J Paul Santerre

List of Publications by Year
in descending order

105 papers	3,909 citations	101496 36 h-index	138417 58 g-index
107 all docs	107 docs citations	107 times ranked	4381 citing authors

#	Article	IF	Citations
1	Understanding the biodegradation of polyurethanes: From classical implants to tissue engineering materials. Biomaterials, 2005, 26, 7457-7470.	5.7	639
2	Biodegradation of resin composites and adhesives by oral bacteria and saliva: A rationale for new material designs that consider the clinical environment and treatment challenges. Dental Materials, 2014, 30, 16-32.	1.6	208
3	Biodegradation and inÂvivo biocompatibility of a degradable, polar/hydrophobic/ionic polyurethane for tissue engineering applications. Biomaterials, 2011, 32, 6034-6044.	5.7	121
4	Biomaterials in co-culture systems: Towards optimizing tissue integration and cell signaling within scaffolds. Biomaterials, 2014, 35, 4465-4476.	5.7	120
5	Study on the Kinetics of Surface Migration of Surface Modifying Macromolecules in Membrane Preparation. Macromolecules, 2002, 35, 3017-3021.	2.2	106
6	Identifying enzyme activities within human saliva which are relevant to dental resin composite biodegradation. Biomaterials, 2005, 26, 4259-4264.	5.7	80
7	Fibrinogen surface distribution correlates to platelet adhesion pattern on fluorinated surface-modified polyetherurethane. Biomaterials, 2005, 26, 7367-7376.	5.7	76
8	Characterization of a biodegradable electrospun polyurethane nanofiber scaffold: Mechanical properties and cytotoxicity. Acta Biomaterialia, 2010, 6, 3847-3855.	4.1	72
9	Fluorinated surface-modifying macromolecules: Modulating adhesive protein and platelet interactions on a polyether-urethane. Journal of Biomedical Materials Research Part B, 2002, 60, 135-147.	3.0	67
10	Polar surface chemistry of nanofibrous polyurethane scaffold affects annulus fibrosus cell attachment and early matrix accumulation. Journal of Biomedical Materials Research - Part A, 2009, 91A, 1089-1099.	2.1	66
11	Functional characterization of human coronary artery smooth muscle cells under cyclic mechanical strain in a degradable polyurethane scaffold. Biomaterials, 2011, 32, 4816-4829.	5.7	66
12	The response of annulus fibrosus cell to fibronectin-coated nanofibrous polyurethane-anionic dihydroxyoligomer scaffolds. Biomaterials, 2011, 32, 450-460.	5.7	65
13	The influence of triethylene glycol derived from dental composite resins on the regulation of Streptococcus mutans gene expression. Biomaterials, 2009, 30, 452-459.	5.7	64
14	Biodegradation of polycarbonate-based polyurethanes by the human monocyte-derived macrophage and U937 cell systems. Journal of Biomedical Materials Research Part B, 2002, 61, 505-513.	3.0	63
15	Changes in macrophage function and morphology due to biomedical polyurethane surfaces undergoing biodegradation. Journal of Cellular Physiology, 2004, 199, 8-19.	2.0	63
16	Synthesis and Characterization of Degradable Polar Hydrophobic Ionic Polyurethane Scaffolds for Vascular Tissue Engineering Applications. Biomacromolecules, 2009, 10, 2729-2739.	2.6	60
17	Platelet inhibition and endothelial cell adhesion on elastin-like polypeptide surface modified materials. Biomaterials, 2011, 32, 5790-5800.	5.7	60
18	Influence of silanated filler content on the biodegradation of bisGMA/TEGDMA dental composite resins. Journal of Biomedical Materials Research - Part A, 2007, 81A, 75-84.	2.1	57

#	Article	IF	Citations
19	Effect of polyurethane chemistry and protein coating on monocyte differentiation towards a wound healing phenotype macrophage. Biomaterials, 2009, 30, 5497-5504.	5.7	57
20	Application of surface modifying macromolecules in polyethersulfone membranes: Influence on PES surface chemistry and physical properties. Journal of Applied Polymer Science, 1999, 73, 1363-1378.	1.3	56
21	Differential synthesis of cholesterol esterase by monocyte-derived macrophages cultured on poly(ether or ester)-based poly(urethane)s. , 1998, 39, 469-477.		55
