

Jacob N Israelachvili

List of Publications by Citations

Source: <https://exaly.com/author-pdf/1876297/jacob-n-israelachvili-publications-by-citations.pdf>

Version: 2024-04-19

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

242
papers

30,256
citations

85
h-index

171
g-index

245
ext. papers

32,687
ext. citations

8.7
avg, IF

7.17
L-index

#	Paper	IF	Citations
242	Measurement of forces between two mica surfaces in aqueous electrolyte solutions in the range 0-100 nm. <i>Journal of the Chemical Society Faraday Transactions I</i> , 1978 , 74, 975		1505
241	Evidence for van der Waals adhesion in gecko setae. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 12252-6	11.5	1371
240	Nanotribology: friction, wear and lubrication at the atomic scale. <i>Nature</i> , 1995 , 374, 607-616	50.4	1345
239	Role of hydration and water structure in biological and colloidal interactions. <i>Nature</i> , 1996 , 379, 219-25	50.4	1132
238	The role of interparticle and external forces in nanoparticle assembly. <i>Nature Materials</i> , 2008 , 7, 527-38	27	936
237	The hydrophobic interaction is long range, decaying exponentially with distance. <i>Nature</i> , 1982 , 300, 341-3	30.4	901
236	Direct measurement of structural forces between two surfaces in a nonpolar liquid. <i>Journal of Chemical Physics</i> , 1981 , 75, 1400-1411	3.9	671
235	Liquid to solidlike transitions of molecularly thin films under shear. <i>Journal of Chemical Physics</i> , 1990 , 93, 1895-1906	3.9	634
234	Direct measurements of forces between phosphatidylcholine and phosphatidylethanolamine bilayers in aqueous electrolyte solutions. <i>Biochemistry</i> , 1985 , 24, 4608-18	3.2	589
233	Molecular layering of water at surfaces and origin of repulsive hydration forces. <i>Nature</i> , 1983 , 306, 249-250	30.4	577
232	Intermolecular forces in biology. <i>Quarterly Reviews of Biophysics</i> , 2001 , 34, 105-267	7	530
231	The nonlinear nature of friction. <i>Nature</i> , 2004 , 430, 525-8	50.4	523
230	Fundamental mechanisms of interfacial friction. 1. Relation between adhesion and friction. <i>The Journal of Physical Chemistry</i> , 1993 , 97, 4128-4140		512
229	Interactions of Silica Surfaces. <i>Journal of Colloid and Interface Science</i> , 1994 , 165, 367-385	9.3	493
228	Adhesion and friction in gecko toe attachment and detachment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 19320-5	11.5	471
227	Polyethylene glycol-coated biocompatible surfaces. <i>Journal of Biomedical Materials Research Part B</i> , 2000 , 51, 343-51		460
226	Entropic forces between amphiphilic surfaces in liquids. <i>The Journal of Physical Chemistry</i> , 1992 , 96, 520-531		427

225	BIOLOGICAL ADHESIVES. Adaptive synergy between catechol and lysine promotes wet adhesion by surface salt displacement. <i>Science</i> , 2015 , 349, 628-32	33.3	410
224	Adhesion mechanisms of the mussel foot proteins mfp-1 and mfp-3. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 3782-6	11.5	409
223	Measurement of the viscosity of liquids in very thin films. <i>Journal of Colloid and Interface Science</i> , 1986 , 110, 263-271	9.3	368
222	Surface-initiated self-healing of polymers in aqueous media. <i>Nature Materials</i> , 2014 , 13, 867-72	27	361
221	Toughening elastomers using mussel-inspired iron-catechol complexes. <i>Science</i> , 2017 , 358, 502-505	33.3	329
220	Molecular layering of water in thin films between mica surfaces and its relation to hydration forces. <i>Journal of Colloid and Interface Science</i> , 1984 , 101, 511-523	9.3	326
219	Thin Film Rheology and Tribology of Confined Polymer Melts: Contrasts with Bulk Properties. <i>Macromolecules</i> , 1997 , 30, 2482-2494	5.5	322
218	Mussel protein adhesion depends on interprotein thiol-mediated redox modulation. <i>Nature Chemical Biology</i> , 2011 , 7, 588-90	11.7	312
217	Fundamental mechanisms of interfacial friction. 2. Stick-slip friction of spherical and chain molecules. <i>The Journal of Physical Chemistry</i> , 1993 , 97, 11300-11313		295
216	Fundamental experimental studies in tribology: The transition from interfacial friction of undamaged molecularly smooth surfaces to normal friction with wear. <i>Wear</i> , 1990 , 136, 65-83	3.5	288
215	Ionic liquids behave as dilute electrolyte solutions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 9674-9	11.5	287
214	The Contribution of DOPA to Substrate-Peptide Adhesion and Internal Cohesion of Mussel-Inspired Synthetic Peptide Films. <i>Advanced Functional Materials</i> , 2010 , 20, 4196-4205	15.6	280
213	Adhesion and friction mechanisms of polymer-on-polymer surfaces. <i>Science</i> , 2002 , 297, 379-82	33.3	244
212	Hydration or steric forces between amphiphilic surfaces?. <i>Langmuir</i> , 1990 , 6, 873-876	4	238
211	Adsorption, lubrication, and wear of lubricin on model surfaces: polymer brush-like behavior of a glycoprotein. <i>Biophysical Journal</i> , 2007 , 92, 1693-708	2.9	234
210	Direct measurement of a tethered ligand-receptor interaction potential. <i>Science</i> , 1997 , 275, 820-2	33.3	226
209	Contact angles on chemically heterogeneous surfaces. <i>Langmuir</i> , 1989 , 5, 288-289	4	226
208	Long range electrostatic forces in ionic liquids. <i>Chemical Communications</i> , 2017 , 53, 1214-1224	5.8	220

