Alshakim Nelson

List of Publications by Year
in descending order

78 papers	4,980 citations	71102 41 h-index	91884 69 g-index
81 all docs	81 docs citations	81 times ranked	6636 citing authors

#	Article	IF	Citations
1	Multivalency and Cooperativity in Supramolecular Chemistry. Accounts of Chemical Research, 2005, 38, 723-732.	15.6	609
2	A Simple and Efficient Synthesis of Functionalized Cyclic Carbonate Monomers Using a Versatile Pentafluorophenyl Ester Intermediate. Journal of the American Chemical Society, 2010, 132, 14724-14726.	13.7	179
3	Hydrogen bonding-enhanced micelle assemblies for drug delivery. Biomaterials, 2010, 31, 8063-8071.	11.4	170
4	Synthesis of a family of amphiphilic glycopolymers via controlled ring-opening polymerization of functionalized cyclic carbonates and their application in drug delivery. Biomaterials, 2010, 31, 2637-2645.	11.4	161
5	A Self-Assembled Multivalent Pseudopolyrotaxane for Binding Galectin-1. Journal of the American Chemical Society, 2004, 126, 11914-11922.	13.7	159
6	The role of polymer mechanochemistry in responsive materials and additive manufacturing. Nature Reviews Materials, 2021, 6, 84-98.	48.7	151
7	Stimuli-responsive materials in additive manufacturing. Progress in Polymer Science, 2019, 93, 36-67.	24.7	148
8	Dual-Responsive Hydrogels for Direct-Write 3D Printing. Macromolecules, 2015, 48, 6482-6488.	4.8	147
9	Compartmentalized microbes and co-cultures in hydrogels for on-demand bioproduction and preservation. Nature Communications, 2020, 11, 563.	12.8	134
10	Organocatalytic Living Ring-Opening Polymerization of Cyclic Carbosiloxanes. Organic Letters, 2006, 8, 4683-4686.	4.6	120
11	Monolayer Assembly of Ferrimagnetic Co_xFe_{3â€“x}O₄ Nanocubes for Magnetic Recording. Nano Letters, 2014, 14, 3395-3399.	9.1	117
12	Chemical modification and printability of shear-thinning hydrogel inks for direct-write 3D printing. Polymer, 2018, 152, 42-50.	3.8	116
13	Self-Assembled Ferrimagnetâ^'Polymer Composites for Magnetic Recording Media. Nano Letters, 2010, 10, 3216-3221.	9.1	112
14	3D bioprinting of mechanically tuned bioinks derived from cardiac decellularized extracellular matrix. Acta Biomaterialia, 2021, 119, 75-88.	8.3	110
15	Hydrogenâ€Bonding Catalysts Based on Fluorinated Alcohol Derivatives for Living Polymerization. Angewandte Chemie - International Edition, 2009, 48, 5170-5173.	13.8	107
16	Sustainable Materials and Chemical Processes for Additive Manufacturing. Chemistry of Materials, 2020, 32, 7105-7119.	6.7	101
17	Magnetically-responsive self assembled composites. Chemical Society Reviews, 2010, 39, 4057.	38.1	100
18	Facile postpolymerization endâ€modification of RAFT polymers. Journal of Polymer Science Part A, 2009, 47, 346-356.	2.3	90

