Michael V Sefton

List of Publications by Year
in descending order

135 papers	6,045 citations	94433 37 h-index	79698 73 g-index
139 all docs	139 docs citations	139 times ranked	6620 citing authors

#	Article	IF	Citations
1	Biomaterial-associated thrombosis: roles of coagulation factors, complement, platelets and leukocytes. Biomaterials, 2004, 25, 5681-5703.	11.4	1,162
2	Biodegradable scaffold with built-in vasculature for organ-on-a-chip engineering and direct surgical anastomosis. Nature Materials, 2016, 15, 669-678.	27.5	471
3	Vascularized organoid engineered by modular assembly enables blood perfusion. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 11461-11466.	7.1	342
4	Endotoxin: The uninvited guest. Biomaterials, 2005, 26, 6811-6817.	11.4	330
5	The influence of biomaterials on endothelial cell thrombogenicity. Biomaterials, 2007, 28, 2547-2571.	11.4	211
6	Microencapsulation of mammalian cells in a HEMA-MMA copolymer: Effects on capsule morphology and permeability. Journal of Biomedical Materials Research Part B, 1990, 24, 1241-1262.	3.1	106
7	Review Does polyethylene oxide possess a low thrombogenicity?. Journal of Biomaterials Science, Polymer Edition, 1993, 4, 381-400.	3.5	100
8	Modular tissue engineering for the vascularization of subcutaneously transplanted pancreatic islets. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9337-9342.	7.1	97
9	Cell and biomolecule delivery for tissue repair and regeneration in the central nervous system. Journal of Controlled Release, 2014, 190, 219-227.	9.9	94
10	Properties of a heparin-poly(vinyl alcohol) hydrogel coating. Journal of Biomedical Materials Research Part B, 1983, 17, 359-373.	3.1	90
11	Semi-synthetic collagen/poloxamine matrices for tissue engineering. Biomaterials, 2005, 26, 7425-7435.	11.4	89
12	The blood compatibility challenge. Part 3: Material associated activation of blood cascades and cells. Acta Biomaterialia, 2019, 94, 25-32.	8.3	81
13	Endothelialized biomaterials for tissue engineering applications in vivo. Trends in Biotechnology, 2011, 29, 379-387.	9.3	75
14	Microencapsulated human hepatoma (HepG2) cells:In vitro growth and protein release. Journal of Biomedical Materials Research Part B, 1993, 27, 1213-1224.	3.1	74
15	Acquisition of a Unique Mesenchymal Precursor-like Blastema State Underlies Successful Adult Mammalian Digit Tip Regeneration. Developmental Cell, 2020, 52, 509-524.e9.	7.0	74
16	Effect of heparin-pva hydrogel on platelets in a chronic canine arterio-venous shunt. Journal of Biomedical Materials Research Part B, 1989, 23, 417-441.	3.1	67
17	Immobilization of poly(ethylene glycol) onto a poly(vinyl alcohol) hydrogel: 2. Evaluation of thrombogenicity. Journal of Biomedical Materials Research Part B, 1993, 27, 1383-1391.	3.1	64
18	Microencapsulation of mammalian cells in a water-insoluble polyacrylate by coextrustion and interfacial precipitation. Biotechnology and Bioengineering, 1987, 29, 1135-1143.	3.3	63

#	Article	IF	Citations
19	Heparinized styrene-butadiene-styrene elastomers. Journal of Biomedical Materials Research Part B, 1979, 13, 347-364.	3.1	62
20	Dopamine secretion by PC12 cells microencapsulated in a hydroxyethyl methacrylate-methyl methacrylate copolymer. Biomaterials, 1996, 17, 267-275.	11.4	59
21	Does surface chemistry affect thrombogenicity of surface modified polymers?. Journal of Biomedical Materials Research Part B, 2001, 55, 447-459.	3.1	58
22	Fabrication of cells containing gel modules to assemble modular tissue-engineered constructs. Nature Protocols, 2006, 1, 2963-2969.	12.0	58
