
1496.72516	0.84872	0.73538	0.8906	0.91552	0.74362	0.76978
1494.79639	0.84908	0.73592	0.89308	0.91635	0.74548	0.77041
1492.86762	0.84941	0.73683	0.89413	0.91695	0.74671	0.77151
1490.93885	0.84958	0.73762	0.89263	0.91764	0.74935	0.77257
1489.01008	0.84963	0.73771	0.89209	0.91844	0.75289	0.77283
1487.08131	0.84975	0.73732	0.89496	0.91917	0.75496	0.77262

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1485.15254	0.84998	0.73701	0.89854	0.91972	0.75514	0.77293
1483.22377	0.85016	0.73689	0.90054	0.92016	0.75502	0.77417
1481.295	0.85012	0.73673	0.90129	0.92061	0.75565	0.77602
1479.36623	0.84983	0.73644	0.90138	0.92115	0.75701	0.77813
1477.43746	0.84931	0.73594	0.90033	0.92192	0.75936	0.78019
1475.50869	0.84854	0.73483	0.89819	0.92293	0.76327	0.78172
1473.57992	0.84755	0.73268	0.89672	0.92392	0.76806	0.78223
1471.65115	0.84654	0.72995	0.89865	0.9244	0.77102	0.78212
1469.72238	0.84575	0.72777	0.90258	0.92437	0.77072	0.78243
1467.79361	0.84498	0.72614	0.90437	0.92443	0.76969	0.78345
1465.86484	0.84377	0.7241	0.90387	0.92481	0.77035	0.78448
1463.93607	0.84213	0.72152	0.90408	0.92516	0.77153	0.78518
1462.0073	0.84044	0.71926	0.90485	0.9255	0.77184	0.78615
1460.07854	0.83851	0.7171	0.90296	0.9262	0.77333	0.78735
1458.14977	0.83571	0.71354	0.89894	0.92703	0.77785	0.78741
1456.221	0.83232	0.70846	0.89909	0.92738	0.78202	0.78566
1454.29223	0.82945	0.70405	0.90364	0.92725	0.78131	0.78348
1452.36346	0.82716	0.7012	0.90689	0.92717	0.77708	0.78156
1450.43469	0.82474	0.69878	0.90775	0.92756	0.77291	0.77867
1448.50592	0.82194	0.69587	0.90759	0.9282	0.7699	0.77385
1446.57715	0.81906	0.69269	0.90823	0.92866	0.76749	0.76847
1444.64838	0.81649	0.68991	0.90957	0.92891	0.76622	0.76566
1442.71961	0.81433	0.68784	0.91038	0.92918	0.76735	0.76751
1440.79084	0.8126	0.68642	0.91017	0.92964	0.7712	0.77326
1438.86207	0.81123	0.68524	0.9085	0.9303	0.77743	0.78009
1436.9333	0.8101	0.68392	0.90652	0.93071	0.78439	0.7854
1435.00453	0.80937	0.6829	0.90719	0.93049	0.78848	0.78834
1433.07576	0.80924	0.68276	0.90881	0.93002	0.78877	0.78976
1431.14699	0.80942	0.68322	0.90903	0.92975	0.78788	0.79034
1429.21822	0.80961	0.68373	0.90905	0.92961	0.78713	0.79
1427.28945	0.80975	0.68428	0.90948	0.92938	0.78603	0.78903
1425.36068	0.80985	0.6851	0.90914	0.92914	0.78478	0.78822
1423.43191	0.80992	0.68618	0.9082	0.92902	0.78409	0.78816
1421.50314	0.80994	0.68723	0.9067	0.92902	0.78505	0.789
1419.57437	0.80989	0.68796	0.90455	0.9288	0.78805	0.79031
1417.64561	0.81009	0.68864	0.90453	0.9282	0.79047	0.79157
1415.71684	0.81086	0.68997	0.90674	0.92759	0.79005	0.7929
1413.78807	0.81214	0.69217	0.90815	0.92726	0.78846	0.79449
1411.8593	0.81376	0.69507	0.90826	0.92707	0.78772	0.79605
1409.93053	0.81576	0.69858	0.90797	0.92681	0.78784	0.79732
1408.00176	0.81812	0.70274	0.90734	0.92651	0.7884	0.7983
1406.07299	0.82077	0.7075	0.90627	0.92623	0.78924	0.79893
1404.14422	0.82361	0.71276	0.90575	0.92592	0.78951	0.79908

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1402.21545	0.82646	0.71838	0.90558	0.92565	0.78884	0.79871
1400.28668	0.82919	0.7242	0.90441	0.92542	0.78826	0.79756
1398.35791	0.83166	0.72991	0.90286	0.92509	0.7882	0.7953
1396.42914	0.83379	0.73503	0.90212	0.92477	0.78829	0.79242
1394.50037	0.83557	0.73936	0.9026	0.92457	0.78792	0.79021
1392.5716	0.83691	0.7429	0.90417	0.92433	0.78649	0.78996
1390.64283	0.83774	0.74557	0.90501	0.92415	0.78492	0.79175
1388.71406	0.83815	0.74713	0.90428	0.92412	0.78471	0.7943
1386.78529	0.83841	0.74755	0.90376	0.92415	0.78507	0.79618
1384.85652	0.83888	0.74749	0.90453	0.92409	0.78406	0.79709
1382.92775	0.8397	0.74766	0.90523	0.92393	0.78173	0.7974
1380.99898	0.8409	0.74833	0.90509	0.92372	0.77912	0.79705
1379.07021	0.84244	0.74964	0.90448	0.92347	0.77624	0.79561
1377.14145	0.84418	0.75162	0.9034	0.92321	0.77279	0.79242
1375.21268	0.84598	0.75404	0.90206	0.92293	0.76866	0.78688
1373.28391	0.8478	0.75666	0.90176	0.92259	0.76393	0.77979
1371.35514	0.84952	0.75935	0.90243	0.92225	0.75957	0.77377
1369.42637	0.851	0.76199	0.90269	0.92198	0.7567	0.77056
1367.4976	0.85216	0.76436	0.90238	0.92171	0.75504	0.7698
1365.56883	0.85291	0.76625	0.90142	0.92136	0.75402	0.77032
1363.64006	0.85319	0.76745	0.89966	0.92081	0.75345	0.77109
1361.71129	0.85314	0.76788	0.89864	0.92016	0.7522	0.77154
1359.78252	0.85303	0.76792	0.89889	0.91961	0.74914	0.77169
1357.85375	0.85284	0.76785	0.89874	0.919	0.74473	0.77164
1355.92498	0.85244	0.76766	0.8975	0.91799	0.7397	0.77123
1353.99621	0.8518	0.76726	0.89562	0.91648	0.73398	0.77068
1352.06744	0.85106	0.76675	0.89321	0.91448	0.72727	0.7706
1350.13867	0.85035	0.7663	0.89001	0.91189	0.71916	0.77122
1348.2099	0.84974	0.76599	0.88598	0.90858	0.70907	0.77205
1346.28113	0.84922	0.7659	0.88112	0.90448	0.69657	0.7725
1344.35236	0.84878	0.76604	0.87518	0.89961	0.68189	0.77224
1342.42359	0.8483	0.76621	0.86781	0.89401	0.66571	0.77112
1340.49482	0.8477	0.76609	0.85924	0.8877	0.6482	0.76872
1338.56605	0.84711	0.76574	0.85095	0.88094	0.62922	0.76463
1336.63729	0.84674	0.76551	0.84403	0.87444	0.60983	0.75899
1334.70852	0.84655	0.7656	0.83787	0.86853	0.59187	0.75242
1332.77975	0.84641	0.7659	0.83196	0.86321	0.57684	0.74581
1330.85098	0.84627	0.76632	0.8266	0.85859	0.5654	0.74024
1328.92221	0.84618	0.7669	0.82225	0.85489	0.55727	0.73615
1326.99344	0.84617	0.76766	0.81903	0.85214	0.55155	0.73273
1325.06467	0.84624	0.7686	0.81679	0.85023	0.54729	0.72868
1323.1359	0.84634	0.76968	0.8153	0.84901	0.54411	0.72352
1321.20713	0.84648	0.77084	0.81426	0.84833	0.54206	0.71786

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1319.27836	0.84664	0.772	0.81356	0.84797	0.54117	0.71277
1317.34959	0.84678	0.77311	0.81321	0.84771	0.54104	0.70904
1315.42082	0.84687	0.77416	0.81283	0.84735	0.54122	0.70681
1313.49205	0.8469	0.77512	0.81198	0.84663	0.54119	0.70546
1311.56328	0.84687	0.77594	0.81057	0.84534	0.54017	0.70393
1309.63451	0.8467	0.77655	0.80848	0.84345	0.53742	0.70116
1307.70574	0.84638	0.77692	0.8055	0.84094	0.53249	0.6964
1305.77697	0.84597	0.77702	0.80169	0.83775	0.52523	0.68936
1303.8482	0.84545	0.77686	0.79705	0.83383	0.51578	0.68029
1301.91943	0.84478	0.77641	0.79157	0.82916	0.50455	0.66987
1299.99066	0.84395	0.77563	0.7853	0.82379	0.49196	0.65888
1298.06189	0.84302	0.77453	0.77827	0.81778	0.47827	0.64784
1296.13312	0.84196	0.77308	0.77051	0.8112	0.46365	0.63691
1294.20436	0.8408	0.77124	0.76205	0.80402	0.44829	0.62595
1292.27559	0.83955	0.76904	0.75288	0.79618	0.43235	0.61468
1290.34682	0.83821	0.76644	0.74296	0.78767	0.41582	0.60273
1288.41805	0.83674	0.76334	0.73228	0.7785	0.39862	0.58982
1286.48928	0.83507	0.75969	0.72089	0.76866	0.38067	0.57585
1284.56051	0.83319	0.75544	0.70875	0.7581	0.36195	0.56084
1282.63174	0.83108	0.75058	0.69568	0.74671	0.3424	0.54472
1280.70297	0.82873	0.74501	0.68155	0.73434	0.32201	0.52732
1278.7742	0.82615	0.73867	0.66629	0.72094	0.30089	0.50852
1276.84543	0.82334	0.7315	0.64984	0.70645	0.27911	0.48821
1274.91666	0.82023	0.72331	0.63205	0.69073	0.25676	0.46637
1272.98789	0.8167	0.71386	0.61272	0.67364	0.23393	0.44294
1271.05912	0.81266	0.70291	0.59181	0.6551	0.21075	0.4179
1269.13035	0.80811	0.69034	0.56948	0.63522	0.18755	0.39124
1267.20158	0.80299	0.67591	0.54577	0.61405	0.16473	0.36291
1265.27281	0.79709	0.6594	0.52067	0.59152	0.14261	0.33298
1263.34404	0.79029	0.64078	0.49441	0.56756	0.12171	0.30209
1261.41527	0.78253	0.62025	0.46738	0.54225	0.10262	0.27138
1259.4865	0.77374	0.59811	0.44011	0.51603	0.08583	0.24219
1257.55773	0.76386	0.57479	0.41322	0.48959	0.07161	0.21566
1255.62896	0.75285	0.55073	0.38706	0.46353	0.05987	0.1923
1253.7002	0.74067	0.52635	0.36178	0.43818	0.05032	0.17217
1251.77143	0.72717	0.50197	0.33763	0.41383	0.04268	0.1551
1249.84266	0.71209	0.47789	0.31474	0.3906	0.03663	0.14084
1247.91389	0.69529	0.45442	0.29317	0.36852	0.03188	0.12903
1245.98512	0.67667	0.43181	0.27285	0.34752	0.02815	0.11931
1244.05635	0.6561	0.41016	0.2537	0.32753	0.02524	0.11135
1242.12758	0.63364	0.38953	0.23574	0.30854	0.02296	0.10486
1240.19881	0.60957	0.37002	0.21898	0.29057	0.02118	0.09958
1238.27004	0.58424	0.35163	0.2034	0.2736	0.01978	0.09533

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1236.34127	0.55805	0.33437	0.18897	0.25765	0.01866	0.09193
1234.4125	0.53161	0.3182	0.17563	0.24269	0.01777	0.08918
1232.48373	0.50552	0.3031	0.16333	0.2287	0.01705	0.08682
1230.55496	0.48028	0.28907	0.15208	0.21565	0.01645	0.08459
1228.62619	0.45628	0.27606	0.14179	0.20355	0.01592	0.08226
1226.69742	0.43377	0.26402	0.1324	0.19237	0.01546	0.07973
1224.76865	0.41293	0.25293	0.12388	0.18211	0.01506	0.07698
1222.83988	0.39386	0.24275	0.11617	0.17273	0.01471	0.07411
1220.91111	0.37654	0.23342	0.1092	0.16416	0.0144	0.07128
1218.98234	0.36089	0.22489	0.10291	0.15633	0.01413	0.0686
1217.05357	0.34687	0.21711	0.09724	0.14918	0.01388	0.0661
1215.1248	0.33436	0.21001	0.09211	0.14264	0.01366	0.06376
1213.19604	0.3232	0.20352	0.08743	0.13665	0.01348	0.06155
1211.26727	0.31326	0.19752	0.08313	0.13113	0.01333	0.0595
1209.3385	0.30444	0.19198	0.0792	0.12605	0.01321	0.05767
1207.40973	0.29662	0.18688	0.07558	0.12133	0.01313	0.05619
1205.48096	0.28962	0.18213	0.07218	0.11688	0.01309	0.05522
1203.55219	0.28333	0.17767	0.06899	0.11267	0.01308	0.05484
1201.62342	0.2777	0.17342	0.06601	0.1087	0.01307	0.05501
1199.69465	0.27263	0.16939	0.06321	0.1049	0.01303	0.05554
1197.76588	0.26798	0.16555	0.06051	0.10122	0.01297	0.05616
1195.83711	0.26367	0.16184	0.05792	0.09767	0.01293	0.05662
1193.90834	0.25969	0.15823	0.0554	0.09421	0.01288	0.05683
1191.97957	0.25601	0.1547	0.05298	0.09084	0.01282	0.05679
1190.0508	0.25251	0.15125	0.05066	0.08755	0.01275	0.05646
1188.12203	0.24915	0.14786	0.04843	0.08435	0.01268	0.05589
1186.19326	0.24595	0.14453	0.04628	0.08122	0.01264	0.05513
1184.26449	0.24292	0.14127	0.04419	0.07817	0.01261	0.05423
1182.33572	0.24002	0.13805	0.04218	0.07525	0.01254	0.05326
1180.40695	0.23724	0.1349	0.04025	0.07243	0.01246	0.05221
1178.47818	0.23457	0.13182	0.03841	0.06968	0.01238	0.05108
1176.54941	0.23201	0.12881	0.03664	0.067	0.01231	0.0499
1174.62064	0.22959	0.12587	0.03491	0.06444	0.01225	0.04868
1172.69187	0.22733	0.12299	0.03324	0.06199	0.0122	0.04739
1170.76311	0.22525	0.12016	0.03169	0.05962	0.01216	0.04602
1168.83434	0.22332	0.11737	0.03023	0.05734	0.01212	0.04462
1166.90557	0.22155	0.11462	0.02882	0.05516	0.01207	0.0432
1164.9768	0.21996	0.1119	0.02747	0.05308	0.012	0.0418
1163.04803	0.21851	0.10919	0.02623	0.05109	0.01196	0.04042
1161.11926	0.21717	0.10647	0.02507	0.04922	0.01192	0.03894
1159.19049	0.21589	0.10368	0.02394	0.04747	0.01186	0.03725
1157.26172	0.21466	0.10081	0.02289	0.0458	0.0118	0.03541
1155.33295	0.21342	0.09786	0.02191	0.04422	0.01176	0.03363

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1153.40418	0.21216	0.09482	0.02101	0.04278	0.01172	0.03209
1151.47541	0.21082	0.09162	0.02018	0.04147	0.01166	0.03083
1149.54664	0.20933	0.08826	0.01944	0.04026	0.0116	0.02975
1147.61787	0.20769	0.08477	0.01882	0.0392	0.01156	0.02879
1145.6891	0.20586	0.08121	0.0183	0.03828	0.01153	0.02805
1143.76033	0.20378	0.07764	0.01787	0.03752	0.0115	0.02765
1141.83156	0.20145	0.07412	0.01755	0.03694	0.01147	0.02752
1139.90279	0.19899	0.07069	0.01737	0.03654	0.01146	0.02742
1137.97402	0.19645	0.06738	0.01728	0.03627	0.01146	0.02721
1136.04525	0.19389	0.06421	0.01727	0.0361	0.01142	0.02696
1134.11648	0.19138	0.0612	0.01737	0.03609	0.01137	0.02692
1132.18771	0.18903	0.0584	0.01762	0.0363	0.01138	0.02716
1130.25895	0.1869	0.05582	0.01804	0.03673	0.01143	0.02753
1128.33018	0.18496	0.05344	0.01866	0.0374	0.01145	0.02789
1126.40141	0.18313	0.05124	0.0195	0.03836	0.01145	0.02815
1124.47264	0.18135	0.04923	0.02053	0.03963	0.01145	0.02816
1122.54387	0.17957	0.04738	0.0217	0.0411	0.0115	0.02784
1120.6151	0.17776	0.04571	0.02288	0.04257	0.01158	0.02718
1118.68633	0.17582	0.04426	0.02393	0.04384	0.01164	0.02624
1116.75756	0.17364	0.04303	0.02471	0.04462	0.01169	0.02513
1114.82879	0.17115	0.04196	0.02511	0.04471	0.01176	0.02393
1112.90002	0.16834	0.04112	0.02502	0.04403	0.01183	0.02271
1110.97125	0.16522	0.04051	0.02442	0.0427	0.01188	0.02151
1109.04248	0.1618	0.04011	0.02344	0.04089	0.01192	0.02036
1107.11371	0.15806	0.03985	0.0222	0.03872	0.01194	0.01924
1105.18494	0.15403	0.0397	0.02082	0.03636	0.01193	0.01817
1103.25617	0.14975	0.03966	0.01945	0.03404	0.01192	0.01717
1101.3274	0.14529	0.03965	0.01818	0.03191	0.01192	0.01626
1099.39863	0.1408	0.03967	0.01706	0.03004	0.01191	0.01548
1097.46986	0.13645	0.03971	0.01606	0.02843	0.01187	0.0148
1095.54109	0.13233	0.03978	0.01521	0.02706	0.01185	0.01425
1093.61232	0.12849	0.0399	0.01451	0.02596	0.01181	0.01386
1091.68355	0.12502	0.04012	0.01397	0.02512	0.01176	0.01355
1089.75479	0.122	0.04043	0.0136	0.02446	0.01176	0.01324
1087.82602	0.11946	0.0408	0.01339	0.02397	0.0118	0.01296
1085.89725	0.11743	0.04124	0.01327	0.02366	0.01183	0.01279
1083.96848	0.11593	0.04179	0.0132	0.02351	0.01186	0.01267
1082.03971	0.11496	0.04245	0.01323	0.0235	0.0119	0.01256
1080.11094	0.11445	0.0432	0.01336	0.02366	0.01192	0.01247
1078.18217	0.11439	0.04407	0.01362	0.02398	0.01189	0.0125
1076.2534	0.11482	0.04508	0.01401	0.02448	0.01184	0.01264
1074.32463	0.11579	0.04623	0.01449	0.02515	0.01182	0.01285
1072.39586	0.11728	0.04749	0.01506	0.02604	0.01185	0.01308

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
1070.46709	0.11927	0.04888	0.01578	0.02712	0.01188	0.01337
1068.53832	0.12183	0.05047	0.01671	0.0284	0.0119	0.01377
1066.60955	0.12503	0.05228	0.0178	0.02987	0.01196	0.01425
1064.68078	0.12892	0.05434	0.01902	0.03158	0.01207	0.01479
1062.75201	0.1336	0.05666	0.0204	0.03359	0.01215	0.01538
1060.82324	0.13915	0.05924	0.02204	0.03596	0.01217	0.01604
1058.89447	0.14563	0.06216	0.02398	0.0387	0.01219	0.01687
1056.9657	0.1531	0.06546	0.02622	0.04184	0.01227	0.01789
1055.03693	0.1617	0.06919	0.02879	0.0454	0.01238	0.01904
1053.10816	0.17157	0.07343	0.03174	0.04945	0.01246	0.02029
1051.17939	0.18274	0.07818	0.03513	0.05405	0.01256	0.0217
1049.25062	0.19526	0.08342	0.03901	0.05926	0.01267	0.02332
1047.32186	0.20918	0.08927	0.0434	0.06514	0.01274	0.0252
1045.39309	0.22453	0.09585	0.04833	0.07172	0.01279	0.02735
1043.46432	0.24127	0.10312	0.05383	0.07904	0.01292	0.02977
1041.53555	0.25933	0.11102	0.05999	0.08715	0.01309	0.03253
1039.60678	0.2785	0.11961	0.06691	0.09608	0.01323	0.03569
1037.67801	0.29858	0.12891	0.07456	0.10586	0.01336	0.03928
1035.74924	0.31934	0.13885	0.08291	0.11649	0.01355	0.04327
1033.82047	0.34061	0.14935	0.09203	0.12798	0.01381	0.0477
1031.8917	0.36213	0.16033	0.10193	0.14032	0.01408	0.05257
1029.96293	0.38364	0.17176	0.11257	0.15341	0.01433	0.05793
1028.03416	0.40484	0.18356	0.12386	0.16717	0.01462	0.06374
1026.10539	0.42543	0.19562	0.13573	0.18151	0.01501	0.07
1024.17662	0.44525	0.20785	0.14806	0.1963	0.0155	0.07672
1022.24785	0.46423	0.22018	0.16073	0.21131	0.01603	0.08396
1020.31908	0.48223	0.23256	0.17358	0.22639	0.01661	0.0917
1018.39031	0.49911	0.24489	0.18643	0.24138	0.01727	0.09988
1016.46154	0.5148	0.2571	0.19912	0.25612	0.01802	0.10843
1014.53277	0.52924	0.26907	0.21156	0.27041	0.01883	0.11731
1012.604	0.54237	0.28072	0.22368	0.28414	0.01973	0.12643
1010.67523	0.55421	0.29205	0.23542	0.29733	0.0208	0.13575
1008.74646	0.56483	0.30304	0.24675	0.31003	0.02203	0.1452
1006.8177	0.57414	0.31359	0.25769	0.32223	0.0234	0.15474
1004.88893	0.58203	0.3236	0.26824	0.33387	0.02489	0.16429
1002.96016	0.58847	0.33306	0.27841	0.34498	0.0265	0.17379
1001.03139	0.59337	0.34185	0.28826	0.35565	0.02822	0.1832
999.10262	0.5965	0.34979	0.29782	0.36592	0.03008	0.19242
997.17385	0.59762	0.3567	0.30714	0.37583	0.03212	0.2014
995.24508	0.59657	0.36246	0.31622	0.38544	0.03432	0.21009
993.31631	0.59323	0.36697	0.32509	0.39483	0.03669	0.21854
991.38754	0.5875	0.37011	0.33377	0.40403	0.03923	0.22682
989.45877	0.57946	0.37182	0.34231	0.41303	0.04198	0.23495

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
987.53	0.56928	0.37211	0.35078	0.42182	0.04489	0.24275
985.60123	0.55721	0.37106	0.35919	0.43043	0.04797	0.25012
983.67246	0.54368	0.36887	0.36747	0.43888	0.05124	0.25711
981.74369	0.52927	0.36582	0.37561	0.44718	0.05467	0.26371
979.81492	0.51457	0.36221	0.38366	0.45535	0.05821	0.26975
977.88615	0.50008	0.35836	0.39164	0.46338	0.06182	0.27508
975.95738	0.48621	0.35461	0.39952	0.4713	0.06555	0.27976
974.02861	0.47326	0.3512	0.40727	0.47907	0.0695	0.28413
972.09984	0.46157	0.34835	0.41496	0.48675	0.07378	0.28862
970.17107	0.45132	0.34624	0.42262	0.49436	0.07833	0.29354
968.2423	0.44255	0.34495	0.43021	0.50182	0.08309	0.29902
966.31354	0.43528	0.34444	0.43766	0.50908	0.08799	0.30497
964.38477	0.42962	0.3447	0.44501	0.51621	0.09296	0.31111
962.456	0.42552	0.34568	0.45228	0.52325	0.09792	0.31707
960.52723	0.42283	0.34734	0.45949	0.53022	0.10292	0.32268
958.59846	0.42145	0.34969	0.46661	0.53709	0.10816	0.32807
956.66969	0.42135	0.35267	0.47363	0.54382	0.11377	0.33373
954.74092	0.42237	0.35619	0.48054	0.55042	0.11974	0.34017
952.81215	0.42437	0.36018	0.48737	0.55693	0.126	0.34751
950.88338	0.42728	0.36461	0.49411	0.56333	0.13243	0.3554
948.95461	0.43103	0.36943	0.50073	0.56959	0.13894	0.36337
947.02584	0.43553	0.37461	0.50723	0.57574	0.14543	0.3711
945.09707	0.4407	0.38007	0.51368	0.58179	0.15185	0.37848
943.1683	0.44644	0.38579	0.52006	0.58775	0.15821	0.38551
941.23953	0.45268	0.39178	0.52635	0.5936	0.16453	0.39219
939.31076	0.45937	0.398	0.53253	0.59935	0.17083	0.39849
937.38199	0.46643	0.40431	0.53865	0.60499	0.17713	0.40443
935.45322	0.47379	0.41066	0.54475	0.61057	0.18337	0.41
933.52445	0.48142	0.41709	0.55078	0.61607	0.18953	0.41511
931.59568	0.48927	0.42361	0.55668	0.62149	0.19571	0.41989
929.66691	0.49725	0.43012	0.5625	0.62689	0.20209	0.4248
927.73814	0.5053	0.43659	0.56828	0.63225	0.20871	0.43021
925.80937	0.51342	0.44299	0.57402	0.63747	0.21552	0.43614
923.88061	0.52151	0.44933	0.57972	0.6426	0.2224	0.44236
921.95184	0.52947	0.45561	0.58535	0.6477	0.22929	0.4486
920.02307	0.53728	0.46183	0.59088	0.65275	0.23615	0.45467
918.0943	0.54487	0.46798	0.59634	0.65772	0.24295	0.46041
916.16553	0.55215	0.47406	0.60177	0.66257	0.24966	0.46567
914.23676	0.5591	0.48014	0.60719	0.66736	0.25628	0.47043
912.30799	0.5658	0.48627	0.61262	0.67216	0.26281	0.47469
910.37922	0.57226	0.49243	0.61801	0.67699	0.2692	0.47841
908.45045	0.57852	0.4985	0.62337	0.68179	0.2755	0.48151
906.52168	0.58474	0.50448	0.62868	0.68654	0.28174	0.484

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
904.59291	0.59104	0.51043	0.63395	0.69121	0.2879	0.4859
902.66414	0.59747	0.5164	0.63921	0.69588	0.29399	0.48729
900.73537	0.6041	0.52236	0.64448	0.70059	0.30003	0.48837
898.8066	0.61104	0.52841	0.64973	0.7053	0.30608	0.48946
896.87783	0.61835	0.53465	0.65489	0.7099	0.31238	0.49106
894.94906	0.62594	0.54099	0.65993	0.71439	0.31915	0.49377
893.02029	0.63374	0.54743	0.6649	0.71883	0.32649	0.49807
891.09152	0.64177	0.55407	0.6698	0.72321	0.33434	0.50402
889.16275	0.64999	0.56086	0.6746	0.72748	0.34243	0.51104
887.23398	0.65821	0.56762	0.6793	0.73166	0.35033	0.51803
885.30521	0.66625	0.57423	0.68393	0.73575	0.35773	0.52416
883.37645	0.67403	0.58064	0.6885	0.73973	0.36452	0.52915
881.44768	0.68153	0.58683	0.69295	0.74356	0.37071	0.53306
879.51891	0.68859	0.5926	0.69722	0.74725	0.3765	0.53623
877.59014	0.69502	0.59779	0.70133	0.75081	0.38206	0.53898
875.66137	0.70087	0.60242	0.70527	0.75421	0.3872	0.54126
873.7326	0.70609	0.60643	0.70897	0.75736	0.39179	0.54324
871.80383	0.71053	0.6096	0.71226	0.76019	0.39608	0.5456
869.87506	0.71422	0.61181	0.71504	0.76264	0.4001	0.54869
867.94629	0.71724	0.61311	0.71721	0.76455	0.40324	0.55202
866.01752	0.71956	0.6135	0.71856	0.76563	0.40474	0.55501
864.08875	0.72115	0.61306	0.71872	0.76564	0.40416	0.55741
862.15998	0.72228	0.61205	0.71734	0.76435	0.40112	0.55896
860.23121	0.72321	0.61081	0.7142	0.76154	0.39541	0.55951
858.30244	0.724	0.60962	0.70925	0.75707	0.38692	0.55901
856.37367	0.72467	0.6087	0.70253	0.75092	0.37562	0.55711
854.4449	0.72538	0.60813	0.69407	0.74317	0.36173	0.55329
852.51613	0.72634	0.60779	0.68407	0.73404	0.34585	0.54739
850.58736	0.72745	0.6074	0.67281	0.72378	0.32869	0.53974
848.65859	0.72844	0.60658	0.66064	0.71269	0.31093	0.53077
846.72982	0.72914	0.60501	0.6479	0.70106	0.29314	0.52079
844.80105	0.72955	0.60256	0.63482	0.68914	0.27575	0.51
842.87229	0.72959	0.59919	0.62162	0.67702	0.25906	0.4986
840.94352	0.7291	0.59489	0.60844	0.66479	0.24314	0.48658
839.01475	0.72804	0.58979	0.59535	0.65264	0.22793	0.47382
837.08598	0.72643	0.58415	0.58243	0.64068	0.21339	0.46042
835.15721	0.72417	0.57814	0.56978	0.6289	0.19967	0.44691
833.22844	0.72125	0.57186	0.55743	0.6173	0.18702	0.43394
831.29967	0.71792	0.56554	0.54542	0.60593	0.1755	0.42174
829.3709	0.71435	0.55932	0.53381	0.59492	0.16494	0.40999
827.44213	0.71035	0.55307	0.52262	0.5844	0.15521	0.39839
825.51336	0.70591	0.54677	0.51193	0.57435	0.14629	0.38699
823.58459	0.70129	0.54056	0.5019	0.56475	0.13827	0.37608

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
821.65582	0.69661	0.53446	0.4926	0.55576	0.13119	0.36595
819.72705	0.69175	0.5284	0.48408	0.54758	0.125	0.35685
817.79828	0.68681	0.52255	0.47638	0.5402	0.11969	0.34896
815.86951	0.68213	0.51715	0.46952	0.53356	0.11521	0.34216
813.94074	0.67778	0.51217	0.46352	0.52773	0.11155	0.33617
812.01197	0.67369	0.50757	0.45845	0.5228	0.10863	0.33082
810.0832	0.66992	0.50354	0.45443	0.51886	0.10627	0.32602
808.15443	0.66674	0.50027	0.45148	0.51598	0.10447	0.32175
806.22566	0.66425	0.49766	0.44958	0.51412	0.10343	0.31835
804.29689	0.6623	0.49567	0.4488	0.51321	0.10321	0.31642
802.36812	0.6608	0.49439	0.44919	0.51337	0.10372	0.31613
800.43936	0.6599	0.49385	0.45066	0.51472	0.10502	0.31713
798.51059	0.65965	0.49402	0.45319	0.51724	0.10711	0.31901
796.58182	0.65998	0.49493	0.45681	0.52085	0.10991	0.32154
794.65305	0.66095	0.49666	0.46157	0.52555	0.1135	0.32448
792.72428	0.66268	0.49937	0.46753	0.53136	0.118	0.32754
790.79551	0.66519	0.50308	0.47475	0.53835	0.12345	0.33074
788.86674	0.66842	0.50779	0.48332	0.54656	0.12989	0.33446
786.93797	0.67239	0.51361	0.49336	0.5561	0.13758	0.33948
785.0092	0.67717	0.52061	0.5048	0.56708	0.14688	0.34649
783.08043	0.68273	0.52876	0.51769	0.57954	0.15809	0.35551
781.15166	0.68899	0.53805	0.53217	0.59343	0.17139	0.36615
779.22289	0.69589	0.5485	0.54837	0.60874	0.18717	0.37885
777.29412	0.70322	0.56001	0.56631	0.62549	0.20609	0.39482
775.36535	0.71057	0.57217	0.58576	0.64356	0.2282	0.41397
773.43658	0.71752	0.58438	0.60608	0.66238	0.25266	0.43455
771.50781	0.7238	0.59603	0.62614	0.68085	0.27796	0.45475
769.57904	0.72919	0.60643	0.64457	0.69774	0.30203	0.4732
767.65027	0.73351	0.61499	0.66011	0.71195	0.32268	0.48856
765.7215	0.73687	0.62166	0.67217	0.72293	0.33884	0.50034
763.79273	0.73964	0.62681	0.68107	0.73097	0.35108	0.50969
761.86396	0.74196	0.63074	0.6876	0.73684	0.36048	0.51793
759.9352	0.74383	0.63377	0.69259	0.74137	0.36783	0.52533
758.00643	0.74537	0.63627	0.69673	0.74514	0.37391	0.53183
756.07766	0.7468	0.63856	0.70042	0.74842	0.37939	0.53737
754.14889	0.74818	0.64076	0.70379	0.75132	0.38421	0.54135
752.22012	0.74945	0.6428	0.70698	0.75404	0.38797	0.54297
750.29135	0.75063	0.64471	0.7101	0.75669	0.39058	0.54197
748.36258	0.75179	0.64658	0.71319	0.75935	0.3928	0.53943
746.43381	0.75289	0.64841	0.71622	0.76205	0.39605	0.53842
744.50504	0.75393	0.65016	0.7192	0.76474	0.40082	0.54108
742.57627	0.75501	0.65189	0.72224	0.76739	0.40589	0.54511
740.6475	0.7562	0.65371	0.72535	0.77002	0.41009	0.54709

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
738.71873	0.75736	0.65559	0.7284	0.77266	0.41388	0.54745
736.78996	0.75838	0.65733	0.73137	0.77526	0.41829	0.54882
734.86119	0.75939	0.65905	0.73425	0.77781	0.42353	0.55241
732.93242	0.76052	0.66089	0.73709	0.78036	0.42906	0.55748
731.00365	0.76161	0.66265	0.73995	0.78286	0.43415	0.56252
729.07488	0.76251	0.66425	0.74277	0.78528	0.43825	0.56598
727.14611	0.76341	0.66583	0.74545	0.78762	0.44106	0.56656
725.21734	0.76442	0.66746	0.74803	0.7898	0.44319	0.5645
723.28857	0.76516	0.66882	0.7505	0.79105	0.44608	0.56267
721.3598	0.76581	0.67012	0.75288	0.79297	0.45077	0.56458
719.43104	0.76647	0.67153	0.75538	0.79552	0.45654	0.57071
717.50227	0.7672	0.67304	0.75794	0.79823	0.46171	0.57822
715.5735	0.76787	0.6744	0.76031	0.80056	0.46507	0.58356
713.64473	0.76838	0.67562	0.76242	0.80234	0.46639	0.58511
711.71596	0.7689	0.6769	0.76438	0.80393	0.46596	0.58308
709.78719	0.76948	0.67818	0.76621	0.80545	0.46403	0.57763
707.85842	0.76997	0.6793	0.76791	0.80684	0.46171	0.56923
705.92965	0.77037	0.68028	0.76963	0.80817	0.4618	0.56172
704.00088	0.77083	0.68127	0.7714	0.8095	0.46634	0.56107
702.07211	0.77128	0.68227	0.77313	0.81078	0.47397	0.56889
700.14334	0.7716	0.68328	0.7747	0.81197	0.48144	0.5805
698.21457	0.77183	0.68434	0.77615	0.81315	0.48711	0.5906
696.2858	0.77209	0.68541	0.77749	0.81435	0.49148	0.59801
694.35703	0.77234	0.68638	0.7788	0.81548	0.49538	0.60401
692.42826	0.7725	0.68725	0.78003	0.81644	0.4989	0.60929
690.49949	0.77262	0.68813	0.78104	0.81722	0.50186	0.61373
688.57072	0.77279	0.68909	0.7819	0.81797	0.5043	0.61733
686.64195	0.77288	0.68997	0.78277	0.81884	0.50642	0.62026
684.71318	0.77282	0.6906	0.78362	0.81974	0.50834	0.62265
682.78441	0.77274	0.69109	0.78448	0.82056	0.51019	0.62459
680.85564	0.77269	0.69158	0.78536	0.82126	0.51199	0.6261
678.92687	0.77252	0.69206	0.78615	0.82186	0.51362	0.62728
676.99811	0.77219	0.69263	0.78686	0.82264	0.51491	0.62826
675.06934	0.77181	0.69362	0.78764	0.82423	0.51565	0.62927
673.14057	0.77141	0.69474	0.78826	0.82588	0.51543	0.63006
671.2118	0.77095	0.69433	0.78811	0.82489	0.51365	0.62916
669.28303	0.77037	0.6922	0.78748	0.82203	0.51078	0.62588
667.35426	0.76972	0.69169	0.78867	0.8229	0.50835	0.62241
665.42549	0.76918	0.69363	0.79086	0.82649	0.50584	0.6195
663.49672	0.76881	0.69506	0.79174	0.82763	0.50207	0.61478
661.56795	0.76843	0.69512	0.79162	0.82626	0.49818	0.60774
659.63918	0.76797	0.69495	0.79128	0.82519	0.49627	0.60087
657.71041	0.76736	0.69495	0.7911	0.82523	0.49679	0.59678

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
655.78164	0.7666	0.69496	0.79106	0.82569	0.49895	0.59651
653.85287	0.76581	0.69498	0.79103	0.82602	0.50183	0.59963
651.9241	0.76508	0.69502	0.79093	0.82604	0.50472	0.60487
649.99533	0.76435	0.69502	0.79069	0.82581	0.50719	0.61083
648.06656	0.76349	0.69498	0.79038	0.82554	0.50898	0.61639
646.13779	0.76252	0.69493	0.79007	0.82528	0.50994	0.62088
644.20902	0.76154	0.69482	0.78976	0.82491	0.51016	0.62421
642.28025	0.76054	0.69458	0.78941	0.82443	0.50991	0.62667
640.35148	0.75947	0.69426	0.78894	0.82394	0.50953	0.62885
638.42271	0.75841	0.69395	0.78824	0.82342	0.50915	0.63132
636.49395	0.75736	0.6936	0.78732	0.82279	0.50865	0.63422
634.56518	0.7561	0.69295	0.78632	0.82221	0.50774	0.63718
632.63641	0.75456	0.69198	0.78551	0.82187	0.50631	0.63963
630.70764	0.75298	0.69101	0.78494	0.82153	0.50441	0.64125
628.77887	0.7515	0.69022	0.78402	0.82073	0.50207	0.64189
626.8501	0.75	0.68945	0.78237	0.81948	0.49924	0.64146
624.92133	0.74824	0.68838	0.78051	0.81805	0.49573	0.64
622.99256	0.74652	0.68715	0.77873	0.8167	0.49196	0.63842
621.06379	0.74488	0.68572	0.77684	0.81515	0.48844	0.63748
619.13502	0.74308	0.68373	0.77483	0.81373	0.48537	0.63721
617.20625	0.74112	0.68159	0.77285	0.81266	0.48224	0.63718
615.27748	0.73927	0.67999	0.77095	0.81164	0.47846	0.63677
613.34871	0.73753	0.67875	0.76868	0.80967	0.47392	0.63547
611.41994	0.73553	0.67734	0.76584	0.80664	0.46889	0.63336
609.49117	0.73342	0.67572	0.76308	0.80381	0.46382	0.63086
607.5624	0.73162	0.67411	0.76077	0.80176	0.45881	0.62799
605.63363	0.72982	0.67231	0.75857	0.79995	0.45376	0.6248
603.70486	0.7276	0.6702	0.75608	0.79769	0.44867	0.62172
601.77609	0.72536	0.66809	0.75313	0.79504	0.44364	0.619
599.84732	0.72346	0.66603	0.74981	0.79245	0.43844	0.61624
597.91855	0.72145	0.66352	0.74654	0.79006	0.43291	0.61294
595.98979	0.71882	0.6604	0.74353	0.78741	0.42719	0.60917
594.06102	0.71596	0.65727	0.74064	0.78448	0.42134	0.60508
592.13225	0.7136	0.65455	0.73751	0.78178	0.41532	0.60077
590.20348	0.71184	0.65203	0.73408	0.77919	0.40919	0.59655
588.27471	0.70998	0.64928	0.73045	0.77622	0.40299	0.59265
586.34594	0.70757	0.64615	0.72647	0.77275	0.39678	0.58894
584.41717	0.70492	0.6429	0.72233	0.76912	0.39083	0.58529
582.4884	0.70237	0.63961	0.71841	0.76558	0.38521	0.58155
580.55963	0.7001	0.63637	0.7147	0.76212	0.37949	0.57732
578.63086	0.69828	0.63349	0.71108	0.75883	0.37353	0.57229
576.70209	0.69676	0.63096	0.70758	0.75585	0.36744	0.56662
574.77332	0.69524	0.62844	0.70436	0.75316	0.36131	0.56095

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
572.84455	0.69402	0.62592	0.7011	0.75041	0.35549	0.55615
570.91578	0.6935	0.6237	0.69752	0.74723	0.3502	0.55255
568.98701	0.6934	0.62178	0.69395	0.74394	0.34516	0.5497
567.05824	0.69332	0.61992	0.69058	0.741	0.33989	0.54673
565.12947	0.69342	0.61809	0.68727	0.73821	0.33397	0.54286
563.2007	0.69395	0.61642	0.68403	0.73522	0.32749	0.53788
561.27193	0.69484	0.615	0.68091	0.7322	0.32132	0.53249
559.34316	0.6959	0.61379	0.67773	0.72935	0.31648	0.52818
557.41439	0.69723	0.61286	0.67438	0.72671	0.31317	0.52632
555.48562	0.69906	0.61233	0.67112	0.7242	0.31082	0.52685
553.55686	0.70129	0.61208	0.66809	0.72148	0.30877	0.5285
551.62809	0.70364	0.61184	0.66507	0.71843	0.30647	0.52986
549.69932	0.70599	0.61165	0.66182	0.71542	0.30352	0.53006
547.77055	0.70844	0.61174	0.65826	0.71253	0.2998	0.52894
545.84178	0.71098	0.61212	0.65461	0.70947	0.29534	0.52666
543.91301	0.7136	0.61268	0.6511	0.70622	0.29031	0.52347
541.98424	0.7164	0.61341	0.64744	0.70291	0.28484	0.51955
540.05547	0.71926	0.61427	0.64345	0.69946	0.27895	0.51488
538.1267	0.72179	0.61502	0.63921	0.69566	0.27261	0.5092
536.19793	0.72401	0.6156	0.6343	0.69122	0.26585	0.5025
534.26916	0.72633	0.61619	0.6285	0.68599	0.25864	0.49528
532.34039	0.72871	0.6167	0.62209	0.67999	0.25092	0.48817
530.41162	0.73061	0.61676	0.61491	0.67322	0.24285	0.48171
528.48285	0.73204	0.61636	0.6064	0.66567	0.23447	0.47628
526.55408	0.73346	0.61576	0.59633	0.65705	0.22506	0.47131
524.62531	0.73482	0.61457	0.58495	0.64705	0.21411	0.46548
522.69654	0.73562	0.61227	0.57226	0.63569	0.20209	0.45802
520.76777	0.73589	0.60898	0.55746	0.6226	0.18906	0.44847
518.839	0.73599	0.6049	0.53999	0.60701	0.17447	0.43627
516.91023	0.73597	0.59964	0.52001	0.5887	0.15844	0.42128
514.98146	0.73523	0.59274	0.49807	0.5681	0.1418	0.40398
513.0527	0.73349	0.58415	0.474	0.54533	0.12495	0.38489
511.12393	0.73104	0.57392	0.44717	0.52002	0.10809	0.36425
509.19516	0.72783	0.56175	0.41757	0.49209	0.09164	0.3421
507.26639	0.72343	0.54721	0.3855	0.46139	0.07605	0.31873
505.33762	0.71804	0.5302	0.35171	0.42812	0.062	0.29502
503.40885	0.71173	0.51039	0.31628	0.3925	0.04987	0.2712
501.48008	0.70394	0.48748	0.27955	0.35515	0.03966	0.24703
499.55131	0.69454	0.46206	0.24443	0.31841	0.03166	0.22342
497.62254	0.68384	0.43475	0.21273	0.28418	0.02585	0.20112
495.69377	0.67201	0.40593	0.18514	0.25363	0.0219	0.18034
493.765	0.65869	0.37642	0.16298	0.22821	0.01942	0.16193
491.83623	0.64328	0.34753	0.14667	0.20866	0.01786	0.14695

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
489.90746	0.62621	0.32119	0.13556	0.1948	0.01673	0.13568
487.97869	0.60829	0.29852	0.12822	0.18558	0.01599	0.12725
486.04992	0.58941	0.27903	0.12368	0.17976	0.01568	0.12036
484.12115	0.56934	0.26199	0.12197	0.17685	0.01567	0.11393
482.19238	0.54916	0.24744	0.12296	0.17672	0.01574	0.10746
480.26361	0.52995	0.23576	0.12597	0.17911	0.01582	0.1008
478.33484	0.51159	0.2269	0.13027	0.18312	0.01598	0.09404
476.40607	0.49436	0.22071	0.13499	0.1873	0.01627	0.08778
474.4773	0.47929	0.2172	0.13884	0.19015	0.01655	0.08239
472.54854	0.46661	0.21613	0.14088	0.19088	0.0168	0.07761
470.61977	0.45591	0.21687	0.14119	0.18976	0.01719	0.07345
468.691	0.44705	0.21913	0.14045	0.18755	0.01761	0.07026
466.76223	0.44039	0.2232	0.13939	0.18505	0.01785	0.06811
464.83346	0.43599	0.22903	0.13862	0.18307	0.01804	0.06694
462.90469	0.43328	0.23609	0.13881	0.1823	0.0185	0.0669
460.97592	0.43189	0.244	0.14049	0.18351	0.01928	0.06827
459.04715	0.43187	0.25319	0.14427	0.18766	0.02003	0.07118
457.11838	0.43311	0.26367	0.15073	0.19486	0.02055	0.07526
455.18961	0.4353	0.27428	0.15905	0.20394	0.02125	0.08012
453.26084	0.43829	0.28489	0.16875	0.21462	0.02248	0.08605
451.33207	0.44209	0.2962	0.1805	0.22753	0.02406	0.09329
449.4033	0.44682	0.30819	0.19408	0.24236	0.02595	0.10176
447.47453	0.45266	0.3206	0.20903	0.25875	0.02846	0.1115
445.54576	0.4595	0.33349	0.22545	0.27679	0.03177	0.12245
443.61699	0.46716	0.34715	0.24353	0.29641	0.03593	0.13442
441.68822	0.47552	0.36138	0.26315	0.31691	0.04093	0.14728
439.75945	0.48422	0.37515	0.28304	0.3374	0.04665	0.16057
437.83068	0.49328	0.38839	0.30285	0.35824	0.05332	0.17417
435.90191	0.50321	0.40202	0.32341	0.3801	0.06117	0.18839
433.97314	0.51375	0.41596	0.34426	0.40213	0.06987	0.20294
432.04437	0.5244	0.42963	0.36489	0.42347	0.0792	0.21738
430.11561	0.53537	0.443	0.38549	0.44417	0.08936	0.23187
428.18684	0.54649	0.45606	0.40583	0.46438	0.10057	0.24674
426.25807	0.55735	0.46884	0.42559	0.48413	0.11283	0.26195
424.3293	0.56832	0.48171	0.44498	0.50319	0.12589	0.27675
422.40053	0.57977	0.49478	0.46334	0.52108	0.13944	0.29055
420.47176	0.59182	0.50821	0.48094	0.53907	0.15448	0.30471
418.54299	0.60446	0.5219	0.50064	0.55891	0.17154	0.3206
416.61422	0.61649	0.5345	0.52	0.5777	0.18741	0.33582
414.68545	0.62744	0.5459	0.5365	0.59344	0.20115	0.34903
412.75668	0.63829	0.55707	0.55258	0.60839	0.21531	0.36181
410.82791	0.6495	0.56822	0.56864	0.6232	0.23094	0.37463
408.89914	0.66097	0.57948	0.58361	0.63696	0.24743	0.38715

Wave number/cm^{-1}	Transmittance/a.u.					
	PVA@SFM	PVA@SiNPs-SFM	SFM	SiNPs-SFM	FAS@SFM	FAS@SiNPs-SFM
406.97037	0.67259	0.59105	0.59762	0.64996	0.26404	0.39936
405.0416	0.68366	0.60259	0.61085	0.66218	0.28002	0.41133
403.11283	0.6931	0.61394	0.62229	0.67179	0.29463	0.42287
401.18406	0.70091	0.62601	0.6316	0.67767	0.30773	0.43348
399.25529	0.70849	0.63916	0.64066	0.68176	0.32068	0.44327

Figure 17

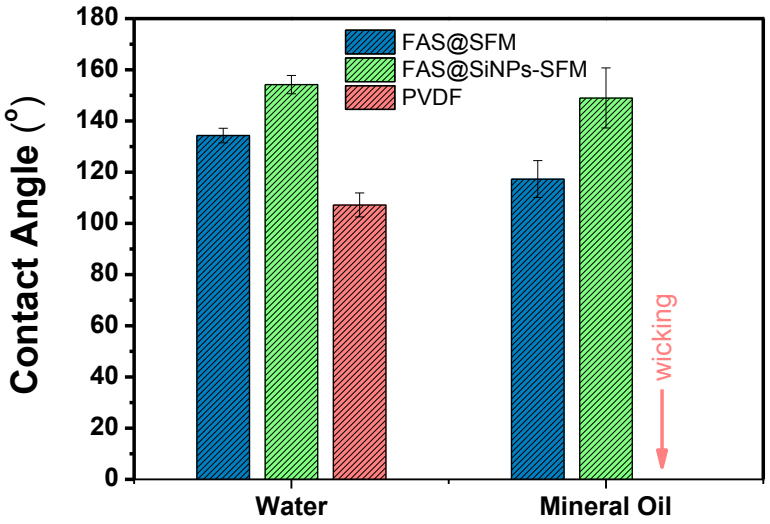


Figure 17.—Sessile drop CA of DI water (left) and mineral oil (right) on the FAS@SFM (blue bars), FAS@SiNPs-SFM (green bars), and commercial PVDF membrane (red bars).

	FAS@SFM		FAS@SiNPs-SFM		PVDF	
	Contact angle/°	Standard error/°	Contact angle/°	Standard error/°	Contact angle/°	Standard error/°
Water	134.35667	2.84254	154.24	3.58	107.2	4.66076
Mineral oil	117.28	7.21462	149	11.7	0	0

Figure 21

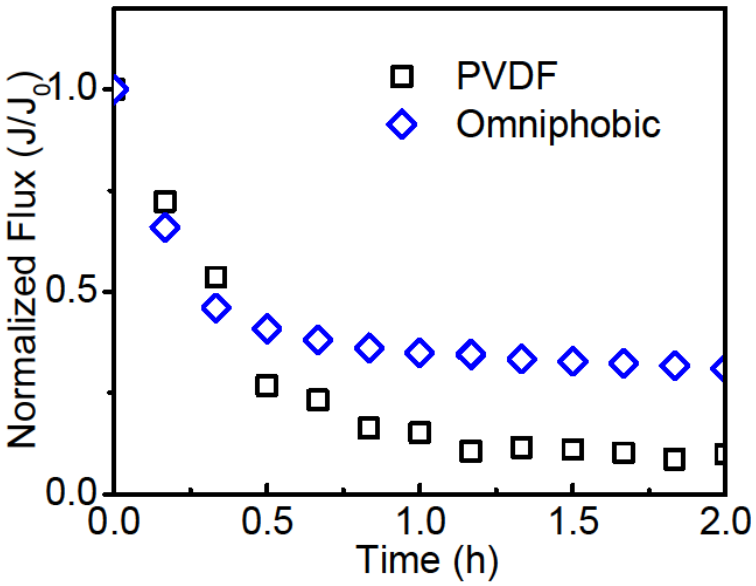


Figure 21.—Normalized flux for PVDF and omniphobic membrane with O/W emulsion being the feed solution.

	PVDF	Omniphobic
Time (hr)	Normalized Flux	Normalized Flux
0	1	1
0.16667	0.7232	0.65939
0.33333	0.53579	0.4601
0.5	0.26789	0.40889
0.66667	0.23285	0.3819
0.83333	0.16305	0.36125
1	0.15177	0.34934
1.16667	0.10633	0.34498
1.33333	0.11524	0.33426
1.5	0.11048	0.3287
1.66667	0.10217	0.32314
1.83333	0.08613	0.31798
2	0.09831	0.31123

Figure 22 and 24

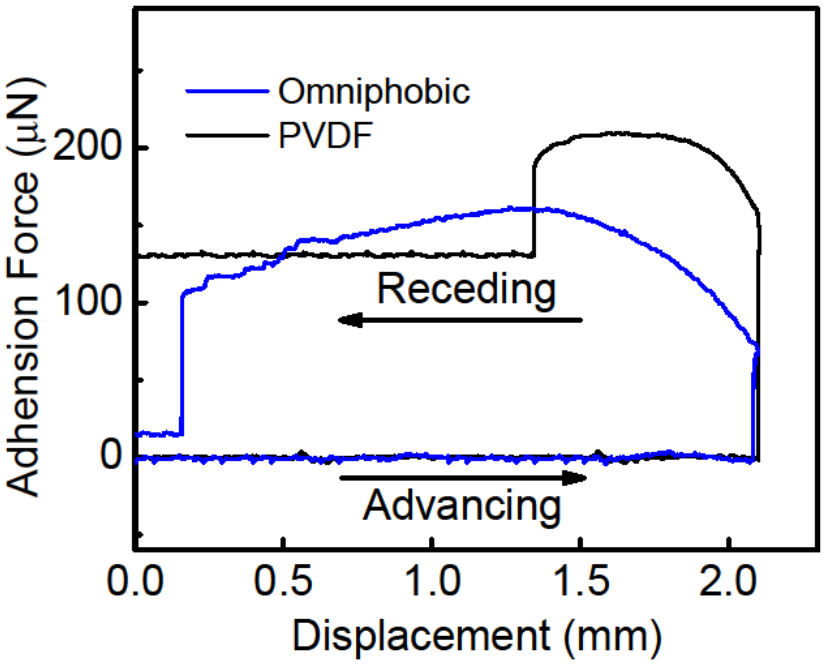


Figure 22.—Force curves for PVDF and omniphobic membrane.

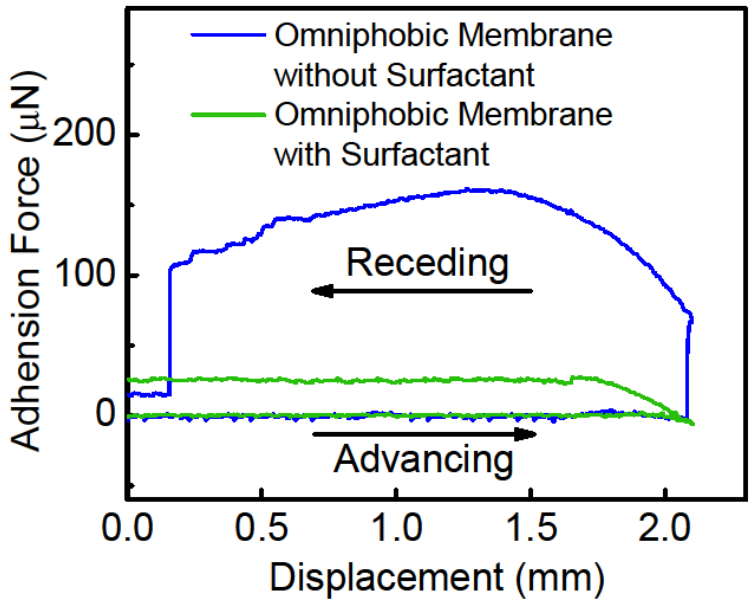


Figure 24. Force curves for the interaction between an omniphobic membrane and an oil droplet with and without Triton X-100 in the solution.

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0	-0.74393	0	-1.78068	0	-0.74393
0	-0.85957	0	-3.36937	0	-0.85957
0	-0.79092	0	-3.36937	0	-0.79092
0.00166	-0.88694	0.00166	-3.30072	0.00166	-0.88694
0.00332	-0.78888	0.00166	-3.25169	0.00332	-0.78888
0.00332	-0.89471	0.00166	-2.99671	0.00332	-0.89471
0.00498	-0.79664	0.00332	-2.86922	0.00498	-0.79664
0.00498	-0.89267	0.00332	-2.60444	0.00498	-0.89267
0.00664	-0.77499	0.00332	-2.47696	0.00664	-0.77499
0.0083	-0.86121	0.00498	-2.2514	0.0083	-0.86121
0.0083	-0.89839	0.00498	-2.19256	0.0083	-0.89839
0.00996	-0.51593	0.00498	-2.07488	0.00996	-0.51593
0.00996	-0.60215	0.00664	-2.03565	0.00996	-0.60215
0.01162	-0.52369	0.00664	-1.94739	0.01162	-0.52369
0.01162	-0.60011	0.00664	-1.88855	0.01162	-0.60011
0.01328	-0.51185	0.0083	-1.80029	0.01328	-0.51185
0.01328	-0.57845	0.0083	-1.62377	0.01328	-0.57845
0.01494	-0.48038	0.0083	-1.53551	0.01494	-0.48038
0.01494	-0.5568	0.00996	-1.35899	0.01494	-0.5568
0.0166	-0.63321	0.00996	-1.24131	0.0166	-0.63321
0.01826	-0.54495	0.00996	-1.06479	0.01826	-0.54495
0.01826	-0.61155	0.01162	-1.00595	0.01826	-0.61155
0.01992	-0.41542	0.01162	-0.94711	0.01992	-0.41542
0.01992	-0.46241	0.01162	-0.87846	0.01992	-0.46241
0.02158	-0.32512	0.01328	-0.82943	0.02158	-0.32512
0.02158	-0.34269	0.01328	-0.82943	0.02158	-0.34269
0.02324	-0.17597	0.01328	-0.82943	0.02324	-0.17597
0.02324	-0.15432	0.01494	-0.82943	0.02324	-0.15432
0.0249	0.04182	0.01494	-0.82943	0.0249	0.04182
0.0249	0.08308	0.01494	-0.82943	0.0249	0.08308
0.02656	0.11455	0.0166	-0.82943	0.02656	0.11455
0.02822	0.42836	0.0166	-0.82943	0.02822	0.42836
0.02822	0.36176	0.0166	-0.82943	0.02822	0.36176
0.02988	0.44021	0.01826	-0.82943	0.02988	0.44021
0.02988	0.32457	0.01826	-0.86866	0.02988	0.32457
0.03154	0.3638	0.01826	-0.98634	0.03154	0.3638
0.03154	0.19913	0.01992	-0.98634	0.03154	0.19913
0.0332	0.19913	0.01992	-0.98634	0.0332	0.19913

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.0332	0.03445	0.01992	-1.01576	0.0332	0.03445
0.03486	-0.00477	0.02158	-1.06479	0.03486	-0.00477
0.03486	-0.16944	0.02158	-1.12363	0.03486	-0.16944
0.03652	-0.33412	0.02158	-1.12363	0.03652	-0.33412
0.03818	-0.33412	0.02324	-1.17267	0.03818	-0.33412
0.03818	-0.43014	0.02324	-1.23151	0.03818	-0.43014
0.03984	-0.33207	0.02324	-1.30015	0.03984	-0.33207
0.03984	-0.44771	0.02324	-1.30015	0.03984	-0.44771
0.0415	-0.35945	0.0249	-1.30015	0.0415	-0.35945
0.0415	-0.45548	0.0249	-1.33938	0.0415	-0.45548
0.04316	-0.3378	0.0249	-1.33938	0.04316	-0.3378
0.04316	-0.43382	0.02656	-1.33938	0.04316	-0.43382
0.04482	-0.44159	0.02656	-1.33938	0.04482	-0.44159
0.04648	-0.35333	0.02656	-1.33938	0.04648	-0.35333
0.04648	-0.46897	0.02822	-1.33938	0.04648	-0.46897
0.04814	-0.41013	0.02822	-1.28054	0.04814	-0.41013
0.04814	-0.50615	0.02822	-1.18247	0.04814	-0.50615
0.0498	-0.50615	0.02988	-1.13344	0.0498	-0.50615
0.0498	-0.67082	0.02988	-0.95692	0.0498	-0.67082
0.05146	-0.6316	0.02988	-0.82943	0.05146	-0.6316
0.05146	-0.75704	0.03154	-0.65291	0.05146	-0.75704
0.05312	-0.70801	0.03154	-0.38813	0.05312	-0.70801
0.05312	-0.87268	0.03154	-0.07431	0.05312	-0.87268
0.05478	-0.82365	0.0332	0.28853	0.05478	-0.82365
0.05644	-0.91967	0.0332	0.73964	0.05644	-0.91967
0.05644	-0.98628	0.0332	0.76906	0.05644	-0.98628
0.0581	-0.92744	0.03486	0.76906	0.0581	-0.92744
0.0581	-0.98423	0.03486	0.72003	0.0581	-0.98423
0.05976	-0.87636	0.03486	0.63177	0.05976	-0.87636
0.05976	-0.82529	0.03652	0.56312	0.05976	-0.82529
0.06142	-0.48205	0.03652	0.44544	0.06142	-0.48205
0.06142	-0.06813	0.03652	0.34737	0.06142	-0.06813
0.06308	0.35356	0.03818	0.18066	0.06308	0.35356
0.06308	0.3458	0.03818	-0.08412	0.06308	0.3458
0.06474	0.31842	0.03818	-0.16258	0.06474	0.31842
0.0664	0.42629	0.03984	-0.2018	0.0664	0.42629
0.0664	0.34007	0.03984	-0.24103	0.0664	0.34007
0.06806	0.39891	0.03984	-0.24103	0.06806	0.39891

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.06806	0.28327	0.0415	-0.24103	0.06806	0.28327
0.06972	0.31269	0.0415	-0.27045	0.06972	0.31269
0.06972	0.18725	0.0415	-0.27045	0.06972	0.18725
0.07138	0.18725	0.04316	-0.27045	0.07138	0.18725
0.07138	0.13045	0.04316	-0.32929	0.07138	0.13045
0.07304	0.21871	0.04316	-0.39794	0.07304	0.21871
0.07304	0.10307	0.04482	-0.47639	0.07304	0.10307
0.0747	0.20114	0.04482	-0.51562	0.0747	0.20114
0.07636	0.10512	0.04482	-0.58426	0.07636	0.10512
0.07636	0.06793	0.04648	-0.65291	0.07636	0.06793
0.07802	0.12677	0.04648	-0.65291	0.07802	0.12677
0.07802	0.06997	0.04648	-0.65291	0.07802	0.06997
0.07968	0.11901	0.04814	-0.65291	0.07968	0.11901
0.07968	0.08182	0.04814	-0.65291	0.07968	0.08182
0.08134	0.08182	0.04814	-0.65291	0.08134	0.08182
0.08134	-0.08285	0.0498	-0.65291	0.08134	-0.08285
0.083	-0.08285	0.0498	-0.65291	0.083	-0.08285
0.083	-0.2083	0.0498	-0.61368	0.083	-0.2083
0.08466	-0.32394	0.05146	-0.56465	0.08466	-0.32394
0.08632	-0.26509	0.05146	-0.51562	0.08632	-0.26509
0.08632	-0.42977	0.05146	-0.51562	0.08632	-0.42977
0.08798	-0.36112	0.05312	-0.51562	0.08798	-0.36112
0.08798	-0.43753	0.05312	-0.46658	0.08798	-0.43753
0.08964	-0.26101	0.05312	-0.39794	0.08964	-0.26101
0.08964	-0.33742	0.05478	-0.31948	0.08964	-0.33742
0.0913	-0.17071	0.05478	-0.31948	0.0913	-0.17071
0.0913	-0.10983	0.05478	-0.21161	0.0913	-0.10983
0.09296	0.06874	0.05644	-0.15277	0.09296	0.06874
0.09462	0.17661	0.05644	-0.15277	0.09462	0.17661
0.09462	0.11	0.05644	-0.192	0.09462	0.11
0.09628	0.19826	0.0581	-0.27045	0.09628	0.19826
0.09628	0.11205	0.0581	-0.35871	0.09628	0.11205
0.09794	0.23953	0.0581	-0.54504	0.09794	0.23953
0.09794	0.1337	0.05976	-0.87846	0.09794	0.1337
0.0996	0.19254	0.05976	-1.96701	0.0996	0.19254
0.0996	0.02787	0.05976	-2.89864	0.0996	0.02787
0.10126	0.08671	0.05976	-3.11439	0.10126	0.08671
0.10126	-0.00932	0.06142	-3.26149	0.10126	-0.00932

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.10292	-0.09553	0.06142	-3.31053	0.10292	-0.09553
0.10458	-0.09553	0.06308	-3.31053	0.10458	-0.09553
0.10458	-0.20137	0.06308	-3.2713	0.10458	-0.20137
0.10624	-0.04446	0.06308	-3.18304	0.10624	-0.04446
0.10624	-0.09145	0.06474	-3.06536	0.10624	-0.09145
0.1079	-0.00319	0.06474	-2.77116	0.1079	-0.00319
0.1079	-0.00115	0.06474	-2.58483	0.1079	-0.00115
0.10956	0.30286	0.06474	-2.26121	0.10956	0.30286
0.10956	0.27548	0.0664	-2.11411	0.10956	0.27548
0.11122	0.41278	0.0664	-1.98662	0.11122	0.41278
0.11288	0.36578	0.0664	-1.86894	0.11288	0.36578
0.11288	0.31879	0.06806	-1.80029	0.11288	0.31879
0.11454	0.39725	0.06806	-1.73165	0.11454	0.39725
0.11454	0.31103	0.06806	-1.67281	0.11454	0.31103
0.1162	0.43851	0.06972	-1.64339	0.1162	0.43851
0.1162	0.27384	0.06972	-1.64339	0.1162	0.27384
0.11786	0.34249	0.06972	-1.64339	0.11786	0.34249
0.11786	0.26608	0.07138	-1.64339	0.11786	0.26608
0.11952	0.32492	0.07138	-1.59435	0.11952	0.32492
0.11952	0.26812	0.07138	-1.53551	0.11952	0.26812
0.12118	0.35638	0.07304	-1.43745	0.12118	0.35638
0.12118	0.35842	0.07304	-1.37861	0.12118	0.35842
0.12284	0.50756	0.07304	-1.28054	0.12284	0.50756
0.1245	0.77235	0.0747	-1.19228	0.1245	0.77235
0.1245	0.72535	0.0747	-1.03537	0.1245	0.72535
0.12616	0.82342	0.0747	-0.82943	0.12616	0.82342
0.12616	0.7372	0.07636	-0.59407	0.12616	0.7372
0.12782	0.79604	0.07636	-0.62349	0.12782	0.79604
0.12782	0.6804	0.07636	-0.68233	0.12782	0.6804
0.12948	0.71963	0.07802	-0.76078	0.12948	0.71963
0.12948	0.55496	0.07802	-0.84904	0.12948	0.55496
0.13114	0.42951	0.07802	-1.03537	0.13114	0.42951
0.13114	0.47855	0.07968	-1.14325	0.13114	0.47855
0.1328	0.40214	0.07968	-1.23151	0.1328	0.40214
0.13446	0.46098	0.07968	-1.30015	0.13446	0.46098
0.13446	0.38456	0.08134	-1.34919	0.13446	0.38456
0.13612	0.4434	0.08134	-1.43745	0.13612	0.4434
0.13612	0.3768	0.08134	-1.43745	0.13612	0.3768

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.13778	0.45525	0.083	-1.43745	0.13778	0.45525
0.13778	0.42787	0.083	-1.43745	0.13778	0.42787
0.13944	0.68285	0.083	-1.48648	0.13944	0.68285
0.13944	0.61624	0.08466	-1.54532	0.13944	0.61624
0.1411	0.61829	0.08466	-1.59435	0.1411	0.61829
0.1411	0.69674	0.08466	-1.59435	0.1411	0.69674
0.14276	0.60071	0.08632	-1.59435	0.14276	0.60071
0.14442	0.66936	0.08632	-1.59435	0.14442	0.66936
0.14442	0.57334	0.08632	-1.54532	0.14442	0.57334
0.14608	0.64198	0.08798	-1.46687	0.14608	0.64198
0.14608	0.50673	0.08798	-1.37861	0.14608	0.50673
0.14774	0.57538	0.08798	-1.33938	0.14774	0.57538
0.14774	0.49897	0.08964	-1.26093	0.14774	0.49897
0.1494	0.548	0.08964	-1.20209	0.1494	0.548
0.1494	0.46178	0.08964	-1.09421	0.1494	0.46178
0.15106	0.51286	0.0913	-1.03537	0.15106	0.51286
0.15272	0.77764	0.0913	-0.95692	0.15272	0.77764
0.15272	0.74045	0.0913	-0.95692	0.15272	0.74045
0.15438	0.84833	0.09296	-0.95692	0.15438	0.84833
0.15438	0.77191	0.09296	-0.95692	0.15438	0.77191
0.15604	0.84056	0.09296	-0.95692	0.15604	0.84056
0.15604	0.74454	0.09296	-0.95692	0.15604	0.74454
0.1577	0.80338	0.09462	-0.98634	0.1577	0.80338
0.1577	0.6387	0.09462	-1.03537	0.1577	0.6387
0.15936	0.72697	0.09628	-1.09421	0.15936	0.72697
0.15936	0.63094	0.09628	-1.09421	0.15936	0.63094
0.16102	0.50549	0.09628	-1.09421	0.16102	0.50549
0.16268	0.58395	0.09794	-1.13344	0.16268	0.58395
0.16268	0.49773	0.09794	-1.18247	0.16268	0.49773
0.16434	0.61541	0.09794	-1.24131	0.16434	0.61541
0.16434	0.539	0.09794	-1.24131	0.16434	0.539
0.166	0.6861	0.0996	-1.24131	0.166	0.6861
0.166	0.76659	0.0996	-1.28054	0.166	0.76659
0.16766	0.84505	0.0996	-1.31977	0.16766	0.84505
0.16766	0.72941	0.10126	-1.3688	0.16766	0.72941
0.16932	0.60396	0.10126	-1.3688	0.16932	0.60396
0.16932	0.60396	0.10126	-1.3688	0.16932	0.60396
0.17098	0.43929	0.10292	-1.3688	0.17098	0.43929

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.17098	0.43929	0.10292	-1.32957	0.17098	0.43929
0.17264	0.27462	0.10292	-1.28054	0.17264	0.27462
0.1743	0.27462	0.10458	-1.21189	0.1743	0.27462
0.1743	0.10995	0.10458	-1.21189	0.1743	0.10995
0.17596	0.13937	0.10458	-1.17267	0.17596	0.13937
0.17596	0.03354	0.10624	-1.12363	0.17596	0.03354
0.17762	-0.05268	0.10624	-1.0746	0.17762	-0.05268
0.17762	-0.01345	0.10624	-1.0746	0.17762	-0.01345
0.17928	-0.08987	0.1079	-1.0746	0.17928	-0.08987
0.18094	-0.04083	0.1079	-1.0746	0.18094	-0.04083
0.18094	-0.10744	0.1079	-1.0746	0.18094	-0.10744
0.1826	-0.0486	0.10956	-1.0746	0.1826	-0.0486
0.1826	-0.1152	0.10956	-1.11383	0.1826	-0.1152
0.18426	-0.05636	0.10956	-1.17267	0.18426	-0.05636
0.18426	-0.08374	0.11122	-1.25112	0.18426	-0.08374
0.18592	-0.08374	0.11122	-1.25112	0.18592	-0.08374
0.18592	-0.10131	0.11122	-1.33938	0.18592	-0.10131
0.18758	-0.06209	0.11288	-1.40803	0.18758	-0.06209
0.18758	-0.16792	0.11288	-1.40803	0.18758	-0.16792
0.18924	-0.25414	0.11288	-1.40803	0.18924	-0.25414
0.18924	-0.21491	0.11454	-1.40803	0.18924	-0.21491
0.1909	-0.31093	0.11454	-1.40803	0.1909	-0.31093
0.19256	-0.23248	0.11454	-1.40803	0.19256	-0.23248
0.19256	-0.35793	0.1162	-1.40803	0.19256	-0.35793
0.19422	-0.22063	0.1162	-1.3688	0.19422	-0.22063
0.19422	-0.3853	0.1162	-1.31977	0.19422	-0.3853
0.19588	-0.27743	0.11786	-1.27073	0.19588	-0.27743
0.19588	-0.35384	0.11786	-1.27073	0.19588	-0.35384
0.19754	-0.44006	0.11786	-1.27073	0.19754	-0.44006
0.19754	-0.31257	0.11952	-1.2217	0.19754	-0.31257
0.1992	-0.36937	0.11952	-1.16286	0.1992	-0.36937
0.20086	-0.17324	0.11952	-1.09421	0.20086	-0.17324
0.20086	0.07397	0.12118	-1.09421	0.20086	0.07397
0.20252	0.27991	0.12118	-1.05498	0.20252	0.27991
0.20252	0.30157	0.12118	-1.00595	0.20252	0.30157
0.20418	0.61538	0.12284	-0.9275	0.20418	0.61538
0.20418	0.55858	0.12284	-0.9275	0.20418	0.55858
0.20584	0.64684	0.12284	-0.88827	0.20584	0.64684

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.20584	0.55082	0.1245	-0.83924	0.20584	0.55082
0.2075	0.43518	0.1245	-0.7804	0.2075	0.43518
0.2075	0.47441	0.1245	-0.7804	0.2075	0.47441
0.20916	0.34896	0.12616	-0.7804	0.20916	0.34896
0.21082	0.34896	0.12616	-0.7804	0.21082	0.34896
0.21082	0.24313	0.12616	-0.7804	0.21082	0.24313
0.21248	0.40984	0.12616	-0.7804	0.21248	0.40984
0.21248	0.2844	0.12782	-0.7804	0.21248	0.2844
0.21414	0.36285	0.12782	-0.7804	0.21414	0.36285
0.21414	0.25702	0.12948	-0.7804	0.21414	0.25702
0.2158	0.35509	0.12948	-0.7804	0.2158	0.35509
0.2158	0.24926	0.12948	-0.7804	0.2158	0.24926
0.21746	0.18265	0.12948	-0.7804	0.21746	0.18265
0.21746	0.24149	0.13114	-0.7804	0.21746	0.24149
0.21912	0.17489	0.13114	-0.7804	0.21912	0.17489
0.22078	0.3416	0.13114	-0.7804	0.22078	0.3416
0.22078	0.25538	0.1328	-0.7804	0.22078	0.25538
0.22244	0.40248	0.1328	-0.7804	0.22244	0.40248
0.22244	0.50259	0.1328	-0.75098	0.22244	0.50259
0.2241	0.63008	0.13446	-0.70194	0.2241	0.63008
0.2241	0.58309	0.13446	-0.6431	0.2241	0.58309
0.22576	0.52629	0.13446	-0.6431	0.22576	0.52629
0.22576	0.61455	0.13612	-0.60388	0.22576	0.61455
0.22742	0.52833	0.13612	-0.54504	0.22742	0.52833
0.22908	0.6264	0.13612	-0.46658	0.22908	0.6264
0.22908	0.50095	0.13778	-0.46658	0.22908	0.50095
0.23074	0.50095	0.13778	-0.40774	0.23074	0.50095
0.23074	0.33628	0.13778	-0.32929	0.23074	0.33628
0.2324	0.33628	0.13944	-0.22142	0.2324	0.33628
0.2324	0.21084	0.13944	-0.13316	0.2324	0.21084
0.23406	0.26968	0.13944	-0.08412	0.23406	0.26968
0.23406	0.17365	0.1411	-0.00567	0.23406	0.17365
0.23572	0.00898	0.1411	0.04337	0.23572	0.00898
0.23572	0.07763	0.1411	0.14143	0.23572	0.07763
0.23738	0.01102	0.14276	0.21008	0.23738	0.01102
0.23738	0.07967	0.14276	0.31795	0.23738	0.07967
0.23904	0.15036	0.14276	0.39641	0.23904	0.15036
0.2407	0.30726	0.14442	0.51409	0.2407	0.30726

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.2407	0.36815	0.14442	0.78867	0.2407	0.36815
0.24236	-0.79664	0.14442	0.78867	0.24236	-0.79664
0.24236	-0.89267	0.14608	0.94558	0.24236	-0.89267
0.24402	-0.77499	0.14608	0.94558	0.24402	-0.77499
0.24402	-0.86121	0.14608	0.89655	0.24402	-0.86121
0.24568	-0.89839	0.14774	0.84751	0.24568	-0.89839
0.24568	-0.51593	0.14774	0.77887	0.24568	-0.51593
0.24734	-0.60215	0.14774	0.73964	0.24734	-0.60215
0.249	-0.52369	0.1494	0.65138	0.249	-0.52369
0.249	-0.60011	0.1494	0.42583	0.249	-0.60011
0.25066	-0.51185	0.1494	0.15124	0.25066	-0.51185
0.25066	-0.57845	0.15106	0.02375	0.25066	-0.57845
0.25232	-0.48038	0.15106	-0.11354	0.25232	-0.48038
0.25232	-0.5568	0.15106	-0.24103	0.25232	-0.5568
0.25398	-0.63321	0.15272	-0.36852	0.25398	-0.63321
0.25398	-0.54495	0.15272	-0.4862	0.25398	-0.54495
0.25564	-0.61155	0.15272	-0.61368	0.25564	-0.61155
0.25564	-0.41542	0.15438	-0.77059	0.25564	-0.41542
0.2573	-0.46241	0.15438	-0.83924	0.2573	-0.46241
0.2573	-0.32512	0.15438	-0.88827	0.2573	-0.32512
0.25896	-0.34269	0.15604	-0.88827	0.25896	-0.34269
0.26062	-0.17597	0.15604	-0.88827	0.26062	-0.17597
0.26062	-0.15432	0.15604	-0.88827	0.26062	-0.15432
0.26228	0.04182	0.1577	-0.88827	0.26228	0.04182
0.26228	0.08308	0.1577	-0.84904	0.26228	0.08308
0.26394	0.11455	0.1577	-0.80001	0.26394	0.11455
0.26394	0.42836	0.15936	-0.74117	0.26394	0.42836
0.2656	0.36176	0.15936	-0.74117	0.2656	0.36176
0.2656	0.44021	0.15936	-0.74117	0.2656	0.44021
0.26726	0.32457	0.16102	-0.74117	0.26726	0.32457
0.26892	0.3638	0.16102	-0.74117	0.26892	0.3638
0.26892	0.19913	0.16102	-0.74117	0.26892	0.19913
0.27058	0.19913	0.16268	-0.74117	0.27058	0.19913
0.27058	0.03445	0.16268	-0.74117	0.27058	0.03445
0.27224	-0.00477	0.16268	-0.7804	0.27224	-0.00477
0.27224	-0.16944	0.16434	-0.83924	0.27224	-0.16944
0.2739	-0.33412	0.16434	-0.90788	0.2739	-0.33412
0.2739	-0.33412	0.16434	-0.90788	0.2739	-0.33412

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.27556	-0.43014	0.16434	-0.90788	0.27556	-0.43014
0.27722	-0.33207	0.166	-0.90788	0.27722	-0.33207
0.27722	-0.44771	0.166	-0.90788	0.27722	-0.44771
0.27888	-0.35945	0.166	-0.90788	0.27888	-0.35945
0.27888	-0.45548	0.16766	-0.90788	0.27888	-0.45548
0.28054	-0.3378	0.16766	-0.90788	0.28054	-0.3378
0.28054	-0.43382	0.16766	-0.86866	0.28054	-0.43382
0.2822	-0.44159	0.16932	-0.80982	0.2822	-0.44159
0.2822	-0.35333	0.16932	-0.74117	0.2822	-0.35333
0.28386	-0.46897	0.16932	-0.69214	0.28386	-0.46897
0.28386	-0.41013	0.17098	-0.6333	0.28386	-0.41013
0.28552	-0.50615	0.17098	-0.56465	0.28552	-0.50615
0.28718	-0.50615	0.17098	-0.56465	0.28718	-0.50615
0.28718	-0.67082	0.17264	-0.56465	0.28718	-0.67082
0.28884	-0.6316	0.17264	-0.52542	0.28884	-0.6316
0.28884	-0.75704	0.17264	-0.47639	0.28884	-0.75704
0.2905	-0.70801	0.1743	-0.42736	0.2905	-0.70801
0.2905	-0.87268	0.1743	-0.42736	0.2905	-0.87268
0.29216	-0.82365	0.1743	-0.42736	0.29216	-0.82365
0.29216	-0.91967	0.17596	-0.42736	0.29216	-0.91967
0.29382	-0.98628	0.17596	-0.38813	0.29382	-0.98628
0.29382	-0.92744	0.17596	-0.3489	0.29382	-0.92744
0.29548	-0.98423	0.17762	-0.3489	0.29548	-0.98423
0.29714	-0.87636	0.17762	-0.3489	0.29714	-0.87636
0.29714	-0.82529	0.17762	-0.3489	0.29714	-0.82529
0.2988	-0.48205	0.17928	-0.3489	0.2988	-0.48205
0.2988	-0.06813	0.17928	-0.3489	0.2988	-0.06813
0.30046	0.35356	0.17928	-0.3489	0.30046	0.35356
0.30046	0.3458	0.18094	-0.3489	0.30046	0.3458
0.30212	0.31842	0.18094	-0.3489	0.30212	0.31842
0.30212	0.42629	0.18094	-0.3489	0.30212	0.42629
0.30378	0.34007	0.1826	-0.3489	0.30378	0.34007
0.30378	0.39891	0.1826	-0.3489	0.30378	0.39891
0.30544	0.28327	0.1826	-0.3489	0.30544	0.28327
0.3071	0.31269	0.18426	-0.3489	0.3071	0.31269
0.3071	0.18725	0.18426	-0.3489	0.3071	0.18725
0.30876	0.18725	0.18426	-0.31948	0.30876	0.18725
0.30876	0.13045	0.18592	-0.31948	0.30876	0.13045

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.31042	0.21871	0.18592	-0.31948	0.31042	0.21871
0.31042	0.10307	0.18592	-0.28026	0.31042	0.10307
0.31208	0.20114	0.18758	-0.192	0.31208	0.20114
0.31208	0.10512	0.18758	-0.192	0.31208	0.10512
0.31374	0.06793	0.18758	-0.192	0.31374	0.06793
0.3154	0.12677	0.18924	-0.192	0.3154	0.12677
0.3154	0.06997	0.18924	-0.23122	0.3154	0.06997
0.31706	0.11901	0.18924	-0.29006	0.31706	0.11901
0.31706	0.08182	0.1909	-0.35871	0.31706	0.08182
0.31872	0.08182	0.1909	-0.35871	0.31872	0.08182
0.31872	-0.08285	0.1909	-0.40774	0.31872	-0.08285
0.32038	-0.08285	0.19256	-0.4862	0.32038	-0.08285
0.32038	-0.2083	0.19256	-0.54504	0.32038	-0.2083
0.32204	-0.32394	0.19256	-0.61368	0.32204	-0.32394
0.32204	-0.26509	0.19256	-0.69214	0.32204	-0.26509
0.3237	-0.42977	0.19422	-0.69214	0.3237	-0.42977
0.32536	-0.36112	0.19422	-0.69214	0.32536	-0.36112
0.32536	-0.43753	0.19588	-0.69214	0.32536	-0.43753
0.32702	-0.26101	0.19588	-0.69214	0.32702	-0.26101
0.32702	-0.33742	0.19588	-1.73342	0.32702	-0.33742
0.32868	-0.17071	0.19754	-1.73342	0.32868	-0.17071
0.32868	-0.10983	0.19754	-1.73342	0.32868	-0.10983
0.33034	0.06874	0.19754	-1.8131	0.33034	0.06874
0.33034	0.17661	0.19754	-1.8131	0.33034	0.17661
0.332	0.11	0.1992	-1.8131	0.332	0.11
0.332	0.19826	0.1992	-1.89278	0.332	0.19826
0.33366	0.11205	0.1992	-1.89278	0.33366	0.11205
0.33532	0.23953	0.20086	-1.89278	0.33532	0.23953
0.33532	0.1337	0.20086	-1.97246	0.33532	0.1337
0.33698	0.19254	0.20086	-1.894	0.33698	0.19254
0.33698	0.02787	0.20252	-1.82536	0.33698	0.02787
0.33864	0.08671	0.20252	-1.90504	0.33864	0.08671
0.33864	-0.00932	0.20252	-1.86581	0.33864	-0.00932
0.3403	-0.09553	0.20418	-1.78736	0.3403	-0.09553
0.3403	-0.09553	0.20418	-1.76897	0.3403	-0.09553
0.34196	-0.20137	0.20418	-1.73955	0.34196	-0.20137
0.34196	-0.04446	0.20584	-1.6611	0.34196	-0.04446
0.34362	-0.09145	0.20584	-1.6329	0.34362	-0.09145

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.34528	-0.00319	0.20584	-1.57406	0.34528	-0.00319
0.34528	-0.00115	0.2075	-1.37793	0.34528	-0.00115
0.34694	0.30286	0.2075	-1.33012	0.34694	0.30286
0.34694	0.27548	0.2075	-1.14379	0.34694	0.27548
0.3486	0.41278	0.20916	-0.87901	0.3486	0.41278
0.3486	0.36578	0.20916	-0.6743	0.3486	0.36578
0.35026	0.31879	0.20916	-0.3801	0.35026	0.31879
0.35026	0.39725	0.21082	-0.0957	0.35026	0.39725
0.35192	0.31103	0.21082	-0.24403	0.35192	0.31103
0.35358	0.43851	0.21082	-0.45978	0.35358	0.43851
0.35358	0.27384	0.21248	-0.58726	0.35358	0.27384
0.35524	0.34249	0.21248	-0.80424	0.35524	0.34249
0.35524	0.26608	0.21248	-0.94153	0.35524	0.26608
0.3569	0.32492	0.21414	-1.0396	0.3569	0.32492
0.3569	0.26812	0.21414	-1.20754	0.3569	0.26812
0.35856	0.35638	0.21414	-1.26638	0.35856	0.35638
0.35856	0.35842	0.2158	-1.26638	0.35856	0.35842
0.36022	0.50756	0.2158	-1.34606	0.36022	0.50756
0.36188	0.77235	0.2158	-1.34606	0.36188	0.77235
0.36188	0.72535	0.21746	-1.34606	0.36188	0.72535
0.36354	0.82342	0.21746	-1.42574	0.36354	0.82342
0.36354	0.7372	0.21746	-1.42574	0.36354	0.7372
0.3652	0.79604	0.21912	-1.42574	0.3652	0.79604
0.3652	0.6804	0.21912	-1.50542	0.3652	0.6804
0.36686	0.71963	0.21912	-1.54465	0.36686	0.71963
0.36686	0.55496	0.22078	-1.59368	0.36686	0.55496
0.36852	0.42951	0.22078	-1.74201	0.36852	0.42951
0.36852	0.47855	0.22078	-1.74201	0.36852	0.47855
0.37018	0.40214	0.22244	-1.89891	0.37018	0.40214
0.37018	0.46098	0.22244	-2.00801	0.37018	0.46098
0.37184	0.38456	0.22244	-2.07666	0.37184	0.38456
0.3735	0.4434	0.2241	-2.1355	0.3735	0.4434
0.3735	0.3768	0.2241	-2.21518	0.3735	0.3768
0.37516	0.45525	0.2241	-2.21518	0.37516	0.45525
0.37516	0.42787	0.22576	-2.17595	0.37516	0.42787
0.37682	0.68285	0.22576	-2.18699	0.37682	0.68285
0.37682	0.61624	0.22576	-2.07911	0.37682	0.61624
0.37848	0.61829	0.22576	-1.89279	0.37848	0.61829

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.37848	0.69674	0.22742	-1.8744	0.37848	0.69674
0.38014	0.60071	0.22742	-1.73711	0.38014	0.60071
0.3818	0.66936	0.22908	-1.78068	0.3818	0.66936
0.3818	0.57334	0.22908	-3.36937	0.3818	0.57334
0.38346	0.64198	0.22908	-3.36937	0.38346	0.64198
0.38346	0.50673	0.23074	-3.30072	0.38346	0.50673
0.38512	0.57538	0.23074	-3.25169	0.38512	0.57538
0.38512	0.49897	0.23074	-2.99671	0.38512	0.49897
0.38678	0.548	0.23074	-2.86922	0.38678	0.548
0.38678	0.46178	0.2324	-2.60444	0.38678	0.46178
0.38844	0.51286	0.2324	-2.47696	0.38844	0.51286
0.38844	0.77764	0.2324	-2.2514	0.38844	0.77764
0.3901	0.74045	0.23406	-2.19256	0.3901	0.74045
0.39176	0.84833	0.23406	-2.07488	0.39176	0.84833
0.39176	0.77191	0.23406	-2.03565	0.39176	0.77191
0.39342	0.84056	0.23572	-1.94739	0.39342	0.84056
0.39342	0.74454	0.23572	-1.88855	0.39342	0.74454
0.39508	0.80338	0.23572	-1.80029	0.39508	0.80338
0.39508	0.6387	0.23738	-1.62377	0.39508	0.6387
0.39674	0.72697	0.23738	-1.53551	0.39674	0.72697
0.39674	0.63094	0.23738	-1.35899	0.39674	0.63094
0.3984	0.50549	0.23904	-1.24131	0.3984	0.50549
0.3984	0.58395	0.23904	-1.06479	0.3984	0.58395
0.40006	0.49773	0.23904	-1.00595	0.40006	0.49773
0.40172	0.61541	0.2407	-0.94711	0.40172	0.61541
0.40172	0.539	0.2407	-0.87846	0.40172	0.539
0.40338	0.6861	0.2407	-0.82943	0.40338	0.6861
0.40338	0.76659	0.24236	-0.82943	0.40338	0.76659
0.40504	0.84505	0.24236	-0.82943	0.40504	0.84505
0.40504	0.72941	0.24236	-0.82943	0.40504	0.72941
0.4067	0.60396	0.24402	-0.82943	0.4067	0.60396
0.4067	0.60396	0.24402	-0.82943	0.4067	0.60396
0.40836	0.43929	0.24402	-0.82943	0.40836	0.43929
0.41002	0.43929	0.24568	-0.82943	0.41002	0.43929
0.41002	0.27462	0.24568	-0.82943	0.41002	0.27462
0.41168	0.27462	0.24568	-0.82943	0.41168	0.27462
0.41168	0.10995	0.24734	-0.86866	0.41168	0.10995
0.41334	0.13937	0.24734	-0.98634	0.41334	0.13937

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.41334	0.03354	0.24734	-0.98634	0.41334	0.03354
0.415	-0.05268	0.249	-0.98634	0.415	-0.05268
0.415	-0.01345	0.249	-1.01576	0.415	-0.01345
0.41666	-0.08987	0.249	-1.06479	0.41666	-0.08987
0.41666	-0.04083	0.25066	-1.12363	0.41666	-0.04083
0.41832	-0.10744	0.25066	-1.12363	0.41832	-0.10744
0.41998	-0.0486	0.25066	-1.17267	0.41998	-0.0486
0.41998	-0.1152	0.25232	-1.23151	0.41998	-0.1152
0.42164	-0.05636	0.25232	-1.30015	0.42164	-0.05636
0.42164	-0.08374	0.25232	-1.30015	0.42164	-0.08374
0.4233	-0.08374	0.25398	-1.30015	0.4233	-0.08374
0.4233	-0.10131	0.25398	-1.33938	0.4233	-0.10131
0.42496	-0.06209	0.25398	-1.33938	0.42496	-0.06209
0.42496	-0.16792	0.25564	-1.33938	0.42496	-0.16792
0.42662	-0.25414	0.25564	-1.33938	0.42662	-0.25414
0.42828	-0.21491	0.25564	-1.33938	0.42828	-0.21491
0.42828	-0.31093	0.2573	-1.33938	0.42828	-0.31093
0.42994	-0.23248	0.2573	-1.28054	0.42994	-0.23248
0.42994	-0.35793	0.2573	-1.18247	0.42994	-0.35793
0.4316	-0.22063	0.25896	-1.13344	0.4316	-0.22063
0.4316	-0.3853	0.25896	-0.95692	0.4316	-0.3853
0.43326	-0.27743	0.25896	-0.82943	0.43326	-0.27743
0.43326	-0.35384	0.26062	-0.65291	0.43326	-0.35384
0.43492	-0.44006	0.26062	-0.38813	0.43492	-0.44006
0.43492	-0.31257	0.26062	-0.07431	0.43492	-0.31257
0.43658	-0.36937	0.26228	0.28853	0.43658	-0.36937
0.43658	-0.17324	0.26228	0.73964	0.43658	-0.17324
0.43824	0.07397	0.26228	0.76906	0.43824	0.07397
0.4399	0.27991	0.26394	0.76906	0.4399	0.27991
0.4399	0.30157	0.26394	0.72003	0.4399	0.30157
0.44156	0.61538	0.26394	0.63177	0.44156	0.61538
0.44156	0.55858	0.26394	0.56312	0.44156	0.55858
0.44322	0.64684	0.2656	0.44544	0.44322	0.64684
0.44322	0.55082	0.2656	0.34737	0.44322	0.55082
0.44488	0.43518	0.2656	0.18066	0.44488	0.43518
0.44488	0.47441	0.26726	-0.08412	0.44488	0.47441
0.44654	0.34896	0.26726	-0.16258	0.44654	0.34896
0.4482	0.34896	0.26726	-0.2018	0.4482	0.34896

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.4482	0.24313	0.26892	-0.24103	0.4482	0.24313
0.44986	0.40984	0.26892	-0.24103	0.44986	0.40984
0.44986	0.2844	0.26892	-0.24103	0.44986	0.2844
0.45152	0.36285	0.27058	-0.27045	0.45152	0.36285
0.45152	0.25702	0.27058	-0.27045	0.45152	0.25702
0.45318	0.35509	0.27058	-0.27045	0.45318	0.35509
0.45318	0.24926	0.27224	-0.32929	0.45318	0.24926
0.45484	0.18265	0.27224	-0.39794	0.45484	0.18265
0.45484	0.24149	0.27224	-0.47639	0.45484	0.24149
0.4565	0.17489	0.2739	-0.51562	0.4565	0.17489
0.45816	0.3416	0.2739	-0.58426	0.45816	0.3416
0.45816	0.25538	0.2739	-0.65291	0.45816	0.25538
0.45982	0.40248	0.27556	-0.65291	0.45982	0.40248
0.45982	0.50259	0.27556	-0.65291	0.45982	0.50259
0.46148	0.63008	0.27556	-0.65291	0.46148	0.63008
0.46148	0.58309	0.27722	-0.65291	0.46148	0.58309
0.46314	0.52629	0.27722	-0.65291	0.46314	0.52629
0.46314	0.61455	0.27722	-0.65291	0.46314	0.61455
0.4648	0.52833	0.27888	-0.65291	0.4648	0.52833
0.4648	0.6264	0.27888	-0.61368	0.4648	0.6264
0.46646	0.50095	0.27888	-0.56465	0.46646	0.50095
0.46812	0.50095	0.28054	-0.51562	0.46812	0.50095
0.46812	0.33628	0.28054	-0.51562	0.46812	0.33628
0.46978	0.33628	0.28054	-0.51562	0.46978	0.33628
0.46978	0.21084	0.2822	-0.46658	0.46978	0.21084
0.47144	0.26968	0.2822	-0.39794	0.47144	0.26968
0.47144	0.17365	0.2822	-0.31948	0.47144	0.17365
0.4731	0.00898	0.28386	-0.31948	0.4731	0.00898
0.4731	0.07763	0.28386	-0.21161	0.4731	0.07763
0.47476	0.01102	0.28386	-0.15277	0.47476	0.01102
0.47642	0.07967	0.28552	-0.15277	0.47642	0.07967
0.47642	-0.79664	0.28552	-0.192	0.47642	-0.79664
0.47808	-0.89267	0.28552	-0.27045	0.47808	-0.89267
0.47808	-0.77499	0.28718	-0.35871	0.47808	-0.77499
0.47974	-0.86121	0.28718	-0.54504	0.47974	-0.86121
0.47974	-0.89839	0.28718	-0.87846	0.47974	-0.89839
0.4814	-0.51593	0.28884	-1.96701	0.4814	-0.51593
0.4814	-0.60215	0.28884	-2.89864	0.4814	-0.60215

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.48306	-0.52369	0.28884	-3.11439	0.48306	-0.52369
0.48306	-0.60011	0.2905	-3.26149	0.48306	-0.60011
0.48472	-0.51185	0.2905	-3.31053	0.48472	-0.51185
0.48638	-0.57845	0.2905	-3.31053	0.48638	-0.57845
0.48638	-0.48038	0.29216	-3.2713	0.48638	-0.48038
0.48804	-0.5568	0.29216	-3.18304	0.48804	-0.5568
0.48804	-0.63321	0.29216	-3.06536	0.48804	-0.63321
0.4897	-0.54495	0.29216	-2.77116	0.4897	-0.54495
0.4897	-0.61155	0.29382	-2.58483	0.4897	-0.61155
0.49136	-0.41542	0.29382	-2.26121	0.49136	-0.41542
0.49136	-0.46241	0.29548	-2.11411	0.49136	-0.46241
0.49302	-0.32512	0.29548	-1.98662	0.49302	-0.32512
0.49468	-0.34269	0.29548	-1.86894	0.49468	-0.34269
0.49468	-0.17597	0.29714	-1.80029	0.49468	-0.17597
0.49634	-0.15432	0.29714	-1.73165	0.49634	0.42951
0.49634	0.04182	0.29714	-1.67281	0.49634	0.47855
0.498	0.08308	0.29714	-1.64339	0.498	0.40214
0.498	0.11455	0.2988	-1.64339	0.498	0.46098
0.49966	0.42836	0.2988	-1.64339	0.49966	0.38456
0.49966	0.36176	0.30046	-1.64339	0.49966	0.4434
0.50132	0.44021	0.30046	-1.59435	0.50132	0.3768
0.50132	0.32457	0.30046	-1.53551	0.50132	0.45525
0.50298	0.3638	0.30046	-1.43745	0.50298	0.42787
0.50298	0.19913	0.30212	-1.37861	0.50298	0.68285
0.50464	0.19913	0.30212	-1.28054	0.50464	0.61624
0.5063	0.03445	0.30212	-1.19228	0.5063	0.61829
0.5063	-0.00477	0.30378	-1.03537	0.5063	0.69674
0.50796	-0.16944	0.30378	-0.82943	0.50796	0.60071
0.50796	-0.33412	0.30378	-0.59407	0.50796	0.66936
0.50962	-0.33412	0.30544	-0.62349	0.50962	0.57334
0.50962	-0.43014	0.30544	-0.68233	0.50962	0.64198
0.51128	-0.33207	0.30544	-0.76078	0.51128	0.50673
0.51128	-0.44771	0.3071	-0.84904	0.51128	0.57538
0.51294	-0.35945	0.3071	-1.03537	0.51294	0.49897
0.5146	-0.45548	0.3071	-1.14325	0.5146	0.548
0.5146	-0.3378	0.30876	-1.23151	0.5146	0.46178
0.51626	-0.43382	0.30876	-1.30015	0.51626	0.51286
0.51626	-0.44159	0.30876	-1.34919	0.51626	0.77764

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.51792	-0.35333	0.31042	-1.43745	0.51792	0.74045
0.51792	-0.46897	0.31042	-1.43745	0.51792	0.84833
0.51958	-0.41013	0.31042	-1.43745	0.51958	0.77191
0.51958	-0.50615	0.31208	-1.43745	0.51958	0.84056
0.52124	-0.50615	0.31208	-1.48648	0.52124	0.74454
0.52124	-0.67082	0.31208	-1.54532	0.52124	0.80338
0.5229	-0.6316	0.31374	-1.59435	0.5229	0.6387
0.52456	-0.75704	0.31374	-1.59435	0.52456	0.72697
0.52456	-0.70801	0.31374	-1.59435	0.52456	0.63094
0.52622	-0.87268	0.3154	-1.59435	0.52622	0.50549
0.52622	-0.82365	0.3154	-1.54532	0.52622	0.58395
0.52788	-0.91967	0.3154	-1.46687	0.52788	0.49773
0.52788	-0.98628	0.31706	-1.37861	0.52788	0.61541
0.52954	-0.92744	0.31706	-1.33938	0.52954	0.539
0.52954	-0.98423	0.31706	-1.26093	0.52954	0.6861
0.5312	-0.87636	0.31872	-1.20209	0.5312	0.76659
0.5312	-0.82529	0.31872	-1.09421	0.5312	0.84505
0.53286	-0.48205	0.31872	-1.03537	0.53286	0.72941
0.53452	-0.06813	0.32038	-0.95692	0.53452	0.60396
0.53452	0.35356	0.32038	-0.95692	0.53452	0.60396
0.53618	0.3458	0.32038	-0.95692	0.53618	0.43929
0.53618	0.31842	0.32204	-0.95692	0.53618	0.43929
0.53686	0.34323	0.32204	-0.95692	0.53686	0.27462
0.53686	0.42169	0.32204	-0.95692	0.53686	0.27462
0.53686	0.46091	0.3237	-0.98634	0.53686	0.10995
0.53852	0.53937	0.3237	-1.03537	0.53852	0.13937
0.54018	0.59821	0.3237	-1.09421	0.54018	0.03354
0.54018	0.71589	0.32536	-1.09421	0.54018	-0.05268
0.54184	0.79434	0.32536	-1.09421	0.54184	-0.01345
0.54184	0.90222	0.32536	-1.13344	0.54184	-0.08987
0.5435	1.05912	0.32702	-1.18247	0.5435	-0.04083
0.54516	1.21603	0.32702	-1.24131	0.54516	-0.10744
0.54516	1.36313	0.32702	-1.24131	0.54516	-0.0486
0.54682	1.3141	0.32868	-1.24131	0.54682	-0.1152
0.54682	1.28468	0.32868	-1.28054	0.54682	-0.05636
0.54848	1.28468	0.32868	-1.31977	0.54848	-0.08374
0.54848	1.28468	0.33034	-1.3688	0.54848	-0.08374
0.55014	1.28468	0.33034	-1.3688	0.55014	-0.10131

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.55014	1.28468	0.33034	-1.3688	0.55014	-0.06209
0.5518	1.34352	0.33034	-1.3688	0.5518	-0.16792
0.5518	1.45139	0.332	-1.32957	0.5518	-0.25414
0.55346	1.73579	0.332	-1.28054	0.55346	-0.21491
0.55512	2.01037	0.33366	-1.21189	0.55512	-0.31093
0.55512	2.42225	0.33366	-1.21189	0.55512	-0.23248
0.55678	3.05969	0.33366	-1.17267	0.55678	-0.35793
0.55678	3.25582	0.33366	-1.12363	0.55678	-0.22063
0.55844	3.39312	0.33532	-1.0746	0.55844	-0.3853
0.55844	3.49119	0.33532	-1.0746	0.55844	-0.27743
0.5601	3.49119	0.33532	-1.0746	0.5601	-0.35384
0.5601	3.49119	0.33698	-1.0746	0.5601	-0.44006
0.56176	3.49119	0.33698	-1.0746	0.56176	-0.31257
0.56176	3.41273	0.33698	-1.0746	0.56176	-0.36937
0.56342	3.20679	0.33864	-1.11383	0.56342	-0.17324
0.56508	3.02046	0.33864	-1.17267	0.56508	0.07397
0.56508	2.67723	0.33864	-1.25112	0.56508	0.27991
0.56674	2.51052	0.3403	-1.25112	0.56674	0.30157
0.56674	2.3438	0.3403	-1.33938	0.56674	0.61538
0.5684	2.17709	0.3403	-1.40803	0.5684	0.55858
0.5684	2.01037	0.34196	-1.40803	0.5684	0.64684
0.57006	1.85347	0.34196	-1.40803	0.57006	0.55082
0.57006	1.71617	0.34196	-1.40803	0.57006	0.43518
0.57172	1.57888	0.34362	-1.40803	0.57172	0.47441
0.57172	1.45139	0.34362	-1.40803	0.57172	0.34896
0.57338	1.21603	0.34362	-1.40803	0.57338	0.34896
0.57504	1.09835	0.34528	-1.3688	0.57504	0.24313
0.57504	0.98067	0.34528	-1.31977	0.57504	0.40984
0.5767	0.86299	0.34528	-1.27073	0.5767	0.2844
0.5767	0.7355	0.34694	-1.27073	0.5767	0.36285
0.57836	0.62763	0.34694	-1.27073	0.57836	0.25702
0.57836	0.51976	0.34694	-1.2217	0.57836	0.35509
0.58002	0.42169	0.3486	-1.16286	0.58002	0.24926
0.58002	0.23536	0.3486	-1.09421	0.58002	0.18265
0.58168	0.15691	0.3486	-1.09421	0.58168	0.24149
0.58334	0.07845	0.35026	-1.05498	0.58334	0.17489
0.58334	0.00981	0.35026	-1.00595	0.58334	0.3416
0.585	-0.05884	0.35026	-0.9275	0.585	0.25538

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.585	-0.13729	0.35192	-0.9275	0.585	0.40248
0.58666	-0.19613	0.35192	-0.88827	0.58666	0.50259
0.58666	-0.27459	0.35192	-0.83924	0.58666	0.63008
0.58832	-0.37265	0.35358	-0.7804	0.58832	0.58309
0.58832	-0.62763	0.35358	-0.7804	0.58832	0.52629
0.58998	-0.99048	0.35358	-0.7804	0.58998	0.61455
0.58998	-1.20622	0.35524	-0.7804	0.58998	0.52833
0.59164	-1.42197	0.35524	-0.7804	0.59164	0.6264
0.5933	-1.63772	0.35524	-0.7804	0.5933	0.50095
0.5933	-1.84366	0.3569	-0.7804	0.5933	0.50095
0.59496	-2.03979	0.3569	-0.7804	0.59496	0.33628
0.59496	-2.20651	0.3569	-0.7804	0.59496	0.33628
0.59662	-2.35361	0.35856	-0.7804	0.59662	0.21084
0.59662	-2.46148	0.35856	-0.7804	0.59662	0.26968
0.59828	-2.60858	0.35856	-0.7804	0.59828	0.17365
0.59828	-2.65762	0.35856	-0.7804	0.59828	0.00898
0.59994	-2.65762	0.36022	-0.7804	0.59994	0.07763
0.59994	-2.65762	0.36022	-0.7804	0.59994	0.01102
0.6016	-2.65762	0.36188	-0.7804	0.6016	0.07967
0.60326	-2.65762	0.36188	-0.7804	0.60326	0.15036
0.60326	-2.60858	0.36188	-0.75098	0.60326	0.30726
0.60492	-2.53994	0.36188	-0.70194	0.60492	0.36815
0.60492	-2.45167	0.36354	-0.6431	0.60492	-0.79664
0.60658	-2.40264	0.36354	-0.6431	0.60658	-0.89267
0.60658	-2.32419	0.36354	-0.60388	0.60658	-0.77499
0.60824	-2.13786	0.3652	-0.54504	0.60824	-0.86121
0.60824	-2.0496	0.3652	-0.46658	0.60824	-0.89839
0.6099	-1.94173	0.3652	-0.46658	0.6099	-0.51593
0.6099	-1.80443	0.36686	-0.40774	0.6099	-0.60215
0.61156	-1.61811	0.36686	-0.32929	0.61156	-0.52369
0.61322	-1.59849	0.36686	-0.22142	0.61322	-0.60011
0.61322	-1.55927	0.36852	-0.13316	0.61322	-0.51185
0.61488	-1.55927	0.36852	-0.08412	0.61488	-0.57845
0.61488	-1.55927	0.36852	-0.00567	0.61488	-0.48038
0.61654	-1.471	0.37018	0.04337	0.61654	-0.5568
0.61654	-1.471	0.37018	0.14143	0.61654	-0.63321
0.6182	-1.44158	0.37018	0.21008	0.6182	-0.54495
0.6182	-1.38274	0.37184	0.31795	0.6182	-0.61155

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.61986	-1.30429	0.37184	0.39641	0.61986	-0.41542
0.61986	-1.25526	0.37184	0.51409	0.61986	-0.46241
0.62152	-1.1768	0.3735	0.78867	0.62152	-0.32512
0.62318	-1.08854	0.3735	0.78867	0.62318	-0.34269
0.62318	-0.96106	0.3735	0.94558	0.62318	-0.17597
0.62484	-0.76492	0.37516	0.94558	0.62484	-0.15432
0.62484	-0.74531	0.37516	0.89655	0.62484	0.04182
0.6265	-0.78454	0.37516	0.84751	0.6265	0.08308
0.6265	-0.85318	0.37682	0.77887	0.6265	0.11455
0.62816	-0.95125	0.37682	0.73964	0.62816	0.42836
0.62816	-1.03951	0.37682	0.65138	0.62816	0.36176
0.62982	-1.21603	0.37848	0.42583	0.62982	0.44021
0.63148	-1.58869	0.37848	0.15124	0.63148	0.32457
0.63148	-1.78482	0.37848	0.02375	0.63148	0.3638
0.63314	-1.96134	0.38014	-0.11354	0.63314	0.19913
0.63314	-2.12805	0.38014	-0.24103	0.63314	0.19913
0.6348	-2.37322	0.38014	-0.36852	0.6348	0.03445
0.6348	-2.4811	0.3818	-0.4862	0.6348	-0.00477
0.63646	-2.57916	0.3818	-0.61368	0.63646	-0.16944
0.63646	-2.66742	0.3818	-0.77059	0.63646	-0.33412
0.63812	-2.74588	0.38346	-0.83924	0.63812	-0.33412
0.63812	-2.83414	0.38346	-0.88827	0.63812	-0.43014
0.63978	-2.9224	0.38346	-0.88827	0.63978	-0.33207
0.64144	-3.00085	0.38512	-0.88827	0.64144	-0.44771
0.64144	-3.05969	0.38512	-0.88827	0.64144	-0.35945
0.6431	-3.19698	0.38512	-0.88827	0.6431	-0.45548
0.6431	-3.25582	0.38678	-0.84904	0.6431	-0.3378
0.64476	-3.25582	0.38678	-0.80001	0.64476	-0.43382
0.64476	-3.29505	0.38678	-0.74117	0.64476	-0.44159
0.64642	-3.34408	0.38844	-0.74117	0.64642	-0.35333
0.64642	-3.38331	0.38844	-0.74117	0.64642	-0.46897
0.64808	-3.38331	0.38844	-0.74117	0.64808	-0.41013
0.64974	-3.38331	0.38844	-0.74117	0.64974	-0.50615
0.64974	-3.38331	0.3901	-0.74117	0.64974	-0.50615
0.6514	-3.29505	0.3901	-0.74117	0.6514	-0.67082
0.6514	-3.2264	0.39176	-0.74117	0.6514	-0.6316
0.65306	-3.2264	0.39176	-0.7804	0.65306	-0.75704
0.65306	-3.16756	0.39176	-0.83924	0.65306	-0.70801

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.65472	-3.08911	0.39176	-0.90788	0.65472	-0.87268
0.65472	-3.02046	0.39342	-0.90788	0.65472	-0.82365
0.65638	-2.88317	0.39342	-0.90788	0.65638	-0.91967
0.65638	-2.74588	0.39508	-0.90788	0.65638	-0.98628
0.65804	-2.46148	0.39508	-0.90788	0.65804	-0.92744
0.65804	-2.02999	0.39508	-0.90788	0.65804	-0.98423
0.6597	-1.27487	0.39508	-0.90788	0.6597	-0.87636
0.66136	-0.7355	0.39674	-1.78068	0.66136	-0.82529
0.66136	-0.53937	0.39674	-3.36937	0.66136	-0.48205
0.66302	-0.40207	0.39674	-3.36937	0.66302	-0.06813
0.66302	-0.31381	0.3984	-3.30072	0.66302	0.35356
0.66468	-0.31381	0.3984	-3.25169	0.66468	0.3458
0.66468	-0.31381	0.3984	-2.99671	0.66468	0.31842
0.66634	-0.35304	0.40006	-2.86922	0.66634	0.42629
0.66634	-0.41188	0.40006	-2.60444	0.66634	0.34007
0.668	-0.50995	0.40006	-2.47696	0.668	0.39891
0.668	-0.67666	0.40172	-2.2514	0.668	0.28327
0.66966	-0.74531	0.40172	-2.19256	0.66966	0.31269
0.67132	-0.84338	0.40172	-2.07488	0.67132	0.18725
0.67132	-0.89241	0.40338	-2.03565	0.67132	0.18725
0.67298	-0.96106	0.40338	-1.94739	0.67298	0.13045
0.67298	-1.03951	0.40338	-1.88855	0.67298	0.21871
0.67464	-1.03951	0.40504	-1.80029	0.67464	0.10307
0.67464	-1.10816	0.40504	-1.62377	0.67464	0.20114
0.6763	-1.19642	0.40504	-1.53551	0.6763	0.10512
0.6763	-1.36313	0.4067	-1.35899	0.6763	0.06793
0.67796	-1.44158	0.4067	-1.24131	0.67796	0.12677
0.67796	-1.57888	0.4067	-1.06479	0.67796	0.06997
0.67962	-1.83385	0.40836	-1.00595	0.67962	0.11901
0.68128	-1.94173	0.40836	-0.94711	0.68128	0.08182
0.68128	-2.06921	0.40836	-0.87846	0.68128	0.08182
0.68294	-2.1967	0.41002	-0.82943	0.68294	-0.08285
0.68294	-2.31438	0.41002	-0.82943	0.68294	-0.08285
0.6846	-2.44187	0.41002	-0.82943	0.6846	-0.2083
0.6846	-2.638	0.41168	-0.82943	0.6846	-0.32394
0.68626	-2.71646	0.41168	-0.82943	0.68626	-0.26509
0.68626	-2.7753	0.41168	-0.82943	0.68626	-0.42977
0.68792	-2.83414	0.41334	-0.82943	0.68792	-0.36112

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.68958	-2.83414	0.41334	-0.82943	0.68958	-0.43753
0.68958	-2.83414	0.41334	-0.82943	0.68958	-0.26101
0.69124	-2.83414	0.415	-0.82943	0.69124	-0.33742
0.69124	-2.74588	0.415	-0.86866	0.69124	-0.17071
0.6929	-2.08883	0.415	-0.98634	0.6929	-0.10983
0.6929	0	0.41666	-0.98634	0.6929	0.06874
0.69456	0	0.41666	-0.98634	0.69456	0.17661
0.69456	0	0.41666	-1.01576	0.69456	0.11
0.69622	0	0.41832	-1.06479	0.69622	0.19826
0.69622	0	0.41832	-1.12363	0.69622	0.11205
0.69788	0	0.41832	-1.12363	0.69788	0.23953
0.69954	0	0.41998	-1.17267	0.69954	0.1337
0.69954	0	0.41998	-1.23151	0.69954	0.19254
0.7012	0	0.41998	-1.30015	0.7012	0.02787
0.7012	-0.02942	0.42164	-1.30015	0.7012	0.08671
0.70286	-0.02942	0.42164	-1.30015	0.70286	-0.00932
0.70286	-0.04903	0.42164	-1.33938	0.70286	-0.09553
0.70452	-0.05884	0.42164	-1.33938	0.70452	-0.09553
0.70452	-0.05884	0.4233	-1.33938	0.70452	-0.20137
0.70618	-0.06865	0.4233	-1.33938	0.70618	-0.04446
0.70618	-0.05884	0.42496	-1.33938	0.70618	-0.09145
0.70784	-0.04903	0.42496	-1.33938	0.70784	-0.00319
0.70784	-0.02942	0.42496	-1.28054	0.70784	-0.00115
0.7095	-0.00981	0.42496	-1.18247	0.7095	0.30286
0.71116	-0.00981	0.42662	-1.13344	0.71116	0.27548
0.71116	0	0.42662	-0.95692	0.71116	0.41278
0.71282	0	0.42828	-0.82943	0.71282	0.36578
0.71282	0	0.42828	-0.65291	0.71282	0.31879
0.71448	0	0.42828	-0.38813	0.71448	0.39725
0.71448	0	0.42828	-0.07431	0.71448	0.31103
0.71614	0	0.42994	0.28853	0.71614	0.43851
0.7178	0	0.42994	0.73964	0.7178	0.27384
0.7178	0	0.42994	0.76906	0.7178	0.34249
0.71946	0	0.4316	0.76906	0.71946	0.26608
0.71946	-0.74393	0.4316	0.72003	0.71946	0.32492
0.72112	-0.85957	0.4316	0.63177	0.72112	0.26812
0.72112	-0.79092	0.43326	0.56312	0.72112	0.35638
0.72278	-0.88694	0.43326	0.44544	0.72278	0.35842

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.72278	-0.78888	0.43326	0.34737	0.72278	0.50756
0.72444	-0.89471	0.43492	0.18066	0.72444	0.77235
0.72444	-0.79664	0.43492	-0.08412	0.72444	0.72535
0.7261	-0.89267	0.43492	-0.16258	0.7261	0.82342
0.7261	-0.77499	0.43658	-0.2018	0.7261	0.7372
0.72776	-0.86121	0.43658	-0.24103	0.72776	0.79604
0.72942	-0.89839	0.43658	-0.24103	0.72942	0.6804
0.72942	-0.51593	0.43824	-0.24103	0.72942	0.71963
0.73108	-0.60215	0.43824	-0.27045	0.73108	0.55496
0.73108	-0.52369	0.43824	-0.27045	0.73108	0.42951
0.73274	-0.60011	0.43824	-0.27045	0.73274	0.47855
0.73274	-0.51185	0.43824	-0.32929	0.73274	0.40214
0.7344	-0.57845	0.4399	-0.39794	0.7344	0.46098
0.7344	-0.48038	0.4399	-0.47639	0.7344	0.38456
0.73606	-0.5568	0.4399	-0.51562	0.73606	0.4434
0.73772	-0.63321	0.44156	-0.58426	0.73772	0.3768
0.73772	-0.54495	0.44156	-0.65291	0.73772	0.45525
0.73938	-0.61155	0.44156	-0.65291	0.73938	0.42787
0.73938	-0.41542	0.44322	-0.65291	0.73938	0.68285
0.74104	-0.46241	0.44322	-0.65291	0.74104	0.61624
0.74104	-0.32512	0.44322	-0.65291	0.74104	0.61829
0.7427	-0.34269	0.44488	-0.65291	0.7427	0.69674
0.7427	-0.17597	0.44488	-0.65291	0.7427	0.60071
0.74436	-0.15432	0.44488	-0.65291	0.74436	0.66936
0.74436	0.04182	0.44654	-0.61368	0.74436	0.57334
0.74602	0.08308	0.44654	-0.56465	0.74602	0.64198
0.74768	0.11455	0.44654	-0.51562	0.74768	0.50673
0.74768	0.42836	0.4482	-0.51562	0.74768	0.57538
0.74934	0.36176	0.4482	-0.51562	0.74934	0.49897
0.74934	0.44021	0.4482	-0.46658	0.74934	0.548
0.751	0.32457	0.44986	-0.39794	0.751	0.46178
0.751	0.3638	0.44986	-0.31948	0.751	0.51286
0.75266	0.19913	0.44986	-0.31948	0.75266	0.77764
0.75266	0.19913	0.45152	-0.21161	0.75266	0.74045
0.75432	0.03445	0.45152	-0.15277	0.75432	0.84833
0.75432	-0.00477	0.45152	-0.15277	0.75432	0.77191
0.75598	-0.16944	0.45318	-0.192	0.75598	0.84056
0.75764	-0.33412	0.45318	-0.27045	0.75764	0.74454

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.75764	-0.33412	0.45318	-0.35871	0.75764	-0.33412
0.7593	-0.43014	0.45484	-0.54504	0.7593	-0.43014
0.7593	-0.33207	0.45484	-0.87846	0.7593	-0.33207
0.76096	-0.44771	0.45484	-1.96701	0.76096	-0.44771
0.76096	-0.35945	0.4565	-2.89864	0.76096	-0.35945
0.76262	-0.45548	0.4565	-3.11439	0.76262	-0.45548
0.76262	-0.3378	0.4565	-3.26149	0.76262	-0.3378
0.76428	-0.43382	0.45816	-3.31053	0.76428	-0.43382
0.76594	-0.44159	0.45816	-3.31053	0.76594	-0.44159
0.76594	-0.35333	0.45816	-3.2713	0.76594	-0.35333
0.7676	-0.46897	0.45982	-3.18304	0.7676	-0.46897
0.7676	-0.41013	0.45982	-3.06536	0.7676	-0.41013
0.76926	-0.50615	0.45982	-2.77116	0.76926	-0.50615
0.76926	-0.50615	0.46148	-2.58483	0.76926	-0.50615
0.77092	-0.67082	0.46148	-2.26121	0.77092	-0.67082
0.77092	-0.6316	0.46148	-2.11411	0.77092	-0.6316
0.77258	-0.75704	0.46148	-1.98662	0.77258	-0.75704
0.77258	-0.70801	0.46314	-1.86894	0.77258	-0.70801
0.77424	-0.87268	0.46314	-1.80029	0.77424	-0.87268
0.77424	-0.82365	0.46314	-1.73165	0.77424	-0.82365
0.7759	-0.91967	0.4648	-1.67281	0.7759	-0.91967
0.77756	-0.98628	0.4648	-1.64339	0.77756	-0.98628
0.77756	-0.92744	0.4648	-1.64339	0.77756	-0.92744
0.77922	-0.98423	0.46646	-1.64339	0.77922	-0.98423
0.77922	-0.87636	0.46646	-1.64339	0.77922	-0.87636
0.78088	-0.82529	0.46646	-1.59435	0.78088	-0.82529
0.78088	-0.48205	0.46812	-1.53551	0.78088	-0.48205
0.78254	-0.06813	0.46812	-1.43745	0.78254	-0.06813
0.78254	0.35356	0.46812	-1.37861	0.78254	0.35356
0.7842	0.3458	0.46978	-1.28054	0.7842	0.3458
0.78586	0.31842	0.46978	-1.19228	0.78586	0.31842
0.78586	0.42629	0.46978	-1.03537	0.78586	0.42629
0.78752	0.34007	0.47144	-0.82943	0.78752	0.34007
0.78752	0.39891	0.47144	-0.59407	0.78752	0.39891
0.78918	0.28327	0.47144	-0.62349	0.78918	0.28327
0.78918	0.31269	0.4731	-0.68233	0.78918	0.31269
0.79084	0.18725	0.4731	-0.76078	0.79084	0.18725
0.79084	0.18725	0.4731	-0.84904	0.79084	0.18725

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.7925	0.13045	0.47476	-1.03537	0.7925	0.13045
0.7925	0.21871	0.47476	-1.14325	0.7925	0.21871
0.79416	0.10307	0.47476	-1.23151	0.79416	0.10307
0.79416	0.20114	0.47642	-1.30015	0.79416	0.20114
0.79582	0.10512	0.47642	-1.34919	0.79582	0.10512
0.79748	0.06793	0.47642	-1.43745	0.79748	0.06793
0.79748	0.12677	0.47808	-1.43745	0.79748	0.12677
0.79914	0.06997	0.47808	-1.43745	0.79914	0.06997
0.79914	0.11901	0.47808	-1.43745	0.79914	0.11901
0.8008	0.08182	0.47974	-1.48648	0.8008	0.08182
0.8008	0.08182	0.47974	-1.54532	0.8008	0.08182
0.80246	-0.08285	0.47974	-1.59435	0.80246	-0.08285
0.80246	-0.08285	0.4814	-1.59435	0.80246	-0.08285
0.80412	-0.2083	0.4814	-1.59435	0.80412	-0.2083
0.80578	-0.32394	0.4814	-1.59435	0.80578	-0.32394
0.80578	-0.26509	0.48306	-1.54532	0.80578	-0.26509
0.80744	-0.42977	0.48306	-1.46687	0.80744	-0.42977
0.80744	-0.36112	0.48306	-1.37861	0.80744	-0.36112
0.8091	-0.43753	0.48472	-1.33938	0.8091	-0.43753
0.8091	-0.26101	0.48472	-1.26093	0.8091	-0.26101
0.81076	-0.33742	0.48472	-1.20209	0.81076	-0.33742
0.81076	-0.17071	0.48638	-1.09421	0.81076	-0.17071
0.81242	-0.10983	0.48638	-1.03537	0.81242	-0.10983
0.81408	0.06874	0.48638	-0.95692	0.81408	0.06874
0.81408	0.17661	0.48804	-0.95692	0.81408	0.17661
0.81574	0.11	0.48804	-0.95692	0.81574	0.11
0.81574	0.19826	0.48804	-0.95692	0.81574	0.19826
0.8174	0.11205	0.4897	-0.95692	0.8174	0.11205
0.8174	0.23953	0.4897	-0.95692	0.8174	0.23953
0.81906	0.1337	0.4897	-0.98634	0.81906	0.1337
0.81906	0.19254	0.49136	-1.03537	0.81906	0.19254
0.82072	0.02787	0.49136	-1.09421	0.82072	0.02787
0.82072	0.08671	0.49136	-1.09421	0.82072	0.08671
0.82238	-0.00932	0.49302	-1.09421	0.82238	-0.00932
0.82404	-0.09553	0.49302	-1.13344	0.82404	-0.09553
0.82404	-0.09553	0.49302	-1.18247	0.82404	-0.09553
0.8257	-0.20137	0.49468	-1.24131	0.8257	-0.20137
0.8257	-0.04446	0.49468	-1.24131	0.8257	-0.04446

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.82736	-0.09145	0.49468	-1.24131	0.82736	-0.09145
0.82736	-0.00319	0.49634	-1.28054	0.82736	-0.00319
0.82902	-0.00115	0.49634	-1.31977	0.82902	-0.00115
0.82902	0.30286	0.49634	-1.3688	0.82902	0.30286
0.83068	0.27548	0.498	-1.3688	0.83068	0.27548
0.83068	0.41278	0.498	-1.3688	0.83068	0.41278
0.83234	0.36578	0.498	-1.3688	0.83234	0.36578
0.834	0.31879	0.498	-1.32957	0.834	0.31879
0.834	0.39725	0.49966	-1.28054	0.834	0.39725
0.83566	0.31103	0.49966	-1.21189	0.83566	0.31103
0.83566	0.43851	0.50132	-1.21189	0.83566	0.43851
0.83732	0.27384	0.50132	-1.17267	0.83732	0.27384
0.83732	0.34249	0.50132	-1.12363	0.83732	0.34249
0.83898	0.26608	0.50298	-1.0746	0.83898	0.26608
0.83898	0.32492	0.50298	-1.0746	0.83898	0.32492
0.84064	0.26812	0.50298	-1.0746	0.84064	0.26812
0.84064	0.35638	0.50298	-1.0746	0.84064	0.35638
0.8423	0.35842	0.50464	-1.0746	0.8423	0.35842
0.84396	0.50756	0.50464	-1.0746	0.84396	0.50756
0.84396	0.77235	0.50464	-1.11383	0.84396	0.77235
0.84562	0.72535	0.5063	-1.17267	0.84562	0.72535
0.84562	0.82342	0.5063	-1.25112	0.84562	0.82342
0.84728	0.7372	0.5063	-1.25112	0.84728	0.7372
0.84728	0.79604	0.50796	-1.33938	0.84728	0.79604
0.84894	0.6804	0.50796	-1.40803	0.84894	0.6804
0.84894	0.71963	0.50796	-1.40803	0.84894	0.71963
0.8506	0.55496	0.50962	-1.40803	0.8506	0.55496
0.85226	0.42951	0.50962	-1.40803	0.85226	0.42951
0.85226	0.47855	0.50962	-1.40803	0.85226	0.47855
0.85392	0.40214	0.51128	-1.40803	0.85392	0.40214
0.85392	0.46098	0.51128	-1.40803	0.85392	0.46098
0.85558	0.38456	0.51128	-1.3688	0.85558	0.38456
0.85558	0.4434	0.51294	-1.31977	0.85558	0.4434
0.85724	0.3768	0.51294	-1.27073	0.85724	0.3768
0.85724	0.45525	0.51294	-1.27073	0.85724	0.45525
0.8589	0.42787	0.5146	-1.27073	0.8589	0.42787
0.8589	0.68285	0.5146	-1.2217	0.8589	0.68285
0.86056	0.61624	0.5146	-1.16286	0.86056	0.61624

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.86222	0.61829	0.51626	-1.09421	0.86222	0.61829
0.86222	0.69674	0.51626	-1.09421	0.86222	0.69674
0.86388	0.60071	0.51626	-1.05498	0.86388	0.60071
0.86388	0.66936	0.51792	-1.00595	0.86388	0.66936
0.86554	0.57334	0.51792	-0.9275	0.86554	0.57334
0.86554	0.64198	0.51792	-0.9275	0.86554	0.64198
0.8672	0.50673	0.51958	-0.88827	0.8672	0.50673
0.8672	0.57538	0.51958	-0.83924	0.8672	0.57538
0.86886	0.49897	0.51958	-0.7804	0.86886	0.49897
0.86886	0.548	0.52124	-0.7804	0.86886	0.548
0.87052	0.46178	0.52124	-0.7804	0.87052	0.46178
0.87218	0.51286	0.52124	-0.7804	0.87218	0.51286
0.87218	0.77764	0.5229	-0.7804	0.87218	0.77764
0.87384	0.74045	0.5229	-0.7804	0.87384	0.74045
0.87384	0.84833	0.5229	-0.7804	0.87384	0.84833
0.8755	0.77191	0.52456	-0.7804	0.8755	0.77191
0.8755	0.84056	0.52456	-0.7804	0.8755	0.84056
0.87716	0.74454	0.52456	-0.7804	0.87716	0.74454
0.87716	0.80338	0.52622	-0.7804	0.87716	0.80338
0.87882	0.6387	0.52622	-0.7804	0.87882	0.6387
0.87882	0.72697	0.52622	-0.7804	0.87882	0.72697
0.88048	0.63094	0.52788	-0.7804	0.88048	0.63094
0.88214	0.50549	0.52788	-0.7804	0.88214	0.50549
0.88214	0.58395	0.52788	-0.7804	0.88214	0.58395
0.8838	0.49773	0.52954	-0.7804	0.8838	0.49773
0.8838	0.61541	0.52954	-0.75098	0.8838	0.61541
0.88546	0.539	0.52954	-0.70194	0.88546	0.539
0.88546	0.6861	0.5312	-0.6431	0.88546	0.6861
0.88712	0.76659	0.5312	-0.6431	0.88712	0.76659
0.88712	0.84505	0.5312	-0.60388	0.88712	0.84505
0.88878	0.72941	0.5312	-0.54504	0.88878	0.72941
0.89044	0.60396	0.53286	-0.46658	0.89044	0.60396
0.89044	0.60396	0.53286	-0.46658	0.89044	0.60396
0.8921	0.43929	0.53452	-0.40774	0.8921	0.43929
0.8921	0.43929	0.53452	-0.32929	0.8921	0.43929
0.89376	0.27462	0.53452	-0.22142	0.89376	0.27462
0.89376	0.27462	0.53618	-0.13316	0.89376	0.27462
0.89542	0.10995	0.53618	-0.08412	0.89542	0.10995

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.89542	0.13937	0.53618	-0.00567	0.89542	0.13937
0.89708	0.03354	0.53618	0.04337	0.89708	0.03354
0.89874	-0.05268	0.53784	0.14143	0.89874	-0.05268
0.89874	-0.01345	0.53784	0.21008	0.89874	-0.01345
0.9004	-0.08987	0.53784	0.31795	0.9004	-0.08987
0.9004	-0.04083	0.5395	0.39641	0.9004	-0.04083
0.90206	-0.10744	0.5395	0.51409	0.90206	-0.10744
0.90206	-0.0486	0.5395	0.78867	0.90206	-0.0486
0.90372	-0.1152	0.54116	0.78867	0.90372	-0.1152
0.90372	-0.05636	0.54116	0.94558	0.90372	-0.05636
0.90538	-0.08374	0.54116	0.94558	0.90538	-0.08374
0.90538	-0.08374	0.54282	0.89655	0.90538	-0.08374
0.90704	-0.10131	0.54282	0.84751	0.90704	-0.10131
0.90704	-0.06209	0.54282	0.77887	0.90704	-0.06209
0.9087	-0.16792	0.54448	0.73964	0.9087	-0.16792
0.91036	-0.25414	0.54448	0.65138	0.91036	-0.25414
0.91036	-0.21491	0.54448	0.42583	0.91036	-0.21491
0.91202	-0.31093	0.54614	0.15124	0.91202	-0.31093
0.91202	-0.23248	0.54614	0.02375	0.91202	-0.23248
0.91368	-0.35793	0.54614	-0.11354	0.91368	-0.35793
0.91368	-0.22063	0.5478	-0.24103	0.91368	-0.22063
0.91534	-0.3853	0.5478	-0.36852	0.91534	-0.3853
0.91534	-0.27743	0.5478	-0.4862	0.91534	-0.27743
0.917	-0.35384	0.54946	-0.61368	0.917	-0.35384
0.91866	-0.44006	0.54946	-0.77059	0.91866	-0.44006
0.91866	-0.31257	0.54946	-0.83924	0.91866	-0.31257
0.92032	-0.36937	0.55112	-0.88827	0.92032	-0.36937
0.92032	-0.17324	0.55112	-0.88827	0.92032	-0.17324
0.92198	0.07397	0.55112	-0.88827	0.92198	0.07397
0.92198	0.27991	0.55278	-0.88827	0.92198	0.27991
0.92364	0.30157	0.55278	-0.88827	0.92364	0.30157
0.92364	0.61538	0.55278	-0.84904	0.92364	0.61538
0.9253	0.55858	0.55444	-0.80001	0.9253	0.55858
0.9253	0.64684	0.55444	-0.74117	0.9253	0.64684
0.92696	0.55082	0.55444	-0.74117	0.92696	0.55082
0.92862	0.43518	0.5561	-0.74117	0.92862	0.43518
0.92862	0.47441	0.5561	-0.74117	0.92862	0.47441
0.93028	0.34896	0.5561	-0.74117	0.93028	0.34896

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.93028	0.34896	0.55776	-0.74117	0.93028	0.34896
0.93194	0.24313	0.55776	-0.74117	0.93194	0.24313
0.93194	0.40984	0.55776	-0.74117	0.93194	0.40984
0.9336	0.2844	0.55942	-0.7804	0.9336	0.2844
0.9336	0.36285	0.55942	-0.83924	0.9336	0.36285
0.93526	0.25702	0.55942	-0.90788	0.93526	0.25702
0.93526	0.35509	0.56108	-0.90788	0.93526	0.35509
0.93692	0.24926	0.56108	-0.90788	0.93692	0.24926
0.93858	0.18265	0.56108	-0.90788	0.93858	0.18265
0.93858	0.24149	0.56274	-0.90788	0.93858	0.24149
0.94024	0.17489	0.56274	-0.90788	0.94024	0.17489
0.94024	0.3416	0.56274	-0.90788	0.94024	0.3416
0.9419	0.25538	0.5644	-0.90788	0.9419	0.25538
0.9419	0.40248	0.5644	-0.86866	0.9419	0.40248
0.94356	0.50259	0.5644	-0.80982	0.94356	0.50259
0.94356	0.63008	0.5644	-0.74117	0.94356	0.63008
0.94522	0.58309	0.56606	-0.69214	0.94522	0.58309
0.94688	0.52629	0.56606	-0.6333	0.94688	0.52629
0.94688	0.61455	0.56772	-0.56465	0.94688	0.61455
0.94854	0.52833	0.56772	-0.56465	0.94854	0.52833
0.94854	0.6264	0.56772	-0.56465	0.94854	0.6264
0.9502	0.50095	0.56772	-0.52542	0.9502	0.50095
0.9502	0.50095	0.56938	-0.47639	0.9502	0.50095
0.95186	0.33628	0.56938	-0.42736	0.95186	0.33628
0.95186	0.33628	0.56938	-0.42736	0.95186	0.33628
0.95352	0.21084	0.57104	-0.42736	0.95352	0.21084
0.95352	0.26968	0.57104	-0.42736	0.95352	0.26968
0.95518	0.17365	0.57104	-0.38813	0.95518	0.17365
0.95684	0.00898	0.5727	-0.3489	0.95684	0.00898
0.95684	0.07763	0.5727	-0.3489	0.95684	0.07763
0.9585	0.01102	0.5727	-0.3489	0.9585	0.01102
0.9585	0.07967	0.57436	-0.3489	0.9585	0.07967
0.96016	0.15036	0.57436	-0.3489	0.96016	0.15036
0.96016	0.30726	0.57436	-0.3489	0.96016	0.30726
0.96182	0.36815	0.57602	-0.3489	0.96182	0.36815
0.96182	0.76041	0.57602	-0.3489	0.96182	0.76041
0.96348	0.75265	0.57602	-0.3489	0.96348	0.75265
0.96514	0.7645	0.57768	-0.3489	0.96514	0.7645

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.96514	0.93121	0.57768	-0.3489	0.96514	0.93121
0.9668	0.93325	0.57768	-0.3489	0.9668	0.93325
0.9668	1.09997	0.57934	-0.3489	0.9668	1.09997
0.96846	1.21969	0.57934	-0.3489	0.96846	1.21969
0.96846	1.34718	0.57934	-0.3489	0.96846	1.34718
0.97012	1.29038	0.581	-0.31948	0.97012	1.29038
0.97012	1.36883	0.581	-0.31948	0.97012	1.36883
0.97178	1.263	0.581	-0.31948	0.97178	1.263
0.97178	1.31203	0.58266	-0.28026	0.97178	1.31203
0.97344	1.14736	0.58266	-0.192	0.97344	1.14736
0.97344	1.14736	0.58266	-0.192	0.97344	1.14736
0.9751	0.98269	0.58432	-0.192	0.9751	0.98269
0.97676	0.81802	0.58432	-0.192	0.97676	0.81802
0.97676	0.81802	0.58432	-0.23122	0.97676	0.81802
0.97842	0.65335	0.58598	-0.29006	0.97842	0.65335
0.97842	0.65335	0.58598	-0.35871	0.97842	0.65335
0.98008	0.48867	0.58598	-0.35871	0.98008	0.48867
0.98008	0.48867	0.58764	-0.40774	0.98008	0.48867
0.98174	0.324	0.58764	-0.4862	0.98174	0.324
0.98174	0.324	0.58764	-0.54504	0.98174	0.324
0.9834	0.15933	0.5893	-0.61368	0.9834	0.15933
0.98506	-0.00534	0.5893	-0.69214	0.98506	-0.00534
0.98506	-0.00534	0.5893	-0.69214	0.98506	-0.00534
0.98672	-0.17001	0.59096	-0.69214	0.98672	-0.17001
0.98672	-0.17001	0.59096	-0.69214	0.98672	-0.17001
0.98838	-0.33469	0.59096	-0.69214	0.98838	-0.33469
0.98838	-0.29546	0.59262	-1.73342	0.98838	-0.29546
0.99004	-0.4111	0.59262	-1.73342	0.99004	-0.4111
0.99004	-0.4111	0.59262	-1.73342	0.99004	-0.4111
0.9917	-0.52674	0.59428	-1.8131	0.9917	-0.52674
0.9917	-0.39925	0.59428	-1.8131	0.9917	-0.39925
0.99336	-0.56392	0.59428	-1.8131	0.99336	-0.56392
0.99502	-0.68937	0.59594	-1.89278	0.99502	-0.68937
0.99502	-0.63053	0.59594	-1.89278	0.99502	-0.63053
0.99668	-0.72655	0.59594	-1.89278	0.99668	-0.72655
0.99668	-0.72655	0.5976	-1.97246	0.99668	-0.72655
0.99834	-0.82258	0.5976	-1.894	0.99834	-0.82258
0.99834	-0.7049	0.5976	-1.82536	0.99834	-0.7049

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1	-0.74393	0.59926	-1.90504	1	-0.74393
1	-0.85957	0.59926	-1.86581	1	-0.85957
1	-0.79092	0.59926	-1.78736	1	-0.79092
1.00166	-0.88694	0.60092	-1.76897	1.00166	-0.88694
1.00332	-0.78888	0.60092	-1.73955	1.00332	-0.78888
1.00332	-0.89471	0.60092	-1.6611	1.00332	-0.89471
1.00498	-0.79664	0.60258	-1.6329	1.00498	-0.79664
1.00498	-0.89267	0.60258	-1.57406	1.00498	-0.89267
1.00664	-0.77499	0.60258	-1.37793	1.00664	-0.77499
1.0083	-0.86121	0.60258	-1.33012	1.0083	-0.86121
1.0083	-0.89839	0.60424	-1.14379	1.0083	-0.89839
1.00996	-0.51593	0.60424	-0.87901	1.00996	-0.51593
1.00996	-0.60215	0.60424	-0.6743	1.00996	-0.60215
1.01162	-0.52369	0.6059	-0.3801	1.01162	-0.52369
1.01162	-0.60011	0.6059	-0.0957	1.01162	-0.60011
1.01328	-0.51185	0.6059	-0.24403	1.01328	-0.51185
1.01328	-0.57845	0.60756	-0.45978	1.01328	-0.57845
1.01494	-0.48038	0.60756	-0.58726	1.01494	-0.48038
1.01494	-0.5568	0.60756	-0.80424	1.01494	-0.5568
1.0166	-0.63321	0.60922	-0.94153	1.0166	-0.63321
1.01826	-0.54495	0.60922	-1.0396	1.01826	-0.54495
1.01826	-0.61155	0.60922	-1.20754	1.01826	-0.61155
1.01992	-0.41542	0.61088	-1.26638	1.01992	-0.41542
1.01992	-0.46241	0.61088	-1.26638	1.01992	-0.46241
1.02158	-0.32512	0.61088	-1.34606	1.02158	-0.32512
1.02158	-0.34269	0.61254	-1.34606	1.02158	-0.34269
1.02324	-0.17597	0.61254	-1.34606	1.02324	-0.17597
1.02324	-0.15432	0.61254	-1.42574	1.02324	-0.15432
1.0249	0.04182	0.6142	-1.42574	1.0249	0.04182
1.0249	0.08308	0.6142	-1.42574	1.0249	0.08308
1.02656	0.11455	0.6142	-1.50542	1.02656	0.11455
1.02822	0.42836	0.61586	-1.54465	1.02822	0.42836
1.02822	0.36176	0.61586	-1.59368	1.02822	0.36176
1.02988	0.44021	0.61586	-1.74201	1.02988	0.44021
1.02988	0.32457	0.61752	-1.74201	1.02988	0.32457
1.03154	0.3638	0.61752	-1.89891	1.03154	0.3638
1.03154	0.19913	0.61752	-2.00801	1.03154	0.19913
1.0332	0.19913	0.61918	-2.07666	1.0332	0.19913

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.0332	0.03445	0.61918	-2.1355	1.0332	0.03445
1.03486	-0.00477	0.61918	-2.21518	1.03486	-0.00477
1.03486	-0.16944	0.62084	-2.21518	1.03486	-0.16944
1.03652	-0.33412	0.62084	-2.17595	1.03652	-0.33412
1.03818	-0.33412	0.62084	-2.18699	1.03818	-0.33412
1.03818	-0.43014	0.6225	-2.07911	1.03818	-0.43014
1.03984	-0.33207	0.6225	-1.89279	1.03984	-0.33207
1.03984	-0.44771	0.6225	-1.8744	1.03984	-0.44771
1.0415	-0.35945	0.62416	-1.73711	1.0415	-0.35945
1.0415	-0.45548	0.62416	-1.78068	1.0415	-0.45548
1.04316	-0.3378	0.62416	-3.36937	1.04316	-0.3378
1.04316	-0.43382	0.62582	-3.36937	1.04316	-0.43382
1.04482	-0.44159	0.62582	-3.30072	1.04482	-0.44159
1.04648	-0.35333	0.62582	-3.25169	1.04648	-0.35333
1.04648	-0.46897	0.62748	-2.99671	1.04648	-0.46897
1.04814	-0.41013	0.62748	-2.86922	1.04814	-0.41013
1.04814	-0.50615	0.62748	-2.60444	1.04814	-0.50615
1.0498	-0.50615	0.62914	-2.47696	1.0498	-0.50615
1.0498	-0.67082	0.62914	-2.2514	1.0498	-0.67082
1.05146	-0.6316	0.62914	-2.19256	1.05146	-0.6316
1.05146	-0.75704	0.6308	-2.07488	1.05146	-0.75704
1.05312	-0.70801	0.6308	-2.03565	1.05312	-0.70801
1.05312	-0.87268	0.6308	-1.94739	1.05312	-0.87268
1.05478	-0.82365	0.6308	-1.88855	1.05478	-0.82365
1.05644	-0.91967	0.63246	-1.80029	1.05644	-0.91967
1.05644	-0.98628	0.63246	-1.62377	1.05644	-0.98628
1.0581	-0.92744	0.63412	-1.53551	1.0581	-0.92744
1.0581	-0.98423	0.63412	-1.35899	1.0581	-0.98423
1.05976	-0.87636	0.63412	-1.24131	1.05976	-0.87636
1.05976	-0.82529	0.63578	-1.06479	1.05976	-0.82529
1.06142	-0.48205	0.63578	-1.00595	1.06142	-0.48205
1.06142	-0.06813	0.63578	-0.94711	1.06142	-0.06813
1.06308	0.35356	0.63578	-0.87846	1.06308	0.35356
1.06308	0.3458	0.63744	-0.82943	1.06308	0.3458
1.06474	0.31842	0.63744	-0.82943	1.06474	0.31842
1.0664	0.42629	0.63744	-0.82943	1.0664	0.42629
1.0664	0.34007	0.6391	-0.82943	1.0664	0.34007
1.06806	0.39891	0.6391	-0.82943	1.06806	0.39891

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.06806	0.28327	0.6391	-0.82943	1.06806	0.28327
1.06972	0.31269	0.64076	-0.82943	1.06972	0.31269
1.06972	0.18725	0.64076	-0.82943	1.06972	0.18725
1.07138	0.18725	0.64076	-0.82943	1.07138	0.18725
1.07138	0.13045	0.64242	-0.82943	1.07138	0.13045
1.07304	0.21871	0.64242	-0.86866	1.07304	0.21871
1.07304	0.10307	0.64242	-0.98634	1.07304	0.10307
1.0747	0.20114	0.64408	-0.98634	1.0747	0.20114
1.07636	0.10512	0.64408	-0.98634	1.07636	0.10512
1.07636	0.06793	0.64408	-1.01576	1.07636	0.06793
1.07802	0.12677	0.64574	-1.06479	1.07802	0.12677
1.07802	0.06997	0.64574	-1.12363	1.07802	0.06997
1.07968	0.11901	0.64574	-1.12363	1.07968	0.11901
1.07968	0.08182	0.6474	-1.17267	1.07968	0.08182
1.08134	0.08182	0.6474	-1.23151	1.08134	0.08182
1.08134	-0.08285	0.6474	-1.30015	1.08134	-0.08285
1.083	-0.08285	0.64906	-1.30015	1.083	-0.08285
1.083	-0.2083	0.64906	-1.30015	1.083	-0.2083
1.08466	-0.32394	0.64906	-1.33938	1.08466	-0.32394
1.08632	-0.26509	0.65072	-1.33938	1.08632	-0.26509
1.08632	-0.42977	0.65072	-1.33938	1.08632	-0.42977
1.08798	-0.36112	0.65072	-1.33938	1.08798	-0.36112
1.08798	-0.43753	0.65238	-1.33938	1.08798	-0.43753
1.08964	-0.26101	0.65238	-1.33938	1.08964	-0.26101
1.08964	-0.33742	0.65238	-1.28054	1.08964	-0.33742
1.0913	-0.17071	0.65404	-1.18247	1.0913	-0.17071
1.0913	-0.10983	0.65404	-1.13344	1.0913	-0.10983
1.09296	0.06874	0.65404	-0.95692	1.09296	0.06874
1.09462	0.17661	0.6557	-0.82943	1.09462	0.17661
1.09462	0.11	0.6557	-0.65291	1.09462	0.11
1.09628	0.19826	0.6557	-0.38813	1.09628	0.19826
1.09628	0.11205	0.65736	-0.07431	1.09628	0.11205
1.09794	0.23953	0.65736	0.28853	1.09794	0.23953
1.09794	0.1337	0.65736	0.73964	1.09794	0.1337
1.0996	0.19254	0.65902	0.76906	1.0996	0.19254
1.0996	0.02787	0.65902	0.76906	1.0996	0.02787
1.10126	0.08671	0.65902	0.72003	1.10126	0.08671
1.10126	-0.00932	0.66068	0.63177	1.10126	-0.00932

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.10292	-0.09553	0.66068	0.56312	1.10292	-0.09553
1.10458	-0.09553	0.66068	0.44544	1.10458	-0.09553
1.10458	-0.20137	0.66176	0.34737	1.10458	-0.20137
1.10624	-0.04446	0.66176	0.18066	1.10624	-0.04446
1.10624	-0.09145	0.66176	-0.08412	1.10624	-0.09145
1.1079	-0.00319	0.66342	-0.16258	1.1079	-0.00319
1.1079	-0.00115	0.66342	-0.2018	1.1079	-0.00115
1.10956	0.30286	0.66342	-0.24103	1.10956	0.30286
1.10956	0.27548	0.66508	-0.24103	1.10956	0.27548
1.11122	0.41278	0.66508	-0.24103	1.11122	0.41278
1.11288	0.36578	0.66508	-0.27045	1.11288	0.36578
1.11288	0.31879	0.66674	-0.27045	1.11288	0.31879
1.11454	0.39725	0.66674	-0.27045	1.11454	0.39725
1.11454	0.31103	0.66674	-0.32929	1.11454	0.31103
1.1162	0.43851	0.6684	-0.39794	1.1162	0.43851
1.1162	0.27384	0.6684	-0.47639	1.1162	0.27384
1.11786	0.34249	0.6684	-0.51562	1.11786	0.34249
1.11786	0.26608	0.67006	-0.58426	1.11786	0.26608
1.11952	0.32492	0.67006	-0.65291	1.11952	0.32492
1.11952	0.26812	0.67006	-0.65291	1.11952	0.26812
1.12118	0.35638	0.67172	-0.65291	1.12118	0.35638
1.12118	0.35842	0.67172	-0.65291	1.12118	0.35842
1.12284	0.50756	0.67172	-0.65291	1.12284	0.50756
1.1245	0.77235	0.67338	-0.65291	1.1245	0.77235
1.1245	0.72535	0.67338	-0.65291	1.1245	0.72535
1.12616	0.82342	0.67338	-0.65291	1.12616	0.82342
1.12616	0.7372	0.67504	-0.61368	1.12616	0.7372
1.12782	0.79604	0.67504	-0.56465	1.12782	0.79604
1.12782	0.6804	0.67504	-0.51562	1.12782	0.6804
1.12948	0.71963	0.6767	-0.51562	1.12948	0.71963
1.12948	0.55496	0.6767	-0.51562	1.12948	0.55496
1.13114	0.42951	0.6767	-0.46658	1.13114	0.42951
1.13114	0.47855	0.67836	-0.39794	1.13114	0.47855
1.1328	0.40214	0.67836	-0.31948	1.1328	0.40214
1.13446	0.46098	0.67836	-0.31948	1.13446	0.46098
1.13446	0.38456	0.68002	-0.21161	1.13446	0.38456
1.13612	0.4434	0.68002	-0.15277	1.13612	0.4434
1.13612	0.3768	0.68002	-0.15277	1.13612	0.3768

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.13778	0.45525	0.68168	-0.192	1.13778	0.45525
1.13778	0.42787	0.68168	-0.27045	1.13778	0.42787
1.13944	0.68285	0.68168	-0.35871	1.13944	0.68285
1.13944	0.61624	0.68334	-0.54504	1.13944	0.61624
1.1411	0.61829	0.68334	-0.87846	1.1411	0.61829
1.1411	0.69674	0.68334	-1.96701	1.1411	0.69674
1.14276	0.60071	0.685	-2.89864	1.14276	0.60071
1.14442	0.66936	0.685	-3.11439	1.14442	0.66936
1.14442	0.57334	0.685	-3.26149	1.14442	0.57334
1.14608	0.64198	0.685	-3.31053	1.14608	0.64198
1.14608	0.50673	0.68666	-3.31053	1.14608	0.50673
1.14774	0.57538	0.68666	-3.2713	1.14774	0.57538
1.14774	0.49897	0.68666	-3.18304	1.14774	0.49897
1.1494	0.548	0.68832	-3.06536	1.1494	0.548
1.1494	0.46178	0.68832	-2.77116	1.1494	0.46178
1.15106	0.51286	0.68832	-2.58483	1.15106	0.51286
1.15272	0.77764	0.68998	-2.26121	1.15272	0.77764
1.15272	0.74045	0.68998	-2.11411	1.15272	0.74045
1.15438	0.84833	0.68998	-1.98662	1.15438	0.84833
1.15438	0.77191	0.69164	-1.86894	1.15438	0.77191
1.15604	0.84056	0.69164	-1.80029	1.15604	0.84056
1.15604	0.74454	0.69164	-1.73165	1.15604	0.74454
1.1577	0.80338	0.6933	-1.67281	1.1577	0.80338
1.1577	0.6387	0.6933	-1.64339	1.1577	0.6387
1.15936	0.72697	0.6933	-1.64339	1.15936	0.72697
1.15936	0.63094	0.69496	-1.64339	1.15936	0.63094
1.16102	0.50549	0.69496	-1.64339	1.16102	0.50549
1.16268	0.58395	0.69496	-1.59435	1.16268	0.58395
1.16268	0.49773	0.69662	-1.53551	1.16268	0.49773
1.16434	0.61541	0.69662	-1.43745	1.16434	0.61541
1.16434	0.539	0.69662	-1.37861	1.16434	0.539
1.166	0.6861	0.69828	-1.28054	1.166	0.6861
1.166	0.76659	0.69828	-1.19228	1.166	0.76659
1.16766	0.84505	0.69828	-1.03537	1.16766	0.84505
1.16766	0.72941	0.69994	-0.82943	1.16766	0.72941
1.16932	0.60396	0.69994	-0.59407	1.16932	0.60396
1.16932	0.60396	0.69994	-0.62349	1.16932	0.60396
1.17098	0.43929	0.7016	-0.68233	1.17098	0.43929

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.17098	0.43929	0.7016	-0.76078	1.17098	0.43929
1.17264	0.27462	0.7016	-0.84904	1.17264	0.27462
1.1743	0.27462	0.70326	-1.03537	1.1743	0.27462
1.1743	0.10995	0.70326	-1.14325	1.1743	0.10995
1.17596	0.13937	0.70326	-1.23151	1.17596	0.13937
1.17596	0.03354	0.70492	-1.30015	1.17596	0.03354
1.17762	-0.05268	0.70492	-1.34919	1.17762	-0.05268
1.17762	-0.01345	0.70492	-1.43745	1.17762	-0.01345
1.17928	-0.08987	0.70658	-1.43745	1.17928	-0.08987
1.18094	-0.04083	0.70658	-1.43745	1.18094	-0.04083
1.18094	-0.10744	0.70658	-1.43745	1.18094	-0.10744
1.1826	-0.0486	0.70824	-1.48648	1.1826	-0.0486
1.1826	-0.1152	0.70824	-1.54532	1.1826	-0.1152
1.18426	-0.05636	0.70824	-1.59435	1.18426	-0.05636
1.18426	-0.08374	0.7099	-1.59435	1.18426	-0.08374
1.18592	-0.08374	0.7099	-1.59435	1.18592	-0.08374
1.18592	-0.10131	0.7099	-1.59435	1.18592	-0.10131
1.18758	-0.06209	0.71156	-1.54532	1.18758	-0.06209
1.18758	-0.16792	0.71156	-1.46687	1.18758	-0.16792
1.18924	-0.25414	0.71156	-1.37861	1.18924	-0.25414
1.18924	-0.21491	0.71322	-1.33938	1.18924	-0.21491
1.1909	-0.31093	0.71322	-1.26093	1.1909	-0.31093
1.19256	-0.23248	0.71322	-1.20209	1.19256	-0.23248
1.19256	-0.35793	0.71488	-1.09421	1.19256	-0.35793
1.19422	-0.22063	0.71488	-1.03537	1.19422	-0.22063
1.19422	-0.3853	0.71488	-0.95692	1.19422	-0.3853
1.19588	-0.27743	0.71654	-0.95692	1.19588	-0.27743
1.19588	-0.35384	0.71654	-0.95692	1.19588	-0.35384
1.19754	-0.44006	0.71654	-0.95692	1.19754	-0.44006
1.19754	-0.31257	0.7182	-0.95692	1.19754	-0.31257
1.1992	-0.36937	0.7182	-0.95692	1.1992	-0.36937
1.20086	-0.17324	0.7182	-0.98634	1.20086	-0.17324
1.20086	0.07397	0.71986	-1.03537	1.20086	0.07397
1.20252	0.27991	0.71986	-1.09421	1.20252	0.27991
1.20252	0.30157	0.71986	-1.09421	1.20252	0.30157
1.20418	0.61538	0.72152	-1.09421	1.20418	0.61538
1.20418	0.55858	0.72152	-1.13344	1.20418	0.55858
1.20584	0.64684	0.72152	-1.18247	1.20584	0.64684

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.20584	0.55082	0.72152	-1.24131	1.20584	0.55082
1.2075	0.43518	0.72318	-1.24131	1.2075	0.43518
1.2075	0.47441	0.72318	-1.24131	1.2075	0.47441
1.20916	0.34896	0.72484	-1.28054	1.20916	0.34896
1.21082	0.34896	0.72484	-1.31977	1.21082	0.34896
1.21082	0.24313	0.72484	-1.3688	1.21082	0.24313
1.21248	0.40984	0.7265	-1.3688	1.21248	0.40984
1.21248	0.2844	0.7265	-1.3688	1.21248	0.2844
1.21414	0.36285	0.7265	-1.3688	1.21414	0.36285
1.21414	0.25702	0.7265	-1.32957	1.21414	0.25702
1.2158	0.35509	0.72816	-1.28054	1.2158	0.35509
1.2158	0.24926	0.72816	-1.21189	1.2158	0.24926
1.21746	0.18265	0.72816	-1.21189	1.21746	0.18265
1.21746	0.24149	0.72982	-1.17267	1.21746	0.24149
1.21912	0.17489	0.72982	-1.12363	1.21912	0.17489
1.22078	0.3416	0.72982	-1.0746	1.22078	0.3416
1.22078	0.25538	0.73148	-1.0746	1.22078	0.25538
1.22244	0.40248	0.73148	-1.0746	1.22244	0.40248
1.22244	0.50259	0.73148	-1.0746	1.22244	0.50259
1.2241	0.63008	0.73314	-1.0746	1.2241	0.63008
1.2241	0.58309	0.73314	-1.0746	1.2241	0.58309
1.22576	0.52629	0.73314	-1.11383	1.22576	0.52629
1.22576	0.61455	0.7348	-1.17267	1.22576	0.61455
1.22742	0.52833	0.7348	-1.25112	1.22742	0.52833
1.22908	0.6264	0.7348	-1.25112	1.22908	0.6264
1.22908	0.50095	0.73646	-1.33938	1.22908	0.50095
1.23074	0.50095	0.73646	-1.40803	1.23074	0.50095
1.23074	0.33628	0.73646	-1.40803	1.23074	0.33628
1.2324	0.33628	0.73812	-1.40803	1.2324	0.33628
1.2324	0.21084	0.73812	-1.40803	1.2324	0.21084
1.23406	0.26968	0.73812	-1.40803	1.23406	0.26968
1.23406	0.17365	0.73978	-1.40803	1.23406	0.17365
1.23572	0.00898	0.73978	-1.40803	1.23572	0.00898
1.23572	0.07763	0.73978	-1.3688	1.23572	0.07763
1.23738	0.01102	0.74144	-1.31977	1.23738	0.01102
1.23738	0.07967	0.74144	-1.27073	1.23738	0.07967
1.23904	0.15036	0.74144	-1.27073	1.23904	0.15036
1.2407	0.30726	0.7431	-1.27073	1.2407	0.30726

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.2407	0.36815	0.7431	-1.2217	1.2407	0.36815
1.24236	-0.79664	0.7431	-1.16286	1.24236	-0.79664
1.24236	-0.89267	0.74476	-1.09421	1.24236	-0.89267
1.24402	-0.77499	0.74476	-1.09421	1.24402	-0.77499
1.24402	-0.86121	0.74476	-1.05498	1.24402	-0.86121
1.24568	-0.89839	0.74642	-1.00595	1.24568	-0.89839
1.24568	-0.51593	0.74642	-0.9275	1.24568	-0.51593
1.24734	-0.60215	0.74642	-0.9275	1.24734	-0.60215
1.249	-0.52369	0.74808	-0.88827	1.249	-0.52369
1.249	-0.60011	0.74808	-0.83924	1.249	-0.60011
1.25066	-0.51185	0.74808	-0.7804	1.25066	-0.51185
1.25066	-0.57845	0.74974	-0.7804	1.25066	-0.57845
1.25232	-0.48038	0.74974	-0.7804	1.25232	-0.48038
1.25232	-0.5568	0.74974	-0.7804	1.25232	-0.5568
1.25398	-0.63321	0.7514	-0.7804	1.25398	-0.63321
1.25398	-0.54495	0.7514	-0.7804	1.25398	-0.54495
1.25564	-0.61155	0.7514	-0.7804	1.25564	-0.61155
1.25564	-0.41542	0.75306	-0.7804	1.25564	-0.41542
1.2573	-0.46241	0.75306	-0.7804	1.2573	-0.46241
1.2573	-0.32512	0.75306	-0.7804	1.2573	-0.32512
1.25896	-0.34269	0.75472	-0.7804	1.25896	-0.34269
1.26062	-0.17597	0.75472	-0.7804	1.26062	-0.17597
1.26062	-0.15432	0.75472	-0.7804	1.26062	-0.15432
1.26228	0.04182	0.75472	-0.7804	1.26228	0.04182
1.26228	0.08308	0.75638	-0.7804	1.26228	0.08308
1.26394	0.11455	0.75638	-0.7804	1.26394	0.11455
1.26394	0.42836	0.75804	-0.7804	1.26394	0.42836
1.2656	0.36176	0.75804	-0.75098	1.2656	0.36176
1.2656	0.44021	0.75804	-0.70194	1.2656	0.44021
1.26726	0.32457	0.7597	-0.6431	1.26726	0.32457
1.26892	0.3638	0.7597	-0.6431	1.26892	0.3638
1.26892	0.19913	0.7597	-0.60388	1.26892	0.19913
1.27058	0.19913	0.7597	-0.54504	1.27058	0.19913
1.27058	0.03445	0.76136	-0.46658	1.27058	0.03445
1.27224	-0.00477	0.76136	-0.46658	1.27224	-0.00477
1.27224	-0.16944	0.76136	-0.40774	1.27224	-0.16944
1.2739	-0.33412	0.76302	-0.32929	1.2739	-0.33412
1.2739	-0.33412	0.76302	-0.22142	1.2739	-0.33412

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.27556	-0.43014	0.76302	-0.13316	1.27556	-0.43014
1.27722	-0.33207	0.76468	-0.08412	1.27722	-0.33207
1.27722	-0.44771	0.76468	-0.00567	1.27722	-0.44771
1.27888	-0.35945	0.76468	0.04337	1.27888	-0.35945
1.27888	-0.45548	0.76634	0.14143	1.27888	-0.45548
1.28054	-0.3378	0.76634	0.21008	1.28054	-0.3378
1.28054	-0.43382	0.76634	0.31795	1.28054	-0.43382
1.2822	-0.44159	0.768	0.39641	1.2822	-0.44159
1.2822	-0.35333	0.768	0.51409	1.2822	-0.35333
1.28386	-0.46897	0.768	0.78867	1.28386	-0.46897
1.28386	-0.41013	0.76966	0.78867	1.28386	-0.41013
1.28552	-0.50615	0.76966	0.94558	1.28552	-0.50615
1.28718	-0.50615	0.76966	0.94558	1.28718	-0.50615
1.28718	-0.67082	0.77132	0.89655	1.28718	-0.67082
1.28884	-0.6316	0.77132	0.84751	1.28884	-0.6316
1.28884	-0.75704	0.77132	0.77887	1.28884	-0.75704
1.2905	-0.70801	0.77298	0.73964	1.2905	-0.70801
1.2905	-0.87268	0.77298	0.65138	1.2905	-0.87268
1.29216	-0.82365	0.77298	0.42583	1.29216	-0.82365
1.29216	-0.91967	0.77464	0.15124	1.29216	-0.91967
1.29382	-0.98628	0.77464	0.02375	1.29382	-0.98628
1.29382	-0.92744	0.77464	-0.11354	1.29382	-0.92744
1.29548	-0.98423	0.7763	-0.24103	1.29548	-0.98423
1.29714	-0.87636	0.7763	-0.36852	1.29714	-0.87636
1.29714	-0.82529	0.7763	-0.4862	1.29714	-0.82529
1.2988	-0.48205	0.77796	-0.61368	1.2988	-0.48205
1.2988	-0.06813	0.77796	-0.77059	1.2988	-0.06813
1.30046	0.35356	0.77796	-0.83924	1.30046	0.35356
1.30046	0.3458	0.77962	-0.88827	1.30046	0.3458
1.30212	0.31842	0.77962	-0.88827	1.30212	0.31842
1.30212	0.42629	0.77962	-0.88827	1.30212	0.42629
1.30378	0.34007	0.78128	-0.88827	1.30378	0.34007
1.30378	0.39891	0.78128	-0.88827	1.30378	0.39891
1.30544	0.28327	0.78128	-0.84904	1.30544	0.28327
1.3071	0.31269	0.78294	-0.80001	1.3071	0.31269
1.3071	0.18725	0.78294	-0.74117	1.3071	0.18725
1.30876	0.18725	0.78294	-0.74117	1.30876	0.18725
1.30876	0.13045	0.7846	-0.74117	1.30876	0.13045

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.31042	0.21871	0.7846	-0.74117	1.31042	0.21871
1.31042	0.10307	0.7846	-0.74117	1.31042	0.10307
1.31208	0.20114	0.78626	-0.74117	1.31208	0.20114
1.31208	0.10512	0.78626	-0.74117	1.31208	0.10512
1.31374	0.06793	0.78626	-0.74117	1.31374	0.06793
1.3154	0.12677	0.78792	-0.7804	1.3154	0.12677
1.3154	0.06997	0.78792	-0.83924	1.3154	0.06997
1.31706	0.11901	0.78792	-0.90788	1.31706	0.11901
1.31706	0.08182	0.78792	-0.90788	1.31706	0.08182
1.31872	0.08182	0.78958	-0.90788	1.31872	0.08182
1.31872	-0.08285	0.78958	-0.90788	1.31872	-0.08285
1.32038	-0.08285	0.79124	-0.90788	1.32038	-0.08285
1.32038	-0.2083	0.79124	-0.90788	1.32038	-0.2083
1.32204	-0.32394	0.79124	-0.90788	1.32204	-0.32394
1.32204	-0.26509	0.79124	-0.90788	1.32204	-0.26509
1.3237	-0.42977	0.7929	-0.86866	1.3237	-0.42977
1.32536	-0.36112	0.7929	-0.80982	1.32536	-0.36112
1.32536	-0.43753	0.7929	-0.74117	1.32536	-0.43753
1.32702	-0.26101	0.79456	-0.69214	1.32702	-0.26101
1.32702	-0.33742	0.79456	-0.6333	1.32702	-0.33742
1.32868	-0.17071	0.79456	-0.56465	1.32868	-0.17071
1.32868	-0.10983	0.79622	-0.56465	1.32868	-0.10983
1.33034	0.06874	0.79622	-0.56465	1.33034	0.06874
1.33034	0.17661	0.79622	-0.52542	1.33034	0.17661
1.332	0.11	0.79788	-0.47639	1.332	0.11
1.332	0.19826	0.79788	-0.42736	1.332	0.19826
1.33366	0.11205	0.79788	-0.42736	1.33366	0.11205
1.33532	0.23953	0.79954	-0.42736	1.33532	0.23953
1.33532	0.1337	0.79954	-0.42736	1.33532	0.1337
1.33698	0.19254	0.79954	-0.38813	1.33698	0.19254
1.33698	0.02787	0.8012	-0.3489	1.33698	0.02787
1.33864	0.08671	0.8012	-0.3489	1.33864	0.08671
1.33864	-0.00932	0.8012	-0.3489	1.33864	-0.00932
1.3403	-0.09553	0.80286	-0.3489	1.3403	-0.09553
1.3403	-0.09553	0.80286	-0.3489	1.3403	-0.09553
1.34196	-0.20137	0.80286	-0.3489	1.34196	-0.20137
1.34196	-0.04446	0.80452	-0.3489	1.34196	-0.04446
1.34362	-0.09145	0.80452	-0.3489	1.34362	-0.09145

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.34528	-0.00319	0.80452	-0.3489	1.34528	-0.00319
1.34528	-0.00115	0.80618	-0.3489	1.34528	-0.00115
1.34694	0.30286	0.80618	-0.3489	1.34694	0.30286
1.34694	0.27548	0.80618	-0.3489	1.34694	0.27548
1.3486	0.41278	0.80784	-0.3489	1.3486	0.41278
1.3486	0.36578	0.80784	-0.3489	1.3486	0.36578
1.35026	0.31879	0.80784	-0.3489	1.35026	0.31879
1.35026	0.39725	0.8095	-0.31948	1.35026	0.39725
1.35192	0.31103	0.8095	-0.31948	1.35192	0.31103
1.35358	0.43851	0.8095	-0.31948	1.35358	0.43851
1.35358	0.27384	0.81116	-0.28026	1.35358	0.27384
1.35524	0.34249	0.81116	-0.192	1.35524	0.34249
1.35524	0.26608	0.81116	-0.192	1.35524	0.26608
1.3569	0.32492	0.81282	-0.192	1.3569	0.32492
1.3569	0.26812	0.81282	-0.192	1.3569	0.26812
1.35856	0.35638	0.81282	-0.23122	1.35856	0.35638
1.35856	0.35842	0.81448	-0.29006	1.35856	0.35842
1.36022	0.50756	0.81448	-0.35871	1.36022	0.50756
1.36188	0.77235	0.81448	-0.35871	1.36188	0.77235
1.36188	0.72535	0.81614	-0.40774	1.36188	0.72535
1.36354	0.82342	0.81614	-0.4862	1.36354	0.82342
1.36354	0.7372	0.81614	-0.54504	1.36354	0.7372
1.3652	0.79604	0.8178	-0.61368	1.3652	0.79604
1.3652	0.6804	0.8178	-0.69214	1.3652	0.6804
1.36686	0.71963	0.8178	-0.69214	1.36686	0.71963
1.36686	0.55496	0.81946	-0.69214	1.36686	0.55496
1.36852	0.42951	0.81946	-0.69214	1.36852	0.42951
1.36852	0.47855	0.81946	-0.69214	1.36852	0.47855
1.37018	0.40214	0.82112	-1.73342	1.37018	0.40214
1.37018	0.46098	0.82112	-1.73342	1.37018	0.46098
1.37184	0.38456	0.82112	-1.73342	1.37184	0.38456
1.3735	0.4434	0.82278	-1.8131	1.3735	0.4434
1.3735	0.3768	0.82278	-1.8131	1.3735	0.3768
1.37516	0.45525	0.82278	-1.8131	1.37516	0.45525
1.37516	0.42787	0.82444	-1.89278	1.37516	0.42787
1.37682	0.68285	0.82444	-1.89278	1.37682	0.68285
1.37682	0.61624	0.82444	-1.89278	1.37682	0.61624
1.37848	0.61829	0.8261	-1.97246	1.37848	0.61829

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.37848	0.69674	0.8261	-1.894	1.37848	0.69674
1.38014	0.60071	0.8261	-1.82536	1.38014	0.60071
1.3818	0.66936	0.8261	-1.90504	1.3818	0.66936
1.3818	0.57334	0.82776	-1.86581	1.3818	0.57334
1.38346	0.64198	0.82776	-1.78736	1.38346	0.64198
1.38346	0.50673	0.82776	-1.76897	1.38346	0.50673
1.38512	0.57538	0.82942	-1.73955	1.38512	0.57538
1.38512	0.49897	0.82942	-1.6611	1.38512	0.49897
1.38678	0.548	0.82942	-1.6329	1.38678	0.548
1.38678	0.46178	0.83108	-1.57406	1.38678	0.46178
1.38844	0.51286	0.83108	-1.37793	1.38844	0.51286
1.38844	0.77764	0.83108	-1.33012	1.38844	0.77764
1.3901	0.74045	0.83274	-1.14379	1.3901	0.74045
1.39176	0.84833	0.83274	-0.87901	1.39176	0.84833
1.39176	0.77191	0.83274	-0.6743	1.39176	0.77191
1.39342	0.84056	0.8344	-0.3801	1.39342	0.84056
1.39342	0.74454	0.8344	-0.0957	1.39342	0.74454
1.39508	0.80338	0.8344	-0.24403	1.39508	0.80338
1.39508	0.6387	0.83606	-0.45978	1.39508	0.6387
1.39674	0.72697	0.83606	-0.58726	1.39674	0.72697
1.39674	0.63094	0.83606	-0.80424	1.39674	0.63094
1.3984	0.50549	0.83772	-0.94153	1.3984	0.50549
1.3984	0.58395	0.83772	-1.0396	1.3984	0.58395
1.40006	0.49773	0.83772	-1.20754	1.40006	0.49773
1.40172	0.61541	0.83938	-1.26638	1.40172	0.61541
1.40172	0.539	0.83938	-1.26638	1.40172	0.539
1.40338	0.6861	0.83938	-1.34606	1.40338	0.6861
1.40338	0.76659	0.84104	-1.34606	1.40338	0.76659
1.40504	0.84505	0.84104	-1.34606	1.40504	0.84505
1.40504	0.72941	0.84104	-1.42574	1.40504	0.72941
1.4067	0.60396	0.8427	-1.42574	1.4067	0.60396
1.4067	0.60396	0.8427	-1.42574	1.4067	0.60396
1.40836	0.43929	0.8427	-1.50542	1.40836	0.43929
1.41002	0.43929	0.84436	-1.54465	1.41002	0.43929
1.41002	0.27462	0.84436	-1.59368	1.41002	0.27462
1.41168	0.27462	0.84436	-1.74201	1.41168	0.27462
1.41168	0.10995	0.84602	-1.74201	1.41168	0.10995
1.41334	0.13937	0.84602	-1.89891	1.41334	0.13937

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.41334	0.03354	0.84602	-2.00801	1.41334	0.03354
1.415	-0.05268	0.84768	-2.07666	1.415	-0.05268
1.415	-0.01345	0.84768	-2.1355	1.415	-0.01345
1.41666	-0.08987	0.84768	-2.21518	1.41666	-0.08987
1.41666	-0.04083	0.84934	-2.21518	1.41666	-0.04083
1.41832	-0.10744	0.84934	-2.17595	1.41832	-0.10744
1.41998	-0.0486	0.84934	-2.18699	1.41998	-0.0486
1.41998	-0.1152	0.851	-2.07911	1.41998	-0.1152
1.42164	-0.05636	0.851	-1.89279	1.42164	-0.05636
1.42164	-0.08374	0.851	-1.8744	1.42164	-0.08374
1.4233	-0.08374	0.85266	-1.73711	1.4233	-0.08374
1.4233	-0.10131	0.85266	-1.59	1.4233	-0.10131
1.42496	-0.06209	0.85266	-1.51278	1.42496	-0.06209
1.42496	-0.16792	0.85432	-1.36568	1.42496	-0.16792
1.42662	-0.25414	0.85432	-1.3951	1.42662	-0.25414
1.42828	-0.21491	0.85432	-1.5042	1.42828	-0.21491
1.42828	-0.31093	0.85432	-1.5042	1.42828	-0.31093
1.42994	-0.23248	0.85598	-1.54342	1.42994	-0.23248
1.42994	-0.35793	0.85598	-1.6231	1.42994	-0.35793
1.4316	-0.22063	0.85764	-1.6231	1.4316	-0.22063
1.4316	-0.3853	0.85764	-1.6231	1.4316	-0.3853
1.43326	-0.27743	0.85764	-1.70278	1.43326	-0.27743
1.43326	-0.35384	0.8593	-1.70278	1.43326	-0.35384
1.43492	-0.44006	0.8593	-1.65375	1.43492	-0.44006
1.43492	-0.31257	0.8593	-1.66478	1.43492	-0.31257
1.43658	-0.36937	0.8593	-1.58633	1.43658	-0.36937
1.43658	-0.17324	0.86096	-1.58633	1.43658	-0.17324
1.43824	0.07397	0.86096	-1.54833	1.43824	0.07397
1.4399	0.27991	0.86096	-1.46988	1.4399	0.27991
1.4399	0.30157	0.86262	-1.46988	1.4399	0.30157
1.44156	0.61538	0.86262	-1.41104	1.44156	0.61538
1.44156	0.55858	0.86262	-1.40246	1.44156	0.55858
1.44322	0.64684	0.86428	-1.36323	1.44322	0.64684
1.44322	0.55082	0.86428	-1.34484	1.44322	0.55082
1.44488	0.43518	0.86428	-1.26639	1.44488	0.43518
1.44488	0.47441	0.86594	-0.9918	1.44488	0.47441
1.44654	0.34896	0.86594	-0.88515	1.44654	0.34896
1.4482	0.34896	0.86594	-0.63018	1.4482	0.34896

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.4482	0.24313	0.8676	-0.60076	1.4482	0.24313
1.44986	0.40984	0.8676	-0.68044	1.44986	0.40984
1.44986	0.2844	0.8676	-0.68044	1.44986	0.2844
1.45152	0.36285	0.86926	-0.68044	1.45152	0.36285
1.45152	0.25702	0.86926	-0.76012	1.45152	0.25702
1.45318	0.35509	0.86926	-0.80915	1.45318	0.35509
1.45318	0.24926	0.87092	-0.85819	1.45318	0.24926
1.45484	0.18265	0.87092	-0.91703	1.45484	0.18265
1.45484	0.24149	0.87092	-1.03593	1.45484	0.24149
1.4565	0.17489	0.87258	-1.08497	1.4565	0.17489
1.45816	0.3416	0.87258	-1.134	1.45816	0.3416
1.45816	0.25538	0.87258	-1.21368	1.45816	0.25538
1.45982	0.40248	0.87424	-1.21368	1.45982	0.40248
1.45982	0.50259	0.87424	-1.21368	1.45982	0.50259
1.46148	0.63008	0.87424	-1.29336	1.46148	0.63008
1.46148	0.58309	0.8759	-1.29336	1.46148	0.58309
1.46314	0.52629	0.8759	-1.29336	1.46314	0.52629
1.46314	0.61455	0.8759	-1.3142	1.46314	0.61455
1.4648	0.52833	0.87756	-1.20633	1.4648	0.52833
1.4648	0.6264	0.87756	-1.13768	1.4648	0.6264
1.46646	0.50095	0.87756	-1.08987	1.46646	0.50095
1.46812	0.50095	0.87922	-0.9918	1.46812	0.50095
1.46812	0.33628	0.87922	-0.8349	1.46812	0.33628
1.46978	0.33628	0.87922	-0.69883	1.46978	0.33628
1.46978	0.21084	0.88088	-0.44386	1.46978	0.21084
1.47144	0.26968	0.88088	-0.14966	1.47144	0.26968
1.47144	0.17365	0.88088	0.16293	1.47144	0.17365
1.4731	0.00898	0.88254	0.16293	1.4731	0.00898
1.4731	0.07763	0.88254	0.20216	1.4731	0.07763
1.47476	0.01102	0.88254	0.17151	1.47476	0.01102
1.47642	0.07967	0.8842	0.22055	1.47642	0.07967
1.47642	-0.79664	0.8842	0.22055	1.47642	-0.79664
1.47808	-0.89267	0.8842	0.17029	1.47808	-0.89267
1.47808	-0.77499	0.88586	0.22913	1.47808	-0.77499
1.47974	-0.86121	0.88586	0.30758	1.47974	-0.86121
1.47974	-0.89839	0.88586	0.2279	1.47974	-0.89839
1.4814	-0.51593	0.88752	0.33577	1.4814	-0.51593
1.4814	-0.60215	0.88752	0.39461	1.4814	-0.60215

