V Prasad Shastri

List of Publications by Year
in descending order

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92 papers	4,355 citations	126907 33 h-index	110387 64 g-index
94 all docs	94 docs citations	94 times ranked	7261 citing authors

#	Article	IF	Citations
1	Antibacterial and Anti-Inflammatory pH-Responsive Tannic Acid-Carboxylated Agarose Composite Hydrogels for Wound Healing. ACS Applied Materials & Interfaces, 2016, 8, 28511-28521.	8.0	464
2	In vivo engineering of organs: The bone bioreactor. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11450-11455.	7.1	315
3	A rapid-curing alginate gel system: utility in periosteum-derived cartilage tissue engineering. Biomaterials, 2004, 25, 887-894.	11.4	263
4	Differential uptake of nanoparticles by endothelial cells through polyelectrolytes with affinity for caveolae. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 2942-2947.	7.1	174
5	The effect of silica nanoparticle-modified surfaces on cell morphology, cytoskeletal organization and function. Biomaterials, 2008, 29, 3836-3846.	11.4	166
6	Hydrogel-Forming Algae Polysaccharides: From Seaweed to Biomedical Applications. Biomacromolecules, 2021, 22, 1027-1052.	5.4	138
7	Novel microemulsion enhancer formulation for simultaneous transdermal delivery of hydrophilic and hydrophobic drugs. Pharmaceutical Research, 2003, 20, 264-269.	3.5	137
8	Stochastic nanoroughness modulates neuronâ€“astrocyte interactions and function via mechanosensing cation channels. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16124-16129.	7.1	124
9	Stimuliâ€Sensitive Polymers. Advanced Materials, 2010, 22, 3344-3347.	21.0	120
10	A novel polymeric chlorhexidine delivery device for the treatment of periodontal disease. Biomaterials, 2004, 25, 3743-3750.	11.4	118
11	Non-Degradable Biocompatible Polymers in Medicine: Past, Present and Future. Current Pharmaceutical Biotechnology, 2003, 4, 331-337.	1.6	114
12	Matrix-metalloproteinase-9 is cleaved and activated by Cathepsin K. BMC Research Notes, 2015, 8, 322.	1.4	93
13	Polysaccharide hydrogels with tunable stiffness and provasculogenic properties via Î±-helix to Î²-sheet switch in secondary structure. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12887-12892.	7.1	91
14	FGFâ€2 enhances TGFâ€Î²1â€induced periosteal chondrogenesis. Journal of Orthopaedic Research, 2004, 22, 1114-1119.	2.3	86
15	Mechanically Tunable Bioink for 3D Bioprinting of Human Cells. Advanced Healthcare Materials, 2017, 6, 1700255.	7.6	86
16	Materials in Regenerative Medicine. Advanced Materials, 2009, 21, 3231-3234.	21.0	82
17	Emulsion as a Means of Controlling Electrospinning of Polymers. Advanced Materials, 2009, 21, 1814-1819.	21.0	74
18	Autologous engineering of cartilage. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3418-3423.	7.1	73

