Dong Soo Hwang

List of Publications by Year
in descending order

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129	6,862	53794 45	64796 79
papers	citations	h-index	g-index

133	133	133	7002
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Strong reversible Fe ³⁺ -mediated bridging between dopa-containing protein films in water. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12850-12853.	7.1	437
2	Mussel-Mimetic Protein-Based Adhesive Hydrogel. Biomacromolecules, 2014, 15, 1579-1585.	5.4	265
3	Adhesion of mussel foot proteins to different substrate surfaces. Journal of the Royal Society Interface, 2013, 10, 20120759.	3.4	258
4	Protein- and Metal-dependent Interactions of a Prominent Protein in Mussel Adhesive Plaques. Journal of Biological Chemistry, 2010, 285, 25850-25858.	3.4	227
5	Viscosity and interfacial properties in a mussel-inspired adhesive coacervate. Soft Matter, 2010, 6, 3232.	2.7	212
6	Practical recombinant hybrid mussel bioadhesive fp-151. Biomaterials, 2007, 28, 3560-3568.	11.4	191
7	Cell adhesion biomaterial based on mussel adhesive protein fused with RGD peptide. Biomaterials, 2007, 28, 4039-4046.	11.4	187
8	Complexation and coacervation of like-charged polyelectrolytes inspired by mussels. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E847-53.	7.1	187
9	Nanomechanics of Poly(catecholamine) Coatings in Aqueous Solutions. Angewandte Chemie - International Edition, 2016, 55, 3342-3346.	13.8	173
10	Expression of Functional Recombinant Mussel Adhesive Protein Mgfp-5 in Escherichia coli. Applied and Environmental Microbiology, 2004, 70, 3352-3359.	3.1	163
11	Nanomechanics of Cationâ€“Ï€ Interactions in Aqueous Solution. Angewandte Chemie - International Edition, 2013, 52, 3944-3948.	13.8	163
12	Strong Adhesion and Cohesion of Chitosan in Aqueous Solutions. Langmuir, 2013, 29, 14222-14229.	3.5	153
13	Salt Triggers the Simple Coacervation of an Underwater Adhesive When Cations Meet Aromatic Ï€ Electrons in Seawater. ACS Nano, 2017, 11, 6764-6772.	14.6	149
14	Development of bioadhesives from marine mussels. Biotechnology Journal, 2008, 3, 631-638.	3.5	148
15	Mussel-Inspired Anchoring of Polymer Loops That Provide Superior Surface Lubrication and Antifouling Properties. ACS Nano, 2016, 10, 930-937.	14.6	128
16	Tunicate-mimetic nanofibrous hydrogel adhesive with improved wet adhesion. Acta Biomaterialia, 2015, 20, 104-112.	8.3	118
17	Adhesion mechanism in a DOPA-deficient foot protein from green mussels. Soft Matter, 2012, 8, 5640.	2.7	116
18	Tunichrome-inspired pyrogallol functionalized chitosan for tissue adhesion and hemostasis. Carbohydrate Polymers, 2019, 208, 77-85.	10.2	114

#	Article	IF	Citations
19	Improvement of desolvation and resilience of alginate binders for Si-based anodes in a lithium ion battery by calcium-mediated cross-linking. Physical Chemistry Chemical Physics, 2014, 16, 25628-25635.	2.8	106
20	Improved Performance of Protected Catecholic Polysiloxanes for Bioinspired Wet Adhesion to Surface Oxides. Journal of the American Chemical Society, 2012, 134, 20139-20145.	13.7	100
21	Dehydration entropy drives liquid-liquid phase separation by molecular crowding. Communications Chemistry, 2020, 3, .	4.5	97
22	Promotion of osteoblast proliferation on complex coacervation-based hyaluronic acid â€“ recombinant mussel adhesive protein coatings on titanium. Biomaterials, 2010, 31, 1080-1084.	11.4	96
23	Molecular interactions of mussel protective coating protein, mcfp-1, from Mytilus californianus. Biomaterials, 2012, 33, 1903-1911.	11.4	90
