Viola Vogel

List of Publications by Year
in descending order

233 papers	20,678 citations	8181 76 h-index	11308 136 g-index
249 all docs	249 docs citations	249 times ranked	20143 citing authors

#	Article	IF	Citations
1	Local force and geometry sensing regulate cell functions. Nature Reviews Molecular Cell Biology, 2006, 7, 265-275.	37.0	2,034
2	Extracellular-matrix tethering regulates stem-cell fate. Nature Materials, 2012, 11, 642-649.	27.5	1,346
3	Unfolding of Titin Immunoglobulin Domains by Steered Molecular Dynamics Simulation. Biophysical Journal, 1998, 75, 662-671.	0.5	658
4	Bacterial Adhesion to Target Cells Enhanced by Shear Force. Cell, 2002, 109, 913-923.	28.9	533
5	MECHANOTRANSDUCTION INVOLVING MULTIMODULAR PROTEINS: Converting Force into Biochemical Signals. Annual Review of Biophysics and Biomolecular Structure, 2006, 35, 459-488.	18.3	397
6	Force-Induced Unfolding of Fibronectin in the Extracellular Matrix of Living Cells. PLoS Biology, 2007, 5, e268.	5.6	362
7	Fibronectin extension and unfolding within cell matrix fibrils controlled by cytoskeletal tension. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5139-5143.	7.1	327
8	Light-Controlled Molecular Shuttles Made from Motor Proteins Carrying Cargo on Engineered Surfaces. Nano Letters, 2001, 1, 235-239.	9.1	313
9	Biophysics of Catch Bonds. Annual Review of Biophysics, 2008, 37, 399-416.	10.0	297
10	Mechanical forces regulate the interactions of fibronectin and collagen I in extracellular matrix. Nature Communications, 2015, 6, 8026.	12.8	256
11	Local surface potentials and electric dipole moments of lipid monolayers: Contributions of the water/lipid and the lipid/air interfaces. Journal of Colloid and Interface Science, 1988, 126, 408-420.	9.4	254
12	Forced unfolding of the fibronectin type III module reveals a tensile molecular recognition switch. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 1351-1356.	7.1	251
13	Cell fate regulation by coupling mechanical cycles to biochemical signaling pathways. Current Opinion in Cell Biology, 2009, 21, 38-46.	5.4	248
14	Structural Basis for Mechanical Force Regulation of the Adhesin FimH via Finger Trap-like Î² Sheet Twisting. Cell, 2010, 141, 645-655.	28.9	239
15	Powering Nanodevices with Biomolecular Motors. Chemistry - A European Journal, 2004, 10, 2110-2116.	3.3	234
16	Fibronectin forms the most extensible biological fibers displaying switchable force-exposed cryptic binding sites. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18267-18272.	7.1	230
17	Shear-dependent â€˜stick-and-rollâ€™ adhesion of type 1 fimbriated Escherichia coli. Molecular Microbiology, 2004, 53, 1545-1557.	2.5	225
18	Harnessing biological motors to engineer systems for nanoscale transport and assembly. Nature Nanotechnology, 2008, 3, 465-475.	31.5	216

#	Article	IF	Citations
19	Micro-well arrays for 3D shape control and high resolution analysis of single cells. Lab on A Chip, 2007, 7, 1074.	6.0	199
20	Molecular shuttles based on motor proteins: active transport in synthetic environments. Reviews in Molecular Biotechnology, 2001, 82, 67-85.	2.8	190
21	FimH Forms Catch Bonds That Are Enhanced by Mechanical Force Due to Allosteric Regulation. Journal of Biological Chemistry, 2008, 283, 11596-11605.	3.4	190
22	The role of filopodia in the recognition of nanotopographies. Scientific Reports, 2013, 3, 1658.	3.3	189
23	Structure and functional significance of mechanically unfolded fibronectin type III1 intermediates. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 14784-14789.	7.1	187
24	Optimization strategies for electrospun silk fibroin tissue engineering scaffolds. Biomaterials, 2009, 30, 3058-3067.	11.4	185
25	Influence of the fiber diameter and surface roughness of electrospun vascular grafts on blood activation. Acta Biomaterialia, 2012, 8, 4349-4356.	8.3	185
26	Interferometric optical detection and tracking of very small gold nanoparticles at a water-glass interface. Optics Express, 2006, 14, 405.	3.4	181
27	How the headpiece hinge angle is opened: new insights into the dynamics of integrin activation. Journal of Cell Biology, 2006, 175, 349-360.	5.2	181
28	SPARC Regulates Extracellular Matrix Organization through Its Modulation of Integrin-linked Kinase Activity. Journal of Biological Chemistry, 2005, 280, 36483-36493.	3.4	179
29	Coexisting conformations of fibronectin in cell culture imaged using fluorescence resonance energy transfer. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 14464-14468.	7.1	177
30	Catch-Bond Model Derived from Allostery Explains Force-Activated Bacterial Adhesion. Biophysical Journal, 2006, 90, 753-764.	0.5	176
31	Bistable Expression of Virulence Genes in Salmonella Leads to the Formation of an Antibiotic-Tolerant Subpopulation. PLoS Biology, 2014, 12, e1001928.	5.6	172
32	Catch-Bond Mechanism of Force-Enhanced Adhesion: Counterintuitive, Elusive, but â€¦ Widespread?. Cell Host and Microbe, 2008, 4, 314-323.	11.0	169
33	Spatial confinement downsizes the inflammatory response of macrophages. Nature Materials, 2018, 17, 1134-1144.	27.5	167
34	Molecular Self-Assembly of â€œNanowiresâ€•and â€œNanospoolsâ€•Using Active Transport. Nano Letters, 2005, 5, 629-633.	9.1	165
35	Binding-Activated Localization Microscopy of DNA Structures. Nano Letters, 2011, 11, 4008-4011.	9.1	165
36	Nanopillar force measurements reveal actin-cap-mediated YAP mechanotransduction. Nature Cell Biology, 2018, 20, 262-271.	10.3	160

