Tilo Pompe

List of Publications by Year
in descending order

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101 papers	3,210 citations	136740 32 h-index	174990 52 g-index
107 all docs	107 docs citations	107 times ranked	4051 citing authors

#	Article	IF	Citations
1	Maleic Anhydride CopolymersA Versatile Platform for Molecular Biosurface Engineering. Biomacromolecules, 2003, 4, 1072-1079.	2.6	223
2	Functional immobilization of signaling proteins enables control of stem cell fate. Nature Methods, 2008, 5, 645-650.	9.0	190
3	The phenotype of cancer cell invasion controlled by fibril diameter and pore size of 3D collagen networks. Biomaterials, 2015, 52, 367-375.	5.7	174
4	Tailored Poly(2â€oxazoline) Polymer Brushes to Control Protein Adsorption and Cell Adhesion. Macromolecular Bioscience, 2012, 12, 926-936.	2.1	153
5	Instructing Human Macrophage Polarization by Stiffness and Glycosaminoglycan Functionalization in 3D Collagen Networks. Advanced Healthcare Materials, 2017, 6, 1600967.	3.9	124
6	Surface modification of poly(hydroxybutyrate) films to control cellâ€“matrix adhesion. Biomaterials, 2007, 28, 28-37.	5.7	105
7	Heparin intercalation into reconstituted collagen I fibrils: Impact on growth kinetics and morphology. Biomaterials, 2008, 29, 1-14.	5.7	82
8	Fibril bending stiffness of 3D collagen matrices instructs spreading and clustering of invasive and non-invasive breast cancer cells. Biomaterials, 2019, 193, 47-57.	5.7	71
9	Engineered matrix coatings to modulate the adhesion of CD133+ human hematopoietic progenitor cells. Biomaterials, 2007, 28, 836-843.	5.7	66
10	Biomimetic tumor microenvironments based on collagen matrices. Biomaterials Science, 2018, 6, 2009-2024.	2.6	63
11	In Vitro Reconstitution of Fibrillar Collagen Type I Assemblies at Reactive Polymer Surfaces. Biomacromolecules, 2004, 5, 1340-1350.	2.6	61
12	Topologically defined composites of collagen types I and V as in vitro cell culture scaffolds. Acta Biomaterialia, 2014, 10, 2693-2702.	4.1	60
13	Fibronectin anchorage to polymer substrates controls the initial phase of endothelial cell adhesion. Journal of Biomedical Materials Research - Part A, 2003, 67A, 647-657.	2.1	59
14	Hematopoietic stem and progenitor cells in adhesive microcavities. Integrative Biology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 22	0.6	58
15	Molecular weight specific impact of soluble and immobilized hyaluronan on CD44 expressing melanoma cells in 3D collagen matrices. Acta Biomaterialia, 2017, 50, 259-270.	4.1	53
16	Fibronectin Displacement at Polymer Surfaces. Langmuir, 2005, 21, 4571-4577.	1.6	52
17	The interplay of fibronectin functionalization and TGF-Î²1 presence on fibroblast proliferation, differentiation and migration in 3D matrices. Biomaterials Science, 2015, 3, 1291-1301.	2.6	52
18	Structure and function of ECM-inspired composite collagen type I scaffolds. Soft Matter, 2012, 8, 10200.	1.2	51

