

Sergei S Sheiko

List of Publications by Year in descending order

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docs citations

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times ranked

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citing authors

#	ARTICLE	IF	CITATIONS
1	Injectable bottlebrush hydrogels with tissue-mimetic mechanical properties. <i>Science Advances</i> , 2022, 8, eabm2469.	4.7	53
2	Brush Architecture and Network Elasticity: Path to the Design of Mechanically Diverse Elastomers. <i>Macromolecules</i> , 2022, 55, 2940-2951.	2.2	16
3	Chemistry and Properties of Cross-Linked All-Aromatic Hyperbranched Polyaryletherketones. <i>Macromolecules</i> , 2022, 55, 100-112.	2.2	5
4	Mechanically Diverse Gels with Equal Solvent Content. <i>ACS Central Science</i> , 2022, 8, 845-852.	5.3	10
5	Large Sequence-Defined Supramolecules Obtained by the DNA-Guided Assembly of Biohybrid Poly(phosphodiester)s. <i>Macromolecules</i> , 2021, 54, 3423-3429.	2.2	12
6	Injectable non-leaching tissue-mimetic bottlebrush elastomers as an advanced platform for reconstructive surgery. <i>Nature Communications</i> , 2021, 12, 3961.	5.8	32
7	Regulating Tissue-Mimetic Mechanical Properties of Bottlebrush Elastomers by Magnetic Field. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 38783-38791.	4.0	6
8	Investigating the Stress–Strain Behavior in Ring-Opening Metathesis Polymerization-Based Brush Elastomers. <i>Macromolecules</i> , 2021, 54, 8365-8371.	2.2	12
9	To Mimic Mechanical Properties of the Skin by Inducing Oriented Nanofiber Microstructures in Bottlebrush Cellulose- <i>graft</i> -diblock Copolymer Elastomers. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 3278-3286.	4.0	24
10	Tissue-Adaptive Materials with Independently Regulated Modulus and Transition Temperature. <i>Advanced Materials</i> , 2020, 32, e2005314.	11.1	27
11	Synthesis, Structure, Hydrodynamics and Thermoresponsiveness of Graft Copolymer with Aromatic Polyester Backbone at Poly(2-isopropyl-2-oxazoline) Side Chains. <i>Polymers</i> , 2020, 12, 2643.	2.0	7
12	Independently Tuning Elastomer Softness and Firmness by Incorporating Side Chain Mixtures into Bottlebrush Network Strands. <i>Macromolecules</i> , 2020, 53, 9306-9312.	2.2	15
13	Understanding the Synthesis of Linear–Bottlebrush–Linear Block Copolymers: Toward Elastomers with Well-Defined Mechanical Properties. <i>Macromolecules</i> , 2020, 53, 8324-8332.	2.2	19
14	A Thermodynamic Roadmap for the Grafting-through Polymerization of PDMS ₁₁ MA. <i>ACS Macro Letters</i> , 2020, 9, 1303-1309.	2.3	20
15	Microphase Segregation in the Melts of Bottlebrush Block Copolymers. <i>Macromolecules</i> , 2020, 53, 2582-2593.	2.2	32
16	Tissue-Mimetic Dielectric Actuators: Free-Standing, Stable, and Solvent-Free. <i>ACS Applied Polymer Materials</i> , 2020, 2, 1741-1745.	2.0	19
17	Orthogonal Cationic and Radical RAFT Polymerizations to Prepare Bottlebrush Polymers. <i>Angewandte Chemie</i> , 2020, 132, 7270-7275.	1.6	9
18	Orthogonal Cationic and Radical RAFT Polymerizations to Prepare Bottlebrush Polymers. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 7203-7208.	7.2	40