#	Article	IF	Citations
37	Identifying Unfolding Intermediates of FN-III10 by Steered Molecular Dynamics. Journal of Molecular Biology, 2002, 323, 939-950.	4.2	159
38	A structural model for force regulated integrin binding to fibronectin's RGD-synergy site. Matrix Biology, 2002, 21, 139-147.	3.6	158
39	Unraveling the Mechanobiology of Extracellular Matrix. Annual Review of Physiology, 2018, 80, 353-387.	13.1	158
40	New PI(4,5)P2- and membrane proximal integrinâ€"binding motifs in the talin head control Î²3-integrin clustering. Journal of Cell Biology, 2009, 187, 715-731.	5.2	153
41	Probing Cellular Traction Forces by Micropillar Arrays: Contribution of Substrate Warping to Pillar Deflection. Nano Letters, 2010, 10, 1823-1830.	9.1	153
42	Mechanobiology of Macrophages: How Physical Factors Coregulate Macrophage Plasticity and Phagocytosis. Annual Review of Biomedical Engineering, 2019, 21, 267-297.	12.3	148
43	Molecular shuttles: directed motion of microtubules along nanoscale kinesin tracks. Nanotechnology, 1999, 10, 232-236.	2.6	145
44	How Force Might Activate Talin's Vinculin Binding Sites: SMD Reveals a Structural Mechanism. PLoS Computational Biology, 2008, 4, e24.	3.2	145
45	Mechanisms of Microtubule Guiding on Microfabricated Kinesin-Coated Surfaces:Â Chemical and Topographic Surface Patterns. Langmuir, 2003, 19, 10967-10974.	3.5	143
46	Differential basal-to-apical accessibility of laminÂA/C epitopes in the nuclear lamina regulated by changes in cytoskeletal tension. Nature Materials, 2015, 14, 1252-1261.	27.5	142
47	Hydrated polar groups in lipid monolayers: Effective local dipole moments and dielectric properties. Thin Solid Films, 1988, 159, 73-81.	1.8	135
48	Molecular Shuttles Operating Undercover:Â A New Photolithographic Approach for the Fabrication of Structured Surfaces Supporting Directed Motility. Nano Letters, 2003, 3, 1651-1655.	9.1	135
49	The Tissue Engineering Puzzle: A Molecular Perspective. Annual Review of Biomedical Engineering, 2003, 5, 441-463.	12.3	132
50	Selective Loading of Kinesin-Powered Molecular Shuttles with Protein Cargo and its Application to Biosensing. Small, 2006, 2, 330-334.	10.0	129
51	Structural changes of fibronectin adsorbed to model surfaces probed by fluorescence resonance energy transfer. Journal of Biomedical Materials Research Part B, 2004, 69A, 525-534.	3.1	128
52	Comparison of the early stages of forced unfolding for fibronectin type III modules. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 5590-5595.	7.1	125
53	Analysis of Microtubule Guidance in Open Microfabricated Channels Coated with the Motor Protein Kinesinâ€. Langmuir, 2003, 19, 1738-1744.	3.5	117
54	Uncoiling Mechanics of Escherichia coli Type I Fimbriae Are Optimized for Catch Bonds. PLoS Biology, 2006, 4, e298.	5.6	117

