Dennis E Discher

List of Publications by Year
in descending order

287 papers	61,469 citations	3731 89 h-index	893 242 g-index
301 all docs	301 docs citations	301 times ranked	50263 citing authors

#	Article	IF	Citations
1	Matrix Elasticity Directs Stem Cell Lineage Specification. Cell, 2006, 126, 677-689.	28.9	11,769
2	Tissue Cells Feel and Respond to the Stiffness of Their Substrate. Science, 2005, 310, 1139-1143.	12.6	5,376
3	Polymer Vesicles. Science, 2002, 297, 967-973.	12.6	3,444
4	Polymersomes: Tough Vesicles Made from Diblock Copolymers. Science, 1999, 284, 1143-1146.	12.6	2,369
5	Growth Factors, Matrices, and Forces Combine and Control Stem Cells. Science, 2009, 324, 1673-1677.	12.6	2,351
6	Shape effects of filaments versus spherical particles in flow and drug delivery. Nature Nanotechnology, 2007, 2, 249-255.	31.5	2,296
7	Nuclear Lamin-A Scales with Tissue Stiffness and Enhances Matrix-Directed Differentiation. Science, 2013, 341, 1240104.	12.6	1,595
8	Myotubes differentiate optimally on substrates with tissue-like stiffness. Journal of Cell Biology, 2004, 166, 877-887.	5.2	1,501
9	Mesenchymal stem cell perspective: cell biology to clinical progress. Npj Regenerative Medicine, 2019, 4, 22.	5.2	1,113
10	Mitotic progression following DNA damage enables pattern recognition within micronuclei. Nature, 2017, 548, 466-470.	27.8	1,042
11	Bio-inspired, bioengineered and biomimetic drug delivery carriers. Nature Reviews Drug Discovery, 2011, 10, 521-535.	46.4	1,038
12	Substrate Compliance versus Ligand Density in Cell on Gel Responses. Biophysical Journal, 2004, 86, 617-628.	0.5	1,005
13	Minimal "Self" Peptides That Inhibit Phagocytic Clearance and Enhance Delivery of Nanoparticles. Science, 2013, 339, 971-975.	12.6	809
14	POLYMERSOMES. Annual Review of Biomedical Engineering, 2006, 8, 323-341.	12.3	779
15	Embryonic cardiomyocytes beat best on a matrix with heart-like elasticity: scar-like rigidity inhibits beating. Journal of Cell Science, 2008, 121, 3794-3802.	2.0	773
16	Physical plasticity of the nucleus in stem cell differentiation. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15619-15624.	7.1	735
17	Self-porating polymersomes of PEGâ€"PLA and PEGâ€"PCL: hydrolysis-triggered controlled release vesicles. Journal of Controlled Release, 2004, 96, 37-53.	9.9	608
18	Mesenchymal stem cell injection after myocardial infarction improves myocardial compliance. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H2196-H2203.	3.2	593

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19	Nuclear lamin stiffness is a barrier to 3D migration, but softness can limit survival. Journal of Cell Biology, 2014, 204, 669-682.	5.2	512
20	Biodegradable polymersomes loaded with both paclitaxel and doxorubicin permeate and shrink tumors, inducing apoptosis in proportion to accumulated drug. Journal of Controlled Release, 2006, 116, 150-158.	9.9	507
21	Molecular Weight Dependence of Polymersome Membrane Structure, Elasticity, and Stability. Macromolecules, 2002, 35, 8203-8208.	4.8	505
22	Polymer vesicles in vivo: correlations with PEG molecular weight. Journal of Controlled Release, 2003, 90, 323-334.	9.9	488
23	Temperature-Controlled Assembly and Release from Polymer Vesicles of Poly(ethylene oxide)-block-poly(N-isopropylacrylamide). Advanced Materials, 2006, 18, 2905-2909.	21.0	456
