Ali Miserez

List of Publications by Year
in descending order

112 papers	6,068 citations	66234 42 h-index	76769 74 g-index
122 all docs	122 docs citations	122 times ranked	6630 citing authors

#	Article	IF	Citations
1	Liquidâ€"Liquid Phase Separation of the Green Mussel Adhesive Protein Pvfpâ€5 is Regulated by the Postâ€Translated Dopa Amino Acid. Advanced Materials, 2022, 34, e2103828.	11.1	32
2	Proteinâ€Based Encapsulation Strategies: Toward Microâ€•and Nanoscale Carriers with Increased Functionality. Small Science, 2022, 2, .	5.8	13
3	Phase-separating peptides for direct cytosolic delivery and redox-activated release of macromolecular therapeutics. Nature Chemistry, 2022, 14, 274-283.	6.6	117
4	Robust and Long-Term Cellular Protein and Enzymatic Activity Preservation in Biomineralized Mammalian Cells. ACS Nano, 2022, 16, 2164-2175.	7.3	13
5	In vivo liquidâ€"liquid phase separation protects amyloidogenic and aggregationâ€prone peptides during overexpression in <scp><i>Escherichia coli</i></scp>. Protein Science, 2022, 31, e4292.	3.1	10
6	Cephalopod-Mimetic Tunable Photonic Coatings Assembled from Quasi-Monodispersed Reflectin Protein Nanoparticles. ACS Applied Materials & Interfaces, 2022, 14, 21436-21452.	4.0	0
7	Complete Sequences of the Velvet Worm Slime Proteins Reveal that Slime Formation is Enabled by Disulfide Bonds and Intrinsically Disordered Regions. Advanced Science, 2022, 9, e2201444.	5.6	9
8	Interplay between Interfacial Energy, Contact Mechanics, and Capillary Forces in EGaIn Droplets. ACS Applied Materials & Interfaces, 2022, 14, 28074-28084.	4.0	6
9	Nanolattice-Forming Hybrid Collagens in Protective Shark Egg Cases. Biomacromolecules, 2022, 23, 2878-2890.	2.6	0
10	Environmental impact on the mechanical properties of Porites spp. corals. Coral Reefs, 2021, 40, 701-717.	0.9	5
11	Fracture toughness of the stomatopod dactyl club is enhanced by plastic dissipation: A fracture micromechanics study. Acta Biomaterialia, 2021, 126, 339-349.	4.1	10
12	Nanocapsules Produced by Nanoprecipitation of Designed Suckerin-Silk Fusion Proteins. ACS Macro Letters, 2021, 10, 628-634.	2.3	10
13	Liquidâ€"Liquid Phase Separation of Short Histidine- and Tyrosine-Rich Peptides: Sequence Specificity and Molecular Topology. Journal of Physical Chemistry B, 2021, 125, 6776-6790.	1.2	21
14	Structure of a consensus chitin-binding domain revealed by solution NMR. Journal of Structural Biology, 2021, 213, 107725.	1.3	4
15	Bioinspired Functionally Graded Composite Assembled Using Cellulose Nanocrystals and Genetically Engineered Proteins with Controlled Biomineralization. Advanced Materials, 2021, 33, e2102658.	11.1	22
16	Bioinspired short peptide hydrogel for versatile encapsulation and controlled release of growth factor therapeutics. Acta Biomaterialia, 2021, 136, 111-123.	4.1	20
17	Self-Assembly of a Barnacle Cement Protein (MrCP20) into Adhesive Nanofibrils with Concomitant Regulation of CaCO₃Polymorphism. Chemistry of Materials, 2021, 33, 9715-9724.	3.2	9
18	Disorderâ€"Order Interplay of a Barnacle Cement Protein Triggered by Interactions with Calcium and Carbonate Ions: A Molecular Dynamics Study. Chemistry of Materials, 2020, 32, 8845-8859.	3.2	15

