JosÃ© PÃ©rez-Rigueiro

List of Publications by Year
in descending order

98 papers	3,417 citations	136740 32 h-index	161609 54 g-index
98 all docs	98 docs citations	98 times ranked	2446 citing authors

#	Article	IF	Citations
1	Mechanical properties of single-brin silkworm silk. Journal of Applied Polymer Science, 2000, 75, 1270-1277.	1.3	219
2	Mechanical properties of silkworm silk in liquid media. Polymer, 2000, 41, 8433-8439.	1.8	121
3	Fractographic analysis of silkworm and spider silk. Engineering Fracture Mechanics, 2002, 69, 1035-1048.	2.0	108
4	Stretching of supercontracted fibers: a link between spinning and the variability of spider silk. Journal of Experimental Biology, 2005, 208, 25-30.	0.8	107
5	Effect of degumming on the tensile properties of silkworm (Bombyx mori) silk fiber. Journal of Applied Polymer Science, 2002, 84, 1431-1437.	1.3	106
6	Controlled supercontraction tailors the tensile behaviour of spider silk. Polymer, 2003, 44, 3733-3736.	1.8	102
7	Thermo-hygro-mechanical behavior of spider dragline silk: Glassy and rubbery states. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 994-999.	2.4	92
8	Safety and tolerability of silk fibroin hydrogels implanted into the mouse brain. Acta Biomaterialia, 2016, 45, 262-275.	4.1	86
9	Revisiting the mechanical behavior of alumina/silicon carbide nanocomposites. Acta Materialia, 1998, 46, 5399-5411.	3.8	83
10	Volume Constancy during Stretching of Spider Silk. Biomacromolecules, 2006, 7, 2173-2177.	2.6	83
11	Relationship between microstructure and mechanical properties in spider silk fibers: identification of two regimes in the microstructural changes. Soft Matter, 2012, 8, 6015.	1.2	82
12	Sequential origin in the high performance properties of orb spider dragline silk. Scientific Reports, 2012, 2, 782.	1.6	80
13	Tensile properties of silkworm silk obtained by forced silking. Journal of Applied Polymer Science, 2001, 82, 1928-1935.	1.3	79
14	Active control of spider silk strength: comparison of drag line spun on vertical and horizontal surfaces. Polymer, 2002, 43, 1537-1540.	1.8	76
15	The effect of spinning forces on spider silk properties. Journal of Experimental Biology, 2005, 208, 2633-2639.	0.8	76
16	The hidden link between supercontraction and mechanical behavior of spider silks. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 658-669.	1.5	75
17	Self-tightening of spider silk fibers induced by moisture. Polymer, 2003, 44, 5785-5788.	1.8	72
18	Bioinspired Fibers Follow the Track of Natural Spider Silk. Macromolecules, 2011, 44, 1166-1176.	2.2	69