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19	Evaluation of chemical enhancers in the transdermal delivery of lidocaine. International Journal of Pharmaceutics, 2006, 308, 33-39.	5.2	72
20	Optimization strategies on the structural modeling of gelatin/chitosan scaffolds to mimic human meniscus tissue. Materials Science and Engineering C, 2013, 33, 4777-4785.	7.3	67
21	Recapitulating epithelial tumor microenvironment in vitro using three dimensional tri-culture of human epithelial, endothelial, and mesenchymal cells. BMC Cancer, 2016, 16, 581.	2.6	58
22	Towards microstructure-informed material models for human brain tissue. Acta Biomaterialia, 2020, 104, 53-65.	8.3	57
23	Role of n-methyl Pyrrolidone in the Enhancement of Aqueous Phase Transdermal Transport. Journal of Pharmaceutical Sciences, 2005, 94, 912-917.	3.3	55
24	FOXQ1, a Novel Target of the Wnt Pathway and a New Marker for Activation of Wnt Signaling in Solid Tumors. PLoS ONE, 2013, 8, e60051.	2.5	55
25	In vivo Engineering of Tissues: Biological Considerations, Challenges, Strategies, and Future Directions. Advanced Materials, 2009, 21, 3246-3254.	21.0	53
26	Interplay between stiffness and degradation of architectured gelatin hydrogels leads to differential modulation of chondrogenesis in vitro and in vivo. Acta Biomaterialia, 2018, 69, 83-94.	8.3	52
27	Cell number in mesenchymal stem cell aggregates dictates cell stiffness and chondrogenesis. Stem Cell Research and Therapy, 2019, 10, 10.	5.5	42
28	In vitro degradation characteristics of photocrosslinked anhydride systems for bone augmentation applications. Biomaterials, 2007, 28, 5259-5270.	11.4	40
29	Photocrosslinked anhydride systems for long-term protein release. Biomaterials, 2008, 29, 2400-2407.	11.4	40
30	Mechanically Tailored Agarose Hydrogels through Molecular Alloying with Î²â€Sheet Polysaccharides. Macromolecular Rapid Communications, 2015, 36, 196-203.	3.9	40
31	Mechanical Regulation of Cells by Materials and Tissues. MRS Bulletin, 2010, 35, 578-583.	3.5	37
32	Nonwoven Carboxylated Agarose-Based Fiber Meshes with Antimicrobial Properties. Biomacromolecules, 2016, 17, 4021-4026.	5.4	36
33	Future of Regenerative Medicine: Challenges and Hurdles. Artificial Organs, 2006, 30, 828-834.	1.9	34
34	Non-Invasive In Vivo Imaging and Quantification of Tumor Growth and Metastasis in Rats Using Cells Expressing Far-Red Fluorescence Protein. PLoS ONE, 2015, 10, e0132725.	2.5	34
35	Enhanced Gene Silencing through Human Serum Albumin-Mediated Delivery of Polyethylenimine-siRNA Polyplexes. PLoS ONE, 2015, 10, e0122581.	2.5	33
36	Single-Step Process to Produce Surface-Functionalized Polymeric Nanoparticles. Langmuir, 2007, 23, 12275-12279.	3.5	32

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37	Enhanced cellular uptake of nanoparticles by increasing the hydrophobicity of poly(lactic acid) through copolymerization with cell-membrane-lipid components. Chemical Communications, 2015, 51, 14605-14608.	4.1	32
38	Towards developing surface eroding poly(Î±-hydroxy acids). Biomaterials, 2006, 27, 3021-3030.	11.4	31
39	Renal clearance of polymeric nanoparticles by mimicry of glycan surface of viruses. Biomaterials, 2020, 230, 119643.	11.4	30
40	Advanced Bioink for 3D Bioprinting of Complex Free-Standing Structures with High Stiffness. Bioengineering, 2020, 7, 141.	3.5	30
41	Engineering a Material Surface for Drug Delivery and Imaging using Layerâ€byâ€Layer Assembly of Functionalized Nanoparticles. Advanced Materials, 2010, 22, 1392-1397.	21.0	28
42	Unravelling a Direct Role for Polysaccharide Î²â€Strands in the Higher Order Structure of Physical Hydrogels. Angewandte Chemie - International Edition, 2017, 56, 4603-4607.	13.8	27
43	Validation of Fluorescence Molecular Tomography/Micro-CT Multimodal Imaging In Vivo in Rats. Molecular Imaging and Biology, 2014, 16, 350-361.	2.6	26
44	RGDSP functionalized carboxylated agarose as extrudable carriers for chondrocyte delivery. Materials Science and Engineering C, 2019, 99, 103-111.	7.3	26
45	Extrusion-Based 3D Bioprinting of Gradients of Stiffness, Cell Density, and Immobilized Peptide Using Thermogelling Hydrogels. ACS Biomaterials Science and Engineering, 2021, 7, 2192-2197.	5.2	26
46	Albumin Incorporation in Polyethylenimineâ€“DNA Polyplexes Influences Transfection Efficiency. Biomacromolecules, 2016, 17, 200-207.	5.4	25
47	Architecture-inspired paradigm for 3D bioprinting of vessel-like structures using extrudable carboxylated agarose hydrogels. Emergent Materials, 2019, 2, 233-243.	5.7	25
48	Hyperstimulation of CaSR in human MSCs by biomimetic apatite inhibits endochondral ossification via temporal down-regulation of PTH1R. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6135-E6144.	7.1	23
49	Mechanically Defined Microenvironment Promotes Stabilization of Microvasculature, Which Correlates with the Enrichment of a Novel Piezoâ€1⁺Population of Circulating CD11b⁺/CD115⁺Monocytes. Advanced Materials, 2019, 31, e1808050.	21.0	23
50	Engineering Materials for Regenerative Medicine. MRS Bulletin, 2010, 35, 571-577.	3.5	22
51	Micropatterned polymer surfaces improve retention of endothelial cells exposed to flow-induced shear stress. Biorheology, 2006, 43, 45-55.	0.4	22
52	Clickable Degradable Aliphatic Polyesters via Copolymerization with Alkyne Epoxy Esters: Synthesis and Postfunctionalization with Organic Dyes. Journal of the American Chemical Society, 2014, 136, 10527-10533.	13.7	21
53	Autophagy inhibition enhances Matrine derivative MASM induced apoptosis in cancer cells via a mechanism involving reactive oxygen species-mediated PI3K/Akt/mTOR and Erk/p38 signaling. BMC Cancer, 2019, 19, 949.	2.6	21
54	Biobridge: An Outlook on Translational Bioinks for 3D Bioprinting. Advanced Science, 2022, 9, e2103469.	11.2	21

