Kristi L Kiick

List of Publications by Year
in descending order

137 papers	8,921 citations	41344 49 h-index	43889 91 g-index
142 all docs	142 docs citations	142 times ranked	10211 citing authors

#	Article	IF	Citations
1	Incorporation of azides into recombinant proteins for chemoselective modification by the Staudinger ligation. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 19-24.	7.1	855
2	Designing degradable hydrogels for orthogonal control of cell microenvironments. Chemical Society Reviews, 2013, 42, 7335-7372.	38.1	590
3	Tunable Degradation of Maleimideâ€“Thiol Adducts in Reducing Environments. Bioconjugate Chemistry, 2011, 22, 1946-1953.	3.6	356
4	Heparin-functionalized polymeric biomaterials in tissue engineering and drug delivery applications. Acta Biomaterialia, 2014, 10, 1588-1600.	8.3	284
5	Hybrid Multicomponent Hydrogels for Tissue Engineering. Macromolecular Bioscience, 2009, 9, 140-156.	4.1	266
6	Efficient Incorporation of Unsaturated Methionine Analogues into Proteins in Vivo. Journal of the American Chemical Society, 2000, 122, 1282-1288.	13.7	265
7	Polysaccharideâ€modified synthetic polymeric biomaterials. Biopolymers, 2010, 94, 128-140.	2.4	253
8	Production of heparin-functionalized hydrogels for the development of responsive and controlled growth factor delivery systems. Journal of Controlled Release, 2007, 122, 287-296.	9.9	218
9	Growth Factor Mediated Assembly of Cell Receptor-Responsive Hydrogels. Journal of the American Chemical Society, 2007, 129, 3040-3041.	13.7	208
10	Polymer-Based Therapeutics. Macromolecules, 2009, 42, 3-13.	4.8	202
11	Proteinâ€and peptideâ€modified synthetic polymeric biomaterials. Biopolymers, 2010, 94, 32-48.	2.4	176
12	Glycosaminoglycanâ€Based Biohybrid Hydrogels: A Sweet and Smart Choice for Multifunctional Biomaterials. Advanced Materials, 2016, 28, 8861-8891.	21.0	156
13	Reversible maleimideâ€“thiol adducts yield glutathione-sensitive poly(ethylene glycol)â€“heparin hydrogels. Polymer Chemistry, 2013, 4, 133-143.	3.9	150
14	Opportunities for Multicomponent Hybrid Hydrogels in Biomedical Applications. Biomacromolecules, 2015, 16, 28-42.	5.4	148
15	Hybrid hydrogels for biomedical applications. Current Opinion in Chemical Engineering, 2019, 24, 143-157.	7.8	131
16	Polysaccharideâ^'Poly(ethylene glycol) Star Copolymer as a Scaffold for the Production of Bioactive Hydrogels. Biomacromolecules, 2005, 6, 1921-1930.	5.4	128
17	Hydrophilic elastomeric biomaterials based on resilin-like polypeptides. Soft Matter, 2009, 5, 3412.	2.7	124
18	Tunable Mechanical Stability and Deformation Response of a Resilin-Based Elastomer. Biomacromolecules, 2011, 12, 2302-2310.	5.4	118

#	Article	IF	Citations
19	Design of thiol- and light-sensitive degradable hydrogels using Michael-type addition reactions. Polymer Chemistry, 2015, 6, 5565-5574.	3.9	116
20	Manipulation of hydrogel assembly and growth factor delivery via the use of peptideâ€“polysaccharide interactions. Journal of Controlled Release, 2006, 114, 130-142.	9.9	111
21	Resilin-like polypeptide hydrogels engineered for versatile biological function. Soft Matter, 2013, 9, 665-673.	2.7	106
22	Expanding the Scope of Protein Biosynthesis by Altering the Methionyl-tRNA Synthetase Activity of a Bacterial Expression Host. Angewandte Chemie - International Edition, 2000, 39, 2148-2152.	13.8	105
23	Effects of Polymer Structure on the Inhibition of Cholera Toxin by Linear Polypeptide-Based Glycopolymers. Biomacromolecules, 2006, 7, 483-490.	5.4	95
24	Production of heparin-containing hydrogels for modulating cell responses. Acta Biomaterialia, 2009, 5, 865-875.	8.3	92