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19	Bottlebrush Bridge between Soft Gels and Firm Tissues. ACS Central Science, 2020, 6, 413-419.	5.3	56
20	Poor Solvents Improve Yield of Grafting-Through Radical Polymerization of OEO₁₉MA. ACS Macro Letters, 2020, 9, 674-679.	2.3	10
21	Theory of Microphase Segregation in the Melts of Copolymers with Dendritically Branched, Bottlebrush, or Cycled Blocks. ACS Macro Letters, 2019, 8, 1075-1079.	2.3	14
22	Nonlinear Elasticity and Swelling of Comb and Bottlebrush Networks. Macromolecules, 2019, 52, 5095-5101.	2.2	29
23	Degradable cellulose-based polymer brushes with controlled grafting densities. Journal of Polymer Science Part A, 2019, 57, 2426-2435.	2.5	16
24	Architectural Code for Rubber Elasticity: From Supersoft to Superfirm Materials. Macromolecules, 2019, 52, 7531-7546.	2.2	137
25	Thermo-sensitive polymers in medicine: A review. European Polymer Journal, 2019, 117, 402-423.	2.6	206
26	Comb and Bottlebrush Graft Copolymers in a Melt. Macromolecules, 2019, 52, 3942-3950.	2.2	41
27	Strained Bottlebrushes in Super-Soft Physical Networks. ACS Macro Letters, 2019, 8, 530-534.	2.3	32
28	Solution and Melts of Barbwire Bottlebrushes: Hierarchical Structure and Scale-Dependent Elasticity. Macromolecules, 2019, 52, 1671-1684.	2.2	28
29	Molecular Bottlebrushes as Novel Materials. Biomacromolecules, 2019, 20, 27-54.	2.6	230
30	Supersoft and Hyperelastic Polymer Networks with Brushlike Strands. Macromolecules, 2018, 51, 638-645.	2.2	64
31	Chameleon-like elastomers with molecularly encoded strain-adaptive stiffening and coloration. Science, 2018, 359, 1509-1513.	6.0	345
32	Drug Combination Synergy in Worm-like Polymeric Micelles Improves Treatment Outcome for Small Cell and Non-Small Cell Lung Cancer. ACS Nano, 2018, 12, 2426-2439.	7.3	132
33	Universality of the Entanglement Plateau Modulus of Comb and Bottlebrush Polymer Melts. Macromolecules, 2018, 51, 10028-10039.	2.2	61
34	Computationally Driven Design of Soft Materials with Tissue-like Mechanical Properties. ACS Symposium Series, 2018, , 33-50.	0.5	1
35	How To Measure Work of Adhesion and Surface Tension of Soft Polymeric Materials. Macromolecules, 2018, 51, 4059-4067.	2.2	21
36	Universal Coatings Based on Zwitterionic Dopamine Copolymer Microgels. ACS Applied Materials & Interfaces, 2018, 10, 20869-20875.	4.0	49

