Eric A Appel

List of Publications by Year
in descending order

101 papers	10,021 citations	57758 44 h-index	36028 97 g-index
122 all docs	122 docs citations	122 times ranked	11987 citing authors

#	Article	IF	Citations
1	Designing spatial and temporal control of vaccine responses. Nature Reviews Materials, 2022, 7, 174-195.	48.7	130
2	Real-time monitoring of drug pharmacokinetics within tumor tissue in live animals. Science Advances, 2022, 8, eabk2901.	10.3	26
3	PNP Hydrogel Prevents Formation of Symblephara in Mice After Ocular Alkali Injury. Translational Vision Science and Technology, 2022, 11, 31.	2.2	2
4	Injectable liposome-based supramolecular hydrogels for the programmable release of multiple protein drugs. Matter, 2022, 5, 1816-1838.	10.0	18
5	The living interface between synthetic biology and biomaterial design. Nature Materials, 2022, 21, 390-397.	27.5	68
6	Combinatorial Polyacrylamide Hydrogels for Preventing Biofouling on Implantable Biosensors. Advanced Materials, 2022, 34, e2109764.	21.0	56
7	Delivery of CAR-T cells in a transient injectable stimulatory hydrogel niche improves treatment of solid tumors. Science Advances, 2022, 8, eabn8264.	10.3	80
8	Sustained delivery approaches to improving adaptive immune responses. Advanced Drug Delivery Reviews, 2022, 187, 114401.	13.7	35
9	Self-Assembled, Dilution-Responsive Hydrogels for Enhanced Thermal Stability of Insulin Biopharmaceuticals. ACS Biomaterials Science and Engineering, 2021, 7, 4221-4229.	5.2	29
10	Highly Branched Polydimethylacrylamide Copolymers as Functional Biomaterials. Biomacromolecules, 2021, 22, 86-94.	5.4	9
11	A Quantitative Description for Designing the Extrudability of Shearâ€Thinning Physical Hydrogels. Macromolecular Bioscience, 2021, 21, e2000295.	4.1	68
12	A fluorescence sandwich immunoassay for the real-time continuous detection of glucose and insulin in live animals. Nature Biomedical Engineering, 2021, 5, 53-63.	22.5	44
13	Prolonged Codelivery of Hemagglutinin and a TLR7/8 Agonist in a Supramolecular Polymerâ€“Nanoparticle Hydrogel Enhances Potency and Breadth of Influenza Vaccination. ACS Biomaterials Science and Engineering, 2021, 7, 1889-1899.	5.2	38
14	Engineering biopharmaceutical formulations to improve diabetes management. Science Translational Medicine, 2021, 13, .	12.4	11
15	More than a fertilizer: wastewater-derived struvite as a high value, sustainable fire retardant. Green Chemistry, 2021, 23, 4510-4523.	9.0	18
16	Seasonal Impact of Phosphate-Based Fire Retardants on Soil Chemistry Following the Prophylactic Treatment of Vegetation. Environmental Science & Technology, 2021, 55, 2316-2323.	10.0	4
17	Injectable Supramolecular Polymer-Nanoparticle Hydrogels for Cell and Drug Delivery Applications. Journal of Visualized Experiments, 2021, , .	0.3	14
18	Physical networks from entropy-driven non-covalent interactions. Nature Communications, 2021, 12, 746.	12.8	55