24	Highly cited research articles in Journal of Controlled Release: Commentaries and perspectives by authors. Journal of Controlled Release, 2014, 190, 29-74.	9.9	394
25	Preparation, stability, and in vitro performance of vesicles made with diblock copolymers. Biotechnology and Bioengineering, 2001, 73, 135-145.	3.3	384
26	Inhibition of â€œselfâ€•engulfment through deactivation of myosin-II at the phagocytic synapse between human cells. Journal of Cell Biology, 2008, 180, 989-1003.	5.2	379
27	The nuclear envelope lamina network has elasticity and a compressibility limit suggestive of a molecular shock absorber. Journal of Cell Science, 2004, 117, 4779-4786.	2.0	376
28	Emerging applications of polymersomes in delivery: From molecular dynamics to shrinkage of tumors. Progress in Polymer Science, 2007, 32, 838-857.	24.7	351
29	Cell responses to the mechanochemical microenvironmentâ€"Implications for regenerative medicine and drug deliveryâ˜†. Advanced Drug Delivery Reviews, 2007, 59, 1329-1339.	13.7	351
30	Matrix elasticity, cytoskeletal forces and physics of the nucleus: how deeply do cells â€˜feelâ€™ outside and in?. Journal of Cell Science, 2010, 123, 297-308.	2.0	349
31	Polymersome carriers: From self-assembly to siRNA and protein therapeutics. European Journal of Pharmaceutics and Biopharmaceutics, 2009, 71, 463-474.	4.3	348
32	Multiscale Mechanics of Fibrin Polymer: Gel Stretching with Protein Unfolding and Loss of Water. Science, 2009, 325, 741-744.	12.6	346
33	Self-assembly and properties of diblock copolymers by coarse-grain molecular dynamics. Nature Materials, 2004, 3, 638-644.	27.5	340
34	Forced Unfolding of Proteins Within Cells. Science, 2007, 317, 663-666.	12.6	335
35	Simulations of the Erythrocyte Cytoskeleton at Large Deformation. II. Micropipette Aspiration. Biophysical Journal, 1998, 75, 1584-1597.	0.5	332
36	Matrix Elasticity Regulates Lamin-A,C Phosphorylation and Turnover with Feedback to Actomyosin. Current Biology, 2014, 24, 1909-1917.	3.9	320

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37	Surface probe measurements of the elasticity of sectioned tissue, thin gels and polyelectrolyte multilayer films: Correlations between substrate stiffness and cell adhesion. Surface Science, 2004, 570, 142-154.	1.9	305
38	Shrinkage of a Rapidly Growing Tumor by Drug-Loaded Polymersomes:Â pH-Triggered Release through Copolymer Degradation. Molecular Pharmaceutics, 2006, 3, 340-350.	4.6	305
39	Mechanosensing by the nucleus: From pathways to scaling relationships. Journal of Cell Biology, 2017, 216, 305-315.	5.2	301
40	Power-Law Rheology of Isolated Nuclei with Deformation Mapping of Nuclear Substructures. Biophysical Journal, 2005, 89, 2855-2864.	0.5	293
41	Spotted vesicles, striped micelles and Janus assemblies induced by ligand binding. Nature Materials, 2009, 8, 843-849.	27.5	283
42	How deeply cells feel: methods for thin gels. Journal of Physics Condensed Matter, 2010, 22, 194116.	1.8	264
43	Flexible Filaments for <i>in Vivo</i> Imaging and Delivery: Persistent Circulation of Filomicelles Opens the Dosage Window for Sustained Tumor Shrinkage. Molecular Pharmaceutics, 2009, 6, 1343-1352.	4.6	259
44	Micelles of Different Morphologiesâ€"Advantages of Worm-like Filomicelles of PEO-PCL in Paclitaxel Delivery. Pharmaceutical Research, 2007, 24, 2099-2109.	3.5	258