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37	Encoding tissue mechanics in silicone. <i>Science Robotics</i> , 2018, 3, .	9.9	12
38	Benefits of Catalyzed Radical Termination: High-Yield Synthesis of Polyacrylate Molecular Bottlebrushes without Gelation. <i>Macromolecules</i> , 2018, 51, 6218-6225.	2.2	24
39	Cooling-Triggered Shapeshifting Hydrogels with Multi-Shape Memory Performance. <i>Advanced Materials</i> , 2018, 30, e1707461.	11.1	51
40	Dynamics of Dual Networks: Strain Rate and Temperature Effects in Hydrogels with Reversible H-Bonds. <i>Macromolecules</i> , 2017, 50, 652-659.	2.2	66
41	Bottlebrush-Guided Polymer Crystallization Resulting in Supersoft and Reversibly Moldable Physical Networks. <i>Macromolecules</i> , 2017, 50, 2103-2111.	2.2	38
42	Combs and Bottlebrushes in a Melt. <i>Macromolecules</i> , 2017, 50, 3430-3437.	2.2	117
43	High-Temperature Shape Memory Behavior of Novel All-Aromatic (AB) _n -Multiblock Copoly(ester) Tj ETQq1 1 0.784314 rgBT /Overlock 20	2.2	20
44	From Adhesion to Wetting: Contact Mechanics at the Surfaces of Super-Soft Brush-Like Elastomers. <i>ACS Macro Letters</i> , 2017, 6, 854-858.	2.3	24
45	Bottlebrush Elastomers: A New Platform for Freestanding Electroactuation. <i>Advanced Materials</i> , 2017, 29, 1604209.	11.1	150
46	Mimicking biological stress-strain behaviour with synthetic elastomers. <i>Nature</i> , 2017, 549, 497-501.	13.7	286
47	Reversible shape-shifting in polymeric materials. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2016, 54, 1365-1380.	2.4	100
48	Preparation of titania nanoparticles with tunable anisotropy and branched structures from core-shell molecular bottlebrushes. <i>Polymer</i> , 2016, 98, 481-486.	1.8	32
49	Dynamics of Bottlebrush Networks. <i>Macromolecules</i> , 2016, 49, 8009-8017.	2.2	36
50	Well-Defined Zwitterionic Microgels: Synthesis and Application as Acid-Resistant Microreactors. <i>Macromolecules</i> , 2016, 49, 7204-7210.	2.2	28
51	Preparation of ZnO hybrid nanoparticles by ATRP. <i>Polymer</i> , 2016, 107, 492-502.	1.8	30
52	Molecular structure of bottlebrush polymers in melts. <i>Science Advances</i> , 2016, 2, e1601478.	4.7	198
53	Programming temporal shapeshifting. <i>Nature Communications</i> , 2016, 7, 12919.	5.8	72
54	The design of wrinkled microcapsules for enhancement of release rate. <i>Journal of Colloid and Interface Science</i> , 2016, 478, 296-302.	5.0	25

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55	Advancing Reversible Shape Memory by Tuning the Polymer Network Architecture. <i>Macromolecules</i> , 2016, 49, 1383-1391.	2.2	55
56	Solvent-free, supersoft and superelastic bottlebrush melts and networks. <i>Nature Materials</i> , 2016, 15, 183-189.	13.3	428
57	Weak Hydrogen Bonding Enables Hard, Strong, Tough, and Elastic Hydrogels. <i>Advanced Materials</i> , 2015, 27, 6899-6905.	11.1	434
58	Isothermal programming of triple shape memory. <i>Polymer</i> , 2015, 72, 464-470.	1.8	11
59	Computer Simulations of Bottle Brushes: From Melts to Soft Networks. <i>Macromolecules</i> , 2015, 48, 5006-5015.	2.2	80
60	Molecular Bottlebrushes with Bimodal Length Distribution of Side Chains. <i>Macromolecules</i> , 2015, 48, 4813-4822.	2.2	31
61	Dynamic Optical Gratings Accessed by Reversible Shape Memory. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 14288-14293.	4.0	48
62	Grafting Poly(OEGMA) Brushes from a Shape Memory Elastomer and Subsequent Wrinkling Behavior. <i>Langmuir</i> , 2015, 31, 5489-5494.	1.6	8
63	Molecular Mechanochemistry: Engineering and Implications of Inherently Strained Architectures. <i>Topics in Current Chemistry</i> , 2015, 369, 1-36.	4.0	14
64	Exploring Quality in Gradient Copolymers. <i>Macromolecular Rapid Communications</i> , 2014, 35, 133-140.	2.0	29
65	Synthesis and Arm Dissociation in Molecular Stars with a Spoked Wheel Core and Bottlebrush Arms. <i>Journal of the American Chemical Society</i> , 2014, 136, 12762-12770.	6.6	39
66	Shifting Electronic Structure by Inherent Tension in Molecular Bottlebrushes with Polythiophene Backbones. <i>ACS Macro Letters</i> , 2014, 3, 738-742.	2.3	16
67	Shapeshifting: Reversible Shape Memory in Semicrystalline Elastomers. <i>Macromolecules</i> , 2014, 47, 1768-1776.	2.2	171
68	Poly[N-(2-hydroxypropyl)methacrylamide] nanogels by RAFT polymerization in inverse emulsion. <i>Polymer Chemistry</i> , 2014, 5, 1711-1719.	1.9	30
69	Molecular Tensile Machines: Anti-Arrhenius Cleavage of Disulfide Bonds. <i>Macromolecules</i> , 2013, 46, 7196-7201.	2.2	48
70	Orthogonal Self-Assembly in Folding Block Copolymers. <i>Journal of the American Chemical Society</i> , 2013, 135, 501-510.	6.6	184
71	How Far Can We Push Polymer Architectures?. <i>Journal of the American Chemical Society</i> , 2013, 135, 11421-11424.	6.6	89
72	Perfect mixing of immiscible macromolecules at fluid interfaces. <i>Nature Materials</i> , 2013, 12, 735-740.	13.3	60