#	Article	IF	Citations
55	Motor-protein â€œroundaboutsâ€: Microtubules moving on kinesin-coated tracks through engineered networks. Lab on A Chip, 2004, 4, 83-86.	6.0	115
56	Interdomain Interaction in the FimH Adhesin of Escherichia coli Regulates the Affinity to Mannose. Journal of Biological Chemistry, 2007, 282, 23437-23446.	3.4	115
57	The role of the interplay between polymer architecture and bacterial surface properties on the microbial adhesion to polyoxazoline-based ultrathin films. Biomaterials, 2010, 31, 9462-9472.	11.4	114
58	Lateral phase separation in interfacial films of pulmonary surfactant. Biophysical Journal, 1996, 71, 2583-2590.	0.5	110
59	Near Surface Swimming of Salmonella Typhimurium Explains Target-Site Selection and Cooperative Invasion. PLoS Pathogens, 2012, 8, e1002810.	4.7	109
60	The Yin-Yang of Rigidity Sensing: How Forces and Mechanical Properties Regulate the Cellular Response to Materials. Annual Review of Materials Research, 2013, 43, 589-618.	9.3	106
61	Assay to mechanically tune and optically probe fibrillar fibronectin conformations from fully relaxed to breakage. Matrix Biology, 2008, 27, 451-461.	3.6	103
62	Tensile forces drive a reversible fibroblast-to-myofibroblast transition during tissue growth in engineered clefts. Science Advances, 2018, 4, eaao4881.	10.3	102
63	Surface Imaging by Self-Propelled Nanoscale Probes. Nano Letters, 2002, 2, 113-116.	9.1	100
64	Phase Separation in Monolayers of Pulmonary Surfactant Phospholipids at the Airâ€“Water Interface: Composition and Structure. Biophysical Journal, 1999, 77, 2051-2061.	0.5	98
65	Tuning the Mechanical Stability of Fibronectin Type III Modules through Sequence Variations. Structure, 2004, 12, 21-30.	3.3	98
66	Nogo-A is a negative regulator of CNS angiogenesis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1943-52.	7.1	95
67	Fibronectin in aging extracellular matrix fibrils is progressively unfolded by cells and elicits an enhanced rigidity response. Faraday Discussions, 2008, 139, 229.	3.2	92
68	Stretching fibronectin fibres disrupts binding of bacterial adhesins by physically destroying an epitope. Nature Communications, 2010, 1, 135.	12.8	92
69	The Race to the Pole: How High-Aspect Ratio Shape and Heterogeneous Environments Limit Phagocytosis of Filamentous Escherichia coli Bacteria by Macrophages. Nano Letters, 2012, 12, 2901-2905.	9.1	92
70	Cargo pick-up from engineered loading stations by kinesin driven molecular shuttles. Lab on A Chip, 2007, 7, 1263.	6.0	91
71	Molecular architecture of native fibronectin fibrils. Nature Communications, 2015, 6, 7275.	12.8	90
72	A Piconewton Forcemeter Assembled from Microtubules and Kinesins. Nano Letters, 2002, 2, 1113-1115.	9.1	89

#	Article	IF	Citations
73	Self-assembly of fibronectin into fibrillar networks underneath dipalmitoyl phosphatidylcholine monolayers: Role of lipid matrix and tensile forces. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 12518-12523.	7.1	86
74	Discrepancy between Phase Behavior of Lung Surfactant Phospholipids and the Classical Model of Surfactant Function. Biophysical Journal, 2001, 81, 2172-2180.	0.5	83
75	Dimensionality Controls Cytoskeleton Assembly and Metabolism of Fibroblast Cells in Response to Rigidity and Shape. PLoS ONE, 2010, 5, e9445.	2.5	83
76	Liquid-Crystalline Collapse of Pulmonary Surfactant Monolayers. Biophysical Journal, 2003, 84, 3792-3806.	0.5	81
77	Catch Bond-mediated Adhesion without a Shear Threshold. Journal of Biological Chemistry, 2006, 281, 16656-16663.	3.4	77
78	Mesenchymal Stem Cells Exploit Extracellular Matrix as Mechanotransducer. Scientific Reports, 2013, 3, 2425.	3.3	77
79	Spatial distribution of cellâ€“cell and cellâ€“ECM adhesions regulates force balance while mainÂtaining E-cadherin molecular tension in cell pairs. Molecular Biology of the Cell, 2015, 26, 2456-2465.	2.1	77
80	Two-dimensional protein crystallization via metal-ion coordination by naturally occurring surface histidines.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 4937-4941.	7.1	76
81	Structural Insights into How the MIDAS Ion Stabilizes Integrin Binding to an RGD Peptide under Force. Structure, 2004, 12, 2049-2058.	3.3	75
82	Macrophages lift off surface-bound bacteria using a filopodium-lamellipodium hook-and-shovel mechanism. Scientific Reports, 2013, 3, 2884.	3.3	75
83	Force-induced fibronectin assembly and matrix remodeling in a 3D microtissue model of tissue morphogenesis. Integrative Biology (United Kingdom), 2012, 4, 1164.	1.3	74
84	Structural insights into the mechanical regulation of molecular recognition sites. Trends in Biotechnology, 2001, 19, 416-423.	9.3	73
85	Lifetime of biomolecules in polymer-based hybrid nanodevices. Nanotechnology, 2004, 15, S540-S548.	2.6	72
86	Extracellular Phosphorylation and Phosphorylated Proteins: Not Just Curiosities But Physiologically Important. Science Signaling, 2012, 5, re7.	3.6	72
87	Assessing the Role of Interfacial Electrostatics in Oriented Mineral Nucleation at Charged Organic Monolayers. Journal of Physical Chemistry B, 1997, 101, 10821-10827.	2.6	71
88	Surface potentials and electric dipole moments of ganglioside and phospholipid monolayers: contribution of the polar headgroup at the water/lipid interface. Biochimica Et Biophysica Acta - Biomembranes, 1989, 984, 293-300.	2.6	67
89	Twoâ€dimensional crystal structure of single Langmuirâ€“Blodgett films deposited on noble metal single crystals studied with LEED. Journal of Chemical Physics, 1986, 84, 5200-5204.	3.0	65
90	Weak Rolling Adhesion Enhances Bacterial Surface Colonization. Journal of Bacteriology, 2007, 189, 1794-1802.	2.2	65