207	Adhesion of mussel foot proteins to different substrate surfaces. <i>Journal of the Royal Society Interface</i> , 2013 , 10, 20120759	4.1	208
206	Adhesion and short-range forces between surfaces. Part I: New apparatus for surface force measurements. <i>Journal of Materials Research</i> , 1990 , 5, 2223-2231	2.5	199
205	Adaptive hydrophobic and hydrophilic interactions of mussel foot proteins with organic thin films. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 15680-5	11.5	189
204	High-performance mussel-inspired adhesives of reduced complexity. <i>Nature Communications</i> , 2015 , 6, 8663	17.4	186
203	Viscosity and interfacial properties in a mussel-inspired adhesive coacervate. <i>Soft Matter</i> , 2010 , 6, 3232-3236	3.2	181
202	Formation of supported bilayers on silica substrates. <i>Langmuir</i> , 2009 , 25, 6997-7005	4	180
201	Adhesion of mussel foot protein-3 to TiO ₂ surfaces: the effect of pH. <i>Biomacromolecules</i> , 2013 , 14, 10726-9	6.9	177
200	Origin and Characterization of Different Stick-Slip Friction Mechanisms. <i>Langmuir</i> , 1996 , 12, 4559-4563	4	177
199	Direct Measurement of Polyethylene Glycol Induced Depletion Attraction between Lipid Bilayers. <i>Langmuir</i> , 1996 , 12, 3003-3014	4	176
198	Direct measurement of the effect of meniscus forces on adhesion: A study of the applicability of macroscopic thermodynamics to microscopic liquid interfaces. <i>Colloids and Surfaces</i> , 1981 , 3, 303-319		176
197	Hydrophobic enhancement of Dopa-mediated adhesion in a mussel foot protein. <i>Journal of the American Chemical Society</i> , 2013 , 135, 377-83	16.4	173
196	Tuning underwater adhesion with cation- π interactions. <i>Nature Chemistry</i> , 2017 , 9, 473-479	17.6	171
195	Adaptive mechanically controlled lubrication mechanism found in articular joints. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 5255-9	11.5	168
194	Molecular mechanisms and kinetics during the self-assembly of surfactant layers. <i>Journal of Colloid and Interface Science</i> , 1992 , 153, 244-265	9.3	158
193	Long-range electrostatic screening in ionic liquids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 7432-7	11.5	156
192	Adhesion of mussel foot protein Mefp-5 to mica: an underwater superglue. <i>Biochemistry</i> , 2012 , 51, 6511-82	3.2	155
191	Adhesion and Surface Interactions of a Self-Healing Polymer with Multiple Hydrogen-Bonding Groups. <i>Advanced Functional Materials</i> , 2014 , 24, 2322-2333	15.6	153
190	Developing a general interaction potential for hydrophobic and hydrophilic interactions. <i>Langmuir</i> , 2015 , 31, 2051-64	4	152

189	A mussel-derived one component adhesive coacervate. <i>Acta Biomaterialia</i> , 2014 , 10, 1663-70	10.8	147
188	Generalized effects in confined fluids: new friction map for boundary lubrication. <i>Wear</i> , 1996 , 200, 328-335		147
187	Effect of pH and salt on the adsorption and interactions of an amphoteric polyelectrolyte. <i>Macromolecules</i> , 1992 , 25, 5081-5088	5.5	141
186	Peel-Zone Model of Tape Peeling Based on the Gecko Adhesive System 2007 , 83, 383-401		138
185	Measuring forces and spatiotemporal evolution of thin water films between an air bubble and solid surfaces of different hydrophobicity. <i>ACS Nano</i> , 2015 , 9, 95-104	16.7	136
184	Effects of interfacial redox in mussel adhesive protein films on mica. <i>Advanced Materials</i> , 2011 , 23, 2362-64		131
183	Fundamental studies of crude oil surface water interactions and its relationship to reservoir wettability. <i>Journal of Petroleum Science and Engineering</i> , 2004 , 45, 61-81	4.4	125
182	An Underwater Surface-Drying Peptide Inspired by a Mussel Adhesive Protein. <i>Advanced Functional Materials</i> , 2016 , 26, 3496-3507	15.6	125
181	Forces and ionic transport between mica surfaces: implications for pressure solution. <i>Geochimica Et Cosmochimica Acta</i> , 2003 , 67, 1289-1304	5.5	123
180	Forces between Alumina Surfaces in Salt Solutions: Non-DLVO Forces and the Implications for Colloidal Processing. <i>Journal of the American Ceramic Society</i> , 1994 , 77, 437-443	3.8	121
179	Defining the Catechol-Cation Synergy for Enhanced Wet Adhesion to Mineral Surfaces. <i>Journal of the American Chemical Society</i> , 2016 , 138, 9013-6	16.4	116
178	Lubrication and wear properties of grafted polyelectrolytes, hyaluronan and hylan, measured in the surface forces apparatus. <i>Journal of Biomedical Materials Research Part B</i> , 2004 , 71, 6-15		115
177	Synergistic interactions between grafted hyaluronic acid and lubricin provide enhanced wear protection and lubrication. <i>Biomacromolecules</i> , 2013 , 14, 1669-77	6.9	112
176	Interaction forces and adhesion of supported myelin lipid bilayers modulated by myelin basic protein. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 3154-5	14.5	111
175	Friction and Adhesion Hysteresis of Fluorocarbon Surfactant Monolayer-Coated Surfaces Measured with the Surface Forces Apparatus. <i>Journal of Physical Chemistry B</i> , 1998 , 102, 234-244	3.4	111
174	The deformation and adhesion of randomly rough and patterned surfaces. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 11884-93	3.4	108
173	Adhesion and short-range forces between surfaces. Part II: Effects of surface lattice mismatch. <i>Journal of Materials Research</i> , 1990 , 5, 2232-2243	2.5	108
172	Surface forces and wettability. <i>Journal of Petroleum Science and Engineering</i> , 2002 , 33, 123-133	4.4	105