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73	Anti-Arrhenius cleavage of covalent bonds in bottlebrush macromolecules on substrate. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9276-9280.	3.3	45
74	Synthesis and Characterization of Molecular Bottlebrushes Prepared by Iron-Based ATRP. Macromolecules, 2012, 45, 9243-9249.	2.2	35
75	Synthesis of Amphiphilic Poly(<i>N</i> -vinylpyrrolidone)- <i>b</i> -poly(vinyl acetate) Molecular Bottlebrushes. ACS Macro Letters, 2012, 1, 227-231.	2.3	62
76	Molecular dynamics simulations of bottlebrush macromolecules in two dimensional polymeric melts under flow conditions. Soft Matter, 2011, 7, 2805.	1.2	3
77	Focusing bond tension in bottle-brush macromolecules during spreading. Journal of Materials Chemistry, 2011, 21, 8448.	6.7	28
78	Core-Shell Molecular Bottlebrushes with Helical Polypeptide Backbone: Synthesis, Characterization, and Solution Conformations. Macromolecules, 2011, 44, 1491-1499.	2.2	91
79	Bond Tension in Tethered Macromolecules. Macromolecules, 2011, 44, 4520-4529.	2.2	46
80	Molecular Tensile Machines: Intrinsic Acceleration of Disulfide Reduction by Dithiothreitol. Journal of the American Chemical Society, 2011, 133, 17479-17484.	6.6	48
81	Stimuli-responsive molecular brushes. Progress in Polymer Science, 2010, 35, 24-44.	11.8	600
82	Crystallization of Molecular Brushes with Block Copolymer Side Chains. Macromolecules, 2009, 42, 9008-9017.	2.2	70
83	Tension Amplification in Molecular Brushes in Solutions and on Substrates. Journal of Physical Chemistry B, 2009, 113, 3750-3768.	1.2	96
84	Cylindrical molecular brushes: Synthesis, characterization, and properties. Progress in Polymer Science, 2008, 33, 759-785.	11.8	1,035
85	Hetero-Grafted Block Brushes with PCL and PBA Side Chains. Macromolecules, 2008, 41, 6073-6080.	2.2	87
86	High Sensitivity of C-C Bond Cleavage Rates to Substrate Surface Energy. Journal of the American Chemical Society, 2008, 130, 4228-4229.	6.6	58
87	Effect of the Soluble Block Size on Spherical Diblock Copolymer Micelles. Macromolecules, 2008, 41, 6555-6563.	2.2	58
88	High Yield Synthesis of Molecular Brushes via ATRP in Miniemulsion. Macromolecules, 2007, 40, 6557-6563.	2.2	78
89	Vapor-induced spreading dynamics of adsorbed linear and brush-like macromolecules as observed by environmental SFM: Polymer chain statistics and scaling exponents. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 2368-2379.	2.4	21
90	Flow-Enhanced Epitaxial Ordering of Brush-Like Macromolecules on Graphite. Langmuir, 2006, 22, 1254-1259.	1.6	28