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.48306	-0.52369	0.88752	0.31493	1.48306	-0.52369
1.48306	-0.60011	0.88752	0.31493	1.48306	-0.60011
1.48472	-0.51185	0.88918	0.31493	1.48472	-0.51185
1.48638	-0.57845	0.88918	0.19603	1.48638	-0.57845
1.48638	-0.48038	0.89084	0.08815	1.48638	-0.48038
1.48804	-0.5568	0.89084	0.08815	1.48804	-0.5568
1.48804	-0.63321	0.89084	0.00847	1.48804	-0.63321
1.4897	-0.54495	0.8925	0.00847	1.4897	-0.54495
1.4897	-0.61155	0.8925	0.00847	1.4897	-0.61155
1.49136	-0.41542	0.8925	-0.03198	1.49136	-0.41542
1.49136	-0.46241	0.8925	0.03667	1.49136	-0.46241
1.49302	-0.32512	0.89416	0.19357	1.49302	-0.32512
1.49468	-0.34269	0.89416	0.22177	1.49468	-0.34269
1.49468	-0.17597	0.89416	0.31984	1.49468	-0.17597
1.49634	-0.15432	0.89582	0.45713	1.49634	-0.15432
1.49634	0.04182	0.89582	0.5932	1.49634	0.04182
1.498	0.08308	0.89582	0.87759	1.498	0.08308
1.498	0.11455	0.89748	1.17057	1.498	0.11455
1.49966	0.42836	0.89748	1.24902	1.49966	0.42836
1.49966	0.36176	0.89748	1.30786	1.49966	0.36176
1.50132	0.44021	0.89914	1.37651	1.50132	0.44021
1.50132	0.32457	0.89914	1.35567	1.50132	0.42951
1.50298	0.3638	0.89914	1.39489	1.50298	0.47855
1.50298	0.19913	0.9008	1.44393	1.50298	0.40214
1.50464	0.19913	0.9008	1.41328	1.50464	0.46098
1.5063	0.03445	0.9008	1.41328	1.5063	0.38456
1.5063	-0.00477	0.90246	1.41328	1.5063	0.4434
1.50796	-0.16944	0.90246	1.37283	1.50796	0.3768
1.50796	-0.33412	0.90246	1.42186	1.50796	0.45525
1.50962	-0.33412	0.90412	1.47089	1.50962	0.42787
1.50962	-0.43014	0.90412	1.39121	1.50962	0.68285
1.51128	-0.33207	0.90412	1.39121	1.51128	0.61624
1.51128	-0.44771	0.90578	1.42063	1.51128	0.61829
1.51294	-0.35945	0.90578	1.38999	1.51294	0.69674
1.5146	-0.45548	0.90578	1.42921	1.5146	0.60071
1.5146	-0.3378	0.90744	1.42921	1.5146	0.66936
1.51626	-0.43382	0.90744	1.38876	1.51626	0.57334
1.51626	-0.44159	0.90744	1.43779	1.51626	0.64198

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.51792	-0.35333	0.9091	1.51625	1.51792	0.50673
1.51792	-0.46897	0.9091	1.43657	1.51792	0.57538
1.51958	-0.41013	0.9091	1.50522	1.51958	0.49897
1.51958	-0.50615	0.91076	1.58244	1.51958	0.548
1.52124	-0.50615	0.91076	1.68051	1.52124	0.46178
1.52124	-0.67082	0.91076	1.74916	1.52124	0.51286
1.5229	-0.6316	0.91242	1.77735	1.5229	0.77764
1.52456	-0.75704	0.91242	1.82638	1.52456	0.74045
1.52456	-0.70801	0.91242	1.89503	1.52456	0.84833
1.52622	-0.87268	0.91408	1.8938	1.52622	0.77191
1.52622	-0.82365	0.91408	1.8938	1.52622	0.84056
1.52788	-0.91967	0.91408	1.85458	1.52788	0.74454
1.52788	-0.98628	0.91574	1.6278	1.52788	0.80338
1.52954	-0.92744	0.91574	1.59838	1.52954	0.6387
1.52954	-0.98423	0.91574	1.51992	1.52954	0.72697
1.5312	-0.87636	0.9174	1.43166	1.5312	0.63094
1.5312	-0.82529	0.9174	1.35198	1.5312	0.50549
1.53286	-0.48205	0.9174	1.30295	1.53286	0.58395
1.53452	-0.06813	0.91906	1.15462	1.53452	0.49773
1.53452	0.35356	0.91906	1.09578	1.53452	0.61541
1.53618	0.3458	0.91906	1.09578	1.53618	0.539
1.53618	0.31842	0.92072	1.09578	1.53618	0.6861
1.53686	0.34323	0.92072	1.06514	1.53686	0.76659
1.53686	0.42169	0.92072	1.23185	1.53686	0.84505
1.53686	0.46091	0.92238	1.27108	1.53686	0.72941
1.53852	0.53937	0.92238	1.26004	1.53852	0.60396
1.54018	0.59821	0.92238	1.35811	1.54018	0.60396
1.54018	0.71589	0.92404	1.41695	1.54018	0.43929
1.54184	0.79434	0.92404	1.43534	1.54184	0.43929
1.54184	0.90222	0.92404	1.49418	1.54184	0.27462
1.5435	1.05912	0.9257	1.61186	1.5435	0.27462
1.54516	1.21603	0.9257	1.61063	1.54516	0.10995
1.54516	1.36313	0.9257	1.7087	1.54516	0.13937
1.54682	1.3141	0.9257	1.95387	1.54682	0.03354
1.54682	1.28468	0.92736	1.86438	1.54682	-0.05268
1.54848	1.28468	0.92736	1.86438	1.54848	-0.01345
1.54848	1.28468	0.92736	1.81535	1.54848	-0.08987
1.55014	1.28468	0.92902	1.67683	1.55014	-0.04083

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.55014	1.28468	0.92902	1.61799	1.55014	-0.10744
1.5518	1.34352	0.92902	1.61799	1.5518	-0.0486
1.5518	1.45139	0.93068	1.49908	1.5518	-0.1152
1.55346	1.73579	0.93068	1.44024	1.55346	-0.05636
1.55512	2.01037	0.93068	1.39121	1.55512	-0.08374
1.55512	2.42225	0.93234	1.31153	1.55512	-0.08374
1.55678	3.05969	0.93234	1.31153	1.55678	-0.10131
1.55678	3.25582	0.93234	1.35075	1.55678	-0.06209
1.55844	3.39312	0.934	1.32991	1.55844	-0.16792
1.55844	3.49119	0.934	1.40837	1.55844	-0.25414
1.5601	3.49119	0.934	1.43779	1.5601	-0.21491
1.5601	3.49119	0.93566	1.43656	1.5601	-0.31093
1.56176	3.49119	0.93566	1.52482	1.56176	-0.23248
1.56176	3.41273	0.93566	1.52482	1.56176	-0.35793
1.56342	3.20679	0.93732	1.51379	1.56342	-0.22063
1.56508	3.02046	0.93732	1.65108	1.56508	-0.3853
1.56508	2.67723	0.93732	1.65108	1.56508	-0.27743
1.56674	2.51052	0.93898	1.53217	1.56674	-0.35384
1.56674	2.3438	0.93898	1.48314	1.56674	-0.44006
1.5684	2.17709	0.93898	1.40469	1.5684	-0.31257
1.5684	2.01037	0.94064	1.32501	1.5684	-0.36937
1.57006	1.85347	0.94064	1.27597	1.57006	-0.17324
1.57006	1.71617	0.94064	1.21713	1.57006	0.07397
1.57172	1.57888	0.9423	1.07861	1.57172	0.27991
1.57172	1.45139	0.9423	1.13745	1.57172	0.30157
1.57338	1.21603	0.9423	1.21591	1.57338	0.61538
1.57504	1.09835	0.94396	1.18526	1.57504	0.55858
1.57504	0.98067	0.94396	1.28333	1.57504	0.64684
1.5767	0.86299	0.94396	1.35197	1.5767	0.55082
1.5767	0.7355	0.94562	1.45985	1.5767	0.43518
1.57836	0.62763	0.94562	1.43901	1.57836	0.47441
1.57836	0.51976	0.94562	1.60572	1.57836	0.34896
1.58002	0.42169	0.94728	1.52604	1.58002	0.34896
1.58002	0.23536	0.94728	1.64372	1.58002	0.24313
1.58168	0.15691	0.94728	1.69276	1.58168	0.40984
1.58334	0.07845	0.94894	1.67192	1.58334	0.2844
1.58334	0.00981	0.94894	1.67192	1.58334	0.36285
1.585	-0.05884	0.94894	1.67192	1.585	0.25702

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.585	-0.13729	0.9506	1.63146	1.585	0.35509
1.58666	-0.19613	0.9506	1.67069	1.58666	0.24926
1.58666	-0.27459	0.9506	1.67069	1.58666	0.18265
1.58832	-0.37265	0.95226	1.59101	1.58832	0.24149
1.58832	-0.62763	0.95226	1.59101	1.58832	0.17489
1.58998	-0.99048	0.95226	1.59101	1.58998	0.3416
1.58998	-1.20622	0.95392	1.51133	1.58998	0.25538
1.59164	-1.42197	0.95392	1.4623	1.59164	0.40248
1.5933	-1.63772	0.95392	1.40346	1.5933	0.50259
1.5933	-1.84366	0.95392	1.25513	1.5933	0.63008
1.59496	-2.03979	0.95558	1.25513	1.59496	0.58309
1.59496	-2.20651	0.95558	1.25513	1.59496	0.52629
1.59662	-2.35361	0.95724	1.17545	1.59662	0.61455
1.59662	-2.46148	0.95724	1.17545	1.59662	0.52833
1.59828	-2.60858	0.95724	1.17545	1.59828	0.6264
1.59828	-2.65762	0.9589	1.17545	1.59828	0.50095
1.59994	-2.65762	0.9589	1.09577	1.59994	0.50095
1.59994	-2.65762	0.9589	1.09577	1.59994	0.33628
1.6016	-2.65762	0.9589	1.01609	1.6016	0.33628
1.60326	-2.65762	0.96056	1.01609	1.60326	0.21084
1.60326	-2.60858	0.96056	1.01609	1.60326	0.26968
1.60492	-2.53994	0.96222	1.01609	1.60492	0.17365
1.60492	-2.45167	0.96222	0.93641	1.60492	0.00898
1.60658	-2.40264	0.96222	0.93641	1.60658	0.07763
1.60658	-2.32419	0.96222	0.90576	1.60658	0.01102
1.60824	-2.13786	0.96388	0.9548	1.60824	0.07967
1.60824	-2.0496	0.96388	1.01364	1.60824	0.15036
1.6099	-1.94173	0.96388	1.01364	1.6099	0.30726
1.6099	-1.80443	0.96554	0.93396	1.6099	0.36815
1.61156	-1.61811	0.96554	0.93396	1.61156	-0.79664
1.61322	-1.59849	0.96554	0.93396	1.61322	-0.89267
1.61322	-1.55927	0.9672	0.85428	1.61322	-0.77499
1.61488	-1.55927	0.9672	0.85428	1.61488	-0.86121
1.61488	-1.55927	0.9672	0.76602	1.61488	-0.89839
1.61654	-1.471	0.96886	0.61769	1.61654	-0.51593
1.61654	-1.471	0.96886	0.61769	1.61654	-0.60215
1.6182	-1.44158	0.96886	0.61769	1.6182	-0.52369
1.6182	-1.38274	0.97052	0.53801	1.6182	-0.60011

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.61986	-1.30429	0.97052	0.53801	1.61986	-0.51185
1.61986	-1.25526	0.97052	0.53801	1.61986	-0.57845
1.62152	-1.1768	0.97218	0.45833	1.62152	-0.48038
1.62318	-1.08854	0.97218	0.45833	1.62318	-0.5568
1.62318	-0.96106	0.97218	0.59562	1.62318	-0.63321
1.62484	-0.76492	0.97384	0.55517	1.62484	-0.54495
1.62484	-0.74531	0.97384	0.64343	1.62484	-0.61155
1.6265	-0.78454	0.97384	0.71208	1.6265	-0.41542
1.6265	-0.85318	0.9755	0.75988	1.6265	-0.46241
1.62816	-0.95125	0.9755	0.85795	1.62816	-0.32512
1.62816	-1.03951	0.9755	0.98544	1.62816	-0.34269
1.62982	-1.21603	0.97716	1.08228	1.62982	-0.17597
1.63148	-1.58869	0.97716	1.32745	1.63148	-0.15432
1.63148	-1.78482	0.97716	1.83739	1.63148	0.04182
1.63314	-1.96134	0.97882	2.0225	1.63314	0.08308
1.63314	-2.12805	0.97882	2.0225	1.63314	0.11455
1.6348	-2.37322	0.97882	2.0225	1.6348	0.42836
1.6348	-2.4811	0.98048	1.90359	1.6348	0.36176
1.63646	-2.57916	0.98048	1.84475	1.63646	0.44021
1.63646	-2.66742	0.98048	1.78591	1.63646	0.32457
1.63812	-2.74588	0.98214	1.70623	1.63812	0.3638
1.63812	-2.83414	0.98214	1.64739	1.63812	0.19913
1.63978	-2.9224	0.98214	1.58855	1.63978	0.19913
1.64144	-3.00085	0.9838	1.43041	1.64144	0.03445
1.64144	-3.05969	0.9838	1.38138	1.64144	-0.00477
1.6431	-3.19698	0.9838	1.29312	1.6431	-0.16944
1.6431	-3.25582	0.98546	1.16441	1.6431	-0.33412
1.64476	-3.25582	0.98546	1.06634	1.64476	-0.33412
1.64476	-3.29505	0.98546	0.97808	1.64476	-0.43014
1.64642	-3.34408	0.98712	0.77091	1.64642	-0.33207
1.64642	-3.38331	0.98712	0.57478	1.64642	-0.44771
1.64808	-3.38331	0.98712	0.52574	1.64808	-0.35945
1.64974	-3.38331	0.98878	0.39703	1.64974	-0.45548
1.64974	-3.38331	0.98878	0.39703	1.64974	-0.3378
1.6514	-3.29505	0.98878	0.39703	1.6514	-0.43382
1.6514	-3.2264	0.99044	0.31735	1.6514	-0.44159
1.65306	-3.2264	0.99044	0.31735	1.65306	-0.35333
1.65306	-3.16756	0.99044	0.31735	1.65306	-0.46897

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.65472	-3.08911	0.9921	0.31735	1.65472	-0.41013
1.65472	-3.02046	0.9921	0.2867	1.65472	-0.50615
1.65638	-2.88317	0.9921	0.34554	1.65638	-0.50615
1.65638	-2.74588	0.9921	0.34432	1.65638	-0.67082
1.65804	-2.46148	0.99376	0.34432	1.65804	-0.6316
1.65804	-2.02999	0.99376	0.38355	1.65804	-0.75704
1.6597	-1.27487	0.99542	0.43258	1.6597	-0.70801
1.66136	-0.7355	0.99542	0.42155	1.66136	-0.87268
1.66136	-0.53937	0.99542	0.42155	1.66136	-0.82365
1.66302	-0.40207	0.99542	0.34187	1.66302	-0.91967
1.66302	-0.31381	0.99708	0.34187	1.66302	-0.98628
1.66468	-0.31381	0.99708	0.38109	1.66468	-0.92744
1.66468	-0.31381	0.99708	0.42032	1.66468	-0.98423
1.66634	-0.35304	0.99874	0.37987	1.66634	-0.87636
1.66634	-0.41188	0.99874	0.37987	1.66634	-0.82529
1.668	-0.50995	0.99874	0.37987	1.668	-0.48205
1.668	-0.67666	1	0.30019	1.668	-0.06813
1.66966	-0.74531	1	0.30019	1.66966	0.35356
1.67132	-0.84338	1	0.30019	1.67132	0.3458
1.67132	-0.89241	1.00166	0.22051	1.67132	0.31842
1.67298	-0.96106	1.00166	0.22051	1.67298	0.42629
1.67298	-1.03951	1.00166	0.22051	1.67298	0.34007
1.67464	-1.03951	1.00332	0.14083	1.67464	0.39891
1.67464	-1.10816	1.00332	0.14083	1.67464	0.28327
1.6763	-1.19642	1.00332	0.18986	1.6763	0.31269
1.6763	-1.36313	1.00498	0.15921	1.6763	0.18725
1.67796	-1.44158	1.00498	0.23767	1.67796	0.18725
1.67796	-1.57888	1.00498	0.23767	1.67796	0.13045
1.67962	-1.83385	1.00664	0.20702	1.67962	0.21871
1.68128	-1.94173	1.00664	0.28547	1.68128	0.10307
1.68128	-2.06921	1.00664	0.3247	1.68128	0.20114
1.68294	-2.1967	1.0083	0.32347	1.68294	0.10512
1.68294	-2.31438	1.0083	0.47057	1.68294	0.06793
1.6846	-2.44187	1.0083	0.51961	1.6846	0.12677
1.6846	-2.638	1.00996	0.52819	1.6846	0.06997
1.68626	-2.71646	1.00996	0.57722	1.68626	0.11901
1.68626	-2.7753	1.00996	0.65568	1.68626	0.08182
1.68792	-2.83414	1.01162	0.65445	1.68792	0.08182

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.68958	-2.83414	1.01162	0.65445	1.68958	-0.08285
1.68958	-2.83414	1.01162	0.65445	1.68958	-0.08285
1.69124	-2.83414	1.01328	0.614	1.69124	-0.2083
1.69124	-2.74588	1.01328	0.66303	1.69124	-0.32394
1.6929	-2.08883	1.01328	0.71206	1.6929	-0.26509
1.6929	0	1.01494	0.63238	1.6929	-0.42977
1.69456	0	1.01494	0.63238	1.69456	-0.36112
1.69456	0	1.01494	0.63238	1.69456	-0.43753
1.69622	0	1.0166	0.51348	1.69622	-0.26101
1.69622	0	1.0166	0.45464	1.69622	-0.33742
1.69788	0	1.0166	0.37618	1.69788	-0.17071
1.69954	0	1.01826	0.2965	1.69954	-0.10983
1.69954	0	1.01826	0.24747	1.69954	0.06874
1.7012	0	1.01826	0.17882	1.7012	0.17661
1.7012	-0.02942	1.01992	0.02069	1.7012	0.11
1.70286	-0.02942	1.01992	0.02069	1.70286	0.19826
1.70286	-0.04903	1.01992	0.02069	1.70286	0.11205
1.70452	-0.05884	1.02158	-0.05899	1.70452	0.23953
1.70452	-0.05884	1.02158	-0.05899	1.70452	0.1337
1.70618	-0.06865	1.02158	-0.05899	1.70618	0.19254
1.70618	-0.05884	1.02324	-0.13867	1.70618	0.02787
1.70784	-0.04903	1.02324	-0.09944	1.70784	0.08671
1.70784	-0.02942	1.02324	-0.05041	1.70784	-0.00932
1.7095	-0.00981	1.02324	-0.06144	1.7095	-0.09553
1.71116	-0.00981	1.0249	-0.06144	1.71116	-0.09553
1.71116	0	1.0249	-0.02222	1.71116	-0.20137
1.71282	0	1.0249	-0.04306	1.71282	-0.04446
1.71282	0	1.02656	0.01578	1.71282	-0.09145
1.71448	0	1.02656	0.01578	1.71448	-0.00319
1.71448	0	1.02656	-0.0639	1.71448	-0.00115
1.71614	0	1.02822	-0.01486	1.71614	0.30286
1.7178	0	1.02822	0.05378	1.7178	0.27548
1.7178	0	1.02822	0.05256	1.7178	0.41278
1.71946	0	1.02988	0.1114	1.71946	0.36578
1.71946	-0.74393	1.02988	0.19966	1.71946	0.31879
1.72112	-0.85957	1.02988	0.11998	1.72112	0.39725
1.72112	-0.79092	1.03154	0.17882	1.72112	0.31103
1.72278	-0.88694	1.03154	0.24746	1.72278	0.43851

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.72278	-0.78888	1.03154	0.23643	1.72278	0.27384
1.72444	-0.89471	1.0332	0.1972	1.72444	0.34249
1.72444	-0.79664	1.0332	0.13836	1.72444	0.26608
1.7261	-0.89267	1.0332	-0.02958	1.7261	0.32492
1.7261	-0.77499	1.03486	-0.0688	1.7261	0.26812
1.72776	-0.86121	1.03486	-0.13745	1.72776	0.35638
1.72942	-0.89839	1.03486	-0.3152	1.72942	0.35842
1.72942	-0.51593	1.03652	-0.3152	1.72942	0.50756
1.73108	-0.60215	1.03652	-0.36423	1.73108	0.77235
1.73108	-0.52369	1.03652	-0.50275	1.73108	0.72535
1.73274	-0.60011	1.03818	-0.55178	1.73274	0.82342
1.73274	-0.51185	1.03818	-0.55178	1.73274	0.7372
1.7344	-0.57845	1.03818	-0.63146	1.7344	0.79604
1.7344	-0.48038	1.03984	-0.58243	1.7344	0.6804
1.73606	-0.5568	1.03984	-0.5334	1.73606	0.71963
1.73772	-0.63321	1.03984	-0.56404	1.73772	0.55496
1.73772	-0.54495	1.0415	-0.56404	1.73772	0.42951
1.73938	-0.61155	1.0415	-0.56404	1.73938	0.47855
1.73938	-0.41542	1.0415	-0.64372	1.73938	0.40214
1.74104	-0.46241	1.04316	-0.64372	1.74104	0.46098
1.74104	-0.32512	1.04316	-0.64372	1.74104	0.38456
1.7427	-0.34269	1.04316	-0.7234	1.7427	0.4434
1.7427	-0.17597	1.04482	-0.7234	1.7427	0.3768
1.74436	-0.15432	1.04482	-0.68418	1.74436	0.45525
1.74436	0.04182	1.04482	-0.69521	1.74436	0.42787
1.74602	0.08308	1.04648	-0.60695	1.74602	0.68285
1.74768	0.11455	1.04648	-0.60695	1.74768	0.61624
1.74768	0.42836	1.04648	-0.61798	1.74768	0.61829
1.74934	0.36176	1.04814	-0.51992	1.74934	0.69674
1.74934	0.44021	1.04814	-0.47088	1.74934	0.60071
1.751	0.32457	1.04814	-0.37282	1.751	0.66936
1.751	0.3638	1.0498	-0.25636	1.751	0.57334
1.75266	0.19913	1.0498	-0.07984	1.75266	0.64198
1.75266	0.19913	1.0498	0.06603	1.75266	0.50673
1.75432	0.03445	1.05146	0.34062	1.75432	0.57538
1.75432	-0.00477	1.05146	0.70347	1.75432	0.49897
1.75598	-0.16944	1.05146	0.79173	1.75598	0.548
1.75764	-0.33412	1.05312	0.7807	1.75764	0.46178

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.75764	-0.33412	1.05312	0.83954	1.75764	0.51286
1.7593	-0.43014	1.05312	0.89838	1.7593	0.77764
1.7593	-0.33207	1.05478	-1.78068	1.7593	0.74045
1.76096	-0.44771	1.05478	-3.36937	1.76096	0.84833
1.76096	-0.35945	1.05478	-3.36937	1.76096	0.77191
1.76262	-0.45548	1.05644	-3.30072	1.76262	0.84056
1.76262	-0.3378	1.05644	-3.25169	1.76262	0.74454
1.76428	-0.43382	1.05644	-2.99671	1.76428	-0.43382
1.76594	-0.44159	1.0581	-2.86922	1.76594	-0.44159
1.76594	-0.35333	1.0581	-2.60444	1.76594	-0.35333
1.7676	-0.46897	1.0581	-2.47696	1.7676	-0.46897
1.7676	-0.41013	1.05976	-2.2514	1.7676	-0.41013
1.76926	-0.50615	1.05976	-2.19256	1.76926	-0.50615
1.76926	-0.50615	1.05976	-2.07488	1.76926	-0.50615
1.77092	-0.67082	1.05976	-2.03565	1.77092	-0.67082
1.77092	-0.6316	1.06142	-1.94739	1.77092	-0.6316
1.77258	-0.75704	1.06142	-1.88855	1.77258	-0.75704
1.77258	-0.70801	1.06308	-1.80029	1.77258	-0.70801
1.77424	-0.87268	1.06308	-1.62377	1.77424	-0.87268
1.77424	-0.82365	1.06308	-1.53551	1.77424	-0.82365
1.7759	-0.91967	1.06474	-1.35899	1.7759	-0.91967
1.77756	-0.98628	1.06474	-1.24131	1.77756	-0.98628
1.77756	-0.92744	1.06474	-1.06479	1.77756	-0.92744
1.77922	-0.98423	1.06474	-1.00595	1.77922	-0.98423
1.77922	-0.87636	1.0664	-0.94711	1.77922	-0.87636
1.78088	-0.82529	1.0664	-0.87846	1.78088	-0.82529
1.78088	-0.48205	1.0664	-0.82943	1.78088	-0.48205
1.78254	-0.06813	1.06806	-0.82943	1.78254	-0.06813
1.78254	0.35356	1.06806	-0.82943	1.78254	0.35356
1.7842	0.3458	1.06806	-0.82943	1.7842	0.3458
1.78586	0.31842	1.06972	-0.82943	1.78586	0.31842
1.78586	0.42629	1.06972	-0.82943	1.78586	0.42629
1.78752	0.34007	1.06972	-0.82943	1.78752	0.34007
1.78752	0.39891	1.07138	-0.82943	1.78752	0.39891
1.78918	0.28327	1.07138	-0.82943	1.78918	0.28327
1.78918	0.31269	1.07138	-0.82943	1.78918	0.31269
1.79084	0.18725	1.07304	-0.86866	1.79084	0.18725
1.79084	0.18725	1.07304	-0.98634	1.79084	0.18725

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.7925	0.13045	1.07304	-0.98634	1.7925	0.13045
1.7925	0.21871	1.0747	-0.98634	1.7925	0.21871
1.79416	0.10307	1.0747	-1.01576	1.79416	0.10307
1.79416	0.20114	1.0747	-1.06479	1.79416	0.20114
1.79582	0.10512	1.07636	-1.12363	1.79582	0.10512
1.79748	0.06793	1.07636	-1.12363	1.79748	0.06793
1.79748	0.12677	1.07636	-1.17267	1.79748	0.12677
1.79914	0.06997	1.07802	-1.23151	1.79914	0.06997
1.79914	0.11901	1.07802	-1.30015	1.79914	0.11901
1.8008	0.08182	1.07802	-1.30015	1.8008	0.08182
1.8008	0.08182	1.07968	-1.30015	1.8008	0.08182
1.80246	-0.08285	1.07968	-1.33938	1.80246	-0.08285
1.80246	-0.08285	1.07968	-1.33938	1.80246	-0.08285
1.80412	-0.2083	1.08134	-1.33938	1.80412	-0.2083
1.80578	-0.32394	1.08134	-1.33938	1.80578	-0.32394
1.80578	-0.26509	1.08134	-1.33938	1.80578	-0.26509
1.80744	-0.42977	1.083	-1.33938	1.80744	-0.42977
1.80744	-0.36112	1.083	-1.28054	1.80744	-0.36112
1.8091	-0.43753	1.083	-1.18247	1.8091	-0.43753
1.8091	-0.26101	1.08466	-1.13344	1.8091	-0.26101
1.81076	-0.33742	1.08466	-0.95692	1.81076	-0.33742
1.81076	-0.17071	1.08466	-0.82943	1.81076	-0.17071
1.81242	-0.10983	1.08632	-0.65291	1.81242	-0.10983
1.81408	0.06874	1.08632	-0.38813	1.81408	0.06874
1.81408	0.17661	1.08632	-0.07431	1.81408	0.17661
1.81574	0.11	1.08798	0.28853	1.81574	0.11
1.81574	0.19826	1.08798	0.73964	1.81574	0.19826
1.8174	0.11205	1.08798	0.76906	1.8174	0.11205
1.8174	0.23953	1.08964	0.76906	1.8174	0.23953
1.81906	0.1337	1.08964	0.72003	1.81906	0.1337
1.81906	0.19254	1.08964	0.63177	1.81906	0.19254
1.82072	0.02787	1.0913	0.56312	1.82072	0.02787
1.82072	0.08671	1.0913	0.44544	1.82072	0.08671
1.82238	-0.00932	1.0913	0.34737	1.82238	-0.00932
1.82404	-0.09553	1.09296	0.18066	1.82404	-0.09553
1.82404	-0.09553	1.09296	-0.08412	1.82404	-0.09553
1.8257	-0.20137	1.09296	-0.16258	1.8257	-0.20137
1.8257	-0.04446	1.09296	-0.2018	1.8257	-0.04446

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.82736	-0.09145	1.09462	-0.24103	1.82736	-0.09145
1.82736	-0.00319	1.09462	-0.24103	1.82736	-0.00319
1.82902	-0.00115	1.09628	-0.24103	1.82902	-0.00115
1.82902	0.30286	1.09628	-0.27045	1.82902	0.30286
1.83068	0.27548	1.09628	-0.27045	1.83068	0.27548
1.83068	0.41278	1.09794	-0.27045	1.83068	0.41278
1.83234	0.36578	1.09794	-0.32929	1.83122	-0.85144
1.834	0.31879	1.09794	-0.39794	1.83122	-0.7926
1.834	0.39725	1.09794	-0.47639	1.83288	-0.50444
1.83566	0.31103	1.0996	-0.51562	1.83288	-0.4456
1.83566	0.43851	1.0996	-0.58426	1.83288	-0.37695
1.83732	0.27384	1.0996	-0.65291	1.83288	-0.37695
1.83732	0.34249	1.10126	-0.65291	1.83454	-0.20647
1.83898	0.26608	1.10126	-0.65291	1.83454	-0.20647
1.83898	0.32492	1.10126	-0.65291	1.83454	-0.16724
1.84064	0.26812	1.10292	-0.65291	1.8362	0.04246
1.84064	0.35638	1.10292	-0.65291	1.8362	0.04246
1.8423	0.35842	1.10292	-0.65291	1.8362	0.04246
1.84396	0.50756	1.10458	-0.65291	1.83786	0.21295
1.84396	0.77235	1.10458	-0.61368	1.83786	0.21295
1.84562	0.72535	1.10458	-0.56465	1.83786	0.21295
1.84562	0.82342	1.10624	-0.51562	1.83952	0.38343
1.84728	0.7372	1.10624	-0.51562	1.83952	0.33439
1.84728	0.79604	1.10624	-0.51562	1.83952	0.27555
1.84894	0.6804	1.1079	-0.46658	1.84118	0.37739
1.84894	0.71963	1.1079	-0.39794	1.84118	0.37739
1.8506	0.55496	1.1079	-0.31948	1.84118	0.33816
1.85226	0.42951	1.10956	-0.31948	1.84284	0.44
1.85226	0.47855	1.10956	-0.21161	1.84284	0.36154
1.85392	0.40214	1.10956	-0.15277	1.84284	0.32232
1.85392	0.46098	1.11122	-0.15277	1.8445	0.43396
1.85558	0.38456	1.11122	-0.192	1.8445	0.36531
1.85558	0.4434	1.11122	-0.27045	1.8445	0.36531
1.85724	0.3768	1.11288	-0.35871	1.84616	0.53579
1.85724	0.45525	1.11288	-0.54504	1.84616	0.53579
1.8589	0.42787	1.11288	-0.87846	1.84616	0.49657
1.8589	0.68285	1.11454	-1.96701	1.84782	0.62782
1.86056	0.61624	1.11454	-2.89864	1.84782	0.57879

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.86222	0.61829	1.11454	-3.11439	1.84782	0.57879
1.86222	0.69674	1.1162	-3.26149	1.84948	0.74927
1.86388	0.60071	1.1162	-3.31053	1.84948	0.74927
1.86388	0.66936	1.1162	-3.31053	1.84948	0.74927
1.86554	0.57334	1.11786	-3.2713	1.85114	0.91975
1.86554	0.64198	1.11786	-3.18304	1.85114	0.87072
1.8672	0.50673	1.11786	-3.06536	1.85114	0.83149
1.8672	0.57538	1.11952	-2.77116	1.8528	0.94313
1.86886	0.49897	1.11952	-2.58483	1.8528	0.94313
1.86886	0.548	1.11952	-2.26121	1.8528	0.94313
1.87052	0.46178	1.12118	-2.11411	1.85446	1.07439
1.87218	0.51286	1.12118	-1.98662	1.85446	0.95671
1.87218	0.77764	1.12118	-1.86894	1.85446	0.95671
1.87384	0.74045	1.12284	-1.80029	1.85612	1.07816
1.87384	0.84833	1.12284	-1.73165	1.85612	0.9899
1.8755	0.77191	1.12284	-1.67281	1.85612	0.95067
1.8755	0.84056	1.1245	-1.64339	1.85778	1.03289
1.87716	0.74454	1.1245	-1.64339	1.85778	0.97405
1.87716	0.80338	1.1245	-1.64339	1.85778	0.86618
1.87882	0.6387	1.12616	-1.64339	1.85944	0.84053
1.87882	0.72697	1.12616	-1.59435	1.85944	0.77188
1.88048	0.63094	1.12616	-1.53551	1.85944	0.64439
1.88214	0.50549	1.12616	-1.43745	1.8611	0.73642
1.88214	0.58395	1.12782	-1.37861	1.8611	0.58932
1.8838	0.49773	1.12782	-1.28054	1.8611	0.40299
1.8838	0.61541	1.12948	-1.19228	1.86276	0.30869
1.88546	0.539	1.12948	-1.03537	1.86276	0.24985
1.88546	0.6861	1.12948	-0.82943	1.86276	0.20082
1.88712	0.76659	1.12948	-0.59407	1.86442	0.3713
1.88712	0.84505	1.13114	-0.62349	1.86442	0.3713
1.88878	0.72941	1.13114	-0.68233	1.86442	0.3713
1.89044	0.60396	1.13114	-0.76078	1.86608	0.54178
1.89044	0.60396	1.1328	-0.84904	1.86608	0.54178
1.8921	0.43929	1.1328	-1.03537	1.86608	0.54178
1.8921	0.43929	1.1328	-1.14325	1.86774	0.71227
1.89376	0.27462	1.13446	-1.23151	1.86774	0.71227
1.89376	0.27462	1.13446	-1.30015	1.86774	0.66323
1.89542	0.10995	1.13446	-1.34919	1.86774	0.59459

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.89542	0.13937	1.13612	-1.43745	1.8694	0.76507
1.89708	0.03354	1.13612	-1.43745	1.8694	0.64739
1.89874	-0.05268	1.13612	-1.43745	1.87106	0.73942
1.89874	-0.01345	1.13778	-1.43745	1.87106	0.73942
1.9004	-0.08987	1.13778	-1.48648	1.87106	0.73942
1.9004	-0.04083	1.13778	-1.54532	1.87106	0.73942
1.90206	-0.10744	1.13944	-1.59435	1.87272	0.9099
1.90206	-0.0486	1.13944	-1.59435	1.87272	0.95893
1.90372	-0.1152	1.13944	-1.59435	1.87438	1.20787
1.90372	-0.05636	1.1411	-1.59435	1.87438	1.29613
1.90538	-0.08374	1.1411	-1.54532	1.87438	1.33535
1.90538	-0.08374	1.1411	-1.46687	1.87438	1.38439
1.90704	-0.10131	1.14276	-1.37861	1.87604	1.6039
1.90704	-0.06209	1.14276	-1.33938	1.87604	1.6039
1.9087	-0.16792	1.14276	-1.26093	1.87604	1.56468
1.91036	-0.25414	1.14442	-1.20209	1.8777	1.67632
1.91036	-0.21491	1.14442	-1.09421	1.8777	1.57825
1.91202	-0.31093	1.14442	-1.03537	1.8777	1.51941
1.91202	-0.23248	1.14608	-0.95692	1.87936	1.57221
1.91368	-0.35793	1.14608	-0.95692	1.87936	1.31724
1.91368	-0.22063	1.14608	-0.95692	1.87936	1.05246
1.91534	-0.3853	1.14774	-0.95692	1.88102	0.88951
1.91534	-0.27743	1.14774	-0.95692	1.88102	0.39918
1.917	-0.35384	1.14774	-0.95692	1.88102	0.27169
1.91866	-0.44006	1.1494	-0.98634	1.88268	0.30488
1.91866	-0.31257	1.1494	-1.03537	1.88268	0.197
1.92032	-0.36937	1.1494	-1.09421	1.88268	0.09894
1.92032	-0.17324	1.15106	-1.09421	1.88434	0.19097
1.92198	0.07397	1.15106	-1.09421	1.88434	0.13213
1.92198	0.27991	1.15106	-1.13344	1.88434	0.04387
1.92364	0.30157	1.15272	-1.18247	1.886	0.21435
1.92364	0.61538	1.15272	-1.24131	1.886	0.21435
1.9253	0.55858	1.15272	-1.24131	1.886	0.21435
1.9253	0.64684	1.15438	-1.24131	1.88766	0.38483
1.92696	0.55082	1.15438	-1.28054	1.88766	0.42406
1.92862	0.43518	1.15438	-1.31977	1.88766	0.45348
1.92862	0.47441	1.15604	-1.3688	1.88932	0.66318
1.93028	0.34896	1.15604	-1.3688	1.88932	0.66318

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.93028	0.34896	1.15604	-1.3688	1.88932	0.66318
1.93194	0.24313	1.1577	-1.3688	1.89098	0.79444
1.93194	0.40984	1.1577	-1.32957	1.89098	0.7356
1.9336	0.2844	1.1577	-1.28054	1.89098	0.65715
1.9336	0.36285	1.15936	-1.21189	1.89264	0.82763
1.93526	0.25702	1.15936	-1.21189	1.89264	0.75898
1.93526	0.35509	1.15936	-1.17267	1.89264	0.65111
1.93692	0.24926	1.16102	-1.12363	1.8943	0.77256
1.93858	0.18265	1.16102	-1.0746	1.8943	0.66468
1.93858	0.24149	1.16102	-1.0746	1.8943	0.60584
1.94024	0.17489	1.16268	-1.0746	1.89596	0.66845
1.94024	0.3416	1.16268	-1.0746	1.89596	0.51154
1.9419	0.25538	1.16268	-1.0746	1.89596	0.46251
1.9419	0.40248	1.16434	-1.0746	1.89762	0.56434
1.94356	0.50259	1.16434	-1.11383	1.89762	0.48589
1.94356	0.63008	1.16434	-1.17267	1.89762	0.48589
1.94522	0.58309	1.16434	-1.25112	1.89928	0.65637
1.94688	0.52629	1.166	-1.25112	1.89928	0.61715
1.94688	0.61455	1.166	-1.33938	1.89928	0.57792
1.94854	0.52833	1.166	-1.40803	1.90094	0.69937
1.94854	0.6264	1.16766	-1.40803	1.90094	0.69937
1.9502	0.50095	1.16766	-1.40803	1.90094	0.69937
1.9502	0.50095	1.16766	-1.40803	1.9026	0.83062
1.95186	0.33628	1.16932	-1.40803	1.9026	0.7914
1.95186	0.33628	1.16932	-1.40803	1.9026	0.75217
1.95352	0.21084	1.16932	-1.40803	1.90426	0.92265
1.95352	0.26968	1.17098	-1.3688	1.90426	0.92265
1.95518	0.17365	1.17098	-1.31977	1.90426	0.96188
1.95684	0.00898	1.17098	-1.27073	1.90592	1.1912
1.95684	0.07763	1.17264	-1.27073	1.90592	1.25985
1.9585	0.01102	1.17264	-1.27073	1.90592	1.25985
1.9585	0.07967	1.17264	-1.2217	1.90758	1.47936
1.96016	0.15036	1.1743	-1.16286	1.90758	1.5382
1.96016	0.30726	1.1743	-1.09421	1.90758	1.58724
1.96182	0.36815	1.1743	-1.09421	1.90924	1.75772
1.96182	0.76041	1.17596	-1.05498	1.90924	1.75772
1.96348	0.75265	1.17596	-1.00595	1.90924	1.75772
1.96514	0.7645	1.17596	-0.9275	1.9109	1.88897

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.96514	0.93121	1.17762	-0.9275	1.9109	1.73207
1.9668	0.93325	1.17762	-0.88827	1.9109	1.73207
1.9668	1.09997	1.17762	-0.83924	1.91256	1.84371
1.96846	1.21969	1.17928	-0.7804	1.91256	1.74564
1.96846	1.34718	1.17928	-0.7804	1.91256	1.70641
1.97012	1.29038	1.17928	-0.7804	1.91422	1.79844
1.97012	1.36883	1.18094	-0.7804	1.91422	1.70038
1.97178	1.263	1.18094	-0.7804	1.91422	1.70038
1.97178	1.31203	1.18094	-0.7804	1.91588	1.81202
1.97344	1.14736	1.1826	-0.7804	1.91588	1.73356
1.97344	1.14736	1.1826	-0.7804	1.91588	1.68453
1.9751	0.98269	1.1826	-0.7804	1.91754	1.79617
1.97676	0.81802	1.18426	-0.7804	1.91754	1.71772
1.97676	0.81802	1.18426	-0.7804	1.91754	1.71772
1.97842	0.65335	1.18426	-0.7804	1.9192	1.82936
1.97842	0.65335	1.18592	-0.7804	1.9192	1.75091
1.98008	0.48867	1.18592	-0.7804	1.9192	1.70187
1.98008	0.48867	1.18592	-0.7804	1.92086	1.77429
1.98174	0.324	1.18758	-0.7804	1.92086	1.56835
1.98174	0.324	1.18758	-0.7804	1.92086	1.47028
1.9834	0.15933	1.18758	-0.75098	1.92086	1.33299
1.98506	-0.00534	1.18924	-0.70194	1.92252	1.30734
1.98506	-0.00534	1.18924	-0.6431	1.92252	1.01313
1.98672	-0.17001	1.18924	-0.6431	1.92418	1.07574
1.98672	-0.17001	1.1909	-0.60388	1.92418	0.98748
1.98838	-0.33469	1.1909	-0.54504	1.92418	0.87961
1.98838	-0.29546	1.1909	-0.46658	1.92418	0.79135
1.99004	-0.4111	1.19256	-0.46658	1.92584	0.7657
1.99004	-0.4111	1.19256	-0.40774	1.92584	0.67744
1.9917	-0.52674	1.19256	-0.32929	1.92584	0.58918
1.9917	-0.39925	1.19256	-0.22142	1.9275	0.6714
1.99336	-0.56392	1.19422	-0.13316	1.9275	0.59294
1.99502	-0.68937	1.19422	-0.08412	1.9275	0.50468
1.99502	-0.63053	1.19588	-0.00567	1.92916	0.58691
1.99668	-0.72655	1.19588	0.04337	1.92916	0.49865
1.99668	-0.72655	1.19588	0.14143	1.92916	0.41038
1.99834	-0.82258	1.19754	0.21008	1.93082	0.49261
1.99834	-0.7049	1.19754	0.31795	1.93082	0.40435

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
2	-0.79112	1.19754	0.39641	1.93082	0.22783
2	-0.66363	1.19754	0.51409	1.93248	0.31985
2.00166	-0.61255	1.1992	0.78867	1.93248	0.25121
2.00166	0.28966	1.1992	0.78867	1.93248	0.17275
2.00332	0.86049	1.1992	0.94558	1.93414	0.26478
2.00498	0.89196	1.20086	0.94558	1.93414	0.21575
2.00498	1.04886	1.20086	0.89655	1.93414	0.13729
2.00664	1.03129	1.20086	0.84751	1.9358	0.22932
2.00664	1.14897	1.20252	0.77887	1.9358	0.043
2.0083	1.09217	1.20252	0.73964	1.9358	-0.18256
2.0083	1.19024	1.20252	0.65138	1.93746	-0.01208
2.00996	1.11383	1.20418	0.42583	1.93746	-0.21802
2.00996	1.30016	1.20418	0.15124	1.93746	-0.30628
2.01162	1.21394	1.20418	0.02375	1.93912	-0.22406
2.01328	1.11791	1.20584	-0.11354	1.93912	-0.2829
2.01328	1.17675	1.20584	-0.24103	1.93912	-0.34174
2.01494	1.06111	1.20584	-0.36852	1.94078	-0.21048
2.01494	1.10034	1.2075	-0.4862	1.94078	-0.21048
2.0166	0.93567	1.2075	-0.61368	1.94078	-0.21048
2.0166	0.93567	1.2075	-0.77059	1.94244	-0.07923
2.01826	0.771	1.20916	-0.83924	1.94244	-0.07923
2.01826	0.771	1.20916	-0.88827	1.94244	-0.07923
2.01992	0.60633	1.20916	-0.88827	1.9441	0.09126
2.01992	0.60633	1.21082	-0.88827	1.9441	0.09126
2.02158	0.52991	1.21082	-0.88827	1.9441	0.09126
2.02324	0.42408	1.21082	-0.88827	1.94576	0.26174
2.02324	0.42408	1.21248	-0.84904	1.94576	0.30097
2.0249	0.25941	1.21248	-0.80001	1.94576	0.35981
2.0249	0.29864	1.21248	-0.74117	1.94742	0.58913
2.02656	0.183	1.21414	-0.74117	1.94742	0.58913
2.02656	0.25165	1.21414	-0.74117	1.94742	0.58913
2.02822	0.08697	1.21414	-0.74117	1.94908	0.75961
2.02822	0.08697	1.2158	-0.74117	1.94908	0.75961
2.02988	-0.0777	1.2158	-0.74117	1.94908	0.75961
2.03154	-0.21295	1.2158	-0.74117	1.95074	0.93009
2.03154	-0.17372	1.21746	-0.74117	1.95074	0.89086
2.0332	-0.29917	1.21746	-0.7804	1.95074	0.82222
2.0332	-0.29917	1.21746	-0.83924	1.9524	0.89463

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
2.03486	-0.46384	1.21912	-0.90788	1.9524	0.85541
2.03486	-0.46384	1.21912	-0.90788	1.9524	0.77695
2.03652	-0.62851	1.21912	-0.90788	1.95406	0.79053
2.03652	-0.59909	1.22078	-0.90788	1.95406	0.73169
2.03818	-0.70492	1.22078	-0.90788	1.95406	0.63362
2.03818	-0.63628	1.22078	-0.90788	1.95572	0.73546
2.03984	-0.80095	1.22244	-0.90788	1.95572	0.64719
2.03984	-0.74211	1.22244	-0.90788	1.95572	0.59816
2.0415	-0.79891	1.22244	-0.86866	1.95738	0.69019
2.04316	-0.90474	1.2241	-0.80982	1.95738	0.60193
2.04316	-0.77725	1.2241	-0.74117	1.95738	0.5627
2.04482	-0.83405	1.2241	-0.69214	1.95904	0.57628
2.04482	-0.67714	1.22576	-0.6333	1.95904	0.44879
2.04648	-0.60645	1.22576	-0.56465	1.95904	0.23304
2.04648	0.09963	1.22576	-0.56465	1.95904	-0.1298
2.04814	0.48413	1.22576	-0.56465	1.9607	-0.10642
2.04814	0.61162	1.22742	-0.52542	1.9607	-0.2241
2.0498	0.54501	1.22742	-0.47639	1.96236	-0.15169
2.05146	0.43918	1.22908	-0.42736	1.96236	-0.22034
2.05146	0.43918	1.22908	-0.42736	1.96236	-0.3086
2.05312	0.27451	1.22908	-0.42736	1.96236	-0.3086
2.05312	0.27451	1.23074	-0.42736	1.96402	-0.13811
2.05478	0.10984	1.23074	-0.38813	1.96402	-0.13811
2.05478	0.08042	1.23074	-0.3489	1.96402	-0.13811
2.05644	-0.13329	1.23074	-0.3489	1.96568	0.03237
2.05644	-0.19213	1.2324	-0.3489	1.96568	0.03237
2.0581	-0.3568	1.2324	-0.3489	1.96568	0.06179
2.0581	-0.3568	1.2324	-0.3489	1.96734	0.2813
2.05976	-0.52147	1.23406	-0.3489	1.96734	0.31072
2.06142	-0.68614	1.23406	-0.3489	1.96734	0.31072
2.06142	-0.6273	1.23406	-0.3489	1.969	0.48121
2.06308	-0.71352	1.23572	-0.3489	1.969	0.48121
2.06308	-0.66449	1.23572	-0.3489	1.969	0.48121
2.06474	-0.7409	1.23572	-0.3489	1.97066	0.61246
2.06474	-0.53496	1.23738	-0.3489	1.97066	0.55362
2.0664	-0.62118	1.23738	-0.3489	1.97066	0.46536
2.0664	-0.48389	1.23738	-0.3489	1.97232	0.59662
2.06806	-0.48184	1.23904	-0.3489	1.97232	0.50836

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
2.06806	-0.25629	1.23904	-0.31948	1.97232	0.44952
2.06972	-0.37193	1.23904	-0.31948	1.97398	0.49251
2.07138	-0.49737	1.2407	-0.31948	1.97398	0.26696
2.07138	-0.45815	1.2407	-0.28026	1.97398	0.11005
2.07304	-0.58359	1.2407	-0.192	1.97564	0.10401
2.07304	-0.53456	1.24236	-0.192	1.97564	-0.11174
2.0747	-0.64039	1.24236	-0.192	1.97564	-0.14116
2.0747	-0.57174	1.24236	-0.192	1.9773	0.02932
2.07636	-0.73641	1.24402	-0.23122	1.9773	0.02932
2.07636	-0.68738	1.24402	-0.29006	1.9773	-0.01971
2.07802	-0.78341	1.24402	-0.35871	1.97896	0.12135
2.07802	-0.71476	1.24568	-0.35871	1.97896	0.12135
2.07968	-0.87943	1.24568	-0.40774	1.97896	0.12135
2.08134	-0.99507	1.24568	-0.4862	1.98062	0.29183
2.08134	-0.92642	1.24734	-0.54504	1.98062	0.29183
2.083	-1.01264	1.24734	-0.61368	1.98062	0.29183
2.083	-0.89496	1.24734	-0.69214	1.98228	0.51135
2.08466	-0.98118	1.249	-0.69214	1.98228	0.57019
2.08466	-0.8635	1.249	-0.69214	1.98228	0.63884
2.08632	-0.83204	1.249	-0.69214	1.98394	0.80932
2.08632	-0.49861	1.25066	-0.69214	1.98394	0.85835
2.08798	-0.52599	1.25066	-1.73342	1.98394	0.927
2.08964	-0.56317	1.25066	-1.73342	1.9856	1.18574
2.08964	-0.43569	1.25232	-1.73342	1.9856	1.24458
2.0913	-0.48268	1.25232	-1.8131	1.9856	1.32304
2.0913	-0.29635	1.25232	-1.8131	1.98726	1.49352
2.09296	-0.39237	1.25398	-1.8131	1.98726	1.54255
2.09296	-0.33353	1.25398	-1.89278	1.98726	1.59159
2.09462	-0.43937	1.25398	-1.89278	1.98892	1.8111
2.09462	-0.39033	1.25564	-1.89278	1.98892	1.8111
2.09628	-0.555	1.25564	-1.97246	1.98892	1.664
2.09628	-0.555	1.25564	-1.894	1.99058	1.76584
2.09794	-0.67064	1.2573	-1.82536	1.99058	1.62854
2.09794	-0.62161	1.2573	-1.90504	1.99058	1.51086
2.0996	-0.78628	1.2573	-1.86581	1.99224	1.49502
2.10126	-1.81394	1.25896	-1.78736	1.99224	1.24004
2.10126	129.8996	1.25896	-1.76897	1.99224	0.887
2.10292	137.3919	1.25896	-1.73955	1.9939	0.51811

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
2.10292	147.8752	1.26062	-1.6611	1.9939	0.33179
2.10126	149.7581	1.26062	-1.6329	1.9939	0.14546
2.10126	153.2199	1.26062	-1.57406	1.99556	0.12961
2.0996	154.0338	1.26228	-1.37793	1.99556	-0.26265
2.0996	154.8674	1.26228	-1.33012	1.99556	-0.45879
2.09794	156.2992	1.26228	-1.14379	1.99556	-0.64512
2.09794	156.8189	1.26394	-0.87901	1.99722	-0.66096
2.09628	158.1625	1.26394	-0.6743	1.99722	-0.82767
2.09628	158.9176	1.26394	-0.3801	1.99888	-0.80429
2.09462	159.2216	1.26394	-0.0957	1.99888	-0.93178
2.09296	159.8492	1.2656	-0.24403	1.99888	-1.02985
2.09296	160.0846	1.2656	-0.45978	2.00054	-0.94763
2.0913	160.5651	1.2656	-0.58726	2.00054	-1.08492
2.0913	160.722	1.26726	-0.80424	2.00054	-1.13395
2.08964	161.0554	1.26726	-0.94153	2.00054	-1.13395
2.08964	161.1437	1.26726	-1.0396	2.0022	-0.96347
2.08798	161.4183	1.26892	-1.20754	2.0022	-0.96347
2.08798	161.7615	1.26892	-1.26638	2.00386	-0.83222
2.08632	161.889	1.26892	-1.26638	2.00386	-0.88125
2.08632	162.0165	1.27058	-1.34606	2.00386	-0.93028
2.08466	162.2519	1.27058	-1.34606	2.00386	-0.93028
2.083	162.3695	1.27058	-1.34606	2.00552	-0.86767
2.083	162.6343	1.27224	-1.42574	2.00552	-0.94613
2.08134	162.7716	1.27224	-1.42574	2.00718	-0.77565
2.08134	163.056	1.27224	-1.42574	2.00718	-0.82468
2.07968	163.2129	1.2739	-1.50542	2.00718	-0.89333
2.07968	163.5365	1.2739	-1.54465	2.00718	-0.98159
2.07802	164.0073	1.2739	-1.59368	2.00884	-0.8111
2.07802	164.3309	1.27556	-1.74201	2.00884	-0.86994
2.07636	164.6643	1.27556	-1.74201	2.00884	-0.96801
2.07636	164.9781	1.27556	-1.89891	2.0105	-0.84656
2.0747	165.2919	1.27722	-2.00801	2.0105	-0.94463
2.07304	165.6156	1.27722	-2.07666	2.0105	-1.01328
2.07304	165.9294	1.27722	-2.1355	2.01216	-1.05854
2.07138	166.2432	1.27888	-2.21518	2.01216	-1.17622
2.07138	166.5472	1.27888	-2.21518	2.01216	-1.32332
2.06972	166.8316	1.27888	-2.17595	2.01382	-1.32936
2.06972	167.3906	1.28054	-2.18699	2.01382	-1.32936

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
2.06806	167.6455	1.28054	-2.07911	2.01382	-1.32936
2.06806	167.9005	1.28054	-1.89279	2.01548	-1.11965
2.0664	168.1457	1.2822	-1.8744	2.01548	-0.99217
2.0664	168.381	1.2822	-1.73711	2.01548	-0.99217
2.06474	168.6164	1.2822	-1.78068	2.01714	-0.76284
2.06474	168.8518	1.28386	-3.36937	2.01714	-0.68439
2.06308	169.1067	1.28386	-3.36937	2.01714	-0.64516
2.06142	169.3813	1.28386	-3.30072	2.0188	-0.42565
2.06142	169.9795	1.28552	-3.25169	2.0188	-0.37661
2.05976	170.3032	1.28552	-2.99671	2.0188	-0.37661
2.05976	170.6268	1.28552	-2.86922	2.02046	-0.20613
2.0581	170.9406	1.28718	-2.60444	2.02046	-0.25517
2.0581	171.2642	1.28718	-2.47696	2.02046	-0.33362
2.05644	171.5584	1.28718	-2.2514	2.02212	-0.35927
2.05644	171.8428	1.28884	-2.19256	2.02212	-0.50637
2.05478	172.1174	1.28884	-2.07488	2.02212	-0.75154
2.05312	172.3724	1.28884	-2.03565	2.02378	-1.05178
2.05312	172.6175	1.2905	-1.94739	2.02378	-1.28714
2.05146	172.8627	1.2905	-1.88855	2.02378	-1.53231
2.05146	173.3432	1.2905	-1.80029	2.02544	-1.57757
2.0498	173.5982	1.29216	-1.62377	2.02544	-1.79332
2.0498	173.8532	1.29216	-1.53551	2.02544	-1.99926
2.04814	174.1082	1.29216	-1.35899	2.0271	-2.13279
2.04814	174.3729	1.29216	-1.24131	2.0271	-2.25047
2.04648	174.6377	1.29382	-1.06479	2.0271	-2.32892
2.04648	174.9025	1.29382	-1.00595	2.02876	-2.21728
2.04482	175.1673	1.29548	-0.94711	2.02876	-2.27612
2.04316	175.7066	1.29548	-0.87846	2.02876	-2.32515
2.04316	175.9714	1.29548	-0.82943	2.03042	-2.15467
2.0415	176.2362	1.29714	-0.82943	2.03042	-2.15467
2.0415	176.4912	1.29714	-0.82943	2.03042	-2.2037
2.03984	176.756	1.29714	-0.82943	2.03208	-2.09206
2.03984	176.9913	1.29714	-0.82943	2.03208	-2.1509
2.03818	177.2169	1.2988	-0.82943	2.03208	-2.1509
2.03652	177.4326	1.2988	-0.82943	2.03374	-1.98042
2.03652	177.6288	1.30046	-0.82943	2.03374	-2.01965
2.03486	177.8249	1.30046	-0.82943	2.03374	-2.07849
2.03486	178.1877	1.30046	-0.82943	2.0354	-1.96685

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
2.0332	178.3741	1.30046	-0.86866	2.0354	-1.96685
2.0332	178.5898	1.30212	-0.98634	2.0354	-1.96685
2.03154	178.835	1.30212	-0.98634	2.03706	-1.8454
2.03154	179.09	1.30212	-0.98634	2.03706	-1.92385
2.02988	179.3645	1.30378	-1.01576	2.03706	-1.97288
2.02988	179.6784	1.30378	-1.06479	2.03706	-2.1396
2.02822	179.9922	1.30378	-1.12363	2.03872	-2.11622
2.02822	180.306	1.30544	-1.12363	2.03872	-2.31235
2.02656	180.61	1.30544	-1.17267	2.04038	-2.4851
2.0249	180.8944	1.30544	-1.23151	2.04038	-2.60278
2.0249	181.3945	1.3071	-1.30015	2.04038	-2.72046
2.02324	181.5809	1.3071	-1.30015	2.04204	-2.68728
2.02324	181.7574	1.3071	-1.30015	2.04204	-2.94225
2.02158	181.9045	1.30876	-1.33938	2.04204	-3.06974
2.02158	182.0418	1.30876	-1.33938	2.04204	-3.19722
2.01992	182.1693	1.30876	-1.33938	2.0437	-3.14442
2.01992	182.2968	1.31042	-1.33938	2.0437	-3.27191
2.01826	182.434	1.31042	-1.33938	2.04536	-3.21911
2.0166	182.591	1.31042	-1.33938	2.04536	-3.33679
2.0166	182.9538	1.31208	-1.28054	2.04536	-3.45447
2.01494	183.1597	1.31208	-1.18247	2.04536	-3.55254
2.01494	183.3755	1.31208	-1.13344	2.04702	-3.48012
2.01328	183.5814	1.31374	-0.95692	2.04702	-3.56838
2.01328	183.7874	1.31374	-0.82943	2.04702	-3.62722
2.01162	183.9737	1.31374	-0.65291	2.04868	-3.55481
2.01162	184.1404	1.3154	-0.38813	2.04868	-3.55481
2.00996	184.3071	1.3154	-0.07431	2.04868	-3.55481
2.00996	184.4444	1.3154	0.28853	2.05034	-3.38432
2.0083	184.5817	1.31706	0.73964	2.05034	-3.42355
2.00664	184.8465	1.31706	0.76906	2.05034	-3.45297
2.00664	184.9936	1.31706	0.76906	2.052	-3.32172
2.00498	185.1407	1.31872	0.72003	2.052	-3.32172
2.00498	185.278	1.31872	0.63177	2.052	-3.32172
2.00332	185.4545	1.31872	0.56312	2.05366	-3.15123
2.00332	185.6114	1.32038	0.44544	2.05366	-3.15123
2.00166	185.7781	1.32038	0.34737	2.05366	-3.15123
2.00166	185.9547	1.32038	0.18066	2.05532	-2.98075
2	186.1116	1.32204	-0.08412	2.05532	-2.98075

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.99834	186.2685	1.32204	-0.16258	2.05532	-2.98075
1.99834	186.5725	1.32204	-0.2018	2.05698	-2.81027
1.99668	186.7098	1.3237	-0.24103	2.05698	-2.81027
1.99668	186.8569	1.3237	-0.24103	2.05698	-2.8495
1.99502	186.9844	1.3237	-0.24103	2.05864	-2.71824
1.99502	187.1216	1.32536	-0.27045	2.05864	-2.76728
1.99336	187.2393	1.32536	-0.27045	2.05864	-2.76728
1.99336	187.3864	1.32536	-0.27045	2.0603	-2.63602
1.9917	187.5433	1.32702	-0.32929	2.0603	-2.67525
1.9917	187.71	1.32702	-0.39794	2.0603	-2.73409
1.99004	188.1023	1.32702	-0.47639	2.06196	-2.56361
1.98838	188.3181	1.32868	-0.51562	2.06196	-2.56361
1.98838	188.5632	1.32868	-0.58426	2.06196	-2.60283
1.98672	188.8182	1.32868	-0.65291	2.06362	-2.501
1.98672	189.0732	1.33034	-0.65291	2.06362	-2.57945
1.98506	189.338	1.33034	-0.65291	2.06362	-2.57945
1.98506	189.6027	1.33034	-0.65291	2.06528	-2.52665
1.9834	189.8479	1.33034	-0.65291	2.06528	-2.57568
1.9834	190.0735	1.332	-0.65291	2.06528	-2.65414
1.98174	190.4461	1.332	-0.65291	2.06694	-2.54249
1.98174	190.603	1.33366	-0.65291	2.06694	-2.64056
1.98008	190.7305	1.33366	-0.61368	2.06694	-2.71901
1.97842	190.858	1.33366	-0.56465	2.0686	-2.66621
1.97842	190.9757	1.33366	-0.51562	2.0686	-2.72505
1.97676	191.0836	1.33532	-0.51562	2.0686	-2.82312
1.97676	191.2012	1.33532	-0.51562	2.07026	-2.75071
1.9751	191.2993	1.33532	-0.46658	2.07026	-2.80955
1.9751	191.417	1.33698	-0.39794	2.07026	-2.80955
1.97344	191.515	1.33698	-0.31948	2.07192	-2.63906
1.97344	191.6327	1.33698	-0.31948	2.07192	-2.63906
1.97178	191.8681	1.33864	-0.21161	2.07192	-2.63906
1.97178	191.9858	1.33864	-0.15277	2.07358	-2.46858
1.97012	192.1231	1.33864	-0.15277	2.07358	-2.46858
1.96846	192.2604	1.3403	-0.192	2.07358	-2.46858
1.96846	192.3977	1.3403	-0.27045	2.07524	-2.41578
1.9668	192.5546	1.3403	-0.35871	2.07524	-2.52365
1.9668	192.7017	1.34196	-0.54504	2.07524	-2.58249
1.96514	192.8782	1.34196	-0.87846	2.07524	-2.70998

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.96514	193.0351	1.34196	-1.96701	2.0769	-2.64737
1.96348	193.3685	1.34362	-2.89864	2.0769	-2.81409
1.96348	193.5352	1.34362	-3.11439	2.07856	-2.91819
1.96182	193.6823	1.34362	-3.26149	2.07856	-3.28104
1.96182	193.8196	1.34528	-3.31053	2.07856	-3.79099
1.96016	193.9471	1.34528	-3.31053	2.07856	-3.91848
1.9585	194.0648	1.34528	-3.2713	2.08022	-3.85587
1.9585	194.1825	1.34694	-3.18304	2.08022	-4.01277
1.95684	194.3002	1.34694	-3.06536	2.08022	-4.08142
1.95684	194.4178	1.34694	-2.77116	2.08188	-3.96978
1.95518	194.5257	1.3486	-2.58483	2.08188	-3.96978
1.95518	194.6434	1.3486	-2.26121	2.08188	-3.9992
1.95352	194.8689	1.3486	-2.11411	2.08354	-3.87775
1.95352	194.967	1.35026	-1.98662	2.08354	-3.93659
1.95186	195.0651	1.35026	-1.86894	2.08354	-3.93659
1.95186	195.1631	1.35026	-1.80029	2.0852	-3.81514
1.9502	195.271	1.35192	-1.73165	2.0852	-3.87398
1.94854	195.3691	1.35192	-1.67281	2.0852	-4.00147
1.94854	195.4868	1.35192	-1.64339	2.08686	-3.88983
1.94688	195.5848	1.35358	-1.64339	2.08686	-3.9879
1.94688	195.7123	1.35358	-1.64339	2.08686	-4.03693
1.94522	195.83	1.35358	-1.64339	2.08852	-3.9449
1.94522	196.0948	1.35524	-1.59435	2.08852	-4.00374
1.94356	196.2419	1.35524	-1.53551	2.08852	-4.092
1.94356	196.3792	1.35524	-1.43745	2.09018	-4.02939
1.9419	196.4969	1.3569	-1.37861	2.09018	-4.10785
1.94024	196.6243	1.3569	-1.28054	2.09018	-4.14707
1.94024	196.7224	1.3569	-1.19228	2.09184	-4.03543
1.93858	196.8107	1.35856	-1.03537	2.09184	-4.12369
1.93858	196.8793	1.35856	-0.82943	2.09184	-4.18253
1.93692	196.948	1.35856	-0.59407	2.0935	-4.11992
1.93692	197.046	1.35856	-0.62349	2.0935	-4.21799
1.93526	197.1147	1.36022	-0.68233	2.0935	-4.39451
1.93526	197.2029	1.36022	-0.76078	2.09516	-4.59668
1.9336	197.2716	1.36188	-0.84904	2.09516	-4.81243
1.9336	197.3893	1.36188	-1.03537	2.09516	-5.27335
1.93194	197.4873	1.36188	-1.14325	2.09682	-5.34803
1.93194	197.6639	1.36188	-1.23151	2.09682	-5.57359

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.93028	197.9973	1.36354	-1.30015	2.09682	-5.79914
1.92862	198.1542	1.36354	-1.34919	2.09848	-5.8346
1.92862	198.2915	1.36354	-1.43745	2.09848	-6.01112
1.92696	198.419	1.3652	-1.43745	2.09848	-6.16803
1.92696	198.6347	1.3652	-1.43745	2.10014	-6.11522
1.9253	198.7132	1.3652	-1.43745	2.10014	-6.21329
1.9253	198.7916	1.36686	-1.48648	2.10014	-6.32117
1.92364	198.8308	1.36686	-1.54532	2.1018	-6.15068
1.92364	198.8799	1.36686	-1.59435	2.1018	-6.15068
1.92198	198.9289	1.36852	-1.59435	2.1018	-6.15068
1.92032	198.9289	1.36852	-1.59435	2.10346	-6.16395
1.92032	198.9779	1.36852	-1.59435	2.1018	-5.97952
1.91866	199.0368	1.37018	-1.54532	2.1018	-5.97952
1.91866	199.0956	1.37018	-1.46687	2.1018	-5.97952
1.917	199.1545	1.37018	-1.37861	2.10014	-5.7951
1.917	199.2231	1.37184	-1.33938	2.10014	-5.7951
1.91534	199.3114	1.37184	-1.26093	2.10014	-5.7951
1.91534	199.3114	1.37184	-1.20209	2.09848	-5.61067
1.91368	199.3604	1.3735	-1.09421	2.09848	-5.61067
1.91368	199.4389	1.3735	-1.03537	2.09848	-5.6597
1.91202	199.4879	1.3735	-0.95692	2.09848	-5.6597
1.91036	199.5565	1.37516	-0.95692	2.09682	-5.52431
1.91036	199.6546	1.37516	-0.95692	2.09682	-5.59296
1.9087	199.7821	1.37516	-0.95692	2.09516	-5.47718
1.9087	199.8802	1.37682	-0.95692	2.09516	-5.47718
1.90704	200.0273	1.37682	-0.95692	2.09516	-5.47718
1.90704	200.3117	1.37682	-0.98634	2.09516	-5.47718
1.90538	200.4391	1.37848	-1.03537	2.0935	-5.29275
1.90538	200.5764	1.37848	-1.09421	2.0935	-5.29275
1.90372	200.7039	1.37848	-1.09421	2.0935	-5.29275
1.90372	200.8314	1.38014	-1.09421	2.09184	-5.10833
1.90206	200.9491	1.38014	-1.13344	2.09184	-5.10833
1.9004	201.057	1.38014	-1.18247	2.09184	-5.10833
1.9004	201.2629	1.3818	-1.24131	2.09018	-4.9239
1.89874	201.361	1.3818	-1.24131	2.09018	-4.9239
1.89874	201.4492	1.3818	-1.24131	2.09018	-4.9239
1.89708	201.5277	1.38346	-1.28054	2.08852	-4.73948
1.89708	201.6061	1.38346	-1.31977	2.08852	-4.7787

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.89542	201.6846	1.38346	-1.3688	2.08852	-4.82774
1.89542	201.7434	1.38512	-1.3688	2.08686	-4.70215
1.89376	201.7925	1.38512	-1.3688	2.08686	-4.70215
1.89376	201.8513	1.38512	-1.3688	2.08686	-4.74138
1.8921	201.8513	1.38678	-1.32957	2.0852	-4.60598
1.89044	201.8807	1.38678	-1.28054	2.0852	-4.67463
1.89044	201.9788	1.38678	-1.21189	2.0852	-4.67463
1.88878	201.9788	1.38844	-1.21189	2.08354	-4.49021
1.88878	202.0278	1.38844	-1.17267	2.08354	-4.49021
1.88712	202.0965	1.38844	-1.12363	2.08354	-4.52943
1.88712	202.1847	1.38844	-1.0746	2.08188	-4.37443
1.88546	202.224	1.3901	-1.0746	2.08188	-4.37443
1.8838	202.3907	1.3901	-1.0746	2.08188	-4.37443
1.8838	202.4299	1.39176	-1.0746	2.08022	-4.19
1.88214	202.5868	1.39176	-1.0746	2.08022	-4.22923
1.88048	202.5868	1.39176	-1.0746	2.08022	-4.22923
1.88048	202.6457	1.39176	-1.11383	2.07856	-4.0448
1.87882	202.7241	1.39342	-1.17267	2.07856	-4.10364
1.87882	202.7731	1.39342	-1.25112	2.07856	-4.1821
1.87716	202.8516	1.39508	-1.25112	2.0769	-4.02709
1.87716	202.9497	1.39508	-1.33938	2.0769	-4.21342
1.8755	203.1262	1.39508	-1.40803	2.0769	-4.25264
1.87384	203.4694	1.39508	-1.40803	2.07524	-4.13686
1.87384	203.8028	1.39674	-1.40803	2.07524	-4.23493
1.87218	203.9401	1.39674	-1.40803	2.07524	-4.23493
1.87218	204.0676	1.39674	-1.40803	2.07358	-4.08973
1.87052	204.1559	1.3984	-1.40803	2.07358	-4.13877
1.87052	204.2147	1.3984	-1.40803	2.07358	-4.1878
1.86886	204.254	1.3984	-1.3688	2.07192	-4.00337
1.86886	204.254	1.40006	-1.31977	2.07192	-4.00337
1.8672	204.254	1.40006	-1.27073	2.07192	-4.00337
1.8672	204.254	1.40006	-1.27073	2.07026	-3.78953
1.86554	204.254	1.40172	-1.27073	2.07026	-3.74049
1.86554	204.254	1.40172	-1.2217	2.07026	-3.70127
1.86388	204.254	1.40172	-1.16286	2.0686	-3.51684
1.86222	204.2932	1.40338	-1.09421	2.0686	-3.51684
1.86222	204.2932	1.40338	-1.09421	2.0686	-3.51684
1.86056	204.352	1.40338	-1.05498	2.06694	-3.33241

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.86056	204.4403	1.40504	-1.00595	2.06694	-3.42068
1.8589	204.4795	1.40504	-0.9275	2.06694	-3.47952
1.8589	204.5678	1.40504	-0.9275	2.06694	-3.47952
1.85724	204.6266	1.4067	-0.88827	2.06528	-3.32451
1.85724	204.7345	1.4067	-0.83924	2.06528	-3.37354
1.85558	204.8914	1.4067	-0.7804	2.06528	-3.43238
1.85392	204.9502	1.40836	-0.7804	2.06362	-3.24796
1.85392	205.0189	1.40836	-0.7804	2.06362	-3.24796
1.85226	205.0875	1.40836	-0.7804	2.06362	-3.24796
1.85226	205.0875	1.41002	-0.7804	2.06196	-3.06353
1.8506	205.0875	1.41002	-0.7804	2.06196	-3.06353
1.8506	205.0581	1.41002	-0.7804	2.06196	-3.06353
1.84894	205.0091	1.41168	-0.7804	2.0603	-2.8791
1.84894	204.9502	1.41168	-0.7804	2.0603	-2.83988
1.84728	204.9502	1.41168	-0.7804	2.0603	-2.79084
1.84728	204.862	1.41334	-0.7804	2.05864	-2.53777
1.84562	204.8129	1.41334	-0.7804	2.05864	-2.53777
1.84562	204.8129	1.41334	-0.7804	2.05864	-2.53777
1.84396	204.8129	1.415	-0.7804	2.05698	-2.35335
1.8423	204.8129	1.415	-0.7804	2.05698	-2.35335
1.8423	204.8129	1.415	-0.7804	2.05698	-2.27489
1.84064	204.8129	1.41666	-0.7804	2.05532	-2.04143
1.84064	204.8129	1.41666	-0.75098	2.05532	-2.04143
1.83898	204.862	1.41666	-0.70194	2.05532	-2.04143
1.83898	204.9895	1.41832	-0.6431	2.05366	-1.85701
1.83732	204.9895	1.41832	-0.6431	2.05366	-1.81778
1.83732	205.0287	1.41832	-0.60388	2.05366	-1.75894
1.83566	205.0777	1.41998	-0.54504	2.052	-1.51567
1.834	205.1464	1.41998	-0.46658	2.052	-1.51567
1.834	205.1464	1.41998	-0.46658	2.052	-1.51567
1.83234	205.1856	1.42164	-0.40774	2.05034	-1.28221
1.83234	205.2346	1.42164	-0.32929	2.05034	-1.13511
1.83068	205.3033	1.42164	-0.22142	2.05034	-1.13511
1.83068	205.3033	1.42164	-0.13316	2.04868	-0.92127
1.82902	205.4013	1.4233	-0.08412	2.04868	-0.86243
1.82902	205.4798	1.4233	-0.00567	2.04868	-0.79378
1.82736	205.4798	1.42496	0.04337	2.04702	-0.60935
1.8257	205.519	1.42496	0.14143	2.04702	-0.57013

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.8257	205.5877	1.42496	0.21008	2.04702	-0.49167
1.82404	205.6661	1.42496	0.31795	2.04536	-0.20918
1.82404	205.6661	1.42662	0.39641	2.04536	-0.15034
1.82238	205.7152	1.42662	0.51409	2.04536	-0.06208
1.82238	205.774	1.42828	0.78867	2.0437	0.16157
1.82072	205.8623	1.42828	0.78867	2.0437	0.24003
1.82072	205.9113	1.42828	0.94558	2.0437	0.29887
1.81906	205.9799	1.42828	0.94558	2.04204	0.59117
1.81906	206.0682	1.42994	0.89655	2.04204	0.66962
1.8174	206.0682	1.42994	0.84751	2.04204	0.79711
1.81574	206.1466	1.42994	0.77887	2.04038	1.2267
1.81574	206.2447	1.4316	0.73964	2.04038	1.40322
1.81408	206.3036	1.4316	0.65138	2.04038	1.64839
1.81408	206.4114	1.4316	0.42583	2.03872	1.85243
1.81242	206.4899	1.43326	0.15124	2.03872	1.85243
1.81242	206.6174	1.43326	0.02375	2.03872	1.85243
1.81076	206.9606	1.43326	-0.11354	2.03706	1.99763
1.81076	207.1763	1.43492	-0.24103	2.03706	1.91917
1.8091	207.196	1.43492	-0.36852	2.03706	1.82111
1.8091	207.196	1.43492	-0.4862	2.0354	1.91727
1.80744	207.196	1.43658	-0.61368	2.0354	1.40732
1.80744	207.196	1.43658	-0.77059	2.0354	1.24061
1.80578	207.1469	1.43658	-0.83924	2.03374	1.26813
1.80412	207.0783	1.43824	-0.88827	2.03374	1.11122
1.80412	206.99	1.43824	-0.88827	2.03374	0.97393
1.80246	206.8723	1.43824	-0.88827	2.03208	1.02106
1.80246	206.7939	1.43824	-0.88827	2.03208	0.91319
1.8008	206.6762	1.43824	-0.88827	2.03208	0.81512
1.8008	206.4899	1.4399	-0.84904	2.03042	0.92109
1.79914	206.4605	1.4399	-0.80001	2.03042	0.81322
1.79914	206.4605	1.4399	-0.74117	2.03042	0.77399
1.79748	206.4605	1.44156	-0.74117	2.02876	0.95842
1.79582	206.4605	1.44156	-0.74117	2.02876	0.95842
1.79582	206.5193	1.44156	-0.74117	2.02876	0.95842
1.79416	206.6272	1.44322	-0.74117	2.0271	1.14284
1.79416	206.7252	1.44322	-0.74117	2.0271	1.14284
1.7925	207.2646	1.44322	-0.74117	2.0271	1.14284
1.7925	207.4215	1.44488	-0.74117	2.02544	1.3763

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.79084	207.5686	1.44488	-0.7804	2.02544	1.44495
1.79084	207.6863	1.44488	-0.83924	2.02544	1.5234
1.78918	207.7844	1.44654	-0.90788	2.02544	1.56263
1.78752	207.8432	1.44654	-0.90788	2.02378	1.79609
1.78752	207.9119	1.44654	-0.90788	2.02378	1.85493
1.78586	207.9903	1.4482	-0.90788	2.02378	1.85493
1.78586	207.9903	1.4482	-0.90788	2.02212	2.03936
1.7842	207.9903	1.4482	-0.90788	2.02212	2.07858
1.7842	207.9903	1.44986	-0.90788	2.02046	2.31204
1.78254	207.9511	1.44986	-1.78068	2.02046	2.37088
1.78254	207.8922	1.44986	-3.36937	2.02046	2.37088
1.78088	207.8334	1.45152	-3.36937	2.02046	2.41992
1.78088	207.8334	1.45152	-3.30072	2.0188	2.67299
1.77922	207.7942	1.45152	-3.25169	2.0188	2.75144
1.77922	207.7353	1.45318	-2.99671	2.01714	2.93587
1.77756	207.6569	1.45318	-2.86922	2.01714	2.9849
1.7759	207.6569	1.45318	-2.60444	2.01714	3.04374
1.7759	207.6569	1.45484	-2.47696	2.01714	3.11239
1.77424	207.6569	1.45484	-2.2514	2.01548	3.29681
1.77424	207.6569	1.45484	-2.19256	2.01548	3.29681
1.77258	207.6569	1.4565	-2.07488	2.01548	3.37527
1.77258	207.7157	1.4565	-2.03565	2.01382	3.60873
1.77092	207.7942	1.4565	-1.94739	2.01382	3.60873
1.77092	207.853	1.45816	-1.88855	2.01382	3.60873
1.76926	207.9511	1.45816	-1.80029	2.01216	3.79315
1.76926	208.0295	1.45816	-1.62377	2.01216	3.79315
1.7676	208.2159	1.45982	-1.53551	2.01216	3.79315
1.76594	208.3237	1.45982	-1.35899	2.0105	3.97758
1.76594	208.3728	1.45982	-1.24131	2.0105	3.97758
1.76428	208.4316	1.46148	-1.06479	2.0105	3.97758
1.76428	208.4904	1.46148	-1.00595	2.00884	4.16201
1.76262	208.4904	1.46148	-0.94711	2.00884	4.16201
1.76262	208.4904	1.46148	-0.87846	2.00884	4.16201
1.76096	208.4904	1.46314	-0.82943	2.00718	4.34643
1.76096	208.4512	1.46314	-0.82943	2.00718	4.34643
1.7593	208.3335	1.46314	-0.82943	2.00718	4.34643
1.75764	208.3335	1.4648	-0.82943	2.00552	4.53086
1.75764	208.3335	1.4648	-0.82943	2.00552	4.53086

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.75598	208.3335	1.4648	-0.82943	2.00552	4.53086
1.75598	208.2943	1.46646	-0.82943	2.00386	4.71528
1.75432	208.2649	1.46646	-0.82943	2.00386	4.71528
1.75432	208.2257	1.46646	-0.82943	2.00386	4.71528
1.75266	208.2257	1.46812	-0.82943	2.0022	4.89971
1.75266	208.2257	1.46812	-0.86866	2.0022	4.89971
1.751	208.2257	1.46812	-0.98634	2.0022	4.86048
1.751	208.2257	1.46978	-0.98634	2.00054	4.99588
1.74934	208.2257	1.46978	-0.98634	2.00054	4.93703
1.74934	208.2257	1.46978	-1.01576	2.00054	4.93703
1.74768	208.2257	1.47144	-1.06479	1.99888	5.12146
1.74602	208.2257	1.47144	-1.12363	1.99888	5.08223
1.74602	208.2257	1.47144	-1.12363	1.99888	5.0332
1.74436	208.2257	1.4731	-1.17267	1.99722	5.16859
1.74436	208.1766	1.4731	-1.23151	1.99722	5.16859
1.7427	208.0491	1.4731	-1.30015	1.99722	5.16859
1.7427	208.0491	1.47476	-1.30015	1.99556	5.35302
1.74104	208.0001	1.47476	-1.30015	1.99556	5.35302
1.74104	207.9413	1.47476	-1.33938	1.99556	5.39225
1.73938	207.853	1.47642	-1.33938	1.9939	5.63551
1.73772	207.853	1.47642	-1.33938	1.9939	5.71397
1.73772	207.7942	1.47642	-1.33938	1.9939	5.75319
1.73606	207.7255	1.47808	-1.33938	1.99224	6.00627
1.73606	207.6373	1.47808	-1.33938	1.99224	6.09453
1.7344	207.6373	1.47808	-1.28054	1.99224	6.09453
1.7344	207.6373	1.47974	-1.18247	1.99058	6.31818
1.73274	207.5588	1.47974	-1.13344	1.99058	6.36721
1.73274	207.5588	1.47974	-0.95692	1.99058	6.43586
1.73108	207.5588	1.4814	-0.82943	1.98892	6.62028
1.72942	207.5588	1.4814	-0.65291	1.98892	6.65951
1.72942	207.5588	1.4814	-0.38813	1.98892	6.787
1.72776	207.598	1.48306	-0.07431	1.98726	6.97142
1.72776	207.6667	1.48306	0.28853	1.98726	7.03027
1.7261	207.7549	1.48306	0.73964	1.98726	7.11853
1.7261	207.7942	1.48472	0.76906	1.9856	7.33237
1.72444	207.9511	1.48472	0.76906	1.9856	7.41083
1.72444	207.9903	1.48472	0.72003	1.9856	7.49909
1.72278	208.059	1.48638	0.63177	1.98394	7.68351

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.72278	208.1472	1.48638	0.56312	1.98394	7.71293
1.72112	208.1472	1.48638	0.44544	1.98394	7.75216
1.72112	208.1864	1.48804	0.34737	1.98228	7.93658
1.71946	208.2355	1.48804	0.18066	1.98228	7.93658
1.7178	208.2845	1.48804	-0.08412	1.98228	7.86794
1.7178	208.2845	1.4897	-0.16258	1.98228	7.76987
1.71614	208.2845	1.4897	-0.2018	1.98062	7.90526
1.71614	208.2845	1.4897	-0.24103	1.98062	7.8072
1.71448	208.2845	1.49136	-0.24103	1.97896	7.93278
1.71448	208.2845	1.49136	-0.24103	1.97896	7.82491
1.71282	208.2845	1.49136	-0.27045	1.97896	7.76607
1.71282	208.2845	1.49302	-0.27045	1.97896	7.668
1.71116	208.2845	1.49302	-0.27045	1.9773	7.75436
1.7095	208.2845	1.49302	-0.32929	1.9773	7.69552
1.7095	208.2845	1.49468	-0.39794	1.9773	7.69552
1.70784	208.2845	1.49468	-0.47639	1.97564	7.87995
1.70784	208.2845	1.49468	-0.51562	1.97564	7.83091
1.70618	208.2845	1.49634	-0.58426	1.97564	7.77207
1.70618	208.2845	1.49634	-0.65291	1.97398	7.88785
1.70452	208.2845	1.49634	-0.65291	1.97398	7.88785
1.70452	208.3139	1.498	-0.65291	1.97398	7.83882
1.70286	208.3532	1.498	-0.65291	1.97232	7.9644
1.70286	208.3924	1.498	-0.65291	1.97232	7.90556
1.7012	208.3924	1.498	-0.65291	1.97232	7.90556
1.69954	208.3924	1.49966	-0.65291	1.97066	8.08999
1.69954	208.3924	1.49966	-0.65291	1.97066	8.08999
1.69788	208.3924	1.50132	-0.61368	1.97066	8.08999
1.69788	208.3924	1.50132	-0.56465	1.969	8.27442
1.69622	208.4316	1.50132	-0.51562	1.969	8.27442
1.69622	208.4708	1.50298	-0.51562	1.969	8.27442
1.69456	208.5101	1.50298	-0.51562	1.96734	8.45884
1.69456	208.5101	1.50298	-0.46658	1.96734	8.45884
1.6929	208.5101	1.50298	-0.39794	1.96734	8.45884
1.69124	208.5101	1.50464	-0.31948	1.96568	8.64327
1.69124	208.5101	1.50464	-0.31948	1.96568	8.64327
1.68958	208.5101	1.50464	-0.21161	1.96568	8.64327
1.68958	208.412	1.5063	-0.15277	1.96402	8.82769
1.68792	208.3532	1.5063	-0.15277	1.96402	8.82769

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.68792	208.3532	1.5063	-0.192	1.96402	8.82769
1.68626	208.3532	1.50796	-0.27045	1.96236	9.01212
1.68626	208.3532	1.50796	-0.35871	1.96236	8.93367
1.6846	208.3532	1.50796	-0.54504	1.96236	8.88463
1.6846	208.3532	1.50962	-0.87846	1.9607	9.06906
1.68294	208.3532	1.50962	-1.96701	1.9607	9.06906
1.68294	208.3532	1.50962	-2.89864	1.9607	9.06906
1.68128	208.3532	1.51128	-3.11439	1.95904	9.25348
1.67962	208.3532	1.51128	-3.26149	1.95904	9.25348
1.67962	208.3532	1.51128	-3.31053	1.95904	9.25348
1.67796	208.3924	1.51294	-3.31053	1.95738	9.43791
1.67796	208.4512	1.51294	-3.2713	1.95738	9.43791
1.6763	208.5101	1.51294	-3.18304	1.95738	9.43791
1.6763	208.5101	1.5146	-3.06536	1.95572	9.62234
1.67464	208.5101	1.5146	-2.77116	1.95572	9.62234
1.67464	208.5101	1.5146	-2.58483	1.95572	9.62234
1.67298	208.5493	1.51626	-2.26121	1.95406	9.80676
1.67132	208.667	1.51626	-2.11411	1.95406	9.80676
1.67132	208.667	1.51626	-1.98662	1.95406	9.80676
1.66966	208.7062	1.51792	-1.86894	1.9524	9.99119
1.66966	208.765	1.51792	-1.80029	1.9524	9.99119
1.668	208.8239	1.51792	-1.73165	1.9524	9.99119
1.668	208.8239	1.51958	-1.67281	1.95074	10.17561
1.66634	208.8729	1.51958	-1.64339	1.95074	10.17561
1.66634	208.9416	1.51958	-1.64339	1.95074	10.17561
1.66468	209.0298	1.52124	-1.64339	1.94908	10.36004
1.66468	209.0298	1.52124	-1.64339	1.94908	10.36004
1.66302	209.0788	1.52124	-1.59435	1.94908	10.36004
1.66302	209.2161	1.5229	-1.53551	1.94742	10.54447
1.66136	209.2161	1.5229	-1.43745	1.94742	10.54447
1.6597	209.2652	1.5229	-1.37861	1.94742	10.54447
1.6597	209.3142	1.52456	-1.28054	1.94576	10.72889
1.65804	209.3829	1.52456	-1.19228	1.94576	10.72889
1.65804	209.3829	1.52456	-1.03537	1.94576	10.77793
1.65638	209.3829	1.52622	-0.82943	1.9441	11.01139
1.65638	209.3829	1.52622	-0.59407	1.9441	11.08003
1.65472	209.4515	1.52622	-0.62349	1.9441	11.08003
1.65472	209.4515	1.52788	-0.68233	1.94244	11.26446

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.65306	209.4515	1.52788	-0.76078	1.94244	11.26446
1.6514	209.4515	1.52788	-0.84904	1.94244	11.26446
1.6514	209.4515	1.52954	-1.03537	1.94244	11.30368
1.64974	209.4515	1.52954	-1.14325	1.94078	11.55676
1.64974	209.4025	1.52954	-1.23151	1.94078	11.55676
1.64808	209.324	1.5312	-1.30015	1.94078	11.55676
1.64808	209.2358	1.5312	-1.34919	1.93912	11.74118
1.64642	209.2358	1.5312	-1.43745	1.93912	11.74118
1.64642	209.1965	1.5312	-1.43745	1.93746	11.92561
1.64476	209.0887	1.53286	-1.43745	1.93746	11.92561
1.6431	209.0887	1.53286	-1.43745	1.93746	11.88638
1.6431	209.0887	1.53452	-1.48648	1.93746	11.83735
1.64144	209.0887	1.53452	-1.54532	1.9358	11.96294
1.64144	209.0887	1.53452	-1.59435	1.9358	11.9139
1.63978	209.0887	1.53618	-1.59435	1.9358	11.85506
1.63978	209.0887	1.53618	-1.59435	1.93414	11.96103
1.63812	209.1377	1.53618	-1.59435	1.93414	11.96103
1.63812	209.2063	1.53618	-1.54532	1.93414	11.93161
1.63646	209.2946	1.53784	-1.46687	1.93248	12.06701
1.63646	209.3338	1.53784	-1.37861	1.93248	11.99836
1.6348	209.4025	1.53784	-1.33938	1.93248	11.99836
1.63314	209.4809	1.5395	-1.26093	1.93082	12.18279
1.63314	209.4809	1.5395	-1.20209	1.93082	12.14356
1.63148	209.4809	1.5395	-1.09421	1.93082	12.09453
1.63148	209.5202	1.54116	-1.03537	1.92916	12.2103
1.62982	209.5594	1.54116	-0.95692	1.92916	12.2103
1.62982	209.6084	1.54116	-0.95692	1.92916	12.17108
1.62816	209.6084	1.54282	-0.95692	1.9275	12.28686
1.62816	209.6084	1.54282	-0.95692	1.9275	12.2084
1.6265	209.5594	1.54282	-0.95692	1.9275	12.2084
1.6265	209.5103	1.54448	-0.95692	1.92584	12.3438
1.62484	209.4417	1.54448	-0.98634	1.92584	12.27515
1.62484	209.4417	1.54448	-1.03537	1.92584	12.19669
1.62318	209.4025	1.54614	-1.09421	1.92418	12.38112
1.62152	209.3534	1.54614	-1.09421	1.92418	12.38112
1.62152	209.2848	1.54614	-1.09421	1.92418	12.38112
1.61986	209.2848	1.5478	-1.13344	1.92252	12.56555
1.61986	209.2358	1.5478	-1.18247	1.92252	12.56555

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.6182	209.0887	1.5478	-1.24131	1.92252	12.56555
1.6182	209.0887	1.54946	-1.24131	1.92086	12.74997
1.61654	209.0592	1.54946	-1.24131	1.92086	12.74997
1.61654	209.0004	1.54946	-1.28054	1.92086	12.74997
1.61488	208.9416	1.55112	-1.31977	1.9192	12.9344
1.61488	208.9416	1.55112	-1.3688	1.9192	12.9344
1.61322	208.9416	1.55112	-1.3688	1.9192	12.9344
1.61156	208.9416	1.55278	-1.3688	1.91754	13.11882
1.61156	208.9416	1.55278	-1.3688	1.91754	13.11882
1.6099	208.9416	1.55278	-1.32957	1.91754	13.11882
1.6099	208.9416	1.5449	0.8187	1.91588	13.30325
1.60824	209.0004	1.5449	0.8187	1.91588	13.30325
1.60824	209.0788	1.5449	0.8187	1.91588	13.30325
1.60658	209.1181	1.54656	0.73902	1.91422	13.48768
1.60492	209.1965	1.54656	0.73902	1.91422	13.48768
1.60492	209.2456	1.54656	0.73902	1.91422	13.48768
1.60326	209.3534	1.54822	0.65934	1.91256	13.6721
1.60326	209.4025	1.54822	0.62011	1.91256	13.6721
1.6016	209.5496	1.54822	0.58088	1.91256	13.6721
1.6016	209.628	1.54988	0.47178	1.9109	13.85653
1.59994	209.628	1.54988	0.47178	1.9109	13.85653
1.59994	209.6771	1.54988	0.47178	1.9109	13.85653
1.59828	209.7261	1.55154	0.3921	1.90924	14.04095
1.59828	209.7849	1.55154	0.3921	1.90924	14.04095
1.59662	209.7849	1.55154	0.3921	1.90924	14.04095
1.59662	209.7849	1.5532	0.31242	1.90758	14.22538
1.59496	209.7849	1.5532	0.31242	1.90758	14.22538
1.5933	209.7359	1.5532	0.31242	1.90758	14.22538
1.5933	209.6673	1.55486	0.23274	1.90592	14.40981
1.59164	209.5398	1.55486	0.23274	1.90592	14.40981
1.59164	209.4613	1.55486	0.23274	1.90592	14.40981
1.58998	209.3632	1.55652	0.18248	1.90426	14.59423
1.58998	209.3142	1.55652	0.24132	1.90426	14.59423
1.58832	209.2259	1.55652	0.30997	1.90426	14.59423
1.58832	209.1671	1.55818	0.23029	1.9026	14.77866
1.58666	209.0788	1.55818	0.25971	1.9026	14.74924
1.585	209.0396	1.55818	0.30874	1.9026	14.70021
1.585	208.9612	1.55984	0.2879	1.90094	14.82579

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.58334	208.8827	1.55984	0.2879	1.90094	14.82579
1.58334	208.8435	1.55984	0.2879	1.90094	14.77676
1.58168	208.7945	1.5615	0.15919	1.90094	14.70811
1.58168	208.7454	1.5615	0.10035	1.89928	14.81408
1.58002	208.7454	1.5615	0.00228	1.89928	14.75524
1.58002	208.7454	1.56316	-0.11662	1.89928	14.75524
1.57836	208.6964	1.56316	-0.21469	1.89762	14.86122
1.57836	208.6474	1.56316	-0.27353	1.89762	14.81218
1.5767	208.5787	1.56482	-0.47089	1.89762	14.73373
1.57504	208.5787	1.56482	-0.55915	1.89596	14.91815
1.57504	208.5787	1.56482	-0.87297	1.89596	14.87893
1.57338	208.4708	1.56648	-1.16839	1.89596	14.81028
1.57338	208.4022	1.56648	-1.44298	1.8943	14.93587
1.57172	208.4022	1.56648	-1.85486	1.8943	14.93587
1.57172	208.4022	1.56814	-2.06203	1.8943	14.93587
1.57006	208.4022	1.56814	-2.17971	1.89264	15.12029
1.57006	208.4022	1.56814	-2.26797	1.89264	15.12029
1.5684	208.3728	1.5698	-2.39668	1.89264	15.12029
1.5684	208.3237	1.5698	-2.39668	1.89098	15.30472
1.56674	208.2845	1.5698	-2.39668	1.89098	15.30472
1.56674	208.2845	1.57146	-2.39791	1.89098	15.30472
1.56508	208.2845	1.57146	-2.29004	1.88932	15.53818
1.56342	208.2845	1.57146	-2.0939	1.88932	15.60682
1.56342	208.2845	1.57312	-1.84015	1.88932	15.69508
1.56176	208.2845	1.57312	-1.72247	1.88766	15.93835
1.56176	208.2845	1.57312	-1.63421	1.88766	16.0168
1.5601	208.2845	1.57478	-1.65505	1.88766	16.0168
1.5601	208.2845	1.57478	-1.65505	1.886	16.26007
1.55844	208.2845	1.57478	-1.65505	1.886	16.34833
1.55844	208.2845	1.57478	-1.65505	1.886	16.34833
1.55678	208.2845	1.57644	-1.76415	1.88434	16.57198
1.55512	208.2845	1.57644	-1.89164	1.88434	16.61121
1.55512	208.2845	1.57644	-1.97132	1.88434	16.65044
1.55346	208.2845	1.5781	-2.03997	1.88268	16.83486
1.55346	208.2845	1.5781	-2.12823	1.88268	16.78583
1.5518	208.2845	1.5781	-2.17726	1.88268	16.72699
1.5518	208.2845	1.57976	-2.3452	1.88102	16.83296
1.55014	208.2845	1.57976	-2.44327	1.88102	16.83296

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.55014	208.2845	1.57976	-2.6296	1.88102	16.78393
1.54848	208.2845	1.58142	-3.06232	1.87936	16.8899
1.54848	208.2845	1.58142	-3.45459	1.87936	16.84087
1.54682	208.2845	1.58142	-3.65072	1.87936	16.77222
1.54516	208.2845	1.58308	-3.92653	1.8777	16.888
1.54516	208.2845	1.58308	-4.11286	1.8777	16.70167
1.5435	208.2845	1.58308	-4.27957	1.8777	16.57419
1.5435	208.2845	1.58474	-4.50635	1.87604	16.61151
1.54184	208.2845	1.58474	-4.62404	1.87604	16.42518
1.54184	208.2845	1.58474	-4.7221	1.87604	16.19963
1.54018	208.2845	1.5864	-4.86062	1.87438	16.35464
1.54018	208.2845	1.5864	-4.90966	1.87438	16.35464
1.53852	208.2845	1.5864	-4.94888	1.87438	16.35464
1.53852	208.2845	1.58806	-4.18003	1.87272	16.53906
1.53686	208.2845	1.58806	-3.70931	1.87272	16.53906
1.5352	208.2845	1.58806	-3.50303	1.87272	16.53906
1.5352	208.2845	1.58972	-2.63024	1.87106	16.72349
1.53354	208.2845	1.58972	-2.49261	1.87106	16.72349
1.53354	208.2845	1.58972	-2.11996	1.87106	16.72349
1.53188	208.2845	1.59138	-2.04118	1.8694	16.90791
1.53188	208.2845	1.59138	-1.73717	1.8694	16.90791
1.53022	208.2845	1.59138	-1.69761	1.8694	16.90791
1.53022	208.2845	1.59304	-1.66786	1.86774	17.12176
1.52856	208.2845	1.59304	-1.38347	1.86774	17.16099
1.5269	208.2845	1.59304	-1.35372	1.86774	17.20021
1.5269	208.2845	1.5947	-1.06932	1.86608	17.38464
1.52524	208.2845	1.5947	-1.01015	1.86608	17.38464
1.52524	208.2845	1.5947	-1.67943	1.86608	17.38464
1.52358	208.2845	1.59636	-1.26957	1.86608	17.38464
1.52358	208.2845	1.59636	-1.26957	1.86442	17.56907
1.52192	208.2845	1.59636	-1.26957	1.86442	17.60829
1.52192	208.2845	1.59802	-0.85972	1.86276	17.84175
1.52026	208.2845	1.59802	-0.85972	1.86276	17.89079
1.5186	208.2845	1.59802	-0.85972	1.86276	17.89079
1.5186	208.2845	1.59968	-0.44987	1.86276	17.89079
1.51694	208.2845	1.59968	-0.44987	1.8611	18.07521
1.51694	208.2845	1.59968	-0.44987	1.8611	18.11444
1.51528	208.2845	1.60134	-0.04001	1.85944	18.3479

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.51528	208.2845	1.60134	-0.15769	1.85944	18.39693
1.51362	208.2845	1.60134	-0.26557	1.85944	18.39693
1.51362	208.2845	1.603	0.08545	1.85944	18.39693
1.51196	208.2845	1.603	-0.04204	1.85778	18.58136
1.51196	208.2845	1.603	-0.15972	1.85778	18.58136
1.5103	208.2845	1.60466	0.054	1.85778	18.58136
1.50864	208.2845	1.60466	-0.2402	1.85612	18.80501
1.50864	208.2453	1.60466	-0.60305	1.85612	18.83443
1.50698	208.1766	1.60632	-0.6345	1.85612	18.87366
1.50698	208.0982	1.60632	-1.34058	1.85446	19.05808
1.50532	208.0982	1.60632	-1.43865	1.85446	19.05808
1.50532	207.9511	1.60798	-1.12686	1.85446	19.05808
1.50366	207.9217	1.60798	-1.20531	1.8528	19.24251
1.50366	207.8432	1.60798	-1.31319	1.8528	19.20328
1.502	207.7844	1.60798	-1.42106	1.8528	19.14444
1.502	207.6863	1.60964	-1.13869	1.85114	19.25041
1.50034	207.6275	1.60964	-1.28579	1.85114	19.20138
1.50034	207.5098	1.60964	-1.45251	1.85114	19.12293
1.49868	207.4509	1.6113	-1.22898	1.84948	19.26813
1.49702	207.3431	1.6113	-1.43492	1.84948	19.19948
1.49702	207.2842	1.6113	-1.8468	1.84948	19.09161
1.49536	207.2058	1.61296	-1.62328	1.84782	19.2368
1.49536	207.1567	1.61296	-1.7998	1.84782	19.15835
1.4937	207.1175	1.61296	-1.96651	1.84782	19.10932
1.4937	207.0783	1.61462	-1.70376	1.84616	19.21529
1.49204	207.0783	1.61462	-1.84105	1.84616	19.078
1.49204	207.0783	1.61462	-1.96854	1.84616	19.03877
1.49038	207.1273	1.61628	-1.67637	1.8445	19.14474
1.48872	207.1763	1.61628	-1.90192	1.8445	19.06629
1.48872	207.2254	1.61628	-2.0196	1.8445	19.06629
1.48706	207.2254	1.61794	-1.73723	1.84284	19.25071
1.48706	207.2254	1.61794	-1.88433	1.84284	19.21149
1.4854	207.1862	1.61794	-2.03143	1.84284	19.17226
1.4854	207.1469	1.6196	-1.78829	1.84118	19.31746
1.48374	207.0979	1.6196	-1.96481	1.84118	19.31746
1.48374	207.0979	1.6196	-2.14133	1.84118	19.31746
1.48208	207.0979	1.62126	-1.89819	1.83952	19.50189
1.48208	207.0587	1.62126	-2.0453	1.83952	19.50189

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.48042	207.0096	1.62126	-2.29046	1.83952	19.50189
1.47876	206.9508	1.62292	-1.95906	1.83786	19.68631
1.47876	206.9018	1.62292	-1.99829	1.83786	19.68631
1.4771	206.8331	1.62292	-1.99829	1.83786	19.68631
1.4771	206.735	1.62458	-1.58844	1.8362	19.87074
1.47544	206.686	1.62458	-1.58844	1.8362	19.87074
1.47544	206.5879	1.62458	-1.5394	1.8362	19.87074
1.47378	206.5095	1.62624	-1.07071	1.83454	20.05516
1.47378	206.382	1.62624	-0.99225	1.83454	20.05516
1.47212	206.1761	1.62624	-0.99225	1.83454	20.05516
1.47046	205.9015	1.6279	-0.49414	1.83288	20.23959
1.47046	205.4994	1.6279	-0.49414	1.83288	20.23959
1.4688	205.2935	1.6279	-0.49414	1.83288	20.23959
1.4688	205.1954	1.62956	-0.08429	1.83122	20.42402
1.46714	205.1071	1.62956	-0.14313	1.83122	20.42402
1.46714	205.0091	1.62956	-0.251	1.83122	20.42402
1.46548	204.911	1.63122	0.10001	1.82956	20.60844
1.46548	204.8129	1.63122	-0.03728	1.82956	20.56921
1.46382	204.6953	1.63122	-0.14515	1.82956	20.51037
1.46382	204.5776	1.63288	-0.13737	1.8279	20.62615
1.46216	204.4501	1.63288	-0.43157	1.8279	20.62615
1.4605	204.2049	1.63288	-0.86307	1.8279	20.56731
1.4605	204.0872	1.63454	-0.5807	1.82624	20.68309
1.45884	203.9794	1.63454	-0.70819	1.82624	20.58503
1.45884	203.8813	1.63454	-0.82587	1.82624	20.58503
1.45718	203.793	1.6362	-0.5435	1.82458	20.691
1.45718	203.7342	1.6362	-0.66118	1.82458	20.64196
1.45552	203.6754	1.6362	-0.77886	1.82458	20.64196
1.45552	203.6263	1.63786	-0.47688	1.82458	20.64196
1.45386	203.5969	1.63786	-0.56514	1.82292	20.82639
1.45386	203.5969	1.63786	-0.72205	1.82292	20.82639
1.4522	203.5969	1.63952	-0.38084	1.82126	21.05004
1.45054	203.5969	1.63952	-0.44949	1.82126	21.10888
1.45054	203.5577	1.63952	-0.44949	1.82126	21.16772
1.44888	203.4988	1.64118	-0.08867	1.8196	21.35215
1.44888	203.44	1.64118	-0.15732	1.8196	21.35215
1.44722	203.44	1.64118	-0.22596	1.8196	21.35215
1.44722	203.3713	1.64118	-0.275	1.81794	21.53658

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.44556	203.2733	1.64284	0.0564	1.81794	21.53658
1.44556	203.2242	1.64284	-0.15934	1.81794	21.53658
1.4439	203.0575	1.6445	-0.03389	1.81794	21.53658
1.4439	203.0575	1.6445	-0.2006	1.81628	21.67197
1.44224	202.8908	1.6445	-0.35751	1.81628	21.62293
1.44224	202.8026	1.64616	-0.12417	1.81628	21.55429
1.44058	202.7731	1.64616	-0.29089	1.81462	21.73871
1.43892	202.7339	1.64616	-0.44779	1.81462	21.68968
1.43892	202.7339	1.64616	-0.6047	1.81462	21.63084
1.43726	202.7339	1.64782	-0.46943	1.81296	21.72701
1.43726	202.7339	1.64782	-0.59692	1.81296	21.72701
1.4356	202.7339	1.64782	-0.72441	1.81296	21.66817
1.4356	202.7339	1.64948	-0.43224	1.8113	21.77414
1.43394	202.7731	1.64948	-0.54011	1.8113	21.73491
1.43394	202.8026	1.64948	-0.63818	1.8113	21.66626
1.43228	202.8516	1.65114	-0.32639	1.80964	21.75262
1.43062	202.8516	1.65114	-0.41465	1.80964	21.75262
1.43062	202.8516	1.6528	-0.10286	1.80964	21.7134
1.42896	202.8516	1.6528	-0.20093	1.80798	21.79976
1.42896	202.8516	1.6528	-0.32842	1.80798	21.79976
1.4273	202.8516	1.6528	-0.603	1.80798	21.83898
1.4273	202.8516	1.65446	-0.35986	1.80632	22.08225
1.42564	202.8516	1.65446	-0.54619	1.80632	22.1607
1.42564	202.8026	1.65446	-0.73252	1.80632	22.1607
1.42398	202.7437	1.65612	-0.53841	1.80466	22.40397
1.42232	202.6653	1.65612	-0.73455	1.80466	22.55107
1.42232	202.6653	1.65612	-0.93068	1.80466	22.55107
1.42066	202.6162	1.65778	-0.70715	1.803	22.73549
1.42066	202.528	1.65778	-0.88367	1.803	22.73549
1.419	202.4887	1.65778	-1.16807	1.803	22.73549
1.419	202.4201	1.65944	-0.87589	1.80134	22.91992
1.41734	202.2828	1.65944	-0.98377	1.80134	22.91992
1.41734	202.2142	1.65944	-1.07203	1.80134	22.91992
1.41568	202.1161	1.6611	-0.76024	1.79968	23.10435
1.41568	202.1161	1.6611	-0.8485	1.79968	23.10435
1.41402	202.0671	1.6611	-0.94657	1.79968	23.06512
1.41236	202.0082	1.66276	-0.62498	1.79802	23.16129
1.41236	201.9298	1.66276	-0.72304	1.79802	23.16129

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.4107	201.9298	1.66276	-0.82111	1.79802	23.16129
1.4107	201.9298	1.66442	-0.49952	1.79636	23.28687
1.40904	201.8807	1.66442	-0.66623	1.79636	23.20842
1.40904	201.8219	1.66442	-0.73488	1.79636	23.16919
1.40738	201.7434	1.66608	-0.39367	1.7947	23.27516
1.40738	201.6748	1.66608	-0.46232	1.7947	23.21632
1.40572	201.5767	1.66608	-0.52116	1.7947	23.09864
1.40572	201.5081	1.66774	-0.15053	1.79304	23.19481
1.40406	201.3904	1.66774	-0.20937	1.79304	23.08694
1.4024	201.2923	1.66774	-0.26821	1.79304	22.7437
1.4024	201.1354	1.6694	0.10242	1.79138	22.71238
1.40074	200.9295	1.6694	-0.03488	1.79138	22.4574
1.40074	200.6549	1.6694	-0.0643	1.79138	22.41818
1.39908	200.1744	1.67106	0.27691	1.78972	22.57318
1.39908	200.0959	1.67106	0.19846	1.78972	22.57318
1.39742	200.0175	1.67106	0.15923	1.78972	22.53396
1.39742	199.9488	1.67272	0.49063	1.78806	22.67916
1.39576	199.8802	1.67272	0.40237	1.78806	22.67916
1.3941	199.8115	1.67272	0.34353	1.78806	22.63012
1.3941	199.7723	1.67438	0.58667	1.7864	22.76552
1.39244	199.6938	1.67438	0.58667	1.7864	22.72629
1.39244	199.6056	1.67438	0.37092	1.7864	22.72629
1.39078	199.3898	1.67604	0.62387	1.78474	22.91071
1.39078	199.2525	1.67604	0.32967	1.78474	22.91071
1.38912	198.9387	1.67604	0.18257	1.78474	22.91071
1.38912	198.772	1.6777	0.44532	1.78474	22.91071
1.38746	198.6151	1.6777	0.27861	1.78308	23.09514
1.38746	198.4778	1.6777	0.09228	1.78308	23.09514
1.3858	198.3503	1.67936	0.32561	1.78308	23.09514
1.38414	198.2424	1.67936	0.11967	1.78142	23.27957
1.38414	198.1542	1.67936	-0.2824	1.78142	23.24034
1.38248	198.0659	1.68102	-0.08829	1.77976	23.38554
1.38248	197.9875	1.68102	-0.29424	1.77976	23.3267
1.38082	197.8992	1.68102	-0.49037	1.77976	23.3267
1.38082	197.7423	1.68268	-0.27665	1.77976	23.3267
1.37916	197.6639	1.68268	-0.44336	1.7781	23.4719
1.37916	197.5854	1.68268	-0.59046	1.7781	23.35422
1.3775	197.4971	1.68434	-0.29829	1.7781	23.35422

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.3775	197.4089	1.68434	-0.36694	1.77644	23.53864
1.37584	197.301	1.68434	-0.465	1.77644	23.48961
1.37584	197.1833	1.686	-0.05515	1.77644	23.44058
1.37418	197.046	1.686	-0.00612	1.77478	23.56616
1.37252	196.8989	1.686	0.05272	1.77478	23.56616
1.37252	196.5655	1.686	0.12137	1.77478	23.56616
1.37086	196.3694	1.68766	0.53122	1.77312	23.75059
1.37086	196.1536	1.68766	0.53122	1.77312	23.70155
1.3692	195.9477	1.68766	0.53122	1.77312	23.65252
1.3692	195.7221	1.68932	0.94108	1.77146	23.77811
1.36754	195.4966	1.68932	0.94108	1.77146	23.77811
1.36754	195.271	1.68932	0.90185	1.77146	23.77811
1.36588	195.0651	1.69098	1.11557	1.7698	23.92331
1.36422	194.8787	1.69098	0.91944	1.7698	23.83505
1.36422	194.7022	1.69098	0.64485	1.76814	24.01947
1.36256	194.5453	1.69264	0.66244	1.76814	24.01947
1.36256	194.2413	1.69264	0.025	1.76814	24.01947
1.3609	194.0746	1.69264	-0.18094	1.76648	24.25293
1.3609	193.9079	1.6943	0.04259	1.76648	24.31177
1.35924	193.7216	1.6943	-0.09471	1.76648	24.38042
1.35924	193.5156	1.6943	-0.22219	1.76482	24.56484
1.35758	193.2999	1.69596	0.02095	1.76482	24.56484
1.35758	193.0547	1.69596	-0.03789	1.76482	24.56484
1.35592	192.7997	1.69596	-0.08693	1.76316	24.74927
1.35426	192.5251	1.69762	0.27389	1.76316	24.74927
1.35426	191.9269	1.69762	0.22486	1.76316	24.74927
1.3526	191.6033	1.69762	0.22486	1.7615	24.9337
1.3526	191.2601	1.69928	0.59549	1.7615	24.9337
1.35094	190.8972	1.69928	0.52684	1.7615	24.84544
1.35094	190.5246	1.69928	0.44839	1.75984	24.96122
1.34928	190.1127	1.70094	0.81901	1.75984	24.96122
1.34928	189.6812	1.70094	0.66211	1.75984	24.92199
1.34762	189.2105	1.70094	0.54443	1.75818	25.04757
1.34762	188.7005	1.7026	0.86602	1.75818	24.96912
1.34596	188.1023	1.7026	0.70911	1.75818	24.96912
1.3443	187.3178	1.7026	0.43452	1.75652	25.10451
1.3443	130.7233	1.70426	0.7267	1.75652	25.01625
1.34264	130.3986	1.70426	0.62863	1.75652	24.96722

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.34264	130.3257	1.70426	0.53056	1.75486	24.98493
1.34098	130.3317	1.70592	0.84235	1.75486	24.83783
1.34098	131.9882	1.70592	0.66583	1.75486	24.74957
1.33932	132.6512	1.70592	0.57757	1.7532	24.82612
1.33932	132.5041	1.70758	0.87955	1.7532	24.66922
1.33766	132.0593	1.70758	0.78148	1.7532	24.51231
1.33766	131.9906	1.70758	0.6638	1.75154	24.58886
1.336	131.536	1.70924	0.93636	1.75154	24.71635
1.33434	129.4288	1.70924	0.79907	1.75154	24.77519
1.33434	129.4288	1.70924	0.64216	1.74988	25.02826
1.33268	129.4288	1.7109	0.8755	1.74988	25.02826
1.33268	129.4583	1.7109	0.68917	1.74988	25.09691
1.33102	129.5073	1.7109	0.50284	1.74822	25.35979
1.33102	129.5661	1.71256	0.56946	1.74822	25.35979
1.32936	129.5661	1.71256	0.41255	1.74822	25.41863
1.32936	129.6054	1.71256	0.27526	1.74656	25.68151
1.3277	129.6838	1.71422	0.56743	1.74656	25.72073
1.32604	129.8015	1.71422	0.47917	1.74656	25.79919
1.32604	129.8701	1.71422	0.40072	1.74656	25.93648
1.32438	129.9682	1.71588	0.75173	1.7449	26.16994
1.32438	130.0074	1.71588	0.71251	1.7449	26.24839
1.32272	130.0663	1.71588	0.67328	1.74324	26.51127
1.32272	130.1545	1.71754	1.08313	1.74324	26.51127
1.32106	130.1545	1.71754	1.08313	1.74324	26.51127
1.32106	130.1938	1.71754	1.08313	1.74324	26.51127
1.3194	130.2526	1.7192	1.49299	1.74158	26.64667
1.3194	130.3212	1.7192	1.49299	1.74158	26.56821
1.31774	130.3212	1.7192	1.45376	1.74158	26.41131
1.31774	130.3605	1.72086	1.81458	1.73992	26.49767
1.31608	130.3997	1.72086	1.74593	1.73992	26.4094
1.31442	130.4487	1.72086	1.74593	1.73992	26.23288
1.31442	130.4487	1.72252	2.12637	1.73826	26.18195
1.31276	130.4487	1.72252	2.06753	1.73826	25.79949
1.31276	130.488	1.72252	1.95965	1.73826	25.672
1.3111	130.537	1.72418	2.29105	1.7366	25.73875
1.3111	130.586	1.72418	2.22241	1.7366	25.64068
1.30944	130.586	1.72418	2.10473	1.7366	25.53281
1.30944	130.6449	1.72584	2.40671	1.73494	25.63878

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.30778	130.7135	1.72584	2.22038	1.73494	25.48187
1.30612	130.8018	1.72584	1.94579	1.73494	25.43284
1.30612	130.8018	1.7275	1.71821	1.73328	25.55842
1.30446	130.8508	1.7275	1.54169	1.73328	25.49958
1.30446	130.9293	1.7275	1.36517	1.73328	25.49958
1.3028	131.0175	1.72916	1.60831	1.73162	25.68401
1.3028	131.0175	1.72916	1.42198	1.73162	25.64478
1.30114	131.1156	1.72916	1.26508	1.73162	25.60556
1.30114	131.1744	1.72916	1.08855	1.72996	25.75075
1.29948	131.1744	1.73082	1.3317	1.72996	25.75075
1.29948	131.1744	1.73082	1.17479	1.72996	25.75075
1.29782	131.1744	1.73248	1.41793	1.7283	25.93518
1.29616	131.1744	1.73248	1.26102	1.7283	25.93518
1.29616	131.1744	1.73248	0.95701	1.7283	25.93518
1.2945	131.2137	1.73248	0.81972	1.72664	26.11961
1.2945	131.2627	1.73414	1.1217	1.72664	26.08038
1.29284	131.3117	1.73414	1.00402	1.72664	26.04115
1.29284	131.3117	1.73414	0.91576	1.72498	26.17655
1.29118	131.3117	1.7358	1.23735	1.72498	26.17655
1.29118	131.3608	1.7358	1.16871	1.72498	26.12751
1.28952	131.4196	1.7358	1.09025	1.72332	26.2531
1.28952	131.4882	1.73746	1.44127	1.72332	26.18445
1.28786	131.4882	1.73746	1.36281	1.72332	26.18445
1.2862	131.4882	1.73746	1.22552	1.72166	26.36888
1.2862	131.5275	1.73912	1.59615	1.72166	26.36888
1.28454	131.5667	1.73912	1.5275	1.72166	26.36888
1.28454	131.6157	1.73912	1.44905	1.72	26.5533
1.28288	131.6157	1.74078	1.80987	1.72	26.5533
1.28288	131.6157	1.74078	1.72161	1.72	26.5533
1.28122	131.6157	1.74078	1.66277	1.71834	26.73773
1.28122	131.6157	1.74244	1.97455	1.71834	26.73773
1.27956	131.6157	1.74244	1.8961	1.71834	26.73773
1.2779	131.6157	1.74244	1.69996	1.71668	26.92216
1.2779	131.6157	1.7441	1.96272	1.71668	26.89274
1.27624	130.3257	1.7441	1.65871	1.71668	26.83389
1.27624	130.3317	1.7441	1.51161	1.71502	26.94967
1.27458	131.9882	1.74576	1.78417	1.71502	26.94967
1.27458	132.6512	1.74576	1.65668	1.71502	26.88103

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.27292	132.5041	1.74576	1.5292	1.71336	26.90855
1.27292	132.0593	1.74742	1.83118	1.71336	26.80067
1.27126	131.9906	1.74742	1.75272	1.71336	26.72222
1.27126	131.536	1.74742	1.67427	1.71336	26.61434
1.2696	131.1696	1.74908	2.02528	1.7117	26.65167
1.26794	131.1402	1.74908	1.92722	1.7117	26.43592
1.26794	130.8719	1.74908	1.92722	1.71004	26.39479
1.26628	130.9307	1.75074	2.27823	1.71004	26.13982
1.26628	130.7899	1.75074	2.19978	1.71004	25.85543
1.26462	130.8978	1.75074	2.14094	1.71004	25.86523
1.26462	130.8354	1.7524	2.45272	1.70838	26.08889
1.26296	130.9531	1.7524	2.36446	1.70838	26.12811
1.26296	130.9104	1.7524	2.20756	1.70838	26.17715
1.2613	130.7695	1.75406	2.1663	1.70672	26.36157
1.2613	131.0539	1.75406	2.02901	1.70672	26.36157
1.25964	130.9131	1.75406	1.88191	1.70672	26.36157
1.25798	131.0994	1.75572	2.13485	1.70506	26.546
1.25798	130.9488	1.75572	2.00737	1.70506	26.546
1.25632	131.1057	1.75572	1.86027	1.70506	26.546
1.25632	130.9551	1.75738	2.14263	1.7034	26.68139
1.25466	131.0532	1.75738	2.01515	1.7034	26.61274
1.25466	130.932	1.75738	1.90727	1.7034	26.53429
1.253	131.0496	1.75904	2.1308	1.70174	26.67949
1.253	130.9677	1.75904	2.05235	1.70174	26.62065
1.25134	131.1049	1.75904	1.99351	1.70174	26.56181
1.25134	130.9936	1.7607	2.34452	1.70008	26.74623
1.24968	130.8625	1.7607	2.34452	1.70008	26.74623
1.24802	130.99	1.7607	2.29549	1.70008	26.74623
1.24802	130.8688	1.76236	2.65631	1.69842	26.89143
1.24636	130.9963	1.76236	2.59747	1.69842	26.85221
1.24636	130.8849	1.76236	2.55824	1.69842	26.80317
1.2447	131.0124	1.76402	2.89945	1.69676	26.93857
1.2447	131.0383	1.76402	2.80138	1.69676	26.86011
1.24304	131.1756	1.76402	2.56602	1.69676	26.77185
1.24304	131.0642	1.76568	2.67186	1.6951	26.95628
1.24138	130.9724	1.76568	2.52476	1.6951	26.88763
1.24138	131.0999	1.76568	2.37766	1.6951	26.80918
1.23972	130.9983	1.76568	2.22076	1.69344	26.9936

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.23806	131.1258	1.76734	2.4737	1.69344	26.94457
1.23806	131.0242	1.76734	2.33641	1.69344	26.87592
1.2364	131.1321	1.769	2.58936	1.69178	26.97209
1.2364	131.1285	1.769	2.46187	1.69178	26.91325
1.23474	131.2364	1.769	2.2167	1.69178	26.8348
1.23474	131.1054	1.769	2.11863	1.69012	26.97999
1.23308	131.1937	1.77066	2.45003	1.69012	26.90154
1.23308	131.0528	1.77066	2.39119	1.69012	26.8427
1.23142	130.9022	1.77066	2.32255	1.68846	26.93887
1.23142	130.9905	1.77232	2.68337	1.68846	26.89964
1.22976	130.8398	1.77232	2.68337	1.68846	26.86041
1.2281	130.9183	1.77232	2.64414	1.6868	27.04484
1.2281	130.7677	1.77398	2.98535	1.6868	27.04484
1.22644	130.8363	1.77398	2.90689	1.6868	27.11349
1.22644	130.7445	1.77398	2.73037	1.68514	27.39598
1.22478	130.8034	1.77564	3.14023	1.68514	27.43521
1.22478	130.6233	1.77564	2.82641	1.68514	27.51366
1.22312	130.6625	1.77564	2.40473	1.68348	27.77654
1.22312	130.4335	1.7773	2.60864	1.68348	27.77654
1.22146	130.2044	1.7773	2.39289	1.68348	27.77654
1.22146	130.2436	1.7773	2.20656	1.68348	27.73731
1.2198	130.0636	1.77896	2.4497	1.68182	27.83348
1.21814	130.1224	1.77896	2.3026	1.68182	27.76483
1.21814	129.9522	1.77896	2.16531	1.68016	27.69428
1.21648	130.0404	1.78062	2.36922	1.68016	27.50796
1.21648	129.88	1.78062	2.29077	1.68016	27.2824
1.21482	129.9879	1.78062	2.22212	1.68016	26.99801
1.21482	129.8765	1.78228	2.56333	1.6785	26.79016
1.21316	129.8435	1.78228	2.48488	1.6785	26.7019
1.21316	130.1868	1.78228	2.44565	1.6785	26.63326
1.2115	130.1146	1.78394	2.78686	1.67684	26.76865
1.20984	130.2813	1.78394	2.68879	1.67684	26.71962
1.20984	130.2189	1.78394	2.62995	1.67684	26.71962
1.20818	130.6014	1.7856	2.84367	1.67518	26.90404
1.20818	130.3723	1.7856	2.68676	1.67518	26.82559
1.20652	130.794	1.7856	2.39256	1.67518	26.77656
1.20652	130.7905	1.78726	2.65531	1.67352	26.96098
1.20486	131.0062	1.78726	2.4886	1.67352	26.91195

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.20486	131.0027	1.78726	2.33169	1.67352	26.8433
1.2032	130.9894	1.78892	2.58464	1.67186	26.93947
1.2032	131.1855	1.78892	2.42773	1.67186	26.90024
1.20154	131.1427	1.78892	2.29044	1.67186	26.83159
1.20154	131.3193	1.79058	2.58261	1.6702	26.91795
1.19988	131.2471	1.79058	2.49435	1.6702	26.78066
1.19822	131.4923	1.79058	2.43551	1.6702	26.71201
1.19822	131.3514	1.79224	2.84537	1.66854	26.79837
1.19656	131.4201	1.79224	2.84537	1.66854	26.72972
1.19656	131.24	1.79224	2.84537	1.66854	26.63166
1.1949	131.2793	1.7939	3.25522	1.66688	26.77686
1.1949	131.0894	1.7939	3.25522	1.66688	26.6984
1.19324	130.8603	1.7939	3.25522	1.66688	26.64937
1.19324	130.8996	1.79556	3.66507	1.66522	26.75534
1.19158	130.7195	1.79556	3.66507	1.66522	26.70631
1.18992	130.8176	1.79556	3.53759	1.66522	26.62785
1.18992	130.667	1.79722	3.8886	1.66356	26.70441
1.18826	130.7454	1.79722	3.78073	1.66356	26.64557
1.18826	130.634	1.79722	3.67285	1.66356	26.64557
1.1866	130.7321	1.79888	3.90619	1.6619	26.82999
1.1866	130.6795	1.79888	3.66102	1.6619	26.82999
1.18494	130.9933	1.79888	3.3374	1.6619	26.82999
1.18494	130.9114	1.80054	3.24711	1.66024	27.01442
1.18328	130.8098	1.80054	3.10001	1.66024	27.01442
1.18328	130.9274	1.80054	2.95291	1.66024	27.01442
1.18162	129.2719	1.8022	3.22547	1.65858	27.19884
1.17996	129.4583	1.8022	2.9705	1.65858	27.19884
1.17996	129.5367	1.8022	2.84301	1.65858	27.19884
1.1783	129.6152	1.80386	3.13518	1.65858	27.19884
1.1783	129.6838	1.80386	3.0077	1.65692	27.33424
1.17664	129.7328	1.80386	2.89982	1.65692	27.25578
1.17664	129.7328	1.80386	2.77233	1.65526	27.34214
1.17498	129.7328	1.80552	3.0547	1.65526	27.2833
1.17498	129.7328	1.80552	2.93702	1.65526	27.02833
1.17332	129.7328	1.80718	3.21939	1.6536	26.97739
1.17332	129.7328	1.80718	2.9448	1.6536	26.58512
1.17166	129.7328	1.80718	2.7977	1.6536	26.06537
1.17	129.7328	1.80718	2.64079	1.65194	25.53391

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.17	129.6838	1.80884	2.89374	1.65194	24.44536
1.17	129.6152	1.80884	2.74664	1.65194	24.12174
1.16834	129.5465	1.80884	2.58973	1.65028	24.02177
1.16834	129.5465	1.8105	2.85249	1.65028	23.78641
1.16668	129.5465	1.8105	2.70538	1.65028	23.58047
1.16668	129.5073	1.8105	2.55828	1.65028	23.42356
1.16502	129.4681	1.81216	2.80142	1.64862	23.35302
1.16502	129.4288	1.81216	2.63471	1.64862	23.26476
1.16336	129.4288	1.81216	2.27186	1.64696	23.36092
1.1617	129.4288	1.81382	2.49539	1.64696	23.30208
1.1617	129.4288	1.81382	2.27964	1.64696	23.25305
1.16004	129.4288	1.81382	2.05409	1.64696	23.20401
1.16004	129.4583	1.81548	2.23839	1.6453	23.38844
1.15838	129.5073	1.81548	1.99322	1.6453	23.34921
1.15838	129.5661	1.81548	1.74805	1.6453	23.29037
1.15672	129.5661	1.81714	1.89313	1.64364	23.39635
1.15672	129.6054	1.81714	1.62834	1.64364	23.29828
1.15506	129.6838	1.81714	1.1184	1.64364	23.21983
1.1534	129.8015	1.8188	1.28308	1.64198	23.36502
1.1534	129.8701	1.8188	1.05753	1.64198	23.29638
1.15174	129.9682	1.8188	0.85159	1.64198	23.20812
1.15174	130.0074	1.82046	1.08492	1.64032	23.35332
1.15008	130.0663	1.82046	0.92801	1.64032	23.29448
1.15008	130.1545	1.82046	0.80053	1.64032	23.23564
1.14842	130.1545	1.82212	1.11231	1.63866	23.42006
1.14842	130.1938	1.82212	0.98483	1.63866	23.31219
1.14676	130.2526	1.82212	0.92599	1.63866	23.25335
1.14676	130.3212	1.82378	1.28681	1.637	23.43777
1.1451	130.3212	1.82378	1.28681	1.637	23.38874
1.1451	130.3605	1.82378	1.23777	1.637	23.31029
1.14344	130.3997	1.82544	1.56917	1.63534	23.40645
1.14178	130.4487	1.82544	1.48091	1.63534	23.40645
1.14178	130.4487	1.82544	1.43188	1.63534	23.33781
1.14012	130.4487	1.8271	1.75347	1.63368	23.42417
1.14012	130.488	1.8271	1.68483	1.63368	23.37513
1.13846	130.537	1.8271	1.56715	1.63368	23.27706
1.13846	130.586	1.82876	1.73183	1.63202	23.27516
1.1368	130.586	1.82876	1.44744	1.63202	23.09864

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.1368	130.6449	1.82876	1.31995	1.63202	22.79464
1.13514	130.7135	1.83042	1.60232	1.63036	22.85157
1.13348	130.8018	1.83042	1.46503	1.63036	22.72409
1.13348	130.8018	1.83042	1.33754	1.63036	22.5966
1.13182	130.8508	1.83208	1.61991	1.6287	22.67315
1.13182	130.9293	1.83208	1.49242	1.6287	22.56528
1.13016	131.0175	1.83208	1.36493	1.6287	22.39856
1.13016	131.0175	1.83374	1.55904	1.62704	22.51434
1.1285	131.1156	1.83374	1.47078	1.62704	22.46531
1.1285	131.1744	1.83374	1.37271	1.62704	22.42608
1.12684	131.1744	1.8354	1.6943	1.62538	22.61051
1.12684	131.1744	1.8354	1.60604	1.62538	22.61051
1.12518	131.1744	1.8354	1.52759	1.62538	22.61051
1.12352	131.1744	1.83706	1.84918	1.62372	22.79494
1.12352	131.1744	1.83706	1.77073	1.62372	22.83416
1.12186	131.2137	1.83706	1.68247	1.62372	22.96165
1.12186	131.2627	1.83872	1.906	1.62206	23.14608
1.1202	131.3117	1.83872	1.79812	1.62206	23.19511
1.1202	131.3117	1.83872	1.68044	1.62206	23.26376
1.11854	131.3117	1.84038	1.96281	1.6204	23.52664
1.11854	131.3608	1.84038	1.83532	1.6204	23.52664
1.11688	131.4196	1.84038	1.69803	1.6204	23.52664
1.11688	131.4882	1.84038	1.56073	1.61874	23.71106
1.11522	131.4882	1.84204	1.8431	1.61874	23.71106
1.11356	131.4882	1.84204	1.696	1.61874	23.71106
1.11356	131.5275	1.8437	1.96856	1.61708	23.89549
1.1119	131.5667	1.8437	1.82146	1.61708	23.85626
1.1119	131.6157	1.8437	1.65475	1.61708	23.80723
1.11024	130.7233	1.8437	1.30171	1.61542	23.9132
1.11024	130.3986	1.84536	1.50562	1.61542	23.9132
1.10858	130.3257	1.84536	1.29968	1.61542	23.87397
1.10858	130.3317	1.84536	1.09374	1.61376	23.99956
1.10692	131.9882	1.84702	1.28784	1.61376	23.93091
1.10526	132.6512	1.84702	1.09171	1.61376	23.93091
1.10526	132.5041	1.84868	1.31524	1.61376	23.93091
1.1036	132.0593	1.84868	1.00142	1.6121	24.00746
1.1036	131.9906	1.84868	0.88374	1.6121	23.92901
1.10194	131.536	1.84868	0.79548	1.6121	23.92901

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.10194	131.1696	1.85034	1.12688	1.61044	24.0644
1.10028	131.1402	1.85034	1.06804	1.61044	23.97614
1.10028	130.8719	1.852	1.41906	1.61044	23.92711
1.09862	130.9307	1.852	1.35041	1.60878	24.01347
1.09862	130.7899	1.852	1.32099	1.60878	23.93501
1.09696	130.8978	1.852	1.26215	1.60878	23.81733
1.0953	130.8354	1.85366	1.59355	1.60712	23.81543
1.0953	130.9531	1.85366	1.53471	1.60712	23.58988
1.09364	130.9104	1.85366	1.44645	1.60712	23.28587
1.09364	130.7695	1.85532	1.64055	1.60546	23.4703
1.09198	131.0539	1.85532	1.38558	1.60546	23.4703
1.09198	130.9131	1.85532	1.24829	1.60546	23.4703
1.09032	131.0994	1.85698	1.53065	1.6038	23.65472
1.09032	130.9488	1.85698	1.39336	1.6038	23.65472
1.08866	131.1057	1.85698	1.26587	1.6038	23.65472
1.08866	130.9551	1.85864	1.53843	1.60214	23.86857
1.087	131.0532	1.85864	1.39133	1.60214	23.86857
1.08534	130.932	1.85864	1.12655	1.60214	23.86857
1.08534	131.0496	1.8603	1.41873	1.60048	24.05299
1.08368	130.9677	1.8603	1.30105	1.60048	24.05299
1.08368	131.1049	1.8603	1.19317	1.60048	24.05299
1.08202	130.9936	1.86196	1.49515	1.59882	24.23742
1.08202	130.8625	1.86196	1.39708	1.59882	24.23742
1.08036	130.99	1.86196	1.28921	1.59882	24.23742
1.08036	130.8688	1.86362	1.601	1.59716	24.42185
1.0787	130.9963	1.86362	1.48332	1.59716	24.46107
1.0787	130.8849	1.86362	1.35583	1.59716	24.51011
1.07704	131.0124	1.86528	1.62839	1.5955	24.76318
1.07538	131.0383	1.86528	1.30477	1.5955	24.85144
1.07538	131.1756	1.86528	1.12825	1.5955	24.85144
1.07372	131.0642	1.86694	1.35178	1.59384	25.09471
1.07372	130.9724	1.86694	1.18506	1.59384	25.16335
1.07206	131.0999	1.86694	1.01835	1.59384	25.24181
1.07206	130.9983	1.8686	1.2811	1.59218	25.42623
1.0704	131.1258	1.8686	1.14381	1.59218	25.42623
1.0704	131.0242	1.8686	1.03593	1.59218	25.27913
1.06874	131.1321	1.87026	1.33791	1.59052	25.46356
1.06874	131.1285	1.87026	1.18101	1.59052	25.32626

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.06708	131.2364	1.87026	1.10255	1.59052	25.25762
1.06542	131.1054	1.87192	1.43395	1.58886	25.32436
1.06542	131.1937	1.87192	1.3555	1.58886	25.24591
1.06376	131.0528	1.87192	1.24763	1.58886	25.13804
1.06376	130.9022	1.87358	1.54961	1.5872	25.20478
1.0621	130.9905	1.87358	1.43193	1.5872	25.04787
1.0621	130.8398	1.87358	1.30444	1.5872	24.85174
1.06044	130.9183	1.87524	1.58681	1.58554	24.99694
1.06044	130.7677	1.87524	1.44951	1.58554	24.88907
1.05878	130.8363	1.87524	1.1455	1.58554	24.83023
1.05878	130.7445	1.8769	1.38864	1.58388	25.01465
1.05712	130.8034	1.8769	1.23174	1.58388	24.95581
1.05546	130.6233	1.8769	1.08464	1.58388	24.88716
1.05546	130.6625	1.87856	1.33758	1.58222	24.98333
1.0538	130.4335	1.87856	1.2101	1.58222	24.98333
1.0538	130.2044	1.87856	1.08261	1.58222	24.91468
1.05214	130.2436	1.87856	0.98454	1.58056	25.02066
1.05214	130.0636	1.88022	1.30614	1.58056	24.96182
1.05048	130.1224	1.88022	1.23749	1.58056	24.77549
1.05048	129.9522	1.88188	1.59831	1.58056	24.62839
1.04882	130.0404	1.88188	1.55908	1.5789	24.51861
1.04882	129.88	1.88188	1.55908	1.5789	24.37151
1.04716	129.9879	1.88188	1.55908	1.57724	24.40884
1.0455	129.8765	1.88354	1.96894	1.57724	24.27154
1.0455	129.8435	1.88354	1.96894	1.57724	24.14406
1.04384	130.1868	1.8852	2.37879	1.57724	24.02638
1.04384	130.1146	1.8852	2.37879	1.57558	24.11274
1.04218	130.2813	1.8852	2.32976	1.57558	24.00486
1.04218	130.2189	1.88686	2.68077	1.57558	24.00486
1.04052	130.6014	1.88686	2.54348	1.57392	24.18929
1.04052	130.3723	1.88686	2.45522	1.57392	24.18929
1.03886	130.794	1.88686	2.36696	1.57226	24.37371
1.0372	130.7905	1.88852	2.6101	1.57226	24.37371
1.0372	131.0062	1.88852	2.37474	1.57226	24.43255
1.03554	131.0027	1.88852	2.04131	1.57226	24.52081
1.03554	130.9894	1.89018	1.89218	1.5706	24.74447
1.03388	131.1855	1.89018	1.69605	1.5706	24.88176
1.03388	131.1427	1.89018	1.4803	1.5706	24.97002

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.03222	131.3193	1.89184	1.69402	1.56894	25.21329
1.03222	131.2471	1.89184	1.49789	1.56894	25.30155
1.03056	131.4923	1.89184	1.17426	1.56894	25.33097
1.03056	131.3514	1.8935	1.43702	1.56728	25.56443
1.0289	131.4201	1.8935	1.28011	1.56728	25.60365
1.0289	131.24	1.8935	1.16243	1.56728	25.60365
1.02724	131.2793	1.89516	1.42518	1.56562	25.74885
1.02558	131.0894	1.89516	1.2977	1.56562	25.6704
1.02558	130.8603	1.89516	1.17021	1.56562	25.5233
1.02392	130.8996	1.89682	1.30548	1.56396	25.59985
1.02392	130.7195	1.89682	1.16818	1.56396	25.49198
1.02226	130.8176	1.89682	1.03089	1.56396	25.30565
1.02226	130.667	1.89848	1.32306	1.5623	25.15665
1.0206	130.7454	1.89848	1.20538	1.5623	25.02916
1.0206	130.634	1.89848	1.11712	1.5623	24.90167
1.01894	130.7321	1.90014	1.44852	1.56064	24.98803
1.01728	130.6795	1.90014	1.37987	1.56064	24.89977
1.01728	130.9933	1.90014	1.32103	1.56064	24.84093
1.01562	130.9114	1.9018	1.67205	1.55898	24.95671
1.01562	130.8098	1.9018	1.6034	1.55898	24.84884
1.01396	130.9274	1.9018	1.48572	1.55898	24.80961
1.01396	129.2719	1.90346	1.79751	1.55732	24.945
1.0123	129.4583	1.90346	1.55234	1.55732	24.86655
1.0123	129.5367	1.90346	1.37582	1.55732	24.81752
1.01064	129.6152	1.90512	1.60915	1.55566	24.91368
1.01064	129.6838	1.90512	1.42283	1.55566	24.83523
1.00898	129.7328	1.90512	1.24631	1.55566	24.69794
1.00732	129.7328	1.90678	1.46983	1.554	24.61758
1.00732	129.7328	1.90678	1.30312	1.554	24.34299
1.00566	129.7328	1.90678	1.1364	1.554	24.19589
1.00566	129.7328	1.90844	1.26186	1.55234	24.23322
1.004	129.7328	1.90844	1.14418	1.55234	24.0665
1.004	129.7328	1.90844	1.03631	1.55234	23.9194
1	129.7328	1.9101	1.33829	1.55068	23.94692
0.99834	129.6838	1.9101	1.24022	1.55068	23.80963
0.99834	129.6152	1.9101	1.13235	1.55068	23.68214
0.99668	129.5465	1.91176	1.43433	1.54902	23.75869
0.99668	129.5465	1.91176	1.30684	1.54902	23.60179

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.99502	129.5465	1.91176	1.18916	1.54902	23.54295
0.99502	129.5073	1.91342	1.31462	1.54736	23.66853
0.99336	129.4681	1.91342	1.31462	1.54736	23.66853
0.99336	129.4288	1.91342	0.97139	1.54736	23.66853
0.9917	129.4288	1.91508	1.18511	1.5457	23.85296
0.9917	129.4288	1.91508	0.94975	1.5457	23.85296
0.99004	129.4288	1.91508	0.71439	1.5457	23.85296
0.98838	129.4288	1.91674	0.87907	1.54404	24.03738
0.98838	129.4583	1.91674	0.6241	1.54404	24.03738
0.98672	129.5073	1.91674	0.38874	1.54404	24.14526
0.98672	129.5661	1.9184	0.55342	1.54404	24.2139
0.98506	129.5661	1.9184	0.33768	1.54238	24.39833
0.98506	129.6054	1.9184	-0.0644	1.54238	24.43756
0.9834	129.6838	1.92006	0.16894	1.54238	24.4964
0.9834	129.8015	1.92006	0.01203	1.54072	24.74947
0.98174	129.8701	1.92006	-0.13507	1.54072	24.74947
0.98174	129.9682	1.92172	0.14729	1.53906	24.9339
0.98008	130.0074	1.92172	0.02961	1.53906	24.9339
0.97842	130.0663	1.92172	-0.08807	1.53906	24.89467
0.97842	130.1545	1.92338	0.22372	1.53906	24.84564
0.97676	130.1545	1.92338	0.02759	1.5374	24.96142
0.97676	130.1938	1.92338	-0.06067	1.5374	24.96142
0.9751	130.2526	1.92338	-0.14893	1.5374	24.932
0.9751	130.3212	1.92504	0.18247	1.53574	25.06739
0.97344	130.3212	1.92504	0.10401	1.53574	25.00855
0.97344	130.3605	1.92504	0.03537	1.53574	25.00855
0.97178	130.3997	1.9267	0.37657	1.53408	25.19297
0.97178	130.4487	1.9267	0.29812	1.53408	25.14394
0.97012	130.4487	1.9267	0.22947	1.53408	25.09491
0.96846	130.4487	1.92836	0.53145	1.53242	25.2303
0.96846	130.488	1.92836	0.53145	1.53242	25.2303
0.9668	130.537	1.92836	0.39416	1.53242	25.2303
0.9668	130.586	1.93002	0.71575	1.53076	25.41473
0.96514	130.586	1.93002	0.6373	1.53076	25.41473
0.96514	130.6449	1.93002	0.50001	1.53076	25.36569
0.96348	130.7135	1.93168	0.64508	1.5291	25.50108
0.96348	130.8018	1.93168	0.51759	1.5291	25.43244
0.96182	130.8018	1.93168	0.3803	1.5291	25.43244

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.96182	130.8508	1.93334	0.66266	1.52744	25.48938
0.96016	130.9293	1.93334	0.52537	1.52744	25.44034
0.9585	131.0175	1.93334	0.26059	1.52744	25.35208
0.9585	131.0175	1.935	0.54296	1.52578	25.46786
0.95684	131.1156	1.935	0.43508	1.52578	25.33057
0.95684	131.1744	1.935	0.3076	1.52578	25.24231
0.95518	131.1744	1.93666	0.60958	1.52412	25.26983
0.95518	131.1744	1.93666	0.5017	1.52412	25.09331
0.95352	131.1744	1.93666	0.38402	1.52412	24.87756
0.95352	131.1744	1.93832	0.6762	1.52246	24.7874
0.95186	131.1744	1.93832	0.55851	1.52246	24.74817
0.95186	131.2137	1.93832	0.32315	1.52246	24.74817
0.9502	131.2627	1.93998	0.60552	1.5208	24.9326
0.94854	131.3117	1.93998	0.48784	1.5208	24.9326
0.94854	131.3117	1.93998	0.37016	1.5208	24.9326
0.94688	131.3117	1.94164	0.66233	1.51914	25.11702
0.94688	131.3608	1.94164	0.54465	1.51914	25.11702
0.94522	131.4196	1.94164	0.43678	1.51914	25.11702
0.94522	131.4882	1.9433	0.73876	1.51748	25.30145
0.94356	131.4882	1.9433	0.62108	1.51748	25.21319
0.94356	131.4882	1.9433	0.49359	1.51748	25.13473
0.9419	131.5275	1.94496	0.76615	1.51582	25.31916
0.94024	131.5667	1.94496	0.61905	1.51582	25.25051
0.94024	131.6157	1.94496	0.30524	1.51582	25.14264
0.93858	131.6157	1.94662	0.53857	1.51416	25.28784
0.93858	131.6157	1.94662	0.38166	1.51416	25.18977
0.93692	131.6157	1.94662	0.20514	1.51416	25.13093
0.93692	131.6157	1.94828	0.43848	1.5125	25.19768
0.93526	131.6157	1.94828	0.26196	1.5125	25.03096
0.93526	131.6157	1.94828	0.08544	1.5125	25.03096
0.9336	131.6157	1.94994	0.30896	1.51084	25.09771
0.9336	130.3257	1.94994	0.14225	1.51084	25.02906
0.93194	130.3317	1.94994	-0.20099	1.51084	25.02906
0.93194	131.9882	1.9516	0.03235	1.50918	25.21349
0.93028	132.6512	1.9516	-0.13437	1.50918	25.26252
0.92862	132.5041	1.9516	-0.29127	1.50918	25.34097
0.92862	132.0593	1.95326	-0.01871	1.50752	25.60385
0.92696	131.9906	1.95326	-0.15601	1.50752	25.60385

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.92696	131.536	1.95326	-0.28349	1.50752	25.60385
0.9253	131.1696	1.95492	0.01849	1.50586	25.78828
0.9253	131.1402	1.95492	-0.109	1.50586	25.78828
0.92364	130.8719	1.95492	-0.37378	1.50586	25.78828
0.92364	130.9307	1.95658	-0.11103	1.50586	25.73925
0.92198	130.7899	1.95658	-0.27774	1.5042	25.83541
0.92032	130.8978	1.95658	-0.44446	1.5042	25.77657
0.92032	130.8354	1.95658	-0.63078	1.50254	25.85312
0.91866	130.9531	1.95824	-0.40726	1.50254	25.78448
0.91866	130.9104	1.95824	-0.59358	1.50254	25.65699
0.917	130.7695	1.95824	-0.79953	1.50254	25.59815
0.917	131.0539	1.9599	-0.576	1.50088	25.68451
0.91534	130.9131	1.9599	-0.76233	1.50088	25.56683
0.91534	131.0994	1.9599	-0.92904	1.50088	25.48838
0.91368	130.9488	1.96156	-0.80358	1.49922	25.6728
0.91368	131.1057	1.96156	-0.93107	1.49922	25.6728
0.91202	130.9551	1.96156	-1.00952	1.49922	25.62377
0.91036	131.0532	1.96322	-0.67812	1.49756	25.73955
0.91036	130.932	1.96322	-0.73696	1.49756	25.68071
0.9087	131.0496	1.96322	-0.73696	1.49756	25.68071
0.9087	130.9677	1.96488	-0.36633	1.4959	25.86513
0.90704	131.1049	1.96488	-0.36633	1.4959	25.76707
0.90704	130.9936	1.96488	-0.36633	1.4959	25.70823
0.90538	130.8625	1.96654	0.00429	1.49424	25.89265
0.90538	130.99	1.96654	-0.05455	1.49424	25.89265
0.90372	130.8688	1.96654	-0.05455	1.49424	25.89265
0.90372	130.9963	1.9682	0.27685	1.49258	26.07708
0.90206	130.8849	1.9682	0.17879	1.49258	26.07708
0.9004	131.0124	1.9682	0.02188	1.49258	26.07708
0.9004	131.0383	1.96986	0.15715	1.49092	26.2615
0.89874	131.1756	1.96986	-0.33319	1.49092	26.23208
0.89874	131.0642	1.96986	-0.54894	1.49092	26.17324
0.89708	130.9724	1.97152	-0.35483	1.48926	26.27922
0.89708	131.0999	1.97152	-0.55096	1.48926	26.2498
0.89542	130.9983	1.97152	-0.7569	1.48926	26.17134
0.89542	131.1258	1.97318	-0.7197	1.4876	26.28712
0.89376	131.0242	1.97318	-0.89623	1.4876	26.17925
0.89376	131.1321	1.97318	-1.07275	1.4876	26.10079

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.8921	131.1285	1.97484	-0.83941	1.48594	26.17735
0.89044	131.2364	1.97484	-1.01593	1.48594	26.01063
0.89044	131.1054	1.97484	-1.18265	1.48594	25.56933
0.88878	131.1937	1.9765	-0.93951	1.48428	25.6753
0.88878	131.0528	1.9765	-1.09641	1.48428	25.56743
0.88712	130.9022	1.9765	-1.25332	1.48428	25.44975
0.88712	130.9905	1.97816	-1.10825	1.48262	25.48707
0.88546	130.8398	1.97816	-1.22593	1.48262	25.33017
0.8838	130.9183	1.97816	-1.3338	1.48262	25.16345
0.8838	130.7677	1.97982	-1.02202	1.48096	25.19097
0.88214	130.8363	1.97982	-1.12008	1.48096	25.03407
0.88048	130.7445	1.97982	-1.22796	1.48096	24.75948
0.88048	130.8034	1.98148	-0.92598	1.4793	24.83603
0.87882	130.6233	1.98148	-1.05346	1.4793	24.74777
0.87882	130.6625	1.98148	-1.31824	1.4793	24.67912
0.87716	130.4335	1.98314	-1.03588	1.47764	24.81452
0.87716	130.2044	1.98314	-1.15356	1.47764	24.81452
0.8755	130.2436	1.98314	-1.27124	1.47764	24.78509
0.87384	130.0636	1.9848	-0.97906	1.47598	24.96952
0.87384	130.1224	1.9848	-1.07713	1.47598	24.96952
0.87218	129.9522	1.9848	-1.185	1.47598	24.93029
0.87218	130.0404	1.98646	-0.87322	1.47432	25.11472
0.87052	129.88	1.98646	-0.97128	1.47432	25.07549
0.87052	129.9879	1.98646	-1.07916	1.47432	25.01665
0.86886	129.8765	1.98812	-0.76737	1.47266	25.14224
0.86886	129.8435	1.98812	-0.99293	1.47266	25.14224
0.8672	130.1868	1.98812	-1.11061	1.47266	25.14224
0.8672	130.1146	1.98978	-0.82824	1.471	25.27763
0.86554	130.2813	1.98978	-0.95573	1.471	25.2286
0.86554	130.2189	1.98978	-1.07341	1.471	25.16976
0.86388	130.6014	1.99144	-0.77143	1.46934	25.35418
0.86222	130.3723	1.99144	-0.86949	1.46934	25.35418
0.86222	130.794	1.99144	-0.95775	1.46934	25.41302
0.86056	130.7905	1.9931	-0.72442	1.46768	25.6661
0.86056	131.0062	1.9931	-0.82249	1.46768	25.74455
0.8589	131.0027	1.9931	-0.93036	1.46768	25.74455
0.8589	130.9894	1.99476	-0.64799	1.46602	25.9682
0.85724	131.1855	1.99476	-0.77548	1.46602	26.00743

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.85724	131.1427	1.99476	-0.93239	1.46602	26.05646
0.85558	131.3193	1.99642	-0.68925	1.46436	26.20166
0.85392	131.2471	1.99642	-0.84616	1.46436	26.13302
0.85392	131.4923	1.99642	-1.03248	1.46436	26.02514
0.85226	131.3514	1.99808	-0.96586	1.4627	26.14092
0.85226	131.4201	1.99808	-1.13258	1.4627	26.00363
0.8506	131.24	1.99808	-1.28948	1.4627	25.89575
0.8506	131.2793	1.99808	-1.44639	1.46104	25.90366
0.84894	131.0894	1.99974	-1.18364	1.46104	25.61926
0.84894	130.8603	1.99974	-1.34055	1.46104	25.25642
0.84728	130.8996	2.0014	-1.0876	1.46104	24.75628
0.84728	130.7195	2.0014	-1.24451	1.45938	24.83283
0.84562	130.8176	2.0014	-1.42103	1.45938	24.63669
0.84562	130.667	2.00306	-1.3446	1.45938	24.53863
0.84396	130.7454	2.00306	-1.50151	1.45772	24.6446
0.8423	130.634	2.00306	-1.65841	1.45772	24.56615
0.8423	130.7321	2.00472	-1.40547	1.45772	24.4975
0.84064	130.6795	2.00472	-1.56237	1.45606	24.63289
0.84064	130.9933	2.00472	-1.70948	1.45606	24.58386
0.83898	130.9114	2.00638	-1.45653	1.45606	24.55444
0.83898	130.8098	2.00638	-1.61344	1.4544	24.73886
0.83732	130.9274	2.00638	-1.78015	1.4544	24.73886
0.83732	129.2719	2.00638	-2.143	1.4544	24.73886
0.83566	129.4583	2.00804	-1.91947	1.45274	24.95271
0.834	129.5367	2.00804	-2.09599	1.45274	25.00174
0.834	129.6152	2.00804	-2.29213	1.45274	25.04097
0.83234	129.6838	2.0097	-2.05879	1.45108	25.2254
0.83234	129.7328	2.0097	-2.22551	1.45108	25.2254
0.83068	129.7328	2.0097	-2.39222	1.45108	25.2254
0.83068	129.7328	2.01136	-2.12947	1.44942	25.36079
0.82902	129.7328	2.01136	-2.27657	1.44942	25.29214
0.82902	129.7328	2.01136	-2.40405	1.44942	25.14504
0.82736	129.7328	2.01302	-2.13149	1.44776	25.25101
0.8257	129.7328	2.01302	-2.38647	1.44776	25.17256
0.8257	129.7328	2.01302	-2.50415	1.44776	25.04507
0.82404	129.6838	2.01468	-2.22178	1.4461	25.06278
0.82404	129.6152	2.01468	-2.34927	1.4461	24.83723
0.82238	129.5465	2.01468	-2.46695	1.4461	24.53322

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.82238	129.5465	2.01634	-2.16497	1.44444	24.62939
0.82072	129.5465	2.01634	-2.26304	1.44444	24.55093
0.82072	129.5073	2.01634	-2.34149	1.44444	24.48229
0.81906	129.4681	2.018	-2.01009	1.44278	24.60787
0.81906	129.4288	2.018	-2.11796	1.44278	24.47058
0.8174	129.4288	2.018	-2.11796	1.44278	24.43135
0.81574	129.4288	2.01966	-1.70811	1.44112	24.54713
0.81574	129.4288	2.01966	-1.73753	1.44112	24.44907
0.81408	129.4288	2.01966	-1.78656	1.44112	24.40984
0.81408	129.4583	2.02132	-1.42574	1.43946	24.51581
0.81242	129.5073	2.02132	-1.42574	1.43946	24.45697
0.81242	129.5661	2.02132	-1.47477	1.43946	24.36871
0.81076	129.5661	2.02298	-1.12376	1.4378	24.43546
0.81076	129.6054	2.02298	-1.20221	1.4378	24.357
0.8091	129.6838	2.02298	-1.23163	1.4378	24.357
0.8091	129.8015	2.02464	-0.97869	1.43614	24.54143
0.80744	129.8701	2.02464	-1.09637	1.43614	24.54143
0.80744	129.9682	2.02464	-1.19444	1.43614	24.54143
0.80578	130.0074	2.0263	-0.94149	1.43448	24.68663
0.80412	130.0663	2.0263	-1.22588	1.43448	24.6474
0.80412	130.1545	2.0263	-1.36318	1.43448	24.60817
0.80246	130.1545	2.02796	-1.09062	1.43282	24.7926
0.80246	130.1938	2.02796	-1.25733	1.43282	24.75337
0.8008	130.2526	2.02796	-1.41424	1.43282	24.70434
0.8008	130.3212	2.02962	-1.1809	1.43116	24.82012
0.79914	130.3212	2.02962	-1.55356	1.43116	24.82012
0.79914	130.3605	2.02962	-1.74969	1.43116	24.76128
0.79748	130.3997	2.03128	-1.52617	1.4295	24.87706
0.79582	130.4487	2.03128	-1.71249	1.4295	24.7888
0.79582	130.4487	2.03128	-1.89882	1.4295	24.7888
0.79416	131.4882	2.03294	-1.65568	1.42784	24.92419
0.79416	131.4882	2.03294	-1.82239	1.42784	24.85554
0.7925	131.4882	2.03294	-1.9695	1.42784	24.77709
0.7925	131.5275	2.0346	-1.71655	1.42784	24.73786
0.79084	131.5667	2.0346	-1.99114	1.42618	24.86345
0.79084	131.6157	2.0346	-2.10882	1.42618	24.78499
0.78918	131.6157	2.03626	-1.82645	1.42618	24.78499
0.78752	131.6157	2.03626	-1.93432	1.42452	24.91058

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.78752	131.6157	2.03626	-2.0422	1.42452	24.83213
0.78586	131.6157	2.03792	-1.73041	1.42286	24.98713
0.78586	131.6157	2.03792	-1.81867	1.42286	24.90868
0.7842	131.6157	2.03792	-1.91674	1.42286	24.82042
0.7842	131.6157	2.03958	-1.59514	1.42286	24.78119
0.78254	130.3257	2.03958	-1.70302	1.4212	24.91658
0.78254	130.3317	2.03958	-1.80108	1.4212	24.86755
0.78088	131.9882	2.03958	-2.01683	1.4212	24.86755
0.78088	132.6512	2.04124	-1.71485	1.41954	25.05198
0.77922	132.5041	2.04124	-1.85214	1.41954	25.05198
0.77922	132.0593	2.04124	-1.98944	1.41954	25.05198
0.77756	131.9906	2.0429	-1.71688	1.41788	25.2364
0.7759	131.536	2.0429	-1.87379	1.41788	25.2364
0.7759	131.1696	2.0429	-2.02089	1.41788	25.2364
0.77424	131.1402	2.04456	-1.77775	1.41622	25.42083
0.77424	130.8719	2.04456	-1.92485	1.41622	25.42083
0.77258	130.9307	2.04456	-2.23866	1.41622	25.42083
0.77258	130.7899	2.04622	-1.9661	1.41456	25.56603
0.77092	130.8978	2.04622	-2.09359	1.41456	25.517
0.77092	130.8354	2.04622	-2.22108	1.41456	25.46796
0.76926	130.9531	2.04788	-1.9289	1.4129	25.65239
0.76926	130.9104	2.04788	-2.02697	1.4129	25.65239
0.7676	130.7695	2.04788	-2.11523	1.4129	25.61316
0.76594	131.0539	2.04954	-1.78383	1.41124	25.6701
0.76594	130.9131	2.04954	-1.86228	1.41124	25.6701
0.76428	131.0994	2.04954	-1.93093	1.41124	25.64068
0.76428	130.9488	2.0512	-1.58972	1.40958	25.76627
0.76262	131.1057	2.0512	-1.64856	1.40958	25.69762
0.76262	130.9551	2.0512	-1.6976	1.40958	25.69762
0.76096	131.0532	2.05286	-1.34658	1.40792	25.8232
0.76096	130.932	2.05286	-1.41523	1.40792	25.74475
0.7593	131.0496	2.05286	-1.41523	1.40792	25.69572
0.75764	130.9677	2.05452	-1.05441	1.40626	25.72324
0.75764	131.1049	2.05452	-1.13286	1.40626	25.59575
0.75598	130.9936	2.05452	-1.1917	1.40626	25.50749
0.75598	130.8625	2.05618	-0.88972	1.4046	25.55462
0.75432	130.99	2.05618	-1.13489	1.4046	25.40752
0.75432	130.8688	2.05618	-1.48793	1.4046	25.231

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.75266	130.9963	2.05784	-1.2546	1.40294	25.21929
0.75266	130.8849	2.05784	-1.46054	1.40294	25.20948
0.751	131.0124	2.05784	-1.68609	1.40294	25.20948
0.751	131.0383	2.0595	-1.48218	1.40128	25.39391
0.74934	131.1756	2.0595	-1.70773	1.40128	25.39391
0.74934	131.0642	2.0595	-1.92348	1.40128	25.39391
0.74768	130.9724	2.06116	-1.72937	1.39962	25.57834
0.74602	131.0999	2.06116	-1.95493	1.39962	25.57834
0.74602	130.9983	2.06116	-2.17067	1.39962	25.57834
0.74436	131.1258	2.06282	-2.20212	1.39796	25.76276
0.74436	131.0242	2.06282	-2.41787	1.39796	25.76276
0.7427	131.1321	2.06282	-2.62381	1.39796	25.76276
0.7427	131.1285	2.06448	-2.4199	1.3963	25.94719
0.74104	131.2364	2.06448	-2.61603	1.3963	25.94719
0.74104	131.1054	2.06448	-2.79255	1.3963	25.94719
0.73938	131.1937	2.06614	-2.55922	1.39464	26.13161
0.73772	131.0528	2.06614	-2.72593	1.39464	26.13161
0.73772	130.9022	2.06614	-2.90245	1.39464	26.13161
0.73606	130.9905	2.0678	-2.6397	1.39298	26.28662
0.73606	130.8398	2.0678	-2.95351	1.39298	26.23759
0.7344	130.9183	2.0678	-3.11042	1.39298	26.18855
0.7344	130.7677	2.06946	-2.85747	1.39132	26.37298
0.73274	130.8363	2.06946	-3.01438	1.39132	26.32395
0.73274	130.7445	2.06946	-3.16148	1.39132	26.19646
0.73108	130.8034	2.06946	-3.30858	1.38966	26.29262
0.72942	130.6233	2.07112	-3.03602	1.38966	26.22398
0.72942	130.6625	2.07112	-3.26158	1.38966	26.1063
0.72776	130.4335	2.07278	-2.93998	1.388	26.21227
0.72776	130.2044	2.07278	-3.00863	1.388	26.08478
0.7261	130.2436	2.07278	-3.07728	1.388	26.02594
0.7261	130.0636	2.07278	-3.14592	1.38634	26.1025
0.72444	130.1224	2.07444	-2.73607	1.38634	26.05346
0.72444	129.9522	2.07444	-2.7851	1.38634	25.97501
0.72278	130.0404	2.0761	-2.43409	1.38468	26.05156
0.72278	129.88	2.0761	-2.49293	1.38468	25.98291
0.72112	129.9879	2.0761	-2.49293	1.38468	25.98291
0.72112	129.8765	2.07776	-2.1125	1.38468	25.98291
0.71946	129.8435	2.07776	-2.16153	1.38302	26.16734

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.7178	130.1868	2.07776	-2.22037	1.38302	26.16734
0.7178	130.1146	2.07776	-2.2694	1.38136	26.35177
0.71614	130.2813	2.07942	-1.9282	1.38136	26.35177
0.71614	130.2189	2.07942	-2.00665	1.38136	26.35177
0.71448	130.6014	2.07942	-2.04588	1.38136	26.4008
0.71448	130.3723	2.08108	-1.70467	1.3797	26.64407
0.71282	130.794	2.08108	-1.81254	1.3797	26.71271
0.71282	130.7905	2.08108	-1.87138	1.3797	26.71271
0.71116	131.0062	2.08274	-1.5596	1.37804	26.89714
0.7095	131.0027	2.08274	-1.34385	1.37804	26.89714
0.7095	130.9894	2.08274	37.94522	1.37804	26.89714
0.70784	131.1855	2.0844	47.15474	1.37638	27.04234
0.70784	131.1427	2.0844	49.91042	1.37638	26.97369
0.70618	131.3193	2.0844	54.39209	1.37638	26.88543
0.70618	131.2471	2.08606	55.6778	1.37472	27.03063
0.70452	131.4923	2.08606	58.37464	1.37472	26.85411
0.70452	131.3514	2.08606	59.3357	1.37472	26.80507
0.70286	131.4201	2.08772	60.12127	1.37306	26.90124
0.70286	131.24	2.08772	61.76879	1.37306	26.8424
0.7012	131.2793	2.08772	63.534	1.37306	26.72472
0.69954	131.0894	2.08938	63.7802	1.3714	26.83069
0.69954	130.8603	2.08938	64.60396	1.3714	26.6934
0.69788	130.8996	2.08938	64.89816	1.3714	26.52668
0.69788	130.7195	2.09104	65.36011	1.36974	26.46594
0.69622	130.8176	2.09104	65.59547	1.36974	25.95599
0.69622	130.667	2.09104	66.06619	1.36974	25.82851
0.69456	130.7454	2.0927	66.07703	1.36808	25.90506
0.69456	130.634	2.0927	66.41046	1.36808	25.8168
0.6929	130.7321	2.0927	66.50853	1.36808	25.73835
0.69124	130.6795	2.09436	66.60763	1.36642	25.86393
0.69124	130.9933	2.09436	66.7155	1.36642	25.8149
0.68958	130.9114	2.09436	66.69589	1.36642	25.77567
0.68958	130.8098	2.09602	66.54001	1.36476	25.9601
0.68792	130.9274	2.09602	66.54001	1.36476	25.92087
0.68792	129.2719	2.09602	66.54001	1.36476	25.85222
0.68626	129.4583	2.09768	66.38414	1.3631	25.97781
0.68626	129.5367	2.09768	66.38414	1.3631	25.97781
0.6846	129.6152	2.09768	66.38414	1.3631	25.89936

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.6846	129.6838	2.09934	66.17923	1.36144	25.97591
0.68294	129.7328	2.09934	66.12039	1.36144	25.90726
0.68294	129.7328	2.09934	66.05175	1.36144	25.77977
0.68128	129.7328	2.101	65.89587	1.35978	25.85633
0.67962	129.7328	2.101	65.89587	1.35978	25.68961
0.67962	129.7328	2.101	65.89587	1.35978	25.33657
0.67796	129.7328	2.101	65.89587	1.35812	25.45235
0.67796	129.7328	2.101	65.95471	1.35812	25.39351
0.6763	129.7328	2.101	66.04297	1.35812	25.34448
0.6763	129.6838	2.101	66.29795	1.35646	25.5289
0.67464	129.6152	2.09934	66.76763	1.35646	25.5289
0.67464	129.5465	2.09934	67.21874	1.35646	25.5289
0.67298	129.5465	2.09934	67.8954	1.3548	25.71333
0.67132	129.5465	2.09768	69.18886	1.3548	25.6741
0.67132	129.5073	2.09768	69.63016	1.3548	25.58584
0.66966	129.4681	2.09768	70.06165	1.35314	25.77027
0.66966	129.4288	2.09602	70.60979	1.35314	25.77027
0.668	129.4288	2.09602	70.97264	1.35314	25.77027
0.668	129.4288	2.09602	71.28646	1.35148	25.95469
0.66634	129.4288	2.09436	71.93267	1.35148	25.95469
0.66634	129.4288	2.09436	72.09938	1.35148	25.91547
0.66468	129.4583	2.09436	72.24648	1.34982	26.05086
0.66468	129.5073	2.0927	72.51023	1.34982	26.00183
0.66302	129.5661	2.0927	72.58868	1.34982	26.00183
0.66302	129.5661	2.0927	72.66714	1.34816	26.18625
0.66136	129.6054	2.09104	72.88185	1.34816	26.18625
0.6597	129.6838	2.09104	72.93088	1.34816	26.18625
0.6597	129.8015	2.09104	72.93088	1.34816	26.14703
0.65804	129.8701	2.08938	73.12598	1.3465	26.27261
0.65804	129.9682	2.08938	73.19463	1.3465	26.18435
0.65638	130.0074	2.08938	73.25347	1.34484	26.33936
0.65638	130.0663	2.08772	73.46818	1.34484	26.2609
0.65472	130.1545	2.08772	73.54664	1.34484	26.15303
0.65472	130.1545	2.08772	73.61529	1.34484	26.09419
0.65306	130.1938	2.08606	73.77116	1.34318	26.08248
0.6514	130.2526	2.08606	73.77116	1.34318	25.9648
0.6514	130.3212	2.0844	73.92703	1.34318	25.80789
0.64974	130.3212	2.0844	73.88781	1.34152	25.82561

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.64974	130.3605	2.0844	73.77993	1.34152	25.62947
0.64808	130.3997	2.08274	73.93581	1.34152	25.41372
0.64808	130.4487	2.08274	73.93581	1.33986	25.58834
0.64642	130.4487	2.08274	73.93581	1.33986	25.58834
0.64642	130.8719	2.08108	74.09168	1.33986	25.58834
0.64476	130.9307	2.08108	74.09168	1.3382	25.74335
0.6431	130.7899	2.08108	74.09168	1.3382	25.64528
0.6431	130.8978	2.07942	74.24755	1.3382	25.59625
0.64144	130.8354	2.07942	74.24755	1.33654	25.70222
0.64144	130.9531	2.07942	74.24755	1.33654	25.63357
0.63978	130.9104	2.07776	74.40343	1.33654	25.47667
0.63978	130.7695	2.07776	74.40343	1.33488	25.35709
0.63812	131.0539	2.07776	74.40343	1.33488	25.20999
0.63812	130.9131	2.0761	74.5593	1.33488	25.0825
0.63646	131.0994	2.0761	74.5593	1.33322	25.15905
0.63646	130.9488	2.0761	74.5593	1.33322	25.02176
0.6348	131.1057	2.07444	74.71518	1.33322	24.98253
0.63314	130.9551	2.07444	74.71518	1.33156	25.16696
0.63314	131.0532	2.07444	74.71518	1.33156	25.16696
0.63148	130.932	2.07278	74.87105	1.33156	25.16696
0.63148	131.0496	2.07278	74.92008	1.3299	25.35138
0.62982	130.9677	2.07278	74.98873	1.3299	25.35138
0.62982	131.1049	2.07112	75.23287	1.3299	25.35138
0.62816	130.9936	2.07112	75.23287	1.32824	25.53581
0.62816	129.4288	2.07112	75.29171	1.32824	25.53581
0.6265	129.4288	2.06946	75.54565	1.32824	25.53581
0.6265	129.4288	2.06946	75.59468	1.32658	25.72023
0.62484	129.4583	2.06946	75.68294	1.32658	25.72023
0.62484	129.5073	2.06946	75.74178	1.32658	25.69081
0.62318	129.5661	2.0678	76.1036	1.32492	25.8164
0.62152	129.5661	2.0678	76.23108	1.32492	25.8164
0.62152	129.6054	2.0678	76.4076	1.32492	25.76737
0.61986	129.6838	2.06614	76.81845	1.32326	25.87334
0.61986	129.8015	2.06614	77.12246	1.32326	25.8243
0.6182	129.8701	2.06448	77.65099	1.32326	25.74585
0.6182	129.9682	2.06448	78.15113	1.3216	25.87144
0.61654	130.0074	2.06448	78.27862	1.3216	25.70472
0.61654	130.0663	2.06448	78.38649	1.3216	25.58704

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.61488	130.1545	2.06282	78.75811	1.31994	25.71263
0.61488	130.1545	2.06282	78.87579	1.31994	25.61456
0.61322	130.1938	2.06282	78.97386	1.31994	25.57533
0.61156	130.2526	2.06116	79.23761	1.31828	25.70092
0.61156	130.3212	2.06116	79.34548	1.31828	25.63227
0.6099	130.3212	2.06116	79.45335	1.31828	25.63227
0.6099	130.3605	2.0595	79.72691	1.31662	25.8167
0.60824	130.3997	2.0595	79.83478	1.31662	25.8167
0.60824	130.4487	2.0595	79.95246	1.31662	25.85593
0.60658	130.4487	2.05784	80.22602	1.31496	26.07958
0.60492	130.4487	2.05784	80.5006	1.31496	26.109
0.60492	130.488	2.05784	80.5006	1.31496	26.109
0.60326	130.537	2.05618	80.96049	1.3133	26.29343
0.60326	130.586	2.05618	81.11739	1.3133	26.29343
0.6016	130.586	2.05618	81.26449	1.3133	26.29343
0.6016	130.6449	2.05452	81.56747	1.31164	26.47785
0.59994	130.7135	2.05452	81.69496	1.31164	26.47785
0.59994	130.8018	2.05452	81.81264	1.31164	26.44843
0.59828	130.8018	2.05286	82.06658	1.31164	26.3994
0.59828	130.8508	2.05286	82.14503	1.30998	26.52498
0.59662	130.9293	2.05286	82.27252	1.30998	26.52498
0.59662	131.0175	2.0512	82.47743	1.30998	26.47595
0.59496	131.0175	2.0512	82.51665	1.30832	26.58192
0.5933	131.1156	2.0512	82.51665	1.30832	26.53289
0.5933	131.1744	2.04954	82.67253	1.30666	26.61925
0.59164	131.1744	2.04954	82.67253	1.30666	26.43292
0.59164	131.1744	2.04954	82.72156	1.30666	26.35447
0.58998	131.1744	2.04788	82.92647	1.305	26.41141
0.58998	131.1744	2.04788	82.9755	1.305	26.27411
0.58832	131.1744	2.04788	82.9755	1.305	26.09759
0.58832	131.2137	2.04622	83.13137	1.30334	26.04666
0.58666	131.2627	2.04622	83.13137	1.30334	25.98782
0.585	131.3117	2.04622	83.13137	1.30334	25.91917
0.585	131.3117	2.04456	83.28725	1.30168	26.01534
0.58334	131.3117	2.04456	83.28725	1.30168	25.89766
0.58334	131.3608	2.04456	83.28725	1.30168	25.77017
0.58168	131.4196	2.0429	83.44312	1.30002	25.64078
0.58168	131.4882	2.0429	83.44312	1.30002	25.48387

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.58002	131.4882	2.0429	83.44312	1.30002	25.31716
0.58002	131.4882	2.04124	83.599	1.29836	25.35448
0.57836	131.5275	2.04124	83.599	1.29836	25.21719
0.57836	131.5667	2.04124	83.599	1.29836	25.10932
0.5767	131.6157	2.03958	83.75487	1.29836	25.01125
0.57504	131.6157	2.03958	83.78429	1.2967	25.13684
0.57504	131.6157	2.03958	83.83332	1.2967	25.078
0.57338	131.6157	2.03792	84.04804	1.2967	25.01915
0.57338	131.6157	2.03792	84.04804	1.29504	25.20358
0.57172	131.6157	2.03792	84.07746	1.29504	25.16435
0.57172	131.6157	2.03626	84.37063	1.29504	25.12513
0.57006	131.6157	2.03626	84.37063	1.29338	25.26052
0.57006	130.3257	2.03626	84.42947	1.29338	25.26052
0.5684	130.3317	2.0346	84.6736	1.29338	25.26052
0.5684	131.9882	2.0346	84.70302	1.29172	25.41553
0.56674	132.6512	2.0346	84.78147	1.29172	25.36649
0.56674	132.5041	2.0346	84.87954	1.29172	25.31746
0.56508	132.0593	2.03294	85.07464	1.29006	25.50188
0.56342	131.9906	2.03294	85.1531	1.29006	25.46266
0.56342	131.536	2.03128	85.36781	1.29006	25.40382
0.56176	131.1696	2.03128	85.54433	1.2884	25.5294
0.56176	131.1402	2.03128	85.66201	1.2884	25.5294
0.5601	130.8719	2.03128	85.74046	1.2884	25.48037
0.5601	130.9307	2.02962	86.02383	1.28674	25.59615
0.55844	130.7899	2.02962	86.21015	1.28674	25.49808
0.55844	130.8978	2.02796	86.64061	1.28674	25.46866
0.55678	130.8354	2.02796	86.74849	1.28508	25.57463
0.55512	130.9531	2.02796	86.86617	1.28508	25.47657
0.55512	130.9104	2.02796	87.00346	1.28508	25.33927
0.55346	130.7695	2.0263	87.30644	1.28342	25.46486
0.55346	131.0539	2.0263	87.46334	1.28342	25.35699
0.5518	130.9131	2.0263	87.79677	1.28342	25.27853
0.5518	131.0994	2.02464	88.12917	1.28176	25.34528
0.55014	130.9488	2.02464	88.28607	1.28176	25.17856
0.55014	131.1057	2.02298	88.58905	1.28176	24.88436
0.54848	130.9551	2.02298	88.73615	1.2801	24.82362
0.54848	131.0532	2.02298	88.85383	1.2801	24.69613
0.54682	130.932	2.02298	88.9617	1.2801	24.59807

