Eric A Appel

List of Publications by Citations

103 papers	6,891 citations	36 h-index	82 g-index
122 ext. papers	8,444 ext. citations	12.5 avg, IF	6.27 L-index

#	Paper	IF	Citations
103	Supramolecular biomaterials. *Nature Materials*, **2016**, 15, 13-26	27	971
102	Supramolecular polymeric hydrogels. *Chemical Society Reviews*, **2012**, 41, 6195-214	58.5	836
101	Supramolecular cross-linked networks via host-guest complexation with cucurbit[8]uril. *Journal of the American Chemical Society*, **2010**, 132, 14251-60	16.4	483
100	Ultrahigh-water-content supramolecular hydrogels exhibiting multistimuli responsiveness. *Journal of the American Chemical Society*, **2012**, 134, 11767-73	16.4	371
99	Mechanistic understanding of in vivo protein corona formation on polymeric nanoparticles and impact on pharmacokinetics. *Nature Communications*, **2017**, 8, 777	17.4	362
98	Self-assembled hydrogels utilizing polymer-nanoparticle interactions. *Nature Communications*, **2015**, 6, 6295	17.4	341
97	Injectable Self-Healing Glucose-Responsive Hydrogels with pH-Regulated Mechanical Properties. *Advanced Materials*, **2016**, 28, 86-91	24	340
96	Healable, Stable and Stiff Hydrogels: Combining Conflicting Properties Using Dynamic and Selective Three-Component Recognition with Reinforcing Cellulose Nanorods. *Advanced Functional Materials*, **2014**, 24, 2706-2713	15.6	197
95	Triply triggered doxorubicin release from supramolecular nanocontainers. *Biomacromolecules*, **2012**, 13, 84-91	6.9	159
94	Formation of single-chain polymer nanoparticles in water through host-guest interactions. *Angewandte Chemie - International Edition*, **2012**, 51, 4185-9	16.4	133
93	Sustained release of proteins from high water content supramolecular polymer hydrogels. *Biomaterials*, **2012**, 33, 4646-52	15.6	128
92	Bioinspired Alkenyl Amino Alcohol Ionizable Lipid Materials for Highly Potent In Vivo mRNA Delivery. *Advanced Materials*, **2016**, 28, 2939-43	24	125
91	Supramolecular PEGylation of biopharmaceuticals. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 14189-14194	11.5	121
90	Synthesis and Biological Evaluation of Ionizable Lipid Materials for the In Vivo Delivery of Messenger RNA to B Lymphocytes. *Advanced Materials*, **2017**, 29, 1606944	24	105
89	Simple approach to stabilized micelles employing miktoarm terpolymers and stereocomplexes with application in paclitaxel delivery. *Biomacromolecules*, **2009**, 10, 1460-8	6.9	104
88	Supramolecular polymeric biomaterials. *Biomaterials Science*, **2017**, 6, 10-37	7.4	97
87	Injectable and Glucose-Responsive Hydrogels Based on Boronic Acid-Glucose Complexation. *Langmuir*, **2016**, 32, 8743-7	4	93