22	Biomechanical conditioning of tissue engineered heart valves: Too much of a good thing?. Advanced Drug Delivery Reviews, 2016, 96, 161-175.	6.6	55
23	Neutrophil-mediated biodegradation of medical implant materials. Journal of Cellular Physiology, 2001, 186, 95-103.	2.0	51
24	Effect of salivary esterase on the integrity and fracture toughness of the dentinâ€resin interface. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 94B, 230-237.	1.6	49
25	Protein binding mediation of biomaterial-dependent monocyte activation on a degradable polar hydrophobic ionic polyurethane. Biomaterials, 2012, 33, 8316-8328.	5.7	47
26	Electrospun Polyurethaneâ€"Gelatin Composite: A New Tissue-Engineered Scaffold for Application in Skin Regeneration and Repair of Complex Wounds. ACS Biomaterials Science and Engineering, 2020, 6, 505-516.	2.6	47
27	A study of vascular smooth muscle cell function under cyclic mechanical loading in a polyurethane scaffold with optimized porosity. Acta Biomaterialia, 2010, 6, 4218-4228.	4.1	46
28	Electrospun elastin-like polypeptide enriched polyurethanes and their interactions with vascular smooth muscle cells. Acta Biomaterialia, 2012, 8, 2493-2503.	4.1	46
29	Biodegradation of composite resin with ester linkages: Identifying human salivary enzyme activity with a potential role in the esterolytic process. Dental Materials, 2014, 30, 848-860.	1.6	45
30	Biodegradation of resinâ€"dentin interfaces is dependent on the restorative material, mode of adhesion, esterase or MMP inhibition. Dental Materials, 2018, 34, 1253-1262.	1.6	44
31	Composite resin degradation products from BisGMA monomer modulate the expression of genes associated with biofilm formation and other virulence factors in <i>Streptococcus mutans</i>. Journal of Biomedical Materials Research - Part A, 2009, 88A, 551-560.	2.1	43
32	Electrospun polyurethane nanofiber scaffolds with ciprofloxacin oligomer versus free ciprofloxacin: Effect on drug release and cell attachment. Journal of Controlled Release, 2017, 250, 107-115.	4.8	43
33	The influence of protein adsorption and surface modifying macromolecules on the hydrolytic degradation of a poly(etherâ€"urethane) by cholesterol esterase. Biomaterials, 2003, 24, 121-130.	5.7	42
34	The effect of degradable polymer surfaces on co-cultures of monocytes and smooth muscle cells. Biomaterials, 2011, 32, 3584-3595.	5.7	42
35	Triethylene Glycol Up-Regulates Virulence-Associated Genes and Proteins in Streptococcus mutans. PLoS ONE, 2016, 11, e0165760.	1.1	41
36	Monocyte/macrophage cytokine activity regulates vascular smooth muscle cell function within a degradable polyurethane scaffold. Acta Biomaterialia, 2014, 10, 1146-1155.	4.1	38

#	Article	IF	Citations
37	Deriving vascular smooth muscle cells from mesenchymal stromal cells: Evolving differentiation strategies and current understanding of their mechanisms. Biomaterials, 2017, 145, 9-22.	5.7	38
38	Polycarbonate-urethane hard segment type influences esterase substrate specificity for human-macrophage-mediated biodegradation. Journal of Biomaterials Science, Polymer Edition, 2005, 16, 1167-1177.	1.9	37
39	Mechanistic, genomic and proteomic study on the effects of BisGMA-derived biodegradation product on cariogenic bacteria. Dental Materials, 2017, 33, 175-190.	1.6	37
40	The interaction between hydrolytic and oxidative pathways in macrophage-mediated polyurethane degradation. Journal of Biomedical Materials Research - Part A, 2007, 82A, 984-994.	2.1	36
41	Immunomodulatory polymeric scaffold enhances extracellular matrix production in cell co-cultures under dynamic mechanical stimulation. Acta Biomaterialia, 2015, 24, 74-86.	4.1	36
42	Fibrinogen adsorption and platelet lysis characterization of fluorinated surface-modified polyetherurethanes. Journal of Biomedical Materials Research - Part A, 2007, 81A, 178-185.	2.1	35
