Joyce Y Wong

List of Publications by Year
in descending order

126 papers	8,382 citations	47006 47 h-index	46799 89 g-index
128 all docs	128 docs citations	128 times ranked	10884 citing authors

#	Article	IF	Citations
1	Fund Black scientists. Cell, 2021, 184, 561-565.	28.9	107
2	Biomaterials and Contraception: Promises and Pitfalls. Annals of Biomedical Engineering, 2020, 48, 2113-2131.	2.5	12
3	Assessment of Superparamagnetic Iron Oxide Nanoparticle Poly(Ethylene Glycol) Coatings on Magnetic Resonance Relaxation for Early Disease Detection. IEEE Open Journal of Engineering in Medicine and Biology, 2020, 1, 116-122.	2.3	5
4	Mechanisms of aortic carboxypeptidase-like protein secretion and identification of an intracellularly retained variant associated with Ehlersâ€“Danlos syndrome. Journal of Biological Chemistry, 2020, 295, 9725-9735.	3.4	9
5	Evaluation of Placental Mesenchymal Stem Cell Sheets for Myocardial Repair and Regeneration. Tissue Engineering - Part A, 2019, 25, 867-877.	3.1	13
6	Effect of Polymer Surface Modification of Superparamagnetic Iron Oxide Nanoparticle Dispersions in High Salinity Environments. Langmuir, 2019, 35, 15864-15871.	3.5	3
7	Generation of a Purified iPSC-Derived Smooth Muscle-like Population forÂCell Sheet Engineering. Stem Cell Reports, 2019, 13, 499-514.	4.8	17
8	Development of a bioâ€MEMS device for electrical and mechanical conditioning and characterization of cell sheets for myocardial repair. Biotechnology and Bioengineering, 2019, 116, 3098-3111.	3.3	8
9	Increasing gender diversity in the STEM research workforce. Science, 2019, 366, 692-695.	12.6	52
10	Fibrin-Targeted Polymerized Shell Microbubbles as Potential Theranostic Agents for Surgical Adhesions. Langmuir, 2019, 35, 10061-10067.	3.5	11
11	On Force and Form: Mechano-Biochemical Regulation of Extracellular Matrix. Biochemistry, 2019, 58, 4710-4720.	2.5	12
12	Fibronectin fiber creep under constant force loading. Acta Biomaterialia, 2019, 88, 78-85.	8.3	5
13	Determinants of Hemodialysis Performance:Modeling Fluid and Solute Transport in Hollow-Fiber Dialyzers. Regenerative Engineering and Translational Medicine, 2019, 7, 291-300.	2.9	5
14	Fabrication and Characterization of Recombinant Silkâ€Elastinâ€Likeâ€Protein (SELP) Fiber. Macromolecular Bioscience, 2018, 18, e1800265.	4.1	26
15	Micropatterned cell sheets as structural building blocks for biomimetic vascular patches. Biomaterials, 2018, 181, 126-139.	11.4	42
16	Targeted Nanoparticle Binding to Hydroxyapatite in a High Serum Environment for Early Detection of Heart Disease. ACS Applied Nano Materials, 2018, 1, 4927-4939.	5.0	7
17	A Robust Method to Generate Mechanically Anisotropic Vascular Smooth Muscle Cell Sheets for Vascular Tissue Engineering. Macromolecular Bioscience, 2017, 17, 1600434.	4.1	26
18	Synergistic Integration of Experimental and Simulation Approaches for the <i>de Novo</i> Design of Silk-Based Materials. Accounts of Chemical Research, 2017, 50, 866-876.	15.6	45

