Thomas H Epps Iii

List of Publications by Year
in descending order

124 papers	7,876 citations	44069 48 h-index	53230 85 g-index
127 all docs	127 docs citations	127 times ranked	7923 citing authors

#	Article	IF	Citations
1	Self-assembly of block copolymer thin films. Materials Today, 2010, 13, 24-33.	14.2	453
2	Stimuli responsive materials. Chemical Society Reviews, 2013, 42, 7055.	38.1	404
3	Block copolymer electrolytes for rechargeable lithium batteries. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 1-16.	2.1	331
4	Toward polymer upcyclingâ€"adding value and tackling circularity. Science, 2021, 373, 66-69.	12.6	280
5	Stimuli-responsive copolymer solution and surface assemblies for biomedical applications. Chemical Society Reviews, 2013, 42, 7057.	38.1	267
6	Directed Block Copolymer Thin Film Self-Assembly: Emerging Trends in Nanopattern Fabrication. Macromolecules, 2013, 46, 7567-7579.	4.8	233
7	A Noncubic Triply Periodic Network Morphology in Poly(isoprene-b-styrene-b-ethylene oxide) Triblock Copolymers. Macromolecules, 2002, 35, 7007-7017.	4.8	216
8	Ordered Network Phases in Linear Poly(isoprene-b-styrene-b-ethylene oxide) Triblock Copolymers. Macromolecules, 2004, 37, 8325-8341.	4.8	209
9	Salt Doping in PEO-Containing Block Copolymers: Counterion and Concentration Effects. Macromolecules, 2009, 42, 2672-2678.	4.8	181
10	Generating thickness gradients of thin polymer films via flow coating. Review of Scientific Instruments, 2006, 77, 023908.	1.3	176
11	Block Copolymer Vitrimers. Journal of the American Chemical Society, 2020, 142, 283-289.	13.7	172
12	Phase Behavior and Block Sequence Effects in Lithium Perchlorate-Doped Poly(isoprene-b-styrene-b-ethylene oxide) and Poly(styrene-b-isoprene-b-ethylene oxide) Triblock Copolymers. Macromolecules, 2003, 36, 2873-2881.	4.8	153
13	Ionic Conductivities of Block Copolymer Electrolytes with Various Conducting Pathways: Sample Preparation and Processing Considerations. Macromolecules, 2012, 45, 4689-4697.	4.8	139
14	Block copolymers: controlling nanostructure to generate functional materials â€" synthesis, characterization, and engineering. Chemical Science, 2016, 7, 1674-1689.	7.4	139
15	Network Phases in ABC Triblock Copolymers. Macromolecules, 2004, 37, 7085-7088.	4.8	138
16	Biobased building blocks for the rational design of renewable block polymers. Soft Matter, 2014, 10, 7405-7424.	2.7	136
17	Softwood Lignin-Based Methacrylate Polymers with Tunable Thermal and Viscoelastic Properties. Macromolecules, 2016, 49, 1286-1295.	4.8	134
18	Fibre-based composites from the integration of metalâ€"organic frameworks and polymers. Nature Reviews Materials, 2021, 6, 605-621.	48.7	128

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19	A Facile Method for Generating Designer Block Copolymers from Functionalized Lignin Model Compounds. ACS Sustainable Chemistry and Engineering, 2014, 2, 569-573.	6.7	125
20	Systematic Study on the Effect of Solvent Removal Rate on the Morphology of Solvent Vapor Annealed ABA Triblock Copolymer Thin Films. ACS Nano, 2012, 6, 459-466.	14.6	121
21	Synthesis and Characterization of Amphiphilic Cyclic Diblock Copolypeptoids from N-Heterocyclic Carbene-Mediated Zwitterionic Polymerization of N-Substituted N-Carboxyanhydride. Macromolecules, 2011, 44, 9574-9585.	4.8	118
22	From Tree to Tape: Direct Synthesis of Pressure Sensitive Adhesives from Depolymerized Raw Lignocellulosic Biomass. ACS Central Science, 2018, 4, 701-708.	11.3	116