24	Ultraâ€Adaptable and Wearable Photonic Skin Based on a Shapeâ€Memory, Responsive Cellulose Derivative. Advanced Functional Materials, 2019, 29, 1902720.	14.9	89
25	Cationâ€“Ï€ interaction in DOPA-deficient mussel adhesive protein mfp-1. Journal of Materials Chemistry B, 2015, 3, 738-743.	5.8	87
26	Sustainable and recyclable super engineering thermoplastic from biorenewable monomer. Nature Communications, 2019, 10, 2601.	12.8	83
27	Biorenewable, transparent, and oxygen/moisture barrier nanocellulose/nanochitin-based coating on polypropylene for food packaging applications. Carbohydrate Polymers, 2021, 271, 118421.	10.2	80
28	Expression of Functional Recombinant Mussel Adhesive Protein Type 3A in Escherichia coli. Biotechnology Progress, 2008, 21, 965-970.	2.6	76
29	Sea star tenacity mediated by a protein that fragments, then aggregates. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6317-6322.	7.1	76
30	Switch of Surface Adhesion to Cohesion by Dopa-Fe³⁺ Complexation, in Response to Microenvironment at the Mussel Plaque/Substrate Interface. Chemistry of Materials, 2016, 28, 7982-7989.	6.7	74
31	Contact time- and pH-dependent adhesion and cohesion of low molecular weight chitosan coated surfaces. Carbohydrate Polymers, 2015, 117, 887-894.	10.2	72
32	Bulk adhesive strength of recombinant hybrid mussel adhesive protein. Biofouling, 2009, 25, 99-107.	2.2	64
33	Intermolecular interactions of chitosan: Degree of acetylation and molecular weight. Carbohydrate Polymers, 2021, 259, 117782.	10.2	62
34	Mussel foot protein-1 (mcfp-1) interaction with titania surfaces. Journal of Materials Chemistry, 2012, 22, 15530.	6.7	61
35	Mussel-Inspired Anisotropic Nanocellulose and Silver Nanoparticle Composite with Improved Mechanical Properties, Electrical Conductivity and Antibacterial Activity. Polymers, 2016, 8, 102.	4.5	60
36	Immobilization and Stabilization of Acylase on Carboxylated Polyaniline Nanofibers for Highly Effective Antifouling Application via Quorum Quenching. ACS Applied Materials & Interfaces, 2017, 9, 15424-15432.	8.0	58

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37	Three intrinsically unstructured mussel adhesive proteins, mfpâ€1, mfpâ€2, and mfpâ€3: Analysis by circular dichroism. Protein Science, 2012, 21, 1689-1695.	7.6	55
38	A biomimetic chitosan composite with improved mechanical properties in wet conditions. Biotechnology Progress, 2013, 29, 505-512.	2.6	54
39	Molecular and structural basis of low interfacial energy of complex coacervates in water. Advances in Colloid and Interface Science, 2017, 239, 61-73.	14.7	54
40	Five different chitin nanomaterials from identical source with different advantageous functions and performances. Carbohydrate Polymers, 2019, 205, 392-400.	10.2	53
41	Inkjetâ€“Spray Hybrid Printing for 3D Freeform Fabrication of Multilayered Hydrogel Structures. Advanced Healthcare Materials, 2018, 7, e1800050.	7.6	51
42	Tunicateâ€Inspired Gallic Acid/Metal Ion Complex for Instant and Efficient Treatment of Dentin Hypersensitivity. Advanced Healthcare Materials, 2016, 5, 919-927.	7.6	50
43	Mussel-inspired adhesive protein-based electrospun nanofibers reinforced by Fe(<scp>iii</scp>)â€“DOPA complexation. Journal of Materials Chemistry B, 2015, 3, 112-118.	5.8	49
44	Bicontinuous Fluid Structure with Low Cohesive Energy: Molecular Basis for Exceptionally Low Interfacial Tension of Complex Coacervate Fluids. ACS Nano, 2016, 10, 5051-5062.	14.6	49