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55	Modulation of protein release from photocrosslinked networks by gelatin microparticles. International Journal of Pharmaceutics, 2008, 360, 107-114.	5.2	19
56	Disordered Conformation with Low Pii Helix in Phosphoproteins Orchestrates Biomimetic Apatite Formation. Advanced Materials, 2017, 29, 1701629.	21.0	19
57	Liposomal Treatment of Cancer Cells Modulates Uptake Pathway of Polymeric Nanoparticles by Altering Membrane Stiffness. Small, 2018, 14, e1704245.	10.0	19
58	<sup />Injectable Graft Substitute Active on Bone Tissue Regeneration. Tissue Engineering - Part A, 2017, 23, 1413-1422.	3.1	18
59	Glycosylation facilitates transdermal transport of macromolecules. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 21283-21288.	7.1	16
60	Biomineralization: A confluence of materials science, biophysics, proteomics, and evolutionary biology. MRS Bulletin, 2015, 40, 473-477.	3.5	16
61	Î¶-potential characterization of collagen and bovine serum albumin modified silica nanoparticles: a comparative study. Journal of Materials Science, 2009, 44, 1374-1380.	3.7	15
62	Synthesis and characterization of functionalized poly(É›-caprolactone). Journal of Polymer Science Part A, 2013, 51, 3375-3382.	2.3	13
63	Hydrophilization of Poly(Caprolactone) Copolymers through Introduction of Oligo(Ethylene Glycol) Moieties. PLoS ONE, 2014, 9, e99157.	2.5	13
64	Glycosaminoglycan-functionalized poly-lactide-co-glycolide nanoparticles: synthesis, characterization, cytocompatibility, and cellular uptake. International Journal of Nanomedicine, 2015, 10, 775.	6.7	12
65	Tripod USPIONs with high aspect ratio show enhanced T2 relaxation and cytocompatibility. Nanomedicine, 2016, 11, 1017-1030.	3.3	12
66	Non-covalent surface engineering of an alloplastic polymeric bone graft material for controlled protein release. Journal of Controlled Release, 2008, 126, 237-245.	9.9	11
67	Nanoprobes for Multimodal Visualization of Bone Mineral Phase in Magnetic Resonance and Near-Infrared Optical Imaging. ACS Omega, 2016, 1, 182-192.	3.5	11
68	Influence of surface charge and protein intermediary layer on the formation of biomimetic calcium phosphate on silica nanoparticles. Journal of Materials Chemistry, 2012, 22, 19562.	6.7	10
69	Substrate elasticity modulates TGF beta stimulated re-differentiation of expanded human articular chondrocytes. Drug Delivery and Translational Research, 2012, 2, 351-362.	5.8	10
70	Nanofibers of Elastin and Hydrophilic Segmented Polyurethane Solution Blends Show Enhanced Mechanical Properties through Intermolecular Proteinâ€“Polymer H Bonding. Biomacromolecules, 2016, 17, 1312-1320.	5.4	10
71	Surface Functionality as a Means to Impact Polymer Nanoparticle Size and Structure. Langmuir, 2013, 29, 4092-4095.	3.5	9
72	Investigation of the transdermal transport of charged local anesthetics in the presence of triterpene saponin glycosides. Drug Delivery and Translational Research, 2014, 4, 131-138.	5.8	9