43	Generation of cell adhesive substrates using peptide fluoralkyl surface modifiers. Biomaterials, 2005, 26, 6536-6546.	5.7	33
44	Surface modifying oligomers used to functionalize polymeric surfaces: Consideration of blood contact applications. Journal of Applied Polymer Science, 2014, 131, .	1.3	32
45	Influence of biodegradable and non-biodegradable material surfaces on the differentiation of human monocyte-derived macrophages. Differentiation, 2008, 76, 232-244.	1.0	27
46	Tissue Engineering a Small Diameter Vessel Substitute: Engineering Constructs with Select Biomaterials and Cells. Current Vascular Pharmacology, 2012, 10, 347-360.	0.8	26
47	Inner and Outer Annulus Fibrosus Cells Exhibit Differentiated Phenotypes and Yield Changes in Extracellular Matrix Protein Composition <i>In Vitro</i> on a Polycarbonate Urethane Scaffold. Tissue Engineering - Part A, 2014, 20, 3261-3269.	1.6	26
48	<sup /><i>In Vitro</i> Generated Intervertebral Discs: Toward Engineering Tissue Integration. Tissue Engineering - Part A, 2017, 23, 1001-1010.	1.6	26
49	Modulation of annulus fibrosus cell alignment and function on oriented nanofibrous polyurethane scaffolds under tension. Spine Journal, 2014, 14, 424-434.	0.6	25
50	Hemocompatibility studies on a degradable polar hydrophobic ionic polyurethane (D-PHI). Acta Biomaterialia, 2017, 48, 368-377.	4.1	25
51	Co-culturing monocytes with smooth muscle cells improves cell distribution within a degradable polyurethane scaffold and reduces inflammatory cytokines. Acta Biomaterialia, 2012, 8, 488-501.	4.1	24
52	Synthesis and characterization of electrospun nanofibrous tissue engineering scaffolds generated from in situ polymerization of ionomeric polyurethane composites. Acta Biomaterialia, 2019, 96, 161-174.	4.1	24
53	Synthesis of Cholesterol Esterase by Monocyte-Derived Macrophages: A Potential Role in the Biodegradation of Poly(Urethane)s. Journal of Biomaterials Applications, 1999, 13, 187-205.	1.2	22
54	Differentiation of monocytes on a degradable, polar, hydrophobic, ionic polyurethane: Two-dimensional films vs. three-dimensional scaffolds. Acta Biomaterialia, 2011, 7, 115-122.	4.1	21

#	Article	IF	Citations
55	Interaction of a block-co-polymeric biomaterial with immunoglobulin G modulates human monocytes towards a non-inflammatory phenotype. Acta Biomaterialia, 2015, 24, 35-43.	4.1	20
56	Establishing a gingival fibroblast phenotype in a perfused degradable polyurethane scaffold: Mediation by TGF-Î²1, FGF-2, Î²1-integrin, and focal adhesion kinase. Biomaterials, 2014, 35, 10025-10032.	5.7	19
57	Hemocompatibility of Degrading Polymeric Biomaterials: Degradable Polar Hydrophobic Ionic Polyurethane versus Poly(lactic-co-glycolic) Acid. Biomacromolecules, 2017, 18, 2296-2305.	2.6	19
58	Pro-Angiogenic Character of Endothelial Cells and Gingival Fibroblasts Cocultures in Perfused Degradable Polyurethane Scaffolds. Tissue Engineering - Part A, 2015, 21, 1587-1599.	1.6	18
59	Differences in protein binding and cytokine release from monocytes on commercially sourced tissue culture polystyrene. Acta Biomaterialia, 2012, 8, 89-98.	4.1	17
60	Design of biodegradable polyurethanes and the interactions of the polymers and their degradation by-products within inÂvitro and inÂvivo environments. , 2016, , 75-114.		17
61	Induced senescence of healthy nucleus pulposus cells is mediated by paracrine signaling from TNFâ€Î±â€“activated cells. FASEB Journal, 2021, 35, e21795.	0.2	17
62	Surface immobilization of elastinâ€like polypeptides using fluorinated surface modifying additives. Journal of Biomedical Materials Research - Part A, 2011, 96A, 648-662.	2.1	16
63	Is cell culture stressful? Effects of degradable and nondegradable culture surfaces on U937 cell function. BioTechniques, 2007, 42, 744-750.	0.8	14
64	Human monocyte adhesion onto RGD and PHSRN peptides delivered to the surface of a polycarbonate polyurethane using bioactive fluorinated surface modifiers. Journal of Biomedical Materials Research - Part A, 2007, 83A, 759-769.	2.1	14