86	The COVID-19 lockdowns: a window into the Earth System. *Nature Reviews Earth & Environment*, **2020**, 1, 470-481	30.2	90
85	Translational Applications of Hydrogels. *Chemical Reviews*, **2021**, 121, 11385-11457	68.1	87
84	Activation energies control the macroscopic properties of physically cross-linked materials. *Angewandte Chemie - International Edition*, **2014**, 53, 10038-43	16.4	84
83	Supramolecular gold nanoparticle-polymer composites formed in water with cucurbit[8]uril. *Chemical Communications*, **2011**, 47, 164-6	5.8	82
82	Use of a supramolecular polymeric hydrogel as an effective post-operative pericardial adhesion barrier. *Nature Biomedical Engineering*, **2019**, 3, 611-620	19	81
81	Triggered insulin release studies of triply responsive supramolecular micelles. *Polymer Chemistry*, **2012**, 3, 3180	4.9	72
80	Enhanced stability and activity of temozolomide in primary glioblastoma multiforme cells with cucurbit[n]uril. *Chemical Communications*, **2012**, 48, 9843-5	5.8	71
79	Exploiting Electrostatic Interactions in Polymer–Nanoparticle Hydrogels. *ACS Macro Letters*, **2015**, 4, 848-852	6.6	68
78	The control of cargo release from physically crosslinked hydrogels by crosslink dynamics. *Biomaterials*, **2014**, 35, 9897-9903	15.6	68
77	A Multiscale Model for Solute Diffusion in Hydrogels. *Macromolecules*, **2019**, 52, 6889-6897	5.5	65
76	Postpolymerization Modification of Hydroxyl-Functionalized Polymers with Isocyanates. *Macromolecules*, **2011**, 44, 4828-4835	5.5	60
75	Metastable single-chain polymer nanoparticles prepared by dynamic cross-linking with nor-seco-cucurbit[10]uril. *Chemical Science*, **2012**, 3, 2278	9.4	58
74	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	11.5	58
73	Dynamically crosslinked materials via recognition of amino acids by cucurbit[8]uril. *Journal of Materials Chemistry B*, **2013**, 1, 2904-2910	7.3	48
72	Hierarchical supermolecular structures for sustained drug release. *Small*, **2009**, 5, 1504-7	11	45
71	High molecular weight polyacrylamides by atom transfer radical polymerization: Enabling advancements in water-based applications. *Journal of Polymer Science Part A*, **2012**, 50, 181-186	2.5	44
70	Decoupled Associative and Dissociative Processes in Strong yet Highly Dynamic Host-Guest Complexes. *Journal of the American Chemical Society*, **2017**, 139, 12985-12993	16.4	43
69	Injectable Hydrogels for Sustained Codelivery of Subunit Vaccines Enhance Humoral Immunity. *ACS Central Science*, **2020**, 6, 1800-1812	16.8	38

68	Toward biodegradable nanogel star polymers via organocatalytic ROP. *Chemical Communications*, **2012**, 48, 6163-5	5.8	37
67	Distinguishing relaxation dynamics in transiently crosslinked polymeric networks. *Polymer Chemistry*, **2017**, 8, 5336-5343	4.9	35
66	Non-Newtonian Polymer-Nanoparticle Hydrogels Enhance Cell Viability during Injection. *Macromolecular Bioscience*, **2019**, 19, e1800275	5.5	35
65	Injectable Polymer-Nanoparticle Hydrogels for Local Immune Cell Recruitment. *Biomacromolecules*, **2019**, 20, 4430-4436	6.9	33
64	Injectable supramolecular polymer-nanoparticle hydrogels enhance human mesenchymal stem cell delivery. *Bioengineering and Translational Medicine*, **2020**, 5, e10147	14.8	31
63	Formation of Cucurbit[8]uril-Based Supramolecular Hydrogel Beads Using Droplet-Based Microfluidics. *Biomacromolecules*, **2015**, 16, 2743-9	6.9	29
62	A Biocompatible Therapeutic Catheter-Deliverable Hydrogel for In Situ Tissue Engineering. *Advanced Healthcare Materials*, **2019**, 8, e1801147	10.1	28
61	A co-formulation of supramolecularly stabilized insulin and pramlintide enhances mealtime glucagon suppression in diabetic pigs. *Nature Biomedical Engineering*, **2020**, 4, 507-517	19	28
60	Towards brain-tissue-like biomaterials. *Nature Communications*, **2020**, 11, 3423	17.4	28
59	A Quantitative Description for Designing the Extrudability of Shear-Thinning Physical Hydrogels. *Macromolecular Bioscience*, **2021**, 21, e2000295	5.5	25
58	Nanoparticles Presenting Potent TLR7/8 Agonists Enhance Anti-PD-L1 Immunotherapy in Cancer Treatment. *Biomacromolecules*, **2020**, 21, 3704-3712	6.9	21
57	Synthesis of Conducting Polymer–Metal Nanoparticle Hybrids Exploiting RAFT Polymerization. *ACS Macro Letters*, **2015**, 4, 255-259	6.6	20
56	Engineering the Mechanical Properties of Polymer Networks with Precise Doping of Primary Defects. *ACS Applied Materials & Interfaces*, **2017**, 9, 42217-42224	9.5	19
55	An ultrafast insulin formulation enabled by high-throughput screening of engineered polymeric excipients. *Science Translational Medicine*, **2020**, 12,	17.5	18
54	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	4	18
53	Designing spatial and temporal control of vaccine responses. *Nature Reviews Materials*, **2021**, 1-22	73.3	16
52	Lipid Nanodiscs via Ordered Copolymers. *CheM*, **2020**, 6, 2782-2795	16.2	15
51	A fluorescence sandwich immunoassay for the real-time continuous detection of glucose and insulin in live animals. *Nature Biomedical Engineering*, **2021**, 5, 53-63	19	15