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19	Silk-fibronectin protein alloy fibres support cell adhesion and viability as a high strength, matrix fibre analogue. Scientific Reports, 2017, 7, 45653.	3.3	30
20	Design Approaches to Myocardial and Vascular Tissue Engineering. Annual Review of Biomedical Engineering, 2017, 19, 389-414.	12.3	30
21	Introducing biomimetic shear and ion gradients to microfluidic spinning improves silk fiber strength. Biofabrication, 2017, 9, 025025.	7.1	20
22	Versatile and inexpensive Hall-Effect force sensor for mechanical characterization of soft biological materials. Journal of Biomechanics, 2017, 51, 118-122.	2.1	13
23	A microfluidic platform for modeling metastatic cancer cell matrix invasion. Biofabrication, 2017, 9, 045001.	7.1	23
24	Extracellular matrix type modulates cell migration on mechanical gradients. Experimental Cell Research, 2017, 359, 361-366.	2.6	54
25	Effect of Terminal Modification on the Molecular Assembly and Mechanical Properties of Proteinâ€Based Block Copolymers. Macromolecular Bioscience, 2017, 17, 1700095.	4.1	10
26	Predicting Silk Fiber Mechanical Properties through Multiscale Simulation and Protein Design. ACS Biomaterials Science and Engineering, 2017, 3, 1542-1556.	5.2	32
27	Design of Multistimuli Responsive Hydrogels Using Integrated Modeling and Genetically Engineered Silkâ€"Elastinâ€Like Proteins. Advanced Functional Materials, 2016, 26, 4113-4123.	14.9	83
28	A microfluidic Transwell to study chemotaxis. Experimental Cell Research, 2016, 342, 159-165.	2.6	21
29	A simple engineered platform reveals different modes of tumor-microenvironmental cell interaction. Biofabrication, 2016, 8, 015001.	7.1	4
30	Vascular smooth muscle cell durotaxis depends on extracellular matrix composition. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11190-11195.	7.1	113
31	Microvessels-on-a-Chip to Assess Targeted Ultrasound-Assisted Drug Delivery. ACS Applied Materials & Interfaces, 2016, 8, 31541-31549.	8.0	23
32	Conformation Transitions of Recombinant Spidroins via Integration of Time-Resolved FTIR Spectroscopy and Molecular Dynamic Simulation. ACS Biomaterials Science and Engineering, 2016, 2, 1298-1308.	5.2	21
33	Pediatric cardiovascular grafts: historical perspective and future directions. Current Opinion in Biotechnology, 2016, 40, 119-124.	6.6	9
34	Predictive modelling-based design and experiments for synthesis and spinning of bioinspired silk fibres. Nature Communications, 2015, 6, 6892.	12.8	118
35	How to Collect Segmentations for Biomedical Images? A Benchmark Evaluating the Performance of Experts, Crowdsourced Non-experts, and Algorithms. , 2015, , .		47
36	Extracellular matrix presentation modulates vascular smooth muscle cell mechanotransduction. Matrix Biology, 2015, 41, 36-43.	3.6	68

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37	Engineering Myocardial Tissue Patches with Hierarchical Structureâ€“Function. Annals of Biomedical Engineering, 2015, 43, 762-773.	2.5	20
38	The Effects of Mechanical Stimulation on Controlling and Maintaining Marrow Stromal Cell Differentiation Into Vascular Smooth Muscle Cells. Journal of Biomechanical Engineering, 2015, 137, 020907.	1.3	11
39	Monodisperse Micro-Oil Droplets Stabilized by Polymerizable Phospholipid Coatings as Potential Drug Carriers. Langmuir, 2015, 31, 9762-9770.	3.5	12
40	Surface modification of uniaxial cyclic strain cell culture platform with temperature-responsive polymer for cell sheet detachment. Journal of Materials Chemistry B, 2015, 3, 7899-7902.	5.8	2
41	Silkâ€“Its Mysteries, How It Is Made, and How It Is Used. ACS Biomaterials Science and Engineering, 2015, 1, 864-876.	5.2	85
42	Abstract B11: A microfluidic platform to evaluate soluble signaling in the metastasis microenvironment. Cancer Research, 2015, 75, B11-B11.	0.9	1
43	Modulating alignment and contractile protein expression in vascular smooth muscle cell sheets: Using microcontact printing and mechanical conditioning. , 2014, , .		0
44	Structureâ€“functionâ€“propertyâ€“design interplay in biopolymers: Spider silk. Acta Biomaterialia, 2014, 10, 1612-1626.	8.3	206
45	Effect of sequence features on assembly of spider silk block copolymers. Journal of Structural Biology, 2014, 186, 412-419.	2.8	27
46	What's Inside the Box? â€“ Lengthâ€Scales that Govern Fracture Processes of Polymer Fibers. Advanced Materials, 2014, 26, 412-417.	21.0	36
47	Adsorption of Superparamagnetic Iron Oxide Nanoparticles on Silica and Calcium Carbonate Sand. Langmuir, 2014, 30, 784-792.	3.5	24
48	Effect of PEG molecular weight on stability, T2 contrast, cytotoxicity, and cellular uptake of superparamagnetic iron oxide nanoparticles (SPIONs). Colloids and Surfaces B: Biointerfaces, 2014, 119, 106-114.	5.0	64
49	Ultrasound-assisted drug delivery with targeted-microbubbles in blood vessels on a chip. , 2014, , .		1
50	Materials for biological modulation, sensing, and imaging. MRS Bulletin, 2014, 39, 12-14.	3.5	1
51	Microbubbles as Theranostics Agents. Advances in Delivery Science and Technology, 2014, , 329-350.	0.4	2
52	Adsorption of Acid and Polymer Coated Nanoparticles: A Statistical Thermodynamics Approach. Langmuir, 2013, 29, 14482-14493.	3.5	7
53	SAGE: An approach and implementation empowering quick and reliable quantitative analysis of segmentation quality. , 2013, , .		3
54	Sequenceâ€“Structureâ€“Property Relationships of Recombinant Spider Silk Proteins: Integration of Biopolymer Design, Processing, and Modeling. Advanced Functional Materials, 2013, 23, 241-253.	14.9	61

