Frederik Claeyssens

List of Publications by Year
in descending order

120 papers	6,311 citations	76294 40 h-index	71651 76 g-index
123 all docs	123 docs citations	123 times ranked	8334 citing authors

#	Article	IF	Citations
1	Thiolene- and Polycaprolactone Methacrylate-Based Polymerized High Internal Phase Emulsion (PolyHIPE) Scaffolds for Tissue Engineering. Biomacromolecules, 2022, 23, 720-730.	2.6	25
2	Low methacrylated poly(glycerol sebacate) for soft tissue engineering. Polymer Chemistry, 2022, 13, 3513-3528.	1.9	6
3	Identifying and mapping chemical bonding within phenolic resin using secondary electron hyperspectral imaging. Polymer Chemistry, 2021, 12, 177-182.	1.9	10
4	A Tuneable, Photocurable, Poly(Caprolactone)-Based Resin for Tissue Engineeringâ€"Synthesis, Characterisation and Use in Stereolithography. Molecules, 2021, 26, 1199.	1.7	28
5	The Use of Microfabrication Techniques for the Design and Manufacture of Artificial Stem Cell Microenvironments for Tissue Regeneration. Bioengineering, 2021, 8, 50.	1.6	11
6	Fabrication of Topographically Controlled Electrospun Scaffolds to Mimic the Stem Cell Microenvironment in the Dermal-Epidermal Junction. ACS Biomaterials Science and Engineering, 2021, 7, 2803-2813.	2.6	14
7	Tuning Electrospun Substrate Stiffness for the Fabrication of a Biomimetic Amniotic Membrane Substitute for Corneal Healing. ACS Applied Bio Materials, 2021, 4, 5638-5649.	2.3	2
8	Delivery of Bioactive Compounds to Improve Skin Cell Responses on Microfabricated Electrospun Microenvironments. Bioengineering, 2021, 8, 105.	1.6	10
9	Understanding Surface Modifications Induced via Argon Plasma Treatment through Secondary Electron Hyperspectral Imaging. Advanced Science, 2021, 8, 2003762.	5.6	16
10	Decellularised extracellular matrix decorated PCL PolyHIPE scaffolds for enhanced cellular activity, integration and angiogenesis. Biomaterials Science, 2021, 9, 7297-7310.	2.6	22
11	Bioresorbable and Mechanically Optimized Nerve Guidance Conduit Based on a Naturally Derived Medium Chain Length Polyhydroxyalkanoate and Poly(Îµ-Caprolactone) Blend. ACS Biomaterials Science and Engineering, 2021, 7, 672-689.	2.6	11
12	Bioactive 3D Scaffolds for the Delivery of NGF and BDNF to Improve Nerve Regeneration. Frontiers in Materials, 2021, 8, .	1.2	7
13	The Importance of Mimicking Dermal-Epidermal Junction for Skin Tissue Engineering: A Review. Bioengineering, 2021, 8, 148.	1.6	27
14	<i>In Vitro</i> Low-Fluence Photodynamic Therapy Parameter Screening Using 3D Tumor Spheroids Shows that Fractionated Light Treatments Enhance Phototoxicity. ACS Biomaterials Science and Engineering, 2021, 7, 5078-5089.	2.6	10
15	Spatial Control of Neuronal Adhesion on Diamond-Like Carbon. Frontiers in Materials, 2021, 8, .	1.2	1
16	Morphological Response in Cancer Spheroids for Screening Photodynamic Therapy Parameters. Frontiers in Molecular Biosciences, 2021, 8, 784962.	1.6	7
17	Dynamic Photo-cross-linking of Native Silk Enables Macroscale Patterning at a Microscale Resolution. ACS Biomaterials Science and Engineering, 2020, 6, 705-714.	2.6	8
18	Characterizing Crossâ€Linking Within Polymeric Biomaterials in the SEM by Secondary Electron Hyperspectral Imaging. Macromolecular Rapid Communications, 2020, 41, e1900484.	2.0	10