171	Liquid structuring at solid interfaces as probed by direct force measurements: The transition from simple to complex liquids and polymer fluids. <i>Journal of Chemical Physics</i> , 1988 , 88, 7162-7166	3.9	104
170	Gecko-Inspired Dry Adhesive for Robotic Applications. <i>Advanced Functional Materials</i> , 2011 , 21, 3010-3018	18.6	103
169	Recent advances in gecko adhesion and friction mechanisms and development of gecko-inspired dry adhesive surfaces. <i>Friction</i> , 2013 , 1, 114-129	5.6	102
168	Microphase Behavior and Enhanced Wet-Cohesion of Synthetic Copolyampholytes Inspired by a Mussel Foot Protein. <i>Journal of the American Chemical Society</i> , 2015 , 137, 9214-7	16.4	100
167	Adhesion and Friction of Polymer Surfaces: The Effect of Chain Ends. <i>Macromolecules</i> , 2005 , 38, 3491-3503	5.3	99
166	Adhesion and friction force coupling of gecko setal arrays: implications for structured adhesive surfaces. <i>Langmuir</i> , 2008 , 24, 1517-24	4	97
165	Molecular aspects of boundary lubrication by human lubricin: effect of disulfide bonds and enzymatic digestion. <i>Langmuir</i> , 2008 , 24, 1495-508	4	97
164	Relationship between adhesion and friction forces. <i>Journal of Adhesion Science and Technology</i> , 1994 , 8, 1231-1249	2	96
163	Adhesion mechanism in a DOPA-deficient foot protein from green mussels(). <i>Soft Matter</i> , 2012 , 8, 5640-5648	5.6	94
162	The electrochemical surface forces apparatus: the effect of surface roughness, electrostatic surface potentials, and anodic oxide growth on interaction forces, and friction between dissimilar surfaces in aqueous solutions. <i>Langmuir</i> , 2012 , 28, 13080-93	4	93
161	Dynamic Behavior of Confined Branched Hydrocarbon Lubricant Fluids under Shear. <i>Macromolecules</i> , 2000 , 33, 4910-4920	5.5	90
160	Very low viscosity at the solid-liquid interface induced by adsorbed C60 monolayers. <i>Nature</i> , 1996 , 382, 520-522	50.4	88
159	Interfacial pH during mussel adhesive plaque formation. <i>Biofouling</i> , 2015 , 31, 221-7	3.3	86
158	Dynamic phase transitions in confined lubricant fluids under shear. <i>Physical Review E</i> , 2001 , 63, 041506	2.4	84
157	Thin film rheology and lubricity of hyaluronic acid solutions at a normal physiological concentration. <i>Journal of Biomedical Materials Research Part B</i> , 2002 , 61, 514-23		80
156	Effects of Confinement and Shear on the Properties of Thin Films of Thermotropic Liquid Crystal. <i>Langmuir</i> , 1996 , 12, 6637-6650	4	80
155	Thin Film Morphology and Tribology Study of Mayonnaise. <i>Journal of Food Science</i> , 1997 , 62, 640-652	3.4	76
154	Microtribology and Direct Force Measurement of WS2 Nested Fullerene-Like Nanostructures. <i>Advanced Materials</i> , 1999 , 11, 934-937	24	76

