

# Nathaniel A Lynd

## List of Publications by Year in descending order

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94  
papers

5,356  
citations

76326

40  
h-index

88630

70  
g-index

98  
all docs

98  
docs citations

98  
times ranked

5753  
citing authors

#	ARTICLE	IF	CITATIONS
1	Polydispersity and block copolymer self-assembly. <i>Progress in Polymer Science</i> , 2008, 33, 875-893.	24.7	419
2	Machine learning-aided engineering of hydrolases for PET depolymerization. <i>Nature</i> , 2022, 604, 662-667.	27.8	396
3	Tunable, High Modulus Hydrogels Driven by Ionic Coacervation. <i>Advanced Materials</i> , 2011, 23, 2327-2331.	21.0	315
4	Influence of Polydispersity on the Self-Assembly of Diblock Copolymers. <i>Macromolecules</i> , 2005, 38, 8803-8810.	4.8	276
5	Renewable-Resource Thermoplastic Elastomers Based on Polylactide and Polymenthide. <i>Biomacromolecules</i> , 2007, 8, 3634-3640.	5.4	162
6	Linear versus Dendritic Molecular Binders for Hydrogel Network Formation with Clay Nanosheets: Studies with ABA Triblock Copolyethers Carrying Guanidinium Ion Pendants. <i>Journal of the American Chemical Society</i> , 2013, 135, 15650-15655.	13.7	149
7	Rewiring <i>Yarrowia lipolytica</i> toward triacetic acid lactone for materials generation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 2096-2101.	7.1	144
8	Allyl Glycidyl Ether-Based Polymer Electrolytes for Room Temperature Lithium Batteries. <i>Macromolecules</i> , 2013, 46, 8988-8994.	4.8	142
9	Effects of Polydispersity on the Order-Disorder Transition in Block Copolymer Melts. <i>Macromolecules</i> , 2007, 40, 8050-8055.	4.8	132
10	Mussel-Inspired Anchoring of Polymer Loops That Provide Superior Surface Lubrication and Antifouling Properties. <i>ACS Nano</i> , 2016, 10, 930-937.	14.6	128
11	Effects of Polymer and Salt Concentration on the Structure and Properties of Triblock Copolymer Coacervate Hydrogels. <i>Macromolecules</i> , 2013, 46, 1512-1518.	4.8	113
12	Synthetic Aptamer-Polymer Hybrid Constructs for Programmed Drug Delivery into Specific Target Cells. <i>Journal of the American Chemical Society</i> , 2014, 136, 15010-15015.	13.7	110
13	A General Approach to Controlling the Surface Composition of Poly(ethylene oxide)-Based Block Copolymers for Antifouling Coatings. <i>Langmuir</i> , 2011, 27, 13762-13772.	3.5	106
14	Poly(allyl glycidyl ether) a versatile and functional polyether platform. <i>Journal of Polymer Science Part A</i> , 2011, 49, 4498-4504.	2.3	104
15	$C_{22}$ -Symmetric Ni(II) $\pm$ -Diimines Featuring Cumyl-Derived Ligands: Synthesis of Improved Elastomeric Regioblock Polypropylenes. <i>Macromolecules</i> , 2008, 41, 9548-9555.	4.8	100
16	Sequence of Hydrophobic and Hydrophilic Residues in Amphiphilic Polymer Coatings Affects Surface Structure and Marine Antifouling/Fouling Release Properties. <i>ACS Macro Letters</i> , 2014, 3, 364-368.	4.8	96
17	Influence of Dielectric Constant on Ionic Transport in Polyether-Based Electrolytes. <i>ACS Macro Letters</i> , 2017, 6, 1362-1367.	4.8	89
18	Simple and Accurate Determination of Reactivity Ratios Using a Nonterminal Model of Chain Copolymerization. <i>Macromolecules</i> , 2015, 48, 6922-6930.	4.8	87