23	<scp>l</scp>-Proline Functionalized Polymers Prepared by RAFT Polymerization and Their Assemblies as Supported Organocatalysts. Macromolecules, 2011, 44, 7233-7241.	4.8	111
24	Determination of Solventâ€“Polymer and Polymerâ€“Polymer Floryâ€“Huggins Interaction Parameters for Poly(3-hexylthiophene) via Solvent Vapor Swelling. Macromolecules, 2013, 46, 6533-6540.	4.8	111
25	100th Anniversary of Macromolecular Science Viewpoint: Polymers from Lignocellulosic Biomass. Current Challenges and Future Opportunities. ACS Macro Letters, 2020, 9, 476-493.	4.8	105
26	Phase Behavior of Lithium Perchlorate-Doped Poly(styrene-b-isoprene-b-ethylene oxide) Triblock Copolymers. Chemistry of Materials, 2002, 14, 1706-1714.	6.7	103
27	Gradient Solvent Vapor Annealing of Block Copolymer Thin Films Using a Microfluidic Mixing Device. Nano Letters, 2011, 11, 1351-1357.	9.1	93
28	Tuning the Morphology and Activity of Electrospun Polystyrene/UiO-66-NH₂ Metalâ€“Organic Framework Composites to Enhance Chemical Warfare Agent Removal. ACS Applied Materials & Interfaces, 2017, 9, 32248-32254.	8.0	93
29	Substrate Surface Energy Dependent Morphology and Dewetting in an ABC Triblock Copolymer Film. Langmuir, 2007, 23, 3355-3362.	3.5	82
30	Syringyl Methacrylate, a Hardwood Lignin-Based Monomer for High-T_g Polymeric Materials. ACS Macro Letters, 2016, 5, 574-578.	4.8	82
31	Mixed-Salt Effects on the Ionic Conductivity of Lithium-Doped PEO-Containing Block Copolymers. Macromolecules, 2011, 44, 8116-8123.	4.8	79
32	Harnessing the Power of Plastics: Nanostructured Polymer Systems in Lithium-Ion Batteries. ACS Energy Letters, 2017, 2, 1919-1936.	17.4	77
33	Redox Flow Battery Membranes: Improving Battery Performance by Leveraging Structureâ€“Property Relationships. ACS Energy Letters, 2021, 6, 158-176.	17.4	73
34	Single pot catalyst strategy to branched products via adhesive isomerization and hydrocracking of polyethylene over platinum tungstated zirconia. Applied Catalysis B: Environmental, 2021, 299, 120483.	20.2	71
35	PEGâ€“Polypeptide Block Copolymers as pH-Responsive Endosome-Solubilizing Drug Nanocarriers. Molecular Pharmaceutics, 2014, 11, 2420-2430.	4.6	70
36	Size evolution of highly amphiphilic macromolecular solution assemblies via a distinct bimodal pathway. Nature Communications, 2014, 5, 3599.	12.8	69

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37	Controlled ionic conductivity via tapered block polymer electrolytes. RSC Advances, 2015, 5, 12597-12604.	3.6	69
38	Potential Lignin-Derived Alternatives to Bisphenol A in Diamine-Hardened Epoxy Resins. ACS Sustainable Chemistry and Engineering, 2018, 6, 14812-14819.	6.7	67
39	Determination of Lithium-Ion Distributions in Nanostructured Block Polymer Electrolyte Thin Films by X-ray Photoelectron Spectroscopy Depth Profiling. ACS Nano, 2015, 9, 512-520.	14.6	66
40	A simple approach to characterizing block copolymer assemblies: graphene oxide supports for high contrast multi-technique imaging. Soft Matter, 2012, 8, 3322.	2.7	65
41	Ordered Three- and Five-ply Nanocomposites from ABC Block Terpolymer Microphase Separation with Niobia and Aluminosilicate Sols. Chemistry of Materials, 2009, 21, 5466-5473.	6.7	64
42	Aromatics from Lignocellulosic Biomass: A Platform for High-Performance Thermosets. ACS Sustainable Chemistry and Engineering, 2020, 8, 15072-15096.	6.7	64
