Dong Soo Hwang

List of Publications by Year
in descending order

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Version: 2024-02-01

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	Nanochitin and Nanochitosan: Chitin Nanostructure Engineering with Multiscale Properties for Biomedical and Environmental Applications. Advanced Materials, 2023, 35, .	21.0	33
2	Resolving the Mutually Exclusive Immune Responses of Chitosan with Nanomechanics and Immunological Assays. Advanced Healthcare Materials, 2022, 11, e2102667.	7.6	5
3	Molecular mechanisms mediating stiffening in the mechanically adaptable connective tissues of sea cucumbers. Matrix Biology, 2022, 108, 39-54.	3.6	7
4	Essential Role of Thiols in Maintaining Stable Catecholato-Iron Complexes in Condensed Materials. Chemistry of Materials, 2022, 34, 5074-5083.	6.7	10
5	Biomimetic Janus chitin nanofiber membrane for potential guided bone regeneration application. Carbohydrate Polymers, 2021, 251, 117032.	10.2	32
6	Sea urchin repelling Tanninâ€“ FeIII complex coating for ocean macroalgal afforestation. Chemosphere, 2021, 263, 128276.	8.2	3
7	Biodegradable chito-beads replacing non-biodegradable microplastics for cosmetics. Green Chemistry, 2021, 23, 6953-6965.	9.0	37
8	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
9	Intermolecular interactions of chitosan: Degree of acetylation and molecular weight. Carbohydrate Polymers, 2021, 259, 117782.	10.2	62
10	Structural specificities of cell surface Î²-glucan polysaccharides determine commensal yeast mediated immuno-modulatory activities. Nature Communications, 2021, 12, 3611.	12.8	34
11	Labelâ€Free Quantitative Analysis of Coacervates via 3D Phase Imaging. Advanced Optical Materials, 2021, 9, 2100697.	7.3	8
12	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
13	Biorenewable, transparent, and oxygen/moisture barrier nanocellulose/nanochitin-based coating on polypropylene for food packaging applications. Carbohydrate Polymers, 2021, 271, 118421.	10.2	80
14	Catechol-Vanadium Binding Enhances Cross-Linking and Mechanics of a Mussel Byssus Coating Protein. Chemistry of Materials, 2021, 33, 6530-6540.	6.7	27
15	Strong, Multifaceted Guanidinium-Based Adhesion of Bioorganic Nanoparticles to Wet Biological Tissue. Jacs Au, 2021, 1, 1399-1411.	7.9	16
16	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
17	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
18	Photocatalytic exoskeleton: Chitin nanofiber for retrievable and sustainable TiO2 carriers for the decomposition of various pollutants. Carbohydrate Polymers, 2021, 271, 118413.	10.2	7

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19	Adaptive amphiphilic interaction mechanism of hydroxypropyl methylcellulose in water. Applied Surface Science, 2021, 565, 150535.	6.1	12
20	Eco-friendly erucamideâ€“polydimethylsiloxane coatings for marine anti-biofouling. Colloids and Surfaces B: Biointerfaces, 2021, 207, 112003.	5.0	18
21	Counterplotting the Mechanosensing-Based Fouling Mechanism of Mussels against Fouling. ACS Nano, 2021, 15, 18566-18579.	14.6	7
22	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
23	Stabilizing Coacervate by Microfluidic Engulfment Induced by Controlled Interfacial Energy. Biomacromolecules, 2020, 21, 930-938.	5.4	5
24	Catechol-thiol-based dental adhesive inspired by underwater mussel adhesion. Acta Biomaterialia, 2020, 103, 92-101.	8.3	28
25	Environmentally Friendly Methylcellulose-Based Binders for Active and Passive Dust Control. ACS Applied Materials & Interfaces, 2020, 12, 50860-50869.	8.0	10
26	A new approach to the restoration of seaweed beds using Sargassum fulvellum. Journal of Applied Phycology, 2020, 32, 2575-2581.	2.8	6
27	Anti-Biofouling Features of Eco-Friendly Oleamideâ€“PDMS Copolymers. ACS Omega, 2020, 5, 11515-11521.	3.5	17
28	Mechanical properties and thermal stability of intermolecular-fitted poly(vinyl alcohol)/Î±-chitin nanofibrous mat. Carbohydrate Polymers, 2020, 244, 116476.	10.2	21
29	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
30	A sugarâ€“lectin rich interface between soft tissue and the stiff byssus ofAtrina pectinata. Biomaterials Science, 2020, 8, 3751-3759.	5.4	3
31	Mechanical Stimuli Enhance the Growth of Ulva fasciata (Chlorophyta) Spores. ACS Sustainable Chemistry and Engineering, 2020, 8, 10073-10078.	6.7	3
32	Dehydration entropy drives liquid-liquid phase separation by molecular crowding. Communications Chemistry, 2020, 3, .	4.5	97
33	Supramolecular Î²â€Sheet Suckerinâ€“Based Underwater Adhesives. Advanced Functional Materials, 2020, 30, 1907534.	14.9	39
34	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
35	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
36	Immobilization of planktonic algal spores by inkjet printing. Scientific Reports, 2019, 9, 12357.	3.3	17