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.54516	131.0496	2.02132	89.31371	1.27844	24.69423
0.54516	130.9677	2.02132	89.39216	1.27844	24.62559
0.5435	131.1049	2.02132	89.46081	1.27844	24.57655
0.5435	130.9936	2.01966	89.67553	1.27678	24.71194
0.54184	130.8625	2.01966	89.71475	1.27678	24.71194
0.54184	130.99	2.01966	89.75398	1.27678	24.71194
0.54018	130.8688	2.018	89.90985	1.27512	24.89637
0.54018	130.9963	2.018	89.90985	1.27512	24.89637
0.53852	130.8849	2.018	89.90985	1.27512	24.89637
0.53852	131.0124	2.01634	90.06573	1.27346	25.0808
0.53686	131.0383	2.01634	90.06573	1.27346	25.0808
0.5352	131.1756	2.01634	90.06573	1.27346	25.0808
0.5352	131.0642	2.01468	90.26083	1.2718	25.21619
0.53354	130.9724	2.01468	90.31967	1.2718	25.13774
0.53354	131.0999	2.01468	90.37851	1.2718	25.09851
0.53188	130.9983	2.01302	90.53438	1.27014	25.21429
0.53188	131.1258	2.01302	90.53438	1.27014	25.11622
0.53022	131.0242	2.01302	90.57361	1.27014	25.00835
0.53022	131.1321	2.01136	90.77852	1.26848	25.09471
0.52856	131.1285	2.01136	90.82755	1.26848	25.06529
0.5269	131.2364	2.01136	90.82755	1.26848	25.00645
0.5269	131.1054	2.0097	90.98342	1.26682	25.11242
0.52524	131.1937	2.0097	90.98342	1.26682	25.11242
0.52524	131.0528	2.0097	90.98342	1.26682	25.05358
0.52358	130.9022	2.00804	91.1393	1.26516	25.15955
0.52358	130.9905	2.00804	91.1393	1.26516	25.15955
0.52192	130.8398	2.00804	91.1393	1.26516	25.0909
0.52192	130.9183	2.00638	91.29517	1.26516	24.96342
0.52026	130.7677	2.00638	91.29517	1.2635	25.0792
0.5186	130.8363	2.00638	91.34421	1.2635	24.98113
0.5186	130.7445	2.00472	91.56873	1.2635	24.9419
0.51694	130.8034	2.00472	91.64718	1.26184	25.05768
0.51694	130.6233	2.00472	91.69621	1.26184	24.96942
0.51528	130.6625	2.00306	91.94035	1.26184	24.93019
0.51528	130.4335	2.00306	91.97957	1.26018	25.05578
0.51362	130.2044	2.00306	92.06784	1.26018	24.97733
0.51362	130.2436	2.0014	92.28255	1.26018	24.97733
0.51196	130.0636	2.0014	92.39042	1.25852	25.11272

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.51196	130.1224	2.0014	92.44926	1.25852	24.97542
0.5103	129.9522	1.99974	92.7032	1.25852	24.97542
0.50864	130.0404	1.99974	92.82088	1.25686	25.11082
0.50864	129.88	1.99974	92.89934	1.25686	25.04217
0.50698	129.9879	1.99808	93.05521	1.25686	24.95391
0.50698	129.8765	1.99808	93.05521	1.2552	25.09911
0.50532	129.8435	1.99808	93.05521	1.2552	25.03046
0.50532	130.1868	1.99642	93.21109	1.2552	24.89317
0.50366	130.1146	1.99642	93.25031	1.25354	24.99914
0.50366	130.2813	1.99642	93.30915	1.25354	24.91088
0.502	130.2189	1.99476	93.52387	1.25354	24.91088
0.502	130.6014	1.99476	93.52387	1.25188	25.03647
0.50034	130.3723	1.99476	93.64155	1.25188	24.96782
0.50034	130.794	1.9931	93.88568	1.25188	24.89917
0.49868	130.7905	1.9931	93.93472	1.25022	25.0836
0.49702	131.0062	1.9931	94.01317	1.25022	25.0836
0.49702	131.0027	1.99144	94.22788	1.25022	25.0836
0.49536	130.9894	1.99144	94.35537	1.24856	25.26802
0.49536	131.1855	1.99144	94.44363	1.24856	25.26802
0.4937	131.1427	1.98978	94.7368	1.24856	25.26802
0.4937	131.3193	1.98978	94.90351	1.2469	25.45245
0.49204	131.2471	1.98978	95.43307	1.2469	25.45245
0.49204	131.4923	1.98978	95.52133	1.2469	25.45245
0.49038	131.3514	1.98812	95.78508	1.24524	25.63688
0.48872	131.4201	1.98812	95.89296	1.24524	25.63688
0.48872	131.24	1.98812	96.00083	1.24524	25.59765
0.48706	131.2793	1.98646	96.3038	1.24358	25.73304
0.48706	131.0894	1.98646	96.42148	1.24358	25.6742
0.4854	130.8603	1.98646	96.54897	1.24358	25.63498
0.4854	130.8996	1.9848	96.94021	1.24192	25.77037
0.48374	130.7195	1.9848	97.02847	1.24192	25.70172
0.48374	130.8176	1.9848	97.09711	1.24192	25.70172
0.48208	130.667	1.98314	97.31183	1.24026	25.84692
0.48208	130.7454	1.98314	97.36086	1.24026	25.78808
0.48042	130.634	1.98148	97.56577	1.24026	25.70963
0.47876	130.7321	1.98148	97.56577	1.2386	25.89405
0.47876	130.6795	1.98148	97.605	1.2386	25.89405
0.4771	130.9933	1.98148	97.65403	1.2386	25.80579

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.4771	130.9114	1.97982	97.88836	1.23694	25.92157
0.47544	130.8098	1.97982	98.02565	1.23694	25.92157
0.47544	130.9274	1.97816	98.25998	1.23694	25.92157
0.47378	129.2719	1.97816	98.38747	1.23528	26.07658
0.47378	129.4583	1.97816	98.63263	1.23528	26.03735
0.47212	129.5367	1.97816	98.7307	1.23528	25.97851
0.47046	129.6152	1.9765	98.97483	1.23362	26.16294
0.47046	129.6838	1.9765	99.04348	1.23362	26.16294
0.4688	129.7328	1.9765	99.09251	1.23362	26.16294
0.4688	129.7328	1.97484	99.28762	1.23196	26.34736
0.46714	129.7328	1.97484	99.28762	1.23196	26.34736
0.46714	129.7328	1.97484	99.28762	1.23196	26.34736
0.46548	129.7328	1.97318	99.44349	1.2303	26.53179
0.46548	129.7328	1.97318	99.44349	1.2303	26.53179
0.46382	129.7328	1.97318	99.40426	1.2303	26.53179
0.46382	129.7328	1.97152	99.48168	1.22864	26.71621
0.46216	129.6838	1.97152	99.39342	1.22864	26.71621
0.4605	129.6152	1.97152	99.39342	1.22864	26.71621
0.4605	129.5465	1.96986	99.49046	1.22698	26.90064
0.45884	129.5465	1.96986	99.4022	1.22698	26.90064
0.45884	129.5465	1.96986	99.4022	1.22698	26.86141
0.45718	129.5073	1.9682	99.52865	1.22698	26.80257
0.45718	129.4681	1.9682	99.52865	1.22532	26.90855
0.45552	129.4288	1.9682	99.52865	1.22532	26.86932
0.45552	129.4288	1.96654	99.72375	1.22366	26.97529
0.45386	129.4288	1.96654	99.82182	1.22366	26.91645
0.45386	129.4288	1.96654	99.89046	1.22366	26.79877
0.4522	129.4288	1.96488	100.1836	1.22366	26.71051
0.45054	129.4583	1.96488	100.2915	1.222	26.59093
0.45054	129.5073	1.96488	100.4484	1.222	26.35557
0.44888	129.5661	1.96322	100.8495	1.22034	26.29483
0.44888	129.5661	1.96322	101.1339	1.22034	26.03005
0.44722	129.6054	1.96322	101.5065	1.22034	25.73584
0.44722	129.6838	1.96156	101.6624	1.22034	25.68681
0.44556	129.8015	1.96156	101.6624	1.21868	25.8222
0.44556	129.8701	1.96156	101.6624	1.21868	25.78298
0.4439	129.9682	1.9599	101.8183	1.21868	25.73394
0.4439	130.0074	1.9599	101.8183	1.21702	25.91837

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.44224	130.0663	1.9599	101.8183	1.21702	25.85953
0.44224	130.1545	1.95824	101.9741	1.21702	25.74185
0.44058	130.1545	1.95824	102.0134	1.21536	25.84782
0.43892	130.1938	1.95824	102.082	1.21536	25.75956
0.43892	130.2526	1.95658	102.3065	1.21536	25.72033
0.43726	130.3212	1.95658	102.3752	1.2137	25.84592
0.43726	130.3212	1.95658	102.4732	1.2137	25.77727
0.4356	130.3605	1.95492	102.688	1.2137	25.77727
0.4356	130.3997	1.95492	102.7958	1.21204	25.9617
0.43394	130.4487	1.95492	102.8841	1.21204	25.9617
0.43394	130.4487	1.95326	103.1969	1.21204	25.9617
0.43228	130.4487	1.95326	103.442	1.21038	26.14612
0.43062	130.488	1.95326	103.8245	1.21038	26.14612
0.43062	130.537	1.95326	104.0991	1.21038	26.14612
0.42896	130.586	1.9516	104.3628	1.20872	26.33055
0.42896	130.586	1.9516	104.4609	1.20872	26.33055
0.4273	130.6449	1.9516	104.5295	1.20872	26.33055
0.4273	130.7135	1.94994	104.7443	1.20706	26.51498
0.42564	130.8018	1.94994	104.7835	1.20706	26.47575
0.42564	130.8018	1.94828	104.9394	1.20706	26.41691
0.42398	130.8508	1.94828	104.9394	1.2054	26.53269
0.42232	130.9293	1.94828	104.9394	1.2054	26.47385
0.42232	131.0175	1.94828	104.9786	1.2054	26.38559
0.42066	131.0175	1.94662	105.1345	1.20374	26.52098
0.42066	131.1156	1.94662	105.2227	1.20374	26.41311
0.419	131.1744	1.94496	105.4472	1.20374	26.32485
0.419	131.1744	1.94496	105.4865	1.20208	26.39159
0.41734	131.1744	1.94496	105.5747	1.20208	26.20527
0.41734	131.1744	1.9433	105.8189	1.20208	25.98952
0.41568	131.1744	1.9433	105.9365	1.20042	25.48747
0.41568	131.1744	1.9433	106.1229	1.20042	25.48747
0.41402	131.2137	1.9433	106.4269	1.20042	25.31095
0.41236	131.2627	1.94164	106.7495	1.19876	25.40712
0.41236	131.3117	1.94164	106.8181	1.19876	25.32867
0.4107	131.3117	1.93998	107.0328	1.19876	25.2306
0.4107	131.3117	1.93998	107.0328	1.1971	25.31696
0.40904	131.3608	1.93998	107.0328	1.1971	25.19928
0.40904	131.4196	1.93998	107.0328	1.1971	25.06198

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.40738	131.4882	1.93832	107.1887	1.19544	25.10912
0.40738	131.4882	1.93832	107.1887	1.19544	24.96202
0.40572	131.4882	1.93832	107.1887	1.19544	24.69723
0.40572	131.5275	1.93666	107.3446	1.19378	24.75417
0.40406	131.5667	1.93666	107.3446	1.19378	24.63649
0.4024	131.6157	1.93666	107.3054	1.19378	24.54823
0.4024	130.7233	1.935	107.4024	1.19378	24.45997
0.40074	130.3986	1.935	107.3239	1.19212	24.57575
0.40074	130.3257	1.935	107.3239	1.19212	24.5071
0.39908	130.3317	1.93334	107.4308	1.19046	24.63269
0.39908	131.9882	1.93334	107.3621	1.19046	24.57385
0.39742	132.6512	1.93334	107.2739	1.19046	24.5052
0.39742	132.5041	1.93168	107.4297	1.19046	24.42675
0.39576	132.0593	1.93168	107.3905	1.1888	24.61118
0.3941	131.9906	1.93168	107.2924	1.1888	24.57195
0.3941	131.536	1.93002	107.4483	1.18714	24.68773
0.39244	131.1696	1.93002	107.4483	1.18714	24.62889
0.39244	131.1402	1.93002	107.4483	1.18714	24.62889
0.39078	130.8719	1.92836	107.6042	1.18714	24.62889
0.39078	130.9307	1.92836	107.6042	1.18548	24.81331
0.38912	130.7899	1.92836	107.6042	1.18548	24.76428
0.38912	130.8978	1.9267	107.7601	1.18548	24.68583
0.38746	130.8354	1.9267	107.7601	1.18382	24.74277
0.38746	130.9531	1.9267	107.7993	1.18382	24.66431
0.3858	130.9104	1.92504	108.0042	1.18216	24.69183
0.38414	130.7695	1.92504	108.063	1.18216	24.46628
0.38414	131.0539	1.92504	108.063	1.18216	24.12304
0.38248	130.9131	1.92338	108.2189	1.1805	24.2094
0.38248	131.0994	1.92338	108.2483	1.1805	24.0623
0.38082	130.9488	1.92338	108.3072	1.1805	24.02307
0.38082	131.1057	1.92172	108.5317	1.17884	24.16827
0.37916	130.9551	1.92172	108.5317	1.17884	24.12905
0.37916	131.0532	1.92172	108.5709	1.17884	24.12905
0.3775	130.932	1.92006	108.7954	1.17884	24.08982
0.3775	131.0496	1.92006	108.8739	1.17718	24.22521
0.37584	130.9677	1.92006	108.9327	1.17718	24.17618
0.37584	131.1049	1.9184	109.1769	1.17718	24.17618
0.37418	130.9936	1.9184	109.2259	1.17552	24.31157

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.37252	130.8625	1.9184	109.3044	1.17552	24.27234
0.37252	130.99	1.91674	109.5093	1.17552	24.22331
0.37086	130.8688	1.91674	109.6171	1.17386	24.40774
0.37086	130.9963	1.91674	109.676	1.17386	24.40774
0.3692	130.8849	1.91508	110.0182	1.17386	24.40774
0.3692	131.0124	1.91508	110.1162	1.1722	24.59216
0.36754	131.0383	1.91508	110.1751	1.1722	24.63139
0.36754	131.1756	1.91342	110.4094	1.1722	24.69023
0.36588	131.0642	1.91342	110.4584	1.17054	24.9433
0.36422	130.9724	1.91342	110.5173	1.17054	24.9433
0.36422	131.0999	1.91176	110.7418	1.17054	24.99234
0.36256	130.9983	1.91176	110.7418	1.16888	25.31406
0.36256	131.1258	1.91176	110.7712	1.16888	25.31406
0.3609	131.0242	1.9101	110.9761	1.16888	25.31406
0.3609	131.1321	1.9101	111.035	1.16722	25.49848
0.35924	131.1285	1.9101	111.084	1.16722	25.49848
0.35924	131.2364	1.90844	111.2889	1.16722	25.49848
0.35758	131.1054	1.90844	111.3478	1.16556	25.68291
0.35758	131.1937	1.90844	111.3478	1.16556	25.62407
0.35592	131.0528	1.90678	111.5036	1.16556	25.526
0.35426	130.9022	1.90678	111.5036	1.1639	25.56333
0.35426	130.9905	1.90678	111.5527	1.1639	25.48487
0.3526	130.8398	1.90678	111.6115	1.1639	25.35739
0.3526	130.9183	1.90512	111.8262	1.16224	25.45355
0.35094	130.7677	1.90512	111.8556	1.16224	25.33587
0.35094	130.8363	1.90346	112.0802	1.16224	25.16916
0.34928	130.7445	1.90346	112.1586	1.16058	25.15745
0.34928	130.8034	1.90346	112.1978	1.16058	24.9319
0.34762	130.6233	1.90346	112.2861	1.16058	24.90247
0.34762	130.6625	1.9018	112.5106	1.15892	25.04767
0.34596	130.4335	1.9018	112.6381	1.15892	25.00845
0.3443	130.2044	1.9018	112.7264	1.15892	24.97903
0.3443	130.2436	1.90014	113.2157	1.15726	25.11442
0.34264	130.0636	1.90014	113.4805	1.15726	25.06539
0.34264	130.1224	1.90014	113.5491	1.15726	25.00655
0.34098	129.9522	1.89848	113.7736	1.1556	25.19097
0.34098	130.0404	1.89848	113.8521	1.1556	25.14194
0.33932	129.88	1.89848	113.9305	1.1556	25.09291

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.33932	129.9879	1.89682	114.1354	1.15394	25.2283
0.33766	129.8765	1.89682	114.2237	1.15394	25.2283
0.33766	129.8435	1.89682	114.3022	1.15394	25.14004
0.336	130.1868	1.89516	114.6345	1.15228	25.32446
0.33434	130.1146	1.89516	114.713	1.15228	25.27543
0.33434	130.2813	1.89516	114.8209	1.15228	25.27543
0.33268	130.2189	1.8935	115.016	1.15062	25.42063
0.33268	130.6014	1.8935	115.016	1.15062	25.3814
0.33102	130.3723	1.8935	115.016	1.15062	25.34218
0.33102	130.794	1.89184	115.113	1.14896	25.5266
0.32936	130.7905	1.89184	115.0542	1.14896	25.5266
0.32936	131.0062	1.89184	114.9757	1.14896	25.5266
0.3277	131.0027	1.89018	115.1316	1.1473	25.71103
0.32604	130.9894	1.89018	115.0727	1.1473	25.75025
0.32604	131.1855	1.89018	114.9256	1.1473	25.78948
0.32438	131.1427	1.88852	115.0815	1.14564	26.01313
0.32438	131.3193	1.88852	115.0815	1.14564	26.01313
0.32272	131.2471	1.88852	115.0815	1.14564	26.01313
0.32272	131.4923	1.88686	115.2374	1.14564	26.01313
0.32106	131.3514	1.88686	115.2374	1.14398	26.19756
0.32106	131.4201	1.88686	115.2374	1.14398	26.19756
0.3194	131.24	1.8852	115.3933	1.14398	26.19756
0.3194	131.2793	1.8852	115.3933	1.14232	26.38199
0.31774	131.0894	1.8852	115.3933	1.14232	26.38199
0.31774	130.8603	1.88354	115.5491	1.14232	26.33295
0.31608	130.8996	1.88354	115.5491	1.14066	26.42912
0.31442	130.7195	1.88354	115.5884	1.14066	26.37028
0.31442	130.8176	1.88188	115.8031	1.14066	26.2624
0.31276	130.667	1.88188	115.8619	1.139	26.34876
0.31276	130.7454	1.88188	115.8619	1.139	26.20166
0.3111	130.634	1.88022	116.0178	1.139	26.00553
0.3111	130.7321	1.88022	116.0178	1.13734	25.90556
0.30944	130.6795	1.88022	116.0472	1.13734	25.20928
0.30944	130.9933	1.87856	116.2521	1.13734	24.75818
0.30778	130.9114	1.87856	116.311	1.13568	24.89357
0.30612	130.8098	1.87856	116.311	1.13568	24.86415
0.30612	130.9274	1.8769	116.5159	1.13568	24.86415
0.30446	129.2719	1.8769	116.5943	1.13402	25.00935

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.30446	129.4583	1.8769	116.6826	1.13402	24.97012
0.3028	129.5367	1.87524	116.8385	1.13402	24.97012
0.3028	129.6152	1.87524	116.9071	1.13182	24.8508
0.30114	129.6838	1.87524	117.015	1.13182	24.92925
0.30114	129.7328	1.87358	117.2297	1.13016	25.01751
0.29948	129.7328	1.87358	117.3572	1.13016	25.01751
0.29948	129.7328	1.87358	117.5729	1.1285	25.11558
0.29782	129.7328	1.87358	117.7789	1.1285	25.17442
0.29616	129.7328	1.87192	118.1799	1.12684	25.17442
0.29616	129.7328	1.87192	118.4545	1.12684	25.17442
0.2945	129.7328	1.87026	118.9144	1.12518	25.17442
0.2945	129.7328	1.87026	118.9144	1.12352	25.17442
0.29284	129.6838	1.87026	118.8653	1.12352	25.17442
0.29284	129.6152	1.87026	118.8065	1.12186	25.21365
0.29118	129.5465	1.8686	118.8839	1.12186	25.26268
0.29118	129.5465	1.8686	118.8055	1.1202	25.31171
0.28952	129.5465	1.8686	118.6191	1.1202	25.31171
0.28952	129.5073	1.86694	118.6181	1.11854	25.31171
0.28786	129.4681	1.86694	118.5593	1.11854	25.36075
0.2862	129.4288	1.86694	118.52	1.11688	25.41959
0.2862	129.4288	1.86528	118.6759	1.11688	25.48823
0.28454	129.4288	1.86528	118.6759	1.11522	25.48823
0.28454	129.4288	1.86528	118.6759	1.11356	25.48823
0.28288	129.4288	1.86362	118.8318	1.11356	25.52746
0.28288	129.4583	1.86362	118.8318	1.1119	25.56669
0.28122	129.5073	1.86196	118.9877	1.1119	25.61572
0.28122	129.5661	1.86196	118.9877	1.11024	24.72331
0.27956	129.5661	1.86196	119.0269	1.11024	24.39856
0.2779	129.6054	1.86196	119.0857	1.10858	24.32568
0.2779	129.6838	1.8603	119.3103	1.10858	24.33168
0.27624	129.8015	1.8603	119.3103	1.10692	25.98816
0.27624	129.8701	1.8603	119.3397	1.10526	26.65121
0.27458	129.9682	1.85864	119.5544	1.10526	26.50411
0.27458	130.0074	1.85864	119.623	1.1036	26.05928
0.27292	130.0663	1.85864	119.6819	1.1036	25.99063
0.27292	130.1545	1.85698	119.926	1.10194	25.536
0.27126	130.1545	1.85698	119.975	1.10194	25.16962
0.27126	130.1938	1.85698	120.0535	1.10028	25.1402

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.2696	130.2526	1.85532	120.2682	1.10028	24.8719
0.26794	130.3212	1.85532	120.3761	1.09862	24.93074
0.26794	130.3212	1.85532	120.4447	1.09862	24.78992
0.26628	130.3605	1.85366	120.7085	1.09696	24.89779
0.26628	130.3997	1.85366	120.7771	1.0953	24.83542
0.26462	130.4487	1.85366	120.8752	1.0953	24.95311
0.26462	130.4487	1.852	121.0899	1.09364	24.91035
0.26296	130.4487	1.852	121.1684	1.09364	24.76953
0.26296	130.488	1.852	121.2076	1.09198	25.05393
0.2613	130.537	1.85034	121.4125	1.09198	24.91311
0.2613	130.586	1.85034	121.4125	1.09032	25.09943
0.25964	130.586	1.85034	121.4125	1.09032	24.94881
0.25798	130.6449	1.84868	121.5684	1.08866	25.10572
0.25798	130.7135	1.84868	121.5684	1.08866	24.95509
0.25632	130.8018	1.84868	121.5684	1.087	25.05316
0.25632	130.8018	1.84702	121.7242	1.08534	24.93195
0.25466	130.8508	1.84702	121.7242	1.08534	25.04963
0.25466	130.9293	1.84702	121.6066	1.08368	24.96765
0.253	131.0175	1.84536	121.684	1.08368	25.10494
0.253	131.0175	1.84536	121.684	1.08202	24.99355
0.25134	131.1156	1.84536	121.635	1.08202	24.86253
0.25134	131.1744	1.8437	121.7222	1.08036	24.99002
0.24968	131.1744	1.8437	121.6241	1.08036	24.86881
0.24802	131.1744	1.8437	121.6241	1.0787	24.9963
0.24802	131.1744	1.84204	121.7211	1.0787	24.8849
0.24636	131.1744	1.84204	121.6427	1.07704	25.01239
0.24636	131.1744	1.84204	121.5937	1.07538	25.03828
0.2447	131.2137	1.84038	121.6809	1.07538	25.17558
0.2447	131.2627	1.84038	121.6122	1.07372	25.06418
0.24304	131.3117	1.84038	121.6122	1.07372	24.97239
0.24304	131.3117	1.83872	121.7681	1.07206	25.09988
0.24138	131.3117	1.83872	121.8073	1.07206	24.99828
0.24138	131.3608	1.83872	121.8662	1.0704	25.12577
0.23972	131.4196	1.83706	122.1103	1.0704	25.02418
0.23806	131.4882	1.83706	122.1593	1.06874	25.13205
0.23806	131.4882	1.83706	122.2476	1.06874	25.12853
0.2364	131.4882	1.8354	122.5898	1.06708	25.2364
0.2364	131.5275	1.8354	122.7663	1.06542	25.10539

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.23474	131.5667	1.8354	122.9723	1.06542	25.19365
0.23474	131.6157	1.83374	123.3635	1.06376	25.05283
0.23308	131.6157	1.83374	123.3831	1.06376	24.9022
0.23308	131.6157	1.83374	123.3831	1.0621	24.99046
0.23142	131.6157	1.83208	123.539	1.0621	24.83983
0.23142	131.6157	1.83208	123.539	1.06044	24.91829
0.22976	131.6157	1.83208	123.5782	1.06044	24.76766
0.2281	131.6157	1.83042	123.8714	1.05878	24.83631
0.2281	131.6157	1.83042	123.9106	1.05878	24.74452
0.22644	130.3257	1.83042	123.9989	1.05712	24.80336
0.22644	130.3317	1.82876	124.2626	1.05546	24.62332
0.22478	131.9882	1.82876	124.4293	1.05546	24.66254
0.22478	132.6512	1.82876	124.7137	1.0538	24.43346
0.22312	132.5041	1.82876	124.8118	1.0538	24.20438
0.22312	132.0593	1.8271	125.0363	1.05214	24.24361
0.22146	131.9906	1.8271	125.0952	1.05214	24.06356
0.22146	131.536	1.8271	125.1442	1.05048	24.1224
0.2198	131.1696	1.82544	125.3001	1.05048	23.95216
0.21814	131.1402	1.82544	125.3001	1.04882	24.04042
0.21814	130.8719	1.82378	125.4559	1.04882	23.87999
0.21648	130.9307	1.82378	125.4559	1.04716	23.98786
0.21648	130.7899	1.82378	125.4559	1.0455	23.87647
0.21482	130.8978	1.82378	125.4559	1.0455	23.84352
0.21482	130.8354	1.82212	125.6118	1.04384	24.18675
0.21316	130.9531	1.82212	125.6118	1.04384	24.11458
0.21316	130.9104	1.82212	125.6118	1.04218	24.28129
0.2115	130.7695	1.82046	125.7677	1.04218	24.21893
0.20984	131.0539	1.82046	125.7677	1.04052	24.60139
0.20984	130.9131	1.82046	125.7677	1.04052	24.37231
0.20818	131.0994	1.8188	125.9236	1.03886	24.794
0.20818	130.9488	1.8188	125.9236	1.0372	24.79047
0.20652	131.1057	1.8188	125.9236	1.0372	25.00622
0.20652	130.9551	1.81714	126.1187	1.03554	25.00269
0.20486	131.0532	1.81714	126.1579	1.03554	24.98936
0.20486	130.932	1.81714	126.2069	1.03388	25.18549
0.2032	131.0496	1.81548	126.3628	1.03388	25.14274
0.2032	130.9677	1.81548	126.3628	1.03222	25.31926
0.20154	131.1049	1.81548	126.3628	1.03222	25.24709

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.20154	130.9936	1.81382	126.6069	1.03056	25.49226
0.19988	130.8625	1.81382	126.656	1.03056	25.35144
0.19822	130.99	1.81382	126.656	1.0289	25.42008
0.19822	130.8688	1.81216	126.8118	1.0289	25.24004
0.19656	130.9963	1.81216	126.8118	1.02724	25.27927
0.19656	130.8849	1.81216	126.8511	1.02558	25.08941
0.1949	131.0124	1.8105	127.056	1.02558	24.86033
0.1949	131.0383	1.8105	127.105	1.02392	24.89956
0.19324	131.1756	1.8105	127.105	1.02392	24.71951
0.19324	131.0642	1.80884	127.2609	1.02226	24.81758
0.19158	130.9724	1.80884	127.3099	1.02226	24.66695
0.18992	131.0999	1.80884	127.3589	1.0206	24.74541
0.18992	130.9983	1.80718	127.5737	1.0206	24.63401
0.18826	131.1258	1.80718	127.5737	1.01894	24.73207
0.18826	131.0242	1.80718	127.6129	1.01728	24.67951
0.1866	131.1321	1.80552	127.8178	1.01728	24.99333
0.1866	131.1285	1.80552	127.8864	1.01562	24.91135
0.18494	131.2364	1.80552	127.9551	1.01562	24.80976
0.18494	131.1054	1.80386	128.209	1.01396	24.92744
0.18328	131.1937	1.80386	128.2581	1.01396	23.27192
0.18328	131.0528	1.80386	128.3365	1.0123	23.45825
0.18162	130.9022	1.8022	128.5512	1.0123	23.5367
0.17996	130.9905	1.8022	128.6493	1.01064	23.61515
0.17996	130.8398	1.8022	128.6983	1.01064	23.6838
0.1783	130.9183	1.80054	128.9425	1.00898	23.73283
0.1783	130.7677	1.80054	129.0405	1.00732	23.73283
0.17664	130.8363	1.80054	129.0994	1.00732	23.73283
0.17664	130.7445	1.79888	129.2552	1.00566	23.73283
0.17498	130.8034	1.79888	129.2552	1.00566	23.73283
0.17498	130.6233	1.79888	129.2552	1.004	23.73283
0.17332	130.6625	1.79722	129.4111	1.004	23.73283
0.17332	130.4335	1.79722	129.4111	1	23.73283
0.17166	130.2044	1.79722	129.4111	0.99834	23.6838
0.17	130.2436	1.79556	129.567	0.99834	23.61515
0.17	130.0636	1.79556	129.567	0.99668	23.54651
0.17	130.1224	1.79556	129.567	0.99668	23.54651
0.16834	129.9522	1.7939	129.7229	0.99502	23.54651
0.16834	130.0404	1.7939	129.7229	0.99502	23.50728

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.16668	129.88	1.7939	129.7229	0.99336	23.46805
0.16668	129.9879	1.79224	129.8787	0.99336	23.42883
0.16502	129.8765	1.79224	129.8787	0.9917	23.42883
0.16502	129.8435	1.79224	129.8395	0.9917	23.42883
0.16336	130.1868	1.79058	129.9562	0.99004	23.42883
0.1617	130.1146	1.79058	129.9169	0.98838	23.42883
0.1617	130.2813	1.79058	129.9169	0.98838	23.45825
0.16004	130.2189	1.78892	130.0728	0.98672	23.50728
0.16004	130.6014	1.78892	130.0336	0.98672	23.56612
0.15838	130.3723	1.78892	129.9846	0.98506	23.56612
0.15838	130.794	1.78726	130.0816	0.98506	23.60535
0.15672	130.7905	1.78726	130.0816	0.9834	23.6838
0.15672	131.0062	1.78726	130.0816	0.9834	23.80148
0.15506	131.0027	1.78726	130.0326	0.98174	23.87013
0.1534	130.9894	1.7856	130.1296	0.98174	23.9682
0.1534	131.1855	1.7856	130.0511	0.98008	24.00742
0.15174	131.1427	1.7856	130.0511	0.97842	24.06626
0.15174	131.3193	1.78394	130.207	0.97842	24.15452
0.15008	131.2471	1.78394	130.207	0.97676	24.15452
0.15008	131.4923	1.78394	130.207	0.97676	24.19375
0.14842	131.3514	1.78228	130.3629	0.9751	24.25259
0.14842	131.4201	1.78228	130.3629	0.9751	24.32124
0.14676	131.24	1.78228	130.3629	0.97344	24.32124
0.14676	131.2793	1.78062	130.5188	0.97344	24.36046
0.1451	131.0894	1.78062	130.5188	0.97178	24.39969
0.1451	130.8603	1.78062	130.5188	0.97178	24.44872
0.14344	130.8996	1.77896	130.6746	0.97012	24.44872
0.14178	130.7195	1.77896	130.7629	0.96846	24.44872
0.14178	130.8176	1.77896	130.8217	0.96846	24.48795
0.14012	130.667	1.7773	130.9776	0.9668	24.53698
0.14012	130.7454	1.7773	130.9776	0.9668	24.58602
0.13846	130.634	1.7773	131.0168	0.96514	24.58602
0.13846	130.7321	1.77564	131.2315	0.96514	24.64486
0.1368	130.6795	1.77564	131.3002	0.96348	24.7135
0.1368	130.9933	1.77564	131.3002	0.96348	24.80176
0.13514	130.9114	1.77398	131.5149	0.96182	24.80176
0.13348	130.8098	1.77398	131.613	0.96182	24.8508
0.13348	130.9274	1.77398	131.662	0.96016	24.92925

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.13182	129.2719	1.77232	131.965	0.9585	25.01751
0.13182	129.4583	1.77232	132.0827	0.9585	25.01751
0.13016	129.5367	1.77232	132.1513	0.95684	25.11558
0.13016	129.6152	1.77066	132.4347	0.95684	25.17442
0.1285	129.6838	1.77066	132.5033	0.95518	25.17442
0.1285	129.7328	1.77066	132.6014	0.95518	25.17442
0.12684	129.7328	1.769	132.7573	0.95352	25.17442
0.12684	129.7328	1.769	132.7965	0.95352	25.17442
0.12518	129.7328	1.769	132.7965	0.95186	25.17442
0.12352	129.7328	1.76734	132.9524	0.95186	25.21365
0.12352	129.7328	1.76734	132.9033	0.9502	25.26268
0.12186	129.7328	1.76734	132.8347	0.94854	25.31171
0.12186	129.7328	1.76568	132.9023	0.94854	25.31171
0.1202	129.6838	1.76568	132.9023	0.94688	25.31171
0.1202	129.6152	1.76568	132.8533	0.94688	25.36075
0.11854	129.5465	1.76402	132.9503	0.94522	25.41959
0.11854	129.5465	1.76402	132.8915	0.94522	25.48823
0.11688	129.5465	1.76402	132.8915	0.94356	25.48823
0.11688	129.5073	1.76236	133.0473	0.94356	25.48823
0.11522	129.4681	1.76236	133.0473	0.9419	25.52746
0.11356	129.4288	1.76236	133.0473	0.94024	25.56669
0.11356	129.4288	1.7607	133.2915	0.94024	25.61572
0.1119	129.4288	1.7607	133.3503	0.93858	25.61572
0.1119	129.4288	1.7607	133.3503	0.93858	25.61572
0.11024	129.4288	1.75904	133.5062	0.93692	25.61572
0.11024	129.4583	1.75904	133.5552	0.93692	25.61572
0.10858	129.5073	1.75904	133.614	0.93526	25.61572
0.10858	129.5661	1.75738	133.8386	0.93526	25.61572
0.10692	129.5661	1.75738	133.8386	0.9336	25.61572
0.10526	129.6054	1.75738	133.8876	0.9336	24.32568
0.10526	129.6838	1.75572	134.1023	0.93194	24.33168
0.1036	129.8015	1.75572	134.171	0.93194	25.98816
0.1036	129.8701	1.75572	134.171	0.93028	26.65121
0.10194	129.9682	1.75406	134.3268	0.92862	26.50411
0.10194	130.0074	1.75406	134.3268	0.92862	26.05928
0.10028	130.0663	1.75406	134.3268	0.92696	25.99063
0.10028	130.1545	1.7524	134.5219	0.92696	25.536
0.09862	130.1545	1.7524	134.5219	0.9253	25.16962

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.09862	130.1938	1.7524	134.5219	0.9253	25.1402
0.09696	130.2526	1.75074	134.6778	0.92364	24.8719
0.0953	130.3212	1.75074	134.6778	0.92364	24.93074
0.0953	130.3212	1.75074	134.6778	0.92198	24.78992
0.09364	130.3605	1.74908	134.8337	0.92032	24.89779
0.09364	130.3997	1.74908	134.8337	0.92032	24.83542
0.09198	130.4487	1.74908	134.7847	0.91866	24.95311
0.09198	130.4487	1.74908	134.7258	0.91866	24.91035
0.09032	130.7677	1.74742	134.8032	0.917	24.76953
0.09032	130.8363	1.74742	134.8032	0.917	25.05393
0.08866	130.7445	1.74576	134.9101	0.91534	24.91311
0.08866	130.8034	1.74576	134.7434	0.91534	25.09943
0.087	130.6233	1.74576	134.7041	0.91368	24.94881
0.08534	130.6625	1.74576	134.6355	0.91368	25.10572
0.08534	130.4335	1.7441	134.6835	0.91202	24.95509
0.08368	130.2044	1.7441	134.6443	0.91036	25.05316
0.08368	130.2436	1.7441	134.5658	0.91036	24.93195
0.08202	130.0636	1.74244	134.6726	0.9087	25.04963
0.08202	130.1224	1.74244	134.5942	0.9087	24.96765
0.08036	129.9522	1.74244	134.5452	0.90704	25.10494
0.08036	130.0404	1.74078	134.5441	0.90704	24.99355
0.0787	129.88	1.74078	134.5441	0.90538	24.86253
0.0787	129.9879	1.74078	134.5441	0.90538	24.99002
0.07704	129.8765	1.73912	134.7	0.90372	24.86881
0.07538	129.8435	1.73912	134.7	0.90372	24.9963
0.07538	130.1868	1.73912	134.7	0.90206	24.8849
0.07372	130.1146	1.73746	134.8951	0.9004	25.01239
0.07372	130.2813	1.73746	134.9441	0.9004	25.03828
0.07206	130.2189	1.73746	134.9932	0.89874	25.17558
0.07206	130.6014	1.7358	135.1883	0.89874	25.06418
0.0704	130.3723	1.7358	135.1883	0.89708	24.97239
0.0704	130.794	1.7358	135.2961	0.89708	25.09988
0.06874	130.7905	1.73414	135.452	0.89542	24.99828
0.06874	131.0062	1.73414	135.4912	0.89542	25.12577
0.06708	131.0027	1.73414	135.5599	0.89376	25.02418
0.06542	130.9894	1.73248	135.7844	0.89376	25.13205
0.06542	131.1855	1.73248	135.7844	0.8921	25.12853
0.06376	131.1427	1.73248	135.8236	0.89044	25.2364

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.06376	131.3193	1.73082	136.0384	0.89044	25.10539
0.0621	131.2471	1.73082	136.1168	0.88878	25.19365
0.0621	131.4923	1.73082	136.1658	0.88878	25.05283
0.06044	131.3514	1.72916	136.4002	0.88712	24.9022
0.06044	131.4201	1.72916	136.4884	0.88712	24.99046
0.05878	131.24	1.72916	136.4884	0.88546	24.83983
0.05878	131.2793	1.7275	136.6933	0.8838	24.91829
0.05712	131.0894	1.7275	136.7522	0.8838	24.76766
0.05546	130.8603	1.7275	136.8208	0.88214	24.83631
0.05546	130.8996	1.72584	136.9767	0.88048	24.74452
0.0538	130.7195	1.72584	136.9767	0.88048	24.80336
0.0538	130.8176	1.72584	136.9767	0.87882	24.62332
0.05214	130.667	1.72418	137.1326	0.87882	24.66254
0.05214	130.7454	1.72418	137.1326	0.87716	24.43346
0.05048	130.634	1.72418	137.1326	0.87716	24.20438
0.05048	130.7321	1.72252	137.2884	0.8755	24.24361
0.04882	130.6795	1.72252	137.2884	0.87384	24.06356
0.04882	130.9933	1.72252	137.2884	0.87384	24.1224
0.04716	130.9114	1.72086	137.4443	0.87218	23.95216
0.0455	130.8098	1.72086	137.4443	0.87218	24.04042
0.0455	130.9274	1.72086	137.4051	0.87052	23.87999
0.04384	129.2719	1.7192	137.5315	0.87052	23.98786
0.04384	129.4583	1.7192	137.4923	0.86886	23.87647
0.04218	129.5367	1.7192	137.4923	0.86886	23.84352
0.04218	129.6152	1.71754	137.6482	0.8672	24.18675
0.04052	129.6838	1.71754	137.6482	0.8672	24.11458
0.04052	129.7328	1.71754	137.5992	0.86554	24.28129
0.03886	129.7328	1.71588	137.6864	0.86554	24.21893
0.0372	129.7328	1.71588	137.6177	0.86388	24.60139
0.0372	129.7328	1.71588	137.6177	0.86222	24.37231
0.03554	129.7328	1.71422	137.7736	0.86222	24.794
0.03554	129.7328	1.71422	137.6657	0.86056	24.79047
0.03388	129.7328	1.71422	137.5971	0.86056	25.00622
0.03388	129.7328	1.71256	137.753	0.8589	25.00269
0.03222	129.6838	1.71256	137.753	0.8589	24.98936
0.03222	129.6152	1.71256	137.753	0.85724	25.18549
0.03056	129.5465	1.7109	137.9088	0.85724	25.14274
0.03056	129.5465	1.7109	137.9088	0.85558	25.31926

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.0289	129.5465	1.7109	137.8794	0.85392	25.24709
0.0289	129.5073	1.7109	137.8402	0.85392	25.49226
0.02724	129.4681	1.70924	137.9568	0.85226	25.35144
0.02558	129.4288	1.70924	137.9568	0.85226	25.42008
0.02558	129.4288	1.70758	138.1127	0.8506	25.24004
0.02392	129.4288	1.70758	138.1127	0.8506	25.27927
0.02392	129.4288	1.70758	138.1127	0.84894	25.08941
0.02226	129.4288	1.70758	138.1127	0.84894	24.86033
0.02226	129.4583	1.70592	138.2686	0.84728	24.89956
0.0206	129.5073	1.70592	138.2686	0.84728	24.71951
0.0206	129.5661	1.70592	138.2686	0.84562	24.81758
0.01894	129.5661	1.70426	138.4245	0.84562	24.66695
0.01728	129.6054	1.70426	138.4245	0.84396	24.74541
0.01728	129.6838	1.70426	138.4245	0.8423	24.63401
0.01562	129.8015	1.7026	138.5803	0.8423	24.73207
0.01562	129.8701	1.7026	138.5803	0.84064	24.67951
0.01396	129.9682	1.7026	138.5803	0.84064	24.99333
0.01396	130.0074	1.70094	138.7362	0.83898	24.91135
0.0123	130.0663	1.70094	138.7362	0.83898	24.80976
0.0123	130.1545	1.70094	138.7362	0.83732	24.92744
0.01064	130.1545	1.69928	138.8921	0.83732	23.27192
0.01064	130.1938	1.69928	138.8921	0.83566	23.45825
0.00898	130.2526	1.69928	138.8921	0.834	23.5367
0.00732	130.3212	1.69762	139.048	0.834	23.61515
0.00732	130.3212	1.69762	139.048	0.83234	23.6838
0.00566	130.3605	1.69762	139.048	0.83234	23.73283
0.00566	130.3997	1.69596	139.2038	0.83068	23.73283
0.004	130.4487	1.69596	139.2038	0.83068	23.73283
0.004	130.4487	1.69596	139.2431	0.82902	23.73283
		1.6943	139.4382	0.82902	23.73283
		1.6943	139.4872	0.82736	23.73283
		1.6943	139.4872	0.8257	23.73283
		1.69264	139.6823	0.8257	23.73283
		1.69264	139.7509	0.82404	23.6838
		1.69264	139.8294	0.82404	23.61515
		1.69098	139.9853	0.82238	23.54651
		1.69098	140.0245	0.82238	23.54651
		1.69098	140.0931	0.82072	23.54651

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.68932	140.3275	0.82072	23.50728
		1.68932	140.3275	0.81906	23.46805
		1.68932	140.3569	0.81906	23.42883
		1.68766	140.6206	0.8174	23.42883
		1.68766	140.6206	0.81574	23.42883
		1.68766	140.6206	0.81574	23.42883
		1.686	140.7765	0.81408	23.42883
		1.686	140.7765	0.81408	23.45825
		1.686	140.7765	0.81242	23.50728
		1.68434	140.9324	0.81242	23.56612
		1.68434	140.9324	0.81076	23.56612
		1.68434	140.9324	0.81076	23.60535
		1.68268	141.0098	0.8091	23.6838
		1.68268	140.9706	0.8091	23.80148
		1.68268	140.9706	0.80744	23.87013
		1.68102	141.1265	0.80744	23.9682
		1.68102	141.1265	0.80578	24.00742
		1.68102	141.1265	0.80412	24.06626
		1.67936	141.2823	0.80412	24.15452
		1.67936	141.2823	0.80246	24.15452
		1.67936	141.2823	0.80246	24.19375
		1.6777	141.4774	0.8008	24.25259
		1.6777	141.5853	0.8008	24.32124
		1.6777	141.5853	0.79914	24.32124
		1.67604	141.7706	0.79914	24.36046
		1.67604	141.8294	0.79748	24.39969
		1.67604	141.8981	0.79582	24.44872
		1.67438	142.054	0.79582	24.44872
		1.67438	142.103	0.79416	25.48823
		1.67438	142.1814	0.79416	25.48823
		1.67272	142.4158	0.7925	25.48823
		1.67272	142.4158	0.7925	25.52746
		1.67272	142.455	0.79084	25.56669
		1.67106	142.6599	0.79084	25.61572
		1.67106	142.6991	0.78918	25.61572
		1.67106	142.6991	0.78752	25.61572
		1.6694	142.855	0.78752	25.61572
		1.6694	142.855	0.78586	25.61572

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.6694	142.806	0.78586	25.61572
		1.6694	142.7471	0.7842	25.61572
		1.66774	142.8344	0.7842	25.61572
		1.66774	142.7951	0.78254	24.32568
		1.66608	142.8922	0.78254	24.33168
		1.66608	142.8235	0.78088	25.98816
		1.66608	142.8235	0.78088	26.65121
		1.66608	142.7745	0.77922	26.50411
		1.66442	142.8617	0.77922	26.05928
		1.66442	142.7735	0.77756	25.99063
		1.66276	142.9293	0.7759	25.536
		1.66276	142.8803	0.7759	25.16962
		1.66276	142.8215	0.77424	25.1402
		1.66276	142.743	0.77424	24.8719
		1.6611	142.8989	0.77258	24.93074
		1.6611	142.8989	0.77258	24.78992
		1.6611	142.8989	0.77092	24.89779
		1.65944	143.0547	0.77092	24.83542
		1.65944	143.094	0.76926	24.95311
		1.65944	143.1528	0.76926	24.91035
		1.65778	143.3969	0.7676	24.76953
		1.65778	143.4362	0.76594	25.05393
		1.65778	143.5931	0.76594	24.91311
		1.65612	143.8961	0.76428	25.09943
		1.65612	143.9941	0.76428	24.94881
		1.65612	144.1412	0.76262	25.10572
		1.65446	144.5423	0.76262	24.95509
		1.65446	144.8463	0.76096	25.05316
		1.65446	145.2582	0.76096	24.93195
		1.6528	145.5023	0.7593	25.04963
		1.6528	145.5906	0.75764	24.96765
		1.6528	145.6494	0.75764	25.10494
		1.65114	145.8837	0.75598	24.99355
		1.65114	145.8837	0.75598	24.86253
		1.65114	145.8837	0.75432	24.99002
		1.64948	146.0396	0.75432	24.86881
		1.64948	146.0396	0.75266	24.9963
		1.64948	145.9906	0.75266	24.8849

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.64782	146.0582	0.751	25.01239
		1.64782	145.9797	0.751	25.03828
		1.64782	145.8424	0.74934	25.17558
		1.64616	145.8708	0.74934	25.06418
		1.64616	145.2628	0.74768	24.97239
		1.64616	144.6548	0.74602	25.09988
		1.6445	144.5655	0.74602	24.99828
		1.6445	144.3105	0.74436	25.12577
		1.6445	144.085	0.74436	25.02418
		1.64284	144.0153	0.7427	25.13205
		1.64284	143.8191	0.7427	25.12853
		1.64284	143.6426	0.74104	25.2364
		1.64118	143.671	0.74104	25.10539
		1.64118	143.5043	0.73938	25.19365
		1.64118	143.5043	0.73772	25.05283
		1.63952	143.6602	0.73772	24.9022
		1.63952	143.6602	0.73606	24.99046
		1.63952	143.6602	0.73606	24.83983
		1.63786	143.8847	0.7344	24.91829
		1.63786	143.9926	0.7344	24.76766
		1.63786	144.071	0.73274	24.83631
		1.6362	144.3446	0.73274	24.74452
		1.6362	144.8349	0.73108	24.80336
		1.6362	144.9134	0.72942	24.62332
		1.63454	145.1379	0.72942	24.66254
		1.63454	145.2065	0.72776	24.43346
		1.63454	145.2654	0.72776	24.20438
		1.63288	145.4212	0.7261	24.24361
		1.63288	145.4801	0.7261	24.06356
		1.63288	145.5487	0.72444	24.1224
		1.63122	145.7929	0.72444	23.95216
		1.63122	145.8321	0.72278	24.04042
		1.63122	145.9007	0.72278	23.87999
		1.62956	146.1351	0.72112	23.98786
		1.62956	146.1841	0.72112	23.87647
		1.62956	146.2233	0.71946	23.84352
		1.62956	146.2233	0.7178	24.18675
		1.6279	146.3792	0.7178	24.11458

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.6279	146.3792	0.71614	24.28129
		1.6279	146.3302	0.71614	24.21893
		1.62624	146.4076	0.71448	24.60139
		1.62624	146.3586	0.71448	24.37231
		1.62624	146.2703	0.71282	24.794
		1.62458	146.2595	0.71282	24.79047
		1.62458	146.2104	0.71116	25.00622
		1.62458	146.1222	0.7095	25.00269
		1.62292	146.229	0.7095	24.98936
		1.62292	146.1702	0.70784	25.18549
		1.62292	146.1015	0.70784	25.14274
		1.62126	146.2574	0.70618	25.31926
		1.62126	146.2574	0.70618	25.24709
		1.62126	146.2574	0.70452	25.49226
		1.6196	146.4133	0.70452	25.35144
		1.6196	146.4525	0.70286	25.42008
		1.6196	146.4917	0.70286	25.24004
		1.61794	146.6966	0.7012	25.27927
		1.61794	146.6966	0.69954	25.08941
		1.61794	146.6966	0.69954	24.86033
		1.61628	146.8525	0.69788	24.89956
		1.61628	146.8917	0.69788	24.71951
		1.61628	146.931	0.69622	24.81758
		1.61462	147.1359	0.69622	24.66695
		1.61462	147.1359	0.69456	24.74541
		1.61462	147.1751	0.69456	24.63401
		1.61296	147.38	0.6929	24.73207
		1.61296	147.429	0.69124	24.67951
		1.61296	147.429	0.69124	24.99333
		1.6113	147.5849	0.68958	24.91135
		1.6113	147.6339	0.68958	24.80976
		1.6113	147.6928	0.68792	24.92744
		1.60964	147.8977	0.68792	23.27192
		1.60964	147.8977	0.68626	23.45825
		1.60964	147.8977	0.68626	23.5367
		1.60798	148.0536	0.6846	23.61515
		1.60798	148.0143	0.6846	23.6838
		1.60798	147.9457	0.68294	23.73283

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.60632	148.0133	0.68294	23.73283
		1.60632	147.9741	0.68128	23.73283
		1.60632	147.8956	0.67962	23.73283
		1.60466	147.9926	0.67962	23.73283
		1.60466	147.875	0.67796	23.73283
		1.60466	147.6984	0.67796	23.73283
		1.603	147.7072	0.6763	23.73283
		1.603	147.5699	0.6763	23.6838
		1.603	147.4719	0.67464	23.61515
		1.60134	147.6866	0.67464	23.54651
		1.60134	147.7454	0.67298	23.54651
		1.60134	147.8043	0.67132	23.54651
		1.59968	148.0092	0.67132	23.50728
		1.59968	148.0092	0.66966	23.46805
		1.59968	148.0092	0.66966	23.42883
		1.59802	148.165	0.668	23.42883
		1.59802	148.165	0.668	23.42883
		1.59802	148.165	0.66634	23.42883
		1.59636	148.2719	0.66634	23.42883
		1.59636	148.213	0.66468	23.45825
		1.59636	148.1542	0.66468	23.50728
		1.5947	148.3101	0.66302	23.56612
		1.5947	148.3101	0.66302	23.56612
		1.5947	148.3101	0.66136	23.60535
		1.59304	148.4659	0.6597	23.6838
		1.59304	148.4659	0.6597	23.80148
		1.59304	148.4659	0.65804	23.87013
		1.59138	148.6218	0.65804	23.9682
		1.59138	148.6218	0.65638	24.00742
		1.59138	148.6218	0.65638	24.06626
		1.59138	148.6218	0.65472	24.15452
		1.58972	148.7777	0.65472	24.15452
		1.58972	148.7777	0.65306	24.19375
		1.58972	148.7777	0.6514	24.25259
		1.58806	148.9336	0.6514	24.32124
		1.58806	148.9336	0.64974	24.32124
		1.58806	148.9336	0.64974	24.36046
		1.5864	149.0894	0.64808	24.39969

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.5864	149.0894	0.64808	24.44872
		1.5864	149.0894	0.64642	24.44872
		1.58474	149.2453	0.64642	24.8719
		1.58474	149.2845	0.64476	24.93074
		1.58474	149.3238	0.6431	24.78992
		1.58308	149.5189	0.6431	24.89779
		1.58308	149.5189	0.64144	24.83542
		1.58308	149.5189	0.64144	24.95311
		1.58142	149.6747	0.63978	24.91035
		1.58142	149.6747	0.63978	24.76953
		1.58142	149.6747	0.63812	25.05393
		1.57976	149.8306	0.63812	24.91311
		1.57976	149.8306	0.63646	25.09943
		1.57976	149.8306	0.63646	24.94881
		1.5781	149.9865	0.6348	25.10572
		1.5781	149.9865	0.63314	24.95509
		1.5781	149.9865	0.63314	25.05316
		1.57644	150.1424	0.63148	24.93195
		1.57644	150.1424	0.63148	25.04963
		1.57644	150.1424	0.62982	24.96765
		1.57478	150.2982	0.62982	25.10494
		1.57478	150.2982	0.62816	24.99355
		1.57478	150.2982	0.62816	23.42883
		1.57312	150.4541	0.6265	23.42883
		1.57312	150.4541	0.6265	23.42883
		1.57312	150.4541	0.62484	23.45825
		1.57146	150.61	0.62484	23.50728
		1.57146	150.61	0.62318	23.56612
		1.57146	150.61	0.62152	23.56612
		1.5698	150.7659	0.62152	23.60535
		1.5698	150.7659	0.61986	23.6838
		1.5698	150.7659	0.61986	23.80148
		1.56814	150.9217	0.6182	23.87013
		1.56814	150.9217	0.6182	23.9682
		1.56814	150.9217	0.61654	24.00742
		1.56648	151.0776	0.61654	24.06626
		1.56648	151.0776	0.61488	24.15452
		1.56648	151.0776	0.61488	24.15452

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.56482	151.2335	0.61322	24.19375
		1.56482	151.2335	0.61156	24.25259
		1.56482	151.2335	0.61156	24.32124
		1.56316	151.3894	0.6099	24.32124
		1.56316	151.3894	0.6099	24.36046
		1.56316	151.3894	0.60824	24.39969
		1.5615	151.5452	0.60824	24.44872
		1.5615	151.5452	0.60658	24.44872
		1.5615	151.5452	0.60492	24.44872
		1.55984	151.7011	0.60492	24.48795
		1.55984	151.7011	0.60326	24.53698
		1.55984	151.7011	0.60326	24.58602
		1.55818	151.857	0.6016	24.58602
		1.55818	151.857	0.6016	24.64486
		1.55818	151.8178	0.59994	24.7135
		1.55818	151.7197	0.59994	24.80176
		1.55652	151.8756	0.59828	24.80176
		1.55652	151.8756	0.59828	24.8508
		1.55486	152.0314	0.59662	24.92925
		1.55486	151.9824	0.59662	25.01751
		1.55486	151.9432	0.59496	25.01751
		1.55486	151.8843	0.5933	25.11558
		1.5532	152.0402	0.5933	25.17442
		1.5532	152.0402	0.59164	25.17442
		1.5532	152.0402	0.59164	25.17442
		1.55154	152.1569	0.58998	25.17442
		1.55154	152.1176	0.58998	25.59815
		1.55154	152.0686	0.58832	25.68451
		1.54988	152.2245	0.58832	25.56683
		1.54988	152.1754	0.58666	25.48838
		1.54988	152.1166	0.585	25.6728
		1.54822	152.2038	0.585	25.6728
		1.54822	152.2038	0.58334	25.62377
		1.54822	152.1646	0.58334	25.73955
		1.54656	152.2714	0.58168	25.68071
		1.54656	152.2028	0.58168	25.68071
		1.54656	152.2028	0.58002	25.86513
		1.5449	152.3587	0.58002	25.76707

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.5449	152.3587	0.57836	25.70823
		1.5449	152.3587	0.57836	25.89265
		1.54324	152.5145	0.5767	25.89265
		1.54324	152.5145	0.57504	25.89265
		1.54324	152.5636	0.57504	26.07708
		1.54158	152.8469	0.57338	26.07708
		1.54158	152.9352	0.57338	26.07708
		1.54158	153.0038	0.57172	26.2615
		1.53992	153.2872	0.57172	26.23208
		1.53992	153.3657	0.57006	26.17324
		1.53992	153.4539	0.57006	26.27922
		1.53826	153.7177	0.5684	26.2498
		1.53826	153.8255	0.5684	26.17134
		1.53826	153.8844	0.56674	26.28712
		1.5366	154.0991	0.56674	26.17925
		1.5366	154.0991	0.56508	26.10079
		1.5366	154.0991	0.56342	26.17735
		1.53494	154.1667	0.56342	26.01063
		1.53494	154.0882	0.56176	25.56933
		1.53494	153.7254	0.56176	25.6753
		1.53328	153.538	0.5601	25.56743
		1.53328	153.4106	0.5601	25.44975
		1.53328	153.2831	0.55844	25.48707
		1.53162	153.3115	0.55844	25.33017
		1.53162	153.1742	0.55678	25.16345
		1.53162	153.0369	0.55512	25.19097
		1.53162	152.9192	0.55512	25.03407
		1.52996	152.9672	0.55346	24.75948
		1.52996	152.8887	0.55346	24.83603
		1.52996	152.8299	0.5518	24.74777
		1.5283	152.9858	0.5518	24.67912
		1.5283	152.9563	0.55014	24.81452
		1.5283	152.9563	0.55014	24.81452
		1.52664	153.1122	0.54848	24.78509
		1.52664	153.1122	0.54848	24.96952
		1.52664	153.1122	0.54682	24.96952
		1.52498	153.2681	0.54516	24.93029
		1.52498	153.2975	0.54516	25.11472

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.52498	153.3465	0.5435	25.07549
		1.52332	153.5515	0.5435	25.01665
		1.52332	153.5515	0.54184	25.14224
		1.52332	153.5515	0.54184	25.14224
		1.52166	153.7073	0.54018	25.14224
		1.52166	153.7073	0.54018	25.27763
		1.52166	153.7073	0.53852	25.2286
		1.52	153.9024	0.53852	25.16976
		1.52	153.9515	0.53686	25.35418
		1.52	154.0005	0.5352	25.35418
		1.51834	154.1564	0.5352	25.41302
		1.51834	154.1564	0.53354	25.6661
		1.51834	154.1564	0.53354	25.74455
		1.51668	154.3613	0.53188	25.74455
		1.51668	154.4495	0.53188	25.9682
		1.51668	154.4495	0.53022	26.00743
		1.51502	154.6054	0.53022	26.05646
		1.51502	154.6054	0.52856	26.20166
		1.51502	154.6054	0.5269	26.13302
		1.51336	154.7221	0.5269	26.02514
		1.51336	154.673	0.52524	26.14092
		1.51336	154.5946	0.52524	26.00363
		1.5117	154.7504	0.52358	25.89575
		1.5117	154.7112	0.52358	25.90366
		1.5117	154.5739	0.52192	25.61926
		1.51004	154.7298	0.52192	25.25642
		1.51004	154.7298	0.52026	24.75628
		1.51004	154.6906	0.5186	24.83283
		1.50838	154.7974	0.5186	24.63669
		1.50838	154.7484	0.51694	24.53863
		1.50838	154.7484	0.51694	24.6446
		1.50672	154.9043	0.51528	24.56615
		1.50672	154.9043	0.51528	24.4975
		1.50672	154.9043	0.51362	24.63289
		1.50506	155.0601	0.51362	24.58386
		1.50506	155.0601	0.51196	24.55444
		1.50506	155.0601	0.51196	24.73886
		1.50506	155.0601	0.5103	24.73886

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.5034	155.216	0.50864	24.73886
		1.5034	155.216	0.50864	24.95271
		1.5034	155.216	0.50698	25.00174
		1.50174	155.3719	0.50698	25.04097
		1.50174	155.3719	0.50532	25.2254
		1.50008	155.4885	0.50532	25.2254
		1.50008	155.4297	0.50366	25.2254
		1.50008	155.3708	0.50366	25.36079
		1.50008	155.3708	0.502	25.29214
		1.49842	155.4875	0.502	25.14504
		1.49842	155.4287	0.50034	25.25101
		1.49842	155.3698	0.50034	25.17256
		1.49676	155.5257	0.49868	25.04507
		1.49676	155.4767	0.49702	25.06278
		1.49676	155.4178	0.49702	24.83723
		1.4951	155.4854	0.49536	24.53322
		1.4951	155.4266	0.49536	24.62939
		1.4951	155.3383	0.4937	24.55093
		1.49344	155.4452	0.4937	24.48229
		1.49344	155.3765	0.49204	24.60787
		1.49344	155.2785	0.49204	24.47058
		1.49178	155.3951	0.49038	24.43135
		1.49178	155.3265	0.48872	24.54713
		1.49178	155.248	0.48872	24.44907
		1.49012	155.4039	0.48706	24.40984
		1.49012	155.4039	0.48706	24.51581
		1.49012	155.4039	0.4854	24.45697
		1.48846	155.5597	0.4854	24.36871
		1.48846	155.5597	0.48374	24.43546
		1.48846	155.5597	0.48374	24.357
		1.4868	155.7647	0.48208	24.357
		1.4868	155.8431	0.48208	24.54143
		1.4868	155.9314	0.48042	24.54143
		1.48514	156.0872	0.47876	24.54143
		1.48514	156.1363	0.47876	24.68663
		1.48514	156.2147	0.4771	24.6474
		1.48348	156.4294	0.4771	24.60817
		1.48348	156.5177	0.47544	24.7926

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.48348	156.5177	0.47544	24.75337
		1.48182	156.7226	0.47378	24.70434
		1.48182	156.7814	0.47378	24.82012
		1.48182	156.8403	0.47212	24.82012
		1.48016	156.9962	0.47046	24.76128
		1.48016	156.9569	0.47046	24.87706
		1.48016	156.8883	0.4688	24.7888
		1.4785	156.9657	0.4688	24.7888
		1.4785	156.9657	0.46714	24.92419
		1.4785	156.8971	0.46714	24.85554
		1.47684	156.9745	0.46548	24.77709
		1.47684	156.9353	0.46548	24.73786
		1.47684	156.8764	0.46382	24.86345
		1.47518	156.944	0.46382	24.78499
		1.47518	156.9146	0.46216	24.78499
		1.47518	156.846	0.4605	24.91058
		1.47352	156.8645	0.4605	24.83213
		1.47352	156.7959	0.45884	24.98713
		1.47352	156.7371	0.45884	24.90868
		1.47186	156.7949	0.45718	24.82042
		1.47186	156.7262	0.45718	24.78119
		1.47186	156.6183	0.45552	24.91658
		1.47186	156.5399	0.45552	24.86755
		1.4702	156.5977	0.45386	24.86755
		1.4702	156.5585	0.45386	25.05198
		1.4702	156.431	0.4522	25.05198
		1.46854	156.5869	0.45054	25.05198
		1.46854	156.5869	0.45054	25.2364
		1.46688	156.7427	0.44888	25.2364
		1.46688	156.7133	0.44888	25.2364
		1.46688	156.6741	0.44722	25.42083
		1.46688	156.6741	0.44722	25.42083
		1.46522	156.83	0.44556	25.42083
		1.46522	156.83	0.44556	25.56603
		1.46356	156.9858	0.4439	25.517
		1.46356	156.9858	0.4439	25.46796
		1.46356	156.9466	0.44224	25.65239
		1.46356	156.9466	0.44224	25.65239

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.4619	157.0633	0.44058	25.61316
		1.4619	156.9946	0.43892	25.6701
		1.4619	156.9063	0.43892	25.6701
		1.46024	157.023	0.43726	25.64068
		1.46024	156.9543	0.43726	25.76627
		1.46024	156.8563	0.4356	25.69762
		1.45858	156.9827	0.4356	25.69762
		1.45858	156.9141	0.43394	25.8232
		1.45858	156.8454	0.43394	25.74475
		1.45692	157.0013	0.43228	25.69572
		1.45692	157.0013	0.43062	25.72324
		1.45692	157.0013	0.43062	25.59575
		1.45526	157.118	0.42896	25.50749
		1.45526	157.0885	0.42896	25.55462
		1.45526	157.0885	0.4273	25.40752
		1.4536	157.2444	0.4273	25.231
		1.4536	157.2444	0.42564	25.21929
		1.4536	157.2444	0.42564	25.20948
		1.45194	157.4003	0.42398	25.20948
		1.45194	157.4297	0.42232	25.39391
		1.45194	157.4885	0.42232	25.39391
		1.45028	157.7229	0.42066	25.39391
		1.45028	157.7229	0.42066	25.57834
		1.45028	157.7915	0.419	25.57834
		1.44862	158.0357	0.419	25.57834
		1.44862	158.1533	0.41734	25.76276
		1.44862	158.2416	0.41734	25.76276
		1.44696	158.3975	0.41568	25.76276
		1.44696	158.4269	0.41568	25.94719
		1.44696	158.4759	0.41402	25.94719
		1.4453	158.671	0.41236	25.94719
		1.4453	158.671	0.41236	26.13161
		1.4453	158.671	0.4107	26.13161
		1.44364	158.8269	0.4107	26.13161
		1.44364	158.7877	0.40904	26.28662
		1.44364	158.7386	0.40904	26.23759
		1.44198	158.8357	0.40738	26.18855
		1.44198	158.8357	0.40738	26.37298

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.44198	158.7964	0.40572	26.32395
		1.44032	158.8935	0.40572	26.19646
		1.44032	158.815	0.40406	26.29262
		1.44032	158.815	0.4024	26.22398
		1.43866	158.9317	0.4024	26.1063
		1.43866	158.8532	0.40074	26.21227
		1.43866	158.765	0.40074	26.08478
		1.43866	158.7061	0.39908	26.02594
		1.437	158.7933	0.39908	26.1025
		1.437	158.7149	0.39742	26.05346
		1.437	158.7149	0.39742	25.97501
		1.43534	158.8708	0.39576	26.05156
		1.43534	158.8217	0.3941	25.98291
		1.43368	158.9188	0.3941	25.98291
		1.43368	158.8599	0.39244	25.98291
		1.43368	158.8599	0.39244	26.16734
		1.43368	158.8599	0.39078	26.16734
		1.43202	159.0158	0.39078	26.35177
		1.43202	159.0158	0.38912	26.35177
		1.43202	159.0158	0.38912	26.35177
		1.43036	159.1717	0.38746	26.4008
		1.43036	159.1717	0.38746	26.64407
		1.43036	159.1717	0.3858	26.71271
		1.4287	159.3275	0.38414	26.71271
		1.4287	159.3275	0.38414	26.89714
		1.4287	159.3275	0.38248	26.89714
		1.42704	159.4834	0.38248	26.89714
		1.42704	159.4834	0.38082	27.04234
		1.42704	159.4834	0.38082	26.97369
		1.42538	159.6393	0.37916	26.88543
		1.42538	159.6393	0.37916	27.03063
		1.42538	159.6393	0.3775	26.85411
		1.42372	159.7952	0.3775	26.80507
		1.42372	159.7952	0.37584	26.90124
		1.42372	159.7952	0.37584	26.8424
		1.42206	159.951	0.37418	26.72472
		1.42206	159.951	0.37252	26.83069
		1.42206	159.9118	0.37252	26.6934

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.4204	160.0089	0.37086	26.52668
		1.4204	159.9304	0.37086	26.46594
		1.4204	159.8912	0.3692	25.95599
		1.41874	159.9784	0.3692	25.82851
		1.41874	159.8607	0.36754	25.90506
		1.41874	159.8117	0.36754	25.8168
		1.41708	159.8597	0.36588	25.73835
		1.41708	159.791	0.36422	25.86393
		1.41708	159.6537	0.36422	25.8149
		1.41542	159.7214	0.36256	25.77567
		1.41542	159.4762	0.36256	25.9601
		1.41542	159.3095	0.3609	25.92087
		1.41376	159.279	0.3609	25.85222
		1.41376	159.1025	0.35924	25.97781
		1.41376	158.8966	0.35924	25.97781
		1.4121	159.0328	0.35758	25.89936
		1.4121	158.9936	0.35758	25.97591
		1.4121	158.9544	0.35592	25.90726
		1.41044	159.0612	0.35426	25.77977
		1.41044	158.9631	0.35426	25.85633
		1.41044	158.8945	0.3526	25.68961
		1.40878	159.0504	0.3526	25.33657
		1.40878	159.0013	0.35094	25.45235
		1.40878	158.9523	0.35094	25.39351
		1.40878	158.9523	0.34928	25.34448
		1.40712	159.0493	0.34928	25.5289
		1.40712	159.0493	0.34762	25.5289
		1.40712	159.0493	0.34762	25.5289
		1.40546	159.2052	0.34596	25.71333
		1.40546	159.2052	0.3443	25.6741
		1.40546	159.2052	0.3443	25.58584
		1.4038	159.4101	0.34264	25.77027
		1.4038	159.4592	0.34264	25.77027
		1.4038	159.5278	0.34098	25.77027
		1.40214	159.6837	0.34098	25.95469
		1.40214	159.6837	0.33932	25.95469
		1.40214	159.6837	0.33932	25.91547
		1.40048	159.8395	0.33766	26.05086

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.40048	159.8395	0.33766	26.00183
		1.40048	159.8395	0.336	26.00183
		1.40048	159.8395	0.33434	26.18625
		1.39882	159.9562	0.33434	26.18625
		1.39882	159.9072	0.33268	26.18625
		1.39882	159.8483	0.33268	26.14703
		1.39716	160.0042	0.33102	26.27261
		1.39716	160.0042	0.33102	26.18435
		1.39716	160.0042	0.32936	26.33936
		1.39716	160.0042	0.32936	26.2609
		1.3955	160.1993	0.3277	26.15303
		1.3955	160.3562	0.32604	26.09419
		1.3955	160.3562	0.32604	26.08248
		1.39384	160.5807	0.32438	25.9648
		1.39384	160.6592	0.32438	25.80789
		1.39384	160.6592	0.32272	25.82561
		1.39218	160.8151	0.32272	25.62947
		1.39218	160.8151	0.32106	25.41372
		1.39218	160.8151	0.32106	25.58834
		1.39052	160.9709	0.3194	25.58834
		1.39052	160.9709	0.3194	25.58834
		1.39052	160.9121	0.31774	25.74335
		1.38886	160.9405	0.31774	25.64528
		1.38886	160.862	0.31608	25.59625
		1.38886	160.8032	0.31442	25.70222
		1.3872	160.8512	0.31442	25.63357
		1.3872	160.7825	0.31276	25.47667
		1.3872	160.655	0.31276	25.35709
		1.38554	160.7227	0.3111	25.20999
		1.38554	160.6148	0.3111	25.0825
		1.38554	160.4285	0.30944	25.15905
		1.38388	160.349	0.30944	25.02176
		1.38388	159.8979	0.30778	24.98253
		1.38388	159.7998	0.30612	25.16696
		1.38222	159.8576	0.30612	25.16696
		1.38222	159.7595	0.30446	25.16696
		1.38222	159.6713	0.30446	25.35138
		1.38056	159.7585	0.3028	25.35138

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.38056	159.7095	0.3028	25.35138
		1.38056	159.6702	0.30114	25.53581
		1.3789	159.8261	0.30114	25.53581
		1.3789	159.8261	0.29948	25.53581
		1.3789	159.8653	0.29948	25.72023
		1.37724	160.0604	0.29782	25.72023
		1.37724	160.0997	0.29616	25.69081
		1.37724	160.0997	0.29616	25.8164
		1.37558	160.2555	0.2945	25.8164
		1.37558	160.2555	0.2945	25.76737
		1.37558	160.1967	0.29284	25.87334
		1.37392	160.2643	0.29284	25.8243
		1.37392	160.2153	0.29118	25.74585
		1.37392	160.1074	0.29118	25.87144
		1.37226	160.0083	0.28952	25.70472
		1.37226	159.8024	0.28952	25.58704
		1.37226	159.4984	0.28786	25.71263
		1.37226	159.4297	0.2862	25.61456
		1.3706	159.5464	0.2862	25.57533
		1.3706	159.5071	0.28454	25.70092
		1.3706	159.5071	0.28454	25.63227
		1.36894	159.663	0.28288	25.63227
		1.36894	159.663	0.28288	25.8167
		1.36728	159.8189	0.28122	25.8167
		1.36728	159.8189	0.28122	25.85593
		1.36728	159.8189	0.27956	26.07958
		1.36728	159.7797	0.2779	26.109
		1.36562	159.9355	0.2779	26.109
		1.36562	159.9061	0.27624	26.29343
		1.36562	159.8473	0.27624	26.29343
		1.36396	159.9247	0.27458	26.29343
		1.36396	159.9247	0.27458	26.47785
		1.36396	159.856	0.27292	26.47785
		1.3623	159.8746	0.27292	26.44843
		1.3623	159.7962	0.27126	26.3994
		1.3623	159.7373	0.27126	26.52498
		1.36064	159.7853	0.2696	26.52498
		1.36064	159.7069	0.26794	26.47595

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.36064	159.599	0.26794	26.58192
		1.35898	159.5784	0.26628	26.53289
		1.35898	159.3038	0.26628	26.61925
		1.35898	159.1861	0.26462	26.43292
		1.35732	159.2341	0.26462	26.35447
		1.35732	159.0772	0.26296	26.41141
		1.35732	159.0183	0.26296	26.27411
		1.35566	159.135	0.2613	26.09759
		1.35566	159.135	0.2613	26.04666
		1.35566	159.135	0.25964	25.98782
		1.354	159.2909	0.25798	25.91917
		1.354	159.2909	0.25798	26.01534
		1.354	159.2909	0.25632	25.89766
		1.35234	159.4467	0.25632	25.77017
		1.35234	159.4467	0.25466	25.64078
		1.35234	159.4467	0.25466	25.48387
		1.35068	159.6026	0.253	25.31716
		1.35068	159.6418	0.253	25.35448
		1.35068	159.6811	0.25134	25.21719
		1.34902	159.886	0.25134	25.10932
		1.34902	159.886	0.24968	25.01125
		1.34902	159.886	0.24802	25.13684
		1.34736	160.0811	0.24802	25.078
		1.34736	160.1399	0.24636	25.01915
		1.34736	160.1988	0.24636	25.20358
		1.3457	160.3546	0.2447	25.16435
		1.3457	160.3546	0.2447	25.12513
		1.3457	160.3546	0.24304	25.26052
		1.34404	160.5105	0.24304	25.26052
		1.34404	160.5105	0.24138	25.26052
		1.34404	160.5105	0.24138	25.41553
		1.34238	160.6664	0.23972	25.36649
		1.34238	160.6664	0.23806	25.31746
		1.34238	160.6664	0.23806	25.50188
		1.34072	160.8222	0.2364	25.46266
		1.34072	160.783	0.2364	25.40382
		1.34072	160.734	0.23474	25.5294
		1.33906	160.8408	0.23474	25.5294

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.33906	160.8408	0.23308	25.48037
		1.33906	160.8408	0.23308	25.59615
		1.33906	160.8408	0.23142	25.49808
		1.3374	160.9967	0.23142	25.46866
		1.3374	160.9575	0.22976	25.57463
		1.3374	160.9182	0.2281	25.47657
		1.33574	161.0251	0.2281	25.33927
		1.33574	161.0251	0.22644	25.46486
		1.33408	161.1417	0.22644	25.35699
		1.33408	161.0731	0.22478	25.27853
		1.33408	161.0044	0.22478	25.34528
		1.33408	161.0044	0.22312	25.17856
		1.33242	161.1211	0.22312	24.88436
		1.33242	161.0622	0.22146	24.82362
		1.33242	160.9838	0.22146	24.69613
		1.33076	161.1397	0.2198	24.59807
		1.33076	161.0906	0.21814	24.69423
		1.33076	160.9435	0.21814	24.62559
		1.3291	161.0994	0.21648	24.57655
		1.3291	161.0308	0.21648	24.71194
		1.3291	160.9229	0.21482	24.71194
		1.32744	161.0101	0.21482	24.71194
		1.32744	160.8826	0.21316	24.89637
		1.32744	160.7846	0.21316	24.89637
		1.32578	160.7933	0.2115	24.89637
		1.32578	160.5678	0.20984	25.0808
		1.32578	159.9892	0.20984	25.0808
		1.32412	159.7626	0.20818	25.0808
		1.32412	159.7234	0.20818	25.21619
		1.32412	159.7234	0.20652	25.13774
		1.32246	159.8792	0.20652	25.09851
		1.32246	159.8792	0.20486	25.21429
		1.32246	159.8792	0.20486	25.11622
		1.3208	160.0842	0.2032	25.00835
		1.3208	160.1332	0.2032	25.09471
		1.3208	160.1822	0.20154	25.06529
		1.31914	160.3381	0.20154	25.00645
		1.31914	160.3773	0.19988	25.11242

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.31914	160.4165	0.19822	25.11242
		1.31748	160.6116	0.19822	25.05358
		1.31748	160.6116	0.19656	25.15955
		1.31748	160.6116	0.19656	25.15955
		1.31582	160.7675	0.1949	25.0909
		1.31582	160.7185	0.1949	24.96342
		1.31582	160.6498	0.19324	25.0792
		1.31416	160.7077	0.19324	24.98113
		1.31416	160.6586	0.19158	24.9419
		1.31416	160.5704	0.18992	25.05768
		1.3125	160.4811	0.18992	24.96942
		1.3125	160.2751	0.18826	24.93019
		1.3125	160.0103	0.18826	25.05578
		1.31084	159.7739	0.1866	24.97733
		1.31084	159.6759	0.1866	24.97733
		1.31084	159.5876	0.18494	25.11272
		1.30918	159.6748	0.18494	24.97542
		1.30918	159.6258	0.18328	24.97542
		1.30918	159.5866	0.18328	25.11082
		1.30752	159.7425	0.18162	25.04217
		1.30752	159.7425	0.17996	24.95391
		1.30752	159.7425	0.17996	25.09911
		1.30586	159.8983	0.1783	25.03046
		1.30586	159.8983	0.1783	24.89317
		1.30586	159.9376	0.17664	24.99914
		1.30586	159.9964	0.17664	24.91088
		1.3042	160.2111	0.17498	24.91088
		1.3042	160.2111	0.17498	25.03647
		1.3042	160.319	0.17332	24.96782
		1.30254	160.5435	0.17332	24.89917
		1.30254	160.5435	0.17166	25.0836
		1.30088	160.6994	0.17	25.0836
		1.30088	160.6994	0.17	25.0836
		1.30088	160.6994	0.17	25.26802
		1.30088	160.6994	0.16834	25.26802
		1.29922	160.8553	0.16834	25.26802
		1.29922	160.8553	0.16668	25.45245
		1.29922	160.816	0.16668	25.45245

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.29756	160.9131	0.16502	25.45245
		1.29756	160.7856	0.16502	25.63688
		1.29756	160.6973	0.16336	25.63688
		1.2959	160.7845	0.1617	25.59765
		1.2959	160.6669	0.1617	25.73304
		1.2959	160.5884	0.16004	25.6742
		1.29424	160.6462	0.16004	25.63498
		1.29424	160.4893	0.15838	25.77037
		1.29424	160.3324	0.15838	25.70172
		1.29258	160.3412	0.15672	25.70172
		1.29258	160.351	0.15672	25.84692
		1.29258	160.351	0.15506	25.78808
		1.29092	160.5069	0.1534	25.70963
		1.29092	160.5069	0.1534	25.89405
		1.29092	160.5069	0.15174	25.89405
		1.28926	160.6627	0.15174	25.80579
		1.28926	160.6627	0.15008	25.92157
		1.28926	160.6627	0.15008	25.92157
		1.2876	160.8186	0.14842	25.92157
		1.2876	160.7598	0.14842	26.07658
		1.2876	160.6813	0.14676	26.03735
		1.28594	160.7097	0.14676	25.97851
		1.28594	160.6312	0.1451	26.16294
		1.28594	160.494	0.1451	26.16294
		1.28428	160.5518	0.14344	26.16294
		1.28428	160.3949	0.14178	26.34736
		1.28428	160.1693	0.14178	26.34736
		1.28262	159.9819	0.14012	26.34736
		1.28262	159.8544	0.14012	26.53179
		1.28262	159.7564	0.13846	26.53179
		1.28096	159.7357	0.13846	26.53179
		1.28096	159.6671	0.1368	26.71621
		1.28096	159.6181	0.1368	26.71621
		1.2793	159.7445	0.13514	26.71621
		1.2793	159.7445	0.13348	26.90064
		1.2793	159.7445	0.13348	26.90064
		1.27764	159.9004	0.13182	26.86141
		1.27764	159.9004	0.13182	26.80257

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.27764	159.9004	0.13016	26.90855
		1.27598	160.0563	0.13016	26.86932
		1.27598	160.0563	0.1285	26.97529
		1.27598	160.0563	0.1285	26.91645
		1.27432	160.2121	0.12684	26.79877
		1.27432	160.2121	0.12684	26.71051
		1.27432	160.2121	0.12518	26.59093
		1.27266	160.368	0.12352	26.35557
		1.27266	160.368	0.12352	26.29483
		1.27266	160.368	0.12186	26.03005
		1.27266	160.368	0.12186	25.73584
		1.271	160.5239	0.1202	25.68681
		1.271	160.5239	0.1202	25.8222
		1.271	160.6121	0.11854	25.78298
		1.26934	160.8269	0.11854	25.73394
		1.26934	160.8269	0.11688	25.91837
		1.26934	160.8269	0.11688	25.85953
		1.26768	161.022	0.11522	25.74185
		1.26768	161.0906	0.11356	25.84782
		1.26768	161.1494	0.11356	25.75956
		1.26602	161.3053	0.1119	25.72033
		1.26602	161.3053	0.1119	25.84592
		1.26602	161.3053	0.11024	25.77727
		1.26436	161.4612	0.11024	25.77727
		1.26436	161.4612	0.10858	25.9617
		1.26436	161.4318	0.10858	25.9617
		1.2627	161.519	0.10692	25.9617
		1.2627	161.4209	0.10526	26.14612
		1.2627	161.3719	0.10526	26.14612
		1.26104	161.4297	0.1036	26.14612
		1.26104	161.3611	0.1036	26.33055
		1.26104	161.214	0.10194	26.33055
		1.25938	161.1345	0.10194	26.33055
		1.25938	160.9481	0.10028	26.51498
		1.25938	160.6834	0.10028	26.47575
		1.25772	160.5254	0.09862	26.41691
		1.25772	160.1626	0.09862	26.53269
		1.25772	160.1135	0.09696	26.47385

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.25606	160.2106	0.0953	26.38559
		1.25606	160.1517	0.0953	26.52098
		1.25606	160.0929	0.09364	26.41311
		1.2544	160.1507	0.09364	26.32485
		1.2544	160.0821	0.09198	26.39159
		1.2544	160.0428	0.09198	26.20527
		1.25274	160.1399	0.09032	25.98952
		1.25274	160.0614	0.09032	25.48747
		1.25274	160.0614	0.08866	25.48747
		1.25108	160.1682	0.08866	25.31095
		1.25108	160.0996	0.087	25.40712
		1.25108	160.031	0.08534	25.32867
		1.24942	160.1868	0.08534	25.2306
		1.24942	160.128	0.08368	25.31696
		1.24942	160.0593	0.08368	25.19928
		1.24776	160.1368	0.08202	25.06198
		1.24776	160.1368	0.08202	25.10912
		1.24776	160.0877	0.08036	24.96202
		1.2461	160.1651	0.08036	24.69723
		1.2461	160.1259	0.0787	24.75417
		1.2461	160.0671	0.0787	24.63649
		1.24444	160.1249	0.07704	24.54823
		1.24444	160.1249	0.07538	24.45997
		1.24444	159.9974	0.07538	24.57575
		1.24278	160.0748	0.07372	24.5071
		1.24278	160.0748	0.07372	24.63269
		1.24278	160.0748	0.07206	24.57385
		1.24112	160.1915	0.07206	24.5052
		1.24112	160.1326	0.0704	24.42675
		1.24112	160.064	0.0704	24.61118
		1.23946	160.2199	0.06874	24.57195
		1.23946	160.1708	0.06874	24.68773
		1.23946	160.0335	0.06708	24.62889
		1.2378	160.1894	0.06542	24.62889
		1.2378	160.0227	0.06542	24.62889
		1.2378	159.8952	0.06376	24.81331
		1.23614	159.953	0.06376	24.76428
		1.23614	159.8353	0.0621	24.68583

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.23614	159.649	0.0621	24.74277
		1.23448	159.5303	0.06044	24.66431
		1.23448	159.442	0.06044	24.69183
		1.23448	159.3538	0.05878	24.46628
		1.23282	159.4214	0.05878	24.12304
		1.23282	159.2645	0.05712	24.2094
		1.23282	159.1958	0.05546	24.0623
		1.23116	159.2831	0.05546	24.02307
		1.23116	159.2242	0.0538	24.16827
		1.23116	159.2242	0.0538	24.12905
		1.23116	159.1654	0.05214	24.12905
		1.2295	159.2526	0.05214	24.08982
		1.2295	159.184	0.05048	24.22521
		1.2295	159.184	0.05048	24.17618
		1.22784	159.1829	0.04882	24.17618
		1.22784	159.1241	0.04882	24.31157
		1.22784	159.0358	0.04716	24.27234
		1.22618	159.123	0.0455	24.22331
		1.22618	159.025	0.0455	24.40774
		1.22618	158.9563	0.04384	24.40774
		1.22452	159.0043	0.04384	24.40774
		1.22452	158.9455	0.04218	24.59216
		1.22452	158.8376	0.04218	24.63139
		1.22286	158.9445	0.04052	24.69023
		1.22286	158.866	0.04052	24.9433
		1.22286	158.7581	0.03886	24.9433
		1.2212	158.8552	0.0372	24.99234
		1.2212	158.8552	0.0372	25.31406
		1.2212	158.8552	0.03554	25.31406
		1.21954	158.9718	0.03554	25.31406
		1.21954	158.9326	0.03388	25.49848
		1.21954	158.8836	0.03388	25.49848
		1.21788	159.0394	0.03222	25.49848
		1.21788	159.0394	0.03222	25.68291
		1.21788	159.0394	0.03056	25.62407
		1.21622	159.1463	0.03056	25.526
		1.21622	159.107	0.0289	25.56333
		1.21622	159.0482	0.0289	25.48487

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.21456	159.2041	0.02724	25.35739
		1.21456	159.2041	0.02558	25.45355
		1.21456	159.2041	0.02558	25.33587
		1.2129	159.3207	0.02392	25.16916
		1.2129	159.2619	0.02392	25.15745
		1.2129	159.1834	0.02226	24.9319
		1.21124	159.2903	0.02226	24.90247
		1.21124	159.2216	0.0206	25.04767
		1.21124	159.1334	0.0206	25.00845
		1.20958	159.2892	0.01894	24.97903
		1.20958	159.2304	0.01728	25.11442
		1.20958	159.1519	0.01728	25.06539
		1.20792	159.2784	0.01562	25.00655
		1.20792	159.2097	0.01562	25.19097
		1.20792	159.1215	0.01396	25.14194
		1.20626	159.2381	0.01396	25.09291
		1.20626	159.0812	0.0123	25.2283
		1.20626	159.042	0.0123	25.2283
		1.2046	159.1194	0.01064	25.14004
		1.2046	159.0312	0.01064	25.32446
		1.2046	158.9821	0.00898	25.27543
		1.20294	159.0694	0.00732	25.27543
		1.20294	158.9615	0.00732	25.42063
		1.20294	158.9223	0.00566	25.3814
		1.20128	159.0095	0.00566	25.34218
		1.20128	158.8624	0.004	25.5266
		1.20128	158.7937	0.004	25.5266
		1.19962	158.8417		
		1.19962	158.8025		
		1.19962	158.7241		
		1.19796	158.8211		
		1.19796	158.7132		
		1.19796	158.6446		
		1.19796	158.5269		
		1.1963	158.6141		
		1.1963	158.516		
		1.1963	158.418		
		1.19464	158.5248		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.19464	158.5248		
		1.19298	158.6807		
		1.19298	158.6807		
		1.19298	158.6807		
		1.19298	158.6807		
		1.19132	158.7973		
		1.19132	158.7385		
		1.19132	158.6699		
		1.18966	158.7669		
		1.18966	158.6688		
		1.18966	158.6198		
		1.188	158.6874		
		1.188	158.6286		
		1.188	158.5305		
		1.18634	158.6373		
		1.18634	158.5589		
		1.18634	158.4706		
		1.18468	158.5775		
		1.18468	158.5775		
		1.18468	158.5775		
		1.18302	158.7333		
		1.18302	158.7039		
		1.18302	158.6549		
		1.18136	158.7519		
		1.18136	158.7519		
		1.18136	158.7127		
		1.1797	158.8097		
		1.1797	158.7313		
		1.1797	158.6724		
		1.17804	158.7498		
		1.17804	158.7008		
		1.17804	158.6027		
		1.17638	158.6802		
		1.17638	158.5331		
		1.17638	158.3173		
		1.17472	158.1496		
		1.17472	158.0319		
		1.17472	157.8456		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.17306	157.9328		
		1.17306	157.8641		
		1.17306	157.7857		
		1.1714	157.9121		
		1.1714	157.8435		
		1.1714	157.7552		
		1.16974	157.8523		
		1.16974	157.7542		
		1.16974	157.5581		
		1.16808	157.4786		
		1.16808	157.3903		
		1.16808	157.3413		
		1.16642	157.4481		
		1.16642	157.4481		
		1.16642	157.4481		
		1.16476	157.604		
		1.16476	157.604		
		1.16476	157.653		
		1.1631	157.8776		
		1.1631	157.9658		
		1.1631	157.9658		
		1.16144	158.1217		
		1.16144	158.1217		
		1.16144	158.1217		
		1.15978	158.2776		
		1.15978	158.2776		
		1.15978	158.2383		
		1.15978	158.1697		
		1.15812	158.1589		
		1.15812	158.051		
		1.15812	157.9627		
		1.15646	157.9813		
		1.15646	157.7754		
		1.15646	157.5302		
		1.1548	157.3821		
		1.1548	156.9702		
		1.1548	156.8721		
		1.15314	156.8907		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.15314	156.8417		
		1.15314	156.8122		
		1.15148	156.9681		
		1.15148	156.9681		
		1.15148	156.9681		
		1.14982	157.124		
		1.14982	157.0848		
		1.14982	157.0848		
		1.14816	157.2406		
		1.14816	157.2014		
		1.14816	157.0935		
		1.1465	157.2494		
		1.1465	157.2004		
		1.1465	157.1317		
		1.14484	157.1993		
		1.14484	157.1993		
		1.14484	157.1405		
		1.14318	157.1983		
		1.14318	157.1493		
		1.14318	157.0022		
		1.14152	157.0502		
		1.14152	156.9717		
		1.14152	156.854		
		1.13986	156.9315		
		1.13986	156.8138		
		1.13986	156.6373		
		1.1382	156.7539		
		1.1382	156.7049		
		1.1382	156.6755		
		1.13654	156.7921		
		1.13654	156.7921		
		1.13654	156.7921		
		1.13488	156.948		
		1.13488	156.948		
		1.13488	156.9087		
		1.13322	157.0156		
		1.13322	156.9666		
		1.13322	156.9666		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.13156	157.0636		
		1.13156	156.9361		
		1.13156	156.8478		
		1.1299	156.9351		
		1.1299	156.8174		
		1.1299	156.7389		
		1.12824	156.7869		
		1.12824	156.6398		
		1.12824	156.4339		
		1.12658	156.5211		
		1.12658	156.4427		
		1.12658	156.2858		
		1.12658	156.2269		
		1.12492	156.3141		
		1.12492	156.3141		
		1.12326	156.47		
		1.12326	156.421		
		1.12326	156.3818		
		1.12326	156.3818		
		1.1216	156.5376		
		1.1216	156.5376		
		1.1216	156.5376		
		1.11994	156.6935		
		1.11994	156.6935		
		1.11828	156.8494		
		1.11828	156.8003		
		1.11828	156.8003		
		1.11828	156.7415		
		1.11662	156.7895		
		1.11662	156.6424		
		1.11496	156.7296		
		1.11496	156.612		
		1.11496	156.5531		
		1.11496	156.4649		
		1.1133	156.5815		
		1.1133	156.5325		
		1.1133	156.4736		
		1.11164	156.6295		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.11164	156.6295		
		1.11164	156.6295		
		1.10998	156.7363		
		1.10998	156.6677		
		1.10998	156.5892		
		1.10832	156.7451		
		1.10832	156.6863		
		1.10832	156.5882		
		1.10666	156.695		
		1.10666	156.597		
		1.10666	156.5381		
		1.105	156.5077		
		1.105	156.3802		
		1.105	156.2919		
		1.10334	156.3203		
		1.10334	156.1634		
		1.10334	155.8986		
		1.10168	155.9564		
		1.10168	155.8486		
		1.10168	155.7309		
		1.10002	155.7593		
		1.10002	155.4945		
		1.10002	155.367		
		1.09836	155.4052		
		1.09836	155.2777		
		1.09836	155.1698		
		1.0967	155.2375		
		1.0967	155.1688		
		1.0967	155.11		
		1.09504	155.2168		
		1.09504	155.2168		
		1.09504	155.2168		
		1.09338	155.3727		
		1.09338	155.3727		
		1.09338	155.3727		
		1.09172	155.5286		
		1.09172	155.5286		
		1.09172	155.5286		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.09006	155.6844		
		1.09006	155.6844		
		1.09006	155.6452		
		1.09006	155.606		
		1.0884	155.7128		
		1.0884	155.7128		
		1.0884	155.7128		
		1.08674	155.8687		
		1.08674	155.8687		
		1.08508	156.0246		
		1.08508	156.0246		
		1.08508	156.0246		
		1.08508	155.9951		
		1.08342	156.102		
		1.08342	156.053		
		1.08342	156.053		
		1.08176	156.15		
		1.08176	156.0813		
		1.08176	155.9931		
		1.0801	156.149		
		1.0801	156.1097		
		1.0801	156.0411		
		1.07844	156.1185		
		1.07844	156.0793		
		1.07844	156.0204		
		1.07678	156.0979		
		1.07678	156.0979		
		1.07678	156.0292		
		1.07512	156.0772		
		1.07512	156.0086		
		1.07512	155.8909		
		1.07346	155.831		
		1.07346	155.6447		
		1.07346	155.4387		
		1.0718	155.4083		
		1.0718	155.4377		
		1.0718	155.4671		
		1.07014	155.6622		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.07014	155.7015		
		1.07014	155.7015		
		1.06848	155.8573		
		1.06848	155.8573		
		1.06848	155.8573		
		1.06682	156.0132		
		1.06682	155.9544		
		1.06682	155.8563		
		1.06516	155.9435		
		1.06516	155.816		
		1.06516	155.7082		
		1.0635	155.6875		
		1.0635	155.4423		
		1.0635	155.0305		
		1.06184	155.1373		
		1.06184	155.0981		
		1.06184	155.0981		
		1.06018	155.254		
		1.06018	155.254		
		1.06018	155.2245		
		1.05852	155.3804		
		1.05852	155.3314		
		1.05852	155.2823		
		1.05686	155.3598		
		1.05686	155.3107		
		1.05686	155.2421		
		1.0552	155.3097		
		1.0552	155.3097		
		1.0552	155.2705		
		1.0552	155.2214		
		1.05354	155.3283		
		1.05354	155.3283		
		1.05188	155.4841		
		1.05188	155.3959		
		1.05188	155.3272		
		1.05022	155.4831		
		1.05022	155.4537		
		1.05022	155.3949		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.04856	155.4723		
		1.04856	155.433		
		1.04856	155.3644		
		1.0469	155.4124		
		1.0469	155.2359		
		1.0469	155.1476		
		1.04524	155.1466		
		1.04524	154.9014		
		1.04524	154.4993		
		1.04358	154.4885		
		1.04358	154.3218		
		1.04358	154.1453		
		1.04358	153.9589		
		1.04192	153.9285		
		1.04192	153.7422		
		1.04192	153.4185		
		1.04026	153.4469		
		1.04026	153.3391		
		1.04026	153.2704		
		1.0386	153.3674		
		1.0386	153.3184		
		1.0386	153.2792		
		1.03694	153.4351		
		1.03694	153.4351		
		1.03694	153.4351		
		1.03528	153.5909		
		1.03528	153.5909		
		1.03528	153.5909		
		1.03362	153.7468		
		1.03362	153.7076		
		1.03362	153.6683		
		1.03196	153.7948		
		1.03196	153.7948		
		1.03196	153.7948		
		1.0303	153.9507		
		1.0303	153.9507		
		1.0303	153.9507		
		1.02864	154.1066		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.02864	154.1066		
		1.02864	154.1066		
		1.02698	154.2624		
		1.02698	154.2624		
		1.02698	154.2624		
		1.02532	154.4183		
		1.02532	154.4183		
		1.02532	154.4183		
		1.02366	154.5742		
		1.02366	154.5742		
		1.02366	154.5742		
		1.022	154.73		
		1.022	154.73		
		1.022	154.73		
		1.02034	154.8467		
		1.02034	154.8075		
		1.02034	154.7584		
		1.01868	154.9143		
		1.01868	154.9143		
		1.01868	154.9143		
		1.01702	155.0211		
		1.01702	154.9623		
		1.01702	154.8839		
		1.01536	155.0397		
		1.01536	155.0005		
		1.01536	154.8436		
		1.0137	154.9602		
		1.0137	154.8818		
		1.0137	154.8229		
		1.01204	154.8611		
		1.01204	154.7827		
		1.01204	154.665		
		1.01038	154.6738		
		1.01038	154.4482		
		1.01038	153.9089		
		1.00872	153.643		
		1.00872	153.5352		
		1.00872	153.4175		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		1.00706	153.4557		
		1.00706	153.3478		
		1.00706	153.2399		
		1.00706	153.1321		
		1.0054	153.1899		
		1.0054	153.1114		
		1.0054	153.0526		
		1.00374	153.1006		
		1.00374	153.0613		
		1.00374	153.0613		
		1.00208	153.2172		
		1.00208	153.1682		
		1.00208	153.1192		
		1.00042	153.2162		
		1.00042	153.2162		
		0.99876	153.323		
		0.99876	153.2642		
		0.99876	153.1955		
		0.99876	153.1955		
		0.9971	153.322		
		0.9971	153.2632		
		0.9971	153.1945		
		0.99544	153.321		
		0.99544	153.2425		
		0.99544	153.1346		
		0.99378	153.2317		
		0.99378	153.0061		
		0.99378	152.8198		
		0.99212	152.7109		
		0.99212	152.3088		
		0.99212	152.1813		
		0.99046	152.2293		
		0.99046	152.1411		
		0.99046	152.0724		
		0.9888	152.1204		
		0.9888	152.1204		
		0.9888	152.1204		
		0.98714	152.2763		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.98714	152.2469		
		0.98714	152.1978		
		0.98548	152.3047		
		0.98548	152.3047		
		0.98548	152.2753		
		0.98382	152.3723		
		0.98382	152.2938		
		0.98382	152.186		
		0.98216	152.2438		
		0.98216	152.2045		
		0.98216	152.1261		
		0.9805	152.2329		
		0.9805	152.1643		
		0.9805	152.0858		
		0.97884	152.2417		
		0.97884	152.2417		
		0.97884	152.2417		
		0.97718	152.3976		
		0.97718	152.4368		
		0.97718	152.476		
		0.97552	152.6711		
		0.97552	152.6711		
		0.97552	152.6711		
		0.97386	152.827		
		0.97386	152.827		
		0.97386	152.7878		
		0.9722	152.8848		
		0.9722	152.826		
		0.9722	152.826		
		0.97054	152.9328		
		0.97054	152.8544		
		0.97054	152.8053		
		0.96888	152.8631		
		0.96888	152.7945		
		0.96888	152.5297		
		0.96722	152.5091		
		0.96722	152.2835		
		0.96722	151.9893		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.96556	151.7333		
		0.96556	151.6156		
		0.96556	151.5175		
		0.9639	151.5754		
		0.9639	151.4969		
		0.9639	151.4283		
		0.96224	151.5057		
		0.96224	151.3782		
		0.96224	151.3782		
		0.96058	151.485		
		0.96058	151.4066		
		0.96058	151.3281		
		0.96058	151.2889		
		0.95892	151.3663		
		0.95892	151.2781		
		0.95892	151.2192		
		0.95726	151.277		
		0.95726	151.0809		
		0.95726	151.0024		
		0.9556	151.0308		
		0.9556	150.8151		
		0.9556	150.7562		
		0.95394	150.8533		
		0.95394	150.814		
		0.95394	150.814		
		0.95228	150.9699		
		0.95228	150.9699		
		0.95228	150.9699		
		0.95062	151.1258		
		0.95062	151.1258		
		0.95062	151.1258		
		0.94896	151.2817		
		0.94896	151.2817		
		0.94896	151.2817		
		0.9473	151.4375		
		0.9473	151.4375		
		0.9473	151.3885		
		0.94564	151.4953		

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	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.94564	151.4267		
		0.94564	151.3286		
		0.94398	151.4453		
		0.94398	151.357		
		0.94398	151.2982		
		0.94232	151.3364		
		0.94232	151.2481		
		0.94232	150.9343		
		0.94066	150.8646		
		0.94066	150.6096		
		0.94066	150.59		
		0.939	150.7459		
		0.939	150.7459		
		0.939	150.7459		
		0.93734	150.9018		
		0.93734	150.8625		
		0.93734	150.8037		
		0.93568	150.9007		
		0.93568	150.8223		
		0.93568	150.7242		
		0.93402	150.8213		
		0.93402	150.7232		
		0.93402	150.6447		
		0.93236	150.7025		
		0.93236	150.5554		
		0.93236	150.3299		
		0.9307	150.4171		
		0.9307	150.3289		
		0.9307	150.1229		
		0.92904	150.1611		
		0.92904	150.0434		
		0.92904	149.9356		
		0.92738	149.9737		
		0.92738	149.8757		
		0.92738	149.7776		
		0.92738	149.6992		
		0.92572	149.7962		
		0.92572	149.6883		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.92406	149.8442		
		0.92406	149.8442		
		0.92406	149.7952		
		0.92406	149.7363		
		0.9224	149.8235		
		0.9224	149.8235		
		0.9224	149.7549		
		0.92074	149.8127		
		0.92074	149.6558		
		0.91908	149.7332		
		0.91908	149.6155		
		0.91908	149.4292		
		0.91908	149.3606		
		0.91742	149.4674		
		0.91742	149.4184		
		0.91742	149.3791		
		0.91576	149.535		
		0.91576	149.535		
		0.91576	149.535		
		0.9141	149.6909		
		0.9141	149.6909		
		0.9141	149.6909		
		0.91244	149.8468		
		0.91244	149.8468		
		0.91244	149.8468		
		0.91078	149.9732		
		0.91078	149.9144		
		0.91078	149.8457		
		0.90912	149.9526		
		0.90912	149.8741		
		0.90912	149.8447		
		0.90746	149.9221		
		0.90746	149.8241		
		0.90746	149.775		
		0.9058	149.8426		
		0.9058	149.7642		
		0.9058	149.6367		
		0.90414	149.6945		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.90414	149.3218		
		0.90414	149.0375		
		0.90248	149.1345		
		0.90248	149.1345		
		0.90248	149.0953		
		0.90082	149.2511		
		0.90082	149.2511		
		0.90082	149.2511		
		0.89916	149.407		
		0.89916	149.407		
		0.89916	149.407		
		0.8975	149.5629		
		0.8975	149.5629		
		0.8975	149.5629		
		0.89584	149.7188		
		0.89584	149.7188		
		0.89584	149.7188		
		0.89418	149.8746		
		0.89418	149.8746		
		0.89418	149.8354		
		0.89252	149.9324		
		0.89252	149.9324		
		0.89252	149.8932		
		0.89086	150		
		0.89086	149.9412		
		0.89086	149.9412		
		0.8892	150.0971		
		0.8892	150.048		
		0.8892	149.9892		
		0.88754	150.0666		
		0.88754	150.0666		
		0.88754	150.0078		
		0.88588	150.0656		
		0.88588	150.0166		
		0.88588	149.9087		
		0.88422	149.9861		
		0.88422	149.8488		
		0.88422	149.6527		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.88256	149.2202		
		0.88256	148.72		
		0.88256	148.5533		
		0.8809	148.5425		
		0.8809	148.3856		
		0.8809	148.2286		
		0.87924	148.2472		
		0.87924	148.1197		
		0.87924	147.9236		
		0.87758	148.0108		
		0.87758	147.9716		
		0.87758	147.9716		
		0.87758	147.9324		
		0.87592	148.0883		
		0.87592	148.0883		
		0.87426	148.2049		
		0.87426	148.2049		
		0.87426	148.1657		
		0.87426	148.1068		
		0.8726	148.1941		
		0.8726	148.1254		
		0.8726	148.0273		
		0.87094	148.144		
		0.87094	148.0655		
		0.87094	148.0165		
		0.86928	148.0841		
		0.86928	148.0351		
		0.86928	147.9566		
		0.86762	148.0341		
		0.86762	148.0341		
		0.86762	148.0046		
		0.86596	148.1213		
		0.86596	148.0821		
		0.86596	148.0821		
		0.8643	148.2379		
		0.8643	148.1987		
		0.8643	148.1399		
		0.86264	148.2173		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.86264	148.0898		
		0.86264	148.0211		
		0.86098	148.0495		
		0.86098	147.9417		
		0.86098	147.7848		
		0.85932	147.7151		
		0.85932	147.362		
		0.85932	147.2345		
		0.85766	147.2825		
		0.85766	147.1845		
		0.85766	147.0864		
		0.856	147.056		
		0.856	146.9873		
		0.856	146.9187		
		0.85434	147.0157		
		0.85434	146.9569		
		0.85434	146.9569		
		0.85268	147.0539		
		0.85268	146.9852		
		0.85268	146.9068		
		0.85102	146.9646		
		0.85102	146.8665		
		0.85102	146.8077		
		0.84936	146.8655		
		0.84936	146.7968		
		0.84936	146.6792		
		0.8477	146.7566		
		0.8477	146.6193		
		0.8477	146.4035		
		0.84604	146.3927		
		0.84604	146.3339		
		0.84604	146.275		
		0.84438	146.3721		
		0.84438	146.3328		
		0.84438	146.3328		
		0.84438	146.3328		
		0.84272	146.4495		
		0.84272	146.4103		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.84106	146.5171		
		0.84106	146.5171		
		0.84106	146.5171		
		0.84106	146.419		
		0.8394	146.5161		
		0.8394	146.5161		
		0.8394	146.5161		
		0.83774	146.6719		
		0.83774	146.6719		
		0.83608	146.8278		
		0.83608	146.8278		
		0.83608	146.8278		
		0.83608	146.8278		
		0.83442	146.9837		
		0.83442	147.0229		
		0.83442	147.0621		
		0.83276	147.2572		
		0.83276	147.2572		
		0.83276	147.2572		
		0.8311	147.4131		
		0.8311	147.2856		
		0.8311	147.1974		
		0.82944	147.3532		
		0.82944	147.2846		
		0.82944	147.1767		
		0.82778	147.2934		
		0.82778	147.2149		
		0.82778	147.1561		
		0.82612	147.155		
		0.82612	147.057		
		0.82612	146.9981		
		0.82446	147.0363		
		0.82446	146.9579		
		0.82446	146.8206		
		0.8228	146.7803		
		0.8228	146.4469		
		0.8228	146.3292		
		0.82114	146.3772		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.82114	146.2693		
		0.82114	146.083		
		0.81948	146.1702		
		0.81948	146.1016		
		0.81948	146.0329		
		0.81782	146.1888		
		0.81782	146.13		
		0.81782	146.0515		
		0.81616	146.1682		
		0.81616	146.0897		
		0.81616	145.9426		
		0.8145	145.9906		
		0.8145	145.922		
		0.8145	145.8239		
		0.81284	145.9209		
		0.81284	145.8425		
		0.81284	145.7934		
		0.81118	145.8807		
		0.81118	145.8022		
		0.81118	145.8022		
		0.80952	145.9091		
		0.80952	145.7816		
		0.80952	145.7816		
		0.80786	145.8884		
		0.80786	145.8198		
		0.80786	145.7413		
		0.8062	145.8972		
		0.8062	145.8383		
		0.8062	145.7697		
		0.8062	145.6912		
		0.80454	145.8471		
		0.80454	145.8471		
		0.80288	146.003		
		0.80288	146.003		
		0.80288	146.003		
		0.80288	146.003		
		0.80122	146.1589		
		0.80122	146.1589		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.79956	146.3442		
		0.79956	146.3932		
		0.79956	146.4226		
		0.79956	146.4226		
		0.7979	146.5393		
		0.7979	146.4804		
		0.7979	146.3922		
		0.79624	146.5088		
		0.79624	146.4206		
		0.79624	146.3519		
		0.79458	146.3607		
		0.79458	146.2528		
		0.79458	146.0959		
		0.79292	145.6438		
		0.79292	145.1632		
		0.79292	145.0259		
		0.79126	145.0543		
		0.79126	144.9464		
		0.79126	144.8386		
		0.7896	144.8866		
		0.7896	144.7787		
		0.7896	144.6806		
		0.78794	144.6404		
		0.78794	144.6404		
		0.78794	144.454		
		0.78628	144.5315		
		0.78628	144.453		
		0.78628	144.3648		
		0.78462	144.452		
		0.78462	144.3833		
		0.78462	144.3147		
		0.78296	144.4117		
		0.78296	144.3725		
		0.78296	144.3333		
		0.7813	144.4303		
		0.7813	144.4303		
		0.7813	144.3813		
		0.77964	144.4685		

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	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.77964	144.3802		
		0.77964	144.3802		
		0.77798	144.4773		
		0.77798	144.389		
		0.77798	144.2811		
		0.77632	144.3487		
		0.77632	144.3095		
		0.77632	144.2605		
		0.77466	144.3477		
		0.77466	144.3477		
		0.77466	144.3085		
		0.773	144.4153		
		0.773	144.3565		
		0.773	144.3565		
		0.77134	144.5124		
		0.77134	144.4731		
		0.77134	144.4241		
		0.76968	144.5309		
		0.76968	144.5309		
		0.76968	144.5309		
		0.76802	144.6868		
		0.76802	144.6378		
		0.76802	144.5887		
		0.76636	144.6858		
		0.76636	144.6858		
		0.76636	144.6858		
		0.76636	144.6858		
		0.7647	144.8417		
		0.7647	144.8417		
		0.7647	144.8417		
		0.76304	144.9681		
		0.76304	144.9191		
		0.76304	144.87		
		0.76138	145.0259		
		0.76138	144.9769		
		0.76138	144.9082		
		0.75972	144.966		
		0.75972	144.966		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.75972	144.8974		
		0.75806	144.9454		
		0.75806	144.8866		
		0.75806	144.7002		
		0.7564	144.7482		
		0.7564	144.5815		
		0.7564	144.3658		
		0.75474	144.2471		
		0.75474	143.8744		
		0.75474	143.7861		
		0.75308	143.8439		
		0.75308	143.7655		
		0.75308	143.6772		
		0.75142	143.7547		
		0.75142	143.5879		
		0.75142	143.4899		
		0.74976	143.5477		
		0.74976	143.4692		
		0.74976	143.381		
		0.7481	143.4682		
		0.7481	143.3995		
		0.7481	143.3309		
		0.74644	143.4868		
		0.74644	143.3887		
		0.74644	143.3299		
		0.74478	143.4857		
		0.74478	143.4465		
		0.74478	143.3975		
		0.74312	143.4945		
		0.74312	143.4945		
		0.74312	143.4553		
		0.74146	143.5621		
		0.74146	143.5033		
		0.74146	143.5033		
		0.7398	143.5611		
		0.7398	143.4924		
		0.7398	143.4924		
		0.73814	143.5895		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.73814	143.511		
		0.73814	143.4718		
		0.73648	143.5394		
		0.73648	143.4806		
		0.73648	143.3531		
		0.73482	143.2736		
		0.73482	143.0677		
		0.73482	142.7244		
		0.73316	142.7528		
		0.73316	142.6351		
		0.73316	142.5174		
		0.7315	142.5753		
		0.7315	142.4772		
		0.7315	142.3987		
		0.7315	142.3399		
		0.72984	142.3879		
		0.72984	142.3487		
		0.72818	142.5045		
		0.72818	142.4653		
		0.72818	142.4065		
		0.72818	142.3476		
		0.72652	142.5035		
		0.72652	142.4643		
		0.72652	142.4054		
		0.72486	142.5025		
		0.72486	142.5025		
		0.72486	142.4534		
		0.7232	142.5505		
		0.7232	142.4916		
		0.7232	142.4916		
		0.72154	142.6475		
		0.72154	142.5985		
		0.72154	142.5298		
		0.71988	142.6073		
		0.71988	142.5582		
		0.71988	142.4994		
		0.71822	142.5964		
		0.71822	142.5964		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.71822	142.5964		
		0.71656	142.7523		
		0.71656	142.7523		
		0.71656	142.7523		
		0.7149	142.9082		
		0.7149	142.9082		
		0.7149	142.9082		
		0.71324	143.064		
		0.71324	143.064		
		0.71324	143.064		
		0.71158	143.2199		
		0.71158	143.1807		
		0.71158	143.1316		
		0.70992	143.2189		
		0.70992	143.2189		
		0.70992	143.0718		
		0.70826	143.1884		
		0.70826	143.0904		
		0.70826	143.0119		
		0.7066	143.0403		
		0.7066	142.952		
		0.7066	142.8442		
		0.70494	142.8431		
		0.70494	142.5293		
		0.70494	142.5293		
		0.70328	142.5381		
		0.70328	142.5381		
		0.70328	142.5381		
		0.70162	142.6547		
		0.70162	142.5959		
		0.70162	142.537		
		0.69996	142.6537		
		0.69996	142.5752		
		0.69996	142.5066		
		0.6983	142.4663		
		0.6983	142.329		
		0.6983	142.1231		
		0.69664	142.2005		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.69664	142.1221		
		0.69664	142.0534		
		0.69498	142.121		
		0.69498	142.0328		
		0.69498	141.9445		
		0.69498	141.8464		
		0.69332	141.8944		
		0.69332	141.6885		
		0.69166	141.7365		
		0.69166	141.6188		
		0.69166	141.5011		
		0.69166	141.3835		
		0.69	141.4118		
		0.69	141.2844		
		0.69	141.1471		
		0.68834	141.1853		
		0.68834	140.9303		
		0.68834	140.8224		
		0.68668	140.8802		
		0.68668	140.8018		
		0.68668	140.7135		
		0.68502	140.8105		
		0.68502	140.7223		
		0.68502	140.6438		
		0.68336	140.7114		
		0.68336	140.5938		
		0.68336	140.4663		
		0.6817	140.3083		
		0.6817	140.1318		
		0.6817	139.9357		
		0.68004	139.9052		
		0.68004	139.7189		
		0.68004	139.5522		
		0.67838	139.5512		
		0.67838	139.2864		
		0.67838	139.1785		
		0.67672	139.2363		
		0.67672	139.1578		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.67672	139.099		
		0.67506	139.1862		
		0.67506	139.1274		
		0.67506	139.1274		
		0.6734	139.2342		
		0.6734	139.1166		
		0.6734	139.1166		
		0.67174	139.2724		
		0.67174	139.2234		
		0.67174	139.1646		
		0.67008	139.2714		
		0.67008	139.2714		
		0.67008	139.2714		
		0.66842	139.4273		
		0.66842	139.3782		
		0.66842	139.3194		
		0.66676	139.4066		
		0.66676	139.3478		
		0.66676	139.2595		
		0.6651	139.3566		
		0.6651	139.2585		
		0.6651	139.1898		
		0.66344	139.228		
		0.66344	139.1398		
		0.66344	139.0417		
		0.66178	138.8838		
		0.66178	138.8543		
		0.66178	138.8543		
		0.66178	138.8543		
		0.66012	139.0102		
		0.66012	139.0102		
		0.65846	139.1661		
		0.65846	139.1661		
		0.65846	139.1661		
		0.65846	139.1661		
		0.6568	139.322		
		0.6568	139.322		
		0.6568	139.322		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.65514	139.4778		
		0.65514	139.4778		
		0.65514	139.4778		
		0.65348	139.6337		
		0.65348	139.6337		
		0.65348	139.6337		
		0.65182	139.7896		
		0.65182	139.7896		
		0.65016	139.9455		
		0.65016	139.9455		
		0.65016	139.9455		
		0.65016	139.9455		
		0.6485	140.1013		
		0.6485	140.1013		
		0.6485	140.1013		
		0.64684	140.2572		
		0.64684	140.2572		
		0.64684	140.2572		
		0.64518	140.4131		
		0.64518	140.3641		
		0.64518	140.315		
		0.64352	140.4219		
		0.64352	140.4219		
		0.64352	140.4219		
		0.64186	140.5287		
		0.64186	140.4601		
		0.64186	140.362		
		0.6402	140.459		
		0.6402	140.3511		
		0.6402	140.3021		
		0.63854	140.3599		
		0.63854	140.2913		
		0.63854	140.1736		
		0.63688	140.251		
		0.63688	140.1333		
		0.63688	140.0745		
		0.63522	140.0833		
		0.63522	140.0048		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.63522	139.9264		
		0.63356	140.0822		
		0.63356	140.0822		
		0.63356	140.0822		
		0.6319	140.2381		
		0.6319	140.2381		
		0.6319	140.2381		
		0.63024	140.394		
		0.63024	140.394		
		0.63024	140.394		
		0.62858	140.5499		
		0.62858	140.5499		
		0.62858	140.5499		
		0.62692	140.7057		
		0.62692	140.7057		
		0.62692	140.6567		
		0.62526	140.7243		
		0.62526	140.587		
		0.62526	140.5184		
		0.6236	140.537		
		0.6236	140.4389		
		0.6236	140.3016		
		0.6236	140.1153		
		0.62194	140.075		
		0.62194	139.8789		
		0.62028	139.819		
		0.62028	139.819		
		0.62028	139.819		
		0.61862	139.9749		
		0.61862	139.9749		
		0.61862	139.9749		
		0.61696	140.1307		
		0.61696	140.1602		
		0.61696	140.1994		
		0.6153	140.3945		
		0.6153	140.3945		
		0.6153	140.3945		
		0.61364	140.5504		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.61364	140.5504		
		0.61364	140.5504		
		0.61198	140.6572		
		0.61198	140.5984		
		0.61198	140.5199		
		0.61198	140.5199		
		0.61032	140.5973		
		0.61032	140.5385		
		0.61032	140.5385		
		0.60866	140.6944		
		0.60866	140.6944		
		0.60866	140.6453		
		0.607	140.762		
		0.607	140.7031		
		0.607	140.7031		
		0.60534	140.859		
		0.60534	140.8198		
		0.60534	140.7315		
		0.60368	140.8874		
		0.60368	140.8874		
		0.60368	140.8874		
		0.60202	141.0433		
		0.60202	141.004		
		0.60202	140.955		
		0.60036	141.052		
		0.60036	141.052		
		0.60036	141.052		
		0.5987	141.1197		
		0.5987	141.051		
		0.5987	141.051		
		0.59704	141.148		
		0.59704	141.0696		
		0.59704	141.0304		
		0.59538	141.098		
		0.59538	141.0391		
		0.59538	140.9117		
		0.59372	140.8518		
		0.59372	140.6949		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.59372	140.5085		
		0.59206	140.4193		
		0.59206	140.3702		
		0.59206	140.3114		
		0.5904	140.4182		
		0.5904	140.3594		
		0.5904	140.3202		
		0.58874	140.4074		
		0.58874	140.2799		
		0.58874	140.2014		
		0.58708	140.2985		
		0.58708	140.2004		
		0.58708	140.1318		
		0.58542	140.1896		
		0.58542	140.1307		
		0.58542	140.0425		
		0.58376	140.1493		
		0.58376	140.0022		
		0.58376	140.0022		
		0.5821	140.109		
		0.5821	140.06		
		0.5821	140.011		
		0.58044	140.1669		
		0.58044	140.1669		
		0.58044	140.1669		
		0.57878	140.3227		
		0.57878	140.2933		
		0.57878	140.2443		
		0.57878	140.205		
		0.57712	140.3609		
		0.57712	140.3021		
		0.57712	140.2334		
		0.57546	140.2912		
		0.57546	140.2618		
		0.57546	140.1932		
		0.5738	140.251		
		0.5738	140.2019		
		0.5738	140.1137		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.57214	140.0832		
		0.57214	140.0146		
		0.57214	139.9067		
		0.57048	139.9841		
		0.57048	139.8763		
		0.57048	139.7978		
		0.56882	139.836		
		0.56882	139.6595		
		0.56882	139.532		
		0.56716	139.6388		
		0.56716	139.5996		
		0.56716	139.5996		
		0.5655	139.7555		
		0.5655	139.7555		
		0.5655	139.7555		
		0.56384	139.9506		
		0.56384	140.0192		
		0.56384	140.0781		
		0.56218	140.2339		
		0.56218	140.283		
		0.56218	140.3222		
		0.56052	140.4781		
		0.56052	140.4781		
		0.56052	140.4781		
		0.55886	140.634		
		0.55886	140.5751		
		0.55886	140.4869		
		0.5572	140.5937		
		0.5572	140.427		
		0.5572	140.2995		
		0.55554	140.3769		
		0.55554	140.2494		
		0.55554	140.0729		
		0.55388	140.013		
		0.55388	139.7188		
		0.55388	139.66		
		0.55222	139.7374		
		0.55222	139.6688		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.55222	139.5511		
		0.55056	139.6187		
		0.55056	139.5304		
		0.55056	139.3245		
		0.5489	139.3529		
		0.5489	139.2254		
		0.5489	139.0881		
		0.54724	139.0871		
		0.54724	138.9302		
		0.54724	138.5477		
		0.54558	138.478		
		0.54558	138.2329		
		0.54558	137.9583		
		0.54392	137.8101		
		0.54392	137.4963		
		0.54392	137.1531		
		0.54226	136.9657		
		0.54226	136.6323		
		0.54226	136.3087		
		0.54226	135.7497		
		0.5406	135.68		
		0.5406	135.4839		
		0.5406	135.3172		
		0.53894	135.3554		
		0.53894	135.2475		
		0.53894	135.1494		
		0.53728	135.217		
		0.53728	135.1386		
		0.53728	134.9621		
		0.53562	135.0395		
		0.53562	134.9512		
		0.53562	134.863		
		0.53396	134.9306		
		0.53396	134.8423		
		0.53396	134.7442		
		0.5323	134.8217		
		0.5323	134.7432		
		0.5323	134.6157		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.53064	134.7716		
		0.53064	134.6637		
		0.53064	134.6637		
		0.52898	134.8196		
		0.52898	134.8196		
		0.52898	134.7804		
		0.52732	134.8872		
		0.52732	134.8578		
		0.52732	134.8578		
		0.52566	135.0137		
		0.52566	135.0137		
		0.52566	135.0137		
		0.524	135.1205		
		0.524	135.0715		
		0.524	135.0028		
		0.52234	135.1587		
		0.52234	135.1195		
		0.52234	135.0704		
		0.52068	135.1577		
		0.52068	135.1577		
		0.52068	135.0694		
		0.51902	135.1566		
		0.51902	135.1566		
		0.51902	135.0978		
		0.51736	135.1654		
		0.51736	135.1262		
		0.51736	135.0281		
		0.5157	134.9878		
		0.5157	134.8898		
		0.5157	134.7329		
		0.51404	134.7024		
		0.51404	134.4376		
		0.51404	134.3886		
		0.51238	134.5053		
		0.51238	134.466		
		0.51238	134.4268		
		0.51072	134.5827		
		0.51072	134.5434		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.51072	134.4454		
		0.50906	134.6013		
		0.50906	134.5424		
		0.50906	134.4542		
		0.5074	134.5512		
		0.5074	134.4531		
		0.5074	134.3747		
		0.50574	134.3736		
		0.50574	134.0598		
		0.50574	133.8833		
		0.50408	133.5881		
		0.50408	133.3037		
		0.50408	133.0095		
		0.50408	132.6858		
		0.50242	132.4887		
		0.50242	132.1062		
		0.50076	131.8698		
		0.50076	131.4579		
		0.50076	131.0461		
		0.50076	130.644		
		0.4991	130.4272		
		0.4991	129.7604		
		0.4991	129.4956		
		0.49744	129.4161		
		0.49744	129.2396		
		0.49744	129.1023		
		0.49578	129.1699		
		0.49578	129.1209		
		0.49578	129.0816		
		0.49412	129.2375		
		0.49412	129.1983		
		0.49412	129.1689		
		0.49246	129.3247		
		0.49246	129.3247		
		0.49246	129.3247		
		0.4908	129.4806		
		0.4908	129.4806		
		0.4908	129.4806		

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	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.48914	129.5286		
		0.48914	129.4501		
		0.48914	129.4501		
		0.48748	129.5374		
		0.48748	129.4099		
		0.48748	129.3118		
		0.48582	129.301		
		0.48582	128.9774		
		0.48582	128.4968		
		0.48416	127.8878		
		0.48416	127.6132		
		0.48416	127.1425		
		0.4825	127.1022		
		0.4825	126.9355		
		0.4825	126.7982		
		0.48084	126.8266		
		0.48084	126.7285		
		0.48084	126.6206		
		0.47918	126.6785		
		0.47918	126.5706		
		0.47918	126.3744		
		0.47752	126.4323		
		0.47752	126.3342		
		0.47752	126.2361		
		0.47586	126.3037		
		0.47586	126.2057		
		0.47586	126.1076		
		0.4742	126.1752		
		0.4742	126.087		
		0.4742	126.0085		
		0.47254	126.0957		
		0.47254	125.9682		
		0.47254	125.8996		
		0.47088	126.026		
		0.47088	125.9672		
		0.47088	125.8789		
		0.46922	125.976		
		0.46922	125.8779		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.46922	125.7798		
		0.46756	125.7494		
		0.46756	125.3473		
		0.46756	124.8766		
		0.4659	124.7873		
		0.4659	124.5519		
		0.4659	124.3362		
		0.46424	124.2959		
		0.46424	124.1488		
		0.46424	124.041		
		0.46258	124.0988		
		0.46258	124.0988		
		0.46258	124.0988		
		0.46092	124.2546		
		0.46092	124.2939		
		0.46092	124.3527		
		0.45926	124.5772		
		0.45926	124.5772		
		0.45926	124.6263		
		0.45926	124.6753		
		0.4576	124.8802		
		0.4576	124.8802		
		0.4576	124.8802		
		0.45594	125.0361		
		0.45594	124.9969		
		0.45594	124.9478		
		0.45428	125.0449		
		0.45428	125.0449		
		0.45428	125.0449		
		0.45262	125.2007		
		0.45262	125.2007		
		0.45262	125.2007		
		0.45096	125.3566		
		0.45096	125.3566		
		0.45096	125.3566		
		0.4493	125.5125		
		0.4493	125.5125		
		0.4493	125.5125		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.44764	125.6683		
		0.44764	125.6389		
		0.44764	125.5801		
		0.44598	125.6673		
		0.44598	125.6183		
		0.44598	125.5496		
		0.44432	125.6074		
		0.44432	125.6074		
		0.44432	125.5682		
		0.44266	125.6751		
		0.44266	125.6064		
		0.44266	125.6064		
		0.441	125.7623		
		0.441	125.7623		
		0.441	125.7623		
		0.43934	125.8789		
		0.43934	125.8397		
		0.43934	125.7907		
		0.43768	125.9465		
		0.43768	125.9073		
		0.43768	125.8289		
		0.43602	125.9161		
		0.43602	125.7788		
		0.43602	125.4061		
		0.43436	125.1894		
		0.43436	124.699		
		0.43436	124.0518		
		0.4327	123.276		
		0.4327	123.021		
		0.4327	122.7857		
		0.43104	122.7356		
		0.43104	122.5591		
		0.43104	122.2159		
		0.42938	122.2246		
		0.42938	122.0677		
		0.42938	121.9206		
		0.42938	121.7833		
		0.42772	121.8117		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.42772	121.7235		
		0.42606	121.8009		
		0.42606	121.7519		
		0.42606	121.7224		
		0.42606	121.7224		
		0.4244	121.8783		
		0.4244	121.8783		
		0.4244	121.8783		
		0.42274	122.0342		
		0.42274	122.0342		
		0.42274	122.0342		
		0.42108	122.1901		
		0.42108	122.1901		
		0.42108	122.1901		
		0.41942	122.3459		
		0.41942	122.2577		
		0.41942	122.1792		
		0.41776	122.2664		
		0.41776	122.1586		
		0.41776	122.0801		
		0.4161	122.1281		
		0.4161	121.9712		
		0.4161	121.7849		
		0.41444	121.7544		
		0.41444	121.7544		
		0.41444	121.7544		
		0.41278	121.9103		
		0.41278	121.9103		
		0.41278	121.8809		
		0.41112	121.9779		
		0.41112	121.9093		
		0.41112	121.9093		
		0.40946	121.9965		
		0.40946	121.8984		
		0.40946	121.7611		
		0.4078	121.8582		
		0.4078	121.7699		
		0.4078	121.7111		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.40614	121.7983		
		0.40614	121.7296		
		0.40614	121.7296		
		0.40448	121.8855		
		0.40448	121.8855		
		0.40448	121.8855		
		0.40282	122.0414		
		0.40282	122.0414		
		0.40282	122.0414		
		0.40116	122.1973		
		0.40116	122.1973		
		0.40116	122.1973		
		0.3995	122.3531		
		0.3995	122.3531		
		0.3995	122.3139		
		0.39784	122.4208		
		0.39784	122.3521		
		0.39784	122.3031		
		0.39618	122.3707		
		0.39618	122.3315		
		0.39618	122.253		
		0.39618	122.204		
		0.39452	122.2814		
		0.39452	122.2422		
		0.39286	122.3392		
		0.39286	122.2706		
		0.39286	122.2706		
		0.39286	122.2706		
		0.3912	122.4264		
		0.3912	122.4264		
		0.3912	122.4264		
		0.38954	122.5431		
		0.38954	122.4744		
		0.38788	122.5322		
		0.38788	122.3851		
		0.38788	122.3165		
		0.38788	122.1792		
		0.38622	122.2272		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.38622	122.0605		
		0.38456	122.0202		
		0.38456	121.7652		
		0.38456	121.4122		
		0.38456	121.3141		
		0.3829	121.3719		
		0.3829	121.2837		
		0.3829	121.2052		
		0.38124	121.3219		
		0.38124	121.3219		
		0.38124	121.3219		
		0.37958	121.4778		
		0.37958	121.4778		
		0.37958	121.4778		
		0.37792	121.6827		
		0.37792	121.7611		
		0.37792	121.8396		
		0.37626	121.9954		
		0.37626	121.9954		
		0.37626	121.9954		
		0.3746	122.1513		
		0.3746	122.1513		
		0.3746	122.1513		
		0.37294	122.2582		
		0.37294	122.1797		
		0.37294	122.1209		
		0.37128	122.012		
		0.37128	122.012		
		0.37128	121.4824		
		0.36962	121.2068		
		0.36962	120.6086		
		0.36962	119.7063		
		0.36796	119.5974		
		0.36796	119.3817		
		0.36796	119.1758		
		0.3663	119.1747		
		0.3663	118.9296		
		0.3663	118.8217		

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	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.36464	118.8991		
		0.36464	118.8206		
		0.36464	118.7422		
		0.36298	118.8294		
		0.36298	118.751		
		0.36298	118.6627		
		0.36132	118.7303		
		0.36132	118.5146		
		0.36132	118.3871		
		0.35966	118.4057		
		0.35966	118.2488		
		0.35966	118.1017		
		0.358	118.1006		
		0.358	117.9633		
		0.358	117.826		
		0.35634	117.874		
		0.35634	117.7171		
		0.35634	117.7171		
		0.35468	117.7749		
		0.35468	117.7259		
		0.35468	117.6867		
		0.35302	117.8426		
		0.35302	117.7837		
		0.35302	117.7053		
		0.35136	117.8121		
		0.35136	117.714		
		0.35136	117.6356		
		0.35136	117.2433		
		0.3497	117.3011		
		0.3497	117.2129		
		0.3497	117.1442		
		0.34804	117.2609		
		0.34804	117.2609		
		0.34804	117.2609		
		0.34638	117.4167		
		0.34638	117.4167		
		0.34638	117.4167		
		0.34472	117.5726		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.34472	117.6118		
		0.34472	117.6707		
		0.34306	117.8756		
		0.34306	117.8756		
		0.34306	117.8756		
		0.3414	118.0315		
		0.3414	118.002		
		0.3414	117.9432		
		0.33974	117.9716		
		0.33974	117.8833		
		0.33974	117.8049		
		0.33808	117.8431		
		0.33808	117.6469		
		0.33808	117.392		
		0.33642	117.1654		
		0.33642	117.0575		
		0.33642	116.9398		
		0.33476	116.8603		
		0.33476	116.7426		
		0.33476	116.6152		
		0.3331	116.6533		
		0.3331	116.5357		
		0.3331	116.4376		
		0.33144	116.4954		
		0.33144	116.417		
		0.33144	116.3581		
		0.32978	116.4551		
		0.32978	116.4061		
		0.32978	116.4061		
		0.32812	116.562		
		0.32812	116.562		
		0.32812	116.562		
		0.32646	116.7179		
		0.32646	116.7179		
		0.32646	116.7179		
		0.3248	116.913		
		0.3248	116.962		
		0.3248	117.011		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.32314	117.1669		
		0.32314	117.1669		
		0.32314	117.1669		
		0.32148	117.2737		
		0.32148	117.2149		
		0.32148	117.1168		
		0.31982	117.2433		
		0.31982	117.1648		
		0.31982	117.106		
		0.31816	117.0952		
		0.31816	116.9775		
		0.31816	116.9186		
		0.3165	116.9764		
		0.3165	116.9274		
		0.3165	116.8686		
		0.31484	116.946		
		0.31484	116.946		
		0.31484	116.946		
		0.31318	117.1019		
		0.31318	117.0528		
		0.31318	117.0136		
		0.31318	116.945		
		0.31152	117.1008		
		0.31152	117.0714		
		0.30986	117.1684		
		0.30986	117.0802		
		0.30986	117.041		
		0.30986	116.9723		
		0.3082	116.9811		
		0.3082	116.883		
		0.3082	116.834		
		0.30654	116.9016		
		0.30654	116.8526		
		0.30654	116.7937		
		0.30488	116.8711		
		0.30488	116.8711		
		0.30488	116.8711		
		0.30322	117.027		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.30322	117.027		
		0.30322	117.027		
		0.30156	117.1829		
		0.30156	117.1437		
		0.30156	117.0946		
		0.2999	117.1819		
		0.2999	117.1819		
		0.2999	117.1328		
		0.29824	117.2102		
		0.29824	117.0828		
		0.29824	117.0141		
		0.29658	117.0817		
		0.29658	117.0817		
		0.29658	117.0131		
		0.29492	117.0905		
		0.29492	117.0905		
		0.29492	117.0317		
		0.29326	117.1091		
		0.29326	117.0699		
		0.29326	117.0012		
		0.2916	117.0198		
		0.2916	116.9511		
		0.2916	116.8531		
		0.28994	117.0089		
		0.28994	116.9697		
		0.28994	116.9011		
		0.28828	116.9981		
		0.28828	116.9981		
		0.28828	116.9981		
		0.28662	117.154		
		0.28662	117.154		
		0.28662	117.154		
		0.28496	117.3099		
		0.28496	117.2804		
		0.28496	117.2314		
		0.2833	117.3284		
		0.2833	117.3284		
		0.2833	117.2794		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.28164	117.298		
		0.28164	117.298		
		0.28164	117.2489		
		0.27998	117.346		
		0.27998	117.2577		
		0.27998	117.2577		
		0.27832	117.3548		
		0.27832	117.2665		
		0.27832	117.2175		
		0.27666	117.2949		
		0.27666	117.236		
		0.27666	117.0595		
		0.27666	116.9516		
		0.275	117.0389		
		0.275	116.931		
		0.275	116.8624		
		0.27334	116.9202		
		0.27334	116.8809		
		0.27168	116.9878		
		0.27168	116.9387		
		0.27168	116.9387		
		0.27168	116.9387		
		0.27002	117.0946		
		0.27002	117.0946		
		0.26836	117.2505		
		0.26836	117.2505		
		0.26836	117.2505		
		0.26836	117.2505		
		0.2667	117.3671		
		0.2667	117.2985		
		0.2667	117.1612		
		0.26504	117.219		
		0.26504	117.1405		
		0.26504	117.0229		
		0.26338	117.0022		
		0.26338	116.7767		
		0.26338	116.5021		
		0.26172	116.2853		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.26172	116.2167		
		0.26172	116.148		
		0.26006	116.196		
		0.26006	116.196		
		0.26006	116.196		
		0.2584	116.3225		
		0.2584	116.2734		
		0.2584	116.2244		
		0.25674	116.3803		
		0.25674	116.3803		
		0.25674	116.3312		
		0.25508	116.4479		
		0.25508	116.3988		
		0.25508	116.3988		
		0.25342	116.5547		
		0.25342	116.5547		
		0.25342	116.5547		
		0.25176	116.7106		
		0.25176	116.7106		
		0.25176	116.7106		
		0.2501	116.8665		
		0.2501	116.7782		
		0.2501	116.7194		
		0.24844	116.8752		
		0.24844	116.8164		
		0.24844	116.7183		
		0.24678	116.8154		
		0.24678	116.7075		
		0.24678	116.629		
		0.24512	116.677		
		0.24512	116.324		
		0.24512	116.069		
		0.24346	115.8817		
		0.24346	115.7444		
		0.24346	115.5875		
		0.2418	115.5472		
		0.2418	115.3118		
		0.2418	115.0569		

Data Appendix

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.24014	114.9185		
		0.24014	114.6243		
		0.24014	114.2909		
		0.23848	113.7407		
		0.23848	113.3484		
		0.23848	112.9464		
		0.23682	112.6904		
		0.23682	112.2785		
		0.23682	111.8666		
		0.23516	111.64		
		0.23516	111.2674		
		0.23516	110.9241		
		0.2335	110.5014		
		0.2335	110.2856		
		0.2335	110.0993		
		0.23184	110.1081		
		0.23184	109.9904		
		0.23184	109.8825		
		0.23018	109.9403		
		0.23018	109.8325		
		0.23018	109.6461		
		0.23018	109.5481		
		0.22852	109.5961		
		0.22852	109.498		
		0.22686	109.546		
		0.22686	109.4381		
		0.22686	109.3205		
		0.22686	109.193		
		0.2252	109.2312		
		0.2252	109.0939		
		0.2252	108.9762		
		0.22354	108.9359		
		0.22354	108.8771		
		0.22354	108.8281		
		0.22188	108.9447		
		0.22188	108.9447		
		0.22188	108.9447		
		0.22022	109.1006		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.22022	109.1006		
		0.22022	109.1006		
		0.21856	109.2565		
		0.21856	109.2565		
		0.21856	109.1388		
		0.2169	109.1966		
		0.2169	109.1672		
		0.2169	109.0887		
		0.21524	109.1759		
		0.21524	109.0583		
		0.21524	108.9798		
		0.21358	109.0082		
		0.21358	108.8513		
		0.21358	108.6159		
		0.21192	108.7326		
		0.21192	108.6933		
		0.21192	108.6443		
		0.21026	108.8002		
		0.21026	108.7413		
		0.21026	108.6629		
		0.2086	108.7795		
		0.2086	108.7011		
		0.2086	108.554		
		0.20694	108.6216		
		0.20694	108.5628		
		0.20694	108.4549		
		0.20528	108.5519		
		0.20528	108.4538		
		0.20528	108.4048		
		0.20362	108.4724		
		0.20362	108.4234		
		0.20362	108.2763		
		0.20196	108.4322		
		0.20196	108.4322		
		0.20196	108.3831		
		0.2003	108.4802		
		0.2003	108.4311		
		0.2003	108.4311		

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	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.19864	108.587		
		0.19864	108.5282		
		0.19864	108.3615		
		0.19698	108.4781		
		0.19698	108.3996		
		0.19698	108.331		
		0.19532	108.3692		
		0.19532	108.2809		
		0.19532	108.1534		
		0.19366	108.1426		
		0.19366	107.8778		
		0.19366	107.7994		
		0.19366	107.7111		
		0.192	107.7101		
		0.192	107.6316		
		0.192	107.5434		
		0.19034	107.611		
		0.19034	107.5129		
		0.19034	107.4148		
		0.18868	107.4726		
		0.18868	107.3648		
		0.18868	107.2569		
		0.18702	107.3049		
		0.18702	107.1088		
		0.18702	107.0401		
		0.18536	107.1372		
		0.18536	107.0881		
		0.18536	107.0881		
		0.1837	107.244		
		0.1837	107.2832		
		0.1837	107.3224		
		0.18204	107.5274		
		0.18204	107.5274		
		0.18204	107.5666		
		0.18038	107.8009		
		0.18038	107.8009		
		0.18038	107.8009		
		0.17872	107.8979		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.17872	107.8195		
		0.17872	107.7607		
		0.17706	107.8087		
		0.17706	107.7106		
		0.17706	107.2595		
		0.1754	106.974		
		0.1754	106.8269		
		0.1754	106.6798		
		0.17374	106.6886		
		0.17374	106.5709		
		0.17374	106.4631		
		0.17208	106.5209		
		0.17208	106.4326		
		0.17208	106.2463		
		0.17042	106.3139		
		0.17042	106.206		
		0.17042	106.0982		
		0.16876	106.1265		
		0.16876	106.0187		
		0.16876	105.8814		
		0.1671	105.9196		
		0.1671	105.7921		
		0.1671	105.6744		
		0.16544	105.7028		
		0.16544	105.4576		
		0.16544	105.3203		
		0.16378	105.3291		
		0.16378	105.1624		
		0.16378	104.9957		
		0.16212	104.9554		
		0.16212	104.7593		
		0.16212	104.5337		
		0.16046	104.2385		
		0.16046	104.0031		
		0.16046	103.758		
		0.1588	103.6491		
		0.1588	103.3549		
		0.1588	102.9528		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.1588	102.3546		
		0.15714	49.59348		
		0.15714	30.82346		
		0.15548	24.74227		
		0.15548	15.97508		
		0.15548	14.52416		
		0.15548	14.52416		
		0.15382	14.68004		
		0.15382	14.68004		
		0.15216	14.68004		
		0.15216	14.83591		
		0.15216	14.83591		
		0.1505	14.83591		
		0.1505	14.95256		
		0.1505	14.80546		
		0.14884	14.80546		
		0.14884	14.9123		
		0.14884	14.82404		
		0.14718	14.78481		
		0.14718	14.85243		
		0.14718	14.78378		
		0.14718	14.65629		
		0.14552	14.73371		
		0.14552	14.62584		
		0.14552	14.48854		
		0.14386	14.45809		
		0.14386	14.09524		
		0.14386	14.10505		
		0.1422	14.26092		
		0.1422	14.26092		
		0.1422	14.26092		
		0.14054	14.2315		
		0.14054	14.34815		
		0.14054	14.29912		
		0.13888	14.45499		
		0.13888	14.40596		
		0.13888	14.35692		
		0.13722	14.30789		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.13722	14.46376		
		0.13722	14.46376		
		0.13556	14.40492		
		0.13556	14.49215		
		0.13556	14.40389		
		0.1339	14.36466		
		0.1339	14.38324		
		0.1339	14.28518		
		0.13224	14.21653		
		0.13224	14.28414		
		0.13224	14.24492		
		0.13058	14.19588		
		0.13058	14.31253		
		0.13058	14.31253		
		0.12892	14.38118		
		0.12892	14.62531		
		0.12892	14.76261		
		0.12726	14.83125		
		0.12726	15.07539		
		0.12726	15.11461		
		0.1256	15.17345		
		0.1256	15.38817		
		0.1256	15.38817		
		0.12394	15.38817		
		0.12394	15.54404		
		0.12394	15.54404		
		0.12228	15.49501		
		0.12228	15.57243		
		0.12228	15.48417		
		0.12062	15.45475		
		0.12062	15.53217		
		0.12062	15.4243		
		0.11896	15.37526		
		0.11896	15.43307		
		0.11896	15.37423		
		0.1173	15.23694		
		0.1173	15.31436		
		0.1173	15.26532		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.11564	15.21629		
		0.11564	15.31332		
		0.11564	15.31332		
		0.11398	15.31332		
		0.11398	15.43978		
		0.11398	15.39074		
		0.11232	15.34171		
		0.11232	15.49758		
		0.11232	15.45836		
		0.11066	15.41913		
		0.11066	15.52597		
		0.11066	15.52597		
		0.11066	15.52597		
		0.109	15.68184		
		0.109	15.68184		
		0.109	15.68184		
		0.10734	15.83772		
		0.10734	15.83772		
		0.10734	15.83772		
		0.10568	15.96417		
		0.10568	15.92495		
		0.10568	15.87591		
		0.10402	15.87591		
		0.10402	16.03179		
		0.10402	15.98275		
		0.10236	15.9043		
		0.10236	15.97191		
		0.10236	15.90327		
		0.1007	15.96107		
		0.1007	15.90223		
		0.1007	15.79436		
		0.09904	15.71591		
		0.09904	15.76391		
		0.09738	15.57758		
		0.09738	15.33241		
		0.09738	15.16466		
		0.09738	14.488		
		0.09572	14.31148		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.09572	14.30064		
		0.09572	14.15354		
		0.09406	14.00644		
		0.09406	14.03483		
		0.09406	13.94657		
		0.0924	13.8485		
		0.0924	13.91611		
		0.0924	13.78863		
		0.09074	13.72979		
		0.09074	13.88566		
		0.09074	13.84643		
		0.08908	13.7974		
		0.08908	13.90424		
		0.08908	13.90424		
		0.08742	13.90424		
		0.08742	14.06011		
		0.08742	14.06011		
		0.08576	14.06011		
		0.08576	14.21599		
		0.08576	14.21599		
		0.0841	14.21599		
		0.0841	14.37186		
		0.0841	14.37186		
		0.08244	14.37186		
		0.08244	14.52774		
		0.08244	14.52774		
		0.08078	14.52774		
		0.08078	14.68361		
		0.08078	14.68361		
		0.07912	14.68361		
		0.07912	14.83948		
		0.07912	14.83948		
		0.07746	14.83948		
		0.07746	14.52416		
		0.07746	14.52416		
		0.0758	14.68004		
		0.0758	14.68004		
		0.0758	14.68004		

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	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.07414	14.83591		
		0.07414	14.83591		
		0.07414	14.83591		
		0.07248	14.95256		
		0.07248	14.80546		
		0.07248	14.80546		
		0.07082	14.9123		
		0.07082	14.82404		
		0.07082	14.78481		
		0.06916	14.85243		
		0.06916	14.78378		
		0.06916	14.65629		
		0.0675	14.73371		
		0.0675	14.62584		
		0.0675	14.48854		
		0.06584	14.45809		
		0.06584	14.09524		
		0.06584	14.10505		
		0.06418	14.26092		
		0.06418	14.26092		
		0.06418	14.26092		
		0.06418	14.2315		
		0.06252	14.34815		
		0.06252	14.29912		
		0.06086	14.45499		
		0.06086	14.40596		
		0.06086	14.35692		
		0.06086	14.30789		
		0.0592	14.46376		
		0.0592	14.46376		
		0.0592	14.40492		
		0.05754	14.49215		
		0.05754	14.40389		
		0.05754	14.36466		
		0.05588	14.38324		
		0.05588	14.28518		
		0.05588	14.21653		
		0.05422	14.28414		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.05422	14.24492		
		0.05422	14.19588		
		0.05256	14.31253		
		0.05256	14.31253		
		0.05256	14.38118		
		0.0509	14.62531		
		0.0509	14.76261		
		0.0509	14.83125		
		0.04924	15.07539		
		0.04924	15.11461		
		0.04924	15.17345		
		0.04758	15.38817		
		0.04758	15.38817		
		0.04758	15.38817		
		0.04592	15.54404		
		0.04592	15.54404		
		0.04592	15.49501		
		0.04426	15.57243		
		0.04426	15.48417		
		0.04426	15.45475		
		0.0426	15.53217		
		0.0426	15.4243		
		0.0426	15.37526		
		0.04094	15.43307		
		0.04094	15.37423		
		0.04094	15.23694		
		0.03928	15.31436		
		0.03928	15.26532		
		0.03928	15.21629		
		0.03762	15.31332		
		0.03762	15.31332		
		0.03762	15.31332		
		0.03596	15.43978		
		0.03596	15.39074		
		0.03596	15.34171		
		0.0343	15.49758		
		0.0343	15.45836		
		0.0343	15.41913		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.03264	15.52597		
		0.03264	15.52597		
		0.03264	15.52597		
		0.03098	15.68184		
		0.03098	15.68184		
		0.03098	15.68184		
		0.02932	15.83772		
		0.02932	15.83772		
		0.02932	15.83772		
		0.02766	15.96417		
		0.02766	15.92495		
		0.02766	15.87591		
		0.02766	15.87591		
		0.026	16.03179		
		0.026	15.98275		
		0.026	15.9043		
		0.02434	15.97191		
		0.02434	15.90327		
		0.02268	15.96107		
		0.02268	15.90223		
		0.02268	15.79436		
		0.02268	15.71591		
		0.02102	15.76391		
		0.02102	15.57758		
		0.02102	15.33241		
		0.01936	15.16466		
		0.01936	14.488		
		0.01936	14.31148		
		0.0177	14.30064		
		0.0177	14.15354		
		0.0177	14.00644		
		0.01604	14.03483		
		0.01604	13.94657		
		0.01604	13.8485		
		0.01438	13.91611		
		0.01438	13.78863		
		0.01438	13.72979		
		0.01272	13.88566		

	PVDF	Omniphobic without surfactant		Omniphobic with surfactant	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.01272	13.84643		
		0.01272	13.7974		
		0.01106	13.90424		
		0.01106	13.90424		
		0.01106	13.90424		
		0.0094	14.06011		
		0.0094	14.06011		
		0.0094	14.06011		
		0.00774	14.21599		
		0.00774	14.21599		
		0.00774	14.21599		
		0.00608	14.37186		
		0.00608	14.37186		
		0.00608	14.37186		
		0.00442	14.52774		
		0.00442	14.52774		
		0.00442	14.52774		
		0.00276	14.68361		
		0.00276	14.68361		
		0.00276	14.68361		
		0.0011	14.83948		
		0.0011	14.83948		
		0.0011	14.83948		

Figure 23

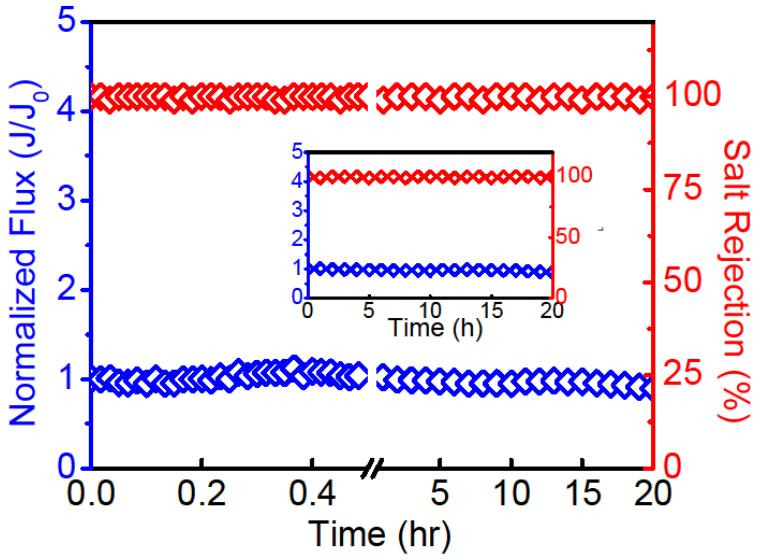

Figure 23. Normalized flux and salt rejection measured in DCMD experiments with omniphobic membrane and 1,000 ppm O/W solution with 100 ppm non-ionic surfactant Triton X-100.

Time (hr)	Normalized Water Flux	Salt Rejection Rate (%)
0	1	100
0.01667	0.99553	100
0.03333	1.01039	100
0.05	0.95838	100
0.06667	0.95838	100
0.08333	0.9881	100
0.1	0.94998	100
0.11667	1.00296	100
0.13333	0.95095	100
0.15	0.95095	100
0.16667	0.99553	100
0.18333	0.99553	100
0.2	1.00296	100
0.21667	0.9881	100
0.23333	1.03267	100
0.25	0.99951	100
0.26667	1.07725	100
0.28333	1.03267	100
0.3	1.06239	100
0.31667	1.06982	100

Data Appendix

Time (hr)	Normalized Water Flux	Salt Rejection Rate (%)
0.33333	1.06982	100
0.35	1.06982	100
0.36667	1.12183	100
0.38333	1.03267	100
0.4	1.08468	100
0.41667	1.07725	100
0.43333	1.06982	100
0.45	1.0401	100
0.46667	1.02525	100
0.48333	1.0401	100
0.5	1.00296	100
1	1.01977	100
2	0.99481	100
3	0.99061	100
4	0.98393	100
5	0.97108	100
6	0.96886	100
7	0.95255	100
8	0.95353	100
9	0.95329	100
10	0.94909	100
11	0.97504	100
12	0.97578	100
13	0.98023	100
14	0.9696	100
15	0.96886	100
16	0.95205	100
17	0.94439	100
18	0.93228	100
19	0.91498	100
20	0.89817	100

Figure 25 (C)

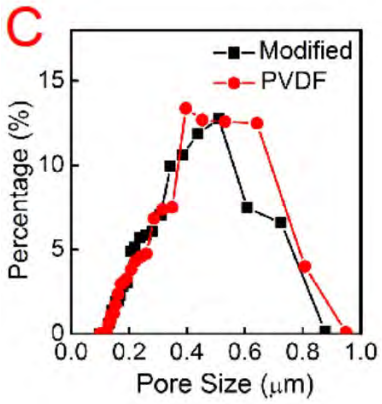

Figure 25.—SEM images featuring the morphology of (C). Pore size distributions of the pristine and modified PVDF membrane.

PVDF		Modified Membrane	
Pore Size (μm)	Portion (%)	Pore Size (μm)	Portion (%)
0.9486	0	0.8766	0
0.8067	0.1004	0.7249	0.1568
0.6409	3.997	0.6073	6.582
0.5306	12.49	0.5091	7.475
0.4525	12.59	0.4381	12.77
0.396	12.69	0.3843	11.85
0.3486	13.37	0.3428	10.64
0.3142	7.499	0.3083	9.969
0.2847	7.397	0.2785	7.074
0.2593	6.833	0.2572	6.065
0.2401	4.755	0.2364	5.872
0.2216	4.568	0.22	5.717
0.2066	4.322	0.205	5.141
0.1912	3.802	0.1922	4.884
0.1816	3.254	0.1775	3.014
0.1714	3.085	0.1696	2.82
0.1612	2.952	0.1617	2.302
0.1531	2.352	0.1529	1.958
0.1467	1.717	0.1457	1.911
0.1384	1.209	0.1389	1.38
0.1338	1.165	0.1328	1.376
0.1287	0.7716	0.1275	0.6783
0.1227	0.5276	0.1227	0.559
0.1182	0	0.1178	0.07853

PVDF		Modified Membrane	
Pore Size (μm)	Portion (%)	Pore Size (μm)	Portion (%)
0.1134	0	0.1135	0
0.1097	0	0.1088	0
0.1057	0	0.1049	0
0.1019	0	0.1004	0
0.09875	0	0.09805	0
0.09554	0	0.09484	0

Figure 27

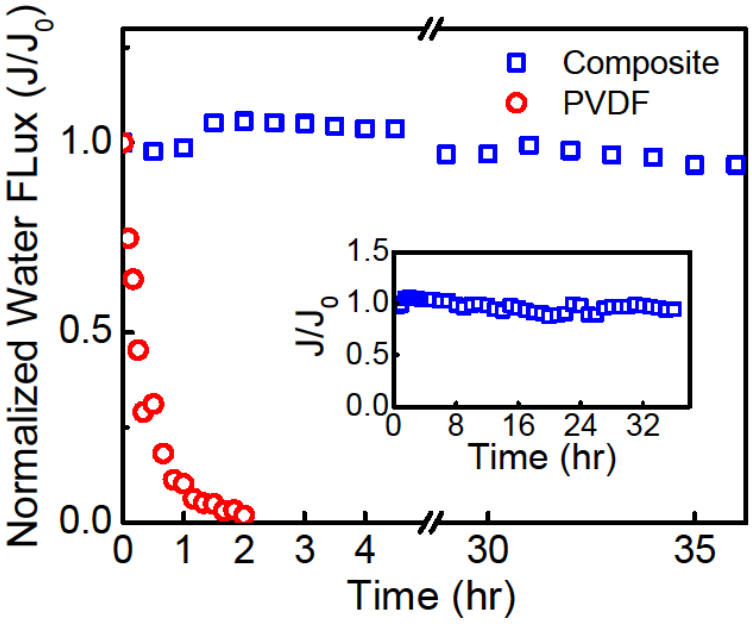

Figure 27.—Normalized water (vapor) flux for the fabricated composite membrane (solid squares) and pristine PVDF membrane (open circles) with feed solution containing 1,000 ppm (% wt) crude oil in the DCMD experiments.

	Composite membrane		PVDF Membrane	
Time (hr)	Normalized Flux	Salt Rejection Rate (%)	Normalized Flux	Salt Rejection Rate (%)
0	1	100	1	100
0.08333	--	100	0.74759	100
0.16667	--	100	0.63986	100
0.25	--	100	0.45343	100
0.33333	--	100	0.29037	100
0.5	0.97706	100	0.31169	100
0.66667	--	100	0.18152	100
0.83333	--	100	0.1124	100
1	0.98585	100	0.10142	100
1.16667	--	100	0.06234	100
1.33333	--	100	0.05039	100
1.5	1.05201	100	0.04845	100
1.66667	--	100	0.03036	100
1.83333	--	100	0.03198	100
2	1.05621	100	0.01809	100
2.5	1.05216	100		
3	1.0501	100		

Data Appendix

	Composite membrane		PVDF Membrane	
Time (hr)	Normalized Flux	Salt Rejection Rate (%)	Normalized Flux	Salt Rejection Rate (%)
3.5	1.04373	100		
4	1.03633	100		
4.5	1.03683	100		
5	1.03824	100		
6	1.02447	100		
7	1.02409	100		
8	0.98815	100		
9	0.96348	100		
10	0.987	100		
11	0.9956	100		
12	0.98222	100		
13	0.9457	100		
14	0.92868	100		
15	0.9805	100		
16	0.95564	100		
17	0.9369	100		
18	0.91472	100		
19	0.90593	100		
20	0.87954	100		
21	0.88614	100		
22	0.90402	100		
23	0.9956	100		
24	0.98222	100		
25	0.89579	100		
26	0.89226	100		
27	0.95258	100		
28	0.96711	100		
29	0.96864	100		
30	0.96979	100		
31	0.99312	100		
32	0.97859	100		
33	0.96788	100		
34	0.96061	100		
35	0.94111	100		
36	0.94149	100		

Figure 28(A)

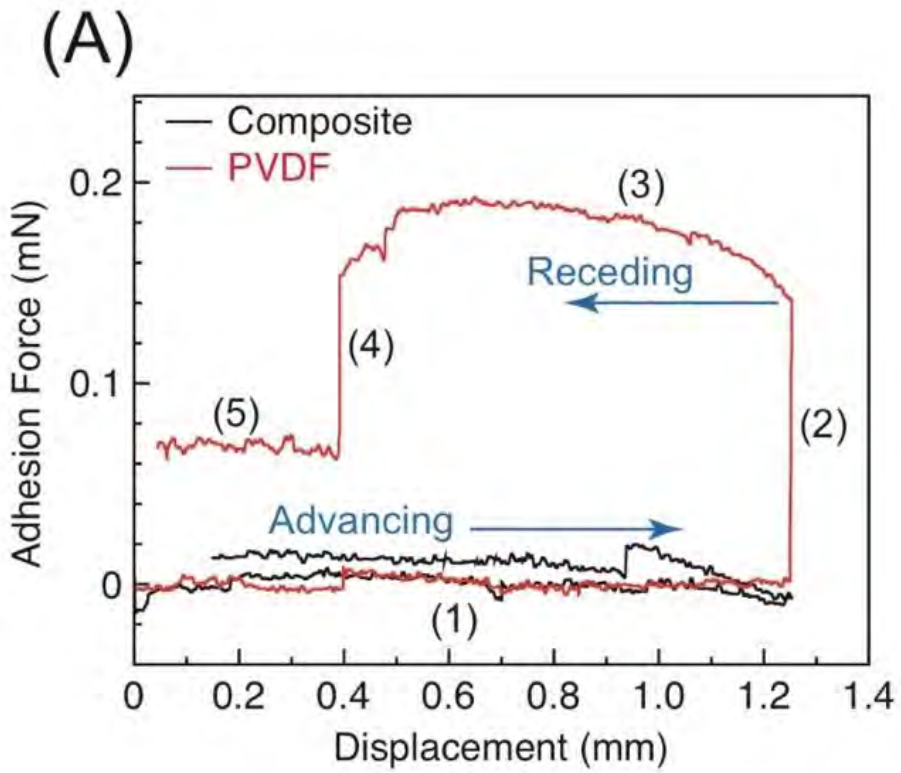

Figure 28.—(A) Force–displacement curves (or force curves) recorded in experiments where a mineral oil droplet interacted with the composite membrane (black curve) and the pristine PVDF membrane (red curve) underwater.