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55	Extracellular Matrix Presentation Modulates Vascular Smooth Muscle Cell Mechanotransduction. Biophysical Journal, 2012, 102, 564a.	0.5	0
56	Stability of Superparamagnetic Iron Oxide Nanoparticles at Different pH Values: Experimental and Theoretical Analysis. Langmuir, 2012, 28, 6246-6255.	3.5	51
57	Materials by design: Merging proteins and music. Nano Today, 2012, 7, 488-495.	11.9	38
58	A review of combined experimental and computational procedures for assessing biopolymer structureâ€“processâ€“property relationships. Biomaterials, 2012, 33, 8240-8255.	11.4	76
59	Tunable Diacetylene Polymerized Shell Microbubbles as Ultrasound Contrast Agents. Langmuir, 2012, 28, 3766-3772.	3.5	23
60	Micropatterned cell sheets with defined cell and extracellular matrix orientation exhibit anisotropic mechanical properties. Journal of Biomechanics, 2012, 45, 756-761.	2.1	45
61	Thermo-responsive poly(N-isopropylacrylamide) grafted onto microtextured poly(dimethylsiloxane) for aligned cell sheet engineering. Colloids and Surfaces B: Biointerfaces, 2012, 99, 108-115.	5.0	41
62	A Comparison of Human Smooth Muscle and Mesenchymal Stem Cells as Potential Cell Sources for Tissue-Engineered Vascular Patches. Tissue Engineering - Part A, 2012, 18, 986-998.	3.1	24
63	Cell morphology classification and clutter mitigation in phase-contrast microscopy images using machine learning. Machine Vision and Applications, 2012, 23, 659-673.	2.7	28
64	Hierarchical Partial Matching and Segmentation of Interacting Cells. Lecture Notes in Computer Science, 2012, 15, 389-396.	1.3	15
65	Tunable Silk: Using Microfluidics to Fabricate Silk Fibers with Controllable Properties. Biomacromolecules, 2011, 12, 1504-1511.	5.4	154
66	Cell-Cell Interactions Mediate the Response of Vascular Smooth Muscle Cells to Substrate Stiffness. Biophysical Journal, 2011, 101, 622-630.	0.5	77
67	Programmed trapping of individual bacteria using micrometre-size sieves. Lab on A Chip, 2011, 11, 1089.	6.0	37
68	The effect of stromal components on the modulation of the phenotype of human bronchial epithelial cells in 3D culture. Biomaterials, 2011, 32, 7169-7180.	11.4	46
69	The use of micropatterning to control smooth muscle myosin heavy chain expression and limit the response to transforming growth factor Î²1 in vascular smooth muscle cells. Biomaterials, 2011, 32, 410-418.	11.4	32
70	Stacking of aligned cell sheets for layer-by-layer control of complex tissue structure. Biomaterials, 2011, 32, 5625-5632.	11.4	65
71	Targeted binding of PEGâ€lipid modified polymer ultrasound contrast agents with tiered surface architecture. Biotechnology and Bioengineering, 2010, 106, 501-506.	3.3	10
72	Effect of substrate stiffness and PDGF on the behavior of vascular smooth muscle cells: Implications for atherosclerosis. Journal of Cellular Physiology, 2010, 225, 115-122.	4.1	82