43	Generation of Monolayer Gradients in Surface Energy and Surface Chemistry for Block Copolymer Thin Film Studies. ACS Nano, 2009, 3, 3977-3986.	14.6	61
44	Manipulating ordering transitions in interfacially modified block copolymers. Soft Matter, 2009, 5, 4757.	2.7	59
45	Double-Gyroid Network Morphology in Tapered Diblock Copolymers. Macromolecules, 2011, 44, 3910-3915.	4.8	54
46	Effect of Methoxy Substituent Position on Thermal Properties and Solvent Resistance of Lignin-Inspired Poly(dimethoxyphenyl methacrylate)s. ACS Macro Letters, 2017, 6, 802-807.	4.8	54
47	RAFT polymerization and associated reactivity ratios of methacrylate-functionalized mixed bio-oil constituents. Polymer Chemistry, 2015, 6, 5728-5739.	3.9	50
48	Spatial and Orientation Control of Cylindrical Nanostructures in ABA Triblock Copolymer Thin Films by Raster Solvent Vapor Annealing. ACS Nano, 2012, 6, 9855-9862.	14.6	48
49	Sustainability of Synthetic Plastics: Considerations in Materials Life-Cycle Management. Jacs Au, 2022, 2, 3-11.	7.9	43
50	Determination of Interfacial Mixing in Tapered Block Polymer Thin Films: Experimental and Theoretical Investigations. Macromolecules, 2016, 49, 5213-5222.	4.8	42
51	Charging toward improved lithium-ion polymer electrolytes: exploiting synergistic experimental and computational approaches to facilitate materials design. Molecular Systems Design and Engineering, 2019, 4, 223-238.	3.4	41
52	Structural changes in block copolymer micelles induced by cosolvent mixtures. Soft Matter, 2011, 7, 7094.	2.7	39
53	Manipulating Nanoscale Morphologies in Cylinder-Forming Poly(styrene-b-isoprene-b-styrene) Thin Films Using Film Thickness and Substrate Surface Chemistry Gradients. Macromolecules, 2013, 46, 1803-1811.	4.8	39
54	Interfacial Manipulations: Controlling Nanoscale Assembly in Bulk, Thin Film, and Solution Block Copolymer Systems. Langmuir, 2013, 29, 3864-3878.	3.5	39

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55	Quantifying Lithium Salt and Polymer Density Distributions in Nanostructured Ion-Conducting Block Polymers. Macromolecules, 2018, 51, 1917-1926.	4.8	39
56	Recent developments towards performance-enhancing lignin-based polymers. Polymer Chemistry, 2021, 12, 4130-4158.	3.9	39
57	Crystallization-Induced Lamellar-to-Lamellar Thermal Transition in Salt-Containing Block Copolymer Electrolytes. Macromolecules, 2008, 41, 6276-6279.	4.8	38
58	Design and Synthesis of Network-Forming Triblock Copolymers Using Tapered Block Interfaces. ACS Macro Letters, 2012, 1, 519-523.	4.8	38
59	Catalytic Y-tailed amphiphilic homopolymers â€“ aqueous nanoreactors for high activity, low loading SCS pincer catalysts. Polymer Chemistry, 2013, 4, 2033.	3.9	37
60	Lightâ€Mediated Activation of siRNA Release in Diblock Copolymer Assemblies for Controlled Gene Silencing. Advanced Healthcare Materials, 2015, 4, 760-770.	7.6	37
61	Effect of Molecular Weight on Network Formation in Linear ABC Triblock Copolymers. Macromolecules, 2006, 39, 2676-2682.	4.8	35
62	Structural Characterization of Amphiphilic Homopolymer Micelles Using Light Scattering, SANS, and Cryo-TEM. Macromolecules, 2013, 46, 6319-6325.	4.8	34
63	MOFwich: Sandwiched Metalâ€“Organic Framework-Containing Mixed Matrix Composites for Chemical Warfare Agent Removal. ACS Applied Materials & Interfaces, 2018, 10, 6820-6824.	8.0	34
