

# James M Piret

## List of Publications by Year in descending order

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111  
papers

8,914  
citations

117625

34  
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42399

92  
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117  
all docs

117  
docs citations

117  
times ranked

18103  
citing authors

#	ARTICLE	IF	CITATIONS
1	Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). <i>Autophagy</i> , 2016, 12, 1-222.	9.1	4,701
2	High-throughput microfluidic single-cell RT-qPCR. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 13999-14004.	7.1	406
3	High-throughput analysis of single hematopoietic stem cell proliferation in microfluidic cell culture arrays. <i>Nature Methods</i> , 2011, 8, 581-586.	19.0	299
4	Self-propelled particles that transport cargo through flowing blood and halt hemorrhage. <i>Science Advances</i> , 2015, 1, e1500379.	10.3	159
5	Correlation of Murine Embryonic Stem Cell Gene Expression Profiles with Functional Measures of Pluripotency. <i>Stem Cells</i> , 2005, 23, 663-680.	3.2	135
6	Characterization of polyhormonal insulin-producing cells derived in vitro from human embryonic stem cells. <i>Stem Cell Research</i> , 2014, 12, 194-208.	0.7	133
7	Acoustic Cell Filter for High Density Perfusion Culture of Hybridoma Cells. <i>Bio/technology</i> , 1994, 12, 281-284.	1.5	128
8	Measurement of ultrasonic forces for particle-liquid separations. <i>AIChE Journal</i> , 1997, 43, 1727-1736.	3.6	122
9	Model of oxygen transport limitations in hollow fiber bioreactors. <i>Biotechnology and Bioengineering</i> , 1991, 37, 80-92.	3.3	113
10	Assessing Differentiation Status of Human Embryonic Stem Cells Noninvasively Using Raman Microspectroscopy. <i>Analytical Chemistry</i> , 2010, 82, 5020-5027.	6.5	108
11	Expansion of Hematopoietic Progenitor Cell Populations in Stirred Suspension Bioreactors of Normal Human Bone Marrow Cells. <i>Nature Biotechnology</i> , 1994, 12, 909-914.	17.5	102
12	Mammalian cell retention devices for stirred perfusion bioreactors. <i>Cytotechnology</i> , 1998, 28, 163-175.	1.6	100
13	Metabolic flux analysis of CHO cells in perfusion culture by metabolite balancing and 2D [ <sup>13</sup> C, <sup>1</sup> H] COSY NMR spectroscopy. <i>Metabolic Engineering</i> , 2010, 12, 138-149.	7.0	97
14	Common and distinct features of cytokine effects on hematopoietic stem and progenitor cells revealed by dose-response surface analysis. <i>Biotechnology and Bioengineering</i> , 2002, 80, 393-404.	3.3	86
15	Batch and semicontinuous aggregation and sedimentation of hybridoma cells by acoustic resonance fields. <i>Biotechnology Progress</i> , 1995, 11, 146-152.	2.6	81
16	Mammalian cell and protein distributions in ultrafiltration hollow fiber bioreactors. <i>Biotechnology and Bioengineering</i> , 1990, 36, 902-910.	3.3	72
17	In Situ Analysis of Living Embryonic Stem Cells by Coherent Anti-Stokes Raman Microscopy. <i>Analytical Chemistry</i> , 2007, 79, 7221-7225.	6.5	69
18	Maturation of Adult $\beta$ -Cells Revealed Using a Pdx1/Insulin Dual-Reporter Lentivirus. <i>Endocrinology</i> , 2009, 150, 1627-1635.	2.8	64