#	Article	IF	Citations
91	Adenoviral vector with shield and adapter increases tumor specificity and escapes liver and immune control. Nature Communications, 2018, 9, 450.	12.8	65
92	Ratchet patterns sort molecular shuttles. Applied Physics A: Materials Science and Processing, 2002, 75, 309-313.	2.3	64
93	Reorganization of bipolar lipid molecules in monolayers at the air/water interface. Thin Solid Films, 1985, 132, 205-219.	1.8	61
94	Two-Dimensional Crystallization of Streptavidin Studied by Quantitative Brewster Angle Microscopy. Langmuir, 1996, 12, 1312-1320.	3.5	61
95	Engineered networks of oriented microtubule filaments for directed cargo transport. Soft Matter, 2007, 3, 349-356.	2.7	60
96	Integrin-like Allosteric Properties of the Catch Bond-forming FimH Adhesin of Escherichia coli. Journal of Biological Chemistry, 2008, 283, 7823-7833.	3.4	60
97	Integrin Activation Dynamics between the RGD-binding Site and the Headpiece Hinge. Journal of Biological Chemistry, 2009, 284, 36557-36568.	3.4	60
98	Elevated Shear Stress Protects Escherichia coli Cells Adhering to Surfaces via Catch Bonds from Detachment by Soluble Inhibitors. Applied and Environmental Microbiology, 2006, 72, 3005-3010.	3.1	58
99	Crosslinking of cell-derived 3D scaffolds up-regulates the stretching and unfolding of new extracellular matrix assembled by reseeded cells. Integrative Biology (United Kingdom), 2009, 1, 635.	1.3	58
100	â€œSmart dustâ€•biosensors powered by biomolecular motors. Lab on A Chip, 2009, 9, 1661.	6.0	58
101	Probing the proton excess at interfaces by second harmonic generation. Chemical Physics Letters, 1989, 163, 555-559.	2.6	57
102	Improved Side Chain Dynamics in MARTINI Simulations of Proteinâ€"Lipid Interfaces. Journal of Chemical Theory and Computation, 2016, 12, 2446-2458.	5.3	54
103	Nonfouling Surface Coatings Based on Poly(2-methyl-2-oxazoline). Chimia, 2008, 62, 264.	0.6	53
104	Molecular shuttles powered by motor proteins: loading and unloading stations for nanocargo integrated into one device. Lab on A Chip, 2010, 10, 2195.	6.0	52
105	Oriented growth of calcium oxalate monohydrate crystals beneath phospholipid monolayers. Biochimica Et Biophysica Acta - General Subjects, 1998, 1380, 31-45.	2.4	51
106	Nanoscale Topographic Instabilities of a Phospholipid Monolayer. Journal of Physical Chemistry B, 2000, 104, 7388-7393.	2.6	50
107	Disentangling the multifactorial contributions of fibronectin, collagen and cyclic strain on MMP expression and extracellular matrix remodeling by fibroblasts. Matrix Biology, 2014, 40, 62-72.	3.6	49
108	Robotically controlled microprey to resolve initial attack modes preceding phagocytosis. Science Robotics, 2017, 2, .	17.6	49