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19	Basic Principles of Emulsion Templating and Its Use as an Emerging Manufacturing Method of Tissue Engineering Scaffolds. Frontiers in Bioengineering and Biotechnology, 2020, 8, 875.	2.0	75
20	Design and Evaluation of an Osteogenesis-on-a-Chip Microfluidic Device Incorporating 3D Cell Culture. Frontiers in Bioengineering and Biotechnology, 2020, 8, 557111.	2.0	41
21	Biomimetic surface delivery of NGF and BDNF to enhance neurite outgrowth. Biotechnology and Bioengineering, 2020, 117, 3124-3135.	1.7	15
22	Modulation of neuronal cell affinity of composite scaffolds based on polyhydroxyalkanoates and bioactive glasses. Biomedical Materials (Bristol), 2020, 15, 045024.	1.7	15
23	2-deoxy-d-ribose (2dDR) upregulates vascular endothelial growth factor (VEGF) and stimulates angiogenesis. Microvascular Research, 2020, 131, 104035.	1.1	19
24	Boosting the Osteogenic and Angiogenic Performance of Multiscale Porous Polycaprolactone Scaffolds by <i>In Vitro</i> Generated Extracellular Matrix Decoration. ACS Applied Materials & Interfaces, 2020, 12, 12510-12524.	4.0	63
25	Hybrid manufacturing strategies for tissue engineering scaffolds using methacrylate functionalised poly(glycerol sebacate). Journal of Biomaterials Applications, 2020, 34, 1114-1130.	1.2	12
26	Comparison of the Anabolic Effects of Reported Osteogenic Compounds on Human Mesenchymal Progenitor-Derived Osteoblasts. Bioengineering, 2020, 7, 12.	1.6	13
27	Bioengineering Vascular Networks to Study Angiogenesis and Vascularization of Physiologically Relevant Tissue Models <i>in Vitro</i>. ACS Biomaterials Science and Engineering, 2020, 6, 3513-3528.	2.6	31
28	UV-Casting on Methacrylated PCL for the Production of a Peripheral Nerve Implant Containing an Array of Porous Aligned Microchannels. Polymers, 2020, 12, 971.	2.0	18
29	Considerations Using Additive Manufacture of Emulsion Inks to Produce Respiratory Protective Filters Against Viral Respiratory Tract Infections Such as the COVID-19 Virus. International Journal of Bioprinting, 2020, 7, 316.	1.7	11
30	Pre-Seeding of Simple Electrospun Scaffolds with a Combination of Endothelial Cells and Fibroblasts Strongly Promotes Angiogenesis. Tissue Engineering and Regenerative Medicine, 2020, 17, 445-458.	1.6	20
31	Combined Porogen Leaching and Emulsion Templating to produce Bone Tissue Engineering Scaffolds. International Journal of Bioprinting, 2020, 6, 265.	1.7	20
32	Decellularised baby spinach leaves and their potential use in tissue engineering applications: Studying and promoting neovascularisation. Journal of Biomaterials Applications, 2019, 34, 546-559.	1.2	43
33	Carbon dot-protoporphyrin IX conjugates for improved drug delivery and bioimaging. PLoS ONE, 2019, 14, e0220210.	1.1	28
34	A Novel Bilayer Polycaprolactone Membrane for Guided Bone Regeneration: Combining Electrospinning and Emulsion Templating. Materials, 2019, 12, 2643.	1.3	64
35	Unidirectional neuronal cell growth and differentiation on aligned polyhydroxyalkanoate blend microfibres with varying diameters. Journal of Tissue Engineering and Regenerative Medicine, 2019, 13, 1581-1594.	1.3	46
36	Using <i>ex Ovo</i> Chick Chorioallantoic Membrane (CAM) Assay To Evaluate the Biocompatibility and Angiogenic Response to Biomaterials. ACS Biomaterials Science and Engineering, 2019, 5, 3190-3200.	2.6	60