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0	0	0	0.010001359
0	0	0	0.006726694
0.00166	-0.00889	0.00166	0.000745381
0.00166	-0.01037	0.00166	0.000754271
0.00166	-0.01209	0.00166	0.001930302
0.00332	-0.0142	0.00332	0.002213923
0.00332	-0.01424	0.00332	0.002723098
0.00332	-0.01428	0.00332	0.002771359
0.00498	-0.01405	0.00498	0.002907879
0.00498	-0.01355	0.00498	0.002828653
0.00498	-0.01321	0.00498	0.002759232
0.00664	-0.01308	0.00664	0.002630972
0.00664	-0.01286	0.00664	0.002394838

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.00664	-0.01281	0.00664	0.002217544
0.0083	-0.01274	0.0083	0.002138318
0.0083	-0.01274	0.0083	0.002029671
0.0083	-0.01275	0.0083	0.002019091
0.00996	-0.01275	0.00996	0.001998704
0.00996	-0.01287	0.00996	0.002046965
0.00996	-0.01287	0.00996	0.002046191
0.01162	-0.0129	0.01162	0.002074838
0.01162	-0.01294	0.01162	0.002103485
0.01162	-0.01302	0.01162	0.002141939
0.01328	-0.01301	0.01328	0.002307879
0.01328	-0.01303	0.01328	0.002464013
0.01328	-0.01304	0.01328	0.002580921
0.01494	-0.01306	0.01494	0.002619374
0.01494	-0.01298	0.01494	0.002716668
0.01494	-0.01296	0.01494	0.002794348
0.0166	-0.01297	0.0166	0.002852415
0.0166	-0.01289	0.0166	0.002881062
0.0166	-0.01274	0.0166	0.002890096
0.01826	-0.01255	0.01826	0.002889323
0.01826	-0.01237	0.01826	0.002849323
0.01826	-0.0121	0.01826	0.002770096
0.01992	-0.01165	0.01992	0.002661449
0.01992	-0.01141	0.01992	0.002533189
0.01992	-0.01117	0.01992	0.002444155
0.02158	-0.01096	0.02158	0.002315895
0.02158	-0.01068	0.02158	0.002177828
0.02158	-0.01051	0.02158	0.001980921
0.02324	-0.0103	0.02324	0.001627106
0.02324	-0.01005	0.02324	0.001547879
0.02324	-0.00972	0.02324	0.001507879
0.0249	-0.00931	0.0249	0.001467879
0.0249	-0.00883	0.0249	0.001427879
0.0249	-0.0083	0.0249	0.001427106
0.02656	-0.00772	0.02656	0.00146556
0.02656	-0.00663	0.02656	-0.001523627
0.02656	-0.00655	0.02656	-0.00156208
0.02656	-0.00565	0.02656	-0.001659374
0.02822	-0.00526	0.02822	-0.001737055

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.02822	-0.00499	0.02822	-0.002108936
0.02988	-0.0048	0.02988	-0.00241217
0.02988	-0.00469	0.02988	-0.002431011
0.02988	-0.00461	0.02988	-0.002449851
0.02988	-0.00458	0.02988	-0.002449078
0.03154	-0.00464	0.03154	-0.002409078
0.03154	-0.00456	0.03154	-0.002369078
0.03154	-0.00448	0.03154	-0.002329078
0.0332	-0.00443	0.0332	-0.002289078
0.0332	-0.00439	0.0332	-0.002249078
0.0332	-0.00431	0.0332	-0.002248304
0.03486	-0.00423	0.03486	-0.002208304
0.03486	-0.00415	0.03486	-0.002217338
0.03486	-0.00407	0.03486	-0.002265598
0.03652	-0.00399	0.03652	-0.002284438
0.03652	-0.00391	0.03652	-0.002342505
0.03652	-0.00383	0.03652	-0.002371152
0.03818	-0.00375	0.03818	-0.00245864
0.03818	-0.00367	0.03818	-0.002497093
0.03818	-0.00359	0.03818	-0.00258458
0.03984	-0.00351	0.03984	-0.00254458
0.03984	-0.00343	0.03984	-0.00244574
0.03984	-0.00335	0.03984	-0.002268446
0.0415	-0.00327	0.0415	-0.002051926
0.0415	-0.00319	0.0415	-0.001707918
0.0415	-0.00311	0.0415	-0.001167776
0.04316	-0.00303	0.04316	-0.000970869
0.04316	-0.00295	0.04316	-0.000822995
0.04316	-0.00287	0.04316	-0.000724155
0.04482	-0.00279	0.04482	-0.000684155
0.04482	-0.00271	0.04482	-0.000644155
0.04482	-0.00263	0.04482	-0.000604155
0.04648	-0.00255	0.04648	-0.000564155
0.04648	-0.00251	0.04648	-0.000573189
0.04648	-0.00249	0.04648	-0.000611642
0.04814	-0.0025	0.04814	-0.000650096
0.04814	-0.00246	0.04814	-0.000610096
0.04814	-0.00248	0.04814	-0.000638743
0.0498	-0.00245	0.0498	-0.00078507

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.0498	-0.00247	0.0498	-0.000911784
0.0498	-0.00244	0.0498	-0.001116951
0.05146	-0.00246	0.05146	-0.001479026
0.05146	-0.00243	0.05146	-0.002105882
0.05146	-0.00243	0.05146	-0.002330663
0.05312	-0.0024	0.05312	-0.002526023
0.05312	-0.00248	0.05312	-0.002691964
0.05312	-0.00243	0.05312	-0.002828485
0.05478	-0.00242	0.05478	-0.002935585
0.05478	-0.00245	0.05478	-0.003111333
0.05478	-0.00243	0.05478	-0.003120366
0.05644	-0.00247	0.05644	-0.0031294
0.05644	-0.00249	0.05644	-0.0030894
0.05644	-0.00257	0.05644	-0.0030494
0.0581	-0.00271	0.0581	-0.0030094
0.0581	-0.00301	0.0581	-0.002920366
0.0581	-0.00299	0.0581	-0.002801913
0.05976	-0.00297	0.05976	-0.002703072
0.05976	-0.00294	0.05976	-0.002535585
0.05976	-0.00286	0.05976	-0.002230804
0.06142	-0.00284	0.06142	-0.002004477
0.06142	-0.00283	0.06142	-0.001689889
0.06142	-0.00283	0.06142	-0.001610663
0.06308	-0.00278	0.06308	-0.001570663
0.06308	-0.00276	0.06308	-0.001530663
0.06308	-0.00276	0.06308	-0.001539696
0.06308	-0.00268	0.06308	-0.00157815
0.06474	-0.00271	0.06474	-0.001616603
0.06474	-0.00267	0.06474	-0.001743317
0.06474	-0.00259	0.06474	-0.002203459
0.0664	-0.00246	0.0664	-0.002330173
0.0664	-0.00232	0.0664	-0.002456887
0.06806	-0.00217	0.06806	-0.002563987
0.06806	-0.00209	0.06806	-0.002690701
0.06806	-0.00201	0.06806	-0.002787995
0.06806	-0.00193	0.06806	-0.002885289
0.06972	-0.00185	0.06972	-0.002953162
0.06972	-0.00177	0.06972	-0.003021036
0.06972	-0.00169	0.06972	-0.00305949

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.07138	-0.00161	0.07138	-0.003068523
0.07138	-0.00158	0.07138	-0.003028523
0.07138	-0.00157	0.07138	-0.002988523
0.07304	-0.00158	0.07304	-0.002889683
0.07304	-0.0015	0.07304	-0.002751616
0.07304	-0.00147	0.07304	-0.002574322
0.0747	-0.00148	0.0747	-0.002269541
0.0747	-0.0015	0.0747	-0.001680366
0.0747	-0.00151	0.0747	-0.001375585
0.07636	-0.00143	0.07636	-0.001100224
0.07636	-0.00141	0.07636	-0.000707183
0.07636	-0.00142	0.07636	-0.00058873
0.07802	-0.00137	0.07802	-0.000499696
0.07802	-0.00136	0.07802	-0.000459696
0.07802	-0.00137	0.07802	-0.000419696
0.07968	-0.00134	0.07968	-0.000379696
0.07968	-0.00135	0.07968	-0.000339696
0.07968	-0.00142	0.07968	-0.000299696
0.08134	-0.00138	0.08134	-0.000259696
0.08134	-0.00135	0.08134	-0.000180469
0.08134	-0.00129	0.08134	-9.14358E-05
0.083	-0.00119	0.083	6.62446E-05
0.083	-0.00103	0.083	0.000204312
0.083	-0.00084	0.083	0.000293345
0.08466	-0.0007	0.08466	0.000411799
0.08466	-0.0005	0.08466	0.000491026
0.08466	-0.00024	0.08466	0.000599672
0.08632	-5.8E-05	0.08632	0.000718126
0.08632	-5.7E-05	0.08632	0.000758126
0.08632	-8.5E-05	0.08632	0.000847159
0.08798	-0.00019	0.08798	0.001044067
0.08798	-0.00033	0.08798	0.0011331
0.08798	-0.0005	0.08798	0.001290781
0.08964	-0.0007	0.08964	0.001448461
0.08964	-0.0009	0.08964	0.001753242
0.08964	-0.0011	0.08964	0.002205123
0.0913	-0.00128	0.0913	0.003010046
0.0913	-0.00144	0.0913	0.003373667
0.0913	-0.00175	0.0913	0.003727481

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.09296	-0.00182	0.09296	0.00421859
0.09296	-0.00187	0.09296	0.004366463
0.09296	-0.00189	0.09296	0.004435883
0.09462	-0.0019	0.09462	0.004475883
0.09462	-0.00189	0.09462	0.004457043
0.09462	-0.00186	0.09462	0.004369556
0.09628	-0.00183	0.09628	0.004272262
0.09628	-0.00179	0.09628	0.004037675
0.09628	-0.00177	0.09628	0.003538306
0.09628	-0.00178	0.09628	0.003333139
0.09794	-0.00175	0.09794	0.003167198
0.09794	-0.00176	0.09794	0.00290319
0.09794	-0.00176	0.09794	0.002845123
0.0996	-0.00182	0.0996	0.00280667
0.0996	-0.00204	0.0996	0.00278783
0.10126	-0.0021	0.10126	0.002798409
0.10126	-0.00215	0.10126	0.002838409
0.10126	-0.00237	0.10126	0.002878409
0.10126	-0.00242	0.10126	0.002918409
0.10292	-0.00248	0.10292	0.002958409
0.10292	-0.00255	0.10292	0.002998409
0.10292	-0.00263	0.10292	0.003038409
0.10458	-0.00271	0.10458	0.003078409
0.10458	-0.00282	0.10458	0.003118409
0.10458	-0.00296	0.10458	0.00318783
0.10624	-0.00311	0.10624	0.003276863
0.10624	-0.00328	0.10624	0.003375703
0.10624	-0.00346	0.10624	0.003415703
0.1079	-0.00361	0.1079	0.003455703
0.1079	-0.0039	0.1079	0.003495703
0.1079	-0.00395	0.1079	0.003535703
0.10956	-0.00394	0.10956	0.003516863
0.10956	-0.00386	0.10956	0.003448989
0.10956	-0.00378	0.10956	0.003400729
0.11122	-0.0037	0.11122	0.003293629
0.11122	-0.00358	0.11122	0.003088461
0.11122	-0.00344	0.11122	0.002736193
0.11288	-0.00327	0.11288	0.002266245
0.11288	-0.00306	0.11288	0.001629582

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.11288	-0.00293	0.11288	0.000728139
0.11454	-0.00278	0.11454	0.000562198
0.11454	-0.00264	0.11454	0.000435485
0.11454	-0.00256	0.11454	0.000328384
0.1162	-0.00248	0.1162	0.000329157
0.1162	-0.00243	0.1162	0.000369157
0.1162	-0.00235	0.1162	0.000409157
0.11786	-0.00227	0.11786	0.000449157
0.11786	-0.00215	0.11786	0.000489157
0.11786	-0.00198	0.11786	0.000529157
0.11952	-0.0018	0.11952	0.000569157
0.11952	-0.00154	0.11952	0.000609157
0.11952	-0.00115	0.11952	0.000600124
0.12118	-0.00065	0.12118	0.00059109
0.12118	1.29E-05	0.12118	0.000552637
0.12118	0.000171	0.12118	0.000543603
0.12284	0.000251	0.12284	0.000485536
0.12284	0.000282	0.12284	0.000466696
0.12284	0.000254	0.12284	0.000428242
0.1245	-0.00032	0.1245	0.000468242
0.1245	-0.00059	0.1245	0.000478822
0.1245	-0.00086	0.1245	0.000518822
0.12616	-0.00113	0.12616	0.000558822
0.12616	-0.0014	0.12616	0.000598822
0.12616	-0.00163	0.12616	0.000638822
0.12782	-0.00183	0.12782	0.000678822
0.12782	-0.002	0.12782	0.000718822
0.12782	-0.00229	0.12782	0.000758822
0.12948	-0.00236	0.12948	0.000798822
0.12948	-0.0024	0.12948	0.000838822
0.12948	-0.0024	0.12948	0.000878822
0.13114	-0.00239	0.13114	0.000850175
0.13114	-0.00236	0.13114	0.000694041
0.13114	-0.00231	0.13114	0.000586941
0.1328	-0.00223	0.1328	0.00039158
0.1328	-0.00215	0.1328	8.83455E-05
0.1328	-0.00207	0.1328	-0.000254116
0.13446	-0.00199	0.13446	-0.000616191
0.13446	-0.00191	0.13446	-0.000929232

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.13446	-0.00187	0.13446	-0.000771551
0.13446	-0.00179	0.13446	-0.000535417
0.13612	-0.00176	0.13612	-0.00025025
0.13612	-0.00176	0.13612	6.43378E-05
0.13612	-0.00173	0.13612	0.00066332
0.13778	-0.00175	0.13778	0.00093868
0.13778	-0.00174	0.13778	0.001165008
0.13778	-0.00202	0.13778	0.001352108
0.13944	-0.00226	0.13944	0.001490175
0.13944	-0.00228	0.13944	0.001598822
0.13944	-0.00226	0.13944	0.001707469
0.1411	-0.00223	0.1411	0.001816116
0.1411	-0.0022	0.1411	0.001944376
0.14276	-0.00212	0.14276	0.002170704
0.14276	-0.00204	0.14276	0.002318577
0.14276	-0.00196	0.14276	0.002574325
0.14276	-0.00184	0.14276	0.002692778
0.14442	-0.00172	0.14442	0.002762198
0.14442	-0.0016	0.14442	0.002802198
0.14442	-0.00152	0.14442	0.002842198
0.14608	-0.00144	0.14608	0.002882198
0.14608	-0.00136	0.14608	0.002873165
0.14608	-0.00133	0.14608	0.002824905
0.14774	-0.00132	0.14774	0.002707997
0.14774	-0.00134	0.14774	0.002689157
0.14774	-0.00131	0.14774	0.00266051
0.1494	-0.00132	0.1494	0.002651477
0.1494	-0.00132	0.1494	0.00276993
0.1494	-0.00153	0.1494	0.002937418
0.15106	-0.00166	0.15106	0.003085291
0.15106	-0.00186	0.15106	0.003301812
0.15106	-0.00184	0.15106	0.003596786
0.15272	-0.00179	0.15272	0.003666206
0.15272	-0.00171	0.15272	0.003657173
0.15272	-0.00167	0.15272	0.003510845
0.15438	-0.00163	0.15438	0.003393938
0.15438	-0.00155	0.15438	0.003002443
0.15438	-0.00153	0.15438	0.002738436
0.15604	-0.00154	0.15604	0.002445008

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.15604	-0.00151	0.15604	0.002131967
0.15604	-0.00152	0.15604	0.001828732
0.1577	-0.00155	0.1577	0.001525498
0.1577	-0.00165	0.1577	0.001222263
0.1577	-0.00186	0.1577	0.000615021
0.15936	-0.0019	0.15936	0.000341207
0.15936	-0.00192	0.15936	5.75854E-05
0.15936	-0.00192	0.15936	-0.000216229
0.16102	-0.00189	0.16102	-0.000480237
0.16102	-0.0019	0.16102	-0.000734438
0.16102	-0.00182	0.16102	-0.000969025
0.16268	-0.00178	0.16268	-0.001164386
0.16268	-0.00176	0.16268	-0.00132052
0.16268	-0.00175	0.16268	-0.001457041
0.16434	-0.00173	0.16434	-0.001417041
0.16434	-0.00175	0.16434	-0.001328007
0.16434	-0.00176	0.16434	-0.001180133
0.166	-0.00183	0.166	-0.000993033
0.166	-0.00219	0.166	-0.000649025
0.166	-0.00225	0.166	2.84102E-05
0.16766	-0.00233	0.16766	0.000382225
0.16766	-0.0024	0.16766	0.000677199
0.16766	-0.00248	0.16766	0.000913333
0.16766	-0.00257	0.16766	0.001071013
0.16932	-0.00265	0.16932	0.001081593
0.16932	-0.00273	0.16932	0.001033333
0.16932	-0.00282	0.16932	0.000896812
0.17098	-0.00291	0.17098	0.000779905
0.17098	-0.00299	0.17098	0.000682611
0.17098	-0.00322	0.17098	0.000575511
0.17264	-0.00326	0.17264	0.00049783
0.17264	-0.00329	0.17264	0.000429957
0.17264	-0.0033	0.17264	0.000362083
0.1743	-0.00328	0.1743	0.000264789
0.1743	-0.00326	0.1743	0.000236142
0.17596	-0.00323	0.17596	0.000236915
0.17596	-0.0032	0.17596	0.000276915
0.17596	-0.00312	0.17596	0.000316915
0.17596	-0.00304	0.17596	0.000356915

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.17762	-0.00296	0.17762	0.000426336
0.17762	-0.00288	0.17762	0.000534982
0.17762	-0.0028	0.17762	0.000673049
0.17928	-0.00272	0.17928	0.000811116
0.17928	-0.00268	0.17928	0.001066864
0.17928	-0.00263	0.17928	0.002205214
0.18094	-0.0026	0.18094	0.002578642
0.18094	-0.00252	0.18094	0.00292265
0.18094	-0.0025	0.18094	0.003247044
0.1826	-0.00251	0.1826	0.003532211
0.1826	-0.00243	0.1826	0.003768346
0.1826	-0.00184	0.1826	0.003926026
0.18426	0.000189	0.18426	0.004034673
0.18426	0.00073	0.18426	0.004074673
0.18426	0.001605	0.18426	0.003957766
0.18592	0.00194	0.18592	0.003870279
0.18592	0.002422	0.18592	0.003596464
0.18592	0.002482	0.18592	0.00344033
0.18758	0.002523	0.18758	0.00330381
0.18758	0.002515	0.18758	0.003177096
0.18758	0.002428	0.18758	0.003079802
0.18924	0.002429	0.18924	0.002992315
0.18924	0.002343	0.18924	0.002934248
0.18924	0.002344	0.18924	0.002905601
0.1909	0.002287	0.1909	0.002906374
0.1909	0.002289	0.1909	0.002946374
0.1909	0.002251	0.1909	0.002986374
0.19256	0.002194	0.19256	0.00297734
0.19256	0.002264	0.19256	0.002968307
0.19256	0.002295	0.19256	0.00296908
0.19422	0.002375	0.19422	0.002940433
0.19422	0.002415	0.19422	0.00287256
0.19422	0.002495	0.19422	0.002834106
0.19588	0.002575	0.19588	0.002746619
0.19588	0.002655	0.19588	0.002610098
0.19588	0.002735	0.19588	0.00228725
0.19754	0.002815	0.19754	0.00229783
0.19754	0.002895	0.19754	0.00233783
0.19754	0.002975	0.19754	0.00237783

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.19754	0.003055	0.19754	0.00241783
0.1992	0.003135	0.1992	0.002506864
0.1992	0.003215	0.1992	0.002635124
0.20086	0.003295	0.20086	0.002714351
0.20086	0.003375	0.20086	0.002832805
0.20086	0.003455	0.20086	0.002941451
0.20086	0.003535	0.20086	0.002981451
0.20252	0.003615	0.20252	0.002962611
0.20252	0.003695	0.20252	0.002914351
0.20252	0.003775	0.20252	0.002866091
0.20418	0.003855	0.20418	0.002709957
0.20418	0.003935	0.20418	0.002436142
0.20418	0.004015	0.20418	0.001897547
0.20584	0.004095	0.20584	0.001672766
0.20584	0.004175	0.20584	0.001438178
0.20584	0.004255	0.20584	0.000987843
0.2075	0.004335	0.2075	0.000802289
0.2075	0.004415	0.2075	0.000636349
0.20916	0.004495	0.20916	0.000460601
0.20916	0.004575	0.20916	0.000284854
0.20916	0.004655	0.20916	9.92997E-05
0.20916	0.004696	0.20916	-8.62544E-05
0.21082	0.004747	0.21082	-0.000271808
0.21082	0.004778	0.21082	-0.000437749
0.21082	0.004858	0.21082	-0.00060369
0.21248	0.004938	0.21248	-0.000877504
0.21248	0.005018	0.21248	-0.000837504
0.21248	0.005098	0.21248	-0.000983832
0.21414	0.005148	0.21414	-0.000992865
0.21414	0.005179	0.21414	-0.000952865
0.21414	0.005201	0.21414	-0.000912865
0.2158	0.005241	0.2158	-0.000872865
0.2158	0.005262	0.2158	-0.000832865
0.2158	0.005264	0.2158	-0.000743832
0.21746	0.005315	0.21746	-0.000566538
0.21746	0.005316	0.21746	-0.000526538
0.21746	0.005288	0.21746	-0.000437504
0.21912	0.005309	0.21912	-0.000328857
0.21912	0.005272	0.21912	-0.000230017

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.21912	0.005146	0.21912	-0.000190017
0.22078	0.00503	0.22078	-0.000150017
0.22078	0.004825	0.22078	-0.000110017
0.22078	0.004562	0.22078	-0.000128857
0.22244	0.00422	0.22244	-0.000226151
0.22244	0.003732	0.22244	-0.000284218
0.22244	0.003674	0.22244	-0.000322672
0.2241	0.003646	0.2241	-0.000410159
0.2241	0.003619	0.2241	-0.000448612
0.2241	0.003542	0.2241	-0.000545906
0.22576	0.003622	0.22576	-0.000682427
0.22576	0.003594	0.22576	-0.000887594
0.22576	0.003635	0.22576	-0.000945661
0.22742	0.003715	0.22742	-0.000984115
0.22742	0.003795	0.22742	-0.001051989
0.22742	0.003875	0.22742	-0.001100249
0.22908	0.003955	0.22908	-0.00126619
0.22908	0.004035	0.22908	-0.001324257
0.22908	0.004115	0.22908	-0.001352904
0.23074	0.004195	0.23074	-0.001381551
0.23074	0.004275	0.23074	-0.001400391
0.23074	0.004355	0.23074	-0.001360391
0.2324	0.004435	0.2324	-0.001320391
0.2324	0.004475	0.2324	-0.001280391
0.2324	0.004506	0.2324	-0.001279618
0.23406	0.004527	0.23406	-0.001386718
0.23406	0.004607	0.23406	-0.001395752
0.23406	0.004619	0.23406	-0.001453819
0.23406	0.00461	0.23406	-0.001521692
0.23572	0.004641	0.23572	-0.001648406
0.23572	0.004555	0.23572	-0.001843767
0.23572	0.004507	0.23572	-0.002176422
0.23738	0.004509	0.23738	-0.002244295
0.23738	0.004471	0.23738	-0.002272942
0.23904	0.004404	0.23904	-0.002321202
0.23904	0.004268	0.23904	-0.002281202
0.23904	0.004025	0.23904	-0.002241202
0.2407	0.003967	0.2407	-0.002201202
0.2407	0.0039	0.2407	-0.002161202

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.2407	0.003823	0.2407	-0.002121202
0.24236	0.003531	0.24236	-0.002081202
0.24236	0.003424	0.24236	-0.002041202
0.24236	0.003318	0.24236	-0.002040429
0.24236	0.003202	0.24236	-0.002137723
0.24402	0.003086	0.24402	-0.002097723
0.24402	0.002979	0.24402	-0.00209695
0.24568	0.002903	0.24568	-0.00211579
0.24568	0.002816	0.24568	-0.00213463
0.24568	0.002759	0.24568	-0.00209463
0.24568	0.002633	0.24568	-0.00205463
0.24734	0.002654	0.24734	-0.00201463
0.24734	0.002685	0.24734	-0.002023664
0.24734	0.002735	0.24734	-0.002052311
0.249	0.002815	0.249	-0.002090764
0.249	0.002895	0.249	-0.002119411
0.249	0.002975	0.249	-0.002187285
0.25066	0.003006	0.25066	-0.002196318
0.25066	0.003027	0.25066	-0.002264192
0.25066	0.003029	0.25066	-0.002302646
0.25232	0.00306	0.25232	-0.002370519
0.25232	0.002954	0.25232	-0.002458006
0.25232	0.002896	0.25232	-0.00258472
0.25398	0.00277	0.25398	-0.002740854
0.25398	0.002507	0.25398	-0.002749888
0.25398	0.002489	0.25398	-0.002798148
0.25564	0.002481	0.25564	-0.002797375
0.25564	0.002482	0.25564	-0.002757375
0.25564	0.002504	0.25564	-0.002756602
0.2573	0.002515	0.2573	-0.002755828
0.2573	0.002526	0.2573	-0.002755055
0.2573	0.002567	0.2573	-0.002715055
0.25896	0.00248	0.25896	-0.002675055
0.25896	0.002501	0.25896	-0.002586022
0.25896	0.002493	0.25896	-0.002487182
0.26062	0.002514	0.26062	-0.002358921
0.26062	0.002516	0.26062	-0.002279694
0.26062	0.002596	0.26062	-0.002161241
0.26228	0.002676	0.26228	-0.002062401

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.26228	0.002756	0.26228	-0.001894914
0.26228	0.002865	0.26228	-0.00177646
0.26394	0.003024	0.26394	-0.001638393
0.26394	0.003202	0.26394	-0.001500326
0.26394	0.003331	0.26394	-0.001421099
0.2656	0.003489	0.2656	-0.001469359
0.2656	0.003609	0.2656	-0.001586267
0.2656	0.003757	0.2656	-0.001909115
0.26726	0.003886	0.26726	-0.002094669
0.26726	0.003966	0.26726	-0.002299836
0.26726	0.003997	0.26726	-0.002505004
0.26892	0.003999	0.26892	-0.002710171
0.26892	0.003892	0.26892	-0.002895725
0.26892	0.003874	0.26892	-0.003061666
0.27058	0.003807	0.27058	-0.003198187
0.27058	0.003672	0.27058	-0.003315094
0.27058	0.003389	0.27058	-0.003461421
0.27224	0.003312	0.27224	-0.003470455
0.27224	0.003245	0.27224	-0.003430455
0.27224	0.003158	0.27224	-0.003390455
0.2739	0.003081	0.2739	-0.003350455
0.2739	0.002867	0.2739	-0.003261421
0.2739	0.002819	0.2739	-0.003162581
0.27556	0.002791	0.27556	-0.003034321
0.27556	0.002783	0.27556	-0.002955094
0.27556	0.002785	0.27556	-0.00274838
0.27556	0.002796	0.27556	-0.00264954
0.27722	0.002837	0.27722	-0.002491859
0.27722	0.002917	0.27722	-0.002343986
0.27888	0.002997	0.27888	-0.002117658
0.27888	0.003077	0.27888	-0.001754037
0.27888	0.003157	0.27888	-0.001576743
0.27888	0.003237	0.27888	-0.001419063
0.28054	0.003317	0.28054	-0.001290803
0.28054	0.003348	0.28054	-0.001201769
0.28054	0.003369	0.28054	-0.001161769
0.2822	0.003371	0.2822	-0.001121769
0.2822	0.003402	0.2822	-0.001081769
0.2822	0.003403	0.2822	-0.001110416

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.28386	0.003287	0.28386	-0.001168483
0.28386	0.003308	0.28386	-0.001187323
0.28386	0.00331	0.28386	-0.001255197
0.28552	0.00339	0.28552	-0.001323071
0.28552	0.00347	0.28552	-0.001704759
0.28552	0.003638	0.28552	-0.002145287
0.28718	0.003836	0.28718	-0.002340648
0.28718	0.004122	0.28718	-0.002536009
0.28718	0.004496	0.28718	-0.002731369
0.28884	0.005007	0.28884	-0.002907117
0.28884	0.005175	0.28884	-0.003053444
0.28884	0.005255	0.28884	-0.003160545
0.2905	0.005296	0.2905	-0.003297065
0.2905	0.005288	0.2905	-0.003257065
0.2905	0.00527	0.2905	-0.003217065
0.29216	0.005134	0.29216	-0.003177065
0.29216	0.004792	0.29216	-0.003068418
0.29216	0.004647	0.29216	-0.002940158
0.29382	0.004501	0.29382	-0.002841318
0.29382	0.004375	0.29382	-0.002683638
0.29382	0.004073	0.29382	-0.002565184
0.29548	0.004153	0.29548	-0.00241731
0.29548	0.00387	0.29548	-0.00225963
0.29548	0.003764	0.29548	-0.002258857
0.29714	0.003657	0.29714	-0.002277697
0.29714	0.003551	0.29714	-0.00231615
0.29714	0.003455	0.29714	-0.002354604
0.2988	0.003338	0.2988	-0.002520545
0.2988	0.003252	0.2988	-0.002617838
0.2988	0.003165	0.2988	-0.002695519
0.30046	0.003108	0.30046	-0.002773199
0.30046	0.003001	0.30046	-0.002841073
0.30046	0.003081	0.30046	-0.00295798
0.30212	0.003122	0.30212	-0.002967014
0.30212	0.003202	0.30212	-0.002966241
0.30212	0.003282	0.30212	-0.002926241
0.30378	0.003362	0.30378	-0.002886241
0.30378	0.003481	0.30378	-0.00284624
0.30378	0.00363	0.30378	-0.002806241

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.30544	0.003789	0.30544	-0.002727014
0.30544	0.003869	0.30544	-0.00263798
0.30544	0.003949	0.30544	-0.002548947
0.3071	0.004029	0.3071	-0.002508947
0.3071	0.004109	0.3071	-0.002468947
0.3071	0.004189	0.3071	-0.002428947
0.30876	0.004269	0.30876	-0.002388947
0.30876	0.00429	0.30876	-0.00239798
0.30876	0.004281	0.30876	-0.002436434
0.31042	0.004312	0.31042	-0.002445467
0.31042	0.004304	0.31042	-0.002503534
0.31042	0.004325	0.31042	-0.002551795
0.31208	0.004288	0.31208	-0.002658895
0.31208	0.004171	0.31208	-0.002864063
0.31208	0.004124	0.31208	-0.003510532
0.31374	0.004037	0.31374	-0.003480338
0.31374	0.003892	0.31374	-0.003410918
0.31374	0.003913	0.31374	-0.003312078
0.3154	0.003914	0.3154	-0.003174011
0.3154	0.003896	0.3154	-0.003006524
0.3154	0.003878	0.3154	-0.002613483
0.31706	0.003831	0.31706	-0.002338122
0.31706	0.003666	0.31706	-0.002043148
0.31706	0.003628	0.31706	-0.001542233
0.31706	0.00359	0.31706	-0.001315906
0.31872	0.003572	0.31872	-0.001138612
0.31872	0.003574	0.31872	-0.001029965
0.31872	0.003566	0.31872	-0.000989965
0.32038	0.003567	0.32038	-0.000949965
0.32038	0.003559	0.32038	-0.000949192
0.32038	0.003443	0.32038	-0.000997452
0.32204	0.003405	0.32204	-0.001055519
0.32204	0.003338	0.32204	-0.00122146
0.32204	0.003241	0.32204	-0.001612954
0.3237	0.003135	0.3237	-0.002024063
0.3237	0.003009	0.3237	-0.00219981
0.3237	0.002873	0.3237	-0.002375557
0.32536	0.002747	0.32536	-0.002521885
0.32536	0.002651	0.32536	-0.002668212

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.32536	0.002584	0.32536	-0.002814539
0.32702	0.002546	0.32702	-0.002970673
0.32702	0.002528	0.32702	-0.003126807
0.32702	0.002608	0.32702	-0.003292748
0.32868	0.002688	0.32868	-0.003448882
0.32868	0.002768	0.32868	-0.003752117
0.32868	0.002848	0.32868	-0.003859217
0.33034	0.002928	0.33034	-0.003936897
0.33034	0.003047	0.33034	-0.003985158
0.33034	0.003176	0.33034	-0.004013805
0.332	0.003286	0.332	-0.003973805
0.332	0.003366	0.332	-0.003933805
0.332	0.003446	0.332	-0.003893805
0.33366	0.003526	0.33366	-0.003853805
0.33366	0.003606	0.33366	-0.003813805
0.33366	0.003686	0.33366	-0.003724771
0.33532	0.003766	0.33532	-0.003518057
0.33532	0.003846	0.33532	-0.003478057
0.33532	0.003926	0.33532	-0.003379217
0.33698	0.004006	0.33698	-0.003260763
0.33698	0.004086	0.33698	-0.003181537
0.33698	0.004166	0.33698	-0.003063083
0.33864	0.004246	0.33864	-0.002934823
0.33864	0.004326	0.33864	-0.002894823
0.33864	0.004406	0.33864	-0.002805789
0.3403	0.004486	0.3403	-0.002657916
0.3403	0.004566	0.3403	-0.002617916
0.3403	0.004646	0.3403	-0.002577915
0.34196	0.004765	0.34196	-0.002586949
0.34196	0.004894	0.34196	-0.002625403
0.34196	0.005033	0.34196	-0.002663856
0.34362	0.005113	0.34362	-0.002623856
0.34362	0.005193	0.34362	-0.002623083
0.34362	0.005273	0.34362	-0.002632117
0.34528	0.005353	0.34528	-0.002631343
0.34528	0.005433	0.34528	-0.002591343
0.34528	0.005474	0.34528	-0.002512117
0.34694	0.005475	0.34694	-0.002423083
0.34694	0.005467	0.34694	-0.002324243

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.34694	0.005547	0.34694	-0.002284243
0.3486	0.005558	0.3486	-0.002244243
0.3486	0.00556	0.3486	-0.002204243
0.3486	0.005601	0.3486	-0.002164243
0.35026	0.005641	0.35026	-0.002124243
0.35026	0.005682	0.35026	-0.00224115
0.35026	0.005762	0.35026	-0.00220115
0.35026	0.005842	0.35026	-0.002318057
0.35192	0.005981	0.35192	-0.002356511
0.35192	0.00613	0.35192	-0.002424385
0.35192	0.006298	0.35192	-0.002531485
0.35358	0.006378	0.35358	-0.002638585
0.35358	0.006458	0.35358	-0.002745686
0.35358	0.006538	0.35358	-0.00281356
0.35524	0.006559	0.35524	-0.002724526
0.35524	0.006541	0.35524	-0.002557039
0.35524	0.006562	0.35524	-0.002458199
0.3569	0.006495	0.3569	-0.002418199
0.3569	0.006467	0.3569	-0.002378199
0.35856	0.006371	0.35856	-0.002338199
0.35856	0.005843	0.35856	-0.002298199
0.35856	0.005501	0.35856	-0.002258199
0.35856	0.005071	0.35856	-0.002257426
0.36022	0.004523	0.36022	-0.002276266
0.36022	0.004525	0.36022	-0.002314719
0.36022	0.004566	0.36022	-0.00233356
0.36188	0.004646	0.36188	-0.002372013
0.36188	0.004726	0.36188	-0.002332013
0.36188	0.004845	0.36188	-0.00233124
0.36354	0.005013	0.36354	-0.00235008
0.36354	0.005211	0.36354	-0.00236892
0.36354	0.006046	0.36354	-0.00232892
0.3652	0.00641	0.3652	-0.00228892
0.3652	0.006794	0.3652	-0.002297954
0.3652	0.007139	0.3652	-0.002306987
0.36686	0.007454	0.36686	-0.002335634
0.36686	0.007711	0.36686	-0.002295634
0.36686	0.007869	0.36686	-0.002255634
0.36852	0.00794	0.36852	-0.002215634

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.36852	0.007902	0.36852	-0.002175634
0.36852	0.007501	0.36852	-0.002086601
0.37018	0.007219	0.37018	-0.001987761
0.37018	0.006887	0.37018	-0.001869307
0.37018	0.006525	0.37018	-0.001829307
0.37184	0.006154	0.37184	-0.00175008
0.37184	0.005803	0.37184	-0.001670853
0.37184	0.005481	0.37184	-0.001630853
0.3735	0.005208	0.3735	-0.001590854
0.3735	0.004984	0.3735	-0.001550854
0.3735	0.004828	0.3735	-0.001559887
0.37516	0.004722	0.37516	-0.001608147
0.37516	0.004616	0.37516	-0.001626987
0.37516	0.004656	0.37516	-0.001704668
0.37682	0.004736	0.37682	-0.001762735
0.37682	0.004816	0.37682	-0.002075776
0.37682	0.004896	0.37682	-0.002359397
0.37848	0.005035	0.37848	-0.002711665
0.37848	0.005194	0.37848	-0.00319142
0.37848	0.005274	0.37848	-0.003239681
0.38014	0.005354	0.38014	-0.003258521
0.38014	0.005434	0.38014	-0.003218521
0.38014	0.005386	0.38014	-0.003178521
0.3818	0.005349	0.3818	-0.003138521
0.3818	0.005203	0.3818	-0.003029874
0.3818	0.00495	0.3818	-0.002872193
0.38346	0.004559	0.38346	-0.002567413
0.38346	0.003962	0.38346	-0.002292052
0.38346	0.003895	0.38346	-0.001879397
0.38512	0.003906	0.38512	-0.001760944
0.38512	0.003986	0.38512	-0.00167191
0.38512	0.004125	0.38512	-0.00163191
0.38678	0.004323	0.38678	-0.00159191
0.38678	0.00453	0.38678	-0.00161075
0.38678	0.004836	0.38678	-0.001668817
0.38844	0.005289	0.38844	-0.001923018
0.38844	0.005457	0.38844	-0.002245866
0.38844	0.005537	0.38844	-0.002352967
0.38844	0.005617	0.38844	-0.002460067

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.3901	0.005697	0.3901	-0.002518134
0.3901	0.005689	0.3901	-0.002566394
0.39176	0.005641	0.39176	-0.002585235
0.39176	0.004917	0.39176	-0.002594268
0.39176	0.004722	0.39176	-0.002583688
0.39176	0.004528	0.39176	-0.002543688
0.39342	0.004372	0.39342	-0.002503688
0.39342	0.004256	0.39342	-0.002463688
0.39342	0.004179	0.39342	-0.002423688
0.39508	0.004161	0.39508	-0.002383688
0.39508	0.004192	0.39508	-0.002343688
0.39508	0.004272	0.39508	-0.002303688
0.39674	0.004352	0.39674	-0.002263688
0.39674	0.004432	0.39674	-0.002223688
0.39674	0.004512	0.39674	-0.002183688
0.3984	0.004553	0.3984	-0.001702387
0.3984	0.004584	0.3984	0.008903009
0.3984	0.004576	0.3984	0.00906275
0.40006	0.004587	0.40006	0.001671332
0.40006	0.00453	0.40006	0.005290004
0.40006	0.004482	0.40006	0.005760726
0.40172	0.004298	0.40172	0.006388355
0.40172	0.003397	0.40172	0.006143187
0.40172	0.003261	0.40172	0.00595686
0.40338	0.003165	0.40338	0.005535172
0.40338	0.003078	0.40338	0.00515271
0.40338	0.003021	0.40338	0.005240971
0.40504	0.002993	0.40504	0.005437105
0.40504	0.003004	0.40504	0.005672465
0.40504	0.003045	0.40504	0.00607454
0.4067	0.003125	0.4067	0.006280481
0.4067	0.003205	0.4067	0.006682556
0.4067	0.003354	0.4067	0.006810043
0.40836	0.003522	0.40836	0.007094437
0.40836	0.003651	0.40836	0.007280764
0.40836	0.003809	0.40836	0.007270958
0.41002	0.003929	0.41002	0.007310184
0.41002	0.004067	0.41002	0.007270958
0.41002	0.004206	0.41002	0.007270958

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.41168	0.004286	0.41168	0.007231731
0.41168	0.004307	0.41168	0.007163084
0.41168	0.004289	0.41168	0.00708463
0.41334	0.004203	0.41334	0.00699637
0.41334	0.004204	0.41334	0.006859076
0.41334	0.004176	0.41334	0.006780623
0.415	0.004099	0.415	0.006525648
0.415	0.00413	0.415	0.006349128
0.415	0.004151	0.415	0.006172607
0.41666	0.004173	0.41666	0.00598628
0.41666	0.004184	0.41666	0.005809759
0.41666	0.004225	0.41666	0.005643045
0.41832	0.004236	0.41832	0.005486138
0.41832	0.004238	0.41832	0.005339038
0.41832	0.004278	0.41832	0.005221357
0.41998	0.004309	0.41998	0.005074257
0.41998	0.00435	0.41998	0.00503503
0.41998	0.00443	0.41998	0.00503503
0.42164	0.00451	0.42164	0.00503503
0.42164	0.004629	0.42164	0.00503503
0.42164	0.004758	0.42164	0.005084064
0.4233	0.004897	0.4233	0.005142904
0.4233	0.005026	0.4233	0.005231164
0.4233	0.005106	0.4233	0.005231164
0.42496	0.005294	0.42496	0.005270391
0.42496	0.005374	0.42496	0.005309618
0.42496	0.005454	0.42496	0.005309618
0.42496	0.005534	0.42496	0.005309618
0.42662	0.005575	0.42662	0.005270391
0.42662	0.005577	0.42662	0.005191937
0.42662	0.005568	0.42662	0.005133097
0.42828	0.005491	0.42828	0.00503503
0.42828	0.005267	0.42828	0.00497619
0.42828	0.004082	0.42828	0.004897736
0.42994	0.003858	0.42994	0.004897736
0.42994	0.003673	0.42994	0.00494677
0.42994	0.003518	0.42994	0.00506445
0.4316	0.003412	0.4316	0.005191937
0.4316	0.003325	0.4316	0.005407685

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.4316	0.003287	0.4316	0.005701886
0.43326	0.00326	0.43326	0.00607454
0.43326	0.003261	0.43326	0.006555068
0.43326	0.003194	0.43326	0.006594295
0.43492	0.003196	0.43492	0.006594295
0.43492	0.003177	0.43492	0.006319708
0.43492	0.003159	0.43492	0.006152994
0.43658	0.003151	0.43658	0.005966666
0.43658	0.003143	0.43658	0.005799953
0.43658	0.003154	0.43658	0.005662659
0.43824	0.003166	0.43824	0.005544978
0.43824	0.003187	0.43824	0.005476331
0.43824	0.003267	0.43824	0.005427298
0.4399	0.003308	0.4399	0.005388071
0.4399	0.003289	0.4399	0.005388071
0.4399	0.003369	0.4399	0.005437105
0.44156	0.003391	0.44156	0.005564592
0.44156	0.003392	0.44156	0.005564592
0.44156	0.003404	0.44156	0.005623432
0.44322	0.003356	0.44322	0.005711692
0.44322	0.003328	0.44322	0.005770532
0.44322	0.003222	0.44322	0.005858793
0.44488	0.002939	0.44488	0.00592744
0.44488	0.002852	0.44488	0.006035313
0.44488	0.002638	0.44488	0.00610396
0.44654	0.002581	0.44654	0.006280481
0.44654	0.002553	0.44654	0.006378548
0.44654	0.002535	0.44654	0.006437388
0.4482	0.002556	0.4482	0.006515842
0.4482	0.002587	0.4482	0.006564875
0.4482	0.002667	0.4482	0.006623715
0.44986	0.002747	0.44986	0.006702169
0.44986	0.002827	0.44986	0.006702169
0.44986	0.002956	0.44986	0.006751202
0.45152	0.003114	0.45152	0.006790429
0.45152	0.003391	0.45152	0.006839463
0.45152	0.003608	0.45152	0.006839463
0.45318	0.003933	0.45318	0.006839463
0.45318	0.004454	0.45318	0.006800236

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.45318	0.00476	0.45318	0.006751202
0.45484	0.005036	0.45484	0.006692362
0.45484	0.005312	0.45484	0.006692362
0.45484	0.005559	0.45484	0.006633522
0.4565	0.005874	0.4565	0.006555068
0.4565	0.005984	0.4565	0.006515842
0.4565	0.006064	0.4565	0.006378548
0.45816	0.006085	0.45816	0.006260867
0.45816	0.006067	0.45816	0.006172607
0.45816	0.006	0.45816	0.006035313
0.45816	0.005668	0.45816	0.005829373
0.45982	0.005463	0.45982	0.005466525
0.45982	0.00522	0.45982	0.005329231
0.45982	0.004633	0.45982	0.005191937
0.46148	0.004399	0.46148	0.00506445
0.46148	0.004195	0.46148	0.004927156
0.46148	0.00403	0.46148	0.004789863
0.46314	0.003904	0.46314	0.004505468
0.46314	0.003836	0.46314	0.004377981
0.46314	0.003809	0.46314	0.004260301
0.4648	0.00384	0.4648	0.004162234
0.4648	0.00388	0.4648	0.00408378
0.4648	0.00396	0.4648	0.00402494
0.46646	0.00404	0.46646	0.00399552
0.46646	0.004042	0.46646	0.00399552
0.46646	0.004122	0.46646	0.00399552
0.46812	0.004143	0.46812	0.004034747
0.46812	0.004135	0.46812	0.004103393
0.46812	0.004127	0.46812	0.004201461
0.46978	0.00405	0.46978	0.004240687
0.46978	0.003826	0.46978	0.004309334
0.46978	0.003749	0.46978	0.004397594
0.47144	0.003682	0.47144	0.004397594
0.47144	0.003458	0.47144	0.004397594
0.47144	0.003381	0.47144	0.004397594
0.4731	0.003314	0.4731	0.004397594
0.4731	0.003246	0.4731	0.004397594
0.4731	0.003189	0.4731	0.004368174
0.47476	0.003142	0.47476	0.004211267

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.47476	0.003104	0.47476	0.004162234
0.47476	0.003106	0.47476	0.00408378
0.47642	0.003117	0.47642	0.004034747
0.47642	0.003148	0.47642	0.003956293
0.47642	0.003228	0.47642	0.003917066
0.47808	0.003308	0.47808	0.003848419
0.47808	0.003437	0.47808	0.003779772
0.47808	0.003595	0.47808	0.003779772
0.47974	0.003744	0.47974	0.003818999
0.47974	0.003932	0.47974	0.003897453
0.47974	0.004081	0.47974	0.0039661
0.4814	0.004259	0.4814	0.004103393
0.4814	0.004339	0.4814	0.004201461
0.4814	0.004419	0.4814	0.004377981
0.48306	0.004459	0.48306	0.004593729
0.48306	0.004441	0.48306	0.004848703
0.48306	0.004413	0.48306	0.004838896
0.48472	0.004258	0.48472	0.004789863
0.48472	0.003995	0.48472	0.004711409
0.48472	0.003526	0.48472	0.004427015
0.48638	0.003419	0.48638	0.004289721
0.48638	0.003333	0.48638	0.004191654
0.48638	0.003285	0.48638	0.0041132
0.48804	0.003247	0.48804	0.00408378
0.48804	0.003229	0.48804	0.00408378
0.48804	0.003094	0.48804	0.0041132
0.4897	0.003066	0.4897	0.004181847
0.4897	0.003008	0.4897	0.004289721
0.4897	0.002961	0.4897	0.004554502
0.49136	0.002904	0.49136	0.00494677
0.49136	0.002846	0.49136	0.005142904
0.49136	0.002809	0.49136	0.005329231
0.49136	0.00281	0.49136	0.005476331
0.49302	0.002841	0.49302	0.005603819
0.49302	0.002921	0.49302	0.005682272
0.49302	0.00304	0.49302	0.005682272
0.49468	0.003179	0.49468	0.005682272
0.49468	0.003348	0.49468	0.005613625
0.49468	0.003486	0.49468	0.005505752

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.49634	0.003655	0.49634	0.005368458
0.49634	0.003784	0.49634	0.005133097
0.49634	0.003923	0.49634	0.004711409
0.498	0.004052	0.498	0.004554502
0.498	0.004083	0.498	0.004417208
0.498	0.003957	0.498	0.004299527
0.49966	0.003801	0.49966	0.004230881
0.49966	0.003401	0.49966	0.004162234
0.49966	0.003236	0.49966	0.004103393
0.50132	0.00308	0.50132	0.004005327
0.50132	0.002954	0.50132	0.004005327
0.50132	0.002848	0.50132	0.00393668
0.50298	0.002781	0.50298	0.003848419
0.50298	0.002714	0.50298	0.003789579
0.50298	0.002676	0.50298	0.003681705
0.50464	0.002678	0.50464	0.003603252
0.50464	0.002709	0.50464	0.003475765
0.50464	0.002789	0.50464	0.003250211
0.5063	0.002927	0.5063	0.003171757
0.5063	0.003105	0.5063	0.002995236
0.5063	0.003284	0.5063	0.002906976
0.50796	0.003569	0.50796	0.002799102
0.50796	0.004091	0.50796	0.002671615
0.50796	0.004406	0.50796	0.002553935
0.50962	0.004731	0.50962	0.002436254
0.50962	0.005204	0.50962	0.002347994
0.50962	0.005421	0.50962	0.002269541
0.51128	0.005579	0.51128	0.0022107
0.51128	0.005699	0.51128	0.002161667
0.51128	0.005779	0.51128	0.002161667
0.51294	0.005819	0.51294	0.002161667
0.51294	0.005811	0.51294	0.002161667
0.51294	0.005764	0.51294	0.002161667
0.5146	0.005589	0.5146	0.002161667
0.5146	0.005159	0.5146	0.002112633
0.5146	0.004974	0.5146	0.002053793
0.51626	0.004465	0.51626	0.001985146
0.51626	0.004251	0.51626	0.001985146
0.51626	0.004037	0.51626	0.001985146

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.51792	0.003833	0.51792	0.001985146
0.51792	0.003648	0.51792	0.001985146
0.51792	0.003463	0.51792	0.002053793
0.51958	0.003308	0.51958	0.002171474
0.51958	0.003182	0.51958	0.002269541
0.51958	0.003056	0.51958	0.002455868
0.52124	0.002783	0.52124	0.002750069
0.52124	0.002696	0.52124	0.003122724
0.52124	0.002629	0.52124	0.003622865
0.52124	0.002552	0.52124	0.004319141
0.5229	0.002485	0.5229	0.004603535
0.5229	0.002438	0.5229	0.004652569
0.52456	0.0024	0.52456	0.004652569
0.52456	0.002352	0.52456	0.004652569
0.52456	0.002334	0.52456	0.004603535
0.52456	0.002316	0.52456	0.004495661
0.52622	0.002308	0.52622	0.004387788
0.52622	0.00227	0.52622	0.004191654
0.52622	0.002311	0.52622	0.003789579
0.52788	0.002391	0.52788	0.003475765
0.52788	0.002471	0.52788	0.003358084
0.52788	0.002551	0.52788	0.003289437
0.52954	0.00267	0.52954	0.003230597
0.52954	0.002789	0.52954	0.003201177
0.52954	0.002869	0.52954	0.003201177
0.5312	0.002949	0.5312	0.003240404
0.5312	0.003029	0.5312	0.003279631
0.5312	0.003109	0.5312	0.003318858
0.53286	0.00314	0.53286	0.003318858
0.53286	0.003142	0.53286	0.003279631
0.53286	0.003183	0.53286	0.00313253
0.53452	0.003175	0.53452	0.003093303
0.53452	0.003196	0.53452	0.003024656
0.53452	0.003168	0.53452	0.002936396
0.53618	0.003189	0.53618	0.002936396
0.53618	0.003102	0.53618	0.002936396
0.53618	0.003084	0.53618	0.002995236
0.53784	0.003115	0.53784	0.00310311
0.53784	0.003117	0.53784	0.003220791

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.53784	0.003157	0.53784	0.003946486
0.5395	0.003188	0.5395	0.004760442
0.5395	0.003229	0.5395	0.00509387
0.5395	0.003309	0.5395	0.005378265
0.54116	0.003448	0.54116	0.005613625
0.54116	0.003606	0.54116	0.005750919
0.54116	0.003755	0.54116	0.005809759
0.54282	0.003992	0.54282	0.005780339
0.54282	0.004151	0.54282	0.005701886
0.54282	0.004231	0.54282	0.005594012
0.54448	0.004311	0.54448	0.005427298
0.54448	0.004391	0.54448	0.004721216
0.54448	0.004471	0.54448	0.004456435
0.54614	0.004551	0.54614	0.004211267
0.54614	0.004581	0.54614	0.004005327
0.54614	0.004573	0.54614	0.003848419
0.5478	0.004594	0.5478	0.003740546
0.5478	0.004498	0.5478	0.003691512
0.5478	0.00447	0.5478	0.003691512
0.54946	0.004511	0.54946	0.003691512
0.54946	0.004532	0.54946	0.003730739
0.54946	0.004553	0.54946	0.003789579
0.54946	0.004633	0.54946	0.003838613
0.55112	0.004713	0.55112	0.003838613
0.55112	0.004744	0.55112	0.003838613
0.55112	0.004746	0.55112	0.003809192
0.55278	0.004649	0.55278	0.003740546
0.55278	0.004621	0.55278	0.003642479
0.55278	0.004554	0.55278	0.003573832
0.55444	0.004438	0.55444	0.003436538
0.55444	0.004283	0.55444	0.003299244
0.55444	0.004363	0.55444	0.003054077
0.5561	0.004482	0.5561	0.002132247
0.5561	0.004601	0.5561	0.001955726
0.55776	0.00472	0.55776	0.001808626
0.55776	0.0048	0.55776	0.001681139
0.55776	0.004831	0.55776	0.001592878
0.55776	0.004803	0.55776	0.001534038
0.55942	0.004736	0.55942	0.001485005

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.55942	0.004502	0.55942	0.001455584
0.55942	0.003955	0.55942	0.001455584
0.56108	0.003741	0.56108	0.001416358
0.56108	0.003556	0.56108	0.001377131
0.56108	0.00343	0.56108	0.001318291
0.56274	0.003363	0.56274	0.001249644
0.56274	0.003325	0.56274	0.001249644
0.56274	0.003405	0.56274	0.001249644
0.5644	0.003485	0.5644	0.001249644
0.5644	0.003565	0.5644	0.001249644
0.5644	0.003645	0.5644	0.001249644
0.56606	0.003725	0.56606	0.001308484
0.56606	0.003805	0.56606	0.001396744
0.56606	0.003885	0.56606	0.001445778
0.56772	0.003906	0.56772	0.001534038
0.56772	0.003908	0.56772	0.001592878
0.56772	0.003801	0.56772	0.001690945
0.56938	0.003793	0.56938	0.001730172
0.56938	0.003697	0.56938	0.001779206
0.56938	0.003541	0.56938	0.001838046
0.57104	0.003288	0.57104	0.001838046
0.57104	0.002848	0.57104	0.001838046
0.57104	0.002771	0.57104	0.001838046
0.5727	0.002704	0.5727	0.001838046
0.5727	0.002666	0.5727	0.001877273
0.5727	0.002629	0.5727	0.001926306
0.57436	0.002709	0.57436	0.00200476
0.57436	0.002789	0.57436	0.002043986
0.57436	0.002937	0.57436	0.002142054
0.57602	0.003116	0.57602	0.002220507
0.57602	0.003284	0.57602	0.002347994
0.57602	0.00353	0.57602	0.00292659
0.57768	0.003934	0.57768	0.003475765
0.57768	0.004171	0.57768	0.003681705
0.57768	0.004486	0.57768	0.003887646
0.57934	0.004645	0.57934	0.004103393
0.57934	0.004774	0.57934	0.004289721
0.57934	0.004854	0.57934	0.004466241
0.581	0.004934	0.581	0.004632955

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.581	0.004955	0.581	0.004897736
0.581	0.004947	0.581	0.004995803
0.58266	0.004919	0.58266	0.005054643
0.58266	0.004764	0.58266	0.005103677
0.58266	0.004049	0.58266	0.005103677
0.58266	0.003835	0.58266	0.005103677
0.58432	0.003621	0.58432	0.005103677
0.58432	0.003416	0.58432	0.005025223
0.58432	0.003251	0.58432	0.004927156
0.58598	0.003096	0.58598	0.004740829
0.58598	0.00297	0.58598	0.004427015
0.58598	0.002883	0.58598	0.003514992
0.58764	0.002826	0.58764	0.003201177
0.58764	0.002788	0.58764	0.002916783
0.58764	0.00276	0.58764	0.002661809
0.5893	0.002674	0.5893	0.002446061
0.5893	0.002665	0.5893	0.002269541
0.59096	0.002628	0.59096	0.00215186
0.59096	0.00259	0.59096	0.002083213
0.59096	0.002533	0.59096	0.002043986
0.59096	0.002466	0.59096	0.002043986
0.59262	0.002359	0.59262	0.002102827
0.59262	0.002243	0.59262	0.002200894
0.59262	0.002098	0.59262	0.002269541
0.59428	0.001658	0.59428	0.002397028
0.59428	0.001463	0.59428	0.002495095
0.59428	0.001298	0.59428	0.002642195
0.59594	0.001153	0.59594	0.002838329
0.59594	0.001036	0.59594	0.002857943
0.59594	0.00095	0.59594	0.002857943
0.5976	0.000902	0.5976	0.002857943
0.5976	0.000884	0.5976	0.002818716
0.5976	0.000925	0.5976	0.002769682
0.59926	0.001005	0.59926	0.002720649
0.59926	0.001085	0.59926	0.002720649
0.59926	0.001224	0.59926	0.002671615
0.60092	0.001402	0.60092	0.002602968
0.60092	0.001541	0.60092	0.002524515
0.60092	0.001729	0.60092	0.002524515

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.60258	0.001877	0.60258	0.002465675
0.60258	0.002075	0.60258	0.002387221
0.60258	0.002224	0.60258	0.002347994
0.60424	0.002411	0.60424	0.002289154
0.60424	0.00255	0.60424	0.00224012
0.60424	0.002768	0.60424	0.00224012
0.6059	0.002808	0.6059	0.002279347
0.6059	0.00282	0.6059	0.002328381
0.6059	0.002782	0.6059	0.002397028
0.60756	0.002754	0.60756	0.002397028
0.60756	0.002628	0.60756	0.002455868
0.60756	0.002286	0.60756	0.002534321
0.60922	0.002151	0.60922	0.002573548
0.60922	0.002025	0.60922	0.002622582
0.60922	0.001909	0.60922	0.002671615
0.61088	0.001802	0.61088	0.002671615
0.61088	0.001549	0.61088	0.002671615
0.61088	0.001472	0.61088	0.002671615
0.61254	0.001415	0.61254	0.002671615
0.61254	0.001367	0.61254	0.002632388
0.61254	0.00131	0.61254	0.002573548
0.61254	0.001272	0.61254	0.002495095
0.6142	0.001254	0.6142	0.002387221
0.6142	0.001236	0.6142	0.002308767
0.61586	0.001238	0.61586	0.002191087
0.61586	0.00119	0.61586	0.001965533
0.61586	0.001211	0.61586	0.001671332
0.61586	0.001223	0.61586	0.001220224
0.61752	0.001244	0.61752	0.001102543
0.61752	0.001236	0.61752	0.000984863
0.61752	0.001208	0.61752	0.000896603
0.61918	0.000993	0.61918	0.000808342
0.61918	0.000887	0.61918	0.000808342
0.61918	0.000761	0.61918	0.000808342
0.62084	0.00041	0.62084	0.000847569
0.62084	0.000284	0.62084	0.000916216
0.62084	0.000168	0.62084	0.001014283
0.6225	7.11E-05	0.6225	0.00108293
0.6225	-5.8E-06	0.6225	0.001220224

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.6225	-6.3E-05	0.6225	0.001347711
0.62416	-9.1E-05	0.62416	0.001543845
0.62416	-8E-05	0.62416	0.002289154
0.62416	4.15E-07	0.62416	0.002289154
0.62582	8.04E-05	0.62582	0.002553935
0.62582	0.00016	0.62582	0.002652002
0.62582	0.00024	0.62582	0.002710842
0.62748	0.00032	0.62748	0.002750069
0.62748	0.0004	0.62748	0.002750069
0.62748	0.00048	0.62748	0.002750069
0.62914	0.00056	0.62914	0.002750069
0.62914	0.00064	0.62914	0.002710842
0.62914	0.00072	0.62914	0.002642195
0.6308	0.000751	0.6308	0.002524515
0.6308	0.000733	0.6308	0.002455868
0.6308	0.000745	0.6308	0.002357801
0.63246	0.000599	0.63246	0.002328381
0.63246	0.000581	0.63246	0.002259734
0.63246	0.000534	0.63246	0.002171474
0.63412	0.000555	0.63412	0.00212244
0.63412	0.000635	0.63412	0.002043986
0.63412	0.000774	0.63412	0.001985146
0.63578	0.000971	0.63578	0.001779206
0.63578	0.001198	0.63578	0.001671332
0.63578	0.001494	0.63578	0.001534038
0.63744	0.002045	0.63744	0.001377131
0.63744	0.002213	0.63744	0.001377131
0.63744	0.002391	0.63744	0.001377131
0.6391	0.00255	0.6391	0.001377131
0.6391	0.002728	0.6391	0.001426164
0.6391	0.002896	0.6391	0.001475198
0.64076	0.003074	0.64076	0.001514425
0.64076	0.003232	0.64076	0.001514425
0.64076	0.003381	0.64076	0.001514425
0.64242	0.003461	0.64242	0.001485005
0.64242	0.003541	0.64242	0.001426164
0.64242	0.003572	0.64242	0.001347711
0.64408	0.003407	0.64408	0.001298677
0.64408	0.003173	0.64408	0.001220224

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.64408	0.002557	0.64408	0.001161383
0.64408	0.002235	0.64408	0.001033896
0.64574	0.001903	0.64574	0.000945636
0.64574	0.0016	0.64574	0.000631822
0.64574	0.001347	0.64574	0.000376847
0.6474	0.001162	0.6474	0.000347427
0.6474	0.001056	0.6474	0.000386654
0.6474	0.000999	0.6474	0.000455301
0.64906	0.001079	0.64906	0.000563175
0.64906	0.001159	0.64906	0.000710275
0.64906	0.001288	0.64906	0.001122157
0.65072	0.001436	0.65072	0.001386938
0.65072	0.001595	0.65072	0.001641912
0.65072	0.001675	0.65072	0.002043986
0.65238	0.001755	0.65238	0.002043986
0.65238	0.001835	0.65238	0.002191087
0.65238	0.001915	0.65238	0.002191087
0.65404	0.001828	0.65404	0.002142054
0.65404	0.00182	0.65404	0.002043986
0.65404	0.001723	0.65404	0.001936113
0.6557	0.001558	0.6557	0.001700752
0.6557	0.001275	0.6557	0.001249644
0.6557	0.000816	0.6557	0.001043703
0.65736	0.000729	0.65736	0.000651435
0.65736	0.000662	0.65736	0.000651435
0.65736	0.000605	0.65736	0.000308201
0.65902	0.000577	0.65902	0.000151293
0.65902	0.00048	0.65902	1.39996E-05
0.65902	0.000501	0.65902	-0.000103681
0.66068	0.000532	0.66068	-0.000201748
0.66068	0.000573	0.66068	-0.000280201
0.66068	0.000653	0.66068	-0.000329235
0.66234	0.000733	0.66234	-0.000329235
0.66234	0.000813	0.66234	-0.000329235
0.66234	0.000893	0.66234	-0.000329235
0.664	0.001012	0.664	-0.000329235
0.664	0.001249	0.664	-0.000270395
0.664	0.001388	0.664	-0.000182134
0.66566	0.001566	0.66566	-0.000113488

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.66566	0.001705	0.66566	1.39996E-05
0.66566	0.001854	0.66566	0.00013168
0.66732	0.001993	0.66732	0.000337621
0.66732	0.002014	0.66732	0.000671048
0.66732	0.001947	0.66732	0.001632105
0.66898	0.00183	0.66898	0.001955726
0.66898	0.001057	0.66898	0.002269541
0.66898	0.000225	0.66898	0.002544128
0.67064	-0.00012	0.67064	0.002769682
0.67064	-0.00042	0.67064	0.002946203
0.67064	-0.00065	0.67064	0.00304427
0.6723	-0.00081	0.6723	0.00304427
0.6723	-0.00094	0.6723	0.00304427
0.6723	-0.00105	0.6723	0.002995236
0.67396	-0.00115	0.67396	0.002887363
0.67396	-0.00139	0.67396	0.002387221
0.67396	-0.00155	0.67396	0.001671332
0.67562	-0.00174	0.67562	0.001279064
0.67562	-0.00196	0.67562	0.000867182
0.67562	-0.0022	0.67562	0.000484721
0.67728	-0.00243	0.67728	0.000112067
0.67728	-0.00267	0.67728	-0.000231168
0.67728	-0.00287	0.67728	-0.000525369
0.67728	-0.00306	0.67728	-0.00079015
0.67894	-0.00321	0.67894	-0.001162804
0.67894	-0.00334	0.67894	-0.001280485
0.67894	-0.00352	0.67894	-0.001358938
0.6806	-0.00358	0.6806	-0.001437392
0.6806	-0.00363	0.6806	-0.001496232
0.6806	-0.00363	0.6806	-0.001545266
0.68226	-0.00363	0.68226	-0.001545266
0.68226	-0.00363	0.68226	-0.001545266
0.68226	-0.00367	0.68226	-0.001545266
0.68392	-0.00367	0.68392	-0.001584492
0.68392	-0.00374	0.68392	-0.001623719
0.68392	-0.00394	0.68392	-0.001623719
0.68558	-0.00411	0.68558	-0.001623719
0.68558	-0.00441	0.68558	-0.001623719
0.68558	-0.00503	0.68558	-0.001623719

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.68724	-0.00537	0.68724	-0.001623719
0.68724	-0.00574	0.68724	-0.001623719
0.68724	-0.00611	0.68724	-0.001623719
0.6889	-0.00645	0.6889	-0.001623719
0.6889	-0.00677	0.6889	-0.001594299
0.6889	-0.00702	0.6889	-0.001545266
0.69056	-0.00723	0.69056	-0.001496232
0.69056	-0.00735	0.69056	-0.001447199
0.69056	-0.00742	0.69056	-0.001368745
0.69222	-0.00742	0.69222	-0.001319712
0.69222	-0.00736	0.69222	-0.001231451
0.69222	-0.00726	0.69222	-0.001172611
0.69388	-0.00718	0.69388	-0.001064737
0.69388	-0.00702	0.69388	-0.001025511
0.69388	-0.00677	0.69388	-0.000986284
0.69554	-0.0067	0.69554	-0.001015704
0.69554	-0.0067	0.69554	-0.001123578
0.69554	-0.0067	0.69554	-0.001270678
0.6972	-0.00679	0.6972	-0.001506039
0.6972	-0.00689	0.6972	-0.001908114
0.6972	-0.00711	0.6972	-0.002418062
0.69886	-0.00755	0.69886	-0.003084918
0.69886	-0.00792	0.69886	-0.003987134
0.69886	-0.008	0.69886	-0.004163655
0.70052	-0.00795	0.70052	-0.004271528
0.70052	-0.00735	0.70052	-0.004330368
0.70052	0.001118	0.70052	-0.004330368
0.70218	0.000647	0.70218	-0.004330368
0.70218	0.0005	0.70218	-0.004330368
0.70218	0.000235	0.70218	-0.004330368
0.70218	0.000127	0.70218	-0.004330368
0.70384	-0.00011	0.70384	-0.004330368
0.70384	-0.00024	0.70384	-0.004330368
0.7055	-0.00066	0.7055	-0.004330368
0.7055	-0.0008	0.7055	-0.004330368
0.7055	-0.00111	0.7055	-0.004281335
0.70716	-0.00124	0.70716	-0.004212688
0.70716	-0.00147	0.70716	-0.004114621
0.70716	-0.00153	0.70716	-0.004085201

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.70716	-0.00167	0.70716	-0.003996941
0.70882	-0.00169	0.70882	-0.003928294
0.70882	-0.00178	0.70882	-0.003781193
0.70882	-0.0019	0.70882	-0.003663513
0.71048	-0.0019	0.71048	-0.003457572
0.71048	-0.00201	0.71048	-0.003212405
0.71048	-0.00205	0.71048	-0.00289859
0.71214	-0.0021	0.71214	-0.002486709
0.71214	-0.00209	0.71214	-0.002486709
0.71214	-0.00209	0.71214	-0.002545549
0.7138	-0.00209	0.7138	-0.002624003
0.7138	-0.00209	0.7138	-0.002712263
0.7138	-0.00204	0.7138	-0.002947624
0.71546	-0.00189	0.71546	-0.003084918
0.71546	-0.00183	0.71546	-0.003222211
0.71546	-0.00173	0.71546	-0.003310472
0.71712	-0.00162	0.71712	-0.003359505
0.71712	-0.0014	0.71712	-0.003359505
0.71712	-0.001	0.71712	-0.003300665
0.71878	-0.00082	0.71878	-0.003182985
0.71878	-0.00069	0.71878	-0.003045691
0.71878	-0.00058	0.71878	-0.002790717
0.72044	-0.00053	0.72044	-0.002290575
0.72044	-0.00053	0.72044	-0.002065021
0.72044	-0.00057	0.72044	-0.00185908
0.7221	-0.00065	0.7221	-0.00168256
0.7221	-0.00076	0.7221	-0.001457005
0.7221	-0.00095	0.7221	-0.001388358
0.72376	-0.00132	0.72376	-0.001349132
0.72376	-0.00149	0.72376	-0.001349132
0.72376	-0.00164	0.72376	-0.001349132
0.72542	-0.00176	0.72542	-0.001349132
0.72542	-0.00185	0.72542	-0.001349132
0.72542	-0.00195	0.72542	-0.001349132
0.72708	-0.00208	0.72708	-0.001309905
0.72708	-0.00215	0.72708	-0.001309905
0.72708	-0.0022	0.72708	-0.001309905
0.72874	-0.00227	0.72874	-0.001309905
0.72874	-0.00234	0.72874	-0.001368745

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.72874	-0.00234	0.72874	-0.001457005
0.7304	-0.00238	0.7304	-0.001515846
0.7304	-0.00243	0.7304	-0.001643333
0.7304	-0.00247	0.7304	-0.001731593
0.73206	-0.00236	0.73206	-0.001868887
0.73206	-0.00227	0.73206	-0.001986567
0.73206	-0.00219	0.73206	-0.002045407
0.73372	-0.00205	0.73372	-0.002045407
0.73372	-0.00185	0.73372	-0.001721786
0.73372	-0.00156	0.73372	-0.001319712
0.73538	-0.00151	0.73538	-0.000564596
0.73538	-0.00151	0.73538	-0.000250781
0.73538	-0.00151	0.73538	1.39996E-05
0.73538	-0.00151	0.73538	0.000200327
0.73704	-0.00165	0.73704	0.000318007
0.73704	-0.00172	0.73704	0.000347427
0.7387	-0.00181	0.7387	0.000347427
0.7387	-0.00186	0.7387	0.000180713
0.7387	-0.00193	0.7387	4.34197E-05
0.74036	-0.00199	0.74036	-0.000319428
0.74036	-0.00195	0.74036	-0.000554789
0.74036	-0.00188	0.74036	-0.000780343
0.74036	-0.00177	0.74036	-0.001005897
0.74202	-0.00166	0.74202	-0.001211838
0.74202	-0.00144	0.74202	-0.001368745
0.74202	-0.00079	0.74202	-0.001476619
0.74368	-0.00058	0.74368	-0.001525652
0.74368	-0.00039	0.74368	-0.001525652
0.74368	-0.00021	0.74368	-0.001349132
0.74534	-6.9E-05	0.74534	-0.001192225
0.74534	3.9E-05	0.74534	-0.00073131
0.74534	0.000127	0.74534	-0.000388075
0.747	0.000176	0.747	-1.54205E-05
0.747	0.000176	0.747	0.000386654
0.747	0.000176	0.747	0.000759309
0.74866	0.000176	0.74866	0.00111235
0.74866	0.000176	0.74866	0.001416358
0.74866	0.000176	0.74866	0.001798819
0.75032	0.000117	0.75032	0.001847852

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.75032	2.92E-05	0.75032	0.001808626
0.75032	-1E-05	0.75032	0.001730172
0.75198	-9.8E-05	0.75198	0.001475198
0.75198	-0.00016	0.75198	0.001180997
0.75198	-0.00028	0.75198	0.000827956
0.75364	-0.00052	0.75364	0.000445494
0.75364	-0.00052	0.75364	6.30331E-05
0.75364	-0.00102	0.75364	-0.000594016
0.7553	-0.00111	0.7553	-0.00081957
0.7553	-0.00119	0.7553	-0.000947057
0.7553	-0.00124	0.7553	-0.001005897
0.75696	-0.00124	0.75696	-0.001005897
0.75696	-0.00124	0.75696	-0.00093725
0.75696	-0.00124	0.75696	-0.00084899
0.75862	-0.00124	0.75862	-0.000780343
0.75862	-0.00118	0.75862	-0.000692083
0.75862	-0.001	0.75862	-0.000692083
0.76028	-0.00088	0.76028	-0.000692083
0.76028	-0.00078	0.76028	-0.000692083
0.76028	-0.00068	0.76028	-0.000780343
0.76194	-0.00056	0.76194	-0.000898024
0.76194	-0.00061	0.76194	-0.001084351
0.76194	-0.00033	0.76194	-0.001358938
0.7636	-0.00023	0.7636	-0.001761013
0.7636	-9.4E-05	0.7636	-0.001839467
0.7636	0.000102	0.7636	-0.001878694
0.76526	0.000289	0.76526	-0.001878694
0.76526	0.000465	0.76526	-0.001878694
0.76526	0.000603	0.76526	-0.00182966
0.76692	0.000553	0.76692	-0.00177082
0.76692	0.000553	0.76692	-0.00171198
0.76692	0.000553	0.76692	-0.00171198
0.76858	0.000553	0.76858	-0.00171198
0.76858	0.000553	0.76858	-0.00171198
0.76858	0.000671	0.76858	-0.001780627
0.76858	0.00075	0.76858	-0.001878694
0.77024	0.00075	0.77024	-0.00194734
0.77024	0.00075	0.77024	-0.002074828
0.77024	0.00075	0.77024	-0.002163088

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.7719	0.000671	0.7719	-0.002427869
0.7719	0.000534	0.7719	-0.002476902
0.77356	0.000397	0.77356	-0.002418062
0.77356	0.000132	0.77356	-0.002251348
0.77356	-0.00077	0.77356	-0.002006181
0.77356	-0.00153	0.77356	-0.001417779
0.77522	-0.0017	0.77522	-0.001094158
0.77522	-0.00181	0.77522	-0.00081957
0.77522	-0.00186	0.77522	-0.000594016
0.77688	-0.00186	0.77688	-0.000446915
0.77688	-0.00186	0.77688	-0.000505755
0.77688	-0.0018	0.77688	-0.000603822
0.77854	-0.00172	0.77854	-0.000898024
0.77854	-0.00157	0.77854	-0.001231451
0.77854	-0.00152	0.77854	-0.001633526
0.7802	-0.00145	0.7802	-0.002074828
0.7802	-0.00138	0.7802	-0.002545549
0.7802	-0.00138	0.7802	-0.002977044
0.78186	-0.00138	0.78186	-0.003388925
0.78186	-0.00138	0.78186	-0.004036168
0.78186	-0.00138	0.78186	-0.004261722
0.78352	-0.00142	0.78352	-0.004418629
0.78352	-0.00146	0.78352	-0.004506889
0.78352	-0.00146	0.78352	-0.004506889
0.78518	-0.00146	0.78518	-0.004438242
0.78518	-0.00146	0.78518	-0.004310755
0.78518	-0.00141	0.78518	-0.004114621
0.78684	-0.00133	0.78684	-0.003585059
0.78684	-0.00128	0.78684	-0.003212405
0.78684	-0.00117	0.78684	-0.002447482
0.7885	-0.00108	0.7885	-0.002094441
0.7885	-0.00096	0.7885	-0.00180024
0.7885	-0.00074	0.7885	-0.001545266
0.79016	-0.0001	0.79016	-0.001368745
0.79016	0.000426	0.79016	-0.001251065
0.79016	0.000573	0.79016	-0.001202031
0.79182	0.000681	0.79182	-0.001202031
0.79182	0.00075	0.79182	-0.001202031
0.79182	0.00075	0.79182	-0.001202031

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.79348	0.00075	0.79348	-0.001202031
0.79348	0.00075	0.79348	-0.001202031
0.79348	0.000691	0.79348	-0.001202031
0.79514	0.000573	0.79514	-0.001152998
0.79514	0.000446	0.79514	-0.001084351
0.79514	-0.00021	0.79514	-0.000996091
0.7968	-0.00038	0.7968	-0.000996091
0.7968	-0.00054	0.7968	-0.00093725
0.7968	-0.00064	0.7968	-0.000858797
0.79846	-0.00072	0.79846	-0.00079015
0.79846	-0.00077	0.79846	-0.000829377
0.79846	-0.00077	0.79846	-0.00090783
0.80012	-0.00077	0.80012	-0.001015704
0.80012	-0.00077	0.80012	-0.001084351
0.80012	-0.00073	0.80012	-0.001231451
0.80178	-0.00056	0.80178	-0.001358938
0.80178	-0.00053	0.80178	-0.001564879
0.80178	-0.00045	0.80178	-0.00182966
0.80344	-0.00035	0.80344	-0.002702456
0.80344	-0.00035	0.80344	-0.002820137
0.80344	-0.00031	0.80344	-0.002908397
0.8051	-0.00025	0.8051	-0.002977044
0.8051	-0.0002	0.8051	-0.002977044
0.8051	-0.0002	0.8051	-0.002977044
0.80676	-0.00034	0.80676	-0.002977044
0.80676	-0.00039	0.80676	-0.002977044
0.80676	-0.00048	0.80676	-0.002977044
0.80676	-0.00054	0.80676	-0.002849557
0.80842	-0.00062	0.80842	-0.002800523
0.80842	-0.00066	0.80842	-0.002702456
0.80842	-0.00072	0.80842	-0.002604389
0.81008	-0.00079	0.81008	-0.002476902
0.81008	-0.00079	0.81008	-0.002290575
0.81008	-0.00079	0.81008	-0.001986567
0.81174	-0.00079	0.81174	-0.00185908
0.81174	-0.00079	0.81174	-0.0017414
0.81174	-0.00079	0.81174	-0.001643333
0.8134	-0.00085	0.8134	-0.001555072
0.8134	-0.00096	0.8134	-0.001515846

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.8134	-0.00104	0.8134	-0.001515846
0.81506	-0.00116	0.81506	-0.001515846
0.81506	-0.00136	0.81506	-0.001574686
0.81506	-0.00159	0.81506	-0.001702173
0.81672	-0.00181	0.81672	-0.001839467
0.81672	-0.0017	0.81672	-0.002133668
0.81672	-0.00135	0.81672	-0.00275149
0.81838	-0.0009	0.81838	-0.003104531
0.81838	-0.00038	0.81838	-0.003477186
0.81838	0.000161	0.81838	-0.004193075
0.82004	0.000671	0.82004	-0.004487276
0.82004	0.001122	0.82004	-0.004761863
0.82004	0.001505	0.82004	-0.004967804
0.8217	0.00177	0.8217	-0.005114904
0.8217	0.001956	0.8217	-0.005203165
0.8217	0.002044	0.8217	-0.005232585
0.82336	0.002083	0.82336	-0.005232585
0.82336	0.002083	0.82336	-0.005203165
0.82336	0.002083	0.82336	-0.005124711
0.82502	0.002083	0.82502	-0.005036451
0.82502	0.002044	0.82502	-0.004487276
0.82502	0.002044	0.82502	-0.004271528
0.82668	0.002044	0.82668	-0.004045974
0.82668	0.002044	0.82668	-0.003791
0.82668	0.002103	0.82668	-0.003506606
0.82834	0.002181	0.82834	-0.003202598
0.82834	0.002181	0.82834	-0.00286917
0.82834	0.002289	0.82834	-0.002545549
0.83	0.002348	0.83	-0.002221928
0.83	0.002348	0.83	-0.001672753
0.83	0.002279	0.83	-0.001486426
0.83166	0.002172	0.83166	-0.001358938
0.83166	0.002074	0.83166	-0.001300098
0.83166	0.001887	0.83166	-0.001300098
0.83332	0.001534	0.83332	-0.001368745
0.83332	0.000985	0.83332	-0.001466812
0.83332	-0.00029	0.83332	-0.001594299
0.83498	-0.00063	0.83498	-0.001868887
0.83498	-0.00093	0.83498	-0.002163088

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.83498	-0.00115	0.83498	-0.002280768
0.83664	-0.0013	0.83664	-0.002359222
0.83664	-0.00136	0.83664	-0.002418062
0.83664	-0.00136	0.83664	-0.002467095
0.8383	-0.00133	0.8383	-0.002496516
0.8383	-0.00122	0.8383	-0.002496516
0.8383	-0.00082	0.8383	-0.002496516
0.83996	-0.00027	0.83996	-0.002496516
0.83996	4.31E-06	0.83996	-0.002496516
0.83996	0.00024	0.83996	-0.002496516
0.84162	0.000416	0.84162	-0.002447482
0.84162	0.000553	0.84162	-0.002369028
0.84162	0.000603	0.84162	-0.002329802
0.84328	0.000603	0.84328	-0.002231735
0.84328	0.000553	0.84328	-0.002182701
0.84328	0.000455	0.84328	-0.002084634
0.84328	-6.4E-05	0.84328	-0.002045407
0.84494	-0.00032	0.84494	-0.001996374
0.84494	-0.00058	0.84494	-0.001996374
0.8466	-0.00083	0.8466	-0.002888784
0.8466	-0.00105	0.8466	-0.003659374
0.8466	-0.00124	0.8466	-0.005159799
0.84826	-0.00138	0.84826	-0.004669464
0.84826	-0.00147	0.84826	-0.003365173
0.84826	-0.00151	0.84826	-0.002727738
0.84826	-0.00151	0.84826	-0.001599967
0.84992	-0.00151	0.84992	-0.001286153
0.84992	-0.00132	0.84992	-0.000972338
0.84992	-0.0012	0.84992	-0.000256449
0.85158	-0.00098	0.85158	0.000106399
0.85158	-0.00054	0.85158	0.000233886
0.85158	-0.00037	0.85158	0.000498667
0.85324	-0.00021	0.85324	0.00057712
0.85324	-0.00011	0.85324	0.000724221
0.85324	-7.4E-05	0.85324	0.000714414
0.8549	-7.4E-05	0.8549	0.000694801
0.8549	-0.00013	0.8549	0.000626154
0.8549	-0.00024	0.8549	0.000537893
0.85656	-0.00035	0.85656	0.000498667

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.85656	-0.00054	0.85656	0.000469247
0.85656	-0.00089	0.85656	0.000498667
0.85822	-0.00103	0.85822	0.00060654
0.85822	-0.00112	0.85822	0.000655574
0.85822	-0.00119	0.85822	0.000792868
0.85988	-0.00122	0.85988	0.000871321
0.85988	-0.00122	0.85988	0.001038035
0.85988	-0.00122	0.85988	0.001116489
0.86154	-0.00122	0.86154	0.001293009
0.86154	-0.00122	0.86154	0.00141069
0.86154	-0.00117	0.86154	0.001479337
0.8632	-0.00108	0.8632	0.001479337
0.8632	-0.00102	0.8632	0.001479337
0.8632	-0.00088	0.8632	0.00141069
0.86486	-0.00076	0.86486	0.001302816
0.86486	-0.00052	0.86486	0.001175329
0.86486	-0.00015	0.86486	0.000930161
0.86652	0.000446	0.86652	0.000449633
0.86652	0.000828	0.86652	0.000233886
0.86652	0.000965	0.86652	-9.95421E-05
0.86818	0.001063	0.86818	-0.000177996
0.86818	0.001103	0.86818	-0.000187802
0.86818	0.001103	0.86818	-0.000138769
0.86984	0.001063	0.86984	-6.03153E-05
0.86984	0.000985	0.86984	0.000126012
0.86984	0.000877	0.86984	0.000312339
0.8715	0.000583	0.8715	0.000537893
0.8715	0.000191	0.8715	0.000763448
0.8715	-5.5E-06	0.8715	0.000959581
0.87316	-0.00019	0.87316	0.001126295
0.87316	-0.00037	0.87316	0.001293009
0.87316	-0.00051	0.87316	0.001293009
0.87482	-0.0006	0.87482	0.001224362
0.87482	-0.00064	0.87482	0.001106682
0.87482	-0.00064	0.87482	0.000959581
0.87648	-0.00064	0.87648	0.00057712
0.87648	-0.00059	0.87648	0.000312339
0.87648	-0.00051	0.87648	4.75584E-05
0.87648	-0.00023	0.87648	-0.000217222

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.87814	8.28E-05	0.87814	-0.000668331
0.87814	0.000191	0.87814	-0.000854658
0.87814	0.000259	0.87814	-0.000991952
0.8798	0.000289	0.8798	-0.001090019
0.8798	0.000289	0.8798	-0.001139052
0.88146	0.00024	0.88146	-0.001139052
0.88146	0.000132	0.88146	-0.001139052
0.88146	-5.5E-06	0.88146	-0.001139052
0.88146	-0.00077	0.88146	-0.001139052
0.88312	-0.00094	0.88312	-0.001139052
0.88312	-0.00104	0.88312	-0.001139052
0.88312	-0.00105	0.88312	-0.001139052
0.88478	-0.00099	0.88478	-0.001139052
0.88478	-0.00088	0.88478	-0.001139052
0.88478	-0.00063	0.88478	-0.001139052
0.88644	-0.00039	0.88644	-0.001197892
0.88644	-0.00013	0.88644	-0.00129596
0.88644	0.000318	0.88644	-0.0013548
0.8881	0.000318	0.8881	-0.001482287
0.8881	0.000583	0.8881	-0.001580354
0.8881	0.000642	0.8881	-0.001727454
0.88976	0.000642	0.88976	-0.002207983
0.88976	0.000642	0.88976	-0.00254141
0.88976	0.000642	0.88976	-0.002590444
0.89142	0.000642	0.89142	-0.002590444
0.89142	0.000642	0.89142	-0.002619864
0.89142	0.000642	0.89142	-0.002619864
0.89308	0.000642	0.89308	-0.002659091
0.89308	0.00073	0.89308	-0.002698318
0.89308	0.000799	0.89308	-0.002698318
0.89474	0.000799	0.89474	-0.002806191
0.89474	0.000838	0.89474	-0.002894452
0.89474	0.000887	0.89474	-0.002943485
0.8964	0.000926	0.8964	-0.003012132
0.8964	0.000926	0.8964	-0.003100392
0.8964	0.000877	0.8964	-0.003100392
0.89806	0.000779	0.89806	-0.003100392
0.89806	0.000681	0.89806	-0.003061165
0.89806	0.00021	0.89806	-0.002982712

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.89972	-0.00023	0.89972	-0.002894452
0.89972	-0.00096	0.89972	-0.002678704
0.89972	-0.00122	0.89972	-0.001688227
0.90138	-0.00146	0.90138	-0.001394026
0.90138	-0.00165	0.90138	-0.001109632
0.90138	-0.00178	0.90138	-0.000844851
0.90304	-0.00186	0.90304	-0.00060949
0.90304	-0.00186	0.90304	-0.00040355
0.90304	-0.00186	0.90304	-0.000246643
0.9047	-0.0018	0.9047	-0.000138769
0.9047	-0.00169	0.9047	-7.99287E-05
0.9047	-0.00158	0.9047	-7.99287E-05
0.90636	-0.0014	0.90636	-0.000119155
0.90636	-0.00106	0.90636	-0.000197609
0.90636	-0.00095	0.90636	-0.000295676
0.90802	-0.00088	0.90802	-0.000472197
0.90802	-0.00083	0.90802	-0.000776204
0.90802	-0.00083	0.90802	-0.000864465
0.90968	-0.0009	0.90968	-0.000913498
0.90968	-0.00103	0.90968	-0.000913498
0.90968	-0.00114	0.90968	-0.000913498
0.90968	-0.00134	0.90968	-0.000913498
0.91134	-0.00167	0.91134	-0.000766398
0.91134	-0.00226	0.91134	-0.000727171
0.91134	-0.00251	0.91134	-0.000668331
0.913	-0.00271	0.913	-0.000619297
0.913	-0.00289	0.913	-0.000619297
0.91466	-0.00302	0.91466	-0.000619297
0.91466	-0.0031	0.91466	-0.000668331
0.91466	-0.00313	0.91466	-0.000736978
0.91466	-0.00313	0.91466	-0.000825238
0.91632	-0.00309	0.91632	-0.000825238
0.91632	-0.003	0.91632	-0.000825238
0.91632	-0.00287	0.91632	-0.000825238
0.91798	-0.0026	0.91798	-0.000825238
0.91798	-0.00207	0.91798	-0.000766398
0.91798	-0.00182	0.91798	-0.000658524
0.91964	-0.00158	0.91964	-0.000570264
0.91964	-0.00125	0.91964	-0.000423163

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.91964	-0.00125	0.91964	-0.000207416
0.9213	-0.00106	0.9213	5.73651E-05
0.9213	-0.00103	0.9213	0.000322146
0.9213	-0.00103	0.9213	0.000380986
0.92296	-0.00099	0.92296	0.000155432
0.92296	-0.00099	0.92296	-0.000109349
0.92296	-0.00099	0.92296	-0.00040355
0.92462	-0.00099	0.92462	-0.000697751
0.92462	-0.00099	0.92462	-0.000952725
0.92462	-0.00105	0.92462	-0.001139052
0.92628	-0.00125	0.92628	-0.001246926
0.92628	-0.00144	0.92628	-0.001197892
0.92628	-0.00173	0.92628	-0.001109632
0.92794	-0.0022	0.92794	-0.000893885
0.92794	-0.00301	0.92794	-0.000687944
0.92794	-0.00329	0.92794	-0.000482003
0.9296	-0.00351	0.9296	-0.000295676
0.9296	-0.00364	0.9296	-0.000158382
0.9296	-0.0037	0.9296	-6.03153E-05
0.93126	-0.0037	0.93126	-1.4751E-06
0.93126	-0.00363	0.93126	-1.4751E-06
0.93126	-0.00352	0.93126	-1.4751E-06
0.93292	-0.00343	0.93292	-1.4751E-06
0.93292	-0.00329	0.93292	-1.4751E-06
0.93292	-0.00309	0.93292	-1.4751E-06
0.93458	-0.00307	0.93458	-1.4751E-06
0.93458	-0.00307	0.93458	-4.07019E-05
0.93458	-0.0031	0.93458	-8.97354E-05
0.93624	-0.00316	0.93624	-0.000138769
0.93624	-0.00322	0.93624	-0.000138769
0.93624	-0.00322	0.93624	-0.000187802
0.9379	-0.00326	0.9379	-0.000256449
0.9379	-0.00326	0.9379	-0.000325096
0.9379	-0.00326	0.9379	-0.000325096
0.93956	-0.00326	0.93956	-0.000325096
0.93956	-0.00326	0.93956	-0.000364323
0.93956	-0.0032	0.93956	-0.000413356
0.94122	-0.0031	0.94122	-0.00046239
0.94122	-0.00306	0.94122	-0.00046239

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.94122	-0.00296	0.94122	-0.00046239
0.94288	-0.00277	0.94288	-0.00046239
0.94288	-0.00272	0.94288	-0.00046239
0.94288	-0.00266	0.94288	-0.00046239
0.94454	-0.00261	0.94454	-0.00046239
0.94454	-0.00265	0.94454	-0.00046239
0.94454	-0.00273	0.94454	-0.00046239
0.9462	-0.00283	0.9462	-0.00046239
0.9462	-0.003	0.9462	-0.00046239
0.9462	-0.00328	0.9462	-0.00046239
0.94786	-0.004	0.94786	-0.00058007
0.94786	-0.00418	0.94786	-0.000658524
0.94786	-0.00432	0.94786	-0.000658524
0.94952	-0.00441	0.94952	-0.000687944
0.94952	-0.00445	0.94952	-0.000736978
0.94952	-0.00445	0.94952	-0.000795818
0.95118	-0.00439	0.95118	-0.000795818
0.95118	-0.0043	0.95118	-0.000795818
0.95118	-0.0042	0.95118	-0.000795818
0.95284	-0.00395	0.95284	-0.000795818
0.95284	-0.00362	0.95284	-0.000795818
0.95284	-0.00349	0.95284	-0.000795818
0.9545	-0.00338	0.9545	-0.000795818
0.9545	-0.00329	0.9545	-0.000795818
0.9545	-0.00325	0.9545	-0.000795818
0.95616	-0.00325	0.95616	-0.000795818
0.95616	-0.00325	0.95616	-0.000795818
0.95616	-0.00325	0.95616	-0.000795818
0.95616	-0.00325	0.95616	-0.000795818
0.95782	-0.00331	0.95782	-0.000795818
0.95782	-0.0034	0.95782	-0.000795818
0.95782	-0.00354	0.95782	-0.000795818
0.95948	-0.00359	0.95948	-0.000795818
0.95948	-0.00369	0.95948	-0.000795818
0.95948	-0.00374	0.95948	-0.000795818
0.96114	-0.00381	0.96114	-0.000795818
0.96114	-0.00386	0.96114	-0.000795818
0.96114	-0.00386	0.96114	-0.000825238
0.9628	-0.00381	0.9628	-0.000884078

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.9628	-0.00374	0.9628	-0.000962532
0.9628	-0.00367	0.9628	-0.001080212
0.96446	-0.00363	0.96446	-0.001139052
0.96446	-0.00358	0.96446	-0.001266539
0.96446	-0.00353	0.96446	-0.001344993
0.96612	-0.00353	0.96612	-0.001462673
0.96612	-0.00353	0.96612	-0.001639194
0.96612	-0.00353	0.96612	-0.001864748
0.96778	-0.00353	0.96778	-0.002149142
0.96778	-0.00353	0.96778	-0.00242373
0.96778	-0.00349	0.96778	-0.002678704
0.96944	-0.00344	0.96944	-0.002815998
0.96944	-0.00339	0.96944	-0.002747351
0.96944	-0.00339	0.96944	-0.002678704
0.9711	-0.00339	0.9711	-0.002600251
0.9711	-0.00339	0.9711	-0.002551217
0.9711	-0.00342	0.9711	-0.00245315
0.97276	-0.00348	0.97276	-0.002345276
0.97276	-0.00356	0.97276	-0.002090302
0.97276	-0.00356	0.97276	-0.001913782
0.97442	-0.00367	0.97442	-0.001482287
0.97442	-0.00373	0.97442	-0.001217506
0.97442	-0.00373	0.97442	-0.000933112
0.97608	-0.00363	0.97608	-0.000658524
0.97608	-0.0035	0.97608	-0.00037413
0.97608	-0.00325	0.97608	-0.000138769
0.97774	-0.0028	0.97774	5.73651E-05
0.97774	-0.00214	0.97774	0.000184852
0.97774	-0.0012	0.97774	0.000253499
0.9794	0.000279	0.9794	0.000253499
0.9794	0.001132	0.9794	0.000214272
0.9794	0.001426	0.9794	5.73651E-05
0.98106	0.001613	0.98106	-2.10885E-05
0.98106	0.001701	0.98106	-0.000128962
0.98106	0.001701	0.98106	-0.000168189
0.98272	0.001642	0.98272	-0.000207416
0.98272	0.001534	0.98272	-0.000207416
0.98272	0.001387	0.98272	-0.000158382
0.98438	0.001034	0.98438	-3.08952E-05

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.98438	0.000818	0.98438	0.000126012
0.98438	0.000632	0.98438	0.000420213
0.98604	0.000279	0.98604	0.00144011
0.98604	0.000122	0.98604	0.001508757
0.98604	-5.5E-06	0.98604	0.001508757
0.9877	-0.00011	0.9877	0.00141069
0.9877	-0.0002	0.9877	0.001136102
0.9877	-0.00028	0.9877	0.000871321
0.98936	-0.00034	0.98936	0.00060654
0.98936	-0.00039	0.98936	0.000351566
0.98936	-0.00043	0.98936	0.000145625
0.98936	-0.00043	0.98936	-4.07019E-05
0.99102	-0.00043	0.99102	-4.07019E-05
0.99102	-0.0004	0.99102	-4.07019E-05
0.99102	-0.00034	0.99102	4.75584E-05
0.99268	-0.00024	0.99268	0.000155432
0.99268	-0.00018	0.99268	0.000341759
0.99268	-7.4E-05	0.99268	0.00063596
0.99434	3.37E-05	0.99434	0.000714414
0.99434	0.000181	0.99434	0.000714414
0.99434	0.000367	0.99434	0.000714414
0.996	0.000681	0.996	0.000655574
0.996	0.000681	0.996	0.000439826
0.996	0.000681	0.996	0.000224079
0.99766	0.000681	0.99766	-0.000227029
0.99766	0.000681	0.99766	-0.00046239
0.99766	0.00072	0.99766	-0.000668331
0.99932	0.000789	0.99932	-0.000874271
0.99932	0.000877	0.99932	-0.001031179
0.99932	0.000946	0.99932	-0.001168472
1.00098	0.001083	1.00098	-0.001256733
1.00098	0.001446	1.00098	-0.001364606
1.00098	0.00175	1.00098	-0.001403833
1.00264	0.002221	1.00264	-0.001403833
1.00264	0.002319	1.00264	-0.001403833
1.00264	0.002358	1.00264	-0.001403833
1.0043	0.002358	1.0043	-0.001403833
1.0043	0.002309	1.0043	-0.001403833
1.0043	0.002221	1.0043	-0.001403833

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.00596	0.002093	1.00596	-0.001403833
1.00596	0.001858	1.00596	-0.0013548
1.00596	0.001152	1.00596	-0.001188086
1.00762	0.000936	1.00762	-0.001188086
1.00762	0.000759	1.00762	-0.001060599
1.00762	0.000612	1.00762	-0.000982145
1.00928	0.000514	1.00928	-0.000864465
1.00928	0.000455	1.00928	-0.000795818
1.00928	0.000455	1.00928	-0.000687944
1.01094	0.000455	1.01094	-0.000648717
1.01094	0.000495	1.01094	-0.000589877
1.01094	0.000583	1.01094	-0.000531037
1.0126	0.00071	1.0126	-0.000531037
1.0126	0.001387	1.0126	-0.000531037
1.0126	0.001593	1.0126	-0.000531037
1.01426	0.001789	1.01426	-0.000531037
1.01426	0.001946	1.01426	-0.000531037
1.01426	0.002074	1.01426	-0.000570264
1.01592	0.002162	1.01592	-0.000629104
1.01592	0.002221	1.01592	-0.000707558
1.01592	0.00225	1.01592	-0.000746784
1.01758	0.00225	1.01758	-0.000825238
1.01758	0.00225	1.01758	-0.000893885
1.01758	0.002201	1.01758	-0.001070405
1.01924	0.002103	1.01924	-0.001168472
1.01924	0.002034	1.01924	-0.001168472
1.01924	0.001858	1.01924	-0.001168472
1.0209	0.001573	1.0209	-0.001168472
1.0209	0.001063	1.0209	-0.001090019
1.0209	0.000828	1.0209	-0.001001758
1.02256	0.000593	1.02256	-0.000844851
1.02256	0.000132	1.02256	-0.000648717
1.02256	-8.4E-05	1.02256	-0.000207416
1.02256	-0.00029	1.02256	-0.000246643
1.02422	-0.0005	1.02422	-0.000325096
1.02422	-0.00069	1.02422	-0.00040355
1.02422	-0.0009	1.02422	-0.000501617
1.02588	-0.00111	1.02588	-0.000570264
1.02588	-0.00134	1.02588	-0.000629104

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.02588	-0.00157	1.02588	-0.000687944
1.02754	-0.0018	1.02754	-0.000736978
1.02754	-0.00202	1.02754	-0.000736978
1.02754	-0.00237	1.02754	-0.000766398
1.0292	-0.00249	1.0292	-0.000884078
1.0292	-0.00257	1.0292	-0.000933112
1.0292	-0.00259	1.0292	-0.001011565
1.03086	-0.00256	1.03086	-0.001090019
1.03086	-0.0025	1.03086	-0.001197892
1.03086	-0.00239	1.03086	-0.001266539
1.03252	-0.00225	1.03252	-0.0013548
1.03252	-0.00187	1.03252	-0.001394026
1.03252	-0.0013	1.03252	-0.001433253
1.03418	-0.001	1.03418	-0.001433253
1.03418	-0.00071	1.03418	-0.00138422
1.03418	-0.00043	1.03418	-0.00129596
1.03584	-0.00019	1.03584	-0.001217506
1.03584	4.31E-06	1.03584	-0.001060599
1.03584	0.000132	1.03584	-0.000844851
1.0375	0.0002	1.0375	-0.000531037
1.0375	0.0002	1.0375	-6.03153E-05
1.0375	0.0002	1.0375	8.67852E-05
1.03916	0.000161	1.03916	0.000184852
1.03916	0.000102	1.03916	0.000292726
1.03916	2.39E-05	1.03916	0.000292726
1.04082	2.39E-05	1.04082	0.000292726
1.04082	2.39E-05	1.04082	0.000292726
1.04082	2.39E-05	1.04082	0.000292726
1.04248	8.28E-05	1.04248	0.000253499
1.04248	0.000191	1.04248	0.000194659
1.04248	0.000269	1.04248	0.000135819
1.04414	0.000416	1.04414	0.000135819
1.04414	0.000593	1.04414	0.000135819
1.04414	0.000956	1.04414	0.000135819
1.0458	0.000857	1.0458	4.75584E-05
1.0458	0.000691	1.0458	-1.12818E-05
1.0458	0.000485	1.0458	-1.12818E-05
1.04746	0.000259	1.04746	-5.05086E-05
1.04746	2.39E-05	1.04746	-0.000119155

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.04746	-0.00021	1.04746	-0.000207416
1.04912	-0.00043	1.04912	-0.000246643
1.04912	-0.00063	1.04912	-0.000315289
1.04912	-0.00083	1.04912	-0.000393743
1.05078	-0.001	1.05078	-0.00043297
1.05078	-0.00132	1.05078	-0.00043297
1.05078	-0.00148	1.05078	-0.00043297
1.05244	-0.00163	1.05244	-0.00043297
1.05244	-0.00177	1.05244	-0.00043297
1.05244	-0.00189	1.05244	-0.000393743
1.0541	-0.00197	1.0541	-0.000334903
1.0541	-0.00197	1.0541	-0.000256449
1.0541	-0.00197	1.0541	-0.000256449
1.05576	-0.00193	1.05576	-0.000217222
1.05576	-0.00169	1.05576	-0.000217222
1.05576	-0.00142	1.05576	-0.000217222
1.05576	-0.00081	1.05576	-0.000217222
1.05742	-0.00045	1.05742	-0.000217222
1.05742	-4.5E-05	1.05742	-0.000217222
1.05742	0.000397	1.05742	-0.000266256
1.05908	0.000857	1.05908	-0.000325096
1.05908	0.001338	1.05908	-0.00040355
1.05908	0.001779	1.05908	-0.00040355
1.06074	0.002515	1.06074	-0.000452583
1.06074	0.00274	1.06074	-0.000589877
1.06074	0.002858	1.06074	-0.000687944
1.0624	0.002848	1.0624	-0.000776204
1.0624	0.002701	1.0624	-0.000903692
1.0624	0.002446	1.0624	-0.001109632
1.06406	0.002074	1.06406	-0.001344993
1.06406	0.001632	1.06406	-0.001609774
1.06406	0.001142	1.06406	-0.001943202
1.06572	0.000661	1.06572	-0.001982428
1.06572	0.00022	1.06572	-0.001982428
1.06572	-0.00048	1.06572	-0.001982428
1.06738	-0.00069	1.06738	-0.001982428
1.06738	-0.00087	1.06738	-0.001982428
1.06738	-0.00099	1.06738	-0.001982428
1.06904	-0.00107	1.06904	-0.001982428

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.06904	-0.00115	1.06904	-0.001933395
1.06904	-0.00124	1.06904	-0.001854941
1.0707	-0.00133	1.0707	-0.001796101
1.0707	-0.00143	1.0707	-0.001688227
1.0707	-0.00165	1.0707	-0.001590161
1.07236	-0.00176	1.07236	-0.001139052
1.07236	-0.00186	1.07236	-0.000756591
1.07236	-0.00195	1.07236	-0.000658524
1.07402	-0.00201	1.07402	-0.00058007
1.07402	-0.00206	1.07402	-0.00052123
1.07402	-0.0021	1.07402	-0.000452583
1.07568	-0.0021	1.07568	-0.000452583
1.07568	-0.0021	1.07568	-0.00040355
1.07568	-0.0021	1.07568	-0.00034471
1.07734	-0.0021	1.07734	-0.000197609
1.07734	-0.0021	1.07734	-9.95421E-05
1.07734	-0.00214	1.07734	-1.12818E-05
1.079	-0.00219	1.079	0.000126012
1.079	-0.00225	1.079	0.000322146
1.079	-0.00225	1.079	0.000341759
1.08066	-0.00225	1.08066	0.000341759
1.08066	-0.00225	1.08066	0.000292726
1.08066	-0.00225	1.08066	0.000214272
1.08232	-0.00225	1.08232	0.000126012
1.08232	-0.00225	1.08232	-0.000128962
1.08232	-0.00225	1.08232	-0.00037413
1.08398	-0.00225	1.08398	-0.000442777
1.08398	-0.00225	1.08398	-0.000442777
1.08398	-0.0022	1.08398	-0.000442777
1.08398	-0.00215	1.08398	-0.000442777
1.08564	-0.00211	1.08564	-0.000364323
1.08564	-0.00211	1.08564	-0.000256449
1.0873	-0.00211	1.0873	-2.10885E-05
1.0873	-0.00211	1.0873	0.000469247
1.0873	-0.00211	1.0873	0.000979195
1.08896	-0.00211	1.08896	0.001224362
1.08896	-0.00211	1.08896	0.00144011
1.08896	-0.00211	1.08896	0.00161663
1.08896	-0.00211	1.08896	0.001763731

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.09062	-0.00211	1.09062	0.001881411
1.09062	-0.00211	1.09062	0.001959865
1.09062	-0.00211	1.09062	0.002028512
1.09228	-0.00211	1.09228	0.002028512
1.09228	-0.00211	1.09228	0.002067739
1.09228	-0.00211	1.09228	0.002067739
1.09394	-0.00211	1.09394	0.002067739
1.09394	-0.00215	1.09394	0.002067739
1.09394	-0.00222	1.09394	0.002067739
1.0956	-0.00231	1.0956	0.002008898
1.0956	-0.00231	1.0956	0.001930445
1.0956	-0.00237	1.0956	0.001881411
1.09726	-0.00245	1.09726	0.001773538
1.09726	-0.00245	1.09726	0.001675471
1.09726	-0.0025	1.09726	0.001518563
1.09892	-0.00255	1.09892	0.001312623
1.09892	-0.0026	1.09892	0.001106682
1.09892	-0.00257	1.09892	0.001185136
1.10058	-0.00249	1.10058	0.001312623
1.10058	-0.00244	1.10058	0.001479337
1.10058	-0.00234	1.10058	0.001675471
1.10224	-0.00229	1.10224	0.001861798
1.10224	-0.00221	1.10224	0.002048125
1.10224	-0.00221	1.10224	0.002205032
1.1039	-0.00221	1.1039	0.002303099
1.1039	-0.0023	1.1039	0.00236194
1.1039	-0.00239	1.1039	0.00236194
1.10556	-0.00252	1.10556	0.002322713
1.10556	-0.00271	1.10556	0.002244259
1.10556	-0.00294	1.10556	0.002146192
1.10722	-0.00316	1.10722	0.001989285
1.10722	-0.00334	1.10722	0.001704891
1.10722	-0.00324	1.10722	0.001597017
1.10888	-0.00309	1.10888	0.001538177
1.10888	-0.00289	1.10888	0.00149895
1.10888	-0.00234	1.10888	0.00149895
1.11054	-0.00198	1.11054	0.00149895
1.11054	-0.00158	1.11054	0.00155779
1.11054	-0.00114	1.11054	0.001636244

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.1122	-0.00067	1.1122	0.001675471
1.1122	-0.00021	1.1122	0.001744118
1.1122	0.00024	1.1122	0.001822571
1.11386	0.000622	1.11386	0.001822571
1.11386	0.000926	1.11386	0.001783344
1.11386	0.001122	1.11386	0.001704891
1.11552	0.001171	1.11552	0.001430303
1.11552	0.000838	1.11552	0.001116489
1.11552	0.000475	1.11552	0.000586927
1.11718	4.31E-06	1.11718	0.0004006
1.11718	-0.00052	1.11718	0.000233886
1.11718	-0.00106	1.11718	0.000106399
1.11884	-0.00162	1.11884	2.7945E-05
1.11884	-0.00217	1.11884	-3.08952E-05
1.11884	-0.00267	1.11884	-3.08952E-05
1.1205	-0.0031	1.1205	-3.08952E-05
1.1205	-0.00377	1.1205	-3.08952E-05
1.1205	-0.00399	1.1205	3.77517E-05
1.12216	-0.00411	1.12216	0.000214272
1.12216	-0.00416	1.12216	0.00037118
1.12216	-0.00416	1.12216	0.000684994
1.12216	-0.00416	1.12216	0.000851708
1.12382	-0.00416	1.12382	0.000998808
1.12382	-0.00412	1.12382	0.001136102
1.12382	-0.00406	1.12382	0.001243976
1.12548	-0.00396	1.12548	0.001322429
1.12548	-0.00386	1.12548	0.00138127
1.12548	-0.00386	1.12548	0.00141069
1.12714	-0.00379	1.12714	0.00141069
1.12714	-0.00379	1.12714	0.00141069
1.12714	-0.00385	1.12714	0.00141069
1.1288	-0.00393	1.1288	0.001371463
1.1288	-0.004	1.1288	0.001322429
1.1288	-0.00411	1.1288	0.001253783
1.13046	-0.00421	1.13046	0.001253783
1.13046	-0.00435	1.13046	0.001204749
1.13046	-0.00453	1.13046	0.001136102
1.13212	-0.00468	1.13212	0.001047842
1.13212	-0.00463	1.13212	0.000989002

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.13212	-0.0046	1.13212	0.000920355
1.13378	-0.00455	1.13378	0.000851708
1.13378	-0.00455	1.13378	0.000851708
1.13378	-0.00451	1.13378	0.000851708
1.13544	-0.00451	1.13544	0.000890935
1.13544	-0.00451	1.13544	0.000959581
1.13544	-0.00451	1.13544	0.001067455
1.1371	-0.00451	1.1371	0.001136102
1.1371	-0.00457	1.1371	0.001322429
1.1371	-0.00464	1.1371	0.001430303
1.13876	-0.00469	1.13876	0.001479337
1.13876	-0.00477	1.13876	0.001518563
1.13876	-0.0048	1.13876	0.001518563
1.14042	-0.00486	1.14042	0.001518563
1.14042	-0.00493	1.14042	0.00144011
1.14042	-0.00493	1.14042	0.001332236
1.14208	-0.00493	1.14208	0.001145909
1.14208	-0.00493	1.14208	0.00060654
1.14208	-0.00482	1.14208	0.000233886
1.14374	-0.00475	1.14374	0.000165239
1.14374	-0.00475	1.14374	0.000165239
1.14374	-0.00475	1.14374	0.000165239
1.1454	-0.00475	1.1454	0.000126012
1.1454	-0.00475	1.1454	8.67852E-05
1.1454	-0.00475	1.1454	4.75584E-05
1.14706	-0.00475	1.14706	4.75584E-05
1.14706	-0.00479	1.14706	-1.4751E-06
1.14706	-0.00493	1.14706	-6.03153E-05
1.14872	-0.00493	1.14872	-0.000128962
1.14872	-0.00493	1.14872	-0.000197609
1.14872	-0.00493	1.14872	-0.000285869
1.15038	-0.00493	1.15038	-0.000334903
1.15038	-0.00489	1.15038	-0.000423163
1.15038	-0.00481	1.15038	-0.00049181
1.15038	-0.00474	1.15038	-0.000599684
1.15204	-0.00459	1.15204	-0.000658524
1.15204	-0.00443	1.15204	-0.000736978
1.1537	-0.00376	1.1537	-0.000825238
1.1537	-0.00321	1.1537	-0.000874271

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.1537	-0.00252	1.1537	-0.000874271
1.15536	-0.00151	1.15536	-0.000874271
1.15536	-0.00127	1.15536	-0.000874271
1.15536	-0.00112	1.15536	-0.000874271
1.15536	-0.00105	1.15536	-0.000874271
1.15702	-0.0011	1.15702	-0.000913498
1.15702	-0.00121	1.15702	-0.000962532
1.15702	-0.00189	1.15702	-0.001021372
1.15868	-0.00232	1.15868	-0.001021372
1.15868	-0.00282	1.15868	-0.001139052
1.15868	-0.00333	1.15868	-0.001217506
1.16034	-0.00384	1.16034	-0.001217506
1.16034	-0.00432	1.16034	-0.001266539
1.16034	-0.00475	1.16034	-0.001335186
1.162	-0.00511	1.162	-0.001403833
1.162	-0.00541	1.162	-0.001403833
1.162	-0.00571	1.162	-0.001403833
1.16366	-0.00571	1.16366	-0.001403833
1.16366	-0.00571	1.16366	-0.00144306
1.16366	-0.00565	1.16366	-0.001482287
1.16532	-0.00555	1.16532	-0.001482287
1.16532	-0.00544	1.16532	-0.001482287
1.16532	-0.00525	1.16532	-0.001482287
1.16698	-0.00492	1.16698	-0.001482287
1.16698	-0.00485	1.16698	-0.001482287
1.16698	-0.00485	1.16698	-0.001482287
1.16864	-0.00485	1.16864	-0.001423447
1.16864	-0.00501	1.16864	-0.0013548
1.16864	-0.00513	1.16864	-0.001266539
1.1703	-0.00537	1.1703	-0.001266539
1.1703	-0.00583	1.1703	-0.001139052
1.1703	-0.00602	1.1703	-0.001040985
1.17196	-0.00617	1.17196	-0.001040985
1.17196	-0.00626	1.17196	-0.000982145
1.17196	-0.00631	1.17196	-0.000903692
1.17362	-0.00631	1.17362	-0.000854658
1.17362	-0.00627	1.17362	-0.000756591
1.17362	-0.0062	1.17362	-0.000678137
1.17528	-0.00612	1.17528	-0.000531037

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.17528	-0.00608	1.17528	3.77517E-05
1.17528	-0.006	1.17528	0.00048886
1.17694	-0.00592	1.17694	0.001185136
1.17694	-0.00592	1.17694	0.00141069
1.17694	-0.00592	1.17694	0.001597017
1.1786	-0.00592	1.1786	0.001753924
1.1786	-0.00592	1.1786	0.001871605
1.1786	-0.00597	1.1786	0.001940251
1.18026	-0.00611	1.18026	0.001989285
1.18026	-0.00611	1.18026	0.001989285
1.18026	-0.00611	1.18026	0.001989285
1.18192	-0.00614	1.18192	0.001989285
1.18192	-0.00618	1.18192	0.001989285
1.18192	-0.00618	1.18192	0.001989285
1.18358	-0.00618	1.18358	0.001989285
1.18358	-0.00618	1.18358	0.002038319
1.18358	-0.00618	1.18358	0.002077545
1.18524	-0.00618	1.18524	0.002077545
1.18524	-0.00618	1.18524	0.002077545
1.18524	-0.00614	1.18524	0.002126579
1.1869	-0.0061	1.1869	0.002273679
1.1869	-0.00605	1.1869	0.002273679
1.1869	-0.00605	1.1869	0.002312906
1.18856	-0.00605	1.18856	0.002381553
1.18856	-0.00611	1.18856	0.0024502
1.18856	-0.0062	1.18856	0.0024502
1.18856	-0.00626	1.18856	0.0024502
1.19022	-0.00648	1.19022	0.0024502
1.19022	-0.00663	1.19022	0.0024502
1.19022	-0.00684	1.19022	0.00239136
1.19188	-0.00715	1.19188	0.002303099
1.19188	-0.00749	1.19188	0.002224646
1.19188	-0.00785	1.19188	0.002077545
1.19354	-0.00783	1.19354	0.001871605
1.19354	-0.00778	1.19354	0.00152837
1.19354	-0.00773	1.19354	0.001126295
1.1952	-0.00767	1.1952	0.000694801
1.1952	-0.00755	1.1952	0.000724221
1.1952	-0.00749	1.1952	0.000822288

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.19686	-0.00741	1.19686	0.001136102
1.19686	-0.00741	1.19686	0.001136102
1.19686	-0.00741	1.19686	0.001489143
1.19852	-0.00741	1.19852	0.001636244
1.19852	-0.00741	1.19852	0.001744118
1.19852	-0.00748	1.19852	0.001802958
1.20018	-0.00759	1.20018	0.001802958
1.20018	-0.00787	1.20018	0.001773538
1.20018	-0.00816	1.20018	0.001695084
1.20184	-0.0087	1.20184	0.00158721
1.20184	-0.00892	1.20184	0.001332236
1.20184	-0.00931	1.20184	0.001332236
1.2035	-0.00947	1.2035	0.000900741
1.2035	-0.0096	1.2035	0.000802674
1.2035	-0.00968	1.2035	0.000734027
1.20516	-0.00974	1.20516	0.000694801
1.20516	-0.00974	1.20516	0.000694801
1.20516	-0.00974	1.20516	0.000694801
1.20682	-0.00974	1.20682	0.000694801
1.20682	-0.0097	1.20682	0.000694801
1.20682	-0.00963	1.20682	0.000753641
1.20848	-0.00953	1.20848	0.000910548
1.20848	-0.00947	1.20848	0.001038035
1.20848	-0.00936	1.20848	0.001136102
1.21014	-0.00927	1.21014	0.001234169
1.21014	-0.00916	1.21014	0.001322429
1.21014	-0.00888	1.21014	0.001322429
1.2118	-0.00888	1.2118	0.001253783
1.2118	-0.00888	1.2118	0.001126295
1.2118	-0.00888	1.2118	0.000959581
1.21346	-0.00892	1.21346	0.000361373
1.21346	-0.00897	1.21346	0.000184852
1.21346	-0.00902	1.21346	5.73651E-05
1.21512	-0.00902	1.21512	-1.12818E-05
1.21512	-0.00902	1.21512	-5.05086E-05
1.21512	-0.00908	1.21512	-5.05086E-05
1.21678	-0.0092	1.21678	8.3316E-06
1.21678	-0.0092	1.21678	0.000116205
1.21678	-0.00925	1.21678	0.000233886

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.21844	-0.00931	1.21844	0.000420213
1.21844	-0.00939	1.21844	0.000861515
1.21844	-0.00939	1.21844	0.000949775
1.2201	-0.00945	1.2201	0.001028228
1.2201	-0.00954	1.2201	0.001067455
1.2201	-0.00954	1.2201	0.001106682
1.22176	-0.00959	1.22176	0.001106682
1.22176	-0.00972	1.22176	0.001106682
1.22176	-0.00972	1.22176	0.001106682
1.22176	-0.00972	1.22176	0.001106682
1.22342	-0.00972	1.22342	0.001057649
1.22342	-0.00972	1.22342	0.000989002
1.22342	-0.00972	1.22342	0.000900741
1.22508	-0.00972	1.22508	0.000841901
1.22508	-0.00972	1.22508	0.000763448
1.22508	-0.00972	1.22508	0.000714414
1.22674	-0.00972	1.22674	0.00063596
1.22674	-0.00972	1.22674	0.000557507
1.22674	-0.00972	1.22674	0.00043002
1.2284	-0.00972	1.2284	0.000312339
1.2284	-0.00975	1.2284	0.000135819
1.2284	-0.0098	1.2284	-0.000531037
1.23006	-0.00986	1.23006	-0.000678137
1.23006	-0.00986	1.23006	-0.000786011
1.23006	-0.00986	1.23006	-0.000874271
1.23172	-0.00989	1.23172	-0.000933112
1.23172	-0.00995	1.23172	-0.000991952
1.23172	-0.01002	1.23172	-0.001031179
1.23338	-0.01008	1.23338	-0.001031179
1.23338	-0.01018	1.23338	-0.001031179
1.23338	-0.0102	1.23338	-0.001031179
1.23504	-0.01027	1.23504	-0.001001758
1.23504	-0.01036	1.23504	-0.000815431
1.23504	-0.01036	1.23504	-0.000707558
1.2367	-0.01036	1.2367	-0.000423163
1.2367	-0.01036	1.2367	7.69785E-05
1.2367	-0.0103	1.2367	0.001067455
1.23836	-0.01011	1.23836	0.00155779
1.23836	-0.00995	1.23836	0.002028512

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.23836	-0.00972	1.23836	0.002440393
1.24002	-0.00933	1.24002	0.002764014
1.24002	-0.00885	1.24002	0.003097442
1.24002	-0.00822	1.24002	0.003097442
1.24168	-0.00807	1.24168	0.003028795
1.24168	-0.00788	1.24168	0.002920922
1.24168	-0.00766	1.24168	0.002724788
1.24334	-0.00739	1.24334	0.002548267
1.24334	-0.00667	1.24334	0.00236194
1.24334	-0.00626	1.24334	0.002185419
1.245	-0.00583	1.245	0.002038319
1.245	-0.00543	1.245	0.001901025
1.245	-0.00507	1.245	0.001783344
1.24666	-0.00477	1.24666	0.00161663
1.24666	-0.00457	1.24666	0.00155779
1.24666	-0.00447	1.24666	0.00149895
1.24832	-0.00447	1.24832	0.001449917
1.24832	-0.00462	1.24832	0.00141069
1.24832	-0.0048	1.24832	0.00141069
1.24998	-0.00524	1.24998	0.001459723
1.24998	-0.00551	1.24998	0.001969672
1.24998	-0.00576	1.24998	0.026804599
1.25164	-0.00599	1.25164	0.059049029
1.25164	-0.0062	1.25164	0.079973693
1.25164	-0.00637	1.25164	0.092140973
1.25164	-0.00652	1.25164	0.106004813
1.2533	-0.00663	1.2533	0.116828576
1.2533	-0.00671	1.2533	0.122671952
1.2533	-0.00684	1.2533	0.141666113
1.2533	-0.00687	1.2533	0.141754373
1.2533	-0.00687	1.2533	0.141813214
1.25164	-0.00687	1.25164	0.141872054
1.25164	-0.00687	1.25164	0.141921087
1.25164	-0.00687	1.25164	0.141921087
1.24998	-0.00682	1.24998	0.141921087
1.24998	-0.00674	1.24998	0.141960314
1.24998	-0.00669	1.24998	0.142009348
1.24832	-0.00653	1.24832	0.142117221
1.24832	-0.00641	1.24832	0.142117221

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.24832	-0.00634	1.24832	0.142293742
1.24666	-0.00623	1.24666	0.142460456
1.24666	-0.00623	1.24666	0.14277427
1.24666	-0.00623	1.24666	0.142911564
1.245	-0.00623	1.245	0.143019438
1.245	-0.00623	1.245	0.143117505
1.245	-0.00628	1.245	0.143205765
1.24334	-0.00637	1.24334	0.143274412
1.24334	-0.00643	1.24334	0.143352866
1.24334	-0.00661	1.24334	0.143499966
1.24168	-0.00671	1.24168	0.143549
1.24168	-0.00679	1.24168	0.143647067
1.24168	-0.0069	1.24168	0.143774554
1.24002	-0.00696	1.24002	0.144078561
1.24002	-0.00704	1.24002	0.144294309
1.24002	-0.00704	1.24002	0.14452967
1.23836	-0.00704	1.23836	0.14476503
1.23836	-0.00704	1.23836	0.145000391
1.23836	-0.00704	1.23836	0.145225945
1.23836	-0.00697	1.23836	0.145431886
1.2367	-0.00686	1.2367	0.145863381
1.2367	-0.00676	1.2367	0.146098742
1.2367	-0.00661	1.2367	0.146343909
1.23504	-0.00637	1.23504	0.14660869
1.23504	-0.00603	1.23504	0.146883278
1.23504	-0.00549	1.23504	0.147148058
1.23338	-0.00531	1.23338	0.147422646
1.23338	-0.00517	1.23338	0.147697234
1.23338	-0.00506	1.23338	0.147942401
1.23172	-0.00493	1.23172	0.148354283
1.23172	-0.00493	1.23172	0.14848177
1.23172	-0.00493	1.23172	0.148560223
1.23006	-0.00493	1.23006	0.148579837
1.23006	-0.00493	1.23006	0.148550417
1.23006	-0.00498	1.23006	0.148491576
1.2284	-0.00506	1.2284	0.148422929
1.2284	-0.00512	1.2284	0.148344476
1.2284	-0.00549	1.2284	0.148236602
1.22674	-0.00591	1.22674	0.148079695

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.22674	-0.00612	1.22674	0.148079695
1.22674	-0.00633	1.22674	0.148079695
1.22508	-0.00653	1.22508	0.148079695
1.22508	-0.00672	1.22508	0.148079695
1.22508	-0.0069	1.22508	0.148138535
1.22342	-0.00706	1.22342	0.148236602
1.22342	-0.00718	1.22342	0.148344476
1.22342	-0.00729	1.22342	0.148560223
1.22176	-0.00739	1.22176	0.148923071
1.22176	-0.00739	1.22176	0.14958012
1.22176	-0.00739	1.22176	0.149874321
1.2201	-0.00739	1.2201	0.150452916
1.2201	-0.00733	1.2201	0.150737311
1.2201	-0.00724	1.2201	0.151021705
1.21844	-0.00716	1.21844	0.151286486
1.21844	-0.00702	1.21844	0.151551267
1.21844	-0.00677	1.21844	0.151786628
1.21678	-0.00628	1.21678	0.152021988
1.21678	-0.00606	1.21678	0.152237736
1.21678	-0.00559	1.21678	0.15243387
1.21512	-0.00536	1.21512	0.152855558
1.21512	-0.00516	1.21512	0.153061499
1.21512	-0.00499	1.21512	0.153277246
1.21346	-0.00485	1.21346	0.15347338
1.21346	-0.00475	1.21346	0.153659707
1.21346	-0.00468	1.21346	0.153826421
1.2118	-0.00464	1.2118	0.153944102
1.2118	-0.0046	1.2118	0.154051975
1.2118	-0.00457	1.2118	0.154101009
1.21014	-0.00451	1.21014	0.154101009
1.21014	-0.00442	1.21014	0.154101009
1.21014	-0.00435	1.21014	0.154071589
1.20848	-0.00423	1.20848	0.153993135
1.20848	-0.00413	1.20848	0.153885261
1.20848	-0.00397	1.20848	0.153806808
1.20682	-0.00366	1.20682	0.153679321
1.20682	-0.00358	1.20682	0.153492993
1.20682	-0.00353	1.20682	0.153218406
1.20516	-0.00353	1.20516	0.153179179

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.20516	-0.00353	1.20516	0.153179179
1.20516	-0.00358	1.20516	0.153247826
1.20516	-0.00365	1.20516	0.153365506
1.2035	-0.00371	1.2035	0.15347338
1.2035	-0.00381	1.2035	0.153708741
1.2035	-0.00388	1.2035	0.154189269
1.20184	-0.00399	1.20184	0.154463857
1.20184	-0.00403	1.20184	0.154728638
1.20184	-0.00409	1.20184	0.154993418
1.20018	-0.00413	1.20018	0.155238586
1.20018	-0.00413	1.20018	0.155483753
1.20018	-0.00409	1.20018	0.155905442
1.19852	-0.00405	1.19852	0.156101576
1.19852	-0.00399	1.19852	0.156268289
1.19852	-0.00399	1.19852	0.15641539
1.19686	-0.00392	1.19686	0.156552684
1.19686	-0.00382	1.19686	0.156670364
1.19686	-0.00374	1.19686	0.156768431
1.1952	-0.00332	1.1952	0.156856691
1.1952	-0.00292	1.1952	0.156925338
1.1952	-0.00279	1.1952	0.156984179
1.19354	-0.00271	1.19354	0.157101859
1.19354	-0.00266	1.19354	0.157141086
1.19354	-0.00266	1.19354	0.157219539
1.19188	-0.00266	1.19188	0.157317606
1.19188	-0.00266	1.19188	0.157386253
1.19188	-0.0027	1.19188	0.15751374
1.19022	-0.00275	1.19022	0.157621614
1.19022	-0.00282	1.19022	0.157807941
1.19022	-0.00282	1.19022	0.158111949
1.18856	-0.00282	1.18856	0.158308083
1.18856	-0.00282	1.18856	0.158308083
1.18856	-0.00278	1.18856	0.158445377
1.1869	-0.00271	1.1869	0.15849441
1.1869	-0.0026	1.1869	0.158553251
1.1869	-0.00254	1.1869	0.158553251
1.18524	-0.00241	1.18524	0.158612091
1.18524	-0.0023	1.18524	0.158690544
1.18524	-0.00212	1.18524	0.158739578

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.18358	-0.00156	1.18358	0.158837645
1.18358	-0.00104	1.18358	0.158906292
1.18358	-0.00086	1.18358	0.159112232
1.18192	-0.00069	1.18192	0.159249526
1.18192	-0.00054	1.18192	0.159514307
1.18192	-0.00043	1.18192	0.159622181
1.18026	-0.00034	1.18026	0.159739861
1.18026	-0.00027	1.18026	0.159877155
1.18026	-0.00023	1.18026	0.160024256
1.1786	-0.00023	1.1786	0.160190969
1.1786	-0.00023	1.1786	0.160387103
1.1786	-0.00023	1.1786	0.160798985
1.17694	-0.00018	1.17694	0.160995119
1.17694	-0.00018	1.17694	0.161181446
1.17694	-0.00012	1.17694	0.16131874
1.17528	-2.5E-05	1.17528	0.161446227
1.17528	3.37E-05	1.17528	0.161534487
1.17528	0.000269	1.17528	0.161583521
1.17362	0.000269	1.17362	0.161632554
1.17362	0.000632	1.17362	0.161671781
1.17362	0.000877	1.17362	0.161671781
1.17196	0.000867	1.17196	0.161671781
1.17196	0.000799	1.17196	0.161671781
1.17196	0.00071	1.17196	0.161711008
1.17196	0.000534	1.17196	0.161760041
1.1703	0.000367	1.1703	0.161809075
1.1703	0.0002	1.1703	0.161809075
1.1703	4.35E-05	1.1703	0.161848302
1.16864	-0.00019	1.16864	0.161907142
1.16864	-0.00027	1.16864	0.161975789
1.16864	-0.00031	1.16864	0.161975789
1.16698	-0.00031	1.16698	0.162015016
1.16698	-0.00031	1.16698	0.162152309
1.16698	-0.00026	1.16698	0.162152309
1.16532	-0.00018	1.16532	0.16221115
1.16532	-0.0001	1.16532	0.162309217
1.16532	2.39E-05	1.16532	0.162348443
1.16366	0.000279	1.16366	0.162426897
1.16366	0.000485	1.16366	0.162524964

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.16366	0.000504	1.16366	0.162524964
1.162	0.000504	1.162	0.162564191
1.162	0.000475	1.162	0.162613224
1.162	0.000426	1.162	0.162662258
1.16034	0.000357	1.16034	0.162662258
1.16034	0.000318	1.16034	0.162711291
1.16034	0.00024	1.16034	0.162779938
1.15868	0.000151	1.15868	0.162878005
1.15868	0.000112	1.15868	0.162927039
1.15868	-2.5E-05	1.15868	0.163025106
1.15702	-2.5E-05	1.15702	0.163103559
1.15702	-2.5E-05	1.15702	0.163240853
1.15702	-2.5E-05	1.15702	0.163407567
1.15536	2.39E-05	1.15536	0.163917515
1.15536	0.000112	1.15536	0.163986162
1.15536	0.000171	1.15536	0.164035196
1.1537	0.000289	1.1537	0.164074423
1.1537	0.000387	1.1537	0.164113649
1.1537	0.000779	1.1537	0.164113649
1.15204	0.001162	1.15204	0.164113649
1.15204	0.001309	1.15204	0.164113649
1.15204	0.001436	1.15204	0.164113649
1.15038	0.001544	1.15038	0.164113649
1.15038	0.001632	1.15038	0.164074423
1.15038	0.001691	1.15038	0.164025389
1.14872	0.00174	1.14872	0.163976356
1.14872	0.001779	1.14872	0.163976356
1.14872	0.001779	1.14872	0.163976356
1.14706	0.001779	1.14706	0.163976356
1.14706	0.001779	1.14706	0.163976356
1.14706	0.001779	1.14706	0.163976356
1.1454	0.001779	1.1454	0.163976356
1.1454	0.001779	1.1454	0.163976356
1.1454	0.001779	1.1454	0.163976356
1.14374	0.001779	1.14374	0.163976356
1.14374	0.001779	1.14374	0.163976356
1.14374	0.001779	1.14374	0.163976356
1.14208	0.00172	1.14208	0.164025389
1.14208	0.001632	1.14208	0.164103843

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.14208	0.001593	1.14208	0.164152876
1.14208	0.001466	1.14208	0.164250943
1.14042	0.001377	1.14042	0.164309783
1.14042	0.001338	1.14042	0.164437271
1.13876	0.001279	1.13876	0.164613791
1.13876	0.00122	1.13876	0.164741278
1.13876	0.00122	1.13876	0.164868765
1.13876	0.001299	1.13876	0.165006059
1.1371	0.001387	1.1371	0.165212
1.1371	0.001573	1.1371	0.165310067
1.1371	0.002299	1.1371	0.165466974
1.13544	0.002476	1.13544	0.165663108
1.13544	0.002633	1.13544	0.165908276
1.13544	0.002789	1.13544	0.166447644
1.13378	0.002937	1.13378	0.166702618
1.13378	0.003044	1.13378	0.166937979
1.13378	0.003152	1.13378	0.1671145
1.13212	0.003211	1.13212	0.167251793
1.13212	0.00326	1.13212	0.167340054
1.13212	0.00326	1.13212	0.167379281
1.13046	0.00326	1.13046	0.167379281
1.13046	0.00326	1.13046	0.167379281
1.13046	0.00326	1.13046	0.167192953
1.1288	0.00326	1.1288	0.167094886
1.1288	0.00326	1.1288	0.166928172
1.1288	0.00326	1.1288	0.166633971
1.12714	0.00326	1.12714	0.166555518
1.12714	0.00326	1.12714	0.166506484
1.12714	0.00326	1.12714	0.166467257
1.12548	0.003299	1.12548	0.166467257
1.12548	0.003446	1.12548	0.166467257
1.12548	0.003574	1.12548	0.166467257
1.12382	0.003662	1.12382	0.166506484
1.12382	0.0038	1.12382	0.166555518
1.12382	0.003986	1.12382	0.166633971
1.12216	0.004202	1.12216	0.166663391
1.12216	0.004457	1.12216	0.166741845
1.12216	0.00477	1.12216	0.166839912
1.1205	0.004819	1.1205	0.166898752

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.1205	0.004819	1.1205	0.167016433
1.1205	0.004819	1.1205	0.167124306
1.11884	0.004819	1.11884	0.16734986
1.11884	0.004819	1.11884	0.16824227
1.11884	0.004819	1.11884	0.168477631
1.11718	0.004751	1.11718	0.168732605
1.11718	0.004643	1.11718	0.168987579
1.11718	0.004594	1.11718	0.169232747
1.11552	0.004486	1.11552	0.169477914
1.11552	0.004408	1.11552	0.169713275
1.11552	0.00429	1.11552	0.169929023
1.11386	0.004241	1.11386	0.170125157
1.11386	0.004123	1.11386	0.17029187
1.11386	0.004162	1.11386	0.170507618
1.1122	0.004251	1.1122	0.170546845
1.1122	0.004349	1.1122	0.170546845
1.1122	0.004506	1.1122	0.170546845
1.11054	0.00478	1.11054	0.170546845
1.11054	0.004859	1.11054	0.170507618
1.11054	0.004937	1.11054	0.170448778
1.10888	0.004986	1.10888	0.170380131
1.10888	0.005025	1.10888	0.170380131
1.10888	0.005025	1.10888	0.170380131
1.10722	0.005025	1.10722	0.170380131
1.10722	0.005025	1.10722	0.170380131
1.10722	0.005025	1.10722	0.170380131
1.10556	0.005025	1.10556	0.170380131
1.10556	0.005025	1.10556	0.170380131
1.10556	0.005065	1.10556	0.170380131
1.10556	0.005123	1.10556	0.170380131
1.1039	0.005192	1.1039	0.170350711
1.1039	0.005486	1.1039	0.170272257
1.10224	0.005771	1.10224	0.170164383
1.10224	0.006183	1.10224	0.169948636
1.10224	0.00681	1.10224	0.169850569
1.10224	0.00782	1.10224	0.169703468
1.10058	0.008163	1.10058	0.169536755
1.10058	0.008458	1.10058	0.169419074
1.09892	0.008673	1.09892	0.169419074

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.09892	0.008811	1.09892	0.169477914
1.09892	0.008879	1.09892	0.169634822
1.09726	0.00884	1.09726	0.169840762
1.09726	0.008752	1.09726	0.170850852
1.09726	0.008624	1.09726	0.171115633
1.09726	0.008271	1.09726	0.171360801
1.0956	0.008007	1.0956	0.171576548
1.0956	0.007722	1.0956	0.171772682
1.09394	0.007408	1.09394	0.171939396
1.09394	0.007075	1.09394	0.172096303
1.09394	0.006722	1.09394	0.172263017
1.09394	0.006369	1.09394	0.172429731
1.09228	0.005722	1.09228	0.172616058
1.09228	0.005447	1.09228	0.173008326
1.09228	0.005231	1.09228	0.173184847
1.09062	0.005094	1.09062	0.173331947
1.09062	0.005035	1.09062	0.173449628
1.09062	0.005035	1.09062	0.173518275
1.08896	0.005035	1.08896	0.173518275
1.08896	0.005123	1.08896	0.173518275
1.08896	0.005271	1.08896	0.173518275
1.0873	0.006183	1.0873	0.173518275
1.0873	0.006516	1.0873	0.173400594
1.0873	0.006859	1.0873	0.173331947
1.08564	0.007163	1.08564	0.173331947
1.08564	0.007448	1.08564	0.173331947
1.08564	0.007683	1.08564	0.173331947
1.08398	0.007869	1.08398	0.173331947
1.08398	0.008007	1.08398	0.173331947
1.08398	0.008114	1.08398	0.173331947
1.08232	0.008193	1.08232	0.173380981
1.08232	0.008242	1.08232	0.173430014
1.08232	0.008281	1.08232	0.173488855
1.08066	0.00832	1.08066	0.173488855
1.08066	0.00832	1.08066	0.173449628
1.08066	0.00832	1.08066	0.173380981
1.079	0.00832	1.079	0.173292721
1.079	0.00836	1.079	0.173243687
1.079	0.008418	1.079	0.173165234

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.07734	0.008467	1.07734	0.173106393
1.07734	0.008467	1.07734	0.17299852
1.07734	0.008467	1.07734	0.172959293
1.07568	0.008517	1.07568	0.172841612
1.07568	0.008566	1.07568	0.172841612
1.07568	0.008615	1.07568	0.172920066
1.07402	0.008615	1.07402	0.173008326
1.07402	0.008615	1.07402	0.17320446
1.07402	0.008615	1.07402	0.173498661
1.07236	0.008615	1.07236	0.173998803
1.07236	0.008615	1.07236	0.17418513
1.07236	0.008615	1.07236	0.174351844
1.0707	0.008566	1.0707	0.174498945
1.0707	0.008438	1.0707	0.174606818
1.0707	0.008438	1.0707	0.174753919
1.06904	0.008399	1.06904	0.174802952
1.06904	0.00835	1.06904	0.174832373
1.06904	0.008281	1.06904	0.174832373
1.06738	0.008281	1.06738	0.174832373
1.06738	0.008281	1.06738	0.174832373
1.06738	0.008281	1.06738	0.174832373
1.06572	0.008281	1.06572	0.174832373
1.06572	0.008281	1.06572	0.174832373
1.06572	0.008281	1.06572	0.174832373
1.06406	0.00834	1.06406	0.174832373
1.06406	0.008428	1.06406	0.174832373
1.06406	0.008477	1.06406	0.174783339
1.06406	0.008585	1.06406	0.174665659
1.0624	0.008673	1.0624	0.174538172
1.0624	0.008811	1.0624	0.174263584
1.06074	0.009007	1.06074	0.173773249
1.06074	0.009301	1.06074	0.173067167
1.06074	0.009654	1.06074	0.170507618
1.06074	0.010076	1.06074	0.170036896
1.05908	0.010664	1.05908	0.169674048
1.05908	0.010664	1.05908	0.169419074
1.05908	0.010664	1.05908	0.1693112
1.05742	0.010586	1.05742	0.169340621
1.05742	0.010439	1.05742	0.169487721

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.05742	0.010076	1.05742	0.169713275
1.05576	0.009831	1.05576	0.169987863
1.05576	0.009585	1.05576	0.170615492
1.05576	0.00935	1.05576	0.170929306
1.0541	0.009007	1.0541	0.171252927
1.0541	0.008928	1.0541	0.171566741
1.0541	0.008909	1.0541	0.171860942
1.05244	0.008968	1.05244	0.172125723
1.05244	0.009046	1.05244	0.172370891
1.05244	0.009262	1.05244	0.172567025
1.05078	0.009497	1.05078	0.172743545
1.05078	0.009772	1.05078	0.172900453
1.05078	0.010066	1.05078	0.17305736
1.04912	0.010684	1.04912	0.173331947
1.04912	0.010998	1.04912	0.173459435
1.04912	0.011272	1.04912	0.173586922
1.04746	0.011537	1.04746	0.173684989
1.04746	0.011772	1.04746	0.173773249
1.04746	0.011949	1.04746	0.173841896
1.0458	0.012096	1.0458	0.173881123
1.0458	0.012184	1.0458	0.173881123
1.0458	0.012214	1.0458	0.173881123
1.04414	0.012174	1.04414	0.173881123
1.04414	0.012116	1.04414	0.173881123
1.04414	0.01191	1.04414	0.173881123
1.04248	0.011596	1.04248	0.173881123
1.04248	0.0114	1.04248	0.173881123
1.04248	0.011223	1.04248	0.173881123
1.04082	0.011076	1.04082	0.173910543
1.04082	0.010988	1.04082	0.173988996
1.04082	0.010949	1.04082	0.17403803
1.03916	0.010978	1.03916	0.17415571
1.03916	0.011037	1.03916	0.174381264
1.03916	0.011262	1.03916	0.174597012
1.0375	0.011596	1.0375	0.174842179
1.0375	0.011821	1.0375	0.175126574
1.0375	0.012008	1.0375	0.175116767
1.03584	0.012174	1.03584	0.175116767
1.03584	0.012302	1.03584	0.175116767

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.03584	0.01238	1.03584	0.175067733
1.03418	0.01238	1.03418	0.1750187
1.03418	0.01238	1.03418	0.17498928
1.03418	0.01238	1.03418	0.17498928
1.03252	0.01238	1.03252	0.175028507
1.03252	0.012322	1.03252	0.175097153
1.03252	0.012243	1.03252	0.175175607
1.03086	0.012243	1.03086	0.175175607
1.03086	0.012184	1.03086	0.175214834
1.03086	0.012106	1.03086	0.175283481
1.0292	0.012106	1.0292	0.175342321
1.0292	0.012047	1.0292	0.175342321
1.0292	0.011968	1.0292	0.175342321
1.02754	0.011851	1.02754	0.175342321
1.02754	0.011753	1.02754	0.175381548
1.02754	0.011714	1.02754	0.175420775
1.02754	0.011645	1.02754	0.175420775
1.02588	0.011566	1.02588	0.175420775
1.02588	0.011566	1.02588	0.175450195
1.02588	0.011566	1.02588	0.175450195
1.02422	0.011566	1.02422	0.175450195
1.02422	0.011615	1.02422	0.175518842
1.02422	0.011812	1.02422	0.175597295
1.02256	0.012008	1.02256	0.175734589
1.02256	0.012292	1.02256	0.175793429
1.02256	0.012724	1.02256	0.175901303
1.0209	0.013439	1.0209	0.175950336
1.0209	0.013704	1.0209	0.17602879
1.0209	0.01394	1.0209	0.17602879
1.01924	0.014146	1.01924	0.176068017
1.01924	0.014312	1.01924	0.176107244
1.01924	0.01445	1.01924	0.176107244
1.01758	0.014616	1.01758	0.176107244
1.01758	0.014665	1.01758	0.176107244
1.01758	0.014695	1.01758	0.17614647
1.01592	0.014695	1.01592	0.176215117
1.01592	0.014695	1.01592	0.176313184
1.01592	0.014695	1.01592	0.176372024
1.01426	0.014695	1.01426	0.176489705

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
1.01426	0.014695	1.01426	0.176558352
1.01426	0.014695	1.01426	0.176666225
1.0126	0.014557	1.0126	0.176695646
1.0126	0.014518	1.0126	0.176744679
1.0126	0.01443	1.0126	0.176744679
1.01094	0.014352	1.01094	0.176744679
1.01094	0.014214	1.01094	0.176685839
1.01094	0.014116	1.01094	0.176587772
1.00928	0.01394	1.00928	0.176548545
1.00928	0.013704	1.00928	0.176489705
1.00928	0.013371	1.00928	0.176421058
1.00762	0.013185	1.00762	0.176421058
1.00762	0.013106	1.00762	0.176421058
1.00762	0.013057	1.00762	0.176538738
1.00596	0.012998	1.00596	0.176587772
1.00596	0.012969	1.00596	0.176676032
1.00596	0.012969	1.00596	0.176725066
1.0043	0.012998	1.0043	0.176803519
1.0043	0.013067	1.0043	0.176803519
1.0043	0.013175	1.0043	0.176803519
1.00264	0.013292	1.00264	0.176803519
1.00264	0.014116	1.00264	0.176803519
1.00264	0.014459	1.00264	0.176803519
1.00098	0.014832	1.00098	0.176744679
1.00098	0.015224	1.00098	0.176607385
1.00098	0.015617	1.00098	0.176489705
0.99932	0.016019	0.99932	0.176401445
0.99932	0.016391	0.99932	0.176273957
0.99932	0.016754	0.99932	0.176126857
0.99766	0.017078	0.99766	0.175979756
0.99766	0.017647	0.99766	0.175881689
0.99766	0.017862	0.99766	0.175979756
0.996	0.018049	0.996	0.176107244
0.996	0.018196	0.996	0.176273957
0.996	0.018294	0.996	0.176676032
0.99434	0.018353	0.99434	0.17689178
0.99434	0.018353	0.99434	0.177107527
0.99434	0.018353	0.99434	0.177303661
0.99434	0.018353	0.99434	0.177480182

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.99268	0.018353	0.99268	0.177637089
0.99268	0.018206	0.99268	0.177784189
0.99268	0.018206	0.99268	0.17793129
0.99102	0.018068	0.99102	0.178088197
0.99102	0.01799	0.99102	0.178254911
0.99102	0.017862	0.99102	0.178617759
0.98936	0.017637	0.98936	0.178804086
0.98936	0.017539	0.98936	0.17900022
0.98936	0.017441	0.98936	0.179186547
0.9877	0.017343	0.9877	0.179363068
0.9877	0.017264	0.9877	0.179510168
0.9877	0.017186	0.9877	0.179637656
0.98604	0.017088	0.98604	0.179725916
0.98604	0.017088	0.98604	0.179774949
0.98604	0.017088	0.98604	0.179774949
0.98438	0.017088	0.98438	0.179774949
0.98438	0.017088	0.98438	0.179774949
0.98438	0.017088	0.98438	0.179774949
0.98272	0.017088	0.98272	0.179774949
0.98272	0.017137	0.98272	0.179774949
0.98272	0.017195	0.98272	0.179745529
0.98106	0.017264	0.98106	0.179745529
0.98106	0.017264	0.98106	0.179745529
0.98106	0.017303	0.98106	0.179745529
0.9794	0.017352	0.9794	0.179745529
0.9794	0.017401	0.9794	0.179774949
0.9794	0.017401	0.9794	0.17992205
0.97774	0.017401	0.97774	0.17992205
0.97774	0.017441	0.97774	0.179990697
0.97774	0.01749	0.97774	0.180078957
0.97608	0.017548	0.97608	0.180078957
0.97608	0.017548	0.97608	0.180118184
0.97608	0.017598	0.97608	0.180167217
0.97442	0.017666	0.97442	0.180216251
0.97442	0.017745	0.97442	0.180216251
0.97442	0.017745	0.97442	0.18006915
0.97276	0.017803	0.97276	0.180029924
0.97276	0.017902	0.97276	0.17995147
0.97276	0.01796	0.97276	0.17995147

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.9711	0.018088	0.9711	0.17995147
0.9711	0.018206	0.9711	0.17995147
0.9711	0.018617	0.9711	0.180020117
0.96944	0.018892	0.96944	0.180177024
0.96944	0.019206	0.96944	0.180343738
0.96944	0.019206	0.96944	0.180618326
0.96778	0.019167	0.96778	0.181118467
0.96778	0.019098	0.96778	0.182765993
0.96778	0.01902	0.96778	0.183001354
0.96612	0.018941	0.96612	0.183187681
0.96612	0.018843	0.96612	0.183295555
0.96612	0.018774	0.96612	0.183344588
0.96446	0.018696	0.96446	0.183344588
0.96446	0.018696	0.96446	0.183344588
0.96446	0.018696	0.96446	0.183295555
0.9628	0.018696	0.9628	0.183207294
0.9628	0.018765	0.9628	0.183109227
0.9628	0.018863	0.9628	0.182560052
0.96114	0.018931	0.96114	0.182344305
0.96114	0.019059	0.96114	0.182128557
0.96114	0.019167	0.96114	0.18188339
0.96114	0.019304	0.96114	0.181657836
0.95948	0.019735	0.95948	0.181451895
0.95948	0.019775	0.95948	0.181275374
0.95782	0.019775	0.95782	0.181138081
0.95782	0.019775	0.95782	0.181040014
0.95782	0.019775	0.95782	0.18099098
0.95782	0.019775	0.95782	0.18099098
0.95616	0.019775	0.95616	0.18099098
0.95616	0.019775	0.95616	0.181040014
0.95616	0.019775	0.95616	0.181147887
0.9545	0.019735	0.9545	0.181265568
0.9545	0.019696	0.9545	0.181500929
0.9545	0.019647	0.9545	0.18197165
0.95284	0.019647	0.95284	0.182226624
0.95284	0.019618	0.95284	0.182442372
0.95284	0.019549	0.95284	0.18280522
0.95118	0.019461	0.95118	0.182932707
0.95118	0.019412	0.95118	0.183020967

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.95118	0.019314	0.95118	0.183079807
0.94952	0.019225	0.94952	0.183079807
0.94952	0.018872	0.94952	0.183079807
0.94952	0.018617	0.94952	0.183079807
0.94786	0.018225	0.94786	0.183079807
0.94786	0.018117	0.94786	0.183079807
0.94786	0.018019	0.94786	0.183079807
0.9462	0.017931	0.9462	0.183030774
0.9462	0.017853	0.9462	0.182971934
0.9462	0.017794	0.9462	0.182903287
0.94454	0.017754	0.94454	0.182903287
0.94454	0.017794	0.94454	0.18283464
0.94454	0.017862	0.94454	0.182736573
0.94288	0.01796	0.94288	0.182687539
0.94288	0.018049	0.94288	0.182579666
0.94288	0.018225	0.94288	0.182520825
0.94122	0.018598	0.94122	0.182412952
0.94122	0.018755	0.94122	0.182334498
0.94122	0.018872	0.94122	0.182334498
0.93956	0.018961	0.93956	0.182334498
0.93956	0.018961	0.93956	0.182403145
0.93956	0.018961	0.93956	0.182530632
0.9379	0.018882	0.9379	0.182628699
0.9379	0.018735	0.9379	0.182785606
0.9379	0.01796	0.9379	0.183001354
0.93624	0.004153	0.93624	0.183256328
0.93624	0.003711	0.93624	0.183579949
0.93624	0.003584	0.93624	0.183609369
0.93458	0.003368	0.93458	0.183540722
0.93458	0.003309	0.93458	0.183442655
0.93458	0.003241	0.93458	0.183344588
0.93292	0.003397	0.93292	0.183089614
0.93292	0.003652	0.93292	0.182942513
0.93292	0.003819	0.93292	0.182795413
0.93126	0.004143	0.93126	0.182658119
0.93126	0.00429	0.93126	0.182560052
0.93126	0.004535	0.93126	0.182393338
0.9296	0.004604	0.9296	0.182344305
0.9296	0.00477	0.9296	0.182305078

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.9296	0.004849	0.9296	0.182305078
0.92794	0.005016	0.92794	0.182305078
0.92794	0.005094	0.92794	0.182334498
0.92794	0.005339	0.92794	0.182383532
0.92794	0.005516	0.92794	0.182442372
0.92628	0.005624	0.92628	0.182442372
0.92628	0.005839	0.92628	0.182501212
0.92462	0.005937	0.92462	0.182599279
0.92462	0.006026	0.92462	0.182785606
0.92462	0.006202	0.92462	0.182903287
0.92462	0.006271	0.92462	0.183109227
0.92296	0.006369	0.92296	0.183481882
0.92296	0.006585	0.92296	0.183638789
0.92296	0.006634	0.92296	0.183805503
0.9213	0.006712	0.9213	0.183972217
0.9213	0.006771	0.9213	0.184109511
0.9213	0.006771	0.9213	0.184207578
0.91964	0.00683	0.91964	0.184305645
0.91964	0.006889	0.91964	0.184305645
0.91964	0.006957	0.91964	0.184305645
0.91798	0.006957	0.91798	0.184217384
0.91798	0.007006	0.91798	0.184089897
0.91798	0.007075	0.91798	0.18384473
0.91632	0.007163	0.91632	0.183344588
0.91632	0.007291	0.91632	0.183089614
0.91632	0.007379	0.91632	0.182844446
0.91466	0.007516	0.91466	0.182609086
0.91466	0.007742	0.91466	0.182422758
0.91466	0.00781	0.91466	0.182118751
0.913	0.007859	0.913	0.18200107
0.913	0.007859	0.913	0.18191281
0.913	0.007859	0.913	0.181844163
0.91134	0.00781	0.91134	0.181785323
0.91134	0.007722	0.91134	0.181726483
0.91134	0.007654	0.91134	0.181687256
0.90968	0.007516	0.90968	0.181687256
0.90968	0.007389	0.90968	0.181687256
0.90968	0.007193	0.90968	0.181687256
0.90802	0.006849	0.90802	0.181648029

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.90802	0.006732	0.90802	0.181579382
0.90802	0.006614	0.90802	0.181481315
0.90636	0.006516	0.90636	0.181412668
0.90636	0.006418	0.90636	0.181275374
0.90636	0.006271	0.90636	0.181147887
0.9047	0.006212	0.9047	0.180912527
0.9047	0.006183	0.9047	0.180618326
0.9047	0.006183	0.9047	0.180216251
0.90304	0.006183	0.90304	0.180275091
0.90304	0.006183	0.90304	0.180353545
0.90304	0.006183	0.90304	0.180559485
0.90138	0.006232	0.90138	0.180755619
0.90138	0.00629	0.90138	0.180951753
0.90138	0.006359	0.90138	0.181128274
0.89972	0.006418	0.89972	0.181294988
0.89972	0.006496	0.89972	0.181432282
0.89972	0.006545	0.89972	0.181677449
0.89806	0.006634	0.89806	0.18179513
0.89806	0.006712	0.89806	0.18194223
0.89806	0.006879	0.89806	0.182089331
0.8964	0.007114	0.8964	0.182265851
0.8964	0.007526	0.8964	0.182442372
0.8964	0.007663	0.8964	0.182599279
0.89474	0.007869	0.89474	0.182746379
0.89474	0.007869	0.89474	0.182844446
0.89474	0.007869	0.89474	0.18289348
0.89308	0.007869	0.89308	0.18289348
0.89308	0.00783	0.89308	0.182824833
0.89308	0.007752	0.89308	0.182707153
0.89142	0.007634	0.89142	0.182589472
0.89142	0.007438	0.89142	0.182363918
0.89142	0.007055	0.89142	0.18194223
0.88976	0.006869	0.88976	0.181746096
0.88976	0.006555	0.88976	0.181579382
0.88976	0.006447	0.88976	0.181442088
0.88976	0.006359	0.88976	0.181334215
0.8881	0.0063	0.8881	0.181285181
0.8881	0.006261	0.8881	0.181285181
0.8881	0.006261	0.8881	0.181363635

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.88644	0.006261	0.88644	0.181471508
0.88644	0.006261	0.88644	0.181549962
0.88644	0.006261	0.88644	0.181726483
0.88478	0.006261	0.88478	0.18205991
0.88478	0.006261	0.88478	0.182197204
0.88478	0.0063	0.88478	0.182314885
0.88312	0.006349	0.88312	0.182403145
0.88312	0.006408	0.88312	0.182452178
0.88312	0.006408	0.88312	0.182452178
0.88146	0.006447	0.88146	0.182452178
0.88146	0.006496	0.88146	0.182452178
0.88146	0.006575	0.88146	0.182452178
0.8798	0.006604	0.8798	0.182452178
0.8798	0.006683	0.8798	0.182452178
0.8798	0.006898	0.8798	0.182412952
0.87814	0.006996	0.87814	0.182363918
0.87814	0.007163	0.87814	0.182314885
0.87814	0.007379	0.87814	0.182314885
0.87648	0.007644	0.87648	0.182314885
0.87648	0.007987	0.87648	0.182363918
0.87648	0.008036	0.87648	0.182422758
0.87482	0.008036	0.87482	0.182491405
0.87482	0.008036	0.87482	0.182491405
0.87482	0.008036	0.87482	0.182530632
0.87316	0.008036	0.87316	0.182579666
0.87316	0.008036	0.87316	0.182628699
0.87316	0.008036	0.87316	0.182628699
0.8715	0.007997	0.8715	0.182628699
0.8715	0.007948	0.8715	0.182579666
0.8715	0.007899	0.8715	0.182520825
0.86984	0.007899	0.86984	0.182442372
0.86984	0.007899	0.86984	0.182442372
0.86984	0.007859	0.86984	0.182393338
0.86818	0.007742	0.86818	0.182344305
0.86818	0.007742	0.86818	0.182285465
0.86818	0.007693	0.86818	0.182285465
0.86652	0.007634	0.86652	0.182324691
0.86652	0.007555	0.86652	0.182393338
0.86652	0.007555	0.86652	0.182550245

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.86486	0.007516	0.86486	0.182658119
0.86486	0.007467	0.86486	0.182736573
0.86486	0.007418	0.86486	0.182873867
0.8632	0.007418	0.8632	0.183089614
0.8632	0.007418	0.8632	0.183383815
0.8632	0.007379	0.8632	0.18384473
0.86154	0.00732	0.86154	0.184031057
0.86154	0.007251	0.86154	0.184227191
0.86154	0.007212	0.86154	0.184462552
0.85988	0.007124	0.85988	0.1849725
0.85988	0.007055	0.85988	0.185217668
0.85988	0.006938	0.85988	0.185443222
0.85822	0.006938	0.85822	0.185639356
0.85822	0.007036	0.85822	0.185786456
0.85822	0.007232	0.85822	0.185874717
0.85656	0.007663	0.85656	0.18592375
0.85656	0.007657	0.85656	0.18592375
0.85656	0.007922	0.85656	0.185874717
0.85656	0.008147	0.85656	0.185708003
0.8549	0.008334	0.8549	0.185629549
0.8549	0.00849	0.8549	0.185462835
0.8549	0.008598	0.8549	0.185129408
0.85324	0.008667	0.85324	0.1849725
0.85324	0.008667	0.85324	0.184835207
0.85324	0.008667	0.85324	0.184727333
0.85158	0.008245	0.85158	0.184648879
0.85158	0.008347	0.85158	0.184629266
0.85158	0.006808	0.85158	0.184668493
0.84992	0.006837	0.84992	0.18485482
0.84992	0.006955	0.84992	0.184992114
0.84992	0.007151	0.84992	0.185394188
0.84826	0.007151	0.84826	0.185658969
0.84826	0.007151	0.84826	0.185913944
0.84826	0.007112	0.84826	0.186159111
0.8466	0.007112	0.8466	0.186374858
0.8466	0.007141	0.8466	0.186561186
0.8466	0.007229	0.8466	0.186708286
0.84494	0.007435	0.84494	0.18681616
0.84494	0.007612	0.84494	0.186875

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.84494	0.008092	0.84494	0.18690442
0.84328	0.008377	0.84328	0.18690442
0.84328	0.008435	0.84328	0.186875
0.84328	0.008592	0.84328	0.18681616
0.84162	0.008563	0.84162	0.186737706
0.84162	0.008583	0.84162	0.18669848
0.84162	0.008514	0.84162	0.186629833
0.83996	0.008475	0.83996	0.186531766
0.83996	0.008435	0.83996	0.186482732
0.83996	0.008435	0.83996	0.186335632
0.8383	0.008377	0.8383	0.186237565
0.8383	0.008249	0.8383	0.186159111
0.8383	0.008249	0.8383	0.186051237
0.83664	0.00819	0.83664	0.186002204
0.83664	0.008112	0.83664	0.185913944
0.83664	0.008043	0.83664	0.18586491
0.83498	0.007945	0.83498	0.185786456
0.83498	0.007867	0.83498	0.185737423
0.83498	0.00772	0.83498	0.185688389
0.83332	0.007425	0.83332	0.185649163
0.83332	0.0072	0.83332	0.18571781
0.83332	0.00718	0.83332	0.18583549
0.83166	0.00718	0.83166	0.185933557
0.83166	0.007259	0.83166	0.186129691
0.83166	0.007523	0.83166	0.186482732
0.83	0.007788	0.83	0.186639639
0.83	0.008131	0.83	0.186767126
0.83	0.008514	0.83	0.18684558
0.82834	0.008916	0.82834	0.18684558
0.82834	0.00973	0.82834	0.18684558
0.82834	0.010093	0.82834	0.18678674
0.82668	0.010416	0.82668	0.186678866
0.82668	0.010681	0.82668	0.186570992
0.82668	0.010917	0.82668	0.186394472
0.82502	0.011113	0.82502	0.186080657
0.82502	0.011299	0.82502	0.185992397
0.82502	0.011456	0.82502	0.185943364
0.82336	0.011593	0.82336	0.185943364
0.82336	0.011721	0.82336	0.185943364

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.82336	0.011848	0.82336	0.185943364
0.82336	0.011848	0.82336	0.186129691
0.8217	0.011799	0.8217	0.186217951
0.8217	0.011721	0.8217	0.186365052
0.82004	0.011593	0.82004	0.186580799
0.82004	0.01124	0.82004	0.186943647
0.82004	0.010966	0.82004	0.187080941
0.82004	0.010681	0.82004	0.187188815
0.81838	0.010407	0.81838	0.187306495
0.81838	0.009916	0.81838	0.187394755
0.81838	0.00974	0.81838	0.187541856
0.81672	0.009622	0.81672	0.187590889
0.81672	0.009573	0.81672	0.187630116
0.81672	0.009573	0.81672	0.187630116
0.81506	0.009573	0.81506	0.187630116
0.81506	0.009573	0.81506	0.187571276
0.81506	0.009622	0.81506	0.187512436
0.8134	0.009691	0.8134	0.187433982
0.8134	0.009779	0.8134	0.187433982
0.8134	0.009779	0.8134	0.187375142
0.81174	0.009867	0.81174	0.187306495
0.81174	0.009867	0.81174	0.187247655
0.81174	0.009867	0.81174	0.187306495
0.81008	0.009867	0.81008	0.187424175
0.81008	0.009808	0.81008	0.187522242
0.81008	0.00971	0.81008	0.18773799
0.80842	0.009642	0.80842	0.188061611
0.80842	0.009495	0.80842	0.188581366
0.80842	0.009387	0.80842	0.188728466
0.80676	0.008936	0.80676	0.188797113
0.80676	0.008622	0.80676	0.18883634
0.80676	0.008269	0.80676	0.188787307
0.8051	0.008269	0.8051	0.188699046
0.8051	0.008308	0.8051	0.188571559
0.8051	0.008357	0.8051	0.188355812
0.80344	0.008435	0.80344	0.187934124
0.80344	0.008524	0.80344	0.187757603
0.80344	0.008769	0.80344	0.187600696
0.80178	0.008936	0.80178	0.187345722

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.80178	0.009122	0.80178	0.187237848
0.80178	0.009524	0.80178	0.187139781
0.80012	0.00973	0.80012	0.187041714
0.80012	0.009916	0.80012	0.186953454
0.80012	0.010083	0.80012	0.186884807
0.79846	0.01023	0.79846	0.186825967
0.79846	0.010328	0.79846	0.186796547
0.79846	0.010397	0.79846	0.186796547
0.7968	0.010446	0.7968	0.186796547
0.7968	0.010446	0.7968	0.186855387
0.7968	0.010358	0.7968	0.18696326
0.79514	0.01023	0.79514	0.187267268
0.79514	0.009985	0.79514	0.187590889
0.79514	0.009534	0.79514	0.188149871
0.79348	0.009348	0.79348	0.188365619
0.79348	0.009191	0.79348	0.188561753
0.79348	0.009093	0.79348	0.188708853
0.79182	0.009034	0.79182	0.188826533
0.79182	0.009034	0.79182	0.18889518
0.79182	0.009034	0.79182	0.188934407
0.79016	0.009093	0.79016	0.188934407
0.79016	0.009181	0.79016	0.188934407
0.79016	0.009259	0.79016	0.18886576
0.7885	0.009387	0.7885	0.1887775
0.7885	0.009514	0.7885	0.188708853
0.7885	0.009701	0.7885	0.188610786
0.78684	0.010024	0.78684	0.188522526
0.78684	0.010181	0.78684	0.188385232
0.78684	0.010348	0.78684	0.188169485
0.78684	0.010564	0.78684	0.188041997
0.78518	0.010789	0.78518	0.187992964
0.78518	0.011338	0.78518	0.187963544
0.78352	0.011613	0.78352	0.187963544
0.78352	0.011858	0.78352	0.187963544
0.78352	0.012093	0.78352	0.187963544
0.78186	0.01229	0.78186	0.187963544
0.78186	0.012466	0.78186	0.188002771
0.78186	0.012613	0.78186	0.188061611
0.78186	0.01276	0.78186	0.188120451

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.7802	0.012986	0.7802	0.188120451
0.7802	0.013064	0.7802	0.188296972
0.7802	0.013113	0.7802	0.188365619
0.77854	0.013113	0.77854	0.188512719
0.77854	0.013113	0.77854	0.188640206
0.77854	0.013054	0.77854	0.188875567
0.77688	0.012947	0.77688	0.189199188
0.77688	0.012829	0.77688	0.18966991
0.77688	0.012564	0.77688	0.18975817
0.77522	0.011976	0.77522	0.18975817
0.77522	0.011642	0.77522	0.189709136
0.77522	0.011299	0.77522	0.189601263
0.77356	0.010691	0.77356	0.189473776
0.77356	0.010446	0.77356	0.189199188
0.77356	0.01024	0.77356	0.188650013
0.7719	0.010103	0.7719	0.188365619
0.7719	0.010005	0.7719	0.188120451
0.7719	0.009936	0.7719	0.187904704
0.77024	0.009887	0.77024	0.187728183
0.77024	0.009887	0.77024	0.187590889
0.77024	0.009857	0.77024	0.187375142
0.76858	0.009818	0.76858	0.187296688
0.76858	0.009818	0.76858	0.187218235
0.76858	0.009779	0.76858	0.187149588
0.76692	0.00971	0.76692	0.187090748
0.76692	0.009622	0.76692	0.187051521
0.76692	0.009544	0.76692	0.187051521
0.76526	0.009348	0.76526	0.187090748
0.76526	0.009014	0.76526	0.187149588
0.76526	0.008435	0.76526	0.187237848
0.7636	0.008249	0.7636	0.187551662
0.7636	0.0082	0.7636	0.187551662
0.7636	0.008328	0.7636	0.188336198
0.76194	0.008651	0.76194	0.188640206
0.76194	0.009534	0.76194	0.1889246
0.76194	0.01023	0.76194	0.189179575
0.76028	0.011024	0.76028	0.189405129
0.76028	0.011848	0.76028	0.189571843
0.76028	0.012623	0.76028	0.189709136

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.75862	0.01329	0.75862	0.189807203
0.75862	0.013761	0.75862	0.18987585
0.75862	0.014074	0.75862	0.189973917
0.75696	0.014074	0.75696	0.189973917
0.75696	0.013947	0.75696	0.190013144
0.75696	0.013741	0.75696	0.190013144
0.7553	0.013339	0.7553	0.190062178
0.7553	0.013211	0.7553	0.190130825
0.7553	0.013172	0.7553	0.190199471
0.75364	0.013172	0.75364	0.190199471
0.75364	0.01326	0.75364	0.190238698
0.75364	0.013466	0.75364	0.190277925
0.75198	0.014427	0.75198	0.190277925
0.75198	0.01482	0.75198	0.190277925
0.75198	0.015153	0.75198	0.190277925
0.75032	0.015379	0.75032	0.190209278
0.75032	0.015477	0.75032	0.190111211
0.75032	0.015437	0.75032	0.190071984
0.74866	0.01533	0.74866	0.189993531
0.74866	0.014996	0.74866	0.189944497
0.74866	0.014643	0.74866	0.189866044
0.74866	0.014231	0.74866	0.189866044
0.747	0.013329	0.747	0.189767977
0.747	0.012888	0.747	0.189718943
0.747	0.012486	0.747	0.189718943
0.74534	0.012142	0.74534	0.189718943
0.74534	0.011878	0.74534	0.189718943
0.74534	0.011711	0.74534	0.189718943
0.74368	0.011623	0.74368	0.189718943
0.74368	0.011613	0.74368	0.189718943
0.74368	0.011682	0.74368	0.189718943
0.74202	0.011927	0.74202	0.189611069
0.74202	0.012084	0.74202	0.189532616
0.74202	0.01227	0.74202	0.189493389
0.74036	0.012486	0.74036	0.189424742
0.74036	0.012731	0.74036	0.189316868
0.74036	0.013015	0.74036	0.189277642
0.7387	0.013329	0.7387	0.189199188
0.7387	0.013662	0.7387	0.189150155

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.7387	0.011016	0.7387	0.189061894
0.73704	0.011359	0.73704	0.189012861
0.73704	0.011682	0.73704	0.1889246
0.73704	0.012192	0.73704	0.188787307
0.73538	0.012369	0.73538	0.188728466
0.73538	0.012467	0.73538	0.188640206
0.73538	0.012496	0.73538	0.188581366
0.73372	0.012496	0.73372	0.188493106
0.73372	0.012418	0.73372	0.188493106
0.73372	0.012222	0.73372	0.188453879
0.73206	0.012065	0.73206	0.188414652
0.73206	0.011898	0.73206	0.188414652
0.73206	0.011614	0.73206	0.188414652
0.7304	0.011525	0.7304	0.188483299
0.7304	0.011476	0.7304	0.188581366
0.7304	0.011476	0.7304	0.188640206
0.72874	0.011476	0.72874	0.18874808
0.72874	0.011476	0.72874	0.18883634
0.72874	0.011506	0.72874	0.188973634
0.72708	0.011584	0.72708	0.189150155
0.72708	0.011673	0.72708	0.18981701
0.72708	0.01181	0.72708	0.189964111
0.72542	0.012026	0.72542	0.190121018
0.72542	0.012428	0.72542	0.190268118
0.72542	0.012781	0.72542	0.190395605
0.72376	0.012996	0.72376	0.190503479
0.72376	0.013232	0.72376	0.190552513
0.72376	0.013497	0.72376	0.190552513
0.7221	0.013781	0.7221	0.190552513
0.7221	0.014095	0.7221	0.190552513
0.7221	0.014399	0.7221	0.190503479
0.72044	0.014673	0.72044	0.190415219
0.72044	0.014919	0.72044	0.190170051
0.72044	0.015154	0.72044	0.189915077
0.71878	0.015115	0.71878	0.189454162
0.71878	0.014977	0.71878	0.189267835
0.71878	0.014713	0.71878	0.189091314
0.71712	0.01434	0.71712	0.1889246
0.71712	0.013879	0.71712	0.188787307

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.71712	0.013359	0.71712	0.188669626
0.71546	0.01281	0.71546	0.188571559
0.71546	0.012281	0.71546	0.188414652
0.71546	0.011359	0.71546	0.188355812
0.71546	0.010996	0.71546	0.188277358
0.7138	0.010711	0.7138	0.188247938
0.7138	0.010476	0.7138	0.188169485
0.71214	0.010319	0.71214	0.188081224
0.71214	0.010211	0.71214	0.188022384
0.71214	0.010143	0.71214	0.18791451
0.71214	0.010103	0.71214	0.18782625
0.71048	0.010103	0.71048	0.187483016
0.71048	0.010103	0.71048	0.187433982
0.71048	0.010153	0.71048	0.187433982
0.70882	0.010319	0.70882	0.187433982
0.70882	0.010447	0.70882	0.187433982
0.70882	0.010672	0.70882	0.187473209
0.70716	0.011074	0.70716	0.187541856
0.70716	0.011231	0.70716	0.187620309
0.70716	0.011378	0.70716	0.187669343
0.7055	0.011486	0.7055	0.18773799
0.7055	0.011555	0.7055	0.187836057
0.7055	0.011604	0.7055	0.18788509
0.70384	0.011565	0.70384	0.188051804
0.70384	0.011476	0.70384	0.188198905
0.70384	0.011359	0.70384	0.188493106
0.70218	0.011133	0.70218	0.188630399
0.70218	0.010721	0.70218	0.188767693
0.70218	0.010545	0.70218	0.188904987
0.70052	0.010427	0.70052	0.189012861
0.70052	0.010368	0.70052	0.189120734
0.70052	0.010368	0.70052	0.189218801
0.69886	0.010427	0.69886	0.189405129
0.69886	0.010545	0.69886	0.189503196
0.69886	0.011231	0.69886	0.189630683
0.6972	0.011565	0.6972	0.18975817
0.6972	0.011908	0.6972	0.189885657
0.6972	0.012232	0.6972	0.190003337
0.69554	0.012487	0.69554	0.190111211

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.69554	0.012663	0.69554	0.190199471
0.69554	0.012741	0.69554	0.190258312
0.69388	0.012741	0.69388	0.190297538
0.69388	0.012673	0.69388	0.190297538
0.69388	0.012408	0.69388	0.190238698
0.69222	0.012251	0.69222	0.190160245
0.69222	0.012143	0.69222	0.190081791
0.69222	0.012084	0.69222	0.189954304
0.69056	0.012084	0.69056	0.18984643
0.69056	0.012084	0.69056	0.18966991
0.69056	0.012143	0.69056	0.189365902
0.6889	0.012271	0.6889	0.189238415
0.6889	0.012408	0.6889	0.188993247
0.6889	0.012702	0.6889	0.188885374
0.68724	0.011624	0.68724	0.188787307
0.68724	0.011624	0.68724	0.188708853
0.68724	0.012242	0.68724	0.188650013
0.68558	0.012507	0.68558	0.188600979
0.68558	0.012732	0.68558	0.188551946
0.68558	0.012919	0.68558	0.188551946
0.68392	0.013056	0.68392	0.188551946
0.68392	0.013144	0.68392	0.188551946
0.68392	0.013213	0.68392	0.188551946
0.68226	0.013252	0.68226	0.188551946
0.68226	0.013252	0.68226	0.188551946
0.68226	0.013252	0.68226	0.188551946
0.68226	0.013291	0.68226	0.188600979
0.6806	0.013321	0.6806	0.188669626
0.6806	0.013321	0.6806	0.18874808
0.6806	0.01337	0.6806	0.18874808
0.67894	0.013438	0.67894	0.188816727
0.67894	0.013527	0.67894	0.18889518
0.67894	0.013527	0.67894	0.188934407
0.67728	0.013566	0.67728	0.188973634
0.67728	0.013674	0.67728	0.189012861
0.67728	0.013674	0.67728	0.189012861
0.67562	0.013615	0.67562	0.189012861
0.67562	0.013507	0.67562	0.188963827
0.67562	0.013409	0.67562	0.188914794

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.67396	0.013223	0.67396	0.18886576
0.67396	0.012919	0.67396	0.18886576
0.67396	0.012448	0.67396	0.188914794
0.6723	0.011683	0.6723	0.189003054
0.6723	0.011408	0.6723	0.189199188
0.6723	0.010967	0.6723	0.189316868
0.67064	0.0108	0.67064	0.189493389
0.67064	0.010663	0.67064	0.18969933
0.67064	0.010536	0.67064	0.189924884
0.66898	0.010428	0.66898	0.190121018
0.66898	0.01032	0.66898	0.190032758
0.66898	0.010202	0.66898	0.18987585
0.66732	0.010104	0.66732	0.18969933
0.66732	0.010026	0.66732	0.189287448
0.66732	0.009986	0.66732	0.189140348
0.66566	0.009986	0.66566	0.189042281
0.66566	0.010114	0.66566	0.189042281
0.66566	0.010241	0.66566	0.189042281
0.664	0.010496	0.664	0.189081508
0.664	0.011036	0.664	0.189189381
0.664	0.01131	0.664	0.189316868
0.66234	0.011555	0.66234	0.189581649
0.66234	0.011752	0.66234	0.190111211
0.66234	0.011859	0.66234	0.190581933
0.66068	0.011879	0.66068	0.190581933
0.66068	0.011703	0.66068	0.190915361
0.66068	0.011438	0.66068	0.191003621
0.65902	0.011173	0.65902	0.191042848
0.65902	0.010898	0.65902	0.191042848
0.65902	0.010634	0.65902	0.191042848
0.65736	0.010398	0.65736	0.191042848
0.65736	0.010232	0.65736	0.191042848
0.65736	0.010114	0.65736	0.191042848
0.65736	0.010114	0.65736	0.191042848
0.6557	0.010114	0.6557	0.191042848
0.6557	0.0103	0.6557	0.191042848
0.65404	0.010437	0.65404	0.191042848
0.65404	0.01081	0.65404	0.191111495
0.65404	0.011055	0.65404	0.191219368

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.65404	0.0113	0.65404	0.191297822
0.65238	0.011555	0.65238	0.191435116
0.65238	0.011781	0.65238	0.191641056
0.65072	0.010987	0.65072	0.191896031
0.65072	0.011163	0.65072	0.192200038
0.65072	0.011409	0.65072	0.192543273
0.64906	0.011477	0.64906	0.192553079
0.64906	0.011507	0.64906	0.192553079
0.64906	0.011507	0.64906	0.192494239
0.64906	0.011507	0.64906	0.192425592
0.6474	0.011507	0.6474	0.192337332
0.6474	0.011467	0.6474	0.192278492
0.6474	0.011389	0.6474	0.192170618
0.64574	0.011301	0.64574	0.192052938
0.64574	0.011212	0.64574	0.191827384
0.64574	0.011154	0.64574	0.191101688
0.64408	0.011154	0.64408	0.190846714
0.64408	0.011154	0.64408	0.190591739
0.64408	0.011203	0.64408	0.190375992
0.64242	0.011271	0.64242	0.190170051
0.64242	0.01135	0.64242	0.190013144
0.64242	0.01135	0.64242	0.18987585
0.64076	0.01135	0.64076	0.189767977
0.64076	0.011389	0.64076	0.189679716
0.64076	0.011389	0.64076	0.189532616
0.6391	0.011389	0.6391	0.189483582
0.6391	0.01134	0.6391	0.189434549
0.6391	0.011262	0.6391	0.189385515
0.63744	0.011203	0.63744	0.189385515
0.63744	0.011105	0.63744	0.189385515
0.63744	0.011046	0.63744	0.189385515
0.63578	0.010938	0.63578	0.189385515
0.63578	0.010899	0.63578	0.189424742
0.63578	0.01085	0.63578	0.189493389
0.63412	0.010801	0.63412	0.189581649
0.63412	0.01085	0.63412	0.189748363
0.63412	0.010928	0.63412	0.189856237
0.63246	0.010977	0.63246	0.190062178
0.63246	0.011085	0.63246	0.190385799

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.63246	0.011154	0.63246	0.19088594
0.6308	0.011281	0.6308	0.191062461
0.6308	0.01135	0.6308	0.191170335
0.6308	0.011438	0.6308	0.191248788
0.62914	0.011438	0.62914	0.191248788
0.62914	0.011438	0.62914	0.191131108
0.62914	0.011291	0.62914	0.190984007
0.62748	0.011203	0.62748	0.190581933
0.62748	0.011046	0.62748	0.190297538
0.62748	0.01082	0.62748	0.189983724
0.62582	0.010467	0.62582	0.189679716
0.62582	0.010389	0.62582	0.189405129
0.62582	0.010389	0.62582	0.189150155
0.62416	0.010389	0.62416	0.188954021
0.62416	0.010389	0.62416	0.188787307
0.62416	0.010506	0.62416	0.188630399
0.62416	0.010595	0.62416	0.188630399
0.6225	0.010634	0.6225	0.188630399
0.6225	0.010683	0.6225	0.188630399
0.6225	0.010742	0.6225	0.18868924
0.62084	0.010742	0.62084	0.1887775
0.62084	0.010742	0.62084	0.18883634
0.62084	0.010703	0.62084	0.188944214
0.61918	0.010634	0.61918	0.189003054
0.61918	0.010575	0.61918	0.189120734
0.61918	0.010575	0.61918	0.189336482
0.61752	0.010536	0.61752	0.189650296
0.61752	0.010497	0.61752	0.189836624
0.61752	0.010497	0.61752	0.190032758
0.61586	0.010497	0.61586	0.190228892
0.61586	0.010497	0.61586	0.190434832
0.61586	0.010497	0.61586	0.190601546
0.6142	0.010497	0.6142	0.190729033
0.6142	0.010536	0.6142	0.19079768
0.6142	0.010575	0.6142	0.19079768
0.61254	0.010614	0.61254	0.19073884
0.61254	0.010614	0.61254	0.190630966
0.61254	0.010614	0.61254	0.190532899
0.61088	0.010565	0.61088	0.190326959

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.61088	0.010506	0.61088	0.189973917
0.61088	0.010438	0.61088	0.189836624
0.60922	0.010438	0.60922	0.189738557
0.60922	0.010438	0.60922	0.189679716
0.60922	0.010438	0.60922	0.189679716
0.60756	0.010438	0.60756	0.189679716
0.60756	0.010497	0.60756	0.189679716
0.60756	0.010595	0.60756	0.189748363
0.6059	0.010673	0.6059	0.18984643
0.6059	0.01081	0.6059	0.189924884
0.6059	0.010928	0.6059	0.190052371
0.60424	0.011095	0.60424	0.190248505
0.60424	0.01132	0.60424	0.190591739
0.60424	0.011664	0.60424	0.190689806
0.60258	0.012026	0.60258	0.190689806
0.60258	0.012409	0.60258	0.190689806
0.60258	0.012409	0.60258	0.190689806
0.60092	0.012409	0.60092	0.190454446
0.60092	0.012458	0.60092	0.190179858
0.60092	0.012527	0.60092	0.189601263
0.59926	0.012595	0.59926	0.189307062
0.59926	0.012644	0.59926	0.189032474
0.59926	0.012723	0.59926	0.188787307
0.5976	0.012772	0.5976	0.188591173
0.5976	0.01285	0.5976	0.188463686
0.5976	0.012919	0.5976	0.188385232
0.59594	0.01288	0.59594	0.188385232
0.59594	0.012831	0.59594	0.188434265
0.59594	0.012752	0.59594	0.188512719
0.59594	0.012723	0.59594	0.188591173
0.59428	0.012664	0.59428	0.188630399
0.59428	0.012605	0.59428	0.18871866
0.59428	0.012605	0.59428	0.188787307
0.59262	0.012644	0.59262	0.188904987
0.59262	0.012713	0.59262	0.188983441
0.59262	0.012821	0.59262	0.189101121
0.59096	0.011066	0.59096	0.189307062
0.59096	0.011311	0.59096	0.189434549
0.59096	0.011723	0.59096	0.189483582

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.5893	0.01186	0.5893	0.189522809
0.5893	0.011968	0.5893	0.189522809
0.5893	0.012056	0.5893	0.189522809
0.58764	0.012105	0.58764	0.189473776
0.58764	0.012154	0.58764	0.189395322
0.58764	0.012154	0.58764	0.189297255
0.58598	0.012154	0.58598	0.189218801
0.58598	0.012154	0.58598	0.188797113
0.58598	0.012154	0.58598	0.188257745
0.58432	0.012105	0.58432	0.187973351
0.58432	0.012047	0.58432	0.187669343
0.58432	0.011968	0.58432	0.187355528
0.58266	0.011929	0.58266	0.187041714
0.58266	0.01187	0.58266	0.186737706
0.58266	0.011782	0.58266	0.186423892
0.581	0.011782	0.581	0.186110078
0.581	0.011782	0.581	0.185796263
0.581	0.011782	0.581	0.185482449
0.57934	0.011782	0.57934	0.184933274
0.57934	0.011821	0.57934	0.184707719
0.57934	0.01189	0.57934	0.184570426
0.57768	0.011998	0.57768	0.184491972
0.57768	0.012076	0.57768	0.184491972
0.57768	0.012213	0.57768	0.184570426
0.57602	0.012341	0.57602	0.184727333
0.57602	0.012527	0.57602	0.18494308
0.57602	0.01287	0.57602	0.185237281
0.57436	0.01393	0.57436	0.185933557
0.57436	0.014047	0.57436	0.186306212
0.57436	0.014116	0.57436	0.186669059
0.5727	0.014116	0.5727	0.187022101
0.5727	0.014116	0.5727	0.187355528
0.5727	0.014028	0.5727	0.187669343
0.57104	0.01389	0.57104	0.187963544
0.57104	0.013606	0.57104	0.188247938
0.57104	0.012978	0.57104	0.188473492
0.56938	0.012262	0.56938	0.188846147
0.56938	0.011909	0.56938	0.188954021
0.56938	0.011576	0.56938	0.189003054

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.56772	0.011282	0.56772	0.189003054
0.56772	0.011007	0.56772	0.188963827
0.56772	0.010782	0.56772	0.18886576
0.56606	0.010595	0.56606	0.188708853
0.56606	0.010448	0.56606	0.188257745
0.56606	0.01034	0.56606	0.187934124
0.5644	0.010272	0.5644	0.187571276
0.5644	0.010242	0.5644	0.187179008
0.5644	0.010242	0.5644	0.186806353
0.56274	0.010242	0.56274	0.186139498
0.56274	0.010301	0.56274	0.185874717
0.56274	0.010379	0.56274	0.185688389
0.56274	0.010429	0.56274	0.185560902
0.56108	0.010497	0.56108	0.185502062
0.56108	0.010585	0.56108	0.185502062
0.56108	0.010585	0.56108	0.185502062
0.55942	0.010625	0.55942	0.185551096
0.55942	0.010625	0.55942	0.185629549
0.55942	0.010625	0.55942	0.18586491
0.55776	0.010625	0.55776	0.186119884
0.55776	0.010625	0.55776	0.186208145
0.55776	0.010625	0.55776	0.186266985
0.5561	0.010664	0.5561	0.186306212
0.5561	0.010713	0.5561	0.186306212
0.5561	0.010762	0.5561	0.186306212
0.55444	0.01087	0.55444	0.186306212
0.55444	0.010978	0.55444	0.186306212
0.55444	0.011488	0.55444	0.186306212
0.55278	0.011909	0.55278	0.186266985
0.55278	0.012498	0.55278	0.186149304
0.55278	0.012615	0.55278	0.186149304
0.55112	0.012704	0.55112	0.186110078
0.55112	0.012753	0.55112	0.186051237
0.55112	0.012792	0.55112	0.18598259
0.54946	0.012831	0.54946	0.18598259
0.54946	0.01287	0.54946	0.18598259
0.54946	0.011008	0.54946	0.18598259
0.5478	0.011116	0.5478	0.18598259
0.5478	0.0114	0.5478	0.18598259

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.5478	0.011567	0.5478	0.186021817
0.54614	0.011714	0.54614	0.186080657
0.54614	0.011831	0.54614	0.186159111
0.54614	0.01191	0.54614	0.186159111
0.54448	0.011939	0.54448	0.186217951
0.54448	0.011939	0.54448	0.186316018
0.54448	0.0119	0.54448	0.186355245
0.54282	0.011841	0.54282	0.186433699
0.54282	0.011694	0.54282	0.186472925
0.54282	0.011576	0.54282	0.186541572
0.54116	0.011488	0.54116	0.186610219
0.54116	0.011341	0.54116	0.186580799
0.54116	0.011076	0.54116	0.186512152
0.5395	0.010968	0.5395	0.186414085
0.5395	0.01088	0.5395	0.186365052
0.5395	0.010772	0.5395	0.186266985
0.53784	0.010664	0.53784	0.186217951
0.53784	0.010557	0.53784	0.186159111
0.53784	0.010311	0.53784	0.186100271
0.53618	0.010194	0.53618	0.186208145
0.53618	0.010086	0.53618	0.186306212
0.53618	0.009988	0.53618	0.186463119
0.53452	0.009909	0.53452	0.18669848
0.53452	0.009909	0.53452	0.187041714
0.53452	0.009909	0.53452	0.187120168
0.53286	0.009909	0.53286	0.187120168
0.53286	0.009958	0.53286	0.187120168
0.53286	0.010213	0.53286	0.187120168
0.53286	0.010498	0.53286	0.187051521
0.5312	0.011086	0.5312	0.186943647
0.5312	0.01142	0.5312	0.186708286
0.52954	0.011743	0.52954	0.186443505
0.52954	0.012057	0.52954	0.186365052
0.52954	0.012351	0.52954	0.186325825
0.52954	0.012606	0.52954	0.186325825
0.52788	0.012802	0.52788	0.186325825
0.52788	0.012959	0.52788	0.186325825
0.52788	0.013047	0.52788	0.186325825
0.52622	0.013097	0.52622	0.186374858

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.52622	0.013057	0.52622	0.186482732
0.52622	0.012989	0.52622	0.186482732
0.52456	0.012891	0.52456	0.186482732
0.52456	0.012802	0.52456	0.186482732
0.52456	0.012616	0.52456	0.186482732
0.5229	0.012234	0.5229	0.186482732
0.5229	0.011851	0.5229	0.186443505
0.5229	0.011694	0.5229	0.186365052
0.52124	0.011586	0.52124	0.186316018
0.52124	0.011508	0.52124	0.186159111
0.52124	0.011508	0.52124	0.186031624
0.51958	0.011508	0.51958	0.18595317
0.51958	0.011586	0.51958	0.185845297
0.51958	0.011724	0.51958	0.18571781
0.51792	0.012067	0.51792	0.185600129
0.51792	0.012283	0.51792	0.185541289
0.51792	0.012479	0.51792	0.185541289
0.51626	0.012763	0.51626	0.185629549
0.51626	0.012851	0.51626	0.185796263
0.51626	0.012891	0.51626	0.186149304
0.5146	0.012891	0.5146	0.186570992
0.5146	0.012891	0.5146	0.186767126
0.5146	0.012891	0.5146	0.186924034
0.51294	0.01293	0.51294	0.187041714
0.51294	0.012979	0.51294	0.187110361
0.51294	0.012979	0.51294	0.187110361
0.51128	0.013155	0.51128	0.187110361
0.51128	0.013204	0.51128	0.187110361
0.51128	0.013283	0.51128	0.187031907
0.50962	0.013283	0.50962	0.186708286
0.50962	0.013283	0.50962	0.186316018
0.50962	0.013234	0.50962	0.186159111
0.50796	0.013116	0.50796	0.186021817
0.50796	0.01294	0.50796	0.185913944
0.50796	0.012665	0.50796	0.185815877
0.50796	0.012204	0.50796	0.185757036
0.5063	0.011459	0.5063	0.18571781
0.5063	0.011214	0.5063	0.185678583
0.50464	0.010919	0.50464	0.185639356

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.50464	0.010841	0.50464	0.185590322
0.50464	0.010782	0.50464	0.185502062
0.50464	0.010743	0.50464	0.1849725
0.50298	0.010743	0.50298	0.184697913
0.50298	0.010743	0.50298	0.184393905
0.50132	0.010743	0.50132	0.184109511
0.50132	0.010684	0.50132	0.18387415
0.50132	0.010615	0.50132	0.183678016
0.49966	0.010488	0.49966	0.183530915
0.49966	0.010419	0.49966	0.183403428
0.49966	0.010341	0.49966	0.183275941
0.49966	0.010341	0.49966	0.182824833
0.498	0.010292	0.498	0.182452178
0.498	0.010253	0.498	0.18197165
0.498	0.010253	0.498	0.181383248
0.49634	0.010253	0.49634	0.180716393
0.49634	0.010253	0.49634	0.180000503
0.49634	0.010419	0.49634	0.179284614
0.49468	0.010498	0.49468	0.178607952
0.49468	0.010655	0.49468	0.178009743
0.49468	0.010919	0.49468	0.177185981
0.49302	0.011282	0.49302	0.17698004
0.49302	0.011792	0.49302	0.176881973
0.49302	0.012587	0.49302	0.176862359
0.49136	0.012822	0.49136	0.176862359
0.49136	0.013008	0.49136	0.176911393
0.49136	0.013136	0.49136	0.176960426
0.4897	0.013195	0.4897	0.176999653
0.4897	0.013195	0.4897	0.176999653
0.4897	0.013195	0.4897	0.176999653
0.48804	0.013126	0.48804	0.176999653
0.48804	0.013028	0.48804	0.176999653
0.48804	0.012979	0.48804	0.176999653
0.48638	0.0129	0.48638	0.176999653
0.48638	0.012851	0.48638	0.176999653
0.48638	0.012793	0.48638	0.17703888
0.48472	0.012734	0.48472	0.1770683
0.48472	0.012734	0.48472	0.1770683
0.48472	0.012734	0.48472	0.1770683

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.48306	0.012734	0.48306	0.1770683
0.48306	0.012734	0.48306	0.177019267
0.48306	0.012734	0.48306	0.176931006
0.4814	0.012734	0.4814	0.176881973
0.4814	0.012734	0.4814	0.176764292
0.4814	0.012734	0.4814	0.176666225
0.47974	0.012773	0.47974	0.176509318
0.47974	0.012832	0.47974	0.176244537
0.47974	0.012969	0.47974	0.174695079
0.47808	0.012969	0.47808	0.174267723
0.47808	0.013106	0.47808	0.167834527
0.47808	0.013204	0.47808	0.165098458
0.47642	0.013273	0.47642	0.160685443
0.47642	0.013381	0.47642	0.160342209
0.47642	0.01342	0.47642	0.160822737
0.47476	0.013508	0.47476	0.161195392
0.47476	0.013548	0.47476	0.161940701
0.47476	0.013597	0.47476	0.162244708
0.47476	0.013655	0.47476	0.162823304
0.4731	0.013655	0.4731	0.163058665
0.4731	0.013655	0.4731	0.163549
0.47144	0.013655	0.47144	0.164274695
0.47144	0.013655	0.47144	0.164500249
0.47144	0.013606	0.47144	0.164941551
0.47144	0.013548	0.47144	0.165147492
0.46978	0.013459	0.46978	0.165588793
0.46978	0.013459	0.46978	0.165804541
0.46978	0.013401	0.46978	0.166245842
0.46812	0.013322	0.46812	0.166441976
0.46812	0.013253	0.46812	0.166814631
0.46812	0.013175	0.46812	0.166951924
0.46646	0.013126	0.46646	0.167099025
0.46646	0.013057	0.46646	0.167510906
0.46646	0.012959	0.46646	0.167765881
0.4648	0.01293	0.4648	0.167873754
0.4648	0.012861	0.4648	0.168089502
0.4648	0.012802	0.4648	0.168158149
0.46314	0.012802	0.46314	0.168266022
0.46314	0.012802	0.46314	0.168315056

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.46314	0.012802	0.46314	0.168364089
0.46148	0.012763	0.46148	0.168364089
0.46148	0.012724	0.46148	0.168315056
0.46148	0.012675	0.46148	0.168197375
0.45982	0.012675	0.45982	0.168050275
0.45982	0.012675	0.45982	0.167814914
0.45982	0.012626	0.45982	0.167422646
0.45816	0.012557	0.45816	0.16672637
0.45816	0.012479	0.45816	0.166461589
0.45816	0.012479	0.45816	0.166255649
0.4565	0.012361	0.4565	0.166137968
0.4565	0.012302	0.4565	0.166088935
0.4565	0.012302	0.4565	0.166147775
0.45484	0.012302	0.45484	0.166265455
0.45484	0.012302	0.45484	0.166402749
0.45484	0.012302	0.45484	0.166647917
0.45318	0.012341	0.45318	0.167118638
0.45318	0.0124	0.45318	0.167304966
0.45318	0.012459	0.45318	0.167461873
0.45152	0.012459	0.45152	0.167579553
0.45152	0.012459	0.45152	0.167658007
0.45152	0.012459	0.45152	0.167697234
0.44986	0.012459	0.44986	0.167697234
0.44986	0.012459	0.44986	0.167697234
0.44986	0.012459	0.44986	0.167697234
0.4482	0.012459	0.4482	0.167697234
0.4482	0.012459	0.4482	0.167697234
0.4482	0.012459	0.4482	0.167697234
0.44654	0.012459	0.44654	0.167697234
0.44654	0.012459	0.44654	0.167756074
0.44654	0.012488	0.44654	0.167863948
0.44488	0.012528	0.44488	0.167952208
0.44488	0.012567	0.44488	0.168403316
0.44488	0.012567	0.44488	0.168775971
0.44322	0.012567	0.44322	0.169266306
0.44322	0.012567	0.44322	0.169295726
0.44322	0.012567	0.44322	0.169246692
0.44156	0.012567	0.44156	0.169168239
0.44156	0.012606	0.44156	0.168932878