64	Phase Transformations Involving Network Phases in ISO Triblock Copolymerâ^'Homopolymer Blends. Macromolecules, 2005, 38, 8775-8784.	4.8	33
65	Phase Behavior of Neat Triblock Copolymers and Copolymer/Homopolymer Blends Near Network Phase Windows. Macromolecules, 2010, 43, 9039-9048.	4.8	32
66	Evaluation of Estrogenic Activity of Novel Bisphenol A Alternatives, Four Bioinspired Bisguaiacol F Specimens, by in Vitro Assays. Journal of Agricultural and Food Chemistry, 2018, 66, 11775-11783.	5.2	32
67	Hollow Block Copolymer Nanoparticles through a Spontaneous One-step Structural Reorganization. ACS Nano, 2013, 7, 1120-1128.	14.6	31
68	Flexible SIS/HKUST-1 Mixed Matrix Composites as Protective Barriers against Chemical Warfare Agent Simulants. ACS Applied Materials & Interfaces, 2018, 10, 43080-43087.	8.0	31
69	Writing Highly Ordered Macroscopic Patterns in Cylindrical Block Polymer Thin Films via Raster Solvent Vapor Annealing and Soft Shear. ACS Macro Letters, 2015, 4, 516-520.	4.8	30
70	Ambient-pressure lignin valorization to high-performance polymers by intensified reductive catalytic deconstruction. Science Advances, 2022, 8, eabj7523.	10.3	30
71	Investigation of Thermally Responsive Block Copolymer Thin Film Morphologies Using Gradients. ACS Applied Materials & Interfaces, 2010, 2, 3241-3248.	8.0	29
72	Domain Spacing and Composition Profile Behavior in Salt-Doped Cyclic vs Linear Block Polymer Thin Films: A Joint Experimental and Simulation Study. Macromolecules, 2017, 50, 7169-7176.	4.8	27

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73	Synthesis and characterization of bicontinuous cubic poly(3,4-ethylene dioxythiophene) gyroid (PEDOT GYR) gels. Physical Chemistry Chemical Physics, 2015, 17, 5115-5123.	2.8	26
74	Block copolymer thin films: Characterizing nanostructure evolution with in situ X-ray and neutron scattering. Polymer, 2016, 105, 545-561.	3.8	26
75	Enhanced Conductivity via Homopolymer-Rich Pathways in Block Polymer-Blended Electrolytes. Macromolecules, 2019, 52, 9682-9692.	4.8	26
76	Catch and release: photocleavable cationic diblock copolymers as a potential platform for nucleic acid delivery. Polymer Chemistry, 2014, 5, 5535-5541.	3.9	25
77	Controlling Particle Location with Mixed Surface Functionalities in Block Copolymer Thin Films. Chemistry of Materials, 2012, 24, 2627-2634.	6.7	24
78	Unlocking Chain Exchange in Highly Amphiphilic Block Polymer Micellar Systems: Influence of Agitation. ACS Macro Letters, 2014, 3, 1106-1111.	4.8	24
79	Decoupling Substrate Surface Interactions in Block Polymer Thin Film Self-Assembly. Macromolecules, 2015, 48, 4572-4580.	4.8	24
80	Multivariate CuBTC Metalâ€“Organic Framework with Enhanced Selectivity, Stability, Compatibility, and Processability. Chemistry of Materials, 2019, 31, 8459-8465.	6.7	24
81	Exploiting Feedstock Diversity To Tune the Chemical and Tribological Properties of Lignin-Inspired Polymer Coatings. ACS Sustainable Chemistry and Engineering, 2018, 6, 6856-6866.	6.7	23
82	Coating Architects: Manipulating Multiscale Structures To Optimize Interfacial Properties for Coating Applications. ACS Applied Polymer Materials, 2019, 1, 2249-2266.	4.4	23
83	Methoxy groups reduced the estrogenic activity of lignin-derivable replacements relative to bisphenol A and bisphenol F as studied through two in vitro assays. Food Chemistry, 2021, 338, 127656.	8.2	23