25	Resilinâ€Based Hybrid Hydrogels for Cardiovascular Tissue Engineering. Macromolecular Chemistry and Physics, 2013, 214, 203-213.	2.2	86
26	Rheological Characterization of Polysaccharideâ^'Poly(ethylene glycol) Star Copolymer Hydrogels. Biomacromolecules, 2005, 6, 1931-1940.	5.4	84
27	Protein Engineering by In Vivo Incorporation of Non-Natural Amino Acids: Control of Incorporation of Methionine Analogues by Methionyl-tRNA Synthetase. Tetrahedron, 2000, 56, 9487-9493.	1.9	82
28	Gelation of Covalently Cross-Linked PEGâ^'Heparin Hydrogels. Macromolecules, 2009, 42, 5310-5316.	4.8	81
29	Polymer Therapeutics. Science, 2007, 317, 1182-1183.	12.6	78
30	Synthesis and Characterization of Elastinâ^'Mimetic Hybrid Polymers with Multiblock, Alternating Molecular Architecture and Elastomeric Properties. Macromolecules, 2009, 42, 2532-2541.	4.8	78
31	Noncovalent Modulation of the Inverse Temperature Transition and Self-Assembly of Elastin-b-Collagen-like Peptide Bioconjugates. Journal of the American Chemical Society, 2015, 137, 15362-15365.	13.7	78
32	Liposome-Cross-Linked Hybrid Hydrogels for Glutathione-Triggered Delivery of Multiple Cargo Molecules. Biomacromolecules, 2016, 17, 601-614.	5.4	78
33	Supramolecular Assembly of Electrostatically Stabilized, Hydroxyproline-Lacking Collagen-Mimetic Peptides. Biomacromolecules, 2009, 10, 2626-2631.	5.4	77
34	Tissue engineering-based therapeutic strategies for vocal fold repair and regeneration. Biomaterials, 2016, 108, 91-110.	11.4	75
35	Collagen-like peptides and peptideâ€“polymer conjugates in the design of assembled materials. European Polymer Journal, 2013, 49, 2998-3009.	5.4	74
36	Peptide- and protein-mediated assembly of heparinized hydrogels. Soft Matter, 2008, 4, 29-37.	2.7	69

#	Article	IF	Citations
37	Effects of Saccharide Spacing and Chain Extension on Toxin Inhibition by Glycopolypeptides of Well-Defined Architecture. Macromolecules, 2007, 40, 7103-7110.	4.8	67
38	Oneâ€Dimensional Gold Nanoparticle Arrays by Electrostatically Directed Organization Using Polypeptide Selfâ€Assembly. Angewandte Chemie - International Edition, 2009, 48, 7078-7082.	13.8	65
39	A Versatile Grafting-to Approach for the Bioconjugation of Polymers to Collagen-like Peptides Using an Activated Ester Chain Transfer Agent. Macromolecules, 2009, 42, 3860-3863.	4.8	62
40	Poly(acrylic acid-b-styrene) Amphiphilic Multiblock Copolymers as Building Blocks for the Assembly of Discrete Nanoparticles. Macromolecules, 2011, 44, 1942-1951.	4.8	62
41	Monodisperse Protein-Based Glycopolymers via a Combined Biosynthetic and Chemical Approach. Journal of the American Chemical Society, 2005, 127, 16392-16393.	13.7	61
42	Architecture Effects on the Binding of Cholera Toxin by Helical Glycopolypeptides. Macromolecules, 2008, 41, 764-772.	4.8	61
43	Dually degradable click hydrogels for controlled degradation and protein release. Journal of Materials Chemistry B, 2014, 2, 5511-5521.	5.8	61
44	Elastomeric Polypeptides. Topics in Current Chemistry, 2011, 310, 71-116.	4.0	60
45	Resilin-Based Materials for Biomedical Applications. ACS Macro Letters, 2013, 2, 635-640.	4.8	59
46	Elastomeric polypeptide-based biomaterials. Polymer Chemistry, 2010, 1, 1160.	3.9	58
47	Computationally designed peptides for self-assembly of nanostructured lattices. Science Advances, 2016, 2, e1600307.	10.3	58
48	50th Anniversary Perspective: Polymeric Biomaterials: Diverse Functions Enabled by Advances in Macromolecular Chemistry. Macromolecules, 2017, 50, 483-502.	4.8	55