65	Influence of ciprofloxacinâ€based additives on the hydrolysis of nanofiber polyurethane membranes. Journal of Biomedical Materials Research - Part A, 2018, 106, 1211-1222.	2.1	14
66	Towards engineering distinct multiâ€lamellated outer and inner annulus fibrosus tissues. Journal of Orthopaedic Research, 2018, 36, 1346-1355.	1.2	14
67	The effect of phospholipids on the biodegradation of polyurethanes by lysosomal enzymes. Journal of Biomaterials Science, Polymer Edition, 1997, 8, 779-795.	1.9	13
68	Evaluation of membranes containing surface modifying macromolecules: Determination of the chloroform separation from aqueous mixtures via pervaporation. Journal of Applied Polymer Science, 2001, 79, 183-189.	1.3	13
69	Generating favorable growth factor and protease release profiles to enable extracellular matrix accumulation within an in vitro tissue engineering environment. Acta Biomaterialia, 2017, 54, 81-94.	4.1	13
70	Mono vs multilayer fibronectin coatings on polar/hydrophobic/ionic polyurethanes: Altering surface interactions with human monocytes. Acta Biomaterialia, 2018, 66, 129-140.	4.1	13
71	Synthesis of degradable-polar-hydrophobic-ionic co-polymeric microspheres by membrane emulsion photopolymerization: In vitro and in vivo studies. Acta Biomaterialia, 2019, 89, 279-288.	4.1	13
72	Toward Renewable and Functional Biomedical Polymers with Tunable Degradation Rates Based on Itaconic Acid and 1,8-Octanediol. ACS Applied Polymer Materials, 2021, 3, 1943-1955.	2.0	13

#	Article	IF	Citations
73	Perfused culture of gingival fibroblasts in a degradable/polar/hydrophobic/ionic polyurethane (D-PHI) scaffold leads to enhanced proliferation and metabolic activity. Acta Biomaterialia, 2013, 9, 6867-6875.	4.1	12
74	Mitigation of monocyte driven thrombosis on cobalt chrome surfaces in contact with whole blood by thin film polar/hydrophobic/ionic polyurethane coatings. Biomaterials, 2019, 217, 119306.	5.7	11
75	Paracrine signalling from monocytes enables desirable extracellular matrix accumulation and temporally appropriate phenotype of vascular smooth muscle cell-like cells derived from adipose stromal cells. Acta Biomaterialia, 2020, 103, 129-141.	4.1	11
76	Generation of an in vitro model of the outer annulus <scp>fibrosusâ€cartilage</scp> interface. JOR Spine, 2020, 3, e1089.	1.5	11
77	Advancing tissue-engineered vascular grafts via their endothelialization and mechanical conditioning. Journal of Cardiovascular Surgery, 2020, 61, 555-576.	0.3	11
78	Synthesis and characterization of a novel polymer-ceramic system for biodegradable composite applications. Journal of Biomedical Materials Research Part B, 2003, 66A, 622-632.	3.0	10
79	Bioactivation of porous polyurethane scaffolds using fluorinated RGD surface modifiers. Journal of Biomedical Materials Research - Part A, 2010, 94A, 1226-1235.	2.1	10
80	Physical properties and cytotoxicity of antimicrobial dental resin adhesives containing dimethacrylate oligomers of Ciprofloxacin and Metronidazole. Dental Materials, 2019, 35, 229-243.	1.6	10
81	Limited Endothelial Plasticity of Mesenchymal Stem Cells Revealed by Quantitative Phenotypic Comparisons to Representative Endothelial Cell Controls. Stem Cells Translational Medicine, 2019, 8, 35-45.	1.6	10
82	Synthesis and characterization of Ciprofloxacin-containing divinyl oligomers and assessment of their biodegradation in simulated salivary esterase. Dental Materials, 2018, 34, 711-725.	1.6	9
83	Fibronectin adsorption on surface-modified polyetherurethanes and their differentiated effect on specific blood elements related to inflammatory and clotting processes. Biointerphases, 2016, 11, 029809.	0.6	8
84	Proteome analysis of secretions from human monocyte-derived macrophages post-exposure to biomaterials and the effect of secretions on cardiac fibroblast fibrotic character. Acta Biomaterialia, 2020, 111, 80-90.	4.1	8