84	Tuning Block Polymer Structure, Properties, and Processability for the Design of Efficient Nanostructured Materials Systems. Macromolecular Chemistry and Physics, 2017, 218, 1600513.	2.2	22
85	Innovations Toward the Valorization of Plastics Waste. Annual Review of Materials Research, 2022, 52, 249-280.	9.3	21
86	Using tapered interfaces to manipulate nanoscale morphologies in ion-doped block polymers. MRS Communications, 2015, 5, 251-256.	1.8	19
87	Force-induced cleavage of a labile bond for enhanced mechanochemical crosslinking. Polymer Chemistry, 2017, 8, 6485-6489.	3.9	18
88	Impact of Homopolymer Pore Expander on the Morphology of Mesoporous Carbon Films Using Organicâ€“Organic Self-Assembly. Journal of Physical Chemistry C, 2012, 116, 6038-6046.	3.1	17
89	Metal oxide arrays from block copolymer thin film templates. Journal of Materials Chemistry A, 2015, 3, 7822-7829.	10.3	17
90	Efficient tuning of siRNA dose response by combining mixed polymer nanocarriers with simple kinetic modeling. Acta Biomaterialia, 2017, 50, 407-416.	8.3	17

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91	Preparation of Combinatorial Arrays of Polymer Thin Films for Transmission Electron Microscopy Analysis. ACS Combinatorial Science, 2008, 10, 966-973.	3.3	16
92	Inducing Order from Disordered Copolymers: On Demand Generation of Triblock Morphologies Including Networks. Macromolecules, 2012, 45, 4599-4605.	4.8	16
93	Tracking Solvent Distribution in Block Polymer Thin Films during Solvent Vapor Annealing with in Situ Neutron Scattering. Macromolecules, 2016, 49, 7525-7534.	4.8	16
94	Mapping Substrate Surface Field Propagation in Block Polymer Thin Films. Macromolecules, 2016, 49, 574-580.	4.8	16
95	Slow release kinetics of mitoxantrone from ordered mesoporous carbon films. Microporous and Mesoporous Materials, 2012, 160, 143-150.	4.4	15
96	Mechanistic Design of Polymer Nanocarriers to Spatiotemporally Control Gene Silencing. ACS Biomaterials Science and Engineering, 2016, 2, 1582-1594.	5.2	15
97	Kinetics of Domain Alignment in Block Polymer Thin Films during Solvent Vapor Annealing with Soft Shear: An in Situ Small-Angle Neutron Scattering Investigation. Macromolecules, 2017, 50, 5367-5376.	4.8	15
98	Nanoscale Networks in Poly[isopreneâ€blockâ€styreneâ€blockâ€(methyl methacrylate)] Triblock Copolymers. Macromolecular Rapid Communications, 2009, 30, 1751-1755.	3.9	14
99	Manipulating morphology and orientation in thermally responsive block copolymer thin films. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 263-271.	2.1	14
100	Bentâ€Butâ€Notâ€Broken: Reactive Metalâ€Organic Framework Composites from Elastomeric Phaseâ€Inverted Polymers. Advanced Functional Materials, 2020, 30, 2005517.	14.9	14
101	Nanostructured Block Polymer Electrolytes: Tailoring Self-Assembly to Unlock the Potential in Lithium-Ion Batteries. Accounts of Chemical Research, 2021, 54, 4342-4353.	15.6	14
102	Poly(methyl methacrylate-block-vinyl-m-triphenylamine): synthesis by RAFT polymerization and melt-state self-assembly. Soft Matter, 2013, 9, 10146.	2.7	13
103	Unexpected Tribological Synergy in Polymer Blend Coatings: Leveraging Phase Separation to Isolate Domain Size Effects and Reduce Friction. ACS Applied Materials & Interfaces, 2017, 9, 34480-34488.	8.0	13
104	Controlled vapor deposition approach to generating substrate surface energy/chemistry gradients. Review of Scientific Instruments, 2011, 82, 065103.	1.3	12