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73	Aligned Cell Sheets Grown on Thermoâ€Responsive Substrates with Microcontact Printed Protein Patterns. Advanced Materials, 2009, 21, 2161-2164.	21.0	75
74	Surface Functionalization of Single Superparamagnetic Iron Oxide Nanoparticles for Targeted Magnetic Resonance Imaging. Small, 2009, 5, 1334-1342.	10.0	203
75	Altered structural and mechanical properties in decellularized rabbit carotid arteries. Acta Biomaterialia, 2009, 5, 993-1005.	8.3	128
76	Vascular Smooth Muscle Cell Durotaxis Depends on Substrate Stiffness Gradient Strength. Biophysical Journal, 2009, 97, 1313-1322.	0.5	348
77	In VSMCs, Beta-1 Integrin but not Syndecan-4 Gene Expression is Dependent on Matrix Stiffness. Biophysical Journal, 2009, 96, 673a.	0.5	0
78	Tracking of cell populations to understand their spatio-temporal behavior in response to physical stimuli. , 2009, , .		23
79	Using Automated Cell Tracking Software to Quantifying Durokinesis and Durotaxis in Real Time. Biophysical Journal, 2009, 96, 633a.	0.5	0
80	Tracking of cell populations to understand their spatio-temporal behavior in response to physical stimuli. , 2009, , .		5
81	A thermoresponsive, microtextured substrate for cell sheet engineering with defined structural organization. Biomaterials, 2008, 29, 2565-2572.	11.4	127
82	Endothelial Injury Induces Vascular Smooth Muscle Cell Proliferation in Highly Localized Regions of a Direct Contact Co-culture System. Cell Biochemistry and Biophysics, 2008, 52, 37-46.	1.8	17
83	Combined effects of microtopography and cyclic strain on vascular smooth muscle cell orientation. Journal of Biomechanics, 2008, 41, 762-769.	2.1	51
84	An In Situ Study of Collagen Self-Assembly Processes. Biomacromolecules, 2008, 9, 199-207.	5.4	56
85	Dynamics of Membrane Adhesion:â€‰ The Role of Polyethylene Glycol Spacers, Ligandâ^'Receptor Bond Strength, and Rupture Pathway. Langmuir, 2008, 24, 1225-1231.	3.5	10
86	Fabrication of a layered microstructured polycaprolactone construct for 3-D tissue engineering. Journal of Biomaterials Science, Polymer Edition, 2008, 19, 1347-1362.	3.5	27
87	Methods for investigating integrinâ€matrix interactions as a function of matrix mechanics and composition. FASEB Journal, 2008, 22, 1122.1.	0.5	0
88	Neurite outgrowth and branching of PC12 cells on very soft substrates sharply decreases below a threshold of substrate rigidity. Journal of Neural Engineering, 2007, 4, 26-34.	3.5	183
89	Controlling and Assessing Cellâ€"Biomaterial Interactions at the Micro- and Nanoscale. , 2007, , 10-1-10-14.		0
90	Visualization of Flow-Aligned Type I Collagen Self-Assembly in Tunable pH Gradients. Langmuir, 2007, 23, 357-359.	3.5	54

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91	Targeted binding of PLA microparticles with lipid-PEG-tethered ligands. Biomaterials, 2007, 28, 4991-4999.	11.4	70
92	Design of a New Stretching Apparatus and the Effects of Cyclic Strain and Substratum on Mouse Lung Epithelial-12 Cells. Annals of Biomedical Engineering, 2007, 35, 1156-1164.	2.5	25
93	Building structure into engineered tissues. Materials Today, 2006, 9, 54-60.	14.2	81
94	Development and characterization of a porous micro-patterned scaffold for vascular tissue engineering applications. Biomaterials, 2006, 27, 4775-4782.	11.4	167
95	A simple microindentation technique for mapping the microscale compliance of soft hydrated materials and tissues. Journal of Biomedical Materials Research - Part A, 2006, 79A, 485-494.	4.0	71
96	Vascular tissue engineering: microtextured scaffold templates to control organization of vascular smooth muscle cells and extracellular matrix. Acta Biomaterialia, 2005, 1, 93-100.	8.3	116
97	Crosslinked Î±-elastin biomaterials: towards a processable elastin mimetic scaffold. Acta Biomaterialia, 2005, 1, 155-164.	8.3	111
98	Evaluation of polydimethylsiloxane scaffolds with physiologically-relevant elastic moduli: interplay of substrate mechanics and surface chemistry effects on vascular smooth muscle cell response. Biomaterials, 2005, 26, 3123-3129.	11.4	310
99	Microaligned collagen matrices by hydrodynamic focusing: controlling the pH-induced self-assembly. Materials Research Society Symposia Proceedings, 2005, 898, 1.	0.1	0
100	Photopolymerization in Microfluidic Gradient Generators: Microscale Control of Substrate Compliance to Manipulate Cell Response. Advanced Materials, 2004, 16, 2133-2137.	21.0	248
101	Surface probe measurements of the elasticity of sectioned tissue, thin gels and polyelectrolyte multilayer films: Correlations between substrate stiffness and cell adhesion. Surface Science, 2004, 570, 142-154.	1.9	305
102	Balance of chemistry, topography, and mechanics at the cellâ€“biomaterial interface: Issues and challenges for assessing the role of substrate mechanics on cell response. Surface Science, 2004, 570, 119-133.	1.9	276
103	Patterning Adjacent Supported Lipid Bilayers of Desired Composition To Investigate Receptorâˆ'Ligand Binding under Shear Flow. Langmuir, 2004, 20, 10252-10259.	3.5	39
104	Rheological Monitoring of Polyacrylamide Gelation:Â Importance of Cross-Link Density and Temperature. Macromolecules, 2004, 37, 7762-7771.	4.8	206
105	Direct Comparison of the Spread Area, Contractility, and Migration of balb/c 3T3 Fibroblasts Adhered to Fibronectin- and RGD-Modified Substrata. Biophysical Journal, 2004, 87, 2818-2827.	0.5	112
106	Directed Movement of Vascular Smooth Muscle Cells on Gradient-Compliant Hydrogelsâ€. Langmuir, 2003, 19, 1908-1913.	3.5	413
107	Influence of Type I Collagen Surface Density on Fibroblast Spreading, Motility, and Contractility. Biophysical Journal, 2003, 85, 3329-3335.	0.5	202
108	Identification and validation of a novel cell-recognition site (KNEED) on the 8th type III domain of fibronectin. Biomaterials, 2002, 23, 3865-3870.	11.4	33

