

Alvaro Mata

List of Publications by Year in descending order

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76
papers

5,877
citations

109264

35
h-index

79644

73
g-index

80
all docs

80
docs citations

80
times ranked

8379
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterization of Polydimethylsiloxane (PDMS) Properties for Biomedical Micro/Nanosystems. Biomedical Microdevices, 2005, 7, 281-293.	1.4	1,034
2	A self-assembly pathway to aligned monodomain gels. Nature Materials, 2010, 9, 594-601.	13.3	576
3	Self-Assembly of Large and Small Molecules into Hierarchically Ordered Sacs and Membranes. Science, 2008, 319, 1812-1816.	6.0	568
4	Tissue engineering for articular cartilage repair – the state of the art. , 2013, 25, 248-267.		305
5	Bone regeneration mediated by biomimetic mineralization of a nanofiber matrix. Biomaterials, 2010, 31, 6004-6012.	5.7	241
6	Fabrication of multi-layer SU-8 microstructures. Journal of Micromechanics and Microengineering, 2006, 16, 276-284.	1.5	233
7	Hybrid bone implants: Self-assembly of peptide amphiphile nanofibers within porous titanium. Biomaterials, 2008, 29, 161-171.	5.7	216
8	Multicomponent self-assembly as a tool to harness new properties from peptides and proteins in material design. Chemical Society Reviews, 2018, 47, 3721-3736.	18.7	205
9	Co-assembly, spatiotemporal control and morphogenesis of a hybrid protein-peptide system. Nature Chemistry, 2015, 7, 897-904.	6.6	142
10	Micropatterning of bioactive self-assembling gels. Soft Matter, 2009, 5, 1228.	1.2	137
11	Bioactive Nanofibers Instruct Cells to Proliferate and Differentiate During Enamel Regeneration. Journal of Bone and Mineral Research, 2008, 23, 1995-2006.	3.1	123
12	Protein disorder-order interplay to guide the growth of hierarchical mineralized structures. Nature Communications, 2018, 9, 2145.	5.8	119
13	A three-dimensional scaffold with precise micro-architecture and surface micro-textures. Biomaterials, 2009, 30, 4610-4617.	5.7	118
14	Integrating top-down and self-assembly in the fabrication of peptide and protein-based biomedical materials. Chemical Society Reviews, 2011, 40, 4563.	18.7	117
15	Supramolecular Self-Assembly To Control Structural and Biological Properties of Multicomponent Hydrogels. Chemistry of Materials, 2019, 31, 7883-7897.	3.2	102
16	Hydrodynamically Guided Hierarchical Self-Assembly of Peptide-Protein Bioinks. Advanced Functional Materials, 2018, 28, 1703716.	7.8	78
17	Growth of connective tissue progenitor cells on microtextured polydimethylsiloxane surfaces. Journal of Biomedical Materials Research Part B, 2002, 62, 499-506.	3.0	74
18	Bimolecular based heparin and self-assembling hydrogel for tissue engineering applications. Acta Biomaterialia, 2015, 16, 35-48.	4.1	65