45	Hydrolytic Degradation of Poly(ethylene oxide)-block-Polycaprolactone Worm Micelles. Journal of the American Chemical Society, 2005, 127, 12780-12781.	13.7	255
46	Cross-linked Polymersome Membranes:â€‰ Vesicles with Broadly Adjustable Properties. Journal of Physical Chemistry B, 2002, 106, 2848-2854.	2.6	249
47	Crawling from soft to stiff matrix polarizes the cytoskeleton and phosphoregulates myosin-II heavy chain. Journal of Cell Biology, 2012, 199, 669-683.	5.2	249
48	Indentation and Adhesive Probing of a Cell Membrane with AFM: Theoretical Model and Experiments. Biophysical Journal, 2005, 89, 3203-3213.	0.5	241
49	DNA Damage Follows Repair Factor Depletion and Portends Genome Variation in Cancer Cells after Pore Migration. Current Biology, 2017, 27, 210-223.	3.9	239
50	Elasticity of Native and Cross-Linked Polyelectrolyte Multilayer Films. Biomacromolecules, 2004, 5, 1908-1916.	5.4	223
51	Mechanosensing by the Lamina Protects against Nuclear Rupture, DNA Damage, and Cell-Cycle Arrest. Developmental Cell, 2019, 49, 920-935.e5.	7.0	217
52	Polymer vesicles in various media. Current Opinion in Colloid and Interface Science, 2000, 5, 125-131.	7.4	204
53	Polymeric worm micelles as nano-carriers for drug delivery. Nanotechnology, 2005, 16, S484-S491.	2.6	191
54	Stem Cell Differentiation is Regulated by Extracellular Matrix Mechanics. Physiology, 2018, 33, 16-25.	3.1	191

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55	Dissipative Particle Dynamics Simulations of Polymersomes. Journal of Physical Chemistry B, 2005, 109, 17708-17714.	2.6	185
56	Heart-Specific Stiffening in Early Embryos Parallels Matrix and Myosin Expression to Optimize Beating. Current Biology, 2013, 23, 2434-2439.	3.9	176
57	Matrix Strains Induced by Cells: Computing How Far Cells Can Feel. Cellular and Molecular Bioengineering, 2009, 2, 39-48.	2.1	172
58	The nuclear lamina is mechano-responsive to ECM elasticity in mature tissue. Journal of Cell Science, 2014, 127, 3005-15.	2.0	170
59	Biomechanics: Cell Research and Applications for the Next Decade. Annals of Biomedical Engineering, 2009, 37, 847-859.	2.5	169
60	Polymersome delivery of siRNA and antisense oligonucleotides. Journal of Controlled Release, 2009, 134, 132-140.	9.9	167
61	Cooperativity in Forced Unfolding of Tandem Spectrin Repeats. Biophysical Journal, 2003, 84, 533-544.	0.5	166
62	Lamins regulate cell trafficking and lineage maturation of adult human hematopoietic cells. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18892-18897.	7.1	165
63	Simulations of the Erythrocyte Cytoskeleton at Large Deformation. I. Microscopic Models. Biophysical Journal, 1998, 75, 1573-1583.	0.5	163
64	Adhesively-Tensed Cell Membranes: Lysis Kinetics and Atomic Force Microscopy Probing. Biophysical Journal, 2003, 85, 2746-2759.	0.5	163
65	Matrix Elasticity, Cytoskeletal Tension, and TGF-Î²: The Insoluble and Soluble Meet. Science Signaling, 2008, 1, pe13.	3.6	159
66	Microtissue Elasticity: Measurements by Atomic Force Microscopy and Its Influence on Cell Differentiation. Methods in Cell Biology, 2007, 83, 521-545.	1.1	158
67	Mechanotransduction in cancer. Current Opinion in Chemical Engineering, 2016, 11, 77-84.	7.8	138