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37	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
38	Tough and Immunosuppressive Titanium-Infiltrated Exoskeleton Matrices for Long-Term Endoskeleton Repair. ACS Applied Materials & Interfaces, 2019, 11, 9786-9793.	8.0	10
39	Ultraâ€Adaptable and Wearable Photonic Skin Based on a Shapeâ€Memory, Responsive Cellulose Derivative. Advanced Functional Materials, 2019, 29, 1902720.	14.9	89
40	Different Molecular Interaction between Collagen and Î±- or Î²-Chitin in Mechanically Improved Electrospun Composite. Marine Drugs, 2019, 17, 318.	4.6	13
41	Upper Critical Solution Temperature (UCST) Behavior of Coacervate of Cationic Protamine and Multivalent Anions. Polymers, 2019, 11, 691.	4.5	24
42	Sustainable and recyclable super engineering thermoplastic from biorenewable monomer. Nature Communications, 2019, 10, 2601.	12.8	83
43	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
44	Enhancement of nanofluid stability and critical heat flux in pool boiling with nanocellulose. Carbohydrate Polymers, 2019, 213, 393-402.	10.2	27
45	Tunichrome-inspired pyrogallol functionalized chitosan for tissue adhesion and hemostasis. Carbohydrate Polymers, 2019, 208, 77-85.	10.2	114
46	Five different chitin nanomaterials from identical source with different advantageous functions and performances. Carbohydrate Polymers, 2019, 205, 392-400.	10.2	53
47	Probing nanomechanical interaction at the interface between biological membrane and potentially toxic chemical. Journal of Hazardous Materials, 2018, 353, 271-279.	12.4	13
48	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
49	Inkjetâ€“Spray Hybrid Printing for 3D Freeform Fabrication of Multilayered Hydrogel Structures. Advanced Healthcare Materials, 2018, 7, e1800050.	7.6	51
50	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
51	3D cellulose nanofiber scaffold with homogeneous cell population and long-term proliferation. Cellulose, 2018, 25, 7299-7314.	4.9	19
52	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
53	Uptake, Distribution, and Transformation of Zerovalent Iron Nanoparticles in the Edible Plant Cucumis sativus. Environmental Science & Technology, 2018, 52, 10057-10066.	10.0	31
54	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