23	Leukocyte activation and leukocyte procoagulant activities after blood contact with polystyrene and polyethylene glycolâ€"immobilized polystyrene beads. Translational Research, 2001, 137, 345-355.	2.3	52
24	The thrombogenicity of human umbilical vein endothelial cell seeded collagen modules. Biomaterials, 2008, 29, 2453-2463.	11.4	52
25	Endothelial cell behaviour within a microfluidic mimic of the flow channels of a modular tissue engineered construct. Biomedical Microdevices, 2011, 13, 69-87.	2.8	51
26	A Modular Approach to Cardiac Tissue Engineering. Tissue Engineering - Part A, 2010, 16, 3207-3218.	3.1	47
27	Anti-microRNA-378a Enhances Wound Healing Process by Upregulating Integrin Beta-3 and Vimentin. Molecular Therapy, 2014, 22, 1839-1850.	8.2	46
28	Cotransplantation of Adipose-Derived Mesenchymal Stromal Cells and Endothelial Cells in a Modular Construct Drives Vascularization in SCID/bg Mice. Tissue Engineering - Part A, 2012, 18, 1628-1641.	3.1	45
29	Design and Fabrication of Sub-mm-Sized Modules Containing Encapsulated Cells for Modular Tissue Engineering. Tissue Engineering, 2007, 13, 1069-1078.	4.6	44
30	Viability and protein secretion from human Hepatoma (HepG2) cells encapsulated in 400-?m polyacrylate microcapsules by submerged nozzle-liquid jet extrusion. Biotechnology and Bioengineering, 1994, 44, 1199-1204.	3.3	43
31	Bone Marrow-Derived Mesenchymal Stromal Cells Enhance Chimeric Vessel Development Driven by Endothelial Cell-Coated Microtissues. Tissue Engineering - Part A, 2012, 18, 285-294.	3.1	43
32	Morphological assessment of hepatoma cells (HepG2) microencapsulated in a HEMA-MMA copolymer with and without Matrigel. Journal of Biomedical Materials Research Part B, 1992, 26, 1401-1418.	3.1	39
33	Microencapsulation of Normal and Transfected L929 Fibroblasts in a HEMA-MMA Copolymer. Tissue Engineering, 2000, 6, 139-149.	4.6	39
34	Effect of methacrylic acid beads on the sonic hedgehog signaling pathway and macrophage polarization in a subcutaneous injection mouse model. Biomaterials, 2016, 98, 203-214.	11.4	39
35	Methylation of Poloxamine for Enhanced Cell Adhesion. Biomacromolecules, 2006, 7, 331-338.	5.4	38
36	Modular tissue engineering: fabrication of a gelatin-based construct. Journal of Tissue Engineering and Regenerative Medicine, 2007, 1, 136-145.	2.7	38

#	Article	IF	Citations
37	An Artificial Endocrine Pancreas Containing Cultured Islets of Langerhans. Artificial Organs, 1980, 4, 275-278.	1.9	38
38	Functionalized Scaffold-mediated Interleukin 10 Gene Delivery Significantly Improves Survival Rates of Stem Cells In Vivo. Molecular Therapy, 2011, 19, 969-978.	8.2	38
39	The role of insulin growth factor-1 on the vascular regenerative effect of MAA coated disks and macrophage-endothelial cell crosstalk. Biomaterials, 2017, 144, 199-210.	11.4	38
40	Preparation and thrombogenicity of alkylated polyvinyl alcohol coated tubing. Journal of Biomedical Materials Research Part B, 1992, 26, 577-592.	3.1	37
41	Injectable and inherently vascularizing semi-interpenetrating polymer network for delivering cells to the subcutaneous space. Biomaterials, 2017, 131, 27-35.	11.4	37
42	Injectable and degradable methacrylic acid hydrogel alters macrophage response in skeletal muscle. Biomaterials, 2019, 223, 119477.	11.4	37
43	Endothelialized collagen based pseudo-islets enables tuneable subcutaneous diabetes therapy. Biomaterials, 2020, 232, 119710.	11.4	37
44	Parallel flow arteriovenous shunt for theex vivo evaluation of heparinized materials. Journal of Biomedical Materials Research Part B, 1985, 19, 161-178.	3.1	36
