Bruce P Lee

List of Publications by Year
in descending order

81 papers	10,542 citations	94433 37 h-index	71685 76 g-index
83 all docs	83 docs citations	83 times ranked	10789 citing authors

#	Article	IF	Citations
1	A reversible wet/dry adhesive inspired by mussels and geckos. Nature, 2007, 448, 338-341.	27.8	1,806
2	Mussel-Inspired Adhesives and Coatings. Annual Review of Materials Research, 2011, 41, 99-132.	9.3	1,422
3	pH-induced metal-ligand cross-links inspired by mussel yield self-healing polymer networks with near-covalent elastic moduli. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 2651-2655.	7.1	1,314
4	Mussel Adhesive Protein Mimetic Polymers for the Preparation of Nonfouling Surfaces. Journal of the American Chemical Society, 2003, 125, 4253-4258.	13.7	548
5	Synthesis and Gelation of DOPA-Modified Poly(ethylene glycol) Hydrogels. Biomacromolecules, 2002, 3, 1038-1047.	5.4	544
6	Catechol-functionalized hydrogels: biomimetic design, adhesion mechanism, and biomedical applications. Chemical Society Reviews, 2020, 49, 433-464.	38.1	517
7	Recent approaches in designing bioadhesive materials inspired by mussel adhesive protein. Journal of Polymer Science Part A, 2017, 55, 9-33.	2.3	487
8	Injectable Dopamine-Modified Poly(ethylene glycol) Nanocomposite Hydrogel with Enhanced Adhesive Property and Bioactivity. ACS Applied Materials & Interfaces, 2014, 6, 16982-16992.	8.0	286
9	Novel Hydrogel Actuator Inspired by Reversible Mussel Adhesive Protein Chemistry. Advanced Materials, 2014, 26, 3415-3419.	21.0	282
10	Fibrin Gel as an Injectable Biodegradable Scaffold and Cell Carrier for Tissue Engineering. Scientific World Journal, The, 2015, 2015, 1-10.	2.1	202
11	Rapid Gel Formation and Adhesion in Photocurable and Biodegradable Block Copolymers with High DOPA Content. Macromolecules, 2006, 39, 1740-1748.	4.8	183
12	Synthesis and Characterization of Self-Assembling Block Copolymers Containing Bioadhesive End Groups. Biomacromolecules, 2002, 3, 397-406.	5.4	174
13	Thermal gelation and tissue adhesion of biomimetic hydrogels. Biomedical Materials (Bristol), 2007, 2, 203-210.	3.3	169
14	pH Responsive and Oxidation Resistant Wet Adhesive based on Reversible Catecholâ€“Boronate Complexation. Chemistry of Materials, 2016, 28, 5432-5439.	6.7	157
15	Effect of pH on the Rate of Curing and Bioadhesive Properties of Dopamine Functionalized Poly(ethylene glycol) Hydrogels. Biomacromolecules, 2014, 15, 2861-2869.	5.4	143
16	A Moldable Nanocomposite Hydrogel Composed of a Musselâ€Inspired Polymer and a Nanosilicate as a Fitâ€toâ€Shape Tissue Sealant. Angewandte Chemie - International Edition, 2017, 56, 4224-4228.	13.8	134
17	Multifunctional Biomedical Adhesives. Advanced Healthcare Materials, 2019, 8, e1801568.	7.6	123
18	Biomimetic adhesive containing nanocomposite hydrogel with enhanced materials properties. Soft Matter, 2013, 9, 3825.	2.7	120