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.44156	0.012645	0.44156	0.168668097
0.4399	0.012645	0.4399	0.168060082
0.4399	0.012645	0.4399	0.167756074
0.4399	0.012645	0.4399	0.167452066
0.43824	0.012645	0.43824	0.167177479
0.43824	0.012645	0.43824	0.166912698
0.43824	0.012645	0.43824	0.16666753
0.43658	0.012645	0.43658	0.166432169
0.43658	0.012645	0.43658	0.166196809
0.43658	0.012596	0.43658	0.165951641
0.43492	0.012479	0.43492	0.165422079
0.43492	0.012479	0.43492	0.165127878
0.43492	0.012439	0.43492	0.164853291
0.43326	0.01239	0.43326	0.16458851
0.43326	0.012322	0.43326	0.164343342
0.43326	0.012322	0.43326	0.164137402
0.43326	0.012322	0.43326	0.163941268
0.4316	0.012283	0.4316	0.163774554
0.4316	0.012243	0.4316	0.163598033
0.42994	0.012204	0.42994	0.163431319
0.42994	0.012204	0.42994	0.163068471
0.42994	0.012253	0.42994	0.162862531
0.42994	0.012332	0.42994	0.16265659
0.42828	0.01242	0.42828	0.162450649
0.42828	0.01242	0.42828	0.162215288
0.42828	0.012479	0.42828	0.161999541
0.42662	0.012547	0.42662	0.161773987
0.42662	0.012587	0.42662	0.161597466
0.42662	0.012665	0.42662	0.161450366
0.42496	0.012773	0.42496	0.161352299
0.42496	0.01294	0.42496	0.161244425
0.42496	0.013038	0.42496	0.161244425
0.4233	0.013214	0.4233	0.161244425
0.4233	0.013489	0.4233	0.161244425
0.4233	0.013832	0.4233	0.161283652
0.42164	0.014283	0.42164	0.161342492
0.42164	0.014881	0.42164	0.161420946
0.42164	0.014979	0.42164	0.161420946
0.41998	0.015028	0.41998	0.161479786

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.41998	0.015028	0.41998	0.161577853
0.41998	0.015028	0.41998	0.161636693
0.41832	0.014842	0.41832	0.161715147
0.41832	0.014715	0.41832	0.161715147
0.41832	0.014479	0.41832	0.161744567
0.41666	0.014028	0.41666	0.1617936
0.41666	0.013803	0.41666	0.161842634
0.41666	0.013597	0.41666	0.161842634
0.415	0.013381	0.415	0.161842634
0.415	0.013185	0.415	0.161842634
0.415	0.013008	0.415	0.161842634
0.41334	0.012675	0.41334	0.161783794
0.41334	0.012528	0.41334	0.161636693
0.41334	0.0124	0.41334	0.161519013
0.41168	0.012292	0.41168	0.161391526
0.41168	0.012204	0.41168	0.161175778
0.41168	0.012126	0.41168	0.160861964
0.41002	0.012057	0.41002	0.160410856
0.41002	0.012008	0.41002	0.159675353
0.41002	0.011969	0.41002	0.159410572
0.40836	0.011969	0.40836	0.159175211
0.40836	0.011969	0.40836	0.158724103
0.40836	0.011969	0.40836	0.158527969
0.4067	0.011969	0.4067	0.158351449
0.4067	0.012028	0.4067	0.158194541
0.4067	0.012116	0.4067	0.158057248
0.40504	0.012175	0.40504	0.157949374
0.40504	0.012302	0.40504	0.157821887
0.40504	0.01241	0.40504	0.157704206
0.40338	0.012596	0.40338	0.157547299
0.40338	0.012871	0.40338	0.157370779
0.40338	0.01345	0.40338	0.15686083
0.40172	0.013597	0.40172	0.156527402
0.40172	0.013763	0.40172	0.156174361
0.40172	0.01392	0.40172	0.155811513
0.40006	0.014097	0.40006	0.155438859
0.40006	0.014254	0.40006	0.155085817
0.40006	0.014401	0.40006	0.15478181
0.40006	0.014499	0.40006	0.154517029

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.3984	0.014568	0.3984	0.154311088
0.3984	0.014568	0.3984	0.154163988
0.39674	0.014568	0.39674	0.154075727
0.39674	0.014401	0.39674	0.15397766
0.39674	0.014283	0.39674	0.15397766
0.39674	0.014048	0.39674	0.15397766
0.39508	0.013548	0.39508	0.153938434
0.39508	0.013253	0.39508	0.153938434
0.39508	0.012969	0.39508	0.153938434
0.39342	0.012724	0.39342	0.1538894
0.39342	0.012508	0.39342	0.153820753
0.39342	0.012361	0.39342	0.1537423
0.39176	0.012243	0.39176	0.153046024
0.39176	0.012243	0.39176	0.089798477
0.39176	0.012292	0.39176	0.07608871
0.3901	0.012371	0.3901	0.071920863
0.3901	0.012479	0.3901	0.066262397
0.3901	0.012753	0.3901	0.065497474
0.38844	0.01293	0.38844	0.064085309
0.38844	0.013087	0.38844	0.063859755
0.38844	0.013204	0.38844	0.063624395
0.38678	0.013283	0.38678	0.063075219
0.38678	0.013302	0.38678	0.062790825
0.38678	0.013302	0.38678	0.062702565
0.38512	0.013253	0.38512	0.062535851
0.38512	0.013195	0.38512	0.062535851
0.38512	0.013126	0.38512	0.062516237
0.38346	0.013126	0.38346	0.062575078
0.38346	0.013067	0.38346	0.062663338
0.38346	0.012989	0.38346	0.062771212
0.3818	0.012949	0.3818	0.062967346
0.3818	0.012881	0.3818	0.063124253
0.3818	0.012812	0.3818	0.063516521
0.38014	0.012812	0.38014	0.063722462
0.38014	0.012812	0.38014	0.063781302
0.38014	0.012812	0.38014	0.063859755
0.37848	0.012812	0.37848	0.064016663
0.37848	0.012871	0.37848	0.06411473
0.37848	0.012969	0.37848	0.064281443

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.37682	0.013047	0.37682	0.064389317
0.37682	0.013195	0.37682	0.064605065
0.37682	0.013734	0.37682	0.064732552
0.37516	0.014264	0.37516	0.06518366
0.37516	0.014469	0.37516	0.065536701
0.37516	0.014685	0.37516	0.065948582
0.3735	0.014872	0.3735	0.066409497
0.3735	0.015038	0.3735	0.066890026
0.3735	0.015166	0.3735	0.067360747
0.37184	0.015274	0.37184	0.067802049
0.37184	0.015342	0.37184	0.06815509
0.37184	0.015411	0.37184	0.068390451
0.37018	0.01547	0.37018	0.068508131
0.37018	0.015529	0.37018	0.068508131
0.37018	0.015568	0.37018	0.068086443
0.36852	0.015636	0.36852	0.067743209
0.36852	0.015695	0.36852	0.067341134
0.36852	0.015695	0.36852	0.066909639
0.36686	0.015754	0.36686	0.066478144
0.36686	0.015823	0.36686	0.06607607
0.36686	0.015911	0.36686	0.065723028
0.36686	0.015911	0.36686	0.065428827
0.3652	0.01594	0.3652	0.065193467
0.3652	0.015989	0.3652	0.064850232
0.36354	0.015989	0.36354	0.064712938
0.36354	0.015989	0.36354	0.064595258
0.36354	0.015931	0.36354	0.064477577
0.36354	0.015842	0.36354	0.064369704
0.36188	0.015774	0.36188	0.064271637
0.36188	0.015646	0.36188	0.064193183
0.36188	0.015538	0.36188	0.06414415
0.36022	0.015342	0.36022	0.06414415
0.36022	0.015087	0.36022	0.06414415
0.36022	0.014185	0.36022	0.06414415
0.35856	0.014028	0.35856	0.06435009
0.35856	0.01392	0.35856	0.064595258
0.35856	0.013842	0.35856	0.065134626
0.3569	0.013793	0.3569	0.065448441
0.3569	0.013793	0.3569	0.065781869

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.3569	0.013793	0.3569	0.06613491
0.35524	0.013793	0.35524	0.066487951
0.35524	0.013793	0.35524	0.066850799
0.35524	0.013832	0.35524	0.06723326
0.35358	0.013891	0.35358	0.067978569
0.35358	0.013969	0.35358	0.068321804
0.35358	0.014009	0.35358	0.068625812
0.35192	0.014097	0.35192	0.068861172
0.35192	0.014165	0.35192	0.068998466
0.35192	0.014283	0.35192	0.0690475
0.35026	0.014371	0.35026	0.068978853
0.35026	0.014587	0.35026	0.068870979
0.35026	0.014685	0.35026	0.068576778
0.3486	0.014636	0.3486	0.068262964
0.3486	0.014558	0.3486	0.067890309
0.3486	0.01446	0.3486	0.067184227
0.34694	0.014342	0.34694	0.066890026
0.34694	0.014224	0.34694	0.066684085
0.34694	0.014107	0.34694	0.066546791
0.34528	0.014018	0.34528	0.066497758
0.34528	0.01392	0.34528	0.066497758
0.34528	0.013861	0.34528	0.066497758
0.34362	0.013754	0.34362	0.066536984
0.34362	0.013724	0.34362	0.066595825
0.34362	0.013724	0.34362	0.066762539
0.34196	0.013724	0.34196	0.066870412
0.34196	0.013724	0.34196	0.066958673
0.34196	0.013724	0.34196	0.067066546
0.3403	0.013724	0.3403	0.06720384
0.3403	0.013724	0.3403	0.067194033
0.3403	0.013724	0.3403	0.067145
0.33864	0.013842	0.33864	0.06708616
0.33864	0.01393	0.33864	0.066997899
0.33864	0.013969	0.33864	0.066890026
0.33698	0.014038	0.33698	0.066566405
0.33698	0.014136	0.33698	0.066056456
0.33698	0.014185	0.33698	0.065772062
0.33532	0.014283	0.33532	0.065487668
0.33532	0.014332	0.33532	0.06521308

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.33532	0.01443	0.33532	0.064997333
0.33366	0.014597	0.33366	0.064820812
0.33366	0.014656	0.33366	0.064712938
0.33366	0.014754	0.33366	0.064673711
0.33366	0.014803	0.33366	0.064673711
0.332	0.014862	0.332	0.064958106
0.332	0.014911	0.332	0.065134626
0.33034	0.014872	0.33034	0.065320954
0.33034	0.014793	0.33034	0.065477861
0.33034	0.014695	0.33034	0.065615155
0.33034	0.014499	0.33034	0.065713222
0.32868	0.014038	0.32868	0.065752448
0.32868	0.01344	0.32868	0.065752448
0.32868	0.013126	0.32868	0.065752448
0.32702	0.012802	0.32702	0.065683802
0.32702	0.012498	0.32702	0.065595541
0.32702	0.012194	0.32702	0.065546508
0.32536	0.01191	0.32536	0.065468054
0.32536	0.011635	0.32536	0.065419021
0.32536	0.01138	0.32536	0.065369987
0.3237	0.011155	0.3237	0.06533076
0.3237	0.010812	0.3237	0.065379794
0.3237	0.010713	0.3237	0.065468054
0.32204	0.010713	0.32204	0.065546508
0.32204	0.010713	0.32204	0.065693608
0.32204	0.010772	0.32204	0.066203557
0.32038	0.01089	0.32038	0.066380077
0.32038	0.011027	0.32038	0.066556598
0.32038	0.011321	0.32038	0.066713505
0.31872	0.01193	0.31872	0.066850799
0.31872	0.012253	0.31872	0.066958673
0.31872	0.012538	0.31872	0.067037126
0.31706	0.012969	0.31706	0.06708616
0.31706	0.013097	0.31706	0.06708616
0.31706	0.013195	0.31706	0.06708616
0.3154	0.013253	0.3154	0.06708616
0.3154	0.013322	0.3154	0.067046933
0.3154	0.013401	0.3154	0.066988093
0.31374	0.013538	0.31374	0.066909639

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.31374	0.013705	0.31374	0.066909639
0.31374	0.013891	0.31374	0.066850799
0.31208	0.014371	0.31208	0.066772345
0.31208	0.014636	0.31208	0.066772345
0.31208	0.014921	0.31208	0.066713505
0.31042	0.015195	0.31042	0.066556598
0.31042	0.01545	0.31042	0.066517371
0.31042	0.015666	0.31042	0.066438917
0.30876	0.015862	0.30876	0.066370271
0.30876	0.015999	0.30876	0.06625259
0.30876	0.016097	0.30876	0.06619375
0.3071	0.016146	0.3071	0.066125103
0.3071	0.016146	0.3071	0.066125103
0.3071	0.016146	0.3071	0.066125103
0.30544	0.016146	0.30544	0.066262397
0.30544	0.016088	0.30544	0.066468338
0.30544	0.016009	0.30544	0.067596108
0.30378	0.01598	0.30378	0.068723879
0.30378	0.015911	0.30378	0.070773479
0.30378	0.015833	0.30378	0.071635695
0.30212	0.015833	0.30212	0.072429265
0.30212	0.015774	0.30212	0.073124767
0.30212	0.015656	0.30212	0.073692783
0.30046	0.015597	0.30046	0.074407899
0.30046	0.015519	0.30046	0.074514999
0.30046	0.015519	0.30046	0.074474999
0.2988	0.01546	0.2988	0.074356545
0.2988	0.015411	0.2988	0.073992924
0.2988	0.015372	0.2988	0.073619497
0.29714	0.015431	0.29714	0.073206842
0.29714	0.015538	0.29714	0.072803994
0.29714	0.015666	0.29714	0.07242076
0.29714	0.015862	0.29714	0.072106172
0.29548	0.016656	0.29548	0.071870038
0.29548	0.016774	0.29548	0.071673131
0.29548	0.016843	0.29548	0.071633131
0.29382	0.016882	0.29382	0.071642164
0.29382	0.016882	0.29382	0.071690425
0.29216	0.016843	0.29216	0.071777912

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.29216	0.016764	0.29216	0.071973272
0.29216	0.016656	0.29216	0.072462834
0.29216	0.016156	0.29216	0.072687615
0.2905	0.016009	0.2905	0.072912396
0.2905	0.015882	0.2905	0.073284277
0.2905	0.015754	0.2905	0.073342344
0.28884	0.015636	0.28884	0.073302344
0.28884	0.015509	0.28884	0.073262344
0.28884	0.015381	0.28884	0.073143891
0.28718	0.015244	0.28718	0.07292737
0.28718	0.015087	0.28718	0.072397035
0.28718	0.01494	0.28718	0.071994187
0.28552	0.014783	0.28552	0.071552113
0.28552	0.014499	0.28552	0.071080618
0.28552	0.014371	0.28552	0.070599316
0.28386	0.014264	0.28386	0.070108208
0.28386	0.014175	0.28386	0.069224832
0.28386	0.014087	0.28386	0.068802371
0.2822	0.014009	0.2822	0.068428943
0.2822	0.01392	0.2822	0.068084935
0.2822	0.013842	0.2822	0.067809574
0.28054	0.013773	0.28054	0.067583247
0.28054	0.013665	0.28054	0.067405953
0.28054	0.013665	0.28054	0.0672875
0.27888	0.013665	0.27888	0.067208273
0.27888	0.013724	0.27888	0.067168273
0.27888	0.013803	0.27888	0.067089046
0.27722	0.013891	0.27722	0.067000013
0.27722	0.014058	0.27722	0.066901172
0.27722	0.01443	0.27722	0.066792525
0.27556	0.014656	0.27556	0.066634845
0.27556	0.015107	0.27556	0.066467358
0.27556	0.015323	0.27556	0.066211611
0.2739	0.015509	0.2739	0.065749922
0.2739	0.015685	0.2739	0.065347075
0.2739	0.015852	0.2739	0.065199201
0.27224	0.015989	0.27224	0.065100361
0.27224	0.016107	0.27224	0.065060361
0.27224	0.016205	0.27224	0.065020361

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.27058	0.016274	0.27058	0.065039201
0.27058	0.016274	0.27058	0.065107075
0.27058	0.016274	0.27058	0.065194562
0.26892	0.016274	0.26892	0.065370309
0.26892	0.016146	0.26892	0.065732384
0.26892	0.016039	0.26892	0.065878711
0.26726	0.015872	0.26726	0.066221172
0.26726	0.015578	0.26726	0.0663675
0.26726	0.015499	0.26726	0.066523634
0.2656	0.015499	0.2656	0.066669961
0.2656	0.015499	0.2656	0.066826095
0.2656	0.015499	0.2656	0.066982229
0.26394	0.015587	0.26394	0.067128556
0.26394	0.01596	0.26394	0.06725527
0.26394	0.016421	0.26394	0.067362371
0.26394	0.016617	0.26394	0.067440051
0.26228	0.016764	0.26228	0.067537345
0.26228	0.016852	0.26228	0.067536572
0.26228	0.016852	0.26228	0.067496572
0.26062	0.016852	0.26062	0.067456572
0.26062	0.016813	0.26062	0.067465605
0.26062	0.016735	0.26062	0.067464832
0.25896	0.016637	0.25896	0.067522899
0.25896	0.016058	0.25896	0.067590773
0.25896	0.015872	0.25896	0.06776652
0.2573	0.015695	0.2573	0.068197242
0.2573	0.015519	0.2573	0.068392602
0.2573	0.015323	0.2573	0.068793904
0.25564	0.015107	0.25564	0.068930425
0.25564	0.014862	0.25564	0.069047332
0.25564	0.014597	0.25564	0.069125012
0.25398	0.014313	0.25398	0.069183079
0.25398	0.013783	0.25398	0.069221533
0.25398	0.013557	0.25398	0.06925018
0.25232	0.013381	0.25232	0.069278827
0.25232	0.013234	0.25232	0.069307473
0.25232	0.013146	0.25232	0.069326314
0.25066	0.013097	0.25066	0.069335347
0.25066	0.013097	0.25066	0.069354187

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.25066	0.013097	0.25066	0.069382834
0.249	0.013097	0.249	0.069342834
0.249	0.013126	0.249	0.069351868
0.249	0.013175	0.249	0.069380515
0.24734	0.013234	0.24734	0.069418968
0.24734	0.013234	0.24734	0.069428002
0.24734	0.013263	0.24734	0.069642976
0.24568	0.013332	0.24568	0.069877564
0.24568	0.01341	0.24568	0.070396545
0.24568	0.01345	0.24568	0.070660553
0.24402	0.013538	0.24402	0.070934368
0.24402	0.013626	0.24402	0.071208182
0.24402	0.013783	0.24402	0.071462383
0.24236	0.014401	0.24236	0.071677357
0.24236	0.014528	0.24236	0.071853105
0.24236	0.014636	0.24236	0.071950398
0.2407	0.014734	0.2407	0.071988852
0.2407	0.014813	0.2407	0.071978272
0.2407	0.014881	0.2407	0.071879432
0.23904	0.01494	0.23904	0.071731558
0.23904	0.014999	0.23904	0.071564071
0.23904	0.015068	0.23904	0.071298517
0.23738	0.015185	0.23738	0.070866249
0.23738	0.015283	0.23738	0.070679148
0.23738	0.015352	0.23738	0.070541081
0.23572	0.01546	0.23572	0.070452048
0.23572	0.015548	0.23572	0.070412048
0.23572	0.015676	0.23572	0.070411275
0.23406	0.015882	0.23406	0.070439922
0.23406	0.015901	0.23406	0.070507795
0.23406	0.015901	0.23406	0.070556056
0.2324	0.015833	0.2324	0.070692576
0.2324	0.015754	0.2324	0.071005617
0.2324	0.015431	0.2324	0.071142138
0.23074	0.015332	0.23074	0.071268852
0.23074	0.015274	0.23074	0.071366146
0.23074	0.015274	0.23074	0.071434019
0.23074	0.015274	0.23074	0.071443053
0.22908	0.015342	0.22908	0.071363826

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.22908	0.01546	0.22908	0.071225759
0.22908	0.015578	0.22908	0.071048465
0.22742	0.015774	0.22742	0.070606391
0.22742	0.016195	0.22742	0.070291803
0.22742	0.016244	0.22742	0.069987022
0.22576	0.016244	0.22576	0.069701855
0.22576	0.016244	0.22576	0.069504947
0.22576	0.016244	0.22576	0.069396301
0.2241	0.016244	0.2241	0.069454368
0.2241	0.016195	0.2241	0.069737989
0.2241	0.016156	0.2241	0.07002161
0.22244	0.016156	0.22244	0.070334651
0.22244	0.016156	0.22244	0.070677112
0.22244	0.016156	0.22244	0.07099996
0.22078	0.016323	0.22078	0.071303195
0.22078	0.016362	0.22078	0.071547589
0.22078	0.016431	0.22078	0.071733143
0.21912	0.016519	0.21912	0.071948117
0.21912	0.016519	0.21912	0.071957151
0.21912	0.016519	0.21912	0.071917151
0.21746	0.01646	0.21746	0.071877151
0.21746	0.016343	0.21746	0.071837151
0.21746	0.016088	0.21746	0.071748117
0.2158	0.015813	0.2158	0.071629664
0.2158	0.01546	0.2158	0.07151121
0.2158	0.014979	0.2158	0.07147121
0.21414	0.014293	0.21414	0.071382177
0.21414	0.014116	0.21414	0.07127353
0.21414	0.013959	0.21414	0.071027589
0.21248	0.013842	0.21248	0.070752228
0.21248	0.013754	0.21248	0.070310153
0.21248	0.013685	0.21248	0.069554264
0.21082	0.013685	0.21082	0.06819036
0.21082	0.013685	0.21082	0.067552151
0.21082	0.013685	0.21082	0.066982589
0.20916	0.013685	0.20916	0.066481674
0.20916	0.013685	0.20916	0.066108247
0.20916	0.013685	0.20916	0.065823079
0.2075	0.013685	0.2075	0.065812499

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.2075	0.013685	0.2075	0.065909793
0.2075	0.013685	0.2075	0.066144381
0.20584	0.013685	0.20584	0.066741816
0.20584	0.013685	0.20584	0.067054857
0.20584	0.013685	0.20584	0.067299252
0.20418	0.013685	0.20418	0.067455386
0.20418	0.013685	0.20418	0.067552679
0.20418	0.013685	0.20418	0.06757152
0.20252	0.013685	0.20252	0.06753152
0.20252	0.013685	0.20252	0.06749152
0.20252	0.013685	0.20252	0.06745152
0.20086	0.013685	0.20086	0.06741152
0.20086	0.013685	0.20086	0.067410746
0.20086	0.013685	0.20086	0.067429587
0.1992	0.013685	0.1992	0.067458234
0.1992	0.013685	0.1992	0.067418234
0.1992	0.013685	0.1992	0.067437074
0.19754	0.013685	0.19754	0.067455914
0.19754	0.013685	0.19754	0.067464947
0.19754	0.013685	0.19754	0.067346494
0.19754	0.013685	0.19754	0.06719862
0.19588	0.013685	0.19588	0.066933066
0.19588	0.013685	0.19588	0.066540025
0.19588	0.013685	0.19588	0.065970463
0.19422	0.013685	0.19422	0.065832396
0.19422	0.013655	0.19422	0.065792396
0.19422	0.013597	0.19422	0.065840656
0.19256	0.013528	0.19256	0.066114471
0.19256	0.013528	0.19256	0.066800167
0.19256	0.013469	0.19256	0.067172048
0.1909	0.013391	0.1909	0.067504703
0.1909	0.013391	0.1909	0.06782755
0.1909	0.013253	0.1909	0.068071945
0.18924	0.013253	0.18924	0.068267306
0.18924	0.013204	0.18924	0.068384213
0.18924	0.013155	0.18924	0.06844228
0.18758	0.013097	0.18758	0.068451313
0.18758	0.013097	0.18758	0.06845054
0.18758	0.013097	0.18758	0.06841054

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.18592	0.013097	0.18592	0.068419574
0.18592	0.013097	0.18592	0.068428607
0.18592	0.013097	0.18592	0.068476867
0.18426	0.013097	0.18426	0.068525128
0.18426	0.013097	0.18426	0.068671455
0.18426	0.013097	0.18426	0.068994303
0.1826	0.013097	0.1826	0.06914063
0.1826	0.013097	0.1826	0.069277151
0.1826	0.013097	0.1826	0.069394058
0.18094	0.013097	0.18094	0.069481545
0.18094	0.013097	0.18094	0.069588646
0.18094	0.013097	0.18094	0.069548646
0.17928	0.013097	0.17928	0.069508646
0.17928	0.013097	0.17928	0.069409805
0.17928	0.013097	0.17928	0.069261932
0.17762	0.013097	0.17762	0.069065024
0.17762	0.013097	0.17762	0.06871121
0.17762	0.013097	0.17762	0.068033775
0.17596	0.013097	0.17596	0.06767996
0.17596	0.013136	0.17596	0.067100592
0.17596	0.013175	0.17596	0.066864458
0.1743	0.013214	0.1743	0.066716584
0.1743	0.013214	0.1743	0.066637357
0.1743	0.013253	0.1743	0.066597357
0.17264	0.013302	0.17264	0.066596584
0.17264	0.013381	0.17264	0.066635038
0.17264	0.013381	0.17264	0.066712718
0.17098	0.01344	0.17098	0.066888465
0.17098	0.013528	0.17098	0.067328994
0.17098	0.013587	0.17098	0.067573388
0.16932	0.013685	0.16932	0.06812179
0.16932	0.013763	0.16932	0.068375991
0.16932	0.013871	0.16932	0.068639999
0.16766	0.014028	0.16766	0.068874586
0.16766	0.01445	0.16766	0.069079754
0.16766	0.014666	0.16766	0.069245694
0.166	0.014842	0.166	0.069372408
0.166	0.014872	0.166	0.069450089
0.166	0.014803	0.166	0.069508156

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.16434	0.014646	0.16434	0.069615256
0.16434	0.01444	0.16434	0.069634096
0.16434	0.013999	0.16434	0.069652937
0.16434	0.013754	0.16434	0.06966197
0.16268	0.013342	0.16268	0.06962197
0.16268	0.013204	0.16268	0.069621197
0.16268	0.013087	0.16268	0.069640037
0.16102	0.013018	0.16102	0.069678491
0.16102	0.012969	0.16102	0.069638491
0.16102	0.012969	0.16102	0.069647524
0.15936	0.012969	0.15936	0.069676171
0.15936	0.012969	0.15936	0.069695011
0.15936	0.012969	0.15936	0.069655011
0.1577	0.013008	0.1577	0.069615011
0.1577	0.013057	0.1577	0.069614238
0.1577	0.013116	0.1577	0.069633078
0.15604	0.013116	0.15604	0.069691145
0.15604	0.013116	0.15604	0.069709986
0.15604	0.013116	0.15604	0.069787666
0.15438	0.013116	0.15438	0.069845733
0.15438	0.013116	0.15438	0.070198001
0.15438	0.013116	0.15438	0.070481622
0.15272	0.013116	0.15272	0.070510269
0.15272	0.013116	0.15272	0.070529109
0.15272	0.013116	0.15272	0.070538143
0.15106	0.013077	0.15106	0.070537369
0.15106	0.013018	0.15106	0.070497369
0.15106	0.01294	0.15106	0.070457369
0.1494	0.012891	0.1494	0.07047621
0.1494	0.012812	0.1494	0.070504857
0.1494	0.012743	0.1494	0.07054331
0.14774		0.14774	0.070630797
0.14774		0.14774	0.070708478
0.14774		0.14774	0.070894032
0.14608		0.14608	0.071285527
0.14608		0.14608	0.071451467
0.14608		0.14608	0.071597795
0.14442		0.14442	0.071724508
0.14442		0.14442	0.071831609

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.14442		0.14442	0.071909289
0.14276		0.14276	0.072006583
0.14276		0.14276	0.071966583
0.14276		0.14276	0.071926583
0.1411		0.1411	0.071857163
0.1411		0.1411	0.071738709
0.1411		0.1411	0.071590836
0.13944		0.13944	0.071462575
0.13944		0.13944	0.071265668
0.13944		0.13944	0.070902047
0.13778		0.13778	0.070714947
0.13778		0.13778	0.070527846
0.13778		0.13778	0.070213259
0.13612		0.13612	0.070065385
0.13612		0.13612	0.069946931
0.13612		0.13612	0.069848091
0.13446		0.13446	0.069808091
0.13446		0.13446	0.069768091
0.13446		0.13446	0.069728091
0.1328		0.1328	0.069746931
0.1328		0.1328	0.069824612
0.1328		0.1328	0.070196493
0.13114		0.13114	0.070695862
0.13114		0.13114	0.070940256
0.13114		0.13114	0.071174843
0.12948		0.12948	0.071409431
0.12948		0.12948	0.071614599
0.12948		0.12948	0.071809959
0.12782		0.12782	0.07194648
0.12782		0.12782	0.07205358
0.12782		0.12782	0.072209714
0.12616		0.12616	0.072169714
0.12616		0.12616	0.072306235
0.12616		0.12616	0.072383915
0.12616		0.12616	0.072481209
0.1245		0.1245	0.07258831
0.1245		0.1245	0.07269541
0.1245		0.1245	0.072792704
0.12284		0.12284	0.072850771

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.12284		0.12284	0.072859805
0.12284		0.12284	0.072819805
0.12118		0.12118	0.072691544
0.12118		0.12118	0.07251425
0.12118		0.12118	0.072199663
0.11952		0.11952	0.071581068
0.11952		0.11952	0.071256673
0.11952		0.11952	0.070961699
0.11786		0.11786	0.070676532
0.11786		0.11786	0.070440398
0.11786		0.11786	0.070233684
0.1162		0.1162	0.069899483
0.1162		0.1162	0.069722189
0.1162		0.1162	0.069515475
0.11454		0.11454	0.069289148
0.11454		0.11454	0.0690334
0.11454		0.11454	0.068777653
0.11288		0.11288	0.068531712
0.11288		0.11288	0.068334805
0.11288		0.11288	0.068216351
0.11122		0.11122	0.068176351
0.11122		0.11122	0.068175578
0.11122		0.11122	0.068370939
0.10956		0.10956	0.068693787
0.10956		0.10956	0.068869534
0.10956		0.10956	0.069015862
0.1079		0.1079	0.069113155
0.1079		0.1079	0.069161416
0.1079		0.1079	0.069141029
0.10624		0.10624	0.069051996
0.10624		0.10624	0.068953155
0.10624		0.10624	0.068756248
0.10458		0.10458	0.068608374
0.10458		0.10458	0.068499728
0.10458		0.10458	0.068371467
0.10292		0.10292	0.06829224
0.10292		0.10292	0.0681934
0.10292		0.10292	0.06809456
0.10126		0.10126	0.06805456

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.10126		0.10126	0.067965527
0.10126		0.10126	0.06785688
0.0996		0.0996	0.067728619
0.0996		0.0996	0.067639586
0.0996		0.0996	0.067374032
0.09794		0.09794	0.067079058
0.09794		0.09794	0.066509496
0.09794		0.09794	0.066175295
0.09794		0.09794	0.065870514
0.09628		0.09628	0.06557554
0.09628		0.09628	0.065339406
0.09462		0.09462	0.065162112
0.09462		0.09462	0.065053465
0.09462		0.09462	0.065013465
0.09296		0.09296	0.065051919
0.09296		0.09296	0.065139406
0.09296		0.09296	0.065373993
0.09296		0.09296	0.065912589
0.0913		0.0913	0.066186403
0.0913		0.0913	0.066470024
0.0913		0.0913	0.066714418
0.08964		0.08964	0.066949006
0.08964		0.08964	0.067144367
0.08964		0.08964	0.067339728
0.08798		0.08798	0.067721416
0.08798		0.08798	0.067897163
0.08798		0.08798	0.068063104
0.08632		0.08632	0.068229044
0.08632		0.08632	0.068355758
0.08632		0.08632	0.068443245
0.08466		0.08466	0.068501312
0.08466		0.08466	0.068510346
0.08466		0.08466	0.068470346
0.083		0.083	0.068430346
0.083		0.083	0.068390346
0.083		0.083	0.068350346
0.08134		0.08134	0.068310346
0.08134		0.08134	0.068270346
0.08134		0.08134	0.068230346

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.07968		0.07968	0.068278606
0.07968		0.07968	0.068385707
0.07968		0.07968	0.068669328
0.07802		0.07802	0.069139276
0.07802		0.07802	0.071266557
0.07802		0.07802	0.071726699
0.07636		0.07636	0.072128
0.07636		0.07636	0.072411621
0.07636		0.07636	0.072606982
0.0747		0.0747	0.072714083
0.0747		0.0747	0.072713309
0.0747		0.0747	0.072673309
0.07304		0.07304	0.072603889
0.07304		0.07304	0.072377562
0.07304		0.07304	0.072337562
0.07138		0.07138	0.071748387
0.07138		0.07138	0.071541673
0.07138		0.07138	0.071334959
0.06972		0.06972	0.071118438
0.06972		0.06972	0.070901918
0.06972		0.06972	0.070685397
0.06806		0.06806	0.07045907
0.06806		0.06806	0.070213129
0.06806		0.06806	0.069937768
0.0664		0.0664	0.069378013
0.0664		0.0664	0.069034006
0.0664		0.0664	0.068640964
0.06474		0.06474	0.068218503
0.06474		0.06474	0.067737202
0.06474		0.06474	0.067157833
0.06308		0.06308	0.066421557
0.06308		0.06308	0.061545374
0.06308		0.06308	0.061819962
0.06142		0.06142	0.062869279
0.06142		0.06142	0.065448441
0.06142		0.06142	0.066566405
0.05976		0.05976	0.066821379
0.05976		0.05976	0.067105773
0.05976		0.05976	0.067605915

Composite		PVDF	
distance (mm)	Force (mN)	distance (mm)	Force (mN)
0.05976		0.05976	0.067811855
0.0581		0.0581	0.068223737
0.0581		0.0581	0.068410064
0.0581		0.0581	0.068792525
0.05644		0.05644	0.068939626
0.05644		0.05644	0.069429961
0.05644		0.05644	0.069743775
0.05478		0.05478	0.069871262
0.05478		0.05478	0.07008701
0.05478		0.05478	0.070136043
0.05312		0.05312	0.070283144
0.05312		0.05312	0.070302757
0.05312		0.05312	0.070410631
0.05146		0.05146	0.070440051
0.05146		0.05146	0.070498891
0.05146		0.05146	0.070547925
0.0498		0.0498	0.070587152
0.0498		0.0498	0.070587152
0.0498		0.0498	0.070547925
0.04814		0.04814	0.070489085
0.04814		0.04814	0.070410631
0.04814		0.04814	0.070351791
0.04648		0.04648	0.070224304
0.04648		0.04648	0.070037976
0.04648		0.04648	0.068978853
0.04482		0.04482	0.068625812
0.04482		0.04482	0.068282577
0.04482		0.04482	0.067978569
0.04316		0.04316	0.067694175

Figure 30

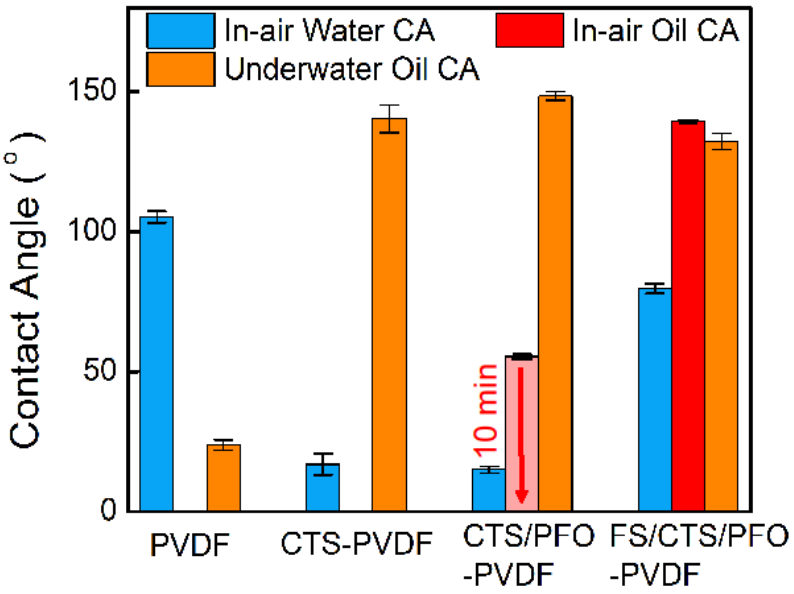

Figure 30.—Comparison of the in-air water CA (blue bars), in-air oil CA (red bars) and underwater oil CA (orange bars) among the pristine PVDF membrane and the modified membranes.

	In-air Water CA (°)	In-air oil CA (°)	Underwater oil CA (°)
PVDF	105.3±2.1	0	23.8±1.8
CTS-PVDF	16.9±3.8	0	140.4±4.9
CTS/PFO-PVDF	15±1.3	55.4±0.9	148.4±1.5
CTS/PFO/FS-PVDF	79.7±1.7	139.3±0.6	132.2±2.9

Figure 31

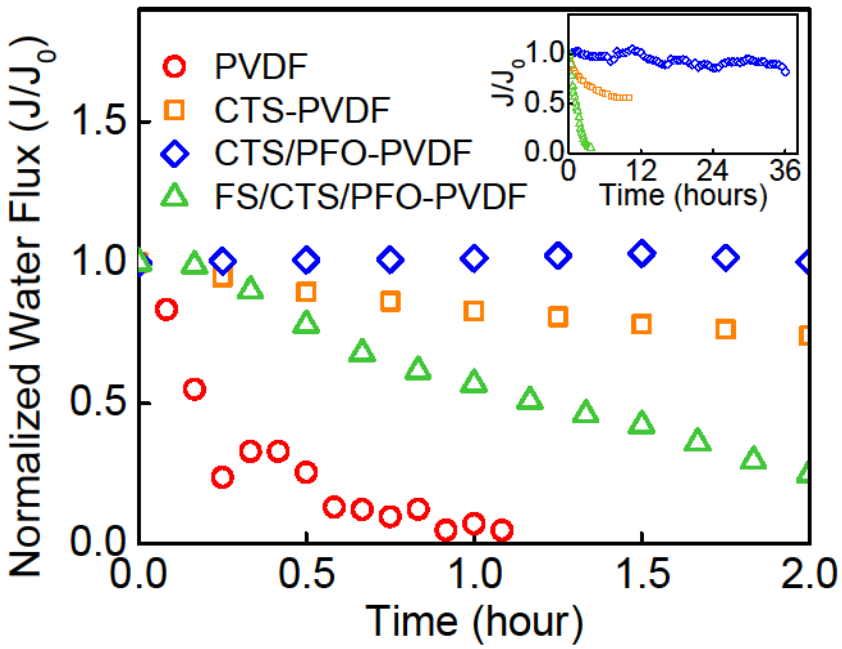

Figure 31 Normalized water flux for the pristine PVDF membrane (red circles), CTS-PVDF composite membrane (orange squares), CTS/PFO-PVDF composite membrane (blue diamonds), and FS/CTS/PFO-PVDF composite membrane (green triangles) with 1,000 ppm (% by weight) crude oil-in-water emulsion as feed solution in the DCMD experiments.

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux
0	1	0	1	0	1	0	1
0.08333	0.83333	0.25	0.9479	0.25	1.00471	0.16667	0.98952
0.16667	0.55003	0.5	0.89529	0.5	1.00921	0.33333	0.89911
0.25	0.23625	0.75	0.86172	0.75	1.01053	0.5	0.77842
0.33333	0.3289	1	0.82766	1	1.01491	0.66667	0.67753
0.41667	0.32848	1.25	0.80661	1.25	1.02507	0.83333	0.61506
0.5	0.25405	1.5	0.78056	1.5	1.03297	1	0.56849
0.58333	0.13107	1.75	0.76152	1.75	1.0178	1.16667	0.50834
0.66667	0.12258	2	0.74048	2	1.00185	1.33333	0.45945
0.75	0.09709	2.5	0.72295	2.5	0.99501	1.5	0.4222
0.83333	0.12298	3	0.68236	3	0.99287	1.66667	0.35933
0.91667	0.04785	3.5	0.67134	3.5	0.97703	1.83333	0.29492
1	0.07174	4	0.66633	4	0.97633	2	0.24719
1.08333	0.04854	4.5	0.63828	4.5	0.97633	2.16667	0.20799
		5	0.63076	5	0.97563	2.33333	0.17617

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux
		5.5	0.60822	5.5	0.97369	2.5	0.14009
		6	0.59669	6	0.97809	2.66667	0.10827
		6.5	0.59419	6.5	0.96984	2.83333	0.09546
		7	0.57766	7	0.92875	3	0.08382
		7.5	0.57064	7.5	0.94672	3.16667	0.07528
		8	0.56513	8	1.03146	3.33334	0.0648
		8.5	0.55962	8.5	1	3.50001	0.05898
		9	0.56112	9	1.00921	3.66668	0.05161
		9.5	0.55711	9.5	1.01491		
		10	0.55511	10	1.03297		
				10.5	1.05		
				11	1.02603		
				11.5	1.02709		
				12	1.01228		
				12.5	0.97316		
				13	0.95307		
				13.5	0.94919		
				14	0.93615		
				14.5	0.92945		
				15	0.91641		
				15.5	0.90266		
				16	0.89068		
				16.5	0.89597		
				17	0.95155		
				17.5	0.93494		
				18	0.93391		
				18.5	0.93711		
				19	0.94579		
				19.5	0.93274		
				20	0.90689		
				20.5	0.88804		
				21	0.90866		
				21.5	0.86636		
				22	0.88751		
				22.5	0.89932		
				23	0.89103		
				23.5	0.87852		
				24	0.85455		
				24.5	0.85949		

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux
				25	0.86335		
				25.5	0.89923		
				26	0.91066		
				26.5	0.9214		
				27	0.91673		
				27.5	0.92276		
				28	0.92276		
				28.5	0.91817		
				29	0.92487		
				29.5	0.94461		
				30	0.94461		
				30.5	0.93615		
				31	0.91958		
				31.5	0.92029		
				32	0.92029		
				32.5	0.92593		
				33	0.89914		
				33.5	0.89456		
				34	0.89456		
				34.5	0.89941		
				35	0.89021		
				35.5	0.86974		
				36	0.8216		

Figure 32

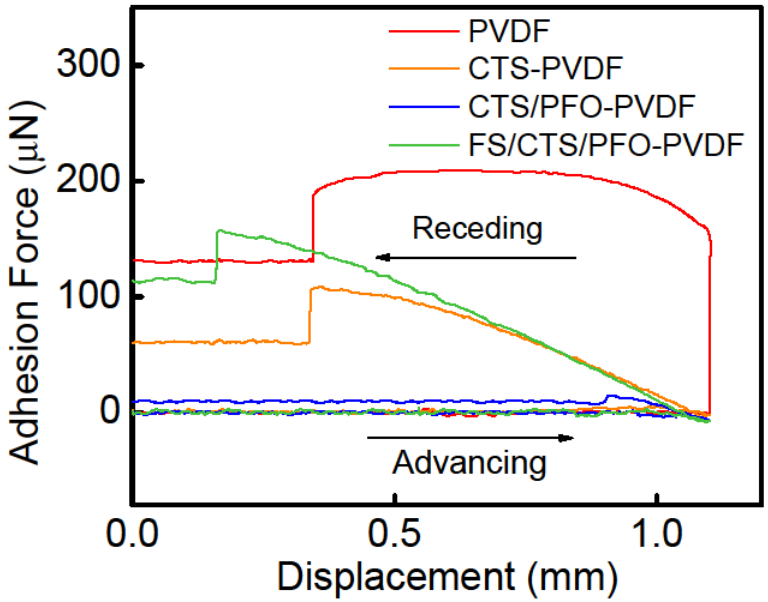

Figure 32—Force curves for the interactions of a crude oil droplet with the pristine PVDF membrane (red curve), the CTS-PVDF composite membrane (orange curve), the CTS/PFO-PVDF composite membrane (blue curve) and the FS/CTS/PFO-PVDF composite membrane (green curve).

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0	-0.74393	0	1.98236	0	-1.04969	0	0
0	-0.85957	0.00166	0.66361	0	-0.98104	0	1
0	-0.79092	0.00166	0.46748	0	-0.93201	0	-0.8626
0.00166	-0.88694	0.00166	0.09482	0.00166	-0.81017	0	-1.32351
0.00332	-0.78888	0.00332	-0.09615	0.00166	-0.74152	0	-1.44307
0.00332	-0.89471	0.00332	-0.15499	0.00166	-0.69249	0.00166	-1.47249
0.00498	-0.79664	0.00332	-0.15499	0.00332	-0.53142	0.00166	-1.58224
0.00498	-0.89267	0.00332	-0.30674	0.00332	-0.53142	0.00166	-1.61354
0.00664	-0.77499	0.00498	-0.30674	0.00332	-0.53142	0.00332	-1.48605
0.0083	-0.86121	0.00498	-0.29693	0.00498	-0.40957	0.00332	-1.4487
0.0083	-0.89839	0.00498	-0.40946	0.00498	-0.40957	0.00332	-1.22315
0.00996	-0.51593	0.00664	-0.35062	0.00498	-0.4488	0.00498	-1.16619
0.00996	-0.60215	0.00664	-0.1741	0.00664	-0.37599	0.00498	-0.76411
0.01162	-0.52369	0.00664	-0.30623	0.00664	-0.43483	0.00498	-0.60908
0.01162	-0.60011	0.0083	-0.08068	0.00664	-0.43483	0.00664	-0.50121
0.01328	-0.51185	0.0083	-0.00223	0.0083	-0.35221	0.00664	-0.39521
0.01328	-0.57845	0.0083	0.00293	0.0083	-0.41105	0.00664	-0.43632
0.01494	-0.48038	0.00996	0.05197	0.0083	-0.48951	0.0083	-0.29902
0.01494	-0.5568	0.00996	0.15003	0.00996	-0.36766	0.0083	-0.36955
0.0166	-0.63321	0.00996	0.0277	0.00996	-0.48534	0.0083	-0.27148
0.01826	-0.54495	0.01162	0.0277	0.00996	-0.5736	0.00996	-0.34201
0.01826	-0.61155	0.01162	0.07674	0.01162	-0.45176	0.00996	-0.34201

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.01992	-0.41542	0.01162	-0.01617	0.01162	-0.5106	0.00996	-0.3733
0.01992	-0.46241	0.01328	-0.01617	0.01162	-0.60867	0.00996	-0.26543
0.02158	-0.32512	0.01328	-0.01617	0.01328	-0.54566	0.01162	-0.35557
0.02158	-0.34269	0.01328	-0.14831	0.01328	-0.65353	0.01162	-0.35557
0.02324	-0.17597	0.01494	-0.14831	0.01328	-0.7418	0.01328	-0.44571
0.02324	-0.15432	0.01494	-0.19734	0.01494	-0.76705	0.01328	-0.39667
0.0249	0.04182	0.01494	-0.38832	0.01494	-0.96319	0.01328	-0.41816
0.0249	0.08308	0.0166	-0.46677	0.01494	-1.32603	0.01328	-0.43965
0.02656	0.11455	0.0166	-0.46677	0.0166	-1.27284	0.01494	-0.43965
0.02822	0.42836	0.0166	-0.63813	0.0166	-1.34148	0.01494	-0.45134
0.02822	0.36176	0.01826	-0.68717	0.0166	-1.40032	0.0166	-0.4023
0.02988	0.44021	0.01826	-0.7362	0.01826	-1.27848	0.0166	-0.49244
0.02988	0.32457	0.01826	-0.86834	0.01826	-1.33732	0.0166	-0.49244
0.03154	0.3638	0.01992	-0.86834	0.01826	-1.42558	0.0166	-0.58258
0.03154	0.19913	0.01992	-0.8193	0.01992	-1.35277	0.01826	-0.67272
0.0332	0.19913	0.01992	-0.76046	0.01992	-1.43122	0.01826	-0.71195
0.0332	0.03445	0.02158	-0.81415	0.01992	-1.49987	0.01826	-0.85112
0.03486	-0.00477	0.02158	-0.81415	0.02158	-1.47609	0.01992	-0.91976
0.03486	-0.16944	0.02158	-0.88744	0.02158	-1.64281	0.01992	-1.0099
0.03652	-0.33412	0.02324	-0.80899	0.02158	-1.70165	0.01992	-1.05894
0.03818	-0.33412	0.02324	-0.76976	0.02324	-1.66806	0.02158	-1.20791
0.03818	-0.43014	0.02324	-0.62266	0.02324	-1.70729	0.02158	-1.25695
0.03984	-0.33207	0.0249	-0.7548	0.02324	-1.77594	0.02158	-1.34709

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.03984	-0.44771	0.0249	-0.69596	0.02324	-1.84458	0.02324	-1.34709
0.0415	-0.35945	0.0249	-0.6077	0.0249	-1.72274	0.02324	-1.43722
0.0415	-0.45548	0.02656	-0.71041	0.0249	-1.72274	0.02324	-1.38819
0.04316	-0.3378	0.02656	-0.63196	0.0249	-1.76197	0.0249	-1.40968
0.04316	-0.43382	0.02656	-0.67583	0.02656	-1.73819	0.0249	-1.40175
0.04482	-0.44159	0.02822	-0.63661	0.02656	-1.73819	0.0249	-1.35272
0.04648	-0.35333	0.02822	-0.4797	0.02656	-1.73819	0.02656	-1.26634
0.04648	-0.46897	0.02822	-0.44047	0.02822	-1.61635	0.02656	-1.15846
0.04814	-0.41013	0.02988	-0.50396	0.02822	-1.65557	0.02656	-1.07208
0.04814	-0.50615	0.02988	-0.4059	0.02822	-1.6948	0.02822	-0.85633
0.0498	-0.50615	0.02988	-0.4988	0.02988	-1.62199	0.02822	-0.6915
0.0498	-0.67082	0.03154	-0.42035	0.02988	-1.62199	0.02822	-0.35807
0.05146	-0.6316	0.03154	-0.3517	0.02988	-1.62199	0.02988	-0.36975
0.05146	-0.75704	0.03154	-0.23402	0.03154	-1.50015	0.02988	-0.38144
0.05312	-0.70801	0.03154	-0.28771	0.03154	-1.50015	0.02988	-0.30298
0.05312	-0.87268	0.0332	-0.00331	0.03154	-1.50015	0.03154	-0.20679
0.05478	-0.82365	0.0332	0.26147	0.0332	-1.3783	0.03154	-0.09892
0.05644	-0.91967	0.03486	0.21759	0.0332	-1.3783	0.03154	-0.07138
0.05644	-0.98628	0.03486	0.29605	0.0332	-1.3783	0.0332	0.06592
0.0581	-0.92744	0.03486	0.38431	0.03486	-1.25646	0.0332	0.12288
0.0581	-0.98423	0.03652	0.33063	0.03486	-1.25646	0.0332	0.2994
0.05976	-0.87636	0.03652	0.40908	0.03486	-1.25646	0.03486	0.38578
0.05976	-0.82529	0.03652	0.47773	0.03652	-1.13461	0.03486	0.58192

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.06142	-0.48205	0.03652	0.41424	0.03652	-1.13461	0.03486	0.68791
0.06142	-0.06813	0.03818	0.47308	0.03652	-1.13461	0.03652	0.89385
0.06308	0.35356	0.03818	0.47308	0.03818	-1.01277	0.03652	1.00966
0.06308	0.3458	0.03818	0.43901	0.03818	-1.01277	0.03652	1.30198
0.06474	0.31842	0.03984	0.48804	0.03818	-1.01277	0.03818	1.4785
0.0664	0.42629	0.03984	0.48804	0.03984	-0.93015	0.03818	1.55507
0.0664	0.34007	0.03984	0.35591	0.03984	-0.95957	0.03818	1.70218
0.06806	0.39891	0.0415	0.35591	0.03984	-1.00861	0.03984	1.74933
0.06806	0.28327	0.0415	0.35591	0.0415	-0.88676	0.03984	1.88663
0.06972	0.31269	0.04316	0.22377	0.0415	-0.88676	0.03984	1.90436
0.06972	0.18725	0.04316	0.22377	0.0415	-0.88676	0.0415	2.04165
0.07138	0.18725	0.04316	0.22377	0.04316	-0.76492	0.0415	2.079
0.07138	0.13045	0.04316	0.09163	0.04316	-0.76492	0.0415	2.27326
0.07304	0.21871	0.04482	0.09163	0.04316	-0.76492	0.04316	2.42036
0.07304	0.10307	0.04482	0.09163	0.04482	-0.60385	0.04316	2.48713
0.0747	0.20114	0.04482	-0.0405	0.04482	-0.56462	0.04316	2.63423
0.07636	0.10512	0.04648	-0.0405	0.04482	-0.5352	0.04316	2.67158
0.07636	0.06793	0.04648	-0.06992	0.04648	-0.41336	0.04482	2.77945
0.07802	0.12677	0.04648	-0.20206	0.04648	-0.41336	0.04482	2.77758
0.07802	0.06997	0.04814	-0.20206	0.04648	-0.41336	0.04648	2.83642
0.07968	0.11901	0.04814	-0.20206	0.04814	-0.29151	0.04648	2.80512
0.07968	0.08182	0.04814	-0.33419	0.04814	-0.36997	0.04648	2.84434
0.08134	0.08182	0.0498	-0.33419	0.04814	-0.42881	0.04648	2.75421

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.08134	-0.08285	0.0498	-0.28516	0.0498	-0.30696	0.04814	2.66407
0.083	-0.08285	0.0498	-0.33884	0.0498	-0.34619	0.04814	2.66407
0.083	-0.2083	0.05146	-0.29962	0.0498	-0.40503	0.0498	2.57393
0.08466	-0.32394	0.05146	-0.21136	0.05146	-0.35183	0.0498	2.54451
0.08632	-0.26509	0.05146	-0.28465	0.05146	-0.35183	0.0498	2.40534
0.08632	-0.42977	0.05312	-0.15717	0.05146	-0.40086	0.0498	2.3465
0.08798	-0.36112	0.05312	-0.06891	0.05312	-0.36728	0.05146	2.25636
0.08798	-0.43753	0.05312	-0.08336	0.05312	-0.46535	0.05146	2.20733
0.08964	-0.26101	0.05478	0.08335	0.05312	-0.56342	0.05146	2.03874
0.08964	-0.33742	0.05478	0.30891	0.05478	-0.4808	0.05312	1.91125
0.0913	-0.17071	0.05478	0.72595	0.05478	-0.54944	0.05312	1.76227
0.0913	-0.10983	0.05644	1.0986	0.05478	-0.6279	0.05312	1.57407
0.09296	0.06874	0.05644	1.15744	0.05644	-0.50605	0.05478	1.52503
0.09462	0.17661	0.05644	1.10376	0.05644	-0.50605	0.05478	1.36625
0.09462	0.11	0.0581	1.17241	0.05644	-0.50605	0.05478	1.31721
0.09628	0.19826	0.0581	1.26067	0.0581	-0.38421	0.05644	1.2565
0.09628	0.11205	0.0581	1.34893	0.0581	-0.38421	0.05644	1.33495
0.09794	0.23953	0.05976	1.31486	0.0581	-0.35479	0.05644	1.35268
0.09794	0.1337	0.05976	1.43254	0.05976	-0.1643	0.0581	1.43114
0.0996	0.19254	0.05976	1.50634	0.05976	-0.06623	0.0581	1.66462
0.0996	0.02787	0.06142	1.60441	0.05976	-0.02701	0.0581	1.98824
0.10126	0.08671	0.06142	1.71228	0.05976	0.07106	0.05976	2.00598
0.10126	-0.00932	0.06142	1.79074	0.06142	0.25175	0.05976	2.01391

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.10292	-0.09553	0.06308	1.73705	0.06142	0.34981	0.05976	2.09236
0.10458	-0.09553	0.06308	1.79589	0.06308	0.52069	0.06142	2.07087
0.10458	-0.20137	0.06308	1.7226	0.06308	0.60895	0.06142	2.13952
0.10624	-0.04446	0.06474	1.77163	0.06308	0.64818	0.06142	2.11803
0.10624	-0.09145	0.06474	1.77163	0.06474	0.80925	0.06308	2.11803
0.1079	-0.00319	0.06474	1.77163	0.06474	0.80925	0.06308	2.08673
0.1079	-0.00115	0.0664	1.6395	0.06474	0.80925	0.06308	2.16518
0.10956	0.30286	0.0664	1.6395	0.06474	0.80925	0.06474	2.1633
0.10956	0.27548	0.0664	1.6395	0.0664	0.93109	0.06474	2.22214
0.11122	0.41278	0.06806	1.46813	0.0664	0.88206	0.06474	2.13201
0.11288	0.36578	0.06806	1.40929	0.0664	0.83302	0.0664	2.04187
0.11288	0.31879	0.06806	1.21832	0.06806	0.88622	0.0664	2.04187
0.11454	0.39725	0.06972	1.21832	0.06806	0.88622	0.0664	1.95173
0.11454	0.31103	0.06972	1.21832	0.06806	0.79796	0.06806	1.9125
0.1162	0.43851	0.06972	1.1889	0.06972	0.91981	0.06806	1.74391
0.1162	0.27384	0.07138	1.01753	0.06972	0.84135	0.06806	1.587
0.11786	0.34249	0.07138	0.97831	0.06972	0.77271	0.06972	1.37919
0.11786	0.26608	0.07138	0.97831	0.07138	0.79648	0.06972	1.28112
0.11952	0.32492	0.07304	0.8854	0.07138	0.74745	0.06972	1.05369
0.11952	0.26812	0.07304	0.93443	0.07138	0.65919	0.07138	0.86736
0.12118	0.35638	0.07304	1.00308	0.07304	0.71239	0.07138	0.56147
0.12118	0.35842	0.0747	0.87094	0.07304	0.62413	0.07138	0.48114
0.12284	0.50756	0.0747	0.91998	0.07304	0.57509	0.07304	0.48114

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.1245	0.77235	0.0747	0.99843	0.0747	0.6479	0.07304	0.391
0.1245	0.72535	0.07636	0.90552	0.0747	0.59887	0.07304	0.44004
0.12616	0.82342	0.07636	0.99378	0.0747	0.6479	0.0747	0.39893
0.12616	0.7372	0.07636	1.18991	0.07636	0.85801	0.0747	0.43816
0.12782	0.79604	0.07802	1.14604	0.07636	0.90704	0.0747	0.34802
0.12782	0.6804	0.07802	1.28333	0.07636	0.98549	0.07636	0.34802
0.12948	0.71963	0.07802	1.45985	0.07802	1.16618	0.07636	0.21866
0.12948	0.55496	0.07802	1.58269	0.07802	1.25444	0.07636	0.06968
0.13114	0.42951	0.07968	1.64153	0.07802	1.28386	0.07636	0.00103
0.13114	0.47855	0.07968	1.70037	0.07968	1.45474	0.07802	-0.08911
0.1328	0.40214	0.08134	1.61727	0.07968	1.49396	0.07802	-0.13814
0.13446	0.46098	0.08134	1.6565	0.07968	1.43512	0.07968	-0.29692
0.13446	0.38456	0.08134	1.6565	0.08134	1.46871	0.07968	-0.38518
0.13612	0.4434	0.08134	1.56359	0.08134	1.41967	0.07968	-0.47532
0.13612	0.3768	0.083	1.61262	0.08134	1.34122	0.07968	-0.63223
0.13778	0.45525	0.083	1.67146	0.083	1.39442	0.08134	-0.76159
0.13778	0.42787	0.083	1.53932	0.083	1.28654	0.08134	-0.83024
0.13944	0.68285	0.08466	1.58836	0.083	1.23751	0.083	-1.00864
0.13944	0.61624	0.08466	1.6472	0.08466	1.27109	0.083	-1.00864
0.1411	0.61829	0.08466	1.60332	0.08466	1.22206	0.083	-1.14781
0.1411	0.69674	0.08632	1.60332	0.08466	1.16322	0.083	-1.29679
0.14276	0.60071	0.08632	1.67197	0.08632	1.20661	0.08466	-1.34582
0.14442	0.66936	0.08632	1.65751	0.08632	1.14777	0.08466	-1.43596

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.14442	0.57334	0.08798	1.70655	0.08632	1.07912	0.08466	-1.33789
0.14608	0.64198	0.08798	1.77519	0.08798	1.11271	0.08632	-1.33977
0.14608	0.50673	0.08798	1.64306	0.08798	1.11271	0.08632	-1.28093
0.14774	0.57538	0.08964	1.64306	0.08798	1.05387	0.08632	-1.273
0.14774	0.49897	0.08964	1.64306	0.08964	1.09726	0.08798	-1.18474
0.1494	0.548	0.08964	1.51092	0.08964	1.04822	0.08798	-1.12778
0.1494	0.46178	0.0913	1.51092	0.08964	0.95016	0.08798	-0.91203
0.15106	0.51286	0.0913	1.51092	0.0913	0.85625	0.08964	-0.68836
0.15272	0.77764	0.0913	1.37879	0.0913	0.61108	0.08964	-0.66081
0.15272	0.74045	0.09296	1.37879	0.0913	0.50321	0.08964	-0.54313
0.15438	0.84833	0.09296	1.33956	0.09296	0.50737	0.0913	-0.35868
0.15438	0.77191	0.09296	1.15839	0.09296	0.37989	0.0913	-0.22139
0.15604	0.84056	0.09462	1.10936	0.09296	0.24259	0.0913	-0.16443
0.15604	0.74454	0.09462	1.10936	0.09296	0.09549	0.09296	-0.00752
0.1577	0.80338	0.09462	1.10936	0.09462	0.06043	0.09296	0.04944
0.1577	0.6387	0.09628	0.97722	0.09462	-0.09648	0.09296	0.22596
0.15936	0.72697	0.09628	0.97722	0.09628	-0.13154	0.09462	0.30254
0.15936	0.63094	0.09628	0.84508	0.09628	-0.41593	0.09462	0.36931
0.16102	0.50549	0.09794	0.84508	0.09628	-0.53362	0.09462	0.54583
0.16268	0.58395	0.09794	0.84508	0.09794	-0.51964	0.09628	0.59299
0.16268	0.49773	0.09794	0.84508	0.09794	-0.60791	0.09628	0.72047
0.16434	0.61541	0.0996	0.71295	0.09794	-0.66675	0.09628	0.84608
0.16434	0.539	0.0996	0.71295	0.09794	-0.71578	0.09794	0.92454

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.166	0.6861	0.0996	0.71295	0.0996	-0.63316	0.09794	0.90304
0.166	0.76659	0.10126	0.62985	0.0996	-0.63316	0.09794	0.96188
0.16766	0.84505	0.10126	0.7083	0.0996	-0.63316	0.0996	0.92078
0.16766	0.72941	0.10126	0.74753	0.10126	-0.51132	0.0996	0.92078
0.16932	0.60396	0.10292	0.71346	0.10126	-0.51132	0.0996	0.83064
0.16932	0.60396	0.10292	0.79191	0.10126	-0.51132	0.10126	0.83064
0.17098	0.43929	0.10292	0.9194	0.10292	-0.38947	0.10126	0.7405
0.17098	0.43929	0.10458	0.97359	0.10292	-0.38947	0.10126	0.73863
0.17264	0.27462	0.10458	1.66006	0.10292	-0.41889	0.10292	0.79747
0.1743	0.27462	0.10458	2.15039	0.10458	-0.34608	0.10292	0.70733
0.1743	0.10995	0.10624	2.63608	0.10458	-0.40492	0.10292	0.75636
0.17596	0.13937	0.10624	2.72434	0.10458	-0.40492	0.10458	0.74468
0.17596	0.03354	0.10624	2.78318	0.10624	-0.32231	0.10458	0.79371
0.17762	-0.05268	0.1079	2.70988	0.10624	-0.38115	0.10458	0.79183
0.17762	-0.01345	0.1079	2.74911	0.10624	-0.44979	0.10624	0.86048
0.17928	-0.08987	0.1079	2.74911	0.1079	-0.36718	0.10624	0.87822
0.18094	-0.04083	0.10956	2.61698	0.1079	-0.42602	0.10624	0.85673
0.18094	-0.10744	0.10956	2.61698	0.1079	-0.50447	0.1079	1.00383
0.1826	-0.0486	0.10956	2.61698	0.10956	-0.38263	0.1079	0.96272
0.1826	-0.1152	0.11122	2.48484	0.10956	-0.38263	0.1079	1.00195
0.18426	-0.05636	0.11122	2.48484	0.10956	-0.42185	0.10956	0.87258
0.18426	-0.08374	0.11122	2.48484	0.11122	-0.35885	0.10956	0.80394
0.18592	-0.08374	0.11288	2.3527	0.11122	-0.41769	0.10956	0.60592

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.18592	-0.10131	0.11288	2.3527	0.11122	-0.41769	0.10956	0.52747
0.18758	-0.06209	0.11288	2.3527	0.11288	-0.40372	0.11122	0.28043
0.18758	-0.16792	0.11454	2.22057	0.11288	-0.48217	0.11122	-0.03339
0.18924	-0.25414	0.11454	2.22057	0.11288	-0.48217	0.11288	-0.42753
0.18924	-0.21491	0.11454	2.22057	0.11454	-0.41917	0.11288	-0.42753
0.1909	-0.31093	0.11454	2.0394	0.11454	-0.50743	0.11288	-0.74323
0.19256	-0.23248	0.1162	1.98056	0.11454	-0.54666	0.11288	-0.8922
0.19256	-0.35793	0.1162	1.91191	0.1162	-0.50327	0.11454	-0.8922
0.19422	-0.22063	0.11786	1.77977	0.1162	-0.5523	0.11454	-0.98234
0.19422	-0.3853	0.11786	1.74055	0.1162	-0.63075	0.1162	-0.98234
0.19588	-0.27743	0.11786	1.69151	0.11786	-0.58736	0.1162	-1.00383
0.19588	-0.35384	0.11952	1.49073	0.11786	-0.58736	0.1162	-0.88615
0.19754	-0.44006	0.11952	1.49073	0.11786	-0.51872	0.1162	-0.88803
0.19754	-0.31257	0.11952	1.38286	0.11952	-0.289	0.11786	-0.74093
0.1992	-0.36937	0.11952	1.16246	0.11952	-0.21054	0.11786	-0.52706
0.20086	-0.17324	0.12118	1.16246	0.11952	-0.07325	0.11786	-0.6172
0.20086	0.07397	0.12118	1.11343	0.12118	0.23492	0.11952	-0.57797
0.20252	0.27991	0.12284	0.91265	0.12118	0.48009	0.11952	-0.66811
0.20252	0.30157	0.12284	0.83419	0.12118	0.77429	0.11952	-0.66811
0.20418	0.61538	0.12284	0.83419	0.12284	0.90594	0.12118	-0.75825
0.20418	0.55858	0.12284	0.70206	0.12284	0.83729	0.12118	-0.75825
0.20584	0.64684	0.1245	0.66283	0.12284	0.74903	0.12118	-0.84839
0.20584	0.55082	0.1245	0.6138	0.1245	0.79242	0.12284	-0.84839

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.2075	0.43518	0.1245	0.43263	0.1245	0.58648	0.12284	-0.93852
0.2075	0.47441	0.12616	0.43263	0.1245	0.47861	0.12284	-0.93852
0.20916	0.34896	0.12616	0.43263	0.12616	0.49258	0.1245	-0.97963
0.21082	0.34896	0.12616	0.34952	0.12616	0.40432	0.1245	-0.98151
0.21082	0.24313	0.12782	0.41817	0.12616	0.33567	0.1245	-0.93247
0.21248	0.40984	0.12782	0.49662	0.12616	0.26703	0.12616	-0.91474
0.21248	0.2844	0.12782	0.36449	0.12782	0.34964	0.12616	-0.81667
0.21414	0.36285	0.12948	0.43313	0.12782	0.34964	0.12616	-0.7499
0.21414	0.25702	0.12948	0.52139	0.12948	0.47149	0.12782	-0.49493
0.2158	0.35509	0.12948	0.42849	0.12948	0.47149	0.12782	-0.22222
0.2158	0.24926	0.13114	0.55597	0.12948	0.47149	0.12782	0.30734
0.21746	0.18265	0.13114	0.64423	0.12948	0.47149	0.12948	0.43295
0.21746	0.24149	0.13114	0.68346	0.13114	0.62275	0.12948	0.41146
0.21912	0.17489	0.1328	0.62978	0.13114	0.67178	0.12948	0.45069
0.22078	0.3416	0.1328	0.669	0.13114	0.71101	0.13114	0.36055
0.22078	0.25538	0.1328	0.73765	0.1328	0.83285	0.13114	0.36055
0.22244	0.40248	0.13446	0.70358	0.1328	0.83285	0.13114	0.27041
0.22244	0.50259	0.13446	0.74281	0.1328	0.83285	0.1328	0.27041
0.2241	0.63008	0.13446	0.80165	0.13446	0.91547	0.1328	0.18028
0.2241	0.58309	0.13612	0.74797	0.13446	0.86644	0.1328	0.18028
0.22576	0.52629	0.13612	0.797	0.13446	0.79779	0.13446	0.09014
0.22576	0.61455	0.13612	0.797	0.13612	0.91964	0.13446	0.09014
0.22742	0.52833	0.13778	0.79235	0.13612	0.8608	0.13446	0

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.22908	0.6264	0.13778	0.79235	0.13612	0.77254	0.13612	0
0.22908	0.50095	0.13778	0.79235	0.13778	0.85515	0.13612	0.5
0.23074	0.50095	0.13944	0.66022	0.13778	0.78651	0.13612	-0.8626
0.23074	0.33628	0.13944	0.66022	0.13778	0.69825	0.13778	-1.32351
0.2324	0.33628	0.13944	0.66022	0.13944	0.82009	0.13778	-1.44307
0.2324	0.21084	0.1411	0.56731	0.13944	0.76125	0.13778	-1.47249
0.23406	0.26968	0.1411	0.62615	0.13944	0.62396	0.13944	-1.58224
0.23406	0.17365	0.1411	0.7046	0.1411	0.7458	0.13944	-1.61354
0.23572	0.00898	0.14276	0.69014	0.1411	0.7458	0.13944	-1.48605
0.23572	0.07763	0.14276	0.75879	0.1411	0.7458	0.1411	-1.4487
0.23738	0.01102	0.14276	0.88628	0.14276	0.86764	0.1411	-1.22315
0.23738	0.07967	0.14442	0.8326	0.14276	0.86764	0.1411	-1.16619
0.23904	0.15036	0.14442	0.95028	0.14276	0.86764	0.14276	-0.76411
0.2407	0.30726	0.14442	1.06796	0.14442	0.89142	0.14276	-0.60908
0.2407	0.36815	0.14608	1.0535	0.14442	0.81297	0.14276	-0.50121
0.24236	-0.79664	0.14608	1.13195	0.14442	0.81297	0.14442	-0.39521
0.24236	-0.89267	0.14608	1.09273	0.14608	0.86616	0.14442	-0.43632
0.24402	-0.77499	0.14774	0.8331	0.14608	0.75829	0.14442	-0.29902
0.24402	-0.86121	0.14774	0.78407	0.14608	0.68964	0.14608	-0.36955
0.24568	-0.89839	0.14774	0.78407	0.14774	0.70361	0.14608	-0.27148
0.24568	-0.51593	0.1494	0.65194	0.14774	0.62516	0.14608	-0.34201
0.24734	-0.60215	0.1494	0.65194	0.14774	0.51729	0.14774	-0.34201
0.249	-0.52369	0.1494	0.65194	0.1494	0.46261	0.14774	-0.3733

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.249	-0.60011	0.15106	0.5198	0.1494	-0.02773	0.14774	-0.26543
0.25066	-0.51185	0.15106	0.5198	0.1494	-0.02773	0.1494	-0.35557
0.25066	-0.57845	0.15106	0.57864	0.15106	-0.00395	0.1494	-0.35557
0.25232	-0.48038	0.15272	0.53476	0.15106	-0.06279	0.1494	-0.44571
0.25232	-0.5568	0.15272	0.5838	0.15106	-0.11182	0.15106	-0.39667
0.25398	-0.63321	0.15272	0.72109	0.15272	0.01002	0.15106	-0.41816
0.25398	-0.54495	0.15438	0.68702	0.15272	-0.03901	0.15106	-0.43965
0.25564	-0.61155	0.15438	0.73606	0.15272	-0.09785	0.15106	-0.43965
0.25564	-0.41542	0.15438	0.81451	0.15438	-0.04465	0.15272	-0.45134
0.2573	-0.46241	0.15604	0.7216	0.15438	-0.04465	0.15272	-0.4023
0.2573	-0.32512	0.15604	0.77063	0.15438	-0.08388	0.15438	-0.49244
0.25896	-0.34269	0.15604	0.80986	0.15604	-0.07972	0.15438	-0.49244
0.26062	-0.17597	0.1577	0.67772	0.15604	-0.07972	0.15438	-0.58258
0.26062	-0.15432	0.1577	0.67772	0.15604	-0.13856	0.15438	-0.67272
0.26228	0.04182	0.1577	0.67772	0.1577	-0.08536	0.15604	-0.71195
0.26228	0.08308	0.15936	0.54559	0.1577	-0.16381	0.15604	-0.85112
0.26394	0.11455	0.15936	0.54559	0.1577	-0.16381	0.15604	-0.91976
0.26394	0.42836	0.15936	0.54559	0.15936	-0.04197	0.1577	-1.0099
0.2656	0.36176	0.16102	0.45268	0.15936	-0.04197	0.1577	-1.05894
0.2656	0.44021	0.16102	0.52133	0.15936	-0.04197	0.1577	-1.20791
0.26726	0.32457	0.16102	0.59978	0.16102	0.07987	0.15936	-1.25695
0.26892	0.3638	0.16102	0.59978	0.16102	0.07987	0.15936	-1.34709
0.26892	0.19913	0.16268	0.52648	0.16102	0.07987	0.15936	-1.34709

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.27058	0.19913	0.16268	0.63436	0.16268	0.25075	0.16102	-1.43722
0.27058	0.03445	0.16268	0.56106	0.16268	0.3194	0.16102	-1.38819
0.27224	-0.00477	0.16434	0.77681	0.16268	0.39785	0.16102	-1.40968
0.27224	-0.16944	0.16434	0.94352	0.16434	0.5197	0.16268	-1.40175
0.2739	-0.33412	0.16434	1.13966	0.16434	0.54912	0.16268	-1.35272
0.2739	-0.33412	0.166	1.29192	0.16434	0.59815	0.16268	-1.26634
0.27556	-0.43014	0.166	1.68418	0.16434	0.65699	0.16434	-1.15846
0.27722	-0.33207	0.166	1.81167	0.166	0.77883	0.16434	-1.07208
0.27722	-0.44771	0.16766	1.79721	0.166	0.77883	0.16434	-0.85633
0.27888	-0.35945	0.16766	1.93451	0.166	0.73961	0.166	-0.6915
0.27888	-0.45548	0.16766	2.0718	0.16766	0.7928	0.166	-0.35807
0.28054	-0.3378	0.16932	2.25348	0.16766	0.70454	0.166	-0.36975
0.28054	-0.43382	0.16932	2.43	0.16766	0.65551	0.16766	-0.38144
0.2822	-0.44159	0.16932	2.59672	0.16932	0.6989	0.16766	-0.30298
0.2822	-0.35333	0.17098	2.62149	0.16932	0.64006	0.16766	-0.20679
0.28386	-0.46897	0.17098	2.74897	0.16932	0.53219	0.16932	-0.09892
0.28386	-0.41013	0.17098	2.84704	0.17098	0.58538	0.16932	-0.07138
0.28552	-0.50615	0.17264	2.77374	0.17098	0.39906	0.16932	0.06592
0.28718	-0.50615	0.17264	2.81297	0.17098	0.29118	0.17098	0.12288
0.28718	-0.67082	0.17264	2.81297	0.17264	0.35419	0.17098	0.2994
0.28884	-0.6316	0.1743	2.61219	0.17264	0.24631	0.17098	0.38578
0.28884	-0.75704	0.1743	2.51412	0.17264	0.17767	0.17264	0.58192
0.2905	-0.70801	0.1743	2.43567	0.1743	0.17202	0.17264	0.68791

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.2905	-0.87268	0.17596	2.17605	0.1743	0.06415	0.17264	0.89385
0.29216	-0.82365	0.17596	2.00933	0.1743	-0.10257	0.1743	1.00966
0.29216	-0.91967	0.17596	1.72494	0.17596	-0.27492	0.1743	1.30198
0.29382	-0.98628	0.17762	1.50454	0.17596	-0.37299	0.1743	1.4785
0.29382	-0.92744	0.17762	1.42609	0.17596	-0.45144	0.17596	1.55507
0.29548	-0.98423	0.17762	1.35744	0.17762	-0.39825	0.17596	1.70218
0.29714	-0.87636	0.17928	1.14685	0.17762	-0.43747	0.17596	1.74933
0.29714	-0.82529	0.17928	1.11743	0.17762	-0.4767	0.17762	1.88663
0.2988	-0.48205	0.17928	0.98014	0.17928	-0.35486	0.17762	1.90436
0.2988	-0.06813	0.18094	0.79897	0.17928	-0.35486	0.17762	2.04165
0.30046	0.35356	0.18094	0.71071	0.17928	-0.35486	0.17928	2.079
0.30046	0.3458	0.18094	0.63225	0.18094	-0.26243	0.17928	2.27326
0.30212	0.31842	0.1826	0.35302	0.18094	-0.26243	0.17928	2.42036
0.30212	0.42629	0.1826	0.06862	0.18094	-0.33108	0.18094	2.48713
0.30378	0.34007	0.1826	-0.07848	0.1826	-0.35633	0.18094	2.63423
0.30378	0.39891	0.18426	-0.3381	0.1826	-0.46421	0.18094	2.67158
0.30544	0.28327	0.18426	-0.45578	0.1826	-0.55247	0.1826	2.77945
0.3071	0.31269	0.18426	-0.61269	0.18426	-0.5385	0.1826	2.77758
0.3071	0.18725	0.18592	-0.74482	0.18426	-0.6856	0.1826	2.83642
0.30876	0.18725	0.18592	-0.74482	0.18426	-0.88173	0.18426	2.80512
0.30876	0.13045	0.18592	-0.74482	0.18592	-0.78931	0.18426	2.84434
0.31042	0.21871	0.18758	-0.87696	0.18592	-0.78931	0.18426	2.75421
0.31042	0.10307	0.18758	-0.79851	0.18592	-0.78931	0.18426	2.66407

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.31208	0.20114	0.18758	-0.68083	0.18758	-0.66747	0.18592	2.66407
0.31208	0.10512	0.18924	-0.70509	0.18758	-0.66747	0.18592	2.57393
0.31374	0.06793	0.18924	-0.52857	0.18758	-0.66747	0.18758	2.54451
0.3154	0.12677	0.18924	-0.24417	0.18924	-0.54562	0.18758	2.40534
0.3154	0.06997	0.18924	0.11402	0.18924	-0.54562	0.18758	2.3465
0.31706	0.11901	0.1909	0.31016	0.18924	-0.58485	0.18758	2.25636
0.31706	0.08182	0.1909	0.64359	0.1909	-0.51204	0.18924	2.20733
0.31872	0.08182	0.19256	0.64874	0.1909	-0.58068	0.18924	2.03874
0.31872	-0.08285	0.19256	0.76642	0.1909	-0.58068	0.18924	1.91125
0.32038	-0.08285	0.19256	0.86449	0.19256	-0.51768	0.1909	1.76227
0.32038	-0.2083	0.19256	0.81081	0.19256	-0.59613	0.1909	1.57407
0.32204	-0.32394	0.19422	0.87946	0.19256	-0.71381	0.1909	1.52503
0.32204	-0.26509	0.19422	0.9383	0.19256	-0.81188	0.19256	1.36625
0.3237	-0.42977	0.19422	0.85519	0.19422	-0.69004	0.19256	1.31721
0.32536	-0.36112	0.19588	0.85519	0.19422	-0.74888	0.19256	1.2565
0.32536	-0.43753	0.19588	0.85519	0.19588	-0.70549	0.19422	1.33495
0.32702	-0.26101	0.19588	0.72306	0.19588	-0.70549	0.19422	1.35268
0.32702	-0.33742	0.19754	0.72306	0.19588	-0.74471	0.19422	1.43114
0.32868	-0.17071	0.19754	0.72306	0.19754	-0.68171	0.19588	1.66462
0.32868	-0.10983	0.19754	0.72306	0.19754	-0.74055	0.19588	1.98824
0.33034	0.06874	0.1992	0.59092	0.19754	-0.74055	0.19588	2.00598
0.33034	0.17661	0.1992	0.63015	0.19754	-0.77978	0.19754	2.01391
0.332	0.11	0.1992	0.67918	0.1992	-0.70697	0.19754	2.09236

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.332	0.19826	0.20086	0.59608	0.1992	-0.76581	0.19754	2.07087
0.33366	0.11205	0.20086	0.59608	0.1992	-0.76581	0.1992	2.13952
0.33532	0.23953	0.20086	0.64511	0.20086	-0.64396	0.1992	2.11803
0.33532	0.1337	0.20252	0.65027	0.20086	-0.64396	0.1992	2.11803
0.33698	0.19254	0.20252	0.74834	0.20086	-0.64396	0.20086	2.08673
0.33698	0.02787	0.20252	0.8366	0.20252	-0.52212	0.20086	2.16518
0.33864	0.08671	0.20418	0.83195	0.20252	-0.52212	0.20086	2.1633
0.33864	-0.00932	0.20418	0.99866	0.20252	-0.55154	0.20252	2.22214
0.3403	-0.09553	0.20418	1.2046	0.20418	-0.50815	0.20252	2.13201
0.3403	-0.09553	0.20584	1.35686	0.20418	-0.50815	0.20252	2.04187
0.34196	-0.20137	0.20584	1.42551	0.20418	-0.50815	0.20418	2.04187
0.34196	-0.04446	0.20584	1.48435	0.20584	-0.3863	0.20418	1.95173
0.34362	-0.09145	0.2075	1.45028	0.20584	-0.3863	0.20418	1.9125
0.34528	-0.00319	0.2075	1.45028	0.20584	-0.3863	0.20584	1.74391
0.34528	-0.00115	0.2075	1.45028	0.2075	-0.26446	0.20584	1.587
0.34694	0.30286	0.20916	1.31814	0.2075	-0.26446	0.20584	1.37919
0.34694	0.27548	0.20916	1.31814	0.2075	-0.26446	0.2075	1.28112
0.3486	0.41278	0.20916	1.31814	0.20916	-0.14262	0.2075	1.05369
0.3486	0.36578	0.21082	1.18601	0.20916	-0.14262	0.2075	0.86736
0.35026	0.31879	0.21082	1.18601	0.20916	-0.14262	0.20916	0.56147
0.35026	0.39725	0.21082	1.18601	0.21082	-0.02077	0.20916	0.48114
0.35192	0.31103	0.21248	1.05387	0.21082	-0.06	0.20916	0.48114
0.35358	0.43851	0.21248	1.01465	0.21082	-0.10903	0.21082	0.391

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.35358	0.27384	0.21248	0.96561	0.21248	-0.05584	0.21082	0.44004
0.35524	0.34249	0.21414	0.77464	0.21248	-0.05584	0.21082	0.39893
0.35524	0.26608	0.21414	0.77464	0.21248	-0.05584	0.21248	0.43816
0.3569	0.32492	0.21414	0.77464	0.21414	0.02678	0.21248	0.34802
0.3569	0.26812	0.2158	0.6425	0.21414	-0.02225	0.21248	0.34802
0.35856	0.35638	0.2158	0.61308	0.21414	-0.0909	0.21414	0.21866
0.35856	0.35842	0.2158	0.57385	0.2158	-0.00828	0.21414	0.06968
0.36022	0.50756	0.21746	0.44172	0.2158	-0.07693	0.21414	0.00103
0.36188	0.77235	0.21746	0.44172	0.2158	-0.16519	0.2158	-0.08911
0.36188	0.72535	0.21746	0.44172	0.21746	-0.04335	0.2158	-0.13814
0.36354	0.82342	0.21912	0.30958	0.21746	-0.11199	0.2158	-0.29692
0.36354	0.7372	0.21912	0.30958	0.21746	-0.20025	0.21746	-0.38518
0.3652	0.79604	0.21912	0.35861	0.21912	-0.12744	0.21746	-0.47532
0.3652	0.6804	0.22078	0.29513	0.21912	-0.2157	0.21746	-0.63223
0.36686	0.71963	0.22078	0.39319	0.21912	-0.28435	0.21746	-0.76159
0.36686	0.55496	0.22078	0.43242	0.22078	-0.28999	0.21912	-0.83024
0.36852	0.42951	0.22244	0.36893	0.22078	-0.50574	0.21912	-1.00864
0.36852	0.47855	0.22244	0.467	0.22078	-0.71168	0.21912	-1.00864
0.37018	0.40214	0.22244	0.6141	0.22244	-0.84481	0.22078	-1.14781
0.37018	0.46098	0.2241	0.531	0.22244	-1.18804	0.22078	-1.29679
0.37184	0.38456	0.2241	0.62906	0.22244	-1.25669	0.22078	-1.34582
0.3735	0.4434	0.2241	0.6781	0.2241	-1.19369	0.22244	-1.43596
0.3735	0.3768	0.22576	0.63422	0.2241	-1.23291	0.22244	-1.33789

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.37516	0.45525	0.22576	0.67345	0.2241	-1.23291	0.22244	-1.33977
0.37516	0.42787	0.22576	0.7519	0.22576	-1.11107	0.2241	-1.28093
0.37682	0.68285	0.22742	0.69822	0.22576	-1.1503	0.2241	-1.273
0.37682	0.61624	0.22742	0.69822	0.22576	-1.1503	0.2241	-1.18474
0.37848	0.61829	0.22742	0.74725	0.22576	-1.1503	0.22576	-1.12778
0.37848	0.69674	0.22908	0.66415	0.22742	-1.06768	0.22576	-0.91203
0.38014	0.60071	0.22908	0.7328	0.22742	-1.11671	0.22576	-0.68836
0.3818	0.66936	0.22908	0.80144	0.22908	-1.0439	0.22742	-0.66081
0.3818	0.57334	0.23074	0.75757	0.22908	-1.0439	0.22742	-0.54313
0.38346	0.64198	0.23074	0.8066	0.22908	-1.0439	0.22742	-0.35868
0.38346	0.50673	0.23074	0.89486	0.23074	-0.92206	0.22908	-0.22139
0.38512	0.57538	0.2324	0.97331	0.23074	-0.92206	0.22908	-0.16443
0.38512	0.49897	0.2324	0.96867	0.23074	-0.92206	0.22908	-0.00752
0.38678	0.548	0.2324	1.05693	0.23074	-0.92206	0.23074	0.04944
0.38678	0.46178	0.2324	1.17461	0.2324	-0.74138	0.23074	0.22596
0.38844	0.51286	0.23406	1.40532	0.2324	-0.65311	0.23074	0.30254
0.38844	0.77764	0.23406	1.45435	0.2324	-0.60408	0.2324	0.36931
0.3901	0.74045	0.23406	1.51319	0.23406	-0.39398	0.2324	0.54583
0.39176	0.84833	0.23572	1.43009	0.23406	-0.32533	0.2324	0.59299
0.39176	0.77191	0.23572	1.47912	0.23406	-0.20765	0.23406	0.72047
0.39342	0.84056	0.23572	1.47912	0.23572	-0.00735	0.23406	0.84608
0.39342	0.74454	0.23738	1.38621	0.23572	0.11033	0.23406	0.92454
0.39508	0.80338	0.23738	1.44505	0.23572	0.15936	0.23572	0.90304

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.39508	0.6387	0.23738	1.49409	0.23738	0.35966	0.23572	0.96188
0.39674	0.72697	0.23904	1.36195	0.23738	0.35966	0.23572	0.92078
0.39674	0.63094	0.23904	1.36195	0.23738	0.35966	0.23738	0.92078
0.3984	0.50549	0.23904	1.40118	0.23904	0.4815	0.23738	0.83064
0.3984	0.58395	0.2407	1.30827	0.23904	0.4815	0.23738	0.83064
0.40006	0.49773	0.2407	1.30827	0.23904	0.4815	0.23904	0.7405
0.40172	0.61541	0.2407	1.30827	0.2407	0.56412	0.23904	0.73863
0.40172	0.539	0.24236	1.17613	0.2407	0.43663	0.23904	0.79747
0.40338	0.6861	0.24236	1.17613	0.2407	0.43663	0.2407	0.70733
0.40338	0.76659	0.24236	1.20555	0.24236	0.51925	0.2407	0.75636
0.40504	0.84505	0.24402	1.07342	0.24236	0.46041	0.2407	0.74468
0.40504	0.72941	0.24402	1.07342	0.24236	0.40157	0.24236	0.79371
0.4067	0.60396	0.24402	1.11264	0.24402	0.52341	0.24236	0.79183
0.4067	0.60396	0.24568	1.1178	0.24402	0.52341	0.24236	0.86048
0.40836	0.43929	0.24568	1.1178	0.24402	0.47438	0.24402	0.87822
0.41002	0.43929	0.24568	1.16684	0.24568	0.54719	0.24402	0.85673
0.41002	0.27462	0.24734	1.10335	0.24568	0.49816	0.24402	1.00383
0.41168	0.27462	0.24734	1.19161	0.24568	0.49816	0.24568	0.96272
0.41168	0.10995	0.24734	1.19161	0.24734	0.62	0.24568	1.00195
0.41334	0.13937	0.249	1.1085	0.24734	0.57097	0.24568	0.87258
0.41334	0.03354	0.249	1.16734	0.24734	0.50232	0.24734	0.80394
0.415	-0.05268	0.249	1.2458	0.249	0.54571	0.24734	0.60592
0.415	-0.01345	0.25066	1.1627	0.249	0.54571	0.24734	0.52747

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.41666	-0.08987	0.25066	1.1627	0.249	0.46726	0.249	0.28043
0.41666	-0.04083	0.25066	1.29999	0.25066	0.48123	0.249	-0.03339
0.41832	-0.10744	0.25232	1.16785	0.25066	0.42239	0.249	-0.42753
0.41998	-0.0486	0.25232	1.21689	0.25066	0.30471	0.25066	-0.42753
0.41998	-0.1152	0.25232	1.29534	0.25232	0.3481	0.25066	-0.74323
0.42164	-0.05636	0.25398	1.21224	0.25232	0.01467	0.25066	-0.8922
0.42164	-0.08374	0.25398	1.29069	0.25232	-0.2403	0.25066	-0.8922
0.4233	-0.08374	0.25398	1.34953	0.25398	-0.46169	0.25232	-0.98234
0.4233	-0.10131	0.25564	1.32527	0.25398	-0.53034	0.25232	-0.98234
0.42496	-0.06209	0.25564	1.50179	0.25398	-0.58918	0.25232	-1.00383
0.42496	-0.16792	0.25564	1.56063	0.25564	-0.51637	0.25398	-0.88615
0.42662	-0.25414	0.2573	1.53637	0.25564	-0.5556	0.25398	-0.88803
0.42828	-0.21491	0.2573	1.5854	0.25564	-0.5556	0.25398	-0.74093
0.42828	-0.31093	0.2573	1.66385	0.2573	-0.43375	0.25564	-0.52706
0.42994	-0.23248	0.25896	1.59056	0.2573	-0.43375	0.25564	-0.6172
0.42994	-0.35793	0.25896	1.59056	0.2573	-0.38472	0.25564	-0.57797
0.4316	-0.22063	0.25896	1.59056	0.25896	-0.21384	0.2573	-0.66811
0.4316	-0.3853	0.26062	1.45842	0.25896	-0.155	0.2573	-0.66811
0.43326	-0.27743	0.26062	1.45842	0.25896	-0.155	0.2573	-0.75825
0.43326	-0.35384	0.26062	1.429	0.26062	-0.03316	0.25896	-0.75825
0.43492	-0.44006	0.26062	1.24783	0.26062	-0.00374	0.25896	-0.84839
0.43492	-0.31257	0.26228	1.1988	0.26062	0.0453	0.25896	-0.84839
0.43658	-0.36937	0.26228	1.1988	0.26228	0.20637	0.26062	-0.93852

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.43658	-0.17324	0.26394	1.06666	0.26228	0.20637	0.26062	-0.93852
0.43824	0.07397	0.26394	1.02744	0.26228	0.20637	0.26062	-0.97963
0.4399	0.27991	0.26394	0.98821	0.26394	0.32821	0.26228	-0.98151
0.4399	0.30157	0.2656	0.94898	0.26394	0.36744	0.26228	-0.93247
0.44156	0.61538	0.2656	0.81685	0.26394	0.40666	0.26228	-0.91474
0.44156	0.55858	0.2656	0.84627	0.26394	0.43608	0.26394	-0.81667
0.44322	0.64684	0.2656	0.90511	0.2656	0.55793	0.26394	-0.7499
0.44322	0.55082	0.26726	0.85143	0.2656	0.55793	0.26394	-0.49493
0.44488	0.43518	0.26726	0.89065	0.2656	0.52851	0.2656	-0.22222
0.44488	0.47441	0.26726	0.94949	0.26726	0.60132	0.2656	0.30734
0.44654	0.34896	0.26892	0.91542	0.26726	0.53267	0.2656	0.43295
0.4482	0.34896	0.26892	0.96446	0.26726	0.47383	0.26726	0.41146
0.4482	0.24313	0.26892	1.05272	0.26892	0.59567	0.26726	0.45069
0.44986	0.40984	0.27058	0.97942	0.26892	0.44857	0.26726	0.36055
0.44986	0.2844	0.27058	1.08729	0.26892	0.3407	0.26892	0.36055
0.45152	0.36285	0.27224	1.14614	0.27058	0.36448	0.26892	0.27041
0.45152	0.25702	0.27224	1.15129	0.27058	0.19776	0.26892	0.27041
0.45318	0.35509	0.27224	1.20033	0.27058	-0.01798	0.27058	0.18028
0.45318	0.24926	0.27224	1.24936	0.27224	-0.20995	0.27058	0.18028
0.45484	0.18265	0.2739	1.11722	0.27224	-0.68068	0.27058	0.09014
0.45484	0.24149	0.2739	1.0878	0.27224	-0.83758	0.27224	0.09014
0.4565	0.17489	0.2739	1.02896	0.2739	-0.97071	0.27224	0
0.45816	0.3416	0.27556	0.82818	0.2739	-1.04917	0.27224	-0.5

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.45816	0.25538	0.27556	0.82818	0.2739	-1.11781	0.2739	0.2
0.45982	0.40248	0.27556	0.72031	0.27556	-0.99597	0.2739	-0.8626
0.45982	0.50259	0.27722	0.52933	0.27556	-1.04969	0.2739	-1.32351
0.46148	0.63008	0.27722	0.52933	0.27556	-0.98104	0.27556	-1.44307
0.46148	0.58309	0.27722	0.52933	0.27722	-0.93201	0.27556	-1.47249
0.46314	0.52629	0.27888	0.39719	0.27722	-0.81017	0.27556	-1.58224
0.46314	0.61455	0.27888	0.43642	0.27722	-0.74152	0.27722	-1.61354
0.4648	0.52833	0.27888	0.48546	0.27888	-0.69249	0.27722	-1.48605
0.4648	0.6264	0.28054	0.43177	0.27888	-0.53142	0.27722	-1.4487
0.46646	0.50095	0.28054	0.43177	0.27888	-0.53142	0.27888	-1.22315
0.46812	0.50095	0.28054	0.49061	0.28054	-0.53142	0.27888	-1.16619
0.46812	0.33628	0.2822	0.44674	0.28054	-0.40957	0.27888	-0.76411
0.46978	0.33628	0.2822	0.56442	0.28054	-0.40957	0.27888	-0.60908
0.46978	0.21084	0.2822	0.66248	0.2822	-0.4488	0.28054	-0.50121
0.47144	0.26968	0.28386	0.55977	0.2822	-0.37599	0.28054	-0.39521
0.47144	0.17365	0.28386	0.62842	0.2822	-0.43483	0.2822	-0.43632
0.4731	0.00898	0.28386	0.71668	0.28386	-0.43483	0.2822	-0.29902
0.4731	0.07763	0.28552	0.62377	0.28386	-0.35221	0.2822	-0.36955
0.47476	0.01102	0.28552	0.69241	0.28386	-0.41105	0.28386	-0.27148
0.47642	0.07967	0.28552	0.79048	0.28552	-0.48951	0.28386	-0.34201
0.47642	-0.79664	0.28718	0.69757	0.28552	-0.36766	0.28386	-0.34201
0.47808	-0.89267	0.28718	0.78583	0.28552	-0.48534	0.28386	-0.3733
0.47808	-0.77499	0.28718	0.94274	0.28718	-0.5736	0.28552	-0.26543

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.47974	-0.86121	0.28884	0.86944	0.28718	-0.45176	0.28552	-0.35557
0.47974	-0.89839	0.28884	0.9577	0.28718	-0.5106	0.28552	-0.35557
0.4814	-0.51593	0.28884	1.00674	0.28884	-0.60867	0.28718	-0.44571
0.4814	-0.60215	0.2905	0.93344	0.28884	-0.54566	0.28718	-0.39667
0.48306	-0.52369	0.2905	0.98247	0.28884	-0.65353	0.28718	-0.41816
0.48306	-0.60011	0.2905	0.98247	0.2905	-0.7418	0.28884	-0.43965
0.48472	-0.51185	0.29216	0.85034	0.2905	-0.76705	0.28884	-0.43965
0.48638	-0.57845	0.29216	0.85034	0.2905	-0.96319	0.28884	-0.45134
0.48638	-0.48038	0.29216	0.85034	0.29216	-1.32603	0.2905	-0.4023
0.48804	-0.5568	0.29382	0.7182	0.29216	-1.27284	0.2905	-0.49244
0.48804	-0.63321	0.29382	0.7182	0.29216	-1.34148	0.2905	-0.49244
0.4897	-0.54495	0.29382	0.7182	0.29216	-1.40032	0.29216	-0.58258
0.4897	-0.61155	0.29548	0.58607	0.29382	-1.27848	0.29216	-0.67272
0.49136	-0.41542	0.29548	0.58607	0.29382	-1.33732	0.29216	-0.71195
0.49136	-0.46241	0.29548	0.58607	0.29548	-1.42558	0.29382	-0.85112
0.49302	-0.32512	0.29714	0.50296	0.29548	-1.35277	0.29382	-0.91976
0.49468	-0.34269	0.29714	0.54219	0.29548	-1.43122	0.29382	-1.0099
0.49468	-0.17597	0.29714	0.60103	0.29714	-1.49987	0.29548	-1.05894
0.49634	-0.15432	0.2988	0.4689	0.29714	-1.47609	0.29548	-1.20791
0.49634	0.04182	0.2988	0.4689	0.29714	-1.64281	0.29548	-1.25695
0.498	0.08308	0.2988	0.50812	0.29714	-1.70165	0.29714	-1.34709
0.498	0.11455	0.30046	0.42502	0.2988	-1.66806	0.29714	-1.34709
0.49966	0.42836	0.30046	0.47405	0.2988	-1.70729	0.29714	-1.43722

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.49966	0.36176	0.30046	0.47405	0.30046	-1.77594	0.2988	-1.38819
0.50132	0.44021	0.30212	0.34192	0.30046	-1.84458	0.2988	-1.40968
0.50132	0.32457	0.30212	0.39095	0.30046	-1.72274	0.2988	-1.40175
0.50298	0.3638	0.30212	0.4596	0.30046	-1.72274	0.30046	-1.35272
0.50298	0.19913	0.30378	0.53805	0.30212	-1.76197	0.30046	-1.26634
0.50464	0.19913	0.30378	0.40591	0.30212	-1.73819	0.30046	-1.15846
0.5063	0.03445	0.30378	0.45495	0.30212	-1.73819	0.30212	-1.07208
0.5063	-0.00477	0.30544	0.51379	0.30378	-1.73819	0.30212	-0.85633
0.50796	-0.16944	0.30544	0.4503	0.30378	-1.61635	0.30212	-0.6915
0.50796	-0.33412	0.30544	0.4503	0.30378	-1.65557	0.30378	-0.35807
0.50962	-0.33412	0.3071	0.4503	0.30544	-1.6948	0.30378	-0.36975
0.50962	-0.43014	0.3071	0.3672	0.30544	-1.62199	0.30378	-0.38144
0.51128	-0.33207	0.3071	0.43584	0.30544	-1.62199	0.30544	-0.30298
0.51128	-0.44771	0.3071	0.5143	0.3071	-1.62199	0.30544	-0.20679
0.51294	-0.35945	0.30876	0.42139	0.3071	-1.50015	0.30544	-0.09892
0.5146	-0.45548	0.30876	0.49004	0.3071	-1.50015	0.3071	-0.07138
0.5146	-0.3378	0.31042	0.56849	0.30876	-1.50015	0.3071	0.06592
0.51626	-0.43382	0.31042	0.43635	0.30876	-1.3783	0.3071	0.12288
0.51626	-0.44159	0.31042	0.43635	0.30876	-1.3783	0.30876	0.2994
0.51792	-0.35333	0.31042	0.46577	0.31042	-1.3783	0.30876	0.38578
0.51792	-0.46897	0.31208	0.37286	0.31042	-1.25646	0.30876	0.58192
0.51958	-0.41013	0.31208	0.37286	0.31042	-1.25646	0.31042	0.68791
0.51958	-0.50615	0.31208	0.37286	0.31208	-1.25646	0.31042	0.89385

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.52124	-0.50615	0.31374	0.24073	0.31208	-1.13461	0.31042	1.00966
0.52124	-0.67082	0.31374	0.24073	0.31208	-1.13461	0.31208	1.30198
0.5229	-0.6316	0.31374	0.19169	0.31374	-1.13461	0.31208	1.4785
0.52456	-0.75704	0.3154	7.18E-04	0.31374	-1.01277	0.31208	1.55507
0.52456	-0.70801	0.3154	-0.06793	0.31374	-1.01277	0.31208	1.70218
0.52622	-0.87268	0.3154	-0.06793	0.3154	-1.01277	0.31374	1.74933
0.52622	-0.82365	0.31706	-0.20006	0.3154	-0.93015	0.31374	1.88663
0.52788	-0.91967	0.31706	-0.20006	0.3154	-0.95957	0.3154	1.90436
0.52788	-0.98628	0.31706	-0.20006	0.31706	-1.00861	0.3154	2.04165
0.52954	-0.92744	0.31872	-0.28317	0.31706	-0.88676	0.3154	2.079
0.52954	-0.98423	0.31872	-0.21452	0.31706	-0.88676	0.31706	2.27326
0.5312	-0.87636	0.31872	-0.07723	0.31872	-0.88676	0.31706	2.42036
0.5312	-0.82529	0.32038	-0.1211	0.31872	-0.76492	0.31706	2.48713
0.53286	-0.48205	0.32038	-0.05246	0.31872	-0.76492	0.31706	2.63423
0.53452	-0.06813	0.32038	0.08484	0.32038	-0.76492	0.31872	2.67158
0.53452	0.35356	0.32204	0.04096	0.32038	-0.60385	0.31872	2.77945
0.53618	0.3458	0.32204	0.16845	0.32038	-0.56462	0.31872	2.77758
0.53618	0.31842	0.32204	0.35478	0.32204	-0.5352	0.32038	2.83642
0.53686	0.34323	0.3237	0.41878	0.32204	-0.41336	0.32038	2.80512
0.53686	0.42169	0.3237	0.64433	0.32204	-0.41336	0.32038	2.84434
0.53686	0.46091	0.3237	0.91892	0.3237	-0.41336	0.32204	2.75421
0.53852	0.53937	0.32536	0.8162	0.3237	-0.29151	0.32204	2.66407
0.54018	0.59821	0.32536	0.90446	0.3237	-0.36997	0.32204	2.66407

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.54018	0.71589	0.32536	0.94369	0.32536	-0.42881	0.3237	2.57393
0.54184	0.79434	0.32702	0.81155	0.32536	-0.30696	0.3237	2.54451
0.54184	0.90222	0.32702	0.86059	0.32536	-0.34619	0.3237	2.40534
0.5435	1.05912	0.32702	0.91943	0.32702	-0.40503	0.32536	2.3465
0.54516	1.21603	0.32868	0.85594	0.32702	-0.35183	0.32536	2.25636
0.54516	1.36313	0.32868	0.85594	0.32702	-0.35183	0.32536	2.20733
0.54682	1.3141	0.32868	0.85594	0.32868	-0.40086	0.32702	2.03874
0.54682	1.28468	0.33034	0.76303	0.32868	-0.36728	0.32702	1.91125
0.54848	1.28468	0.33034	0.86109	0.32868	-0.46535	0.32702	1.76227
0.54848	1.28468	0.33034	0.86109	0.33034	-0.56342	0.32868	1.57407
0.55014	1.28468	0.332	0.72896	0.33034	-0.4808	0.32868	1.52503
0.55014	1.28468	0.332	0.72896	0.33034	-0.54944	0.32868	1.36625
0.5518	1.34352	0.332	0.72896	0.33034	-0.6279	0.33034	1.31721
0.5518	1.45139	0.33366	0.72896	0.332	-0.50605	0.33034	1.2565
0.55346	1.73579	0.33366	0.59682	0.332	-0.50605	0.33034	1.33495
0.55512	2.01037	0.33366	0.59682	0.33366	-0.50605	0.332	1.35268
0.55512	2.42225	0.33532	0.46469	0.33366	-0.38421	0.332	1.43114
0.55678	3.05969	0.33532	0.46469	0.33366	-0.38421	0.332	1.66462
0.55678	3.25582	0.33532	0.46469	0.33366	-0.35479	0.33366	1.98824
0.55844	3.39312	0.33698	0.46469	0.33532	-0.1643	0.33366	2.00598
0.55844	3.49119	0.33698	0.33255	0.33532	-0.06623	0.33366	2.01391
0.5601	3.49119	0.33698	0.38158	0.33532	-0.02701	0.33532	2.09236
0.5601	3.49119	0.33864	0.42081	0.33698	0.07106	0.33532	2.07087

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.56176	3.49119	0.33864	0.33771	0.33698	0.25175	0.33532	2.13952
0.56176	3.41273	0.33864	0.33771	0.33698	0.34981	0.33698	2.11803
0.56342	3.20679	0.3403	0.33771	0.33864	0.52069	0.33698	2.11803
0.56508	3.02046	0.3403	0.20557	0.33864	0.60895	0.33698	2.08673
0.56508	2.67723	0.3403	0.25461	0.33864	0.64818	0.33864	2.16518
0.56674	2.51052	0.34196	0.41151	0.3403	0.80925	0.33864	2.1633
0.56674	2.3438	0.34196	0.27938	0.3403	0.80925	0.33864	2.22214
0.5684	2.17709	0.34196	0.34802	0.3403	0.80925	0.3403	2.13201
0.5684	2.01037	0.34362	0.4657	0.34196	0.80925	0.3403	2.04187
0.57006	1.85347	0.34362	0.39241	0.34196	0.93109	0.3403	2.04187
0.57006	1.71617	0.34362	0.5297	0.34196	0.88206	0.34196	1.95173
0.57172	1.57888	0.34362	0.63758	0.34362	0.83302	0.34196	1.9125
0.57172	1.45139	0.34528	0.67215	0.34362	0.88622	0.34196	1.74391
0.57338	1.21603	0.34528	0.91732	0.34362	0.88622	0.34196	1.587
0.57504	1.09835	0.34694	1.20172	0.34528	0.79796	0.34362	1.37919
0.57504	0.98067	0.34694	1.76586	0.34528	0.91981	0.34362	1.28112
0.5767	0.86299	0.34694	1.81489	0.34528	0.84135	0.34528	1.05369
0.5767	0.7355	0.3486	1.81489	0.34694	0.77271	0.34528	0.86736
0.57836	0.62763	0.3486	1.68275	0.34694	0.79648	0.34528	0.56147
0.57836	0.51976	0.3486	1.68275	0.34694	0.74745	0.34528	0.48114
0.58002	0.42169	0.3486	1.68275	0.3486	0.65919	0.34694	0.48114
0.58002	0.23536	0.35026	1.55062	0.3486	0.71239	0.34694	0.391
0.58168	0.15691	0.35026	1.58984	0.3486	0.62413	0.3486	0.44004

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.58334	0.07845	0.35192	1.63888	0.35026	0.57509	0.3486	0.39893
0.58334	0.00981	0.35192	1.56558	0.35026	0.6479	0.3486	0.43816
0.585	-0.05884	0.35192	1.56558	0.35026	0.59887	0.3486	0.34802
0.585	-0.13729	0.35192	1.65384	0.35192	0.6479	0.35026	0.34802
0.58666	-0.19613	0.35358	1.59035	0.35192	0.85801	0.35026	0.21866
0.58666	-0.27459	0.35358	1.59035	0.35192	0.90704	0.35026	0.06968
0.58832	-0.37265	0.35358	1.59035	0.35358	0.98549	0.35192	0.00103
0.58832	-0.62763	0.35524	1.48764	0.35358	1.16618	0.35192	-0.08911
0.58998	-0.99048	0.35524	1.52686	0.35358	1.25444	0.35192	-0.13814
0.58998	-1.20622	0.35524	1.52686	0.35524	1.28386	0.35358	-0.29692
0.59164	-1.42197	0.3569	1.39473	0.35524	1.45474	0.35358	-0.38518
0.5933	-1.63772	0.3569	1.39473	0.35524	1.49396	0.35358	-0.47532
0.5933	-1.84366	0.3569	1.39473	0.3569	1.43512	0.35524	-0.63223
0.59496	-2.03979	0.35856	1.39473	0.3569	1.46871	0.35524	-0.76159
0.59496	-2.20651	0.35856	1.22336	0.3569	1.41967	0.35524	-0.83024
0.59662	-2.35361	0.35856	1.18414	0.35856	1.34122	0.3569	-1.00864
0.59662	-2.46148	0.36022	0.99316	0.35856	1.39442	0.3569	-1.00864
0.59828	-2.60858	0.36022	0.99316	0.35856	1.28654	0.3569	-1.14781
0.59828	-2.65762	0.36022	0.99316	0.35856	1.23751	0.35856	-1.29679
0.59994	-2.65762	0.36188	0.99316	0.36022	1.27109	0.35856	-1.34582
0.59994	-2.65762	0.36188	0.86103	0.36022	1.22206	0.35856	-1.43596
0.6016	-2.65762	0.36188	0.86103	0.36188	1.16322	0.36022	-1.33789
0.60326	-2.65762	0.36354	0.68966	0.36188	1.20661	0.36022	-1.33977

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.60326	-2.60858	0.36354	0.62102	0.36188	1.14777	0.36022	-1.28093
0.60492	-2.53994	0.36354	0.62102	0.36188	1.07912	0.36188	-1.273
0.60492	-2.45167	0.3652	0.62102	0.36354	1.11271	0.36188	-1.18474
0.60658	-2.40264	0.3652	0.48888	0.36354	1.11271	0.36188	-1.12778
0.60658	-2.32419	0.3652	0.48888	0.36354	1.05387	0.36354	-0.91203
0.60824	-2.13786	0.36686	0.53791	0.3652	1.09726	0.36354	-0.68836
0.60824	-2.0496	0.36686	0.47442	0.3652	1.04822	0.36354	-0.66081
0.6099	-1.94173	0.36686	0.55288	0.3652	0.95016	0.3652	-0.54313
0.6099	-1.80443	0.36852	0.55288	0.36686	0.85625	0.3652	-0.35868
0.61156	-1.61811	0.36852	0.55804	0.36686	0.61108	0.3652	-0.22139
0.61322	-1.59849	0.36852	0.59726	0.36686	0.50321	0.36686	-0.16443
0.61322	-1.55927	0.37018	0.68552	0.36852	0.50737	0.36686	-0.00752
0.61488	-1.55927	0.37018	0.61223	0.36852	0.37989	0.36686	0.04944
0.61488	-1.55927	0.37018	0.7201	0.36852	0.24259	0.36852	0.22596
0.61654	-1.471	0.37184	0.79855	0.37018	0.09549	0.36852	0.30254
0.61654	-1.471	0.37184	0.77429	0.37018	0.06043	0.36852	0.36931
0.6182	-1.44158	0.37184	0.83313	0.37018	-0.09648	0.37018	0.54583
0.6182	-1.38274	0.3735	0.92139	0.37184	-0.13154	0.37018	0.59299
0.61986	-1.30429	0.3735	0.81868	0.37184	-0.41593	0.37018	0.72047
0.61986	-1.25526	0.3735	0.90694	0.37184	-0.53362	0.37018	0.84608
0.62152	-1.1768	0.37516	0.90694	0.3735	-0.51964	0.37184	0.92454
0.62318	-1.08854	0.37516	0.7748	0.3735	-0.60791	0.37184	0.90304
0.62318	-0.96106	0.37516	0.7748	0.3735	-0.66675	0.3735	0.96188

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.62484	-0.76492	0.37682	0.7748	0.37516	-0.71578	0.3735	0.92078
0.62484	-0.74531	0.37682	0.64266	0.37516	-0.63316	0.3735	0.92078
0.6265	-0.78454	0.37682	0.64266	0.37516	-0.63316	0.3735	0.83064
0.6265	-0.85318	0.37848	0.64266	0.37682	-0.63316	0.37516	0.83064
0.62816	-0.95125	0.37848	0.51053	0.37682	-0.51132	0.37516	0.7405
0.62816	-1.03951	0.37848	0.51053	0.37682	-0.51132	0.37516	0.73863
0.62982	-1.21603	0.38014	0.51053	0.37848	-0.51132	0.37682	0.79747
0.63148	-1.58869	0.38014	0.42743	0.37848	-0.38947	0.37682	0.70733
0.63148	-1.78482	0.38014	0.48627	0.37848	-0.38947	0.37682	0.75636
0.63314	-1.96134	0.3818	0.56472	0.38014	-0.41889	0.37848	0.74468
0.63314	-2.12805	0.3818	0.43258	0.38014	-0.34608	0.37848	0.79371
0.6348	-2.37322	0.3818	0.47181	0.38014	-0.40492	0.37848	0.79183
0.6348	-2.4811	0.38346	0.51104	0.3818	-0.40492	0.38014	0.86048
0.63646	-2.57916	0.38346	0.44755	0.3818	-0.32231	0.38014	0.87822
0.63646	-2.66742	0.38346	0.44755	0.3818	-0.38115	0.38014	0.85673
0.63812	-2.74588	0.38512	0.47697	0.38346	-0.44979	0.3818	1.00383
0.63812	-2.83414	0.38512	0.40367	0.38346	-0.36718	0.3818	0.96272
0.63978	-2.9224	0.38512	0.47232	0.38346	-0.42602	0.3818	1.00195
0.64144	-3.00085	0.38678	0.54097	0.38512	-0.50447	0.38346	0.87258
0.64144	-3.05969	0.38678	0.5167	0.38512	-0.38263	0.38346	0.80394
0.6431	-3.19698	0.38678	0.57554	0.38512	-0.38263	0.38346	0.60592
0.6431	-3.25582	0.38844	0.69323	0.38678	-0.42185	0.38512	0.52747
0.64476	-3.25582	0.38844	0.63954	0.38678	-0.35885	0.38512	0.28043

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.64476	-3.29505	0.38844	0.75722	0.38678	-0.41769	0.38512	-0.03339
0.64642	-3.34408	0.3901	0.93374	0.38844	-0.41769	0.38678	-0.42753
0.64642	-3.38331	0.3901	1.12007	0.38844	-0.40372	0.38678	-0.42753
0.64808	-3.38331	0.3901	1.14484	0.38844	-0.48217	0.38678	-0.74323
0.64974	-3.38331	0.3901	1.09581	0.38844	-0.48217	0.38844	-0.8922
0.64974	-3.38331	0.39176	1.03697	0.3901	-0.41917	0.38844	-0.8922
0.6514	-3.29505	0.39176	0.83619	0.3901	-0.50743	0.38844	-0.98234
0.6514	-3.2264	0.39176	0.77735	0.39176	-0.54666	0.3901	-0.98234
0.65306	-3.2264	0.39342	0.55695	0.39176	-0.50327	0.3901	-1.00383
0.65306	-3.16756	0.39342	0.4883	0.39176	-0.5523	0.3901	-0.88615
0.65472	-3.08911	0.39342	0.39024	0.39176	-0.63075	0.39176	-0.88803
0.65472	-3.02046	0.39508	0.33139	0.39342	-0.58736	0.39176	-0.74093
0.65638	-2.88317	0.39508	0.07177	0.39342	-0.58736	0.39176	-0.52706
0.65638	-2.74588	0.39508	0.07177	0.39508	-0.51872	0.39342	-0.6172
0.65804	-2.46148	0.39674	0.07177	0.39508	-0.289	0.39342	-0.57797
0.65804	-2.02999	0.39674	-0.06036	0.39508	-0.21054	0.39342	-0.66811
0.6597	-1.27487	0.39674	-0.06036	0.39508	-0.07325	0.39508	-0.66811
0.66136	-0.7355	0.39794	-0.02114	0.39674	0.23492	0.39508	-0.75825
0.66136	-0.53937	0.3996	-0.10424	0.39674	0.48009	0.39508	-0.75825
0.66302	-0.40207	0.3996	-0.0454	0.39674	0.77429	0.39674	-0.84839
0.66302	-0.31381	0.3996	-0.00617	0.3984	0.90594	0.39674	-0.84839
0.66468	-0.31381	0.40126	-0.06966	0.3984	0.83729	0.39674	-0.93852
0.66468	-0.31381	0.40126	1.98236	0.3984	0.74903	0.3984	-0.93852

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.66634	-0.35304	0.40126	0.66361	0.40006	0.79242	0.3984	-0.97963
0.66634	-0.41188	0.40126	0.46748	0.40006	0.58648	0.3984	-0.98151
0.668	-0.50995	0.40292	0.09482	0.40006	0.47861	0.40006	-0.93247
0.668	-0.67666	0.40292	-0.09615	0.40172	0.49258	0.40006	-0.91474
0.66966	-0.74531	0.40292	-0.15499	0.40172	0.40432	0.40006	-0.81667
0.67132	-0.84338	0.40458	-0.15499	0.40172	0.33567	0.40172	-0.7499
0.67132	-0.89241	0.40458	-0.30674	0.40338	0.26703	0.40172	-0.49493
0.67298	-0.96106	0.40458	-0.30674	0.40338	0.34964	0.40172	-0.22222
0.67298	-1.03951	0.40624	-0.29693	0.40338	0.34964	0.40338	0.30734
0.67464	-1.03951	0.40624	-0.40946	0.40504	0.47149	0.40338	0.43295
0.67464	-1.10816	0.40624	-0.35062	0.40504	0.47149	0.40338	0.41146
0.6763	-1.19642	0.4079	-0.1741	0.40504	0.47149	0.40338	0.45069
0.6763	-1.36313	0.4079	-0.30623	0.4067	0.47149	0.40504	0.36055
0.67796	-1.44158	0.4079	-0.08068	0.4067	0.62275	0.40504	0.36055
0.67796	-1.57888	0.40956	-0.00223	0.4067	0.67178	0.40504	0.27041
0.67962	-1.83385	0.40956	0.00293	0.40836	0.71101	0.4067	0.27041
0.68128	-1.94173	0.40956	0.05197	0.40836	0.83285	0.4067	0.18028
0.68128	-2.06921	0.41122	0.15003	0.40836	0.83285	0.4067	0.18028
0.68294	-2.1967	0.41122	0.0277	0.41002	0.83285	0.40836	0.09014
0.68294	-2.31438	0.41122	0.0277	0.41002	0.91547	0.40836	0.09014
0.6846	-2.44187	0.41288	0.07674	0.41002	0.86644	0.40836	0
0.6846	-2.638	0.41288	-0.01617	0.41168	0.79779	0.41002	-0.4
0.68626	-2.71646	0.41288	-0.01617	0.41168	0.91964	0.41002	0.4

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.68626	-2.7753	0.41454	-0.01617	0.41168	0.8608	0.41002	-0.8626
0.68792	-2.83414	0.41454	-0.14831	0.41334	0.77254	0.41168	-1.32351
0.68958	-2.83414	0.41454	-0.14831	0.41334	0.85515	0.41168	-1.44307
0.68958	-2.83414	0.4162	-0.19734	0.41334	0.78651	0.41168	-1.47249
0.69124	-2.83414	0.4162	-0.38832	0.415	0.69825	0.41334	-1.58224
0.69124	-2.74588	0.4162	-0.46677	0.415	0.82009	0.41334	-1.61354
0.6929	-2.08883	0.41786	-0.46677	0.415	0.76125	0.41334	-1.48605
0.6929	0	0.41786	-0.63813	0.41666	0.62396	0.415	-1.4487
0.69456	0	0.41786	-0.68717	0.41666	0.7458	0.415	-1.22315
0.69456	0	0.41952	-0.7362	0.41666	0.7458	0.415	-1.16619
0.69622	0	0.41952	-0.86834	0.41832	0.7458	0.41666	-0.76411
0.69622	0	0.41952	-0.86834	0.41832	0.86764	0.41666	-0.60908
0.69788	0	0.42118	-0.8193	0.41832	0.86764	0.41666	-0.50121
0.69954	0	0.42118	-0.76046	0.41998	0.86764	0.41832	-0.39521
0.69954	0	0.42118	-0.81415	0.41998	0.89142	0.41832	-0.43632
0.7012	0	0.42284	-0.81415	0.41998	0.81297	0.41832	-0.29902
0.7012	-0.02942	0.42284	-0.88744	0.42164	0.81297	0.41998	-0.36955
0.70286	-0.02942	0.42284	-0.80899	0.42164	0.86616	0.41998	-0.27148
0.70286	-0.04903	0.4245	-0.76976	0.42164	0.75829	0.41998	-0.34201
0.70452	-0.05884	0.4245	-0.62266	0.42164	0.68964	0.42164	-0.34201
0.70452	-0.05884	0.4245	-0.7548	0.4233	0.70361	0.42164	-0.3733
0.70618	-0.06865	0.42616	-0.69596	0.4233	0.62516	0.42164	-0.26543
0.70618	-0.05884	0.42616	-0.6077	0.42496	0.51729	0.4233	-0.35557

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.70784	-0.04903	0.42616	-0.71041	0.42496	0.46261	0.4233	-0.35557
0.70784	-0.02942	0.42782	-0.63196	0.42496	-0.02773	0.4233	-0.44571
0.7095	-0.00981	0.42782	-0.67583	0.42496	-0.02773	0.42496	-0.39667
0.71116	-0.00981	0.42782	-0.63661	0.42662	-0.00395	0.42496	-0.41816
0.71116	0	0.42948	-0.4797	0.42662	-0.06279	0.42496	-0.43965
0.71282	0	0.42948	-0.44047	0.42828	-0.11182	0.42662	-0.43965
0.71282	0	0.42948	-0.50396	0.42828	0.01002	0.42662	-0.45134
0.71448	0	0.42948	-0.4059	0.42828	-0.03901	0.42662	-0.4023
0.71448	0	0.43114	-0.4988	0.42828	-0.09785	0.42828	-0.49244
0.71614	0	0.43114	-0.42035	0.42994	-0.04465	0.42828	-0.49244
0.7178	0	0.4328	-0.3517	0.42994	-0.04465	0.42828	-0.58258
0.7178	0	0.4328	-0.23402	0.42994	-0.08388	0.42994	-0.67272
0.71946	0	0.4328	-0.28771	0.4316	-0.07972	0.42994	-0.71195
0.71946	-0.74393	0.43446	-0.00331	0.4316	-0.07972	0.42994	-0.85112
0.72112	-0.85957	0.43446	0.26147	0.4316	-0.13856	0.4316	-0.91976
0.72112	-0.79092	0.43446	0.21759	0.43326	-0.08536	0.4316	-1.0099
0.72278	-0.88694	0.43446	0.29605	0.43326	-0.16381	0.4316	-1.05894
0.72278	-0.78888	0.43612	0.38431	0.43326	-0.16381	0.43326	-1.20791
0.72444	-0.89471	0.43612	0.33063	0.43492	-0.04197	0.43326	-1.25695
0.72444	-0.79664	0.43612	0.40908	0.43492	-0.04197	0.43326	-1.34709
0.7261	-0.89267	0.43778	0.47773	0.43492	-0.04197	0.43492	-1.34709
0.7261	-0.77499	0.43778	0.41424	0.43658	0.07987	0.43492	-1.43722
0.72776	-0.86121	0.43778	0.47308	0.43658	0.07987	0.43492	-1.38819

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.72942	-0.89839	0.43944	0.47308	0.43658	0.07987	0.43658	-1.40968
0.72942	-0.51593	0.43944	0.43901	0.43824	0.25075	0.43658	-1.40175
0.73108	-0.60215	0.4411	0.48804	0.43824	0.3194	0.43658	-1.35272
0.73108	-0.52369	0.4411	0.48804	0.43824	0.39785	0.43658	-1.26634
0.73274	-0.60011	0.4411	0.35591	0.43824	0.5197	0.43824	-1.15846
0.73274	-0.51185	0.4411	0.35591	0.43824	0.54912	0.43824	-1.07208
0.7344	-0.57845	0.44276	0.35591	0.4399	0.59815	0.43824	-0.85633
0.7344	-0.48038	0.44276	0.22377	0.4399	0.65699	0.4399	-0.6915
0.73606	-0.5568	0.44276	0.22377	0.4399	0.77883	0.4399	-0.35807
0.73772	-0.63321	0.44442	0.22377	0.44156	0.77883	0.4399	-0.36975
0.73772	-0.54495	0.44442	0.09163	0.44156	0.73961	0.44156	-0.38144
0.73938	-0.61155	0.44442	0.09163	0.44156	0.7928	0.44156	-0.30298
0.73938	-0.41542	0.44608	0.09163	0.44322	0.70454	0.44156	-0.20679
0.74104	-0.46241	0.44608	-0.0405	0.44322	0.65551	0.44322	-0.09892
0.74104	-0.32512	0.44608	-0.0405	0.44322	0.6989	0.44322	-0.07138
0.7427	-0.34269	0.44774	-0.06992	0.44488	0.64006	0.44322	0.06592
0.7427	-0.17597	0.44774	-0.20206	0.44488	0.53219	0.44488	0.12288
0.74436	-0.15432	0.44774	-0.20206	0.44488	0.58538	0.44488	0.2994
0.74436	0.04182	0.4494	-0.20206	0.44654	0.39906	0.44488	0.38578
0.74602	0.08308	0.4494	-0.33419	0.44654	0.29118	0.44654	0.58192
0.74768	0.11455	0.4494	-0.33419	0.44654	0.35419	0.44654	0.68791
0.74768	0.42836	0.45106	-0.28516	0.4482	0.24631	0.44654	0.89385
0.74934	0.36176	0.45106	-0.33884	0.4482	0.17767	0.4482	1.00966

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.74934	0.44021	0.45106	-0.29962	0.4482	0.17202	0.4482	1.30198
0.751	0.32457	0.45272	-0.21136	0.44986	0.06415	0.4482	1.4785
0.751	0.3638	0.45272	-0.28465	0.44986	-0.10257	0.44986	1.55507
0.75266	0.19913	0.45272	-0.15717	0.44986	-0.27492	0.44986	1.70218
0.75266	0.19913	0.45438	-0.06891	0.45152	-0.37299	0.44986	1.74933
0.75432	0.03445	0.45438	-0.08336	0.45152	-0.45144	0.45152	1.88663
0.75432	-0.00477	0.45438	0.08335	0.45152	-0.39825	0.45152	1.90436
0.75598	-0.16944	0.45604	0.30891	0.45318	-0.43747	0.45152	2.04165
0.75764	-0.33412	0.45604	0.72595	0.45318	-0.4767	0.45318	2.079
0.75764	-0.33412	0.45604	1.0986	0.45318	-0.35486	0.45318	2.27326
0.7593	-0.43014	0.4577	1.15744	0.45484	-0.35486	0.45318	2.42036
0.7593	-0.33207	0.4577	1.10376	0.45484	-0.35486	0.45484	2.48713
0.76096	-0.44771	0.4577	1.17241	0.45484	-0.26243	0.45484	2.63423
0.76096	-0.35945	0.45936	1.26067	0.4565	-0.26243	0.45484	2.67158
0.76262	-0.45548	0.45936	1.34893	0.4565	-0.33108	0.4565	2.77945
0.76262	-0.3378	0.45936	1.31486	0.4565	-0.35633	0.4565	2.77758
0.76428	-0.43382	0.46102	1.43254	0.45816	-0.46421	0.4565	2.83642
0.76594	-0.44159	0.46102	1.50634	0.45816	-0.55247	0.45816	2.80512
0.76594	-0.35333	0.46102	1.60441	0.45816	-0.5385	0.45816	2.84434
0.7676	-0.46897	0.46268	1.71228	0.45982	-0.6856	0.45816	2.75421
0.7676	-0.41013	0.46268	1.79074	0.45982	-0.88173	0.45982	2.66407
0.76926	-0.50615	0.46268	1.73705	0.45982	-0.78931	0.45982	2.66407
0.76926	-0.50615	0.46434	1.79589	0.46148	-0.78931	0.45982	2.57393

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.77092	-0.67082	0.46434	1.7226	0.46148	-0.78931	0.46148	2.54451
0.77092	-0.6316	0.46434	1.77163	0.46148	-0.66747	0.46148	2.40534
0.77258	-0.75704	0.466	1.77163	0.46148	-0.66747	0.46148	2.3465
0.77258	-0.70801	0.466	1.77163	0.46314	-0.66747	0.46314	2.25636
0.77424	-0.87268	0.466	1.6395	0.46314	-0.54562	0.46314	2.20733
0.77424	-0.82365	0.46766	1.6395	0.46314	-0.54562	0.46314	2.03874
0.7759	-0.91967	0.46766	1.6395	0.4648	-0.58485	0.4648	1.91125
0.77756	-0.98628	0.46766	1.46813	0.4648	-0.51204	0.4648	1.76227
0.77756	-0.92744	0.46932	1.40929	0.4648	-0.58068	0.4648	1.57407
0.77922	-0.98423	0.46932	1.21832	0.46646	-0.58068	0.46646	1.52503
0.77922	-0.87636	0.46932	1.21832	0.46646	-0.51768	0.46646	1.36625
0.78088	-0.82529	0.47098	1.21832	0.46646	-0.59613	0.46646	1.31721
0.78088	-0.48205	0.47098	1.1889	0.46812	-0.71381	0.46646	1.2565
0.78254	-0.06813	0.47098	1.01753	0.46812	-0.81188	0.46646	1.33495
0.78254	0.35356	0.47264	0.97831	0.46812	-0.69004	0.46812	1.35268
0.7842	0.3458	0.47264	0.97831	0.46978	-0.74888	0.46812	1.43114
0.78586	0.31842	0.47264	0.8854	0.46978	-0.70549	0.46812	1.66462
0.78586	0.42629	0.4743	0.93443	0.46978	-0.70549	0.46978	1.98824
0.78752	0.34007	0.4743	1.00308	0.47144	-0.74471	0.46978	2.00598
0.78752	0.39891	0.4743	0.87094	0.47144	-0.68171	0.46978	2.01391
0.78918	0.28327	0.47596	0.91998	0.47144	-0.74055	0.47144	2.09236
0.78918	0.31269	0.47596	0.99843	0.4731	-0.74055	0.47144	2.07087
0.79084	0.18725	0.47596	0.90552	0.4731	-0.77978	0.47144	2.13952

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.79084	0.18725	0.47596	0.99378	0.4731	-0.70697	0.4731	2.11803
0.7925	0.13045	0.47762	1.18991	0.47476	-0.76581	0.4731	2.11803
0.7925	0.21871	0.47762	1.14604	0.47476	-0.76581	0.4731	2.08673
0.79416	0.10307	0.47928	1.28333	0.47476	-0.64396	0.47476	2.16518
0.79416	0.20114	0.47928	1.45985	0.47642	-0.64396	0.47476	2.1633
0.79582	0.10512	0.47928	1.58269	0.47642	-0.64396	0.47476	2.22214
0.79748	0.06793	0.47928	1.64153	0.47642	-0.52212	0.47642	2.13201
0.79748	0.12677	0.48094	1.70037	0.47808	-0.52212	0.47642	2.04187
0.79914	0.06997	0.48094	1.61727	0.47808	-0.55154	0.47642	2.04187
0.79914	0.11901	0.48094	1.6565	0.47808	-0.50815	0.47642	1.95173
0.8008	0.08182	0.4826	1.6565	0.47974	-0.50815	0.47808	1.9125
0.8008	0.08182	0.4826	1.56359	0.47974	-0.50815	0.47808	1.74391
0.80246	-0.08285	0.4826	1.61262	0.47974	-0.3863	0.47974	1.587
0.80246	-0.08285	0.48426	1.67146	0.4814	-0.3863	0.47974	1.37919
0.80412	-0.2083	0.48426	1.53932	0.4814	-0.3863	0.47974	1.28112
0.80578	-0.32394	0.48426	1.58836	0.4814	-0.26446	0.47974	1.05369
0.80578	-0.26509	0.48592	1.6472	0.48306	-0.26446	0.4814	0.86736
0.80744	-0.42977	0.48592	1.60332	0.48306	-0.26446	0.4814	0.56147
0.80744	-0.36112	0.48592	1.60332	0.48306	-0.14262	0.48306	0.48114
0.8091	-0.43753	0.48758	1.67197	0.48472	-0.14262	0.48306	0.48114
0.8091	-0.26101	0.48758	1.65751	0.48472	-0.14262	0.48306	0.391
0.81076	-0.33742	0.48758	1.70655	0.48472	-0.02077	0.48306	0.44004
0.81076	-0.17071	0.48924	1.77519	0.48638	-0.06	0.48472	0.39893

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.81242	-0.10983	0.48924	1.64306	0.48638	-0.10903	0.48472	0.43816
0.81408	0.06874	0.48924	1.64306	0.48638	-0.05584	0.48472	0.34802
0.81408	0.17661	0.4909	1.64306	0.48804	-0.05584	0.48638	0.34802
0.81574	0.11	0.4909	1.51092	0.48804	-0.05584	0.48638	0.21866
0.81574	0.19826	0.4909	1.51092	0.48804	0.02678	0.48638	0.06968
0.8174	0.11205	0.49256	1.51092	0.4897	-0.02225	0.48804	0.00103
0.8174	0.23953	0.49256	1.37879	0.4897	-0.0909	0.48804	-0.08911
0.81906	0.1337	0.49256	1.37879	0.4897	-0.00828	0.48804	-0.13814
0.81906	0.19254	0.49422	1.33956	0.49136	-0.07693	0.4897	-0.29692
0.82072	0.02787	0.49422	1.15839	0.49136	-0.16519	0.4897	-0.38518
0.82072	0.08671	0.49422	1.10936	0.49136	-0.04335	0.4897	-0.47532
0.82238	-0.00932	0.49588	1.10936	0.49302	-0.11199	0.49136	-0.63223
0.82404	-0.09553	0.49588	1.10936	0.49302	-0.20025	0.49136	-0.76159
0.82404	-0.09553	0.49588	0.97722	0.49302	-0.12744	0.49136	-0.83024
0.8257	-0.20137	0.49754	0.97722	0.49468	-0.2157	0.49302	-1.00864
0.8257	-0.04446	0.49754	0.84508	0.49468	-0.28435	0.49302	-1.00864
0.82736	-0.09145	0.49754	0.84508	0.49468	-0.28999	0.49302	-1.14781
0.82736	-0.00319	0.4992	0.84508	0.49634	-0.50574	0.49468	-1.29679
0.82902	-0.00115	0.4992	0.84508	0.49634	-0.71168	0.49468	-1.34582
0.82902	0.30286	0.4992	0.71295	0.49634	-0.84481	0.49468	-1.43596
0.83068	0.27548	0.50086	0.71295	0.498	-1.18804	0.49634	-1.33789
0.83068	0.41278	0.50086	0.71295	0.498	-1.25669	0.49634	-1.33977
0.83234	0.36578	0.50086	0.62985	0.498	-1.19369	0.49634	-1.28093

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.834	0.31879	0.50252	0.7083	0.498	-1.23291	0.498	-1.273
0.834	0.39725	0.50252	0.74753	0.49966	-1.23291	0.498	-1.18474
0.83566	0.31103	0.50252	0.71346	0.49966	-1.11107	0.498	-1.12778
0.83566	0.43851	0.50418	0.79191	0.50132	-1.1503	0.49966	-0.91203
0.83732	0.27384	0.50418	0.9194	0.50132	-1.1503	0.49966	-0.68836
0.83732	0.34249	0.50418	0.97359	0.50132	-1.1503	0.49966	-0.66081
0.83898	0.26608	0.50584	1.66006	0.50298	-1.06768	0.50132	-0.54313
0.83898	0.32492	0.50584	2.15039	0.50298	-1.11671	0.50132	-0.35868
0.84064	0.26812	0.50584	2.63608	0.50298	-1.0439	0.50132	-0.22139
0.84064	0.35638	0.5075	2.72434	0.50298	-1.0439	0.50298	-0.16443
0.8423	0.35842	0.5075	2.78318	0.50464	-1.0439	0.50298	-0.00752
0.84396	0.50756	0.5075	2.70988	0.50464	-0.92206	0.50298	0.04944
0.84396	0.77235	0.50916	2.74911	0.50464	-0.92206	0.50464	0.22596
0.84562	0.72535	0.50916	2.74911	0.5063	-0.92206	0.50464	0.30254
0.84562	0.82342	0.50916	2.61698	0.5063	-0.92206	0.50464	0.36931
0.84728	0.7372	0.51082	2.61698	0.5063	-0.74138	0.5063	0.54583
0.84728	0.79604	0.51082	2.61698	0.50796	-0.65311	0.5063	0.59299
0.84894	0.6804	0.51082	2.48484	0.50796	-0.60408	0.5063	0.72047
0.84894	0.71963	0.51248	2.48484	0.50796	-0.39398	0.50796	0.84608
0.8506	0.55496	0.51248	2.48484	0.50962	-0.32533	0.50796	0.92454
0.85226	0.42951	0.51248	2.3527	0.50962	-0.20765	0.50796	0.90304
0.85226	0.47855	0.51248	2.3527	0.50962	-0.00735	0.50962	0.96188
0.85392	0.40214	0.51414	2.3527	0.51128	0.11033	0.50962	0.92078

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.85392	0.46098	0.51414	2.22057	0.51128	0.15936	0.50962	0.92078
0.85558	0.38456	0.5158	2.22057	0.51128	0.35966	0.50962	0.83064
0.85558	0.4434	0.5158	2.22057	0.51294	0.35966	0.51128	0.83064
0.85724	0.3768	0.5158	2.0394	0.51294	0.35966	0.51128	0.7405
0.85724	0.45525	0.51746	1.98056	0.51294	0.4815	0.51294	0.73863
0.8589	0.42787	0.51746	1.91191	0.5146	0.4815	0.51294	0.79747
0.8589	0.68285	0.51746	1.77977	0.5146	0.4815	0.51294	0.70733
0.86056	0.61624	0.51746	1.74055	0.5146	0.56412	0.51294	0.75636
0.86222	0.61829	0.51912	1.69151	0.51626	0.43663	0.5146	0.74468
0.86222	0.69674	0.51912	1.49073	0.51626	0.43663	0.5146	0.79371
0.86388	0.60071	0.52078	1.49073	0.51626	0.51925	0.51626	0.79183
0.86388	0.66936	0.52078	1.38286	0.51792	0.46041	0.51626	0.86048
0.86554	0.57334	0.52078	1.16246	0.51792	0.40157	0.51626	0.87822
0.86554	0.64198	0.52078	1.16246	0.51792	0.52341	0.51626	0.85673
0.8672	0.50673	0.52244	1.11343	0.51958	0.52341	0.51792	1.00383
0.8672	0.57538	0.52244	0.91265	0.51958	0.47438	0.51792	0.96272
0.86886	0.49897	0.52244	0.83419	0.51958	0.54719	0.51792	1.00195
0.86886	0.548	0.5241	0.83419	0.52124	0.49816	0.51958	0.87258
0.87052	0.46178	0.5241	0.70206	0.52124	0.49816	0.51958	0.80394
0.87218	0.51286	0.5241	0.66283	0.52124	0.62	0.51958	0.60592
0.87218	0.77764	0.52576	0.6138	0.5229	0.57097	0.52124	0.52747
0.87384	0.74045	0.52576	0.43263	0.5229	0.50232	0.52124	0.28043
0.87384	0.84833	0.52576	0.43263	0.5229	0.54571	0.52124	-0.03339

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.8755	0.77191	0.52742	0.43263	0.52456	0.54571	0.5229	-0.42753
0.8755	0.84056	0.52742	0.34952	0.52456	0.46726	0.5229	-0.42753
0.87716	0.74454	0.52742	0.41817	0.52456	0.48123	0.5229	-0.74323
0.87716	0.80338	0.52908	0.49662	0.52622	0.42239	0.52456	-0.8922
0.87882	0.6387	0.52908	0.36449	0.52622	0.30471	0.52456	-0.8922
0.87882	0.72697	0.52908	0.43313	0.52622	0.3481	0.52456	-0.98234
0.88048	0.63094	0.53074	0.52139	0.52788	0.01467	0.52622	-0.98234
0.88214	0.50549	0.53074	0.42849	0.52788	-0.2403	0.52622	-1.00383
0.88214	0.58395	0.53074	0.55597	0.52788	-0.46169	0.52622	-0.88615
0.8838	0.49773	0.5324	0.64423	0.52954	-0.53034	0.52788	-0.88803
0.8838	0.61541	0.5324	0.68346	0.52954	-0.58918	0.52788	-0.74093
0.88546	0.539	0.5324	0.62978	0.52954	-0.51637	0.52788	-0.52706
0.88546	0.6861	0.53406	0.669	0.5312	-0.5556	0.52954	-0.6172
0.88712	0.76659	0.53406	0.73765	0.5312	-0.5556	0.52954	-0.57797
0.88712	0.84505	0.53406	0.70358	0.5312	-0.43375	0.52954	-0.66811
0.88878	0.72941	0.53572	0.74281	0.5312	-0.43375	0.5312	-0.66811
0.89044	0.60396	0.53572	0.80165	0.53286	-0.38472	0.5312	-0.75825
0.89044	0.60396	0.53572	0.74797	0.53286	-0.21384	0.5312	-0.75825
0.8921	0.43929	0.53738	0.797	0.53452	-0.155	0.53286	-0.84839
0.8921	0.43929	0.53738	0.797	0.53452	-0.155	0.53286	-0.84839
0.89376	0.27462	0.53738	0.79235	0.53452	-0.03316	0.53286	-0.93852
0.89376	0.27462	0.53904	0.79235	0.53618	-0.00374	0.53452	-0.93852
0.89542	0.10995	0.53904	0.79235	0.53618	0.0453	0.53452	-0.97963

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.89542	0.13937	0.53904	0.66022	0.53618	0.20637	0.53452	-0.98151
0.89708	0.03354	0.5407	0.66022	0.53618	0.20637	0.53618	-0.93247
0.89874	-0.05268	0.5407	0.66022	0.53784	0.20637	0.53618	-0.91474
0.89874	-0.01345	0.5407	0.56731	0.53784	0.32821	0.53618	-0.81667
0.9004	-0.08987	0.54236	0.62615	0.53784	0.36744	0.53784	-0.7499
0.9004	-0.04083	0.54236	0.7046	0.5395	0.40666	0.53784	-0.49493
0.90206	-0.10744	0.54236	0.69014	0.5395	0.43608	0.53784	-0.22222
0.90206	-0.0486	0.54402	0.75879	0.5395	0.55793	0.5395	0.30734
0.90372	-0.1152	0.54402	0.88628	0.54116	0.55793	0.5395	0.43295
0.90372	-0.05636	0.54402	0.8326	0.54116	0.52851	0.5395	0.41146
0.90538	-0.08374	0.54568	0.95028	0.54116	0.60132	0.54116	0.45069
0.90538	-0.08374	0.54568	1.06796	0.54282	0.53267	0.54116	0.36055
0.90704	-0.10131	0.54568	1.0535	0.54282	0.47383	0.54116	0.36055
0.90704	-0.06209	0.54734	1.13195	0.54282	0.59567	0.54282	0.27041
0.9087	-0.16792	0.54734	1.09273	0.54448	0.44857	0.54282	0.27041
0.91036	-0.25414	0.54734	0.8331	0.54448	0.3407	0.54282	0.18028
0.91036	-0.21491	0.549	0.78407	0.54448	0.36448	0.54282	0.18028
0.91202	-0.31093	0.549	0.78407	0.54614	0.19776	0.54448	0.09014
0.91202	-0.23248	0.549	0.65194	0.54614	-0.01798	0.54448	0.09014
0.91368	-0.35793	0.55066	0.65194	0.54614	-0.20995	0.54614	0
0.91368	-0.22063	0.55066	0.65194	0.5478	-0.68068	0.54614	3.98379
0.91534	-0.3853	0.55066	0.5198	0.5478	-0.83758	0.54614	2.01264
0.91534	-0.27743	0.55232	0.5198	0.5478	-0.97071	0.54614	-0.8626

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.917	-0.35384	0.55232	0.57864	0.54946	-1.04917	0.5478	-1.32351
0.91866	-0.44006	0.55232	0.53476	0.54946	-1.11781	0.5478	-1.44307
0.91866	-0.31257	0.55398	0.5838	0.54946	-0.99597	0.54946	-1.47249
0.92032	-0.36937	0.55398	0.72109	0.55112	-1.04969	0.54946	-1.58224
0.92032	-0.17324	0.55398	0.68702	0.55112	-0.98104	0.54946	-1.61354
0.92198	0.07397	0.55564	0.73606	0.55112	-0.93201	0.54946	-1.48605
0.92198	0.27991	0.55564	0.81451	0.55278	-0.81017	0.55112	-1.4487
0.92364	0.30157	0.55564	0.7216	0.55278	-0.74152	0.55112	-1.22315
0.92364	0.61538	0.5573	0.77063	0.55278	-0.69249	0.55112	-1.16619
0.9253	0.55858	0.5573	0.80986	0.55444	-0.53142	0.55278	-0.76411
0.9253	0.64684	0.5573	0.67772	0.55444	-0.53142	0.55278	-0.60908
0.92696	0.55082	0.55896	0.67772	0.55444	-0.53142	0.55278	-0.50121
0.92862	0.43518	0.55896	0.67772	0.5561	-0.40957	0.55444	-0.39521
0.92862	0.47441	0.55896	0.54559	0.5561	-0.40957	0.55444	-0.43632
0.93028	0.34896	0.55896	0.54559	0.5561	-0.4488	0.55444	-0.29902
0.93028	0.34896	0.56062	0.54559	0.55776	-0.37599	0.5561	-0.36955
0.93194	0.24313	0.56062	0.45268	0.55776	-0.43483	0.5561	-0.27148
0.93194	0.40984	0.56062	0.52133	0.55776	-0.43483	0.5561	-0.34201
0.9336	0.2844	0.56228	0.59978	0.55942	-0.35221	0.55776	-0.34201
0.9336	0.36285	0.56228	0.59978	0.55942	-0.41105	0.55776	-0.3733
0.93526	0.25702	0.56228	0.52648	0.55942	-0.48951	0.55776	-0.26543
0.93526	0.35509	0.56394	0.63436	0.56108	-0.36766	0.55942	-0.35557
0.93692	0.24926	0.56394	0.56106	0.56108	-0.48534	0.55942	-0.35557

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.93858	0.18265	0.56394	0.77681	0.56108	-0.5736	0.55942	-0.44571
0.93858	0.24149	0.5656	0.94352	0.56274	-0.45176	0.56108	-0.39667
0.94024	0.17489	0.5656	1.13966	0.56274	-0.5106	0.56108	-0.41816
0.94024	0.3416	0.5656	1.29192	0.56274	-0.60867	0.56108	-0.43965
0.9419	0.25538	0.56726	1.68418	0.5644	-0.54566	0.56274	-0.43965
0.9419	0.40248	0.56726	1.81167	0.5644	-0.65353	0.56274	-0.45134
0.94356	0.50259	0.56726	1.79721	0.5644	-0.7418	0.56274	-0.4023
0.94356	0.63008	0.56892	1.93451	0.5644	-0.76705	0.5644	-0.49244
0.94522	0.58309	0.56892	2.0718	0.56606	-0.96319	0.5644	-0.49244
0.94688	0.52629	0.56892	2.25348	0.56606	-1.32603	0.5644	-0.58258
0.94688	0.61455	0.57058	2.43	0.56772	-1.27284	0.56606	-0.67272
0.94854	0.52833	0.57058	2.59672	0.56772	-1.34148	0.56606	-0.71195
0.94854	0.6264	0.57058	2.62149	0.56772	-1.40032	0.56606	-0.85112
0.9502	0.50095	0.57224	2.74897	0.56772	-1.27848	0.56772	-0.91976
0.9502	0.50095	0.57224	2.84704	0.56938	-1.33732	0.56772	-1.0099
0.95186	0.33628	0.57224	2.77374	0.56938	-1.42558	0.56772	-1.05894
0.95186	0.33628	0.5739	2.81297	0.56938	-1.35277	0.56938	-1.20791
0.95352	0.21084	0.5739	2.81297	0.57104	-1.43122	0.56938	-1.25695
0.95352	0.26968	0.5739	2.61219	0.57104	-1.49987	0.56938	-1.34709
0.95518	0.17365	0.57556	2.51412	0.57104	-1.47609	0.57104	-1.34709
0.95684	0.00898	0.57556	2.43567	0.5727	-1.64281	0.57104	-1.43722
0.95684	0.07763	0.57556	2.17605	0.5727	-1.70165	0.57104	-1.38819
0.9585	0.01102	0.57722	2.00933	0.5727	-1.66806	0.5727	-1.40968

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.9585	0.07967	0.57722	1.72494	0.57436	-1.70729	0.5727	-1.40175
0.96016	0.15036	0.57722	1.50454	0.57436	-1.77594	0.5727	-1.35272
0.96016	0.30726	0.57888	1.42609	0.57436	-1.84458	0.57436	-1.26634
0.96182	0.36815	0.57888	1.35744	0.57602	-1.72274	0.57436	-1.15846
0.96182	0.76041	0.57888	1.14685	0.57602	-1.72274	0.57436	-1.07208
0.96348	0.75265	0.58054	1.11743	0.57602	-1.76197	0.57602	-0.85633
0.96514	0.7645	0.58054	0.98014	0.57768	-1.73819	0.57602	-0.6915
0.96514	0.93121	0.58054	0.79897	0.57768	-1.73819	0.57602	-0.35807
0.9668	0.93325	0.5822	0.71071	0.57768	-1.73819	0.57602	-0.36975
0.9668	1.09997	0.5822	0.63225	0.57934	-1.61635	0.57768	-0.38144
0.96846	1.21969	0.5822	0.35302	0.57934	-1.65557	0.57768	-0.30298
0.96846	1.34718	0.58386	0.06862	0.57934	-1.6948	0.57934	-0.20679
0.97012	1.29038	0.58386	-0.07848	0.581	-1.62199	0.57934	-0.09892
0.97012	1.36883	0.58386	-0.3381	0.581	-1.62199	0.57934	-0.07138
0.97178	1.263	0.58552	-0.45578	0.581	-1.62199	0.57934	0.06592
0.97178	1.31203	0.58552	-0.61269	0.58266	-1.50015	0.581	0.12288
0.97344	1.14736	0.58552	-0.74482	0.58266	-1.50015	0.581	0.2994
0.97344	1.14736	0.58718	-0.74482	0.58266	-1.50015	0.58266	0.38578
0.9751	0.98269	0.58718	-0.74482	0.58432	-1.3783	0.58266	0.58192
0.97676	0.81802	0.58718	-0.87696	0.58432	-1.3783	0.58266	0.68791
0.97676	0.81802	0.58718	-0.79851	0.58432	-1.3783	0.58266	0.89385
0.97842	0.65335	0.58884	-0.68083	0.58598	-1.25646	0.58432	1.00966
0.97842	0.65335	0.58884	-0.70509	0.58598	-1.25646	0.58432	1.30198

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.98008	0.48867	0.5905	-0.52857	0.58598	-1.25646	0.58432	1.4785
0.98008	0.48867	0.5905	-0.24417	0.58764	-1.13461	0.58598	1.55507
0.98174	0.324	0.5905	0.11402	0.58764	-1.13461	0.58598	1.70218
0.98174	0.324	0.5905	0.31016	0.58764	-1.13461	0.58598	1.74933
0.9834	0.15933	0.59216	0.64359	0.5893	-1.01277	0.58764	1.88663
0.98506	-0.00534	0.59216	0.64874	0.5893	-1.01277	0.58764	1.90436
0.98506	-0.00534	0.59216	0.76642	0.5893	-1.01277	0.58764	2.04165
0.98672	-0.17001	0.59382	0.86449	0.59096	-0.93015	0.5893	2.079
0.98672	-0.17001	0.59382	0.81081	0.59096	-0.95957	0.5893	2.27326
0.98838	-0.33469	0.59382	0.87946	0.59096	-1.00861	0.5893	2.42036
0.98838	-0.29546	0.59548	0.9383	0.59262	-0.88676	0.59096	2.48713
0.99004	-0.4111	0.59548	0.85519	0.59262	-0.88676	0.59096	2.63423
0.99004	-0.4111	0.59548	0.85519	0.59262	-0.88676	0.59096	2.67158
0.9917	-0.52674	0.59714	0.85519	0.59428	-0.76492	0.59262	2.77945
0.9917	-0.39925	0.59714	0.72306	0.59428	-0.76492	0.59262	2.77758
0.99336	-0.56392	0.59714	0.72306	0.59428	-0.76492	0.59262	2.83642
0.99502	-0.68937	0.5988	0.72306	0.59594	-0.60385	0.59428	2.80512
0.99502	-0.63053	0.5988	0.72306	0.59594	-0.56462	0.59428	2.84434
0.99668	-0.72655	0.5988	0.59092	0.59594	-0.5352	0.59428	2.75421
0.99668	-0.72655	0.60046	0.63015	0.5976	-0.41336	0.59594	2.66407
0.99834	-0.82258	0.60046	0.67918	0.5976	-0.41336	0.59594	2.66407
0.99834	-0.7049	0.60046	0.59608	0.5976	-0.41336	0.59594	2.57393
1	-0.79112	0.60212	0.59608	0.59926	-0.29151	0.5976	2.54451

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1	-0.66363	0.60212	0.64511	0.59926	-0.36997	0.5976	2.40534
1.00166	-0.61255	0.60212	0.65027	0.59926	-0.42881	0.5976	2.3465
1.00166	0.28966	0.60378	0.74834	0.60092	-0.30696	0.59926	2.25636
1.00332	0.86049	0.60378	0.8366	0.60092	-0.34619	0.59926	2.20733
1.00498	0.89196	0.60378	0.83195	0.60092	-0.40503	0.59926	2.03874
1.00498	1.04886	0.60544	0.99866	0.60258	-0.35183	0.60092	1.91125
1.00664	1.03129	0.60544	1.2046	0.60258	-0.35183	0.60092	1.76227
1.00664	1.14897	0.60544	1.35686	0.60258	-0.40086	0.60092	1.57407
1.0083	1.09217	0.6071	1.42551	0.60258	-0.36728	0.60258	1.52503
1.0083	1.19024	0.6071	1.48435	0.60424	-0.46535	0.60258	1.36625
1.00996	1.11383	0.6071	1.45028	0.60424	-0.56342	0.60258	1.31721
1.00996	1.30016	0.60876	1.45028	0.60424	-0.4808	0.60424	1.2565
1.01162	1.21394	0.60876	1.45028	0.6059	-0.54944	0.60424	1.33495
1.01328	1.11791	0.60876	1.31814	0.6059	-0.6279	0.60424	1.35268
1.01328	1.17675	0.61042	1.31814	0.6059	-0.50605	0.6059	1.43114
1.01494	1.06111	0.61042	1.31814	0.60756	-0.50605	0.6059	1.66462
1.01494	1.10034	0.61042	1.18601	0.60756	-0.50605	0.6059	1.98824
1.0166	0.93567	0.61208	1.18601	0.60756	-0.38421	0.60756	2.00598
1.0166	0.93567	0.61208	1.18601	0.60922	-0.38421	0.60756	2.01391
1.01826	0.771	0.61208	1.05387	0.60922	-0.35479	0.60756	2.09236
1.01826	0.771	0.61374	1.01465	0.60922	-0.1643	0.60922	2.07087
1.01992	0.60633	0.61374	0.96561	0.61088	-0.06623	0.60922	2.13952
1.01992	0.60633	0.61374	0.77464	0.61088	-0.02701	0.60922	2.11803

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.02158	0.52991	0.6154	0.77464	0.61088	0.07106	0.61088	2.11803
1.02324	0.42408	0.6154	0.77464	0.61254	0.25175	0.61088	2.08673
1.02324	0.42408	0.6154	0.6425	0.61254	0.34981	0.61088	2.16518
1.0249	0.25941	0.61706	0.61308	0.61254	0.52069	0.61254	2.1633
1.0249	0.29864	0.61706	0.57385	0.6142	0.60895	0.61254	2.22214
1.02656	0.183	0.61706	0.44172	0.6142	0.64818	0.61254	2.13201
1.02656	0.25165	0.61872	0.44172	0.6142	0.80925	0.6142	2.04187
1.02822	0.08697	0.61872	0.44172	0.61586	0.80925	0.6142	2.04187
1.02822	0.08697	0.61872	0.30958	0.61586	0.80925	0.6142	1.95173
1.02988	-0.0777	0.62038	0.30958	0.61586	0.80925	0.61586	1.9125
1.03154	-0.21295	0.62038	0.35861	0.61752	0.93109	0.61586	1.74391
1.03154	-0.17372	0.62038	0.29513	0.61752	0.88206	0.61586	1.587
1.0332	-0.29917	0.62204	0.39319	0.61752	0.83302	0.61752	1.37919
1.0332	-0.29917	0.62204	0.43242	0.61918	0.88622	0.61752	1.28112
1.03486	-0.46384	0.62204	0.36893	0.61918	0.88622	0.61752	1.05369
1.03486	-0.46384	0.6237	0.467	0.61918	0.79796	0.61752	0.86736
1.03652	-0.62851	0.6237	0.6141	0.62084	0.91981	0.61918	0.56147
1.03652	-0.59909	0.6237	0.531	0.62084	0.84135	0.61918	0.48114
1.03818	-0.70492	0.62536	0.62906	0.62084	0.77271	0.62084	0.48114
1.03818	-0.63628	0.62536	0.6781	0.6225	0.79648	0.62084	0.391
1.03984	-0.80095	0.62536	0.63422	0.6225	0.74745	0.62084	0.44004
1.03984	-0.74211	0.62702	0.67345	0.6225	0.65919	0.62084	0.39893
1.0415	-0.79891	0.62702	0.7519	0.62416	0.71239	0.6225	0.43816

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.04316	-0.90474	0.62702	0.69822	0.62416	0.62413	0.6225	0.34802
1.04316	-0.77725	0.62868	0.69822	0.62416	0.57509	0.6225	0.34802
1.04482	-0.83405	0.62868	0.74725	0.62582	0.6479	0.62416	0.21866
1.04482	-0.67714	0.62868	0.66415	0.62582	0.59887	0.62416	0.06968
1.04648	-0.60645	0.63034	0.7328	0.62582	0.6479	0.62416	0.00103
1.04648	0.09963	0.63034	0.80144	0.62748	0.85801	0.62582	-0.08911
1.04814	0.48413	0.63034	0.75757	0.62748	0.90704	0.62582	-0.13814
1.04814	0.61162	0.63034	0.8066	0.62748	0.98549	0.62582	-0.29692
1.0498	0.54501	0.632	0.89486	0.62914	1.16618	0.62748	-0.38518
1.05146	0.43918	0.632	0.97331	0.62914	1.25444	0.62748	-0.47532
1.05146	0.43918	0.632	0.96867	0.62914	1.28386	0.62748	-0.63223
1.05312	0.27451	0.63366	1.05693	0.6308	1.45474	0.62914	-0.76159
1.05312	0.27451	0.63366	1.17461	0.6308	1.49396	0.62914	-0.83024
1.05478	0.10984	0.63366	1.40532	0.6308	1.43512	0.62914	-1.00864
1.05478	0.08042	0.63532	1.45435	0.6308	1.46871	0.6308	-1.00864
1.05644	-0.13329	0.63532	1.51319	0.63246	1.41967	0.6308	-1.14781
1.05644	-0.19213	0.63532	1.43009	0.63246	1.34122	0.63188	-1.29679
1.0581	-0.3568	0.63698	1.47912	0.63412	1.39442	0.63188	-1.34582
1.0581	-0.3568	0.63698	1.47912	0.63412	1.28654	0.63188	-1.43596
1.05976	-0.52147	0.63698	1.38621	0.63412	1.23751	0.63188	-1.33789
1.06142	-0.68614	0.63864	1.44505	0.63578	1.27109	0.63188	-1.33977
1.06142	-0.6273	0.63864	1.49409	0.63578	1.22206	0.63354	-1.28093
1.06308	-0.71352	0.63864	1.36195	0.63578	1.16322	0.63354	-1.273

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.06308	-0.66449	0.6403	1.36195	0.63578	1.20661	0.63354	-1.18474
1.06474	-0.7409	0.6403	1.40118	0.63744	1.14777	0.6352	-1.12778
1.06474	-0.53496	0.6403	1.30827	0.63744	1.07912	0.6352	-0.91203
1.0664	-0.62118	0.64196	1.30827	0.63744	1.11271	0.6352	-0.68836
1.0664	-0.48389	0.64196	1.30827	0.6391	1.11271	0.63686	-0.66081
1.06806	-0.48184	0.64196	1.17613	0.6391	1.05387	0.63686	-0.54313
1.06806	-0.25629	0.64362	1.17613	0.6391	1.09726	0.63686	-0.35868
1.06972	-0.37193	0.64362	1.20555	0.64076	1.04822	0.63852	-0.22139
1.07138	-0.49737	0.64362	1.07342	0.64076	0.95016	0.63852	-0.16443
1.07138	-0.45815	0.64528	1.07342	0.64076	0.85625	0.63852	-0.00752
1.07304	-0.58359	0.64528	1.11264	0.64242	0.61108	0.64018	0.04944
1.07304	-0.53456	0.64528	1.1178	0.64242	0.50321	0.64018	0.22596
1.0747	-0.64039	0.64694	1.1178	0.64242	0.50737	0.64018	0.30254
1.0747	-0.57174	0.64694	1.16684	0.64408	0.37989	0.64184	0.36931
1.07636	-0.73641	0.64694	1.10335	0.64408	0.24259	0.64184	0.54583
1.07636	-0.68738	0.6486	1.19161	0.64408	0.09549	0.64184	0.59299
1.07802	-0.78341	0.6486	1.19161	0.64574	0.06043	0.64184	0.72047
1.07802	-0.71476	0.6486	1.1085	0.64574	-0.09648	0.6435	0.84608
1.07968	-0.87943	0.65026	1.16734	0.64574	-0.13154	0.6435	0.92454
1.08134	-0.99507	0.65026	1.2458	0.6474	-0.41593	0.64516	0.90304
1.08134	-0.92642	0.65026	1.1627	0.6474	-0.53362	0.64516	0.96188
1.083	-1.01264	0.65192	1.1627	0.6474	-0.51964	0.64516	0.92078
1.083	-0.89496	0.65192	1.29999	0.64906	-0.60791	0.64516	0.92078

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.08466	-0.98118	0.65192	1.16785	0.64906	-0.66675	0.64682	0.83064
1.08466	-0.8635	0.65358	1.21689	0.64906	-0.71578	0.64682	0.83064
1.08632	-0.83204	0.65358	1.29534	0.65072	-0.63316	0.64848	0.7405
1.08632	-0.49861	0.65358	1.21224	0.65072	-0.63316	0.64848	0.73863
1.08798	-0.52599	0.65524	1.29069	0.65072	-0.63316	0.64848	0.79747
1.08964	-0.56317	0.65524	1.34953	0.65238	-0.51132	0.64848	0.70733
1.08964	-0.43569	0.65524	1.32527	0.65238	-0.51132	0.65014	0.75636
1.0913	-0.48268	0.6569	1.50179	0.65238	-0.51132	0.65014	0.74468
1.0913	-0.29635	0.6569	1.56063	0.65404	-0.38947	0.65014	0.79371
1.09296	-0.39237	0.6569	1.53637	0.65404	-0.38947	0.6518	0.79183
1.09296	-0.33353	0.65856	1.5854	0.65404	-0.41889	0.6518	0.86048
1.09462	-0.43937	0.65856	1.66385	0.6557	-0.34608	0.6518	0.87822
1.09462	-0.39033	0.65856	1.59056	0.6557	-0.40492	0.65346	0.85673
1.09628	-0.555	0.65856	1.59056	0.6557	-0.40492	0.65346	1.00383
1.09628	-0.555	0.66022	1.59056	0.65736	-0.32231	0.65346	0.96272
1.09794	-0.67064	0.66022	1.45842	0.65736	-0.38115	0.65512	1.00195
1.09794	-0.62161	0.66188	1.45842	0.65736	-0.44979	0.65512	0.87258
1.0996	-0.78628	0.66188	1.429	0.65902	-0.36718	0.65512	0.80394
1.10126	-1.81394	0.66188	1.24783	0.65902	-0.42602	0.65678	0.60592
1.10126	129.8996	0.66354	1.1988	0.65902	-0.50447	0.65678	0.52747
1.10292	137.3919	0.66354	1.1988	0.66068	-0.38263	0.65678	0.28043
1.10292	147.8752	0.66354	1.06666	0.66068	-0.38263	0.65844	-0.03339
1.10126	149.7581	0.66354	1.02744	0.66068	-0.42185	0.65844	-0.42753

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.10126	153.2199	0.6652	0.98821	0.66176	-0.35885	0.65844	-0.42753
1.0996	154.0338	0.6652	0.94898	0.66176	-0.41769	0.6601	-0.74323
1.0996	154.8674	0.6652	0.81685	0.66176	-0.41769	0.6601	-0.8922
1.09794	156.2992	0.66686	0.84627	0.66342	-0.40372	0.6601	-0.8922
1.09794	156.8189	0.66686	0.90511	0.66342	-0.48217	0.66176	-0.98234
1.09628	158.1625	0.66686	0.85143	0.66342	-0.48217	0.66176	-0.98234
1.09628	158.9176	0.66852	0.89065	0.66508	-0.41917	0.66176	-1.00383
1.09462	159.2216	0.66852	0.94949	0.66508	-0.50743	0.66342	-0.88615
1.09296	159.8492	0.67018	0.91542	0.66508	-0.54666	0.66342	-0.88803
1.09296	160.0846	0.67018	0.96446	0.66674	-0.50327	0.66342	-0.74093
1.0913	160.5651	0.67018	1.05272	0.66674	-0.5523	0.66508	-0.52706
1.0913	160.722	0.67018	0.97942	0.66674	-0.63075	0.66508	-0.6172
1.08964	161.0554	0.67184	1.08729	0.6684	-0.58736	0.66508	-0.57797
1.08964	161.1437	0.67184	1.14614	0.6684	-0.58736	0.66674	-0.66811
1.08798	161.4183	0.67184	1.15129	0.6684	-0.51872	0.66674	-0.66811
1.08798	161.7615	0.6735	1.20033	0.67006	-0.289	0.66674	-0.75825
1.08632	161.889	0.6735	1.24936	0.67006	-0.21054	0.6684	-0.75825
1.08632	162.0165	0.6735	1.11722	0.67006	-0.07325	0.6684	-0.84839
1.08466	162.2519	0.67516	1.0878	0.67172	0.23492	0.6684	-0.84839
1.083	162.3695	0.67516	1.02896	0.67172	0.48009	0.67006	-0.93852
1.083	162.6343	0.67516	0.82818	0.67172	0.77429	0.67006	-0.93852
1.08134	162.7716	0.67682	0.82818	0.67338	0.90594	0.67006	-0.97963
1.08134	163.056	0.67682	0.72031	0.67338	0.83729	0.67172	-0.98151

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.07968	163.2129	0.67682	0.52933	0.67338	0.74903	0.67172	-0.93247
1.07968	163.5365	0.67848	0.52933	0.67504	0.79242	0.67172	-0.91474
1.07802	164.0073	0.67848	0.52933	0.67504	0.58648	0.67338	-0.81667
1.07802	164.3309	0.67848	0.39719	0.67504	0.47861	0.67338	-0.7499
1.07636	164.6643	0.68014	0.43642	0.6767	0.49258	0.67338	-0.49493
1.07636	164.9781	0.68014	0.48546	0.6767	0.40432	0.67504	-0.22222
1.0747	165.2919	0.68014	0.43177	0.6767	0.33567	0.67504	0.30734
1.07304	165.6156	0.6818	0.43177	0.67836	0.26703	0.67504	0.43295
1.07304	165.9294	0.6818	0.49061	0.67836	0.34964	0.67504	0.41146
1.07138	166.2432	0.6818	0.44674	0.67836	0.34964	0.6767	0.45069
1.07138	166.5472	0.68346	0.56442	0.68002	0.47149	0.6767	0.36055
1.06972	166.8316	0.68346	0.66248	0.68002	0.47149	0.67836	0.36055
1.06972	167.3906	0.68346	0.55977	0.68002	0.47149	0.67836	0.27041
1.06806	167.6455	0.68512	0.62842	0.68168	0.47149	0.67836	0.27041
1.06806	167.9005	0.68512	0.71668	0.68168	0.62275	0.67836	0.18028
1.0664	168.1457	0.68512	0.62377	0.68168	0.67178	0.68002	0.18028
1.0664	168.381	0.68678	0.69241	0.68334	0.71101	0.68002	0.09014
1.06474	168.6164	0.68678	0.79048	0.68334	0.83285	0.68168	0.09014
1.06474	168.8518	0.68678	0.69757	0.68334	0.83285	0.68168	0
1.06308	169.1067	0.68844	0.78583	0.685	0.83285	0.68168	-0.09821
1.06142	169.3813	0.68844	0.94274	0.685	0.91547	0.68168	-0.09821
1.06142	169.9795	0.68844	0.86944	0.685	0.86644	0.68334	-0.28977
1.05976	170.3032	0.6901	0.9577	0.685	0.79779	0.68334	-0.28977

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.05976	170.6268	0.6901	1.00674	0.68666	0.91964	0.68334	-0.28977
1.0581	170.9406	0.6901	0.93344	0.68666	0.8608	0.685	-0.48134
1.0581	171.2642	0.69176	0.98247	0.68666	0.77254	0.685	-0.48134
1.05644	171.5584	0.69176	0.98247	0.68832	0.85515	0.685	-0.48134
1.05644	171.8428	0.69176	0.85034	0.68832	0.78651	0.68666	-0.6729
1.05478	172.1174	0.69342	0.85034	0.68832	0.69825	0.68666	-0.6729
1.05312	172.3724	0.69342	0.85034	0.68998	0.82009	0.68666	-0.63368
1.05312	172.6175	0.69342	0.7182	0.68998	0.76125	0.68832	-0.78601
1.05146	172.8627	0.69508	0.7182	0.68998	0.62396	0.68832	-0.74679
1.05146	173.3432	0.69508	0.7182	0.69164	0.7458	0.68832	-0.74679
1.0498	173.5982	0.69508	0.58607	0.69164	0.7458	0.68998	-0.93835
1.0498	173.8532	0.69674	0.58607	0.69164	0.7458	0.68998	-0.93835
1.04814	174.1082	0.69674	0.58607	0.6933	0.86764	0.68998	-0.93835
1.04814	174.3729	0.69674	0.50296	0.6933	0.86764	0.69164	-1.03185
1.04648	174.6377	0.6984	0.54219	0.6933	0.86764	0.69164	-0.95339
1.04648	174.9025	0.6984	0.60103	0.69496	0.89142	0.69164	-0.91417
1.04482	175.1673	0.6984	0.4689	0.69496	0.81297	0.6933	-1.02728
1.04316	175.7066	0.70006	0.4689	0.69496	0.81297	0.6933	-0.96844
1.04316	175.9714	0.70006	0.50812	0.69662	0.86616	0.6933	-0.83114
1.0415	176.2362	0.70006	0.42502	0.69662	0.75829	0.69496	-0.91483
1.0415	176.4912	0.70172	0.47405	0.69662	0.68964	0.69496	-0.74812
1.03984	176.756	0.70172	0.47405	0.69828	0.70361	0.69496	-0.50295
1.03984	176.9913	0.70172	0.34192	0.69828	0.62516	0.69662	-0.42973

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.03818	177.2169	0.70338	0.39095	0.69828	0.51729	0.69662	-0.14534
1.03652	177.4326	0.70338	0.4596	0.69994	0.46261	0.69662	0.08021
1.03652	177.6288	0.70338	0.53805	0.69994	-0.02773	0.69828	-0.17019
1.03486	177.8249	0.70504	0.40591	0.69994	-0.02773	0.69828	-0.24864
1.03486	178.1877	0.70504	0.45495	0.7016	-0.00395	0.69828	-0.3271
1.0332	178.3741	0.70504	0.51379	0.7016	-0.06279	0.69994	-0.55789
1.0332	178.5898	0.70504	0.4503	0.7016	-0.11182	0.69994	-0.61673
1.03154	178.835	0.7067	0.4503	0.70326	0.01002	0.69994	-0.66576
1.03154	179.09	0.7067	0.4503	0.70326	-0.03901	0.7016	-0.85733
1.02988	179.3645	0.70836	0.3672	0.70326	-0.09785	0.7016	-0.85733
1.02988	179.6784	0.70836	0.43584	0.70492	-0.04465	0.7016	-0.85733
1.02822	179.9922	0.70836	0.5143	0.70492	-0.04465	0.70326	-1.04889
1.02822	180.306	0.70836	0.42139	0.70492	-0.08388	0.70326	-1.04889
1.02656	180.61	0.71002	0.49004	0.70658	-0.07972	0.70326	-1.00966
1.0249	180.8944	0.71002	0.56849	0.70658	-0.07972	0.70492	-1.162
1.0249	181.3945	0.71002	0.43635	0.70658	-0.13856	0.70492	-1.11297
1.02324	181.5809	0.71168	0.43635	0.70824	-0.08536	0.70492	-1.11297
1.02324	181.7574	0.71168	0.46577	0.70824	-0.16381	0.70658	-1.30453
1.02158	181.9045	0.71168	0.37286	0.70824	-0.16381	0.70658	-1.30453
1.02158	182.0418	0.71334	0.37286	0.7099	-0.04197	0.70658	-1.30453
1.01992	182.1693	0.71334	0.37286	0.7099	-0.04197	0.70824	-1.46667
1.01992	182.2968	0.71334	0.24073	0.7099	-0.04197	0.70824	-1.41764
1.01826	182.434	0.715	0.24073	0.71156	0.07987	0.70824	-1.3588

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
1.0166	182.591	0.715	0.19169	0.71156	0.07987	0.70824	-1.3588
1.0166	182.9538	0.715	7.18E-04	0.71156	0.07987	0.7099	-1.50133
1.01494	183.1597	0.71666	-0.06793	0.71322	0.25075	0.7099	-1.44249
1.01494	183.3755	0.71666	-0.06793	0.71322	0.3194	0.71156	-1.56541
1.01328	183.5814	0.71666	-0.20006	0.71322	0.39785	0.71156	-1.56541
1.01328	183.7874	0.71832	-0.20006	0.71488	0.5197	0.71156	-1.56541
1.01162	183.9737	0.71832	-0.20006	0.71488	0.54912	0.71156	-1.56541
1.01162	184.1404	0.71832	-0.28317	0.71488	0.59815	0.71322	-1.75697
1.00996	184.3071	0.71998	-0.21452	0.71654	0.65699	0.71322	-1.67852
1.00996	184.4444	0.71998	-0.07723	0.71654	0.77883	0.71488	-1.81124
1.0083	184.5817	0.71998	-0.1211	0.71654	0.77883	0.71488	-1.81124
1.00664	184.8465	0.72164	-0.05246	0.7182	0.73961	0.71488	-1.7524
1.00664	184.9936	0.72164	0.08484	0.7182	0.7928	0.71488	-1.65434
1.00498	185.1407	0.72164	0.04096	0.7182	0.70454	0.71654	-1.78706
1.00498	185.278	0.7233	0.16845	0.71986	0.65551	0.71654	-1.66938
1.00332	185.4545	0.7233	0.35478	0.71986	0.6989	0.71654	-1.58112
1.00332	185.6114	0.7233	0.41878	0.71986	0.64006	0.7182	-1.63539
1.00166	185.7781	0.72496	0.64433	0.72152	0.53219	0.7182	-1.43925
1.00166	185.9547	0.72496	0.91892	0.72152	0.58538	0.7182	-1.19409
1	186.1116	0.72496	0.8162	0.72152	0.39906	0.71986	-0.7188
0.99834	186.2685	0.72662	0.90446	0.72152	0.29118	0.71986	-0.62073
0.99834	186.5725	0.72662	0.94369	0.72318	0.35419	0.71986	-0.53247
0.99668	186.7098	0.72662	0.81155	0.72318	0.24631	0.72152	-0.62597

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.99668	186.8569	0.72828	0.86059	0.72484	0.17767	0.72152	-0.51809
0.99502	186.9844	0.72828	0.91943	0.72484	0.17202	0.72152	-0.3808
0.99502	187.1216	0.72828	0.85594	0.72484	0.06415	0.72318	-0.41545
0.99336	187.2393	0.72994	0.85594	0.7265	-0.10257	0.72318	-0.22913
0.99336	187.3864	0.72994	0.85594	0.7265	-0.27492	0.72318	-0.03299
0.9917	187.5433	0.72994	0.76303	0.7265	-0.37299	0.72484	0.22655
0.9917	187.71	0.7316	0.86109	0.7265	-0.45144	0.72484	0.46191
0.99004	188.1023	0.7316	0.86109	0.72816	-0.39825	0.72484	0.67766
0.98838	188.3181	0.7316	0.72896	0.72816	-0.43747	0.7265	0.69204
0.98838	188.5632	0.73326	0.72896	0.72816	-0.4767	0.7265	0.87836
0.98672	188.8182	0.73326	0.72896	0.72982	-0.35486	0.7265	1.03527
0.98672	189.0732	0.73326	0.72896	0.72982	-0.35486	0.72816	0.96139
0.98506	189.338	0.73492	0.59682	0.72982	-0.35486	0.72816	1.04965
0.98506	189.6027	0.73492	0.59682	0.73148	-0.26243	0.72816	1.10849
0.9834	189.8479	0.73492	0.46469	0.73148	-0.26243	0.72982	1.01499
0.9834	190.0735	0.73658	0.46469	0.73148	-0.33108	0.72982	1.01499
0.98174	190.4461	0.73658	0.46469	0.73314	-0.35633	0.72982	1.01499
0.98174	190.603	0.73658	0.46469	0.73314	-0.46421	0.73148	0.86265
0.98008	190.7305	0.73824	0.33255	0.73314	-0.55247	0.73148	0.92149
0.97842	190.858	0.73824	0.38158	0.7348	-0.5385	0.73148	0.99995
0.97842	190.9757	0.73824	0.42081	0.7348	-0.6856	0.73314	0.84761
0.97676	191.0836	0.7399	0.33771	0.7348	-0.88173	0.73314	0.93587
0.97676	191.2012	0.7399	0.33771	0.73646	-0.78931	0.73314	1.02413