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19	Laboratory and Field Testing Assessment of Next Generation Biocide-Free, Fouling-Resistant Slippery Coatings. ACS Applied Polymer Materials, 2020, 2, 5147-5162.	2.0	14
20	Accelerated corrosion of marine-grade steel by a redox-active, cysteine-rich barnacle cement protein. Npj Materials Degradation, 2020, 4, .	2.6	9
21	Magnetically responsive peptide coacervates for dual hyperthermia and chemotherapy treatments of liver cancer. Acta Biomaterialia, 2020, 110, 221-230.	4.1	42
22	Green biolubricant infused slippery surfaces to combat marine biofouling. Journal of Colloid and Interface Science, 2020, 568, 185-197.	5.0	59
23	Thermalâ€Disrupting Interface Mitigates Intercellular Cohesion Loss for Accurate Topical Antibacterial Therapy. Advanced Materials, 2020, 32, e1907030.	11.1	75
24	Supramolecular Î²â€Sheet Suckerinâ€“Based Underwater Adhesives. Advanced Functional Materials, 2020, 30, 1907534.	7.8	39
25	Liquidâ€“liquid phase separation of proteins and peptides derived from biological materials: Discovery, protein engineering, and emerging applications. MRS Bulletin, 2020, 45, 1039-1047.	1.7	21
26	A Short Peptide Hydrogel with High Stiffness Induced by 3₁₀â€Helices to Î²â€Sheet Transition in Water. Advanced Science, 2019, 6, 1901173.	5.6	36
27	Adhesive Properties of Adsorbed Layers of Two Recombinant Mussel Foot Proteins with Different Levels of DOPA and Tyrosine. Langmuir, 2019, 35, 15481-15490.	1.6	23
28	Three-dimensional structure of <i>Megabalanus rosa</i> Cement Protein 20 revealed by multi-dimensional NMR and molecular dynamics simulations. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20190198.	1.8	22
29	A diecast mineralization process forms the tough mantis shrimp dactyl club. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 8685-8692.	3.3	33
30	Minimal Reconstitution of Membranous Web Induced by a Vesicleâ€“Peptide Solâ€“Gel Transition. Biomacromolecules, 2019, 20, 1709-1718.	2.6	4
31	Time-Resolved Observations of Liquidâ€“Liquid Phase Separation at the Nanoscale Using <i>in Situ</i> Liquid Transmission Electron Microscopy. Journal of the American Chemical Society, 2019, 141, 7202-7210.	6.6	69
32	A Doubleâ€Layer Mechanochromic Hydrogel with Multidirectional Force Sensing and Encryption Capability. Advanced Functional Materials, 2019, 29, 1808191.	7.8	109
33	Hydrogen bond guidance and aromatic stacking drive liquid-liquid phase separation of intrinsically disordered histidine-rich peptides. Nature Communications, 2019, 10, 5465.	5.8	105
34	White Light-Emitting Multistimuli-Responsive Hydrogels with Lanthanides and Carbon Dots. ACS Applied Materials & Interfaces, 2018, 10, 10409-10418.	4.0	133
35	Multi-scale structural design and biomechanics of the pistol shrimp snapper claw. Acta Biomaterialia, 2018, 73, 449-457.	4.1	15
36	Fast and Green Synthesis of an Oligo-Hydrocaffeic Acid-Based Adhesive. ACS Omega, 2018, 3, 18911-18916.	1.6	3