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19	Effect of Polymer Polarity on Ion Transport: A Competition between Ion Aggregation and Polymer Segmental Dynamics. ACS Macro Letters, 2018, 7, 1149-1154.	4.8	84
20	Theory of Polydisperse Block Copolymer Melts: Beyond the Schulz-Zimm Distribution. Macromolecules, 2008, 41, 4531-4533.	4.8	71
21	Toward Strong Thermoplastic Elastomers with Asymmetric Miktoarm Block Copolymer Architectures. Macromolecules, 2014, 47, 2037-2043.	4.8	69
22	Nonaqueous Polyelectrolyte Solutions as Liquid Electrolytes with High Lithium Ion Transference Number and Conductivity. ACS Energy Letters, 2017, 2, 481-487.	17.4	69
23	<i>Shewanella oneidensis</i> as a living electrode for controlled radical polymerization. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4559-4564.	7.1	68
24	Ketene Functionalized Polyethylene: Control of Cross-Link Density and Material Properties. Journal of the American Chemical Society, 2010, 132, 14706-14709.	13.7	67
25	Design of Soft and Strong Thermoplastic Elastomers Based on Nonlinear Block Copolymer Architectures Using Self-Consistent-Field Theory. Macromolecules, 2010, 43, 3479-3486.	4.8	67
26	Impact of Hydration and Sulfonation on the Morphology and Ionic Conductivity of Sulfonated Poly(phenylene) Proton Exchange Membranes. Macromolecules, 2019, 52, 857-876.	4.8	61
27	Phase behavior of electrostatically complexed polyelectrolyte gels using an embedded fluctuation model. Soft Matter, 2015, 11, 1214-1225.	2.7	58
28	Small Angle Neutron Scattering Study of Complex Coacervate Micelles and Hydrogels Formed from Ionic Diblock and Triblock Copolymers. Journal of Physical Chemistry B, 2014, 118, 13011-13018.	2.6	57
29	Reactivity Ratios and Mechanistic Insight for Anionic Ring-Opening Copolymerization of Epoxides. Macromolecules, 2012, 45, 3722-3731.	4.8	56
30	Functional block copolymer nanoparticles: toward the next generation of delivery vehicles. Polymer Chemistry, 2012, 3, 1618.	3.9	56
31	pH-triggered self-assembly of biocompatible histamine-functionalized triblock copolymers. Soft Matter, 2013, 9, 82-89.	2.7	55
32	Aerobic radical polymerization mediated by microbial metabolism. Nature Chemistry, 2020, 12, 638-646.	13.6	55
33	Mesostructured Block Copolymer Nanoparticles: Versatile Templates for Hybrid Inorganic/Organic Nanostructures. Chemistry of Materials, 2012, 24, 4036-4042.	6.7	51
34	Poly[(ethylene oxide)- <i>co</i> -(methylene ethylene oxide)]: A hydrolytically degradable poly(ethylene) Tj ETQq0 0 0 rgBT /Overlock 10	4.8	49
35	Fluidity and water in nanoscale domains define coacervate hydrogels. Chemical Science, 2014, 5, 58-67.	7.4	48
36	Synthesis of thermally stable Au-core/Pt-shell nanoparticles and their segregation behavior in diblock copolymer mixtures. Soft Matter, 2011, 7, 6255.	2.7	47

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37	Monitoring multicomponent transport using in situ ATR FTIR spectroscopy. <i>Journal of Membrane Science</i> , 2018, 550, 348-356.	8.2	47
38	Recommendation for Accurate Experimental Determination of Reactivity Ratios in Chain Copolymerization. <i>Macromolecules</i> , 2019, 52, 2277-2285.	4.8	45
39	Structural Evolution of Polyelectrolyte Complex Core Micelles and Ordered-Phase Bulk Materials. <i>Macromolecules</i> , 2014, 47, 8026-8032.	4.8	44
40	The role of polydispersity in the lamellar mesophase of model diblock copolymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2007, 45, 3386-3393.	2.1	43
41	Structure-Conductivity Relationships of Block Copolymer Membranes Based on Hydrated Protic Polymerized Ionic Liquids: Effect of Domain Spacing. <i>Macromolecules</i> , 2016, 49, 2216-2223.	4.8	43
42	Ring-Opening Polymerization of Epoxides: Facile Pathway to Functional Polyethers via a Versatile Organoaluminum Initiator. <i>Macromolecules</i> , 2017, 50, 3121-3130.	4.8	42
43	Creating Extremely Asymmetric Lamellar Structures via Fluctuation-Assisted Unbinding of Miktoarm Star Block Copolymer Alloys. <i>Journal of the American Chemical Society</i> , 2015, 137, 6160-6163.	13.7	41
44	Supramolecular guests in solvent driven block copolymer assembly: from internally structured nanoparticles to micelles. <i>Polymer Chemistry</i> , 2013, 4, 5038.	3.9	40
45	Processing-structure-mechanical property relationships of semicrystalline polyolefin-based block copolymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2010, 48, 1428-1437.	2.1	38
46	Understanding Poly(vinyl alcohol)-Mediated Ice Recrystallization Inhibition through Ice Adsorption Measurement and pH Effects. <i>Biomacromolecules</i> , 2018, 19, 248-255.	5.4	38
47	Physiologically relevant, pH-responsive PEG-based block and statistical copolymers with N,N-diisopropylamine units. <i>Polymer Chemistry</i> , 2013, 4, 5735.	3.9	36
48	Sequence-Dependent Peptide Surface Functionalization of Metal-Organic Frameworks. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 18601-18609.	8.0	35
49	Nanopatterning Biomolecules by Block Copolymer Self-Assembly. <i>ACS Macro Letters</i> , 2012, 1, 758-763.	4.8	33
50	Aperiodic "Bricks and Mortar" Mesophase: a New Equilibrium State of Soft Matter and Application as a Stiff Thermoplastic Elastomer. <i>Macromolecules</i> , 2015, 48, 5378-5384.	4.8	33
51	Controlling the polysulfide diffusion in lithium-sulfur batteries with a polymer membrane with intrinsic nanoporosity. <i>Materials Today Energy</i> , 2018, 7, 98-104.	4.7	31
52	Chemically Triggered Synthesis, Remodeling, and Degradation of Soft Materials. <i>Journal of the American Chemical Society</i> , 2020, 142, 3913-3922.	13.7	31
53	Novel Elastomers Prepared by Grafting <i>n</i> -Butyl Acrylate from Polyethylene Macroinitiator Copolymers. <i>Macromolecules</i> , 2009, 42, 8763-8768.	4.8	29
54	Thermally cross-linked daminophenylindane (DAPI) containing polyimides for membrane based gas separations. <i>Polymer</i> , 2019, 161, 16-26.	3.8	29