45	Recombinant mussel adhesive protein Mgfp-5 as cell adhesion biomaterial. Journal of Biotechnology, 2007, 127, 727-735.	3.8	48
46	Glycosylated Hydroxytryptophan in a Mussel Adhesive Protein from Perna viridis. Journal of Biological Chemistry, 2009, 284, 23344-23352.	3.4	47
47	Tuning and Characterizing Nanocellulose Interface for Enhanced Removal of Dual-Sorbate (As^V and Cr^{VI}) from Water Matrices. ACS Sustainable Chemistry and Engineering, 2017, 5, 518-528.	6.7	47
48	Chiral nematic self-assembly of minimally surface damaged chitin nanofibrils and its load bearing functions. Scientific Reports, 2016, 6, 23245.	3.3	46
49	A rapid, efficient and facile solution for dental hypersensitivity: The tanninâ€“iron complex. Scientific Reports, 2015, 5, 10884.	3.3	44
50	Exfoliated bentonite/alginate nanocomposite hydrogel enhances intestinal delivery of probiotics by resistance to gastric pH and on-demand disintegration. Carbohydrate Polymers, 2021, 272, 118462.	10.2	44
51	Dopamine-Mediated Sclerotization of Regenerated Chitin in Ionic Liquid. Materials, 2013, 6, 3826-3839.	2.9	41
52	Cellulose nanofibers for magnetically-separable and highly loaded enzyme immobilization. Chemical Engineering Journal, 2017, 323, 425-433.	12.7	40
53	Cationâ^Ï€ Interactions and Their Contribution to Mussel Underwater Adhesion Studied Using a Surface Forces Apparatus: A Mini-Review. Langmuir, 2019, 35, 16002-16012.	3.5	40
54	Supramolecular Î²â€Sheet Suckerinâ€“Based Underwater Adhesives. Advanced Functional Materials, 2020, 30, 1907534.	14.9	39

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55	Simple modification with amine- and hydroxyl- group rich biopolymer on ordered mesoporous carbon/sulfur composite for lithium-sulfur batteries. Korean Journal of Chemical Engineering, 2018, 35, 579-586.	2.7	37
56	Biodegradable chito-beads replacing non-biodegradable microplastics for cosmetics. Green Chemistry, 2021, 23, 6953-6965.	9.0	37
57	Antibacterial efficacy of poly(vinyl alcohol) composite nanofibers embedded with silverâ€anchored silica nanoparticles. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2018, 106, 1121-1128.	3.4	36
58	Structural specificities of cell surface Î²-glucan polysaccharides determine commensal yeast mediated immuno-modulatory activities. Nature Communications, 2021, 12, 3611.	12.8	34
59	Nanochitin and Nanochitosan: Chitin Nanostructure Engineering with Multiscale Properties for Biomedical and Environmental Applications. Advanced Materials, 2023, 35, .	21.0	33
60	Asymmetric Collapse in Biomimetic Complex Coacervates Revealed by Local Polymer and Water Dynamics. Biomacromolecules, 2013, 14, 1395-1402.	5.4	32
61	Biomimetic Janus chitin nanofiber membrane for potential guided bone regeneration application. Carbohydrate Polymers, 2021, 251, 117032.	10.2	32
62	Uptake, Distribution, and Transformation of Zerovalent Iron Nanoparticles in the Edible Plant Cucumis sativus. Environmental Science & Technology, 2018, 52, 10057-10066.	10.0	31
63	Marine hydroid perisarc: A chitin- and melanin-reinforced composite with DOPAâ€“iron(III) complexes. Acta Biomaterialia, 2013, 9, 8110-8117.	8.3	30
64	Catechol-thiol-based dental adhesive inspired by underwater mussel adhesion. Acta Biomaterialia, 2020, 103, 92-101.	8.3	28
65	The slip agents oleamide and erucamide reduce biofouling by marine benthic organisms (diatoms,) Tj ETQq1 1 0.784314 rgBT /Overlo	2.1	27