153	Temperature and Time Effects on the Adhesion Dynamics of Poly(butyl methacrylate) (PBMA) Surfaces. <i>Langmuir</i> , 1998 , 14, 3873-3881	4	75
152	Duplicating Dynamic Strain-Stiffening Behavior and Nanomechanics of Biological Tissues in a Synthetic Self-Healing Flexible Network Hydrogel. <i>ACS Nano</i> , 2017 , 11, 11074-11081	16.7	73
151	Debye Length and Double-Layer Forces in Polyelectrolyte Solutions. <i>Macromolecules</i> , 2002 , 35, 2380-2385	3.5	72
150	Stick-slip friction and wear of articular joints. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E567-74	11.5	69
149	Adhesion and Friction of Polystyrene Surfaces around T _g . <i>Macromolecules</i> , 2006 , 39, 2350-2363	5.5	69
148	Role of nanometer roughness on the adhesion and friction of a rough polymer surface and a molecularly smooth mica surface. <i>Tribology Letters</i> , 2007 , 26, 191-201	2.8	68
147	Biomimetic Bidirectional Switchable Adhesive Inspired by the Gecko. <i>Advanced Functional Materials</i> , 2014 , 24, 574-579	15.6	67
146	Frictional adhesion of patterned surfaces and implications for gecko and biomimetic systems. <i>Langmuir</i> , 2009 , 25, 7486-95	4	67
145	The boundary lubrication of chemically grafted and cross-linked hyaluronic acid in phosphate buffered saline and lipid solutions measured by the surface forces apparatus. <i>Langmuir</i> , 2012 , 28, 2244-50	5	66
144	Correlation of AFM and SFA measurements concerning the stability of supported lipid bilayers. <i>Biophysical Journal</i> , 2004 , 86, 870-9	2.9	65
143	Part 1. Direct Measurement of Depletion Attraction and Thin Film Viscosity between Lipid Bilayers in Aqueous Polyethylene Glycol Solutions. <i>Macromolecules</i> , 1998 , 31, 8250-8257	5.5	65
142	Surface force measurements and simulations of mussel-derived peptide adhesives on wet organic surfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 4332-7	11.5	65
141	Bridging adhesion of mussel-inspired peptides: role of charge, chain length, and surface type. <i>Langmuir</i> , 2015 , 31, 1105-12	4	64
140	Gecko adhesion pad: a smart surface?. <i>Journal of Physics Condensed Matter</i> , 2009 , 21, 464132	1.8	63
139	Pressure solution: The importance of the electrochemical surface potentials. <i>Geochimica Et Cosmochimica Acta</i> , 2011 , 75, 6882-6892	5.5	62
138	Friction and adhesion of gecko-inspired PDMS flaps on rough surfaces. <i>Langmuir</i> , 2012 , 28, 11527-34	4	61
137	Role of tilted adhesion fibrils (setae) in the adhesion and locomotion of gecko-like systems. <i>Journal of Physical Chemistry B</i> , 2009 , 113, 3615-21	3.4	61
136	Origin of the contact angle hysteresis of water on chemisorbed and physisorbed self-assembled monolayers. <i>Langmuir</i> , 2012 , 28, 14609-17	4	59

135	Estimating the metal-ceramic van der Waals adhesion energy. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1997 , 76, 715-728		59
134	Thin Film Rheology and Tribology of Chocolate. <i>Journal of Food Science</i> , 1997 , 62, 767-812	3.4	59
133	Controlled microtribology of a metal oxide surface. <i>Tribology Letters</i> , 1998 , 4, 43-48	2.8	59
132	Effect of surface roughness and electrostatic surface potentials on forces between dissimilar surfaces in aqueous solution. <i>Advanced Materials</i> , 2011 , 23, 2294-9	24	58
131	Role of electrochemical reactions in pressure solution. <i>Geochimica Et Cosmochimica Acta</i> , 2009 , 73, 2862-2874	3.74	58
130	Surface chemical heterogeneity modulates silica surface hydration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 2890-2895	11.5	57
129	Peeling of a tape with large deformations and frictional sliding. <i>Journal of the Mechanics and Physics of Solids</i> , 2013 , 61, 1265-1279	5	54
128	Preparing contamination-free mica substrates for surface characterization, force measurements, and imaging. <i>Langmuir</i> , 2004 , 20, 3616-22	4	54
127	Time-Dependent Wetting Behavior of PDMS Surfaces with Bioinspired, Hierarchical Structures. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 8168-74	9.5	53
126	Asymmetric electrostatic and hydrophobic-hydrophilic interaction forces between mica surfaces and silicone polymer thin films. <i>ACS Nano</i> , 2013 , 7, 10094-104	16.7	53
125	Interfacial forces. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1992 , 10, 2961-2971	2.9	53
124	Normal and Shear Forces between Mica and Model Membrane Surfaces with Adsorbed Hyaluronan. <i>Macromolecules</i> , 2003 , 36, 9519-9526	5.5	51
123	Modulation of Hydrophobic Interaction by Mediating Surface Nanoscale Structure and Chemistry, not Monotonically by Hydrophobicity. <i>Angewandte Chemie - International Edition</i> , 2018 , 57, 11903-11908	16.4	50
122	Adhesion and coalescence of ductile metal surfaces and nanoparticles. <i>Acta Materialia</i> , 2003 , 51, 31-47	8.4	50
121	Measurements of dynamic interactions in thin films of polymer melts: The transition from simple to complex behavior. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1989 , 27, 489-502	2.6	50
120	Effects of Salinity on Oil Recovery (the Dilution Effect): Experimental and Theoretical Studies of Crude Oil/Brine/Carbonate Surface Restructuring and Associated Physicochemical Interactions. <i>Energy & Fuels</i> , 2017 , 31, 8925-8941	4.1	48
119	REVIEWS Effects of sub-nanogram (pico-scale) structure of surfaces on adhesion, friction, and bulk mechanical properties. <i>Journal of Materials Research</i> , 2005 , 20, 1952-1972	2.5	48
118	Part 2. Crossover from Depletion Attraction to Adsorption: Polyethylene Glycol Induced Electrostatic Repulsion between Lipid Bilayers. <i>Macromolecules</i> , 1998 , 31, 8258-8263	5.5	48