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19	Supramolecular nanostructures designed for high cargo loading capacity and kinetic stability. Nano Today, 2010, 5, 515-523.	11.9	90
20	Additive Manufacturing of Catalytically Active Living Materials. ACS Applied Materials & Interfaces, 2018, 10, 13373-13380.	8.0	89
21	Bifunctional hydrogel coatings for water purification membranes: Improved fouling resistance and antimicrobial activity. Journal of Membrane Science, 2011, 372, 285-291.	8.2	88
22	Broad-Spectrum Antimicrobial Supramolecular Assemblies with Distinctive Size and Shape. ACS Nano, 2012, 6, 9191-9199.	14.6	87
23	Amplification of Dynamic Chiral Crown Ether Complexes During Cyclic Acetal Formation. Angewandte Chemie - International Edition, 2003, 42, 4220-4224.	13.8	83
24	3D Printing Ionogel Auxetic Frameworks for Stretchable Sensors. Advanced Materials Technologies, 2019, 4, 1900452.	5.8	78
25	Accessing New Materials through Polymerization and Modification of a Polycarbonate with a Pendant Activated Ester. Macromolecules, 2013, 46, 1283-1290.	4.8	74
26	Engineering interactions. Nature Materials, 2008, 7, 523-525.	27.5	72
27	100th Anniversary of Macromolecular Science Viewpoint: Macromolecular Materials for Additive Manufacturing. ACS Macro Letters, 2020, 9, 627-638.	4.8	69
28	4D Printing of Multiâ€Stimuli Responsive Proteinâ€Based Hydrogels for Autonomous Shape Transformations. Advanced Functional Materials, 2021, 31, 2011012.	14.9	65
29	Catalyst Chelation Effects in Organocatalyzed Ring-Opening Polymerization of Lactide. ACS Macro Letters, 2012, 1, 19-22.	4.8	64
30	Hydrophilic Polycarbonates: Promising Degradable Alternatives to Poly(ethylene glycol)-Based Stealth Materials. Macromolecules, 2015, 48, 1673-1678.	4.8	64
31	3D printed coaxial nozzles for the extrusion of hydrogel tubes toward modeling vascular endothelium. Biofabrication, 2019, 11, 045009.	7.1	63
32	Dynamic Multivalent Lactosides Displayed on Cyclodextrin Beads Dangling from Polymer Strings. Organic Letters, 2003, 5, 3783-3786.	4.6	58
33	Monodisperse Cobalt Ferrite Nanomagnets with Uniform Silica Coatings. Langmuir, 2010, 26, 17546-17551.	3.5	58
34	Additive Manufacturing of Bovine Serum Albumin-Based Hydrogels and Bioplastics. Biomacromolecules, 2020, 21, 484-492.	5.4	56
35	Cross-linkable multi-stimuli responsive hydrogel inks for direct-write 3D printing. Polymer Chemistry, 2017, 8, 4199-4206.	3.9	53
36	Self-Assembly with Block Copolymers through Metal Coordination of SCSâ€“PdII Pincer Complexes and Pseudorotaxane Formation. Chemistry - A European Journal, 2006, 12, 3789-3797.	3.3	50

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37	Delivery of Anticancer Drugs Using Polymeric Micelles Stabilized by Hydrogenâ€Bonding Urea Groups. Macromolecular Rapid Communications, 2010, 31, 1187-1192.	3.9	50
38	Chemically Defined Sialoside Scaffolds for Investigation of Multivalent Interactions with Sialic Acid Binding Proteinsâ€. Journal of Organic Chemistry, 2003, 68, 8485-8493.	3.2	48
39	Template-Directed Olefin Cross Metathesis. Organic Letters, 2005, 7, 4213-4216.	4.6	48
40	Template-Directed One-Step Synthesis of Cyclic Trimers by ADMET. Journal of the American Chemical Society, 2006, 128, 15358-15359.	13.7	47
41	Multivalent Interactions between Lectins and Supramolecular Complexes: Galectin-1 and Self-Assembled Pseudopolyrotaxanes. Chemistry and Biology, 2007, 14, 1140-1151.	6.0	45
42	Catalytically Initiated Gel-in-Gel Printing of Composite Hydrogels. ACS Applied Materials & Interfaces, 2017, 9, 40898-40904.	8.0	44
43	Scalar Coupling Across the Hydrogen Bond in 1,3- and 1,4-Diols. Organic Letters, 2000, 2, 2077-2080.	4.6	41
44	Using Equilibrium Isotope Effects To Detect Intramolecular OH/OH Hydrogen Bonds:Â Structural and Solvent Effects. Journal of the American Chemical Society, 2002, 124, 2931-2938.	13.7	40
45	Thermally Induced Nanoimprinting of Biodegradable Polycarbonates Using Dynamic Covalent Cross-Links. ACS Macro Letters, 2013, 2, 19-22.	4.8	39
46	Small changes with big effects: Tuning polymer properties with supramolecular interactions. Journal of Polymer Science Part A, 2016, 54, 457-472.	2.3	32
47	Physical Confinement Impacts Cellular Phenotypes within Living Materials. ACS Applied Bio Materials, 2020, 3, 4273-4281.	4.6	30
48	Cellâ€Laden Hydrogels for Multikingdom 3D Printing. Macromolecular Bioscience, 2020, 20, e2000121.	4.1	29
49	Developments in Dynamic Covalent Chemistries from the Reaction of Thiols with Hexahydrotriazines. Journal of the American Chemical Society, 2015, 137, 14248-14251.	13.7	28
50	Exploring the versatility of hydrogels derived from living organocatalytic ring-opening polymerization. Soft Matter, 2010, 6, 2006.	2.7	26
51	3D-Printed Bioplastics with Shape-Memory Behavior Based on Native Bovine Serum Albumin. ACS Applied Materials & Interfaces, 2021, 13, 19193-19199.	8.0	26
52	Supramacromolecular Assembly Driven by Complementary Molecular Recognition. Macromolecules, 2007, 40, 1782-1785.	4.8	24
53	Development of polycarbonate-containing block copolymers for thin film self-assembly applications. Polymer Chemistry, 2016, 7, 940-950.	3.9	24
54	High-Throughput Directed Self-Assembly of Coreâ€“Shell Ferrimagnetic Nanoparticle Arrays. Langmuir, 2013, 29, 7472-7477.	3.5	23