#	Article	IF	Citations
109	Transcatheter based electromechanical mapping guided intramyocardial transplantation and inÂvivo tracking of human stem cell based three dimensional microtissues in the porcine heart. Biomaterials, 2013, 34, 2428-2441.	11.4	48
110	How type 1 fimbriae help Escherichia coli to evade extracellular antibiotics. Scientific Reports, 2016, 6, 18109.	3.3	47
111	Elastic and surgeon friendly electrospun tubes delivering PDGF-BB positively impact tendon rupture healing in a rabbit Achilles tendon model. Biomaterials, 2020, 232, 119722.	11.4	46
112	An Engineered Mannoside Presenting Platform: <i>Escherichia coli</i> Adhesion under Static and Dynamic Conditions. Advanced Functional Materials, 2008, 18, 1459-1469.	14.9	45
113	Engineered Lipids That Cross-Link the Inner and Outer Leaflets of Lipid Bilayers. Langmuir, 2004, 20, 2416-2423.	3.5	42
114	Stretched Extracellular Matrix Proteins Turn Fouling and Are Functionally Rescued by the Chaperones Albumin and Casein. Nano Letters, 2009, 9, 4158-4167.	9.1	42
115	Fiberâ€Assisted Molding (FAM) of Surfaces with Tunable Curvature to Guide Cell Alignment and Complex Tissue Architecture. Small, 2014, 10, 4851-4857.	10.0	41
116	A Catch-Bond Based Nanoadhesive Sensitive to Shear Stress. Nano Letters, 2004, 4, 1593-1597.	9.1	40
117	Interference with the contractile machinery of the fibroblastic chondrocyte cytoskeleton induces re-expression of the cartilage phenotype through involvement of PI3K, PKC and MAPKs. Experimental Cell Research, 2014, 320, 175-187.	2.6	39
118	Cell sheet mechanics: How geometrical constraints induce the detachment of cell sheets from concave surfaces. Acta Biomaterialia, 2016, 45, 85-97.	8.3	38
119	Site-Specifically-Labeled Antibodies for Super-Resolution Microscopy Reveal <i>In Situ</i> Linkage Errors. ACS Nano, 2021, 15, 12161-12170.	14.6	38
120	Microfabricated three-dimensional environments for single cell studies. Biointerphases, 2006, 1, P1-P4.	1.6	37
121	Gradual conversion of cellular stress patterns into pre-stressed matrix architecture during <i>in vitro</i> tissue growth. Journal of the Royal Society Interface, 2016, 13, 20160136.	3.4	37
122	Molecular monolayers of chargeâ€transfer complexes: Protonation and aggregation studied by second harmonic generation. Journal of Chemical Physics, 1991, 94, 2315-2323.	3.0	36
123	Single molecule fluorescence studies of surface-adsorbed fibronectin. Biomaterials, 2006, 27, 679-690.	11.4	35
124	Bioactive, Elastic, and Biodegradable Emulsion Electrospun DegraPol Tube Delivering PDGFâ€BB for Tendon Rupture Repair. Macromolecular Bioscience, 2016, 16, 1048-1063.	4.1	34
125	Sequential switch of biomineral crystal morphology using trivalent ions. Nature Materials, 2004, 3, 239-243.	27.5	31
126	Novel peptide probes to assess the tensional state of fibronectin fibers in cancer. Nature Communications, 2017, 8, 1793.	12.8	31

#	Article	IF	Citations
127	Incorporation of fluorescent molecules and proteins into calcium oxalate monohydrate single crystals. Journal of Crystal Growth, 2001, 233, 380-388.	1.5	29
128	Bacterial filamentation accelerates colonization of adhesive spots embedded in biopassive surfaces. New Journal of Physics, 2013, 15, 125016.	2.9	29
129	Synergistic interactions of blood-borne immune cells, fibroblasts and extracellular matrix drive repair in an in vitro peri-implant wound healing model. Scientific Reports, 2016, 6, 21071.	3.3	29
130	The cysteine bond in the <i>Escherichia coli</i> FimH adhesin is critical for adhesion under flow conditions. Molecular Microbiology, 2007, 65, 1158-1169.	2.5	28
131	Structural Insights How PIP2 Imposes Preferred Binding Orientations of FAK at Lipid Membranes. Journal of Physical Chemistry B, 2017, 121, 3523-3535.	2.6	28
132	Safety and efficacy of cardiopoietic stem cells in the treatment of post-infarction left-ventricular dysfunction â€“ From cardioprotection to functional repair in a translational pig infarction model. Biomaterials, 2017, 122, 48-62.	11.4	28
133	Morphometric analysis of spread platelets identifies integrin Î±IIbÎ²3-specific contractile phenotype. Scientific Reports, 2018, 8, 5428.	3.3	28
134	Fibers with Integrated Mechanochemical Switches: Minimalistic Design Principles Derived from Fibronectin. Biophysical Journal, 2012, 103, 1909-1918.	0.5	27
135	Nanoscale invaginations of the nuclear envelope: Shedding new light on wormholes with elusive function. Nucleus, 2017, 8, 506-514.	2.2	27
136	Nanopore Diameters Tune Strain in Extruded Fibronectin Fibers. Nano Letters, 2015, 15, 6357-6364.	9.1	26
137	Mechanical Stretching of Fibronectin Fibers Upregulates Binding of Interleukin-7. Nano Letters, 2018, 18, 15-25.	9.1	26
138	Fibrillar fibronectin plays a key role as nucleator of collagen I polymerization during macromolecular crowding-enhanced matrix assembly. Biomaterials Science, 2019, 7, 4519-4535.	5.4	26
139	Influence of subphase conditions on the properties of Langmuir-Blodgett films from substituted phthalocyaninato-polysiloxanes. Thin Solid Films, 1990, 188, 341-353.	1.8	25
140	Molecular Basis for Ionic Strength Dependence and Crystal Morphology in Two-Dimensional Streptavidin Crystallization. Langmuir, 1998, 14, 4683-4687.	3.5	25
141	Covalent Coupling and Characterization of Supported Lipid Layers. Langmuir, 2003, 19, 8316-8324.	3.5	25
142	GFP's Mechanical Intermediate States. PLoS ONE, 2012, 7, e46962.	2.5	25
143	Resilience of bacterial quorum sensing against fluid flow. Scientific Reports, 2016, 6, 33115.	3.3	25
144	Tissue transglutaminase in fibrosis â€" more than an extracellular matrix cross-linker. Current Opinion in Biomedical Engineering, 2019, 10, 156-164.	3.4	25