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19	Growth Factor Free Multicomponent Nanocomposite Hydrogels That Stimulate Bone Formation. <i>Advanced Functional Materials</i> , 2020, 30, 1906205.	7.8	65
20	Mineralization and bone regeneration using a bioactive elastin-like recombinamer membrane. <i>Biomaterials</i> , 2014, 35, 8339-8347.	5.7	63
21	Hierarchical Biomineralization: from Nature's Designs to Synthetic Materials for Regenerative Medicine and Dentistry. <i>Advanced Healthcare Materials</i> , 2018, 7, e1800178.	3.9	60
22	Multicomponent hydrogels for the formation of vascularized bone-like constructs in vitro. <i>Acta Biomaterialia</i> , 2020, 109, 82-94.	4.1	55
23	Peptide-protein coassembling matrices as a biomimetic 3D model of ovarian cancer. <i>Science Advances</i> , 2020, 6, .	4.7	54
24	Bioengineered 3D models of human pancreatic cancer recapitulate in vivo tumour biology. <i>Nature Communications</i> , 2021, 12, 5623.	5.8	53
25	Analysis of connective tissue progenitor cell behavior on polydimethylsiloxane smooth and channel micro-textures. <i>Biomedical Microdevices</i> , 2002, 4, 267-275.	1.4	51
26	Post microtextures accelerate cell proliferation and osteogenesis. <i>Acta Biomaterialia</i> , 2010, 6, 160-169.	4.1	50
27	Bioactive membranes for bone regeneration applications: Effect of physical and biomolecular signals on mesenchymal stem cell behavior. <i>Acta Biomaterialia</i> , 2014, 10, 134-141.	4.1	48
28	Co-Assembled and Microfabricated Bioactive Membranes. <i>Advanced Functional Materials</i> , 2013, 23, 430-438.	7.8	47
29	Effective and durable genetic modification of human mesenchymal stem cells via controlled release of rAAV vectors from self-assembling peptide hydrogels with a maintained differentiation potency. <i>Acta Biomaterialia</i> , 2015, 18, 118-127.	4.1	47
30	Osteoblast attachment to a textured surface in the absence of exogenous adhesion proteins. <i>IEEE Transactions on Nanobioscience</i> , 2003, 2, 287-294.	2.2	45
31	Self-Assembling Hydrogels Based on a Complementary Host-Guest Peptide Amphiphile Pair. <i>Biomacromolecules</i> , 2019, 20, 2276-2285.	2.6	42
32	Disordered protein-graphene oxide co-assembly and supramolecular biofabrication of functional fluidic devices. <i>Nature Communications</i> , 2020, 11, 1182.	5.8	42
33	Expanding Frontiers in Biomaterials. <i>MRS Bulletin</i> , 2005, 30, 864-873.	1.7	41
34	Engineering membrane scaffolds with both physical and biomolecular signaling. <i>Acta Biomaterialia</i> , 2012, 8, 998-1009.	4.1	41
35	Development of tailored and self-mineralizing citric acid-crosslinked hydrogels for in situ bone regeneration. <i>Biomaterials</i> , 2015, 68, 42-53.	5.7	41
36	Fabrication of hierarchical micro-nanotopographies for cell attachment studies. <i>Nanotechnology</i> , 2013, 24, 255305.	1.3	38

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37	<i>De Novo</i> Design of Functional Coassembling Organicâ€“Inorganic Hydrogels for Hierarchical Mineralization and Neovascularization. ACS Nano, 2021, 15, 11202-11217.	7.3	38
38	Covalent co-assembly between resilin-like polypeptide and peptide amphiphile into hydrogels with controlled nanostructure and improved mechanical properties. Biomaterials Science, 2020, 8, 846-857.	2.6	35
39	3D Patterning within Hydrogels for the Recreation of Functional Biological Environments. Advanced Functional Materials, 2021, 31, 2009574.	7.8	35
40	Integrating self-assembly and biofabrication for the development of structures with enhanced complexity and hierarchical control. Biofabrication, 2020, 12, 032002.	3.7	33
41	Design of Biomolecules for Nanoengineered Biomaterials for Regenerative Medicine. Methods in Molecular Biology, 2012, 811, 39-49.	0.4	29
42	Rational design of hydrogels for immunomodulation. International Journal of Energy Production and Management, 2022, 9, .	1.9	29
43	Nanostructured interfacial self-assembled peptideâ€“polymer membranes for enhanced mineralization and cell adhesion. Nanoscale, 2017, 9, 13670-13682.	2.8	28
44	Injectable Hyaluronan Hydrogels with Peptide-Binding Dendrimers Modulate the Controlled Release of BMP-2 and TGF-Î²1. Macromolecular Bioscience, 2015, 15, 1035-1044.	2.1	25
45	Elastin-Like Protein, with Statherin Derived Peptide, Controls Fluorapatite Formation and Morphology. Frontiers in Physiology, 2017, 8, 368.	1.3	23
46	Multivalent dendrimers presenting spatially controlled clusters of binding epitopes in thermoresponsive hyaluronan hydrogels. Acta Biomaterialia, 2014, 10, 4340-4350.	4.1	22
47	Cross-linking of a biopolymer-peptide co-assembling system. Acta Biomaterialia, 2017, 58, 80-89.	4.1	19
48	Polymyxin Bâ€“Triggered Assembly of Peptide Hydrogels for Localized and Sustained Release of Combined Antimicrobial Therapy. Advanced Healthcare Materials, 2021, 10, e2101465.	3.9	17
49	An interfacial self-assembling bioink for the manufacturing of capillary-like structures with tuneable and anisotropic permeability. Biofabrication, 2021, 13, 035027.	3.7	16
50	Connexin 43 is overexpressed in human fetal membrane defects after fetoscopic surgery. Prenatal Diagnosis, 2016, 36, 942-952.	1.1	14
51	Hostâ€“Guest-Mediated Epitope Presentation on Self-Assembled Peptide Amphiphile Hydrogels. ACS Biomaterials Science and Engineering, 2020, 6, 4870-4880.	2.6	14
52	3D Electrophoresisâ€“Assisted Lithography (3DEAL): 3D Molecular Printing to Create Functional Patterns and Anisotropic Hydrogels. Advanced Functional Materials, 2018, 28, 1703014.	7.8	13
53	Connective tissue progenitor cell growth characteristics on textured substrates. International Journal of Nanomedicine, 2007, 2, 389-406.	3.3	13
54	Carboxylated-xyloglucan and peptide amphiphile co-assembly in wound healing. International Journal of Energy Production and Management, 2021, 8, rba040.	1.9	11