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37	Emulsion templated scaffolds manufactured from photocurable polycaprolactone. Polymer, 2019, 175, 243-254.	1.8	46
38	Exploration of 2-deoxy-D-ribose and 17Î²-Estradiol as alternatives to exogenous VEGF to promote angiogenesis in tissue-engineered constructs. Regenerative Medicine, 2019, 14, 179-197.	0.8	28
39	Graphene and novel graphitic ZnO and ZnS nanofilms: the energy landscape, non-stoichiometry and water dissociation. Nanoscale Advances, 2019, 1, 1924-1935.	2.2	6
40	Selective laser melting processed Ti6Al4V lattices with graded porosities for dental applications. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 90, 20-29.	1.5	96
41	Topography design in model membranes: Where biology meets physics. Experimental Biology and Medicine, 2019, 244, 294-303.	1.1	7
42	Assessment of the Angiogenic Potential of 2-Deoxy-D-Ribose Using a Novel in vitro 3D Dynamic Model in Comparison With Established in vitro Assays. Frontiers in Bioengineering and Biotechnology, 2019, 7, 451.	2.0	28
43	Development of a 3D in vitro Model of the Kidney Cortical Collecting Duct. FASEB Journal, 2019, 33, 575.7.	0.2	0
44	Applications of crystal structure prediction â€“ inorganic and network structures: general discussion. Faraday Discussions, 2018, 211, 613-642.	1.6	6
45	A methodology for the production of microfabricated electrospun membranes for the creation of new skin regeneration models. Journal of Tissue Engineering, 2018, 9, 204173141879985.	2.3	29
46	Adventures in boron chemistry â€“ the prediction of novel ultra-flexible boron oxide frameworks. Faraday Discussions, 2018, 211, 569-591.	1.6	5
47	Porous microspheres support mesenchymal progenitor cell ingrowth and stimulate angiogenesis. APL Bioengineering, 2018, 2, 026103.	3.3	34
48	Light-based additive manufacturing of PolyHIPEs: Controlling the surface porosity for 3D cell culture applications. Materials and Design, 2018, 156, 494-503.	3.3	33
49	Synthesis, Characterization and 3D Micro-Structuring via 2-Photon Polymerization of Poly(glycerol) Tj ETQq1 1 0.784314 rgBT /Overl	1.0	50
50	Additive manufactured biodegradable poly(glycerol sebacate methacrylate) nerve guidance conduits. Acta Biomaterialia, 2018, 78, 48-63.	4.1	83
51	Pre-clinical evaluation of advanced nerve guide conduits using a novel 3D in vitro testing model. International Journal of Bioprinting, 2018, 4, 123.	1.7	18
52	Mapping Nanostructural Variations in Silk by Secondary Electron Hyperspectral Imaging. Advanced Materials, 2017, 29, 1703510.	11.1	20
53	Angle selective backscattered electron contrast in the low-voltage scanning electron microscope: Simulation and experiment for polymers. Ultramicroscopy, 2016, 171, 126-138.	0.8	12
54	Fabrication of Biodegradable Synthetic Vascular Networks and Their Use as a Model of Angiogenesis. Cells Tissues Organs, 2016, 202, 319-328.	1.3	7

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55	Photocurable high internal phase emulsions (HIPEs) containing hydroxyapatite for additive manufacture of tissue engineering scaffolds with multi-scale porosity. Materials Science and Engineering C, 2016, 67, 51-58.	3.8	55
56	Emulsion templated scaffolds with tunable mechanical properties for bone tissue engineering. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 54, 159-172.	1.5	99
57	Photochemically modified diamond-like carbon surfaces for neural interfaces. Materials Science and Engineering C, 2016, 58, 1199-1206.	3.8	8
58	The Tissue-Engineered Vascular Graftâ€"Past, Present, and Future. Tissue Engineering - Part B: Reviews, 2016, 22, 68-100.	2.5	576
59	Osteosarcoma growth on trabecular bone mimicking structures manufactured via laser direct write. International Journal of Bioprinting, 2016, 2, .	1.7	16
60	Nerve tissue engineering using blends of poly(3â€hydroxyalkanoates) for peripheral nerve regeneration. Engineering in Life Sciences, 2015, 15, 612-621.	2.0	59
61	Porous Titanium for Dental Implant Applications. Metals, 2015, 5, 1902-1920.	1.0	72
62	Data for the analysis of PolyHIPE scaffolds with tunable mechanical properties for bone tissue engineering. Data in Brief, 2015, 5, 616-620.	0.5	9
63	Nerve guides manufactured from photocurable polymers to aid peripheral nerve repair. Biomaterials, 2015, 49, 77-89.	5.7	148
64	Fabrication of biodegradable synthetic perfusable vascular networks via a combination of electrospinning and robocasting. Biomaterials Science, 2015, 3, 592-596.	2.6	26
65	Towards the fabrication of artificial 3D microdevices for neural cell networks. Biomedical Microdevices, 2015, 17, 27.	1.4	18
66	Rocking Media Over Ex Vivo Corneas Improves This Model and Allows the Study of the Effect of Proinflammatory Cytokines on Wound Healing. Investigative Ophthalmology and Visual Science, 2015, 56, 1553-1561.	3.3	21
67	Arginineâ€"glycineâ€"aspartic acid functional branched semi-interpenetrating hydrogels. Soft Matter, 2015, 11, 7567-7578.	1.2	8
68	The effect of porosity on cell ingrowth into accurately defined, laser-made, polylactide-based 3D scaffolds. Applied Surface Science, 2015, 336, 2-10.	3.1	88
69	Characterisation and evaluation of the impact of microfabricated pockets on the performance of limbal epithelial stem cells in biodegradable PLGA membranes for corneal regeneration. Biomaterials Science, 2014, 2, 723-734.	2.6	18
70	An “off-the shelf” synthetic membrane to simplify regeneration of damaged corneas. , 2014, , .		0
71	Amine functional hydrogels as selective substrates for corneal epithelialization. Acta Biomaterialia, 2014, 10, 3029-3037.	4.1	12
72	Combination of Microstereolithography and Electrospinning to Produce Membranes Equipped with Niches for Corneal Regeneration. Journal of Visualized Experiments, 2014, , 51826.	0.2	16