#	Article	IF	Citations
145	What do nonlinear optical techniques have to offer the biosciences?. Current Opinion in Colloid and Interface Science, 1996, 1, 257-263.	7.4	24
146	Spatially patterned static roughness superimposed on thermal roughness in a condensed phospholipid monolayer. Physical Review E, 2000, 62, 6831-6837.	2.1	24
147	Tuning the â€œRoadblockâ€• Effect in Kinesin-Based Transport. Nano Letters, 2012, 12, 3466-3471.	9.1	24
148	Maturation of Filopodia Shaft Adhesions Is Upregulated by Local Cycles of Lamellipodia Advancements and Retractions. PLoS ONE, 2014, 9, e107097.	2.5	24
149	Heparin-induced conformational changes of fibronectin within the extracellular matrix promote hMSC osteogenic differentiation. Biomaterials Science, 2015, 3, 73-84.	5.4	24
150	Probing the structure of the adsorption layer of soluble amphiphilic molecules at the air/water interface. Langmuir, 1991, 7, 1222-1224.	3.5	23
151	Fibronectin conformational changes induced by adsorption to liposomes. Journal of Controlled Release, 2005, 101, 209-222.	9.9	23
152	Beyond Induced-Fit Receptor-Ligand Interactions: Structural Changes that Can Significantly Extend Bond Lifetimes. Structure, 2008, 16, 1047-1058.	3.3	23
153	Intramyocardial Transplantation and Tracking of Human Mesenchymal Stem Cells in a Novel Intra-Uterine Pre-Immune Fetal Sheep Myocardial Infarction Model: A Proof of Concept Study. PLoS ONE, 2013, 8, e57759.	2.5	23
154	Simple agarose micro-confinement array and machine-learning-based classification for analyzing the patterned differentiation of mesenchymal stem cells. PLoS ONE, 2017, 12, e0173647.	2.5	22
155	Journal club. Nature, 2010, 463, 591-591.	27.8	21
156	Full-Length Fibronectin Drives Fibroblast Accumulation at the Surface of Collagen Microtissues during Cell-Induced Tissue Morphogenesis. PLoS ONE, 2016, 11, e0160369.	2.5	21
157	Global modulation in DNA epigenetics during pro-inflammatory macrophage activation. Epigenetics, 2019, 14, 1183-1193.	2.7	21
158	Different Vinculin Binding Sites Use the Same Mechanism to Regulate Directional Force Transduction. Biophysical Journal, 2020, 118, 1344-1356.	0.5	21
159	Supporting Cell-Based Tendon Therapy: Effect of PDGF-BB and Ascorbic Acid on Rabbit Achilles Tenocytes In Vitro. International Journal of Molecular Sciences, 2020, 21, 458.	4.1	21
160	Nanoconfinement of microvilli alters gene expression and boosts T cell activation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	21
161	Structure and dynamics of deposited lipid monolayers: Low energy electron diffraction and scattering of thermal energy helium atoms. Thin Solid Films, 1988, 159, 429-434.	1.8	20
162	Light scattering microscopy from monolayers and nanoparticles at the air/water interface. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2000, 171, 75-86.	4.7	20

#	Article	IF	Citations
163	Using Mesoscopic Models to Design Strong and Tough Biomimetic Polymer Networks. Langmuir, 2011, 27, 13796-13805.	3.5	20
164	Engineering Mechanosensitive Multivalent Receptorâ€“Ligand Interactions: Why the Nanolinker Regions of Bacterial Adhesins Matter. Nano Letters, 2012, 12, 5162-5168.	9.1	20
165	Control of interfacial equilibria by local charge distribution and average surface potential. Thin Solid Films, 1989, 178, 53-60.	1.8	19
166	Resonance of transverse capillary and longitudinal waves as a tool for monolayer investigations at the air-water interface. Langmuir, 1989, 5, 129-133.	3.5	19
167	Surface density of soluble surfactants at the air/water interface: Adsorption equilibrium studied by second harmonic generation. Journal of Chemical Physics, 1991, 95, 4620-4625.	3.0	19
168	Electron Crystallographic Analysis of Two-Dimensional Streptavidin Crystals Coordinated to Metal-Chelated Lipid Monolayers. Biophysical Journal, 1998, 74, 2674-2679.	0.5	19
169	Covalent Cargo Loading to Molecular Shuttles via Copper-free â€œClick Chemistryâ€. Biomacromolecules, 2012, 13, 3908-3911.	5.4	19
170	Clot-entrapped blood cells in synergy with human mesenchymal stem cells create a pro-angiogenic healing response. Biomaterials Science, 2017, 5, 2009-2023.	5.4	19
171	Fibronectin fibers are highly tensed in healthy organs in contrast to tumors and virus-infected lymph nodes. Matrix Biology Plus, 2020, 8, 100046.	3.5	19
172	Preclinical Development of ¹⁸F-OF-NB1 for Imaging GluN2B-Containing <i>N</i>-Methyl-d-Aspartate Receptors and Its Utility as a Biomarker for Amyotrophic Lateral Sclerosis. Journal of Nuclear Medicine, 2021, 62, 259-265.	5.0	19
173	Nanoshuttles propelled by motor proteins sequentially assemble molecular cargo in a microfluidic device. Lab on A Chip, 2014, 14, 3729-3738.	6.0	18
174	A Simple Modification Method to Obtain Anisotropic and Porous 3D Microfibrillar Scaffolds for Surgical and Biomedical Applications. Small, 2018, 14, 1702650.	10.0	18
175	Computer Modeling of Force-Induced Titin Domain Unfolding. Advances in Experimental Medicine and Biology, 2000, 481, 143-162.	1.6	18
176	Near UV optical second harmonic generation studies of surfaceâ€adsorbed tryptophan residues. Journal of Chemical Physics, 1995, 103, 3140-3144.	3.0	17
177	Bionic jellyfish. Nature Materials, 2012, 11, 841-842.	27.5	17
178	An ultra-small fluid oscillation unit for pumping driven by self-organized three-dimensional bridging of pulsatile cardiomyocytes on elastic micro-piers. Sensors and Actuators B: Chemical, 2019, 293, 256-264.	7.8	17
179	Mechano-chromic proteinâ€“polymer hybrid hydrogel to visualize mechanical strain. Soft Matter, 2019, 15, 9388-9393.	2.7	17
180	A Pulsatile Flow System to Engineer Aneurysm and Atherosclerosis Mimetic Extracellular Matrix. Advanced Science, 2020, 7, 2000173.	11.2	17