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19	Enhanced Humoral Immune Response by High Density TLR Agonist Presentation on Hyperbranched Polymers. Advanced Therapeutics, 2021, 4, 2000081.	3.2	8
20	miR-106aâ€“363 cluster in extracellular vesicles promotes endogenous myocardial repair via Notch3 pathway in ischemic heart injury. Basic Research in Cardiology, 2021, 116, 19.	5.9	34
21	Full closed loop openâ€source algorithm performance comparison in pigs with diabetes. Clinical and Translational Medicine, 2021, 11, e387.	4.0	11
22	Modulation of injectable hydrogel properties for slow coâ€delivery of influenza subunit vaccine components enhance the potency of humoral immunity. Journal of Biomedical Materials Research - Part A, 2021, 109, 2173-2186.	4.0	24
23	Translational Applications of Hydrogels. Chemical Reviews, 2021, 121, 11385-11457.	47.7	438
24	Engineering Insulin Cold Chain Resilience to Improve Global Access. Biomacromolecules, 2021, 22, 3386-3395.	5.4	12
25	Affinity-Directed Dynamics of Hostâ€“Guest Motifs for Pharmacokinetic Modulation via Supramolecular PEGylation. Biomacromolecules, 2021, 22, 3565-3573.	5.4	9
26	Consistent tumorigenesis with self-assembled hydrogels enables high-powered murine cancer studies. Communications Biology, 2021, 4, 985.	4.4	5
27	Ultraâ€Fast Insulinâ€“Pramlintide Coâ€Formulation for Improved Glucose Management in Diabetic Rats. Advanced Science, 2021, 8, e2101575.	11.2	10
28	Isthmin-1 is an adipokine that promotes glucose uptake and improves glucose tolerance and hepatic steatosis. Cell Metabolism, 2021, 33, 1836-1852.e11.	16.2	56
29	Controlling properties of thermogels by tuning critical solution behaviour of ternary copolymers. Polymer Chemistry, 2021, 12, 1918-1923.	3.9	15
30	Dynamic Hydrogels for Prevention of Postâ€Operative Peritoneal Adhesions. Advanced Therapeutics, 2021, 4, 2000242.	3.2	17
31	Hydrogelâ€Based Slow Release of a Receptorâ€Binding Domain Subunit Vaccine Elicits Neutralizing Antibody Responses Against SARSâ€CoVâ€2. Advanced Materials, 2021, 33, e2104362.	21.0	48
32	Gelation and yielding behavior of <scp>polymerâ€“nanoparticle</scp> hydrogels. Journal of Polymer Science, 2021, 59, 2854-2866.	3.8	29
33	Structural considerations for physical hydrogels based on polymerâ€“nanoparticle interactions. Molecular Systems Design and Engineering, 2020, 5, 401-407.	3.4	22
34	Injectable supramolecular polymerâ€“nanoparticle hydrogels enhance human mesenchymal stem cell delivery. Bioengineering and Translational Medicine, 2020, 5, e10147.	7.1	55
35	A Nanoparticle Platform for Improved Potency, Stability, and Adjuvanticity of Poly(I:C). Advanced Therapeutics, 2020, 3, 1900174.	3.2	13
36	Engineered biomaterials for heart disease. Current Opinion in Biotechnology, 2020, 66, 246-254.	6.6	21

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37	Towards brain-tissue-like biomaterials. Nature Communications, 2020, 11, 3423.	12.8	71
38	The COVID-19 lockdowns: a window into the Earth System. Nature Reviews Earth & Environment, 2020, 1, 470-481.	29.7	153
39	Lipid Nanodiscs via Ordered Copolymers. CheM, 2020, 6, 2782-2795.	11.7	32
40	Injectable Hydrogels for Sustained Codelivery of Subunit Vaccines Enhance Humoral Immunity. ACS Central Science, 2020, 6, 1800-1812.	11.3	113
41	Nanoparticles Presenting Potent TLR7/8 Agonists Enhance Anti-PD-L1 Immunotherapy in Cancer Treatment. Biomacromolecules, 2020, 21, 3704-3712.	5.4	44
42	MRBLES 2.0: High-throughput generation of chemically functionalized spectrally and magnetically encoded hydrogel beads using a simple single-layer microfluidic device. Microsystems and Nanoengineering, 2020, 6, 109.	7.0	18
43	Reply to SantÃn et al.: Viscoelastic retardant fluids enable treatments to prevent wildfire on landscapes subject to routine ignitions. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5105-5106.	7.1	0
44	A co-formulation of supramolecularly stabilized insulin and pramlintide enhances mealtime glucagon suppression in diabetic pigs. Nature Biomedical Engineering, 2020, 4, 507-517.	22.5	52
45	Site-selective modification of proteins using cucurbit[7]uril as supramolecular protection for N-terminal aromatic amino acids. Organic and Biomolecular Chemistry, 2020, 18, 4371-4375.	2.8	7
46	An ultrafast insulin formulation enabled by high-throughput screening of engineered polymeric excipients. Science Translational Medicine, 2020, 12, .	12.4	46
47	Stable Monomeric Insulin Formulations Enabled by Supramolecular PEGylation of Insulin Analogues. Advanced Therapeutics, 2020, 3, 1900094.	3.2	26
48	Multi-phase catheter-injectable hydrogel enables dual-stage protein-engineered cytokine release to mitigate adverse left ventricular remodeling following myocardial infarction in a small animal model and a large animal model. Cytokine, 2020, 127, 154974.	3.2	26
49	A human mission to Mars: Predicting the bone mineral density loss of astronauts. PLoS ONE, 2020, 15, e0226434.	2.5	22
50	Use of a supramolecular polymeric hydrogel as an effective post-operative pericardial adhesion barrier. Nature Biomedical Engineering, 2019, 3, 611-620.	22.5	154
51	Injectable Polymerâ€“Nanoparticle Hydrogels for Local Immune Cell Recruitment. Biomacromolecules, 2019, 20, 4430-4436.	5.4	58
52	A Multiscale Model for Solute Diffusion in Hydrogels. Macromolecules, 2019, 52, 6889-6897.	4.8	126
53	Wildfire prevention through prophylactic treatment of high-risk landscapes using viscoelastic retardant fluids. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20820-20827.	7.1	27
54	A Biocompatible Therapeutic Catheterâ€Deliverable Hydrogel for In Situ Tissue Engineering. Advanced Healthcare Materials, 2019, 8, e1801147.	7.6	47