117	Lipid domains control myelin basic protein adsorption and membrane interactions between model myelin lipid bilayers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, E768-75	11.5	47
116	Significant Performance Enhancement of Polymer Resins by Bioinspired Dynamic Bonding. <i>Advanced Materials</i> , 2017 , 29, 1703026	24	45
115	New SFA techniques for studying surface forces and thin film patterns induced by electric fields. <i>Langmuir</i> , 2008 , 24, 1173-82	4	45
114	Simple-to-Apply Wetting Model to Predict Thermodynamically Stable and Metastable Contact Angles on Textured/Rough/Patterned Surfaces. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 5642-5656	3.8	44
113	Forces between surfaces across nanoparticle solutions: role of size, shape, and concentration. <i>Langmuir</i> , 2007 , 23, 3961-9	4	43
112	Structure in a confined smectic liquid crystal with competing surface and sample elasticities. <i>Physical Review Letters</i> , 1996 , 76, 1477-1480	7.4	43
111	Adhesion and Detachment Mechanisms between Polymer and Solid Substrate Surfaces: Using Polystyrene/Mica as a Model System. <i>Macromolecules</i> , 2016 , 49, 5223-5231	5.5	43
110	Hydrophobic forces, electrostatic steering, and acid-base bridging between atomically smooth self-assembled monolayers and end-functionalized PEGolated lipid bilayers. <i>Journal of the American Chemical Society</i> , 2012 , 134, 1746-53	16.4	42
109	Growth of ionic crystallites on exposed surfaces. <i>Journal of Colloid and Interface Science</i> , 1987 , 117, 576-577	5.7	41
108	Surface-induced patterns from evaporating droplets of aqueous carbon nanotube dispersions. <i>Langmuir</i> , 2011 , 27, 7163-7	4	40
107	Irreversibility, Energy Dissipation, and Time Effects in Intermolecular and Surface Interactions. <i>Israel Journal of Chemistry</i> , 1995 , 35, 85-91	3.4	40
106	Changes in pore morphology and fluid transport in compressed articular cartilage and the implications for joint lubrication. <i>Biomaterials</i> , 2008 , 29, 4455-62	15.6	39
105	Boronate complex formation with Dopa containing mussel adhesive protein retards ph-induced oxidation and enables adhesion to mica. <i>PLoS ONE</i> , 2014 , 9, e108869	3.7	39
104	Direct observation of shear-induced orientational phase coexistence in a lyotropic system using a modified x-ray surface forces apparatus. <i>Physical Review Letters</i> , 2001 , 86, 1263-6	7.4	38
103	Shear alignment of confined hydrocarbon liquid films. <i>Physical Review E</i> , 2002 , 66, 011705	2.4	38
102	Large deformations during the coalescence of fluid interfaces. <i>Physical Review Letters</i> , 2004 , 92, 024501	7.4	36
101	Nanoscale Mechanisms of Evaporation, Condensation and Nucleation in Confined Geometries. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 3534-3537	3.4	35
100	Shear-Induced Aggregation of Mammalian Synovial Fluid Components under Boundary Lubrication Conditions. <i>Advanced Functional Materials</i> , 2014 , 24, 3152-3161	15.6	34