#	Article	IF	Citations
181	Catch bonds. Current Biology, 2012, 22, R823-R825.	3.9	16
182	Ectokinases as novel cancer markers and drug targets in cancer therapy. Cancer Medicine, 2015, 4, 404-414.	2.8	16
183	Phosphorylated fibronectin enhances cell attachment and upregulates mechanical cell functions. PLoS ONE, 2019, 14, e0218893.	2.5	16
184	Walking the Line: A Fibronectin Fiber-Guided Assay to Probe Early Steps of (Lymph)angiogenesis. PLoS ONE, 2015, 10, e0145210.	2.5	16
185	What Future Will We Choose for Physics?. Physics Today, 1995, 48, 25-30.	0.3	15
186	Role of N- and C-Terminal Amino Acids in Two-Dimensional Streptavidin Crystal Formation. Langmuir, 2000, 16, 5199-5204.	3.5	15
187	Reverse Engineering: Learning from Proteins How to Enhance the Performance of Synthetic Nanosystems. MRS Bulletin, 2002, 27, 972-978.	3.5	15
188	Conformational distribution of surface-adsorbed fibronectin molecules explored by single molecule localization microscopy. Biomaterials Science, 2014, 2, 883.	5.4	15
189	Liquid-crystal alignment on polytetrafluoroethylene and high-density polyethylene thin films studied by optical second-harmonic generation. Journal of Applied Physics, 1998, 83, 5195-5202.	2.5	14
190	In Situ Analysis of Europium Calcium Oxalate Crystallization Using Luminescence Microspectroscopy. Journal of Physical Chemistry B, 1999, 103, 3411-3416.	2.6	14
191	The ultrastructure of fibronectin fibers pulled from a protein monolayer at the air-liquid interface and the mechanism of the sheet-to-fiber transition. Biomaterials, 2015, 36, 66-79.	11.4	14
192	Stretchable Silver Nanowire Microelectrodes for Combined Mechanical and Electrical Stimulation of Cells. Advanced Healthcare Materials, 2016, 5, 2045-2054.	7.6	14
193	Dynamics of two-dimensional protein crystallization at the air/water interface: streptavidin targetted to surfaces via high-affinity binding or metal coordination. Supramolecular Science, 1997, 4, 163-171.	0.7	13
194	Two-dimensional crystallization of streptavidin: in pursuit of the molecular origins of structure, morphology, and thermodynamics. New Biotechnology, 1999, 16, 29-38.	2.7	12
195	Binding and two-dimensional crystallization of streptavidin at the air/water interface via engineered Cu-IDA chelator lipids. Coordination Chemistry Reviews, 1999, 183, 3-18.	18.8	12
196	The talinâ€“integrin interface under mechanical stress. Molecular BioSystems, 2014, 10, 3217-3228.	2.9	12
197	Fluorescence-based <i>in situ</i> assay to probe the viability and growth kinetics of surface-adhering and suspended recombinant bacteria. Biointerphases, 2013, 8, 22.	1.6	11
198	Impact of UV sterilization and short term storage on the in vitro release kinetics and bioactivity of biomolecules from electrospun scaffolds. Scientific Reports, 2019, 9, 15117.	3.3	11