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73	Towards new binary compounds: Synthesis of amorphous phosphorus carbide by pulsed laser deposition. Journal of Solid State Chemistry, 2013, 198, 466-474.	1.4	53
74	Combined microfabrication and electrospinning to produce 3-D architectures for corneal repair. Acta Biomaterialia, 2013, 9, 5511-5520.	4.1	87
75	Simplifying corneal surface regeneration using a biodegradable synthetic membrane and limbal tissue explants. Biomaterials, 2013, 34, 5088-5106.	5.7	66
76	Ultraâ€Flexible Boronâ€Oxygen 3D Solidâ€State Networks. Advanced Functional Materials, 2013, 23, 5887-5892.	7.8	7
77	Micro-Stereolithography: Macrostructuring of Emulsion-templated Porous Polymers by 3D Laser Patterning (Adv. Mater. 23/2013). Advanced Materials, 2013, 25, 3177-3177.	11.1	0
78	Macrostructuring of Emulsionâ€templated Porous Polymers by 3D Laser Patterning. Advanced Materials, 2013, 25, 3178-3181.	11.1	78
79	Development of a microfabricated artificial limbus with micropockets for cell delivery to the cornea. Biofabrication, 2013, 5, 025008.	3.7	40
80	Two-photon polymerization-generated and micromolding-replicated 3D scaffolds for peripheral neural tissue engineering applications. Biofabrication, 2012, 4, 025005.	3.7	91
81	An aligned 3D neuronal-glial co-culture model for peripheral nerve studies. Biomaterials, 2012, 33, 5901-5913.	5.7	139
82	Direct laser writing of 3D scaffolds for neural tissue engineering applications. Biofabrication, 2011, 3, 045005.	3.7	180
83	Analysis of chorismate mutase catalysis by QM/MM modelling of enzyme-catalysed and uncatalysed reactions. Organic and Biomolecular Chemistry, 2011, 9, 1578.	1.5	66
84	Ternary silicon germanium nitrides: A class of tunable band gap materials. Physical Review B, 2011, 84, .	1.1	11
85	Direct laser writing of polylactide 3D scaffolds. , 2011, , .		0
86	Direct laser writing of polylactide 3D scaffolds for neural tissue engineering applications. , 2011, , .		4
87	3D Structuring of Biocompatible and Biodegradable Polymers Via Stereolithography. Methods in Molecular Biology, 2011, 695, 309-321.	0.4	7
88	Three-dimensional Polycaprolactone Structures Fabricated by Two-Photon Polymerization. , 2010, , .		0
89	Differential patterning of neuronal, glial and neural progenitor cells on phosphorus-doped and UV irradiated diamond-like carbon. Biomaterials, 2010, 31, 207-215.	5.7	37
90	Design of three-dimensional solid-state boron oxide networks:<i>Ab initio</i>calculations using density functional theory. Physical Review B, 2010, 82, .	1.1	13