49	Thermoresponsive Elastin-b-Collagen-Like Peptide Bioconjugate Nanovesicles for Targeted Drug Delivery to Collagen-Containing Matrices. Biomacromolecules, 2017, 18, 2539-2551.	5.4	51
50	Encapsulation of collagen mimetic peptide-tethered vancomycin liposomes in collagen-based scaffolds for infection control in wounds. Acta Biomaterialia, 2020, 103, 115-128.	8.3	51
51	Heparin-mimetic sulfated peptides with modulated affinities for heparin-binding peptides and growth factors. Peptides, 2007, 28, 2125-2136.	2.4	49
52	Integrin-mediated adhesion and proliferation of human MSCs elicited by a hydroxyproline-lacking, collagen-like peptide. Biomaterials, 2011, 32, 6412-6424.	11.4	49
53	Effect of Peptide Sequence on the LCST-Like Transition of Elastin-Like Peptides and Elastin-Like Peptideâ€"Collagen-Like Peptide Conjugates: Simulations and Experiments. Biomacromolecules, 2019, 20, 1178-1189.	5.4	48
54	In situ crosslinkable heparinâ€containing poly(ethylene glycol) hydrogels for sustained anticoagulant release. Journal of Biomedical Materials Research - Part A, 2012, 100A, 2106-2118.	4.0	45

#	Article	IF	Citations
55	Differential effects of substrate modulus on human vascular endothelial, smooth muscle, and fibroblastic cells. Journal of Biomedical Materials Research - Part A, 2012, 100A, 1356-1367.	4.0	45
56	Collagen-Like Peptide Bioconjugates. Bioconjugate Chemistry, 2017, 28, 816-827.	3.6	44
57	Resilin-PEG Hybrid Hydrogels Yield Degradable Elastomeric Scaffolds with Heterogeneous Microstructure. Biomacromolecules, 2016, 17, 128-140.	5.4	42
58	Recombinant Resilinâ€Based Bioelastomers for Regenerative Medicine Applications. Advanced Healthcare Materials, 2016, 5, 266-275.	7.6	41
59	Thermoresponsive Selfâ€Assembly of Nanostructures from a Collagenâ€Like Peptideâ€Containing Diblock Copolymer. Macromolecular Bioscience, 2015, 15, 111-123.	4.1	40
60	Temperature-Triggered Phase Separation of a Hydrophilic Resilin-Like Polypeptide. Macromolecular Rapid Communications, 2015, 36, 90-95.	3.9	40
61	Thiolâ€ene Photocrosslinking of Cytocompatible Resilinâ€Like Polypeptideâ€PEG Hydrogels. Macromolecular Bioscience, 2016, 16, 129-138.	4.1	39
62	Morphological transformations in a dually thermoresponsive coilâ€“rodâ€“coil bioconjugate. Soft Matter, 2012, 8, 3832.	2.7	38
63	Conformational Behavior of Chemically Reactive Alanine-Rich Repetitive Protein Polymers. Biomacromolecules, 2005, 6, 1531-1539.	5.4	37
64	Targeted Drug Delivery via the Use of ECM-Mimetic Materials. Frontiers in Bioengineering and Biotechnology, 2020, 8, 69.	4.1	37
65	Aqueous Liquidâ€“Liquid Phase Separation of Resilin-Like Polypeptide/Polyethylene Glycol Solutions for the Formation of Microstructured Hydrogels. ACS Biomaterials Science and Engineering, 2017, 3, 757-766.	5.2	35
66	Covalent co-assembly between resilin-like polypeptide and peptide amphiphile into hydrogels with controlled nanostructure and improved mechanical properties. Biomaterials Science, 2020, 8, 846-857.	5.4	35
67	Transient dynamic mechanical properties of resilin-based elastomeric hydrogels. Frontiers in Chemistry, 2014, 2, 21.	3.6	34
68	Biofunctionalization of PEDOT films with laminin-derived peptides. Acta Biomaterialia, 2016, 41, 235-246.	8.3	34
69	Nanotubes, Plates, and Needles: Pathway-Dependent Self-Assembly of Computationally Designed Peptides. Biomacromolecules, 2018, 19, 4286-4298.	5.4	34
70	Rapid rheological screening to identify conditions of biomaterial hydrogelation. Soft Matter, 2009, 5, 740-742.	2.7	32