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109	Impact of Polymer Tether Length on Multiple Ligand-Receptor Bond Formation. Science, 2001, 293, 465-468.	12.6	216
110	Long-Range Interaction Forces between Polymer-Supported Lipid Bilayer Membranes. Langmuir, 2001, 17, 4616-4626.	3.5	29
111	Traction Stresses and Morphology of 3T3 Fibroblast Cells on Fibronectin-versus RGD- Modified Elastic Substrata. Materials Research Society Symposia Proceedings, 2001, 711, 1.	0.1	1
112	X-ray and neutron surface scattering for studying lipid/polymer assemblies at the airâ€“liquid and solidâ€“liquid interfaces. Reviews in Molecular Biotechnology, 2000, 74, 207-231.	2.8	28
113	Direct force measurements of the streptavidinâ€“biotin interaction. New Biotechnology, 1999, 16, 45-55.	2.7	163
114	Polymer-Cushioned Bilayers. I. A Structural Study of Various Preparation Methods Using Neutron Reflectometry. Biophysical Journal, 1999, 77, 1445-1457.	0.5	187
115	Polymer-Cushioned Bilayers. II. An Investigation of Interaction Forces and Fusion Using the Surface Forces Apparatus. Biophysical Journal, 1999, 77, 1458-1468.	0.5	107
116	Study of the Fusion Process between Solidand Soft-Supported Phospholipid Bilayers with the Surface Forces Apparatus. ACS Symposium Series, 1999, , 215-230.	0.5	7
117	Formation of tethered supported bilayers via membrane-inserting reactive lipids. Thin Solid Films, 1998, 327-329, 767-771.	1.8	34
118	A Neutron Reflectivity Study of Polymer-Modified Phospholipid Monolayers at the Solid-Solution Interface: Polyethylene Glycol-Lipids on Silane-Modified Substrates. Biophysical Journal, 1998, 75, 2352-2362.	0.5	77
119	Structural Studies of Polymer-Cushioned Lipid Bilayers. Biophysical Journal, 1998, 75, 2363-2367.	0.5	119
120	Direct Measurement of a Tethered Ligand-Receptor Interaction Potential. Science, 1997, 275, 820-822.	12.6	246
121	Electrically conducting polymers can noninvasively control the shape and growth of mammalian cells.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 3201-3204.	7.1	483
122	Cell Interactions With Fibronectin-Coated Electrically Conducting Polypyrrole Thin Films. Materials Research Society Symposia Proceedings, 1993, 331, 141.	0.1	2
123	Cell Attachment and Protein Adsorption to Polypyrrole thin Films. Materials Research Society Symposia Proceedings, 1992, 293, 179.	0.1	1
124	Traction stresses and motility of fibroblasts are different on RGD- and fibronectin-modified elastic substrata. , 0, , .		0
125	Bioengineered polymeric substrata to probe cell behavior during vascular remodeling. , 0, , .		0
126	Mutational analysis verifies that "kneed" sequence of fibronectin participates in cell-substrate interactions. , 0, , .		0