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91	Synthesis, Characterization, and AFM Studies of Dendronized Polyferrocenylsilanes. <i>Macromolecules</i> , 2006, 39, 7922-7930.	2.2	22
92	Adsorption-induced scission of carbon-carbon bonds. <i>Nature</i> , 2006, 440, 191-194.	13.7	341
93	Molecular Brushes with Spontaneous Gradient by Atom Transfer Radical Polymerization. <i>Macromolecules</i> , 2005, 38, 8264-8271.	2.2	86
94	Diblock Copolymer Micelles in a Dilute Solution. <i>Macromolecules</i> , 2005, 38, 5330-5351.	2.2	282
95	Real-Time Scanning Force Microscopy of Macromolecular Conformational Transitions. <i>Macromolecular Rapid Communications</i> , 2004, 25, 1703-1707.	2.0	45
96	How dense are cylindrical brushes grafted from a multifunctional macroinitiator?. <i>Polymer</i> , 2004, 45, 8173-8179.	1.8	140
97	Conformational Switching of Molecular Brushes in Response to the Energy of Interaction with the Substrate. <i>Journal of Physical Chemistry A</i> , 2004, 108, 9682-9686.	1.1	59
98	Tadpole Conformation of Gradient Polymer Brushes. <i>Macromolecules</i> , 2004, 37, 4235-4240.	2.2	110
99	Multiaarm Molecular Brushes: Effect of the Number of Arms on the Molecular Weight Polydispersity and Surface Ordering. <i>Langmuir</i> , 2004, 20, 6005-6011.	1.6	69
100	Densely-Grafted and Double-Grafted PEO Brushes via ATRP. A Route to Soft Elastomers. <i>Macromolecules</i> , 2003, 36, 6746-6755.	2.2	322
101	Measuring Molecular Weight by Atomic Force Microscopy. <i>Journal of the American Chemical Society</i> , 2003, 125, 6725-6728.	6.6	110
102	Effect of Initiation Conditions on the Uniformity of Three-Arm Star Molecular Brushes. <i>Macromolecules</i> , 2003, 36, 1843-1849.	2.2	219
103	Synthesis and Visualization of Densely Grafted Molecular Brushes with Crystallizable Poly(octadecyl) Tj ETQq1 1 0.784314 rgBT/Over 2.2 154	2.2	154
104	Synthesis of Molecular Brushes with Gradient in Grafting Density by Atom Transfer Polymerization. <i>Macromolecules</i> , 2002, 35, 3387-3394.	2.2	183
105	Single Molecule Rod-Globule Phase Transition for Brush Molecules at a Flat Interface. <i>Macromolecules</i> , 2001, 34, 8354-8360.	2.2	196
106	Visualization of Macromolecules A First Step to Manipulation and Controlled Response. <i>Chemical Reviews</i> , 2001, 101, 4099-4124.	23.0	368
107	Synthesis of Molecular Brushes with Block Copolymer Side Chains Using Atom Transfer Radical Polymerization. <i>Macromolecules</i> , 2001, 34, 4375-4383.	2.2	400
108	Molecularly thin films of metallodendrimers. <i>Journal of Physical Organic Chemistry</i> , 1998, 11, 540-545.	0.9	16

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109	The Synthesis of Densely Grafted Copolymers by Atom Transfer Radical Polymerization. <i>Macromolecules</i> , 1998, 31, 9413-9415.	2.2	531
110	Monomolecular Films of Arborescent Graft Polystyrenes. <i>Macromolecules</i> , 1997, 30, 2343-2349.	2.2	67
111	Theory of Yâ€and Combâ€Shaped Polymer Brushes: The Parabolic Potential Framework. <i>Macromolecular Theory and Simulations</i> , 0, , 2100037.	0.6	0