85	Interactions of Hydrolytic Enzymes at an Aqueousâ€"Polyurethane Interface. ACS Symposium Series, 1995, , 352-370.	0.5	7
86	Influence of anionic monomer content on the biodegradation and toxicity of polyvinyl-urethane carbonate-ceramic interpenetrating phase composites. Biomaterials, 2005, 26, 5951-5959.	5.7	6
87	Fabrication of a biodegradable calcium polyphosphate/polyvinylâ€urethane carbonate composite for high load bearing osteosynthesis applications. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 94B, 178-186.	1.6	6
88	Transforming Growth Factor Î² Enhances Tissue Formation by Passaged Nucleus Pulposus Cells In Vitro. Journal of Orthopaedic Research, 2020, 38, 438-449.	1.2	6
89	Compatibility and function of human induced pluripotent stem cell derived cardiomyocytes on an electrospun nanofibrous scaffold, generated from an ionomeric polyurethane composite. Journal of Biomedical Materials Research - Part A, 2022, 110, 1932-1943.	2.1	6
90	Differential Regulation of Extracellular Matrix Components Using Different Vitamin C Derivatives in Mono- and Coculture Systems. ACS Biomaterials Science and Engineering, 2018, 4, 3768-3778.	2.6	5

#	Article	IF	Citations
91	Mitigating the non-specific uptake of immunomagnetic microparticles enables the extraction of endothelium from human fat. Communications Biology, 2021, 4, 1205.	2.0	5
92	Design of a Mechanobioreactor to Apply Anisotropic, Biaxial Strain to Large Thin Biomaterials for Tissue Engineered Heart Valve Applications. Annals of Biomedical Engineering, 2022, 50, 1073-1089.	1.3	5
93	Alterations of MEK1/2-ERK1/2, IFNÎ³ and Smad2/3 associated Signalling pathways during cryopreservation of ASCs affect their differentiation towards VSMC-like cells. Stem Cell Research, 2018, 32, 115-125.	0.3	4
94	Coating of cobalt chrome substrates with thin films of polar/hydrophobic/ionic polyurethanes: Characterization and interaction with human immunoglobulin G and fibronectin. Colloids and Surfaces B: Biointerfaces, 2019, 179, 114-120.	2.5	4
95	Development of a Perfusion Reactor for Intervertebral Disk Regeneration. Tissue Engineering - Part C: Methods, 2022, 28, 12-22.	1.1	4
96	Engineering functional microvessels in synthetic polyurethane random-pore scaffolds by harnessing perfusion flow. Biomaterials, 2020, 256, 120183.	5.7	3
97	Tissue Engineering of the Intervertebral Disc. , 2014, , 417-433.		3
98	Self-Assembled Oligo-Urethane Nanoparticles: Their Characterization and Use for the Delivery of Active Biomolecules into Mammalian Cells. ACS Applied Materials & Interfaces, 2021, 13, 58352-58368.	4.0	3
99	Vascular tissue engineering from human adipose tissue: fundamental phenotype of its resident microvascular endothelial cells and stromal/stem cells. Biomaterials and Biosystems, 2022, 6, 100049.	1.0	3
100	Biodegradation Studies of Novel Fluorinated Di-Vinyl Urethane Monomers and Interaction of Biological Elements with Their Polymerized Films. Polymers, 2017, 9, 365.	2.0	2
101	The Structure and Function of Next-Generation Gingival Graft Substitutesâ€"A Perspective on Multilayer Electrospun Constructs with Consideration of Vascularization. International Journal of Molecular Sciences, 2022, 23, 5256.	1.8	2
102	Immunomagnetic Isolation and Enrichment of Microvascular Endothelial Cells from Human Adipose Tissue. Bio-protocol, 2022, 12, .	0.2	2
103	Degradation of oligo(lactone) branches linked to poly(methacrylate) networks. Macromolecular Symposia, 1999, 144, 165-177.	0.4	1
104	Characterization of a degradable polar hydrophobic ionic polyurethane with circulating angiogenic cellsin vitro. Journal of Biomaterials Science, Polymer Edition, 2014, 25, 1159-1173.	1.9	1
105	Sequence-Controlled Polyurethane Block Copolymer Displays Differentiated Immunoglobulin-G Adsorption That Influences Human Monocyte Adhesion and Activity. ACS Biomaterials Science and Engineering, 2020, 6, 4433-4445.	2.6	1