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73	A long-lasting oral preformulation of the angiotensin II AT1 receptor antagonist losartan. Drug Development and Industrial Pharmacy, 2018, 44, 1498-1505.	2.0	9
74	Hydraulic Elevation of the Periosteum: A Novel Technique for Periosteal Harvest. Journal of Investigative Surgery, 2004, 17, 229-233.	1.3	8
75	Cyclic Comonomers for the Synthesis of Carboxylic Acid and Amine Functionalized Poly(l-Lactic Acid). Molecules, 2015, 20, 4764-4779.	3.8	8
76	Unravelling a Direct Role for Polysaccharide Î²â€Strands in the Higher Order Structure of Physical Hydrogels. Angewandte Chemie, 2017, 129, 4674-4678.	2.0	8
77	Generation of 3D Soluble Signal Gradients in Cellâ€Laden Hydrogels Using Passive Diffusion. Advanced Biology, 2019, 3, 1800237.	3.0	6
78	Gelatin device for the delivery of growth factors involved in endochondral ossification. PLoS ONE, 2017, 12, e0175095.	2.5	6
79	Chemical vapour deposition of soluble poly(p-xylylene) copolymers with tuneable properties. Polymer Chemistry, 2016, 7, 54-62.	3.9	4
80	Silencing of GFP expression in human mesenchymal stem cells using quaternary polyplexes of siRNA-PEI with glycosaminoglycans and albumin. Acta Biomaterialia, 2019, 99, 397-411.	8.3	4
81	Unraveling the role of Î²1 integrin isoforms in cRGD-mediated uptake of nanoparticles bearing hydrophilized alkyne moieties in epithelial and endothelial cells. Acta Biomaterialia, 2020, 116, 344-355.	8.3	4
82	Direct quantification of dual protein adsorption dynamics in three dimensional systems in presence of cells. Acta Biomaterialia, 2017, 57, 285-292.	8.3	3
83	Biotin-Avidin-Mediated Capture of Microspheres on Polymer Fibers. Molecules, 2019, 24, 2036.	3.8	2
84	Transparent, Pliable, Antimicrobial Hydrogels for Ocular Wound Dressings. Applied Sciences (Switzerland), 2020, 10, 7548.	2.5	2
85	Functionalized Polymeric Nanoparticles. Materials Research Society Symposia Proceedings, 2004, 818, 163.	0.1	1
86	Degradation Behavior of Novel Poly(Î±-hydroxy acid)-Derived Polyesters. Materials Research Society Symposia Proceedings, 2004, 823, W11.10.1.	0.1	1
87	Delivering regeneration. Drug Delivery and Translational Research, 2012, 2, 293-296.	5.8	1
88	Macromol. Rapid Commun. 2/2015. Macromolecular Rapid Communications, 2015, 36, 195-195.	3.9	0
89	Stable Angiogenesis: Mechanically Defined Microenvironment Promotes Stabilization of Microvasculature, Which Correlates with the Enrichment of a Novel Piezoâ€1 + Population of Circulating CD11b + /CD115 + Monocytes (Adv. Mater. 21/2019). Advanced Materials, 2019, 31, 1970150.	21.0	0
90	In vivo engineering of organs. , 2020, , 259-272.		0

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91	Biobridge: An Outlook on Translational Bioinks for 3D Bioprinting (Adv. Sci. 3/2022). Advanced Science, 2022, 9, 2270018.	11.2	0
92	Reversible, Î²-sheet-dependent self-assembly of the phosphoprotein phosvitin is controlled by concentration and valency of cations. Physical Chemistry Chemical Physics, 2022, 24, 11791-11800.	2.8	0