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19	Effect of water on <i>Bombyx mori</i> regenerated silk fibers and its application in modifying their mechanical properties. Journal of Applied Polymer Science, 2008, 109, 1793-1801.	1.3	63
20	Biofunctionalization of surfaces of nanostructured porous silicon. Materials Science and Engineering C, 2003, 23, 697-701.	3.8	62
21	Recovery in spider silk fibers. Journal of Applied Polymer Science, 2004, 92, 3537-3541.	1.3	59
22	The variability and interdependence of spider drag line tensile properties. Polymer, 2002, 43, 4495-4502.	1.8	57
23	Mechanical Behavior of Silk During the Evolution of Orb-Web Spinning Spiders. Biomacromolecules, 2009, 10, 1904-1910.	2.6	56
24	Old Silks Endowed with New Properties. Macromolecules, 2009, 42, 8977-8982.	2.2	54
25	Minor Ampullate Silks from Nephila and Argiope Spiders: Tensile Properties and Microstructural Characterization. Biomacromolecules, 2012, 13, 2087-2098.	2.6	52
26	Similarities and Differences in the Supramolecular Organization of Silkworm and Spider Silk. Macromolecules, 2007, 40, 5360-5365.	2.2	50
27	Influence of the draw ratio on the tensile and fracture behavior of NMMO regenerated silk fibers. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 2568-2579.	2.4	47
28	Material properties of evolutionary diverse spider silks described by variation in a single structural parameter. Scientific Reports, 2016, 6, 18991.	1.6	41
29	Production of High Performance Bioinspired Silk Fibers by Straining Flow Spinning. Biomacromolecules, 2017, 18, 1127-1133.	2.6	38
30	Correlation between processing conditions, microstructure and mechanical behavior in regenerated silkworm silk fibers. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 455-465.	2.4	37
31	Silk Fibroin: An Ancient Material for Repairing the Injured Nervous System. Pharmaceutics, 2021, 13, 429.	2.0	36
32	Mechanical and in vitro testing of aerosolâ€“gel deposited titania coatings for biocompatible applications. Biomaterials, 2002, 23, 349-356.	5.7	35
33	Finding inspiration in argiope trifasciata spider silk fibers. Jom, 2005, 57, 60-66.	0.9	35
34	Study of carrier transport in metal/porous silicon/Si structures. Journal of Applied Physics, 1999, 86, 6911-6914.	1.1	34
35	Cortical Reshaping and Functional Recovery Induced by Silk Fibroin Hydrogels-Encapsulated Stem Cells Implanted in Stroke Animals. Frontiers in Cellular Neuroscience, 2018, 12, 296.	1.8	34
36	Reproducibility of the tensile properties of spider (Argiope trifasciata) silk obtained by forced silking. Journal of Experimental Zoology Part A, Comparative Experimental Biology, 2005, 303A, 37-44.	1.3	33

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37	The apparent variability of silkworm (Bombyx mori) silk and its relationship with degumming. European Polymer Journal, 2016, 78, 129-140.	2.6	33
38	Surface biofunctionalization of materials by amine groups. Journal of Materials Research, 2004, 19, 2415-2420.	1.2	32
39	Biomaterials to Neuroprotect the Stroke Brain: A Large Opportunity for Narrow Time Windows. Cells, 2020, 9, 1074.	1.8	32
40	Structureâ€"Function Relationship of Artificial Spider Silk Fibers Produced by Straining Flow Spinning. Biomacromolecules, 2020, 21, 2116-2124.	2.6	32
41	Porous silicon multilayer stacks for optical biosensing applications. Microelectronics Journal, 2004, 35, 45-48.	1.1	29
42	Hydrogels-Assisted Cell Engraftment for Repairing the Stroke-Damaged Brain: Chimera or Reality. Polymers, 2018, 10, 184.	2.0	28
43	Ageing of aluminum electrical contacts to porous silicon. Journal of Applied Physics, 1999, 85, 583-586.	1.1	27
44	Evaluation of Neurosecretome from Mesenchymal Stem Cells Encapsulated in Silk Fibroin Hydrogels. Scientific Reports, 2019, 9, 8801.	1.6	27
45	Recovery in Viscid Line Fibers. Biomacromolecules, 2010, 11, 1174-1179.	2.6	26
46	Example of microprocessing in a natural polymeric fiber: Role of reeling stress in spider silk. Journal of Materials Research, 2006, 21, 1931-1938.	1.2	23
47	Straining flow spinning: production of regenerated silk fibers under a wide range of mild coagulating chemistries. Green Chemistry, 2017, 19, 3380-3389.	4.6	23
48	Supercontraction of dragline silk spun by lynx spiders (Oxyopidae). International Journal of Biological Macromolecules, 2010, 46, 555-557.	3.6	22
49	Comparison of cell mechanical measurements provided by Atomic Force Microscopy (AFM) and Micropipette Aspiration (MPA). Journal of the Mechanical Behavior of Biomedical Materials, 2019, 95, 103-115.	1.5	22
50	Supramolecular organization of regenerated silkworm silk fibers. International Journal of Biological Macromolecules, 2009, 44, 195-202.	3.6	21
51	Comparison of the effects of post-spinning drawing and wet stretching on regenerated silk fibers produced through straining flow spinning. Polymer, 2018, 150, 311-317.	1.8	21
52	Improved Measurement of Elastic Properties of Cells by Micropipette Aspiration and Its Application to Lymphocytes. Annals of Biomedical Engineering, 2017, 45, 1375-1385.	1.3	20
53	Enhanced Biological Response of AVS-Functionalized Ti-6Al-4V Alloy through Covalent Immobilization of Collagen. Scientific Reports, 2018, 8, 3337.	1.6	20
54	Emergence of supercontraction in regenerated silkworm (Bombyx mori) silk fibers. Scientific Reports, 2019, 9, 2398.	1.6	20