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.9751	191.2993	0.7399	0.33771	0.73646	-0.78931	0.7348	0.96986
0.9751	191.417	0.74	1.07874	0.73646	-0.78931	0.7348	1.19541
0.97344	191.515	0.74	1.01009	0.73812	-0.66747	0.7348	1.35232
0.97344	191.6327	0.74	0.91202	0.73812	-0.66747	0.73646	1.23921
0.97178	191.8681	0.74	0.80415	0.73812	-0.66747	0.73646	1.30786
0.97178	191.9858	0.74	0.59821	0.73978	-0.54562	0.73646	1.3765
0.97012	192.1231	0.74166	0.20594	0.73978	-0.54562	0.73812	1.26339
0.96846	192.2604	0.74166	0.02942	0.73978	-0.58485	0.73812	1.31243
0.96846	192.3977	0.74166	-0.23536	0.74144	-0.51204	0.73812	1.40069
0.9668	192.5546	0.74332	-0.32362	0.74144	-0.58068	0.73978	1.29738
0.9668	192.7017	0.74332	-0.40207	0.74144	-0.58068	0.73978	1.52294
0.96514	192.8782	0.74332	-0.49034	0.7431	-0.51768	0.73978	1.74849
0.96514	193.0351	0.74498	-0.56879	0.7431	-0.59613	0.74144	1.63538
0.96348	193.3685	0.74498	-0.66686	0.7431	-0.71381	0.74144	1.71384
0.96348	193.5352	0.74498	-0.77473	0.74476	-0.81188	0.74144	1.75306
0.96182	193.6823	0.74664	-0.85318	0.74476	-0.69004	0.74144	1.75306
0.96182	193.8196	0.74664	-0.91202	0.74476	-0.74888	0.7431	1.5615
0.96016	193.9471	0.74664	-0.95125	0.74642	-0.70549	0.7431	1.5615
0.9585	194.0648	0.7483	-0.95125	0.74642	-0.70549	0.74476	1.36993
0.9585	194.1825	0.7483	-0.95125	0.74642	-0.74471	0.74476	1.36993
0.95684	194.3002	0.7483	-0.84338	0.74808	-0.68171	0.74476	1.36993
0.95684	194.4178	0.74996	-0.74531	0.74808	-0.74055	0.74476	1.36993
0.95518	194.5257	0.74996	-0.66686	0.74808	-0.74055	0.74642	1.13914

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.95518	194.6434	0.74996	-0.52956	0.74974	-0.77978	0.74642	1.01166
0.95352	194.8689	0.74996	-0.31381	0.74974	-0.70697	0.74808	0.82009
0.95352	194.967	0.75162	0.02942	0.74974	-0.76581	0.74808	0.82009
0.95186	195.0651	0.75162	0.12749	0.7514	-0.76581	0.74808	0.82009
0.95186	195.1631	0.75328	0.20594	0.7514	-0.64396	0.74808	0.86913
0.9502	195.271	0.75328	0.26478	0.7514	-0.64396	0.74974	0.75602
0.94854	195.3691	0.75328	0.30401	0.75306	-0.64396	0.74974	0.79524
0.94854	195.4868	0.75328	0.30401	0.75306	-0.52212	0.74974	0.89331
0.94688	195.5848	0.75494	0.30401	0.75306	-0.52212	0.7514	0.79001
0.94688	195.7123	0.75494	0.26478	0.75472	-0.55154	0.7514	1.15285
0.94522	195.83	0.75494	0.23536	0.75472	-0.50815	0.7514	1.44705
0.94522	196.0948	0.7566	0.23536	0.75472	-0.50815	0.75306	1.72621
0.94356	196.2419	0.7566	0.23536	0.75472	-0.50815	0.75306	1.89293
0.94356	196.3792	0.7566	0.23536	0.75638	-0.3863	0.75306	2.05964
0.9419	196.4969	0.75826	0.23536	0.75638	-0.3863	0.75472	2.00537
0.94024	196.6243	0.75826	0.23536	0.75804	-0.3863	0.75472	2.13286
0.94024	196.7224	0.75826	0.23536	0.75804	-0.26446	0.75472	2.23092
0.93858	196.8107	0.75992	0.28439	0.75804	-0.26446	0.75638	2.0982
0.93858	196.8793	0.75992	0.34323	0.7597	-0.26446	0.75638	2.14723
0.93692	196.948	0.75992	0.43149	0.7597	-0.14262	0.75638	2.14723
0.93692	197.046	0.76158	0.43149	0.7597	-0.14262	0.75804	1.95567
0.93526	197.1147	0.76158	0.49034	0.7597	-0.14262	0.75804	1.95567
0.93526	197.2029	0.76158	0.5786	0.76136	-0.02077	0.75804	1.89683

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.9336	197.2716	0.76324	0.62763	0.76136	-0.06	0.7597	1.63662
0.9336	197.3893	0.76324	0.70608	0.76136	-0.10903	0.7597	1.57778
0.93194	197.4873	0.76324	0.74531	0.76302	-0.05584	0.7597	1.57778
0.93194	197.6639	0.7649	0.8728	0.76302	-0.05584	0.76136	1.38621
0.93028	197.9973	0.7649	0.93164	0.76302	-0.05584	0.76136	1.44505
0.92862	198.1542	0.7649	1.00028	0.76468	0.02678	0.76136	1.54312
0.92862	198.2915	0.76656	1.00028	0.76468	-0.02225	0.76302	1.63595
0.92696	198.419	0.76656	1.00028	0.76468	-0.0909	0.76302	1.90073
0.92696	198.6347	0.76656	1.00028	0.76634	-0.00828	0.76302	2.30281
0.9253	198.7132	0.76822	1.00028	0.76634	-0.07693	0.76468	2.73887
0.9253	198.7916	0.76822	1.00028	0.76634	-0.16519	0.76468	2.94481
0.92364	198.8308	0.76822	1.00028	0.768	-0.04335	0.76468	3.12133
0.92364	198.8799	0.76988	1.00028	0.768	-0.11199	0.76634	3.08668
0.92198	198.9289	0.76988	1.03951	0.768	-0.20025	0.76634	3.18474
0.92032	198.9289	0.76988	1.08854	0.76966	-0.12744	0.76634	3.273
0.92032	198.9779	0.77154	1.15719	0.76966	-0.2157	0.768	3.18931
0.91866	199.0368	0.77154	1.15719	0.76966	-0.28435	0.768	3.23835
0.91866	199.0956	0.77154	1.18661	0.77132	-0.28999	0.768	3.23835
0.917	199.1545	0.7732	1.24545	0.77132	-0.50574	0.76966	3.04678
0.917	199.2231	0.7732	1.3239	0.77132	-0.71168	0.76966	3.04678
0.91534	199.3114	0.7732	1.3239	0.77298	-0.84481	0.76966	3.04678
0.91534	199.3114	0.77486	1.38274	0.77298	-1.18804	0.77132	2.81599
0.91368	199.3604	0.77486	1.48081	0.77298	-1.25669	0.77132	2.75715

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.91368	199.4389	0.77486	1.6083	0.77464	-1.19369	0.77132	2.68851
0.91202	199.4879	0.77652	1.66714	0.77464	-1.23291	0.77298	2.49694
0.91036	199.5565	0.77652	1.77501	0.77464	-1.23291	0.77298	2.33023
0.91036	199.6546	0.77652	1.82405	0.7763	-1.11107	0.77298	2.291
0.9087	199.7821	0.77818	1.91231	0.7763	-1.1503	0.77464	2.02098
0.9087	199.8802	0.77818	1.95153	0.7763	-1.1503	0.77464	1.97195
0.90704	200.0273	0.77818	2.01037	0.77796	-1.1503	0.77464	1.9033
0.90704	200.3117	0.77984	2.06921	0.77796	-1.06768	0.7763	1.63329
0.90538	200.4391	0.77984	2.06921	0.77796	-1.11671	0.7763	1.63329
0.90538	200.5764	0.77984	2.06921	0.77962	-1.0439	0.7763	1.63329
0.90372	200.7039	0.7815	2.06921	0.77962	-1.0439	0.77796	1.44172
0.90372	200.8314	0.7815	2.02018	0.77962	-1.0439	0.77796	1.44172
0.90206	200.9491	0.7815	1.96134	0.78128	-0.92206	0.77796	1.44172
0.9004	201.057	0.78316	1.9025	0.78128	-0.92206	0.77962	1.29919
0.9004	201.2629	0.78316	1.9025	0.78128	-0.92206	0.77962	1.35803
0.89874	201.361	0.78316	1.9025	0.78294	-0.92206	0.77962	1.42668
0.89874	201.4492	0.78316	1.9025	0.78294	-0.74138	0.78128	1.23511
0.89708	201.5277	0.78482	1.9025	0.78294	-0.65311	0.78128	1.23511
0.89708	201.6061	0.78482	1.86327	0.7846	-0.60408	0.78128	1.28415
0.89542	201.6846	0.78482	1.76521	0.7846	-0.39398	0.78294	1.15142
0.89542	201.7434	0.78648	1.76521	0.7846	-0.32533	0.78294	1.22007
0.89376	201.7925	0.78648	1.76521	0.78626	-0.20765	0.78294	1.22007
0.89376	201.8513	0.78648	1.76521	0.78626	-0.00735	0.78294	1.2593

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.8921	201.8513	0.78814	1.76521	0.78626	0.11033	0.7846	1.12657
0.89044	201.8807	0.78814	1.76521	0.78792	0.15936	0.7846	1.18541
0.89044	201.9788	0.78814	1.76521	0.78792	0.35966	0.78626	0.99385
0.88878	201.9788	0.7898	1.76521	0.78792	0.35966	0.78626	1.03308
0.88878	202.0278	0.7898	1.76521	0.78792	0.35966	0.78626	1.08211
0.88712	202.0965	0.7898	1.76521	0.78958	0.4815	0.78626	1.16056
0.88712	202.1847	0.79146	1.76521	0.78958	0.4815	0.78792	0.969
0.88546	202.224	0.79146	1.88289	0.79124	0.4815	0.78792	1.02784
0.8838	202.3907	0.79146	1.96134	0.79124	0.56412	0.78792	1.13571
0.8838	202.4299	0.79312	1.96134	0.79124	0.43663	0.78958	1.10106
0.88214	202.5868	0.79312	1.99076	0.79124	0.43663	0.78958	1.18932
0.88048	202.5868	0.79312	2.03979	0.7929	0.51925	0.78958	1.3168
0.88048	202.6457	0.79478	2.09863	0.7929	0.46041	0.79124	1.30176
0.87882	202.7241	0.79478	2.09863	0.7929	0.40157	0.79124	1.5077
0.87882	202.7731	0.79478	2.09863	0.79456	0.52341	0.79124	1.7921
0.87716	202.8516	0.79644	2.09863	0.79456	0.52341	0.7929	1.64956
0.87716	202.9497	0.79644	2.13786	0.79456	0.47438	0.7929	1.6986
0.8755	203.1262	0.79644	2.13786	0.79622	0.54719	0.7929	1.72802
0.87384	203.4694	0.7981	2.22612	0.79622	0.49816	0.79456	1.57568
0.87384	203.8028	0.7981	2.22612	0.79622	0.49816	0.79456	1.57568
0.87218	203.9401	0.7981	2.22612	0.79788	0.62	0.79456	1.57568
0.87218	204.0676	0.79976	2.26535	0.79788	0.57097	0.79622	1.42334
0.87052	204.1559	0.79976	2.31438	0.79788	0.50232	0.79622	1.49199

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.87052	204.2147	0.79976	2.37322	0.79954	0.54571	0.79622	1.58025
0.86886	204.254	0.80142	2.37322	0.79954	0.54571	0.79788	1.44753
0.86886	204.254	0.80142	2.37322	0.79954	0.46726	0.79788	1.56521
0.8672	204.254	0.80142	2.46148	0.8012	0.48123	0.79788	1.68289
0.8672	204.254	0.80308	2.52032	0.8012	0.42239	0.79954	1.94243
0.86554	204.254	0.80308	2.52032	0.8012	0.30471	0.79954	2.38373
0.86554	204.254	0.80308	2.52032	0.80286	0.3481	0.79954	2.52103
0.86388	204.254	0.80474	2.52032	0.80286	0.01467	0.8012	2.45695
0.86222	204.2932	0.80474	2.52032	0.80286	-0.2403	0.8012	2.56482
0.86222	204.2932	0.80474	2.52032	0.80452	-0.46169	0.8012	2.64328
0.86056	204.352	0.8064	2.52032	0.80452	-0.53034	0.80286	2.52036
0.86056	204.4403	0.8064	2.52032	0.80452	-0.58918	0.80286	2.55959
0.8589	204.4795	0.8064	2.52032	0.80618	-0.51637	0.80286	2.59881
0.8589	204.5678	0.80806	2.52032	0.80618	-0.5556	0.80452	2.40725
0.85724	204.6266	0.80806	2.52032	0.80618	-0.5556	0.80452	2.40725
0.85724	204.7345	0.80806	2.52032	0.80784	-0.43375	0.80452	2.40725
0.85558	204.8914	0.80972	2.52032	0.80784	-0.43375	0.80618	2.21569
0.85392	204.9502	0.80972	2.52032	0.80784	-0.38472	0.80618	2.21569
0.85392	205.0189	0.80972	2.52032	0.8095	-0.21384	0.80618	2.21569
0.85226	205.0875	0.81138	2.52032	0.8095	-0.155	0.80784	1.9849
0.85226	205.0875	0.81138	2.52032	0.8095	-0.155	0.80784	1.91625
0.8506	205.0875	0.81138	2.4811	0.81116	-0.03316	0.80784	1.82799
0.8506	205.0581	0.81304	2.44187	0.81116	-0.00374	0.8095	1.63642

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.84894	205.0091	0.81304	2.41245	0.81116	0.0453	0.8095	1.57758
0.84894	204.9502	0.81304	2.41245	0.81282	0.20637	0.8095	1.42068
0.84728	204.9502	0.8147	2.41245	0.81282	0.20637	0.81116	1.22911
0.84728	204.862	0.8147	2.41245	0.81282	0.20637	0.81116	1.22911
0.84562	204.8129	0.8147	2.41245	0.81448	0.32821	0.81116	1.26834
0.84562	204.8129	0.81636	2.41245	0.81448	0.36744	0.81282	1.15523
0.84396	204.8129	0.81636	2.41245	0.81448	0.40666	0.81282	1.2533
0.8423	204.8129	0.81636	2.37322	0.81614	0.43608	0.81282	1.31214
0.8423	204.8129	0.81636	2.32419	0.81614	0.55793	0.81448	1.22845
0.84064	204.8129	0.81802	2.26535	0.81614	0.55793	0.81448	1.3069
0.84064	204.8129	0.81802	2.22612	0.8178	0.52851	0.81448	1.43439
0.83898	204.862	0.81802	2.17709	0.8178	0.60132	0.81614	1.68412
0.83898	204.9895	0.81968	2.09863	0.8178	0.53267	0.81614	1.68412
0.83732	204.9895	0.81968	2.09863	0.81946	0.47383	0.81614	2.0862
0.83732	205.0287	0.81968	2.09863	0.81946	0.59567	0.81614	2.17446
0.83566	205.0777	0.82134	2.05941	0.81946	0.44857	0.8178	2.09077
0.834	205.1464	0.82134	2.00057	0.82112	0.3407	0.8178	2.21826
0.834	205.1464	0.82134	1.94173	0.82112	0.36448	0.81946	2.15418
0.83234	205.1856	0.823	1.94173	0.82112	0.19776	0.81946	2.28167
0.83234	205.2346	0.823	1.94173	0.82278	-0.01798	0.81946	2.41896
0.83068	205.3033	0.823	1.94173	0.82278	-0.20995	0.81946	2.53664
0.83068	205.3033	0.82466	1.94173	0.82278	-0.68068	0.82112	2.47256
0.82902	205.4013	0.82466	1.94173	0.82444	-0.83758	0.82112	2.64908

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.82902	205.4798	0.82466	1.94173	0.82444	-0.97071	0.82112	2.70792
0.82736	205.4798	0.82632	1.98095	0.82444	-1.04917	0.82278	2.56539
0.8257	205.519	0.82632	2.02018	0.8261	-1.11781	0.82278	2.56539
0.8257	205.5877	0.82632	2.06921	0.8261	-0.99597	0.82278	2.56539
0.82404	205.6661	0.82798	2.06921	0.8261	0.59815	0.82444	2.37383
0.82404	205.6661	0.82798	2.06921	0.8261	0.65699	0.82444	2.37383
0.82238	205.7152	0.82798	2.06921	0.82776	0.77883	0.82444	2.37383
0.82238	205.774	0.82964	2.06921	0.82776	0.77883	0.8261	2.18227
0.82072	205.8623	0.82964	2.06921	0.82776	0.73961	0.8261	2.18227
0.82072	205.9113	0.82964	2.06921	0.82942	0.7928	0.8261	2.18227
0.81906	205.9799	0.8313	2.06921	0.82942	0.70454	0.82776	1.9907
0.81906	206.0682	0.8313	2.06921	0.82942	0.65551	0.82776	1.9907
0.8174	206.0682	0.8313	2.06921	0.83108	0.6989	0.82776	1.9907
0.81574	206.1466	0.83296	2.06921	0.83108	0.64006	0.82942	1.79914
0.81574	206.2447	0.83296	2.06921	0.83108	0.53219	0.82942	1.79914
0.81408	206.3036	0.83296	2.06921	0.83274	0.58538	0.82942	1.79914
0.81408	206.4114	0.83462	2.06921	0.83274	0.39906	0.83108	1.60757
0.81242	206.4899	0.83462	2.06921	0.83274	0.29118	0.83108	1.60757
0.81242	206.6174	0.83462	2.06921	0.8344	0.35419	0.83108	1.60757
0.81076	206.9606	0.83628	2.06921	0.8344	0.24631	0.83274	1.41601
0.81076	207.1763	0.83628	2.06921	0.8344	0.17767	0.83274	1.41601
0.8091	207.196	0.83628	2.06921	0.83606	0.17202	0.83274	1.41601
0.8091	207.196	0.83794	2.10844	0.83606	0.06415	0.8344	1.22445

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.80744	207.196	0.83794	2.15747	0.83606	-0.10257	0.8344	1.22445
0.80744	207.196	0.83794	2.21631	0.83772	-0.27492	0.8344	1.22445
0.80578	207.1469	0.8396	2.21631	0.83772	-0.37299	0.83606	1.07211
0.80412	207.0783	0.8396	2.25554	0.83772	-0.45144	0.83606	1.07211
0.80412	206.99	0.8396	2.31438	0.83938	-0.39825	0.83606	1.07211
0.80246	206.8723	0.84126	2.38303	0.83938	-0.43747	0.83772	1.00803
0.80246	206.7939	0.84126	2.38303	0.83938	-0.4767	0.83772	1.04726
0.8008	206.6762	0.84126	2.38303	0.84104	-0.35486	0.83772	1.11591
0.8008	206.4899	0.84292	2.38303	0.84104	-0.35486	0.83938	1.03222
0.79914	206.4605	0.84292	2.41245	0.84104	-0.35486	0.83938	1.07144
0.79914	206.4605	0.84292	2.46148	0.8427	-0.26243	0.83938	1.14009
0.79748	206.4605	0.84458	2.51052	0.8427	-0.26243	0.84104	1.04659
0.79582	206.4605	0.84458	2.51052	0.8427	-0.33108	0.84104	1.04659
0.79582	206.5193	0.84458	2.51052	0.84436	-0.35633	0.84104	1.04659
0.79416	206.6272	0.84624	2.51052	0.84436	-0.46421	0.8427	0.80599
0.79416	206.7252	0.84624	2.53994	0.84436	-0.55247	0.8427	0.71773
0.7925	207.2646	0.84624	2.58897	0.84602	-0.5385	0.8427	0.43334
0.7925	207.4215	0.84624	2.6282	0.84602	-0.6856	0.84436	-0.0132
0.79084	207.5686	0.8479	2.6282	0.84602	-0.88173	0.84436	-0.42508
0.79084	207.6863	0.8479	2.6282	0.84768	-0.78931	0.84436	-0.92522
0.78918	207.7844	0.84956	2.6282	0.84768	-0.78931	0.84602	-1.73461
0.78752	207.8432	0.84956	2.6282	0.84768	-0.78931	0.84602	-2.51914
0.78752	207.9119	0.84956	2.6282	0.84934	-0.66747	0.84602	-2.62702

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.78586	207.9903	0.84956	2.70665	0.84934	-0.66747	0.84768	-2.87742
0.78586	207.9903	0.85122	2.75568	0.84934	-0.66747	0.84768	-2.90684
0.7842	207.9903	0.85122	2.75568	0.851	-0.54562	0.84768	-2.90684
0.7842	207.9903	0.85122	2.75568	0.851	-0.54562	0.84934	-3.09841
0.78254	207.9511	0.85288	2.75568	0.851	-0.58485	0.84934	-3.03956
0.78254	207.8922	0.85288	2.7851	0.85266	-0.51204	0.84934	-2.9513
0.78088	207.8334	0.85288	2.83414	0.85266	-0.58068	0.84934	-2.88266
0.78088	207.8334	0.85454	2.89298	0.85266	-0.58068	0.851	-2.94673
0.77922	207.7942	0.85454	2.89298	0.85432	-0.51768	0.851	-2.82905
0.77922	207.7353	0.85454	3.00085	0.85432	-0.59613	0.851	-2.65253
0.77756	207.6569	0.8562	3.0793	0.85432	-0.71381	0.85266	-2.57932
0.7759	207.6569	0.8562	3.0793	0.85432	-0.81188	0.85266	-2.17724
0.7759	207.6569	0.8562	3.12834	0.85598	-0.69004	0.85266	-2.06937
0.77424	207.6569	0.85786	3.19698	0.85598	-0.74888	0.85432	-2.09422
0.77424	207.6569	0.85786	3.28524	0.85764	-0.70549	0.85432	-2.04518
0.77258	207.6569	0.85786	3.28524	0.85764	-0.70549	0.85432	-2.01576
0.77258	207.7157	0.85952	3.32447	0.85764	-0.74471	0.85598	-2.20733
0.77092	207.7942	0.85952	3.3735	0.8593	-0.68171	0.85598	-2.20733
0.77092	207.853	0.85952	3.43235	0.8593	-0.74055	0.85598	-2.20733
0.76926	207.9511	0.86118	3.43235	0.8593	-0.74055	0.85764	-2.39889
0.76926	208.0295	0.86118	3.43235	0.8593	-0.77978	0.85764	-2.35967
0.7676	208.2159	0.86118	3.47157	0.86096	-0.70697	0.85764	-2.35967
0.76594	208.3237	0.86284	3.5108	0.86096	-0.76581	0.8593	-2.44336

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.76594	208.3728	0.86284	3.55983	0.86096	-0.76581	0.8593	-2.3551
0.76428	208.4316	0.86284	3.55983	0.86262	-0.64396	0.8593	-2.3551
0.76428	208.4904	0.8645	3.55983	0.86262	-0.64396	0.86096	-2.48782
0.76262	208.4904	0.8645	3.55983	0.86262	-0.64396	0.86096	-2.39956
0.76262	208.4904	0.8645	3.55983	0.86428	-0.52212	0.86096	-2.39956
0.76096	208.4904	0.86616	3.55983	0.86428	-0.52212	0.86262	-2.53228
0.76096	208.4512	0.86616	3.55983	0.86428	-0.55154	0.86262	-2.45383
0.7593	208.3335	0.86616	3.55983	0.86594	-0.50815	0.86262	-2.45383
0.75764	208.3335	0.86782	3.55983	0.86594	-0.50815	0.86428	-2.59636
0.75764	208.3335	0.86782	3.52061	0.86594	-0.50815	0.86428	-2.53752
0.75598	208.3335	0.86782	3.45196	0.8676	-0.3863	0.86428	-2.44926
0.75598	208.2943	0.86948	3.38331	0.8676	-0.3863	0.86594	-2.57218
0.75432	208.2649	0.86948	3.38331	0.8676	-0.3863	0.86594	-2.48392
0.75432	208.2257	0.86948	3.38331	0.86926	-0.26446	0.86594	-2.43488
0.75266	208.2257	0.87114	3.33428	0.86926	-0.26446	0.8676	-2.53819
0.75266	208.2257	0.87114	3.28524	0.86926	-0.26446	0.8676	-2.46954
0.751	208.2257	0.87114	3.2264	0.87092	-0.14262	0.8676	-2.36167
0.751	208.2257	0.8728	3.2264	0.87092	-0.14262	0.86926	-2.49439
0.74934	208.2257	0.8728	3.2264	0.87092	-0.14262	0.86926	-2.39632
0.74934	208.2257	0.8728	3.2264	0.87258	-0.02077	0.86926	-2.29826
0.74768	208.2257	0.87446	3.25582	0.87258	-0.06	0.87092	-2.43098
0.74602	208.2257	0.87446	3.30486	0.87258	-0.10903	0.87092	-2.43098
0.74602	208.2257	0.87446	3.3637	0.87424	-0.05584	0.87092	-2.43098

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.74436	208.2257	0.87612	3.3637	0.87424	-0.05584	0.87258	-2.62254
0.74436	208.1766	0.87612	3.41273	0.87424	-0.05584	0.87258	-2.62254
0.7427	208.0491	0.87612	3.55003	0.8759	0.02678	0.87258	-2.62254
0.7427	208.0491	0.87778	3.55003	0.8759	-0.02225	0.87424	-2.81411
0.74104	208.0001	0.87778	3.57945	0.8759	-0.0909	0.87424	-2.78469
0.74104	207.9413	0.87778	3.62848	0.87756	-0.00828	0.87424	-2.72585
0.73938	207.853	0.87944	3.68732	0.87756	-0.07693	0.8759	-2.80954
0.73772	207.853	0.87944	3.68732	0.87756	-0.16519	0.8759	-2.73108
0.73772	207.7942	0.87944	3.68732	0.87922	-0.04335	0.8759	-2.66244
0.73606	207.7255	0.8811	3.73635	0.87922	-0.11199	0.87756	-2.73632
0.73606	207.6373	0.8811	3.805	0.87922	-0.20025	0.87756	-2.66767
0.7344	207.6373	0.8811	3.88345	0.88088	-0.12744	0.87756	-2.56961
0.7344	207.6373	0.88276	3.93249	0.88088	-0.2157	0.87922	-2.72194
0.73274	207.5588	0.88276	4.00113	0.88088	-0.28435	0.87922	-2.6631
0.73274	207.5588	0.88276	4.07959	0.88254	-0.28999	0.87922	-2.59446
0.73108	207.5588	0.88276	4.07959	0.88254	-0.50574	0.88088	-2.78602
0.72942	207.5588	0.88442	4.07959	0.88254	-0.71168	0.88088	-2.78602
0.72942	207.5588	0.88442	4.11881	0.8842	-0.84481	0.88088	-2.78602
0.72776	207.598	0.88442	4.15804	0.8842	-1.18804	0.88254	-2.94816
0.72776	207.6667	0.88608	4.15804	0.8842	-1.25669	0.88254	-2.88932
0.7261	207.7549	0.88608	4.15804	0.88586	-1.19369	0.88254	-2.80106
0.7261	207.7942	0.88608	4.15804	0.88586	-1.23291	0.88254	-2.75203
0.72444	207.9511	0.88774	4.15804	0.88586	-1.23291	0.8842	-2.84553

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.72444	207.9903	0.88774	4.10901	0.88752	-1.11107	0.8842	-2.76707
0.72278	208.059	0.88774	4.04036	0.88752	-1.1503	0.8842	-2.62978
0.72278	208.1472	0.8894	3.96191	0.88752	-1.1503	0.88586	-2.64482
0.72112	208.1472	0.8894	3.96191	0.88752	-1.1503	0.88586	-2.04662
0.72112	208.1864	0.8894	3.96191	0.88918	-1.06768	0.88586	-1.94855
0.71946	208.2355	0.89106	3.92268	0.88918	-1.11671	0.88752	-2.04205
0.7178	208.2845	0.89106	3.89326	0.89084	-1.0439	0.88752	-1.93417
0.7178	208.2845	0.89106	3.85403	0.89084	-1.0439	0.88752	-1.81649
0.71614	208.2845	0.89272	3.85403	0.89084	-1.0439	0.88918	-1.88057
0.71614	208.2845	0.89272	3.85403	0.8925	-0.92206	0.88918	-1.73347
0.71448	208.2845	0.89272	3.85403	0.8925	-0.92206	0.88918	-1.56675
0.71448	208.2845	0.89438	3.85403	0.8925	-0.92206	0.89084	-1.5818
0.71282	208.2845	0.89438	3.85403	0.8925	-0.92206	0.89084	-1.36605
0.71282	208.2845	0.89438	3.85403	0.89416	-0.74138	0.89084	-1.1405
0.71116	208.2845	0.89604	3.85403	0.89416	-0.65311	0.8925	-0.79269
0.7095	208.2845	0.89604	3.85403	0.89416	-0.60408	0.8925	-0.48868
0.7095	208.2845	0.89604	3.89326	0.89582	-0.39398	0.8925	-0.19448
0.70784	208.2845	0.8977	3.93249	0.89582	-0.32533	0.89416	-0.09185
0.70784	208.2845	0.8977	3.98152	0.89582	-0.20765	0.89416	0.19255
0.70618	208.2845	0.8977	3.98152	0.89748	-0.00735	0.89416	0.45733
0.70618	208.2845	0.89936	3.98152	0.89748	0.11033	0.89582	0.49132
0.70452	208.2845	0.89936	4.02075	0.89748	0.15936	0.89582	0.68745
0.70452	208.3139	0.89936	4.05997	0.89914	0.35966	0.89582	0.96204

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.70286	208.3532	0.90102	4.0992	0.89914	0.35966	0.89748	0.77048
0.70286	208.3924	0.90102	4.0992	0.89914	0.35966	0.89748	0.88816
0.7012	208.3924	0.90102	4.0992	0.9008	0.4815	0.89748	0.88816
0.69954	208.3924	0.90268	4.0992	0.9008	0.4815	0.89914	0.69659
0.69954	208.3924	0.90268	4.0992	0.9008	0.4815	0.89914	0.69659
0.69788	208.3924	0.90268	4.00113	0.90246	0.56412	0.89914	0.64756
0.69788	208.3924	0.90434	4.00113	0.90246	0.43663	0.9008	0.37754
0.69622	208.4316	0.90434	3.92268	0.90246	0.43663	0.9008	0.32851
0.69622	208.4708	0.90434	3.87365	0.90412	0.51925	0.9008	0.25006
0.69456	208.5101	0.906	3.79519	0.90412	0.46041	0.90246	0.00946
0.69456	208.5101	0.906	3.75597	0.90412	0.40157	0.90246	-0.11803
0.6929	208.5101	0.906	3.67751	0.90578	0.52341	0.90246	-0.15726
0.69124	208.5101	0.90766	3.62848	0.90578	0.52341	0.90412	-0.34882
0.69124	208.5101	0.90766	3.52061	0.90578	0.47438	0.90412	-0.34882
0.68958	208.5101	0.90766	3.44215	0.90744	0.54719	0.90412	-0.34882
0.68958	208.412	0.90932	3.32447	0.90744	0.49816	0.90578	-0.47174
0.68792	208.3532	0.90932	2.99104	0.90744	0.49816	0.90578	-0.35406
0.68792	208.3532	0.90932	2.81452	0.9091	0.62	0.90578	-0.2756
0.68626	208.3532	0.91098	2.64781	0.9091	0.57097	0.90744	-0.33968
0.68626	208.3532	0.91098	2.67723	0.9091	0.50232	0.90744	-0.16316
0.6846	208.3532	0.91098	2.67723	0.91076	0.54571	0.90744	0.0624
0.6846	208.3532	0.91264	2.71646	0.91076	0.54571	0.9091	0.24349
0.68294	208.3532	0.91264	2.75568	0.91076	0.46726	0.9091	0.29252

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.68294	208.3532	0.91264	2.7851	0.91242	0.48123	0.9091	0.29252
0.68128	208.3532	0.91264	2.7851	0.91242	0.42239	0.91076	0.10096
0.67962	208.3532	0.9143	2.7851	0.91242	0.30471	0.91076	0.10096
0.67962	208.3532	0.9143	2.7851	0.91408	0.3481	0.91076	0.10096
0.67796	208.3924	0.91596	2.83414	0.91408	0.01467	0.91076	0.10096
0.67796	208.4512	0.91596	2.88317	0.91408	-0.2403	0.91242	-0.05138
0.6763	208.5101	0.91596	2.94201	0.91574	-0.46169	0.91242	-0.02196
0.6763	208.5101	0.91596	2.94201	0.91574	-0.53034	0.91408	-0.21353
0.67464	208.5101	0.91762	2.99104	0.91574	-0.58918	0.91408	-0.21353
0.67464	208.5101	0.91762	3.04988	0.9174	-0.51637	0.91408	-0.21353
0.67298	208.5493	0.91762	3.14795	0.9174	-0.5556	0.91574	-0.40509
0.67132	208.667	0.91928	3.17737	0.9174	-0.5556	0.91574	-0.35606
0.67132	208.667	0.91928	3.24602	0.91906	-0.43375	0.91574	-0.29722
0.66966	208.7062	0.91928	3.33428	0.91906	-0.43375	0.91574	-0.22857
0.66966	208.765	0.92094	3.38331	0.91906	-0.38472	0.9174	-0.42013
0.668	208.8239	0.92094	3.44215	0.92072	-0.21384	0.9174	-0.38091
0.668	208.8239	0.92094	3.50099	0.92072	-0.155	0.9174	-0.31226
0.66634	208.8729	0.9226	3.50099	0.92072	-0.155	0.91906	-0.37634
0.66634	208.9416	0.9226	3.50099	0.92238	-0.03316	0.91906	-0.28808
0.66468	209.0298	0.9226	3.50099	0.92238	-0.00374	0.91906	-0.21943
0.66468	209.0298	0.92426	3.54022	0.92238	0.0453	0.92072	-0.2737
0.66302	209.0788	0.92426	3.57945	0.92404	0.20637	0.92072	-0.19525
0.66302	209.2161	0.92426	3.62848	0.92404	0.20637	0.92072	-0.06776

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.66136	209.2161	0.92592	3.62848	0.92404	0.20637	0.92238	-0.12203
0.6597	209.2652	0.92592	3.62848	0.9257	0.32821	0.92238	0.01526
0.6597	209.3142	0.92592	3.66771	0.9257	0.36744	0.92238	0.12314
0.65804	209.3829	0.92758	3.71674	0.9257	0.40666	0.92404	-0.12727
0.65804	209.3829	0.92758	3.76577	0.9257	0.43608	0.92404	-0.27437
0.65638	209.3829	0.92758	3.76577	0.92736	0.55793	0.92404	-0.38224
0.65638	209.3829	0.92924	3.805	0.92736	0.55793	0.9257	-0.64245
0.65472	209.4515	0.92924	3.86384	0.92736	0.52851	0.9257	-0.7111
0.65472	209.4515	0.92924	3.93249	0.92902	0.60132	0.9257	-0.76013
0.65306	209.4515	0.9309	3.93249	0.92902	0.53267	0.92736	-1.00073
0.6514	209.4515	0.9309	4.03055	0.92902	0.47383	0.92736	-1.00073
0.6514	209.4515	0.9309	4.10901	0.93068	0.59567	0.92736	-1.00073
0.64974	209.4515	0.93256	4.10901	0.93068	0.44857	0.92902	-1.15307
0.64974	209.4025	0.93256	4.10901	0.93068	0.3407	0.92902	-1.08442
0.64808	209.324	0.93256	4.10901	0.93234	0.36448	0.92902	-0.99616
0.64808	209.2358	0.93422	4.14823	0.93234	0.19776	0.93068	-1.0112
0.64642	209.2358	0.93422	4.18746	0.93234	-0.01798	0.93068	-0.89352
0.64642	209.1965	0.93422	4.23649	0.934	-0.20995	0.93068	-0.70719
0.64476	209.0887	0.93588	4.23649	0.934	-0.68068	0.93234	-0.57514
0.6431	209.0887	0.93588	4.23649	0.934	-0.83758	0.93234	-0.46726
0.6431	209.0887	0.93588	4.23649	0.93566	-0.97071	0.93234	-0.35939
0.64144	209.0887	0.93754	4.23649	0.93566	-1.04917	0.934	-0.48231
0.64144	209.0887	0.93754	4.23649	0.93566	-1.11781	0.934	-0.42347

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.63978	209.0887	0.93754	4.23649	0.93732	-0.99597	0.934	-0.39405
0.63978	209.0887	0.9392	4.23649	0.93732	-0.99597	0.93566	-0.58561
0.63812	209.1377	0.9392	4.23649	0.93732	-0.99597	0.93566	-0.58561
0.63812	209.2063	0.9392	4.23649	0.93898	-0.87413	0.93566	-0.58561
0.63646	209.2946	0.94086	4.23649	0.93898	-0.87413	0.93732	-0.77717
0.63646	209.3338	0.94086	4.31495	0.93898	-0.82509	0.93732	-0.77717
0.6348	209.4025	0.94086	4.37379	0.94064	-0.53653	0.93732	-0.77717
0.63314	209.4809	0.94252	4.37379	0.94064	-0.40905	0.93898	-0.96874
0.63314	209.4809	0.94252	4.37379	0.94064	-0.29137	0.93898	-0.91971
0.63148	209.4809	0.94252	4.42282	0.9423	-0.01262	0.93898	-0.87067
0.63148	209.5202	0.94418	4.48166	0.9423	0.21294	0.94064	-0.95436
0.62982	209.5594	0.94418	4.56992	0.9423	0.53656	0.94064	-0.84649
0.62982	209.6084	0.94418	4.56992	0.94396	0.75647	0.94064	-0.4248
0.62816	209.6084	0.94584	4.60915	0.94396	0.81531	0.9423	-0.26332
0.62816	209.6084	0.94584	4.66799	0.94396	0.87415	0.9423	0.26624
0.6265	209.5594	0.94584	4.74644	0.94562	1.03522	0.9423	0.44276
0.6265	209.5103	0.9475	4.74644	0.94562	1.03522	0.94396	0.42772
0.62484	209.4417	0.9475	4.74644	0.94562	1.03522	0.94396	0.58462
0.62484	209.4417	0.9475	4.74644	0.94728	1.11784	0.94396	0.73172
0.62318	209.4025	0.94916	4.74644	0.94728	1.11784	0.94396	0.87882
0.62152	209.3534	0.94916	4.74644	0.94728	1.11784	0.94562	0.82455
0.62152	209.2848	0.94916	4.74644	0.94894	1.23968	0.94562	1.05991
0.61986	209.2848	0.94916	4.74644	0.94894	1.23968	0.94728	0.96642

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.61986	209.2358	0.95082	4.70722	0.94894	1.23968	0.94728	1.05468
0.6182	209.0887	0.95082	4.65818	0.9506	1.36153	0.94728	1.14294
0.6182	209.0887	0.95082	4.57973	0.9506	1.36153	0.94894	1.01021
0.61654	209.0592	0.95248	4.52089	0.9506	1.36153	0.94894	1.07886
0.61654	209.0004	0.95248	4.44244	0.95226	1.55202	0.94894	1.14751
0.61488	208.9416	0.95248	4.44244	0.95226	1.59124	0.94894	1.18674
0.61488	208.9416	0.95414	4.38359	0.95226	1.59124	0.9506	1.05401
0.61322	208.9416	0.95414	4.29533	0.95392	1.71309	0.9506	1.13247
0.61156	208.9416	0.95414	4.29533	0.95392	1.67386	0.9506	1.25995
0.61156	208.9416	0.9558	4.23649	0.95392	1.60522	0.95226	1.14684
0.6099	208.9416	0.9558	4.15804	0.95392	1.52676	0.95226	1.25472
0.6099	208.9416	0.9558	4.15804	0.95558	1.64861	0.95226	1.33317
0.60824	209.0004	0.95746	4.0992	0.95558	1.57996	0.95392	1.24948
0.60824	209.0788	0.95746	4.02075	0.95724	1.53509	0.95392	1.32793
0.60658	209.1181	0.95746	3.97171	0.95724	1.42721	0.95392	1.43581
0.60492	209.1965	0.95912	3.89326	0.95724	1.34876	0.95558	1.29328
0.60492	209.2456	0.95912	3.805	0.9589	1.35293	0.95558	1.38154
0.60326	209.3534	0.95912	3.805	0.9589	1.18621	0.95558	1.50902
0.60326	209.4025	0.96078	3.76577	0.9589	0.96066	0.95724	1.36649
0.6016	209.5496	0.96078	3.70693	0.9589	0.64684	0.95724	1.44495
0.6016	209.628	0.96078	3.62848	0.96056	0.1999	0.95724	1.48417
0.59994	209.628	0.96244	3.62848	0.96056	-0.14334	0.9589	1.36126
0.59994	209.6771	0.96244	3.52061	0.96222	-0.48241	0.9589	1.43971

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.59828	209.7261	0.96244	3.44215	0.96222	-1.0512	0.9589	1.43971
0.59828	209.7849	0.9641	3.44215	0.96222	-0.47317	0.96056	1.24815
0.59662	209.7849	0.9641	3.40292	0.96222	-2.27732	0.96056	1.28737
0.59662	209.7849	0.9641	3.34408	0.96388	-1.96943	0.96056	1.3266
0.59496	209.7849	0.96576	3.28524	0.96388	-1.75397	0.96222	1.17426
0.5933	209.7359	0.96576	3.28524	0.96388	-1.75397	0.96222	1.17426
0.5933	209.6673	0.96576	3.28524	0.96554	-1.63212	0.96222	1.17426
0.59164	209.5398	0.96742	3.28524	0.96554	-1.63212	0.96388	1.04154
0.59164	209.4613	0.96742	3.28524	0.96554	-1.63212	0.96388	1.11999
0.58998	209.3632	0.96742	3.28524	0.9672	-1.51028	0.96388	1.16903
0.58998	209.3142	0.96908	3.28524	0.9672	-1.51028	0.96554	1.06572
0.58832	209.2259	0.96908	3.28524	0.9672	-2.75601	0.96554	1.14417
0.58832	209.1671	0.96908	3.28524	0.96886	-2.63417	0.96554	1.28147
0.58666	209.0788	0.97074	3.28524	0.96886	-2.63417	0.9672	1.28604
0.585	209.0396	0.97074	3.28524	0.96886	-2.63417	0.9672	1.57043
0.585	208.9612	0.97074	3.28524	0.97052	-2.51232	0.9672	1.62927
0.58334	208.8827	0.9724	3.28524	0.97052	-2.51232	0.96886	1.53578
0.58334	208.8435	0.9724	3.28524	0.97052	-2.51232	0.96886	1.575
0.58168	208.7945	0.9724	3.32447	0.97218	-2.39048	0.96886	1.575
0.58168	208.7454	0.97406	3.45196	0.97218	-2.41155	0.97052	1.38344
0.58002	208.7454	0.97406	3.45196	0.97218	-2.41155	0.97052	1.43247
0.58002	208.7454	0.97406	3.52061	0.97384	-2.2897	0.97052	1.4717
0.57836	208.6964	0.97572	3.62848	0.97384	-2.2897	0.97218	1.31936

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.57836	208.6474	0.97572	3.68732	0.97384	-2.2897	0.97218	1.31936
0.5767	208.5787	0.97572	3.78539	0.9755	-2.16786	0.97218	1.31936
0.57504	208.5787	0.97738	3.85403	0.9755	-2.16786	0.97384	1.1278
0.57504	208.5787	0.97738	3.98152	0.9755	-2.16786	0.97384	1.1278
0.57338	208.4708	0.97738	4.05997	0.97716	-2.04602	0.97384	1.1278
0.57338	208.4022	0.97904	4.16785	0.97716	-2.04602	0.97384	1.1278
0.57172	208.4022	0.97904	4.29533	0.97716	-2.04602	0.9755	0.98527
0.57172	208.4022	0.97904	4.52089	0.97882	-1.92417	0.9755	1.05391
0.57006	208.4022	0.97904	4.59934	0.97882	-1.92417	0.97716	0.98003
0.57006	208.4022	0.9807	4.57973	0.97882	-1.92417	0.97716	1.05848
0.5684	208.3728	0.9807	4.57973	0.98048	-1.83001	0.97716	1.20558
0.5684	208.3237	0.98236	4.57973	0.98048	-1.83001	0.97716	1.47037
0.56674	208.2845	0.98236	4.57973	0.98048	-1.83001	0.97882	2.08295
0.56674	208.2845	0.98236	4.62876	0.98214	-1.70817	0.97882	2.72039
0.56508	208.2845	0.98236	4.6876	0.98214	-1.70817	0.98048	2.6465
0.56342	208.2845	0.98402	4.74644	0.98214	-1.7572	0.98048	2.69554
0.56342	208.2845	0.98402	4.74644	0.9838	-1.76284	0.98048	2.69554
0.56176	208.2845	0.98568	4.74644	0.9838	-1.76284	0.98048	2.69554
0.56176	208.2845	0.98568	4.74644	0.9838	-1.80207	0.98214	2.47455
0.5601	208.2845	0.98568	4.74644	0.98546	-1.73907	0.98214	2.3961
0.5601	208.2845	0.98568	4.74644	0.98546	-1.81752	0.98214	2.28823
0.55844	208.2845	0.98734	4.74644	0.98546	-1.81752	0.9838	2.01821
0.55844	208.2845	0.98734	4.74644	0.98712	-1.74471	0.9838	1.70439

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.55678	208.2845	0.98734	4.74644	0.98712	-1.82316	0.9838	1.41019
0.55512	208.2845	0.989	4.74644	0.98712	-1.91142	0.98546	1.14017
0.55512	208.2845	0.989	4.74644	0.98878	-1.84842	0.98546	1.09114
0.55346	208.2845	0.989	4.63857	0.98878	-1.93668	0.98546	1.09114
0.55346	208.2845	0.99066	4.56992	0.98878	-1.97591	0.98712	0.89958
0.5518	208.2845	0.99066	4.56992	0.99044	-1.94232	0.98712	0.89958
0.5518	208.2845	0.99066	4.56992	0.99044	-2.00116	0.98712	0.89958
0.55014	208.2845	0.99232	4.56992	0.99044	-2.12865	0.98878	0.70801
0.55014	208.2845	0.99232	4.56992	0.9921	-2.08526	0.98878	0.75705
0.54848	208.2845	0.99232	4.56992	0.9921	-2.22255	0.98878	0.92376
0.54848	208.2845	0.99398	4.56992	0.9921	-2.40888	0.99044	0.77142
0.54682	208.2845	0.99398	4.56992	0.9921	-2.67366	0.99044	0.83026
0.54516	208.2845	0.99398	4.65818	0.99376	-2.93428	0.99044	0.89891
0.54516	208.2845	0.99564	4.65818	0.99376	-3.17945	0.9921	0.70735
0.5435	208.2845	0.99564	4.72683	0.99542	-3.16547	0.9921	0.70735
0.5435	208.2845	0.99564	4.72683	0.99542	-3.25374	0.9921	0.70735
0.54184	208.2845	0.9973	4.77586	0.99542	-3.31258	0.99376	0.51578
0.54184	208.2845	0.9973	4.8249	0.99542	-3.37142	0.99376	0.51578
0.54018	208.2845	0.9973	4.88374	0.99708	-3.29861	0.99376	0.51578
0.54018	208.2845	0.99896	4.88374	0.99708	-3.33783	0.99542	0.28499
0.53852	208.2845	0.99896	4.88374	0.99708	-3.33783	0.99542	0.22615
0.53852	208.2845	0.99896	4.88374	0.99874	-3.21599	0.99542	0.1575
0.53686	208.2845	1.00062	4.88374	0.99874	-3.21599	0.99708	-0.03406

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.5352	208.2845	1.00062	4.88374	0.99874	-3.21599	0.99708	-0.03406
0.5352	208.2845	1.00062	4.88374	1.0004	-3.05492	0.99708	-0.03406
0.53354	208.2845	1.00228	4.88374	1.0004	-2.99608	0.99874	-0.22562
0.53354	208.2845	1.00228	4.88374	1.0004	-2.91762	0.99874	-0.22562
0.53188	208.2845	1.00228	4.88374	1.00206	-2.75655	0.99874	-0.22562
0.53188	208.2845	1.00394	4.88374	1.00206	-2.68791	1.0004	-0.41719
0.53022	208.2845	1.00394	4.88374	1.00206	-2.58984	1.0004	-0.41719
0.53022	208.2845	1.00394	4.88374	1.00372	-2.46799	1.0004	-0.36815
0.52856	208.2845	1.0056	4.78567	1.00372	-2.41896	1.00206	-0.50088
0.5269	208.2845	1.0056	4.70722	1.00372	-2.3307	1.00206	-0.42242
0.5269	208.2845	1.0056	4.70722	1.00538	-2.24808	1.00206	-0.42242
0.52524	208.2845	1.00726	4.65818	1.00538	-2.31673	1.00206	-0.37339
0.52524	208.2845	1.00726	4.58954	1.00538	-2.43441	1.00372	-0.49631
0.52358	208.2845	1.00726	4.51108	1.00704	-2.38121	1.00372	-0.41785
0.52358	208.2845	1.00892	4.51108	1.00704	-2.51851	1.00538	-0.60942
0.52192	208.2845	1.00892	4.51108	1.00704	-2.61657	1.00538	-0.60942
0.52192	208.2845	1.00892	4.47186	1.0087	-2.67125	1.00538	-0.60942
0.52026	208.2845	1.01058	4.43263	1.0087	-2.90661	1.00538	-0.60942
0.5186	208.2845	1.01058	4.40321	1.0087	-3.25965	1.00704	-0.80098
0.5186	208.2845	1.01058	4.40321	1.01036	-3.35356	1.00704	-0.80098
0.51694	208.2845	1.01224	4.40321	1.01036	-3.46143	1.00704	-0.80098
0.51694	208.2845	1.01224	4.43263	1.01036	-3.5595	1.0087	-0.99255
0.51528	208.2845	1.01224	4.48166	1.01202	-3.54553	1.0087	-0.95332

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.51528	208.2845	1.0139	4.55031	1.01202	-3.63379	1.0087	-0.90429
0.51362	208.2845	1.0139	4.55031	1.01202	-3.71224	1.01036	-1.03701
0.51362	208.2845	1.0139	4.55031	1.01368	-3.65904	1.01036	-0.99778
0.51196	208.2845	1.01556	4.55031	1.01368	-3.71788	1.01036	-0.93894
0.51196	208.2845	1.01556	4.55031	1.01368	-3.7473	1.01202	-1.05205
0.5103	208.2845	1.01556	4.55031	1.01534	-3.62546	1.01202	-1.05205
0.50864	208.2845	1.01556	4.55031	1.01534	-3.59604	1.01202	-0.99321
0.50864	208.2453	1.01722	4.55031	1.01534	-3.54701	1.01368	-1.08671
0.50698	208.1766	1.01722	4.55031	1.017	-3.36632	1.01368	-1.04748
0.50698	208.0982	1.01888	4.55031	1.017	-3.36632	1.01368	-0.94942
0.50532	208.0982	1.01888	4.55031	1.017	-3.36632	1.01534	-1.08214
0.50532	207.9511	1.01888	4.55031	1.01866	-3.24448	1.01534	-0.95465
0.50366	207.9217	1.01888	4.55031	1.01866	-3.21506	1.01534	-0.8762
0.50366	207.8432	1.02054	4.55031	1.01866	-3.21506	1.017	-0.78337
0.502	207.7844	1.02054	4.55031	1.02032	-3.09321	1.017	-0.56762
0.502	207.6863	1.02054	4.47186	1.02032	-3.09321	1.017	-0.28323
0.50034	207.6275	1.0222	4.42282	1.02032	-3.09321	1.01866	-0.40614
0.50034	207.5098	1.0222	4.42282	1.02032	-3.13244	1.01866	-0.3375
0.49868	207.4509	1.0222	4.42282	1.02198	-3.06944	1.01866	-0.27866
0.49702	207.3431	1.02386	4.42282	1.02198	-3.13808	1.02032	-0.41138
0.49702	207.2842	1.02386	4.37379	1.02364	-3.01624	1.02032	-0.41138
0.49536	207.2058	1.02386	4.32475	1.02364	-3.01624	1.02032	-0.37215
0.49536	207.1567	1.02552	4.2463	1.02364	-3.06527	1.02198	-0.46565

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.4937	207.1175	1.02552	4.2463	1.02364	-3.11431	1.02198	-0.46565
0.4937	207.0783	1.02552	4.20707	1.0253	-3.0415	1.02198	-0.46565
0.49204	207.0783	1.02718	4.12862	1.0253	-3.0415	1.02364	-0.65722
0.49204	207.0783	1.02718	4.04036	1.0253	-3.0415	1.02364	-0.65722
0.49038	207.1273	1.02718	3.98152	1.02696	-2.95888	1.02364	-0.65722
0.48872	207.1763	1.02884	3.89326	1.02696	-3.00791	1.0253	-0.84878
0.48872	207.2254	1.02884	3.86384	1.02696	-3.07656	1.0253	-0.84878
0.48706	207.2254	1.02884	3.78539	1.02862	-2.95472	1.0253	-0.88801
0.48706	207.2254	1.0305	3.68732	1.02862	-3.02336	1.02696	-1.1286
0.4854	207.1862	1.0305	3.63829	1.02862	-3.12143	1.02696	-1.17764
0.4854	207.1469	1.0305	3.54022	1.03028	-3.04862	1.02696	-1.17764
0.48374	207.0979	1.03216	3.47157	1.03028	-3.15649	1.02862	-1.3692
0.48374	207.0979	1.03216	3.23621	1.03028	-3.33301	1.02862	-1.40843
0.48208	207.0979	1.03216	3.09892	1.03194	-3.21117	1.02862	-1.46727
0.48208	207.0587	1.03382	2.88317	1.03194	-3.34846	1.03028	-1.72748
0.48042	207.0096	1.03382	2.59878	1.03194	-3.34846	1.03028	-1.72748
0.47876	206.9508	1.03382	2.17709	1.0336	-3.18739	1.03028	-1.7569
0.47876	206.9018	1.03548	2.06921	1.0336	-3.09913	1.03194	-2.0073
0.4771	206.8331	1.03548	1.95153	1.0336	-2.96184	1.03194	-2.07595
0.4771	206.735	1.03548	1.83385	1.03526	-2.5556	1.03194	-2.07595
0.47544	206.686	1.03714	1.74559	1.03526	-3.07507	1.0336	-2.395
0.47544	206.5879	1.03714	1.66714	1.03526	-2.21208	1.0336	-2.47345
0.47378	206.5095	1.03714	1.6083	1.03692	-3.70778	1.0336	-2.47345

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.47378	206.382	1.0388	1.52985	1.03692	-2.99189	1.03526	-2.66502
0.47212	206.1761	1.0388	1.52985	1.03692	-2.69769	1.03526	-2.66502
0.47046	205.9015	1.0388	1.52985	1.03858	-2.31106	1.03526	-2.66502
0.47046	205.4994	1.04046	1.52985	1.03858	-2.10512	1.03526	-2.62579
0.4688	205.2935	1.04046	1.56907	1.03858	-1.9286	1.03692	-2.74871
0.4688	205.1954	1.04046	1.61811	1.04024	-1.67927	1.03692	-2.66045
0.46714	205.1071	1.04212	1.66714	1.04024	-1.5812	1.03692	-2.52315
0.46714	205.0091	1.04212	1.66714	1.04024	-1.49294	1.03858	-2.65588
0.46548	204.911	1.04212	1.66714	1.0419	-1.32206	1.03858	-2.51858
0.46548	204.8129	1.04378	1.77501	1.0419	-1.32206	1.03858	-2.43032
0.46382	204.6953	1.04378	1.84366	1.0419	-1.32206	1.04024	-2.4944
0.46382	204.5776	1.04378	1.84366	1.04356	-1.20022	1.04024	-2.30807
0.46216	204.4501	1.04544	1.84366	1.04356	-1.20022	1.04024	-2.10213
0.4605	204.2049	1.04544	1.84366	1.04356	-1.23945	1.0419	-2.05834
0.4605	204.0872	1.04544	1.84366	1.04522	-1.18625	1.0419	-2.04853
0.45884	203.9794	1.0471	1.88289	1.04522	-1.27451	1.0419	-2.04853
0.45884	203.8813	1.0471	1.91231	1.04522	-1.32354	1.04356	-2.24009
0.45718	203.793	1.0471	1.95153	1.04688	-1.28996	1.04356	-2.24009
0.45718	203.7342	1.04876	1.95153	1.04688	-1.35861	1.04356	-2.24009
0.45552	203.6754	1.04876	1.95153	1.04688	-1.4959	1.04522	-2.43166
0.45552	203.6263	1.04876	1.95153	1.04854	-1.60942	1.04522	-2.43166
0.45386	203.5969	1.05042	1.95153	1.04854	-1.80555	1.04522	-2.43166
0.45386	203.5969	1.05042	1.95153	1.04854	-2.15859	1.04688	-2.62322

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.4522	203.5969	1.05042	1.95153	1.0502	-2.18385	1.04688	-2.62322
0.45054	203.5969	1.05208	1.95153	1.0502	-2.35056	1.04688	-2.62322
0.45054	203.5577	1.05208	1.95153	1.0502	-2.50747	1.04854	-2.81479
0.44888	203.4988	1.05208	1.95153	1.0502	-2.66438	1.04854	-2.81479
0.44888	203.44	1.05374	1.91231	1.05186	-2.68963	1.04854	-2.81479
0.44722	203.44	1.05374	1.85347	1.05186	-2.80731	1.0502	-3.00635
0.44722	203.3713	1.05374	1.79463	1.05352	-2.8718	1.0502	-3.00635
0.44556	203.2733	1.05374	1.79463	1.05352	-2.94045	1.0502	-2.96712
0.44556	203.2242	1.0554	1.79463	1.05352	-2.96987	1.05186	-3.11946
0.4439	203.0575	1.0554	1.7554	1.05352	-2.96987	1.05186	-3.05081
0.4439	203.0575	1.0554	1.69656	1.05518	-2.84802	1.05186	-3.05081
0.44224	202.8908	1.05706	1.63772	1.05518	-2.84802	1.05352	-3.18354
0.44224	202.8026	1.05706	1.63772	1.05684	-2.7654	1.05352	-3.09528
0.44058	202.7731	1.05706	1.59849	1.05684	-2.80463	1.05352	-2.93837
0.43892	202.7339	1.05872	1.52985	1.05684	-2.80463	1.05518	-3.12993
0.43892	202.7339	1.05872	1.43178	1.05684	-2.80463	1.05518	-2.95341
0.43726	202.7339	1.05872	1.30429	1.0585	-2.68279	1.05518	-2.89457
0.43726	202.7339	1.06038	1.23564	1.0585	-2.78085	1.05684	-3.01749
0.4356	202.7339	1.06038	1.11796	1.0585	-2.8495	1.05684	-2.95865
0.4356	202.7339	1.06038	1.04932	1.06016	-2.72766	1.05684	-2.99788
0.43394	202.7731	1.06204	0.93164	1.06016	-2.7963	1.0585	-3.2777
0.43394	202.8026	1.06204	0.8826	1.06016	-2.90418	1.0585	-3.37577
0.43228	202.8516	1.06204	0.79434	1.06182	-2.83137	1.0585	-3.5719

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.43062	202.8516	1.0637	0.79434	1.06182	-2.92943	1.06016	-4.43032
0.43062	202.8516	1.0637	0.79434	1.06182	-2.99808	1.06016	-4.51858
0.42896	202.8516	1.0637	0.79434	1.06348	-2.98411	1.06016	-4.55781
0.42896	202.8516	1.06536	0.79434	1.06348	-3.15082	1.06182	-4.74937
0.4273	202.8516	1.06536	0.79434	1.06348	-3.19005	1.06182	-4.74937
0.4273	202.8516	1.06536	0.79434	1.06514	-3.12705	1.06182	-4.74937
0.42564	202.8516	1.06702	0.84338	1.06514	-3.16627	1.06348	-4.8821
0.42564	202.8026	1.06702	0.89241	1.06514	-3.16627	1.06348	-4.79384
0.42398	202.7437	1.06702	0.95125	1.0668	-3.04443	1.06348	-4.72519
0.42232	202.6653	1.06868	0.95125	1.0668	-3.0052	1.06514	-4.78927
0.42232	202.6653	1.06868	0.95125	1.0668	-2.95617	1.06514	-4.48526
0.42066	202.6162	1.06868	0.95125	1.06846	-2.7951	1.06514	-4.15183
0.42066	202.528	1.07034	0.95125	1.06846	-2.7951	1.0668	-4.22571
0.419	202.4887	1.07034	0.95125	1.06846	-2.83433	1.0668	-4.12765
0.419	202.4201	1.07034	0.99048	1.07012	-2.78113	1.0668	-4.02958
0.41734	202.2828	1.072	0.99048	1.07012	-2.85958	1.06846	-4.17211
0.41734	202.2142	1.072	0.99048	1.07012	-2.89881	1.06846	-4.13288
0.41568	202.1161	1.072	0.99048	1.07178	-2.87503	1.06846	-4.13288
0.41568	202.1161	1.07366	0.99048	1.07178	-2.95349	1.06846	-4.13288
0.41402	202.0671	1.07366	0.99048	1.07178	-3.11039	1.07012	-4.32445
0.41236	202.0082	1.07366	0.99048	1.07344	-3.2141	1.07012	-4.32445
0.41236	201.9298	1.07532	0.99048	1.07344	-3.57695	1.07012	-4.32445
0.4107	201.9298	1.07532	0.99048	1.07344	-3.81231	1.07178	-4.51601

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.4107	201.9298	1.07532	0.99048	1.0751	-3.77873	1.07178	-4.51601
0.40904	201.8807	1.07698	0.99048	1.0751	-3.85718	1.07178	-4.51601
0.40904	201.8219	1.07698	0.99048	1.0751	-3.91602	1.07344	-4.65854
0.40738	201.7434	1.07698	0.95125	1.07676	-3.84321	1.07344	-4.65854
0.40738	201.6748	1.07864	0.89241	1.07676	-3.90205	1.07344	-4.60951
0.40572	201.5767	1.07864	0.81396	1.07676	-3.95109	1.0751	-4.74223
0.40572	201.5081	1.07864	0.74531	1.07842	-3.82924	1.0751	-4.67359
0.40406	201.3904	1.0803	0.65705	1.07842	-3.88808	1.0751	-4.67359
0.4024	201.2923	1.0803	0.61782	1.07842	-3.96653	1.07676	-4.91418
0.4024	201.1354	1.0803	0.53937	1.08008	-3.88392	1.07676	-4.97302
0.40074	200.9295	1.08196	0.48053	1.08008	-4.05063	1.07676	-5.06128
0.40074	200.6549	1.08196	0.39227	1.08008	-4.08986	1.07842	-5.25285
0.39908	200.1744	1.08196	0.33343	1.08174	-4.03666	1.07842	-5.31169
0.39908	200.0959	1.08362	0.23536	1.08174	-4.10531	1.07842	-5.39995
0.39742	200.0175	1.08362	0.17652	1.08174	-4.10531	1.08008	-5.59151
0.39742	199.9488	1.08362	0.06865	1.0834	-4.0325	1.08008	-5.62093
0.39576	199.8802	1.08528	0.00981	1.0834	-4.09134	1.08008	-5.66016
0.3941	199.8115	1.08528	-0.09807	1.0834	-4.15998	1.08174	-5.85172
0.3941	199.7723	1.08528	-0.26478	1.0834	-4.15998	1.08174	-5.85172
0.39244	199.6938	1.08694	-0.32362	1.08506	-4.15582	1.08174	-5.85172
0.39244	199.6056	1.08694	-0.43149	1.08506	-4.25389	1.0834	-6.04329
0.39078	199.3898	1.08694	-0.50995	1.08672	-4.17127	1.0834	-6.04329
0.39078	199.2525	1.0886	-0.61782	1.08672	-4.25953	1.0834	-6.04329

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.38912	198.9387	1.0886	-0.76492	1.08672	-4.32818	1.08506	-6.19562
0.38912	198.772	1.0886	-1.01009	1.08672	-4.46547	1.08506	-6.1564
0.38746	198.6151	1.09026	-1.09835	1.08838	-4.4515	1.08506	-6.11717
0.38746	198.4778	1.09026	-1.1768	1.08838	-4.60841	1.08672	-6.30873
0.3858	198.3503	1.09026	-1.35332	1.09004	-4.75135	1.08672	-6.30873
0.38414	198.2424	1.09192	-1.43178	1.09004	-4.91806	1.08672	-6.34796
0.38414	198.1542	1.09192	-1.49062	1.09004	-4.98671	1.08838	-6.58856
0.38248	198.0659	1.09192	-1.54946	1.09004	-5.06516	1.08838	-6.65721
0.38248	197.9875	1.09358	-1.6083	1.0917	-5.00216	1.08838	-6.65721
0.38082	197.8992	1.09358	-1.6083	1.0917	-5.08061	1.09004	-6.90761
0.38082	197.7423	1.09358	-1.66714	1.0917	-5.11984	1.09004	-6.99587
0.37916	197.6639	1.09524	-1.7554	1.09336	-5.07645	1.09004	-7.02529
0.37916	197.5854	1.09524	-1.80443	1.09336	-5.16471	1.0917	-7.2855
0.3775	197.4971	1.09524	-1.96134	1.09336	-5.37065	1.0917	-7.38357
0.3775	197.4089	1.09524	-2.06921	1.09502	-5.3861	1.0917	-7.44241
0.37584	197.301	1.0969	-2.12805	1.09502	-5.543	1.09336	-7.70262
0.37584	197.1833	1.0969	-2.22612	1.09502	-5.87643	1.09336	-7.78107
0.37418	197.046	1.09856	-2.25554	1.09668	-5.93111	1.09336	-7.78107
0.37252	196.8989	1.09856	-2.30457	1.09668	-6.10763	1.09502	-7.97264
0.37252	196.5655	1.09856	-2.3438	1.09668	-6.27434	1.09502	-7.9138
0.37086	196.3694	1.09856	-2.3438	1.09834	-6.33883	1.09502	-7.82554
0.37086	196.1536	1.10022	-2.31438	1.09834	-6.50554	1.09668	-7.95826
0.3692	195.9477	1.10022	-2.25554	1.09834	-6.68206	1.09668	-7.83077

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.3692	195.7221	1.10022	-2.18689	1.1	-6.74654	1.09668	-7.73271
0.36754	195.4966	1.10188	-1.99592	1.1	-6.93287	1.09834	-7.77717
0.36754	195.271	1.10188	-1.93708	1.1	-7.1192	1.09834	-7.34568
0.36588	195.0651	1.10188	-1.86843	1.1	-7.18762	1.09834	-7.13973
0.36422	194.8787	1.10022	-2.00057	1.09834	-7.06322	1.09834	-7.19857
0.36422	194.7022	1.10022	-2.00057	1.09668	-6.92902	1.1	-7.46859
0.36256	194.5453	1.10022	-2.00057	1.09668	-6.62501	1.1	-7.21689
0.36256	194.2413	1.09856	-2.1327	1.09502	-6.22603	1.09834	-7.39529
0.3609	194.0746	1.09856	-2.1327	1.09502	-5.95144	1.09834	-7.45413
0.3609	193.9079	1.09856	-2.1327	1.09336	-5.88589	1.09668	-7.5933
0.35924	193.7216	1.09856	-2.1327	1.09336	-5.66033	1.09668	-7.5933
0.35924	193.5156	1.0969	-2.30407	1.0917	-5.6242	1.09502	-7.68344
0.35758	193.2999	1.0969	-2.34329	1.0917	-5.41826	1.09336	-7.77357
0.35758	193.0547	1.0969	-2.39233	1.09004	-5.40174	1.09336	-7.74415
0.35592	192.7997	1.09524	-2.52446	1.09004	-5.21541	1.0917	-7.75584
0.35426	192.5251	1.09524	-2.52446	1.08838	-5.20869	1.0917	-7.65777
0.35426	191.9269	1.09524	-2.52446	1.08672	-5.20198	1.09004	-7.68907
0.3526	191.6033	1.09358	-2.69582	1.08672	-5.00584	1.09004	-7.591
0.3526	191.2601	1.09358	-2.74486	1.08506	-4.80299	1.08838	-7.60269
0.35094	190.8972	1.09358	-2.79389	1.08506	-4.61667	1.08838	-7.48501
0.35094	190.5246	1.09192	-2.92603	1.0834	-4.61976	1.08672	-7.49669
0.34928	190.1127	1.09192	-2.92603	1.0834	-4.45304	1.08506	-7.35147
0.34928	189.6812	1.09192	-2.92603	1.08174	-4.47575	1.08506	-7.16514

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.34762	189.2105	1.09026	-3.09739	1.08174	-4.32865	1.0834	-7.22586
0.34762	188.7005	1.09026	-3.13662	1.08008	-4.37097	1.0834	-7.17683
0.34596	188.1023	1.09026	-3.17584	1.07842	-4.42309	1.08174	-7.21793
0.3443	187.3178	1.0886	-3.30798	1.07842	-4.27599	1.08174	-7.15909
0.3443	130.7233	1.0886	-3.30798	1.07676	-4.1516	1.08008	-7.18058
0.34264	130.3986	1.0886	-3.30798	1.07676	-3.97508	1.08008	-7.0629
0.34264	130.3257	1.08694	-3.44012	1.0751	-3.95855	1.07842	-7.01574
0.34098	130.3317	1.08694	-3.44012	1.0751	-3.75261	1.07842	-6.69212
0.34098	131.9882	1.08694	-3.44012	1.07344	-3.71648	1.07676	-6.57632
0.33932	132.6512	1.08528	-3.57225	1.07344	-3.49092	1.0751	-6.25458
0.33932	132.5041	1.08528	-3.57225	1.07178	-3.44498	1.0751	-6.03883
0.33766	132.0593	1.08528	-3.57225	1.07178	-3.21943	1.07344	-5.93283
0.33766	131.9906	1.08362	-3.65535	1.07012	-3.1931	1.07344	-5.72689
0.336	131.536	1.08362	-3.5769	1.07012	-2.97735	1.07178	-5.64051
0.33434	131.1696	1.08362	-3.5769	1.06846	-2.97064	1.07178	-5.46399
0.33434	131.1402	1.08196	-3.63058	1.0668	-2.74817	1.07012	-5.39722
0.33268	130.8719	1.08196	-3.52271	1.0668	-2.55204	1.07012	-5.25012
0.33268	130.9307	1.08196	-3.47368	1.06514	-2.53552	1.06846	-5.04606
0.33102	130.7899	1.0803	-3.44891	1.06514	-2.31977	1.06846	-4.90876
0.33102	130.8978	1.0803	-3.31161	1.06348	-2.29344	1.0668	-4.8518
0.32936	130.8354	1.0803	-3.21354	1.06348	-2.05808	1.06514	-4.79484
0.32936	130.9531	1.07864	-3.17897	1.06182	-2.01214	1.06514	-4.61832
0.3277	130.9104	1.07864	-2.92399	1.06182	-1.75716	1.06348	-4.54174

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.32604	130.7695	1.07864	-2.59056	1.06016	-1.6818	1.06348	-4.35541
0.32604	131.0539	1.07698	-2.2814	1.06016	-1.14243	1.06182	-4.25923
0.32438	130.9131	1.07698	-1.61454	1.0585	-1.04746	1.06182	-4.04348
0.32438	131.0994	1.07698	-1.37918	1.05684	-0.96229	1.06016	-3.90806
0.32272	130.9488	1.07532	-1.09944	1.05684	-0.69751	1.06016	-3.6727
0.32272	131.1057	1.07532	-0.9033	1.05518	-0.62215	1.0585	-3.22347
0.32106	130.9551	1.07532	-0.72678	1.05518	-0.37698	1.05684	-2.99979
0.32106	131.0532	1.07366	-0.71182	1.05352	-0.31142	1.05684	-2.67617
0.3194	130.932	1.07366	-0.55491	1.05352	-0.07606	1.05518	-2.40346
0.3194	131.0496	1.07366	-0.41762	1.05186	-0.04973	1.05518	-2.03081
0.31774	130.9677	1.07366	-0.27052	1.05186	0.1464	1.05352	-1.72868
0.31774	131.1049	1.072	-0.25555	1.0502	0.14331	1.05352	-1.33641
0.31608	130.9936	1.072	-0.09864	1.0502	0.44732	1.05186	-1.04409
0.31442	130.8625	1.07034	-0.06407	1.04854	0.39519	1.05186	-0.67143
0.31442	130.99	1.07034	0.10265	1.04688	0.35287	1.0502	-0.11433
0.31276	130.8688	1.07034	0.44588	1.04688	0.48036	1.0502	0.15045
0.31276	130.9963	1.07034	0.63221	1.04522	0.42824	1.04854	0.28587
0.3111	130.8849	1.06868	0.67659	1.04522	0.56553	1.04854	0.46239
0.3111	131.0124	1.06868	0.86292	1.04356	0.52321	1.04688	0.50954
0.30944	131.0383	1.06868	1.01983	1.04356	0.68012	1.04688	0.60761
0.30944	131.1756	1.06702	1.05441	1.0419	0.67703	1.04522	0.59593
0.30778	131.0642	1.06702	1.20151	1.0419	1.05949	1.04356	0.58424
0.30612	130.9724	1.06702	1.32899	1.04024	1.08582	1.04356	0.6627

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.30612	131.0999	1.06536	1.30473	1.04024	1.31137	1.0419	0.66082
0.30446	130.9983	1.06536	1.47145	1.03858	1.34751	1.0419	0.75889
0.30446	131.1258	1.06536	1.54009	1.03692	1.38364	1.04024	0.98256
0.3028	131.0242	1.0637	1.4668	1.03692	1.59939	1.04024	1.16889
0.3028	131.1321	1.0637	1.52564	1.03526	1.62572	1.03858	1.2945
0.30114	131.1285	1.0637	1.56486	1.03526	1.84147	1.03858	1.55928
0.30114	131.2364	1.06204	1.49157	1.0336	1.8678	1.03692	1.72412
0.29948	131.1054	1.06204	1.58963	1.0336	2.29929	1.03526	1.92818
0.29948	131.1937	1.06204	1.64847	1.03194	2.35504	1.03526	2.21257
0.29782	131.0528	1.06038	1.64383	1.03194	2.60021	1.0336	2.42644
0.29616	130.9022	1.06038	1.76151	1.03028	2.66576	1.0336	2.72064
0.29616	130.9905	1.06038	1.96745	1.02862	2.73132	1.03194	3.2091
0.2945	130.8398	1.05872	2.47275	1.02862	2.95687	1.03194	3.2091
0.2945	130.9183	1.05872	2.6983	1.02696	3.00281	1.03028	3.66814
0.29284	130.7677	1.05872	2.91405	1.02696	3.20875	1.03028	3.93292
0.29284	130.8363	1.05706	3.00747	1.0253	3.21547	1.02862	4.09776
0.29118	130.7445	1.05706	3.22321	1.0253	3.39199	1.02862	4.33312
0.29118	130.8034	1.05706	3.43896	1.02364	3.37909	1.02696	4.48815
0.28952	130.6233	1.0554	3.51277	1.02364	3.54581	1.0253	4.63337
0.28952	130.6625	1.0554	3.71871	1.02198	3.74866	1.0253	4.87854
0.28786	130.4335	1.0554	3.91484	1.02198	3.9546	1.02364	5.03357
0.2862	130.2044	1.05374	4.17497	1.02032	4.02015	1.02364	5.27873
0.2862	130.2436	1.05374	4.3613	1.02032	4.28493	1.02198	5.68874

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.28454	130.0636	1.05374	4.52801	1.01866	4.37991	1.02198	5.95352
0.28454	130.1224	1.05208	4.55278	1.017	4.5043	1.02032	6.10855
0.28288	129.9522	1.05208	4.69988	1.017	4.7985	1.02032	6.35371
0.28288	130.0404	1.05208	4.83718	1.01534	4.9229	1.01866	6.50874
0.28122	129.88	1.05042	4.84234	1.01534	5.2171	1.01866	6.75391
0.28122	129.9879	1.05042	4.96002	1.01368	5.57686	1.017	6.87952
0.27956	129.8765	1.05042	5.0875	1.01368	5.82203	1.01534	7.00513
0.2779	129.8435	1.04876	5.06324	1.01202	5.85816	1.01534	7.21107
0.2779	130.1868	1.04876	5.17112	1.01202	6.08371	1.01368	7.50339
0.27624	130.1146	1.04876	5.38686	1.01036	6.09043	1.01368	7.68972
0.27624	130.2813	1.0471	5.3626	1.01036	6.25714	1.01202	7.79572
0.27458	130.2189	1.0471	5.46067	1.0087	6.24425	1.01202	7.97224
0.27458	130.6014	1.0471	5.55873	1.00704	6.21173	1.01036	8.06843
0.27292	130.3723	1.04544	5.52467	1.00704	6.33922	1.01036	8.26456
0.27292	130.794	1.04544	5.60312	1.00538	6.27729	1.0087	8.36075
0.27126	130.7905	1.04544	5.68157	1.00538	6.38516	1.0087	8.55689
0.27126	131.0062	1.04378	5.6377	1.00372	6.43111	1.00704	8.67269
0.2696	131.0027	1.04378	5.70634	1.00372	6.53898	1.00538	8.8081
0.26794	130.9894	1.04378	5.89267	1.00206	6.49666	1.00538	9.04346
0.26794	131.1855	1.04212	5.8586	1.00206	6.63395	1.00372	9.46328
0.26628	131.1427	1.04212	5.98609	1.0004	6.61125	1.00372	9.73786
0.26628	131.3193	1.04212	6.12338	1.0004	6.78777	1.00206	9.92231
0.26462	131.2471	1.04046	6.15796	0.99874	6.79449	1.00206	10.20671

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.26462	131.4923	1.04046	6.34429	0.99708	6.81101	1.0004	10.40096
0.26296	131.3514	1.04046	6.56004	0.99708	7.00714	1.0004	10.66574
0.26296	131.4201	1.04046	6.8052	0.99542	7.2198	0.99874	10.84039
0.2613	131.24	1.0388	6.93785	0.99542	7.40613	0.99874	11.08555
0.2613	131.2793	1.0388	7.22224	0.99376	7.40303	0.99708	11.22097
0.25964	131.0894	1.03714	7.64909	0.99376	7.56975	0.99708	11.62305
0.25798	130.8603	1.03714	7.91387	0.9921	7.53724	0.99542	11.71923
0.25798	130.8996	1.03714	8.14923	0.9921	7.69414	0.99376	11.81542
0.25632	130.7195	1.03714	8.34536	0.99044	7.68125	0.99376	12.02136
0.25632	130.8176	1.03548	8.39956	0.99044	7.84796	0.9921	12.14697
0.25466	130.667	1.03548	8.54666	0.98878	7.86448	0.9921	12.38233
0.25466	130.7454	1.03548	8.67414	0.98712	8.11636	0.99044	12.56678
0.253	130.634	1.03382	8.65969	0.98712	8.11636	0.99044	12.87079
0.253	130.7321	1.03382	8.74795	0.98546	8.4467	0.98878	13.09447
0.25134	130.6795	1.03382	8.84601	0.98546	8.71148	0.98878	13.45732
0.25134	130.9933	1.03216	8.81195	0.9838	8.81626	0.98712	13.71041
0.24968	130.9114	1.03216	9.00808	0.9838	9.10066	0.98546	14.31655
0.24802	130.8098	1.03216	9.09634	0.98214	9.19563	0.98546	14.63036
0.24802	130.9274	1.0305	9.06227	0.98214	9.48003	0.9838	14.81481
0.24636	129.2719	1.0305	9.14072	0.98048	9.5652	0.9838	15.05998
0.24636	129.4583	1.0305	9.23879	0.97882	9.65037	0.98214	15.17578
0.2447	129.5367	1.02884	9.18511	0.97882	9.89553	0.98214	15.35231
0.2447	129.6152	1.02884	9.26356	0.97716	10.18664	0.98048	15.41907

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.24304	129.6838	1.02884	9.35182	0.97716	10.40239	0.98048	15.55637
0.24304	129.7328	1.02718	9.32756	0.9755	10.41891	0.97882	15.60352
0.24138	129.7328	1.02718	9.56292	0.9755	10.59543	0.97882	15.93695
0.24138	129.7328	1.02718	9.71002	0.97384	10.57273	0.97716	16.05275
0.23972	129.7328	1.02552	9.71518	0.97384	10.70022	0.9755	16.19798
0.23806	129.7328	1.02552	9.86228	0.97218	10.63828	0.9755	16.46276
0.23806	129.7328	1.02552	9.99957	0.97218	10.74616	0.97384	16.65701
0.2364	129.7328	1.02386	9.99493	0.97052	10.67442	0.97384	16.94141
0.2364	129.7328	1.02386	10.1028	0.97052	10.87055	0.97218	17.14547
0.23474	129.6838	1.02386	10.19106	0.96886	10.78901	0.97218	17.42006
0.23474	129.6152	1.0222	10.14718	0.9672	10.72708	0.97052	17.60451
0.23308	129.5465	1.0222	10.23544	0.9672	10.82514	0.97052	17.86929
0.23308	129.5465	1.0222	10.3139	0.96554	10.77302	0.96886	18.02432
0.23142	129.5465	1.02054	10.36809	0.96554	10.90051	0.96886	18.45581
0.23142	129.5073	1.02054	10.48577	0.96388	10.8778	0.9672	18.58142
0.22976	129.4681	1.02054	10.61326	0.96388	11.01509	0.96554	18.69723
0.2281	129.4288	1.01888	10.61841	0.96222	11.0022	0.96554	18.93259
0.2281	129.4288	1.01888	10.78513	0.96222	11.16891	0.96388	19.08762
0.22644	129.4288	1.01888	10.95184	0.96056	11.15601	0.96388	19.34259
0.22644	129.4288	1.01722	10.99623	0.96056	11.52867	0.96222	19.54665
0.22478	129.4288	1.01722	11.18255	0.9589	11.54519	0.96222	19.83105
0.22478	129.4583	1.01722	11.35907	0.95724	11.57152	0.96056	20.0253
0.22312	129.5073	1.01556	11.57998	0.95724	11.75784	0.96056	20.57448

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.22312	129.5661	1.01556	11.74669	0.95558	11.76456	0.9589	20.73932
0.22146	129.5661	1.01556	11.92321	0.95558	11.94108	0.95724	20.87473
0.22146	129.6054	1.0139	11.95779	0.95392	11.89876	0.95724	21.08067
0.2198	129.6838	1.0139	12.12451	0.95392	12.03606	0.95558	21.18667
0.21814	129.8015	1.0139	12.29122	0.95226	11.96432	0.95558	21.35338
0.21814	129.8701	1.01224	12.3258	0.95226	12.16045	0.95392	21.42996
0.21648	129.9682	1.01224	12.50232	0.9506	11.98084	0.95392	21.56725
0.21648	130.0074	1.01224	12.66903	0.9506	12.16717	0.95226	21.61441
0.21482	130.0663	1.01058	12.71342	0.94894	12.07582	0.95226	21.90861
0.21482	130.1545	1.01058	13.06646	0.94728	12.00408	0.9506	21.99499
0.21316	130.1545	1.01058	13.22337	0.94728	12.12176	0.9506	22.19113
0.21316	130.1938	1.00892	13.24814	0.94562	12.05983	0.94894	22.31674
0.2115	130.2526	1.00892	13.38543	0.94562	12.19712	0.94894	22.5619
0.20984	130.3212	1.00892	13.51292	0.94396	12.17442	0.94728	22.74635
0.20984	130.3212	1.00726	13.48866	0.94396	12.32152	0.94562	22.94061
0.20818	130.3605	1.00726	13.59653	0.9423	12.289	0.94562	23.24462
0.20818	130.3997	1.00726	13.6946	0.9423	12.59301	0.94396	23.45849
0.20652	130.4487	1.00726	13.79266	0.94064	12.53108	0.94396	23.76249
0.20652	130.4487	1.0056	13.77821	0.94064	12.62915	0.9423	23.97636
0.20486	130.4487	1.0056	13.90569	0.93898	12.5476	0.9423	24.53535
0.20486	130.488	1.00394	14.09718	0.93732	12.43664	0.94064	24.69037
0.2032	130.537	1.00394	14.28351	0.93732	12.49548	0.94064	24.91593
0.2032	130.586	1.00394	14.49925	0.93566	12.37471	0.93898	25.03173

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.20154	130.586	1.00228	14.59267	0.93566	12.43355	0.93732	25.13773
0.20154	130.6449	1.00228	14.84765	0.934	12.29316	0.93732	25.32405
0.19988	130.7135	1.00228	15.08301	0.934	12.46968	0.93566	25.42024
0.19822	130.8018	1.00228	15.31837	0.93234	12.29007	0.93566	25.62618
0.19822	130.8018	1.00062	15.40198	0.93234	12.49601	0.934	25.73218
0.19656	130.8508	1.00062	15.74521	0.93068	12.43408	0.934	26.13426
0.19656	130.9293	0.99896	15.73076	0.92902	12.48002	0.93234	26.25006
0.1949	131.0175	0.99896	15.83863	0.92902	12.94094	0.93234	26.44619
0.1949	131.0175	0.99896	15.92689	0.92736	12.98688	0.93068	26.54238
0.19324	131.1156	0.99896	15.98573	0.92736	13.23204	0.93068	26.72871
0.19324	131.1744	0.9973	15.91244	0.9257	13.26818	0.92902	26.8347
0.19158	131.1744	0.9973	15.98108	0.9257	13.50354	0.92736	26.9407
0.18992	131.1744	0.9973	16.0105	0.92404	13.52987	0.92736	27.14664
0.18992	131.1744	0.99564	15.94701	0.92404	13.94175	0.9257	27.27225
0.18826	131.1744	0.99564	16.12354	0.92238	13.96808	0.9257	27.77239
0.18826	131.1744	0.99564	16.28044	0.92238	14.16421	0.92404	27.68225
0.1866	131.2137	0.99398	16.49154	0.92072	14.18074	0.92404	28.22162
0.1866	131.2627	0.99398	16.68767	0.92072	14.37687	0.92238	28.42569
0.18494	131.3117	0.99398	16.88381	0.91906	14.38359	0.92238	28.71008
0.18494	131.3117	0.99232	16.938	0.9174	14.38049	0.92072	28.90434
0.18328	131.3117	0.99232	17.10471	0.9174	14.55701	0.91906	29.08879
0.18328	131.3608	0.99232	17.26162	0.91574	14.53431	0.91906	29.34376
0.18162	131.4196	0.99066	17.27659	0.91574	14.84812	0.9174	29.5086

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.17996	131.4882	0.99066	17.39427	0.91408	14.82542	0.9174	29.76357
0.17996	131.4882	0.99066	17.51195	0.91408	14.97252	0.91574	29.9186
0.1783	131.4882	0.989	17.58575	0.91242	14.94001	0.91574	30.38932
0.1783	131.5275	0.989	17.68382	0.91242	15.0675	0.91408	30.52474
0.17664	131.5667	0.989	17.79169	0.91076	14.98595	0.91408	30.73068
0.17664	131.6157	0.98734	17.76743	0.9091	14.86518	0.91242	30.84648
0.17498	131.6157	0.98734	17.90472	0.9091	14.86518	0.91242	31.04262
0.17498	131.6157	0.98734	18.06163	0.90744	14.62673	0.91076	31.14861
0.17332	131.6157	0.98568	18.09621	0.90744	14.49924	0.91076	31.33494
0.17332	131.6157	0.98568	18.28254	0.90578	14.10388	0.9091	31.43113
0.17166	131.6157	0.98568	18.49828	0.90578	12.9663	0.90744	31.5077
0.17	131.6157	0.98402	18.81726	0.90412	12.23752	0.90744	31.69403
0.17	131.6157	0.98402	19.05262	0.90412	11.67853	0.90578	31.98635
0.17	130.3257	0.98402	19.28798	0.90246	10.94975	0.90578	32.18249
0.16834	130.3317	0.98236	19.3814	0.90246	10.42999	0.90412	32.32771
0.16834	131.9882	0.98236	19.59714	0.9008	9.78946	0.90412	32.55327
0.16668	132.6512	0.98236	19.80308	0.9008	9.407	0.90246	32.70829
0.16668	132.5041	0.9807	19.85727	0.89914	8.93319	0.90246	32.95346
0.16502	132.0593	0.9807	20.00438	0.89748	8.57706	0.9008	33.13791
0.16502	131.9906	0.9807	20.13186	0.89748	8.46918	0.89914	33.30275
0.16336	131.536	0.97904	20.09779	0.89582	8.26015	0.89914	33.57734
0.1617	131.1696	0.97904	20.17625	0.89582	8.26015	0.89748	33.76179
0.1617	131.1402	0.97904	20.26451	0.89416	8.11977	0.89748	34.04618

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.16004	130.8719	0.97738	20.13237	0.89416	8.1688	0.89582	34.53464
0.16004	130.9307	0.97738	20.13237	0.8925	8.02841	0.89582	34.83864
0.15838	130.7899	0.97738	20.13237	0.8925	8.02841	0.89416	35.0329
0.15838	130.8978	0.97572	20.00024	0.89084	7.8488	0.89416	35.3271
0.15672	130.8354	0.97572	20.00024	0.89084	7.88803	0.8925	35.53117
0.15672	130.9531	0.97572	20.00024	0.88918	7.77706	0.8925	35.82537
0.15506	130.9104	0.97406	19.91713	0.88752	7.6661	0.89084	36.01962
0.1534	130.7695	0.97406	19.97597	0.88752	7.6661	0.89084	36.31382
0.1534	131.0539	0.97406	20.05443	0.88586	7.6532	0.88918	36.50808
0.15174	130.9131	0.9724	20.05958	0.88586	7.70223	0.88752	36.90828
0.15174	131.0994	0.9724	20.12823	0.8842	7.61088	0.88752	37.12402
0.15008	130.9488	0.9724	20.26552	0.8842	7.67953	0.88586	37.21041
0.15008	131.1057	0.97074	20.23146	0.88254	7.59798	0.88586	37.38693
0.14842	130.9551	0.97074	20.39817	0.88254	7.66663	0.8842	37.43408
0.14842	131.0532	0.97074	20.63353	0.88088	7.56547	0.8842	37.54196
0.14676	130.932	0.96908	20.81521	0.87922	7.38586	0.88254	37.55969
0.14676	131.0496	0.96908	20.88386	0.87922	7.4447	0.88254	37.63815
0.1451	130.9677	0.96908	20.9427	0.87756	7.38277	0.88088	37.63627
0.1451	131.1049	0.96908	21.04076	0.87756	7.38277	0.88088	37.80298
0.14344	130.9936	0.96742	20.90863	0.8759	7.25219	0.87922	37.83052
0.14178	130.8625	0.96742	20.95766	0.8759	7.35026	0.87756	37.88749
0.14178	130.99	0.96576	20.91378	0.87424	7.2491	0.87756	38.07381
0.14012	130.8688	0.96576	20.97263	0.87424	7.37659	0.8759	38.17981

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.14012	130.9963	0.96576	21.09031	0.87258	7.42253	0.8759	38.42498
0.13846	130.8849	0.96576	21.18837	0.87258	7.84422	0.87424	38.58981
0.13846	131.0124	0.9641	21.24256	0.87092	7.86074	0.87424	38.87421
0.1368	131.0383	0.9641	21.60541	0.87092	8.26281	0.87258	39.06846
0.1368	131.1756	0.9641	21.81135	0.86926	8.27934	0.87258	39.36267
0.13514	131.0642	0.96244	22.1009	0.8676	8.30566	0.87092	39.57654
0.13348	130.9724	0.96244	22.33627	0.8676	8.49199	0.86926	40.06499
0.13348	131.0999	0.96244	22.54221	0.86594	8.47909	0.86926	40.33958
0.13182	130.9983	0.96078	22.62582	0.86594	8.64581	0.8676	40.50442
0.13182	131.1258	0.96078	22.82195	0.86428	8.6133	0.8676	40.75939
0.13016	131.0242	0.96078	22.99847	0.86428	8.75059	0.86594	40.89481
0.13016	131.1321	0.95912	23.03305	0.86262	8.67885	0.86594	41.13017
0.1285	131.1285	0.95912	23.18996	0.86262	8.78673	0.86428	41.26558
0.1285	131.2364	0.95912	23.33706	0.86096	8.68557	0.86428	41.47152
0.12684	131.1054	0.95746	23.34222	0.8593	8.64325	0.86262	41.58733
0.12684	131.1937	0.95746	23.607	0.8593	8.69228	0.86262	41.95998
0.12518	131.0528	0.95746	23.74429	0.85764	8.51267	0.86096	42.03656
0.12352	130.9022	0.9558	23.73964	0.85764	8.51267	0.86096	42.18366
0.12352	130.9905	0.9558	23.89655	0.85598	8.37229	0.8593	42.23081
0.12186	130.8398	0.9558	24.03384	0.85598	8.43113	0.85764	42.26816
0.12186	130.9183	0.95414	24.05861	0.85432	8.32997	0.85764	42.38584
0.1202	130.7677	0.95414	24.21552	0.85432	8.35939	0.85598	42.44281
0.1202	130.8363	0.95414	24.38223	0.85266	8.25823	0.85598	42.5801

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.11854	130.7445	0.95248	24.42662	0.85266	8.43475	0.85432	42.64687
0.11854	130.8034	0.95248	24.75024	0.851	8.39243	0.85432	42.82339
0.11688	130.6233	0.95248	24.92676	0.84934	8.34031	0.85266	42.92939
0.11688	130.6625	0.95082	24.96134	0.84934	8.55605	0.85266	43.37069
0.11522	130.4335	0.95082	25.13786	0.84768	8.7491	0.851	43.5061
0.11356	130.2044	0.95082	25.32419	0.84768	8.906	0.84934	43.64152
0.11356	130.2436	0.94916	25.36857	0.84602	8.8833	0.84934	43.85727
0.1119	130.0636	0.94916	25.57451	0.84602	9.0304	0.84768	43.95346
0.1119	130.1224	0.94916	25.77065	0.84436	8.99789	0.84768	44.13978
0.11024	129.9522	0.9475	25.83464	0.84436	9.12537	0.84602	44.21636
0.11024	130.0404	0.9475	26.03078	0.8427	9.08306	0.84602	44.39288
0.10858	129.88	0.9475	26.21711	0.8427	9.33803	0.84436	44.47926
0.10858	129.9879	0.94584	26.4282	0.84104	9.30552	0.84436	44.89114
0.10692	129.8765	0.94584	26.58511	0.84104	9.45262	0.8427	45.04617
0.10526	129.8435	0.94584	26.7224	0.83938	9.43972	0.8427	45.31095
0.10526	130.1868	0.94418	26.71776	0.83772	9.42682	0.84104	45.51502
0.1036	130.1146	0.94418	26.82563	0.83772	9.60334	0.83938	45.73869
0.1036	130.2813	0.94418	26.9237	0.83606	9.61006	0.83938	46.06231
0.10194	130.2189	0.94252	26.88963	0.83606	9.77677	0.83772	46.2958
0.10194	130.6014	0.94252	26.97789	0.8344	9.76388	0.83772	46.62923
0.10028	130.3723	0.94252	27.06615	0.8344	9.91098	0.83606	46.8529
0.10028	130.794	0.94086	27.03208	0.83274	9.9373	0.83606	47.16672
0.09862	130.7905	0.94086	27.24783	0.83274	9.99614	0.8344	47.38059

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.09862	131.0062	0.94086	27.3557	0.83108	9.84595	0.8344	47.95918
0.09696	131.0027	0.9392	27.35105	0.82942	9.66634	0.83274	48.16324
0.0953	130.9894	0.9392	27.47854	0.82942	9.66634	0.83274	48.45745
0.0953	131.1855	0.9392	27.60603	0.82776	9.48673	0.83108	48.6517
0.09364	131.1427	0.93754	27.60138	0.82776	9.48673	0.82942	48.85576
0.09364	131.3193	0.93754	27.72886	0.8261	9.30712	0.82942	49.12055
0.09198	131.2471	0.93754	27.84654	0.8261	9.2777	0.82776	49.29519
0.09198	131.4923	0.93588	27.83209	0.82444	9.04905	0.82776	49.54036
0.09032	131.3514	0.93588	27.95958	0.82444	9.01963	0.8261	49.68558
0.09032	131.4201	0.93588	28.06745	0.82278	8.84002	0.8261	50.13669
0.08866	131.24	0.93588	28.32242	0.82278	8.86944	0.82444	50.2623
0.08866	131.2793	0.93422	28.33739	0.82112	8.73886	0.82444	50.49766
0.087	131.0894	0.93422	28.4943	0.82112	8.80751	0.82278	50.63307
0.08534	130.8603	0.93256	28.52887	0.81946	8.6279	0.82278	50.88805
0.08534	130.8996	0.93256	28.69559	0.8178	8.49732	0.82112	51.05288
0.08368	130.7195	0.93256	28.89172	0.8178	8.56596	0.81946	51.22753
0.08368	130.8176	0.93256	29.06824	0.81614	8.47461	0.81946	51.49231
0.08202	130.667	0.9309	29.12243	0.81614	8.58249	0.8178	51.67676
0.08202	130.7454	0.9309	29.29895	0.81448	8.52055	0.8178	51.93173
0.08036	130.634	0.9309	29.62257	0.81448	8.5892	0.81614	52.28289
0.08036	130.7321	0.92924	29.62773	0.81282	8.53708	0.81614	52.46922
0.0787	130.6795	0.92924	29.74541	0.81282	8.62534	0.81448	52.5458
0.0787	130.9933	0.92924	29.85329	0.81116	8.60263	0.81448	52.6929

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.07704	130.9114	0.92758	29.7996	0.8095	8.62896	0.81282	52.74986
0.07538	130.8098	0.92758	29.89767	0.8095	8.92316	0.81116	52.79702
0.07538	130.9274	0.92758	29.96632	0.80784	9.19466	0.81116	52.94412
0.07372	129.2719	0.92592	29.92244	0.80784	9.35156	0.8095	53.02069
0.07372	129.4583	0.92592	29.99109	0.80618	9.32886	0.8095	53.18741
0.07206	129.5367	0.92592	30.06954	0.80618	9.67209	0.80784	53.27379
0.07206	129.6152	0.92426	30.02567	0.80452	9.669	0.80784	53.46012
0.0704	129.6838	0.92426	30.19238	0.80452	9.84552	0.80618	53.76225
0.0704	129.7328	0.92426	30.28064	0.80286	9.85224	0.80618	53.97799
0.06874	129.7328	0.9226	30.24657	0.80286	10.02876	0.80452	54.1036
0.06874	129.7328	0.9226	30.35445	0.8012	10.03548	0.80452	54.31935
0.06708	129.7328	0.9226	30.47213	0.79954	10.04219	0.80286	54.45477
0.06542	129.7328	0.92094	30.46748	0.79954	10.22852	0.80286	54.68032
0.06542	129.7328	0.92094	30.61458	0.79788	10.21562	0.8012	54.82554
0.06376	129.7328	0.92094	30.78129	0.79788	10.53924	0.79954	54.96096
0.06376	129.7328	0.91928	30.81587	0.79622	10.51654	0.79954	55.19632
0.0621	129.6838	0.91928	31.20814	0.79622	10.66364	0.79788	55.5769
0.0621	129.6152	0.91928	31.42389	0.79456	10.64093	0.79788	55.81227
0.06044	129.5465	0.91762	31.5173	0.79456	10.78803	0.79622	55.95749
0.06044	129.5465	0.91762	31.76247	0.7929	10.75552	0.79622	56.18304
0.05878	129.5465	0.91762	31.99783	0.7929	10.89281	0.79456	56.32827
0.05878	129.5073	0.91596	32.12067	0.79124	10.8505	0.79456	56.55382
0.05712	129.4681	0.91596	32.36584	0.78958	10.77876	0.7929	56.70885

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.05546	129.4288	0.91596	32.63062	0.78958	10.87682	0.79124	56.86388
0.05546	129.4288	0.9143	32.74365	0.78792	10.77567	0.79124	57.12866
0.0538	129.4288	0.9143	32.98882	0.78792	10.89335	0.78958	57.3033
0.0538	129.4288	0.9143	33.44973	0.78626	10.75296	0.78958	57.56808
0.05214	129.4288	0.91264	33.51373	0.78626	10.75296	0.78792	58.01731
0.05214	129.4583	0.91264	33.68044	0.7846	10.57335	0.78792	58.2919
0.05048	129.5073	0.91264	33.80793	0.7846	10.57335	0.78626	58.45674
0.05048	129.5661	0.91098	33.78367	0.78294	10.39374	0.78626	58.73132
0.04882	129.5661	0.91098	33.85232	0.78294	10.39374	0.7846	58.90597
0.04882	129.6054	0.91098	33.88174	0.78128	10.21413	0.7846	59.17075
0.04716	129.6838	0.90932	33.7496	0.77962	10.03451	0.78294	59.32578
0.0455	129.8015	0.90932	33.7496	0.77962	10.03451	0.78294	59.59056
0.0455	129.8701	0.90932	33.7496	0.77796	9.78625	0.78128	59.74559
0.04384	129.9682	0.90766	33.61746	0.77796	9.74703	0.77962	59.92023
0.04384	130.0074	0.90766	33.6665	0.7763	9.56742	0.77962	60.42037
0.04218	130.0663	0.90766	33.70572	0.7763	9.56742	0.77796	60.5754
0.04218	130.1545	0.906	33.57359	0.77464	9.3878	0.77796	60.80096
0.04052	130.1545	0.906	33.64223	0.77464	9.43684	0.7763	60.90695
0.04052	130.1938	0.906	33.7305	0.77298	9.32587	0.7763	61.09328
0.03886	130.2526	0.90434	33.66701	0.77298	9.41413	0.77464	61.16005
0.0372	130.3212	0.90434	33.78469	0.77132	9.23452	0.77464	61.31696
0.0372	130.3212	0.90434	33.88275	0.76966	9.24124	0.77298	61.36411
0.03554	130.3605	0.90434	34.06908	0.76966	9.30988	0.77132	61.42107

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.03554	130.3997	0.90268	34.6038	0.768	9.26756	0.77132	61.71528
0.03388	130.4487	0.90268	34.73129	0.768	9.38525	0.76966	61.76243
0.03388	130.4487	0.90268	34.85877	0.76634	9.39196	0.76966	61.92915
0.03222	130.4487	0.90102	34.85413	0.76634	9.71558	0.768	61.99591
0.03222	130.488	0.90102	34.97181	0.76468	9.94785	0.768	62.16263
0.03056	130.537	0.90102	35.09929	0.76468	10.53625	0.76634	62.24901
0.03056	130.586	0.89936	35.09464	0.76302	10.49393	0.76634	62.43534
0.0289	130.586	0.89936	35.24174	0.76302	10.592	0.76468	62.53153
0.0289	130.6449	0.89936	35.37904	0.76136	10.48104	0.76468	62.74728
0.02724	130.7135	0.8977	35.41362	0.7597	10.34065	0.76302	62.86308
0.02558	130.8018	0.8977	35.59014	0.7597	10.34065	0.76136	62.99849
0.02558	130.8018	0.8977	35.96279	0.75804	10.16104	0.76136	63.46922
0.02392	130.8508	0.89604	36.02679	0.75804	10.16104	0.7597	63.62425
0.02392	130.9293	0.89604	36.23273	0.75638	9.98143	0.7597	63.89883
0.02226	131.0175	0.89604	36.43867	0.75638	9.98143	0.75804	64.07348
0.02226	131.0175	0.89438	36.49286	0.75472	9.80182	0.75804	64.36768
0.0206	131.1156	0.89438	36.67919	0.75472	9.80182	0.75638	64.57174
0.0206	131.1744	0.89438	36.86552	0.75306	9.6222	0.75638	64.86594
0.01894	131.1744	0.89272	36.9099	0.7514	9.48182	0.75472	65.0602
0.01728	131.1744	0.89272	37.08642	0.7514	9.56027	0.75306	65.25445
0.01728	131.1744	0.89272	37.42966	0.74974	9.42969	0.75306	65.78401
0.01562	131.1744	0.89106	37.46423	0.74974	9.52776	0.7514	65.94885
0.01562	131.1744	0.89106	37.63095	0.74808	9.4168	0.7514	66.20383

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
0.01396	131.2137	0.89106	37.78786	0.74808	9.54428	0.74974	66.34905
0.01396	131.2627	0.8894	37.79301	0.74642	9.44312	0.74974	66.58441
0.0123	131.3117	0.8894	37.9205	0.74642	9.59022	0.74808	66.71002
0.0123	131.3117	0.8894	38.01857	0.74476	9.58713	0.74808	66.91596
0.01064	131.3117	0.88774	37.95508	0.74476	9.84211	0.74642	67.00234
0.01064	131.3608	0.88774	38.02373	0.7431	10.07438	0.74642	67.18867
0.00898	131.4196	0.88774	38.06295	0.7431	10.4078	0.74476	67.26524
0.00732	131.4882	0.88608	37.97004	0.74144	10.40471	0.74476	67.43196
0.00732	131.4882	0.88608	37.97004	0.73978	10.40162	0.7431	67.67525
0.00566	131.4882	0.88608	37.97004	0.73978	10.55853	0.74144	67.76163
0.00566	131.5275	0.88442	37.87713	0.73812	10.52602	0.74144	67.94796
0.004	131.5667	0.88442	37.94578	0.73812	10.6437	0.73978	68.04415
0.004	131.6157	0.88442	38.03404	0.73646	10.56215	0.73978	68.2599
		0.88276	37.97055	0.73646	10.6308	0.73812	68.39531
		0.88276	38.10785	0.7348	10.51003	0.73812	68.63067
		0.88276	38.23533	0.7348	10.6179	0.73646	68.79551
		0.8811	38.29933	0.73314	10.43829	0.73646	69.0701
		0.8811	39.09367	0.73314	10.49713	0.7348	69.54875
		0.8811	39.27019	0.73148	10.38616	0.7348	69.83314
		0.87944	39.29497	0.72982	10.29481	0.73314	70.00778
		0.87944	39.44207	0.72982	10.34385	0.73148	70.16281
		0.87944	39.56955	0.72816	10.25249	0.73148	70.38837
		0.87778	39.57471	0.72816	10.33095	0.72982	70.49436

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.87778	39.7022	0.7265	10.29844	0.72982	70.6905
		0.87778	39.82968	0.7265	10.60244	0.72816	70.75727
		0.87612	39.83484	0.72484	10.56013	0.72816	70.92398
		0.87612	39.96233	0.72484	10.85433	0.7265	70.98094
		0.87612	40.09962	0.72318	10.8022	0.7265	71.13785
		0.87446	40.21266	0.72152	10.75008	0.72484	71.21443
		0.87446	40.32053	0.72152	10.85795	0.72484	71.59689
		0.87446	40.4284	0.71986	10.74699	0.72318	71.7225
		0.8728	40.39433	0.71986	10.80583	0.72152	71.86772
		0.8728	40.48259	0.7182	10.66544	0.72152	72.11289
		0.8728	40.59047	0.7182	10.66544	0.71986	72.26792
		0.87114	40.5564	0.71654	10.48583	0.71986	72.49347
		0.87114	40.67408	0.71654	10.48583	0.7182	72.60927
		0.87114	40.81137	0.71488	10.25718	0.7182	72.7956
		0.87114	41.10557	0.71488	10.19834	0.71654	72.85256
		0.86948	41.14015	0.71322	9.95008	0.71654	73.06831
		0.86948	41.31667	0.71322	9.95008	0.71488	73.05663
		0.86948	41.48339	0.71156	9.77047	0.71488	73.13508
		0.86782	41.51796	0.7099	9.55163	0.71322	73.14301
		0.86782	41.67487	0.7099	9.51241	0.71156	73.16074
		0.86782	41.81217	0.70824	9.33279	0.71156	73.29804
		0.86616	41.82713	0.70824	9.33279	0.7099	73.38442
		0.86616	41.95462	0.70658	9.15318	0.7099	73.59036

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.86616	42.2194	0.70658	9.15318	0.70824	73.74539
		0.8645	42.22456	0.70492	9.0128	0.70824	74.30437
		0.8645	42.38146	0.70492	9.08144	0.70658	74.49863
		0.8645	42.54818	0.70326	8.99009	0.70658	74.78302
		0.86284	42.60237	0.7016	8.85951	0.70492	74.97728
		0.86284	42.80831	0.7016	8.93797	0.70326	75.14212
		0.86284	43.03386	0.69994	8.83681	0.70326	75.36767
		0.86118	43.13709	0.69994	8.9741	0.7016	75.48347
		0.86118	43.39206	0.69828	8.89256	0.7016	75.65999
		0.86118	43.63723	0.69828	9.03966	0.69994	75.73657
		0.85952	43.75026	0.69662	9.33077	0.69994	75.87386
		0.85952	43.99543	0.69496	9.49439	0.69828	75.91121
		0.85952	44.42692	0.69496	9.56304	0.69828	76.12696
		0.85786	44.48111	0.6933	9.45207	0.69662	76.13489
		0.85786	44.66744	0.6933	9.54033	0.69662	76.22315
		0.85786	44.84396	0.69164	9.43917	0.69496	76.21146
		0.8562	44.85893	0.68998	9.48512	0.6933	76.19978
		0.8562	45.01583	0.68998	9.65183	0.6933	76.27823
		0.8562	45.16293	0.68832	9.80565	0.69164	76.26655
		0.85454	45.1779	0.68832	9.96255	0.69164	76.345
		0.85454	45.33481	0.68666	9.93004	0.68998	76.34313
		0.85454	45.63881	0.68666	10.04772	0.68998	76.57849
		0.85288	45.66358	0.685	9.95637	0.68832	76.64526

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.85288	45.80088	0.685	10.02502	0.68832	76.81197
		0.85288	45.92837	0.68334	9.90425	0.68666	76.91796
		0.85122	45.9041	0.68168	9.75405	0.68666	77.13371
		0.85122	46.02178	0.68168	9.75405	0.685	77.26913
		0.85122	46.12966	0.68002	9.57444	0.68334	77.42416
		0.84956	46.09559	0.68002	9.57444	0.68334	77.66933
		0.84956	46.20346	0.67836	9.39483	0.68168	77.85378
		0.84956	46.32114	0.67836	9.39483	0.68002	78.32262
		0.8479	46.44398	0.6767	9.21522	0.68002	78.94044
		0.8479	46.60089	0.6767	9.21522	0.67836	79.18373
		0.8479	46.7676	0.67504	9.03561	0.67836	79.53677
		0.84624	46.81199	0.67504	9.03561	0.6767	79.79968
		0.84624	46.98851	0.67338	8.85599	0.6767	80.16252
		0.84624	47.17483	0.67172	8.67638	0.67504	80.44504
		0.84624	47.35135	0.67172	8.67638	0.67338	80.69814
		0.84458	47.40555	0.67006	8.57522	0.67338	81.04137
		0.84458	47.56245	0.67006	8.63406	0.67172	81.26505
		0.84458	47.85665	0.6684	8.45445	0.67172	81.82403
		0.84292	47.85201	0.6684	8.49368	0.67006	81.97906
		0.84292	47.95988	0.66674	8.37291	0.67006	82.19481
		0.84126	47.92581	0.66674	8.45136	0.6684	82.32042
		0.84126	48.00426	0.66508	8.27175	0.6684	82.53616
		0.84126	48.0533	0.66342	8.15098	0.66674	82.63235

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.84126	48.10233	0.66342	8.25885	0.66674	82.82849
		0.8396	47.97019	0.66176	8.13808	0.66508	82.92468
		0.8396	47.97019	0.66176	8.25576	0.66508	83.111
		0.83794	47.83806	0.6601	8.29189	0.66342	83.19739
		0.83794	47.83806	0.6601	8.50764	0.66176	83.29357
		0.83794	47.83806	0.65844	8.62223	0.66176	83.66623
		0.83794	47.87729	0.65844	9.03411	0.6601	83.78203
		0.83628	47.78438	0.65678	8.60263	0.6601	83.99778
		0.83628	47.78438	0.65678	8.62896	0.65844	84.1332
		0.83628	47.8236	0.65512	8.92316	0.65844	84.37836
		0.83462	47.76011	0.65512	9.19466	0.65678	84.5432
		0.83462	47.84837	0.65346	9.35156	0.65678	84.81779
		0.83462	47.8876	0.6518	9.32886	0.65512	85.01204
		0.83296	47.83392	0.6518	9.67209	0.65346	85.2063
		0.83296	48.01044	0.65014	9.669	0.65346	85.76528
		0.83296	48.08889	0.65014	9.84552	0.6518	85.93992
		0.8313	48.06463	0.64848	9.85224	0.6518	86.18509
		0.8313	48.23134	0.64848	10.02876	0.65014	86.32051
		0.8313	48.52555	0.64682	10.03548	0.65014	86.54606
		0.82964	48.54051	0.64682	10.04219	0.64848	86.66186
		0.82964	48.69742	0.64516	10.22852	0.64848	86.858
		0.82964	48.86413	0.6435	10.21562	0.64682	86.95419
		0.82798	48.89871	0.6435	10.53924	0.64516	87.05038

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.82798	49.07523	0.64184	10.51654	0.64516	87.41322
		0.82798	49.37924	0.64184	10.66364	0.6435	87.51922
		0.82632	49.2471	0.64018	10.64093	0.6435	87.70555
		0.82632	49.50208	0.64018	10.78803	0.64184	87.80174
		0.82632	49.60014	0.63852	10.75552	0.64184	87.99787
		0.82466	49.57588	0.63852	10.89281	0.64018	88.10387
		0.82466	49.68375	0.63686	10.8505	0.64018	88.3
		0.82466	49.79163	0.63686	10.77876	0.63852	88.4158
		0.823	49.78698	0.6352	10.87682	0.63852	88.63155
		0.823	49.93408	0.6352	10.77567	0.63686	88.76697
		0.823	50.24789	0.63354	10.89335	0.63686	88.99252
		0.82134	50.28247	0.63188	10.75296	0.6352	89.13774
		0.82134	50.44919	0.63188	10.75296	0.63354	89.49871
		0.82134	50.60609	0.63022	10.57335	0.63354	89.71446
		0.81968	50.63086	0.63022	10.57335	0.63188	89.83026
		0.81968	50.77796	0.62856	10.39374	0.63188	90.0264
		0.81968	50.90545	0.62856	10.39374	0.63022	90.12259
		0.81802	50.9008	0.6269	10.21413	0.63022	90.29911
		0.81802	51.02829	0.6269	10.03451	0.62856	90.35607
		0.81802	51.14597	0.62524	10.03451	0.62856	90.50317
		0.81636	51.12171	0.62524	9.78625	0.6269	90.55033
		0.81636	51.35707	0.62358	9.74703	0.62524	90.75439
		0.81636	51.48456	0.62192	9.56742	0.62524	90.9113

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.8147	51.48971	0.62192	9.56742	0.62358	90.98787
		0.8147	51.64662	0.62026	9.3878	0.62358	91.16439
		0.8147	51.81333	0.62026	9.43684	0.62192	91.26058
		0.81304	51.83811	0.6186	9.32587	0.62192	91.45672
		0.81304	52.01463	0.6186	9.41413	0.62026	91.56271
		0.81304	52.19115	0.61694	9.23452	0.62026	91.77846
		0.81138	52.22572	0.61694	9.24124	0.6186	91.89426
		0.81138	52.54935	0.61528	9.30988	0.6186	92.1002
		0.81138	52.68664	0.61362	9.26756	0.61694	92.21601
		0.81138	52.82393	0.61362	9.38525	0.61694	92.6377
		0.80972	52.80948	0.61196	9.39196	0.61528	92.73388
		0.80972	52.93697	0.61196	9.71558	0.61362	92.83007
		0.80806	52.92251	0.6103	9.94785	0.61362	93.00659
		0.80806	53.0598	0.6103	10.53625	0.61196	93.08317
		0.80806	53.1971	0.60864	10.49393	0.61196	93.24008
		0.80806	53.354	0.60864	10.592	0.6103	93.28723
		0.8064	53.5553	0.60698	10.48104	0.6103	93.42453
		0.8064	53.74162	0.60698	10.34065	0.60864	93.46188
		0.80474	53.79581	0.60532	10.34065	0.60864	93.65801
		0.80474	53.98214	0.60366	10.16104	0.60698	93.65613
		0.80474	54.17828	0.60366	10.16104	0.60532	93.65425
		0.80474	54.3646	0.602	9.98143	0.60532	93.73271
		0.80308	54.40899	0.602	9.98143	0.60366	93.73083

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.80308	54.60512	0.60034	9.80182	0.60366	93.81909
		0.80308	54.78164	0.60034	9.80182	0.602	93.81721
		0.80142	54.82603	0.59868	9.6222	0.602	93.92509
		0.80142	55.00255	0.59868	9.48182	0.60034	93.95263
		0.80142	55.34578	0.59702	9.56027	0.60034	94.24683
		0.79976	55.38036	0.59702	9.42969	0.59868	94.33321
		0.79976	55.52746	0.59536	9.52776	0.59868	94.53915
		0.79976	55.68437	0.5937	9.4168	0.59702	94.67457
		0.7981	55.67972	0.5937	9.54428	0.59536	94.83941
		0.7981	55.80721	0.59204	9.44312	0.59536	95.10419
		0.7981	55.92489	0.59204	9.59022	0.5937	95.29844
		0.79644	55.88101	0.59038	9.58713	0.5937	95.59264
		0.79644	55.94966	0.59038	9.84211	0.59204	95.79671
		0.79644	56.04772	0.58872	10.07438	0.59204	96.10071
		0.79478	55.91559	0.58872	10.4078	0.59038	96.31458
		0.79478	55.91559	0.58706	10.40471	0.59038	96.9226
		0.79478	55.91559	0.5854	10.40162	0.58872	97.12666
		0.79312	55.82268	0.5854	10.55853	0.58706	97.35034
		0.79312	55.82268	0.58374	10.52602	0.58706	97.65435
		0.79312	55.86191	0.58374	10.6437	0.5854	97.89764
		0.79146	55.79842	0.58208	10.56215	0.5854	98.22126
		0.79146	55.88668	0.58208	10.6308	0.58374	98.48416
		0.79146	55.93571	0.58042	10.51003	0.58374	98.84701

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.7898	55.92126	0.58042	10.6179	0.58208	99.13933
		0.7898	56.47043	0.57876	10.43829	0.58208	99.89445
		0.78814	56.80902	0.5771	10.49713	0.58042	100.1672
		0.78814	56.99534	0.5771	10.38616	0.58042	100.5202
		0.78814	57.18167	0.57544	10.29481	0.57876	100.7635
		0.78648	57.22606	0.57544	10.34385	0.57876	101.0969
		0.78648	57.39277	0.57378	10.25249	0.5771	101.3108
		0.78648	57.55948	0.57378	10.33095	0.57544	101.5247
		0.78482	57.60387	0.57212	10.29844	0.57544	101.8091
		0.78482	57.7902	0.57212	10.60244	0.57378	101.9935
		0.78482	58.19227	0.57046	10.56013	0.57378	102.2485
		0.78316	58.26607	0.57046	10.85433	0.57212	102.3741
		0.78316	58.48182	0.5688	10.8022	0.57212	102.7566
		0.78316	58.68776	0.56714	10.75008	0.57046	102.8135
		0.7815	58.76157	0.56714	10.85795	0.57046	102.9214
		0.7815	58.94789	0.56548	10.74699	0.5688	102.9195
		0.7815	59.11461	0.56548	10.80583	0.5688	102.9685
		0.77984	59.12957	0.56382	10.66544	0.56714	102.9274
		0.77984	59.34532	0.56382	10.66544	0.56548	102.8667
		0.77984	59.40416	0.56216	10.48583	0.56548	102.9059
		0.77984	59.40416	0.56216	10.48583	0.56382	102.8158
		0.77818	59.27202	0.5605	10.25718	0.56382	102.9727
		0.77818	59.27202	0.55884	10.19834	0.56216	102.8826

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.77818	59.27202	0.55884	9.95008	0.56216	103.0493
		0.77652	59.13989	0.55718	9.95008	0.5605	103.0474
		0.77652	59.09086	0.55718	9.77047	0.5605	103.2239
		0.77486	58.89988	0.55552	9.55163	0.55884	103.4672
		0.77486	58.82143	0.55552	9.51241	0.55884	103.6339
		0.77486	58.82143	0.55386	9.33279	0.55718	103.6909
		0.77486	58.82143	0.55386	9.33279	0.55552	103.7283
		0.7732	58.68929	0.5522	9.15318	0.55552	103.8263
		0.7732	58.73832	0.5522	9.15318	0.55386	103.8244
		0.77154	58.69445	0.55054	9.0128	0.55386	103.9323
		0.77154	58.76309	0.55054	9.08144	0.5522	103.8716
		0.77154	58.90039	0.54888	8.99009	0.5522	103.8716
		0.76988	58.88593	0.54722	8.85951	0.55054	103.7815
		0.76988	59.35665	0.54722	8.93797	0.55054	103.7815
		0.76988	59.69008	0.54556	8.83681	0.54888	103.7404
		0.76988	60.151	0.54556	8.9741	0.54888	103.7992
		0.76822	60.12673	0.5439	8.89256	0.54722	103.7875
		0.76822	60.20519	0.5439	9.03966	0.54556	103.7464
		0.76656	60.16131	0.54224	9.33077	0.54556	103.8543
		0.76656	60.24957	0.54224	9.49439	0.5439	103.8916
		0.76656	60.33783	0.54058	9.56304	0.5439	104.4702
		0.76656	60.4359	0.54058	9.45207	0.54224	105.0469
		0.7649	60.42144	0.53892	9.54033	0.54224	105.3608

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.7649	60.54893	0.53726	9.43917	0.54058	105.5746
		0.7649	60.83333	0.53726	9.48512	0.54058	105.8786
		0.76324	60.8581	0.5356	9.65183	0.53892	106.0925
		0.76324	61.015	0.5356	9.80565	0.53726	106.2868
		0.76324	61.1621	0.53394	9.96255	0.53726	106.581
		0.76158	61.17707	0.53394	9.93004	0.5356	106.7752
		0.76158	61.31436	0.53228	10.04772	0.5356	107.3146
		0.76158	61.44185	0.53228	9.95637	0.53394	107.5088
		0.75992	61.44701	0.53062	10.02502	0.53394	107.7736
		0.75992	61.5843	0.53062	9.90425	0.53228	107.9581
		0.75992	61.90792	0.52896	9.75405	0.53228	108.2327
		0.75826	61.95231	0.5273	9.75405	0.53062	108.4073
		0.75826	62.14844	0.5273	9.57444	0.53062	108.6623
		0.75826	62.34458	0.52564	9.57444	0.52896	108.8173
		0.7566	62.40857	0.52564	9.39483	0.52896	109.0429
		0.7566	62.61451	0.52398	9.39483	0.5273	109.345
		0.7566	62.80084	0.52398	9.21522	0.52564	109.4412
		0.75494	62.83542	0.52232	9.21522	0.52564	109.6079
		0.75494	62.99233	0.52232	9.03561	0.52398	109.6845
		0.75494	63.12962	0.52066	9.03561	0.52398	109.8414
		0.75328	63.09555	0.52066	8.85599	0.52232	109.9278
		0.75328	63.26226	0.519	8.67638	0.52232	110.1141
		0.75328	63.33091	0.51734	8.67638	0.52066	110.2103

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.75162	63.25762	0.51734	8.57522	0.52066	110.4064
		0.75162	63.30665	0.51568	8.63406	0.519	110.5124
		0.75162	63.3753	0.51568	8.45445	0.51734	110.7949
		0.74996	63.33142	0.51402	8.49368	0.51734	110.9616
		0.74996	63.39026	0.51402	8.37291	0.51568	111.0088
		0.74996	63.49813	0.51236	8.45136	0.51568	111.1559
		0.7483	63.46407	0.51236	8.27175	0.51402	111.1834
		0.7483	63.92498	0.5107	8.15098	0.51402	111.3207
		0.7483	64.05247	0.50904	8.25885	0.51236	111.3777
		0.74664	64.05763	0.50904	8.13808	0.51236	111.5346
		0.74664	64.18511	0.50738	8.25576	0.5107	111.621
		0.74664	64.30279	0.50738	8.29189	0.5107	111.8171
		0.74498	64.28834	0.50572	8.50764	0.50904	111.9427
		0.74498	64.3864	0.50572	8.62223	0.50738	112.0879
		0.74498	64.48447	0.50406	9.03411	0.50738	112.5979
		0.74498	64.57273	0.50406	8.60263	0.50572	112.7823
		0.74332	64.53866	0.5024	8.62896	0.50572	113.0373
		0.74332	64.63673	0.5024	8.92316	0.50406	113.2022
		0.74166	64.71053	0.50074	9.19466	0.50406	113.4179
		0.74166	64.82821	0.50074	9.35156	0.5024	113.5435
		0.74166	64.9557	0.49908	9.32886	0.5024	113.7495
		0.74166	65.08319	0.49742	9.67209	0.50074	113.8456
		0.74	65.09815	0.49742	9.669	0.50074	114.0516

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.74	65.27467	0.49576	9.84552	0.49908	114.4126
		0.73834	65.30925	0.49576	9.85224	0.49742	114.5774
		0.73834	65.49558	0.4941	10.02876	0.49742	114.8618
		0.73834	65.68191	0.4941	10.03548	0.49576	115.0658
		0.73834	66.05456	0.49244	10.04219	0.49576	115.3797
		0.73668	66.09895	0.49244	10.22852	0.4941	115.6328
		0.73668	66.26566	0.49078	10.21562	0.4941	115.976
		0.73668	66.41276	0.49078	10.53924	0.49244	116.2291
		0.73502	66.42772	0.48912	10.51654	0.49244	116.5723
		0.73502	66.56502	0.48746	10.66364	0.49078	117.1294
		0.73502	66.69251	0.48746	10.64093	0.49078	117.4236
		0.73336	66.68786	0.4858	10.78803	0.48912	117.5983
		0.73336	66.81534	0.4858	10.75552	0.48746	117.7435
		0.73336	66.93302	0.48414	10.89281	0.48746	117.9396
		0.7317	66.90876	0.48414	10.8505	0.4858	118.0162
		0.7317	67.1147	0.48248	10.77876	0.4858	118.1535
		0.7317	67.19316	0.48248	10.87682	0.48414	118.1712
		0.73004	67.13947	0.48082	10.77567	0.48414	118.2301
		0.73004	67.19831	0.48082	10.89335	0.48248	118.1988
		0.73004	67.24735	0.47916	10.75296	0.48248	118.238
		0.72838	67.11521	0.4775	10.75296	0.48082	118.1479
		0.72838	67.15444	0.4775	10.57335	0.47916	118.0577
		0.72838	67.20347	0.47584	10.57335	0.47916	118.0577

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.72672	67.13018	0.47584	10.39374	0.4775	117.9676
		0.72672	67.13018	0.47418	10.39374	0.4775	117.9676
		0.72672	67.28708	0.47418	10.21413	0.47584	117.8774
		0.72506	67.2334	0.47252	10.03451	0.47584	117.8774
		0.72506	67.40011	0.47252	10.03451	0.47418	117.7873
		0.72506	67.72374	0.47086	9.78625	0.47418	117.8265
		0.7234	67.79754	0.47086	9.74703	0.47252	117.7364
		0.7234	67.98387	0.4692	9.56742	0.47252	117.9129
		0.7234	68.18981	0.46754	9.56742	0.47086	117.9405
		0.72174	68.27342	0.46754	9.3878	0.47086	118.1268
		0.72174	68.46955	0.46588	9.43684	0.4692	118.3897
		0.72174	68.8324	0.46588	9.32587	0.46754	118.7899
		0.72008	68.85717	0.46422	9.41413	0.46754	119.5744
		0.72008	68.98466	0.46422	9.23452	0.46588	119.7589
		0.72008	69.09253	0.46256	9.24124	0.46588	120.0335
		0.71842	69.04866	0.46256	9.30988	0.46422	120.1983
		0.71842	69.1173	0.4609	9.26756	0.46422	120.6886
		0.71842	69.18595	0.45924	9.38525	0.46256	120.8437
		0.71676	69.12246	0.45924	9.39196	0.46256	121.079
		0.71676	69.12246	0.45758	9.71558	0.4609	121.2341
		0.71676	69.1813	0.45758	9.94785	0.45924	121.3793
		0.7151	69.14723	0.45592	10.53625	0.45924	121.595
		0.7151	69.29433	0.45592	10.49393	0.45758	121.7108

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.7151	69.38259	0.45426	10.592	0.45758	121.8775
		0.71344	69.39756	0.45426	10.48104	0.45592	121.9247
		0.71344	69.70157	0.4526	10.34065	0.45592	122.0228
		0.71344	69.84867	0.4526	10.34065	0.45426	122.0111
		0.71344	69.98596	0.45094	10.16104	0.45426	122.0503
		0.71178	70.00093	0.45094	10.16104	0.4526	121.9602
		0.71178	70.12841	0.44928	9.98143	0.4526	121.9602
		0.71178	70.24609	0.44762	9.98143	0.45094	121.9093
		0.71012	70.34932	0.44762	9.80182	0.45094	121.9681
		0.71012	70.45719	0.44596	9.80182	0.44928	121.927
		0.70846	70.43293	0.44596	9.6222	0.44762	121.9447
		0.70846	70.5408	0.4443	9.48182	0.44762	122.1311
		0.70846	70.65848	0.4443	9.56027	0.44596	122.4136
		0.70846	70.76636	0.44264	9.42969	0.44596	123.6688
		0.7068	70.7519	0.44264	9.52776	0.4443	124.0592
		0.7068	70.84997	0.44098	9.4168	0.4443	124.5496
		0.70514	70.8159	0.44098	9.54428	0.44264	124.9105
		0.70514	70.90416	0.43932	9.44312	0.44264	125.3322
		0.70514	71.04145	0.43766	9.59022	0.44098	125.5951
		0.70514	71.10029	0.43766	9.58713	0.44098	125.8795
		0.70348	71.01719	0.436	9.84211	0.43932	126.0247
		0.70348	71.01719	0.436	10.07438	0.43766	126.1013
		0.70348	71.05642	0.43434	10.4078	0.43766	126.2288

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.70182	70.98312	0.43434	10.40471	0.436	126.2465
		0.70182	71.04196	0.43268	10.40162	0.436	126.4329
		0.70182	71.091	0.43268	10.55853	0.43434	126.4506
		0.70016	71.03731	0.43102	10.52602	0.43434	126.5781
		0.70016	71.12557	0.43102	10.6437	0.43268	126.6449
		0.70016	71.68456	0.42936	10.56215	0.43268	126.841
		0.6985	71.77797	0.4277	10.6308	0.43102	126.947
		0.6985	72.02314	0.4277	10.51003	0.42936	127.0726
		0.6985	72.26831	0.42604	10.6179	0.42936	127.2785
		0.69684	72.39115	0.42604	10.43829	0.4277	127.3747
		0.69684	72.62651	0.42438	10.49713	0.4277	127.6787
		0.69684	72.85206	0.42438	10.38616	0.42604	127.7063
		0.69518	72.92587	0.42272	10.29481	0.42604	127.8141
		0.69518	73.09258	0.42272	10.34385	0.42438	127.8123
		0.69518	73.23968	0.42106	10.25249	0.42438	127.9201
		0.69352	73.23503	0.42106	10.33095	0.42272	127.9379
		0.69352	73.41155	0.4194	10.29844	0.42272	128.0752
		0.69352	73.49001	0.41774	10.60244	0.42106	128.1419
		0.69186	73.42652	0.41774	10.56013	0.4194	128.2577
		0.69186	73.50497	0.41608	10.85433	0.4194	128.4539
		0.69186	73.58342	0.41608	10.8022	0.41774	128.5991
		0.6902	73.51013	0.41442	10.75008	0.41774	129.06
		0.6902	73.6082	0.41442	10.85795	0.41608	129.1954

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.6902	73.96124	0.41276	10.74699	0.41608	129.3916
		0.68854	73.9762	0.41276	10.80583	0.41442	129.4681
		0.68854	74.1233	0.4111	10.66544	0.41442	129.6349
		0.68854	74.28021	0.40944	10.66544	0.41276	129.6722
		0.68688	74.29517	0.40944	10.48583	0.41276	129.7997
		0.68688	74.44227	0.40778	10.48583	0.4111	129.8272
		0.68688	74.56976	0.40778	10.25718	0.40944	129.845
		0.68522	74.56511	0.40612	10.19834	0.40944	130.0901
		0.68522	74.68279	0.40612	9.95008	0.40778	130.1177
		0.68522	74.80047	0.40446	9.95008	0.40778	130.255
		0.68356	74.87428	0.40446	9.77047	0.40612	130.2825
		0.68356	74.97234	0.4028	9.55163	0.40612	130.4002
		0.68356	75.08022	0.4028	9.51241	0.40446	130.4277
		0.6819	75.05596	0.40114	9.33279	0.40446	130.5454
		0.6819	75.16383	0.40114	9.33279	0.4028	130.5926
		0.6819	75.29132	0.39948	9.15318	0.4028	130.7201
		0.68024	75.26705	0.39782	9.15318	0.40114	130.7966
		0.68024	75.39454	0.39782	9.0128	0.39948	131.0497
		0.68024	75.50242	0.39616	9.08144	0.39948	131.0497
		0.68024	75.6201	0.39616	8.99009	0.39782	131.3519
		0.67858	75.59583	0.3945	8.85951	0.39782	131.548
		0.67858	75.79197	0.3945	8.93797	0.39616	131.6442
		0.67858	75.88023	0.39284	8.83681	0.39616	131.8109

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.67692	75.83635	0.39284	8.9741	0.3945	131.8679
		0.67692	75.92461	0.39118	8.89256	0.3945	132.0052
		0.67526	75.88074	0.38952	9.03966	0.39284	132.0229
		0.67526	75.9788	0.38952	9.33077	0.39284	132.1406
		0.67526	76.08668	0.38786	9.49439	0.39118	132.276
		0.67526	76.18474	0.38786	9.56304	0.38952	132.3231
		0.6736	76.16048	0.3862	9.45207	0.38952	132.4801
		0.6736	76.37623	0.3862	9.54033	0.38786	132.5566
		0.67194	76.33235	0.38454	9.43917	0.38786	132.7528
		0.67194	76.41081	0.38454	9.48512	0.3862	132.8588
		0.67194	76.48926	0.38288	9.65183	0.3862	133.0549
		0.67194	76.56771	0.38288	9.80565	0.38454	133.1609
		0.67028	76.50423	0.38122	9.96255	0.38454	133.3374
		0.67028	76.58268	0.38122	9.93004	0.38288	133.5415
		0.67028	76.70036	0.37956	10.04772	0.38122	133.5592
		0.66862	76.6859	0.3779	9.95637	0.38122	133.6377
		0.66862	76.833	0.3779	10.02502	0.37956	133.6162
		0.66862	76.98991	0.37624	9.90425	0.37956	133.6848
		0.66696	77.21082	0.37624	9.75405	0.3779	133.6535
		0.66696	77.39714	0.37458	9.75405	0.3779	133.6535
		0.66696	77.56386	0.37458	9.57444	0.37624	133.632
		0.6653	77.60824	0.37292	9.57444	0.37624	133.7399
		0.6653	77.77496	0.37292	9.39483	0.37458	133.7282

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.6653	77.94167	0.37126	9.39483	0.37458	133.8851
		0.66364	77.95664	0.37126	9.21522	0.37292	134.3736
		0.66364	78.10374	0.3696	9.21522	0.37126	134.5384
		0.66364	78.24103	0.36794	9.03561	0.37126	134.8228
		0.66198	78.40309	0.36794	9.03561	0.3696	135.0269
		0.66198	78.55019	0.36628	8.85599	0.3696	135.3407
		0.66198	78.6973	0.36628	8.67638	0.36794	135.5938
		0.66032	78.73187	0.36462	8.67638	0.36794	135.9174
		0.66032	78.87897	0.36462	8.57522	0.36628	136.1509
		0.66032	79.02607	0.36296	8.63406	0.36628	136.7883
		0.65866	79.03123	0.36296	8.45445	0.36462	136.9826
		0.65866	79.14891	0.3613	8.49368	0.36296	137.1572
		0.65866	79.2764	0.35964	8.37291	0.36296	137.3926
		0.657	79.25214	0.35964	8.45136	0.3613	137.4986
		0.657	79.45808	0.35798	8.27175	0.3613	137.6653
		0.657	79.55615	0.35798	8.15098	0.35964	137.7026
		0.65534	79.53188	0.35632	8.25885	0.35964	137.8007
		0.65534	79.62995	0.35632	8.13808	0.35798	137.7792
		0.65534	79.74763	0.35466	8.25576	0.35798	137.8381
		0.65368	79.72337	0.35466	8.29189	0.35632	137.797
		0.65368	79.84105	0.353	8.50764	0.35632	137.797
		0.65368	79.95873	0.353	8.62223	0.35466	137.746
		0.65202	79.95408	0.35134	9.03411	0.35466	137.7951

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.65202	80.07176	0.35134	8.60263	0.353	137.7638
		0.65202	80.19925	0.34968	8.62896	0.35134	137.7227
		0.65036	80.29267	0.34802	8.92316	0.35134	137.8207
		0.65036	80.39073	0.34802	9.19466	0.34968	137.8581
		0.65036	80.4888	0.34636	9.35156	0.34968	138.0836
		0.6487	80.46454	0.34636	9.32886	0.34802	138.4348
		0.6487	80.58222	0.3447	9.67209	0.34802	138.8859
		0.6487	80.7097	0.3447	9.669	0.34636	138.7958
		0.64704	80.72467	0.34304	9.84552	0.34636	139.2273
		0.64704	80.89138	0.34304	9.85224	0.3447	139.3431
		0.64704	81.07771	0.34138	10.02876	0.34304	139.4393
		0.64538	81.36726	0.33972	10.03548	0.34304	139.606
		0.64538	81.60262	0.33972	10.04219	0.34138	139.6727
		0.64538	81.8576	0.33806	10.22852	0.34138	139.8297
		0.64372	81.98044	0.33806	10.21562	0.33972	139.867
		0.64372	82.23541	0.3364	10.53924	0.33972	139.9945
		0.64372	82.47077	0.3364	10.51654	0.33806	140.1201
		0.64206	82.56419	0.33474	10.66364	0.33806	140.2084
		0.64206	82.76032	0.33474	10.64093	0.3364	140.1967
		0.64206	82.91723	0.33308	10.78803	0.3364	140.2653
		0.64206	83.06433	0.33308	10.75552	0.33474	140.234
		0.6404	83.04007	0.33142	10.89281	0.33474	140.2929
		0.6404	83.14794	0.32976	10.8505	0.33308	140.2027

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.6404	83.14794	0.32976	10.77876	0.33142	140.1518
		0.63874	83.01581	0.3281	10.87682	0.33142	140.2009
		0.63874	83.01581	0.3281	10.77567	0.32976	140.1597
		0.63874	82.97658	0.32644	10.89335	0.32976	140.1597
		0.63708	82.7856	0.32644	10.75296	0.3281	140.1383
		0.63708	82.71696	0.32478	10.75296	0.3281	140.3148
		0.63708	82.71696	0.32478	10.57335	0.32644	140.3717
		0.63542	82.52598	0.32312	10.57335	0.32644	140.6659
		0.63542	82.45733	0.32312	10.39374	0.32478	140.7229
		0.63542	82.37888	0.32146	10.39374	0.32478	140.8896
		0.63376	82.24674	0.32146	10.21413	0.32312	140.9564
		0.63376	82.24674	0.3198	10.03451	0.32146	141.0232
		0.63376	82.28597	0.31814	10.03451	0.32146	141.1801
		0.6321	82.22248	0.31814	9.78625	0.3198	141.237
		0.6321	82.33035	0.31648	9.74703	0.3198	141.5116
		0.6321	82.399	0.31648	9.56742	0.31814	141.5588
		0.63044	82.40416	0.31482	9.56742	0.31814	141.6764
		0.63044	82.54145	0.31482	9.3878	0.31648	141.7334
		0.63044	83.07101	0.31316	9.43684	0.31648	141.8707
		0.62878	83.36057	0.31316	9.32587	0.31482	141.9277
		0.62878	83.97839	0.3115	9.41413	0.31316	142.0042
		0.62878	84.1451	0.30984	9.23452	0.31316	142.1906
		0.62712	84.14045	0.30984	9.24124	0.3115	142.3064

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.62712	84.24833	0.30818	9.30988	0.3115	142.7771
		0.62712	84.32678	0.30818	9.26756	0.30984	142.9517
		0.62546	84.24368	0.30652	9.38525	0.30984	143.2361
		0.62546	84.29271	0.30652	9.39196	0.30818	143.4304
		0.62546	84.29271	0.30486	9.71558	0.30818	143.7148
		0.6238	84.23903	0.30486	9.94785	0.30652	143.909
		0.6238	84.23903	0.3032	10.53625	0.30652	144.1738
		0.6238	84.28806	0.3032	10.49393	0.30486	144.3387
		0.62214	84.21477	0.30154	10.592	0.30486	144.5642
		0.62214	84.30303	0.30154	10.48104	0.3032	144.68
		0.62214	84.34225	0.29988	10.34065	0.30154	144.7762
		0.62048	84.29838	0.29822	10.34065	0.30154	145.1096
		0.62048	84.38664	0.29822	10.16104	0.29988	145.1862
		0.62048	84.53374	0.29656	10.16104	0.29988	145.3431
		0.61882	84.67619	0.29656	9.98143	0.29822	145.4099
		0.61882	84.91155	0.2949	9.98143	0.29822	145.557
		0.61882	85.03904	0.2949	9.80182	0.29656	145.6139
		0.61716	85.02458	0.29324	9.80182	0.29656	145.7512
		0.61716	85.15207	0.29324	9.6222	0.2949	145.7886
		0.61716	85.28936	0.29158	9.48182	0.29324	145.8063
		0.6155	85.29452	0.28992	9.56027	0.29324	145.973
		0.6155	85.44162	0.28992	9.42969	0.29158	145.9417
		0.6155	85.59853	0.28826	9.52776	0.29158	146.0104

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.61384	85.6233	0.28826	9.4168	0.28992	145.9791
		0.61384	85.7704	0.2866	9.54428	0.28992	146.0477
		0.61384	86.03518	0.2866	9.44312	0.28826	146.0066
		0.61218	86.02073	0.28494	9.59022	0.28826	146.1047
		0.61218	86.1286	0.28494	9.58713	0.2866	146.1224
		0.61218	86.23647	0.28328	9.84211	0.2866	146.3774
		0.61218	86.34435	0.28328	10.07438	0.28494	146.4344
		0.61052	86.31028	0.28162	10.4078	0.28494	146.7188
		0.61052	86.41815	0.27996	10.40471	0.28328	146.7463
		0.60886	86.38408	0.27996	10.40162	0.28162	146.764
		0.60886	86.48215	0.2783	10.55853	0.28162	146.8621
		0.60886	86.71751	0.2783	10.52602	0.27996	146.8406
		0.60886	86.71751	0.27664	10.6437	0.27996	146.9093
		0.6072	86.85016	0.27664	10.56215	0.2783	146.8878
		0.6072	86.97764	0.27498	10.6308	0.2783	146.9662
		0.60554	86.96319	0.27498	10.51003	0.27664	146.9447
		0.60554	87.06126	0.27332	10.6179	0.27664	147.0526
		0.60554	87.15932	0.27332	10.43829	0.27498	147.09
		0.60554	87.22797	0.27166	10.49713	0.27332	147.5686
		0.60388	87.16448	0.27	10.38616	0.27332	147.8236
		0.60388	87.22332	0.27	10.29481	0.27166	148.008
		0.60388	87.22332	0.26834	10.34385	0.27166	148.2826
		0.60222	87.16964	0.26834	10.25249	0.27	148.4769

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.60222	87.21867	0.26668	10.33095	0.27	148.7613
		0.60222	87.21867	0.26668	10.29844	0.26834	148.9457
		0.60056	87.13557	0.26502	10.60244	0.26834	149.2007
		0.60056	87.19441	0.26502	10.56013	0.26668	149.3361
		0.60056	87.25325	0.26336	10.85433	0.26668	149.7186
		0.5989	87.12111	0.26336	10.8022	0.26502	149.7853
		0.5989	87.18976	0.2617	10.75008	0.26336	149.8129
		0.5989	87.27802	0.26004	10.85795	0.26336	149.911
		0.59724	87.19492	0.26004	10.74699	0.2617	149.9091
		0.59724	87.29298	0.25838	10.80583	0.2617	149.9777
		0.59724	87.49893	0.25838	10.66544	0.26004	149.9464
		0.59558	87.60215	0.25672	10.66544	0.26004	150.0053
		0.59558	87.71983	0.25672	10.48583	0.25838	149.9544
		0.59558	87.8277	0.25506	10.48583	0.25838	150.0328
		0.59392	87.82306	0.25506	10.25718	0.25672	150.1094
		0.59392	87.94074	0.2534	10.19834	0.25672	150.2761
		0.59392	88.06822	0.2534	9.95008	0.25506	150.5684
		0.59226	88.06357	0.25174	9.95008	0.25506	150.8038
		0.59226	88.20087	0.25008	9.77047	0.2534	150.949
		0.59226	88.45584	0.25008	9.55163	0.25174	151.1138
		0.5906	88.461	0.24842	9.51241	0.25174	151.3492
		0.5906	88.59829	0.24842	9.33279	0.25008	151.4944
		0.5906	88.74539	0.24676	9.33279	0.25008	151.7004

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.58894	88.76036	0.24676	9.15318	0.24842	151.7867
		0.58894	88.91727	0.2451	9.15318	0.24842	152.0515
		0.58894	89.07417	0.2451	9.0128	0.24676	152.03
		0.58728	89.08914	0.24344	9.08144	0.24676	152.0693
		0.58728	89.23624	0.24344	8.99009	0.2451	151.9791
		0.58728	89.37353	0.24178	8.85951	0.24344	151.889
		0.58562	89.37869	0.24012	8.93797	0.24344	151.8203
		0.58562	89.64347	0.24012	8.83681	0.24178	151.6321
		0.58562	89.78076	0.23846	8.9741	0.24178	151.5537
		0.58396	89.77612	0.23846	8.89256	0.24012	151.3361
		0.58396	89.9036	0.2368	9.03966	0.24012	151.1693
		0.58396	90.03109	0.2368	9.33077	0.23846	150.8046
		0.5823	90.02644	0.23514	9.49439	0.23846	150.7556
		0.5823	90.14412	0.23514	9.56304	0.2368	150.6654
		0.5823	90.25199	0.23348	9.45207	0.2368	150.7145
		0.58064	90.22773	0.23182	9.54033	0.23514	150.7126
		0.58064	90.41406	0.23182	9.43917	0.23514	150.8009
		0.58064	90.49251	0.23016	9.48512	0.23348	150.8971
		0.58064	90.57097	0.23016	9.65183	0.23182	151.1894
		0.57898	90.50748	0.2285	9.80565	0.23182	151.3659
		0.57898	90.56632	0.2285	9.96255	0.23016	151.4327
		0.57898	90.64477	0.22684	9.93004	0.23016	151.6876
		0.57732	90.56167	0.22684	10.04772	0.2285	151.6956

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.57732	90.64012	0.22518	9.95637	0.2285	151.774
		0.57732	90.72838	0.22518	10.02502	0.22684	151.7427
		0.57566	90.79238	0.22352	9.90425	0.22684	151.7918
		0.57566	90.91987	0.22352	9.75405	0.22518	151.7408
		0.57566	91.17484	0.22186	9.75405	0.22352	151.6899
		0.574	91.17019	0.2202	9.57444	0.22352	151.6899
		0.574	91.28787	0.2202	9.57444	0.22186	151.5998
		0.574	91.39575	0.21854	9.39483	0.22186	151.6586
		0.57234	91.37149	0.21854	9.39483	0.2202	151.6371
		0.57234	91.44994	0.21688	9.21522	0.2202	151.7646
		0.57234	91.54801	0.21688	9.21522	0.21854	151.7529
		0.57068	91.47471	0.21522	9.03561	0.21854	151.851
		0.57068	91.54336	0.21522	9.03561	0.21688	151.908
		0.57068	91.6022	0.21356	8.85599	0.21688	152.1924
		0.56902	91.51909	0.21356	8.67638	0.21522	152.2297
		0.56902	91.56813	0.2119	8.67638	0.21356	152.2867
		0.56902	91.62697	0.21024	8.57522	0.21356	152.4534
		0.56736	91.49483	0.21024	8.63406	0.2119	152.5104
		0.56736	91.54387	0.20858	8.45445	0.2119	152.8536
		0.56736	91.61251	0.20858	8.49368	0.21024	152.9498
		0.5657	91.55883	0.20692	8.37291	0.21024	153.1263
		0.5657	91.60786	0.20692	8.45136	0.20858	153.1931
		0.5657	91.68632	0.20526	8.27175	0.20858	153.3598

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.56404	91.78954	0.20526	8.15098	0.20692	153.4167
		0.56404	92.05432	0.2036	8.25885	0.20692	153.554
		0.56404	92.1622	0.20194	8.13808	0.20526	153.5718
		0.56238	92.15755	0.20194	8.25576	0.20526	153.6698
		0.56238	92.27523	0.20028	8.29189	0.2036	153.6582
		0.56238	92.39291	0.20028	8.50764	0.20194	153.6367
		0.56072	92.36865	0.19862	8.62223	0.20194	153.774
		0.56072	92.48633	0.19862	9.03411	0.20028	153.7231
		0.56072	92.5942	0.19696	8.60263	0.20028	153.7819
		0.55906	92.58955	0.19696	8.62896	0.19862	153.7898
		0.55906	92.71704	0.1953	8.92316	0.19862	153.8487
		0.55906	92.96221	0.1953	9.19466	0.19696	153.8566
		0.5574	92.96736	0.19364	9.35156	0.19696	153.9449
		0.5574	93.09485	0.19364	9.32886	0.1953	154.0018
		0.5574	93.22234	0.19198	9.67209	0.19364	154.1961
		0.55574	93.2275	0.19032	9.669	0.19364	154.4412
		0.55574	93.35498	0.19032	9.84552	0.19198	154.4688
		0.55574	93.49228	0.18866	9.85224	0.19198	154.5865
		0.55408	93.48763	0.18866	10.02876	0.19032	154.6238
		0.55408	93.61512	0.187	10.03548	0.19032	154.7513
		0.55408	93.82106	0.187	10.04219	0.18866	154.8181
		0.55242	93.77718	0.18534	10.22852	0.18866	154.975
		0.55242	93.83602	0.18534	10.21562	0.187	155.0515

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.55242	93.88505	0.18368	10.53924	0.187	155.2183
		0.55076	93.75292	0.18202	10.51654	0.18534	155.2948
		0.55076	93.75292	0.18202	10.66364	0.18534	155.4223
		0.55076	93.75292	0.18036	10.64093	0.18368	155.5479
		0.5491	93.62078	0.18036	10.78803	0.18202	155.5264
		0.5491	93.62078	0.1787	10.75552	0.18202	155.5853
		0.5491	93.62078	0.1787	10.89281	0.18036	155.5442
		0.54744	93.48865	0.17704	10.8505	0.18036	155.5932
		0.54744	93.5671	0.17538	10.77876	0.1787	155.5031
		0.54744	93.5671	0.17538	10.87682	0.1787	155.5815
		0.54744	93.61613	0.17372	10.77567	0.17704	155.5993
		0.54578	93.57226	0.17372	10.89335	0.17704	155.9131
		0.54578	93.6409	0.17206	10.75296	0.17538	156.3329
		0.54578	93.7782	0.1704	10.75296	0.17372	156.5468
		0.54412	93.75394	0.1704	10.57335	0.17372	156.8606
		0.54412	93.94026	0.16874	10.57335	0.17206	157.0744
		0.54246	94.07291	0.16874	10.39374	0.17206	157.3392
		0.54246	94.58286	0.16708	10.39374	0.1704	157.4844
		0.54246	94.68092	0.16708	10.21413	0.1704	157.6414
		0.54246	94.76918	0.16542	10.03451	0.16874	157.6493
		0.5408	94.70569	0.16542	10.03451	0.16874	157.6493
		0.5408	94.76453	0.16376	9.78625	0.16708	157.5591
		0.53914	94.70105	0.1621	9.74703	0.16708	157.4709

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.53914	94.70105	0.1621	9.56742	0.16542	157.2631
		0.53914	94.76969	0.16044	9.56742	0.16376	156.9376
		0.53914	94.84815	0.16044	9.3878	0.16376	156.4374
		0.53748	94.76504	0.15878	9.43684	0.1621	156.0531
		0.53748	94.93176	0.15878	9.32587	0.1621	155.6902
		0.53748	95.07886	0.15712	9.41413	0.16044	155.1098
		0.53582	95.24092	0.15712	9.23452	0.16044	125.4151
		0.53582	95.40764	0.15546	9.24124	0.15878	117.6561
		0.53582	95.59396	0.15546	9.30988	0.15878	115.685
		0.53416	95.64816	0.1538	9.26756	0.15712	112.8097
		0.53416	95.84429	0.15214	9.38525	0.15712	112.3488
		0.53416	96.04042	0.15214	9.39196	0.15546	112.2292
		0.5325	96.09461	0.15048	9.71558	0.15546	112.1998
		0.5325	96.27114	0.15048	9.94785	0.1538	112.0901
		0.5325	96.41824	0.14882	10.53625	0.15214	112.0588
		0.53084	96.53127	0.14882	10.49393	0.15214	112.1863
		0.53084	96.61953	0.14716	10.592	0.15048	112.2236
		0.53084	96.69798	0.14716	10.48104	0.15048	112.4492
		0.52918	96.6443	0.1455	10.34065	0.14882	112.5061
		0.52918	96.71295	0.14384	10.34065	0.14882	112.9082
		0.52918	96.7914	0.14384	10.16104	0.14716	113.0632
		0.52752	96.73772	0.14218	10.16104	0.14716	113.1711
		0.52752	96.78675	0.14218	9.98143	0.1455	113.2771

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.52752	96.97308	0.14052	9.98143	0.14384	113.236
		0.52586	97.04688	0.14052	9.80182	0.14384	113.3733
		0.52586	97.16456	0.13886	9.80182	0.14218	113.3028
		0.52586	97.29205	0.13886	9.6222	0.14218	113.4008
		0.5242	97.26779	0.1372	9.48182	0.14052	113.3303
		0.5242	97.38547	0.1372	9.56027	0.14052	113.3303
		0.5242	97.48354	0.13554	9.42969	0.13886	113.299
		0.52254	97.44947	0.13554	9.52776	0.13886	113.4069
		0.52254	97.53773	0.13388	9.4168	0.1372	113.3167
		0.52254	97.60637	0.13222	9.54428	0.1372	113.3167
		0.52088	97.54288	0.13222	9.44312	0.13554	113.2266
		0.52088	97.60172	0.13056	9.59022	0.13554	113.2756
		0.52088	97.60172	0.13056	9.58713	0.13388	113.2541
		0.51922	97.50882	0.1289	9.84211	0.13222	113.2327
		0.51922	97.55785	0.1289	10.07438	0.13222	113.2327
		0.51922	97.61669	0.12724	10.4078	0.13056	113.221
		0.51756	97.48455	0.12724	10.40471	0.13056	113.27
		0.51756	97.54339	0.12558	10.40162	0.1289	113.1799
		0.51756	97.63165	0.12392	10.55853	0.1289	113.1799
		0.51756	97.71011	0.12392	10.52602	0.12724	113.0897
		0.5159	97.85256	0.12226	10.6437	0.12558	112.9996
		0.5159	98.09773	0.12226	10.56215	0.12558	112.9604
		0.51424	98.40689	0.1206	10.6308	0.12392	112.8212

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.51424	98.59322	0.1206	10.51003	0.12392	112.7525
		0.51424	98.77955	0.11894	10.6179	0.12226	112.6624
		0.51424	98.93645	0.11894	10.43829	0.12226	112.6134
		0.51258	98.95142	0.11728	10.49713	0.1206	112.4644
		0.51258	99.08871	0.11728	10.38616	0.1206	112.4154
		0.51258	99.20639	0.11562	10.29481	0.11894	112.3252
		0.51092	99.18213	0.11562	10.34385	0.11894	112.3252
		0.51092	99.29	0.11396	10.25249	0.11728	112.2351
		0.50926	99.33439	0.1123	10.33095	0.11728	112.2841
		0.50926	99.41284	0.1123	10.29844	0.11562	112.2626
		0.50926	99.47168	0.11064	10.60244	0.11396	112.2706
		0.50926	99.54033	0.11064	10.56013	0.11396	112.3196
		0.5076	99.45723	0.10898	10.85433	0.1123	112.406
		0.5076	99.45723	0.10898	10.8022	0.1123	112.5138
		0.5076	99.45723	0.10732	10.75008	0.11064	112.6002
		0.50594	99.36432	0.10732	10.85795	0.11064	112.816
		0.50594	99.36432	0.10566	10.74699	0.10898	112.9808
		0.50594	99.36432	0.10566	10.80583	0.10898	113.3142
		0.50428	99.23218	0.104	10.66544	0.10732	113.3026
		0.50428	99.23218	0.10234	10.66544	0.10566	113.2909
		0.50428	99.23218	0.10234	10.48583	0.10566	113.3693
		0.50262	99.10005	0.10068	10.48583	0.104	113.4655
		0.50262	99.10005	0.10068	10.25718	0.104	113.5734

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.50262	99.10005	0.09902	10.19834	0.10234	113.6009
		0.50096	98.96791	0.09902	9.95008	0.10234	113.7382
		0.50096	98.96791	0.09736	9.95008	0.10068	113.7952
		0.50096	99.00714	0.09736	9.77047	0.10068	113.9717
		0.4993	98.92403	0.0957	9.55163	0.09902	114.0581
		0.4993	98.92403	0.09404	9.51241	0.09902	114.2542
		0.4993	99.01229	0.09404	9.33279	0.09736	114.3602
		0.49764	98.9488	0.09238	9.33279	0.09736	114.5662
		0.49764	98.9488	0.09238	9.15318	0.0957	114.682
		0.49764	99.02726	0.09072	9.15318	0.09404	114.9743
		0.49598	99.003	0.09072	9.0128	0.09404	115.1508
		0.49598	99.06184	0.08906	9.08144	0.09238	115.2274
		0.49598	99.17952	0.08906	8.99009	0.09238	115.3745
		0.49432	99.12583	0.0874	8.85951	0.09072	115.4216
		0.49432	99.45926	0.0874	8.93797	0.09072	115.5589
		0.49432	99.71424	0.08574	8.83681	0.08906	115.5767
		0.49266	99.92533	0.08408	8.9741	0.08906	115.714
		0.49266	100.0136	0.08408	8.89256	0.0874	115.7513
		0.49266	100.1019	0.08242	9.03966	0.08574	115.9456
		0.491	100.058	0.08242	9.33077	0.08574	116.0927
		0.491	100.1659	0.08076	9.49439	0.08408	116.1594
		0.491	100.2835	0.08076	9.56304	0.08408	116.3065
		0.48934	100.2691	0.0791	9.45207	0.08242	116.3439

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.48934	100.4064	0.0791	9.54033	0.08242	116.4518
		0.48934	100.5633	0.07744	9.43917	0.08076	116.4499
		0.48768	100.7646	0.07744	9.48512	0.08076	116.5087
		0.48768	100.9411	0.07578	9.65183	0.0791	116.4774
		0.48768	101.098	0.07412	9.80565	0.0791	116.5167
		0.48602	101.1228	0.07412	9.96255	0.07744	116.4265
		0.48602	101.2601	0.07246	9.93004	0.07578	116.3364
		0.48602	101.3679	0.07246	10.04772	0.07578	116.3364
		0.48436	101.3045	0.0708	9.95637	0.07412	116.2462
		0.48436	101.3633	0.0708	10.02502	0.07412	116.2168
		0.48436	101.4025	0.06914	9.90425	0.07246	116.0776
		0.4827	101.2704	0.06914	9.75405	0.07246	116.0188
		0.4827	101.2312	0.06748	9.75405	0.0708	115.9287
		0.4827	101.1821	0.06582	9.57444	0.0708	115.8796
		0.48104	101.001	0.06582	9.57444	0.06914	115.711
		0.48104	101.001	0.06416	9.39483	0.06914	115.5836
		0.48104	101.001	0.06416	9.39483	0.06748	115.4346
		0.48104	101.001	0.0625	9.21522	0.06582	115.2464
		0.47938	100.8688	0.0625	9.21522	0.06582	115.1973
		0.47938	100.9179	0.06084	9.03561	0.06416	115.0386
		0.47938	100.9865	0.06084	9.03561	0.06416	114.9895
		0.47772	100.9328	0.05918	8.85599	0.0625	114.9288
		0.47772	101.0505	0.05752	8.67638	0.0625	115.0073

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.47606	100.9772	0.05752	8.67638	0.06084	115.025
		0.47606	101.0949	0.05586	8.57522	0.06084	115.1034
		0.47606	101.1733	0.05586	8.63406	0.05918	115.3369
		0.47606	101.3008	0.0542	8.45445	0.05918	115.6606
		0.4744	101.3256	0.0542	8.49368	0.05752	115.6783
		0.4744	101.5217	0.05254	8.37291	0.05586	115.6862
		0.4744	101.5413	0.05254	8.45136	0.05586	115.7647
		0.47274	101.4092	0.05088	8.27175	0.0542	115.7432
		0.47274	101.4092	0.05088	8.15098	0.0542	115.8118
		0.47274	101.4092	0.04922	8.25885	0.05254	115.7903
		0.47108	101.3163	0.04756	8.13808	0.05254	115.7903
		0.47108	101.3555	0.04756	8.25576	0.05088	115.759
		0.47108	101.3947	0.0459	8.29189	0.05088	115.8375
		0.46942	101.2626	0.0459	8.50764	0.04922	115.8356
		0.46942	101.2626	0.04424	8.62223	0.04922	115.8945
		0.46942	101.3215	0.04424	9.03411	0.04756	115.8043
		0.46776	101.258	0.04258	8.60263	0.0459	115.7142
		0.46776	101.3364	0.04258	8.62896	0.0459	115.7142
		0.46776	101.3855	0.04092	8.92316	0.04424	115.624
		0.4661	101.3122	0.03926	9.19466	0.04424	115.5848
		0.4661	101.3906	0.03926	9.35156	0.04258	115.4162
		0.4661	101.3906	0.0376	9.32886	0.04258	115.2593
		0.46444	101.2879	0.0376	9.67209	0.04092	115.0515

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.46444	101.3369	0.03594	9.669	0.04092	114.9534
		0.46444	101.3958	0.03594	9.84552	0.03926	114.726
		0.46278	101.2636	0.03428	9.85224	0.03926	114.5397
		0.46278	101.2636	0.03428	10.02876	0.0376	114.2338
		0.46278	101.3029	0.03262	10.03548	0.03594	114.1535
		0.46112	101.2884	0.03262	10.04219	0.03594	114.1535
		0.46112	101.2884	0.03096	10.22852	0.03428	114.0633
		0.46112	101.3178	0.03096	10.21562	0.03428	114.1123
		0.45946	101.2445	0.0293	10.53924	0.03262	114.0712
		0.45946	101.3132	0.02764	10.51654	0.03262	114.1105
		0.45946	101.3524	0.02764	10.66364	0.03096	114.0203
		0.4578	101.2889	0.02598	10.64093	0.03096	114.0203
		0.4578	101.3968	0.02598	10.78803	0.0293	113.891
		0.4578	101.4556	0.02432	10.75552	0.02764	113.742
		0.45614	101.4412	0.02432	10.89281	0.02764	113.6733
		0.45614	101.6863	0.02266	10.8505	0.02598	113.5832
		0.45614	101.9217	0.02266	10.77876	0.02598	113.5342
		0.45448	102.1818	0.021	10.87682	0.02432	113.3754
		0.45448	102.3387	0.021	10.77567	0.02432	113.2871
		0.45448	102.4956	0.01934	10.89335	0.02266	113.197
		0.45282	102.5204	0.01768	10.75296	0.02266	113.0401
		0.45282	102.6577	0.01768	10.75296	0.021	112.9107
		0.45282	102.795	0.01602	10.57335	0.021	112.8421

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.45116	102.7707	0.01602	10.57335	0.01934	112.6637
		0.45116	102.8688	0.01436	10.39374	0.01934	112.6637
		0.45116	103.0159	0.01436	10.39374	0.01768	112.5245
		0.45116	103.0846	0.0127	10.21413	0.01602	112.3755
		0.4495	103.0113	0.0127	10.03451	0.01602	112.3265
		0.4495	103.0505	0.01104	10.03451	0.01436	112.2364
		0.44784	102.9184	0.01104	9.78625	0.01436	112.3344
		0.44784	102.9184	0.00938	9.74703	0.0127	112.3325
		0.44784	102.9184	0.00772	9.56742	0.0127	112.3914
		0.44784	102.9576	0.00772	9.56742	0.01104	112.3993
		0.44618	102.8254	0.00606	9.3878	0.01104	112.4876
		0.44618	102.8254	0.00606	9.43684	0.00938	112.5445
		0.44618	102.8254	0.0044	9.32587	0.00938	112.7603
		0.44452	102.6933	0.0044	9.41413	0.00772	112.984
		0.44452	102.6933	0.00274	9.23452	0.00606	113.0115
		0.44452	102.6933	0.00274	9.24124	0.00606	113.1292
		0.44286	102.5612	0.00108	9.30988	0.0044	113.3136
		0.44286	102.5612	0.00108	9.26756	0.0044	113.4509
		0.44286	102.5612			0.00274	113.5079
		0.4412	102.4781			0.00274	113.6648
		0.4412	102.5369			0.00108	113.7218
		0.4412	102.5369			0.00108	113.8983
		0.43954	102.5715				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.43954	102.6107				
		0.43954	102.699				
		0.43788	102.6159				
		0.43788	102.7139				
		0.43788	102.7728				
		0.43622	102.7485				
		0.43622	102.8074				
		0.43622	102.9152				
		0.43456	102.8615				
		0.43456	102.9694				
		0.43456	103.1459				
		0.4329	103.3668				
		0.4329	103.4453				
		0.4329	103.5139				
		0.43124	103.4505				
		0.43124	103.4995				
		0.43124	103.5485				
		0.42958	103.4164				
		0.42958	103.4654				
		0.42958	103.5145				
		0.42792	103.4804				
		0.42792	103.549				
		0.42792	103.6373				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.42626	103.5738				
		0.42626	103.6719				
		0.42626	103.7405				
		0.4246	103.7163				
		0.4246	103.7849				
		0.4246	103.8732				
		0.42294	103.7803				
		0.42294	103.8293				
		0.42294	103.8881				
		0.42128	103.756				
		0.42128	103.756				
		0.42128	103.756				
		0.41962	103.6239				
		0.41962	103.6533				
		0.41962	103.7121				
		0.41796	103.6486				
		0.41796	103.6879				
		0.41796	103.7761				
		0.41796	103.9821				
		0.4163	103.948				
		0.4163	104.1441				
		0.4163	104.4187				
		0.41464	104.7181				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.41464	104.875				
		0.41464	105.0123				
		0.41298	105.0174				
		0.41298	105.1351				
		0.41298	105.3312				
		0.41132	105.2972				
		0.41132	105.3854				
		0.41132	105.4639				
		0.40966	105.4102				
		0.40966	105.4887				
		0.40966	105.5475				
		0.408	105.484				
		0.408	105.533				
		0.408	105.533				
		0.40634	105.4892				
		0.40634	105.5382				
		0.40634	105.5382				
		0.40468	105.4061				
		0.40468	105.4551				
		0.40468	105.5237				
		0.40302	105.4799				
		0.40302	105.5191				
		0.40302	105.5975				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.40136	105.5635				
		0.40136	105.7008				
		0.40136	106.2401				
		0.3997	106.2061				
		0.3997	106.2943				
		0.3997	106.3728				
		0.39804	106.2995				
		0.39804	106.3485				
		0.39804	106.3877				
		0.39638	106.2556				
		0.39638	106.2556				
		0.39638	106.2556				
		0.39472	106.1235				
		0.39472	106.2117				
		0.39472	106.2706				
		0.39306	106.1384				
		0.39306	106.1384				
		0.39306	106.1384				
		0.3914	106.0455				
		0.3914	106.0946				
		0.3914	106.1436				
		0.38974	106.0115				
		0.38974	106.0115				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.38974	106.0115				
		0.38808	105.8793				
		0.38808	105.8401				
		0.38808	105.7813				
		0.38642	105.5805				
		0.38642	105.5805				
		0.38642	105.5805				
		0.38476	105.4483				
		0.38476	105.4189				
		0.38476	105.3797				
		0.38476	105.3797				
		0.3831	105.2476				
		0.3831	105.2476				
		0.3831	105.2476				
		0.38144	105.1645				
		0.38144	105.2331				
		0.38144	105.3214				
		0.37978	105.2285				
		0.37978	105.3952				
		0.37978	105.4442				
		0.37812	105.4199				
		0.37812	105.4886				
		0.37812	105.6259				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.37646	105.5722				
		0.37646	105.6899				
		0.37646	105.8664				
		0.3748	105.9304				
		0.3748	106.156				
		0.3748	106.4894				
		0.37314	106.4063				
		0.37314	106.4651				
		0.37314	106.5141				
		0.37148	106.382				
		0.37148	106.431				
		0.37148	106.5095				
		0.36982	106.4558				
		0.36982	106.5049				
		0.36982	106.5931				
		0.36816	106.5394				
		0.36816	106.9905				
		0.36816	107.1671				
		0.3665	107.2016				
		0.3665	107.388				
		0.3665	107.5939				
		0.36484	107.6677				
		0.36484	107.8736				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.36484	108.0796				
		0.36318	108.1436				
		0.36318	108.4966				
		0.36318	108.6535				
		0.36152	108.6391				
		0.36152	108.7568				
		0.36152	108.8254				
		0.35986	108.7619				
		0.35986	108.7619				
		0.35986	108.7619				
		0.3582	108.6298				
		0.3582	108.6298				
		0.3582	108.6298				
		0.35654	108.4976				
		0.35654	108.4976				
		0.35654	108.4976				
		0.35488	108.3165				
		0.35488	108.2674				
		0.35488	108.2184				
		0.35322	108.0863				
		0.35322	108.0863				
		0.35322	108.0863				
		0.35156	107.9149				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.35156	107.8463				
		0.35156	107.8463				
		0.35156	107.8463				
		0.3499	107.7141				
		0.3499	107.7141				
		0.3499	107.7141				
		0.34824	107.582				
		0.34824	107.5428				
		0.34824	107.4839				
		0.34658	107.2831				
		0.34658	107.2243				
		0.34658	107.1262				
		0.34492	106.9451				
		0.34492	106.8666				
		0.34492	106.8078				
		0.34326	106.5776				
		0.34326	106.5187				
		0.34326	106.4109				
		0.3416	106.2199				
		0.3416	106.0728				
		0.3416	105.9943				
		0.33994	105.7935				
		0.33994	105.6366				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.33994	104.7736				
		0.33828	67.85657				
		0.33828	62.87477				
		0.33828	61.98236				
		0.33662	60.66361				
		0.33662	60.46748				
		0.33662	60.09482				
		0.33496	59.90385				
		0.33496	59.84501				
		0.33496	59.84501				
		0.3333	59.69326				
		0.3333	59.69326				
		0.3333	59.70307				
		0.33164	59.59054				
		0.33164	59.64938				
		0.33164	59.8259				
		0.32998	59.69377				
		0.32998	59.91932				
		0.32998	59.99777				
		0.32832	60.00293				
		0.32832	60.05197				
		0.32832	60.15003				
		0.32666	60.0277				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.32666	60.0277				
		0.32666	60.07674				
		0.325	59.98383				
		0.325	59.98383				
		0.325	59.98383				
		0.32334	59.85169				
		0.32334	59.85169				
		0.32334	59.80266				
		0.32168	59.61168				
		0.32168	59.53323				
		0.32168	59.53323				
		0.32002	59.36187				
		0.32002	59.31283				
		0.32002	59.2638				
		0.31836	59.13166				
		0.31836	59.13166				
		0.31836	59.1807				
		0.31836	59.23954				
		0.3167	59.18585				
		0.3167	59.18585				
		0.31504	59.11256				
		0.31504	59.19101				
		0.31504	59.23024				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.31504	59.37734				
		0.31338	59.2452				
		0.31338	59.30404				
		0.31338	59.3923				
		0.31172	59.28959				
		0.31172	59.36804				
		0.31006	59.32417				
		0.31006	59.36339				
		0.31006	59.5203				
		0.31006	59.55953				
		0.3084	59.49604				
		0.3084	59.5941				
		0.30674	59.5012				
		0.30674	59.57965				
		0.30674	59.6483				
		0.30674	59.76598				
		0.30508	59.71229				
		0.30508	59.99669				
		0.30508	60.26147				
		0.30342	60.21759				
		0.30342	60.29605				
		0.30342	60.38431				
		0.30176	60.33063				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.30176	60.40908				
		0.30176	60.47773				
		0.3001	60.41424				
		0.3001	60.47308				
		0.3001	60.47308				
		0.29844	60.43901				
		0.29844	60.48804				
		0.29844	60.48804				
		0.29678	60.35591				
		0.29678	60.35591				
		0.29678	60.35591				
		0.29512	60.22377				
		0.29512	60.22377				
		0.29512	60.22377				
		0.29346	60.09163				
		0.29346	60.09163				
		0.29346	60.09163				
		0.2918	59.9595				
		0.2918	59.9595				
		0.2918	59.93008				
		0.29014	59.79794				
		0.29014	59.79794				
		0.29014	59.79794				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.28848	59.66581				
		0.28848	59.66581				
		0.28848	59.71484				
		0.28682	59.66116				
		0.28682	59.70038				
		0.28682	59.78864				
		0.28516	59.71535				
		0.28516	59.84283				
		0.28516	59.93109				
		0.2835	59.91664				
		0.2835	60.08335				
		0.2835	60.30891				
		0.28184	60.72595				
		0.28184	61.0986				
		0.28184	61.15744				
		0.28018	61.10376				
		0.28018	61.17241				
		0.28018	61.26067				
		0.28018	61.34893				
		0.27852	61.31486				
		0.27852	61.43254				
		0.27686	61.50634				
		0.27686	61.60441				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.27686	61.71228				
		0.27686	61.79074				
		0.2752	61.73705				
		0.2752	61.79589				
		0.27354	61.7226				
		0.27354	61.77163				
		0.27354	61.77163				
		0.27354	61.77163				
		0.27188	61.6395				
		0.27188	61.6395				
		0.27188	61.6395				
		0.27022	61.46813				
		0.27022	61.40929				
		0.26856	61.21832				
		0.26856	61.21832				
		0.26856	61.21832				
		0.26856	61.1889				
		0.2669	61.01753				
		0.2669	60.97831				
		0.2669	60.97831				
		0.26524	60.8854				
		0.26524	60.93443				
		0.26524	61.00308				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.26358	60.87094				
		0.26358	60.91998				
		0.26358	60.99843				
		0.26192	60.90552				
		0.26192	60.99378				
		0.26192	61.18991				
		0.26026	61.14604				
		0.26026	61.28333				
		0.26026	61.45985				
		0.2586	61.58269				
		0.2586	61.64153				
		0.2586	61.70037				
		0.25694	61.61727				
		0.25694	61.6565				
		0.25694	61.6565				
		0.25528	61.56359				
		0.25528	61.61262				
		0.25528	61.67146				
		0.25362	61.53932				
		0.25362	61.58836				
		0.25362	61.6472				
		0.25196	61.60332				
		0.25196	61.60332				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.25196	61.67197				
		0.2503	61.65751				
		0.2503	61.70655				
		0.2503	61.77519				
		0.24864	61.64306				
		0.24864	61.64306				
		0.24864	61.64306				
		0.24698	61.51092				
		0.24698	61.51092				
		0.24698	61.51092				
		0.24532	61.37879				
		0.24532	61.37879				
		0.24532	61.33956				
		0.24366	61.15839				
		0.24366	61.10936				
		0.24366	61.10936				
		0.24366	61.10936				
		0.242	60.97722				
		0.242	60.97722				
		0.24034	60.84508				
		0.24034	60.84508				
		0.24034	60.84508				
		0.24034	60.84508				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.23868	60.71295				
		0.23868	60.71295				
		0.23868	60.71295				
		0.23702	60.62985				
		0.23702	60.7083				
		0.23702	60.74753				
		0.23536	60.71346				
		0.23536	60.79191				
		0.23536	60.9194				
		0.2337	60.97359				
		0.2337	61.66006				
		0.2337	62.15039				
		0.23204	62.63608				
		0.23204	62.72434				
		0.23204	62.78318				
		0.23038	62.70988				
		0.23038	62.74911				
		0.23038	62.74911				
		0.22872	62.61698				
		0.22872	62.61698				
		0.22872	62.61698				
		0.22706	62.48484				
		0.22706	62.48484				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.22706	62.48484				
		0.2254	62.3527				
		0.2254	62.3527				
		0.2254	62.3527				
		0.22374	62.22057				
		0.22374	62.22057				
		0.22374	62.22057				
		0.22208	62.0394				
		0.22208	61.98056				
		0.22208	61.91191				
		0.22042	61.77977				
		0.22042	61.74055				
		0.22042	61.69151				
		0.21876	61.49073				
		0.21876	61.49073				
		0.21876	61.38286				
		0.2171	61.16246				
		0.2171	61.16246				
		0.2171	61.11343				
		0.21544	60.91265				
		0.21544	60.83419				
		0.21544	60.83419				
		0.21378	60.70206				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.21378	60.66283				
		0.21378	60.6138				
		0.21212	60.43263				
		0.21212	60.43263				
		0.21212	60.43263				
		0.21046	60.34952				
		0.21046	60.41817				
		0.21046	60.49662				
		0.2088	60.36449				
		0.2088	60.43313				
		0.2088	60.52139				
		0.20714	60.42849				
		0.20714	60.55597				
		0.20714	60.64423				
		0.20714	60.68346				
		0.20548	60.62978				
		0.20548	60.669				
		0.20548	60.73765				
		0.20382	60.70358				
		0.20382	60.74281				
		0.20382	60.80165				
		0.20216	60.74797				
		0.20216	60.797				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.20216	60.797				
		0.2005	60.79235				
		0.2005	60.79235				
		0.2005	60.79235				
		0.19884	60.66022				
		0.19884	60.66022				
		0.19884	60.66022				
		0.19718	60.56731				
		0.19718	60.62615				
		0.19718	60.7046				
		0.19552	60.69014				
		0.19552	60.75879				
		0.19552	60.88628				
		0.19386	60.8326				
		0.19386	60.95028				
		0.19386	61.06796				
		0.1922	61.0535				
		0.1922	61.13195				
		0.1922	61.09273				
		0.19054	60.8331				
		0.19054	60.78407				
		0.19054	60.78407				
		0.18888	60.65194				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.18888	60.65194				
		0.18888	60.65194				
		0.18722	60.5198				
		0.18722	60.5198				
		0.18722	60.57864				
		0.18556	60.53476				
		0.18556	60.5838				
		0.18556	60.72109				
		0.1839	60.68702				
		0.1839	60.73606				
		0.1839	60.81451				
		0.18224	60.7216				
		0.18224	60.77063				
		0.18224	60.80986				
		0.18058	60.67772				
		0.18058	60.67772				
		0.18058	60.67772				
		0.17892	60.54559				
		0.17892	60.54559				
		0.17892	60.54559				
		0.17726	60.45268				
		0.17726	60.52133				
		0.17726	60.59978				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.17726	60.59978				
		0.1756	60.52648				
		0.1756	60.63436				
		0.17394	60.56106				
		0.17394	60.77681				
		0.17394	60.94352				
		0.17394	61.13966				
		0.17228	61.29192				
		0.17228	61.68418				
		0.17228	61.81167				
		0.17062	61.79721				
		0.17062	61.93451				
		0.17062	62.0718				
		0.16896	62.25348				
		0.16896	62.43				
		0.16896	62.59672				
		0.1673	62.62149				
		0.1673	62.74897				
		0.1673	62.84704				
		0.16564	62.77374				
		0.16564	62.81297				
		0.16564	62.81297				
		0.16398	62.61219				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.16398	62.51412				
		0.16398	62.43567				
		0.16232	62.17605				
		0.16232	62.00933				
		0.16232	61.72494				
		0.16066	61.50454				
		0.16066	61.42609				
		0.16066	61.35744				
		0.159	61.14685				
		0.159	61.11743				
		0.159	60.98014				
		0.15734	60.79897				
		0.15734	60.71071				
		0.15734	60.63225				
		0.15568	60.35302				
		0.15568	60.06862				
		0.15568	59.92152				
		0.15402	59.6619				
		0.15402	59.54422				
		0.15402	59.38731				
		0.15236	59.25518				
		0.15236	59.25518				
		0.15236	59.25518				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.1507	59.12304				
		0.1507	59.20149				
		0.1507	59.31917				
		0.14904	59.29491				
		0.14904	59.47143				
		0.14904	59.75583				
		0.14738	60.11402				
		0.14738	60.31016				
		0.14738	60.64359				
		0.14572	60.64874				
		0.14572	60.76642				
		0.14572	60.86449				
		0.14406	60.81081				
		0.14406	60.87946				
		0.14406	60.9383				
		0.1424	60.85519				
		0.1424	60.85519				
		0.1424	60.85519				
		0.14074	60.72306				
		0.14074	60.72306				
		0.14074	60.72306				
		0.14074	60.72306				
		0.13908	60.59092				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.13908	60.63015				
		0.13908	60.67918				
		0.13742	60.59608				
		0.13742	60.59608				
		0.13742	60.64511				
		0.13576	60.65027				
		0.13576	60.74834				
		0.13576	60.8366				
		0.1341	60.83195				
		0.1341	60.99866				
		0.1341	61.2046				
		0.13244	61.35686				
		0.13244	61.42551				
		0.13244	61.48435				
		0.13078	61.45028				
		0.13078	61.45028				
		0.13078	61.45028				
		0.12912	61.31814				
		0.12912	61.31814				
		0.12912	61.31814				
		0.12746	61.18601				
		0.12746	61.18601				
		0.12746	61.18601				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.1258	61.05387				
		0.1258	61.01465				
		0.1258	60.96561				
		0.12414	60.77464				
		0.12414	60.77464				
		0.12414	60.77464				
		0.12248	60.6425				
		0.12248	60.61308				
		0.12248	60.57385				
		0.12082	60.44172				
		0.12082	60.44172				
		0.12082	60.44172				
		0.11916	60.30958				
		0.11916	60.30958				
		0.11916	60.35861				
		0.1175	60.29513				
		0.1175	60.39319				
		0.1175	60.43242				
		0.11584	60.36893				
		0.11584	60.467				
		0.11584	60.6141				
		0.11418	60.531				
		0.11418	60.62906				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.11418	60.6781				
		0.11252	60.63422				
		0.11252	60.67345				
		0.11252	60.7519				
		0.11086	60.69822				
		0.11086	60.69822				
		0.11086	60.74725				
		0.1092	60.66415				
		0.1092	60.7328				
		0.1092	60.80144				
		0.10754	60.75757				
		0.10754	60.8066				
		0.10754	60.89486				
		0.10754	60.97331				
		0.10588	60.96867				
		0.10588	61.05693				
		0.10588	61.17461				
		0.10422	61.40532				
		0.10422	61.45435				
		0.10422	61.51319				
		0.10256	61.43009				
		0.10256	61.47912				
		0.10256	61.47912				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.1009	61.38621				
		0.1009	61.44505				
		0.1009	61.49409				
		0.09924	61.36195				
		0.09924	61.36195				
		0.09924	61.40118				
		0.09758	61.30827				
		0.09758	61.30827				
		0.09758	61.30827				
		0.09592	61.17613				
		0.09592	61.17613				
		0.09592	61.20555				
		0.09426	61.07342				
		0.09426	61.07342				
		0.09426	61.11264				
		0.0926	61.1178				
		0.0926	61.1178				
		0.0926	61.16684				
		0.09094	61.10335				
		0.09094	61.19161				
		0.09094	61.19161				
		0.08928	61.1085				
		0.08928	61.16734				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.08928	61.2458				
		0.08762	61.1627				
		0.08762	61.1627				
		0.08762	61.29999				
		0.08596	61.16785				
		0.08596	61.21689				
		0.08596	61.29534				
		0.0843	61.21224				
		0.0843	61.29069				
		0.0843	61.34953				
		0.08264	61.32527				
		0.08264	61.50179				
		0.08264	61.56063				
		0.08098	61.53637				
		0.08098	61.5854				
		0.08098	61.66385				
		0.07932	61.59056				
		0.07932	61.59056				
		0.07932	61.59056				
		0.07766	61.45842				
		0.07766	61.45842				
		0.07766	61.429				
		0.076	61.24783				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.076	61.1988				
		0.076	61.1988				
		0.07434	61.06666				
		0.07434	61.02744				
		0.07434	60.98821				
		0.07434	60.94898				
		0.07268	60.81685				
		0.07268	60.84627				
		0.07268	60.90511				
		0.07102	60.85143				
		0.07102	60.89065				
		0.07102	60.94949				
		0.06936	60.91542				
		0.06936	60.96446				
		0.06936	61.05272				
		0.0677	60.97942				
		0.0677	61.08729				
		0.0677	61.14614				
		0.06604	61.15129				
		0.06604	61.20033				
		0.06604	61.24936				
		0.06438	61.11722				
		0.06438	61.0878				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.06438	61.02896				
		0.06272	60.82818				
		0.06272	60.82818				
		0.06272	60.72031				
		0.06106	60.52933				
		0.06106	60.52933				
		0.06106	60.52933				
		0.0594	60.39719				
		0.0594	60.43642				
		0.0594	60.48546				
		0.05774	60.43177				
		0.05774	60.43177				
		0.05774	60.49061				
		0.05608	60.44674				
		0.05608	60.56442				
		0.05608	60.66248				
		0.05442	60.55977				
		0.05442	60.62842				
		0.05442	60.71668				
		0.05276	60.62377				
		0.05276	60.69241				
		0.05276	60.79048				
		0.0511	60.69757				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.0511	60.78583				
		0.0511	60.94274				
		0.04944	60.86944				
		0.04944	60.9577				
		0.04944	61.00674				
		0.04778	60.93344				
		0.04778	60.98247				
		0.04778	60.98247				
		0.04612	60.85034				
		0.04612	60.85034				
		0.04612	60.85034				
		0.04446	60.7182				
		0.04446	60.7182				
		0.04446	60.7182				
		0.0428	60.58607				
		0.0428	60.58607				
		0.0428	60.58607				
		0.04114	60.50296				
		0.04114	60.54219				
		0.04114	60.60103				
		0.03948	60.4689				
		0.03948	60.4689				
		0.03948	60.50812				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.03782	60.42502				
		0.03782	60.47405				
		0.03782	60.47405				
		0.03616	60.34192				
		0.03616	60.39095				
		0.03616	60.4596				
		0.03616	60.53805				
		0.0345	60.40592				
		0.0345	60.45495				
		0.0345	60.51379				
		0.03284	60.4503				
		0.03284	60.4503				
		0.03284	60.4503				
		0.03118	60.3672				
		0.03118	60.43584				
		0.03118	60.5143				
		0.02952	60.42139				
		0.02952	60.49004				
		0.02952	60.56849				
		0.02786	60.43635				
		0.02786	60.43635				
		0.02786	60.46577				
		0.0262	60.37286				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.0262	60.37286				
		0.0262	60.37286				
		0.02454	60.24073				
		0.02454	60.24073				
		0.02454	60.19169				
		0.02288	60.00072				
		0.02288	59.93207				
		0.02288	59.93207				
		0.02122	59.79994				
		0.02122	59.79994				
		0.02122	59.79994				
		0.01956	59.71683				
		0.01956	59.78548				
		0.01956	59.92277				
		0.0179	59.8789				
		0.0179	59.94754				
		0.0179	60.08484				
		0.01624	60.04096				
		0.01624	60.16845				
		0.01624	60.35478				
		0.01458	60.41878				
		0.01458	60.64433				
		0.01458	60.91892				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.01292	60.8162				
		0.01292	60.90446				
		0.01292	60.94369				
		0.01126	60.81155				
		0.01126	60.86059				
		0.01126	60.91943				
		0.0096	60.85594				
		0.0096	60.85594				
		0.0096	60.85594				
		0.00794	60.76303				
		0.00794	60.86109				
		0.00794	60.86109				
		0.00628	60.72896				
		0.00628	60.72896				
		0.00628	60.72896				
		0.00628	60.72896				
		0.00462	60.59682				
		0.00462	60.59682				
		0.00296	60.46469				
		0.00296	60.46469				
		0.00296	60.46469				
		0.00296	60.46469				
		0.0013	60.33255				

PVDF		CTS-PVDF		CTS/PFO-PVDF		FS/CTS/PFO-PVDF	
Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)	Distance (mm)	Force (μN)
		0.0013	60.38158				
		0.0013	60.42081				

Figure 34

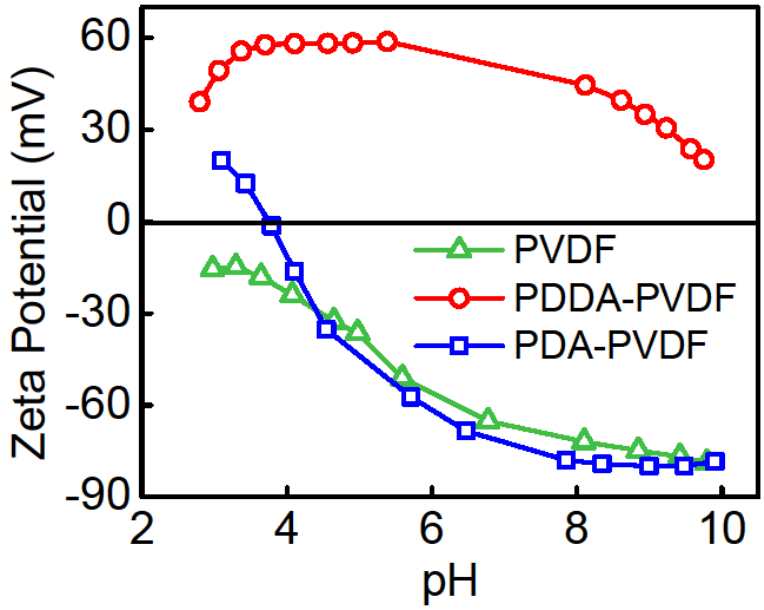

Figure 34.—Zeta potentials of the unmodified PVDF membrane (green triangles) and the PDDA/SiNPs-PVDF composite membrane (red circles) and PDA/SiNPs composite membrane (blue squares) as a function of pH. The background electrolyte concentration was 1 mM KCl.