99	Tribology of Shearing Polymer Surfaces. 2. Polymer (PnBMA) Sliding On Mica. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 7944-7950	3-4	34
98	Direct measurements of interactions and viscosity of crude oils in thin films between model clay surfaces. <i>Journal of Colloid and Interface Science</i> , 1987 , 119, 194-202	9-3	34
97	Communication: Contrasting effects of glycerol and DMSO on lipid membrane surface hydration dynamics and forces. <i>Journal of Chemical Physics</i> , 2016 , 145, 041101	3-9	34
96	Transient Surface Patterns and Instabilities at Adhesive Junctions of Viscoelastic Films. <i>Macromolecules</i> , 2007 , 40, 8409-8422	5-5	33
95	A multi-axis confocal rheoscope for studying shear flow of structured fluids. <i>Review of Scientific Instruments</i> , 2014 , 85, 033905	1-7	32
94	Static forces, structure and flow properties of complex fluids in highly confined geometries. <i>Annals of Biomedical Engineering</i> , 2005 , 33, 39-51	4-7	32
93	Peptide Length and Dopa Determine Iron-Mediated Cohesion of Mussel Foot Proteins. <i>Advanced Functional Materials</i> , 2015 , 25, 5840-5847	15.6	29
92	Mussel adhesive protein provides cohesive matrix for collagen type-1. <i>Biomaterials</i> , 2015 , 51, 51-57	15.6	29
91	Experimental investigation of the dissolution of quartz by a muscovite mica surface: Implications for pressure solution. <i>Journal of Geophysical Research</i> , 2006 , 111,		29
90	Confined fluids and their role in pressure solution. <i>Chemical Geology</i> , 2006 , 230, 220-231	4-2	29
89	Temperature dependence of solvation forces. <i>Journal of Chemical Physics</i> , 1984 , 80, 4566-4567	3-9	29
88	Effects of molecular weight of grafted hyaluronic acid on wear initiation. <i>Acta Biomaterialia</i> , 2014 , 10, 1817-23	10.8	28
87	Friction at the liquid/liquid interface of two immiscible polymer films. <i>Langmuir</i> , 2009 , 25, 4954-64	4	28
86	Limit Cycles in Dynamic Adhesion and Friction Processes: A Discussion 2006 , 82, 933-943		28
85	Thickness and refractive index measurements using multiple beam interference fringes (FECO). <i>Journal of Colloid and Interface Science</i> , 2003 , 264, 548-53	9-3	28
84	Putting liquids under molecular-scale confinement. <i>Science</i> , 2001 , 292, 867-8	33-3	28
83	Mussel Coating Protein-Derived Complex Coacervates Mitigate Frictional Surface Damage. <i>ACS Biomaterials Science and Engineering</i> , 2015 , 1, 1121-1128	5-5	27
82	Dehydro-Dopa: A Hidden Participant in Mussel Adhesion. <i>Biochemistry</i> , 2016 , 55, 743-50	3-2	27

81	Stick-slip friction of gecko-mimetic flaps on smooth and rough surfaces. <i>Journal of the Royal Society Interface</i> , 2015 , 12, 20141346	4.1	27
80	Influence of Humidity on Grip and Release Adhesion Mechanisms for Gecko-Inspired Microfibrillar Surfaces. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 14497-14505	9.5	25
79	Impact of Molecular Architecture and Adsorption Density on Adhesion of Mussel-Inspired Surface Primers with Catechol-Cation Synergy. <i>Journal of the American Chemical Society</i> , 2019 , 141, 18673-18681	16.4	25
78	Adhesion and hemifusion of cytoplasmic myelin lipid membranes are highly dependent on the lipid composition. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2012 , 1818, 402-10	3.8	25
77	Microtribology of Aqueous Carbon Nanotube Dispersions. <i>Advanced Functional Materials</i> , 2011 , 21, 4555-4564	15.6	25
76	Effects of Time and Compression on the Interactions of Adsorbed Polystyrene Layers in a Near-Solvent. <i>Macromolecules</i> , 1997 , 30, 3329-3339	5.5	25
75	Transient surface patterns during adhesion and coalescence of thin liquid films. <i>Soft Matter</i> , 2006 , 3, 88-93	3.6	25
74	Adsorption and Interaction Forces of Micellar and Microemulsion Solutions in Ultrathin Films. <i>Langmuir</i> , 1998 , 14, 891-898	4	25
73	Direct methods for measuring conformational water forces (hydration forces) between membrane and other surfaces. <i>Methods in Enzymology</i> , 1986 , 127, 353-60	1.7	25
72	Correlating steric hydration forces with water dynamics through surface force and diffusion NMR measurements in a lipid-DMSO-H ₂ O system. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 10708-13	11.5	24
71	Frictional properties of surfactant-coated rod-shaped nanoparticles in dry and humid dodecane. <i>Journal of Physical Chemistry B</i> , 2008 , 112, 14395-401	3.4	24
70	Differences between non-specific and bio-specific, and between equilibrium and non-equilibrium, interactions in biological systems. <i>Quarterly Reviews of Biophysics</i> , 2005 , 38, 331-7	7	24
69	Adsorption of Dipolar (Zwitterionic) Surfactants to Dipolar Surfaces. <i>Langmuir</i> , 1996 , 12, 4111-4115	4	24
68	Measurements of conformational changes during adhesion of lipid and protein (polylysine and S-layer) surfaces. <i>Biotechnology and Bioengineering</i> , 1993 , 42, 167-77	4.9	24
67	Measurements of the Effect of Angular Lattice Mismatch on the Adhesion Energy Between two Mica Surfaces in Water. <i>Materials Research Society Symposia Proceedings</i> , 1988 , 138, 349		24
66	In situ imaging of shearing contacts in the surface forces apparatus. <i>Wear</i> , 2000 , 245, 190-195	3.5	23
65	Direct measurement of double-layer, van der Waals, and polymer depletion attraction forces between supported cationic bilayers. <i>Langmuir</i> , 2010 , 26, 14458-65	4	22
64	Real-time intermembrane force measurements and imaging of lipid domain morphology during hemifusion. <i>Nature Communications</i> , 2015 , 6, 7238	17.4	21