71	Tuning the Properties of Elastin Mimetic Hybrid Copolymers via a Modular Polymerization Method. Biomacromolecules, 2012, 13, 1774-1786.	5.4	32
72	Microstructured Elastomerâ€PEG Hydrogels via Kinetic Capture of Aqueous Liquidâ€“Liquid Phase Separation. Advanced Science, 2018, 5, 1701010.	11.2	32

#	Article	IF	Citations
73	Methods for producing microstructured hydrogels for targeted applications in biology. Acta Biomaterialia, 2019, 84, 34-48.	8.3	31
74	Biosynthetic Methods for the Production of Advanced Proteinâ€Based Materials. Polymer Reviews, 2007, 47, 1-7.	10.9	30
75	Macromolecule-Induced Assembly of Coiled-Coils in Alternating Multiblock Polymers. Biomacromolecules, 2009, 10, 2740-2749.	5.4	30
76	Micromechanical characterization of soft, biopolymeric hydrogels: stiffness, resilience, and failure. Soft Matter, 2018, 14, 3478-3489.	2.7	30
77	Conformational Properties of Helical Protein Polymers with Varying Densities of Chemically Reactive Groups. Macromolecules, 2006, 39, 162-170.	4.8	28
78	Assembly Properties of an Alanineâ€Rich, Lysineâ€Containing Peptide and the Formation of Peptide/Polymer Hybrid Hydrogels. Macromolecular Chemistry and Physics, 2011, 212, 229-239.	2.2	28
79	Conformational and Aggregation Properties of a PEGylated Alanine-Rich Polypeptide. Biomacromolecules, 2011, 12, 2184-2192.	5.4	27
80	Controlling the Release of Small, Bioactive Proteins via Dual Mechanisms with Therapeutic Potential. Advanced Healthcare Materials, 2017, 6, 1700713.	7.6	27
81	Manipulation of Glutathione-Mediated Degradation of Thiolâ€“Maleimide Conjugates. Bioconjugate Chemistry, 2018, 29, 3595-3605.	3.6	27
82	Multivalent protein polymers with controlled chemical and physical properties. Advanced Drug Delivery Reviews, 2010, 62, 1530-1540.	13.7	26
83	Nanoparticle formation from hybrid, multiblock copolymers of poly(acrylic acid) and a VPGVG peptide. Soft Matter, 2013, 9, 1589-1599.	2.7	25
84	Electrochemical deposition and characterization of carboxylic acid functionalized PEDOT copolymers. Journal of Materials Research, 2014, 29, 2835-2844.	2.6	25
85	In vivo guided vascular regeneration with a nonâ€porous elastinâ€like polypeptide hydrogel tubular scaffold. Journal of Biomedical Materials Research - Part A, 2017, 105, 1746-1755.	4.0	25
86	The role of heparin self-association in the gelation of heparin-functionalized polymers. Biomaterials, 2008, 29, 1299-1306.	11.4	24
87	Multifunctional lipid-coated polymer nanogels crosslinked by photo-triggered Michael-type addition. Polymer Chemistry, 2014, 5, 1728-1736.	3.9	24
88	Self-Assembly of Stable Nanoscale Platelets from Designed Elastin-like Peptideâ€“Collagen-like Peptide Bioconjugates. Biomacromolecules, 2019, 20, 1514-1521.	5.4	23
89	Responsive hybrid (poly)peptideâ€“polymer conjugates. Journal of Materials Chemistry B, 2017, 5, 8274-8288.	5.8	23
90	Top-down mass spectrometry of hybrid materials with hydrophobic peptide and hydrophilic or hydrophobic polymer blocks. Analyst, The, 2015, 140, 7550-7564.	3.5	22

#	Article	IF	Citations
91	Integration of growth factor gene delivery with collagenâ€triggered wound repair cascades using collagenâ€mimetic peptides. Bioengineering and Translational Medicine, 2016, 1, 207-219.	7.1	22
92	Enhanced Wound Healing via Collagen-Turnover-Driven Transfer of PDGF-BB Gene in a Murine Wound Model. ACS Applied Bio Materials, 2020, 3, 3500-3517.	4.6	22
93	Cellâ€mediated Delivery and Targeted Erosion of Vascular Endothelial Growth Factorâ€Crosslinked Hydrogels. Macromolecular Rapid Communications, 2010, 31, 1231-1240.	3.9	21