68	Nanoparticle Shape Improves Delivery: Rational Coarse Grain Molecular Dynamics (rCGâ€MD) of Taxol in Wormâ€Like PEGâ€PCL Micelles. Advanced Materials, 2012, 24, 3823-3830.	21.0	136
69	Species- and cell type-specific interactions between CD47 and human SIRPÎ±. Blood, 2006, 107, 2548-2556.	1.4	135
70	Forced Unfolding of Coiled-Coils in Fibrinogen by Single-Molecule AFM. Biophysical Journal, 2007, 92, L39-L41.	0.5	134
71	Nuclear rupture at sites of high curvature compromises retention of DNA repair factors. Journal of Cell Biology, 2018, 217, 3796-3808.	5.2	134
72	Targeted Worm Micelles. Biomacromolecules, 2004, 5, 1714-1719.	5.4	128

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73	Cell rigidity and shape override CD47â€™s â€œselfâ€•signaling in phagocytosis by hyperactivating myosin-II. Blood, 2015, 125, 542-552.	1.4	122
74	Self inhibition of phagocytosis: The affinity of â€˜marker of selfâ€™ CD47 for SIRPÎ± dictates potency of inhibition but only at low expression levels. Blood Cells, Molecules, and Diseases, 2010, 45, 67-74.	1.4	121
75	From Membranes to Melts, Rouse to Reptation:Â Diffusion in Polymersome versus Lipid Bilayers. Macromolecules, 2002, 35, 323-326.	4.8	120
76	Contractile Forces Sustain and Polarize Hematopoiesis from Stem and Progenitor Cells. Cell Stem Cell, 2014, 14, 81-93.	11.1	114
77	Curvature-Coupled Hydration of Semicrystalline Polymer Amphiphiles Yields flexible Worm Micelles but Favors Rigid Vesicles: Polycaprolactone-Based Block Copolymers. Macromolecules, 2010, 43, 9736-9746.	4.8	111
78	Grafting Short Peptides onto Polybutadiene-block-poly(ethylene oxide): A Platform for Self-Assembling Hybrid Amphiphiles. Angewandte Chemie - International Edition, 2006, 45, 7578-7581.	13.8	108
79	Fractal heterogeneity in minimal matrix models of scars modulates stiff-niche stem-cell responses via nuclear exit of a mechanorepressor. Nature Materials, 2015, 14, 951-960.	27.5	108
80	Visualizing Worm Micelle Dynamics and Phase Transitions of a Charged Diblock Copolymer in Water. Journal of Physical Chemistry B, 2005, 109, 3772-3779.	2.6	107
81	Visualization of degradable worm micelle breakdown in relation to drug release. Polymer, 2006, 47, 2519-2525.	3.8	107
82	Hyaluronic acid matrices show matrix stiffness in 2D and 3D dictates cytoskeletal order and myosin-II phosphorylation within stem cells. Integrative Biology (United Kingdom), 2012, 4, 422.	1.3	107
83	Deformation-Enhanced Fluctuations in the Red Cell Skeleton with Theoretical Relations to Elasticity, Connectivity, and Spectrin Unfolding. Biophysical Journal, 2001, 81, 3178-3192.	0.5	106
84	Single Molecule Visualization of Stable, Stiffness-Tunable, Flow-Conforming Worm Micelles. Macromolecules, 2003, 36, 6873-6877.	4.8	105
85	Osmotic Challenge Drives Rapid and Reversible Chromatin Condensation in Chondrocytes. Biophysical Journal, 2013, 104, 759-769.	0.5	105
86	Nuclear constriction segregates mobile nuclear proteins away from chromatin. Molecular Biology of the Cell, 2016, 27, 4011-4020.	2.1	104
87	Stem cell mechanobiology: diverse lessons from bone marrow. Trends in Cell Biology, 2015, 25, 523-532.	7.9	103
88	Cellâ€“Extracellular Matrix Mechanobiology: Forceful Tools and Emerging Needs for Basic and Translational Research. Nano Letters, 2018, 18, 1-8.	9.1	103
89	Endothelial Targeting of Antibody-Decorated Polymeric Filomicelles. ACS Nano, 2011, 5, 6991-6999.	14.6	102