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19	Optimization and control of perfusion cultures using a viable cell probe and cell specific perfusion rates. <i>Cytotechnology</i> , 2003, 42, 35-45.	1.6	61
20	Pancreatic cell immobilization in alginate beads produced by emulsion and internal gelation. <i>Biotechnology and Bioengineering</i> , 2011, 108, 424-434.	3.3	59
21	Estimating cell specific oxygen uptake and carbon dioxide production rates for mammalian cells in perfusion culture. <i>Biotechnology Progress</i> , 2011, 27, 1347-1357.	2.6	58
22	Scale-up and optimization of an acoustic filter for 200 L/day perfusion of a CHO cell culture. <i>Biotechnology and Bioengineering</i> , 2002, 80, 438-444.	3.3	57
23	Logistic Equations Effectively Model Mammalian Cell Batch and Fed-Batch Kinetics by Logically Constraining the Fit. <i>Biotechnology Progress</i> , 2008, 21, 1109-1118.	2.6	57
24	Applications of Raman spectroscopy in the development of cell therapies: state of the art and future perspectives. <i>Analyst, The</i> , 2020, 145, 2070-2105.	3.5	55
25	Absolute Quantification of Intracellular Glycogen Content in Human Embryonic Stem Cells with Raman Microspectroscopy. <i>Analytical Chemistry</i> , 2011, 83, 6254-6258.	6.5	49
26	Decreased pCO <sub>2</sub> accumulation by eliminating bicarbonate addition to high cell-density cultures. <i>Biotechnology and Bioengineering</i> , 2007, 96, 1107-1117.	3.3	48
27	Fed-batch CHO cell rPA production and feed glutamine replacement to reduce ammonia production. <i>Biotechnology Progress</i> , 2013, 29, 165-175.	2.6	48
28	Acoustic force distribution in resonators for ultrasonic particle separation. <i>AIChE Journal</i> , 1998, 44, 1976-1984.	3.6	41
29	Bringing regenerative medicines to the clinic: the future for regulation and reimbursement. <i>Regenerative Medicine</i> , 2015, 10, 897-911.	1.7	41
30	Two-dimensional analysis of fluid flow in hollow-fibre modules. <i>Chemical Engineering Science</i> , 1995, 50, 3369-3384.	3.8	39
31	Optimization of an Acoustic Cell Filter with a Novel Air-Backflush System. <i>Biotechnology Progress</i> , 2003, 19, 30-36.	2.6	37
32	Simpler noninstrumented batch and semicontinuous cultures provide mammalian cell kinetic data comparable to continuous and perfusion cultures. <i>Biotechnology Progress</i> , 2008, 24, 921-931.	2.6	37
33	Culture pH and osmolality influence proliferation and embryoid body yields of murine embryonic stem cells. <i>Biochemical Engineering Journal</i> , 2009, 45, 126-135.	3.6	36
34	Predictive control of hollow-fiber bioreactors for the production of monoclonal antibodies. <i>Biotechnology and Bioengineering</i> , 1999, 63, 484-492.	3.3	35
35	Label-free imaging of mammalian cell nucleoli by Raman microspectroscopy. <i>Analyst, The</i> , 2013, 138, 3416.	3.5	35
36	Kinetics and genomic profiling of adult human and mouse iPS-cell maturation. <i>Islets</i> , 2011, 3, 175-187.	1.8	34

