Matthew J Harrington

List of Publications by Year
in descending order

44 papers	4,586 citations	186265 28 h-index	243625 44 g-index
48 all docs	48 docs citations	48 times ranked	4538 citing authors

#	Article	IF	Citations
1	Following the thread: <i>Mytilus</i> mussel byssus as an inspired multi-functional biomaterial. Canadian Journal of Chemistry, 2022, 100, 197-211.	1.1	7
2	Extracellular Secretion and Simple Purification of Bacterial Collagen from <i>Escherichia coli</i>. Biomacromolecules, 2022, 23, 1557-1568.	5.4	5
3	Mistletoe viscin: a hygro- and mechano-responsive cellulose-based adhesive for diverse material applications. , 2022, 1, .		5
4	Natural load-bearing protein materials. Progress in Materials Science, 2021, 120, 100767.	32.8	31
5	Collagen Pentablock Copolymers Form Smectic Liquid Crystals as Precursors for Mussel Byssus Fabrication. ACS Nano, 2021, 15, 6829-6838.	14.6	12
6	From vesicles to materials: bioinspired strategies for fabricating hierarchically structured soft matter. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200338.	3.4	6
7	Catechol-Vanadium Binding Enhances Cross-Linking and Mechanics of a Mussel Byssus Coating Protein. Chemistry of Materials, 2021, 33, 6530-6540.	6.7	27
8	Microfluidic-like fabrication of metal ionâ€“cured bioadhesives by mussels. Science, 2021, 374, 206-211.	12.6	119
9	Comparative Animal Mucomics: Inspiration for Functional Materials from Ubiquitous and Understudied Biopolymers. ACS Biomaterials Science and Engineering, 2020, 6, 5377-5398.	5.2	12
10	Structure and composition of the tunic in the sea pineapple Halocynthia roretzi: A complex cellulosic composite biomaterial. Acta Biomaterialia, 2020, 111, 290-301.	8.3	13
11	Compartmentalized processing of catechols during mussel byssus fabrication determines the destiny of DOPA. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7613-7621.	7.1	42
12	Hierarchically-structured metalloprotein composite coatings biofabricated from co-existing condensed liquid phases. Nature Communications, 2020, 11, 862.	12.8	41
13	Fiber Formation from Liquid Crystalline Collagen Vesicles Isolated from Mussels. Langmuir, 2019, 35, 15992-16001.	3.5	13
14	Unraveling the Rapid Assembly Process of Stiff Cellulosic Fibers from Mistletoe Berries. Biomacromolecules, 2019, 20, 3094-3103.	5.4	11
15	Fibers on the Fly: Multiscale Mechanisms of Fiber Formation in the Capture Slime of Velvet Worms. Integrative and Comparative Biology, 2019, 59, 1690-1699.	2.0	12
16	Healing through Histidine: Bioinspired Pathways to Self-Healing Polymers via Imidazoleâ€“Metal Coordination. Biomimetics, 2019, 4, 20.	3.3	63
17	Shear-Induced Î2-Crystallite Unfolding in Condensed Phase Nanodroplets Promotes Fiber Formation in a Biological Adhesive. ACS Nano, 2019, 13, 4992-5001.	14.6	27
18	Self-healing silk from the sea: role of helical hierarchical structure in<i>Pinna nobilis</i>byssus mechanics. Soft Matter, 2019, 15, 9654-9664.	2.7	6