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19	Adhesive Performance of Biomimetic Adhesive-Coated Biologic Scaffolds. Biomacromolecules, 2010, 11, 2976-2984.	5.4	113
20	Synthesis of 3,4-dihydroxyphenylalanine (DOPA) containing monomers and their co-polymerization with PEG-diacrylate to form hydrogels. Journal of Biomaterials Science, Polymer Edition, 2004, 15, 449-464.	3.5	106
21	Hydrogen peroxide generation and biocompatibility of hydrogel-bound mussel adhesive moiety. Acta Biomaterialia, 2015, 17, 160-169.	8.3	91
22	Recent Developments in Tough Hydrogels for Biomedical Applications. Gels, 2018, 4, 46.	4.5	85
23	Gelatin Microgel Incorporated Poly(ethylene glycol)-Based Bioadhesive with Enhanced Adhesive Property and Bioactivity. ACS Applied Materials & Interfaces, 2016, 8, 11980-11989.	8.0	83
24	A novel lowâ€friction surface for biomedical applications: Modification of poly(dimethylsiloxane) (PDMS) with polyethylene glycol(PEG)â€DOPAâ€lysine. Journal of Biomedical Materials Research - Part A, 2009, 90A, 742-749.	4.0	81
25	Effect of metal ion type on the movement of hydrogel actuator based on catechol-metal ion coordination chemistry. Sensors and Actuators B: Chemical, 2016, 227, 248-254.	7.8	68
26	Modulating the movement of hydrogel actuator based on catecholâ€“iron ion coordination chemistry. Sensors and Actuators B: Chemical, 2015, 206, 456-462.	7.8	60
27	Effect of Nitro-Functionalization on the Cross-Linking and Bioadhesion of Biomimetic Adhesive Moiety. Biomacromolecules, 2015, 16, 404-410.	5.4	59
28	Biomimetic recyclable microgels for on-demand generation of hydrogen peroxide and antipathogenic application. Acta Biomaterialia, 2019, 83, 109-118.	8.3	58
29	Biomechanical properties of Achilles tendon repair augmented with a bioadhesive-coated scaffold. Biomedical Materials (Bristol), 2011, 6, 015014.	3.3	56
30	In Situ Deactivation of Catechol-Containing Adhesive Using Electrochemistry. Journal of the American Chemical Society, 2020, 142, 4631-4638.	13.7	56
31	Polydopamine and collagen coated micro-grated polydimethylsiloxane for human mesenchymal stem cell culture. Bioactive Materials, 2019, 4, 142-150.	15.6	53
32	Nitro-Group Functionalization of Dopamine and its Contribution to the Viscoelastic Properties of Catechol-Containing Nanocomposite Hydrogels. Macromolecular Chemistry and Physics, 2015, 216, 1109-1119.	2.2	50
33	Anti-Adhesive Coating and Clearance of Device Associated Uropathogenic Escherichia coli Cystitis. Journal of Urology, 2009, 182, 1628-1636.	0.4	49
34	Biomimetic hydrogels with spatial- and temporal-controlled chemical cues for tissue engineering. Biomaterials Science, 2020, 8, 3248-3269.	5.4	46
35	Surface Presentation of Bioactive Ligands in a Nonadhesive Background Using DOPA-Tethered Biotinylated Poly(ethylene glycol). Langmuir, 2007, 23, 10635-10643.	3.5	41
36	Model polymer system for investigating the generation of hydrogen peroxide and its biological responses during the crosslinking of mussel adhesive moiety. Acta Biomaterialia, 2017, 48, 144-156.	8.3	39

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37	Antibacterial Properties of Mussel-Inspired Polydopamine Coatings Prepared by a Simple Two-Step Shaking-Assisted Method. Frontiers in Chemistry, 2019, 7, 631.	3.6	39
38	Incorporation of Anionic Monomer to Tune the Reversible Catecholâ€“Boronate Complex for pH-Responsive, Reversible Adhesion. Langmuir, 2018, 34, 9410-9417.	3.5	37
39	Effect of Ionic Functional Groups on the Oxidation State and Interfacial Binding Property of Catechol-Based Adhesive. Biomacromolecules, 2018, 19, 1416-1424.	5.4	35
40	First Prize:Novel Uropathogen-Resistant Coatings Inspired by Marine Mussels. Journal of Endourology, 2008, 22, 1153-1160.	2.1	34
41	Antimicrobial property of halogenated catechols. Chemical Engineering Journal, 2021, 403, 126340.	12.7	34
42	Quartz Crystal Microbalance Studies of Polymer Gels and Solutions in Liquid Environments. Analytical Chemistry, 2006, 78, 1158-1166.	6.5	33
43	Iron Magnetic Nanoparticle-Induced ROS Generation from Catechol-Containing Microgel for Environmental and Biomedical Applications. ACS Applied Materials & Interfaces, 2020, 12, 21210-21220.	8.0	33
44	Oxidation Chemistry of Catechol Utilized in Designing Stimuli-Responsive Adhesives and Antipathogenic Biomaterials. ACS Omega, 2021, 6, 5113-5118.	3.5	33
45	Biomimetic Adhesive Polymers Based on Mussel Adhesive Proteins. , 2006, , 257-278.		32
46	Recovery property of double-network hydrogel containing a mussel-inspired adhesive moiety and nano-silicate. Journal of Materials Chemistry B, 2016, 4, 6534-6540.	5.8	32
47	Development of an Injectable Nitric Oxide Releasing Poly(ethylene) Glycol-Fibrin Adhesive Hydrogel. ACS Biomaterials Science and Engineering, 2019, 5, 959-969.	5.2	31
48	Catechol-Based Antimicrobial Polymers. Molecules, 2021, 26, 559.	3.8	29
49	Hydroxyl Radical Generation through the Fenton-like Reaction of Hematin- and Catechol-Functionalized Microgels. Chemistry of Materials, 2020, 32, 8182-8194.	6.7	28
50	3-D printed soft magnetic helical coil actuators of iron oxide embedded polydimethylsiloxane. Sensors and Actuators B: Chemical, 2021, 326, 128781.	7.8	27
51	pH responsive antibacterial hydrogel utilizing catecholâ€“boronate complexation chemistry. Chemical Engineering Journal, 2022, 441, 135808.	12.7	27
52	Effect of incorporating clustered silica nanoparticles on the performance and biocompatibility of catechol-containing PEG-based bioadhesive. Biomedical Materials (Bristol), 2018, 13, 025003.	3.3	21
53	In situ synthesis of biocompatible imidazolium salt hydrogels with antimicrobial activity. Acta Biomaterialia, 2019, 99, 133-140.	8.3	19
54	Design of pH-responsive SAP polymer for pore solution chemistry regulation and crack sealing in cementitious materials. Composites Part B: Engineering, 2020, 199, 108262.	12.0	18