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37	Mammalian cell culture processes. <i>Current Opinion in Biotechnology</i> , 1992, 3, 110-114.	6.6	33
38	Advances in hematopoietic stem cell culture. <i>Current Opinion in Biotechnology</i> , 1998, 9, 146-151.	6.6	33
39	Meta-Analysis of Differentiating Mouse Embryonic Stem Cell Gene Expression Kinetics Reveals Early Change of a Small Gene Set. <i>PLoS Computational Biology</i> , 2006, 2, e158.	3.2	33
40	Inhibition of glutamine-dependent autophagy increases tPA production in CHO Cell fed-batch processes. <i>Biotechnology and Bioengineering</i> , 2012, 109, 1228-1238.	3.3	33
41	Error propagation from prime variables into specific rates and metabolic fluxes for mammalian cells in perfusion culture. <i>Biotechnology Progress</i> , 2009, 25, 986-998.	2.6	32
42	Comparative study using Raman microspectroscopy reveals spectral signatures of human induced pluripotent cells more closely resemble those from human embryonic stem cells than those from differentiated cells. <i>Analyst</i> , 2012, 137, 4509.	3.5	32
43	Types of cell death and apoptotic stages in Chinese Hamster Ovary cells distinguished by Raman spectroscopy. <i>Biotechnology and Bioengineering</i> , 2018, 115, 401-412.	3.3	32
44	Two-dimensional analysis of protein transport in the extracapillary space of hollow-fibre bioreactors. <i>Chemical Engineering Science</i> , 1996, 51, 4197-4213.	3.8	31
45	Basal medium composition and serum or serum replacement concentration influences on the maintenance of murine embryonic stem cells. <i>Cytotechnology</i> , 2008, 58, 173-179.	1.6	31
46	Reversal of diabetes by $\beta$ TC3 cells encapsulated in alginate beads generated by emulsion and internal gelation. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2012, 100B, 1017-1028.	3.4	31
47	Glucose-based optimization of CHO-cell perfusion cultures. <i>Biotechnology and Bioengineering</i> , 2001, 75, 252-256.	3.3	30
48	Dependence on glucose limitation of the CO <sub>2</sub> influences on CHO cell growth, metabolism and IgG production. <i>Biotechnology and Bioengineering</i> , 2007, 97, 1479-1488.	3.3	29
49	Evidence of marked glycogen variations in the characteristic Raman signatures of human embryonic stem cells. <i>Journal of Raman Spectroscopy</i> , 2011, 42, 1135-1141.	2.5	29
50	Effects of insulin on human pancreatic cancer progression modeled in vitro. <i>BMC Cancer</i> , 2014, 14, 814.	2.6	29
51	Immobilized mammalian cell cultivation in hollow fiber bioreactors. <i>Biotechnology Advances</i> , 1990, 8, 763-769.	11.7	28
52	Label-Free Determination of the Cell Cycle Phase in Human Embryonic Stem Cells by Raman Microspectroscopy. <i>Analytical Chemistry</i> , 2013, 85, 8996-9002.	6.5	28
53	Increased CHO cell fed-batch monoclonal antibody production using the autophagy inhibitor 3-MA or gradually increasing osmolality. <i>Biochemical Engineering Journal</i> , 2014, 91, 37-45.	3.6	22
54	Dissociation of Survival, Proliferation, and State Control in Human Hematopoietic Stem Cells. <i>Stem Cell Reports</i> , 2017, 8, 152-162.	4.8	22

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55	Analysis of mammalian viable cell biomass based on cellular ATP. <i>Biotechnology and Bioengineering</i> , 1992, 39, 859-864.	3.3	19
56	Predictive modeling and loose-loop control for perfusion bioreactors. <i>Biochemical Engineering Journal</i> , 2001, 9, 1-9.	3.6	19
57	Characterization and optimization of acoustic filter performance by experimental design methodology. <i>Biotechnology and Bioengineering</i> , 2005, 90, 746-753.	3.3	19
58	A novel alginate hollow fiber bioreactor process for cellular therapy applications. <i>Biotechnology Progress</i> , 2009, 25, 1740-1751.	2.6	19
59	Raman Microscopy-Based Cytochemical Investigations of Potential Niche-Forming Inhomogeneities Present in Human Embryonic Stem Cell Colonies. <i>Applied Spectroscopy</i> , 2011, 65, 1009-1016.	2.2	19
60	Mathematical model of the rate-limiting steps for retrovirus-mediated gene transfer into mammalian cells. <i>Biotechnology and Bioengineering</i> , 2010, 105, 195-209.	3.3	18
61	Ontogeny stage-independent and high-level clonal expansion in vitro of mouse hematopoietic stem cells stimulated by an engineered NUP98-HOX fusion transcription factor. <i>Blood</i> , 2011, 118, 4366-4376.	1.4	18
62	Raman microspectroscopic evidence that dry-fixing preserves the temporal pattern of non-specific differentiation in live human embryonic stem cells. <i>Journal of Raman Spectroscopy</i> , 2011, 42, 576-579.	2.5	18
63	Raman microspectroscopy of live cells under autophagy-inducing conditions. <i>Analyst</i> , 2012, 137, 4662.	3.5	18
64	Cryopreservation timing is a critical process parameter in a thymic regulatory T-cell therapy manufacturing protocol. <i>Cytotherapy</i> , 2019, 21, 1216-1233.	0.7	18
65	Clonal analysis of individual human embryonic stem cell differentiation patterns in microfluidic cultures. <i>Biotechnology Journal</i> , 2015, 10, 1546-1554.	3.5	17
66	Controlled shear affinity filtration (CSAF): A new technology for integration of cell separation and protein isolation from mammalian cell cultures. <i>Biotechnology and Bioengineering</i> , 2002, 78, 806-814.	3.3	16
67	A Multi-Parameter, High-Content, High-Throughput Screening Platform to Identify Natural Compounds that Modulate Insulin and Pdx1 Expression. <i>PLoS ONE</i> , 2010, 5, e12958.	2.5	16
68	Stem cells and beta cell replacement therapy: a prospective health technology assessment study. <i>BMC Endocrine Disorders</i> , 2018, 18, 6.	2.2	15
69	Accelerating perfusion process optimization by scanning non-steady-state responses. <i>Biotechnology and Bioengineering</i> , 2005, 92, 472-478.	3.3	14
70	Developing Fully Automated Quality Control Methods for Preprocessing Raman Spectra of Biomedical and Biological Samples. <i>Applied Spectroscopy</i> , 2018, 72, 1322-1340.	2.2	14
71	Effects of cysteine, asparagine, or glutamine limitations in Chinese hamster ovary cell batch and fed-batch cultures. <i>Biotechnology Progress</i> , 2020, 36, e2946.	2.6	14
72	Protein adsorption in polysulfone hollow fiber bioreactors used for serum-free mammalian cell culture. <i>Biotechnology and Bioengineering</i> , 1993, 42, 1099-1106.	3.3	13