90	Constricted migration increases DNA damage and independently represses cell cycle. Molecular Biology of the Cell, 2018, 29, 1948-1962.	2.1	101

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91	SIRPA-Inhibited, Marrow-Derived Macrophages Engorge, Accumulate, and Differentiate in Antibody-Targeted Regression of Solid Tumors. Current Biology, 2017, 27, 2065-2077.e6.	3.9	99
92	Adhesion-contractile balance in myocyte differentiation. Journal of Cell Science, 2004, 117, 5855-5863.	2.0	96
93	Stem cells, microenvironment mechanics, and growth factor activation. Current Opinion in Cell Biology, 2009, 21, 630-635.	5.4	95
94	Nuclear Lamins in Cancer. Cellular and Molecular Bioengineering, 2016, 9, 258-267.	2.1	95
95	Coordinated increase of nuclear tension and lamin-A with matrix stiffness outcompetes lamin-B receptor that favors soft tissue phenotypes. Molecular Biology of the Cell, 2017, 28, 3333-3348.	2.1	94
96	Pathway Shifts and Thermal Softening in Temperature-Coupled Forced Unfolding of Spectrin Domains. Biophysical Journal, 2003, 85, 3286-3293.	0.5	89
97	Matrix Mechanosensing: From Scaling Concepts in â€™Omics Data to Mechanisms in the Nucleus, Regeneration, and Cancer. Annual Review of Biophysics, 2017, 46, 295-315.	10.0	89
98	Cell differentiation through tissue elasticity-coupled, myosin-driven remodeling. Current Opinion in Cell Biology, 2008, 20, 609-615.	5.4	87
99	Calcium-Dependent Lateral Organization in Phosphatidylinositol 4,5-Bisphosphate (PIP2)- and Cholesterol-Containing Monolayers. Biochemistry, 2009, 48, 8241-8248.	2.5	87
100	Stem cells feel the difference. Nature Methods, 2010, 7, 695-697.	19.0	86
101	Simulation of Diblock Copolymer Self-Assembly, Using a Coarse-Grain Model. Journal of Physical Chemistry B, 2004, 108, 8153-8160.	2.6	85
102	Macrophage engulfment of a cell or nanoparticle is regulated by unavoidable opsonization, a species-specific â€˜Marker of Selfâ€™ CD47, and target physical properties. Current Opinion in Immunology, 2015, 35, 107-112.	5.5	85
103	Unfolding a Linker between Helical Repeats. Journal of Molecular Biology, 2005, 349, 638-647.	4.2	84
104	Conformational Changes and Signaling in Cell and Matrix Physics. Current Biology, 2009, 19, R781-R789.	3.9	79
105	Block Copolymer Assemblies with Cross-Link Stabilization:Â From Single-Component Monolayers to Bilayer Blends with PEOâˆ'PLAâ€. Langmuir, 2003, 19, 6505-6511.	3.5	78
106	Combining insoluble and soluble factors to steer stem cell fate. Nature Materials, 2014, 13, 532-537.	27.5	76
107	Rescue of DNA damage after constricted migration reveals a mechano-regulated threshold for cell cycle. Journal of Cell Biology, 2019, 218, 2545-2563.	5.2	76
108	Key Roles for Chain Flexibility in Block Copolymer Membranes that Contain Pores or Make Tubes. Nano Letters, 2005, 5, 2343-2349.	9.1	75

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109	Divalent Cation-Dependent Formation of Electrostatic PIP2 Clusters in Lipid Monolayers. Biophysical Journal, 2011, 101, 2178-2184.	0.5	75
110	Protein unfolding accounts for the unusual mechanical behavior of fibrin networks. Acta Biomaterialia, 2011, 7, 2374-2383.	8.3	75
111	Myosin-II inhibition and soft 2D matrix maximize multinucleation and cellular projections typical of platelet-producing megakaryocytes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11458-11463.	7.1	74