45	In vitro platelet interactions with a heparin-polyvinyl alcohol hydrogel. Journal of Biomedical Materials Research Part B, 1989, 23, 399-415.	3.1	36
46	Interpenetrating Alginate-Collagen Polymer Network Microspheres for Modular Tissue Engineering. ACS Biomaterials Science and Engineering, 2018, 4, 3704-3712.	5.2	36
47	Material-induced up-regulation of leukocyte CD11b during whole blood contact: Material differences and a role for complement. , 1996, 32, 29-35.		35
48	HEMA/MMMA microcapsule implants in hemiparkinsonian rat brain: biocompatibility assessment using [3H]PK11195 as a marker for gliosis. Biomaterials, 1998, 19, 829-837.	11.4	34
49	Innate and adaptive immune responses in tissue engineering. Seminars in Immunology, 2008, 20, 83-85.	5.6	34
50	Effectiveness factor and diffusion limitations in collagen gel modules containing HepG2 cells. Journal of Tissue Engineering and Regenerative Medicine, 2011, 5, 119-129.	2.7	34
51	Collagen/Poloxamine Hydrogels: Cytocompatibility of Embedded HepG2 Cells and Surface-Attached Endothelial Cells. Tissue Engineering, 2005, 11, 1807-1816.	4.6	31
52	Chimeric Vessel Tissue Engineering Driven by Endothelialized Modules in Immunosuppressed Sprague-Dawley Rats. Tissue Engineering - Part A, 2011, 17, 151-160.	3.1	31
53	Toward anIn VitroVasculature: Differentiation of Mesenchymal Stromal Cells Within an Endothelial Cell-Seeded Modular Construct in a Microfluidic Flow Chamber. Tissue Engineering - Part A, 2012, 18, 744-756.	3.1	31
54	The profile of adsorbed plasma and serum proteins on methacrylic acid copolymer beads: Effect on complement activation. Biomaterials, 2017, 118, 74-83.	11.4	31

#	Article	IF	Citations
55	Metabolic activity of CHO fibroblasts in HEMA-MMA microcapsules. Biotechnology and Bioengineering, 1992, 39, 672-678.	3.3	30
56	Flow cytometric analysis of material-induced platelet activation in a canine model: Elevated microparticle levels and reduced platelet life span. , 1997, 37, 176-181.		30
57	Poloxamine hydrogels with a quaternary ammonium modification to improve cell attachment. Journal of Biomedical Materials Research - Part A, 2005, 75A, 295-307.	4.0	30
58	Application of an Endothelialized Modular Construct for Islet Transplantation in Syngeneic and Allogeneic Immunosuppressed Rat Models. Tissue Engineering - Part A, 2011, 17, 2005-2015.	3.1	30
59	Microencapsulation of human fibroblasts in a water-insoluble polyacrylate. Biotechnology and Bioengineering, 1987, 30, 954-962.	3.3	29
60	The expression of sonic hedgehog in diabetic wounds following treatment with poly(methacrylic) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 5	11.4	28
61	A Preliminary Study of the Effect of Poly(Methacrylic Acid-Co-Methyl Methacrylate) Beads on Angiogenesis in Rodent Skin Grafts and the Quality of the Panniculus Carnosus. Plastic and Reconstructive Surgery, 2008, 122, 1361-1370.	1.4	27
62	The effect of a hydroxamic acid-containing polymer on active matrix metalloproteinases. Biomaterials, 2009, 30, 1890-1897.	11.4	27
63	A Novel Highâ€Speed Production Process to Create Modular Components for the Bottomâ€Up Assembly of Largeâ€Scale Tissueâ€Engineered Constructs. Advanced Healthcare Materials, 2015, 4, 113-120.	7.6	27
64	Permeability of a heparin-polyvinyl alcohol hydrogel to thrombin and antithrombin III. Journal of Biomedical Materials Research Part B, 1988, 22, 673-685.	3.1	26
65	Perfusion and characterization of an endothelial cell-seeded modular tissue engineered construct formed in a microfluidic remodeling chamber. Biomaterials, 2010, 31, 8254-8261.	11.4	26