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55	Fracture surfaces and tensile properties of UV-irradiated spider silk fibers. Journal of Polymer Science, Part B: Polymer Physics, 2007, 45, 786-793.	2.4	19
56	Testing biomaterials by the in-situ evaluation of cell response. New Biotechnology, 2002, 19, 239-242.	2.7	18
57	Development of human mesenchymal stem cells on DC sputtered titanium nitride thin films. Journal of Materials Science: Materials in Medicine, 2002, 13, 289-293.	1.7	18
58	Formation of amine functionalized films by chemical vapour deposition. Materials Science and Engineering C, 2006, 26, 938-941.	3.8	18
59	Basic Principles in the Design of Spider Silk Fibers. Molecules, 2021, 26, 1794.	1.7	18
60	Unexpected behavior of irradiated spider silk links conformational freedom to mechanical performance. Soft Matter, 2015, 11, 4868-4878.	1.2	17
61	Potential use of silkworm gut fiber braids as scaffolds for tendon and ligament tissue engineering. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2019, 107, 2209-2215.	1.6	17
62	Tensile properties ofAttacus atlassilk submerged in liquid media. Journal of Applied Polymer Science, 2001, 82, 53-62.	1.3	16
63	Straining Flow Spinning of Artificial Silk Fibers: A Review. Biomimetics, 2018, 3, 29.	1.5	16
64	Conduits based on the combination of hyaluronic acid and silk fibroin: Characterization, in vitro studies and in vivo biocompatibility. International Journal of Biological Macromolecules, 2020, 148, 378-390.	3.6	15
65	Spider silk gut: Development and characterization of a novel strong spider silk fiber. Scientific Reports, 2014, 4, 7326.	1.6	14
66	Mechanical behaviour and formation process of silkworm silk gut. Soft Matter, 2015, 11, 8981-8991.	1.2	14
67	Characterization of biofunctional thin films deposited by activated vapor silanization. Journal of Materials Research, 2008, 23, 1931-1939.	1.2	13
68	Application of the Spider Silk Standardization Initiative (S3I) methodology to the characterization of major ampullate gland silk fibers spun by spiders from Pantanos de Villa wetlands (Lima, Peru). Journal of the Mechanical Behavior of Biomedical Materials, 2020, 111, 104023.	1.5	13
69	The influence of anaesthesia on the tensile properties of spider silk. Journal of Experimental Biology, 2006, 209, 320-326.	0.8	12
70	Polymeric fibers with tunable properties: Lessons from spider silk. Materials Science and Engineering C, 2011, 31, 1184-1188.	3.8	12
71	Optimization of functionalization conditions for protein analysis by AFM. Applied Surface Science, 2014, 317, 462-468.	3.1	11
72	Insights into the production and characterization of electrospun fibers from regenerated silk fibroin. European Polymer Journal, 2014, 60, 123-134.	2.6	10