105	Effect of Partial Hydrogenation on the Phase Behavior of Poly(isoprene-b-styrene-b-methyl methacrylate) Triblock Copolymers. Macromolecules, 2012, 45, 8347-8355.	4.8	11
106	Anionic Polymer and Quantum Dot Excipients to Facilitate siRNA Release and Self-Reporting of Disassembly in Stimuli-Responsive Nanocarrier Formulations. Biomacromolecules, 2017, 18, 1814-1824.	5.4	11
107	Design and development of a robust photo-responsive block copolymer framework for tunable nucleic acid delivery and efficient gene silencing. Polymer Journal, 2018, 50, 711-723.	2.7	11
108	<scp>Metalâ€“organic framework polymer</scp> composite enhancement via acyl chloride modification. Polymer International, 2021, 70, 783-789.	3.1	11

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109	Quantifying the Effects of Monomer Segment Distributions on Ion Transport in Tapered Block Polymer Electrolytes. Macromolecules, 2021, 54, 7590-7602.	4.8	10
110	Dualâ€functional, aromatic, epoxyâ€methacrylate monomers from bioâ€based feedstocks and their respective epoxyâ€functional thermoplastics. Journal of Polymer Science, 2020, 58, 673-682.	3.8	9
111	Estrogenic activity of lignin-derivable alternatives to bisphenol A assessed via molecular docking simulations. RSC Advances, 2021, 11, 22149-22158.	3.6	9
112	Leveraging Gibbs Ensemble Molecular Dynamics and Hybrid Monte Carlo/Molecular Dynamics for Efficient Study of Phase Equilibria. Journal of Chemical Theory and Computation, 2016, 12, 5501-5510.	5.3	7
113	Directional Selfâ€Assembly of Fluorinated Star Block Polymer Thin Films Using Mixed Solvent Vapor Annealing. Journal of Polymer Science, Part B: Polymer Physics, 2019, 57, 1663-1672.	2.1	6
114	Predicting Gene Silencing Through the Spatiotemporal Control of siRNA Release from Photo-responsive Polymeric Nanocarriers. Journal of Visualized Experiments, 2017, , .	0.3	5
115	Attenuation of Maladaptive Responses in Aortic Adventitial Fibroblasts through Stimuliâ€Triggered siRNA Release from Lipidâ€“Polymer Nanocomplexes. Advanced Biology, 2017, 1, 1700099.	3.0	5
116	Impact of zinc salt counterion on poly(ethylene oxide) solution viscosity, conductivity, and ability to generate electrospun MOF/nanofiber composites. Polymer, 2022, 252, 124816.	3.8	5
117	From Lab to Fab: Enabling Enhanced Control of Block Polymer Thin-Film Nanostructures. ACS Applied Polymer Materials, 2021, 3, 4288-4303.	4.4	4
118	Kinetic Modeling to Accelerate the Development of Nucleic Acid Formulations. ACS Nano, 2021, 15, 16055-16066.	14.6	4
119	Inline Rolling Shear Alignment: Deposition and Long-Range Order of Block Polymer Templates in a Fast, Single-Step Process. ACS Applied Polymer Materials, 2022, 4, 682-691.	4.4	3
120	Real time laser interference microscopy for barâ€spread polystyrene/poly(methyl methacrylate) blends. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 985-992.	2.1	2
121	Virtual Congressional Education Briefing: End of Life for Bioplastics. Industrial Biotechnology, 2020, 16, 349-358.	0.8	2
122	Entrepreneurship in Polymer Chemistry. ACS Macro Letters, 2021, 10, 864-872.	4.8	1
123	Poly(ethylene oxide) crystallite growth during solvent vapor annealing in block polymer thin films. Materials Today, 2020, 37, 144-145.	14.2	0
124	Enhanced Conductivity via Homopolymer-Rich Pathways in Block Polymer-Blended Electrolytes. Macromolecules, 2019, 52, .	4.8	0