63	JKR theory for the stick-slip peeling and adhesion hysteresis of gecko mimetic patterned surfaces with a smooth glass surface. <i>Langmuir</i> , 2013 , 29, 15006-12	4	21
62	3D force and displacement sensor for SFA and AFM measurements. <i>Langmuir</i> , 2008 , 24, 1541-9	4	21
61	The x-ray surface forces apparatus for simultaneous x-ray diffraction and direct normal and lateral force measurements. <i>Review of Scientific Instruments</i> , 2002 , 73, 2486-2488	1.7	21
60	In situ nano- to microscopic imaging and growth mechanism of electrochemical dissolution (e.g., corrosion) of a confined metal surface. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 9541-9546	11.5	20
59	Antioxidant efficacy and adhesion rescue by a recombinant mussel foot protein-6. <i>Biotechnology Progress</i> , 2013 , 29, 1587-93	2.8	20
58	Comment on reassessment of solidification in fluids confined between mica sheets. <i>Langmuir</i> , 2006 , 22, 2397-8; discussion 2399-401	4	20
57	Liquid- to Solid-Like Failure Mechanism of Thin Polymer Films at Micro- and Nanoscales. <i>Macromolecules</i> , 2010 , 43, 538-542	5.5	19
56	Simple peptide coacervates adapted for rapid pressure-sensitive wet adhesion. <i>Soft Matter</i> , 2017 , 13, 9122-9131	3.6	18
55	Measurements of anisotropic (off-axis) friction-induced motion. <i>Advanced Materials</i> , 2012 , 24, 5236-41	24	18
54	Crystallization in thin liquid films induced by shear. <i>Journal of Physical Chemistry B</i> , 2005 , 109, 12509-14	3.4	18
53	Surface Forces and Nanorheology of Molecularly Thin Films 2011 , 107-202		18
52	Tough coating proteins: subtle sequence variation modulates cohesion. <i>Biomacromolecules</i> , 2015 , 16, 1002-8	6.9	17
51	Brief history of intermolecular and intersurface forces in complex fluid systems. <i>Langmuir</i> , 2013 , 29, 9604-19	4	17
50	The Crowding Model as a Tool to Understand and Fabricate Gecko-Inspired Dry Adhesives 2009 , 85, 512-525		17
49	Triple Function Lubricant Additives Based on Organic-Inorganic Hybrid Star Polymers: Friction Reduction, Wear Protection, and Viscosity Modification. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 1363-1375	9.5	17
48	Interactions and visualization of bio-mimetic membrane detachment at smooth and nano-rough gold electrode surfaces. <i>Soft Matter</i> , 2013 , 9, 5231	3.6	16
47	Adsorption mechanism of myelin basic protein on model substrates and its bridging interaction between the two surfaces. <i>Langmuir</i> , 2015 , 31, 3159-66	4	15
46	Transient interfacial patterns and instabilities associated with liquid film adhesion and spreading. <i>Langmuir</i> , 2007 , 23, 6126-35	4	15

45	Real-Time Monitoring of Aluminum Crevice Corrosion and Its Inhibition by Vanadates with Multiple Beam Interferometry in a Surface Forces Apparatus. <i>Journal of the Electrochemical Society</i> , 2015 , 162, C327-C332	3.9	14
44	Friction and tribochemical reactions occurring at shearing interfaces of nanothin silver films on various substrates. <i>Journal of Chemical Physics</i> , 2006 , 124, 174703	3.9	14
43	Structure under confinement in a smectic-A and lyotropic surfactant hexagonal phase. <i>Physica B: Condensed Matter</i> , 1996 , 221, 289-295	2.8	14
42	Rates of cavity filling by liquids. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 8070-8075	11.5	13
41	Contact Angle and Adhesion Dynamics and Hysteresis on Molecularly Smooth Chemically Homogeneous Surfaces. <i>Langmuir</i> , 2017 , 33, 10041-10050	4	13
40	Adhesion and detachment mechanisms of sugar surfaces from the solid (glassy) to liquid (viscous) states. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 19624-19629	11.5	13
39	Generic Substrate for the Surface Forces Apparatus: Deposition and Characterization of Silicon Nitride Surfaces. <i>Langmuir</i> , 2000 , 16, 6955-6960	4	13
38	The intersection of interfacial forces and electrochemical reactions. <i>Journal of Physical Chemistry B</i> , 2013 , 117, 16369-87	3.4	12
37	Simulation of edge facilitated adsorption and critical concentration induced rupture of vesicles at a surface. <i>Soft Matter</i> , 2013 , 9, 8420	3.6	12
36	Correlated Diffusivities, Solubilities, and Hydrophobic Interactions in Ternary Polydimethylsiloxane/Water/Tetrahydrofuran Mixtures. <i>Macromolecules</i> , 2016 , 49, 6910-6917	5.5	12
35	Time-Dependent Physicochemical Changes of Carbonate Surfaces from SmartWater (Diluted Seawater) Flooding Processes for Improved Oil Recovery. <i>Langmuir</i> , 2019 , 35, 41-50	4	12
34	Effects of Surfactants and Polyelectrolytes on the Interaction between a Negatively Charged Surface and a Hydrophobic Polymer Surface. <i>Langmuir</i> , 2015 , 31, 8013-21	4	11
33	Role of Electrochemical Surface Potential and Irradiation on Garnet-Type Almandine Dissolution Kinetics. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 17268-17277	3.8	11
32	Interaction of adsorbed polymers with supported cationic bilayers. <i>RSC Advances</i> , 2013 , 3, 20405	3.7	11
31	Measurements of Static and Dynamic Interactions of Molecularly Thin Liquid Films Between Solid Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 1988 , 140, 79		11
30	Surface Forces and Nanorheology of Molecularly Thin Films 2007 , 859-924		10
29	Clumping Criteria of Vertical Nanofibers on Surfaces. <i>Advanced Materials Interfaces</i> , 2015 , 2, 1400466	4.6	9
28	Surface Forces and Nanorheology of Molecularly Thin Films 2008 , 417-515		9