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19	Metal-Tunable Self-Assembly of Hierarchical Structure in Mussel-Inspired Peptide Films. ACS Nano, 2018, 12, 2160-2168.	14.6	50
20	Exploring mussel byssus fabrication with peptide-polymer hybrids: Role of pH and metal coordination in self-assembly and mechanics of histidine-rich domains. European Polymer Journal, 2018, 109, 229-236.	5.4	26
21	A new twist on sea silk: the peculiar protein ultrastructure of fan shell and pearl oyster byssus. Soft Matter, 2018, 14, 5654-5664.	2.7	21
22	Mussel Byssus Structureâ€Function and Fabrication as Inspiration for Biotechnological Production of Advanced Materials. Biotechnology Journal, 2018, 13, e1800133.	3.5	44
23	Reversible Supramolecular Assembly of Velvet Worm Adhesive Fibers via Electrostatic Interactions of Charged Phosphoproteins. Biomacromolecules, 2018, 19, 4034-4043.	5.4	22
24	Mechanoresponsive lipid-protein nanoglobules facilitate reversible fibre formation in velvet worm slime. Nature Communications, 2017, 8, 974.	12.8	35
25	Rapid self-assembly of complex biomolecular architectures during mussel byssus biofabrication. Nature Communications, 2017, 8, 14539.	12.8	148
26	pHâ€Responsive Selfâ€Organization of Metalâ€Binding Protein Motifs from Biomolecular Junctions in Mussel Byssus. Advanced Materials Interfaces, 2017, 4, 1600416.	3.7	35
27	Cooperative behavior of a sacrificial bond network and elastic framework in providing self-healing capacity in mussel byssal threads. Journal of Structural Biology, 2016, 196, 329-339.	2.8	54
28	Biological Archetypes for Self-Healing Materials. Advances in Polymer Science, 2015, , 307-344.	0.8	36
29	Self-healing response in supramolecular polymers based on reversible zincâ€“histidine interactions. Polymer, 2015, 69, 274-282.	3.8	66
30	Role of Sacrificial Proteinâ€“Metal Bond Exchange in Mussel Byssal Thread Self-Healing. Biomacromolecules, 2015, 16, 2852-2861.	5.4	95
31	Mechanical homeostasis of a DOPA-enriched biological coating from mussels in response to metal variation. Journal of the Royal Society Interface, 2015, 12, 20150466.	3.4	40
32	The Mechanical Role of Metal Ions in Biogenic Proteinâ€Based Materials. Angewandte Chemie - International Edition, 2014, 53, 12026-12044.	13.8	229
33	Metal-coordination: using one of nature's tricks to control soft material mechanics. Journal of Materials Chemistry B, 2014, 2, 2467-2472.	5.8	178
34	Metal-Mediated Molecular Self-Healing in Histidine-Rich Mussel Peptides. Biomacromolecules, 2014, 15, 1644-1652.	5.4	75
35	Self-Repair of a Biological Fiber Guided by an Ordered Elastic Framework. Biomacromolecules, 2013, 14, 1520-1528.	5.4	69
36	Pseudoelastic behaviour of a natural material is achieved via reversible changes in protein backbone conformation. Journal of the Royal Society Interface, 2012, 9, 2911-2922.	3.4	35

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37	Reorientation of Cellulose Nanowhiskers in Agarose Hydrogels under Tensile Loading. Biomacromolecules, 2012, 13, 850-856.	5.4	91
38	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
39	Protein- and Metal-dependent Interactions of a Prominent Protein in Mussel Adhesive Plaques. Journal of Biological Chemistry, 2010, 285, 25850-25858.	3.4	227
40	Iron-Clad Fibers: A Metal-Based Biological Strategy for Hard Flexible Coatings. Science, 2010, 328, 216-220.	12.6	838
41	How Nature Modulates a Fiber's Mechanical Properties: Mechanically Distinct Fibers Drawn from Natural Mesogenic Block Copolymer Variants. Advanced Materials, 2009, 21, 440-444.	21.0	58
42	Collagen insulated from tensile damage by domains that unfold reversibly: In situ X-ray investigation of mechanical yield and damage repair in the mussel byssus. Journal of Structural Biology, 2009, 167, 47-54.	2.8	125
43	pH-Dependent Locking of Giant Mesogens in Fibers Drawn from Mussel Byssal Collagens. Biomacromolecules, 2008, 9, 1480-1486.	5.4	67
44	Holdfast heroics: comparing the molecular and mechanical properties of<i>Mytilus californianus</i>byssal threads. Journal of Experimental Biology, 2007, 210, 4307-4318.	1.7	152