Michael Rubinstein

List of Publications by Year
in descending order

100	11,338	36271 51	30894 102
papers	citations	h-index	g-index

105	105	105	9774
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Where in the world are condensed counterions?. Soft Matter, 2022, 18, 1154-1173.	1.2	4
2	Mucus concentrationâ€“dependent biophysical abnormalities unify submucosal gland and superficial airway dysfunction in cystic fibrosis. Science Advances, 2022, 8, eabm9718.	4.7	8
3	Understanding Gas Transport in Polymer-Grafted Nanoparticle Assemblies. Macromolecules, 2022, 55, 3011-3019.	2.2	9
4	Scaling Theory of Swelling and Deswelling of Polymer Networks. Macromolecules, 2022, 55, 3588-3601.	2.2	11
5	Fibrous hydrogels under biaxial confinement. Nature Communications, 2022, 13, .	5.8	6
6	Dynamic Coupling in Unentangled Liquid Coacervates Formed by Oppositely Charged Polyelectrolytes. Macromolecules, 2021, 54, 1783-1800.	2.2	15
7	Nonlinear Shear Rheology of Entangled Polymer Rings. Macromolecules, 2021, 54, 2811-2827.	2.2	51
8	Mechanism Dictates Mechanics: A Molecular Substituent Effect in the Macroscopic Fracture of a Covalent Polymer Network. Journal of the American Chemical Society, 2021, 143, 3714-3718.	6.6	37
9	Single-Event Spectroscopy and Unravelling Kinetics of Covalent Domains Based on Cyclobutane Mechanophores. Journal of the American Chemical Society, 2021, 143, 5269-5276.	6.6	20
10	Molecular Characterization of Polymer Networks. Chemical Reviews, 2021, 121, 5042-5092.	23.0	140
11	Gas Transport in Interacting Planar Brushes. ACS Polymers Au, 2021, 1, 39-46.	1.7	9
12	Nonlinear rheometry of entangled polymeric rings and ring-linear blends. Journal of Rheology, 2021, 65, 695-711.	1.3	24
13	Diffusion of Thin Nanorods in Polymer Melts. Macromolecules, 2021, 54, 7051-7059.	2.2	20
14	Toughening hydrogels through force-triggered chemical reactions that lengthen polymer strands. Science, 2021, 374, 193-196.	6.0	124
15	Universal Polymeric-to-Colloidal Transition in Melts of Hairy Nanoparticles. ACS Nano, 2021, 15, 16697-16708.	7.3	23
16	Overlap Concentration in Salt-Free Polyelectrolyte Solutions. Macromolecules, 2021, 54, 10068-10073.	2.2	5
17	Structure of Polymer-Grafted Nanoparticle Melts. ACS Nano, 2020, 14, 15505-15516.	7.3	65
18	Tuning Selectivities in Gas Separation Membranes Based on Polymer-Grafted Nanoparticles. ACS Nano, 2020, 14, 17174-17183.	7.3	55

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19	Effects of Tethered Polymers on Dynamics of Nanoparticles in Unentangled Polymer Melts. Macromolecules, 2020, 53, 6898-6906.	2.2	20
20	Ion Pairing and the Structure of Gel Coacervates. Macromolecules, 2020, 53, 9420-9442.	2.2	29
21	Stress Relaxation in Symmetric Ring-Linear Polymer Blends at Low Ring Fractions. Macromolecules, 2020, 53, 1685-1693.	2.2	42
22	Topological Linking Drives Anomalous Thickening of Ring Polymers in Weak Extensional Flows. Physical Review Letters, 2020, 124, 027801.	2.9	53
23	Helicoidal Patterning of Nanorods with Polymer Ligands. Angewandte Chemie, 2019, 131, 3155-3159.	1.6	2
24	Quantitative Adjustment to the Molecular Energy Parameter in the Lakeâ€“Thomas Theory of Polymer Fracture Energy. Macromolecules, 2019, 52, 2772-2777.	2.2	60
25	Mobility of Polymer-Tethered Nanoparticles in Unentangled Polymer Melts. Macromolecules, 2019, 52, 1536-1545.	2.2	16
26	Helicoidal Patterning of Nanorods with Polymer Ligands. Angewandte Chemie - International Edition, 2019, 58, 3123-3127.	7.2	32
27	Nanorheology of Entangled Polymer Melts. Physical Review Letters, 2018, 120, 057801.	2.9	34
28	Roles of mucus adhesion and cohesion in cough clearance. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12501-12506.	3.3	79
29	Structure of Liquid Coacervates Formed by Oppositely Charged Polyelectrolytes. Macromolecules, 2018, 51, 9572-9588.	2.2	65
30	Strong, Tough, Stretchable, and Selfâ€Adhesive Hydrogels from Intrinsically Unstructured Proteins. Advanced Materials, 2017, 29, 1604743.	11.1	130
31	Programming molecular self-assembly of intrinsically disordered proteins containing sequences of low complexity. Nature Chemistry, 2017, 9, 509-515.	6.6	247
32	Flory theory of randomly branched polymers. Soft Matter, 2017, 13, 1223-1234.	1.2	52
33	Nanoparticle Motion in Entangled Melts of Linear and Nonconcatenated Ring Polymers. Macromolecules, 2017, 50, 1749-1754.	2.2	61
34	Single-stranded nucleic acid elasticity arises from internal electrostatic tension. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5095-5100.	3.3	51
35	Polymers at Liquid/Vapor Interface. ACS Macro Letters, 2017, 6, 1191-1195.	2.3	10
36	Enhanced nanochannel translocation and localization of genomic DNA molecules using three-dimensional nanofunnels. Nature Communications, 2017, 8, 807.	5.8	49