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73	Regenerated Silk Fibers Obtained by Straining Flow Spinning for Guiding Axonal Elongation in Primary Cortical Neurons. ACS Biomaterials Science and Engineering, 2020, 6, 6842-6852.	2.6	10
74	Bioactivity test for amine-based functionalized meso- and macro-porous silicon substrates. Materials Science and Engineering C, 2007, 27, 1211-1214.	3.8	9
75	Stability and activity of lactate dehydrogenase on biofunctional layers deposited by activated vapor silanization (AVS) and immersion silanization (IS). Applied Surface Science, 2017, 416, 965-970.	3.1	9
76	Straining flow spinning: Simplified model of a bioinspired process to mass produce regenerated silk fibers controllably. European Polymer Journal, 2017, 97, 26-39.	2.6	9
77	Preparation and characterization of <i>Nephila clavipes</i> tubuliform silk gut. Soft Matter, 2019, 15, 2960-2970.	1.2	9
78	Surface functionalisation by the condensation of hybrid titanateâ€“amino sols. Thin Solid Films, 2002, 415, 253-257.	0.8	8
79	Expression of spidroin proteins in the silk glands of golden orbâ€‘weaver spiders. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2022, 338, 241-253.	0.6	8
80	Improved cell adhesion to activated vapor silanization-biofunctionalized Ti-6Al-4V surfaces with ECM-derived oligopeptides. Materials Science and Engineering C, 2022, 133, 112614.	3.8	8
81	Silicidation process of Ti/TiNx/Si structures. Journal of Applied Physics, 1997, 81, 781-785.	1.1	7
82	The variability and interdependence of spider viscid line tensile properties. Journal of Experimental Biology, 2013, 216, 4722-8.	0.8	7
83	Production of regenerated silkworm silk fibers from aqueous dopes through straining flow spinning. Textile Reseach Journal, 2019, 89, 4554-4567.	1.1	7
84	Biotechnology and Biomaterial-Based Therapeutic Strategies for Age-Related Macular Degeneration. Part II: Cell and Tissue Engineering Therapies. Frontiers in Bioengineering and Biotechnology, 2020, 8, 588014.	2.0	7
85	Lessons From Spider and Silkworm Silk Guts. Frontiers in Materials, 2020, 7, .	1.2	7
86	Preparation of Siî—¸TiSi2 Schottky diodes by rapid thermal annealing. Thin Solid Films, 1994, 246, 172-176.	0.8	6
87	Development of a versatile procedure for the biofunctionalization of Ti-6Al-4V implants. Applied Surface Science, 2016, 387, 652-660.	3.1	6
88	Mechanical and structural adaptations to migration in the flight feathers of a Palaearctic passerine. Journal of Evolutionary Biology, 2020, 33, 979-989.	0.8	6
89	Functionalization of atomic force microscopy cantilevers and tips by activated vapour silanization. Applied Surface Science, 2019, 484, 1141-1148.	3.1	5
90	Biomimetic Approaches for Separated Regeneration of Sensory and Motor Fibers in Amputee People: Necessary Conditions for Functional Integration of Sensoryâ€“Motor Prostheses With the Peripheral Nerves. Frontiers in Bioengineering and Biotechnology, 2020, 8, 584823.	2.0	5

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91	Nitridation of TiSi2 thin films by rapid thermal processing. Surface and Coatings Technology, 1996, 80, 72-75.	2.2	4
92	Topographical and mechanical characterization of living eukaryotic cells on opaque substrates: development of a general procedure and its application to the study of non-adherent lymphocytes. Physical Biology, 2015, 12, 026005.	0.8	4
93	First steps for the development of silk fibroin-based 3D biohybrid retina for age-related macular degeneration (AMD). Journal of Neural Engineering, 2020, 17, 055003.	1.8	3
94	Silkworm Gut Fibres from Silk Glands of Samia cynthia riciniâ€"Potential Use as a Scaffold in Tissue Engineering. International Journal of Molecular Sciences, 2022, 23, 3888.	1.8	3
95	Reproducibility of the tensile properties of spider (Argiope trifasciata) silk obtained by forced silking. , 2005, 303A, 37.		1
96	Strategies for the Biofunctionalization of Straining Flow Spinning Regenerated Bombyx mori Fibers. Molecules, 2022, 27, 4146.	1.7	1
97	Spider Silk as an Inspiration for Biomimicking. Advances in Science and Technology, 2008, 58, 1-9.	0.2	0
98	Unexpected high toughness of <i>Samia cynthia ricini</i> silk gut. Soft Matter, 0, , .	1.2	0