66	Sugary interfaces mitigate contact damage where stiff meets soft. Nature Communications, 2016, 7, 11923.	12.8	27
67	Enhancement of nanofluid stability and critical heat flux in pool boiling with nanocellulose. Carbohydrate Polymers, 2019, 213, 393-402.	10.2	27
68	Catechol-Vanadium Binding Enhances Cross-Linking and Mechanics of a Mussel Byssus Coating Protein. Chemistry of Materials, 2021, 33, 6530-6540.	6.7	27
69	Sustainable Boron Nitride Nanosheet-Reinforced Cellulose Nanofiber Composite Film with Oxygen Barrier without the Cost of Color and Cytotoxicity. Polymers, 2018, 10, 501.	4.5	25
70	Upper Critical Solution Temperature (UCST) Behavior of Coacervate of Cationic Protamine and Multivalent Anions. Polymers, 2019, 11, 691.	4.5	24
71	Formation, Removal, and Reformation of Surface Coatings on Various Metal Oxide Surfaces Inspired by Mussel Adhesives. ACS Applied Materials & Interfaces, 2015, 7, 24656-24662.	8.0	23
72	Production of fusion mussel adhesive fpâ€353 in Escherichia coli. Biotechnology Progress, 2008, 24, 1272-1277.	2.6	22

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73	Human sensor-inspired supervised machine learning of smartphone-based paper microfluidic analysis for bacterial species classification. Biosensors and Bioelectronics, 2021, 188, 113335.	10.1	22
74	Interconnected ruthenium dioxide nanoparticles anchored on graphite oxide: Highly efficient candidate for solvent-free oxidative synthesis of imines. Journal of Industrial and Engineering Chemistry, 2017, 46, 279-288.	5.8	21
75	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
76	Mechanical properties and thermal stability of intermolecular-fitted poly(vinyl alcohol)/Î±-chitin nanofibrous mat. Carbohydrate Polymers, 2020, 244, 116476.	10.2	21
77	Role of Dopamine Chemistry in the Formation of Mechanically Strong Mandibles of Grasshoppers. Chemistry of Materials, 2015, 27, 6478-6481.	6.7	20
78	Prolonged Biodegradation and Improved Mechanical Stability of Collagen via Vapor-Phase Ti Stitching for Long-Term Tissue Regeneration. ACS Applied Materials & Interfaces, 2019, 11, 38440-38447.	8.0	20
79	Expression of functional human transferrin in stably transfected Drosophila S2 cells. Biotechnology Progress, 2004, 20, 1192-1197.	2.6	19
80	3D cellulose nanofiber scaffold with homogeneous cell population and long-term proliferation. Cellulose, 2018, 25, 7299-7314.	4.9	19
81	Eco-friendly erucamideâ€“polydimethylsiloxane coatings for marine anti-biofouling. Colloids and Surfaces B: Biointerfaces, 2021, 207, 112003.	5.0	18
82	Immobilization of planktonic algal spores by inkjet printing. Scientific Reports, 2019, 9, 12357.	3.3	17
83	Anti-Biofouling Features of Eco-Friendly Oleamideâ€“PDMS Copolymers. ACS Omega, 2020, 5, 11515-11521.	3.5	17
84	Enhancement of Mussel Adhesive Protein Production in Escherichia coli by Co-expression of Bacterial Hemoglobin. Biotechnology Progress, 2008, 24, 663-666.	2.6	16
85	Facile Surface Functionalization with Glycosaminoglycans by Direct Coating with Mussel Adhesive Protein. Tissue Engineering - Part C: Methods, 2012, 18, 71-79.	2.1	16
86	Chitosan and hydroxyapatite composite crossâ€linked by dopamine has improved anisotropic hydroxyapatite growth and wet mechanical properties. Engineering in Life Sciences, 2015, 15, 254-261.	3.6	16
87	Strong, Multifaceted Guanidinium-Based Adhesion of Bioorganic Nanoparticles to Wet Biological Tissue. Jacs Au, 2021, 1, 1399-1411.	7.9	16