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37	Biomechanical Design of the Mantis Shrimp Saddle: A Biomineralized Spring Used for Rapid Raptorial Strikes. IScience, 2018, 8, 271-282.	1.9	31
38	Glucose-Responsive Peptide Coacervates with High Encapsulation Efficiency for Controlled Release of Insulin. Bioconjugate Chemistry, 2018, 29, 2176-2180.	1.8	57
39	Supramolecular propensity of suckerin proteins is driven by Î²-sheets and aromatic interactions as revealed by solution NMR. Biomaterials Science, 2018, 6, 2440-2447.	2.6	14
40	Controlling Supramolecular Chiral Nanostructures by Self-Assembly of a Biomimetic Î²-Sheet-Rich Amyloidogenic Peptide. ACS Nano, 2018, 12, 9152-9161.	7.3	28
41	Supramolecular Î²-Sheets Stabilized Protein Nanocarriers for Drug Delivery and Gene Transfection. ACS Nano, 2017, 11, 4528-4541.	7.3	52
42	Catechol-modified green fluorescent protein as a specific biosensor for Al ions. Sensors and Actuators B: Chemical, 2017, 251, 326-333.	4.0	12
43	Hierarchical Assembly of Tough Bioelastomeric Egg Capsules is Mediated by a Bundling Protein. Biomacromolecules, 2017, 18, 931-942.	2.6	4
44	Self-coacervation of modular squid beak proteins â€" a comparative study. Soft Matter, 2017, 13, 7740-7752.	1.2	52
45	Parrotfish Teeth: Stiff Biominerals Whose Microstructure Makes Them Tough and Abrasion-Resistant To Bite Stony Corals. ACS Nano, 2017, 11, 11856-11865.	7.3	37
46	Squid suckerin microneedle arrays for tunable drug release. Journal of Materials Chemistry B, 2017, 5, 8467-8478.	2.9	30
47	Preventing mussel adhesion using lubricant-infused materials. Science, 2017, 357, 668-673.	6.0	375
48	Artificial hagfish protein fibers with ultra-high and tunable stiffness. Nanoscale, 2017, 9, 12908-12915.	2.8	24
49	Squid Suckerin Biomimetic Peptides Form Amyloid-like Crystals with Robust Mechanical Properties. Biomacromolecules, 2017, 18, 4240-4248.	2.6	21
50	Squid Sucker Ring Teeth: Multiscale Structureâ€"Property Relationships, Sequencing, and Protein Engineering of a Thermoplastic Biopolymer. ACS Biomaterials Science and Engineering, 2017, 3, 680-693.	2.6	53
51	Orientational Coupling Locally Orchestrates a Cell Migration Pattern for Reâ€Epithelialization. Advanced Materials, 2017, 29, 1700145.	11.1	33
52	An Underwater Surfaceâ€Drying Peptide Inspired by a Mussel Adhesive Protein. Advanced Functional Materials, 2016, 26, 3496-3507.	7.8	163
53	50 Years of Biomaterials Research in Singapore. , 2016, , 157-177.		0
54	Squid's Suckerin Proteins in Bits & Bytes. Biophysical Journal, 2016, 110, 341a.	0.2	2

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55	Properties and architecture of the sperm whale skull amphitheatre. Zoology, 2016, 119, 42-51.	0.6	12
56	Modular peptides from the thermoplastic squid sucker ring teeth form amyloid-like cross-Î² supramolecular networks. Acta Biomaterialia, 2016, 46, 41-54.	4.1	29
57	Engineering bioinspired bacteria-adhesive clay nanoparticles with a membrane-disruptive property for the treatment of Helicobacter pylori infection. Nanoscale, 2016, 8, 16486-16498.	2.8	33
58	The role of water on the structure and mechanical properties of a thermoplastic natural block co-polymer from squid sucker ring teeth. Bioinspiration and Biomimetics, 2016, 11, 055003.	1.5	16
59	Bioâ€Inspired Mechanotactic Hybrids for Orchestrating Tractionâ€Mediated Epithelial Migration. Advanced Materials, 2016, 28, 3102-3110.	11.1	66
60	Complex coacervates of oppositely charged co-polypeptides inspired by the sandcastle worm glue. Journal of Materials Chemistry B, 2016, 4, 1544-1556.	2.9	42
61	Bioinspired pH and magnetic responsive catechol-functionalized chitosan hydrogels with tunable elastic properties. Chemical Communications, 2016, 52, 697-700.	2.2	79
62	Stable Formation of Gold Nanoparticles onto Redoxâ€Active Solid Biosubstrates Made of Squid Suckerin Proteins. Macromolecular Rapid Communications, 2015, 36, 1877-1883.	2.0	12
63	The Mantis Shrimp Saddle: A Biological Spring Combining Stiffness and Flexibility. Advanced Functional Materials, 2015, 25, 6437-6447.	7.8	61
64	From Soft Selfâ€Healing Gels to Stiff Films in Suckerinâ€Based Materials Through Modulation of Crosslink Density and <i>Î²</i>â€Sheet Content. Advanced Materials, 2015, 27, 3953-3961.	11.1	68
65	Infiltration of chitin by protein coacervates defines the squid beak mechanical gradient. Nature Chemical Biology, 2015, 11, 488-495.	3.9	148
66	The role of quasi-plasticity in the extreme contact damage tolerance of the stomatopod dactyl club. Nature Materials, 2015, 14, 943-950.	13.3	128
67	Size effects and shape memory properties in ZrO2 ceramic micro- and nano-pillars. Scripta Materialia, 2015, 101, 40-43.	2.6	64
68	Multi-scale thermal stability of a hard thermoplastic protein-based material. Nature Communications, 2015, 6, 8313.	5.8	54
69	Self-Assembly of Recombinant Hagfish Thread Keratins Amenable to a Strain-Induced Î±-Helix to Î²-Sheet Transition. Biomacromolecules, 2015, 16, 2327-2339.	2.6	29
70	Biomimetic self-assembly of recombinant marine snail egg capsule proteins into structural coiled-coil units. Journal of Materials Chemistry B, 2015, 3, 2671-2684.	2.9	11
71	Structural, Nanomechanical, and Computational Characterization of <scp>d</scp>,<scp>l</scp>-Cyclic Peptide Assemblies. ACS Nano, 2015, 9, 3360-3368.	7.3	39
72	l-Lysine templated CaCO3 precipitated to flax develops flowery crystal structures that improve the mechanical properties of natural fibre reinforced composites. Composites Part A: Applied Science and Manufacturing, 2015, 75, 84-88.	3.8	11