66	Conformal Coating of Small Particles and Cell Aggregates at a Liquidâ€Liquid Interface. Annals of the New York Academy of Sciences, 1999, 875, 126-134.	3.8	25
67	Design Criteria for a Modular Tissue-Engineered Construct. Tissue Engineering, 2007, 13, 1079-1089.	4.6	25
68	Poly(butyl methacrylate-co-methacrylic acid) tissue engineering scaffold with pro-angiogenic potentialin vivo. Journal of Biomedical Materials Research - Part A, 2007, 82A, 265-273.	4.0	24
69	On the mechanism of poly(methacrylic acid â€"coâ€" methyl methacrylate)-induced angiogenesis: Gene expression analysis of dTHP-1 cells. Biomaterials, 2011, 32, 8957-8967.	11.4	23
70	A scalable device-less biomaterial approach for subcutaneous islet transplantation. Biomaterials, 2021, 269, 120499.	11.4	23
71	Methacrylic acid-based hydrogels enhance skeletal muscle regeneration after volumetric muscle loss in mice. Biomaterials, 2021, 275, 120909.	11.4	23
72	Tissue factor and thrombomodulin expression on endothelial cell-seeded collagen modules for tissue engineering. Journal of Biomedical Materials Research - Part A, 2007, 80A, 497-504.	4.0	20

#	Article	IF	Citations
73	Methacrylic acid copolymer coating of polypropylene mesh chamber improves subcutaneous islet engraftment. Biomaterials, 2020, 259, 120324.	11.4	20
74	Poly(methacrylic acidâ€<i>co</i>â€methyl methacrylate) beads promote vascularization and wound repair in diabetic mice. Journal of Biomedical Materials Research - Part A, 2010, 93A, 484-492.	4.0	19
75	Del-1 Overexpression in Endothelial Cells Increases Vascular Density in Tissue-Engineered Implants Containing Endothelial Cells and Adipose-Derived Mesenchymal Stromal Cells. Tissue Engineering - Part A, 2014, 20, 1235-1252.	3.1	19
76	Structure of styreneâ€“butadieneâ€“styrene block copolymers by diffusion analysis. Journal of Polymer Science, Polymer Physics Edition, 1977, 15, 1927-1935.	1.0	18
77	Fate of Thrombin and Thrombin-Antithrombin-III Complex Adsorbed to a Heparinized Biomaterial: Analysis of the Enzyme-Inhibitor Complexes Displaced by Plasma. Thrombosis and Haemostasis, 1983, 50, 873-877.	3.4	18
78	Degradable methacrylic acid-based synthetic hydrogel for subcutaneous islet transplantation. Biomaterials, 2022, 281, 121342.	11.4	18
79	Methacrylic Acid Copolymer Coating Enhances Constructive Remodeling of Polypropylene Mesh by Increasing the Vascular Response. Advanced Healthcare Materials, 2019, 8, 1900667.	7.6	17
80	The effect of methacrylic acid in smooth coatings on dTHP1 and HUVEC gene expression. Biomaterials Science, 2014, 2, 1768-1778.	5.4	16
81	Unbiased phosphoproteomic method identifies the initial effects of a methacrylic acid copolymer on macrophages. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 10673-10678.	7.1	16
82	Identification of Drugs that Regulate Dermal Stem Cells and Enhance Skin Repair. Stem Cell Reports, 2016, 6, 74-84.	4.8	15
83	Measurement of the rate of thrombin production in human palsma in contact with different materials. Journal of Biomedical Materials Research Part B, 1992, 26, 675-693.	3.1	14
84	Tumor necrosis factor (TNF?) production by rat peritoneal macrophages is not polyacrylate surface-chemistry dependent. , 1999, 46, 324-330.		14
85	Effect of mouse VEGF₁₆₄ on the viability of hydroxyethyl methacrylateâ€“methyl methacrylateâ€microencapsulated cells <i>in vivo</i>: Bioluminescence imaging. Journal of Biomedical Materials Research - Part A, 2008, 87A, 321-331.	4.0	13