94	Manipulation of Electrostatic and Saccharide Linker Interactions in the Design of Efficient Glycopolypeptideâ€Based Cholera Toxin Inhibitors. Macromolecular Bioscience, 2010, 10, 68-81.	4.1	21
95	ECM turnover-stimulated gene delivery through collagen-mimetic peptide-plasmid integration in collagen. Acta Biomaterialia, 2017, 62, 167-178.	8.3	21
96	Regulation of electronic behavior via confinement of PPV-based oligomers on peptide scaffolds. Journal of Materials Chemistry, 2008, 18, 3847.	6.7	20
97	Rapid, High Resolution Screening of Biomaterial Hydrogelators by Î¼²Rheology. Biomacromolecules, 2011, 12, 4178-4182.	5.4	20
98	Decreasing matrix modulus of PEG hydrogels induces a vascular phenotype in human cord blood stem cells. Biomaterials, 2015, 62, 24-34.	11.4	20
99	Controlled release of an anthrax toxinâ€neutralizing antibody from hydrolytically degradable polyethylene glycol hydrogels. Journal of Biomedical Materials Research - Part A, 2016, 104, 113-123.	4.0	20
100	Placement of tyrosine residues as a design element for tuning the phase transition of elastin-peptide-containing conjugates: experiments and simulations. Molecular Systems Design and Engineering, 2020, 5, 1239-1254.	3.4	20
101	Substrate stiffness directs the phenotype and polarization state of cord blood derived macrophages. Acta Biomaterialia, 2021, 122, 220-235.	8.3	19
102	Modulation of Self-Association and Subsequent Fibril Formation in an Alanine-Rich Helical Polypeptide. Biomacromolecules, 2008, 9, 1595-1603.	5.4	18
103	Transition from disordered aggregates to ordered lattices: kinetic control of the assembly of a computationally designed peptide. Organic and Biomolecular Chemistry, 2017, 15, 6109-6118.	2.8	18
104	Biocompatibility of injectable resilinâ€based hydrogels. Journal of Biomedical Materials Research - Part A, 2018, 106, 2229-2242.	4.0	18
105	Manipulation of the dually thermoresponsive behavior of peptideâ€based vesicles through modification of collagenâ€like peptide domains. Bioengineering and Translational Medicine, 2020, 5, e10145.	7.1	18
106	Fabrication of One- and Two-Dimensional Gold Nanoparticle Arrays on Computationally Designed Self-Assembled Peptide Templates. Chemistry of Materials, 2018, 30, 8510-8520.	6.7	17
107	Evaluation of Conformation and Association Behavior of Multivalent Alanine-Rich Polypeptides. Pharmaceutical Research, 2008, 25, 700-708.	3.5	16
108	Fine structural tuning of the assembly of ECM peptide conjugates via slight sequence modifications. Science Advances, 2020, 6, .	10.3	16

#	Article	IF	Citations
109	Multi-stimuli-responsive, liposome-crosslinked poly(ethylene glycol) hydrogels for drug delivery. Journal of Biomaterials Science, Polymer Edition, 2021, 32, 635-656.	3.5	16
110	Aortic adventitial fibroblast sensitivity to mitogen activated protein kinase inhibitors depends on substrate stiffness. Biomaterials, 2017, 137, 1-10.	11.4	14
111	Controlling assembly of helical polypeptides via PEGylation strategies. Soft Matter, 2011, 7, 9758.	2.7	13
112	Sequence and Conformational Analysis of Peptideâ€“Polymer Bioconjugates by Multidimensional Mass Spectrometry. Biomacromolecules, 2018, 19, 1498-1507.	5.4	13
113	Biocompatibility and Viscoelastic Properties of Injectable Resilin-Like Polypeptide and Hyaluronan Hybrid Hydrogels in Rabbit Vocal Folds. Regenerative Engineering and Translational Medicine, 2019, 5, 373-386.	2.9	13
114	On-Demand and Tunable Dual Wavelength Release of Antibodies Using Light-Responsive Hydrogels. ACS Applied Bio Materials, 2020, 3, 6944-6958.	4.6	13