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91	Predicting crystal structures ab initio: group 14 nitrides and phosphides. Physical Chemistry Chemical Physics, 2010, 12, 8620.	1.3	12
92	Carbon nitride:<i>Ab initio</i>investigation of carbon-rich phases. Physical Review B, 2009, 80, .	1.1	48
93	Solid phases of phosphorus carbide: An<i>ab initio</i>study. Physical Review B, 2009, 79, .	1.1	37
94	Three-Dimensional Biodegradable Structures Fabricated by Two-Photon Polymerization. Langmuir, 2009, 25, 3219-3223.	1.6	177
95	Patterned growth of neuronal cells on modified diamond-like carbon substrates. Biomaterials, 2008, 29, 2573-2580.	5.7	57
96	Characterization of Solid-State Dye-Sensitized Solar Cells Utilizing High Absorption Coefficient Metal-Free Organic Dyes. Journal of the American Chemical Society, 2008, 130, 1367-1375.	6.6	241
97	A Theoretical Study of Ultra-Thin Films with the Wurtzite and Zinc Blende Structures. Materials Research Society Symposia Proceedings, 2007, 1035, 1.	0.1	0
98	Laser patterning of Zn for ZnO nanostructure growth: Comparison between laser induced forward transfer in air and in vacuum. Thin Solid Films, 2007, 515, 8529-8533.	0.8	19
99	Quantum chemical analysis of reaction paths in chorismate mutase: Conformational effects and electrostatic stabilization. International Journal of Quantum Chemistry, 2007, 107, 2274-2285.	1.0	20
100	ZnO nanorod micropatterning via laser-induced forward transfer. Applied Physics A: Materials Science and Processing, 2007, 87, 17-22.	1.1	23
101	Graphitic Nanofilms as Precursors to Wurtzite Films: Theory. Physical Review Letters, 2006, 96, 066102.	2.9	514
102	Thin films of wÃ¼rtzite materialsâ€"AlN vs. AlP. Journal of Crystal Growth, 2006, 294, 111-117.	0.7	6
103	High-Accuracy Computation of Reaction Barriers in Enzymes. Angewandte Chemie - International Edition, 2006, 45, 6856-6859.	7.2	253
104	Immobilization of large size-selected silver clusters on graphite. Nanotechnology, 2006, 17, 805-807.	1.3	37
105	Multiple high-level QM/MM reaction paths demonstrate transition-state stabilization in chorismate mutase: correlation of barrier height with transition-state stabilization. Chemical Communications, 2005, , 5068.	2.2	85
106	Growth of ZnO thin filmsâ€"experiment and theory. Journal of Materials Chemistry, 2005, 15, 139-148.	6.7	364
107	Phosphorus carbide thin films: experiment and theory. Applied Physics A: Materials Science and Processing, 2004, 79, 1237-1241.	1.1	21
108	Pulser Laser Ablation and Deposition of Thin Films.. ChemInform, 2004, 35, no.	0.1	0

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109	Phosphorus carbides: theory and experiment. Dalton Transactions, 2004, , 3085.	1.6	75
110	Production of nanocrystalline diamond by laser ablation at the solid/liquid interface. Diamond and Related Materials, 2004, 13, 661-665.	1.8	101
111	Pulsed laser ablation and deposition of thin films. Chemical Society Reviews, 2004, 33, 23.	18.7	368
112	Ab initio Predictions of Ferroelectric Ternary Fluorides with the LiNbO3 Structure.. ChemInform, 2003, 34, no.	0.1	0
113	Binary phosphorus-carbon compounds: The series P4C3+8n. International Journal of Quantum Chemistry, 2003, 95, 546-553.	1.0	16
114	Comparison of the ablation plumes arising from ArF laser ablation of graphite, silicon, copper, and aluminum in vacuum. Journal of Applied Physics, 2003, 94, 2203-2211.	1.1	76
115	Ab initio predictions of ferroelectric ternary fluorides with the LiNbO3structure. Chemical Communications, 2003, , 2440-2441.	2.2	8
116	Studies of the plume accompanying pulsed ultraviolet laser ablation of zinc oxide. Journal of Applied Physics, 2002, 92, 6886-6894.	1.1	89
117	Solid phosphorus carbide?. Chemical Communications, 2002, , 2494-2495.	2.2	16
118	Plume emissions accompanying 248 nm laser ablation of graphite in vacuum: Effects of pulse duration. Journal of Applied Physics, 2002, 91, 6162-6172.	1.1	62
119	Investigations of the plume accompanying pulsed ultraviolet laser ablation of graphite in vacuum. Journal of Applied Physics, 2001, 89, 697-709.	1.1	49
120	193-nm laser ablation of CVD diamond and graphite in vacuum: plume analysis and film properties. Applied Physics A: Materials Science and Processing, 1999, 69, S935-S939.	1.1	23