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19	Fibroblast fate regulation by time dependent TGF-Î²1 and IL-10 stimulation in biomimetic 3D matrices. Biomaterials Science, 2017, 5, 1858-1867.	2.6	51
20	Immobilization of growth factors on solid supports for the modulation of stem cell fate. Nature Protocols, 2010, 5, 1042-1050.	5.5	50
21	Functional Films of Maleic Anhydride Copolymers under Physiological Conditions. Macromolecular Bioscience, 2005, 5, 890-895.	2.1	49
22	Quantitative analysis of immobilized proteins and protein mixtures by amino acid analysis. Journal of Chromatography A, 2003, 1005, 113-122.	1.8	46
23	In vitro blood compatibility of polymeric biomaterials through covalent immobilization of an amidine derivative. Biomaterials, 2004, 25, 3493-3501.	5.7	45
24	Polymeric Biomaterials for Stem Cell Bioengineering. Macromolecular Rapid Communications, 2012, 33, 1420-1431.	2.0	44
25	Modulated Fibronectin Anchorage at Polymer Substrates Controls Angiogenesis. Tissue Engineering, 2004, 10, 841-848.	4.9	42
26	Dynamic Alterations of Fibronectin Layers on Copolymer Substrates with Graded Physicochemical Characteristics. Langmuir, 2004, 20, 2928-2933.	1.6	41
27	Supported Lipid Bilayers on Spacious and pH-Responsive Polymer Cushions with Varied Hydrophilicity. Journal of Physical Chemistry B, 2008, 112, 6373-6378.	1.2	41
28	Extracellular Matrix Functionalized Microcavities to Control Hematopoietic Stem and Progenitor Cell Fate. Macromolecular Bioscience, 2011, 11, 739-747.	2.1	40
29	Dissecting the Impact of Matrix Anchorage and Elasticity in Cell Adhesion. Biophysical Journal, 2009, 97, 2154-2163.	0.2	38
30	Nanoscale Features of Fibronectin Fibrillogenesis Depend on Protein-Substrate Interaction and Cytoskeleton Structure. Biophysical Journal, 2005, 88, 527-534.	0.2	37
31	Modulating Extracellular Matrix at Interfaces of Polymeric Materials. Advances in Polymer Science, 2006, , 63-93.	0.4	36
32	On the symmetry of siblings: automated single-cell tracking to quantify the behavior of hematopoietic stem cells in a biomimetic setup. Experimental Hematology, 2012, 40, 119-130.e9.	0.2	36
33	Friction-Controlled Traction Force in Cell Adhesion. Biophysical Journal, 2011, 101, 1863-1870.	0.2	35
34	Controlled enhancement of transmembrane enzyme activity in polymer cushioned supported bilayer membranes. Soft Matter, 2010, 6, 5382.	1.2	33
35	Fibronectin fibril pattern displays the force balance of cellâ€“matrix adhesion. European Biophysics Journal, 2005, 34, 1049-1056.	1.2	31
36	The impact of heparin intercalation at specific binding sites in telopeptide-free collagen type I fibrils. Biomaterials, 2011, 32, 7444-7453.	5.7	31

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37	Glycosaminoglycan functionalization of mechanically and topologically defined collagen I matrices. Journal of Materials Chemistry B, 2015, 3, 8902-8910.	2.9	31
38	Distinguishing autocrine and paracrine signals in hematopoietic stem cell culture using a biofunctional microcavity platform. Scientific Reports, 2016, 6, 31951.	1.6	29
39	Liquid microstructures at solid interfaces. Journal of Physics Condensed Matter, 2000, 12, 57-74.	0.7	28
40	The control of endothelial cell adhesion and migration by shear stress and matrix-substrate anchorage. Biomaterials, 2012, 33, 1959-1969.	5.7	28
41	Fibril growth kinetics link buffer conditions and topology of 3D collagen I networks. Acta Biomaterialia, 2018, 67, 206-214.	4.1	28
42	Alterations in Cell Mechanics by Actin Cytoskeletal Changes Correlate with Strain-Specific Rubella Virus Phenotypes for Cell Migration and Induction of Apoptosis. Cells, 2018, 7, 136.	1.8	26
43	Dissipative interactions in cellâ€“matrix adhesion. Soft Matter, 2013, 9, 6207.	1.2	24
44	Space constraints govern fate of hematopoietic stem and progenitor cells inÂvitro. Biomaterials, 2015, 53, 709-715.	5.7	24
45	Specific Adhesion of Carbohydrate Hydrogel Particles in Competition with Multivalent Inhibitors Evaluated by AFM. Langmuir, 2014, 30, 6142-6150.	1.6	23
46	Matrix Remodeling and Hyaluronan Production by Myofibroblasts and Cancer-Associated Fibroblasts in 3D Collagen Matrices. Gels, 2020, 6, 33.	2.1	23
47	3D Scaffoldâ€Based Macrophage Fibroblast Coculture Model Reveals ILâ€10 Dependence of Wound Resolution Phase. Advanced Biology, 2020, 4, e1900220.	3.0	23
48	Mimicking Tissue Boundaries by Sharp Multiparameter Matrix Interfaces. Advanced Healthcare Materials, 2016, 5, 1861-1867.	3.9	22
49	Sulfated glyco-block copolymers with specific receptor and growth factor binding to support cell adhesion and proliferation. Biomaterials, 2009, 30, 1026-1035.	5.7	21
50	Distinct impacts of substrate elasticity and ligand affinity on traction force evolution. Soft Matter, 2016, 12, 272-280.	1.2	21
51	Solventâ€Assisted Micromolding of Biohybrid Hydrogels to Maintain Human Hematopoietic Stem and Progenitor Cells Ex Vivo. Advanced Materials, 2017, 29, 1703489.	11.1	21
52	Mimicking Paracrine TGFÎ²1 Signals during Myofibroblast Differentiation in 3D Collagen Networks. Scientific Reports, 2017, 7, 5664.	1.6	21
53	Nanometer resolution of liquid surface topography by scanning force microscopy. Journal of Adhesion Science and Technology, 1999, 13, 1071-1083.	1.4	20
54	Quantitative label-free single cell tracking in 3D biomimetic matrices. Scientific Reports, 2017, 7, 14135.	1.6	19