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73	Protein transport in packed-bed ultrafiltration hollow-fibre bioreactors. <i>Chemical Engineering Science</i> , 1997, 52, 2251-2263.	3.8	13
74	Increased t-PA Yields Using Ultrafiltration of an Inhibitory Product from CHO Fed-Batch Culture. <i>Biotechnology Progress</i> , 2000, 16, 786-794.	2.6	13
75	Involvement of tyrosine kinase signaling in maintaining murine embryonic stem cell functionality. <i>Experimental Hematology</i> , 2007, 35, 1293-1302.	0.4	13
76	Process Analytical Utility of Raman Microspectroscopy in the Directed Differentiation of Human Pancreatic Insulin-Positive Cells. <i>Analytical Chemistry</i> , 2015, 87, 10762-10769.	6.5	13
77	Differential stability of proteolytically active and inactive recombinant metalloproteinase in Chinese hamster ovary cells. , 1997, 53, 594-600.		12
78	Raman Microscopy of Human Embryonic Stem Cells Exposed to Heat and Cold Stress. <i>Applied Spectroscopy</i> , 2011, 65, 1380-1386.	2.2	12
79	Purified Human Pancreatic Duct Cell Culture Conditions Defined by Serum-Free High-Content Growth Factor Screening. <i>PLoS ONE</i> , 2012, 7, e33999.	2.5	12
80	Production of a self-activating CBM-factor X fusion protein in a stable transformed Sf9 insect cell line using high cell density perfusion culture. <i>Cytotechnology</i> , 2004, 44, 93-102.	1.6	11
81	Robust parameter estimation during logistic modeling of batch and fed-batch culture kinetics. <i>Biotechnology Progress</i> , 2009, 25, 801-806.	2.6	11
82	A volume-exclusion normalization procedure for quantitative Raman confocal microspectroscopy of immersed samples applied to human embryonic stem cells. <i>Journal of Raman Spectroscopy</i> , 2012, 43, 360-369.	2.5	11
83	Defocused Spatially Offset Raman Spectroscopy in Media of Different Optical Properties for Biomedical Applications Using a Commercial Spatially Offset Raman Spectroscopy Device. <i>Applied Spectroscopy</i> , 2020, 74, 223-232.	2.2	11
84	Towards Industrial Application of Quasi Real-Time Metabolic Flux Analysis for Mammalian Cell Culture. <i>Advances in Biochemical Engineering/Biotechnology</i> , 2006, 101, 99-118.	1.1	10
85	A human embryonic stem cell line adapted for high throughput screening. <i>Biotechnology and Bioengineering</i> , 2013, 110, 2706-2716.	3.3	9
86	Environmental Requirements of Hematopoietic Progenitor Cells in Ex Vivo Expansion Systems. , 1999, , 245-272.		8
87	Mammalian Cell Encapsulation in Alginate Beads Using a Simple Stirred Vessel. <i>Journal of Visualized Experiments</i> , 2017, , .	0.3	8
88	Augmented Two-Dimensional Correlation Spectroscopy for the Joint Analysis of Correlated Changes in Spectroscopic and Disparate Sources. <i>Applied Spectroscopy</i> , 2021, 75, 520-530.	2.2	8
89	Enabling advanced cell therapies (EnACT): invitation to an online forum on resolving barriers to clinical translation. <i>Regenerative Medicine</i> , 2012, 7, 735-740.	1.7	7
90	Empirical Factors Affecting the Quality of Non-Negative Matrix Factorization of Mammalian Cell Raman Spectra. <i>Applied Spectroscopy</i> , 2017, 71, 2681-2691.	2.2	7