88	Recombinant mussel adhesive protein as a gene delivery material. Biotechnology and Bioengineering, 2009, 102, 616-623.	3.3	15
89	Nanomechanics of Poly(catecholamine) Coatings in Aqueous Solutions. Angewandte Chemie, 2016, 128, 3403-3407.	2.0	15
90	A guanidinium-rich polymer as a new universal bioreceptor for multiplex detection of bacteria from environmental samples. Journal of Hazardous Materials, 2021, 413, 125338.	12.4	15

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91	Probing nanomechanical interaction at the interface between biological membrane and potentially toxic chemical. Journal of Hazardous Materials, 2018, 353, 271-279.	12.4	13
92	Different Molecular Interaction between Collagen and Î±- or Î²-Chitin in Mechanically Improved Electrospun Composite. Marine Drugs, 2019, 17, 318.	4.6	13
93	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
94	Adaptive amphiphilic interaction mechanism of hydroxypropyl methylcellulose in water. Applied Surface Science, 2021, 565, 150535.	6.1	12
95	Antifouling effects of the periostracum on algal spore settlement in the mussel Mytilus edulis. Fisheries and Aquatic Sciences, 2016, 19, .	0.8	11
96	Nanomechanical Contribution of Collagen and von Willebrand Factor A in Marine Underwater Adhesion and Its Implication for Collagen Manipulation. Biomacromolecules, 2016, 17, 946-953.	5.4	11
97	Surface forces apparatus and its applications for nanomechanics of underwater adhesives. Korean Journal of Chemical Engineering, 2014, 31, 1306-1315.	2.7	10
98	Recombinant mussel proximal thread matrix protein promotes osteoblast cell adhesion and proliferation. BMC Biotechnology, 2016, 16, 16.	3.3	10
99	Aesthetically improved and efficient tanninâ€“metal chelates for the treatment of dentinal hypersensitivity. RSC Advances, 2017, 7, 87-94.	3.6	10
100	Tough and Immunosuppressive Titanium-Infiltrated Exoskeleton Matrices for Long-Term Endoskeleton Repair. ACS Applied Materials & Interfaces, 2019, 11, 9786-9793.	8.0	10
101	Environmentally Friendly Methylcellulose-Based Binders for Active and Passive Dust Control. ACS Applied Materials & Interfaces, 2020, 12, 50860-50869.	8.0	10
102	Essential Role of Thiols in Maintaining Stable Catecholato-Iron Complexes in Condensed Materials. Chemistry of Materials, 2022, 34, 5074-5083.	6.7	10
103	Carassius auratus-Originated Recombinant Histone H1 C-Terminal Peptide as Gene Delivery Material. Biotechnology Progress, 2008, 24, 17-22.	2.6	9
104	Tunichrome-Inspired Gold-Enrichment Dispersion Matrix and Its Application in Water Treatment: A Proof-of-Concept Investigation. ACS Applied Materials & Interfaces, 2017, 9, 19815-19824.	8.0	9
105	The Renewable and Sustainable Conversion of Chitin into a Chiral Nitrogenâ€Doped Carbonâ€Sheath Nanofiber for Enantioselective Adsorption. ChemSusChem, 2019, 12, 3236-3242.	6.8	9
106	Escherichia coli-based expression of functional novel DNA-binding histone H1 from Carassius auratus. Enzyme and Microbial Technology, 2007, 40, 1484-1490.	3.2	8
107	Labelâ€Free Quantitative Analysis of Coacervates via 3D Phase Imaging. Advanced Optical Materials, 2021, 9, 2100697.	7.3	8
108	Tunichrome mimetic matrix, its perspective in abatement for carcinogenic hexavalent chromium and specific coordination behavior. Chemical Engineering Journal, 2017, 328, 629-638.	12.7	7

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109	Photocatalytic exoskeleton: Chitin nanofiber for retrievable and sustainable TiO2 carriers for the decomposition of various pollutants. Carbohydrate Polymers, 2021, 271, 118413.	10.2	7