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55	Control of fibronectin displacement on polymer substrates to influence endothelial cell behaviour. Journal of Materials Science: Materials in Medicine, 2004, 15, 387-390.	1.7	18
56	Biomimetic tissue models reveal the role of hyaluronan in melanoma proliferation and invasion. Biomaterials Science, 2020, 8, 1405-1417.	2.6	18
57	Polymer hydrogel particles as biocompatible AFM probes to study CD44/hyaluronic acid interactions on cells. Polymer, 2016, 102, 342-349.	1.8	16
58	Fibronectin-functionalization of 3D collagen networks supports immune tolerance and inflammation suppression in human monocyte-derived macrophages. Biomaterials, 2021, 268, 120498.	5.7	16
59	Tuneable swelling of thermo- and pH-responsive copolymer films. Soft Matter, 2010, 6, 937.	1.2	14
60	Enzyme Immobilization on Reactive Polymer Films. Methods in Molecular Biology, 2011, 751, 465-476.	0.4	14
61	Quantification of proteinâ€“materials interaction by soft colloidal probe spectroscopy. Physical Chemistry Chemical Physics, 2015, 17, 3014-3018.	1.3	14
62	Weakly Coupled Lipid Bilayer Membranes on Multistimuli-Responsive Poly(N-isopropylacrylamide) Copolymer Cushions. Langmuir, 2011, 27, 513-516.	1.6	13
63	Picomolar glyphosate sensitivity of an optical particle-based sensor utilizing biomimetic interaction principles. Biosensors and Bioelectronics, 2020, 165, 112262.	5.3	13
64	The impact of primary and secondary ligand coupling on extracellular matrix characteristics and formation of endothelial capillaries. Biomaterials, 2009, 30, 35-44.	5.7	12
65	Short-range cytokine gradients to mimic paracrine cell interactions in vitro. Journal of Controlled Release, 2016, 224, 59-68.	4.8	12
66	Biomimetic microcavities based on poly(dimethylsiloxane) elastomers. Soft Matter, 2009, 5, 3505.	1.2	11
67	A new approach to biofunctionalisation and micropatterning of multi-well plates. Biomaterials, 2010, 31, 8802-8809.	5.7	10
68	Hydrogel Microparticles as Sensors for Specific Adhesion: Case Studies on Antibody Detection and Soil Release Polymers. Gels, 2017, 3, 31.	2.1	10
69	Remodeling of Three-Dimensional Collagen I Matrices by Human Bone Marrow Stromal Cells during Osteogenic Differentiation In Vitro. ACS Applied Bio Materials, 2020, 3, 6967-6978.	2.3	10
70	Comparison of flow cytometry and laser scanning cytometry for the analysis of CD34+hematopoietic stem cells. , 2004, 57A, 100-107.		9
71	Structural polymorphism of collagen type Iâ€“heparin cofibrils. Soft Matter, 2009, 5, 3461.	1.2	9
72	Systems for localized release to mimic paracrine cell communication in vitro. Journal of Controlled Release, 2018, 278, 24-36.	4.8	9