PVDF		PDDA-PVDF		PDA-PVDF	
pH	Zeta (mV)	pH	Zeta (mV)	pH	Zeta (mV)
2.979196	-15.6172	2.797614	39.0611	3.10337	19.84236
3.296219	-14.846	3.06177	49.33064	3.428465	12.47038
3.642157	-18.087	3.369558	55.64764	3.787302	-1.4436
4.074568	-24.0149	3.704282	57.76859	4.107386	-16.2641
4.650736	-32.6177	4.105781	58.17435	4.549169	-35.3103
4.977538	-36.4013	4.562159	58.23206	5.71407	-57.3359
5.592207	-51.118	4.908343	58.36834	6.470975	-68.4731
6.774732	-65.1817	5.385571	58.83944	7.849961	-78.0131
8.100029	-71.9373	8.115613	44.51294	8.346376	-79.2159
8.848109	-74.8129	8.611762	39.62754	8.99618	-79.8973
9.420239	-76.85	8.93694	35.014	9.479774	-79.8031
9.793688	-78.7978	9.233453	30.53956	9.905928	-78.4001
		9.568276	23.74427		
		9.750958	20.23022		

Figure 35

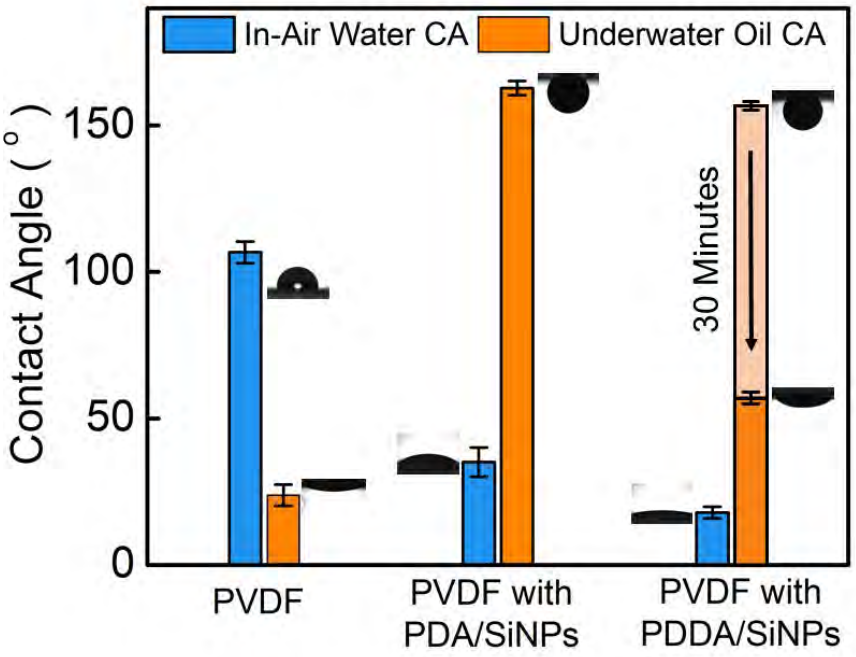

Figure 35.—Comparison of in-air water CA (blue bars) and underwater oil CA (orange bars) between the pristine PVDF membrane and the fabricated composite membranes.

	In-air Water CA (°)	Underwater Oil CA (°)
PVDF	96.7±3.7	23.8±3.6
PDA/SiNPs-PVDF	35.1±5	162.8±2.4
PDDA/SiNPs-PVDF	17.9±2	57.1±2

Figure 36

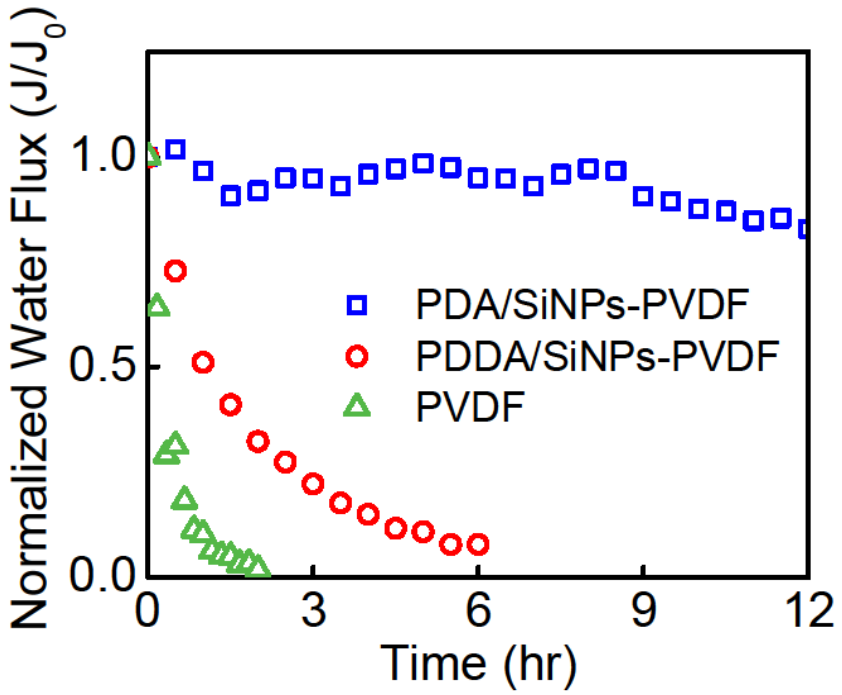

Figure 36.—Normalized water (vapor) flux for PDA/SiNPs-PVDF composite membranes (blue squares), PDDA/SiNPs-PVDF composite membrane (red circles), and pristine PVDF membrane (green triangles) with a saline feed solution containing 1000 ppm (% wt) crude oil in the DCMD experiments.

PVDF		PDDA/SiNPs-PVDF		PDA/SiNPs-PVDF	
Time (hr)	Normalized Flux	Time (hr)	Normalized Flux	Time (hr)	Normalized Flux
0	1	0	1	0	1
0.5	1.0177	0.5	0.72839	0.16667	0.63986
1	0.96624	1	0.51059	0.33333	0.29037
1.5	0.90696	1.5	0.41017	0.5	0.31169
2	0.91931	2	0.32246	0.66667	0.18152
2.5	0.94998	2.5	0.27331	0.83333	0.1124
3	0.94936	3	0.22161	1	0.10142
3.5	0.93125	3.5	0.17585	1.16667	0.06234
4	0.95883	4	0.14915	1.33333	0.05039
4.5	0.97139	4.5	0.1161	1.5	0.04845
5	0.98477	5	0.10763	1.66667	0.03036
5.5	0.97448	5.5	0.07754	1.83333	0.03198
6	0.94998	6	0.07712	2	0.01809
6.5	0.94936				
7	0.93125				
7.5	0.95883				

PVDF		PDDA/SiNPs-PVDF		PDA/SiNPs-PVDF	
Time (hr)	**Normalized Flux**	**Time (hr)**	**Normalized Flux**	**Time (hr)**	**Normalized Flux**
8	0.97139				
8.5	0.96748				
9	0.90613				
9.5	0.89337				
10	0.87567				
10.5	0.87073				
11	0.84809				
11.5	0.85385				
12	0.82832				

Figure 37

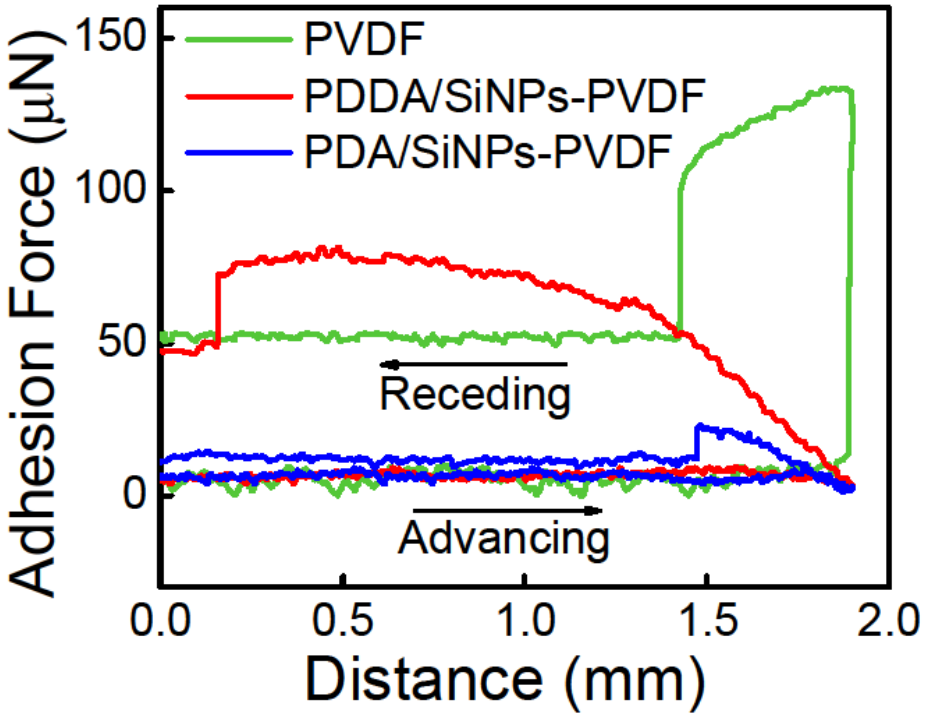

Figure 37.—Force curves for the interactions of a crude oil droplet with the pristine PVDF membrane (green curve), the PDA/SiNPs-PVDF membrane (blue curve) and the PDDA/SiNPs-PVDF membrane (red curve).

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.00	6.28	0.00	5.66	0.00	6.02
0.00	6.31	0.00	5.57	0.00	6.16
0.00	6.30	0.00	5.46	0.00	6.39
0.00	6.28	0.00	5.33	0.00	6.43
0.00	6.30	0.00	5.28	0.00	6.47
0.00	6.23	0.00	5.22	0.00	6.48
0.00	6.18	0.00	5.13	0.00	6.56
0.00	6.17	0.00	5.04	0.00	6.56
0.00	6.11	0.00	4.94	0.00	6.51
0.00	6.09	0.00	4.89	0.00	6.45
0.00	6.03	0.00	4.83	0.00	6.45
0.00	5.92	0.00	4.78	0.00	6.42
0.00	5.72	0.01	4.73	0.01	6.36
0.01	5.70	0.01	4.71	0.01	6.31
0.01	5.60	0.01	4.71	0.01	6.25

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.01	5.58	0.01	4.72	0.01	6.16
0.01	5.57	0.01	4.66	0.01	6.05
0.01	5.57	0.01	4.66	0.01	5.91
0.01	5.58	0.01	4.68	0.01	5.86
0.01	5.58	0.01	4.72	0.01	5.81
0.01	5.65	0.01	4.66	0.01	5.75
0.01	5.71	0.01	4.68	0.01	5.70
0.01	5.75	0.01	4.72	0.01	5.64
0.01	5.71	0.01	4.72	0.01	5.63
0.01	5.77	0.01	4.77	0.01	5.76
0.01	5.77	0.01	4.79	0.01	5.75
0.01	5.74	0.01	5.03	0.01	5.81
0.01	5.73	0.01	5.17	0.01	5.84
0.01	5.67	0.01	5.33	0.01	5.91
0.01	5.62	0.01	5.52	0.01	6.03
0.01	5.50	0.01	5.48	0.01	6.17
0.02	5.23	0.02	5.42	0.02	6.32
0.02	5.17	0.02	5.37	0.02	6.50
0.02	5.12	0.02	5.28	0.02	6.47
0.02	4.96	0.02	5.18	0.02	6.45
0.02	4.91	0.02	5.08	0.02	6.43
0.02	4.89	0.02	4.97	0.02	6.42
0.02	4.86	0.02	4.85	0.02	6.36
0.02	4.82	0.02	4.73	0.02	6.31
0.02	4.77	0.02	4.67	0.02	6.26
0.02	4.71	0.02	4.57	0.02	6.20
0.02	4.63	0.02	4.45	0.02	6.15
0.02	4.37	0.02	4.32	0.02	6.09
0.02	4.25	0.02	4.27	0.02	6.08
0.02	4.12	0.02	4.21	0.02	6.06
0.02	3.98	0.02	4.16	0.02	6.05
0.02	3.83	0.02	4.10	0.02	6.00
0.02	3.68	0.02	4.05	0.02	5.98
0.02	3.53	0.02	4.00	0.02	5.99
0.03	3.39	0.03	3.94	0.03	6.01
0.03	3.26	0.03	3.92	0.03	6.00
0.03	3.12	0.03	3.94	0.03	6.02
0.03	2.99	0.03	3.96	0.03	6.04
0.03	2.67	0.03	3.91	0.03	6.19

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.03	2.54	0.03	3.91	0.03	6.26
0.03	2.42	0.03	3.99	0.03	6.35
0.03	2.31	0.03	3.93	0.03	6.49
0.03	2.19	0.03	4.06	0.03	6.72
0.03	2.10	0.03	4.15	0.03	6.74
0.03	2.02	0.03	4.38	0.03	6.75
0.03	1.97	0.03	4.72	0.03	6.77
0.03	1.96	0.03	5.33	0.03	6.77
0.03	1.92	0.03	5.52	0.03	6.71
0.03	1.98	0.03	5.69	0.03	6.66
0.03	2.05	0.03	5.83	0.03	6.60
0.03	2.11	0.03	5.93	0.03	6.55
0.03	2.18	0.03	6.08	0.03	6.50
0.04	2.24	0.04	6.08	0.04	6.44
0.04	2.31	0.04	6.02	0.04	6.39
0.04	2.38	0.04	5.97	0.04	6.36
0.04	2.44	0.04	5.91	0.04	6.35
0.04	2.51	0.04	5.85	0.04	6.33
0.04	2.51	0.04	5.80	0.04	6.28
0.04	2.55	0.04	5.74	0.04	6.22
0.04	2.54	0.04	5.69	0.04	6.17
0.04	2.51	0.04	5.63	0.04	6.11
0.04	2.58	0.04	5.58	0.04	6.06
0.04	2.60	0.04	5.51	0.04	6.00
0.04	2.60	0.04	5.49	0.04	5.95
0.04	2.61	0.04	5.51	0.04	5.89
0.04	2.67	0.04	5.52	0.04	5.84
0.04	2.74	0.04	5.53	0.04	5.79
0.04	2.81	0.04	5.57	0.04	5.73
0.04	2.87	0.04	5.55	0.04	5.68
0.04	2.94	0.04	5.58	0.04	5.67
0.05	3.00	0.05	5.57	0.05	5.67
0.05	3.08	0.05	5.60	0.05	5.69
0.05	3.14	0.05	5.60	0.05	5.63
0.05	3.22	0.05	5.63	0.05	5.62
0.05	3.28	0.05	5.73	0.05	5.61
0.05	3.35	0.05	5.72	0.05	5.63
0.05	3.41	0.05	5.76	0.05	5.57
0.05	3.52	0.05	5.77	0.05	5.56

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.05	3.64	0.05	5.80	0.05	5.61
0.05	3.79	0.05	5.79	0.05	5.56
0.05	3.85	0.05	5.80	0.05	5.56
0.05	3.97	0.05	5.84	0.05	5.58
0.05	4.10	0.05	5.83	0.05	5.58
0.05	4.23	0.05	5.78	0.05	5.62
0.05	4.30	0.05	5.86	0.05	5.65
0.05	4.37	0.05	5.80	0.05	5.72
0.05	4.43	0.05	5.79	0.05	5.87
0.05	4.50	0.05	5.78	0.05	6.39
0.05	4.51	0.06	5.78	0.06	6.81
0.06	4.50	0.06	5.73	0.06	6.88
0.06	4.53	0.06	5.79	0.06	6.93
0.06	4.52	0.06	5.81	0.06	6.94
0.06	4.48	0.06	5.76	0.06	6.93
0.06	4.42	0.06	5.77	0.06	6.88
0.06	4.43	0.06	5.82	0.06	6.82
0.06	4.39	0.06	5.81	0.06	6.77
0.06	4.41	0.06	5.85	0.06	6.72
0.06	4.39	0.06	5.86	0.06	6.66
0.06	4.40	0.06	5.93	0.06	6.56
0.06	4.39	0.06	6.08	0.06	6.42
0.06	4.41	0.06	6.17	0.06	6.28
0.06	4.39	0.06	6.33	0.06	6.23
0.06	4.39	0.06	6.31	0.06	6.13
0.06	4.36	0.06	6.25	0.06	6.00
0.06	4.29	0.06	6.19	0.06	5.88
0.06	4.35	0.06	6.14	0.06	5.82
0.06	4.42	0.07	6.08	0.07	5.77
0.07	4.48	0.07	5.99	0.07	5.68
0.07	4.55	0.07	5.86	0.07	5.62
0.07	4.66	0.07	5.73	0.07	5.57
0.07	4.83	0.07	5.68	0.07	5.51
0.07	4.96	0.07	5.57	0.07	5.46
0.07	5.16	0.07	5.46	0.07	5.46
0.07	5.34	0.07	5.34	0.07	5.50
0.07	5.88	0.07	5.28	0.07	5.50
0.07	6.34	0.07	5.23	0.07	5.68
0.07	6.54	0.07	5.24	0.07	5.63

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.07	6.72	0.07	5.27	0.07	6.02
0.07	6.88	0.07	5.29	0.07	6.30
0.07	7.04	0.07	5.36	0.07	6.64
0.07	7.18	0.07	5.41	0.07	7.09
0.07	7.32	0.07	5.56	0.07	7.12
0.07	7.44	0.07	5.76	0.07	7.11
0.07	7.55	0.07	6.05	0.07	7.09
0.07	7.62	0.08	6.54	0.08	7.03
0.08	7.64	0.08	6.80	0.08	6.98
0.08	7.64	0.08	6.86	0.08	6.92
0.08	7.62	0.08	6.90	0.08	6.87
0.08	7.61	0.08	6.90	0.08	6.79
0.08	7.52	0.08	6.84	0.08	6.68
0.08	7.33	0.08	6.79	0.08	6.58
0.08	6.91	0.08	6.74	0.08	6.52
0.08	6.50	0.08	6.68	0.08	6.47
0.08	6.37	0.08	6.63	0.08	6.41
0.08	6.26	0.08	6.57	0.08	6.36
0.08	6.20	0.08	6.52	0.08	6.30
0.08	6.18	0.08	6.46	0.08	6.25
0.08	6.20	0.08	6.41	0.08	6.23
0.08	6.26	0.08	6.35	0.08	6.24
0.08	6.33	0.08	6.30	0.08	6.24
0.08	6.39	0.08	6.24	0.08	6.19
0.08	6.51	0.08	6.19	0.08	6.18
0.08	6.63	0.09	6.13	0.09	6.19
0.08	6.75	0.09	6.08	0.09	6.21
0.09	6.82	0.09	6.02	0.09	6.16
0.09	6.88	0.09	5.97	0.09	6.14
0.09	6.95	0.09	5.92	0.09	6.21
0.09	6.98	0.09	5.86	0.09	6.16
0.09	6.98	0.09	5.81	0.09	6.10
0.09	6.96	0.09	5.75	0.09	6.09
0.09	6.99	0.09	5.70	0.09	6.09
0.09	6.89	0.09	5.64	0.09	6.10
0.09	6.81	0.09	5.59	0.09	6.04
0.09	6.79	0.09	5.53	0.09	5.99
0.09	6.68	0.09	5.52	0.09	5.93
0.09	6.51	0.09	5.52	0.09	5.97

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.09	6.23	0.09	5.54	0.09	5.96
0.09	6.19	0.09	5.48	0.09	5.91
0.09	6.16	0.09	5.47	0.09	5.85
0.09	6.13	0.09	5.49	0.09	5.80
0.09	6.00	0.10	5.54	0.10	5.74
0.09	5.97	0.10	5.48	0.10	5.73
0.10	5.96	0.10	5.58	0.10	5.73
0.10	5.95	0.10	5.57	0.10	5.74
0.10	5.93	0.10	5.58	0.10	5.68
0.10	5.92	0.10	5.64	0.10	5.68
0.10	5.91	0.10	5.61	0.10	5.79
0.10	5.89	0.10	5.63	0.10	5.73
0.10	5.90	0.10	5.66	0.10	5.74
0.10	5.90	0.10	5.60	0.10	5.77
0.10	5.84	0.10	5.60	0.10	5.77
0.10	5.90	0.10	5.63	0.10	5.78
0.10	5.91	0.10	5.68	0.10	5.82
0.10	5.89	0.10	5.72	0.10	5.77
0.10	5.96	0.10	5.70	0.10	5.76
0.10	5.97	0.10	5.72	0.10	5.85
0.10	5.97	0.10	5.76	0.10	5.79
0.10	5.99	0.10	5.76	0.10	5.74
0.10	6.06	0.11	5.79	0.11	5.68
0.10	6.16	0.11	5.80	0.11	5.63
0.11	6.29	0.11	5.86	0.11	5.57
0.11	6.44	0.11	6.02	0.11	5.52
0.11	6.50	0.11	6.16	0.11	5.47
0.11	6.63	0.11	6.39	0.11	5.41
0.11	6.76	0.11	6.43	0.11	5.36
0.11	6.91	0.11	6.47	0.11	5.35
0.11	6.97	0.11	6.48	0.11	5.34
0.11	7.04	0.11	6.56	0.11	5.36
0.11	7.10	0.11	6.56	0.11	5.30
0.11	7.17	0.11	6.51	0.11	5.25
0.11	7.23	0.11	6.45	0.11	5.19
0.11	7.30	0.11	6.45	0.11	5.14
0.11	7.37	0.11	6.42	0.11	5.09
0.11	7.43	0.11	6.36	0.11	5.07
0.11	7.50	0.11	6.31	0.11	5.05

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.11	7.56	0.11	6.25	0.11	5.04
0.11	7.63	0.12	6.16	0.12	4.99
0.11	7.69	0.12	6.05	0.12	4.93
0.12	7.76	0.12	5.91	0.12	4.91
0.12	7.74	0.12	5.86	0.12	4.91
0.12	7.73	0.12	5.81	0.12	4.92
0.12	7.80	0.12	5.75	0.12	4.87
0.12	7.81	0.12	5.70	0.12	4.81
0.12	7.81	0.12	5.64	0.12	4.78
0.12	7.79	0.12	5.63	0.12	4.77
0.12	7.85	0.12	5.76	0.12	4.76
0.12	7.86	0.12	5.75	0.12	4.71
0.12	7.85	0.12	5.81	0.12	4.65
0.12	7.91	0.12	5.84	0.12	4.60
0.12	7.82	0.12	5.91	0.12	4.49
0.12	7.84	0.12	6.03	0.12	4.38
0.12	7.80	0.12	6.17	0.12	4.25
0.12	7.78	0.12	6.32	0.12	4.19
0.12	7.73	0.12	6.50	0.12	4.14
0.12	7.61	0.13	6.47	0.13	4.00
0.12	7.43	0.13	6.45	0.13	3.91
0.13	7.18	0.13	6.43	0.13	3.86
0.13	6.80	0.13	6.42	0.13	3.80
0.13	6.74	0.13	6.36	0.13	3.81
0.13	6.65	0.13	6.31	0.13	3.85
0.13	6.67	0.13	6.26	0.13	3.86
0.13	6.73	0.13	6.20	0.13	3.95
0.13	6.80	0.13	6.15	0.13	4.02
0.13	6.84	0.13	6.09	0.13	4.54
0.13	6.90	0.13	6.08	0.13	4.93
0.13	6.97	0.13	6.06	0.13	5.45
0.13	7.03	0.13	6.05	0.13	6.23
0.13	7.06	0.13	6.00	0.13	6.41
0.13	7.08	0.13	5.98	0.13	6.57
0.13	7.06	0.13	5.99	0.13	6.73
0.13	7.08	0.13	6.01	0.13	6.85
0.13	7.03	0.13	6.00	0.13	6.95
0.13	6.99	0.13	6.02	0.13	7.04
0.13	6.88	0.14	6.04	0.14	7.11

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.13	6.71	0.14	6.19	0.14	7.24
0.14	6.43	0.14	6.26	0.14	7.25
0.14	6.39	0.14	6.35	0.14	7.26
0.14	6.36	0.14	6.49	0.14	7.25
0.14	6.33	0.14	6.72	0.14	7.20
0.14	6.14	0.14	6.74	0.14	7.14
0.14	6.06	0.14	6.75	0.14	7.09
0.14	5.96	0.14	6.77	0.14	7.03
0.14	5.85	0.14	6.77	0.14	6.98
0.14	5.72	0.14	6.71	0.14	6.88
0.14	5.60	0.14	6.66	0.14	6.77
0.14	5.48	0.14	6.60	0.14	6.65
0.14	5.37	0.14	6.55	0.14	6.59
0.14	5.28	0.14	6.50	0.14	6.54
0.14	5.13	0.14	6.44	0.14	6.48
0.14	5.14	0.14	6.39	0.14	6.43
0.14	5.15	0.14	6.36	0.14	6.37
0.14	5.22	0.15	6.35	0.15	6.31
0.14	5.28	0.15	6.33	0.15	6.26
0.15	5.35	0.15	6.28	0.15	6.20
0.15	5.46	0.15	6.22	0.15	6.15
0.15	5.57	0.15	6.17	0.15	6.09
0.15	5.70	0.15	6.11	0.15	6.04
0.15	5.77	0.15	6.06	0.15	5.98
0.15	5.88	0.15	6.00	0.15	5.99
0.15	6.06	0.15	5.95	0.15	6.00
0.15	6.12	0.15	5.89	0.15	6.05
0.15	6.19	0.15	5.84	0.15	6.06
0.15	6.19	0.15	5.79	0.15	6.10
0.15	6.16	0.15	5.73	0.15	6.10
0.15	6.16	0.15	5.68	0.15	6.13
0.15	6.11	0.15	5.67	0.15	6.14
0.15	6.06	0.15	5.67	0.15	6.19
0.15	5.92	0.15	5.69	0.15	6.20
0.15	5.26	0.15	5.63	0.15	6.26
0.15	5.19	0.16	5.62	0.16	6.26
0.15	5.11	0.16	5.61	0.16	6.37
0.16	5.05	0.16	5.63	0.16	6.41
0.16	5.00	0.16	5.57	0.16	6.39

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.16	4.95	0.16	5.56	0.16	6.40
0.16	4.93	0.16	5.61	0.16	6.40
0.16	4.90	0.16	5.56	0.16	6.35
0.16	4.88	0.16	5.56	0.16	6.29
0.16	4.73	0.16	5.58	0.16	6.24
0.16	4.69	0.16	5.58	0.16	6.18
0.16	4.65	0.16	5.62	0.16	6.13
0.16	4.60	0.16	5.65	0.16	6.02
0.16	4.55	0.16	5.72	0.16	5.84
0.16	4.48	0.16	5.87	0.16	5.79
0.16	4.44	0.16	6.39	0.16	5.73
0.16	4.39	0.16	6.81	0.16	5.68
0.16	4.35	0.16	6.88	0.16	5.62
0.16	4.31	0.16	6.93	0.16	5.57
0.16	4.20	0.16	6.94	0.16	5.51
0.16	4.18	0.17	6.93	0.17	5.51
0.16	4.17	0.17	6.88	0.17	5.53
0.17	4.15	0.17	6.82	0.17	5.60
0.17	4.14	0.17	6.77	0.17	5.63
0.17	4.16	0.17	6.72	0.17	5.64
0.17	4.17	0.17	6.66	0.17	5.71
0.17	4.18	0.17	6.56	0.17	5.73
0.17	4.25	0.17	6.42	0.17	5.78
0.17	4.31	0.17	6.28	0.17	5.90
0.17	4.38	0.17	6.23	0.17	6.05
0.17	4.41	0.17	6.13	0.17	6.26
0.17	4.43	0.17	6.00	0.17	6.27
0.17	4.46	0.17	5.88	0.17	6.37
0.17	4.52	0.17	5.82	0.17	6.42
0.17	4.59	0.17	5.77	0.17	6.46
0.17	4.61	0.17	5.68	0.17	6.50
0.17	4.61	0.17	5.62	0.17	6.56
0.17	4.59	0.17	5.57	0.17	6.60
0.17	4.60	0.18	5.51	0.18	6.64
0.17	4.49	0.18	5.46	0.18	6.66
0.18	4.41	0.18	5.46	0.18	6.65
0.18	4.28	0.18	5.50	0.18	6.64
0.18	4.08	0.18	5.50	0.18	6.58
0.18	3.74	0.18	5.68	0.18	6.53

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.18	3.68	0.18	5.63	0.18	6.47
0.18	3.63	0.18	6.02	0.18	6.38
0.18	3.59	0.18	6.30	0.18	6.26
0.18	3.54	0.18	6.64	0.18	6.11
0.18	3.50	0.18	7.09	0.18	6.02
0.18	3.45	0.18	7.12	0.18	5.89
0.18	3.25	0.18	7.11	0.18	5.71
0.18	3.16	0.18	7.09	0.18	5.65
0.18	3.06	0.18	7.03	0.18	5.56
0.18	2.94	0.18	6.98	0.18	5.50
0.18	2.83	0.18	6.92	0.18	5.45
0.18	2.71	0.18	6.87	0.18	5.45
0.18	2.60	0.19	6.79	0.19	5.51
0.18	2.49	0.19	6.68	0.19	5.55
0.19	2.38	0.19	6.58	0.19	5.65
0.19	2.13	0.19	6.52	0.19	5.81
0.19	2.04	0.19	6.47	0.19	6.02
0.19	1.98	0.19	6.41	0.19	6.44
0.19	1.92	0.19	6.36	0.19	6.47
0.19	1.88	0.19	6.30	0.19	6.50
0.19	1.85	0.19	6.25	0.19	6.52
0.19	1.83	0.19	6.23	0.19	6.56
0.19	1.81	0.19	6.24	0.19	6.63
0.19	1.72	0.19	6.24	0.19	6.69
0.19	1.68	0.19	6.19	0.19	6.78
0.19	1.64	0.19	6.18	0.19	6.86
0.19	1.57	0.19	6.19	0.19	7.07
0.19	1.50	0.19	6.21	0.19	7.11
0.19	1.42	0.19	6.16	0.19	7.12
0.19	1.34	0.19	6.14	0.19	7.14
0.19	1.26	0.20	6.21	0.20	7.12
0.19	1.17	0.20	6.16	0.20	7.06
0.20	1.10	0.20	6.10	0.20	7.01
0.20	1.05	0.20	6.09	0.20	6.95
0.20	0.93	0.20	6.09	0.20	6.90
0.20	0.93	0.20	6.10	0.20	6.84
0.20	0.93	0.20	6.04	0.20	6.79
0.20	0.94	0.20	5.99	0.20	6.73
0.20	1.01	0.20	5.93	0.20	6.68

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.20	1.02	0.20	5.97	0.20	6.58
0.20	1.02	0.20	5.96	0.20	6.53
0.20	1.01	0.20	5.91	0.20	6.48
0.20	1.03	0.20	5.85	0.20	6.42
0.20	0.93	0.20	5.80	0.20	6.37
0.20	0.85	0.20	5.74	0.20	6.31
0.20	0.59	0.20	5.73	0.20	6.26
0.20	0.48	0.20	5.73	0.20	6.20
0.20	0.36	0.20	5.74	0.20	6.15
0.20	0.26	0.21	5.68	0.21	6.09
0.20	0.17	0.21	5.68	0.21	6.04
0.21	0.12	0.21	5.79	0.21	6.02
0.21	0.10	0.21	5.73	0.21	6.01
0.21	0.13	0.21	5.74	0.21	5.99
0.21	0.19	0.21	5.77	0.21	5.94
0.21	0.32	0.21	5.77	0.21	5.88
0.21	0.48	0.21	5.78	0.21	5.83
0.21	0.61	0.21	5.82	0.21	5.77
0.21	0.81	0.21	5.77	0.21	5.72
0.21	0.96	0.21	5.76	0.21	5.67
0.21	1.17	0.21	5.85	0.21	5.65
0.21	1.47	0.21	5.79	0.21	5.63
0.21	1.58	0.21	5.74	0.21	5.63
0.21	1.65	0.21	5.68	0.21	5.57
0.21	1.75	0.21	5.63	0.21	5.52
0.21	1.82	0.21	5.57	0.21	5.57
0.21	1.88	0.21	5.52	0.21	5.59
0.21	1.95	0.21	5.47	0.21	5.53
0.21	2.05	0.22	5.41	0.22	5.52
0.21	2.18	0.22	5.36	0.22	5.53
0.22	2.24	0.22	5.35	0.22	5.56
0.22	2.36	0.22	5.34	0.22	5.51
0.22	2.50	0.22	5.36	0.22	5.50
0.22	2.61	0.22	5.30	0.22	5.52
0.22	2.81	0.22	5.25	0.22	5.50
0.22	2.96	0.22	5.19	0.22	5.60
0.22	3.09	0.22	5.14	0.22	5.68
0.22	3.24	0.22	5.09	0.22	5.73
0.22	3.36	0.22	5.07	0.22	5.85

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.22	3.51	0.22	5.05	0.22	6.07
0.22	3.62	0.22	5.04	0.22	6.39
0.22	3.76	0.22	4.99	0.22	6.85
0.22	3.89	0.22	4.93	0.22	6.89
0.22	3.96	0.22	4.91	0.22	6.89
0.22	4.07	0.22	4.91	0.22	6.83
0.22	4.25	0.22	4.92	0.22	6.78
0.22	4.32	0.23	4.87	0.23	6.68
0.22	4.39	0.23	4.81	0.23	6.56
0.23	4.45	0.23	4.78	0.23	6.43
0.23	4.52	0.23	4.77	0.23	6.37
0.23	4.58	0.23	4.76	0.23	6.26
0.23	4.69	0.23	4.71	0.23	6.13
0.23	4.79	0.23	4.65	0.23	6.03
0.23	4.91	0.23	4.60	0.23	5.98
0.23	4.97	0.23	4.49	0.23	6.00
0.23	5.08	0.23	4.38	0.23	6.21
0.23	5.17	0.23	4.25	0.23	6.43
0.23	5.28	0.23	4.19	0.23	6.84
0.23	5.34	0.23	4.14	0.23	6.96
0.23	5.37	0.23	4.00	0.23	7.05
0.23	5.37	0.23	3.91	0.23	7.13
0.23	5.35	0.23	3.86	0.23	7.17
0.23	5.36	0.23	3.80	0.23	7.20
0.23	5.32	0.23	3.81	0.23	7.21
0.23	5.29	0.24	3.85	0.24	7.25
0.23	4.99	0.24	3.86	0.24	7.19
0.24	4.73	0.24	3.95	0.24	7.14
0.24	4.33	0.24	4.02	0.24	7.09
0.24	4.25	0.24	4.54	0.24	7.03
0.24	4.17	0.24	4.93	0.24	6.98
0.24	4.08	0.24	5.45	0.24	6.89
0.24	3.98	0.24	6.23	0.24	6.79
0.24	3.88	0.24	6.41	0.24	6.68
0.24	3.60	0.24	6.57	0.24	6.62
0.24	3.50	0.24	6.73	0.24	6.43
0.24	3.39	0.24	6.85	0.24	6.34
0.24	3.28	0.24	6.95	0.24	6.22
0.24	3.20	0.24	7.04	0.24	6.09

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.24	3.14	0.24	7.11	0.24	6.03
0.24	3.08	0.24	7.24	0.24	5.94
0.24	3.06	0.24	7.25	0.24	5.83
0.24	3.05	0.24	7.26	0.24	5.72
0.24	2.98	0.24	7.25	0.24	5.66
0.24	2.99	0.25	7.20	0.25	5.61
0.24	3.05	0.25	7.14	0.25	5.55
0.25	3.07	0.25	7.09	0.25	5.54
0.25	3.06	0.25	7.03	0.25	5.54
0.25	3.07	0.25	6.98	0.25	5.54
0.25	3.04	0.25	6.88	0.25	5.49
0.25	3.03	0.25	6.77	0.25	5.43
0.25	2.92	0.25	6.65	0.25	5.42
0.25	2.61	0.25	6.59	0.25	5.40
0.25	2.24	0.25	6.54	0.25	5.39
0.25	2.31	0.25	6.48	0.25	5.33
0.25	1.96	0.25	6.43	0.25	5.28
0.25	1.85	0.25	6.37	0.25	5.18
0.25	1.78	0.25	6.31	0.25	5.04
0.25	1.72	0.25	6.26	0.25	4.90
0.25	1.71	0.25	6.20	0.25	4.82
0.25	1.71	0.25	6.15	0.25	4.68
0.25	1.78	0.26	6.09	0.26	4.57
0.25	1.84	0.26	6.04	0.26	4.42
0.25	1.91	0.26	5.98	0.26	4.19
0.26	2.12	0.26	5.99	0.26	4.08
0.26	2.26	0.26	6.00	0.26	3.96
0.26	2.46	0.26	6.05	0.26	3.85
0.26	2.63	0.26	6.06	0.26	3.79
0.26	2.85	0.26	6.10	0.26	3.80
0.26	3.13	0.26	6.10	0.26	3.83
0.26	3.49	0.26	6.13	0.26	3.84
0.26	3.60	0.26	6.14	0.26	3.93
0.26	3.67	0.26	6.19	0.26	4.19
0.26	3.73	0.26	6.20	0.26	4.41
0.26	3.80	0.26	6.26	0.26	4.81
0.26	3.87	0.26	6.26	0.26	4.93
0.26	3.91	0.26	6.37	0.26	5.06
0.26	3.92	0.26	6.41	0.26	5.17

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.26	3.93	0.26	6.39	0.26	5.28
0.26	4.00	0.26	6.40	0.26	5.38
0.26	4.06	0.27	6.40	0.27	5.48
0.26	4.18	0.27	6.35	0.27	5.72
0.27	4.33	0.27	6.29	0.27	5.80
0.27	4.61	0.27	6.24	0.27	5.87
0.27	4.89	0.27	6.18	0.27	5.94
0.27	5.27	0.27	6.13	0.27	6.00
0.27	5.81	0.27	6.02	0.27	6.05
0.27	6.00	0.27	5.84	0.27	6.10
0.27	6.16	0.27	5.79	0.27	6.14
0.27	6.27	0.27	5.73	0.27	6.19
0.27	6.33	0.27	5.68	0.27	6.24
0.27	6.36	0.27	5.62	0.27	6.41
0.27	6.37	0.27	5.57	0.27	6.48
0.27	6.36	0.27	5.51	0.27	6.54
0.27	6.36	0.27	5.51	0.27	6.61
0.27	6.34	0.27	5.53	0.27	6.65
0.27	6.34	0.27	5.60	0.27	6.66
0.27	6.29	0.27	5.63	0.27	6.68
0.27	6.28	0.28	5.64	0.28	6.67
0.27	6.22	0.28	5.71	0.28	6.62
0.28	6.05	0.28	5.73	0.28	6.56
0.28	5.91	0.28	5.78	0.28	6.51
0.28	5.97	0.28	5.90	0.28	6.45
0.28	5.81	0.28	6.05	0.28	6.40
0.28	5.76	0.28	6.26	0.28	6.35
0.28	5.69	0.28	6.27	0.28	6.29
0.28	5.61	0.28	6.37	0.28	6.24
0.28	5.52	0.28	6.42	0.28	6.24
0.28	5.44	0.28	6.46	0.28	6.27
0.28	5.35	0.28	6.50	0.28	6.28
0.28	5.27	0.28	6.56	0.28	6.41
0.28	5.21	0.28	6.60	0.28	6.49
0.28	5.08	0.28	6.64	0.28	6.64
0.28	5.07	0.28	6.66	0.28	6.84
0.28	5.07	0.28	6.65	0.28	7.09
0.28	5.09	0.28	6.64	0.28	7.06
0.28	5.11	0.29	6.58	0.29	7.00

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.28	5.17	0.29	6.53	0.29	6.95
0.28	5.20	0.29	6.47	0.29	6.87
0.29	5.19	0.29	6.38	0.29	6.76
0.29	5.18	0.29	6.26	0.29	6.65
0.29	5.09	0.29	6.11	0.29	6.50
0.29	5.07	0.29	6.02	0.29	6.38
0.29	4.98	0.29	5.89	0.29	6.33
0.29	4.76	0.29	5.71	0.29	6.27
0.29	4.70	0.29	5.65	0.29	6.22
0.29	4.64	0.29	5.56	0.29	6.16
0.29	4.59	0.29	5.50	0.29	6.11
0.29	4.54	0.29	5.45	0.29	6.05
0.29	4.49	0.29	5.45	0.29	6.00
0.29	4.42	0.29	5.51	0.29	6.06
0.29	4.38	0.29	5.55	0.29	6.11
0.29	4.21	0.29	5.65	0.29	6.10
0.29	4.17	0.29	5.81	0.29	6.13
0.29	4.13	0.29	6.02	0.29	6.16
0.29	4.09	0.30	6.44	0.30	6.22
0.29	4.04	0.30	6.47	0.30	6.37
0.30	4.01	0.30	6.50	0.30	6.57
0.30	3.98	0.30	6.52	0.30	6.86
0.30	3.94	0.30	6.56	0.30	6.88
0.30	3.90	0.30	6.63	0.30	6.87
0.30	3.76	0.30	6.69	0.30	6.85
0.30	3.73	0.30	6.78	0.30	6.80
0.30	3.68	0.30	6.86	0.30	6.75
0.30	3.63	0.30	7.07	0.30	6.69
0.30	3.59	0.30	7.11	0.30	6.64
0.30	3.55	0.30	7.12	0.30	6.58
0.30	3.50	0.30	7.14	0.30	6.53
0.30	3.44	0.30	7.12	0.30	6.47
0.30	3.38	0.30	7.06	0.30	6.42
0.30	3.31	0.30	7.01	0.30	6.36
0.30	3.08	0.30	6.95	0.30	6.31
0.30	3.01	0.30	6.90	0.30	6.25
0.30	2.94	0.31	6.84	0.31	6.20
0.30	2.88	0.31	6.79	0.31	6.20
0.31	2.83	0.31	6.73	0.31	6.13

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.31	2.82	0.31	6.68	0.31	6.14
0.31	2.83	0.31	6.58	0.31	6.17
0.31	2.84	0.31	6.53	0.31	6.24
0.31	2.91	0.31	6.48	0.31	6.19
0.31	2.97	0.31	6.42	0.31	6.27
0.31	3.04	0.31	6.37	0.31	6.27
0.31	3.16	0.31	6.31	0.31	6.30
0.31	3.29	0.31	6.26	0.31	6.28
0.31	3.45	0.31	6.20	0.31	6.30
0.31	3.52	0.31	6.15	0.31	6.31
0.31	3.63	0.31	6.09	0.31	6.26
0.31	3.76	0.31	6.04	0.31	6.24
0.31	3.89	0.31	6.02	0.31	6.24
0.31	3.96	0.31	6.01	0.31	6.28
0.31	4.02	0.31	5.99	0.31	6.30
0.31	4.05	0.32	5.94	0.32	6.36
0.31	4.06	0.32	5.88	0.32	6.36
0.32	4.05	0.32	5.83	0.32	6.44
0.32	4.12	0.32	5.77	0.32	6.50
0.32	4.14	0.32	5.72	0.32	6.64
0.32	4.14	0.32	5.67	0.32	6.85
0.32	4.13	0.32	5.65	0.32	7.17
0.32	4.19	0.32	5.63	0.32	7.19
0.32	4.26	0.32	5.63	0.32	7.25
0.32	4.33	0.32	5.57	0.32	7.24
0.32	4.39	0.32	5.52	0.32	7.18
0.32	4.46	0.32	5.57	0.32	7.13
0.32	4.52	0.32	5.59	0.32	7.07
0.32	4.64	0.32	5.53	0.32	7.02
0.32	4.77	0.32	5.52	0.32	6.96
0.32	4.93	0.32	5.53	0.32	6.91
0.32	5.05	0.32	5.56	0.32	6.86
0.32	5.26	0.32	5.51	0.32	6.85
0.32	5.45	0.33	5.50	0.33	6.93
0.32	5.59	0.33	5.52	0.33	6.87
0.33	5.76	0.33	5.50	0.33	6.86
0.33	5.98	0.33	5.60	0.33	6.88
0.33	6.19	0.33	5.68	0.33	6.92
0.33	6.36	0.33	5.73	0.33	6.90

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.33	6.37	0.33	5.85	0.33	6.92
0.33	6.35	0.33	6.07	0.33	7.07
0.33	6.34	0.33	6.39	0.33	7.02
0.33	6.31	0.33	6.85	0.33	7.21
0.33	6.16	0.33	6.89	0.33	7.36
0.33	6.14	0.33	6.89	0.33	7.60
0.33	6.10	0.33	6.83	0.33	7.62
0.33	6.07	0.33	6.78	0.33	7.62
0.33	6.05	0.33	6.68	0.33	7.61
0.33	6.02	0.33	6.56	0.33	7.61
0.33	5.99	0.33	6.43	0.33	7.55
0.33	5.98	0.33	6.37	0.33	7.50
0.33	5.97	0.33	6.26	0.33	7.52
0.33	5.91	0.34	6.13	0.34	7.52
0.33	5.98	0.34	6.03	0.34	7.46
0.34	6.05	0.34	5.98	0.34	7.41
0.34	6.11	0.34	6.00	0.34	7.39
0.34	6.18	0.34	6.21	0.34	7.38
0.34	6.30	0.34	6.43	0.34	7.37
0.34	6.44	0.34	6.84	0.34	7.32
0.34	6.56	0.34	6.96	0.34	7.26
0.34	6.71	0.34	7.05	0.34	7.21
0.34	6.86	0.34	7.13	0.34	7.15
0.34	7.05	0.34	7.17	0.34	7.15
0.34	7.54	0.34	7.20	0.34	7.15
0.34	7.67	0.34	7.21	0.34	7.18
0.34	7.79	0.34	7.25	0.34	7.12
0.34	7.91	0.34	7.19	0.34	7.13
0.34	8.02	0.34	7.14	0.34	7.17
0.34	8.09	0.34	7.09	0.34	7.15
0.34	8.15	0.34	7.03	0.34	7.18
0.34	8.27	0.35	6.98	0.35	7.17
0.34	8.44	0.35	6.89	0.35	7.20
0.35	8.51	0.35	6.79	0.35	7.25
0.35	8.62	0.35	6.68	0.35	7.26
0.35	8.76	0.35	6.62	0.35	7.21
0.35	8.90	0.35	6.43	0.35	7.15
0.35	8.97	0.35	6.34	0.35	7.10
0.35	9.07	0.35	6.22	0.35	7.04

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.35	9.18	0.35	6.09	0.35	6.99
0.35	9.29	0.35	6.03	0.35	6.93
0.35	9.36	0.35	5.94	0.35	6.92
0.35	9.42	0.35	5.83	0.35	7.00
0.35	9.45	0.35	5.72	0.35	6.95
0.35	9.46	0.35	5.66	0.35	6.95
0.35	9.45	0.35	5.61	0.35	6.98
0.35	9.52	0.35	5.55	0.35	6.93
0.35	9.52	0.35	5.54	0.35	6.93
0.35	9.49	0.35	5.54	0.35	6.97
0.35	9.49	0.36	5.54	0.36	6.91
0.35	9.45	0.36	5.49	0.36	6.86
0.36	9.42	0.36	5.43	0.36	6.80
0.36	9.13	0.36	5.42	0.36	6.75
0.36	8.90	0.36	5.40	0.36	6.70
0.36	8.50	0.36	5.39	0.36	6.60
0.36	8.42	0.36	5.33	0.36	6.50
0.36	8.34	0.36	5.28	0.36	6.37
0.36	8.28	0.36	5.18	0.36	6.31
0.36	8.23	0.36	5.04	0.36	6.21
0.36	8.19	0.36	4.90	0.36	6.10
0.36	8.17	0.36	4.82	0.36	5.99
0.36	8.09	0.36	4.68	0.36	5.94
0.36	8.09	0.36	4.57	0.36	5.93
0.36	8.10	0.36	4.42	0.36	5.96
0.36	8.17	0.36	4.19	0.36	5.97
0.36	8.23	0.36	4.08	0.36	6.03
0.36	8.26	0.36	3.96	0.36	6.08
0.36	8.29	0.37	3.85	0.37	6.17
0.36	8.30	0.37	3.79	0.37	6.36
0.36	8.37	0.37	3.80	0.37	6.62
0.37	8.38	0.37	3.83	0.37	7.08
0.37	8.38	0.37	3.84	0.37	7.10
0.37	8.34	0.37	3.93	0.37	7.10
0.37	8.25	0.37	4.19	0.37	7.10
0.37	8.21	0.37	4.41	0.37	7.04
0.37	8.11	0.37	4.81	0.37	6.99
0.37	7.95	0.37	4.93	0.37	6.93
0.37	7.61	0.37	5.06	0.37	6.88

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.37	7.50	0.37	5.17	0.37	6.82
0.37	7.41	0.37	5.28	0.37	6.77
0.37	7.17	0.37	5.38	0.37	6.71
0.37	7.08	0.37	5.48	0.37	6.69
0.37	7.04	0.37	5.72	0.37	6.71
0.37	7.00	0.37	5.80	0.37	6.78
0.37	6.98	0.37	5.87	0.37	6.79
0.37	7.00	0.37	5.94	0.37	6.88
0.37	7.02	0.38	6.00	0.38	6.96
0.38	7.05	0.38	6.05	0.38	7.11
0.38	7.11	0.38	6.10	0.38	7.38
0.38	7.18	0.38	6.14	0.38	7.74
0.38	7.24	0.38	6.19	0.38	8.31
0.38	7.31	0.38	6.24	0.38	8.28
0.38	7.38	0.38	6.41	0.38	8.23
0.38	7.44	0.38	6.48	0.38	8.17
0.38	7.51	0.38	6.54	0.38	8.08
0.38	7.53	0.38	6.61	0.38	7.95
0.38	7.60	0.38	6.65	0.38	7.79
0.38	7.62	0.38	6.66	0.38	7.67
0.38	7.64	0.38	6.68	0.38	7.48
0.38	7.66	0.38	6.67	0.38	7.31
0.38	7.72	0.38	6.62	0.38	6.83
0.38	7.79	0.38	6.56	0.38	6.72
0.38	7.85	0.38	6.51	0.38	6.67
0.38	7.92	0.38	6.45	0.38	6.62
0.38	7.98	0.39	6.40	0.39	6.56
0.38	8.01	0.39	6.35	0.39	6.51
0.39	8.04	0.39	6.29	0.39	6.53
0.39	8.06	0.39	6.24	0.39	6.58
0.39	8.13	0.39	6.24	0.39	6.60
0.39	8.15	0.39	6.27	0.39	6.88
0.39	8.17	0.39	6.28	0.39	7.19
0.39	8.17	0.39	6.41	0.39	7.26
0.39	8.23	0.39	6.49	0.39	7.34
0.39	8.26	0.39	6.64	0.39	7.39
0.39	8.28	0.39	6.84	0.39	7.42
0.39	8.26	0.39	7.09	0.39	7.42
0.39	8.33	0.39	7.06	0.39	7.41

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.39	8.35	0.39	7.00	0.39	7.35
0.39	8.30	0.39	6.95	0.39	7.30
0.39	8.37	0.39	6.87	0.39	7.24
0.39	8.43	0.39	6.76	0.39	7.19
0.39	8.46	0.39	6.65	0.39	7.13
0.39	8.49	0.40	6.50	0.40	7.08
0.39	8.51	0.40	6.38	0.40	7.03
0.40	8.58	0.40	6.33	0.40	6.97
0.40	8.65	0.40	6.27	0.40	6.92
0.40	8.72	0.40	6.22	0.40	6.86
0.40	8.78	0.40	6.16	0.40	6.80
0.40	8.81	0.40	6.11	0.40	6.74
0.40	8.82	0.40	6.05	0.40	6.69
0.40	8.81	0.40	6.00	0.40	6.64
0.40	8.89	0.40	6.06	0.40	6.58
0.40	8.89	0.40	6.11	0.40	6.57
0.40	8.83	0.40	6.10	0.40	6.59
0.40	8.83	0.40	6.13	0.40	6.53
0.40	8.77	0.40	6.16	0.40	6.55
0.40	8.60	0.40	6.22	0.40	6.58
0.40	8.46	0.40	6.37	0.40	6.59
0.40	8.27	0.40	6.57	0.40	6.71
0.40	8.02	0.40	6.86	0.40	6.78
0.40	7.67	0.41	6.88	0.41	6.81
0.40	7.66	0.41	6.87	0.41	6.84
0.41	7.66	0.41	6.85	0.41	6.92
0.41	7.66	0.41	6.80	0.41	7.01
0.41	7.65	0.41	6.75	0.41	7.09
0.41	7.67	0.41	6.69	0.41	7.05
0.41	7.66	0.41	6.64	0.41	7.04
0.41	7.64	0.41	6.58	0.41	7.09
0.41	7.71	0.41	6.53	0.41	7.09
0.41	7.71	0.41	6.47	0.41	7.15
0.41	7.70	0.41	6.42	0.41	7.19
0.41	7.70	0.41	6.36	0.41	7.34
0.41	7.76	0.41	6.31	0.41	7.40
0.41	7.83	0.41	6.25	0.41	7.42
0.41	7.89	0.41	6.20	0.41	7.43
0.41	7.03	0.41	6.20	0.41	7.43

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.41	7.06	0.41	6.13	0.41	7.41
0.41	7.08	0.41	6.14	0.41	7.36
0.41	7.06	0.41	6.17	0.41	7.30
0.41	7.08	0.42	6.24	0.42	7.25
0.41	7.03	0.42	6.19	0.42	7.19
0.42	6.99	0.42	6.27	0.42	7.14
0.42	6.88	0.42	6.27	0.42	7.09
0.42	6.71	0.42	6.30	0.42	7.03
0.42	6.43	0.42	6.28	0.42	6.98
0.42	6.39	0.42	6.30	0.42	6.92
0.42	6.36	0.42	6.31	0.42	6.83
0.42	6.33	0.42	6.26	0.42	6.64
0.42	6.14	0.42	6.24	0.42	6.58
0.42	6.06	0.42	6.24	0.42	6.53
0.42	5.96	0.42	6.28	0.42	6.44
0.42	5.85	0.42	6.30	0.42	6.35
0.42	5.72	0.42	6.36	0.42	6.29
0.42	5.60	0.42	6.36	0.42	6.24
0.42	5.48	0.42	6.44	0.42	6.18
0.42	5.37	0.42	6.50	0.42	6.13
0.42	5.28	0.42	6.64	0.42	6.11
0.42	5.13	0.42	6.85	0.42	6.12
0.42	5.14	0.42	7.17	0.42	6.14
0.42	5.15	0.42	7.19	0.42	6.09
0.42	5.22	0.43	7.25	0.43	6.08
0.42	5.28	0.43	7.24	0.43	6.11
0.43	5.35	0.43	7.18	0.43	6.13
0.43	5.46	0.43	7.13	0.43	6.08
0.43	5.57	0.43	7.07	0.43	6.06
0.43	5.70	0.43	7.02	0.43	6.07
0.43	5.77	0.43	6.96	0.43	6.08
0.43	5.88	0.43	6.91	0.43	6.02
0.43	6.06	0.43	6.86	0.43	6.02
0.43	6.12	0.43	6.85	0.43	6.01
0.43	6.19	0.43	6.93	0.43	6.04
0.43	6.19	0.43	6.87	0.43	5.98
0.43	6.16	0.43	6.86	0.43	5.99
0.43	6.16	0.43	6.88	0.43	6.02
0.43	6.11	0.43	6.92	0.43	6.03

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.43	6.06	0.43	6.90	0.43	6.09
0.43	5.92	0.43	6.92	0.43	6.24
0.43	5.26	0.43	7.07	0.43	6.35
0.43	5.19	0.44	7.02	0.44	6.48
0.43	5.11	0.44	7.21	0.44	6.65
0.44	5.05	0.44	7.36	0.44	6.88
0.44	5.00	0.44	7.60	0.44	6.88
0.44	4.95	0.44	7.62	0.44	6.90
0.44	4.93	0.44	7.62	0.44	6.92
0.44	4.90	0.44	7.61	0.44	6.98
0.44	4.88	0.44	7.61	0.44	7.05
0.44	4.73	0.44	7.55	0.44	7.10
0.44	4.69	0.44	7.50	0.44	7.29
0.44	4.65	0.44	7.52	0.44	7.36
0.44	4.60	0.44	7.52	0.44	7.40
0.44	4.55	0.44	7.46	0.44	7.43
0.44	4.48	0.44	7.41	0.44	7.43
0.44	4.44	0.44	7.39	0.44	7.42
0.44	4.39	0.44	7.38	0.44	7.41
0.44	4.35	0.44	7.37	0.44	7.35
0.44	4.31	0.44	7.32	0.44	7.30
0.44	4.20	0.44	7.26	0.44	7.24
0.44	4.18	0.45	7.21	0.45	7.19
0.44	4.17	0.45	7.15	0.45	7.18
0.45	4.15	0.45	7.15	0.45	7.17
0.45	4.14	0.45	7.15	0.45	7.19
0.45	4.16	0.45	7.18	0.45	7.13
0.45	4.17	0.45	7.12	0.45	7.13
0.45	4.18	0.45	7.13	0.45	7.15
0.45	4.25	0.45	7.17	0.45	7.14
0.45	4.31	0.45	7.15	0.45	7.19
0.45	4.38	0.45	7.18	0.45	7.36
0.45	4.41	0.45	7.17	0.45	7.49
0.45	4.43	0.45	7.20	0.45	7.69
0.45	4.46	0.45	7.25	0.45	7.68
0.45	4.52	0.45	7.26	0.45	7.62
0.45	4.59	0.45	7.21	0.45	7.57
0.45	4.61	0.45	7.15	0.45	7.51
0.45	4.61	0.45	7.10	0.45	7.46

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.45	4.59	0.45	7.04	0.45	7.40
0.45	4.60	0.46	6.99	0.46	7.35
0.45	4.49	0.46	6.93	0.46	7.29
0.46	4.41	0.46	6.92	0.46	7.24
0.46	4.28	0.46	7.00	0.46	7.18
0.46	4.08	0.46	6.95	0.46	7.13
0.46	3.74	0.46	6.95	0.46	7.12
0.46	3.68	0.46	6.98	0.46	7.15
0.46	3.63	0.46	6.93	0.46	7.14
0.46	3.59	0.46	6.93	0.46	7.16
0.46	3.54	0.46	6.97	0.46	7.20
0.46	3.50	0.46	6.91	0.46	7.18
0.46	3.45	0.46	6.86	0.46	7.17
0.46	3.25	0.46	6.80	0.46	7.15
0.46	3.16	0.46	6.75	0.46	7.10
0.46	3.06	0.46	6.70	0.46	7.04
0.46	2.94	0.46	6.60	0.46	6.99
0.46	2.83	0.46	6.50	0.46	6.89
0.46	2.71	0.46	6.37	0.46	6.84
0.46	2.60	0.47	6.31	0.47	6.79
0.46	2.49	0.47	6.21	0.47	6.73
0.47	2.38	0.47	6.10	0.47	6.68
0.47	2.13	0.47	5.99	0.47	6.68
0.47	2.04	0.47	5.94	0.47	6.72
0.47	1.98	0.47	5.93	0.47	6.72
0.47	1.92	0.47	5.96	0.47	6.75
0.47	1.88	0.47	5.97	0.47	6.78
0.47	1.85	0.47	6.03	0.47	6.86
0.47	1.83	0.47	6.08	0.47	6.89
0.47	1.81	0.47	6.17	0.47	6.96
0.47	1.72	0.47	6.36	0.47	7.22
0.47	1.68	0.47	6.62	0.47	7.36
0.47	1.64	0.47	7.08	0.47	7.51
0.47	1.57	0.47	7.10	0.47	7.47
0.47	1.50	0.47	7.10	0.47	7.42
0.47	1.42	0.47	7.10	0.47	7.36
0.47	1.34	0.47	7.04	0.47	7.31
0.47	1.26	0.47	6.99	0.47	7.25
0.47	1.17	0.48	6.93	0.48	7.20

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.47	1.10	0.48	6.88	0.48	7.15
0.48	1.05	0.48	6.82	0.48	7.09
0.48	0.93	0.48	6.77	0.48	7.04
0.48	0.93	0.48	6.71	0.48	7.03
0.48	0.93	0.48	6.69	0.48	7.05
0.48	0.94	0.48	6.71	0.48	7.09
0.48	1.01	0.48	6.78	0.48	7.03
0.48	1.02	0.48	6.79	0.48	7.04
0.48	1.02	0.48	6.88	0.48	7.08
0.48	1.01	0.48	6.96	0.48	7.08
0.48	1.03	0.48	7.11	0.48	7.11
0.48	0.93	0.48	7.38	0.48	7.24
0.48	0.85	0.48	7.74	0.48	7.27
0.48	0.59	0.48	8.31	0.48	7.33
0.48	0.48	0.48	8.28	0.48	7.34
0.48	0.36	0.48	8.23	0.48	7.41
0.48	0.26	0.48	8.17	0.48	7.42
0.48	0.17	0.49	8.08	0.49	7.47
0.48	0.12	0.49	7.95	0.49	7.46
0.49	0.10	0.49	7.79	0.49	7.46
0.49	0.13	0.49	7.67	0.49	7.49
0.49	0.19	0.49	7.48	0.49	7.43
0.49	0.32	0.49	7.31	0.49	7.38
0.49	0.48	0.49	6.83	0.49	7.32
0.49	0.61	0.49	6.72	0.49	7.27
0.49	0.81	0.49	6.67	0.49	7.21
0.49	0.96	0.49	6.62	0.49	7.16
0.49	1.17	0.49	6.56	0.49	7.10
0.49	1.47	0.49	6.51	0.49	7.05
0.49	1.58	0.49	6.53	0.49	6.99
0.49	1.65	0.49	6.58	0.49	6.94
0.49	1.75	0.49	6.60	0.49	6.89
0.49	1.82	0.49	6.88	0.49	6.83
0.49	1.88	0.49	7.19	0.49	6.81
0.49	1.95	0.49	7.26	0.49	6.83
0.49	2.05	0.50	7.34	0.50	6.88
0.49	2.18	0.50	7.39	0.50	6.89
0.50	2.24	0.50	7.42	0.50	6.96
0.50	2.36	0.50	7.42	0.50	6.99

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.50	2.50	0.50	7.41	0.50	7.07
0.50	2.61	0.50	7.35	0.50	7.20
0.50	2.81	0.50	7.30	0.50	7.39
0.50	2.96	0.50	7.24	0.50	7.60
0.50	3.09	0.50	7.19	0.50	8.12
0.50	3.24	0.50	7.13	0.50	8.08
0.50	3.36	0.50	7.08	0.50	8.02
0.50	3.51	0.50	7.03	0.50	7.97
0.50	3.62	0.50	6.97	0.50	7.95
0.50	3.76	0.50	6.92	0.50	7.96
0.50	3.89	0.50	6.86	0.50	7.96
0.50	3.96	0.50	6.80	0.50	7.91
0.50	4.07	0.50	6.74	0.50	7.90
0.50	4.25	0.50	6.69	0.50	8.00
0.50	4.32	0.51	6.64	0.51	7.95
0.50	4.39	0.51	6.58	0.51	7.95
0.51	4.45	0.51	6.57	0.51	7.97
0.51	4.52	0.51	6.59	0.51	8.00
0.51	4.58	0.51	6.53	0.51	7.95
0.51	4.69	0.51	6.55	0.51	7.96
0.51	4.79	0.51	6.58	0.51	7.99
0.51	4.91	0.51	6.59	0.51	7.98
0.51	4.97	0.51	6.71	0.51	8.00
0.51	5.08	0.51	6.78	0.51	8.08
0.51	5.17	0.51	6.81	0.51	8.07
0.51	5.28	0.51	6.84	0.51	8.09
0.51	5.34	0.51	6.92	0.51	8.11
0.51	5.37	0.51	7.01	0.51	8.06
0.51	5.37	0.51	7.09	0.51	8.00
0.51	5.35	0.51	7.05	0.51	7.95
0.51	5.36	0.51	7.04	0.51	7.93
0.51	5.32	0.51	7.09	0.51	7.97
0.51	5.29	0.51	7.09	0.51	7.92
0.51	4.99	0.52	7.15	0.52	7.90
0.51	4.73	0.52	7.19	0.52	7.90
0.52	4.33	0.52	7.34	0.52	7.91
0.52	4.25	0.52	7.40	0.52	7.86
0.52	4.17	0.52	7.42	0.52	7.84
0.52	4.08	0.52	7.43	0.52	7.85

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.52	3.98	0.52	7.43	0.52	7.87
0.52	3.88	0.52	7.41	0.52	7.82
0.52	3.60	0.52	7.36	0.52	7.90
0.52	3.50	0.52	7.30	0.52	7.89
0.52	3.39	0.52	7.25	0.52	7.92
0.52	3.28	0.52	7.19	0.52	7.93
0.52	3.20	0.52	7.14	0.52	7.98
0.52	3.14	0.52	7.09	0.52	8.00
0.52	3.08	0.52	7.03	0.52	8.05
0.52	3.06	0.52	6.98	0.52	8.06
0.52	3.05	0.52	6.92	0.52	8.07
0.52	2.98	0.52	6.83	0.52	8.09
0.52	2.99	0.53	6.64	0.53	8.04
0.52	3.05	0.53	6.58	0.53	7.98
0.53	3.07	0.53	6.53	0.53	7.98
0.53	3.06	0.53	6.44	0.53	8.00
0.53	3.07	0.53	6.35	0.53	8.01
0.53	3.04	0.53	6.29	0.53	8.08
0.53	3.03	0.53	6.24	0.53	8.15
0.53	2.92	0.53	6.18	0.53	8.29
0.53	2.61	0.53	6.13	0.53	8.54
0.53	2.24	0.53	6.11	0.53	8.98
0.53	2.31	0.53	6.12	0.53	9.21
0.53	1.96	0.53	6.14	0.53	9.24
0.53	1.85	0.53	6.09	0.53	9.24
0.53	1.78	0.53	6.08	0.53	9.21
0.53	1.72	0.53	6.11	0.53	9.16
0.53	1.71	0.53	6.13	0.53	9.10
0.53	1.71	0.53	6.08	0.53	9.05
0.53	1.78	0.53	6.06	0.53	8.97
0.53	1.84	0.54	6.07	0.54	8.86
0.53	1.91	0.54	6.08	0.54	8.75
0.54	2.12	0.54	6.02	0.54	8.69
0.54	2.26	0.54	6.02	0.54	8.61
0.54	2.46	0.54	6.01	0.54	8.51
0.54	2.63	0.54	6.04	0.54	8.40
0.54	2.85	0.54	5.98	0.54	8.35
0.54	3.13	0.54	5.99	0.54	8.29
0.54	3.49	0.54	6.02	0.54	8.24

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.54	3.60	0.54	6.03	0.54	8.18
0.54	3.67	0.54	6.09	0.54	8.13
0.54	3.73	0.54	6.24	0.54	8.11
0.54	3.80	0.54	6.35	0.54	8.18
0.54	3.87	0.54	6.48	0.54	8.12
0.54	3.91	0.54	6.65	0.54	8.14
0.54	3.92	0.54	6.88	0.54	8.18
0.54	3.93	0.54	6.88	0.54	8.18
0.54	4.00	0.54	6.90	0.54	8.23
0.54	4.06	0.55	6.92	0.55	8.25
0.54	4.18	0.55	6.98	0.55	8.31
0.54	4.33	0.55	7.05	0.55	8.44
0.55	4.61	0.55	7.10	0.55	8.61
0.55	4.89	0.55	7.29	0.55	8.85
0.55	5.27	0.55	7.36	0.55	8.84
0.55	5.81	0.55	7.40	0.55	8.79
0.55	6.00	0.55	7.43	0.55	8.76
0.55	6.16	0.55	7.43	0.55	8.71
0.55	6.27	0.55	7.42	0.55	8.65
0.55	6.33	0.55	7.41	0.55	8.60
0.55	6.36	0.55	7.35	0.55	8.54
0.55	6.37	0.55	7.30	0.55	8.49
0.55	6.36	0.55	7.24	0.55	8.43
0.55	6.36	0.55	7.19	0.55	8.31
0.55	6.34	0.55	7.18	0.55	8.26
0.55	6.34	0.55	7.17	0.55	8.20
0.55	6.29	0.55	7.19	0.55	8.15
0.55	6.28	0.55	7.13	0.55	8.09
0.55	6.22	0.56	7.13	0.56	8.03
0.55	6.05	0.56	7.15	0.56	8.02
0.56	5.91	0.56	7.14	0.56	8.04
0.56	5.97	0.56	7.19	0.56	8.07
0.56	5.81	0.56	7.36	0.56	8.05
0.56	5.76	0.56	7.49	0.56	8.04
0.56	5.69	0.56	7.69	0.56	8.04
0.56	5.61	0.56	7.68	0.56	7.99
0.56	5.52	0.56	7.62	0.56	7.94
0.56	5.44	0.56	7.57	0.56	7.88
0.56	5.35	0.56	7.51	0.56	7.83

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.56	5.27	0.56	7.46	0.56	7.77
0.56	5.21	0.56	7.40	0.56	7.72
0.56	5.08	0.56	7.35	0.56	7.66
0.56	5.07	0.56	7.29	0.56	7.61
0.56	5.07	0.56	7.24	0.56	7.55
0.56	5.09	0.56	7.18	0.56	7.56
0.56	5.11	0.56	7.13	0.56	7.60
0.56	5.17	0.57	7.12	0.57	7.61
0.56	5.20	0.57	7.15	0.57	7.68
0.57	5.19	0.57	7.14	0.57	7.72
0.57	5.18	0.57	7.16	0.57	6.79
0.57	5.09	0.57	7.20	0.57	6.73
0.57	5.07	0.57	7.18	0.57	6.68
0.57	4.98	0.57	7.17	0.57	6.68
0.57	4.76	0.57	7.15	0.57	6.72
0.57	4.70	0.57	7.10	0.57	6.72
0.57	4.64	0.57	7.04	0.57	6.75
0.57	4.59	0.57	6.99	0.57	6.78
0.57	4.54	0.57	6.89	0.57	6.86
0.57	4.49	0.57	6.84	0.57	6.89
0.57	4.42	0.57	6.79	0.57	6.96
0.57	4.38	0.57	6.73	0.57	7.22
0.57	4.21	0.57	6.68	0.57	7.36
0.57	4.17	0.57	6.68	0.57	7.51
0.57	4.13	0.57	6.72	0.57	7.47
0.57	4.09	0.58	6.72	0.58	7.42
0.57	4.04	0.58	6.75	0.58	7.36
0.57	4.01	0.58	6.78	0.58	7.31
0.58	3.98	0.58	6.86	0.58	7.25
0.58	3.94	0.58	6.89	0.58	7.20
0.58	3.90	0.58	6.96	0.58	7.15
0.58	3.76	0.58	7.22	0.58	7.09
0.58	3.73	0.58	7.36	0.58	7.04
0.58	3.68	0.58	7.51	0.58	7.03
0.58	3.63	0.58	7.47	0.58	7.05
0.58	3.59	0.58	7.42	0.58	7.09
0.58	3.55	0.58	7.36	0.58	7.03
0.58	3.50	0.58	7.31	0.58	7.04
0.58	3.44	0.58	7.25	0.58	7.08

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.58	3.38	0.58	7.20	0.58	7.08
0.58	3.31	0.58	7.15	0.58	7.11
0.58	3.08	0.58	7.09	0.58	7.24
0.58	3.01	0.58	7.04	0.58	7.27
0.58	2.94	0.58	7.03	0.58	7.33
0.58	2.88	0.59	7.05	0.59	7.34
0.58	2.83	0.59	7.09	0.59	7.41
0.59	2.82	0.59	7.03	0.59	7.42
0.59	2.83	0.59	7.04	0.59	7.47
0.59	2.84	0.59	7.08	0.59	7.46
0.59	2.91	0.59	7.08	0.59	7.46
0.59	2.97	0.59	7.11	0.59	7.49
0.59	3.04	0.59	7.24	0.59	7.43
0.59	3.16	0.59	7.27	0.59	7.38
0.59	3.29	0.59	7.33	0.59	7.32
0.59	3.45	0.59	7.34	0.59	7.27
0.59	3.52	0.59	7.41	0.59	7.21
0.59	3.63	0.59	7.42	0.59	7.16
0.59	3.76	0.59	7.47	0.59	7.10
0.59	3.89	0.59	7.46	0.59	7.05
0.59	3.96	0.59	7.46	0.59	6.99
0.59	4.02	0.59	7.49	0.59	6.94
0.59	4.05	0.59	7.43	0.59	6.89
0.59	4.06	0.60	7.38	0.60	6.83
0.59	4.05	0.60	7.32	0.60	6.81
0.60	4.12	0.60	7.27	0.60	6.18
0.60	4.14	0.60	7.21	0.60	6.33
0.60	4.14	0.60	7.16	0.60	6.54
0.60	4.13	0.60	7.10	0.60	6.51
0.60	4.19	0.60	7.05	0.60	6.46
0.60	4.26	0.60	6.99	0.60	6.36
0.60	4.33	0.60	6.94	0.60	6.21
0.60	4.39	0.60	6.89	0.60	6.16
0.60	4.46	0.60	6.83	0.60	6.06
0.60	4.52	0.60	6.81	0.60	5.05
0.60	4.64	0.60	6.83	0.60	5.04
0.60	4.77	0.60	6.88	0.60	4.99
0.60	4.93	0.60	6.89	0.60	4.93
0.60	5.05	0.60	6.96	0.60	4.91

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.60	5.26	0.60	6.99	0.60	4.91
0.60	5.45	0.60	7.07	0.60	4.92
0.60	5.59	0.61	7.20	0.61	4.87
0.60	5.76	0.61	7.39	0.61	4.81
0.61	5.98	0.61	7.60	0.61	4.78
0.61	6.19	0.61	8.12	0.61	4.77
0.61	6.36	0.61	8.08	0.61	4.76
0.61	6.37	0.61	8.02	0.61	4.71
0.61	6.35	0.61	7.97	0.61	4.65
0.61	6.34	0.61	7.95	0.61	4.60
0.61	6.31	0.61	7.96	0.61	4.49
0.61	6.16	0.61	7.96	0.61	4.38
0.61	6.14	0.61	7.91	0.61	4.25
0.61	6.10	0.61	7.90	0.61	4.19
0.61	6.07	0.61	8.00	0.61	4.14
0.61	6.05	0.61	7.95	0.61	4.00
0.61	6.02	0.61	7.95	0.61	3.91
0.61	5.99	0.61	7.97	0.61	3.86
0.61	5.98	0.61	8.00	0.61	3.80
0.61	5.97	0.61	7.95	0.61	3.81
0.61	5.91	0.61	7.96	0.61	3.85
0.61	5.98	0.62	7.99	0.62	3.86
0.62	6.05	0.62	7.98	0.62	3.95
0.62	6.11	0.62	8.00	0.62	4.02
0.62	6.18	0.62	8.08	0.62	4.54
0.62	6.30	0.62	8.07	0.62	4.93
0.62	6.44	0.62	8.09	0.62	5.45
0.62	6.56	0.62	8.11	0.62	6.23
0.62	6.71	0.62	8.06	0.62	6.41
0.62	6.86	0.62	8.00	0.62	6.57
0.62	7.05	0.62	7.95	0.62	6.73
0.62	7.54	0.62	7.93	0.62	6.85
0.62	7.67	0.62	7.97	0.62	6.95
0.62	7.79	0.62	7.92	0.62	7.04
0.62	7.91	0.62	7.90	0.62	7.11
0.62	8.02	0.62	7.90	0.62	7.24
0.62	8.09	0.62	7.91	0.62	7.25
0.62	8.15	0.62	7.86	0.62	7.26
0.62	8.27	0.62	7.84	0.62	7.25

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.62	8.44	0.63	7.85	0.63	7.20
0.62	8.51	0.63	7.87	0.63	7.14
0.63	8.62	0.63	7.82	0.63	7.09
0.63	8.76	0.63	7.90	0.63	7.03
0.63	8.90	0.63	7.89	0.63	6.98
0.63	8.97	0.63	7.92	0.63	6.88
0.63	9.07	0.63	7.93	0.63	6.77
0.63	9.18	0.63	7.98	0.63	6.65
0.63	9.29	0.63	8.00	0.63	6.59
0.63	9.36	0.63	8.05	0.63	6.54
0.63	9.42	0.63	8.06	0.63	6.48
0.63	9.45	0.63	8.07	0.63	6.43
0.63	9.46	0.63	8.09	0.63	6.37
0.63	9.45	0.63	8.04	0.63	6.31
0.63	9.52	0.63	7.98	0.63	6.26
0.63	9.52	0.63	7.98	0.63	6.20
0.63	9.49	0.63	8.00	0.63	6.15
0.63	9.49	0.63	8.01	0.63	6.09
0.63	9.45	0.64	8.08	0.64	6.04
0.63	9.42	0.64	8.15	0.64	5.98
0.64	9.13	0.64	8.29	0.64	5.99
0.64	8.90	0.64	8.54	0.64	6.00
0.64	8.50	0.64	8.98	0.64	6.05
0.64	8.42	0.64	9.21	0.64	6.06
0.64	8.34	0.64	9.24	0.64	6.10
0.64	8.28	0.64	9.24	0.64	6.10
0.64	8.23	0.64	9.21	0.64	6.13
0.64	8.19	0.64	9.16	0.64	6.14
0.64	8.17	0.64	9.10	0.64	6.19
0.64	8.09	0.64	9.05	0.64	6.20
0.64	8.09	0.64	8.97	0.64	6.26
0.64	8.10	0.64	8.86	0.64	6.26
0.64	8.17	0.64	8.75	0.64	6.37
0.64	8.23	0.64	8.69	0.64	6.41
0.64	8.26	0.64	8.61	0.64	6.39
0.64	8.29	0.64	8.51	0.64	6.40
0.64	8.30	0.65	8.40	0.65	6.40
0.64	8.37	0.65	8.35	0.65	6.35
0.65	8.38	0.65	8.29	0.65	6.29

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.65	8.38	0.65	8.24	0.65	6.24
0.65	8.34	0.65	8.18	0.65	6.18
0.65	8.25	0.65	8.13	0.65	6.13
0.65	8.21	0.65	8.11	0.65	6.02
0.65	8.11	0.65	8.18	0.65	5.84
0.65	7.95	0.65	8.12	0.65	5.79
0.65	7.61	0.65	8.14	0.65	5.73
0.65	7.50	0.65	8.18	0.65	5.68
0.65	7.41	0.65	8.18	0.65	5.62
0.65	7.17	0.65	8.23	0.65	5.57
0.65	7.08	0.65	8.25	0.65	5.51
0.65	7.04	0.65	8.31	0.65	5.51
0.65	7.00	0.65	8.44	0.65	5.53
0.65	6.98	0.65	8.61	0.65	5.60
0.65	7.00	0.65	8.85	0.65	5.63
0.65	7.02	0.65	8.84	0.65	5.64
0.65	7.05	0.66	8.79	0.66	5.71
0.66	7.11	0.66	8.76	0.66	5.73
0.66	7.18	0.66	8.71	0.66	5.78
0.66	7.24	0.66	8.65	0.66	5.90
0.66	7.31	0.66	8.60	0.66	6.05
0.66	7.38	0.66	8.54	0.66	6.26
0.66	7.44	0.66	8.49	0.66	6.27
0.66	7.51	0.66	8.43	0.66	6.37
0.66	7.53	0.66	8.31	0.66	6.42
0.66	7.60	0.66	8.26	0.66	6.46
0.66	7.62	0.66	8.20	0.66	6.50
0.66	7.64	0.66	8.15	0.66	6.56
0.66	7.66	0.66	8.09	0.66	6.60
0.66	7.72	0.66	8.03	0.66	6.64
0.66	7.79	0.66	8.02	0.66	6.66
0.66	7.85	0.66	8.04	0.66	6.65
0.66	7.92	0.66	8.07	0.66	6.64
0.66	7.98	0.66	8.05	0.66	6.58
0.66	8.01	0.67	8.04	0.67	6.53
0.67	8.04	0.67	8.04	0.67	6.47
0.67	8.06	0.67	7.99	0.67	6.38
0.67	8.13	0.67	7.94	0.67	6.26
0.67	8.15	0.67	7.88	0.67	6.11

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.67	8.17	0.67	7.83	0.67	6.02
0.67	8.17	0.67	7.77	0.67	5.89
0.67	8.23	0.67	7.72	0.67	5.71
0.67	8.26	0.67	7.66	0.67	5.65
0.67	8.28	0.67	7.61	0.67	5.56
0.67	8.26	0.67	7.55	0.67	5.50
0.67	8.33	0.67	7.56	0.67	5.45
0.67	8.35	0.67	7.60	0.67	5.45
0.67	8.30	0.67	7.61	0.67	5.51
0.67	8.37	0.67	7.68	0.67	5.55
0.67	8.43	0.67	7.72	0.67	5.65
0.67	8.46	0.67	6.79	0.67	5.81
0.67	8.49	0.67	6.73	0.67	6.02
0.67	8.51	0.68	6.68	0.68	6.44
0.67	8.58	0.68	6.68	0.68	6.47
0.68	8.65	0.68	6.72	0.68	6.50
0.68	8.72	0.68	6.72	0.68	6.52
0.68	8.78	0.68	6.75	0.68	6.56
0.68	8.81	0.68	6.78	0.68	6.63
0.68	8.82	0.68	6.86	0.68	6.69
0.68	8.81	0.68	6.89	0.68	6.78
0.68	8.89	0.68	6.96	0.68	6.86
0.68	8.89	0.68	7.22	0.68	7.07
0.68	8.83	0.68	7.36	0.68	7.11
0.68	8.83	0.68	7.51	0.68	7.12
0.68	8.77	0.68	7.47	0.68	7.14
0.68	8.60	0.68	7.42	0.68	7.12
0.68	8.46	0.68	7.36	0.68	7.06
0.68	8.27	0.68	7.31	0.68	7.01
0.68	8.02	0.68	7.25	0.68	6.95
0.68	7.67	0.68	7.20	0.68	6.90
0.68	7.66	0.69	7.15	0.69	6.84
0.68	7.66	0.69	7.09	0.69	6.79
0.69	7.66	0.69	7.04	0.69	6.73
0.69	7.65	0.69	7.03	0.69	6.68
0.69	7.67	0.69	7.05	0.69	6.58
0.69	7.66	0.69	7.09	0.69	6.53
0.69	7.64	0.69	7.03	0.69	6.48
0.69	7.71	0.69	7.04	0.69	6.42

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.69	7.71	0.69	7.08	0.69	6.37
0.69	7.70	0.69	7.08	0.69	6.31
0.69	7.70	0.69	7.11	0.69	6.26
0.69	7.76	0.69	7.24	0.69	6.20
0.69	7.83	0.69	7.27	0.69	6.15
0.69	7.89	0.69	7.33	0.69	6.09
0.69	7.96	0.69	7.34	0.69	6.04
0.69	8.06	0.69	7.41	0.69	6.02
0.69	8.16	0.69	7.42	0.69	6.01
0.69	8.22	0.69	7.47	0.69	5.99
0.69	8.29	0.70	7.46	0.70	5.94
0.69	8.36	0.70	7.46	0.70	5.88
0.70	8.39	0.70	7.49	0.70	5.83
0.70	8.38	0.70	7.43	0.70	5.77
0.70	8.38	0.70	7.38	0.70	5.72
0.70	8.30	0.70	7.32	0.70	5.67
0.70	8.11	0.70	7.27	0.70	5.65
0.70	7.95	0.70	7.21	0.70	5.63
0.70	7.79	0.70	7.16	0.70	5.63
0.70	7.65	0.70	7.10	0.70	5.57
0.70	7.57	0.70	7.05	0.70	5.52
0.70	7.75	0.70	6.99	0.70	5.57
0.70	7.94	0.70	6.94	0.70	5.59
0.70	8.14	0.70	6.89	0.70	5.53
0.70	8.33	0.70	6.83	0.70	5.52
0.70	8.60	0.70	6.81	0.70	5.53
0.70	8.72	0.70	6.18	0.70	5.56
0.70	8.79	0.70	6.33	0.70	5.51
0.70	8.86	0.70	6.54	0.70	5.50
0.70	8.93	0.71	6.51	0.71	5.52
0.71	9.00	0.71	6.46	0.71	5.50
0.71	9.01	0.71	6.36	0.71	5.60
0.71	9.01	0.71	6.21	0.71	5.68
0.71	8.98	0.71	6.16	0.71	5.73
0.71	9.05	0.71	6.06	0.71	5.85
0.71	9.07	0.71	5.97	0.71	6.07
0.71	9.09	0.71	5.91	0.71	6.39
0.71	9.09	0.71	5.86	0.71	6.85
0.71	9.15	0.71	5.80	0.71	6.89

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.71	9.18	0.71	5.78	0.71	6.89
0.71	9.13	0.71	5.79	0.71	6.83
0.71	9.20	0.71	5.84	0.71	6.78
0.71	9.21	0.71	5.82	0.71	6.68
0.71	9.18	0.71	5.93	0.71	6.56
0.71	9.20	0.71	5.88	0.71	6.43
0.71	9.17	0.71	5.87	0.71	6.37
0.71	9.16	0.71	5.85	0.71	6.26
0.71	9.10	0.72	5.79	0.72	6.13
0.72	9.07	0.72	5.74	0.72	6.03
0.72	9.01	0.72	5.68	0.72	5.98
0.72	8.62	0.72	5.63	0.72	6.00
0.72	8.59	0.72	5.53	0.72	6.21
0.72	8.56	0.72	5.43	0.72	6.43
0.72	8.50	0.72	5.34	0.72	6.84
0.72	8.44	0.72	5.29	0.72	6.96
0.72	8.36	0.72	5.23	0.72	7.05
0.72	8.28	0.72	5.21	0.72	7.13
0.72	8.21	0.72	5.23	0.72	7.17
0.72	8.17	0.72	5.26	0.72	7.20
0.72	8.09	0.72	5.21	0.72	7.21
0.72	8.15	0.72	5.21	0.72	7.25
0.72	8.22	0.72	5.30	0.72	7.19
0.72	8.28	0.72	5.24	0.72	7.14
0.72	8.35	0.72	5.35	0.72	7.09
0.72	8.45	0.72	5.44	0.72	7.03
0.72	8.57	0.73	5.49	0.73	6.98
0.72	8.68	0.73	5.59	0.73	6.89
0.73	8.75	0.73	5.72	0.73	6.79
0.73	8.81	0.73	5.89	0.73	6.68
0.73	8.82	0.73	6.13	0.73	6.62
0.73	8.67	0.73	6.12	0.73	6.43
0.73	8.52	0.73	6.06	0.73	6.34
0.73	8.26	0.73	6.05	0.73	6.22
0.73	7.83	0.73	6.04	0.73	6.09
0.73	7.05	0.73	6.05	0.73	6.03
0.73	6.77	0.73	6.03	0.73	5.94
0.73	6.51	0.73	6.05	0.73	5.83
0.73	6.27	0.73	6.09	0.73	5.72

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.73	6.03	0.73	6.13	0.73	5.66
0.73	5.52	0.73	6.24	0.73	5.61
0.73	5.35	0.73	6.52	0.73	5.55
0.73	5.17	0.73	6.76	0.73	5.54
0.73	5.04	0.73	6.82	0.73	5.54
0.73	4.94	0.74	6.87	0.74	5.54
0.73	4.87	0.74	6.87	0.74	5.49
0.74	4.83	0.74	6.85	0.74	5.43
0.74	4.82	0.74	6.79	0.74	5.42
0.74	4.82	0.74	6.74	0.74	5.40
0.74	4.84	0.74	6.69	0.74	5.39
0.74	4.90	0.74	6.63	0.74	5.33
0.74	4.98	0.74	6.58	0.74	5.28
0.74	5.04	0.74	6.48	0.74	5.18
0.74	5.11	0.74	6.30	0.74	5.04
0.74	5.18	0.74	6.25	0.74	4.90
0.74	5.24	0.74	6.19	0.74	4.82
0.74	5.37	0.74	6.13	0.74	4.68
0.74	5.52	0.74	6.23	0.74	4.57
0.74	5.73	0.74	6.22	0.74	4.42
0.74	5.88	0.74	6.20	0.74	4.19
0.74	6.06	0.74	6.19	0.74	4.08
0.74	6.26	0.74	6.13	0.74	3.96
0.74	6.47	0.75	6.08	0.75	3.85
0.74	6.68	0.75	6.02	0.75	3.79
0.75	6.69	0.75	6.01	0.75	3.80
0.75	6.69	0.75	5.99	0.75	3.83
0.75	6.68	0.75	5.99	0.75	3.84
0.75	6.63	0.75	5.93	0.75	3.93
0.75	6.58	0.75	5.92	0.75	4.19
0.75	6.42	0.75	5.94	0.75	4.41
0.75	6.37	0.75	5.93	0.75	4.81
0.75	6.33	0.75	5.93	0.75	4.93
0.75	6.29	0.75	5.96	0.75	5.06
0.75	6.28	0.75	5.91	0.75	5.17
0.75	6.28	0.75	5.91	0.75	5.28
0.75	6.30	0.75	5.95	0.75	5.38
0.75	6.32	0.75	5.93	0.75	5.48
0.75	6.39	0.75	5.95	0.75	5.72

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.75	6.45	0.75	5.95	0.75	5.80
0.75	6.57	0.75	5.90	0.75	5.87
0.75	6.77	0.75	5.84	0.75	5.94
0.75	6.88	0.76	5.84	0.76	6.00
0.76	7.02	0.76	5.84	0.76	6.05
0.76	7.17	0.76	5.88	0.76	6.10
0.76	7.38	0.76	5.96	0.76	6.14
0.76	7.69	0.76	5.98	0.76	6.19
0.76	7.87	0.76	6.06	0.76	6.24
0.76	8.04	0.76	6.18	0.76	6.41
0.76	8.33	0.76	6.33	0.76	6.48
0.76	8.50	0.76	6.54	0.76	6.54
0.76	8.66	0.76	6.51	0.76	6.61
0.76	8.83	0.76	6.46	0.76	6.65
0.76	8.96	0.76	6.36	0.76	6.66
0.76	9.09	0.76	6.21	0.76	6.68
0.76	9.21	0.76	6.16	0.76	6.67
0.76	9.28	0.76	6.06	0.76	6.62
0.76	9.34	0.76	5.97	0.76	6.56
0.76	9.41	0.76	5.91	0.76	6.51
0.76	9.47	0.76	5.86	0.76	6.45
0.76	9.54	0.77	5.80	0.77	6.40
0.77	9.54	0.77	5.78	0.77	6.35
0.77	9.52	0.77	5.79	0.77	6.29
0.77	9.55	0.77	5.84	0.77	6.24
0.77	9.51	0.77	5.82	0.77	6.24
0.77	9.50	0.77	5.93	0.77	6.27
0.77	9.42	0.77	5.88	0.77	6.28
0.77	9.29	0.77	5.87	0.77	6.41
0.77	9.08	0.77	5.85	0.77	6.49
0.77	9.03	0.77	5.79	0.77	6.64
0.77	9.05	0.77	5.74	0.77	6.84
0.77	9.12	0.77	5.68	0.77	7.09
0.77	9.18	0.77	5.63	0.77	7.06
0.77	9.22	0.77	5.53	0.77	7.00
0.77	9.29	0.77	5.43	0.77	6.95
0.77	9.35	0.77	5.34	0.77	6.87
0.77	9.42	0.77	5.29	0.77	6.76
0.77	9.48	0.77	5.23	0.77	6.65

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.77	9.51	0.78	5.21	0.78	6.50
0.77	9.54	0.78	5.23	0.78	6.38
0.78	9.56	0.78	5.26	0.78	6.33
0.78	9.63	0.78	5.21	0.78	6.27
0.78	9.69	0.78	5.21	0.78	6.22
0.78	9.76	0.78	5.30	0.78	6.16
0.78	9.78	0.78	5.24	0.78	6.11
0.78	9.81	0.78	5.35	0.78	6.05
0.78	9.83	0.78	5.44	0.78	6.00
0.78	9.89	0.78	5.49	0.78	6.06
0.78	9.96	0.78	5.59	0.78	6.11
0.78	10.02	0.78	5.72	0.78	6.10
0.78	10.05	0.78	5.89	0.78	6.13
0.78	10.07	0.78	6.13	0.78	6.16
0.78	10.07	0.78	6.12	0.78	6.22
0.78	10.14	0.78	6.06	0.78	6.37
0.78	10.14	0.78	6.05	0.78	6.57
0.78	10.10	0.78	6.04	0.78	6.86
0.78	10.11	0.78	6.05	0.78	6.88
0.78	10.06	0.79	6.03	0.79	6.87
0.79	9.90	0.79	6.05	0.79	6.85
0.79	9.75	0.79	6.09	0.79	6.80
0.79	9.56	0.79	6.13	0.79	6.75
0.79	9.28	0.79	6.24	0.79	6.69
0.79	9.26	0.79	6.52	0.79	6.64
0.79	9.23	0.79	6.76	0.79	6.58
0.79	9.19	0.79	6.82	0.79	6.53
0.79	9.14	0.79	6.87	0.79	6.47
0.79	9.09	0.79	6.87	0.79	6.42
0.79	8.91	0.79	6.85	0.79	6.36
0.79	8.87	0.79	6.79	0.79	6.31
0.79	8.82	0.79	6.74	0.79	6.25
0.79	8.79	0.79	6.69	0.79	6.20
0.79	8.78	0.79	6.63	0.79	6.20
0.79	8.77	0.79	6.58	0.79	6.13
0.79	8.76	0.79	6.48	0.79	6.14
0.79	8.76	0.79	6.30	0.79	6.17
0.79	8.78	0.80	6.25	0.80	6.24
0.80	8.67	0.80	6.19	0.80	6.19

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.80	8.69	0.80	6.10	0.80	6.27
0.80	8.67	0.80	6.00	0.80	6.27
0.80	8.66	0.80	5.95	0.80	6.30
0.80	8.63	0.80	5.89	0.80	6.28
0.80	8.64	0.80	5.84	0.80	6.30
0.80	8.62	0.80	5.78	0.80	6.31
0.80	8.44	0.80	5.73	0.80	6.26
0.80	8.51	0.80	5.67	0.80	6.24
0.80	8.62	0.80	5.62	0.80	6.24
0.80	8.76	0.80	5.57	0.80	6.28
0.80	8.90	0.80	5.50	0.80	6.30
0.80	8.97	0.80	5.50	0.80	6.36
0.80	9.07	0.80	5.49	0.80	6.36
0.80	9.18	0.80	5.50	0.80	6.44
0.80	9.29	0.80	5.44	0.80	6.50
0.80	9.36	0.80	5.51	0.80	6.64
0.80	9.42	0.81	5.55	0.81	6.85
0.81	9.45	0.81	5.54	0.81	7.17
0.81	9.46	0.81	5.58	0.81	7.19
0.81	9.45	0.81	5.59	0.81	7.25
0.81	9.52	0.81	5.67	0.81	7.24
0.81	9.52	0.81	5.70	0.81	7.18
0.81	9.49	0.81	5.77	0.81	7.13
0.81	9.49	0.81	5.88	0.81	7.07
0.81	9.45	0.81	6.19	0.81	7.02
0.81	9.42	0.81	6.32	0.81	6.96
0.81	9.13	0.81	6.27	0.81	6.91
0.81	8.90	0.81	6.21	0.81	6.86
0.81	8.50	0.81	6.16	0.81	6.85
0.81	8.42	0.81	6.10	0.81	6.93
0.81	8.34	0.81	6.05	0.81	6.87
0.81	8.28	0.81	5.99	0.81	6.86
0.81	8.23	0.81	5.94	0.81	6.88
0.81	8.19	0.81	5.88	0.81	6.92
0.81	8.17	0.82	5.93	0.82	6.90
0.81	8.09	0.82	5.94	0.82	6.92
0.82	8.09	0.82	5.89	0.82	7.07
0.82	8.10	0.82	5.83	0.82	7.02
0.82	8.17	0.82	5.82	0.82	7.21

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.82	8.23	0.82	5.82	0.82	7.36
0.82	8.26	0.82	5.83	0.82	7.60
0.82	8.29	0.82	5.77	0.82	7.62
0.82	8.30	0.82	5.72	0.82	7.62
0.82	8.37	0.82	5.66	0.82	7.61
0.82	8.38	0.82	5.64	0.82	7.61
0.82	8.38	0.82	5.67	0.82	7.55
0.82	8.34	0.82	5.62	0.82	7.50
0.82	8.25	0.82	5.56	0.82	7.52
0.82	8.21	0.82	5.51	0.82	7.52
0.82	8.11	0.82	5.45	0.82	7.46
0.82	7.95	0.82	5.40	0.82	7.41
0.82	7.61	0.82	5.38	0.82	7.39
0.82	7.50	0.83	5.39	0.83	7.38
0.82	7.41	0.83	5.39	0.83	7.37
0.83	7.17	0.83	5.34	0.83	7.32
0.83	7.08	0.83	5.33	0.83	7.26
0.83	7.04	0.83	5.35	0.83	7.21
0.83	7.00	0.83	5.36	0.83	7.15
0.83	6.98	0.83	5.30	0.83	7.15
0.83	7.00	0.83	5.29	0.83	7.15
0.83	7.02	0.83	5.31	0.83	7.18
0.83	7.05	0.83	5.36	0.83	7.12
0.83	7.11	0.83	5.34	0.83	7.13
0.83	7.18	0.83	5.38	0.83	7.17
0.83	7.24	0.83	5.52	0.83	7.15
0.83	7.31	0.83	5.56	0.83	7.18
0.83	7.38	0.83	5.63	0.83	7.17
0.83	7.44	0.83	5.76	0.83	7.20
0.83	7.51	0.83	5.89	0.83	7.25
0.83	7.53	0.83	6.03	0.83	7.26
0.83	7.60	0.83	5.96	0.83	7.21
0.83	7.62	0.83	5.90	0.83	7.15
0.83	7.64	0.83	5.80	0.83	7.10
0.83	7.66	0.84	5.64	0.84	7.04
0.83	7.72	0.84	5.58	0.84	6.99
0.84	7.79	0.84	5.53	0.84	6.93
0.84	7.85	0.84	5.42	0.84	6.92
0.84	7.92	0.84	5.33	0.84	7.00

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.84	7.98	0.84	5.27	0.84	6.95
0.84	8.01	0.84	5.22	0.84	6.95
0.84	8.04	0.84	5.17	0.84	6.98
0.84	8.06	0.84	5.11	0.84	6.93
0.84	8.13	0.84	5.11	0.84	6.93
0.84	8.15	0.84	5.15	0.84	6.97
0.84	8.17	0.84	5.25	0.84	6.91
0.84	8.17	0.84	5.29	0.84	6.86
0.84	8.23	0.84	5.40	0.84	6.80
0.84	8.26	0.84	5.60	0.84	6.75
0.84	8.28	0.84	5.89	0.84	6.70
0.84	8.26	0.84	6.33	0.84	6.60
0.84	8.33	0.84	6.42	0.84	6.50
0.84	8.35	0.84	6.49	0.84	6.37
0.84	8.30	0.85	6.53	0.85	6.31
0.84	8.37	0.85	6.57	0.85	6.21
0.85	8.43	0.85	6.52	0.85	6.10
0.85	8.46	0.85	6.46	0.85	5.99
0.85	8.49	0.85	6.41	0.85	5.94
0.85	8.51	0.85	6.36	0.85	5.93
0.85	8.58	0.85	6.24	0.85	5.96
0.85	8.65	0.85	6.12	0.85	5.97
0.85	8.72	0.85	5.98	0.85	6.03
0.85	8.78	0.85	5.92	0.85	6.08
0.85	8.81	0.85	5.82	0.85	6.17
0.85	8.82	0.85	6.13	0.85	6.36
0.85	8.81	0.85	6.23	0.85	6.62
0.85	8.89	0.85	6.22	0.85	7.08
0.85	8.89	0.85	6.20	0.85	7.10
0.85	8.83	0.85	6.19	0.85	7.10
0.85	8.83	0.85	6.13	0.85	7.10
0.85	8.77	0.85	6.08	0.85	7.04
0.85	8.60	0.86	6.02	0.86	6.99
0.85	8.46	0.86	6.01	0.86	6.93
0.86	8.27	0.86	5.99	0.86	6.88
0.86	8.02	0.86	5.99	0.86	6.82
0.86	7.67	0.86	5.93	0.86	6.77
0.86	7.66	0.86	5.92	0.86	6.71
0.86	7.66	0.86	5.94	0.86	6.69

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.86	7.66	0.86	5.93	0.86	6.71
0.86	7.65	0.86	5.93	0.86	6.78
0.86	7.67	0.86	5.96	0.86	6.79
0.86	7.66	0.86	5.91	0.86	6.88
0.86	7.64	0.86	5.91	0.86	6.96
0.86	7.71	0.86	5.95	0.86	7.11
0.86	7.71	0.86	5.93	0.86	7.38
0.86	7.70	0.86	5.95	0.86	7.74
0.86	7.70	0.86	5.95	0.86	8.31
0.86	7.76	0.86	5.90	0.86	8.28
0.86	7.83	0.86	5.84	0.86	8.23
0.86	7.89	0.87	5.84	0.87	8.17
0.86	7.96	0.87	5.84	0.87	8.08
0.87	8.06	0.87	5.88	0.87	7.95
0.87	8.16	0.87	5.96	0.87	7.79
0.87	8.22	0.87	5.98	0.87	7.67
0.87	8.29	0.87	6.06	0.87	7.48
0.87	8.36	0.87	6.18	0.87	7.31
0.87	8.39	0.87	6.33	0.87	6.83
0.87	8.38	0.87	6.54	0.87	6.72
0.87	8.38	0.87	6.51	0.87	6.67
0.87	8.30	0.87	6.46	0.87	6.62
0.87	8.11	0.87	6.36	0.87	6.56
0.87	7.95	0.87	6.21	0.87	6.51
0.87	7.79	0.87	6.16	0.87	6.53
0.87	7.65	0.87	6.06	0.87	6.58
0.87	7.57	0.87	5.97	0.87	6.60
0.87	7.75	0.87	5.91	0.87	6.88
0.87	7.94	0.87	5.86	0.87	7.19
0.87	8.14	0.87	5.80	0.87	7.26
0.87	8.33	0.88	5.78	0.88	7.34
0.88	8.60	0.88	5.79	0.88	7.39
0.88	8.72	0.88	5.84	0.88	7.42
0.88	8.79	0.88	5.82	0.88	7.42
0.88	8.86	0.88	5.93	0.88	7.41
0.88	8.93	0.88	5.88	0.88	7.35
0.88	9.00	0.88	5.87	0.88	7.30
0.88	9.01	0.88	5.85	0.88	7.24
0.88	9.01	0.88	5.79	0.88	7.19

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.88	8.98	0.88	5.74	0.88	7.13
0.88	9.05	0.88	5.68	0.88	7.08
0.88	9.07	0.88	5.63	0.88	7.03
0.88	9.09	0.88	5.53	0.88	6.97
0.88	9.09	0.88	5.43	0.88	6.92
0.88	9.15	0.88	5.34	0.88	6.86
0.88	9.18	0.88	5.29	0.88	6.80
0.88	9.13	0.88	5.23	0.88	6.74
0.88	9.20	0.89	5.21	0.89	6.69
0.88	9.21	0.89	5.23	0.89	6.64
0.88	9.18	0.89	5.26	0.89	6.58
0.89	9.20	0.89	5.21	0.89	6.57
0.89	9.17	0.89	5.21	0.89	6.59
0.89	9.16	0.89	5.30	0.89	6.53
0.89	9.10	0.89	5.24	0.89	6.55
0.89	9.07	0.89	5.35	0.89	6.58
0.89	9.01	0.89	5.44	0.89	6.59
0.89	8.62	0.89	5.49	0.89	6.71
0.89	8.59	0.89	5.59	0.89	6.78
0.89	8.56	0.89	5.72	0.89	6.81
0.89	8.50	0.89	5.89	0.89	6.84
0.89	8.44	0.89	6.13	0.89	6.92
0.89	8.36	0.89	6.12	0.89	7.01
0.89	8.28	0.89	6.06	0.89	7.09
0.89	8.21	0.89	6.05	0.89	7.05
0.89	8.17	0.89	6.04	0.89	7.04
0.89	8.09	0.89	6.05	0.89	7.09
0.89	8.15	0.90	6.03	0.90	7.09
0.89	8.22	0.90	6.05	0.90	7.15
0.90	8.28	0.90	6.09	0.90	7.19
0.90	8.35	0.90	6.13	0.90	7.34
0.90	8.45	0.90	6.24	0.90	7.40
0.90	8.57	0.90	6.52	0.90	7.42
0.90	8.68	0.90	6.76	0.90	7.43
0.90	8.75	0.90	6.82	0.90	7.43
0.90	8.81	0.90	6.87	0.90	7.41
0.90	8.82	0.90	6.87	0.90	7.36
0.90	8.67	0.90	6.85	0.90	7.30
0.90	8.52	0.90	6.79	0.90	7.25

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.90	8.26	0.90	6.74	0.90	7.19
0.90	7.83	0.90	6.69	0.90	7.14
0.90	7.05	0.90	6.63	0.90	7.09
0.90	6.77	0.90	6.58	0.90	7.03
0.90	6.51	0.90	6.48	0.90	6.98
0.90	6.27	0.90	6.30	0.90	6.92
0.90	6.03	0.91	6.25	0.91	6.83
0.90	5.52	0.91	6.19	0.91	6.64
0.91	5.35	0.91	6.10	0.91	6.58
0.91	5.17	0.91	6.00	0.91	6.53
0.91	5.04	0.91	5.95	0.91	6.44
0.91	4.94	0.91	5.89	0.91	6.35
0.91	4.87	0.91	5.84	0.91	6.29
0.91	6.92	0.91	5.78	0.91	6.24
0.91	6.81	0.91	5.73	0.91	6.18
0.91	6.71	0.91	5.67	0.91	6.13
0.91	6.64	0.91	5.62	0.91	6.11
0.91	6.47	0.91	5.57	0.91	6.12
0.91	6.45	0.91	5.50	0.91	6.14
0.91	6.44	0.91	5.50	0.91	6.09
0.91	6.44	0.91	5.49	0.91	6.08
0.91	6.45	0.91	5.50	0.91	6.11
0.91	6.51	0.91	5.44	0.91	6.13
0.91	6.58	0.91	5.51	0.91	6.08
0.91	6.64	0.91	5.55	0.91	6.06
0.91	6.71	0.92	5.54	0.92	6.07
0.91	6.77	0.92	5.58	0.92	6.08
0.92	6.84	0.92	5.59	0.92	6.02
0.92	6.90	0.92	5.67	0.92	6.02
0.92	6.97	0.92	5.70	0.92	6.01
0.92	7.03	0.92	5.77	0.92	6.04
0.92	7.10	0.92	5.88	0.92	5.98
0.92	7.16	0.92	6.19	0.92	5.99
0.92	7.23	0.92	6.32	0.92	6.02
0.92	7.30	0.92	6.27	0.92	6.03
0.92	7.36	0.92	6.21	0.92	6.09
0.92	7.43	0.92	6.16	0.92	6.24
0.92	7.44	0.92	6.10	0.92	6.35
0.92	7.39	0.92	6.05	0.92	6.48

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.92	7.37	0.92	5.99	0.92	6.65
0.92	7.38	0.92	5.94	0.92	6.88
0.92	7.32	0.92	5.88	0.92	6.88
0.92	7.31	0.92	5.93	0.92	6.90
0.92	7.26	0.93	5.94	0.93	6.92
0.92	7.14	0.93	5.89	0.93	6.98
0.93	6.98	0.93	5.83	0.93	7.05
0.93	6.72	0.93	5.82	0.93	7.10
0.93	6.05	0.93	5.82	0.93	7.29
0.93	5.88	0.93	5.83	0.93	7.36
0.93	5.69	0.93	5.77	0.93	7.40
0.93	5.49	0.93	5.72	0.93	7.43
0.93	5.31	0.93	5.66	0.93	7.43
0.93	5.13	0.93	5.64	0.93	7.42
0.93	4.98	0.93	5.67	0.93	7.41
0.93	4.85	0.93	5.62	0.93	7.35
0.93	4.75	0.93	5.56	0.93	7.30
0.93	4.69	0.93	5.51	0.93	7.24
0.93	4.64	0.93	5.45	0.93	7.19
0.93	4.62	0.93	5.40	0.93	7.18
0.93	4.57	0.93	5.38	0.93	7.17
0.93	4.58	0.93	5.39	0.93	7.19
0.93	4.58	0.94	5.39	0.94	7.13
0.94	4.65	0.94	5.34	0.94	7.13
0.94	4.65	0.94	5.33	0.94	7.15
0.94	4.62	0.94	5.35	0.94	7.14
0.94	7.08	0.94	5.36	0.94	7.19
0.94	7.06	0.94	5.30	0.94	7.36
0.94	7.08	0.94	5.29	0.94	7.49
0.94	7.03	0.94	5.31	0.94	7.69
0.94	6.99	0.94	5.36	0.94	7.68
0.94	6.88	0.94	5.34	0.94	7.62
0.94	6.71	0.94	5.38	0.94	7.57
0.94	6.43	0.94	5.52	0.94	7.51
0.94	6.39	0.94	5.56	0.94	7.46
0.94	6.36	0.94	5.63	0.94	7.40
0.94	6.33	0.94	5.76	0.94	7.35
0.94	6.14	0.94	5.89	0.94	7.29
0.94	6.06	0.94	6.03	0.94	7.24

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.94	5.96	0.94	5.96	0.94	7.18
0.94	5.85	0.95	5.90	0.95	7.13
0.95	5.72	0.95	5.80	0.95	7.12
0.95	5.60	0.95	5.64	0.95	7.15
0.95	5.48	0.95	5.58	0.95	7.14
0.95	5.37	0.95	5.53	0.95	7.16
0.95	5.28	0.95	5.42	0.95	7.20
0.95	5.13	0.95	5.33	0.95	7.18
0.95	5.14	0.95	5.27	0.95	7.17
0.95	5.15	0.95	5.22	0.95	7.15
0.95	5.22	0.95	5.17	0.95	7.10
0.95	5.28	0.95	5.11	0.95	7.04
0.95	6.41	0.95	5.11	0.95	6.99
0.95	6.53	0.95	5.15	0.95	6.89
0.95	6.65	0.95	5.25	0.95	6.84
0.95	6.72	0.95	5.29	0.95	6.79
0.95	6.78	0.95	5.40	0.95	6.73
0.95	6.81	0.95	5.60	0.95	6.68
0.95	6.82	0.95	5.89	0.95	6.68
0.95	6.80	0.96	6.33	0.96	6.72
0.96	6.83	0.96	6.42	0.96	6.72
0.96	6.83	0.96	6.49	0.96	6.75
0.96	6.81	0.96	6.53	0.96	6.78
0.96	6.83	0.96	6.57	0.96	6.86
0.96	6.83	0.96	6.52	0.96	6.89
0.96	6.80	0.96	6.46	0.96	6.96
0.96	6.72	0.96	6.41	0.96	7.22
0.96	6.71	0.96	6.36	0.96	7.36
0.96	6.63	0.96	6.24	0.96	7.51
0.96	6.45	0.96	6.12	0.96	7.47
0.96	6.10	0.96	5.98	0.96	7.42
0.96	6.00	0.96	5.92	0.96	7.36
0.96	5.87	0.96	5.82	0.96	7.31
0.96	5.75	0.96	5.64	0.96	7.25
0.96	5.62	0.96	5.59	0.96	7.20
0.96	5.27	0.96	5.54	0.96	7.15
0.96	6.92	0.96	5.53	0.96	7.09
0.96	6.81	0.96	5.55	0.96	7.04
0.96	6.71	0.97	5.54	0.97	7.03

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.97	6.64	0.97	5.59	0.97	7.05
0.97	6.47	0.97	5.63	0.97	7.09
0.97	6.45	0.97	5.97	0.97	7.03
0.97	6.44	0.97	6.28	0.97	7.04
0.97	6.44	0.97	6.36	0.97	7.08
0.97	6.45	0.97	6.42	0.97	7.08
0.97	6.51	0.97	6.51	0.97	7.11
0.97	6.58	0.97	6.58	0.97	7.24
0.97	6.64	0.97	6.67	0.97	7.27
0.97	6.71	0.97	6.74	0.97	7.33
0.97	6.77	0.97	6.80	0.97	7.34
0.97	6.84	0.97	6.96	0.97	7.41
0.97	6.90	0.97	7.01	0.97	7.42
0.97	6.97	0.97	7.03	0.97	7.47
0.97	7.03	0.97	7.06	0.97	7.46
0.97	7.10	0.97	7.08	0.97	7.46
0.97	7.16	0.97	7.08	0.97	7.49
0.97	7.23	0.98	7.08	0.98	7.43
0.97	7.30	0.98	7.09	0.98	7.38
0.98	7.36	0.98	7.04	0.98	7.32
0.98	7.43	0.98	7.02	0.98	7.27
0.98	7.44	0.98	7.07	0.98	7.21
0.98	7.39	0.98	7.01	0.98	7.16
0.98	7.37	0.98	6.96	0.98	7.10
0.98	7.38	0.98	6.90	0.98	7.05
0.98	7.32	0.98	6.89	0.98	6.99
0.98	7.31	0.98	6.87	0.98	6.94
0.98	7.26	0.98	6.87	0.98	6.89
0.98	7.14	0.98	6.81	0.98	6.83
0.98	6.98	0.98	6.76	0.98	6.81
0.98	6.72	0.98	6.84	0.98	6.83
0.98	6.05	0.98	6.84	0.98	6.88
0.98	5.88	0.98	6.87	0.98	6.89
0.98	5.69	0.98	6.88	0.98	6.96
0.98	5.49	0.98	6.95	0.98	6.99
0.98	5.31	0.99	6.97	0.99	7.07
0.98	5.13	0.99	7.03	0.99	7.20
0.99	4.98	0.99	7.10	0.99	7.39
0.99	4.85	0.99	7.21	0.99	7.60

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.99	4.75	0.99	7.17	0.99	8.12
0.99	4.69	0.99	7.12	0.99	8.08
0.99	4.64	0.99	7.06	0.99	8.02
0.99	4.62	0.99	7.01	0.99	7.97
0.99	4.57	0.99	6.96	0.99	7.95
0.99	4.58	0.99	6.90	0.99	7.96
0.99	4.58	0.99	6.85	0.99	7.96
0.99	4.65	0.99	6.79	0.99	7.91
0.99	4.65	0.99	6.74	0.99	7.90
0.99	4.62	0.99	6.67	0.99	8.00
0.99	4.52	0.99	6.62	0.99	7.95
0.99	4.51	0.99	6.54	0.99	7.95
0.99	4.41	0.99	6.43	0.99	7.97
0.99	4.16	0.99	6.33	0.99	8.00
0.99	4.06	1.00	6.27	1.00	7.95
0.99	3.97	1.00	6.22	1.00	7.96
1.00	3.86	1.00	6.14	1.00	7.99
1.00	3.75	1.00	6.02	1.00	7.98
1.00	3.62	1.00	5.90	1.00	8.00
1.00	3.31	1.00	5.84	1.00	8.08
1.00	3.19	1.00	5.65	1.00	8.07
1.00	3.07	1.00	5.60	1.00	8.09
1.00	2.93	1.00	5.48	1.00	8.11
1.00	2.82	1.00	5.36	1.00	8.06
1.00	2.72	1.00	5.26	1.00	8.00
1.00	2.63	1.00	5.20	1.00	7.95
1.00	2.54	1.00	5.21	1.00	7.93
1.00	2.50	1.00	5.26	1.00	7.97
1.00	2.46	1.00	5.27	1.00	7.92
1.00	2.44	1.00	5.48	1.00	7.90
1.00	2.43	1.00	5.43	1.00	7.90
1.00	2.37	1.00	5.81	1.00	7.91
1.00	2.43	1.00	6.04	1.00	7.86
1.00	2.46	1.01	6.34	1.01	7.84
1.01	2.47	1.01	6.31	1.01	7.85
1.01	2.46	1.01	6.26	1.01	7.87
1.01	2.53	1.01	6.20	1.01	7.82
1.01	2.56	1.01	6.15	1.01	7.90
1.01	2.58	1.01	6.09	1.01	7.89

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.01	2.58	1.01	6.04	1.01	7.92
1.01	2.58	1.01	5.98	1.01	7.93
1.01	2.56	1.01	6.03	1.01	7.98
1.01	2.56	1.01	6.04	1.01	8.00
1.01	2.51	1.01	5.99	1.01	8.05
1.01	2.45	1.01	6.01	1.01	8.06
1.01	2.32	1.01	6.06	1.01	8.07
1.01	2.07	1.01	6.07	1.01	8.09
1.01	2.00	1.01	6.12	1.01	8.04
1.01	1.96	1.01	6.13	1.01	7.98
1.01	1.84	1.01	6.21	1.01	7.98
1.01	1.84	1.01	6.34	1.01	8.00
1.01	1.85	1.02	6.33	1.02	8.01
1.02	1.86	1.02	6.35	1.02	8.08
1.02	1.88	1.02	6.37	1.02	8.15
1.02	1.94	1.02	6.32	1.02	8.29
1.02	1.97	1.02	6.26	1.02	8.54
1.02	1.98	1.02	6.21	1.02	8.98
1.02	1.99	1.02	6.15	1.02	9.21
1.02	2.06	1.02	6.10	1.02	9.24
1.02	2.12	1.02	6.04	1.02	9.24
1.02	2.19	1.02	5.99	1.02	9.21
1.02	2.25	1.02	5.98	1.02	9.16
1.02	2.32	1.02	6.01	1.02	9.10
1.02	2.38	1.02	6.00	1.02	9.05
1.02	2.45	1.02	6.04	1.02	8.97
1.02	2.52	1.02	6.07	1.02	8.86
1.02	2.58	1.02	6.15	1.02	8.75
1.02	2.65	1.02	6.35	1.02	8.69
1.02	2.71	1.02	6.64	1.02	8.61
1.02	2.73	1.03	7.13	1.03	8.51
1.02	2.73	1.03	7.39	1.03	8.40
1.03	2.68	1.03	7.48	1.03	8.35
1.03	2.69	1.03	7.53	1.03	8.29
1.03	2.63	1.03	7.56	1.03	8.24
1.03	2.59	1.03	7.56	1.03	8.18
1.03	2.47	1.03	7.54	1.03	8.13
1.03	2.27	1.03	7.49	1.03	8.11
1.03	1.89	1.03	7.44	1.03	8.18

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.03	1.39	1.03	7.38	1.03	8.12
1.03	0.65	1.03	7.33	1.03	8.14
1.03	0.32	1.03	7.23	1.03	8.18
1.03	0.25	1.03	7.12	1.03	8.18
1.03	0.21	1.03	7.00	1.03	8.23
1.03	0.20	1.03	6.94	1.03	8.25
1.03	0.22	1.03	6.89	1.03	8.31
1.03	0.29	1.03	6.78	1.03	8.44
1.03	0.36	1.03	6.67	1.03	8.61
1.03	0.43	1.04	6.55	1.04	8.85
1.03	0.52	1.04	6.49	1.04	8.84
1.04	0.65	1.04	6.44	1.04	8.79
1.04	0.80	1.04	6.38	1.04	8.76
1.04	0.89	1.04	6.33	1.04	8.71
1.04	1.02	1.04	6.27	1.04	8.65
1.04	1.16	1.04	6.22	1.04	8.60
1.04	1.23	1.04	6.16	1.04	8.54
1.04	1.34	1.04	6.17	1.04	8.49
1.04	1.47	1.04	6.19	1.04	8.43
1.04	1.60	1.04	6.19	1.04	8.31
1.04	1.67	1.04	6.29	1.04	8.26
1.04	1.77	1.04	6.37	1.04	8.20
1.04	1.91	1.04	6.41	1.04	8.15
1.04	2.06	1.04	6.48	1.04	8.09
1.04	2.17	1.04	6.62	1.04	8.03
1.04	2.32	1.04	6.78	1.04	8.02
1.04	2.46	1.04	7.02	1.04	8.04
1.04	2.67	1.04	7.02	1.04	8.07
1.04	2.94	1.05	7.01	1.05	8.05
1.05	3.27	1.05	7.03	1.05	8.04
1.05	3.72	1.05	6.97	1.05	8.04
1.05	4.04	1.05	6.92	1.05	7.99
1.05	4.26	1.05	6.92	1.05	7.94
1.05	4.47	1.05	6.93	1.05	7.88
1.05	4.71	1.05	6.94	1.05	7.83
1.05	4.96	1.05	6.88	1.05	7.77
1.05	5.24	1.05	6.90	1.05	7.72
1.05	5.52	1.05	6.94	1.05	7.66
1.05	5.82	1.05	7.06	1.05	7.61

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.05	6.11	1.05	7.11	1.05	7.55
1.05	6.60	1.05	7.20	1.05	7.56
1.05	6.85	1.05	7.38	1.05	7.60
1.05	7.08	1.05	7.39	1.05	7.61
1.05	7.29	1.05	7.40	1.05	7.68
1.05	7.48	1.05	7.40	1.05	7.72
1.05	7.64	1.05	7.39	1.05	6.79
1.05	7.78	1.06	7.33	1.06	6.73
1.05	7.90	1.06	7.28	1.06	6.68
1.06	7.96	1.06	7.22	1.06	6.68
1.06	8.03	1.06	7.25	1.06	6.72
1.06	8.09	1.06	7.24	1.06	6.72
1.06	8.09	1.06	7.19	1.06	6.75
1.06	8.04	1.06	7.13	1.06	6.78
1.06	8.02	1.06	7.08	1.06	6.86
1.06	7.92	1.06	7.02	1.06	6.89
1.06	7.74	1.06	7.00	1.06	6.96
1.06	7.45	1.06	6.99	1.06	7.22
1.06	6.91	1.06	6.98	1.06	7.36
1.06	6.75	1.06	6.92	1.06	7.51
1.06	6.32	1.06	6.91	1.06	7.47
1.06	6.14	1.06	6.91	1.06	7.42
1.06	5.92	1.06	6.94	1.06	7.36
1.06	5.70	1.06	6.88	1.06	7.31
1.06	5.44	1.06	6.89	1.06	7.25
1.06	5.20	1.07	6.93	1.07	7.20
1.06	4.94	1.07	6.93	1.07	7.15
1.07	4.69	1.07	6.98	1.07	7.09
1.07	4.45	1.07	7.01	1.07	7.04
1.07	4.26	1.07	7.08	1.07	7.03
1.07	4.11	1.07	7.19	1.07	7.05
1.07	3.93	1.07	7.59	1.07	7.09
1.07	4.00	1.07	7.57	1.07	7.03
1.07	4.06	1.07	7.51	1.07	7.04
1.07	4.17	1.07	7.46	1.07	7.08
1.07	4.33	1.07	7.40	1.07	7.08
1.07	4.51	1.07	7.35	1.07	7.11
1.07	4.77	1.07	7.29	1.07	7.24
1.07	5.22	1.07	7.20	1.07	7.27

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.07	5.44	1.07	7.04	1.07	7.33
1.07	5.63	1.07	6.99	1.07	7.34
1.07	5.85	1.07	6.93	1.07	7.41
1.07	5.96	1.07	6.88	1.07	7.42
1.07	6.02	1.08	6.82	1.08	7.47
1.07	6.09	1.08	6.77	1.08	7.46
1.08	6.09	1.08	6.71	1.08	7.46
1.08	6.06	1.08	6.71	1.08	7.49
1.08	6.05	1.08	6.79	1.08	7.43
1.08	5.99	1.08	6.74	1.08	7.38
1.08	5.87	1.08	6.73	1.08	7.32
1.08	5.51	1.08	6.75	1.08	7.27
1.08	5.47	1.08	6.75	1.08	7.21
1.08	5.46	1.08	6.78	1.08	7.16
1.08	5.45	1.08	6.82	1.08	7.10
1.08	5.45	1.08	6.90	1.08	7.05
1.08	5.47	1.08	7.09	1.08	6.99
1.08	5.53	1.08	7.37	1.08	6.94
1.08	5.56	1.08	7.79	1.08	6.89
1.08	5.57	1.08	7.84	1.08	6.83
1.08	5.58	1.08	7.91	1.08	6.81
1.08	5.61	1.08	7.85	1.08	6.18
1.08	5.51	1.09	7.80	1.09	6.33
1.08	5.52	1.09	7.75	1.09	6.54
1.08	5.49	1.09	7.69	1.09	6.51
1.09	5.49	1.09	7.60	1.09	6.46
1.09	5.44	1.09	7.47	1.09	6.36
1.09	5.44	1.09	7.33	1.09	6.21
1.09	5.40	1.09	7.28	1.09	6.16
1.09	5.40	1.09	7.08	1.09	6.06
1.09	5.34	1.09	7.03	1.09	5.97
1.09	5.19	1.09	6.94	1.09	5.91
1.09	4.97	1.09	6.83	1.09	5.86
1.09	4.89	1.09	6.74	1.09	5.80
1.09	4.80	1.09	6.68	1.09	5.78
1.09	4.69	1.09	6.63	1.09	5.79
1.09	4.58	1.09	6.62	1.09	5.84
1.09	4.46	1.09	6.63	1.09	5.82
1.09	4.34	1.09	6.65	1.09	5.93

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.09	4.22	1.09	6.66	1.09	5.88
1.09	4.12	1.09	6.69	1.09	5.87
1.09	3.90	1.10	6.67	1.10	5.85
1.09	3.96	1.10	6.70	1.10	5.79
1.10	3.83	1.10	6.73	1.10	5.74
1.10	3.82	1.10	6.68	1.10	5.68
1.10	3.81	1.10	6.68	1.10	5.63
1.10	3.81	1.10	6.71	1.10	5.53
1.10	3.81	1.10	6.66	1.10	5.43
1.10	3.88	1.10	6.66	1.10	5.34
1.10	3.91	1.10	6.69	1.10	5.29
1.10	3.93	1.10	6.68	1.10	5.23
1.10	3.95	1.10	6.70	1.10	5.21
1.10	4.02	1.10	6.71	1.10	5.23
1.10	4.09	1.10	6.66	1.10	5.26
1.10	4.15	1.10	6.65	1.10	5.21
1.10	4.22	1.10	6.66	1.10	5.21
1.10	4.28	1.10	6.70	1.10	5.30
1.10	4.35	1.10	6.68	1.10	5.24
1.10	4.41	1.10	6.80	1.10	5.35
1.10	4.48	1.11	6.87	1.11	5.44
1.10	4.59	1.11	6.90	1.11	5.49
1.11	4.81	1.11	6.97	1.11	5.59
1.11	4.98	1.11	7.05	1.11	5.72
1.11	5.14	1.11	7.18	1.11	5.89
1.11	5.36	1.11	7.14	1.11	6.13
1.11	5.69	1.11	7.09	1.11	6.12
1.11	6.09	1.11	7.04	1.11	6.06
1.11	6.58	1.11	7.01	1.11	6.05
1.11	6.70	1.11	7.05	1.11	6.04
1.11	6.77	1.11	7.00	1.11	6.05
1.11	6.84	1.11	7.06	1.11	6.03
1.11	6.84	1.11	7.09	1.11	6.05
1.11	6.81	1.11	7.19	1.11	6.09
1.11	6.77	1.11	7.44	1.11	6.13
1.11	6.60	1.11	7.51	1.11	6.24
1.11	6.15	1.11	7.58	1.11	6.52
1.11	5.90	1.11	7.63	1.11	6.76
1.11	5.63	1.12	7.65	1.12	6.82

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.11	5.32	1.12	7.65	1.12	6.87
1.12	4.60	1.12	7.60	1.12	6.87
1.12	4.26	1.12	7.57	1.12	6.85
1.12	3.96	1.12	7.52	1.12	6.79
1.12	3.67	1.12	7.46	1.12	6.74
1.12	3.41	1.12	7.40	1.12	6.69
1.12	3.22	1.12	7.35	1.12	6.63
1.12	3.08	1.12	7.29	1.12	6.58
1.12	2.99	1.12	7.24	1.12	6.48
1.12	2.95	1.12	7.23	1.12	6.30
1.12	2.88	1.12	7.24	1.12	6.25
1.12	2.91	1.12	7.23	1.12	6.19
1.12	2.94	1.12	7.26	1.12	6.13
1.12	3.00	1.12	7.26	1.12	6.23
1.12	3.03	1.12	7.32	1.12	6.22
1.12	3.10	1.12	7.34	1.12	6.20
1.12	3.10	1.12	7.40	1.12	6.19
1.12	3.08	1.12	7.40	1.12	6.13
1.12	3.06	1.13	7.43	1.13	6.08
1.13	2.96	1.13	7.37	1.13	6.02
1.13	2.69	1.13	7.32	1.13	6.01
1.13	2.39	1.13	7.27	1.13	5.99
1.13	2.26	1.13	7.21	1.13	5.99
1.13	2.14	1.13	7.16	1.13	5.93
1.13	2.02	1.13	7.10	1.13	5.92
1.13	1.90	1.13	7.05	1.13	5.94
1.13	1.78	1.13	6.99	1.13	5.93
1.13	1.68	1.13	6.99	1.13	5.93
1.13	1.54	1.13	6.99	1.13	5.96
1.13	1.43	1.13	7.02	1.13	5.91
1.13	1.17	1.13	7.02	1.13	5.91
1.13	1.08	1.13	7.04	1.13	5.95
1.13	1.02	1.13	7.08	1.13	5.93
1.13	0.97	1.13	7.02	1.13	5.95
1.13	0.95	1.13	6.97	1.13	5.95
1.13	0.93	1.13	6.95	1.13	5.90
1.13	0.94	1.14	6.94	1.14	5.84
1.13	0.96	1.14	6.92	1.14	5.84
1.14	0.97	1.14	6.87	1.14	5.84

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.14	1.04	1.14	6.81	1.14	5.88
1.14	1.11	1.14	6.81	1.14	5.96
1.14	1.17	1.14	6.81	1.14	5.98
1.14	1.24	1.14	6.84	1.14	6.06
1.14	1.30	1.14	6.84	1.14	6.18
1.14	1.37	1.14	6.87	1.14	6.33
1.14	1.43	1.14	6.89	1.14	6.54
1.14	1.47	1.14	6.98	1.14	6.51
1.14	1.49	1.14	7.03	1.14	6.46
1.14	1.50	1.14	7.37	1.14	6.36
1.14	1.57	1.14	7.59	1.14	6.21
1.14	1.60	1.14	7.88	1.14	6.16
1.14	1.61	1.14	7.86	1.14	6.06
1.14	1.62	1.14	7.85	1.14	5.97
1.14	1.68	1.14	7.79	1.14	5.91
1.14	1.75	1.15	7.74	1.15	5.86
1.14	1.77	1.15	7.71	1.15	5.80
1.15	1.80	1.15	7.66	1.15	5.78
1.15	1.81	1.15	7.60	1.15	5.79
1.15	1.87	1.15	7.55	1.15	5.84
1.15	1.89	1.15	7.50	1.15	5.82
1.15	1.82	1.15	7.44	1.15	5.93
1.15	1.76	1.15	7.39	1.15	5.88
1.15	1.70	1.15	7.28	1.15	5.87
1.15	1.55	1.15	7.16	1.15	5.85
1.15	1.32	1.15	7.02	1.15	5.79
1.15	0.96	1.15	6.96	1.15	5.74
1.15	0.37	1.15	6.85	1.15	5.68
1.15	0.22	1.15	6.70	1.15	5.63
1.15	0.11	1.15	6.59	1.15	5.53
1.15	0.02	1.15	6.47	1.15	5.43
1.15	-0.06	1.15	6.35	1.15	5.34
1.15	-0.18	1.15	6.29	1.15	5.29
1.15	-0.17	1.15	6.24	1.15	5.23
1.15	-0.15	1.16	6.23	1.16	5.21
1.16	-0.12	1.16	6.25	1.16	5.23
1.16	-0.05	1.16	6.25	1.16	5.26
1.16	0.01	1.16	6.29	1.16	5.21
1.16	0.09	1.16	6.33	1.16	5.21

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.16	0.11	1.16	6.40	1.16	5.30
1.16	0.18	1.16	6.57	1.16	5.24
1.16	0.25	1.16	7.21	1.16	5.35
1.16	0.28	1.16	7.24	1.16	5.44
1.16	0.31	1.16	7.28	1.16	5.49
1.16	0.37	1.16	7.27	1.16	5.59
1.16	0.44	1.16	7.28	1.16	5.72
1.16	0.50	1.16	7.25	1.16	5.89
1.16	0.57	1.16	7.20	1.16	6.13
1.16	0.75	1.16	7.14	1.16	6.12
1.16	0.88	1.16	7.09	1.16	6.06
1.16	1.05	1.16	7.03	1.16	6.05
1.16	1.20	1.16	6.94	1.16	6.04
1.16	1.41	1.17	6.83	1.17	6.05
1.17	1.69	1.17	6.69	1.17	6.03
1.17	2.02	1.17	6.64	1.17	6.05
1.17	2.45	1.17	6.54	1.17	6.09
1.17	3.03	1.17	6.40	1.17	6.13
1.17	3.36	1.17	6.27	1.17	6.24
1.17	3.54	1.17	6.22	1.17	6.52
1.17	3.69	1.17	6.16	1.17	6.76
1.17	3.82	1.17	6.11	1.17	6.82
1.17	3.94	1.17	6.05	1.17	6.87
1.17	4.05	1.17	6.00	1.17	6.87
1.17	4.16	1.17	5.94	1.17	6.85
1.17	4.22	1.17	5.89	1.17	6.79
1.17	4.29	1.17	5.87	1.17	6.74
1.17	4.39	1.17	5.90	1.17	6.69
1.17	4.52	1.17	5.94	1.17	6.63
1.17	4.64	1.17	5.91	1.17	6.58
1.17	4.77	1.17	5.94	1.17	6.48
1.17	4.93	1.18	6.05	1.18	6.30
1.17	5.05	1.18	6.06	1.18	6.25
1.18	5.22	1.18	6.13	1.18	6.19
1.18	5.36	1.18	6.14	1.18	6.10
1.18	5.53	1.18	6.19	1.18	6.00
1.18	5.78	1.18	6.21	1.18	5.95
1.18	5.90	1.18	6.26	1.18	5.89
1.18	6.01	1.18	6.28	1.18	5.84

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.18	6.16	1.18	6.35	1.18	5.78
1.18	6.22	1.18	6.53	1.18	5.73
1.18	6.33	1.18	6.73	1.18	5.67
1.18	6.45	1.18	6.77	1.18	5.62
1.18	6.59	1.18	6.83	1.18	5.57
1.18	6.65	1.18	6.88	1.18	5.50
1.18	6.76	1.18	6.92	1.18	5.50
1.18	6.86	1.18	6.98	1.18	5.49
1.18	6.93	1.18	7.05	1.18	5.50
1.18	6.99	1.18	7.11	1.18	5.44
1.18	7.02	1.19	7.17	1.19	5.51
1.18	7.00	1.19	7.22	1.19	5.55
1.19	6.99	1.19	7.24	1.19	5.54
1.19	6.91	1.19	7.29	1.19	5.58
1.19	6.72	1.19	7.23	1.19	5.59
1.19	6.42	1.19	7.18	1.19	5.67
1.19	5.92	1.19	7.12	1.19	5.70
1.19	5.83	1.19	7.07	1.19	5.77
1.19	5.77	1.19	7.01	1.19	5.88
1.19	5.76	1.19	6.96	1.19	6.19
1.19	5.82	1.19	6.90	1.19	6.32
1.19	5.89	1.19	6.85	1.19	6.27
1.19	6.00	1.19	6.90	1.19	6.21
1.19	6.15	1.19	6.85	1.19	6.16
1.19	6.30	1.19	6.86	1.19	6.10
1.19	6.41	1.19	6.90	1.19	6.05
1.19	6.53	1.19	6.88	1.19	5.99
1.19	6.65	1.19	6.90	1.19	5.94
1.19	6.72	1.19	6.90	1.19	5.88
1.19	6.78	1.20	6.92	1.20	5.93
1.20	6.81	1.20	6.91	1.20	5.94
1.20	6.82	1.20	7.02	1.20	5.89
1.20	6.80	1.20	6.96	1.20	5.83
1.20	6.83	1.20	7.04	1.20	5.82
1.20	6.83	1.20	7.06	1.20	5.82
1.20	6.81	1.20	7.12	1.20	6.78
1.20	6.83	1.20	7.27	1.20	6.76
1.20	6.83	1.20	7.54	1.20	6.78
1.20	6.80	1.20	7.64	1.20	6.81

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.20	6.72	1.20	7.70	1.20	6.83
1.20	6.71	1.20	7.77	1.20	6.85
1.20	6.63	1.20	7.82	1.20	6.87
1.20	6.45	1.20	7.93	1.20	6.89
1.20	6.10	1.20	7.93	1.20	6.88
1.20	6.00	1.20	7.94	1.20	6.84
1.20	5.87	1.20	7.94	1.20	6.79
1.20	5.75	1.20	7.94	1.21	6.78
1.20	5.62	1.21	7.88	1.21	6.74
1.21	5.27	1.21	7.89	1.21	6.70
1.21	5.13	1.21	7.91	1.21	6.72
1.21	4.97	1.21	7.89	1.21	6.75
1.21	4.82	1.21	8.00	1.21	6.77
1.21	4.67	1.21	7.94	1.21	6.79
1.21	4.50	1.21	8.00	1.21	6.81
1.21	4.34	1.21	8.02	1.21	6.84
1.21	4.19	1.21	7.96	1.21	6.86
1.21	4.05	1.21	7.98	1.21	6.88
1.21	3.92	1.21	7.99	1.21	6.90
1.21	3.83	1.21	8.01	1.21	6.92
1.21	3.70	1.21	7.95	1.21	6.94
1.21	3.72	1.21	7.90	1.21	6.97
1.21	3.78	1.21	7.84	1.21	6.99
1.21	3.86	1.21	7.79	1.21	7.01
1.21	3.92	1.21	7.73	1.21	7.00
1.21	3.99	1.21	7.68	1.22	6.98
1.21	4.10	1.21	7.66	1.22	6.94
1.22	4.32	1.22	7.65	1.22	6.96
1.22	4.39	1.22	7.63	1.22	6.98
1.22	4.45	1.22	7.58	1.22	6.97
1.22	4.52	1.22	7.52	1.22	6.95
1.22	4.59	1.22	7.47	1.22	6.91
1.22	4.61	1.22	7.51	1.22	6.94
1.22	4.62	1.22	7.52	1.22	6.96
1.22	4.60	1.22	7.46	1.22	6.98
1.22	4.61	1.22	7.41	1.22	7.00
1.22	4.58	1.22	7.40	1.22	7.02
1.22	4.44	1.22	7.40	1.22	7.04
1.22	4.51	1.22	7.40	1.22	7.07

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.22	4.22	1.22	7.35	1.22	7.09
1.22	4.01	1.22	7.29	1.22	7.11
1.22	4.02	1.22	7.24	1.22	7.13
1.22	4.03	1.22	7.23	1.22	7.24
1.22	4.06	1.22	7.28	1.23	7.31
1.22	4.08	1.22	7.23	1.23	7.34
1.22	4.15	1.23	7.17	1.23	7.36
1.23	4.22	1.23	7.12	1.23	7.38
1.23	4.23	1.23	7.10	1.23	7.40
1.23	4.17	1.23	7.09	1.23	7.42
1.23	4.24	1.23	7.09	1.23	7.48
1.23	4.27	1.23	7.04	1.23	7.55
1.23	4.28	1.23	7.02	1.23	7.63
1.23	4.28	1.23	7.08	1.23	7.65
1.23	4.35	1.23	7.02	1.23	7.67
1.23	4.36	1.23	6.97	1.23	7.69
1.23	4.35	1.23	6.95	1.23	7.71
1.23	4.38	1.23	6.90	1.23	7.73
1.23	4.29	1.23	6.84	1.23	7.76
1.23	4.35	1.23	6.79	1.23	7.78
1.23	4.36	1.23	6.74	1.23	7.76
1.23	4.34	1.23	6.68	1.23	7.74
1.23	4.40	1.23	6.46	1.23	7.71
1.23	4.42	1.23	6.38	1.24	7.73
1.23	4.43	1.24	6.26	1.24	7.71
1.24	4.43	1.24	6.12	1.24	7.67
1.24	4.50	1.24	6.07	1.24	7.64
1.24	4.57	1.24	6.01	1.24	7.66
1.24	4.63	1.24	5.96	1.24	7.68
1.24	4.74	1.24	5.90	1.24	7.70
1.24	4.85	1.24	5.89	1.24	7.72
1.24	4.97	1.24	5.92	1.24	7.75
1.24	5.04	1.24	5.93	1.24	7.77
1.24	5.17	1.24	6.02	1.24	7.79
1.24	5.32	1.24	6.08	1.24	7.81
1.24	5.41	1.24	6.21	1.24	7.83
1.24	5.56	1.24	6.39	1.24	7.86
1.24	5.75	1.24	6.74	1.24	7.88
1.24	5.87	1.24	7.18	1.24	7.90

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.24	6.02	1.24	7.75	1.24	7.92
1.24	6.08	1.24	7.80	1.24	7.94
1.24	6.15	1.24	7.91	1.25	7.93
1.24	6.21	1.25	7.89	1.25	7.90
1.25	6.28	1.25	7.84	1.25	7.86
1.25	6.31	1.25	7.81	1.25	7.84
1.25	6.30	1.25	7.80	1.25	7.82
1.25	6.28	1.25	7.74	1.25	7.76
1.25	6.30	1.25	7.69	1.25	7.78
1.25	6.23	1.25	7.63	1.25	7.80
1.25	6.18	1.25	7.58	1.25	7.79
1.25	6.17	1.25	7.52	1.25	7.76
1.25	6.11	1.25	7.47	1.25	7.73
1.25	6.09	1.25	7.41	1.25	7.75
1.25	6.03	1.25	7.36	1.25	7.78
1.25	5.92	1.25	7.30	1.25	7.80
1.25	5.72	1.25	7.25	1.25	7.82
1.25	5.70	1.25	7.16	1.25	7.80
1.25	5.60	1.25	7.07	1.25	7.77
1.25	5.58	1.25	6.98	1.25	7.73
1.25	5.57	1.25	6.92	1.25	7.75
1.25	5.57	1.25	6.91	1.25	7.70
1.25	5.58	1.25	6.91	1.25	7.63
1.25	5.58	1.25	6.95	1.26	7.59
1.25	5.65	1.25	6.94	1.26	7.42
1.25	5.71	1.26	7.00	1.26	7.34
1.26	5.75	1.26	7.06	1.26	7.21
1.26	5.71	1.26	7.20	1.26	7.04
1.26	5.77	1.26	7.45	1.26	6.87
1.26	5.77	1.26	7.80	1.26	6.70
1.26	5.74	1.26	8.25	1.26	6.59
1.26	5.73	1.26	8.91	1.26	6.69
1.26	5.67	1.26	9.17	1.26	6.88
1.26	5.62	1.26	9.22	1.26	6.90
1.26	5.50	1.26	9.23	1.26	7.13
1.26	5.23	1.26	9.23	1.26	7.25
1.26	5.17	1.26	9.18	1.26	7.37
1.26	5.12	1.26	9.12	1.26	7.49
1.26	4.96	1.26	9.07	1.26	7.59

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.26	4.91	1.26	9.01	1.26	7.69
1.26	4.89	1.26	8.91	1.26	7.77
1.26	4.86	1.26	8.74	1.27	7.85
1.26	4.82	1.26	8.61	1.27	7.87
1.26	4.77	1.27	8.49	1.27	7.89
1.27	4.71	1.27	8.35	1.27	7.91
1.27	4.63	1.27	8.25	1.27	7.94
1.27	4.37	1.27	8.10	1.27	7.96
1.27	4.25	1.27	8.01	1.27	7.98
1.27	4.12	1.27	7.89	1.27	7.96
1.27	3.98	1.27	7.78	1.27	7.92
1.27	3.83	1.27	7.73	1.27	7.87
1.27	3.68	1.27	7.67	1.27	7.85
1.27	3.53	1.27	7.62	1.27	7.71
1.27	3.39	1.27	7.51	1.27	7.68
1.27	3.26	1.27	7.37	1.27	7.61
1.27	3.12	1.27	7.28	1.27	7.59
1.27	2.99	1.27	7.14	1.27	7.53
1.27	2.67	1.27	7.01	1.27	7.52
1.27	2.54	1.27	6.84	1.27	7.49
1.27	2.42	1.27	6.72	1.27	7.47
1.27	2.31	1.27	6.53	1.28	7.49
1.27	2.19	1.28	6.47	1.28	7.51
1.28	2.10	1.28	6.42	1.28	7.57
1.28	2.02	1.28	6.36	1.28	7.63
1.28	1.97	1.28	6.38	1.28	7.65
1.28	1.96	1.28	6.44	1.28	7.68
1.28	1.92	1.28	6.47	1.28	7.66
1.28	1.98	1.28	6.57	1.28	7.61
1.28	2.05	1.28	6.71	1.28	7.52
1.28	2.11	1.28	7.25	1.28	7.47
1.28	2.18	1.28	7.26	1.28	7.35
1.28	2.24	1.28	7.20	1.28	7.26
1.28	2.31	1.28	7.15	1.28	6.90
1.28	2.38	1.28	7.09	1.28	6.63
1.28	2.44	1.28	7.04	1.28	6.31
1.28	2.51	1.28	6.98	1.28	5.90
1.28	2.51	1.28	6.93	1.28	5.85
1.28	2.55	1.28	6.87	1.28	5.84

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.28	2.54	1.28	6.82	1.29	5.86
1.28	2.51	1.29	6.80	1.29	5.88
1.29	2.58	1.29	6.86	1.29	5.91
1.29	2.60	1.29	6.79	1.29	5.96
1.29	2.60	1.29	6.80	1.29	6.05
1.29	2.61	1.29	6.82	1.29	6.17
1.29	2.67	1.29	6.81	1.29	6.24
1.29	2.74	1.29	6.83	1.29	6.36
1.29	2.81	1.29	6.83	1.29	6.45
1.29	2.87	1.29	6.85	1.29	6.60
1.29	2.94	1.29	6.92	1.29	6.70
1.29	3.00	1.29	6.92	1.29	6.83
1.29	3.08	1.29	6.93	1.29	7.15
1.29	3.14	1.29	6.95	1.29	7.20
1.29	3.22	1.29	6.90	1.29	7.26
1.29	3.28	1.29	6.92	1.29	7.28
1.29	3.35	1.29	6.97	1.29	7.30
1.29	3.41	1.29	6.97	1.29	7.32
1.29	3.52	1.29	7.02	1.30	7.35
1.29	3.64	1.29	7.07	1.30	7.37
1.29	3.79	1.30	7.18	1.30	7.39
1.30	3.85	1.30	7.52	1.30	7.35
1.30	3.97	1.30	7.58	1.30	7.30
1.30	4.10	1.30	7.62	1.30	7.13
1.30	4.23	1.30	7.66	1.30	7.06
1.30	4.30	1.30	7.67	1.30	6.91
1.30	4.37	1.30	7.68	1.30	6.71
1.30	4.43	1.30	7.67	1.30	6.43
1.30	4.50	1.30	7.67	1.30	6.40
1.30	4.51	1.30	7.61	1.30	6.42
1.30	4.50	1.30	7.59	1.30	6.44
1.30	4.53	1.30	7.58	1.30	6.46
1.30	4.52	1.30	7.57	1.30	6.61
1.30	4.48	1.30	7.52	1.30	6.72
1.30	4.42	1.30	7.49	1.30	6.77
1.30	4.43	1.30	7.49	1.30	6.86
1.30	4.39	1.30	7.49	1.31	6.96
1.30	4.41	1.30	7.44	1.31	6.99
1.30	4.39	1.31	7.38	1.31	7.06

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.31	4.40	1.31	7.33	1.31	7.14
1.31	4.39	1.31	7.28	1.31	7.20
1.31	4.41	1.31	7.22	1.31	7.22
1.31	4.39	1.31	7.17	1.31	7.24
1.31	4.39	1.31	7.11	1.31	7.15
1.31	4.36	1.31	7.09	1.31	7.08
1.31	4.29	1.31	7.09	1.31	7.10
1.31	4.35	1.31	7.11	1.31	7.07
1.31	4.42	1.31	7.09	1.31	7.00
1.31	4.48	1.31	7.11	1.31	6.99
1.31	4.55	1.31	7.14	1.31	6.94
1.31	4.66	1.31	7.32	1.31	6.88
1.31	4.83	1.31	7.42	1.31	6.90
1.31	4.96	1.31	7.57	1.31	6.87
1.31	5.16	1.31	7.75	1.31	6.75
1.31	5.34	1.31	7.93	1.31	6.77
1.31	5.88	1.31	7.88	1.32	6.75
1.31	6.34	1.32	7.83	1.32	6.71
1.32	6.54	1.32	7.72	1.32	6.64
1.32	6.72	1.32	7.59	1.32	6.62
1.32	6.88	1.32	7.53	1.32	6.56
1.32	7.04	1.32	7.48	1.32	6.53
1.32	7.18	1.32	7.42	1.32	6.44
1.32	7.32	1.32	7.37	1.32	6.28
1.32	7.44	1.32	7.31	1.32	6.24
1.32	7.55	1.32	7.26	1.32	6.17
1.32	7.62	1.32	7.21	1.32	6.20
1.32	7.64	1.32	7.15	1.32	6.22
1.32	7.64	1.32	7.10	1.32	6.24
1.32	7.62	1.32	7.04	1.32	6.26
1.32	7.61	1.32	6.99	1.32	6.28
1.32	7.52	1.32	6.93	1.32	6.30
1.32	7.33	1.32	6.88	1.32	6.33
1.32	6.91	1.32	6.82	1.32	6.35
1.32	6.50	1.32	6.82	1.33	6.37
1.32	6.37	1.33	6.82	1.33	6.39
1.33	6.26	1.33	6.84	1.33	6.41
1.33	6.20	1.33	6.78	1.33	6.44
1.33	6.18	1.33	6.84	1.33	6.46

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.33	6.20	1.33	6.86	1.33	6.52
1.33	6.26	1.33	6.80	1.33	6.58
1.33	6.33	1.33	6.79	1.33	6.64
1.33	6.39	1.33	6.82	1.33	6.66
1.33	6.51	1.33	6.80	1.33	6.68
1.33	6.63	1.33	6.83	1.33	6.71
1.33	6.75	1.33	6.84	1.33	6.70
1.33	6.82	1.33	6.90	1.33	6.67
1.33	6.88	1.33	6.95	1.33	6.63
1.33	6.95	1.33	7.27	1.33	6.66
1.33	6.98	1.33	7.52	1.33	6.64
1.33	6.98	1.33	7.86	1.33	6.60
1.33	6.96	1.33	7.87	1.33	6.55
1.33	6.99	1.33	7.87	1.34	6.57
1.33	6.89	1.33	7.81	1.34	6.46
1.34	6.81	1.34	7.76	1.34	6.39
1.34	6.79	1.34	7.71	1.34	6.42
1.34	6.68	1.34	7.65	1.34	6.40
1.34	6.51	1.34	7.54	1.34	6.37
1.34	6.23	1.34	7.41	1.34	6.35
1.34	6.19	1.34	7.28	1.34	6.37
1.34	6.16	1.34	7.23	1.34	6.39
1.34	6.13	1.34	7.13	1.34	6.41
1.34	6.00	1.34	7.03	1.34	6.38
1.34	5.97	1.34	6.91	1.34	6.35
1.34	5.96	1.34	6.85	1.34	6.29
1.34	5.95	1.34	6.80	1.34	6.26
1.34	5.93	1.34	6.74	1.34	6.21
1.34	5.92	1.34	6.69	1.34	6.19
1.34	5.91	1.34	6.63	1.34	6.12
1.34	5.89	1.34	6.63	1.34	6.08
1.34	5.90	1.34	6.65	1.35	5.98
1.34	5.90	1.34	6.65	1.35	5.91
1.34	5.84	1.35	6.72	1.35	5.81
1.35	5.90	1.35	6.75	1.35	5.68
1.35	5.91	1.35	6.84	1.35	5.32
1.35	5.89	1.35	7.04	1.35	5.33
1.35	5.96	1.35	7.28	1.35	5.36
1.35	5.97	1.35	7.73	1.35	5.38

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.35	5.97	1.35	7.77	1.35	5.40
1.35	5.99	1.35	7.81	1.35	5.47
1.35	6.06	1.35	7.85	1.35	5.55
1.35	6.16	1.35	7.88	1.35	5.65
1.35	6.29	1.35	7.92	1.35	5.70
1.35	6.44	1.35	7.96	1.35	5.88
1.35	6.50	1.35	7.98	1.35	5.95
1.35	6.63	1.35	8.01	1.35	6.04
1.35	6.76	1.35	8.02	1.35	6.15
1.35	6.91	1.35	8.06	1.35	6.17
1.35	6.97	1.35	8.01	1.35	6.20
1.35	7.04	1.35	7.96	1.36	6.22
1.35	7.10	1.36	7.90	1.36	6.24
1.36	7.17	1.36	7.85	1.36	6.26
1.36	7.23	1.36	7.79	1.36	6.28
1.36	7.30	1.36	7.74	1.36	6.31
1.36	7.37	1.36	7.64	1.36	6.33
1.36	7.43	1.36	7.59	1.36	6.35
1.36	7.50	1.36	7.53	1.36	6.37
1.36	7.56	1.36	7.48	1.36	6.40
1.36	7.63	1.36	7.42	1.36	6.42
1.36	7.69	1.36	7.43	1.36	6.44
1.36	7.76	1.36	7.45	1.36	6.46
1.36	7.74	1.36	7.45	1.36	6.48
1.36	7.73	1.36	7.50	1.36	6.51
1.36	7.80	1.36	7.52	1.36	6.53
1.36	7.81	1.36	7.60	1.36	6.51
1.36	7.81	1.36	7.73	1.36	6.48
1.36	7.79	1.36	7.91	1.36	6.45
1.36	7.85	1.36	8.14	1.37	6.47
1.36	7.86	1.36	8.55	1.37	6.49
1.37	7.85	1.37	8.57	1.37	6.47
1.37	7.91	1.37	8.58	1.37	6.45
1.37	7.82	1.37	8.59	1.37	6.43
1.37	7.84	1.37	8.54	1.37	6.45
1.37	7.80	1.37	8.54	1.37	6.47
1.37	7.78	1.37	8.55	1.37	6.45
1.37	7.73	1.37	8.58	1.37	6.43
1.37	7.61	1.37	8.55	1.37	6.38

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.37	7.43	1.37	8.55	1.37	6.40
1.37	7.18	1.37	8.54	1.37	6.36
1.37	6.80	1.37	8.49	1.37	6.30
1.37	6.74	1.37	8.43	1.37	6.27
1.37	6.65	1.37	8.38	1.37	6.19
1.37	6.67	1.37	8.32	1.37	6.02
1.37	6.73	1.37	8.27	1.37	5.96
1.37	6.80	1.37	8.21	1.37	5.88
1.37	6.84	1.37	8.21	1.38	5.76
1.37	6.90	1.37	8.28	1.38	5.65
1.37	6.97	1.38	8.22	1.38	5.53
1.38	7.03	1.38	8.24	1.38	5.56
1.38	7.06	1.38	8.28	1.38	5.58
1.38	7.08	1.38	8.27	1.38	5.61
1.38	7.06	1.38	8.30	1.38	5.63
1.38	7.08	1.38	8.31	1.38	5.65
1.38	7.03	1.38	8.35	1.38	5.76
1.38	6.99	1.38	8.36	1.38	5.84
1.38	6.88	1.38	8.38	1.38	5.86
1.38	6.71	1.38	8.32	1.38	5.92
1.38	6.43	1.38	8.27	1.38	5.99
1.38	6.39	1.38	8.22	1.38	6.09
1.38	6.36	1.38	8.16	1.38	6.11
1.38	6.33	1.38	8.11	1.38	6.17
1.38	6.14	1.38	8.01	1.38	6.23
1.38	6.06	1.38	7.91	1.38	6.30
1.38	5.96	1.38	7.80	1.39	6.32
1.38	5.85	1.38	7.75	1.39	6.35
1.38	5.72	1.39	7.70	1.39	6.37
1.39	5.60	1.39	7.64	1.39	6.39
1.39	5.48	1.39	7.63	1.39	6.37
1.39	5.37	1.39	7.62	1.39	6.36
1.39	5.28	1.39	7.62	1.39	6.34
1.39	5.13	1.39	7.57	1.39	6.36
1.39	5.14	1.39	7.52	1.39	6.38
1.39	5.15	1.39	7.46	1.39	6.40
1.39	5.22	1.39	7.44	1.39	6.43
1.39	5.28	1.39	7.42	1.39	6.45
1.39	5.35	1.39	7.37	1.39	6.47

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.39	5.46	1.39	7.31	1.39	6.50
1.39	5.57	1.39	7.26	1.39	6.43
1.39	5.70	1.39	7.20	1.39	6.40
1.39	5.77	1.39	7.15	1.39	6.42
1.39	5.88	1.39	7.09	1.39	6.44
1.39	6.06	1.39	7.04	1.40	6.42
1.39	6.12	1.39	6.98	1.40	6.40
1.39	6.19	1.39	6.93	1.40	6.36
1.40	6.19	1.40	6.87	1.40	6.38
1.40	6.16	1.40	6.82	1.40	6.36
1.40	6.16	1.40	6.81	1.40	6.34
1.40	6.11	1.40	6.76	1.40	6.30
1.40	6.06	1.40	6.78	1.40	6.32
1.40	5.92	1.40	6.84	1.40	6.27
1.40	5.26	1.40	6.83	1.40	6.19
1.40	5.19	1.40	6.88	1.40	6.14
1.40	5.11	1.40	6.91	1.40	6.04
1.40	5.05	1.40	6.99	1.40	5.96
1.40	5.00	1.40	7.03	1.40	5.83
1.40	4.95	1.40	7.26	1.40	5.64
1.40	4.93	1.40	7.43	1.40	5.09
1.40	4.90	1.40	7.61	1.40	4.72
1.40	4.88	1.40	7.85	1.40	4.69
1.40	4.73	1.40	7.83	1.40	4.71
1.40	4.69	1.40	7.83	1.41	4.73
1.40	4.65	1.40	7.84	1.41	4.75
1.41	4.60	1.41	7.84	1.41	4.77
1.41	4.55	1.41	7.84	1.41	4.80
1.41	4.48	1.41	7.85	1.41	4.82
1.41	4.44	1.41	7.88	1.41	4.88
1.41	4.39	1.41	7.95	1.41	5.04
1.41	4.35	1.41	7.95	1.41	5.06
1.41	4.31	1.41	8.00	1.41	5.12
1.41	4.20	1.41	8.02	1.41	5.20
1.41	4.18	1.41	8.07	1.41	5.29
1.41	4.17	1.41	8.08	1.41	5.31
1.41	4.15	1.41	8.12	1.41	5.34
1.41	4.14	1.41	8.10	1.41	5.36
1.41	4.16	1.41	8.14	1.41	5.41

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.41	4.17	1.41	8.09	1.41	5.47
1.41	4.18	1.41	8.03	1.41	5.49
1.41	4.25	1.41	7.93	1.41	5.51
1.41	4.31	1.41	7.81	1.42	5.53
1.41	4.38	1.41	7.69	1.42	5.56
1.41	4.41	1.42	7.64	1.42	5.58
1.42	4.43	1.42	7.58	1.42	5.60
1.42	4.46	1.42	7.49	1.42	5.57
1.42	4.52	1.42	7.38	1.42	5.53
1.42	4.59	1.42	7.30	1.42	5.46
1.42	4.61	1.42	7.28	1.42	5.41
1.42	4.61	1.42	7.28	1.42	5.35
1.42	4.59	1.42	7.29	1.42	5.32
1.42	4.60	1.42	7.24	1.42	5.26
1.42	4.49	1.42	7.24	1.42	5.21
1.42	4.41	1.42	7.28	1.42	5.13
1.42	4.28	1.42	7.26	1.42	5.10
1.42	4.08	1.42	7.29	1.42	5.02
1.42	3.74	1.42	7.40	1.42	5.00
1.42	3.68	1.42	7.34	1.42	4.94
1.42	3.63	1.42	7.48	1.42	4.96
1.42	3.59	1.42	7.57	1.43	4.98
1.42	3.54	1.42	7.74	1.43	5.05
1.42	3.50	1.43	7.75	1.43	5.13
1.43	3.45	1.43	7.76	1.43	5.22
1.43	3.25	1.43	7.77	1.43	5.24
1.43	3.16	1.43	7.77	1.43	5.27
1.43	3.06	1.43	7.72	1.43	5.29
1.43	2.94	1.43	7.67	1.43	5.31
1.43	2.83	1.43	7.71	1.43	5.33
1.43	2.71	1.43	7.70	1.43	5.29
1.43	2.60	1.43	7.65	1.43	5.25
1.43	2.49	1.43	7.59	1.43	5.18
1.43	2.38	1.43	7.54	1.43	5.20
1.43	2.13	1.43	7.49	1.43	5.18
1.43	2.04	1.43	7.43	1.43	5.13
1.43	1.98	1.43	7.38	1.43	5.07
1.43	1.92	1.43	7.32	1.43	5.09
1.43	1.88	1.43	7.27	1.43	5.12

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.43	1.85	1.43	7.25	1.44	5.03
1.43	1.83	1.43	7.26	1.44	4.98
1.43	1.81	1.43	7.29	1.44	5.00
1.44	1.72	1.44	7.27	1.44	4.99
1.44	1.68	1.44	7.29	1.44	4.94
1.44	1.64	1.44	7.35	1.44	4.88
1.44	1.57	1.44	7.36	1.44	4.91
1.44	1.50	1.44	7.42	1.44	4.89
1.44	1.42	1.44	7.45	1.44	4.84
1.44	1.34	1.44	7.54	1.44	4.80
1.44	1.26	1.44	7.93	1.44	4.83
1.44	1.17	1.44	8.19	1.44	4.85
1.44	1.10	1.44	8.20	1.44	4.87
1.44	1.05	1.44	8.19	1.44	4.92
1.44	0.93	1.44	8.18	1.44	5.00
1.44	0.93	1.44	8.18	1.44	5.08
1.44	0.93	1.44	8.16	1.44	5.10
1.44	0.94	1.44	8.17	1.44	5.12
1.44	1.01	1.44	8.20	1.45	5.14
1.44	1.02	1.44	8.20	1.45	5.16
1.44	1.02	1.44	8.33	1.45	5.19
1.44	1.01	1.45	8.42	1.45	5.21
1.45	1.03	1.45	8.68	1.45	5.23
1.45	0.93	1.45	8.77	1.45	5.25
1.45	0.85	1.45	8.84	1.45	5.27
1.45	0.59	1.45	8.92	1.45	5.29
1.45	0.48	1.45	8.96	1.45	5.32
1.45	0.36	1.45	8.98	1.45	5.30
1.45	0.26	1.45	8.99	1.45	5.27
1.45	0.17	1.45	8.96	1.45	5.22
1.45	0.12	1.45	8.91	1.45	5.20
1.45	0.10	1.45	8.85	1.45	5.16
1.45	0.13	1.45	8.80	1.45	5.10
1.45	0.19	1.45	8.71	1.45	5.13
1.45	0.32	1.45	8.57	1.45	5.11
1.45	0.48	1.45	8.43	1.45	5.07
1.45	0.61	1.45	8.37	1.45	5.02
1.45	0.81	1.45	8.26	1.46	5.05
1.45	0.96	1.45	8.14	1.46	4.94

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.45	1.17	1.46	8.01	1.46	4.87
1.46	1.47	1.46	7.96	1.46	4.86
1.46	1.58	1.46	7.90	1.46	4.81
1.46	1.65	1.46	7.89	1.46	4.73
1.46	1.75	1.46	7.90	1.46	4.73
1.46	1.82	1.46	7.92	1.46	4.68
1.46	1.88	1.46	7.87	1.46	4.61
1.46	1.95	1.46	7.87	1.46	4.63
1.46	2.05	1.46	7.89	1.46	4.58
1.46	2.18	1.46	7.99	1.46	4.60
1.46	2.24	1.46	7.99	1.46	4.58
1.46	2.36	1.46	8.06	1.46	4.60
1.46	2.50	1.46	8.11	1.46	4.63
1.46	2.61	1.46	8.23	1.46	4.65
1.46	2.81	1.46	8.44	1.46	4.67
1.46	2.96	1.46	8.80	1.46	4.69
1.46	3.09	1.46	8.89	1.47	4.71
1.46	3.24	1.46	8.98	1.47	4.74
1.46	3.36	1.47	9.16	1.47	4.72
1.47	3.51	1.47	9.20	1.47	4.64
1.47	3.62	1.47	9.21	1.47	4.66
1.47	3.76	1.47	9.21	1.47	4.69
1.47	3.89	1.47	9.22	1.47	4.68
1.47	3.96	1.47	9.16	1.47	4.64
1.47	4.07	1.47	9.11	1.47	4.60
1.47	4.25	1.47	9.05	1.47	4.63
1.47	4.32	1.47	9.00	1.47	4.60
1.47	4.39	1.47	8.95	1.47	4.56
1.47	4.45	1.47	8.89	1.47	4.51
1.47	4.52	1.47	8.84	1.47	4.53
1.47	4.58	1.47	8.78	1.47	4.51
1.47	4.69	1.47	8.73	1.47	4.49
1.47	4.79	1.47	8.67	1.47	4.48
1.47	4.91	1.47	8.62	1.47	4.50
1.47	4.97	1.47	8.56	1.48	4.52
1.47	5.08	1.47	8.51	1.48	4.54
1.47	5.17	1.47	8.45	1.48	4.60
1.47	5.28	1.48	8.40	1.48	4.71
1.48	5.34	1.48	8.35	1.48	4.74

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.48	5.37	1.48	8.29	1.48	4.76
1.48	5.37	1.48	8.24	1.48	4.78
1.48	5.35	1.48	8.18	1.48	4.75
1.48	5.36	1.48	8.16	1.48	4.72
1.48	5.32	1.48	8.15	1.48	4.66
1.48	5.29	1.48	8.15	1.48	4.68
1.48	4.99	1.48	8.10	1.48	4.65
1.48	4.73	1.48	8.05	1.48	4.60
1.48	4.33	1.48	8.04	1.48	4.51
1.48	4.25	1.48	8.04	1.48	4.44
1.48	4.17	1.48	8.05	1.48	4.42
1.48	4.08	1.48	7.99	1.48	4.36
1.48	3.98	1.48	7.94	1.48	4.32
1.48	3.88	1.48	7.88	1.48	4.25
1.48	3.60	1.48	7.83	1.49	4.20
1.48	3.50	1.48	7.78	1.49	4.11
1.48	3.39	1.49	7.68	1.49	4.07
1.49	3.28	1.49	7.60	1.49	3.97
1.49	3.20	1.49	7.54	1.49	3.83
1.49	3.14	1.49	7.49	1.49	3.82
1.49	3.08	1.49	7.43	1.49	3.79
1.49	3.06	1.49	7.38	1.49	3.81
1.49	3.05	1.49	7.37	1.49	3.84
1.49	2.98	1.49	7.39	1.49	3.86
1.49	2.99	1.49	7.43	1.49	3.95
1.49	3.05	1.49	7.41	1.49	4.07
1.49	3.07	1.49	7.43	1.49	4.15
1.49	3.06	1.49	7.44	1.49	4.28
1.49	3.07	1.49	7.50	1.49	4.38
1.49	3.04	1.49	7.52	1.49	4.73
1.49	3.03	1.49	7.74	1.49	4.99
1.49	2.92	1.49	7.90	1.49	5.07
1.49	2.61	1.49	8.17	1.50	5.09
1.49	2.24	1.49	8.48	1.50	5.16
1.49	2.31	1.50	8.87	1.50	5.18
1.50	1.96	1.50	8.87	1.50	5.20
1.50	1.85	1.50	8.88	1.50	5.22
1.50	1.78	1.50	8.89	1.50	5.24
1.50	1.72	1.50	8.88	1.50	5.21