112	Macrophage checkpoint blockade: results from initial clinical trials, binding analyses, and CD47-SIRPÎ± structureâ€“function. Antibody Therapeutics, 2020, 3, 80-94.	1.9	73
113	The effect of CD47 modified polymer surfaces on inflammatory cell attachment and activation. Biomaterials, 2011, 32, 4317-4326.	11.4	71
114	From Stealthy Polymersomes and Filomicelles to â€œSelfâ€• Peptide-Nanoparticles for Cancer Therapy. Annual Review of Chemical and Biomolecular Engineering, 2014, 5, 281-299.	6.8	68
115	Conformational Stabilities of the Structural Repeats of Erythroid Spectrin and Their Functional Implications. Journal of Biological Chemistry, 2006, 281, 10527-10532.	3.4	65
116	Polymersomes as viral capsid mimics. Drug Development Research, 2006, 67, 4-14.	2.9	61
117	Mechanosensing of matrix by stem cells: From matrix heterogeneity, contractility, and the nucleus in pore-migration to cardiogenesis and muscle stem cells in vivo. Seminars in Cell and Developmental Biology, 2017, 71, 84-98.	5.0	61
118	Membrane Solubilization by Detergent:Â Resistance Conferred by Thickness. Langmuir, 2004, 20, 3888-3893.	3.5	59
119	Microscopic Methods for Measuring the Elasticity of Gel Substrates for Cell Culture: Microspheres, Microindenters, and Atomic Force Microscopy. Methods in Cell Biology, 2007, 83, 47-65.	1.1	59
120	Curvature-driven molecular demixing in the budding and breakup of mixed component worm-like micelles. Soft Matter, 2010, 6, 1419.	2.7	59
121	Cross-linked matrix rigidity and soluble retinoids synergize in nuclear lamina regulation of stem cell differentiation. Molecular Biology of the Cell, 2017, 28, 2010-2022.	2.1	59
122	Mechanobiology of bone marrow stem cells: From myosin-II forces to compliance of matrix and nucleus in cell forms and fates. Differentiation, 2013, 86, 77-86.	1.9	58
123	Filomicelles in nanomedicine â€" from flexible, fragmentable, and ligand-targetable drug carrier designs to combination therapy for brain tumors. Journal of Materials Chemistry B, 2013, 1, 5177.	5.8	58
124	Persistence-Driven Durotaxis: Generic, Directed Motility in Rigidity Gradients. Physical Review Letters, 2017, 118, 078103.	7.8	58
125	Phylogenetic Divergence of CD47 Interactions with Human Signal Regulatory Protein Î± Reveals Locus of Species Specificity. Journal of Biological Chemistry, 2007, 282, 1805-1818.	3.4	56
126	Nuclear Mechanics and Methods. Methods in Cell Biology, 2007, 83, 269-294.	1.1	56

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127	Stress Sensitivity and Mechanotransduction during Heart Development. Current Biology, 2014, 24, R495-R501.	3.9	56
128	Defining of the Minimal Domain of Protein 4.1 Involved in Spectrin-Actin Binding. Journal of Biological Chemistry, 1995, 270, 21243-21250.	3.4	55
129	Organization of Self-Assembled Peptideâ˜'Polymer Nanofibers in Solution. Macromolecules, 2008, 41, 1430-1437.	4.8	55
130	Effect of Polymer Amphiphilicity on Loading of a Therapeutic Enzyme into Protective Filamentous and Spherical Polymer Nanocarriers. Biomacromolecules, 2007, 8, 3914-3921.	5.4	54
131	Chemistry on a Single Protein, Vascular Cell Adhesion Molecule-1, during Forced Unfolding. Journal of Biological Chemistry, 2004, 279, 45865-45874.	3.4	53