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91	Autophagy-inducing peptide increases CHO cell monoclonal antibody production in batch and fed-batch cultures. <i>Biotechnology and Bioengineering</i> , 2021, 118, 1876-1883.	3.3	7
92	Empirical models of the proliferative response of cytokine-dependent hematopoietic cell lines. <i>Biotechnology and Bioengineering</i> , 2004, 88, 348-358.	3.3	6
93	Effects of free convection on three-dimensional protein transport in hollow-fiber bioreactors. <i>AIChE Journal</i> , 2004, 50, 1974-1990.	3.6	6
94	EXPRESS: Smoothing Raman Spectra with Contiguous Single-Channel Fitting of Voigt Distributions: An Automated, High Quality Procedure. <i>Applied Spectroscopy</i> , 2019, 73, 000370281879495.	2.2	6
95	Serum free culture for the expansion and study of type 2 innate lymphoid cells. <i>Scientific Reports</i> , 2021, 11, 12233.	3.3	6
96	Metabolic Flux Estimation in Mammalian Cell Cultures. <i>Methods in Molecular Biology</i> , 2014, 1104, 193-209.	0.9	6
97	Cell Separator Operation within Temperature Ranges To Minimize Effects on Chinese Hamster Ovary Cell Perfusion Culture. <i>Biotechnology Progress</i> , 2007, 23, 1473-1484.	2.6	5
98	Modification of a recombinant GPI-anchored metalloproteinase for secretion alters the protein glycosylation. , 2000, 68, 407-421.		4
99	Optical analysis of perfusion bioreactor cell concentration in an acoustic separator. <i>Biotechnology and Bioengineering</i> , 2005, 92, 514-518.	3.3	3
100	Effects of Glucose and CO <sub>2</sub> Concentrations on CHO Cell Physiology. , 2003, , 99-103.		3
101	Critical Evaluation of Spectral Resolution Enhancement Methods for Raman Hyperspectra. <i>Applied Spectroscopy</i> , 2022, 76, 61-80.	2.2	3
102	Metabolic Flux Estimation in Mammalian Cell Cultures. <i>Methods in Biotechnology</i> , 2007, , 301-317.	0.2	2
103	A semi-empirical mathematical model to specify the <math>pH</math> of bicarbonate-buffered cell culture medium formulations. <i>Canadian Journal of Chemical Engineering</i> , 2021, 99, 2570-2583.	1.7	2
104	Experimental and theoretical analysis of cell separations by ultrasonic forces. , 1997, , 251-256.		2
105	Modeling of Hematopoietic Stem Cell Response to Cytokines. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2001, 34, 65-68.	0.4	1
106	Error Analysis during Estimation of Metabolic Fluxes through Metabolite Balancing. , 2005, , 597-600.		1
107	Mammalian cell retention devices for stirred perfusion bioreactors. <i>Current Applications of Cell Culture Engineering</i> , 1998, , 163-175.	0.1	1
108	Effect of cell lysates on retroviral transduction efficiency of cells in suspension culture. <i>Biotechnology and Bioengineering</i> , 2010, 105, 1168-1177.	3.3	0

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109	Development of GMP-Compatible Protocols for Thymus-Derived Regulatory T Cell Expansion. Transplantation, 2017, 101, S9.	1.0	0
110	Two-step sedimentation process for selection of microcapsules containing cell aggregates. Biotechnology Progress, 2021, 37, e3133.	2.6	0
111	Characterizing Physiology and Metabolism of High-Density CHO Cell Perfusion Cultures Using 2D-NMR Spectroscopy. , 2010, , 349-357.		0