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55	S-Nitroso-N-acetylpenicillamine (SNAP) Derivatization of Peptide Primary Amines to Create Inducible Nitric Oxide Donor Biomaterials. ACS Applied Materials & Interfaces, 2013, 5, 8430-8439.	8.0	17
56	Rapidly responsive smart adhesive-coated micropillars utilizing catecholâ€“boronate complexation chemistry. Soft Matter, 2019, 15, 5474-5482.	2.7	17
57	Marine Adhesive Containing Nanocomposite Hydrogel with Enhanced Materials and Bioadhesive Properties. Materials Research Society Symposia Proceedings, 2013, 1569, 33-38.	0.1	14
58	A Moldable Nanocomposite Hydrogel Composed of a Musselâ€Inspired Polymer and a Nanosilicate as a Fitâ€toâ€Shape Tissue Sealant. Angewandte Chemie, 2017, 129, 4288-4292.	2.0	13
59	Catechol Redox Reaction: Reactive Oxygen Species Generation, Regulation, and Biomedical Applications. ACS Symposium Series, 2017, , 179-196.	0.5	13
60	Development and Characterization of an Antimicrobial Polydopamine Coating for Conservation of Humpback Whales. Frontiers in Chemistry, 2019, 7, 618.	3.6	12
61	In-situ photopolymerization of monodisperse and discoid oxidized methacrylated alginate microgels in a microfluidic channel. Biomicrofluidics, 2016, 10, 011101.	2.4	11
62	Controlling the Release of Hydrogen Peroxide from Catechol-Based Adhesives Using Silica Nanoparticles. ACS Biomaterials Science and Engineering, 2020, 6, 4502-4511.	5.2	11
63	Monitoring the Long-Term Degradation Behavior of Biomimetic Bioadhesive Using Wireless Magnetoelastic Sensor. IEEE Transactions on Biomedical Engineering, 2015, 62, 1838-1842.	4.2	10
64	Biomimetic Adhesives and Coatings Based on Mussel Adhesive Proteins. , 2016, , 345-378.		9
65	Electroactive Polymeric Composites to Mimic the Electromechanical Properties of Myocardium in Cardiac Tissue Repair. Gels, 2021, 7, 53.	4.5	9
66	Effect of Conductivity on In Situ Deactivation of Catecholâ€“Boronate Complexation-Based Reversible Smart Adhesive. Biomacromolecules, 2021, 22, 4004-4015.	5.4	9
67	Correlating the mass and mechanical property changes during the degradation of PEGâ€based adhesive. Journal of Applied Polymer Science, 2020, 137, 48451.	2.6	8
68	Is there value in chemical modification of fish scale surfaces?. Journal of Applied Polymer Science, 2016, 133, .	2.6	5
69	Editorial: Catechol and Polyphenol Chemistry for Smart Polymers. Frontiers in Chemistry, 2019, 7, 883.	3.6	5
70	Inducible nitric oxide releasing poly-(ethylene glycol)-fibrinogen adhesive hydrogels for tissue regeneration. Materials Research Society Symposia Proceedings, 2013, 1569, 39-44.	0.1	4
71	Mussel-inspired polydopamine-coated silk fibroin as a promising biomaterial. Bioinspired, Biomimetic and Nanobiomaterials, 2020, 9, 147-154.	0.9	4
72	Wireless magnetoelastic sensors for tracking degradation profiles of nitrodopamine-modified poly(ethylene glycol). Sciencejet, 2015, 4, .	1.0	4

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73	Novel Hydrogel Actuator Based on Biomimetic Chemistry. Materials Research Society Symposia Proceedings, 2014, 1710, 1.	0.1	3
74	Biomimetic Approach to Designing Adhesive Hydrogels: From Chemistry to Application. Springer Series in Biomaterials Science and Engineering, 2016, , 481-500.	1.0	3
75	Climbing robots in a sticky situation. Science Robotics, 2021, 6, .	17.6	3
76	Chapter 10. Mussel Adhesive-inspired Polymers. RSC Polymer Chemistry Series, 2016, , 322-353.	0.2	3
77	Adhesives and Coatings Inspired by Mussel Adhesive Proteins: Adhesives and Coatings Inspired by Mussel Adhesive Proteins. , 2015, , 131-166.		3
78	Mussel-Inspired Self-Healing Hydrogels. Biophysical Journal, 2010, 98, 604a.	0.5	2
79	EFFECTS OF NOVEL COATINGS INSPIRED BY MARINE MUSSELS ON URETERAL STENT ENCRUSTATION AND UROPATHOGEN ADHERENCE IN VIVO. Journal of Urology, 2008, 179, 85-85.	0.4	0
80	Musselâ€™s powder engineered to kill pathogens. TheScienceBreaker, 2019, , .	0.0	0
81	Multifunctional and Smart Tissue Adhesives for Biomedical Applications. , 2022, , 66-73.		0