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55	Mechanochromic composite elastomers for additive manufacturing and low strain mechanophore activation. Polymer Chemistry, 2019, 10, 5985-5991.	3.9	22
56	Mechano-Activated Objects with Multidirectional Shape Morphing Programmed via 3D Printing. ACS Applied Polymer Materials, 2020, 2, 2504-2508.	4.4	20
57	Tunable temperatureâ€•and shearâ€responsive hydrogels based on poly(alkyl glycidyl ether)s. Polymer International, 2019, 68, 1238-1246.	3.1	19
58	Synthesis of lactoside glycodendrons using photoaddition and reductive amination methodologies. Carbohydrate Research, 2004, 339, 2069-2075.	2.3	18
59	Monitoring cyclodextrinâ€“polyviologen pseudopolyrotaxanes with the Bradford assay. Organic and Biomolecular Chemistry, 2006, 4, 250-256.	2.8	17
60	Blends of PS-PMMA Diblock Copolymers with a Directionally Hydrogen Bonding Polymer Additive. Macromolecules, 2010, 43, 1199-1202.	4.8	16
61	Topographically directed self-assembly of goldnanoparticles. Journal of Materials Chemistry, 2011, 21, 16863.	6.7	15
62	Mechanoactivation of Color and Autonomous Shape Change in 3D-Printed Ionic Polymer Networks. ACS Applied Materials & Interfaces, 2021, 13, 19263-19270.	8.0	15
63	Bioproduced Proteins On Demand (Bio-POD) in hydrogels using Pichia pastoris. Bioactive Materials, 2021, 6, 2390-2399.	15.6	13
64	Simple and cost-effective polycondensation routes to antimicrobial consumer products. Polymer Chemistry, 2016, 7, 3923-3932.	3.9	11
65	Metabolism Control in 3D-Printed Living Materials Improves Fermentation. ACS Applied Bio Materials, 2021, 4, 7195-7203.	4.6	11
66	Facile chemical rearrangement for photopatterning of POSS derivatives. Journal of Materials Chemistry, 2011, 21, 14254.	6.7	9
67	Methacrylated Bovine Serum Albumin and Tannic Acid Composite Materials for Three-Dimensional Printing Tough and Mechanically Functional Parts. ACS Applied Materials & Interfaces, 2022, 14, 21418-21425.	8.0	9
68	Poly(alkyl glycidyl ether) hydrogels for harnessing the bioactivity of engineered microbes. Faraday Discussions, 2019, 219, 58-72.	3.2	8
69	Photocross-Linked Antimicrobial Amino-Siloxane Elastomers. ACS Applied Materials & Interfaces, 2021, 13, 22195-22203.	8.0	8
70	Direct-Ink Write 3D Printing Multistimuli-Responsive Hydrogels and Post-Functionalization Via Disulfide Exchange. ACS Applied Polymer Materials, 2022, 4, 3054-3061.	4.4	8
71	Sticky ends in a self-assembling ABA triblock copolymer: the role of ureas in stimuli-responsive hydrogels. Molecular Systems Design and Engineering, 2019, 4, 91-102.	3.4	7
72	Programmable Nanoparticle Ensembles via High-Throughput Directed Self-Assembly. Langmuir, 2013, 29, 3567-3574.	3.5	6

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73	Time-dependent covalent network formation in extrudable hydrogels. Polymer Chemistry, 2020, 11, 6910-6918.	3.9	5
74	Catalysts feel the force. Nature Chemistry, 2009, 1, 102-103.	13.6	4
75	Chemical advances in additive manufacturing. Polymer Chemistry, 2019, 10, 5948-5949.	3.9	1
76	Preparation of multivalent glycan micro- and nano-arrays: general discussion. Faraday Discussions, 2019, 219, 128-137.	3.2	1
77	Additive manufacturing of catalytically active living material hydrogels. , 2019, , .		1
78	Multidimensional micro- and nano-printing technologies: general discussion. Faraday Discussions, 2019, 219, 73-76.	3.2	0