110	Counterplotting the Mechanosensing-Based Fouling Mechanism of Mussels against Fouling. ACS Nano, 2021, 15, 18566-18579.	14.6	7
111	Molecular mechanisms mediating stiffening in the mechanically adaptable connective tissues of sea cucumbers. Matrix Biology, 2022, 108, 39-54.	3.6	7
112	High and compact formation of baculoviral polyhedrin-induced inclusion body by co-expression of baculoviral FP25 inEscherichia coli. Biotechnology and Bioengineering, 2007, 96, 1183-1190.	3.3	6
113	A new approach to the restoration of seaweed beds using Sargassum fulvellum. Journal of Applied Phycology, 2020, 32, 2575-2581.	2.8	6
114	Sucrose-calcium Complexation for the Durable Biomass Pellet. Biotechnology and Bioprocess Engineering, 2018, 23, 341-348.	2.6	5
115	Stabilizing Coacervate by Microfluidic Engulfment Induced by Controlled Interfacial Energy. Biomacromolecules, 2020, 21, 930-938.	5.4	5
116	Cellulose nanocrystals coated with a tannic acid-Fe3+ complex as a significant medium for efficient CH4 microbial biotransformation. Carbohydrate Polymers, 2021, 258, 117733.	10.2	5
117	Resolving the Mutually Exclusive Immune Responses of Chitosan with Nanomechanics and Immunological Assays. Advanced Healthcare Materials, 2022, 11, e2102667.	7.6	5
118	Recombinant mussel coating protein fused with cell adhesion recognition motif enhanced cell proliferation. Biotechnology and Bioprocess Engineering, 2015, 20, 211-217.	2.6	3
119	Bioprinting: Inkjet-Spray Hybrid Printing for 3D Freeform Fabrication of Multilayered Hydrogel Structures (Adv. Healthcare Mater. 14/2018). Advanced Healthcare Materials, 2018, 7, 1870055.	7.6	3
120	Lysine-cyclodipeptide-based polyamidoamine microparticles: Balance between the efficiency of copper ion removal and degradation in water. Chemical Engineering Journal, 2020, 391, 123493.	12.7	3
121	A sugarâ€“lectin rich interface between soft tissue and the stiff byssus ofAtrina pectinata. Biomaterials Science, 2020, 8, 3751-3759.	5.4	3
122	Mechanical Stimuli Enhance the Growth of Ulva fasciata (Chlorophyta) Spores. ACS Sustainable Chemistry and Engineering, 2020, 8, 10073-10078.	6.7	3
123	Sea urchin repelling Tanninâ€“ FeIII complex coating for ocean macroalgal afforestation. Chemosphere, 2021, 263, 128276.	8.2	3
124	Recombinant production and biochemical characterization of a hypothetical acidic shell matrix protein in Escherichia coli for the preparation of protein-based CaCO3 biominerals. Korean Journal of Chemical Engineering, 2016, 33, 2406-2410.	2.7	2
125	Mass-Production of Practical Mussel Adhesive Protein in <i>Escherichia Coli</i>. Advanced Materials Research, 0, 47-50, 857-860.	0.3	1
126	Effects of Calcification Inhibitors on the Viability of the Coralline Algae Lithophyllum yessoense and Corallina pilulifera. Fisheries and Aquatic Sciences, 2014, 17, 269-273.	0.8	1

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127	Smart Hybrid Mussel Adhesive Materials for Cell and Tissue Engineering. Advanced Materials Research, 0, 47-50, 861-864.	0.3	0
128	Dentin Hypersensitivity: Tunicate-Inspired Gallic Acid/Metal Ion Complex for Instant and Efficient Treatment of Dentin Hypersensitivity (Adv. Healthcare Mater. 8/2016). Advanced Healthcare Materials, 2016, 5, 988-988.	7.6	0
129	Wearable Devices: Ultraâ€Adaptable and Wearable Photonic Skin Based on a Shapeâ€Memory, Responsive Cellulose Derivative (Adv. Funct. Mater. 34/2019). Advanced Functional Materials, 2019, 29, 1970237.	14.9	0