86	Shh pathway in wounds in non-diabetic Shh-Cre-eGFP/Ptch1-LacZ mice treated with MAA beads. Biomaterials, 2016, 102, 198-208.	11.4	13
87	A Poloxamineâ€“Polylysine Acrylate Scaffold for Modular Tissue Engineering. Journal of Biomaterials Science, Polymer Edition, 2011, 22, 2515-2528.	3.5	12
88	Thrombin and albumin adsorption to PVA and heparin-PVA hydrogels. 2: Competition and displacement. Journal of Biomedical Materials Research Part B, 1993, 27, 89-95.	3.1	11
89	Functional Considerations in Tissueâ€Engineering Whole Organs. Annals of the New York Academy of Sciences, 2002, 961, 198-200.	3.8	11
90	Some aspects of the host response to methacrylic acid containing beads in a mouse air pouch. Journal of Biomedical Materials Research - Part A, 2012, 100A, 2054-2062.	4.0	11

#	Article	IF	Citations
91	Absorption of benzene by open-cell polyurethane foams. Journal of Applied Polymer Science, 1980, 25, 829-839.	2.6	10
92	IL-10 Secretion Increases Signal Persistence of HEMA-MMAâ€“Microencapsulated Luciferase-Modified CHO Fibroblasts in Mice. Tissue Engineering - Part A, 2009, 15, 127-136.	3.1	10
93	Angiogenic Biomaterials to Promote Tissue Vascularization and Integration. Israel Journal of Chemistry, 2013, 53, 637-645.	2.3	10
94	Patency of Heparinized SBS Shunts at High Shear Rates. Biomaterials, Medical Devices, and Artificial Organs, 1981, 9, 127-142.	0.3	9
95	Blood, guts and chemical engineering. Canadian Journal of Chemical Engineering, 1989, 67, 705-712.	1.7	9
96	Amidine surface modification of poly(acrylonitrileâ€‹<i>co</i>â€‹vinyl chloride) reduces platelet adhesion. Journal of Biomedical Materials Research - Part A, 2009, 89A, 780-790.	4.0	9
97	Patterning Collagen/Poloxamine-Methacrylate Hydrogels for Tissue-Engineering-Inspired Microfluidic and Laser Lithography Applications. Journal of Biomaterials Science, Polymer Edition, 2011, 22, 2499-2514.	3.5	9
98	In Vivo Remodelling of Vascularizing Engineered Tissues. Annals of Biomedical Engineering, 2015, 43, 1189-1200.	2.5	9
99	Fate of modular cardiac tissue constructs in a syngeneic rat model. Journal of Tissue Engineering and Regenerative Medicine, 2015, 9, 1247-1258.	2.7	9
100	Fabrication of Micro-tissues using Modules of Collagen Gel Containing Cells. Journal of Visualized Experiments, 2010, , .	0.3	8
101	Using Del-1 to Tip the Angiogenic Balance in Endothelial Cells in Modular Constructs. Tissue Engineering - Part A, 2014, 20, 1222-1234.	3.1	8
102	Collagen modules for<i>in situ</i>delivery of mesenchymal stromal cell-derived endothelial cells for improved angiogenesis. Journal of Tissue Engineering and Regenerative Medicine, 2016, 10, 363-373.	2.7	8
103	Absorption of dicumyl peroxide by extruded polyethylene: Difference between surface and bulk morphology. Journal of Applied Polymer Science, 1984, 29, 2383-2393.	2.6	7
104	Bone Marrow-Derived Macrophages Enhance Vessel Stability in Modular Engineered Tissues. Tissue Engineering - Part A, 2019, 25, 911-923.	3.1	7
105	Crystallinity and dicumyl peroxide diffusivity in low density polyethylene with different thermal histories. Journal of Applied Polymer Science, 1986, 31, 2195-2202.	2.6	6
106	Video analysis of submerged jet microencapsulation using HEMAâ€MMA. Canadian Journal of Chemical Engineering, 1996, 74, 518-525.	1.7	6
107	Perspective on hemocompatibility testing. Journal of Biomedical Materials Research Part B, 2001, 55, 445-446.	3.1	6
108	Expression of matrix metalloproteinase-2 and -9 in exudates associated with polydimethyl siloxane and gelatin tubes implanted in mice. Journal of Biomedical Materials Research Part B, 2004, 71A, 226-232.	3.1	6