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73	Mussel adhesion is dictated by time-regulated secretion and molecular conformation of mussel adhesive proteins. Nature Communications, 2015, 6, 8737.	5.8	144
74	Biological materials and molecular biomimetics â€“ filling up the empty soft materials space for tissue engineering applications. Journal of Materials Chemistry B, 2015, 3, 13-24.	2.9	49
75	Textured fluorapatite bonded to calcium sulphate strengthen stomatopod raptorial appendages. Nature Communications, 2014, 5, 3187.	5.8	103
76	Integrative and comparative analysis of coiled-coil based marine snail egg cases â€“ a model for biomimetic elastomers. Biomaterials Science, 2014, 2, 710.	2.6	7
77	Synthesis of biomimetic co-polypeptides with tunable degrees of phosphorylation. Polymer Chemistry, 2014, 5, 1351-1361.	1.9	8
78	Structural Proteins from Whelk Egg Capsule with Long Range Elasticity Associated with a Solid-State Phase Transition. Biomacromolecules, 2014, 15, 30-42.	2.6	17
79	Pressure Sensitive Adhesion of an Elastomeric Protein Complex Extracted From Squid Ring Teeth. Advanced Functional Materials, 2014, 24, 6227-6233.	7.8	38
80	Biomimetic Production of Silk-Like Recombinant Squid Sucker Ring Teeth Proteins. Biomacromolecules, 2014, 15, 3278-3289.	2.6	49
81	Nanoconfined Î²-Sheets Mechanically Reinforce the Supra-Biomolecular Network of Robust Squid Sucker Ring Teeth. ACS Nano, 2014, 8, 7170-7179.	7.3	88
82	Accelerating the design of biomimetic materials by integrating RNA-seq with proteomics and materials science. Nature Biotechnology, 2013, 31, 908-915.	9.4	171
83	Catechol-Functionalized Chitosan/Iron Oxide Nanoparticle Composite Inspired by Mussel Thread Coating and Squid Beak Interfacial Chemistry. Langmuir, 2013, 29, 10899-10906.	1.6	69
84	Phase transition-induced elasticity of Î±-helical bioelastomeric fibres and networks. Chemical Society Reviews, 2013, 42, 1973-1995.	18.7	56
85	Wear and abrasion resistance selection maps of biological materials. Acta Biomaterialia, 2013, 9, 7895-7907.	4.1	80
86	Layer-by-Layer Polyelectrolyte Deposition: A Mechanism for Forming Biocomposite Materials. Biomacromolecules, 2013, 14, 1715-1726.	2.6	18
87	Fabrication of a 3D hair follicleâ€like hydrogel by soft lithography. Journal of Biomedical Materials Research - Part A, 2013, 101, 3159-3169.	2.1	27
88	Four-Stranded Coiled-Coil Elastic Protein in the Byssus of the Giant Clam, Tridacna maxima. Biomacromolecules, 2012, 13, 332-341.	2.6	20
89	The Stomatopod Dactyl Club: A Formidable Damage-Tolerant Biological Hammer. Science, 2012, 336, 1275-1280.	6.0	648
90	Integrating Materials and Life Sciences Toward the Engineering of Biomimetic Materials. Jom, 2012, 64, 494-504.	0.9	4