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55	Design of Polymer Blend Electrolytes through a Machine Learning Approach. <i>Macromolecules</i> , 2020, 53, 9449-9459.	4.8	29
56	Statistical Copolymerization of Epoxides and Lactones to High Molecular Weight. <i>Macromolecules</i> , 2017, 50, 2714-2723.	4.8	28
57	Coordination-Assisted Self-Assembled Polypeptide Nanogels to Selectively Combat Bacterial Infection. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 33599-33611.	8.0	27
58	Demystifying the Mechanism of Regio- and Isolelective Epoxide Polymerization Using the Vandenberg Catalyst. <i>Macromolecules</i> , 2018, 51, 1777-1786.	4.8	26
59	Hierarchically Ordered Nanopatterns for Spatial Control of Biomolecules. <i>ACS Nano</i> , 2014, 8, 11846-11853.	14.6	23
60	Histamine-functionalized copolymer micelles as a drug delivery system in 2D and 3D models of breast cancer. <i>Journal of Materials Chemistry B</i> , 2015, 3, 2472-2486.	5.8	20
61	Four-fold increase in epoxide polymerization rate with change of alkyl-substitution on mono- $\frac{1}{4}$ -oxo-dialuminum initiators. <i>Polymer Chemistry</i> , 2017, 8, 4503-4511.	3.9	20
62	Decoupling Catalysis and Chain-Growth Functions of Mono( $\frac{1}{4}$ -alkoxo)bis(alkylaluminums) in Epoxide Polymerization: Emergence of the Na-Al Adduct Catalyst. <i>ACS Catalysis</i> , 2018, 8, 8796-8803.	11.2	20
63	Synthetic strategy for preparing chiral double-semicrystalline polyether block copolymers. <i>Polymer Chemistry</i> , 2015, 6, 1465-1473.	3.9	19
64	Improving the Gas Barrier Properties of Nafion via Thermal Annealing: Evidence for Diffusion through Hydrophilic Channels and Matrix. <i>Macromolecules</i> , 2015, 48, 3303-3309.	4.8	19
65	Influence of Host Polarity on Correlating Salt Concentration, Molecular Weight, and Molar Conductivity in Polymer Electrolytes. <i>ACS Macro Letters</i> , 2019, 8, 888-892.	4.8	18
66	Self-Healing Thermoplastic Elastomers Formed from Triblock Copolymers with Dense 1,2,3-Triazole Blocks. <i>Macromolecules</i> , 2020, 53, 10323-10329.	4.8	17
67	Role of Side-Chain Architecture in Poly(ethylene oxide)-Based Copolymers. <i>Macromolecules</i> , 2020, 53, 4960-4967.	4.8	17
68	Mechanism of Polymer-Mediated Cryopreservation Using Poly(methyl glycidyl sulfoxide). <i>Biomacromolecules</i> , 2020, 21, 3047-3055.	5.4	17
69	Relationship between Ionic Conductivity, Glass Transition Temperature, and Dielectric Constant in Poly(vinyl ether) Lithium Electrolytes. <i>ACS Macro Letters</i> , 2021, 10, 1002-1007.	4.8	17
70	Cooperative and Sequential Phase Transitions in Poly(propylene oxide)-poly(ethylene) Tj ETQq0 0 0 rgBT /Overlock 10 3069-3079.	4.8	15
71	Effect of Host Incompatibility and Polarity Contrast on Ion Transport in Ternary Polymer-Polymer-Salt Blend Electrolytes. <i>Macromolecules</i> , 2020, 53, 875-884.	4.8	15
72	Numerical self-consistent field theory of multicomponent polymer blends in the Gibbs ensemble. <i>Soft Matter</i> , 2013, 9, 11288.	2.7	14