#	Article	IF	Citations
109	Harnessing gene and drug delivery for vascularizing engineered tissue platforms. Drug Discovery Today, 2016, 21, 1532-1539.	6.4	6
110	Muted fibrosis from protected islets. Nature Biomedical Engineering, 2018, 2, 791-792.	22.5	6
111	Poly-Methacrylic Acid Cross-Linked with Collagen Accelerates Diabetic Wound Closure. ACS Biomaterials Science and Engineering, 2020, 6, 6368-6377.	5.2	6
112	A model of insulin delivery by a controlled release micropump. Annals of Biomedical Engineering, 1986, 14, 257-276.	2.5	5
113	Production of uniform drops of viscous liquids using a coaxial airstream. Canadian Journal of Chemical Engineering, 1991, 69, 245-250.	1.7	5
114	Preparation and characterization of alkylated poly(vinyl alcohol) hydrogels using alkyl halides. Journal of Biomaterials Science, Polymer Edition, 1996, 7, 647-659.	3.5	5
115	Promoting endogenous repair of skeletal muscle using regenerative biomaterials. Journal of Biomedical Materials Research - Part A, 2021, 109, 2720-2739.	4.0	5
116	Structural Analysis by Diffusion Measurements: SBS Block Copolymers and Polyethylene. Advances in Chemistry Series, 1979, , 243-257.	0.6	4
117	THE THROMBORESISTANCE OF A HEPARIN-POLYVINYL ALCOHOL HYDROGELâ€. Chemical Engineering Communications, 1984, 30, 141-154.	2.6	4
118	MMP levels in the response to degradable implants in the presence of a hydroxamateâ€based matrix metalloproteinase sequestering biomaterial <i>in vivo</i>. Journal of Biomedical Materials Research - Part A, 2010, 93A, 1368-1379.	4.0	4
119	The blood compatibility challenge: Editorial introduction. Acta Biomaterialia, 2019, 94, 1.	8.3	4
120	Hydraulic permeability of open-cell hydrophilic polyurethane foams. Journal of Applied Polymer Science, 1980, 25, 2167-2178.	2.6	3
121	X-Ray photoelectron spectroscopy (XPS) surface analysis of HEMA-MMA microcapsules. Journal of Biomaterials Science, Polymer Edition, 1997, 8, 655-665.	3.5	3
122	Stain length passive dosimeters. AIHA Journal, 1982, 43, 820-824.	0.4	2
123	Sorption of carbon tetrachloride in low-density polyethylene pellets. Journal of Applied Polymer Science, 1986, 31, 2109-2115.	2.6	2
124	Chapter II.5.2 â€“ Nonthrombogenic Treatments and Strategies. , 2012, , 1488-1509.		2
125	Application of Modular Therapy for Renoprotection in Experimental Chronic Kidney Disease. Tissue Engineering - Part A, 2015, 21, 1963-1972.	3.1	1
126	Hypoxia-Inducible Factor Drives Vascularization of Modularly Assembled Engineered Tissue. Tissue Engineering - Part A, 2019, 25, 1127-1136.	3.1	1

#	Article	IF	Citations
127	Nonthrombogenic Treatments and Strategies. , 2020, , 515-537.		1
128	The Modular Approach. , 2013, , 119-148.		1
129	Vascularized Organoid Engineered by Modular Assembly Enables Blood Perfusion. FASEB Journal, 2006, 20, A436.	0.5	1
130	Methacrylic Acid-Based Regenerative Biomaterials: Explorations into the MAAgic. Regenerative Engineering and Translational Medicine, 0, , .	2.9	1
131	Hearts by design. Science, 2022, 377, 148-150.	12.6	1
132	006 Development of a Novel Matrix Metalloproteinase?Inhibiting Wound Dressing. Wound Repair and Regeneration, 2004, 12, A4-A4.	3.0	0
133	Commentary on: â€œIn Vivo Remodelling of Vascularizing Engineered Tissuesâ€. Annals of Biomedical Engineering, 2015, 43, 1271-1271.	2.5	0
134	Endothelialized collagen modules for islet tissue engineering. , 2020, , 277-287.		0
135	P.160: Immune Response to Vascularizing Subcutaneous Engineered Islet Grafts. Transplantation, 2021, 105, S67-S67.	1.0	0