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91	Analysis of an ultra hard magnetic biomineral in chiton radular teeth. Materials Today, 2010, 13, 42-52.	8.3	166
92	Cross-linking Chemistry of Squid Beak. Journal of Biological Chemistry, 2010, 285, 38115-38124.	1.6	86
93	Unifying Design Strategies in Demosponge and Hexactinellid Skeletal Systems. Journal of Adhesion, 2010, 86, 72-95.	1.8	36
94	Diverse Strategies of Protein Sclerotization in Marine Invertebrates. Advances in Insect Physiology, 2010, 38, 75-133.	1.1	52
95	Sucker Rings from the Humboldt Squid Dosidicus gigas: The Role of Nanotubule Architecture on the Mechanical Properties. Materials Research Society Symposia Proceedings, 2009, 1187, 1.	0.1	0
96	Microstructural and Biochemical Characterization of the Nanoporous Sucker Rings from <i>Dosidicus gigas</i>. Advanced Materials, 2009, 21, 401-406.	11.1	91
97	Non-entropic and reversible long-range deformation of an encapsulating bioelastomer. Nature Materials, 2009, 8, 910-916.	13.3	82
98	Effects of Laminate Architecture on Fracture Resistance of Sponge Biosilica: Lessons from Nature. Advanced Functional Materials, 2008, 18, 1241-1248.	7.8	132
99	Inside Front Cover: Effects of Laminate Architecture on Fracture Resistance of Sponge Biosilica: Lessons from Nature (Adv. Funct. Mater. 8/2008). Advanced Functional Materials, 2008, 18, 1146-1146.	7.8	2
100	The Transition from Stiff to Compliant Materials in Squid Beaks. Science, 2008, 319, 1816-1819.	6.0	362
101	Mineral minimization in nature's alternative teeth. Journal of the Royal Society Interface, 2007, 4, 19-31.	1.5	55
102	Property maps for abrasion resistance of materials. Acta Materialia, 2007, 55, 6365-6371.	3.8	89
103	Jumbo squid beaks: Inspiration for design of robust organic composites. Acta Biomaterialia, 2007, 3, 139-149.	4.1	110
104	Increasing the Strength/Toughness Combination of High Volume Fraction Particulate Metal Matrix Composites using an Al-Ag Matrix Alloy. Advanced Engineering Materials, 2006, 8, 56-62.	1.6	16
105	Investigation of crack-tip plasticity in high volume fraction particulate metal matrix composites. Engineering Fracture Mechanics, 2004, 71, 2385-2406.	2.0	31
106	Particle reinforced metals of high ceramic content. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 387-389, 822-831.	2.6	45
107	Fracture of aluminium reinforced with densely packed ceramic particles: link between the local and the total work of fracture. Acta Materialia, 2004, 52, 1337-1351.	3.8	38
108	Fracture of aluminium reinforced with densely packed ceramic particles: influence of matrix hardening. Acta Materialia, 2004, 52, 5331-5345.	3.8	36

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109	Structural Metallic Materials by Infiltration. , 2004, , 379-390.		4
110	Influence of heat treatment and particle shape on mechanical properties of infiltrated Al2O3particle reinforced Al-2 wt-%Cu. Materials Science and Technology, 2002, 18, 1461-1470.	0.8	19
111	Squid sucker teeth proteins: From basic discovery to multi-functional materials of a thermoplastic biopolymer. Frontiers in Bioengineering and Biotechnology, 0, 4, .	2.0	0
112	Fracture Toughness of the Stomatopod Dactyl Club is Enhanced by Plastic Dissipation: A Fracture Micromechanics Study. SSRN Electronic Journal, 0, , .	0.4	0