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55	Topographically guided hierarchical mineralization. <i>Materials Today Bio</i> , 2021, 11, 100119.	2.6	10
56	Bone and cartilage differentiation of a single stem cell population driven by material interface. <i>Journal of Tissue Engineering</i> , 2017, 8, 204173141770561.	2.3	9
57	A fluidic device for the controlled formation and real-time monitoring of soft membranes self-assembled at liquid interfaces. <i>Scientific Reports</i> , 2018, 8, 2900.	1.6	8
58	Multicomponent self-assembly: Supramolecular design of complex hydrogels for biomedical applications. , 2018, , 371-397.		8
59	Embracing complexity in biomaterials design. <i>Biomaterials and Biosystems</i> , 2022, 6, 100039.	1.0	8
60	Disordered Protein Stabilization by Co-Assembly of Short Peptides Enables Formation of Robust Membranes. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 464-473.	4.0	8
61	Trauma induces overexpression of Cx43 in human fetal membrane defects. <i>Prenatal Diagnosis</i> , 2017, 37, 899-906.	1.1	7
62	Targeting mechanotransduction mechanisms and tissue weakening signals in the human amniotic membrane. <i>Scientific Reports</i> , 2019, 9, 6718.	1.6	7
63	Exploiting the fundamentals of biological organization for the advancement of biofabrication. <i>Current Opinion in Biotechnology</i> , 2022, 74, 42-54.	3.3	7
64	Preferential nucleation and crystal growth on microfabricated topography. <i>Materials Today</i> , 2016, 19, 478-480.	8.3	6
65	Modeling the Tumor Microenvironment of Ovarian Cancer: The Application of Self-Assembling Biomaterials. <i>Cancers</i> , 2021, 13, 5745.	1.7	6
66	Peptide Amphiphile Hydrogels Based on Homoternary Cucurbit[8]uril Host-Guest Complexes. <i>Bioconjugate Chemistry</i> , 2022, 33, 111-120.	1.8	6
67	Micro and nanotechnologies for bioengineering regenerative medicine scaffolds. <i>International Journal of Biomedical Engineering and Technology</i> , 2011, 5, 266.	0.2	5
68	New Bioengineering Breakthroughs and Enabling Tools in Regenerative Medicine. <i>Current Stem Cell Reports</i> , 2017, 3, 83-97.	0.7	5
69	Potential sealing and repair of human <sc>FM</sc> defects after trauma with peptide amphiphiles and Cx43 antisense. <i>Prenatal Diagnosis</i> , 2021, 41, 89-99.	1.1	5
70	Interfacial Self-Assembly to Spatially Organize Graphene Oxide Into Hierarchical and Bioactive Structures. <i>Frontiers in Materials</i> , 2020, 7, .	1.2	4
71	Mineralizing Coating on 3D Printed Scaffolds for the Promotion of Osseointegration. <i>Frontiers in Bioengineering and Biotechnology</i> , 0, 10, .	2.0	4
72	Disinfectora-Assisted Low Temperature Reduced Graphene OxideaProtein Surgical Dressing for the Postoperative Photothermal Treatment of Melanoma. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	4

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73	Engineered In vitro Models for Pathological Calcification: Routes Toward Mechanistic Understanding. <i>Advanced NanoBiomed Research</i> , 2021, 1, 2100042.	1.7	2
74	Microfabricated 3D Scaffolds for Tissue Engineering Applications. <i>Materials Research Society Symposia Proceedings</i> , 2004, 845, 109.	0.1	1
75	Copper catalyst efficiency for the CuAAC synthesis of a poly(N-isopropylacrylamide) conjugated hyaluronan. <i>Clinical Hemorheology and Microcirculation</i> , 2015, 60, 25-37.	0.9	1
76	Claim to FAME. <i>Nature Chemistry</i> , 2018, 10, 485-487.	6.6	0