#	Article	IF	Citations
199	Platelets drive fibronectin fibrillogenesis using integrin Î±IIbÎ²3. Science Advances, 2022, 8, eabj8331.	10.3	11
200	Fibronectin in a Surface-Adsorbed State. ACS Symposium Series, 1995, , 505-518.	0.5	8
201	Nanosensors and particles: a technology frontier with pitfalls. Journal of Nanobiotechnology, 2019, 17, 111.	9.1	8
202	Molecular Basis for Asymmetrical Growth in Two-Dimensional Streptavidin Crystals. Langmuir, 2002, 18, 7447-7451.	3.5	7
203	Functional Modification of Fibronectin by Nâ€Terminal FXIIIaâ€Mediated Transamidation. ChemBioChem, 2014, 15, 1481-1486.	2.6	7
204	Patterning of supported lipid bilayers and proteins using material selective nitrodopamine-mPEG. Biomaterials Science, 2015, 3, 94-102.	5.4	7
205	Effects of Interfacial Binding Kinetics on Two-Dimensional Streptavidin Crystallization. Langmuir, 1999, 15, 7125-7129.	3.5	5
206	Integrating dual-color imaging capability into a monochromator. Review of Scientific Instruments, 2004, 75, 266-269.	1.3	4
207	Three-dimensional, automated magnetic biomanipulation with subcellular resolution. , 2013, , .		4
208	Multiple Steps to Activate FAKâ€™s Kinase Domain: Adaptation to Confined Environments?. Biophysical Journal, 2013, 104, 2521-2529.	0.5	4
209	A gonogenic stimulated transition of mouse embryonic stem cells with enhanced control of diverse differentiation pathways. Scientific Reports, 2016, 6, 25104.	3.3	4
210	Laser spectroscopical investigation of atomic sodium kept at defined distances from Au(111) single crystal surfaces via Langmuirâ€“Blodgett films. Journal of Chemical Physics, 1989, 90, 6805-6807.	3.0	3
211	Exploiting fluorescence resonance energy transfer to probe structural changes in a macromolecule during adsorption and incorporation into a growing biomineral crystal. Colloids and Surfaces B: Biointerfaces, 2009, 74, 401-409.	5.0	3
212	PIP2-induced membrane binding of the Vinculin tail competes with its other binding partners. Biophysical Journal, 2021, 120, 4608-4622.	0.5	3
213	Engineering solutions for biological studies of flow-exposed endothelial cells on orbital shakers. PLoS ONE, 2022, 17, e0262044.	2.5	3
214	Molecular assemblies at liquid interfaces probed by optical second-harmonic generation. , 1993, , .		2
215	Shrunk to nano: The secrete language of mechanical communication. , 2010, , .		2
216	<title>Nonlinear optical characterization of aromatic amino acids at the air/water interface: intrinsic probes of protein ordering on surfaces</title>. , 1994, 2125, 59.		1

#	Article	IF	Citations
217	Surface Imaging by Self-propelled Nanoscale Probes. Microscopy and Microanalysis, 2002, 8, 1092-1093.	0.4	1
218	Angular-Resolved ESCA Studies of Cadmium Arachidate Monolayers on Si (100): Inelastic Mean-Free Path and Depth Profile Analysis. Materials Research Society Symposia Proceedings, 1992, 292, 115.	0.1	0
219	<title>Investigation of interfacial peptide-lipid interactions by optical second harmonic generation from tryptophan</title>. , 1995, 2547, 371.		0
220	Powering Nanodevices with Biomolecular Motors. ChemInform, 2004, 35, no.	0.0	0
221	Translating Mechanical Force into Discrete Biochemical Signal Changes. , 0, , 286-338.		0
222	How Mechanical Forces Can Switch On and Off Protein and Cell Binding Sites. Biophysical Journal, 2010, 98, 211a.	0.5	0
223	10th Anniversary Issue: Switzerland. Lab on A Chip, 2010, 10, 2190.	6.0	0
224	Binding-Activated Localization Microscopy of DNA Structures. Biophysical Journal, 2012, 102, 419a.	0.5	0
225	Proteins as Mechano-Chemical Signalling Switches. Biophysical Journal, 2013, 104, 5a.	0.5	0
226	How Cells Exploit Forces to Sense and Respond to their Environments. Biophysical Journal, 2014, 106, 3a.	0.5	0
227	Fundamental and Practical Limits for the Localization Precision in the Presence of Shot Noise from other Emitters. Biophysical Journal, 2014, 106, 797a.	0.5	0
228	Agarose micro-cast for the patterned differentiation of mesenchymal stem cells. , 2016, , .		0
229	An ensemble of agarose microwells and AI for understanding hMSC differentiation patterns. , 2017, , .		0
230	Membrane Binding and Dimerization of Vinculin Tail. Biophysical Journal, 2018, 114, 276a.	0.5	0
231	Can mechanical force regulate the functional display of the extracellular matrix and initiate integrin activation?. FASEB Journal, 2007, 21, A91.	0.5	0
232	Motor Proteins in Synthetic Materials and Devices. , 2008, , 2484-2492.		0
233	Differentiation of mouse embryonic stem cells into cells with spermatogonia-like morphology with chemical intervention-dependent increased gene expression of LIM homeobox 1 (Lhx1). Stem Cell Research, 2022, 61, 102780.	0.7	0