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37	A Rheological Study of the Association and Dynamics of MUC5AC Gels. Biomacromolecules, 2017, 18, 3654-3664.	2.6	122
38	Surface-Anchored Poly(N-isopropylacrylamide) Orthogonal Gradient Networks. Macromolecules, 2016, 49, 5076-5083.	2.2	16
39	Surface patterning of nanoparticles with polymer patches. Nature, 2016, 538, 79-83.	13.7	257
40	Molecular structure of bottlebrush polymers in melts. Science Advances, 2016, 2, e1601478.	4.7	198
41	Network dynamics in nanofilled polymers. Nature Communications, 2016, 7, 11368.	5.8	180
42	Tension Amplification in Tethered Layers of Bottle-Brush Polymers. Macromolecules, 2016, 49, 1950-1960.	2.2	16
43	Self-Similar Conformations and Dynamics in Entangled Melts and Solutions of Nonconcatenated Ring Polymers. Macromolecules, 2016, 49, 708-722.	2.2	136
44	Solvent-free, supersoft and superelastic bottlebrush melts and networks. Nature Materials, 2016, 15, 183-189.	13.3	428
45	Universal behavior of hydrogels confined to narrow capillaries. Scientific Reports, 2015, 5, 17017.	1.6	36
46	Soft Poly(dimethylsiloxane) Elastomers from Architectureâ€Driven Entanglement Free Design. Advanced Materials, 2015, 27, 5132-5140.	11.1	163
47	Influence of the Solvent Quality on Ring Polymer Dimensions. Macromolecules, 2015, 48, 1598-1605.	2.2	48
48	Strong Selective Adsorption of Polymers. Macromolecules, 2015, 48, 3788-3801.	2.2	17
49	Elastin-like Polypeptide Diblock Copolymers Self-Assemble into Weak Micelles. Macromolecules, 2015, 48, 4183-4195.	2.2	86
50	Hopping Diffusion of Nanoparticles in Polymer Matrices. Macromolecules, 2015, 48, 847-862.	2.2	211
51	Conformations of a Long Polymer in a Melt of Shorter Chains: Generalizations of the Flory Theorem. ACS Macro Letters, 2015, 4, 177-181.	2.3	25
52	Nanocapillarity-mediated magnetic assembly ofÂnanoparticles into ultraflexible filaments andÂreconfigurable networks. Nature Materials, 2015, 14, 1104-1109.	13.3	89
53	The Relationship of Mucus Concentration (Hydration) to Mucus Osmotic Pressure and Transport in Chronic Bronchitis. American Journal of Respiratory and Critical Care Medicine, 2015, 192, 182-190.	2.5	136
54	Lubrication by Polyelectrolyte Brushes. Macromolecules, 2014, 47, 5825-5838.	2.2	79

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55	Rouse Mode Analysis of Chain Relaxation in Homopolymer Melts. Macromolecules, 2014, 47, 6925-6931.	2.2	54
56	Viscosity of Ring Polymer Melts. ACS Macro Letters, 2013, 2, 874-878.	2.3	134
57	Self-Healing of Unentangled Polymer Networks with Reversible Bonds. Macromolecules, 2013, 46, 7525-7541.	2.2	302
58	SWCNT Induced Crystallization in an Amorphous All-Aromatic Poly(ether imide). Macromolecules, 2013, 46, 1492-1503.	2.2	34
59	A Periciliary Brush Promotes the Lung Health by Separating the Mucus Layer from Airway Epithelia. Science, 2012, 337, 937-941.	6.0	649
60	Bond Tension in Tethered Macromolecules. Macromolecules, 2011, 44, 4520-4529.	2.2	46
61	Mobility of Nonsticky Nanoparticles in Polymer Liquids. Macromolecules, 2011, 44, 7853-7863.	2.2	307
62	Polymer physicsâ€"The ugly duckling story: Will polymer physics ever become a part of â€œproperâ€• physics?. Journal of Polymer Science, Part B: Polymer Physics, 2010, 48, 2548-2551.	2.4	16
63	Dynamics of Entangled Polymers: The Three Key Ideas. Series on Directions in Condensed Matter Physics, 2009, , 20-34.	0.1	1
64	Effect of the Soluble Block Size on Spherical Diblock Copolymer Micelles. Macromolecules, 2008, 41, 6555-6563.	2.2	58
65	Rouse Dynamics of Polyelectrolyte Solutions:â€‰ Molecular Dynamics Study. Macromolecules, 2007, 40, 7671-7679.	2.2	43
66	Regimes of Conformational Transitions of a Diblock Polyampholyte. Macromolecules, 2006, 39, 5897-5912.	2.2	61
67	Diblock Copolymer Micelles in a Dilute Solution. Macromolecules, 2005, 38, 5330-5351.	2.2	282
68	Explanation of Anomalous Scaling of Swollen Entangled Chains. Macromolecules, 2005, 38, 3511-3514.	2.2	3
69	Polyampholytes. Journal of Polymer Science, Part B: Polymer Physics, 2004, 42, 3513-3538.	2.4	269
70	Molecular Dynamics Simulations of Polyelectrolyte Solutions:Â Osmotic Coefficient and Counterion Condensation. Macromolecules, 2003, 36, 3399-3410.	2.2	97
71	Effect of Short-Range Interactions on Polyelectrolyte Adsorption at Charged Surfacesâ€. Journal of Physical Chemistry B, 2003, 107, 8260-8269.	1.2	54
72	Monte Carlo simulation of homopolymer chains. I. Second virial coefficient. Journal of Chemical Physics, 2003, 118, 4721-4732.	1.2	30