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55	Block copolymer composition drives function of selfâ€assembled nanoparticles for delivery of smallâ€molecule cargo. Journal of Polymer Science Part A, 2019, 57, 1322-1332.	2.3	21
56	Universal Scaling Behavior during Network Formation in Controlled Radical Polymerizations. Macromolecules, 2019, 52, 9456-9465.	4.8	10
57	Nonâ€Newtonian Polymerâ€“Nanoparticle Hydrogels Enhance Cell Viability during Injection. Macromolecular Bioscience, 2019, 19, e1800275.	4.1	49
58	Supramolecular polymeric biomaterials. Biomaterials Science, 2018, 6, 10-37.	5.4	129
59	Self-assembled biomaterials using host-guest interactions. , 2018, , 205-231.		6
60	Abstract 17133: A Novel, Shear-Thinning and Rapidly Self-Healing Polymer Nanoparticle Hydrogel Diminishes Post-Operative Adhesions in Rodent and Ovine Models of Cardiac Adhesion Formation. Circulation, 2018, 138, .	1.6	1
61	Single-Chain Polymeric Nanocarriers: A Platform for Determining Structureâ€“Function Correlations in the Delivery of Molecular Cargo. Biomacromolecules, 2017, 18, 1434-1439.	5.4	16
62	Mechanistic understanding of in vivo protein corona formation on polymeric nanoparticles and impact on pharmacokinetics. Nature Communications, 2017, 8, 777.	12.8	507
63	Synthesis and Biological Evaluation of Ionizable Lipid Materials for the In Vivo Delivery of Messenger RNA to B Lymphocytes. Advanced Materials, 2017, 29, 1606944.	21.0	174
64	Engineering the Mechanical Properties of Polymer Networks with Precise Doping of Primary Defects. ACS Applied Materials & Interfaces, 2017, 9, 42217-42224.	8.0	23
65	Decoupled Associative and Dissociative Processes in Strong yet Highly Dynamic Hostâ€“Guest Complexes. Journal of the American Chemical Society, 2017, 139, 12985-12993.	13.7	56
66	Distinguishing relaxation dynamics in transiently crosslinked polymeric networks. Polymer Chemistry, 2017, 8, 5336-5343.	3.9	49
67	Abstract 21311: A Novel, Shear-Assembling, Shear-Thinning Polymer-Nanoparticle Hydrogel Diminishes Post-Operative Thoracic Adhesions in a Rodent Model of Ischemic Cardiomyopathy. Circulation, 2017, 136, .	1.6	0
68	Supramolecular PEGylation of biopharmaceuticals. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14189-14194.	7.1	171
69	Scalable manufacturing of biomimetic moldable hydrogels for industrial applications. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14255-14260.	7.1	78
70	Injectable and Glucose-Responsive Hydrogels Based on Boronic Acidâ€“Glucose Complexation. Langmuir, 2016, 32, 8743-8747.	3.5	125
71	Bioinspired Alkenyl Amino Alcohol Ionizable Lipid Materials for Highly Potent In Vivo mRNA Delivery. Advanced Materials, 2016, 28, 2939-2943.	21.0	172
72	Supramolecular biomaterials. Nature Materials, 2016, 15, 13-26.	27.5	1,226