132	Topographical Pattern Dynamics in Passive Adhesion of Cell Membranes. Biophysical Journal, 2004, 87, 3547-3560.	0.5	53
133	Nanopolymeric Therapeutics. MRS Bulletin, 2009, 34, 422-431.	3.5	51
134	Raft registration across bilayers in a molecularly detailed model. Soft Matter, 2011, 7, 8182.	2.7	51
135	SnapShot: Mechanosensing Matrix. Cell, 2016, 165, 1820-1820.e1.	28.9	51
136	Engineering macrophages to eat cancer: from â€œmarker of selfâ€•CD47 and phagocytosis to differentiation. Journal of Leukocyte Biology, 2017, 102, 31-40.	3.3	51
137	Enhancing the Efficacy of Drug-loaded Nanocarriers against Brain Tumors by Targeted Radiation Therapy. Oncotarget, 2013, 4, 64-79.	1.8	51
138	Genome variation across cancers scales with tissue stiffness â€" An invasion-mutation mechanism and implications for immune cell infiltration. Current Opinion in Systems Biology, 2017, 2, 103-114.	2.6	50
139	Fractional attachment of CD47 (IAP) to the erythrocyte cytoskeleton and visual colocalization with Rh protein complexes. Blood, 2003, 101, 1194-1199.	1.4	49
140	Synthetic Cellsâ€"Self-Assembling Polymer Membranes and Bioadhesive Colloids. Annual Review of Materials Research, 2001, 31, 387-404.	9.3	48
141	Patterning, Prestress, and Peeling Dynamics of Myocytes. Biophysical Journal, 2004, 86, 1209-1222.	0.5	48
142	Direct Measures of Large, Anisotropic Strains in Deformation of the Erythrocyte Cytoskeleton. Biophysical Journal, 1999, 77, 853-864.	0.5	47
143	New insights into erythrocyte membrane organization and microelasticity. Current Opinion in Hematology, 2000, 7, 117-122.	2.5	47
144	Biopolymer mimicry with polymeric wormlike micelles: Molecular weight scaled flexibility, locked-in curvature, and coexisting microphases. Journal of Polymer Science, Part B: Polymer Physics, 2004, 42, 168-176.	2.1	47

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145	Mechanical signaling coordinates the embryonic heartbeat. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8939-8944.	7.1	46
146	TCR Triggering by pMHC Ligands Tethered on Surfaces via Poly(Ethylene Glycol) Depends on Polymer Length. PLoS ONE, 2014, 9, e112292.	2.5	46
147	Membrane fluctuations and acidosis regulate cooperative binding of â€œmarker of selfâ€•CD47 with macrophage checkpoint receptor SIRPÎ±. Journal of Cell Science, 2018, 132, .	2.0	45
148	Protein 4.2 is critical to CD47-membrane skeleton attachment in human red cells. Blood, 2004, 103, 1131-1136.	1.4	44
149	Molecular Extensibility of Mini-dystrophins and a Dystrophin Rod Construct. Journal of Molecular Biology, 2005, 352, 795-806.	4.2	44
150	Crosslinked actin networks show liquid crystal elastomer behaviour, including soft-mode elasticity. Nature Physics, 2007, 3, 354-360.	16.7	43
151	Striated Acto-Myosin Fibers Can Reorganize and Register in Response toÂElastic Interactions with the Matrix. Biophysical Journal, 2011, 100, 2706-2715.	0.5	42
152	As a Nucleus Enters a Small Pore, Chromatin Stretches and Maintains Integrity, Even with DNA Breaks. Biophysical Journal, 2017, 112, 446-449.	0.5	41
153	Tension in fibrils suppresses their enzymatic degradation â€“ A molecular mechanism for â€˜use it or lose itâ€™. Matrix Biology, 2020, 85-86, 34-46.	3.6	41
154	Systems Mechanobiology: Tension-Inhibited Protein Turnover Is Sufficient to Physically Control Gene Circuits. Biophysical Journal, 2014, 107, 2734-2743.	0.5	40