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73	Phase Coexistence Calculations of Reversibly Bonded Block Copolymers: A Unit Cell Gibbs Ensemble Approach. <i>Macromolecules</i> , 2014, 47, 1865-1874.	4.8	13
74	Compositionally Controlled Polyether Membranes via Mono( $\frac{1}{4}$ -alkoxo)bis(alkylaluminum)-Initiated Chain-Growth Network Epoxide Polymerization: Synthesis and Transport Properties. <i>Macromolecules</i> , 2020, 53, 1191-1198.	4.8	13
75	A facile synthesis of catecholâ€functionalized poly(ethylene oxide) block and random copolymers. <i>Journal of Polymer Science Part A</i> , 2015, 53, 2685-2692.	2.3	12
76	Symmetric Poly(ethylene oxide- <i>b</i> -styrene- <i>b</i> -isoprene) Triblock Copolymers: Synthesis, Characterization, and Self-Assembly in Bulk and Thin Film. <i>Macromolecules</i> , 2014, 47, 6373-6381.	4.8	11
77	Impact of Macromonomer Molar Mass and Feed Composition on Branch Distributions in Model Graft Copolymerizations. <i>ACS Macro Letters</i> , 2021, 10, 1622-1628.	4.8	11
78	Probing the Effect of Molecular Nonuniformity in Directed Self-Assembly of Diblock Copolymers in Nanoconfined Space. <i>ACS Nano</i> , 2015, 9, 9594-9602.	14.6	10
79	A synthetic strategy for the preparation of sub-100 nm functional polymer particles of uniform diameter. <i>Polymer Chemistry</i> , 2015, 6, 1431-1435.	3.9	9
80	De Novo Synthesis of Phosphorylated Triblock Copolymers with Pathogen Virulence-Suppressing Properties That Prevent Infection-Related Mortality. <i>ACS Biomaterials Science and Engineering</i> , 2017, 3, 2076-2085.	5.2	9
81	Morphology reâ€entry in asymmetric PSâ€PIâ€PS' triblock copolymer and PS homopolymer blends. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2016, 54, 169-179.	2.1	8
82	Modes of Interaction in Binary Blends of Hydrophobic Polyethers and Imidazolium Bis(trifluoromethylsulfonyl)imide Ionic Liquids. <i>Macromolecules</i> , 2020, 53, 6519-6528.	4.8	8
83	â€Benchtopâ€Biaryl Coupling Using Pd/Cu Cocatalysis: Application to the Synthesis of Conjugated Polymers. <i>Organic Letters</i> , 2021, 23, 2873-2877.	4.6	8
84	Non-intuitive Trends in Floryâ€Huggins Interaction Parameters in Polyether-Based Polymers. <i>Macromolecules</i> , 2021, 54, 6670-6677.	4.8	8
85	Controlling Architecture and Mechanical Properties of Polyether Networks with Organoaluminum Catalysts. <i>Macromolecules</i> , 2022, 55, 5601-5609.	4.8	8
86	Controlled coâ€solvent vapor annealing and the importance of quenching conditions in thinâ€film block copolymer selfâ€assembly. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2017, 55, 1125-1130.	2.1	7
87	Spatial Control of the Self-assembled Block Copolymer Domain Orientation and Alignment on Photopatterned Surfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 23399-23409.	8.0	7
88	Biocompatible Materials Enabled by Biobased Production of Pyomelanin Isoforms Using an Engineered <i>Yarrowia lipolytica</i> . <i>Advanced Functional Materials</i> , 2022, 32, 2109366.	14.9	5
89	Effects of Poly(glycidyl ether) Structure and Ether Oxygen Placement on CO <sub>2</sub> Solubility. <i>Journal of Chemical &amp; Engineering Data</i> , 2021, 66, 2832-2843.	1.9	4
90	Boric acid removal with polyol-functionalized polyether membranes. <i>Journal of Membrane Science</i> , 2021, 638, 119690.	8.2	4

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91	Unusual Thermal Properties of Certain Poly(3,5-disubstituted styrene)s. <i>Macromolecules</i> , 2020, 53, 5504-5511.	4.8	2
92	Modular Hydrogels: Tunable, High Modulus Hydrogels Driven by Ionic Coacervation ( <i>Adv. Mater.</i> ) Tj ETQq0 0 0 rgBT/Overlock 10 Tf 50 7	21.0	1
93	Concurrent Ring-Opening/Ring-Closing Polymerization of Glycidyl Acetate to Acid-Degradable Poly(ether-<i>co</i>-orthoester) Materials Using a Mono(1/4-alkoxo)bis(alkylaluminum) Initiator. <i>Macromolecules</i> , 2022, 55, 2797-2805.	4.8	1
94	Early-career investigator special issue. <i>Journal of Polymer Science</i> , 2021, 59, 2364-2364.	3.8	0