50	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	11.5	14
49	Stable Monomeric Insulin Formulations Enabled by Supramolecular PEGylation of Insulin Analogues. *Advanced Therapeutics*, **2020**, 3, 1900094	4.9	14
48	Single-Chain Polymeric Nanocarriers: A Platform for Determining Structure-Function Correlations in the Delivery of Molecular Cargo. *Biomacromolecules*, **2017**, 18, 1434-1439	6.9	13
47	Block copolymer composition drives function of self-assembled nanoparticles for delivery of small-molecule cargo. *Journal of Polymer Science Part A*, **2019**, 57, 1322-1332	2.5	13
46	Activation Energies Control the Macroscopic Properties of Physically Cross-Linked Materials. *Angewandte Chemie*, **2014**, 126, 10202-10207	3.6	13
45	Physical networks from entropy-driven non-covalent interactions. *Nature Communications*, **2021**, 12, 746	17.4	13
44	Formation of Single-Chain Polymer Nanoparticles in Water through Host□Guest Interactions. *Angewandte Chemie*, **2012**, 124, 4261-4265	3.6	12
43	Structural considerations for physical hydrogels based on polymer□nanoparticle interactions. *Molecular Systems Design and Engineering*, **2020**, 5, 401-407	4.6	12
42	miR-106a-363 cluster in extracellular vesicles promotes endogenous myocardial repair via Notch3 pathway in ischemic heart injury. *Basic Research in Cardiology*, **2021**, 116, 19	11.8	12
41	Gluing gels: A nanoparticle solution. *Nature Materials*, **2014**, 13, 231-2	27	11
40	Self-Assembled, Dilution-Responsive Hydrogels for Enhanced Thermal Stability of Insulin Biopharmaceuticals. *ACS Biomaterials Science and Engineering*, **2021**, 7, 4221-4229	5.5	11
39	Water soluble, biodegradable amphiphilic polymeric nanoparticles and the molecular environment of hydrophobic encapsulates: Consistency between simulation and experiment. *Polymer*, **2015**, 79, 255-261	3.9	10
38	A human mission to Mars: Predicting the bone mineral density loss of astronauts. *PLoS ONE*, **2020**, 15, e0226434	3.7	9
37	Engineered biomaterials for heart disease. *Current Opinion in Biotechnology*, **2020**, 66, 246-254	11.4	9
36	A Nanoparticle Platform for Improved Potency, Stability, and Adjuvanticity of Poly(I:C). *Advanced Therapeutics*, **2020**, 3, 1900174	4.9	7
35	Universal Scaling Behavior during Network Formation in Controlled Radical Polymerizations. *Macromolecules*, **2019**, 52, 9456-9465	5.5	7
34	Prolonged Codelivery of Hemagglutinin and a TLR7/8 Agonist in a Supramolecular Polymer-Nanoparticle Hydrogel Enhances Potency and Breadth of Influenza Vaccination. *ACS Biomaterials Science and Engineering*, **2021**, 7, 1889-1899	5.5	7
33	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	7.7	6