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73	Injectable Selfâ€Healing Glucoseâ€Responsive Hydrogels with pHâ€Regulated Mechanical Properties. Advanced Materials, 2016, 28, 86-91.	21.0	466
74	Synthesis of Conducting Polymerâ€“Metal Nanoparticle Hybrids Exploiting RAFT Polymerization. ACS Macro Letters, 2015, 4, 255-259.	4.8	21
75	Self-assembled hydrogels utilizing polymerâ€“nanoparticle interactions. Nature Communications, 2015, 6, 6295.	12.8	425
76	A facile method for the stain-free visualization of hierarchical structures with electron microscopy. Journal of Polymer Science Part A, 2015, 53, 842-845.	2.3	1
77	Exploiting Electrostatic Interactions in Polymerâ€“Nanoparticle Hydrogels. ACS Macro Letters, 2015, 4, 848-852.	4.8	95
78	Water soluble, biodegradable amphiphilic polymeric nanoparticles and the molecular environment of hydrophobic encapsulates: Consistency between simulation and experiment. Polymer, 2015, 79, 255-261.	3.8	10
79	Formation of Cucurbit[8]uril-Based Supramolecular Hydrogel Beads Using Droplet-Based Microfluidics. Biomacromolecules, 2015, 16, 2743-2749.	5.4	34
80	Nonâ€Cellâ€Adhesive Substrates for Printing of Arrayed Biomaterials. Advanced Healthcare Materials, 2015, 4, 501-505.	7.6	7
81	Activation Energies Control the Macroscopic Properties of Physically Crossâ€Linked Materials. Angewandte Chemie, 2014, 126, 10202-10207.	2.0	16
82	A nanoparticle solution. Nature Materials, 2014, 13, 231-232.	27.5	13
83	Healable, Stable and Stiff Hydrogels: Combining Conflicting Properties Using Dynamic and Selective Threeâ€Component Recognition with Reinforcing Cellulose Nanorods. Advanced Functional Materials, 2014, 24, 2706-2713.	14.9	227
84	Activation Energies Control the Macroscopic Properties of Physically Crossâ€Linked Materials. Angewandte Chemie - International Edition, 2014, 53, 10038-10043.	13.8	98
85	The control of cargo release from physically crosslinked hydrogels by crosslink dynamics. Biomaterials, 2014, 35, 9897-9903.	11.4	77
86	Dynamically crosslinked materials via recognition of amino acids by cucurbit[8]uril. Journal of Materials Chemistry B, 2013, 1, 2904.	5.8	55
87	Toward biodegradable nanogel star polymers via organocatalytic ROP. Chemical Communications, 2012, 48, 6163.	4.1	39
88	Supramolecular polymeric hydrogels. Chemical Society Reviews, 2012, 41, 6195.	38.1	988
89	Metastable single-chain polymer nanoparticles prepared by dynamic cross-linking with nor-seco-cucurbit[10]uril. Chemical Science, 2012, 3, 2278.	7.4	74
90	Triply Triggered Doxorubicin Release From Supramolecular Nanocontainers. Biomacromolecules, 2012, 13, 84-91.	5.4	174

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91	Enhanced stability and activity of temozolomide in primary glioblastoma multiforme cells with cucurbit[n]uril. Chemical Communications, 2012, 48, 9843.	4.1	80
92	Ultrahigh-Water-Content Supramolecular Hydrogels Exhibiting Multistimuli Responsiveness. Journal of the American Chemical Society, 2012, 134, 11767-11773.	13.7	409
93	Triggered insulin release studies of triply responsive supramolecular micelles. Polymer Chemistry, 2012, 3, 3180.	3.9	80
94	High molecular weight polyacrylamides by atom transfer radical polymerization: Enabling advancements in waterâ€based applications. Journal of Polymer Science Part A, 2012, 50, 181-186.	2.3	47
95	Formation of Singleâ€Chain Polymer Nanoparticles in Water through Hostâ€“Guest Interactions. Angewandte Chemie - International Edition, 2012, 51, 4185-4189.	13.8	145
96	Sustained release of proteins from high water content supramolecular polymer hydrogels. Biomaterials, 2012, 33, 4646-4652.	11.4	139
97	Postpolymerization Modification of Hydroxyl-Functionalized Polymers with Isocyanates. Macromolecules, 2011, 44, 4828-4835.	4.8	73
98	Supramolecular gold nanoparticleâ€“polymer composites formed in water with cucurbit[8]uril. Chemical Communications, 2011, 47, 164-166.	4.1	89
99	Supramolecular Cross-Linked Networks via Hostâ^'Guest Complexation with Cucurbit[8]uril. Journal of the American Chemical Society, 2010, 132, 14251-14260.	13.7	547
100	Hierarchical Supermolecular Structures for Sustained Drug Release. Small, 2009, 5, 1504-1507.	10.0	49
101	Simple Approach to Stabilized Micelles Employing Miktoarm Terpolymers and Stereocomplexes with Application in Paclitaxel Delivery. Biomacromolecules, 2009, 10, 1460-1468.	5.4	111