155	Filamentous Polymer Nanocarriers of Tunable Stiffness that Encapsulate the Therapeutic Enzyme Catalase. Biomacromolecules, 2009, 10, 1324-1330.	5.4	39
156	Cysteine shotgunâ€“mass spectrometry (CS-MS) reveals dynamic sequence of protein structure changes within mutant and stressed cells. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8269-8274.	7.1	39
157	Myosin-II repression favors pre/proplatelets but shear activation generates platelets and fails in macrothrombocytopenia. Blood, 2015, 125, 525-533.	1.4	38
158	Domain unfolding in neurofilament sidearms: effects of phosphorylation and ATP. FEBS Letters, 2002, 531, 397-401.	2.8	37
159	Mechanical Regulation of Cells by Materials and Tissues. MRS Bulletin, 2010, 35, 578-583.	3.5	37
160	Phase transitions and anisotropic responses of planar triangular nets under large deformation. Physical Review E, 1997, 55, 4762-4772.	2.1	36
161	Progerin phosphorylation in interphase is lower and less mechanosensitive than lamin-A,C in iPS-derived mesenchymal stem cells. Nucleus, 2018, 9, 235-250.	2.2	35
162	Actin Protofilament Orientation in Deformation of the Erythrocyte Membrane Skeleton. Biophysical Journal, 2000, 79, 2987-3000.	0.5	34

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163	Effect of Surfactant on Unilamellar Polymeric Vesicles:Â Altered Membrane Properties and Stability in the Limit of Weak Surfactant Partitioning. Langmuir, 2002, 18, 7299-7308.	3.5	34
164	RhoA Is Essential for Maintaining Normal Megakaryocyte Ploidy and Platelet Generation. PLoS ONE, 2013, 8, e69315.	2.5	34
165	Polymer Vesicles with a Red Cellâ€like Surface Charge: Microvascular Imaging and in vivo Tracking with Nearâ€Infrared Fluorescence. Macromolecular Rapid Communications, 2010, 31, 135-141.	3.9	33
166	Curvature, rigidity, and pattern formation in functional polymer micelles and vesicles â€" From dynamic visualization to molecular simulation. Current Opinion in Solid State and Materials Science, 2011, 15, 277-284.	11.5	33
167	Rupture Dynamics and Chromatin Herniation inÂDeformed Nuclei. Biophysical Journal, 2017, 113, 1060-1071.	0.5	33
168	Macrophages show higher levels of engulfment after disruption of <i>cis</i> interactions between CD47 and the checkpoint receptor SIRPÎ±. Journal of Cell Science, 2020, 133, .	2.0	33
169	Computer simulation of aqueous block copolymer assemblies: Length scales and methods. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 1907-1918.	2.1	32
170	Pathogenic proline mutation in the linker between spectrin repeats: disease caused by spectrin unfolding. Blood, 2007, 109, 3538-3543.	1.4	32
171	Cross-Correlated TIRF/AFM Reveals Asymmetric Distribution of Force-Generating Heads along Self-Assembled, â€œSyntheticâ€• Myosin Filaments. Biophysical Journal, 2009, 96, 1952-1960.	0.5	32
172	Matrix rigidity regulates microtubule network polarization in migration. Cytoskeleton, 2017, 74, 114-124.	2.0	32
173	The macrophage checkpoint CD47 : SIRPÎ± for recognition of â€˜selfâ€™ cells: from clinical trials of blocking antibodies to mechanobiological fundamentals. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20180217.	4.0	32
174	Actin Protofilament Orientation at the Erythrocyte Membrane. Biophysical Journal, 1999, 77, 865-878.	0.5	31
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