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73	Dynamics of Entangled Associating Polymers with Large Aggregates. Macromolecules, 2002, 35, 4821-4837.	2.2	113
74	Adsorption of Hydrophobic Polyelectrolytes at Oppositely Charged Surfaces. Macromolecules, 2002, 35, 2754-2768.	2.2	39
75	Elasticity of Polymer Networks. Macromolecules, 2002, 35, 6670-6686.	2.2	402
76	Dynamics of Entangled Solutions of Associating Polymers. Macromolecules, 2001, 34, 1058-1068.	2.2	448
77	Adsorption of Polyelectrolytes at Oppositely Charged Surfaces. Macromolecules, 2001, 34, 3421-3436.	2.2	170
78	Structure of Adsorbed Polyampholyte Layers at Charged Objects. Macromolecules, 2001, 34, 627-639.	2.2	25
79	Adsorption Isotherms of Polyampholytes at Charged Spherical Particles. Journal of Physical Chemistry B, 2001, 105, 8917-8930.	1.2	14
80	Counterion Condensation and Phase Separation in Solutions of Hydrophobic Polyelectrolytes. Macromolecules, 2001, 34, 1964-1972.	2.2	107
81	Counterion Phase Transitions in Dilute Polyelectrolyte Solutions. Physical Review Letters, 2001, 86, 2341-2344.	2.9	105
82	Unexpected Scenario of Glass Transition in Polymer Globules: An Exactly Enumerable Model. Physical Review Letters, 2000, 84, 2417-2420.	2.9	12
83	Hydrophobically Modified Polyelectrolytes in Dilute Salt-Free Solutions. Macromolecules, 2000, 33, 8097-8105.	2.2	52
84	Long-Range Multichain Adsorption of Polyampholytes on a Charged Surface. Macromolecules, 1999, 32, 5689-5700.	2.2	46
85	Hydrophobic Polyelectrolytes. Macromolecules, 1999, 32, 915-922.	2.2	140
86	Thermoreversible Gelation in Solutions of Associative Polymers. 1. Statics. Macromolecules, 1998, 31, 1373-1385.	2.2	490
87	Thermoreversible Gelation in Solutions of Associating Polymers. 2. Linear Dynamics. Macromolecules, 1998, 31, 1386-1397.	2.2	399
88	Adsorption of a Polyampholyte Chain on a Charged Surface. Macromolecules, 1997, 30, 4332-4341.	2.2	84
89	Nonaffine Deformation and Elasticity of Polymer Networks. Macromolecules, 1997, 30, 8036-8044.	2.2	207
90	Stress-Induced Ordering in Microphase-Separated Multicomponent Networks. Macromolecules, 1996, 29, 8220-8230.	2.2	23

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91	Cascade of Transitions of Polyelectrolytes in Poor Solvents. Macromolecules, 1996, 29, 2974-2979.	2.2	424
92	A Self-Consistent Mean Field Model of a Starburst Dendrimer:â€‰ Dense Core vs Dense Shell. Macromolecules, 1996, 29, 7251-7260.	2.2	308
93	Deterministic model of DNA gel electrophoresis in strong electric fields. Electrophoresis, 1996, 17, 1011-1017.	1.3	20
94	Dynamics of a Ring Polymer in a Gel. Physical Review Letters, 1994, 73, 1263-1266.	2.9	202
95	Network Modulus and Superelasticity. Macromolecules, 1994, 27, 3191-3198.	2.2	218
96	Elastic Modulus and Equilibrium Swelling of Near-Critical Gels. Macromolecules, 1994, 27, 3184-3190.	2.2	37
97	Dynamics of near-critical polymer gels. Physical Review E, 1993, 48, 3712-3716.	0.8	75
98	Scaling properties of branched polyesters. 2. Static scaling above the gel point. Macromolecules, 1992, 25, 7180-7187.	2.2	35
99	Dynamics of reversible networks. Macromolecules, 1991, 24, 4701-4707.	2.2	614
100	Dynamics of Ring Polymers in the Presence of Fixed Obstacles. Physical Review Letters, 1986, 57, 3023-3026.	2.9	164