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55	Sucrose-calcium Complexation for the Durable Biomass Pellet. Biotechnology and Bioprocess Engineering, 2018, 23, 341-348.	2.6	5
56	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
57	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
58	Cellulose nanofibers for magnetically-separable and highly loaded enzyme immobilization. Chemical Engineering Journal, 2017, 323, 425-433.	12.7	40
59	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
60	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
61	Aesthetically improved and efficient tanninâ€“metal chelates for the treatment of dentinal hypersensitivity. RSC Advances, 2017, 7, 87-94.	3.6	10
62	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
63	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
64	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
65	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
66	Mussel-Inspired Anisotropic Nanocellulose and Silver Nanoparticle Composite with Improved Mechanical Properties, Electrical Conductivity and Antibacterial Activity. Polymers, 2016, 8, 102.	4.5	60
67	Nanomechanics of Poly(catecholamine) Coatings in Aqueous Solutions. Angewandte Chemie - International Edition, 2016, 55, 3342-3346.	13.8	173
68	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
69	The slip agents oleamide and erucamide reduce biofouling by marine benthic organisms (diatoms,) Tj ETQq1 1 0.784314 rgBT /Overlo	2.1	27
70	Sugary interfaces mitigate contact damage where stiff meets soft. Nature Communications, 2016, 7, 11923.	12.8	27
71	Chiral nematic self-assembly of minimally surface damaged chitin nanofibrils and its load bearing functions. Scientific Reports, 2016, 6, 23245.	3.3	46
72	Antifouling effects of the periostracum on algal spore settlement in the mussel Mytilus edulis. Fisheries and Aquatic Sciences, 2016, 19, .	0.8	11

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73	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
74	Recombinant mussel proximal thread matrix protein promotes osteoblast cell adhesion and proliferation. BMC Biotechnology, 2016, 16, 16.	3.3	10
75	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
76	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
77	Nanomechanics of Poly(catecholamine) Coatings in Aqueous Solutions. Angewandte Chemie, 2016, 128, 3403-3407.	2.0	15
78	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
79	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
80	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
81	Mussel-Inspired Anchoring of Polymer Loops That Provide Superior Surface Lubrication and Antifouling Properties. ACS Nano, 2016, 10, 930-937.	14.6	128
82	A rapid, efficient and facile solution for dental hypersensitivity: The tanninâ€“iron complex. Scientific Reports, 2015, 5, 10884.	3.3	44
83	Recombinant mussel coating protein fused with cell adhesion recognition motif enhanced cell proliferation. Biotechnology and Bioprocess Engineering, 2015, 20, 211-217.	2.6	3
84	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
85	Tunicate-mimetic nanofibrous hydrogel adhesive with improved wet adhesion. Acta Biomaterialia, 2015, 20, 104-112.	8.3	118
86	Cationâ€“Ï€ interaction in DOPA-deficient mussel adhesive protein mfp-1. Journal of Materials Chemistry B, 2015, 3, 738-743.	5.8	87
87	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
88	Role of Dopamine Chemistry in the Formation of Mechanically Strong Mandibles of Grasshoppers. Chemistry of Materials, 2015, 27, 6478-6481.	6.7	20
89	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
90	Contact time- and pH-dependent adhesion and cohesion of low molecular weight chitosan coated surfaces. Carbohydrate Polymers, 2015, 117, 887-894.	10.2	72