32	Real-time monitoring of drug pharmacokinetics within tumor tissue in live animals.. *Science Advances*, **2022**, 8, eabk2901	14.3	6
31	Hydrogel-Based Slow Release of a Receptor-Binding Domain Subunit Vaccine Elicits Neutralizing Antibody Responses Against SARS-CoV-2. *Advanced Materials*, **2021**, e2104362	24	6
30	Gelation and yielding behavior of polymer□anoparticle hydrogels. *Journal of Polymer Science*, **2021**, 59, 2854	2.4	6
29	Combinatorial Polyacrylamide Hydrogels for Preventing Biofouling on Implantable Biosensors		6
28	Full closed loop open-source algorithm performance comparison in pigs with diabetes. *Clinical and Translational Medicine*, **2021**, 11, e387	5.7	6
27	Controlling properties of thermogels by tuning critical solution behaviour of ternary copolymers. *Polymer Chemistry*, **2021**, 12, 1918-1923	4.9	6
26	Non-cell-adhesive substrates for printing of arrayed biomaterials. *Advanced Healthcare Materials*, **2015**, 4, 501-5	10.1	5
25	Modulation of injectable hydrogel properties for slow co-delivery of influenza subunit vaccine components enhance the potency of humoral immunity. *Journal of Biomedical Materials Research - Part A*, **2021**, 109, 2173-2186	5.4	5
24	Highly Branched Polydimethylacrylamide Copolymers as Functional Biomaterials. *Biomacromolecules*, **2021**, 22, 86-94	6.9	5
23	More than a fertilizer: wastewater-derived struvite as a high value, sustainable fire retardant. *Green Chemistry*, **2021**, 23, 4510-4523	10	5
22	Injectable Supramolecular Polymer-Nanoparticle Hydrogels for Cell and Drug Delivery Applications. *Journal of Visualized Experiments*, **2021**,	1.6	5
21	Isthmin-1 is an adipokine that promotes glucose uptake and improves glucose tolerance and hepatic steatosis. *Cell Metabolism*, **2021**, 33, 1836-1852.e11	24.6	5
20	Combinatorial Polyacrylamide Hydrogels for Preventing Biofouling on Implantable Biosensors.. *Advanced Materials*, **2022**, e2109764	24	5
19	Site-selective modification of proteins using cucurbit[7]uril as supramolecular protection for N-terminal aromatic amino acids. *Organic and Biomolecular Chemistry*, **2020**,	3.9	4
18	Engineering biopharmaceutical formulations to improve diabetes management. *Science Translational Medicine*, **2021**, 13,	17.5	4
17	Dynamic Hydrogels for Prevention of Post-Operative Peritoneal Adhesions. *Advanced Therapeutics*, **2021**, 4, 2000242	4.9	4
16	The living interface between synthetic biology and biomaterial design.. *Nature Materials*, **2022**, 21, 390-397	27	4
15	Delivery of CAR-T cells in a transient injectable stimulatory hydrogel niche improves treatment of solid tumors.. *Science Advances*, **2022**, 8, eabn8264	14.3	4

14	Engineering Insulin Cold Chain Resilience to Improve Global Access. *Biomacromolecules*, **2021**, 22, 3386-3395	6.9	3
13	Self-assembled biomaterials using host-guest interactions **2018**, 205-231		3
12	Hydrogel-based slow release of a receptor-binding domain subunit vaccine elicits neutralizing antibody responses against SARS-CoV-2 **2021**,		2
11	Seasonal Impact of Phosphate-Based Fire Retardants on Soil Chemistry Following the Prophylactic Treatment of Vegetation. *Environmental Science & Technology*, **2021**, 55, 2316-2323	10.3	2
10	Affinity-Directed Dynamics of Host-Guest Motifs for Pharmacokinetic Modulation Supramolecular PEGylation. *Biomacromolecules*, **2021**, 22, 3565-3573	6.9	2
9	Ultra-Fast Insulin-Pramlintide Co-Formulation for Improved Glucose Management in Diabetic Rats. *Advanced Science*, **2021**, 8, e2101575	13.6	2
8	A facile method for the stain-free visualization of hierarchical structures with electron microscopy. *Journal of Polymer Science Part A*, **2015**, 53, 842-845	2.5	1
7	Injectable hydrogels for sustained co-delivery of subunit vaccines enhance humoral immunity		1
6	MRBLES 2.0: High-throughput generation of chemically functionalized spectrally and magnetically-encoded hydrogel beads using a simple single-layer microfluidic device		1
5	Consistent Tumorigenesis with Self-Assembled Hydrogels Enables High-powered Murine Cancer Studies		1
4	Enhanced Humoral Immune Response by High Density TLR Agonist Presentation on Hyperbranched Polymers. *Advanced Therapeutics*, **2021**, 4, 2000081	4.9	1
3	Consistent tumorigenesis with self-assembled hydrogels enables high-powered murine cancer studies. *Communications Biology*, **2021**, 4, 985	6.7	0
2	Reply to Santé 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	11.5	
1	PNP Hydrogel Prevents Formation of Symblephara in Mice After Ocular Alkali Injury.. *Translational Vision Science and Technology*, **2022**, 11, 31	3.3	