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73	Modeling of pattern development during fibronectin nanofibril formation. Biointerphases, 2006, 1, 93-97.	0.6	8
74	Contactless Laser-Assisted Patterning of Surfaces for Bio-Adhesive Microarrays. Biointerphases, 2012, 7, 35.	0.6	8
75	Cytoskeletal transition in patterned cells correlates with interfacial energy model. Soft Matter, 2014, 10, 2444-2452.	1.2	8
76	Benzamidine-based coatings: Implication of inhibitor structure on the inhibition of coagulation enzymes in solution andin vitrohemocompatibility assessment. Biointerphases, 2006, 1, 146-155.	0.6	7
77	Non-contact printing of proteins on reactive polymer surfaces: a novel route towards structured and graded cell culture carriers. Microfluidics and Nanofluidics, 2007, 3, 629-633.	1.0	7
78	Nanoscale characterization of cell receptors and binding sites on cell-derived extracellular matrices. Ultramicroscopy, 2012, 118, 44-52.	0.8	7
79	Radial profile detection of multiple spherical particles in contact with interacting surfaces. PLoS ONE, 2019, 14, e0214815.	1.1	7
80	Surface Functionalization by Hydrophobin-EPSPS Fusion Protein Allows for the Fast and Simple Detection of Glyphosate. Biosensors, 2019, 9, 104.	2.3	7
81	Biomimetic estrogen sensor based on soft colloidal probes. Biosensors and Bioelectronics, 2021, 192, 113506.	5.3	7
82	Elucidating functional heterogeneity in hematopoietic progenitor cells: A combined experimental and modeling approach. Experimental Hematology, 2014, 42, 826-837.e17.	0.2	6
83	Construction of a 3D brain extracellular matrix model to study the interaction between microglia and T cells in coâ€culture. European Journal of Neuroscience, 2021, 53, 4034-4050.	1.2	6
84	Actin stress fiber dynamics in laterally confined cells. Integrative Biology (United Kingdom), 2019, 11, 175-185.	0.6	5
85	Quantitative analysis of fibronectin fibrillogenesis by endothelial cells on biomaterials. Journal of Physics Condensed Matter, 2004, 16, S2421-S2426.	0.7	4
86	Sulfated Glycopolymer Thin Filmsâ€"Preparation, Characterization, and Biological Activity. Macromolecular Bioscience, 2007, 7, 195-200.	2.1	4
87	Fibronectin at Polymer Surfaces with Graduated Characteristics. , 2006, , 175-198.		4
88	Sulfated cellulose thin films with antithrombin affinity. EXPRESS Polymer Letters, 2009, 3, 733-742.	1.1	4
89	Covalent Binding of Maleic Anhydride Copolymer Monolayers to Polyacrylamide Hydrogels. Macromolecular Chemistry and Physics, 2018, 219, 1800206.	1.1	3
90	Functional label-free assessment of fibroblast differentiation in 3D collagen-I-matrices using particle image velocimetry. Biomaterials Science, 2021, 9, 5917-5927.	2.6	3

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91	Fibrillar biopolymer-based scaffolds to study macrophage-fibroblast crosstalk in wound repair. Biological Chemistry, 2021, 402, 1309-1324.	1.2	3
92	Electrostatic stretching of grafted maleic acid copolymer chains. EXPRESS Polymer Letters, 2009, 3, 33-38.	1.1	3
93	Microfluidics-assisted synthesis and functionalization of monodisperse colloidal hydrogel particles for optomechanical biosensors. Journal of Materials Chemistry B, 2022, , .	2.9	3
94	Tissue Boundaries: Mimicking Tissue Boundaries by Sharp Multiparameter Matrix Interfaces (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	3.9	2
95	Matrix Growth Factor and Surface Ligand Presentation. , 2017, , 215-231.		2
96	Impact of binding mode of low-sulfated hyaluronan to 3D collagen matrices on its osteoinductive effect for human bone marrow stromal cells. Biological Chemistry, 2021, 402, 1465-1478.	1.2	2
97	FluidTracks. Informatik Aktuell, 2012, , 57-62.	0.4	1
98	Stiffness Variation of 3D Collagen Networks by Surface Functionalization of Network Fibrils with Sulfonated Polymers. Gels, 2021, 7, 266.	2.1	1
99	Imaging Soft Surfaces by SFM. , 0, , 201-219.		0
100	Quantification of stem cell / niche interactions by coupling in vivo imaging and in silico simulation. Experimental Hematology, 2013, 41, S31.	0.2	0
101	Spatio-temporal Analysis of Unstained Cells In-vitro. Informatik Aktuell, 2009, , 292-296.	0.4	0