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91	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
92	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
93	Surface forces apparatus and its applications for nanomechanics of underwater adhesives. Korean Journal of Chemical Engineering, 2014, 31, 1306-1315.	2.7	10
94	Mussel-Mimetic Protein-Based Adhesive Hydrogel. Biomacromolecules, 2014, 15, 1579-1585.	5.4	265
95	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
96	Nanomechanics of Cationâ€“Ï€ Interactions in Aqueous Solution. Angewandte Chemie - International Edition, 2013, 52, 3944-3948.	13.8	163
97	Dopamine-Mediated Sclerotization of Regenerated Chitin in Ionic Liquid. Materials, 2013, 6, 3826-3839.	2.9	41
98	A biomimetic chitosan composite with improved mechanical properties in wet conditions. Biotechnology Progress, 2013, 29, 505-512.	2.6	54
99	Asymmetric Collapse in Biomimetic Complex Coacervates Revealed by Local Polymer and Water Dynamics. Biomacromolecules, 2013, 14, 1395-1402.	5.4	32
100	Marine hydroid perisarc: A chitin- and melanin-reinforced composite with DOPAâ€“iron(III) complexes. Acta Biomaterialia, 2013, 9, 8110-8117.	8.3	30
101	Strong Adhesion and Cohesion of Chitosan in Aqueous Solutions. Langmuir, 2013, 29, 14222-14229.	3.5	153
102	Adhesion of mussel foot proteins to different substrate surfaces. Journal of the Royal Society Interface, 2013, 10, 20120759.	3.4	258
103	Facile Surface Functionalization with Glycosaminoglycans by Direct Coating with Mussel Adhesive Protein. Tissue Engineering - Part C: Methods, 2012, 18, 71-79.	2.1	16
104	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
105	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
106	Mussel foot protein-1 (mcfp-1) interaction with titania surfaces. Journal of Materials Chemistry, 2012, 22, 15530.	6.7	61
107	Adhesion mechanism in a DOPA-deficient foot protein from green mussels. Soft Matter, 2012, 8, 5640.	2.7	116
108	Molecular interactions of mussel protective coating protein, mcfp-1, from Mytilus californianus. Biomaterials, 2012, 33, 1903-1911.	11.4	90

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109	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
110	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
111	Protein- and Metal-dependent Interactions of a Prominent Protein in Mussel Adhesive Plaques. Journal of Biological Chemistry, 2010, 285, 25850-25858.	3.4	227
112	Viscosity and interfacial properties in a mussel-inspired adhesive coacervate. Soft Matter, 2010, 6, 3232.	2.7	212
113	Glycosylated Hydroxytryptophan in a Mussel Adhesive Protein from Perna viridis. Journal of Biological Chemistry, 2009, 284, 23344-23352.	3.4	47
114	Bulk adhesive strength of recombinant hybrid mussel adhesive protein. Biofouling, 2009, 25, 99-107.	2.2	64
115	Recombinant mussel adhesive protein as a gene delivery material. Biotechnology and Bioengineering, 2009, 102, 616-623.	3.3	15
116	Production of fusion mussel adhesive fpâ€353 in Escherichia coli. Biotechnology Progress, 2008, 24, 1272-1277.	2.6	22
117	Development of bioadhesives from marine mussels. Biotechnology Journal, 2008, 3, 631-638.	3.5	148
118	Expression of Functional Recombinant Mussel Adhesive Protein Type 3A in Escherichia coli. Biotechnology Progress, 2008, 21, 965-970.	2.6	76
119	Carassius auratus-Originated Recombinant Histone H1 C-Terminal Peptide as Gene Delivery Material. Biotechnology Progress, 2008, 24, 17-22.	2.6	9
120	Enhancement of Mussel Adhesive Protein Production in Escherichia coli by Co-expression of Bacterial Hemoglobin. Biotechnology Progress, 2008, 24, 663-666.	2.6	16
121	Recombinant mussel adhesive protein Mgfp-5 as cell adhesion biomaterial. Journal of Biotechnology, 2007, 127, 727-735.	3.8	48
122	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
123	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
124	Practical recombinant hybrid mussel bioadhesive fp-151. Biomaterials, 2007, 28, 3560-3568.	11.4	191
125	Cell adhesion biomaterial based on mussel adhesive protein fused with RGD peptide. Biomaterials, 2007, 28, 4039-4046.	11.4	187
126	Expression of Functional Recombinant Mussel Adhesive Protein Mgfp-5 in Escherichia coli. Applied and Environmental Microbiology, 2004, 70, 3352-3359.	3.1	163

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127	Expression of functional human transferrin in stably transfected Drosophila S2 cells. Biotechnology Progress, 2004, 20, 1192-1197.	2.6	19
128	Smart Hybrid Mussel Adhesive Materials for Cell and Tissue Engineering. Advanced Materials Research, 0, 47-50, 861-864.	0.3	0
129	Mass-Production of Practical Mussel Adhesive Protein in <i>Escherichia Coli</i>. Advanced Materials Research, 0, 47-50, 857-860.	0.3	1