115	Predicting unfolding thermodynamics and stable intermediates for alanine-rich helical peptides with the aid of coarse-grained molecular simulation. Biophysical Chemistry, 2016, 217, 8-19.	2.8	12
116	Application of Thermoresponsive IntrinsicallyÂDisordered Protein Polymers in Nanostructured and Microstructured Materials. Macromolecular Bioscience, 2021, 21, 2100129.	4.1	12
117	Polymerâ€“peptide templates for controlling electronic interactions of organic chromophores. Journal of Materials Chemistry C, 2013, 1, 4836.	5.5	11
118	Alteration of Microstructure in Biopolymeric Hydrogels via Compositional Modification of Resilin-Like Polypeptides. ACS Biomaterials Science and Engineering, 2021, 7, 4244-4257.	5.2	11
119	Architecture effects on L-selectin shedding induced by polypeptide-based multivalent ligands. Polymer Chemistry, 2011, 2, 1513.	3.9	10
120	Aggregation of poly(acrylic acid)-containing elastin-mimetic copolymers. Soft Matter, 2015, 11, 1839-1850.	2.7	10
121	Human Adventitial Fibroblast Phenotype Depends on the Progression of Changes in Substrate Stiffness. Advanced Healthcare Materials, 2020, 9, 1901593.	7.6	10
122	Micromechanical Properties of Microstructured Elastomeric Hydrogels. Macromolecular Bioscience, 2020, 20, 1900360.	4.1	10
123	Reduced arterial elasticity due to surgical skeletonization is ameliorated by abluminal PEG hydrogel. Bioengineering and Translational Medicine, 2017, 2, 222-232.	7.1	8
124	DNAâ€“polymer conjugates for immune stimulation through Toll-like receptor 9 mediated pathways. Acta Biomaterialia, 2014, 10, 1134-1145.	8.3	7
125	Heparin-Functionalized Materials in Tissue Engineering Applications. , 2012, , 225-250.		6
126	Therapeutic nanocarriers comprising extracellular matrix-inspired peptides and polysaccharides. Expert Opinion on Drug Delivery, 2021, 18, 1723-1740.	5.0	5

#	Article	IF	Citations
127	Polypeptide-Based Glycopolymers for the Study of Multivalent Binding Events. ACS Symposium Series, 2008, , 288-305.	0.5	4
128	Hydrogels: Glycosaminoglycanâ€Based Biohybrid Hydrogels: A Sweet and Smart Choice for Multifunctional Biomaterials (Adv. Mater. 40/2016). Advanced Materials, 2016, 28, 9013-9013.	21.0	4
129	Microgels Formed by Spontaneous Click Chemistries Utilizing Microfluidic Flow Focusing for Cargo Release in Response to Endogenous or Exogenous Stimuli. Pharmaceutics, 2022, 14, 1062.	4.5	3
130	Material Assembly and Gelation Kinetics of PEG-Heparin Hydrogels using Multiple Particle Tracking Microrheology. AIP Conference Proceedings, 2008, , .	0.4	2
131	Regulation of neovasculogenesis in co-cultures of aortic adventitial fibroblasts and microvascular endothelial cells by cell-cell interactions and TGF-Î²/ALK5 signaling. PLoS ONE, 2020, 15, e0244243.	2.5	2
132	Retention of peptide-based vesicles in murine knee joints after intra-articular injection. Journal of Drug Delivery Science and Technology, 2022, , 103532.	3.0	2
133	Chemically Reactive Peptides for the Production of Electroactive Conjugates of Specified Conformation and Side-Chain Placement. ACS Symposium Series, 2008, , 22-36.	0.5	1
134	Drug and Gene Delivery for Regenerative Engineering. , 2019, , 565-583.		1
135	Assembly of Bioactive, Heparin-Derivatized Polymer Hydrogels for Protein Delivery. ACS Symposium Series, 2006, , 201-215.	0.5	0
136	The modification of collagen scaffolds for application in regenerative medicine. , 2014, , .		0
137	Characterizing aggregate growth and morphology of alanine-rich polypeptides as a function of sequence chemistry and solution temperature from scattering, spectroscopy, and microscopy. Biophysical Chemistry, 2020, 267, 106481.	2.8	0