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.50	1.71	1.50	8.83	1.50	5.15
1.50	1.71	1.50	8.81	1.50	5.12
1.50	1.78	1.50	8.89	1.50	5.05
1.50	1.84	1.50	8.86	1.50	5.00
1.50	1.91	1.50	8.89	1.50	4.91
1.50	2.12	1.50	8.92	1.50	4.87
1.50	2.26	1.50	8.94	1.50	4.79
1.50	2.46	1.50	9.00	1.50	4.74
1.50	2.63	1.50	9.02	1.50	4.76
1.50	2.85	1.50	9.10	1.50	4.78
1.50	3.13	1.50	9.34	1.50	4.80
1.50	3.49	1.50	9.34	1.51	4.82
1.50	3.60	1.50	9.34	1.51	4.89
1.50	3.67	1.50	9.34	1.51	4.99
1.51	3.73	1.51	9.28	1.51	5.10
1.51	3.80	1.51	9.23	1.51	5.12
1.51	3.87	1.51	9.20	1.51	5.19
1.51	3.91	1.51	9.20	1.51	5.29
1.51	3.92	1.51	9.18	1.51	5.36
1.51	3.93	1.51	9.13	1.51	5.44
1.51	4.00	1.51	9.07	1.51	5.52
1.51	4.06	1.51	9.06	1.51	5.54
1.51	4.18	1.51	9.04	1.51	5.56
1.51	4.33	1.51	8.99	1.51	5.59
1.51	4.61	1.51	8.93	1.51	5.58
1.51	4.89	1.51	8.88	1.51	5.51
1.51	5.27	1.51	8.86	1.51	5.53
1.51	5.81	1.51	8.81	1.51	5.55
1.51	6.00	1.51	8.75	1.51	5.53
1.51	6.16	1.51	8.73	1.52	5.49
1.51	6.27	1.51	8.72	1.52	5.46
1.51	6.33	1.51	8.73	1.52	5.48
1.51	6.36	1.52	8.67	1.52	5.46
1.52	6.37	1.52	8.66	1.52	5.43
1.52	6.36	1.52	8.65	1.52	5.38
1.52	6.36	1.52	8.65	1.52	5.34
1.52	6.34	1.52	8.59	1.52	5.28
1.52	6.34	1.52	8.54	1.52	5.25
1.52	6.29	1.52	8.48	1.52	5.18

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.52	6.28	1.52	8.43	1.52	5.13
1.52	6.22	1.52	8.37	1.52	5.01
1.52	6.05	1.52	8.32	1.52	4.86
1.52	5.91	1.52	8.23	1.52	4.62
1.52	5.97	1.52	8.14	1.52	4.25
1.52	5.81	1.52	8.09	1.52	4.05
1.52	5.76	1.52	8.03	1.52	4.07
1.52	5.69	1.52	7.98	1.52	3.95
1.52	5.61	1.52	7.92	1.53	3.94
1.52	5.52	1.52	7.92	1.53	3.96
1.52	5.44	1.52	7.99	1.53	3.98
1.52	5.35	1.53	8.03	1.53	4.00
1.53	5.27	1.53	8.05	1.53	4.08
1.53	5.21	1.53	8.13	1.53	4.17
1.53	5.08	1.53	8.17	1.53	4.28
1.53	5.07	1.53	8.24	1.53	4.30
1.53	5.07	1.53	8.36	1.53	4.45
1.53	5.09	1.53	8.56	1.53	4.47
1.53	5.11	1.53	8.78	1.53	4.54
1.53	5.17	1.53	9.05	1.53	4.61
1.53	5.20	1.53	8.99	1.53	4.69
1.53	5.19	1.53	8.94	1.53	4.71
1.53	5.18	1.53	8.89	1.53	4.74
1.53	5.09	1.53	8.83	1.53	4.76
1.53	5.07	1.53	8.78	1.53	4.78
1.53	4.98	1.53	8.72	1.53	4.71
1.53	4.76	1.53	8.67	1.53	4.68
1.53	4.70	1.53	8.61	1.54	4.70
1.53	4.64	1.53	8.56	1.54	4.69
1.53	4.59	1.54	8.50	1.54	4.64
1.54	4.54	1.54	8.45	1.54	4.60
1.54	4.49	1.54	8.39	1.54	4.62
1.54	4.42	1.54	8.34	1.54	4.59
1.54	4.38	1.54	8.33	1.54	4.54
1.54	4.21	1.54	8.31	1.54	4.47
1.54	4.17	1.54	8.32	1.54	4.49
1.54	4.13	1.54	8.27	1.54	4.48
1.54	4.09	1.54	8.21	1.54	4.47
1.54	4.04	1.54	8.25	1.54	4.49

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.54	4.01	1.54	8.26	1.54	4.51
1.54	3.98	1.54	8.21	1.54	4.53
1.54	3.94	1.54	8.15	1.54	4.56
1.54	3.90	1.54	8.14	1.54	4.58
1.54	3.76	1.54	8.13	1.54	4.70
1.54	3.73	1.54	8.15	1.54	4.80
1.54	3.68	1.54	8.09	1.55	4.82
1.54	3.63	1.54	8.04	1.55	4.88
1.54	3.59	1.55	8.08	1.55	4.95
1.54	3.55	1.55	8.10	1.55	5.03
1.55	3.50	1.55	8.04	1.55	5.06
1.55	3.44	1.55	8.01	1.55	5.08
1.55	3.38	1.55	8.01	1.55	5.10
1.55	3.31	1.55	8.02	1.55	5.12
1.55	3.08	1.55	7.97	1.55	5.14
1.55	3.01	1.55	7.95	1.55	5.17
1.55	2.94	1.55	7.96	1.55	5.19
1.55	2.88	1.55	7.97	1.55	5.21
1.55	2.83	1.55	7.97	1.55	5.19
1.55	2.82	1.55	7.98	1.55	5.16
1.55	2.83	1.55	8.02	1.55	5.12
1.55	2.84	1.55	8.01	1.55	5.14
1.55	2.91	1.55	8.02	1.55	5.16
1.55	2.97	1.55	8.08	1.55	5.14
1.55	3.04	1.55	8.07	1.56	5.07
1.55	3.16	1.55	8.10	1.56	5.09
1.55	3.29	1.55	8.24	1.56	5.11
1.55	3.45	1.56	8.27	1.56	5.13
1.56	3.52	1.56	8.35	1.56	5.16
1.56	3.63	1.56	8.51	1.56	5.18
1.56	3.76	1.56	8.75	1.56	5.20
1.56	3.89	1.56	8.81	1.56	5.22
1.56	3.96	1.56	8.86	1.56	5.27
1.56	4.02	1.56	8.91	1.56	5.39
1.56	4.05	1.56	8.95	1.56	5.41
1.56	4.06	1.56	8.97	1.56	5.44
1.56	4.05	1.56	9.01	1.56	5.46
1.56	4.12	1.56	8.95	1.56	5.48
1.56	4.14	1.56	8.90	1.56	5.50

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.56	4.14	1.56	8.84	1.56	5.47
1.56	4.13	1.56	8.79	1.56	5.45
1.56	4.19	1.56	8.73	1.56	5.40
1.56	4.26	1.56	8.68	1.57	5.42
1.56	4.33	1.56	8.62	1.57	5.40
1.56	4.39	1.56	8.57	1.57	5.39
1.56	4.46	1.57	8.51	1.57	5.36
1.57	4.52	1.57	8.46	1.57	5.38
1.57	4.64	1.57	8.41	1.57	5.40
1.57	4.77	1.57	8.35	1.57	5.43
1.57	4.93	1.57	8.30	1.57	5.41
1.57	5.05	1.57	8.24	1.57	5.37
1.57	5.26	1.57	8.19	1.57	5.33
1.57	5.45	1.57	8.17	1.57	5.36
1.57	5.59	1.57	8.12	1.57	5.33
1.57	5.76	1.57	8.10	1.57	5.18
1.57	5.98	1.57	8.12	1.57	5.21
1.57	6.19	1.57	8.18	1.57	5.17
1.57	6.36	1.57	8.20	1.57	5.10
1.57	6.37	1.57	8.22	1.57	5.12
1.57	6.35	1.57	8.28	1.57	5.09
1.57	6.34	1.57	8.32	1.57	5.03
1.57	6.31	1.57	8.42	1.58	5.05
1.57	6.16	1.57	8.60	1.58	5.04
1.57	6.14	1.58	8.85	1.58	4.97
1.58	6.10	1.58	9.22	1.58	4.99
1.58	6.07	1.58	9.30	1.58	5.01
1.58	6.05	1.58	9.47	1.58	5.07
1.58	6.02	1.58	9.51	1.58	5.15
1.58	5.99	1.58	9.55	1.58	5.24
1.58	5.98	1.58	9.59	1.58	5.27
1.58	5.97	1.58	9.61	1.58	5.29
1.58	5.91	1.58	9.63	1.58	5.31
1.58	5.98	1.58	9.64	1.58	5.33
1.58	6.05	1.58	9.63	1.58	5.29
1.58	6.11	1.58	9.58	1.58	5.21
1.58	6.18	1.58	9.52	1.58	5.17
1.58	6.30	1.58	9.46	1.58	5.07
1.58	6.44	1.58	9.41	1.58	5.00

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.58	6.56	1.58	9.35	1.58	4.88
1.58	6.71	1.58	9.30	1.59	4.71
1.58	6.86	1.58	9.24	1.59	4.52
1.58	7.05	1.59	9.19	1.59	4.31
1.58	7.54	1.59	9.13	1.59	4.13
1.59	7.67	1.59	9.08	1.59	4.15
1.59	7.79	1.59	9.03	1.59	4.26
1.59	7.91	1.59	8.97	1.59	4.33
1.59	8.02	1.59	8.92	1.59	4.40
1.59	8.09	1.59	8.89	1.59	4.49
1.59	8.15	1.59	8.90	1.59	4.60
1.59	8.27	1.59	8.84	1.59	4.68
1.59	8.44	1.59	8.83	1.59	4.79
1.59	8.51	1.59	8.83	1.59	4.98
1.59	8.62	1.59	8.85	1.59	5.05
1.59	8.76	1.59	8.79	1.59	5.14
1.59	8.90	1.59	8.78	1.59	5.22
1.59	8.97	1.59	8.78	1.59	5.25
1.59	9.07	1.59	8.78	1.59	5.21
1.59	9.18	1.59	8.73	1.60	5.14
1.59	9.29	1.59	8.67	1.60	5.10
1.59	9.36	1.60	8.67	1.60	4.94
1.59	9.42	1.60	8.67	1.60	4.84
1.60	9.45	1.60	8.70	1.60	4.81
1.60	9.46	1.60	8.64	1.60	4.74
1.60	9.45	1.60	8.64	1.60	4.76
1.60	9.52	1.60	8.73	1.60	4.74
1.60	9.52	1.60	8.68	1.60	4.72
1.60	9.49	1.60	8.67	1.60	4.74
1.60	9.49	1.60	8.70	1.60	4.77
1.60	9.45	1.60	8.69	1.60	4.79
1.60	9.42	1.60	8.72	1.60	4.85
1.60	9.13	1.60	8.74	1.60	4.92
1.60	8.90	1.60	8.80	1.60	5.01
1.60	8.50	1.60	8.82	1.60	5.03
1.60	8.42	1.60	9.04	1.60	5.05
1.60	8.34	1.60	9.16	1.60	5.10
1.60	8.28	1.60	9.31	1.61	5.18
1.60	8.23	1.60	9.25	1.61	5.24

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.60	8.19	1.60	9.16	1.61	5.26
1.60	8.17	1.61	9.04	1.61	5.28
1.61	8.09	1.61	8.92	1.61	5.30
1.61	8.09	1.61	8.79	1.61	5.29
1.61	8.10	1.61	8.56	1.61	5.26
1.61	8.17	1.61	8.39	1.61	5.21
1.61	8.23	1.61	8.24	1.61	5.23
1.61	8.26	1.61	8.08	1.61	5.22
1.61	8.29	1.61	8.02	1.61	5.17
1.61	8.30	1.61	7.97	1.61	5.10
1.61	8.37	1.61	7.92	1.61	5.06
1.61	8.38	1.61	7.86	1.61	5.00
1.61	8.38	1.61	7.81	1.61	5.02
1.61	8.34	1.61	7.75	1.61	4.98
1.61	8.25	1.61	7.70	1.61	4.93
1.61	8.21	1.61	7.64	1.61	4.87
1.61	8.11	1.61	7.59	1.62	4.89
1.61	7.95	1.61	7.53	1.62	4.91
1.61	7.61	1.61	7.48	1.62	4.94
1.61	7.50	1.62	7.42	1.62	4.96
1.62	7.41	1.62	7.37	1.62	4.98
1.62	7.17	1.62	7.31	1.62	5.00
1.62	7.08	1.62	7.26	1.62	5.02
1.62	7.04	1.62	7.20	1.62	5.04
1.62	7.00	1.62	7.14	1.62	5.07
1.62	6.98	1.62	7.09	1.62	5.09
1.62	7.00	1.62	7.07	1.62	5.11
1.62	7.02	1.62	7.08	1.62	5.14
1.62	7.05	1.62	7.11	1.62	5.16
1.62	7.11	1.62	7.09	1.62	5.22
1.62	7.18	1.62	7.11	1.62	5.28
1.62	7.24	1.62	7.12	1.62	5.35
1.62	7.31	1.62	7.19	1.62	5.37
1.62	7.38	1.62	7.21	1.62	5.39
1.62	7.44	1.62	7.27	1.63	5.46
1.62	7.51	1.62	7.55	1.63	5.53
1.62	7.53	1.62	7.71	1.63	5.61
1.62	7.60	1.63	7.88	1.63	5.63
1.63	7.62	1.63	8.10	1.63	5.69

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.63	7.64	1.63	8.10	1.63	5.77
1.63	7.66	1.63	8.09	1.63	5.85
1.63	7.72	1.63	8.08	1.63	5.87
1.63	7.79	1.63	8.06	1.63	5.89
1.63	7.85	1.63	8.01	1.63	5.91
1.63	7.92	1.63	7.95	1.63	5.93
1.63	7.98	1.63	7.90	1.63	5.91
1.63	8.01	1.63	7.84	1.63	5.88
1.63	8.04	1.63	7.74	1.63	5.84
1.63	8.06	1.63	7.63	1.63	5.87
1.63	8.13	1.63	7.49	1.63	5.89
1.63	8.15	1.63	7.44	1.63	5.91
1.63	8.17	1.63	7.34	1.63	5.93
1.63	8.17	1.63	7.23	1.64	5.95
1.63	8.23	1.63	7.13	1.64	5.97
1.63	8.26	1.63	7.11	1.64	6.00
1.63	8.28	1.64	7.12	1.64	6.07
1.63	8.26	1.64	7.13	1.64	6.17
1.64	8.33	1.64	7.13	1.64	6.23
1.64	8.35	1.64	7.14	1.64	6.32
1.64	8.30	1.64	7.15	1.64	6.43
1.64	8.37	1.64	7.18	1.64	6.45
1.64	8.43	1.64	7.16	1.64	6.51
1.64	8.46	1.64	7.17	1.64	6.56
1.64	8.49	1.64	7.17	1.64	6.59
1.64	8.51	1.64	7.12	1.64	6.61
1.64	8.58	1.64	7.06	1.64	6.57
1.64	8.65	1.64	6.96	1.64	6.50
1.64	8.72	1.64	6.87	1.64	6.48
1.64	8.78	1.64	6.77	1.64	6.40
1.64	8.81	1.64	6.72	1.64	6.35
1.64	8.82	1.64	6.66	1.64	6.26
1.64	8.81	1.64	6.65	1.65	6.20
1.64	8.89	1.64	6.74	1.65	6.12
1.64	8.89	1.64	6.74	1.65	5.98
1.64	8.83	1.65	6.77	1.65	5.82
1.65	8.83	1.65	6.79	1.65	5.26
1.65	8.77	1.65	6.88	1.65	5.16
1.65	8.60	1.65	6.99	1.65	5.06

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.65	8.46	1.65	7.15	1.65	4.94
1.65	8.27	1.65	7.37	1.65	4.84
1.65	8.02	1.65	7.35	1.65	4.75
1.65	7.67	1.65	7.30	1.65	4.66
1.65	7.66	1.65	7.24	1.65	4.61
1.65	7.66	1.65	7.15	1.65	4.58
1.65	7.66	1.65	6.95	1.65	4.55
1.65	7.65	1.65	6.85	1.65	4.58
1.65	7.67	1.65	6.73	1.65	4.60
1.65	7.66	1.65	6.61	1.65	4.62
1.65	7.64	1.65	6.55	1.65	4.64
1.65	7.71	1.65	6.50	1.66	4.66
1.65	7.71	1.65	6.47	1.66	4.68
1.65	7.70	1.65	6.49	1.66	4.68
1.65	7.70	1.66	6.53	1.66	4.70
1.66	7.76	1.66	6.65	1.66	4.72
1.66	7.83	1.66	6.69	1.66	4.74
1.66	7.89	1.66	6.75	1.66	4.76
1.66	7.96	1.66	6.85	1.66	4.79
1.66	8.06	1.66	7.01	1.66	4.81
1.66	8.16	1.66	6.99	1.66	4.83
1.66	8.22	1.66	6.93	1.66	4.85
1.66	8.29	1.66	6.88	1.66	4.87
1.66	8.36	1.66	6.82	1.66	4.90
1.66	8.39	1.66	6.86	1.66	4.92
1.66	8.38	1.66	6.80	1.66	4.94
1.66	8.38	1.66	6.81	1.66	4.96
1.66	8.30	1.66	6.79	1.66	4.98
1.66	8.11	1.66	6.81	1.66	5.00
1.66	7.95	1.66	6.84	1.66	5.07
1.66	7.79	1.66	6.79	1.66	5.14
1.66	7.65	1.66	6.80	1.66	5.23
1.66	7.57	1.66	6.83	1.67	5.25
1.66	7.75	1.66	6.83	1.67	5.27
1.66	7.94	1.66	6.84	1.67	5.34
1.66	8.14	1.67	6.87	1.67	5.43
1.67	8.33	1.67	6.81	1.67	5.53
1.67	8.60	1.67	6.76	1.67	5.59
1.67	8.72	1.67	6.70	1.67	5.68

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.67	8.79	1.67	6.69	1.67	5.78
1.67	8.86	1.67	6.69	1.67	5.81
1.67	8.93	1.67	6.71	1.67	5.83
1.67	9.00	1.67	6.69	1.67	5.89
1.67	9.01	1.67	6.71	1.67	5.96
1.67	9.01	1.67	6.76	1.67	6.02
1.67	8.98	1.67	6.73	1.67	6.04
1.67	9.05	1.67	6.76	1.67	6.03
1.67	9.07	1.67	6.77	1.67	6.00
1.67	9.09	1.67	6.83	1.67	5.95
1.67	9.09	1.67	6.86	1.67	5.97
1.67	9.15	1.67	6.94	1.67	5.97
1.67	9.18	1.67	7.07	1.68	5.94
1.67	9.13	1.67	7.28	1.68	5.90
1.67	9.20	1.67	7.41	1.68	5.92
1.68	9.21	1.68	7.45	1.68	5.94
1.68	9.18	1.68	7.49	1.68	5.97
1.68	9.20	1.68	7.54	1.68	5.99
1.68	9.17	1.68	7.61	1.68	6.01
1.68	9.16	1.68	7.65	1.68	6.04
1.68	9.10	1.68	7.69	1.68	6.11
1.68	9.07	1.68	7.73	1.68	6.18
1.68	9.01	1.68	7.75	1.68	6.27
1.68	8.62	1.68	7.75	1.68	6.29
1.68	8.59	1.68	7.78	1.68	6.31
1.68	8.56	1.68	7.73	1.68	6.33
1.68	8.50	1.68	7.67	1.68	6.35
1.68	8.44	1.68	7.62	1.68	6.38
1.68	8.36	1.68	7.56	1.68	6.40
1.68	8.28	1.68	7.51	1.68	6.42
1.68	8.21	1.68	7.45	1.69	6.44
1.68	8.17	1.68	7.40	1.69	6.42
1.68	8.09	1.68	7.34	1.69	6.40
1.69	8.15	1.69	7.29	1.69	6.36
1.69	8.22	1.69	7.23	1.69	6.38
1.69	8.28	1.69	7.18	1.69	6.40
1.69	8.35	1.69	7.12	1.69	6.33
1.69	8.45	1.69	7.10	1.69	6.29
1.69	8.57	1.69	7.05	1.69	6.31

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.69	8.68	1.69	7.03	1.69	6.31
1.69	8.75	1.69	7.04	1.69	6.27
1.69	8.81	1.69	7.04	1.69	6.21
1.69	8.82	1.69	6.99	1.69	6.19
1.69	8.67	1.69	6.97	1.69	6.15
1.69	8.52	1.69	6.96	1.69	6.07
1.69	8.26	1.69	6.95	1.69	6.03
1.69	7.83	1.69	6.90	1.69	5.96
1.69	7.05	1.69	6.84	1.69	5.79
1.69	6.77	1.69	6.79	1.70	5.75
1.69	6.51	1.69	6.69	1.70	5.66
1.69	6.27	1.69	6.59	1.70	5.62
1.69	6.03	1.70	6.48	1.70	5.57
1.70	5.52	1.70	6.38	1.70	5.59
1.70	5.35	1.70	6.27	1.70	5.58
1.70	5.17	1.70	6.15	1.70	5.60
1.70	5.04	1.70	6.09	1.70	5.63
1.70	4.94	1.70	6.04	1.70	5.65
1.70	4.87	1.70	5.98	1.70	5.71
1.70	4.83	1.70	5.93	1.70	5.80
1.70	4.82	1.70	5.87	1.70	5.90
1.70	4.82	1.70	5.82	1.70	5.92
1.70	4.84	1.70	5.81	1.70	5.99
1.70	4.90	1.70	5.83	1.70	6.08
1.70	4.98	1.70	5.86	1.70	6.17
1.70	5.04	1.70	5.81	1.70	6.19
1.70	5.11	1.70	5.81	1.70	6.22
1.70	5.18	1.70	5.84	1.70	6.24
1.70	5.24	1.70	5.78	1.71	6.26
1.70	5.37	1.70	5.79	1.71	6.28
1.70	5.52	1.71	5.83	1.71	6.31
1.71	5.73	1.71	5.81	1.71	6.33
1.71	5.88	1.71	5.91	1.71	6.35
1.71	6.06	1.71	5.98	1.71	6.37
1.71	6.26	1.71	6.02	1.71	6.39
1.71	6.47	1.71	6.11	1.71	6.45
1.71	6.68	1.71	6.27	1.71	6.60
1.71	6.69	1.71	6.47	1.71	6.63
1.71	6.69	1.71	6.77	1.71	6.70

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.71	6.68	1.71	6.81	1.71	6.79
1.71	6.63	1.71	6.81	1.71	6.90
1.71	6.58	1.71	6.85	1.71	6.92
1.71	6.42	1.71	6.79	1.71	6.94
1.71	6.37	1.71	6.74	1.71	7.00
1.71	6.33	1.71	6.68	1.71	7.12
1.71	6.29	1.71	6.68	1.71	7.14
1.71	6.28	1.71	6.68	1.72	7.17
1.71	6.28	1.71	6.70	1.72	7.19
1.71	6.30	1.72	6.65	1.72	7.21
1.72	6.32	1.72	6.66	1.72	7.23
1.72	6.39	1.72	6.71	1.72	7.20
1.72	6.45	1.72	6.72	1.72	7.17
1.72	6.57	1.72	6.88	1.72	7.12
1.72	6.77	1.72	6.96	1.72	7.14
1.72	6.88	1.72	7.11	1.72	7.12
1.72	7.02	1.72	7.35	1.72	7.06
1.72	7.17	1.72	7.39	1.72	6.97
1.72	7.38	1.72	7.43	1.72	6.90
1.72	7.69	1.72	7.47	1.72	6.92
1.72	7.87	1.72	7.49	1.72	6.88
1.72	8.04	1.72	7.50	1.72	6.82
1.72	8.33	1.72	7.55	1.72	6.85
1.72	8.50	1.72	7.49	1.72	6.87
1.72	8.66	1.72	7.43	1.72	6.85
1.72	8.83	1.72	7.38	1.73	6.87
1.72	8.96	1.72	7.32	1.73	6.89
1.72	9.09	1.72	7.27	1.73	6.92
1.73	9.21	1.73	7.21	1.73	6.94
1.73	9.28	1.73	7.11	1.73	6.96
1.73	9.34	1.73	7.00	1.73	7.04
1.73	9.41	1.73	6.87	1.73	7.14
1.73	9.47	1.73	6.82	1.73	7.20
1.73	9.54	1.73	6.76	1.73	7.31
1.73	9.54	1.73	6.67	1.73	7.39
1.73	9.52	1.73	6.56	1.73	7.53
1.73	9.55	1.73	6.46	1.73	7.75
1.73	9.51	1.73	6.41	1.73	7.84
1.73	9.50	1.73	6.31	1.73	7.99

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.73	9.42	1.73	6.20	1.73	8.05
1.73	9.29	1.73	6.07	1.73	8.15
1.73	9.08	1.73	5.97	1.73	8.17
1.73	9.03	1.73	5.86	1.73	8.19
1.73	9.05	1.73	5.76	1.74	8.22
1.73	9.12	1.73	5.70	1.74	8.24
1.73	9.18	1.73	5.65	1.74	8.26
1.73	9.22	1.74	5.65	1.74	8.28
1.74	9.29	1.74	5.69	1.74	8.30
1.74	9.35	1.74	5.69	1.74	8.33
1.74	9.42	1.74	5.75	1.74	8.35
1.74	9.48	1.74	5.92	1.74	8.34
1.74	9.51	1.74	6.09	1.74	8.30
1.74	9.54	1.74	6.31	1.74	8.26
1.74	9.56	1.74	6.64	1.74	8.28
1.74	9.63	1.74	6.67	1.74	8.24
1.74	9.69	1.74	6.68	1.74	8.12
1.74	9.76	1.74	6.68	1.74	8.05
1.74	9.78	1.74	6.66	1.74	8.01
1.74	9.81	1.74	6.60	1.74	7.93
1.74	9.83	1.74	6.55	1.74	7.87
1.74	9.89	1.74	6.45	1.74	7.77
1.74	9.96	1.74	6.33	1.74	7.73
1.74	10.02	1.74	6.17	1.75	7.65
1.74	10.05	1.74	6.05	1.75	7.61
1.74	10.07	1.75	5.89	1.75	7.54
1.75	10.07	1.75	5.80	1.75	7.49
1.75	10.14	1.75	5.67	1.75	7.37
1.75	10.14	1.75	5.53	1.75	7.30
1.75	10.10	1.75	5.48	1.75	7.27
1.75	10.11	1.75	5.43	1.75	7.22
1.75	10.06	1.75	5.37	1.75	7.19
1.75	9.90	1.75	5.36	1.75	7.14
1.75	9.75	1.75	5.35	1.75	7.08
1.75	9.56	1.75	5.37	1.75	7.10
1.75	9.28	1.75	5.31	1.75	6.99
1.75	9.26	1.75	5.33	1.75	6.94
1.75	9.23	1.75	5.36	1.75	6.96
1.75	9.19	1.75	5.35	1.75	6.98

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.75	9.14	1.75	5.39	1.75	7.00
1.75	9.09	1.75	5.40	1.75	7.03
1.75	8.91	1.75	5.51	1.76	7.05
1.75	8.87	1.75	5.59	1.76	7.07
1.75	8.82	1.76	5.62	1.76	7.09
1.76	8.79	1.76	5.72	1.76	7.16
1.76	8.78	1.76	5.93	1.76	7.25
1.76	8.77	1.76	5.97	1.76	7.40
1.76	8.76	1.76	6.03	1.76	7.50
1.76	8.76	1.76	6.06	1.76	7.58
1.76	8.78	1.76	6.09	1.76	7.70
1.76	8.67	1.76	6.14	1.76	7.79
1.76	8.69	1.76	6.13	1.76	7.93
1.76	8.67	1.76	6.07	1.76	8.02
1.76	8.66	1.76	6.01	1.76	8.17
1.76	8.63	1.76	5.96	1.76	8.28
1.76	8.64	1.76	5.91	1.76	8.41
1.76	8.62	1.76	5.85	1.76	8.78
1.76	8.64	1.76	5.80	1.76	8.86
1.76	8.65	1.76	5.69	1.76	8.92
1.76	8.65	1.76	5.55	1.77	8.94
1.76	8.71	1.76	5.50	1.77	8.96
1.76	8.75	1.77	5.44	1.77	8.98
1.77	8.76	1.77	5.45	1.77	9.01
1.77	8.78	1.77	5.47	1.77	9.03
1.77	8.85	1.77	5.46	1.77	9.05
1.77	8.91	1.77	5.51	1.77	9.07
1.77	8.98	1.77	5.55	1.77	9.18
1.77	9.04	1.77	5.66	1.77	9.21
1.77	9.11	1.77	5.82	1.77	9.30
1.77	9.17	1.77	6.49	1.77	9.41
1.77	9.29	1.77	6.55	1.77	9.48
1.77	9.40	1.77	6.60	1.77	9.58
1.77	9.53	1.77	6.63	1.77	9.63
1.77	9.59	1.77	6.62	1.77	9.71
1.77	9.66	1.77	6.62	1.77	9.77
1.77	9.72	1.77	6.56	1.77	9.68
1.77	9.79	1.77	6.51	1.77	9.60
1.77	9.85	1.77	6.45	1.77	9.44

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.77	9.92	1.77	6.40	1.78	9.18
1.77	9.99	1.77	6.34	1.78	8.72
1.77	9.95	1.78	6.29	1.78	8.55
1.78	9.93	1.78	6.23	1.78	8.41
1.78	9.96	1.78	6.14	1.78	8.12
1.78	9.93	1.78	6.03	1.78	8.04
1.78	9.92	1.78	5.92	1.78	7.95
1.78	9.85	1.78	5.87	1.78	7.90
1.78	9.82	1.78	5.81	1.78	7.86
1.78	9.74	1.78	5.76	1.78	7.83
1.78	9.59	1.78	5.70	1.78	7.81
1.78	9.42	1.78	5.79	1.78	7.83
1.78	8.88	1.78	5.78	1.78	7.82
1.78	8.89	1.78	5.83	1.78	7.79
1.78	8.88	1.78	5.85	1.78	7.75
1.78	8.86	1.78	5.91	1.78	7.65
1.78	8.84	1.78	6.05	1.78	7.61
1.78	8.81	1.78	6.24	1.78	7.54
1.78	8.77	1.78	6.49	1.79	7.50
1.78	8.74	1.78	6.88	1.79	7.42
1.78	8.71	1.79	7.02	1.79	7.39
1.79	8.70	1.79	7.06	1.79	7.33
1.79	8.62	1.79	7.06	1.79	7.30
1.79	8.62	1.79	7.06	1.79	7.27
1.79	8.69	1.79	7.06	1.79	7.23
1.79	8.72	1.79	7.00	1.79	7.25
1.79	8.73	1.79	6.95	1.79	7.22
1.79	8.73	1.79	6.89	1.79	7.19
1.79	8.73	1.79	6.84	1.79	7.14
1.79	8.69	1.79	6.79	1.79	7.16
1.79	8.65	1.79	6.73	1.79	7.13
1.79	8.53	1.79	6.68	1.79	7.08
1.79	8.20	1.79	6.62	1.79	7.06
1.79	7.88	1.79	6.57	1.79	7.00
1.79	7.79	1.79	6.51	1.79	6.94
1.79	7.73	1.79	6.46	1.79	6.91
1.79	7.70	1.79	6.40	1.80	6.85
1.79	7.72	1.79	6.35	1.80	6.80
1.79	7.75	1.80	6.39	1.80	6.82

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.80	7.82	1.80	6.41	1.80	6.84
1.80	7.88	1.80	6.36	1.80	6.86
1.80	7.95	1.80	6.35	1.80	6.83
1.80	8.01	1.80	6.37	1.80	6.80
1.80	8.12	1.80	6.41	1.80	6.75
1.80	8.22	1.80	6.35	1.80	6.73
1.80	8.34	1.80	6.30	1.80	6.71
1.80	8.40	1.80	6.28	1.80	6.66
1.80	8.47	1.80	6.26	1.80	6.68
1.80	8.53	1.80	6.20	1.80	6.66
1.80	8.64	1.80	6.15	1.80	6.64
1.80	8.76	1.80	6.09	1.80	6.60
1.80	8.89	1.80	6.04	1.80	6.62
1.80	8.95	1.80	5.98	1.80	6.54
1.80	9.02	1.80	5.93	1.80	6.47
1.80	9.08	1.80	5.87	1.81	6.49
1.80	9.15	1.80	5.82	1.81	6.46
1.80	9.21	1.81	5.77	1.81	6.39
1.80	9.28	1.81	5.71	1.81	6.41
1.81	9.34	1.81	5.70	1.81	6.38
1.81	9.41	1.81	5.64	1.81	6.36
1.81	9.48	1.81	5.63	1.81	6.34
1.81	9.54	1.81	5.63	1.81	6.42
1.81	9.56	1.81	5.65	1.81	6.52
1.81	9.48	1.81	5.60	1.81	6.58
1.81	9.54	1.81	5.54	1.81	6.68
1.81	9.57	1.81	5.49	1.81	6.75
1.81	9.59	1.81	5.44	1.81	6.83
1.81	9.58	1.81	5.38	1.81	6.92
1.81	9.65	1.81	5.32	1.81	6.94
1.81	9.67	1.81	5.26	1.81	6.91
1.81	9.68	1.81	5.21	1.81	6.84
1.81	9.69	1.81	5.16	1.81	6.80
1.81	9.75	1.81	5.14	1.81	6.55
1.81	9.78	1.81	5.13	1.82	6.40
1.81	9.81	1.82	5.14	1.82	6.18
1.81	9.82	1.82	5.08	1.82	5.83
1.82	9.89	1.82	5.07	1.82	5.78
1.82	9.95	1.82	5.07	1.82	5.73

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.82	10.02	1.82	5.08	1.82	5.70
1.82	10.08	1.82	5.02	1.82	5.69
1.82	10.15	1.82	4.97	1.82	5.71
1.82	10.15	1.82	4.91	1.82	5.73
1.82	10.16	1.82	4.90	1.82	5.75
1.82	10.23	1.82	4.90	1.82	5.77
1.82	10.29	1.82	4.91	1.82	5.80
1.82	10.36	1.82	4.85	1.82	5.82
1.82	10.43	1.82	4.80	1.82	5.84
1.82	10.46	1.82	4.78	1.82	5.86
1.82	10.48	1.82	4.76	1.82	5.88
1.82	10.47	1.82	4.74	1.82	5.90
1.82	10.54	1.82	4.69	1.82	5.93
1.82	10.50	1.82	4.63	1.83	5.99
1.82	10.47	1.82	4.58	1.83	6.05
1.82	10.50	1.83	4.52	1.83	6.12
1.83	10.50	1.83	4.47	1.83	6.14
1.83	10.46	1.83	4.41	1.83	6.21
1.83	10.48	1.83	4.36	1.83	6.30
1.83	10.47	1.83	4.30	1.83	6.41
1.83	10.49	1.83	4.25	1.83	6.43
1.83	10.48	1.83	4.19	1.83	6.51
1.83	10.44	1.83	4.19	1.83	6.61
1.83	10.42	1.83	4.19	1.83	6.73
1.83	10.48	1.83	4.27	1.83	6.83
1.83	10.50	1.83	4.42	1.83	6.85
1.83	10.50	1.83	4.47	1.83	6.87
1.83	10.46	1.83	4.55	1.83	6.89
1.83	10.48	1.83	4.55	1.83	6.92
1.83	10.45	1.83	4.60	1.83	6.94
1.83	10.41	1.83	4.64	1.83	6.89
1.83	10.28	1.83	4.64	1.84	6.81
1.83	10.05	1.83	4.64	1.84	6.62
1.83	9.41	1.83	4.64	1.84	6.55
1.84	9.26	1.84	4.60	1.84	6.41
1.84	9.13	1.84	4.56	1.84	6.21
1.84	9.01	1.84	4.51	1.84	5.96
1.84	8.90	1.84	4.51	1.84	5.67
1.84	8.81	1.84	4.51	1.84	5.32

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.84	8.72	1.84	4.51	1.84	5.27
1.84	8.65	1.84	4.51	1.84	5.25
1.84	8.59	1.84	4.55	1.84	5.21
1.84	8.40	1.84	4.60	1.84	5.17
1.84	8.31	1.84	4.68	1.84	5.06
1.84	8.22	1.84	4.68	1.84	4.98
1.84	8.12	1.84	4.78	1.84	4.80
1.84	8.01	1.84	4.84	1.84	4.70
1.84	7.88	1.84	4.84	1.84	4.61
1.84	7.74	1.84	4.84	1.84	4.53
1.84	7.61	1.84	4.84	1.85	4.46
1.84	7.48	1.84	4.84	1.85	4.41
1.84	7.23	1.84	4.84	1.85	4.34
1.85	7.19	1.85	4.79	1.85	4.36
1.85	7.17	1.85	4.62	1.85	4.39
1.85	7.24	1.85	4.58	1.85	4.41
1.85	7.31	1.85	4.51	1.85	4.43
1.85	7.37	1.85	4.42	1.85	4.45
1.85	7.44	1.85	4.39	1.85	4.47
1.85	7.56	1.85	4.32	1.85	4.54
1.85	7.74	1.85	4.23	1.85	4.61
1.85	7.89	1.85	4.23	1.85	4.68
1.85	8.30	1.85	4.23	1.85	4.70
1.85	8.71	1.85	4.23	1.85	4.72
1.85	8.91	1.85	4.23	1.85	4.74
1.85	9.10	1.85	4.23	1.85	4.72
1.85	9.28	1.85	4.28	1.85	4.70
1.85	9.49	1.85	4.36	1.85	4.64
1.85	9.68	1.85	4.44	1.85	4.66
1.85	9.87	1.85	4.48	1.86	4.62
1.85	10.08	1.85	4.55	1.86	4.53
1.85	10.42	1.85	4.65	1.86	4.49
1.86	10.61	1.86	4.71	1.86	4.31
1.86	10.77	1.86	4.81	1.86	4.19
1.86	10.93	1.86	5.01	1.86	4.00
1.86	11.06	1.86	5.11	1.86	3.76
1.86	11.13	1.86	5.25	1.86	3.42
1.86	11.19	1.86	5.41	1.86	3.36
1.86	11.26	1.86	5.57	1.86	3.31

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.86	11.32	1.86	5.73	1.86	3.29
1.86	11.39	1.86	5.69	1.86	3.26
1.86	11.39	1.86	5.62	1.86	3.28
1.86	11.39	1.86	5.54	1.86	3.30
1.86	11.36	1.86	5.28	1.86	3.32
1.86	11.38	1.86	5.14	1.86	3.35
1.86	11.37	1.86	5.00	1.86	3.41
1.86	11.35	1.86	4.88	1.86	3.49
1.86	11.42	1.86	4.78	1.87	3.57
1.86	11.48	1.86	4.69	1.87	3.59
1.86	11.51	1.86	4.65	1.87	3.65
1.87	11.52	1.87	4.65	1.87	3.73
1.87	11.53	1.87	4.65	1.87	3.81
1.87	11.60	1.87	4.65	1.87	3.83
1.87	11.61	1.87	4.81	1.87	3.86
1.87	11.62	1.87	4.89	1.87	3.88
1.87	11.60	1.87	5.03	1.87	3.90
1.87	11.66	1.87	5.31	1.87	3.92
1.87	11.68	1.87	5.42	1.87	3.94
1.87	11.67	1.87	5.50	1.87	3.96
1.87	11.73	1.87	5.60	1.87	3.99
1.87	11.74	1.87	5.66	1.87	4.01
1.87	11.66	1.87	5.73	1.87	3.98
1.87	11.73	1.87	5.77	1.87	3.85
1.87	11.79	1.87	5.77	1.87	3.83
1.87	11.85	1.87	5.77	1.87	3.77
1.87	11.92	1.87	5.77	1.88	3.74
1.87	11.98	1.87	5.77	1.88	3.64
1.87	12.05	1.87	5.73	1.88	3.58
1.88	12.12	1.88	5.69	1.88	3.50
1.88	12.18	1.88	5.65	1.88	3.37
1.88	12.21	1.88	5.65	1.88	3.25
1.88	12.27	1.88	5.65	1.88	2.93
1.88	12.34	1.88	5.65	1.88	2.97
1.88	12.40	1.88	5.65	1.88	2.99
1.88	12.47	1.88	5.68	1.88	3.01
1.88	12.54	1.88	5.73	1.88	3.03
1.88	12.60	1.88	5.78	1.88	3.05
1.88	12.71	1.88	5.78	1.88	3.03

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.88	12.85	1.88	5.78	1.88	3.00
1.88	12.99	1.88	5.78	1.88	2.94
1.88	13.06	1.88	5.78	1.88	2.94
1.88	13.15	1.88	5.73	1.88	2.88
1.88	13.26	1.88	5.65	1.88	2.74
1.88	13.32	1.88	5.52	1.89	2.65
1.88	13.39	1.88	5.46	1.89	2.57
1.88	13.45	1.88	5.34	1.89	2.48
1.88	13.52	1.88	5.25	1.89	2.34
1.89	13.53	1.89	5.13	1.89	2.14
1.89	13.50	1.89	4.99	1.89	2.11
1.89	13.53	1.89	4.84	1.89	2.09
1.89	13.53	1.89	4.64	1.89	2.02
1.89	13.49	1.89	4.60	1.89	2.04
1.89	13.56	1.89	4.56	1.89	2.06
1.89	42.82	1.89	4.50	1.89	2.05
1.89	56.43	1.89	4.45	1.89	2.03
1.89	62.26	1.89	4.45	1.89	2.05
1.89	72.85	1.89	4.45	1.89	2.07
1.89	76.96	1.89	4.42	1.89	2.09
1.89	84.67	1.89	4.37	1.89	2.18
1.89	87.53	1.89	4.31	1.89	2.37
1.89	90.38	1.89	4.31	1.89	2.49
1.89	95.60	1.89	4.15	1.89	2.57
1.89	101.79	1.89	4.10	1.90	2.70
1.89	103.44	1.89	3.99	1.90	2.75
1.89	106.65	1.89	3.93	1.90	2.82
1.90	107.85	1.90	3.82	1.90	2.85
1.90	110.29	1.90	3.67	1.90	2.86
1.90	111.13	1.90	3.48	1.90	2.80
1.90	112.92	1.90	3.47	1.90	2.75
1.90	114.88	1.90	3.47	1.90	2.54
1.90	116.73	1.90	3.51	1.90	2.50
1.90	116.73	1.90	3.64	1.90	2.35
1.90	119.07	1.90	3.64	1.90	2.17
1.90	131.72	1.90	3.68	1.90	1.92
1.90	132.04	1.90	3.73	1.90	1.85
1.90	132.17	1.90	3.78	1.90	1.78
1.90	132.43	1.90	3.78	1.90	1.72

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.89	132.53	1.90	3.78	1.89	1.64
1.89	132.67	1.89	3.78	1.89	1.61
1.89	132.67	1.89	3.78	1.89	1.49
1.89	132.68	1.89	3.78	1.89	1.49
1.89	132.67	1.89	3.78	1.89	1.49
1.89	132.67	1.89	3.78	1.89	1.49
1.89	132.70	1.89	3.78	1.89	1.49
1.89	132.78	1.89	3.78	1.89	1.49
1.89	132.86	1.89	3.78	1.89	1.49
1.89	133.01	1.89	3.78	1.89	1.49
1.89	133.08	1.89	3.78	1.89	1.54
1.88	133.21	1.89	3.78	1.89	1.61
1.88	133.25	1.88	3.78	1.89	1.69
1.88	133.37	1.88	3.81	1.89	1.69
1.88	133.44	1.88	3.91	1.89	1.72
1.88	133.46	1.88	3.91	1.89	1.75
1.88	133.52	1.88	3.95	1.89	1.75
1.88	133.53	1.88	4.03	1.89	1.75
1.88	133.53	1.88	4.09	1.89	1.75
1.88	133.53	1.88	4.20	1.88	1.75
1.88	133.53	1.88	4.29	1.88	1.75
1.88	133.57	1.88	4.43	1.88	1.75
1.87	133.57	1.88	4.62	1.88	1.67
1.87	133.57	1.87	4.83	1.88	1.62
1.87	133.57	1.87	5.33	1.88	1.62
1.87	133.57	1.87	5.35	1.88	1.62
1.87	133.57	1.87	5.35	1.88	1.62
1.87	133.57	1.87	5.35	1.88	1.58
1.87	133.57	1.87	5.35	1.88	1.53
1.87	133.57	1.87	5.35	1.88	1.47
1.87	133.52	1.87	5.39	1.88	1.47
1.87	133.46	1.87	5.43	1.88	1.43
1.87	133.38	1.87	5.47	1.88	1.38
1.86	133.38	1.87	5.47	1.88	1.32
1.86	133.34	1.86	5.52	1.88	1.32
1.86	133.29	1.86	5.65	1.88	1.32
1.86	133.24	1.86	5.77	1.88	1.32
1.86	133.24	1.86	5.88	1.87	1.28
1.86	133.24	1.86	6.05	1.87	1.25

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.86	133.24	1.86	6.34	1.87	1.22
1.86	133.24	1.86	6.86	1.87	1.22
1.86	133.24	1.86	7.11	1.87	1.22
1.86	133.24	1.86	7.36	1.87	1.25
1.86	133.27	1.86	7.61	1.87	1.30
1.85	133.36	1.86	8.08	1.87	1.37
1.85	133.36	1.85	8.29	1.87	1.37
1.85	133.36	1.85	8.47	1.87	1.42
1.85	133.36	1.85	8.62	1.87	1.49
1.85	133.36	1.85	8.74	1.87	1.58
1.85	133.36	1.85	8.84	1.87	1.58
1.85	133.40	1.85	8.91	1.87	1.65
1.85	133.44	1.85	8.97	1.87	1.78
1.85	133.49	1.85	9.02	1.87	1.85
1.85	133.49	1.85	9.06	1.87	1.95
1.85	133.53	1.85	9.06	1.87	1.95
1.84	133.57	1.85	9.06	1.86	2.01
1.84	133.62	1.84	9.06	1.86	2.08
1.84	133.62	1.84	9.06	1.86	2.15
1.84	133.62	1.84	9.06	1.86	2.15
1.84	133.62	1.84	9.10	1.86	2.15
1.84	133.56	1.84	9.14	1.86	2.19
1.84	133.43	1.84	9.19	1.86	2.24
1.84	133.33	1.84	9.19	1.86	2.28
1.84	133.26	1.84	9.19	1.86	2.28
1.84	133.12	1.84	9.23	1.86	2.32
1.84	133.03	1.84	9.37	1.86	2.37
1.83	132.90	1.84	9.37	1.86	2.44
1.83	132.72	1.83	9.44	1.86	2.44
1.83	132.56	1.83	9.53	1.86	2.48
1.83	132.41	1.83	9.58	1.86	2.58
1.83	132.33	1.83	9.68	1.86	2.58
1.83	132.41	1.83	9.74	1.86	2.58
1.83	132.62	1.83	9.84	1.86	2.62
1.83	132.72	1.83	9.91	1.85	2.67
1.83	132.83	1.83	10.08	1.85	2.73
1.83	132.92	1.83	10.19	1.85	2.73
1.83	133.02	1.83	10.27	1.85	2.79
1.82	133.10	1.83	10.39	1.85	2.90

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.82	133.18	1.82	10.59	1.85	3.10
1.82	133.25	1.82	10.70	1.85	3.20
1.82	133.32	1.82	10.85	1.85	3.36
1.82	133.38	1.82	11.01	1.85	3.57
1.82	133.38	1.82	11.19	1.85	3.83
1.82	133.38	1.82	11.63	1.85	4.20
1.82	133.38	1.82	11.89	1.85	4.29
1.82	133.33	1.82	12.13	1.85	4.34
1.82	133.27	1.82	12.38	1.85	4.41
1.82	133.17	1.82	12.62	1.85	4.45
1.81	133.13	1.82	12.84	1.85	4.45
1.81	133.02	1.81	13.04	1.85	4.45
1.81	132.94	1.81	13.21	1.85	4.45
1.81	132.78	1.81	13.35	1.85	4.45
1.81	132.22	1.81	13.58	1.84	4.45
1.81	132.13	1.81	13.70	1.84	4.45
1.81	132.04	1.81	13.82	1.84	4.41
1.81	131.96	1.81	13.94	1.84	4.36
1.81	131.88	1.81	14.08	1.84	4.30
1.81	131.82	1.81	14.22	1.84	4.30
1.81	131.76	1.81	14.39	1.84	4.30
1.80	131.76	1.81	14.56	1.84	4.30
1.80	131.72	1.80	14.72	1.84	4.34
1.80	131.63	1.80	14.88	1.84	4.41
1.80	131.63	1.80	15.02	1.84	4.48
1.80	131.63	1.80	15.23	1.84	4.48
1.80	131.63	1.80	15.30	1.84	4.52
1.80	131.63	1.80	15.36	1.84	4.57
1.80	131.63	1.80	15.41	1.84	4.63
1.80	131.63	1.80	15.44	1.84	4.63
1.80	131.63	1.80	15.44	1.84	4.63
1.80	131.72	1.80	15.44	1.84	4.58
1.79	131.72	1.80	15.44	1.83	4.51
1.79	131.78	1.79	15.44	1.83	4.42
1.79	131.78	1.79	15.44	1.83	4.42
1.79	131.83	1.79	15.44	1.83	4.36
1.79	131.89	1.79	15.41	1.83	4.29
1.79	131.96	1.79	15.36	1.83	4.21
1.79	131.96	1.79	15.31	1.83	4.21

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.79	131.96	1.79	15.31	1.83	4.21
1.79	131.96	1.79	15.31	1.83	4.21
1.79	132.00	1.79	15.31	1.83	4.21
1.79	132.00	1.79	15.27	1.83	4.26
1.78	132.00	1.78	15.23	1.83	4.32
1.78	132.00	1.78	15.18	1.83	4.42
1.78	131.93	1.78	15.18	1.83	4.47
1.78	131.83	1.78	15.18	1.83	4.57
1.78	131.77	1.78	15.18	1.83	4.65
1.78	131.66	1.78	15.18	1.83	4.77
1.78	131.59	1.78	15.22	1.83	5.15
1.78	131.46	1.78	15.28	1.82	5.36
1.78	131.00	1.78	15.35	1.82	5.61
1.78	130.66	1.78	15.35	1.82	5.61
1.78	130.22	1.78	15.53	1.82	5.61
1.77	130.12	1.78	15.60	1.82	5.56
1.77	130.02	1.77	15.71	1.82	5.52
1.77	129.90	1.77	15.80	1.82	5.48
1.77	129.79	1.77	15.93	1.82	5.48
1.77	129.68	1.77	16.12	1.82	5.48
1.77	129.57	1.77	16.36	1.82	5.48
1.77	129.46	1.77	16.67	1.82	5.48
1.77	129.35	1.77	17.14	1.82	5.48
1.77	129.14	1.77	17.43	1.82	5.54
1.77	129.06	1.77	17.56	1.82	5.62
1.77	128.96	1.77	17.66	1.82	5.68
1.76	128.86	1.76	17.74	1.82	5.80
1.76	128.77	1.76	17.80	1.82	5.88
1.76	128.71	1.76	17.84	1.82	6.06
1.76	128.64	1.76	17.84	1.82	6.29
1.76	128.61	1.76	17.84	1.81	7.05
1.76	128.61	1.76	17.84	1.81	7.16
1.76	128.61	1.76	17.84	1.81	7.23
1.76	128.61	1.76	17.84	1.81	7.27
1.76	128.61	1.76	17.88	1.81	7.27
1.76	128.64	1.76	17.88	1.81	7.27
1.76	128.69	1.76	17.93	1.81	7.21
1.75	128.76	1.76	17.99	1.81	7.10
1.75	128.76	1.75	18.07	1.81	6.99

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.75	128.76	1.75	18.07	1.81	6.81
1.75	128.80	1.75	18.10	1.81	6.51
1.75	128.84	1.75	18.14	1.81	5.78
1.75	128.88	1.75	18.19	1.81	5.58
1.75	128.88	1.75	18.19	1.81	5.41
1.75	128.88	1.75	18.23	1.81	5.28
1.75	128.83	1.75	18.29	1.81	5.17
1.75	128.77	1.75	18.36	1.81	5.10
1.75	128.68	1.75	18.36	1.81	5.05
1.74	128.64	1.74	18.42	1.80	5.05
1.74	128.57	1.74	18.51	1.80	5.09
1.74	128.50	1.74	18.67	1.80	5.16
1.74	128.27	1.74	18.75	1.80	5.25
1.74	128.13	1.74	18.89	1.80	5.31
1.74	127.97	1.74	19.07	1.80	5.43
1.74	127.76	1.74	19.31	1.80	5.53
1.74	127.50	1.74	19.68	1.80	5.67
1.74	127.42	1.74	19.78	1.80	5.85
1.74	127.36	1.74	19.89	1.80	6.13
1.73	127.30	1.74	19.98	1.80	6.23
1.73	127.23	1.73	20.07	1.80	6.28
1.73	127.19	1.73	20.23	1.80	6.31
1.73	127.12	1.73	20.31	1.80	6.31
1.73	127.05	1.73	20.40	1.80	6.35
1.73	127.00	1.73	20.50	1.80	6.41
1.73	126.94	1.73	20.59	1.80	6.49
1.73	126.88	1.73	20.68	1.80	6.52
1.73	126.88	1.73	20.79	1.79	6.59
1.73	126.88	1.73	20.90	1.79	6.67
1.73	126.93	1.73	21.01	1.79	6.72
1.72	126.99	1.73	21.14	1.79	6.84
1.72	127.07	1.72	21.27	1.79	6.93
1.72	127.09	1.72	21.60	1.79	6.98
1.72	127.09	1.72	21.78	1.79	7.06
1.72	127.21	1.72	21.98	1.79	7.12
1.72	127.21	1.72	22.17	1.79	7.21
1.72	127.21	1.72	22.35	1.79	7.27
1.72	127.21	1.72	22.53	1.79	7.36
1.72	127.21	1.72	22.69	1.79	7.43

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.72	127.21	1.72	22.84	1.79	7.62
1.72	127.21	1.72	22.98	1.79	7.73
1.71	127.21	1.72	23.23	1.79	7.81
1.71	127.21	1.71	23.35	1.79	7.91
1.71	127.12	1.71	23.49	1.79	7.97
1.71	127.07	1.71	23.64	1.79	8.06
1.71	127.07	1.71	23.77	1.79	8.11
1.71	127.07	1.71	23.92	1.78	8.18
1.71	127.07	1.71	24.06	1.78	8.27
1.71	127.07	1.71	24.19	1.78	8.27
1.71	127.07	1.71	24.30	1.78	8.39
1.71	127.07	1.71	24.37	1.78	8.47
1.71	127.09	1.71	24.42	1.78	8.47
1.70	127.14	1.71	24.42	1.78	8.53
1.70	127.20	1.70	24.42	1.78	8.63
1.70	127.20	1.70	24.42	1.78	8.67
1.70	127.20	1.70	24.42	1.78	8.74
1.70	127.20	1.70	24.42	1.78	8.82
1.70	127.20	1.70	24.42	1.78	8.82
1.70	127.20	1.70	24.42	1.78	8.82
1.70	127.20	1.70	24.42	1.78	8.82
1.70	127.20	1.70	24.42	1.78	8.82
1.70	127.20	1.70	24.42	1.78	8.82
1.70	127.20	1.70	24.42	1.78	8.85
1.69	127.20	1.70	24.42	1.78	8.89
1.69	127.20	1.69	24.48	1.77	8.94
1.69	127.20	1.69	24.56	1.77	8.94
1.69	127.20	1.69	24.56	1.77	9.00
1.69	127.20	1.69	24.62	1.77	9.09
1.69	127.16	1.69	24.70	1.77	9.30
1.69	127.10	1.69	24.74	1.77	9.40
1.69	127.03	1.69	24.80	1.77	9.59
1.69	126.89	1.69	24.95	1.77	9.82
1.69	126.81	1.69	25.04	1.77	10.09
1.69	126.69	1.69	25.12	1.77	10.46
1.68	126.52	1.69	25.24	1.77	10.51
1.68	126.23	1.68	25.33	1.77	10.55
1.68	125.85	1.68	25.49	1.77	10.55
1.68	125.42	1.68	25.69	1.77	10.55

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.68	124.92	1.68	25.95	1.77	10.55
1.68	124.32	1.68	26.34	1.77	10.55
1.68	124.20	1.68	26.49	1.77	10.55
1.68	124.16	1.68	26.62	1.77	10.55
1.68	124.16	1.68	26.90	1.76	10.55
1.68	124.16	1.68	27.03	1.76	10.55
1.68	124.16	1.68	27.16	1.76	10.51
1.67	124.20	1.68	27.27	1.76	10.47
1.67	124.27	1.67	27.35	1.76	10.43
1.67	124.35	1.67	27.42	1.76	10.43
1.67	124.39	1.67	27.46	1.76	10.43
1.67	124.46	1.67	27.46	1.76	10.43
1.67	124.55	1.67	27.46	1.76	10.43
1.67	124.58	1.67	27.46	1.76	10.43
1.67	124.63	1.67	27.46	1.76	10.43
1.67	124.68	1.67	27.46	1.76	10.43
1.67	124.68	1.67	27.46	1.76	10.43
1.67	124.63	1.67	27.46	1.76	10.46
1.66	124.57	1.67	27.46	1.76	10.51
1.66	124.48	1.66	27.42	1.76	10.57
1.66	124.45	1.66	27.38	1.76	10.62
1.66	124.29	1.66	27.38	1.76	10.68
1.66	124.29	1.66	27.38	1.75	10.77
1.66	124.23	1.66	27.38	1.75	10.77
1.66	124.15	1.66	27.43	1.75	10.82
1.66	124.15	1.66	27.51	1.75	10.88
1.66	124.10	1.66	27.56	1.75	10.95
1.66	124.04	1.66	27.66	1.75	10.95
1.66	123.97	1.66	27.74	1.75	10.95
1.66	123.97	1.66	27.85	1.75	10.95
1.66	123.93	1.66	28.02	1.75	10.95
1.65	123.87	1.66	28.29	1.75	10.95
1.65	123.81	1.65	29.15	1.75	10.95
1.65	123.81	1.65	29.31	1.75	10.91
1.65	123.81	1.65	29.50	1.75	10.86
1.65	123.81	1.65	29.72	1.75	10.79
1.65	123.81	1.65	29.93	1.75	10.79
1.65	123.81	1.65	30.18	1.75	10.79
1.65	123.81	1.65	30.40	1.75	10.72

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.65	123.81	1.65	30.66	1.75	10.68
1.65	123.81	1.65	30.89	1.74	10.68
1.65	123.76	1.65	31.33	1.74	10.68
1.64	123.71	1.65	31.33	1.74	10.68
1.64	123.65	1.64	31.68	1.74	10.68
1.64	123.65	1.64	31.85	1.74	10.73
1.64	123.60	1.64	31.99	1.74	10.78
1.64	123.53	1.64	32.13	1.74	10.83
1.64	123.44	1.64	32.26	1.74	10.83
1.64	123.41	1.64	32.36	1.74	10.83
1.64	123.33	1.64	32.47	1.74	10.83
1.64	123.23	1.64	32.57	1.74	10.87
1.64	123.20	1.64	32.65	1.74	10.90
1.64	123.04	1.64	32.81	1.74	10.95
1.63	123.04	1.64	32.86	1.74	10.95
1.63	123.02	1.63	32.92	1.74	10.95
1.63	122.97	1.63	32.92	1.74	10.95
1.63	122.93	1.63	32.92	1.74	10.95
1.63	122.93	1.63	32.97	1.74	10.91
1.63	122.93	1.63	33.01	1.74	10.86
1.63	122.97	1.63	33.05	1.73	10.78
1.63	123.02	1.63	33.05	1.73	10.73
1.63	123.06	1.63	33.05	1.73	10.67
1.63	123.06	1.63	33.01	1.73	10.60
1.63	123.06	1.63	32.97	1.73	10.60
1.62	123.06	1.63	32.92	1.73	10.60
1.62	123.06	1.62	32.92	1.73	10.60
1.62	123.06	1.62	32.92	1.73	10.60
1.62	123.03	1.62	32.92	1.73	10.65
1.62	122.97	1.62	32.92	1.73	10.81
1.62	122.89	1.62	32.92	1.73	10.81
1.62	122.82	1.62	32.96	1.73	10.87
1.62	122.72	1.62	33.03	1.73	10.96
1.62	122.67	1.62	33.13	1.73	11.00
1.62	122.57	1.62	33.18	1.73	11.08
1.62	122.51	1.62	33.28	1.73	11.15
1.61	122.36	1.62	33.36	1.73	11.34
1.61	122.26	1.61	33.49	1.73	11.45
1.61	122.09	1.61	33.69	1.72	11.64

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.61	121.88	1.61	33.94	1.72	11.87
1.61	121.21	1.61	34.28	1.72	12.18
1.61	121.10	1.61	34.80	1.72	12.24
1.61	121.00	1.61	34.96	1.72	12.27
1.61	120.92	1.61	35.28	1.72	12.27
1.61	120.84	1.61	35.43	1.72	12.27
1.61	120.77	1.61	35.58	1.72	12.27
1.61	120.69	1.61	35.73	1.72	12.27
1.60	120.62	1.61	35.87	1.72	12.27
1.60	120.53	1.60	36.02	1.72	12.32
1.60	120.47	1.60	36.17	1.72	12.36
1.60	120.39	1.60	36.47	1.72	12.36
1.60	120.25	1.60	36.64	1.72	12.40
1.60	120.20	1.60	36.79	1.72	12.44
1.60	120.17	1.60	36.92	1.72	12.51
1.60	120.17	1.60	37.06	1.72	12.51
1.60	120.17	1.60	37.19	1.72	12.56
1.60	120.21	1.60	37.30	1.71	12.62
1.60	120.28	1.60	37.40	1.71	12.69
1.59	120.36	1.59	37.48	1.71	12.69
1.59	120.40	1.59	37.56	1.71	12.69
1.59	120.54	1.59	37.75	1.71	12.69
1.59	120.54	1.59	37.86	1.71	12.69
1.59	120.54	1.59	37.98	1.71	12.72
1.59	120.54	1.59	38.12	1.71	12.76
1.59	120.54	1.59	38.27	1.71	12.76
1.59	120.54	1.59	38.42	1.71	12.76
1.59	120.49	1.59	38.55	1.71	12.76
1.59	120.39	1.59	38.69	1.71	12.76
1.59	120.31	1.59	38.79	1.71	12.76
1.58	120.17	1.58	38.88	1.71	12.72
1.58	119.93	1.58	38.95	1.71	12.66
1.58	119.17	1.58	39.05	1.71	12.58
1.58	119.06	1.58	39.05	1.71	12.58
1.58	118.98	1.58	39.05	1.71	12.55
1.58	118.91	1.58	39.05	1.70	12.50
1.58	118.83	1.58	39.05	1.70	12.44
1.58	118.77	1.58	39.05	1.70	12.44
1.58	118.70	1.58	39.05	1.70	12.44

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.58	118.70	1.58	39.05	1.70	12.44
1.58	118.63	1.58	39.05	1.70	12.44
1.57	118.50	1.57	39.05	1.70	12.44
1.57	118.44	1.57	39.05	1.70	12.44
1.57	118.35	1.57	39.05	1.70	12.48
1.57	118.30	1.57	39.05	1.70	12.61
1.57	118.24	1.57	39.05	1.70	12.61
1.57	118.16	1.57	39.05	1.70	12.67
1.57	118.16	1.57	39.09	1.70	12.77
1.57	118.12	1.57	39.15	1.70	12.82
1.57	118.08	1.57	39.15	1.70	12.91
1.57	118.08	1.57	39.20	1.70	12.99
1.56	118.08	1.57	39.36	1.70	13.11
1.56	118.08	1.56	39.36	1.70	13.28
1.56	118.08	1.56	39.41	1.70	13.55
1.56	118.08	1.56	39.47	1.69	13.89
1.56	118.08	1.56	39.55	1.69	14.48
1.56	118.08	1.56	39.55	1.69	14.62
1.56	118.08	1.56	39.55	1.69	14.73
1.56	118.12	1.56	39.60	1.69	14.84
1.56	118.16	1.56	39.66	1.69	14.94
1.56	118.21	1.56	39.74	1.69	15.00
1.56	118.21	1.56	39.79	1.69	15.07
1.55	118.21	1.56	39.86	1.69	15.13
1.55	118.21	1.55	39.94	1.69	15.13
1.55	118.21	1.55	39.94	1.69	15.13
1.55	118.21	1.55	39.99	1.69	15.08
1.55	118.21	1.55	40.06	1.69	15.02
1.55	118.13	1.55	40.15	1.69	14.94
1.55	118.13	1.55	40.15	1.69	14.91
1.55	118.08	1.55	40.15	1.69	14.84
1.55	118.08	1.55	40.19	1.69	14.74
1.55	118.08	1.55	40.24	1.69	14.70
1.55	118.08	1.55	40.31	1.68	14.64
1.54	118.08	1.55	40.31	1.68	14.57
1.54	118.08	1.54	40.35	1.68	14.57
1.54	118.04	1.54	40.42	1.68	14.57
1.54	117.97	1.54	40.52	1.68	14.62
1.54	117.88	1.54	40.58	1.68	14.70

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.54	117.72	1.54	40.71	1.68	14.79
1.54	117.64	1.54	41.00	1.68	14.83
1.54	117.50	1.54	41.33	1.68	14.90
1.54	117.30	1.54	41.78	1.68	15.00
1.54	117.00	1.54	42.49	1.68	15.05
1.54	116.69	1.54	42.74	1.68	15.13
1.53	116.34	1.54	43.00	1.68	15.27
1.53	115.93	1.53	43.27	1.68	15.32
1.53	115.92	1.53	43.52	1.68	15.39
1.53	115.92	1.53	43.77	1.68	15.46
1.53	115.92	1.53	44.21	1.68	15.46
1.53	115.92	1.53	44.41	1.68	15.46
1.53	115.92	1.53	44.58	1.67	15.51
1.53	115.92	1.53	44.72	1.67	15.56
1.53	115.92	1.53	44.85	1.67	15.63
1.53	115.92	1.53	44.96	1.67	15.69
1.53	115.92	1.53	45.05	1.67	15.77
1.52	115.92	1.53	45.12	1.67	15.83
1.52	115.87	1.52	45.19	1.67	15.93
1.52	115.80	1.52	45.25	1.67	16.01
1.52	115.70	1.52	45.30	1.67	16.16
1.52	115.64	1.52	45.34	1.67	16.36
1.52	115.54	1.52	45.34	1.67	16.65
1.52	115.50	1.52	45.34	1.67	16.72
1.52	115.42	1.52	45.34	1.67	16.77
1.52	115.33	1.52	45.34	1.67	16.85
1.52	115.30	1.52	45.34	1.67	16.85
1.52	115.23	1.52	45.34	1.67	16.85
1.51	115.14	1.52	45.34	1.67	16.85
1.51	115.10	1.51	45.34	1.67	16.85
1.51	115.03	1.51	45.30	1.67	16.85
1.51	114.91	1.51	45.27	1.66	16.85
1.51	114.85	1.51	45.23	1.66	16.81
1.51	114.77	1.51	45.23	1.66	16.76
1.51	114.77	1.51	45.23	1.66	16.70
1.51	114.72	1.51	45.23	1.66	16.70
1.51	114.66	1.51	45.27	1.66	16.65
1.51	114.59	1.51	45.32	1.66	16.59
1.51	114.59	1.51	45.44	1.66	16.53

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.50	114.59	1.51	45.52	1.66	16.53
1.50	114.59	1.50	45.59	1.66	16.53
1.50	114.59	1.50	45.73	1.66	16.53
1.50	114.59	1.50	45.97	1.66	16.53
1.50	114.55	1.50	46.26	1.66	16.53
1.50	114.50	1.50	46.66	1.66	16.53
1.50	114.44	1.50	47.24	1.66	16.60
1.50	114.44	1.50	47.41	1.66	16.64
1.50	114.40	1.50	47.54	1.66	16.64
1.50	114.33	1.50	47.76	1.66	16.64
1.50	114.23	1.50	47.85	1.66	16.64
1.49	114.19	1.50	47.93	1.66	16.59
1.49	114.03	1.49	48.01	1.66	16.52
1.49	114.00	1.49	48.07	1.65	16.45
1.49	113.93	1.49	48.14	1.65	16.45
1.49	113.85	1.49	48.22	1.65	16.35
1.49	113.81	1.49	48.27	1.65	16.29
1.49	113.72	1.49	48.42	1.65	16.29
1.49	113.65	1.49	48.52	1.65	16.29
1.49	113.50	1.49	48.58	1.65	16.29
1.49	113.39	1.49	48.66	1.65	16.34
1.49	112.84	1.49	48.71	1.65	16.41
1.48	112.31	1.49	48.78	1.65	16.50
1.48	112.13	1.48	48.86	1.65	16.54
1.48	111.97	1.48	48.86	1.65	16.62
1.48	111.85	1.48	48.89	1.65	16.80
1.48	111.75	1.48	48.94	1.65	16.88
1.48	111.67	1.48	48.99	1.65	16.98
1.48	111.61	1.48	48.99	1.65	17.18
1.48	111.56	1.48	48.99	1.65	17.44
1.48	111.52	1.48	48.99	1.65	17.83
1.48	111.48	1.48	48.99	1.64	17.97
1.48	111.42	1.48	48.99	1.64	18.10
1.47	111.35	1.48	48.99	1.64	18.22
1.47	111.29	1.47	48.99	1.64	18.40
1.47	111.19	1.47	48.99	1.64	18.40
1.47	111.11	1.47	48.99	1.64	18.46
1.47	110.94	1.47	49.07	1.64	18.46
1.47	110.49	1.47	49.12	1.64	18.46

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.47	110.34	1.47	49.12	1.64	18.46
1.47	110.18	1.47	49.19	1.64	18.46
1.47	110.02	1.47	49.29	1.64	18.40
1.47	109.85	1.47	49.36	1.64	18.31
1.47	109.67	1.47	49.49	1.64	18.26
1.46	109.47	1.47	49.60	1.64	18.09
1.46	109.29	1.46	49.74	1.64	18.09
1.46	109.09	1.46	50.28	1.64	18.03
1.46	108.90	1.46	50.66	1.64	17.95
1.46	108.74	1.46	51.25	1.64	17.95
1.46	108.45	1.46	51.44	1.63	17.90
1.46	108.34	1.46	51.62	1.63	17.84
1.46	108.25	1.46	51.79	1.63	17.78
1.46	108.17	1.46	51.96	1.63	17.78
1.46	108.10	1.46	52.12	1.63	17.78
1.46	108.03	1.46	52.25	1.63	17.78
1.45	108.03	1.46	52.39	1.63	17.78
1.45	107.98	1.45	52.49	1.63	17.78
1.45	107.90	1.45	52.63	1.63	17.78
1.45	107.85	1.45	52.67	1.63	17.78
1.45	107.77	1.45	52.67	1.63	17.78
1.45	107.54	1.45	52.67	1.63	17.78
1.45	107.26	1.45	52.67	1.63	17.78
1.45	107.12	1.45	52.67	1.63	17.78
1.45	106.98	1.45	52.67	1.63	17.78
1.45	106.83	1.45	52.67	1.63	17.78
1.45	106.70	1.45	52.72	1.63	17.78
1.44	106.55	1.44	52.75	1.63	17.78
1.44	106.39	1.44	52.80	1.63	17.78
1.44	106.24	1.44	52.86	1.62	17.78
1.44	105.88	1.44	52.86	1.62	17.78
1.44	105.70	1.44	52.91	1.62	17.78
1.44	105.48	1.44	52.97	1.62	17.82
1.44	105.25	1.44	53.04	1.62	17.89
1.44	104.99	1.44	53.04	1.62	17.98
1.44	104.72	1.44	53.04	1.62	18.12
1.44	104.41	1.44	53.12	1.62	18.20
1.44	104.09	1.44	53.17	1.62	18.31
1.43	103.75	1.44	53.17	1.62	18.48

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.43	103.00	1.43	53.20	1.62	18.72
1.43	102.61	1.43	53.26	1.62	19.06
1.43	102.20	1.43	53.34	1.62	19.45
1.43	101.79	1.43	53.34	1.62	19.87
1.43	101.37	1.43	53.38	1.62	20.31
1.43	100.95	1.43	53.43	1.62	20.28
1.43	100.49	1.43	53.47	1.62	20.14
1.43	99.95	1.43	53.47	1.62	19.98
1.43	99.27	1.43	53.35	1.61	19.81
1.43	58.58	1.43	53.28	1.61	19.61
1.42	56.30	1.42	53.16	1.61	19.44
1.42	53.19	1.42	53.07	1.61	19.25
1.42	52.76	1.42	52.91	1.61	19.07
1.42	51.93	1.42	52.69	1.61	18.92
1.42	51.82	1.42	52.43	1.61	18.66
1.42	51.70	1.42	52.39	1.61	18.55
1.42	51.50	1.42	52.39	1.61	18.47
1.42	51.49	1.42	52.44	1.61	18.38
1.42	51.43	1.42	52.53	1.61	18.32
1.42	51.45	1.42	52.60	1.61	18.27
1.42	51.39	1.42	52.72	1.61	18.22
1.41	51.36	1.41	52.83	1.61	18.22
1.41	51.31	1.41	53.05	1.61	18.22
1.41	51.28	1.41	53.48	1.61	18.22
1.41	51.26	1.41	53.69	1.61	18.22
1.41	51.27	1.41	53.92	1.61	18.22
1.41	51.32	1.41	54.14	1.60	18.22
1.41	51.34	1.41	54.57	1.60	18.26
1.41	51.39	1.41	54.75	1.60	18.33
1.41	51.44	1.41	54.93	1.60	18.42
1.41	51.47	1.41	55.07	1.60	18.46
1.41	51.52	1.41	55.19	1.60	18.60
1.40	51.60	1.40	55.29	1.60	18.71
1.40	51.65	1.40	55.35	1.60	18.79
1.40	51.68	1.40	55.39	1.60	18.93
1.40	51.68	1.40	55.39	1.60	19.09
1.40	51.75	1.40	55.39	1.60	19.34
1.40	51.81	1.40	55.43	1.60	19.40
1.40	51.85	1.40	55.46	1.60	19.48

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.40	51.88	1.40	55.46	1.60	19.54
1.40	51.84	1.40	55.46	1.60	19.61
1.40	51.81	1.40	55.52	1.60	19.68
1.40	51.76	1.40	55.60	1.60	19.74
1.39	51.78	1.39	55.65	1.60	19.78
1.39	51.73	1.39	55.73	1.59	19.82
1.39	51.68	1.39	55.80	1.59	19.86
1.39	51.71	1.39	56.01	1.59	19.86
1.39	51.66	1.39	56.12	1.59	19.82
1.39	51.64	1.39	56.26	1.59	19.77
1.39	51.59	1.39	56.30	1.59	19.70
1.39	51.62	1.39	56.34	1.59	19.66
1.39	51.67	1.39	56.39	1.59	19.49
1.39	51.77	1.39	56.44	1.59	19.46
1.39	51.81	1.39	56.50	1.59	19.40
1.38	51.91	1.38	56.60	1.59	19.33
1.38	51.99	1.38	56.70	1.59	19.33
1.38	52.02	1.38	56.98	1.59	19.33
1.38	52.10	1.38	57.32	1.59	19.33
1.38	52.21	1.38	57.50	1.59	19.37
1.38	52.24	1.38	57.67	1.59	19.43
1.38	52.24	1.38	57.84	1.59	19.51
1.38	52.27	1.38	58.00	1.59	19.54
1.38	52.23	1.38	58.17	1.59	19.68
1.38	52.21	1.38	58.30	1.58	19.78
1.38	52.16	1.38	58.43	1.58	19.86
1.37	52.19	1.37	58.61	1.58	19.98
1.37	52.19	1.37	58.65	1.58	20.06
1.37	52.22	1.37	58.65	1.58	20.20
1.37	52.22	1.37	58.65	1.58	20.44
1.37	52.25	1.37	58.65	1.58	20.52
1.37	52.31	1.37	58.65	1.58	20.57
1.37	52.37	1.37	58.65	1.58	20.63
1.37	52.47	1.37	58.65	1.58	20.68
1.37	52.47	1.37	58.65	1.58	20.68
1.37	52.55	1.37	58.62	1.58	20.68
1.37	52.63	1.37	58.57	1.58	20.68
1.36	52.70	1.36	58.54	1.58	20.68
1.36	52.86	1.36	58.54	1.58	20.68

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.36	52.89	1.36	58.59	1.58	20.64
1.36	52.97	1.36	58.67	1.58	20.60
1.36	53.03	1.36	58.75	1.58	20.56
1.36	53.14	1.36	58.75	1.57	20.56
1.36	53.14	1.36	58.80	1.57	20.56
1.36	53.17	1.36	58.88	1.57	20.56
1.36	53.17	1.36	58.92	1.57	20.56
1.36	53.17	1.36	59.09	1.57	20.60
1.36	53.11	1.36	59.14	1.57	20.65
1.35	53.07	1.35	59.23	1.57	20.70
1.35	52.99	1.35	59.29	1.57	20.70
1.35	52.93	1.35	59.41	1.57	20.74
1.35	51.88	1.35	59.50	1.57	20.80
1.35	51.84	1.35	59.67	1.57	20.87
1.35	51.81	1.35	59.89	1.57	20.98
1.35	51.76	1.35	60.28	1.57	21.07
1.35	51.78	1.35	60.47	1.57	21.12
1.35	51.73	1.35	60.67	1.57	21.20
1.35	51.68	1.35	61.12	1.57	21.25
1.35	51.71	1.35	61.34	1.57	21.32
1.34	51.66	1.34	61.56	1.57	21.40
1.34	51.64	1.34	61.74	1.56	21.40
1.34	51.59	1.34	61.88	1.56	21.40
1.34	51.62	1.34	61.98	1.56	21.40
1.34	51.67	1.34	62.04	1.56	21.40
1.34	51.77	1.34	62.08	1.56	21.40
1.34	51.81	1.34	62.08	1.56	21.37
1.34	51.91	1.34	62.03	1.56	21.33
1.34	51.99	1.34	61.96	1.56	21.29
1.34	52.02	1.34	61.88	1.56	21.29
1.34	52.10	1.34	61.88	1.56	21.29
1.33	52.21	1.33	61.88	1.56	21.29
1.33	52.24	1.33	61.88	1.56	21.29
1.33	52.24	1.33	61.88	1.56	21.29
1.33	52.27	1.33	61.88	1.56	21.29
1.33	52.23	1.33	61.88	1.56	21.29
1.33	52.21	1.33	61.88	1.56	21.29
1.33	52.16	1.33	61.88	1.56	21.29
1.33	52.19	1.33	61.88	1.56	21.29

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.33	52.19	1.33	61.88	1.55	21.29
1.33	52.22	1.33	61.88	1.55	21.29
1.33	52.22	1.33	61.88	1.55	21.29
1.32	52.25	1.32	61.88	1.55	21.29
1.32	52.31	1.32	61.88	1.55	21.29
1.32	52.37	1.32	61.88	1.55	21.29
1.32	52.47	1.32	61.88	1.55	21.33
1.32	52.47	1.32	61.93	1.55	21.39
1.32	52.55	1.32	61.99	1.55	21.45
1.32	52.63	1.32	62.07	1.55	21.45
1.32	52.70	1.32	62.07	1.55	21.45
1.32	52.86	1.32	62.12	1.55	21.50
1.32	52.89	1.32	62.19	1.55	21.57
1.31	52.97	1.32	62.28	1.55	21.57
1.31	53.03	1.31	62.28	1.55	21.53
1.31	53.14	1.31	62.34	1.55	21.45
1.31	53.14	1.31	62.49	1.55	21.39
1.31	53.17	1.31	62.59	1.55	21.26
1.31	53.17	1.31	62.66	1.55	21.16
1.31	53.17	1.31	62.79	1.54	21.03
1.31	53.11	1.31	62.90	1.54	20.82
1.31	53.07	1.31	63.05	1.54	20.53
1.31	52.99	1.31	63.31	1.54	20.23
1.31	52.93	1.31	63.64	1.54	19.55
1.30	52.91	1.31	64.08	1.54	19.51
1.30	52.81	1.30	64.21	1.54	19.47
1.30	52.78	1.30	64.21	1.54	19.42
1.30	52.66	1.30	64.24	1.54	19.37
1.30	52.62	1.30	64.24	1.54	19.33
1.30	52.51	1.30	64.24	1.54	19.27
1.30	52.40	1.30	64.21	1.54	19.20
1.30	52.40	1.30	64.15	1.54	19.16
1.30	52.39	1.30	64.08	1.54	19.13
1.30	52.42	1.30	64.08	1.54	19.13
1.30	52.42	1.30	64.03	1.54	19.13
1.29	52.45	1.30	63.95	1.54	19.13
1.29	52.45	1.29	63.83	1.54	19.19
1.29	52.53	1.29	63.77	1.53	19.29
1.29	52.61	1.29	63.66	1.53	19.37

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.29	52.72	1.29	63.57	1.53	19.51
1.29	52.72	1.29	63.44	1.53	19.61
1.29	52.75	1.29	63.26	1.53	20.03
1.29	52.75	1.29	62.99	1.53	20.33
1.29	52.78	1.29	62.92	1.53	20.76
1.29	52.80	1.29	62.83	1.53	20.87
1.29	52.74	1.29	62.83	1.53	20.96
1.28	52.66	1.29	62.83	1.53	21.05
1.28	52.59	1.28	62.83	1.53	21.15
1.28	52.46	1.28	62.87	1.53	21.26
1.28	52.33	1.28	62.94	1.53	21.37
1.28	51.84	1.28	63.04	1.53	21.50
1.28	51.47	1.28	63.10	1.53	21.62
1.28	51.07	1.28	63.31	1.53	21.82
1.28	51.60	1.28	63.51	1.53	21.89
1.28	51.55	1.28	63.80	1.53	21.93
1.28	51.54	1.28	64.27	1.52	21.93
1.28	51.47	1.28	64.41	1.52	21.93
1.27	51.42	1.27	64.51	1.52	21.93
1.27	51.42	1.27	64.56	1.52	21.89
1.27	51.45	1.27	64.56	1.52	21.81
1.27	51.41	1.27	64.46	1.52	21.74
1.27	51.39	1.27	64.35	1.52	21.53
1.27	51.34	1.27	64.26	1.52	21.39
1.27	51.37	1.27	64.03	1.52	21.21
1.27	51.37	1.27	63.58	1.52	21.18
1.27	51.29	1.27	63.34	1.52	21.18
1.27	51.25	1.27	63.13	1.52	21.18
1.27	51.25	1.27	62.92	1.52	21.18
1.26	51.28	1.26	62.75	1.52	21.18
1.26	51.24	1.26	62.59	1.52	21.18
1.26	51.22	1.26	62.46	1.52	21.21
1.26	51.18	1.26	62.22	1.52	21.26
1.26	51.20	1.26	62.08	1.52	21.31
1.26	51.20	1.26	61.94	1.51	21.35
1.26	51.23	1.26	61.80	1.51	21.40
1.26	51.26	1.26	61.66	1.51	21.47
1.26	51.26	1.26	61.53	1.51	21.47
1.26	51.29	1.26	61.40	1.51	21.53

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.26	51.25	1.26	61.31	1.51	21.60
1.25	51.23	1.25	61.26	1.51	21.66
1.25	51.15	1.25	61.23	1.51	21.74
1.25	51.13	1.25	61.23	1.51	21.74
1.25	51.06	1.25	61.29	1.51	21.78
1.25	51.03	1.25	61.40	1.51	21.83
1.25	50.83	1.25	61.49	1.51	21.88
1.25	50.76	1.25	61.64	1.51	21.88
1.25	50.66	1.25	61.88	1.51	21.88
1.25	50.56	1.25	62.28	1.51	21.88
1.25	50.54	1.25	62.41	1.51	21.88
1.25	50.54	1.25	62.57	1.51	21.88
1.25	50.62	1.25	62.57	1.51	21.84
1.25	50.73	1.25	62.57	1.51	21.76
1.24	50.91	1.24	62.57	1.50	21.76
1.24	51.15	1.24	62.57	1.50	21.76
1.24	51.81	1.24	62.57	1.50	21.76
1.24	52.00	1.24	62.53	1.50	21.76
1.24	52.20	1.24	62.46	1.50	21.80
1.24	52.39	1.24	62.37	1.50	21.86
1.24	52.53	1.24	62.33	1.50	21.95
1.24	52.70	1.24	62.27	1.50	21.95
1.24	52.81	1.24	62.18	1.50	22.10
1.24	52.94	1.24	62.12	1.50	22.15
1.24	53.00	1.24	62.06	1.50	22.23
1.23	53.08	1.23	61.99	1.50	22.27
1.23	53.13	1.23	61.99	1.50	22.34
1.23	53.16	1.23	61.99	1.50	22.42
1.23	53.16	1.23	62.06	1.50	22.42
1.23	53.19	1.23	62.15	1.50	22.42
1.23	53.22	1.23	62.22	1.50	22.42
1.23	53.22	1.23	62.34	1.50	22.37
1.23	53.25	1.23	62.62	1.49	22.30
1.23	53.25	1.23	62.85	1.49	22.21
1.23	53.28	1.23	63.18	1.49	22.21
1.23	53.23	1.23	63.26	1.49	22.16
1.22	53.12	1.22	63.30	1.49	22.10
1.22	53.12	1.22	63.35	1.49	22.03
1.22	53.09	1.22	63.35	1.49	22.03

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.22	52.99	1.22	63.35	1.49	22.03
1.22	52.98	1.22	63.35	1.49	21.99
1.22	52.92	1.22	63.35	1.49	21.95
1.22	52.86	1.22	63.38	1.49	21.91
1.22	52.81	1.22	63.38	1.49	21.91
1.22	52.70	1.22	63.38	1.49	21.95
1.22	52.64	1.22	63.38	1.49	22.00
1.22	52.64	1.22	63.42	1.49	22.07
1.21	52.67	1.21	63.47	1.49	22.11
1.21	52.70	1.21	63.52	1.49	22.18
1.21	52.70	1.21	63.52	1.49	22.29
1.21	52.73	1.21	63.56	1.48	22.46
1.21	52.73	1.21	63.62	1.48	22.54
1.21	52.72	1.21	63.68	1.48	22.64
1.21	52.68	1.21	63.68	1.48	22.78
1.21	52.67	1.21	63.73	1.48	22.92
1.21	52.67	1.21	63.77	1.48	23.06
1.21	52.65	1.21	63.81	1.48	23.06
1.21	52.59	1.21	63.81	1.48	23.06
1.20	52.55	1.20	63.81	1.48	23.02
1.20	52.55	1.20	63.81	1.48	22.91
1.20	52.53	1.20	63.81	1.48	22.91
1.20	52.49	1.20	63.81	1.48	22.86
1.20	52.40	1.20	63.81	1.48	22.78
1.20	52.43	1.20	63.81	1.48	22.73
1.20	52.39	1.20	63.85	1.48	22.66
1.20	52.38	1.20	63.90	1.48	22.57
1.20	52.34	1.20	63.95	1.48	22.54
1.20	52.37	1.20	63.95	1.48	22.49
1.20	52.37	1.20	63.95	1.47	22.41
1.19	52.40	1.19	63.99	1.47	22.34
1.19	52.39	1.19	64.03	1.47	22.03
1.19	52.34	1.19	64.10	1.47	21.18
1.19	52.30	1.19	64.16	1.47	12.06
1.19	52.30	1.19	64.26	1.47	12.29
1.19	52.27	1.19	64.30	1.47	12.38
1.19	52.12	1.19	64.39	1.47	12.51
1.19	52.04	1.19	64.47	1.47	12.55
1.19	51.95	1.19	64.60	1.47	12.64

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.19	51.85	1.19	64.68	1.47	12.69
1.19	51.62	1.19	64.79	1.47	12.73
1.18	51.38	1.18	65.11	1.47	12.74
1.18	51.03	1.18	65.26	1.47	12.66
1.18	50.95	1.18	65.24	1.47	12.59
1.18	50.92	1.18	65.24	1.47	12.47
1.18	50.82	1.18	65.20	1.47	12.41
1.18	50.85	1.18	65.17	1.47	12.32
1.18	50.85	1.18	65.17	1.47	12.29
1.18	50.88	1.18	65.17	1.46	12.21
1.18	50.88	1.18	65.17	1.46	12.21
1.18	50.91	1.18	65.17	1.46	12.24
1.18	50.91	1.18	65.17	1.46	12.29
1.17	50.94	1.17	65.22	1.46	12.37
1.17	51.01	1.17	65.28	1.46	12.43
1.17	51.13	1.17	65.35	1.46	12.49
1.17	51.24	1.17	65.35	1.46	12.49
1.17	51.29	1.17	65.40	1.46	12.55
1.17	51.42	1.17	65.48	1.46	12.60
1.17	51.48	1.17	65.51	1.46	12.65
1.17	51.62	1.17	65.59	1.46	12.65
1.17	51.69	1.17	65.65	1.46	12.65
1.17	51.82	1.17	65.83	1.46	12.65
1.17	51.89	1.17	65.96	1.46	12.65
1.16	52.08	1.16	66.04	1.46	12.65
1.16	52.21	1.16	66.16	1.46	12.65
1.16	52.27	1.16	66.32	1.46	12.65
1.16	52.40	1.16	66.53	1.45	12.65
1.16	52.44	1.16	66.60	1.45	12.65
1.16	52.56	1.16	66.65	1.45	12.65
1.16	52.60	1.16	66.70	1.45	12.69
1.16	52.69	1.16	66.75	1.45	12.74
1.16	52.76	1.16	66.75	1.45	12.80
1.16	52.79	1.16	66.85	1.45	12.80
1.15	52.82	1.16	66.89	1.45	12.80
1.15	52.82	1.15	66.89	1.45	12.83
1.15	52.84	1.15	66.89	1.45	12.83
1.15	52.84	1.15	66.89	1.45	12.83
1.15	52.91	1.15	66.89	1.45	12.83

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.15	52.91	1.15	66.89	1.45	12.80
1.15	52.94	1.15	66.89	1.45	12.76
1.15	52.94	1.15	66.93	1.45	12.63
1.15	52.97	1.15	67.02	1.45	12.55
1.15	52.97	1.15	67.02	1.45	12.50
1.15	53.00	1.15	67.02	1.45	12.41
1.14	53.03	1.15	67.08	1.44	12.27
1.14	53.03	1.14	67.15	1.44	12.07
1.14	53.06	1.14	67.24	1.44	11.86
1.14	53.06	1.14	67.24	1.44	11.64
1.14	53.09	1.14	67.28	1.44	11.43
1.14	53.09	1.14	67.32	1.44	11.51
1.14	53.12	1.14	67.35	1.44	11.66
1.14	53.02	1.14	67.35	1.44	11.74
1.14	53.00	1.14	67.35	1.44	11.77
1.14	53.03	1.14	67.35	1.44	11.80
1.14	53.03	1.14	67.35	1.44	11.83
1.13	53.06	1.13	67.35	1.44	11.86
1.13	53.06	1.13	67.35	1.44	11.88
1.13	53.09	1.13	67.35	1.44	11.91
1.13	53.09	1.13	67.35	1.44	11.90
1.13	53.12	1.13	67.39	1.44	11.82
1.13	53.12	1.13	67.57	1.44	11.85
1.13	53.15	1.13	67.62	1.44	11.88
1.13	53.15	1.13	67.73	1.43	11.91
1.13	53.17	1.13	67.80	1.43	11.93
1.13	53.20	1.13	67.92	1.43	11.96
1.13	53.16	1.13	68.00	1.43	11.99
1.12	53.16	1.13	68.11	1.43	12.02
1.12	53.12	1.12	68.24	1.43	12.05
1.12	53.15	1.12	68.36	1.43	12.07
1.12	53.15	1.12	68.53	1.43	12.00
1.12	53.18	1.12	68.50	1.43	11.96
1.12	53.18	1.12	68.45	1.43	11.95
1.12	53.17	1.12	68.42	1.43	11.90
1.12	53.11	1.12	68.38	1.43	11.87
1.12	53.08	1.12	68.38	1.43	11.78
1.12	53.11	1.12	68.38	1.43	11.72
1.12	53.11	1.12	68.38	1.43	11.64

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.11	53.10	1.12	68.38	1.43	11.50
1.11	53.04	1.11	68.38	1.43	11.12
1.11	53.01	1.11	68.38	1.43	10.84
1.11	53.01	1.11	68.43	1.43	10.78
1.11	53.03	1.11	68.49	1.42	10.71
1.11	52.99	1.11	68.56	1.42	10.64
1.11	52.89	1.11	68.56	1.42	10.54
1.11	52.89	1.11	68.61	1.42	10.45
1.11	52.92	1.11	68.67	1.42	10.35
1.11	52.90	1.11	68.74	1.42	10.24
1.11	52.84	1.11	68.74	1.42	10.15
1.10	52.80	1.10	68.74	1.42	10.08
1.10	52.80	1.10	68.83	1.42	10.00
1.10	52.83	1.10	68.87	1.42	10.02
1.10	52.78	1.10	68.87	1.42	10.05
1.10	52.64	1.10	68.84	1.42	10.15
1.10	52.64	1.10	68.78	1.42	10.28
1.10	52.60	1.10	68.69	1.42	10.39
1.10	52.48	1.10	68.64	1.42	10.57
1.10	52.44	1.10	68.53	1.42	10.83
1.10	52.33	1.10	68.45	1.42	11.24
1.10	52.21	1.10	68.12	1.42	11.47
1.09	52.03	1.09	67.88	1.41	11.53
1.09	51.73	1.09	67.64	1.41	11.56
1.09	51.38	1.09	67.66	1.41	11.59
1.09	50.20	1.09	67.71	1.41	11.55
1.09	50.04	1.09	67.77	1.41	11.48
1.09	49.88	1.09	67.85	1.41	11.44
1.09	49.77	1.09	67.89	1.41	11.35
1.09	49.69	1.09	67.98	1.41	11.29
1.09	49.60	1.09	68.27	1.41	11.18
1.09	49.57	1.09	68.37	1.41	10.95
1.09	49.52	1.09	68.50	1.41	10.89
1.08	49.51	1.08	68.62	1.41	10.74
1.08	49.51	1.08	68.75	1.41	10.69
1.08	49.58	1.08	68.89	1.41	10.65
1.08	49.63	1.08	69.03	1.41	10.61
1.08	49.73	1.08	69.20	1.41	10.58
1.08	49.81	1.08	69.36	1.41	10.56

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.08	49.90	1.08	69.49	1.41	10.59
1.08	50.04	1.08	69.63	1.40	10.62
1.08	50.20	1.08	69.72	1.40	10.62
1.08	50.52	1.08	69.83	1.40	10.60
1.08	50.62	1.08	69.83	1.40	10.63
1.07	50.79	1.07	69.83	1.40	10.66
1.07	50.84	1.07	69.83	1.40	10.69
1.07	50.93	1.07	69.76	1.40	10.78
1.07	50.98	1.07	69.66	1.40	10.89
1.07	51.01	1.07	69.60	1.40	10.96
1.07	51.08	1.07	69.48	1.40	11.08
1.07	51.19	1.07	69.38	1.40	11.17
1.07	51.30	1.07	69.06	1.40	11.41
1.07	51.42	1.07	68.78	1.40	11.43
1.07	51.70	1.07	68.69	1.40	11.73
1.07	51.97	1.07	68.61	1.40	11.90
1.06	52.07	1.06	68.53	1.40	11.91
1.06	52.13	1.06	68.47	1.40	11.89
1.06	52.15	1.06	68.40	1.40	11.87
1.06	52.15	1.06	68.37	1.40	11.84
1.06	52.22	1.06	68.37	1.39	11.82
1.06	52.31	1.06	68.37	1.39	11.78
1.06	53.23	1.06	68.37	1.39	11.73
1.06	51.50	1.06	68.41	1.39	11.72
1.06	51.49	1.06	68.48	1.39	11.70
1.06	51.43	1.06	68.58	1.39	11.68
1.06	51.45	1.06	68.61	1.39	11.71
1.05	51.39	1.05	68.69	1.39	11.73
1.05	51.36	1.05	68.79	1.39	11.76
1.05	51.31	1.05	68.84	1.39	11.79
1.05	51.28	1.05	68.92	1.39	11.82
1.05	51.26	1.05	69.06	1.39	11.76
1.05	51.27	1.05	69.12	1.39	11.73
1.05	51.32	1.05	69.22	1.39	11.76
1.05	51.34	1.05	69.27	1.39	11.73
1.05	51.39	1.05	69.33	1.39	11.68
1.05	51.44	1.05	69.40	1.39	11.66
1.05	51.47	1.05	69.40	1.39	11.60
1.04	51.52	1.04	69.40	1.38	11.56

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.04	51.60	1.04	69.50	1.38	11.48
1.04	51.65	1.04	69.56	1.38	11.44
1.04	51.68	1.04	69.56	1.38	11.35
1.04	51.68	1.04	69.56	1.38	11.19
1.04	51.75	1.04	69.56	1.38	11.17
1.04	51.81	1.04	69.59	1.38	11.12
1.04	51.85	1.04	69.64	1.38	11.09
1.04	51.88	1.04	69.68	1.38	11.12
1.04	51.84	1.04	69.68	1.38	11.15
1.04	51.81	1.04	69.68	1.38	11.18
1.03	51.76	1.03	69.72	1.38	11.20
1.03	51.78	1.03	69.84	1.38	11.23
1.03	51.73	1.03	69.84	1.38	11.26
1.03	51.68	1.03	69.89	1.38	11.29
1.03	51.71	1.03	69.95	1.38	11.32
1.03	51.66	1.03	70.04	1.38	11.34
1.03	51.64	1.03	70.08	1.38	11.33
1.03	51.59	1.03	70.15	1.37	11.31
1.03	51.62	1.03	70.26	1.37	11.28
1.03	51.67	1.03	70.32	1.37	11.31
1.03	51.77	1.03	70.50	1.37	11.34
1.02	51.81	1.02	70.63	1.37	11.33
1.02	51.91	1.02	70.81	1.37	11.29
1.02	51.99	1.02	71.03	1.37	11.31
1.02	52.02	1.02	71.35	1.37	11.34
1.02	52.10	1.02	71.41	1.37	11.37
1.02	52.21	1.02	71.49	1.37	11.40
1.02	52.24	1.02	71.55	1.37	11.47
1.02	52.24	1.02	71.61	1.37	11.54
1.02	52.27	1.02	71.61	1.37	11.63
1.02	52.23	1.02	71.68	1.37	11.66
1.02	52.21	1.02	71.76	1.37	11.69
1.01	52.16	1.01	71.87	1.37	11.76
1.01	52.19	1.01	71.95	1.37	11.84
1.01	52.19	1.01	72.00	1.37	11.91
1.01	52.22	1.01	72.08	1.36	11.94
1.01	52.22	1.01	72.14	1.36	11.96
1.01	52.25	1.01	72.24	1.36	11.99
1.01	52.31	1.01	72.30	1.36	12.02

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
1.01	52.37	1.01	72.45	1.36	12.05
1.01	52.47	1.01	72.53	1.36	12.08
1.01	52.47	1.01	72.58	1.36	12.10
1.01	52.55	1.01	72.63	1.36	12.13
1.00	52.63	1.00	72.68	1.36	12.16
1.00	52.70	1.00	72.68	1.36	12.23
1.00	52.86	1.00	72.64	1.36	12.30
1.00	52.89	1.00	72.56	1.36	12.39
1.00	52.97	1.00	72.47	1.36	12.42
1.00	53.03	1.00	72.29	1.36	12.45
1.00	53.14	1.00	72.29	1.36	12.48
1.00	53.14	1.00	71.97	1.36	12.54
1.00	53.17	1.00	71.66	1.36	12.67
1.00	53.17	1.00	71.56	1.36	12.70
1.00	53.17	1.00	71.49	1.36	12.73
0.99	53.11	0.99	71.44	1.35	12.75
0.99	53.07	0.99	71.44	1.35	12.78
0.99	52.99	0.99	71.44	1.35	12.81
0.99	52.93	0.99	71.44	1.35	12.84
0.99	52.91	0.99	71.44	1.35	12.83
0.99	52.81	0.99	71.60	1.35	12.80
0.99	52.78	0.99	71.66	1.35	12.76
0.99	52.66	0.99	71.77	1.35	12.74
0.99	52.62	0.99	71.85	1.35	12.70
0.99	52.51	0.99	72.00	1.35	12.63
0.99	52.40	0.99	72.24	1.35	12.66
0.98	52.40	0.98	72.57	1.35	12.63
0.98	52.39	0.98	72.69	1.35	12.58
0.98	52.42	0.98	72.79	1.35	12.60
0.98	52.42	0.98	72.98	1.35	12.57
0.98	52.45	0.98	73.07	1.35	12.54
0.98	52.45	0.98	73.15	1.35	12.49
0.98	52.53	0.98	73.21	1.35	12.52
0.98	52.61	0.98	73.26	1.34	12.55
0.98	52.72	0.98	73.30	1.34	12.58
0.98	52.72	0.98	73.30	1.34	12.60
0.98	52.75	0.98	73.30	1.34	12.63
0.97	53.11	0.97	73.30	1.34	12.66
0.97	53.07	0.97	73.30	1.34	12.69

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.97	52.99	0.97	73.30	1.34	12.72
0.97	52.93	0.97	73.15	1.34	12.74
0.97	52.91	0.97	73.11	1.34	12.77
0.97	52.81	0.97	73.01	1.34	12.80
0.97	52.78	0.97	72.94	1.34	12.83
0.97	52.66	0.97	72.83	1.34	12.81
0.97	52.62	0.97	72.75	1.34	12.78
0.97	52.51	0.97	72.64	1.34	12.73
0.97	52.40	0.97	72.60	1.34	12.75
0.96	52.40	0.96	72.55	1.34	12.72
0.96	52.39	0.96	72.55	1.34	12.66
0.96	52.42	0.96	72.55	1.34	12.65
0.96	52.42	0.96	72.61	1.33	12.52
0.96	52.45	0.96	72.70	1.33	12.44
0.96	52.45	0.96	72.75	1.33	12.41
0.96	52.53	0.96	72.83	1.33	12.34
0.96	52.61	0.96	72.87	1.33	12.32
0.96	52.72	0.96	72.93	1.33	12.27
0.96	52.72	0.96	72.97	1.33	12.23
0.96	52.75	0.96	72.97	1.33	12.26
0.95	52.75	0.95	72.93	1.33	12.33
0.95	52.78	0.95	72.85	1.33	12.43
0.95	52.80	0.95	72.81	1.33	12.52
0.95	52.74	0.95	72.74	1.33	12.72
0.95	52.66	0.95	72.66	1.33	12.87
0.95	52.59	0.95	72.66	1.33	12.98
0.95	52.46	0.95	72.61	1.33	13.10
0.95	52.33	0.95	72.54	1.33	13.25
0.95	51.84	0.95	72.48	1.33	13.42
0.95	51.47	0.95	72.48	1.33	13.47
0.95	51.07	0.95	72.44	1.33	13.50
0.94	50.50	0.94	72.41	1.32	13.53
0.94	50.44	0.94	72.38	1.32	13.56
0.94	50.41	0.94	72.38	1.32	13.58
0.94	50.36	0.94	72.38	1.32	13.61
0.94	50.36	0.94	72.38	1.32	13.64
0.94	50.36	0.94	72.43	1.32	13.67
0.94	51.12	0.94	72.48	1.32	13.70
0.94	51.05	0.94	72.57	1.32	13.72

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.94	51.08	0.94	72.68	1.32	13.75
0.94	51.11	0.94	72.78	1.32	13.78
0.94	51.07	0.94	72.84	1.32	13.85
0.93	51.02	0.93	72.93	1.32	13.91
0.93	51.02	0.93	73.00	1.32	13.93
0.93	51.05	0.93	73.12	1.32	13.96
0.93	51.09	0.93	73.19	1.32	13.99
0.93	51.17	0.93	73.30	1.32	14.02
0.93	51.24	0.93	73.35	1.32	14.04
0.93	51.27	0.93	73.42	1.32	14.04
0.93	51.19	0.93	73.46	1.31	14.01
0.93	51.30	0.93	73.42	1.31	13.97
0.93	51.42	0.93	73.33	1.31	14.00
0.93	51.70	0.93	73.28	1.31	13.98
0.92	51.97	0.92	73.18	1.31	13.86
0.92	52.07	0.92	73.09	1.31	13.89
0.92	52.13	0.92	72.96	1.31	13.88
0.92	52.15	0.92	72.78	1.31	13.85
0.92	52.15	0.92	72.73	1.31	13.82
0.92	52.22	0.92	72.73	1.31	13.84
0.92	52.31	0.92	72.73	1.31	13.83
0.92	53.23	0.92	72.73	1.31	13.80
0.92	51.50	0.92	72.79	1.31	13.74
0.92	51.49	0.92	72.87	1.31	13.67
0.92	51.43	0.92	72.92	1.31	13.59
0.91	51.45	0.91	72.99	1.31	13.57
0.91	51.39	0.91	73.07	1.31	13.49
0.91	51.36	0.91	73.20	1.31	13.44
0.91	51.31	0.91	73.46	1.30	13.34
0.91	51.28	0.91	73.51	1.30	13.30
0.91	51.26	0.91	73.51	1.30	13.21
0.91	51.27	0.91	73.51	1.30	13.20
0.91	51.32	0.91	73.51	1.30	13.09
0.91	51.34	0.91	73.51	1.30	13.11
0.91	51.39	0.91	73.51	1.30	13.14
0.91	51.44	0.91	73.51	1.30	13.17
0.90	51.47	0.90	73.51	1.30	13.24
0.90	51.52	0.90	73.51	1.30	13.31
0.90	51.60	0.90	73.41	1.30	13.39

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.90	51.65	0.90	73.31	1.30	13.42
0.90	51.68	0.90	73.27	1.30	13.45
0.90	51.68	0.90	73.18	1.30	13.48
0.90	51.75	0.90	73.12	1.30	13.50
0.90	51.81	0.90	72.99	1.30	13.49
0.90	51.85	0.90	72.91	1.30	13.48
0.90	51.88	0.90	72.78	1.30	13.46
0.90	51.84	0.90	72.61	1.29	13.49
0.89	51.81	0.89	72.41	1.29	13.52
0.89	51.76	0.89	72.14	1.29	13.55
0.89	51.78	0.89	72.05	1.29	13.52
0.89	51.73	0.89	72.01	1.29	13.47
0.89	51.68	0.89	72.01	1.29	13.41
0.89	51.71	0.89	72.01	1.29	13.33
0.89	51.66	0.89	72.01	1.29	13.29
0.89	51.64	0.89	72.01	1.29	13.18
0.89	51.59	0.89	72.01	1.29	13.11
0.89	51.62	0.89	72.01	1.29	13.00
0.89	51.67	0.89	72.01	1.29	12.77
0.88	51.77	0.88	72.06	1.29	12.48
0.88	51.81	0.88	72.19	1.29	12.09
0.88	51.91	0.88	72.30	1.29	12.00
0.88	51.99	0.88	72.39	1.29	11.93
0.88	52.02	0.88	72.54	1.29	11.75
0.88	52.10	0.88	72.75	1.29	11.70
0.88	52.21	0.88	73.01	1.29	11.65
0.88	52.24	0.88	73.40	1.28	11.63
0.88	52.24	0.88	73.54	1.28	11.62
0.88	52.27	0.88	73.59	1.28	11.65
0.88	52.23	0.88	73.59	1.28	11.67
0.87	52.21	0.87	73.59	1.28	11.70
0.87	52.16	0.87	73.59	1.28	11.73
0.87	52.19	0.87	73.59	1.28	11.76
0.87	52.19	0.87	73.59	1.28	11.84
0.87	52.22	0.87	73.59	1.28	11.99
0.87	52.22	0.87	73.59	1.28	12.02
0.87	52.25	0.87	73.59	1.28	12.05
0.87	52.31	0.87	73.59	1.28	12.13
0.87	52.37	0.87	73.59	1.28	12.19

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.87	52.47	0.87	73.59	1.28	12.26
0.87	52.47	0.87	73.59	1.28	12.29
0.86	52.55	0.86	73.59	1.28	12.32
0.86	52.63	0.86	73.59	1.28	12.34
0.86	52.70	0.86	73.54	1.28	12.33
0.86	52.86	0.86	73.45	1.27	12.31
0.86	52.89	0.86	73.41	1.27	12.28
0.86	52.97	0.86	73.31	1.27	12.31
0.86	53.03	0.86	73.24	1.27	12.34
0.86	53.14	0.86	73.09	1.27	12.34
0.86	53.14	0.86	72.88	1.27	12.31
0.86	53.17	0.86	72.71	1.27	12.26
0.85	53.17	0.85	72.56	1.27	12.29
0.85	53.17	0.85	72.43	1.27	12.18
0.85	53.11	0.85	72.43	1.27	12.21
0.85	53.07	0.85	72.48	1.27	12.13
0.85	52.99	0.85	72.60	1.27	12.06
0.85	52.93	0.85	72.75	1.27	12.05
0.85	52.91	0.85	73.09	1.27	12.00
0.85	52.81	0.85	73.42	1.27	11.95
0.85	52.78	0.85	73.55	1.27	11.98
0.85	52.66	0.85	73.66	1.27	11.96
0.85	52.62	0.85	73.75	1.27	11.94
0.84	52.51	0.84	73.83	1.26	11.91
0.84	52.40	0.84	73.89	1.26	11.93
0.84	52.40	0.84	73.94	1.26	11.96
0.84	52.39	0.84	73.94	1.26	11.99
0.84	52.42	0.84	73.94	1.26	11.97
0.84	52.42	0.84	73.98	1.26	11.94
0.84	52.45	0.84	74.05	1.26	11.90
0.84	52.45	0.84	74.18	1.26	11.93
0.84	52.53	0.84	74.26	1.26	11.87
0.84	52.61	0.84	74.35	1.26	11.83
0.84	52.72	0.84	74.49	1.26	11.86
0.83	52.72	0.83	74.74	1.26	11.89
0.83	52.75	0.83	74.84	1.26	11.87
0.83	52.75	0.83	74.92	1.26	11.85
0.83	52.78	0.83	74.98	1.26	11.83
0.83	52.80	0.83	75.02	1.26	11.86

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.83	52.74	0.83	75.05	1.26	11.89
0.83	52.66	0.83	75.05	1.26	11.92
0.83	52.59	0.83	75.05	1.25	11.94
0.83	52.46	0.83	75.05	1.25	11.97
0.83	52.33	0.83	75.05	1.25	12.00
0.83	51.84	0.83	75.05	1.25	11.99
0.83	51.47	0.83	75.05	1.25	11.95
0.83	51.07	0.83	75.05	1.25	11.90
0.82	50.50	0.82	75.05	1.25	11.93
0.82	50.44	0.82	75.05	1.25	11.89
0.82	50.41	0.82	75.05	1.25	11.81
0.82	50.36	0.82	75.05	1.25	11.78
0.82	50.36	0.82	75.05	1.25	11.60
0.82	50.36	0.82	75.05	1.25	11.49
0.82	50.47	0.82	75.05	1.25	11.32
0.82	50.52	0.82	75.05	1.25	11.11
0.82	50.55	0.82	75.05	1.25	10.88
0.82	50.64	0.82	75.05	1.25	10.56
0.82	50.73	0.82	75.05	1.25	10.54
0.81	50.82	0.81	75.05	1.25	10.53
0.81	50.91	0.81	75.05	1.25	10.52
0.81	50.99	0.81	75.05	1.25	10.55
0.81	51.06	0.81	75.05	1.25	10.57
0.81	51.15	0.81	75.05	1.24	10.60
0.81	51.15	0.81	75.05	1.24	10.63
0.81	51.18	0.81	75.01	1.24	10.66
0.81	51.18	0.81	74.96	1.24	10.69
0.81	51.21	0.81	74.90	1.24	10.71
0.81	51.24	0.81	74.90	1.24	10.74
0.81	51.20	0.81	74.81	1.24	10.77
0.80	51.18	0.80	74.73	1.24	10.76
0.80	51.13	0.80	74.73	1.24	10.79
0.80	51.16	0.80	74.73	1.24	10.79
0.80	51.16	0.80	74.69	1.24	10.69
0.80	51.19	0.80	74.66	1.24	10.72
0.80	51.14	0.80	74.66	1.24	10.68
0.80	51.12	0.80	74.66	1.24	10.64
0.80	51.05	0.80	74.66	1.24	10.59
0.80	51.08	0.80	74.76	1.24	10.62

PVDF		PDDA		PDA	
depth (mm)	Force (µN)	depth (mm)	Force (µN)	depth (mm)	Force (µN)
0.80	51.11	0.80	74.85	1.24	10.65
0.80	51.07	0.80	74.89	1.24	10.68
0.79	51.02	0.79	74.97	1.24	10.71
0.79	51.02	0.79	75.02	1.23	10.86
0.79	51.05	0.79	75.13	1.23	10.89
0.79	51.09	0.79	75.19	1.23	10.99
0.79	51.17	0.79	75.30	1.23	11.10
0.79	51.24	0.79	75.37	1.23	11.13
0.79	51.27	0.79	75.54	1.23	11.22
0.79	51.33	0.79	75.67	1.23	11.31
0.79	51.42	0.79	75.75	1.23	11.40
0.79	51.55	0.79	75.89	1.23	11.43
0.79	51.55	0.79	76.07	1.23	11.46
0.78	51.58	0.78	76.35	1.23	11.49
0.78	51.61	0.78	76.80	1.23	11.51
0.78	51.64	0.78	76.96	1.23	11.54
0.78	51.64	0.78	77.10	1.23	11.61
0.78	51.67	0.78	77.35	1.23	11.68
0.78	51.67	0.78	77.44	1.23	11.73
0.78	51.67	0.78	77.50	1.23	11.76
0.78	51.60	0.78	77.53	1.23	11.79
0.78	51.55	0.78	77.53	1.22	11.82
0.78	49.60	0.78	77.53	1.22	11.80
0.78	49.57	0.78	77.53	1.22	11.68
0.77	49.52	0.77	77.53	1.22	11.71
0.77	49.51	0.77	77.47	1.22	11.69
0.77	49.51	0.77	77.37	1.22	11.64
0.77	49.58	0.77	77.31	1.22	11.58
0.77	49.63	0.77	77.10	1.22	11.61
0.77	49.73	0.77	76.96	1.22	11.61
0.77	49.81	0.77	76.74	1.22	11.59
0.77	49.90	0.77	76.47	1.22	11.57
0.77	50.04	0.77	76.45	1.22	11.60
0.77	50.20	0.77	76.45	1.22	11.63
0.77	50.52	0.77	76.48	1.22	11.66
0.76	50.62	0.76	76.56	1.22	11.69
0.76	50.79	0.76	76.67	1.22	11.71
0.76	50.84	0.76	76.92	1.22	11.69
0.76	50.93	0.76	77.25	1.22	11.66

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.76	50.98	0.76	77.37	1.21	11.60
0.76	51.01	0.76	77.47	1.21	11.59
0.76	51.08	0.76	77.51	1.21	11.54
0.76	51.19	0.76	77.51	1.21	11.35
0.76	51.30	0.76	77.51	1.21	11.19
0.76	51.42	0.76	77.51	1.21	10.92
0.76	51.70	0.76	77.45	1.21	10.59
0.75	51.97	0.75	77.37	1.21	10.21
0.75	52.07	0.75	77.31	1.21	10.22
0.75	52.13	0.75	77.21	1.21	10.25
0.75	52.15	0.75	77.07	1.21	10.33
0.75	52.15	0.75	77.03	1.21	10.44
0.75	52.22	0.75	76.99	1.21	10.55
0.75	52.31	0.75	76.92	1.21	10.77
0.75	53.23	0.75	76.92	1.21	11.01
0.75	51.50	0.75	76.87	1.21	11.11
0.75	51.49	0.75	76.80	1.21	11.19
0.75	51.43	0.75	76.70	1.21	11.22
0.74	51.45	0.74	76.54	1.21	11.24
0.74	51.39	0.74	76.44	1.20	11.27
0.74	51.36	0.74	76.27	1.20	11.30
0.74	51.31	0.74	76.01	1.20	11.33
0.74	51.28	0.74	75.96	1.20	11.31
0.74	51.26	0.74	75.96	1.20	11.22
0.74	51.27	0.74	75.96	1.20	11.25
0.74	51.32	0.74	75.96	1.20	11.27
0.74	51.34	0.74	75.96	1.20	11.30
0.74	51.39	0.74	76.00	1.20	11.38
0.74	51.44	0.74	76.08	1.20	11.49
0.73	51.47	0.73	76.16	1.20	11.58
0.73	51.52	0.73	76.16	1.20	11.73
0.73	51.38	0.73	76.20	1.20	11.84
0.73	50.20	0.73	76.25	1.20	11.16
0.73	50.04	0.73	76.32	1.20	11.07
0.73	49.88	0.73	76.32	1.19	10.96
0.73	49.77	0.73	76.37	1.19	10.83
0.73	49.69	0.73	76.44	1.19	10.78
0.73	49.60	0.73	76.53	1.19	10.72
0.73	49.57	0.73	76.66	1.19	10.63

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.73	49.52	0.73	76.73	1.19	10.54
0.72	49.51	0.72	76.84	1.19	10.44
0.72	49.51	0.72	76.91	1.19	10.39
0.72	49.58	0.72	77.02	1.19	10.33
0.72	49.63	0.72	77.09	1.19	10.28
0.72	49.73	0.72	77.19	1.19	10.23
0.72	49.81	0.72	77.23	1.18	10.21
0.72	49.90	0.72	77.30	1.18	10.21
0.72	50.04	0.72	77.43	1.18	10.22
0.72	50.20	0.72	77.50	1.18	10.16
0.72	50.52	0.72	77.59	1.18	10.16
0.72	50.62	0.72	77.63	1.18	10.18
0.71	50.79	0.71	77.70	1.18	10.22
0.71	50.84	0.71	77.78	1.18	10.16
0.71	50.93	0.71	77.78	1.18	10.18
0.71	50.98	0.71	77.78	1.18	10.22
0.71	51.01	0.71	77.81	1.18	10.22
0.71	51.08	0.71	77.85	1.17	10.27
0.71	51.19	0.71	77.85	1.17	10.29
0.71	51.30	0.71	77.85	1.17	10.53
0.71	51.42	0.71	77.85	1.17	10.67
0.71	51.70	0.71	77.89	1.17	10.83
0.71	51.97	0.71	77.89	1.17	11.02
0.70	52.07	0.70	77.89	1.17	10.98
0.70	52.13	0.70	77.93	1.17	10.92
0.70	52.15	0.70	77.98	1.17	10.87
0.70	52.15	0.70	78.04	1.17	10.78
0.70	52.22	0.70	78.04	1.17	10.68
0.70	52.31	0.70	78.04	1.16	10.58
0.70	53.23	0.70	78.04	1.16	10.47
0.70	51.50	0.70	78.04	1.16	10.35
0.70	51.49	0.70	78.01	1.16	10.23
0.70	51.43	0.70	77.94	1.16	10.17
0.69	51.45	0.69	77.85	1.16	10.07
0.69	51.39	0.69	77.81	1.16	9.95
0.69	51.36	0.69	77.71	1.16	9.82
0.69	51.31	0.69	77.64	1.16	9.77
0.69	51.28	0.69	77.41	1.16	9.71
0.69	51.26	0.69	77.27	1.16	9.66

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.69	51.27	0.69	77.06	1.15	9.60
0.69	51.32	0.69	76.81	1.15	9.55
0.69	51.34	0.69	76.51	1.15	9.50
0.69	51.39	0.69	76.48	1.15	9.44
0.69	51.44	0.69	76.48	1.15	9.42
0.68	51.47	0.68	76.48	1.15	9.44
0.68	51.52	0.68	76.48	1.15	9.46
0.68	51.60	0.68	76.48	1.15	9.41
0.68	51.65	0.68	76.51	1.15	9.41
0.68	51.68	0.68	76.58	1.15	9.49
0.68	51.68	0.68	76.67	1.15	9.43
0.68	51.75	0.68	76.71	1.14	9.56
0.68	51.81	0.68	76.79	1.14	9.65
0.68	51.85	0.68	76.86	1.14	9.88
0.68	51.88	0.68	76.97	1.14	10.22
0.68	51.84	0.68	77.04	1.14	10.83
0.67	51.81	0.67	77.14	1.14	11.02
0.67	51.76	0.67	77.26	1.14	11.19
0.67	51.78	0.67	77.44	1.14	11.33
0.67	51.73	0.67	77.44	1.14	11.43
0.67	51.68	0.67	77.44	1.14	11.58
0.67	51.71	0.67	77.44	1.13	11.58
0.67	51.66	0.67	77.48	1.13	11.52
0.67	51.64	0.67	77.52	1.13	11.47
0.67	51.59	0.67	77.57	1.13	11.41
0.67	51.62	0.67	77.57	1.13	11.35
0.67	51.67	0.67	77.62	1.13	11.30
0.66	51.77	0.66	77.79	1.13	11.24
0.66	51.81	0.66	77.83	1.13	11.19
0.66	51.91	0.66	77.90	1.13	11.13
0.66	51.99	0.66	78.01	1.13	11.08
0.66	52.02	0.66	78.04	1.13	11.01
0.66	52.10	0.66	78.12	1.13	10.99
0.66	52.21	0.66	78.18	1.12	11.01
0.66	52.24	0.66	78.29	1.12	11.02
0.66	52.24	0.66	78.36	1.12	11.03
0.66	52.27	0.66	78.51	1.12	11.07
0.66	52.23	0.66	78.58	1.12	11.05
0.65	52.21	0.65	78.66	1.12	11.08

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.65	52.16	0.65	78.66	1.12	11.07
0.65	52.19	0.65	78.66	1.12	11.10
0.65	52.19	0.65	78.70	1.12	11.10
0.65	52.22	0.65	78.74	1.12	11.13
0.65	52.22	0.65	78.74	1.12	11.23
0.65	52.25	0.65	78.74	1.11	11.22
0.65	52.31	0.65	78.74	1.11	11.26
0.65	52.37	0.65	78.74	1.11	11.27
0.65	52.47	0.65	78.74	1.11	11.30
0.65	52.47	0.65	78.74	1.11	11.29
0.64	52.55	0.64	78.74	1.11	11.30
0.64	52.63	0.64	78.74	1.11	11.34
0.64	52.70	0.64	78.74	1.11	11.33
0.64	52.86	0.64	78.74	1.11	11.28
0.64	52.89	0.64	78.74	1.11	11.36
0.64	52.97	0.64	78.70	1.10	11.30
0.64	53.03	0.64	78.66	1.10	11.29
0.64	53.14	0.64	78.66	1.10	11.28
0.64	53.14	0.64	78.66	1.10	11.28
0.64	51.48	0.64	78.66	1.10	11.23
0.64	51.62	0.64	78.66	1.10	11.29
0.63	51.69	0.63	78.71	1.10	11.31
0.63	51.82	0.63	78.79	1.10	11.26
0.63	51.89	0.63	78.89	1.10	11.27
0.63	52.08	0.63	78.89	1.10	11.32
0.63	52.21	0.63	78.96	1.10	11.31
0.63	52.27	0.63	79.05	1.09	11.35
0.63	52.40	0.63	79.11	1.09	11.36
0.63	52.44	0.63	79.19	1.09	11.43
0.63	52.56	0.63	79.19	1.09	11.58
0.63	52.60	0.63	79.19	1.09	11.67
0.63	52.69	0.63	79.19	1.09	11.83
0.62	52.76	0.62	79.22	1.09	11.81
0.62	52.79	0.62	79.22	1.09	11.75
0.62	52.82	0.62	79.22	1.09	11.69
0.62	52.82	0.62	79.22	1.09	11.64
0.62	52.84	0.62	79.22	1.09	11.58
0.62	52.84	0.62	79.18	1.08	11.49
0.62	52.91	0.62	79.11	1.08	11.36

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.62	52.91	0.62	79.01	1.08	11.23
0.62	52.94	0.62	78.95	1.08	11.18
0.62	52.94	0.62	78.83	1.08	11.07
0.62	52.97	0.62	78.74	1.08	10.96
0.61	52.97	0.61	78.60	1.08	10.84
0.61	53.00	0.61	78.40	1.08	10.78
0.61	53.03	0.61	78.12	1.08	10.73
0.61	53.03	0.61	77.28	1.08	10.74
0.61	53.06	0.61	76.79	1.08	10.77
0.61	53.06	0.61	76.77	1.07	10.79
0.61	53.09	0.61	76.77	1.07	10.86
0.61	53.09	0.61	76.77	1.07	10.91
0.61	53.12	0.61	76.77	1.07	11.06
0.61	53.02	0.61	76.77	1.07	11.26
0.61	53.00	0.61	76.81	1.07	11.55
0.60	53.03	0.60	76.91	1.07	12.04
0.60	53.03	0.60	76.91	1.07	12.30
0.60	53.06	0.60	76.91	1.07	12.36
0.60	53.06	0.60	76.91	1.07	12.40
0.60	53.09	0.60	76.91	1.07	12.40
0.60	53.09	0.60	76.91	1.06	12.34
0.60	53.12	0.60	76.91	1.06	12.29
0.60	53.12	0.60	76.91	1.06	12.24
0.60	53.15	0.60	76.91	1.06	12.18
0.60	53.15	0.60	76.88	1.06	12.13
0.60	53.17	0.60	76.83	1.06	12.07
0.59	53.20	0.59	76.78	1.06	12.02
0.59	53.16	0.59	76.78	1.06	11.96
0.59	53.16	0.59	76.78	1.06	11.91
0.59	53.12	0.59	76.78	1.06	11.85
0.59	53.15	0.59	76.78	1.06	11.80
0.59	53.15	0.59	76.78	1.05	11.74
0.59	53.18	0.59	76.78	1.05	11.69
0.59	53.18	0.59	76.78	1.05	11.63
0.59	53.17	0.59	76.78	1.05	11.58
0.59	53.11	0.59	76.78	1.05	11.52
0.59	53.08	0.59	76.82	1.05	11.47
0.58	53.11	0.58	76.82	1.05	11.42
0.58	53.11	0.58	76.82	1.05	11.36

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.58	53.10	0.58	76.82	1.05	11.31
0.58	53.04	0.58	76.82	1.05	11.25
0.58	53.03	0.58	76.82	1.05	11.20
0.58	53.06	0.58	76.82	1.04	11.14
0.58	53.06	0.58	76.82	1.04	11.09
0.58	53.09	0.58	76.82	1.04	11.03
0.58	53.09	0.58	76.82	1.04	11.02
0.58	53.12	0.58	76.82	1.04	11.02
0.58	53.02	0.58	76.82	1.04	11.04
0.57	53.00	0.57	76.82	1.04	10.98
0.57	53.03	0.57	76.82	1.04	10.97
0.57	53.03	0.57	76.82	1.04	10.99
0.57	53.06	0.57	76.86	1.04	11.04
0.57	53.06	0.57	76.91	1.04	10.98
0.57	53.09	0.57	76.91	1.03	11.08
0.57	53.09	0.57	76.95	1.03	11.07
0.57	53.12	0.57	76.99	1.03	11.08
0.57	53.12	0.57	77.07	1.03	11.14
0.57	53.15	0.57	77.07	1.03	11.11
0.57	53.15	0.57	77.07	1.03	11.13
0.56	53.17	0.56	77.11	1.03	11.16
0.56	53.20	0.56	77.17	1.03	11.10
0.56	53.16	0.56	77.23	1.03	11.10
0.56	53.16	0.56	77.23	1.03	11.13
0.56	53.12	0.56	77.23	1.03	11.18
0.56	53.15	0.56	77.23	1.02	11.22
0.56	53.15	0.56	77.33	1.02	11.20
0.56	53.18	0.56	77.39	1.02	11.22
0.56	53.18	0.56	77.39	1.02	11.26
0.56	53.17	0.56	77.39	1.02	11.26
0.56	53.11	0.56	77.43	1.02	11.29
0.55	53.08	0.55	77.48	1.02	11.30
0.55	53.11	0.55	77.54	1.02	11.36
0.55	53.11	0.55	77.54	1.02	11.52
0.55	53.10	0.55	77.54	1.02	11.66
0.55	53.04	0.55	77.62	1.02	11.89
0.55	53.01	0.55	77.67	1.01	11.93
0.55	53.01	0.55	77.67	1.01	11.97
0.55	53.03	0.55	77.67	1.01	11.98

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.55	52.99	0.55	77.67	1.01	12.06
0.55	52.89	0.55	77.67	1.01	12.06
0.55	52.89	0.55	77.67	1.01	12.01
0.54	52.92	0.54	77.67	1.01	11.95
0.54	52.90	0.54	77.67	1.01	11.95
0.54	52.84	0.54	77.67	1.01	11.92
0.54	51.02	0.54	77.63	1.01	11.86
0.54	51.05	0.54	77.55	1.01	11.81
0.54	51.09	0.54	77.47	1.00	11.75
0.54	51.17	0.54	77.42	1.00	11.66
0.54	51.24	0.54	77.34	1.00	11.55
0.54	51.27	0.54	77.28	1.00	11.41
0.54	51.33	0.54	77.17	1.00	11.36
0.54	51.42	0.54	77.11	1.00	11.31
0.53	51.55	0.53	76.99	1.00	11.25
0.53	51.55	0.53	76.94	1.00	11.20
0.53	51.58	0.53	76.84	1.00	11.14
0.53	51.61	0.53	76.75	1.00	11.13
0.53	51.64	0.53	76.70	1.00	11.26
0.53	51.64	0.53	76.70	0.99	11.25
0.53	51.67	0.53	76.75	0.99	11.31
0.53	51.67	0.53	76.84	0.99	11.34
0.53	51.67	0.53	76.90	0.99	11.41
0.53	51.60	0.53	76.99	0.99	11.53
0.53	51.55	0.53	77.06	0.99	11.67
0.52	51.54	0.52	77.17	0.99	11.82
0.52	51.47	0.52	77.36	0.99	12.00
0.52	51.42	0.52	77.44	0.99	11.97
0.52	51.42	0.52	77.55	0.99	11.95
0.52	51.45	0.52	77.78	0.99	11.93
0.52	51.41	0.52	77.91	0.98	11.92
0.52	51.39	0.52	78.05	0.98	11.86
0.52	51.34	0.52	78.21	0.98	11.81
0.52	51.37	0.52	78.38	0.98	11.76
0.52	51.37	0.52	78.71	0.98	11.70
0.51	51.29	0.51	78.86	0.98	11.65
0.51	51.25	0.51	78.99	0.98	11.59
0.51	51.25	0.51	79.08	0.98	11.58
0.51	51.28	0.51	79.14	0.98	11.56

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.51	51.24	0.51	79.17	0.98	11.55
0.51	51.22	0.51	79.17	0.98	11.50
0.51	51.18	0.51	79.17	0.97	11.48
0.51	51.20	0.51	79.17	0.97	11.49
0.51	51.20	0.51	79.13	0.97	11.51
0.51	51.23	0.51	79.06	0.97	11.50
0.51	51.26	0.51	78.99	0.97	11.52
0.51	51.26	0.51	78.93	0.97	11.54
0.50	51.29	0.50	78.86	0.97	11.69
0.50	51.25	0.50	78.77	0.97	11.76
0.50	51.23	0.50	78.77	0.97	11.85
0.50	51.15	0.50	78.77	0.97	11.99
0.50	51.13	0.50	78.77	0.97	12.22
0.50	51.06	0.50	78.77	0.96	12.24
0.50	51.03	0.50	78.77	0.96	12.25
0.50	50.83	0.50	78.90	0.96	12.27
0.50	50.76	0.50	78.97	0.96	12.27
0.50	50.66	0.50	79.11	0.96	12.21
0.49	50.56	0.49	79.25	0.96	12.16
0.49	50.54	0.49	79.47	0.96	12.10
0.49	50.54	0.49	79.85	0.96	12.05
0.49	50.62	0.49	80.36	0.96	12.00
0.49	50.73	0.49	81.10	0.96	11.94
0.49	50.91	0.49	81.26	0.96	11.89
0.49	51.15	0.49	81.38	0.95	11.86
0.49	51.81	0.49	81.44	0.95	11.85
0.49	52.00	0.49	81.39	0.95	11.83
0.49	52.20	0.49	81.30	0.95	11.78
0.49	52.39	0.49	81.20	0.95	11.72
0.48	52.53	0.48	80.95	0.95	11.67
0.48	52.70	0.48	80.80	0.95	11.61
0.48	52.81	0.48	80.67	0.95	11.56
0.48	52.94	0.48	80.56	0.95	11.50
0.48	53.00	0.48	80.50	0.95	11.45
0.48	53.08	0.48	80.44	0.95	11.39
0.48	53.13	0.48	80.40	0.94	11.34
0.48	53.16	0.48	80.44	0.94	11.29
0.48	53.16	0.48	80.49	0.94	11.23
0.48	53.19	0.48	80.53	0.94	11.18

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.48	53.22	0.48	80.53	0.94	11.17
0.47	53.22	0.47	80.53	0.94	11.17
0.47	53.25	0.47	80.48	0.94	11.19
0.47	53.25	0.47	80.40	0.94	11.13
0.47	53.28	0.47	80.19	0.94	11.12
0.47	53.23	0.47	80.04	0.94	11.11
0.47	53.12	0.47	79.78	0.94	11.13
0.47	53.12	0.47	79.33	0.93	11.07
0.47	53.09	0.47	79.13	0.93	11.06
0.47	52.99	0.47	78.96	0.93	11.11
0.47	52.98	0.47	78.80	0.93	11.06
0.47	52.12	0.47	78.68	0.93	11.06
0.46	52.04	0.46	78.58	0.93	11.08
0.46	51.95	0.46	78.51	0.93	11.08
0.46	51.85	0.46	78.46	0.93	11.12
0.46	51.62	0.46	78.46	0.93	11.15
0.46	51.38	0.46	78.46	0.93	11.22
0.46	51.03	0.46	78.46	0.93	11.37
0.46	50.95	0.46	78.46	0.92	11.89
0.46	50.92	0.46	78.52	0.92	12.31
0.46	50.82	0.46	78.61	0.92	12.38
0.46	50.85	0.46	78.67	0.92	12.43
0.46	50.85	0.46	78.79	0.92	12.44
0.45	50.88	0.45	78.88	0.92	12.43
0.45	50.88	0.45	79.08	0.92	12.38
0.45	50.91	0.45	79.87	0.92	12.32
0.45	50.91	0.45	80.07	0.92	12.27
0.45	50.94	0.45	80.28	0.92	12.22
0.45	51.01	0.45	80.46	0.92	12.16
0.45	51.13	0.45	80.64	0.91	12.06
0.45	51.24	0.45	80.79	0.91	11.92
0.45	51.29	0.45	80.94	0.91	11.78
0.45	51.42	0.45	81.06	0.91	11.73
0.45	51.48	0.45	81.15	0.91	11.63
0.44	51.62	0.44	81.28	0.91	11.50
0.44	51.69	0.44	81.31	0.91	11.38
0.44	51.82	0.44	81.31	0.91	11.32
0.44	51.89	0.44	81.31	0.91	11.27
0.44	52.08	0.44	81.31	0.91	11.18

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.44	52.21	0.44	81.31	0.91	11.12
0.44	52.27	0.44	81.31	0.90	11.07
0.44	52.40	0.44	81.26	0.90	11.01
0.44	52.44	0.44	81.18	0.90	10.96
0.44	52.56	0.44	81.12	0.90	10.96
0.44	52.60	0.44	80.89	0.90	11.00
0.43	52.69	0.43	80.65	0.90	11.00
0.43	52.76	0.43	80.29	0.90	11.18
0.43	52.79	0.43	79.65	0.90	11.13
0.43	52.82	0.43	79.38	0.90	11.52
0.43	52.82	0.43	79.09	0.90	11.80
0.43	52.84	0.43	78.84	0.90	12.14
0.43	52.84	0.43	78.59	0.89	12.59
0.43	52.91	0.43	78.38	0.89	12.62
0.43	52.91	0.43	78.04	0.89	12.61
0.43	52.94	0.43	77.93	0.89	12.59
0.43	52.94	0.43	77.84	0.89	12.53
0.42	52.97	0.42	77.77	0.89	12.48
0.42	52.97	0.42	77.73	0.89	12.42
0.42	53.00	0.42	77.73	0.89	12.37
0.42	53.03	0.42	77.73	0.89	12.29
0.42	53.03	0.42	77.73	0.89	12.18
0.42	53.06	0.42	77.79	0.89	12.08
0.42	53.06	0.42	77.89	0.88	12.02
0.42	53.09	0.42	77.93	0.88	11.97
0.42	53.09	0.42	78.02	0.88	11.91
0.42	53.12	0.42	78.09	0.88	11.86
0.42	53.02	0.42	78.23	0.88	11.80
0.42	53.00	0.42	78.32	0.88	11.75
0.42	53.03	0.42	78.44	0.88	11.73
0.41	53.03	0.41	78.60	0.88	11.74
0.41	53.06	0.41	78.89	0.88	11.74
0.41	53.06	0.41	78.93	0.88	11.69
0.41	53.09	0.41	78.97	0.88	11.68
0.41	53.09	0.41	78.97	0.87	11.69
0.41	53.12	0.41	78.97	0.87	11.71
0.41	53.12	0.41	78.97	0.87	11.66
0.41	53.15	0.41	78.97	0.87	11.64
0.41	53.15	0.41	78.97	0.87	11.71

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.41	53.17	0.41	78.97	0.87	11.66
0.41	53.20	0.41	78.97	0.87	11.60
0.40	53.16	0.40	78.97	0.87	11.59
0.40	53.16	0.40	78.97	0.87	11.59
0.40	53.12	0.40	78.97	0.87	11.60
0.40	53.15	0.40	78.97	0.87	11.54
0.40	53.15	0.40	78.97	0.86	11.49
0.40	53.18	0.40	78.97	0.86	11.43
0.40	53.18	0.40	78.97	0.86	11.47
0.40	53.17	0.40	78.97	0.86	11.46
0.40	53.11	0.40	78.93	0.86	11.41
0.40	53.08	0.40	78.88	0.86	11.35
0.40	53.11	0.40	78.80	0.86	11.30
0.39	53.11	0.39	78.66	0.86	11.24
0.39	53.10	0.39	78.58	0.86	11.23
0.39	53.04	0.39	78.47	0.86	11.23
0.39	53.01	0.39	78.27	0.85	11.24
0.39	53.01	0.39	77.98	0.85	11.18
0.39	53.03	0.39	77.65	0.85	11.18
0.39	52.99	0.39	77.28	0.85	11.29
0.39	52.89	0.39	76.88	0.85	11.23
0.39	52.89	0.39	76.97	0.85	11.24
0.39	52.92	0.39	77.04	0.85	11.27
0.39	52.90	0.39	77.20	0.85	11.27
0.38	52.84	0.38	77.38	0.85	11.28
0.38	51.47	0.38	77.57	0.85	11.32
0.38	51.52	0.38	77.79	0.85	11.27
0.38	51.60	0.38	78.02	0.84	11.26
0.38	51.65	0.38	78.26	0.84	11.35
0.38	51.68	0.38	78.50	0.84	11.29
0.38	51.68	0.38	78.71	0.84	11.24
0.38	51.75	0.38	78.93	0.84	11.18
0.38	51.81	0.38	79.29	0.84	11.13
0.38	51.85	0.38	79.42	0.84	11.07
0.37	51.88	0.37	79.52	0.84	11.02
0.37	51.84	0.37	79.56	0.84	10.97
0.37	51.81	0.37	79.56	0.84	10.91
0.37	51.76	0.37	79.56	0.84	10.86
0.37	51.78	0.37	79.56	0.83	10.85

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.37	51.73	0.37	79.52	0.83	10.84
0.37	51.68	0.37	79.43	0.83	10.86
0.37	51.71	0.37	79.24	0.83	10.80
0.37	51.66	0.37	79.14	0.83	10.75
0.37	51.64	0.37	78.99	0.83	10.69
0.37	51.59	0.37	78.71	0.83	10.64
0.37	51.62	0.37	78.58	0.83	10.59
0.36	51.67	0.36	78.47	0.83	10.57
0.36	51.77	0.36	78.35	0.83	10.55
0.36	51.81	0.36	78.24	0.83	10.54
0.36	51.91	0.36	78.12	0.83	10.49
0.36	51.99	0.36	78.01	0.83	10.43
0.36	52.02	0.36	77.92	0.82	10.41
0.36	52.10	0.36	77.78	0.82	10.41
0.36	52.21	0.36	77.78	0.82	10.42
0.36	51.67	0.36	77.78	0.82	10.37
0.36	51.77	0.36	77.78	0.82	10.31
0.35	51.81	0.35	77.78	0.82	10.28
0.35	51.91	0.35	77.78	0.82	10.27
0.35	51.99	0.35	77.84	0.82	10.26
0.35	52.02	0.35	77.92	0.82	10.21
0.35	52.10	0.35	77.97	0.82	10.15
0.35	52.21	0.35	78.08	0.82	10.10
0.35	52.24	0.35	78.13	0.81	9.99
0.35	52.24	0.35	78.17	0.81	9.88
0.35	52.27	0.35	78.13	0.81	9.75
0.35	52.23	0.35	78.04	0.81	9.69
0.35	52.21	0.35	77.93	0.81	9.64
0.35	52.16	0.35	77.74	0.81	9.50
0.34	52.19	0.34	77.41	0.81	9.41
0.34	52.19	0.34	77.30	0.81	9.36
0.34	52.22	0.34	77.22	0.81	9.30
0.34	52.22	0.34	77.18	0.81	9.31
0.34	52.25	0.34	77.18	0.81	9.35
0.34	52.31	0.34	77.18	0.80	9.36
0.34	52.37	0.34	77.21	0.80	9.45
0.34	52.47	0.34	77.26	0.80	9.52
0.34	52.47	0.34	77.33	0.80	10.04
0.34	52.55	0.34	77.33	0.80	10.43

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.33	52.63	0.33	77.33	0.80	10.95
0.33	52.70	0.33	77.33	0.80	11.73
0.33	52.86	0.33	77.33	0.80	11.91
0.33	52.89	0.33	77.33	0.80	12.07
0.33	52.97	0.33	77.29	0.80	12.23
0.33	53.03	0.33	77.24	0.80	12.35
0.33	53.14	0.33	77.18	0.79	12.45
0.33	53.14	0.33	77.18	0.79	12.54
0.33	51.48	0.33	77.18	0.79	12.61
0.33	51.62	0.33	77.18	0.79	12.74
0.33	51.69	0.33	77.18	0.79	12.75
0.32	51.82	0.32	77.18	0.79	12.76
0.32	51.89	0.32	77.22	0.79	12.75
0.32	52.08	0.32	77.28	0.79	12.70
0.32	52.21	0.32	77.36	0.79	12.64
0.32	52.27	0.32	77.36	0.79	12.59
0.32	52.40	0.32	77.39	0.79	12.53
0.32	52.44	0.32	77.44	0.78	12.48
0.32	52.56	0.32	77.50	0.78	12.38
0.32	52.60	0.32	77.50	0.78	12.27
0.32	52.69	0.32	77.50	0.78	12.15
0.32	52.76	0.32	77.50	0.78	12.09
0.31	52.79	0.31	77.45	0.78	12.04
0.31	52.82	0.31	77.28	0.78	11.98
0.31	52.82	0.31	77.23	0.78	11.93
0.31	52.84	0.31	77.15	0.78	11.87
0.31	52.84	0.31	77.09	0.78	11.81
0.31	52.91	0.31	76.97	0.78	11.76
0.31	52.91	0.31	76.89	0.77	11.70
0.31	52.94	0.31	76.80	0.77	11.65
0.31	52.94	0.31	76.65	0.77	11.59
0.31	52.97	0.31	76.51	0.77	11.54
0.31	52.97	0.31	76.38	0.77	11.48
0.30	53.00	0.30	76.38	0.77	11.49
0.30	53.03	0.30	76.38	0.77	11.50
0.30	53.03	0.30	76.38	0.77	11.55
0.30	53.06	0.30	76.38	0.77	11.56
0.30	51.99	0.30	76.38	0.77	11.60
0.30	52.02	0.30	76.38	0.77	11.60

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.30	52.10	0.30	76.38	0.76	11.63
0.30	52.21	0.30	76.42	0.76	11.64
0.30	51.67	0.30	76.48	0.76	11.69
0.30	51.77	0.30	76.48	0.76	11.70
0.30	51.81	0.30	76.48	0.76	11.76
0.29	51.91	0.29	76.53	0.76	11.76
0.29	51.99	0.29	76.59	0.76	11.87
0.29	52.02	0.29	76.69	0.76	11.91
0.29	52.10	0.29	76.73	0.76	11.89
0.29	52.21	0.29	76.83	0.76	11.90
0.29	52.24	0.29	76.92	0.76	11.90
0.29	52.24	0.29	77.29	0.75	11.85
0.29	52.27	0.29	77.58	0.75	11.79
0.29	52.23	0.29	78.02	0.75	11.74
0.29	52.21	0.29	78.15	0.75	11.68
0.29	52.16	0.29	78.24	0.75	11.63
0.28	52.19	0.28	78.31	0.75	11.52
0.28	52.19	0.28	78.35	0.75	11.34
0.28	52.22	0.28	78.35	0.75	11.29
0.28	52.22	0.28	78.35	0.75	11.23
0.28	52.25	0.28	78.35	0.75	11.18
0.28	52.31	0.28	78.29	0.75	11.12
0.28	52.37	0.28	78.20	0.74	11.07
0.28	52.47	0.28	78.16	0.74	11.01
0.28	52.47	0.28	78.08	0.74	11.01
0.28	52.55	0.28	78.02	0.74	11.03
0.28	52.63	0.28	77.92	0.74	11.10
0.27	52.70	0.27	77.86	0.74	11.13
0.27	52.86	0.27	77.78	0.74	11.14
0.27	52.89	0.27	77.78	0.74	11.21
0.27	52.97	0.27	77.68	0.74	11.23
0.27	53.03	0.27	77.63	0.74	11.28
0.27	53.14	0.27	77.63	0.74	11.40
0.27	53.14	0.27	77.59	0.73	11.55
0.27	51.48	0.27	77.52	0.73	11.76
0.27	51.62	0.27	77.43	0.73	11.77
0.27	51.69	0.27	77.35	0.73	11.87
0.27	51.82	0.27	77.18	0.73	11.92
0.26	51.89	0.26	76.92	0.73	11.96

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.26	52.08	0.26	76.35	0.73	12.00
0.26	52.21	0.26	76.24	0.73	12.06
0.26	52.27	0.26	76.19	0.73	12.10
0.26	52.40	0.26	76.19	0.73	12.14
0.26	52.44	0.26	76.19	0.73	12.16
0.26	52.56	0.26	76.19	0.72	12.15
0.26	52.60	0.26	76.23	0.72	12.14
0.26	52.69	0.26	76.29	0.72	12.08
0.26	52.76	0.26	76.36	0.72	12.03
0.26	52.79	0.26	76.36	0.72	11.97
0.25	52.82	0.25	76.41	0.72	11.88
0.25	52.82	0.25	76.49	0.72	11.76
0.25	52.84	0.25	76.49	0.72	11.61
0.25	52.84	0.25	76.49	0.72	11.52
0.25	52.91	0.25	76.46	0.72	11.39
0.25	52.91	0.25	76.41	0.72	11.21
0.25	52.94	0.25	76.35	0.71	11.15
0.25	52.94	0.25	76.35	0.71	11.06
0.25	52.97	0.25	76.30	0.71	11.00
0.25	52.97	0.25	76.23	0.71	10.95
0.25	53.00	0.25	76.09	0.71	10.95
0.24	53.03	0.24	76.01	0.71	11.01
0.24	53.03	0.24	75.96	0.71	11.05
0.24	53.06	0.24	75.86	0.71	11.15
0.24	53.06	0.24	75.81	0.71	11.31
0.24	53.09	0.24	75.73	0.71	11.52
0.24	53.09	0.24	75.73	0.71	11.94
0.24	53.12	0.24	75.73	0.70	11.97
0.24	53.02	0.24	75.73	0.70	12.00
0.24	53.00	0.24	75.73	0.70	12.02
0.24	53.03	0.24	75.80	0.70	12.06
0.24	53.03	0.24	75.94	0.70	12.13
0.23	53.06	0.23	76.03	0.70	12.19
0.23	53.06	0.23	76.09	0.70	12.28
0.23	53.09	0.23	76.18	0.70	12.36
0.23	53.09	0.23	76.22	0.70	12.57
0.23	53.12	0.23	76.28	0.70	12.61
0.23	53.12	0.23	76.33	0.69	12.62
0.23	53.15	0.23	76.33	0.69	12.64

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.23	53.15	0.23	76.28	0.69	12.62
0.23	53.17	0.23	76.16	0.69	12.56
0.23	53.20	0.23	76.16	0.69	12.51
0.23	53.16	0.23	76.16	0.69	12.45
0.22	53.16	0.22	76.16	0.69	12.40
0.22	53.12	0.22	76.16	0.69	12.34
0.22	53.15	0.22	76.12	0.69	12.29
0.22	53.15	0.22	76.12	0.69	12.23
0.22	53.18	0.22	76.12	0.69	12.18
0.22	53.18	0.22	76.12	0.68	12.08
0.22	53.17	0.22	76.12	0.68	12.03
0.22	53.11	0.22	76.12	0.68	11.98
0.22	53.08	0.22	76.12	0.68	11.92
0.22	53.11	0.22	76.12	0.68	11.87
0.22	53.11	0.22	76.12	0.68	11.81
0.21	53.10	0.21	76.12	0.68	11.76
0.21	53.04	0.21	76.12	0.68	11.70
0.21	53.01	0.21	76.12	0.68	11.65
0.21	53.01	0.21	76.12	0.68	11.59
0.21	53.03	0.21	76.12	0.68	11.54
0.21	52.99	0.21	76.12	0.67	11.52
0.21	52.89	0.21	76.12	0.67	11.51
0.21	52.89	0.21	76.12	0.67	11.49
0.21	52.92	0.21	76.08	0.67	11.44
0.21	52.90	0.21	76.02	0.67	11.38
0.21	52.84	0.21	75.98	0.67	11.33
0.20	51.02	0.20	75.91	0.67	11.27
0.20	51.05	0.20	75.85	0.67	11.22
0.20	51.09	0.20	75.72	0.67	11.17
0.20	51.17	0.20	75.61	0.67	11.15
0.20	51.24	0.20	75.26	0.67	11.13
0.20	51.27	0.20	74.96	0.66	11.13
0.20	51.33	0.20	74.61	0.66	11.07
0.20	51.42	0.20	74.24	0.66	11.02
0.20	51.55	0.20	73.81	0.66	11.07
0.20	51.55	0.20	73.78	0.66	11.09
0.20	51.58	0.20	73.78	0.66	11.03
0.19	51.61	0.19	73.78	0.66	11.02
0.19	51.64	0.19	73.78	0.66	11.03

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.19	51.64	0.19	73.68	0.66	11.06
0.19	51.67	0.19	73.62	0.66	11.01
0.19	51.67	0.19	73.62	0.66	11.00
0.19	51.67	0.19	73.55	0.65	11.02
0.19	51.60	0.19	73.44	0.65	11.00
0.19	51.55	0.19	73.37	0.65	11.10
0.19	51.54	0.19	73.25	0.65	11.18
0.19	51.47	0.19	73.08	0.65	11.23
0.19	51.42	0.19	72.82	0.65	11.35
0.18	51.42	0.18	72.74	0.65	11.57
0.18	51.45	0.18	72.67	0.65	11.89
0.18	51.41	0.18	72.60	0.65	12.35
0.18	51.39	0.18	72.54	0.65	12.39
0.18	51.34	0.18	72.50	0.65	12.39
0.18	51.37	0.18	72.45	0.64	12.33
0.18	51.37	0.18	72.41	0.64	12.28
0.18	51.29	0.18	72.41	0.64	12.18
0.18	51.25	0.18	72.41	0.64	12.06
0.18	51.25	0.18	72.41	0.64	11.93
0.18	51.28	0.18	72.37	0.64	11.87
0.17	51.24	0.17	72.37	0.64	11.76
0.17	51.22	0.17	72.37	0.64	11.63
0.17	51.18	0.17	72.37	0.64	11.53
0.17	51.20	0.17	72.37	0.64	11.48
0.17	51.20	0.17	72.37	0.64	11.50
0.17	51.23	0.17	72.41	0.63	11.71
0.17	51.26	0.17	72.46	0.63	11.93
0.17	51.26	0.17	72.53	0.63	12.34
0.17	51.29	0.17	72.53	0.63	12.46
0.17	51.25	0.17	72.53	0.63	12.55
0.17	51.23	0.17	72.62	0.63	12.63
0.16	51.15	0.16	72.67	0.63	12.67
0.16	51.13	0.16	72.67	0.63	12.70
0.16	51.06	0.16	72.67	0.63	12.71
0.16	51.03	0.16	72.67	0.63	12.75
0.16	50.83	0.16	72.67	0.63	12.69
0.16	50.76	0.16	72.61	0.62	12.64
0.16	50.66	0.16	72.50	0.62	12.59
0.16	50.56	0.16	71.11	0.62	12.53

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.16	50.54	0.16	51.49	0.62	12.48
0.16	50.54	0.16	49.03	0.62	12.39
0.16	50.62	0.16	48.66	0.62	12.29
0.15	50.73	0.15	48.71	0.62	12.18
0.15	50.91	0.15	48.78	0.62	12.12
0.15	51.15	0.15	48.88	0.62	11.93
0.15	51.81	0.15	48.97	0.62	11.84
0.15	52.00	0.15	49.09	0.62	11.72
0.15	52.20	0.15	49.20	0.61	11.59
0.15	52.39	0.15	49.35	0.61	11.53
0.15	52.53	0.15	49.63	0.61	11.44
0.15	52.70	0.15	49.69	0.61	11.33
0.15	52.81	0.15	49.84	0.61	11.22
0.15	52.94	0.15	49.87	0.61	11.16
0.14	53.00	0.14	49.96	0.61	11.11
0.14	53.08	0.14	49.96	0.61	11.05
0.14	53.13	0.14	50.03	0.61	11.04
0.14	53.16	0.14	50.05	0.61	11.04
0.14	53.16	0.14	50.06	0.61	11.04
0.14	53.19	0.14	50.09	0.60	10.99
0.14	53.22	0.14	50.07	0.60	10.93
0.14	53.22	0.14	50.09	0.60	10.92
0.14	53.25	0.14	50.09	0.60	10.90
0.14	53.25	0.14	50.12	0.60	10.89
0.14	53.28	0.14	50.12	0.60	10.83
0.13	53.23	0.13	50.15	0.60	10.78
0.13	53.12	0.13	50.17	0.60	10.68
0.13	53.12	0.13	50.17	0.60	10.54
0.13	53.09	0.13	50.20	0.60	10.40
0.13	52.99	0.13	50.23	0.60	10.32
0.13	52.98	0.13	50.29	0.59	10.18
0.13	52.92	0.13	50.29	0.59	10.07
0.13	52.86	0.13	50.32	0.59	9.92
0.13	52.81	0.13	50.32	0.59	9.69
0.13	52.70	0.13	50.34	0.59	9.58
0.13	52.64	0.13	50.34	0.59	9.46
0.12	52.64	0.12	50.37	0.59	9.35
0.12	52.67	0.12	50.37	0.59	9.29
0.12	52.70	0.12	50.39	0.59	9.30

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.12	52.70	0.12	50.42	0.59	9.33
0.12	52.73	0.12	50.37	0.59	9.34
0.12	52.73	0.12	50.30	0.58	9.43
0.12	52.72	0.12	50.24	0.58	9.69
0.12	52.68	0.12	50.15	0.58	9.91
0.12	52.67	0.12	50.05	0.58	10.31
0.12	52.67	0.12	49.92	0.58	10.43
0.12	52.65	0.12	49.67	0.58	10.56
0.11	52.59	0.11	49.37	0.58	10.67
0.11	52.55	0.11	49.02	0.58	10.78
0.11	52.37	0.11	48.22	0.58	10.88
0.11	52.37	0.11	48.27	0.58	10.98
0.11	52.40	0.11	48.27	0.58	11.22
0.11	52.39	0.11	48.34	0.57	11.30
0.11	52.34	0.11	48.34	0.57	11.37
0.11	52.30	0.11	48.36	0.57	11.44
0.11	52.30	0.11	48.36	0.57	11.50
0.11	52.27	0.11	48.39	0.57	11.55
0.10	52.12	0.10	48.36	0.57	11.60
0.10	52.04	0.10	48.21	0.57	11.64
0.10	51.95	0.10	48.09	0.57	11.69
0.10	51.85	0.10	47.97	0.57	11.74
0.10	51.62	0.10	47.77	0.57	11.91
0.10	51.38	0.10	47.46	0.57	11.98
0.10	51.03	0.10	47.03	0.56	12.04
0.10	50.95	0.10	46.89	0.56	12.11
0.10	50.92	0.10	46.81	0.56	12.15
0.10	50.82	0.10	46.70	0.56	12.16
0.10	50.85	0.10	46.64	0.56	12.18
0.10	50.85	0.10	46.50	0.56	12.17
0.09	50.88	0.09	46.48	0.56	12.12
0.09	50.88	0.09	46.46	0.56	12.06
0.09	50.91	0.09	46.46	0.56	12.01
0.09	50.91	0.09	46.48	0.56	11.95
0.09	50.94	0.09	46.48	0.56	11.90
0.09	51.01	0.09	46.51	0.55	11.85
0.09	51.13	0.09	46.51	0.55	11.79
0.09	51.24	0.09	46.53	0.55	11.74
0.09	51.29	0.09	46.53	0.55	11.74

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.09	51.42	0.09	46.56	0.55	11.77
0.09	51.48	0.09	46.56	0.55	11.78
0.08	51.62	0.08	46.62	0.55	11.91
0.08	51.69	0.08	46.71	0.55	11.99
0.08	51.82	0.08	46.77	0.55	12.14
0.08	51.89	0.08	46.79	0.55	12.34
0.08	52.08	0.08	46.79	0.55	12.59
0.08	52.21	0.08	46.86	0.54	12.56
0.08	52.27	0.08	46.90	0.54	12.50
0.08	52.40	0.08	46.96	0.54	12.45
0.08	52.44	0.08	46.96	0.54	12.37
0.08	52.56	0.08	46.99	0.54	12.26
0.07	52.60	0.07	47.01	0.54	12.15
0.07	52.69	0.07	47.01	0.54	12.00
0.07	52.76	0.07	47.04	0.54	11.88
0.07	52.79	0.07	47.04	0.54	11.83
0.07	52.82	0.07	47.03	0.54	11.77
0.07	52.82	0.07	46.99	0.54	11.72
0.07	52.84	0.07	46.96	0.53	11.66
0.07	52.84	0.07	46.96	0.53	11.61
0.07	52.91	0.07	46.99	0.53	11.55
0.07	52.91	0.07	47.01	0.53	11.50
0.07	52.94	0.07	47.05	0.53	11.56
0.06	52.94	0.06	47.13	0.53	11.61
0.06	52.97	0.06	47.19	0.53	11.60
0.06	52.97	0.06	47.21	0.53	11.63
0.06	53.00	0.06	47.21	0.53	11.66
0.06	53.03	0.06	47.24	0.53	11.72
0.06	53.03	0.06	47.28	0.53	11.87
0.06	53.06	0.06	47.39	0.52	12.07
0.06	53.06	0.06	47.39	0.52	12.36
0.06	53.09	0.06	47.42	0.52	12.38
0.06	53.09	0.06	47.42	0.52	12.37
0.06	53.12	0.06	47.44	0.52	12.35
0.05	53.02	0.05	47.47	0.52	12.30
0.05	53.00	0.05	47.47	0.52	12.25
0.05	53.03	0.05	47.49	0.52	12.19
0.05	53.03	0.05	47.49	0.52	12.14
0.05	53.06	0.05	47.52	0.52	12.08

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.05	53.06	0.05	47.52	0.51	12.03
0.05	53.09	0.05	47.55	0.51	11.97
0.05	53.09	0.05	47.55	0.51	11.92
0.05	53.12	0.05	47.57	0.51	11.86
0.05	53.12	0.05	47.60	0.51	11.81
0.05	53.15	0.05	47.56	0.51	11.75
0.04	53.15	0.04	47.55	0.51	11.70
0.04	53.17	0.04	47.50	0.51	11.70
0.04	53.20	0.04	47.52	0.51	11.63
0.04	53.16	0.04	47.52	0.51	11.64
0.04	53.16	0.04	47.55	0.51	11.67
0.04	53.12	0.04	47.47	0.51	11.74
0.04	53.15	0.04	47.45	0.50	11.69
0.04	53.15	0.04	47.45	0.50	11.77
0.04	53.18	0.04	47.47	0.50	11.77
0.04	53.18	0.04	47.50	0.50	11.80
0.04	53.17	0.04	47.47	0.50	11.78
0.03	53.11	0.03	47.44	0.50	11.80
0.03	53.08	0.03	47.40	0.50	11.81
0.03	53.11	0.03	47.42	0.50	11.76
0.03	53.11	0.03	47.42	0.50	11.74
0.03	53.10	0.03	47.45	0.50	11.74
0.03	51.25	0.03	47.45	0.49	11.78
0.03	51.25	0.03	47.43	0.49	11.80
0.03	51.28	0.03	47.39	0.49	11.86
0.03	51.24	0.03	47.42	0.49	11.86
0.03	51.22	0.03	47.45	0.49	11.94
0.03	51.18	0.03	47.45	0.49	12.00
0.02	51.20	0.02	47.47	0.49	12.14
0.02	51.20	0.02	47.47	0.49	12.35
0.02	51.23	0.02	47.50	0.49	12.67
0.02	51.26	0.02	47.50	0.49	12.69
0.02	51.26	0.02	47.52	0.49	12.75
0.02	51.29	0.02	47.52	0.48	12.74
0.02	51.25	0.02	47.55	0.48	12.68
0.02	51.23	0.02	47.57	0.48	12.63
0.02	51.15	0.02	47.57	0.48	12.57
0.02	51.13	0.02	47.55	0.48	12.52
0.02	51.06	0.02	47.55	0.48	12.46

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
0.01	51.03	0.01	47.53	0.48	12.41
0.01	50.83	0.01	47.44	0.48	12.36
0.01	50.76	0.01	47.44	0.48	12.35
0.01	53.18	0.01	47.37	0.48	12.43
0.01	53.17	0.01	47.31	0.48	12.37
0.01	53.11	0.01	47.31	0.47	12.36
0.01	53.08	0.01	47.28	0.47	12.38
0.01	53.11	0.01	47.25	0.47	12.42
0.01	53.11	0.01	47.18	0.47	12.40
0.01	53.10	0.01	47.21	0.47	12.42
0.01	51.25	0.01	47.21	0.47	12.57
0.00	53.00	0.00	47.23	0.47	12.52
0.00	53.03	0.00	47.23	0.47	12.71
0.00	53.03	0.00	47.26	0.47	12.86
0.00	53.06	0.00	47.30	0.47	13.10
0.00	53.06	0.00	47.38	0.47	13.12
0.00	53.09	0.00	47.44	0.46	13.12
0.00	53.09	0.00	47.47	0.46	13.11
				0.46	13.11
				0.46	13.05
				0.46	13.00
				0.46	13.02
				0.46	13.02
				0.46	12.96
				0.46	12.91
				0.46	12.89
				0.46	12.88
				0.45	12.87
				0.45	12.82
				0.45	12.76
				0.45	12.71
				0.45	12.65
				0.45	12.65
				0.45	12.65
				0.45	12.68
				0.45	12.62
				0.45	12.63
				0.45	12.67
				0.44	12.65

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.44	12.68
				0.44	12.67
				0.44	12.70
				0.44	12.75
				0.44	12.76
				0.44	12.71
				0.44	12.65
				0.44	12.60
				0.44	12.54
				0.44	12.49
				0.43	12.43
				0.43	12.42
				0.43	12.50
				0.43	12.45
				0.43	12.45
				0.43	12.48
				0.43	12.43
				0.43	12.43
				0.43	12.47
				0.43	12.41
				0.43	12.36
				0.42	12.30
				0.42	12.25
				0.42	12.20
				0.42	12.10
				0.42	12.00
				0.42	11.87
				0.42	11.81
				0.42	11.71
				0.42	11.60
				0.42	11.49
				0.42	11.44
				0.42	11.43
				0.42	11.46
				0.41	11.47
				0.41	11.53
				0.41	11.58
				0.41	11.67
				0.41	11.86

PVDF		PDDA		PDA	
depth (mm)	Force (µN)	depth (mm)	Force (µN)	depth (mm)	Force (µN)
				0.41	12.12
				0.41	12.58
				0.41	12.60
				0.41	12.60
				0.41	12.60
				0.41	12.54
				0.40	12.49
				0.40	12.43
				0.40	12.38
				0.40	12.32
				0.40	12.27
				0.40	12.21
				0.40	12.19
				0.40	12.21
				0.40	12.28
				0.40	12.29
				0.40	12.38
				0.39	12.46
				0.39	12.61
				0.39	12.88
				0.39	13.24
				0.39	13.81
				0.39	13.78
				0.39	13.73
				0.39	13.67
				0.39	13.58
				0.39	13.45
				0.39	13.29
				0.38	13.17
				0.38	12.98
				0.38	12.81
				0.38	12.33
				0.38	12.22
				0.38	12.17
				0.38	12.12
				0.38	12.06
				0.38	12.01
				0.38	12.03
				0.37	12.08

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.37	12.10
				0.37	12.38
				0.37	12.69
				0.37	12.76
				0.37	12.84
				0.37	12.89
				0.37	12.92
				0.37	12.92
				0.37	12.91
				0.37	12.85
				0.37	12.80
				0.36	12.74
				0.36	12.69
				0.36	12.63
				0.36	12.58
				0.36	12.53
				0.36	12.47
				0.36	12.42
				0.36	12.36
				0.36	12.30
				0.36	12.24
				0.35	12.19
				0.35	12.14
				0.35	12.08
				0.35	12.07
				0.35	12.09
				0.35	12.03
				0.35	12.05
				0.35	12.08
				0.35	12.09
				0.35	12.21
				0.35	12.28
				0.35	12.31
				0.34	12.34
				0.34	12.42
				0.34	12.51
				0.34	12.59
				0.34	12.55
				0.34	12.54

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.34	12.59
				0.34	12.59
				0.34	12.65
				0.34	12.69
				0.33	12.84
				0.33	12.90
				0.33	12.92
				0.33	12.93
				0.33	12.93
				0.33	12.91
				0.33	12.86
				0.33	12.80
				0.33	12.75
				0.33	12.69
				0.33	12.64
				0.32	12.59
				0.32	12.53
				0.32	12.48
				0.32	12.42
				0.32	12.33
				0.32	12.14
				0.32	12.08
				0.32	12.03
				0.32	11.94
				0.32	11.85
				0.32	11.79
				0.31	11.74
				0.31	11.68
				0.31	11.63
				0.31	11.61
				0.31	11.62
				0.31	11.64
				0.31	11.59
				0.31	11.58
				0.31	11.61
				0.31	11.63
				0.31	11.58
				0.30	11.56
				0.30	11.57

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.30	11.58
				0.30	11.52
				0.30	11.52
				0.30	11.51
				0.30	11.54
				0.30	11.48
				0.30	11.49
				0.30	11.52
				0.30	11.53
				0.29	11.59
				0.29	11.74
				0.29	11.85
				0.29	11.98
				0.29	12.15
				0.29	12.38
				0.29	12.38
				0.29	12.40
				0.29	12.42
				0.29	12.48
				0.29	12.55
				0.28	12.60
				0.28	12.79
				0.28	12.86
				0.28	12.90
				0.28	12.93
				0.28	12.93
				0.28	12.92
				0.28	12.91
				0.28	12.85
				0.28	12.80
				0.28	12.74
				0.27	12.69
				0.27	12.68
				0.27	12.67
				0.27	12.69
				0.27	12.63
				0.27	12.63
				0.27	12.65
				0.27	12.64

PVDF		PDDA		PDA	
depth (mm)	Force (µN)	depth (mm)	Force (µN)	depth (mm)	Force (µN)
				0.27	12.69
				0.27	12.86
				0.27	12.99
				0.26	13.19
				0.26	13.18
				0.26	13.12
				0.26	13.07
				0.26	13.01
				0.26	12.96
				0.26	12.90
				0.26	12.85
				0.26	12.79
				0.26	12.74
				0.26	12.68
				0.25	12.63
				0.25	12.62
				0.25	12.65
				0.25	12.64
				0.25	12.66
				0.25	12.70
				0.25	12.68
				0.25	12.67
				0.25	12.65
				0.25	12.60
				0.25	12.54
				0.24	12.49
				0.24	12.39
				0.24	12.34
				0.24	12.29
				0.24	12.23
				0.24	12.18
				0.24	12.18
				0.24	12.22
				0.24	12.22
				0.24	12.25
				0.24	12.28
				0.23	12.36
				0.23	12.39
				0.23	12.46

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.23	12.72
				0.23	12.86
				0.23	13.01
				0.23	12.97
				0.23	12.92
				0.23	12.86
				0.23	12.81
				0.23	12.75
				0.22	12.70
				0.22	12.65
				0.22	12.59
				0.22	12.54
				0.22	12.53
				0.22	12.55
				0.22	12.59
				0.22	12.53
				0.22	12.54
				0.22	12.58
				0.22	12.58
				0.21	12.61
				0.21	12.74
				0.21	12.77
				0.21	12.83
				0.21	12.84
				0.21	12.91
				0.21	12.92
				0.21	12.97
				0.21	12.96
				0.21	12.96
				0.21	12.99
				0.20	12.93
				0.20	12.88
				0.20	12.82
				0.20	12.77
				0.20	12.71
				0.20	12.66
				0.20	12.60
				0.20	12.55
				0.20	12.49

PVDF		PDDA		PDA	
depth (mm)	Force (µN)	depth (mm)	Force (µN)	depth (mm)	Force (µN)
				0.20	12.44
				0.20	12.39
				0.19	12.33
				0.19	12.31
				0.19	12.33
				0.19	12.38
				0.19	12.39
				0.19	12.46
				0.19	12.49
				0.19	12.57
				0.19	12.70
				0.19	12.89
				0.19	13.10
				0.18	13.62
				0.18	13.58
				0.18	13.52
				0.18	13.47
				0.18	13.45
				0.18	13.46
				0.18	13.46
				0.18	13.41
				0.18	13.40
				0.18	13.50
				0.18	13.45
				0.17	13.45
				0.17	13.47
				0.17	13.50
				0.17	13.45
				0.17	13.46
				0.17	13.49
				0.17	13.48
				0.17	13.50
				0.17	13.58
				0.17	13.57
				0.17	13.59
				0.16	13.61
				0.16	13.56
				0.16	13.50
				0.16	13.45

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.16	13.43
				0.16	13.47
				0.16	13.42
				0.16	13.40
				0.16	13.40
				0.16	13.41
				0.16	13.36
				0.15	13.34
				0.15	13.35
				0.15	13.37
				0.15	13.32
				0.15	13.40
				0.15	13.39
				0.15	13.42
				0.15	13.43
				0.15	13.48
				0.15	13.50
				0.15	13.55
				0.14	13.56
				0.14	13.57
				0.14	13.59
				0.14	13.54
				0.14	13.48
				0.14	13.48
				0.14	13.50
				0.14	13.51
				0.14	13.58
				0.14	13.65
				0.14	13.79
				0.13	14.04
				0.13	14.48
				0.13	14.71
				0.13	14.74
				0.13	14.74
				0.13	14.71
				0.13	14.66
				0.13	14.60
				0.13	14.55
				0.13	14.47

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.13	14.36
				0.12	14.25
				0.12	14.19
				0.12	14.11
				0.12	14.01
				0.12	13.90
				0.12	13.85
				0.12	13.79
				0.12	13.74
				0.12	13.68
				0.12	13.63
				0.12	13.61
				0.11	13.68
				0.11	13.62
				0.11	13.64
				0.11	13.68
				0.11	13.68
				0.11	13.73
				0.11	13.75
				0.11	13.81
				0.11	13.94
				0.11	14.11
				0.10	14.35
				0.10	14.34
				0.10	14.29
				0.10	14.26
				0.10	14.21
				0.10	14.15
				0.10	14.10
				0.10	14.04
				0.10	13.99
				0.10	13.93
				0.10	13.81
				0.10	13.76
				0.09	13.70
				0.09	13.65
				0.09	13.59
				0.09	13.53
				0.09	13.52

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.09	13.54
				0.09	13.57
				0.09	13.55
				0.09	13.54
				0.09	13.54
				0.09	13.49
				0.08	13.44
				0.08	13.38
				0.08	13.33
				0.08	13.27
				0.08	13.22
				0.08	13.16
				0.08	13.11
				0.08	13.05
				0.08	13.06
				0.08	13.10
				0.07	13.11
				0.07	13.18
				0.07	13.22
				0.07	12.29
				0.07	12.23
				0.07	12.18
				0.07	12.18
				0.07	12.22
				0.07	12.22
				0.07	12.25
				0.07	12.28
				0.06	12.36
				0.06	12.39
				0.06	12.46
				0.06	12.72
				0.06	12.86
				0.06	13.01
				0.06	12.97
				0.06	12.92
				0.06	12.86
				0.06	12.81
				0.06	12.75
				0.05	12.70

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.05	12.65
				0.05	12.59
				0.05	12.54
				0.05	12.53
				0.05	12.55
				0.05	12.59
				0.05	12.53
				0.05	12.54
				0.05	12.58
				0.05	12.58
				0.04	12.61
				0.04	12.74
				0.04	12.77
				0.04	12.83
				0.04	12.84
				0.04	12.91
				0.04	12.92
				0.04	12.97
				0.04	12.96
				0.04	12.96
				0.04	12.99
				0.03	12.93
				0.03	12.88
				0.03	12.82
				0.03	12.77
				0.03	12.71
				0.03	12.66
				0.03	12.60
				0.03	12.55
				0.03	12.49
				0.03	12.44
				0.03	12.39
				0.02	12.33
				0.02	12.31
				0.02	11.68
				0.02	11.83
				0.02	12.04
				0.02	12.01
				0.02	11.96

PVDF		PDDA		PDA	
depth (mm)	Force (μN)	depth (mm)	Force (μN)	depth (mm)	Force (μN)
				0.02	11.86
				0.02	11.71
				0.02	11.66
				0.02	11.56
				0.01	11.47
				0.01	11.41
				0.01	11.36
				0.01	11.30
				0.01	11.28
				0.01	11.29
				0.01	11.34
				0.01	11.32
				0.01	11.43
				0.01	11.38
				0.01	11.37
				0.00	11.35
				0.00	11.29
				0.00	11.24
				0.00	11.18
				0.00	11.13
				0.00	11.03
				0.00	10.93

Figure 39

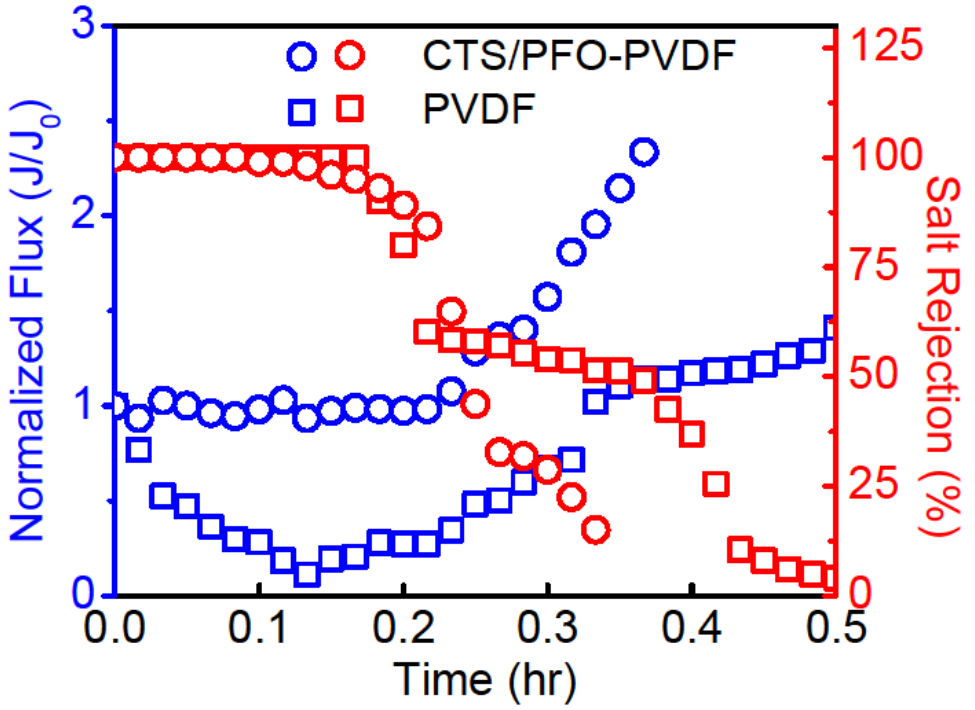

Figure 39.—Normalized water fluxes for the PVDF membrane (blue squares) and the composite membrane (blue diamonds) over time in DCMD experiments using surfactant stabilized crude oil-in-water emulsion as feed.

PVDF			CTS/PFO-PVDF		
Time (hr)	Normalized Flux	Salt Rejection Rate (%)	Time (hr)	Normalized Flux	Salt Rejection Rate (%)
0	1	100	0	1	100
0.01667	0.76813	100	0.01667	0.93421	100
0.03333	0.5245	100	0.03333	1.02804	100
0.05	0.47126	100	0.05	1	100
0.06667	0.36345	100	0.06667	0.96262	100
0.08333	0.29885	100	0.08333	0.94428	100
0.1	0.28183	100	0.1	0.98077	99
0.11667	0.18391	100	0.11667	1.02953	99
0.13333	0.11061	100	0.13333	0.93421	98
0.15	0.1922	100	0.15	0.97234	96
0.16667	0.20428	100	0.16667	0.98924	95
0.18333	0.27958	89.97545	0.18333	0.98187	93
0.2	0.27139	79.97086	0.2	0.97234	89.06213
0.21667	0.27217	60.26688	0.21667	0.98187	84.31969
0.23333	0.34483	58.30896	0.23333	1.0772	64.83501

Data Appendix

PVDF			CTS/PFO-PVDF		
Time (hr)	Normalized Flux	Salt Rejection Rate (%)	Time (hr)	Normalized Flux	Salt Rejection Rate (%)
0.25	0.48276	58.01227	0.25	1.28692	43.73491
0.26667	0.50094	57.13131	0.26667	1.36536	32.73379
0.28333	0.59793	55.3742	0.28333	1.40131	31.84982
0.3	0.67305	53.91525	0.3	1.57376	28.7711
0.31667	0.71517	53.72753	0.31667	1.80833	22.52749
0.33333	1.02	51.44726	0.33333	1.95565	15.06309
0.35	1.10581	51.28819	0.35	2.14822	
0.36667	1.13923	49.1528	0.36667	2.33696	
0.38333	1.13923	42.54081			
0.4	1.17241	36.8503			
0.41667	1.18369	25.5325			
0.43333	1.18843	10.52407			
0.45	1.21839	8			
0.46667	1.26437	6			
0.48333	1.28736	5			
0.5	1.40915	4			