27	Interaction Forces between Supported Lipid Bilayers in the Presence of PEGylated Polymers. <i>Biomacromolecules</i> , 2016 , 17, 88-97	6.9	8
26	Multimodal Miniature Surface Forces Apparatus (BFA) for Interfacial Science Measurements. <i>Langmuir</i> , 2019 , 35, 15500-15514	4	8
25	The role of interparticle and external forces in nanoparticle assembly 2009 , 38-49		8
24	On the conformational state of molecules in molecularly thin shearing films. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, E4973	11.5	7
23	Modulation of Hydrophobic Interaction by Mediating Surface Nanoscale Structure and Chemistry, not Monotonically by Hydrophobicity. <i>Angewandte Chemie</i> , 2018 , 130, 12079-12084	3.6	7
22	Lubrication and Wear Protection of Natural (Bio)Systems 2013 , 83-133		7
21	Surface Forces and Nanorheology of Molecularly Thin Films 2010 , 857-922		7
20	Ultra-Smooth, Chemically Functional Silica Surfaces for Surface Interaction Measurements and Optical/Interferometry-Based Techniques. <i>Advanced Engineering Materials</i> , 2018 , 20, 1700630	3.5	6
19	Adhesives: Biomimetic Bidirectional Switchable Adhesive Inspired by the Gecko (Adv. Funct. Mater. 5/2014). <i>Advanced Functional Materials</i> , 2014 , 24, 573-573	15.6	6
18	Transient filamentous network structure of a colloidal suspension excited by stepwise electric fields. <i>Physical Review E</i> , 2007 , 75, 011409	2.4	6
17	Isothermal Stimulation of Mineral Dissolution Processes by Acoustic Perturbation. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 28665-28673	3.8	6
16	Dynamics of force generation by confined actin filaments. <i>Soft Matter</i> , 2013 , 9, 2389	3.6	5
15	Measurement and Characterization of Resonance Friction at High Sliding Speeds in a Model Automotive Wet Clutch. <i>Tribology Letters</i> , 2011 , 43, 185-195	2.8	5
14	Electrochemically Enhanced Dissolution of Silica and Alumina in Alkaline Environments. <i>Langmuir</i> , 2019 , 35, 15651-15660	4	4
13	Hydrophobic, electrostatic, and dynamic polymer forces at silicone surfaces modified with long-chain bolaform surfactants. <i>Small</i> , 2015 , 11, 2058-68	11	4
12	Automated Measurement of Spatially Resolved Hair-Hair Single Fiber Adhesion. <i>Langmuir</i> , 2019 , 35, 15614-15627	14	37
11	Surface Damage Influences the JKR Contact Mechanics of Glassy Low-Molecular-Weight Polystyrene Films. <i>Langmuir</i> , 2019 , 35, 15674-15680	4	2
10	Surface Forces and Nanorheology of Molecularly Thin Films. <i>Springer Handbooks</i> , 2017 , 935-985	1.3	2

9	Millimeter size patch behavior of gecko-inspired reversible adhesive 2011 ,		2
8	The shape and dynamics of deformations of viscoelastic fluids by water droplets. <i>Journal of Colloid and Interface Science</i> , 2020 , 580, 776-784	9.3	2
7	Surface Forces and Nanorheology of Molecularly Thin Films 2017 , 457-518		1
6	Nanofibers: Clumping Criteria of Vertical Nanofibers on Surfaces (Adv. Mater. Interfaces 5/2015). <i>Advanced Materials Interfaces</i> , 2015 , 2,	4.6	1
5	Mineral Dissolution under Electric Stimulation. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 16515-16523	3.8	1
4	Nanometer-Scale Force Profiles of Short Single- and Double-Stranded DNA Molecules on a Gold Surface Measured Using a Surface Forces Apparatus. <i>Langmuir</i> , 2021 , 37, 13346-13352	4	1
3	Characterizing Dynamic, High-Frequency Friction in Lubricating Complex-Fluid Thin Films Between Viscoelastic Surfaces. <i>Tribology Letters</i> , 2018 , 66, 1	2.8	1
2	Structure and Forces in Transfection Related Surfactant Systems. <i>Materials Research Society Symposia Proceedings</i> , 1997 , 489, 19		
1	Effects of Large Load and Shear Rate Variations on the Friction of a Branched Hydrocarbon Liquid. <i>Materials Research Society Symposia Proceedings</i> , 2002 , 750, 1		