

Massimo Morbidelli

List of Publications by Year in descending order

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333
papers

10,983
citations

34016

52
h-index

62479

80
g-index

351
all docs

351
docs citations

351
times ranked

7701
citing authors

#	ARTICLE	IF	CITATIONS
1	Optimal operation of simulated moving bed units for nonlinear chromatographic separations. <i>Journal of Chromatography A</i> , 1997, 769, 3-24.	1.8	537
2	A continuous multicolumn countercurrent solvent gradient purification (MCSGP) process. <i>Biotechnology and Bioengineering</i> , 2007, 98, 1043-1055.	1.7	173
3	Perfusion mammalian cell culture for recombinant protein manufacturing – A critical review. <i>Biotechnology Advances</i> , 2018, 36, 1328-1340.	6.0	171
4	Process for protein PEGylation. <i>Journal of Controlled Release</i> , 2014, 180, 134-149.	4.8	163
5	Epoxy-Layered Silicate Nanocomposites and Their Gas Permeation Properties. <i>Macromolecules</i> , 2004, 37, 7250-7257.	2.2	156
6	A simple model for the structure of fractal aggregates. <i>Journal of Colloid and Interface Science</i> , 2003, 268, 106-120.	5.0	153
7	Bioprocessing in the Digital Age: The Role of Process Models. <i>Biotechnology Journal</i> , 2020, 15, e1900172.	1.8	147
8	Bottle-grade polyethylene furanoate from ring-opening polymerisation of cyclic oligomers. <i>Nature Communications</i> , 2018, 9, 2701.	5.8	145
9	Effect of shear rate on aggregate size and morphology investigated under turbulent conditions in stirred tank. <i>Journal of Colloid and Interface Science</i> , 2008, 319, 577-589.	5.0	142
10	Twin-column CaptureSMB: A novel cyclic process for protein A affinity chromatography. <i>Journal of Chromatography A</i> , 2015, 1389, 85-95.	1.8	138
11	Selective Nanovector Mediated Treatment of Activated Proinflammatory Microglia/Macrophages in Spinal Cord Injury. <i>ACS Nano</i> , 2013, 7, 9881-9895.	7.3	136
12	Colloidal stability of polymeric nanoparticles in biological fluids. <i>Journal of Nanoparticle Research</i> , 2012, 14, 920.	0.8	126
13	Characterization and comparison of ATF and TFF in stirred bioreactors for continuous mammalian cell culture processes. <i>Biochemical Engineering Journal</i> , 2016, 110, 17-26.	1.8	126
14	Comparison of batch and continuous multi-column protein A capture processes by optimal design. <i>Biotechnology Journal</i> , 2016, 11, 920-931.	1.8	120
15	Continuous counter-current chromatography for capture and polishing steps in biopharmaceutical production. <i>Biotechnology Journal</i> , 2016, 11, 1126-1141.	1.8	117
16	Process performance and product quality in an integrated continuous antibody production process. <i>Biotechnology and Bioengineering</i> , 2017, 114, 298-307.	1.7	115
17	Chromatographic separation of three monoclonal antibody variants using multicolumn countercurrent solvent gradient purification (MCSGP). <i>Biotechnology and Bioengineering</i> , 2008, 100, 1166-1177.	1.7	114
18	Theory of activated-rate processes under shear with application to shear-induced aggregation of colloids. <i>Physical Review E</i> , 2009, 80, 051404.	0.8	110

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19	Design and operation of a continuous integrated monoclonal antibody production process. <i>Biotechnology Progress</i> , 2017, 33, 1303-1313.	1.3	106
20	Aggregation Mechanism of an IgG2 and two IgG1 Monoclonal Antibodies at low pH: From Oligomers to Larger Aggregates. <i>Pharmaceutical Research</i> , 2013, 30, 641-654.	1.7	102
21	A continuous, counter-current multi-column chromatographic process incorporating modifier gradients for ternary separations. <i>Journal of Chromatography A</i> , 2006, 1126, 338-346.	1.8	100
22	Polymeric nanoparticle system to target activated microglia/macrophages in spinal cord injury. <i>Journal of Controlled Release</i> , 2014, 174, 15-26.	4.8	100
23	Continuous integrated manufacturing of therapeutic proteins. <i>Current Opinion in Biotechnology</i> , 2018, 53, 76-84.	3.3	99
24	Evaluating the impact of cell culture process parameters on monoclonal antibody N-glycosylation. <i>Journal of Biotechnology</i> , 2014, 188, 88-96.	1.9	98
25	Optimal model-based design of the twin-column CaptureSMB process improves capacity utilization and productivity in protein A affinity capture. <i>Biotechnology Journal</i> , 2016, 11, 135-145.	1.8	96
26	Machine Learning for Biologics: Opportunities for Protein Engineering, Developability, and Formulation. <i>Trends in Pharmacological Sciences</i> , 2021, 42, 151-165.	4.0	94
27	Breakup of dense colloidal aggregates under hydrodynamic stresses. <i>Physical Review E</i> , 2009, 79, 061401.	0.8	92
28	Îµ-Caprolactone-Based Macromonomers Suitable for Biodegradable Nanoparticles Synthesis through Free Radical Polymerization. <i>Macromolecules</i> , 2011, 44, 9205-9212.	2.2	90
29	Aggregation Stability of a Monoclonal Antibody During Downstream Processing. <i>Pharmaceutical Research</i> , 2011, 28, 1884-1894.	1.7	90
30	Model based adaptive control of a continuous capture process for monoclonal antibodies production. <i>Journal of Chromatography A</i> , 2016, 1444, 50-56.	1.8	89
31	Kinetics of Ring-Opening Polymerization of ϵ -Caprolactone-Lactide. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 7927-7940.	1.8	88
32	Population Balance Modeling of Antibodies Aggregation Kinetics. <i>Journal of Physical Chemistry B</i> , 2012, 116, 7066-7075.	1.2	84
33	Induction of mammalian cell death by simple shear and extensional flows. <i>Biotechnology and Bioengineering</i> , 2009, 104, 360-370.	1.7	83
34	A new generation of predictive models: The added value of hybrid models for manufacturing processes of therapeutic proteins. <i>Biotechnology and Bioengineering</i> , 2019, 116, 2540-2549.	1.7	82
35	Development of a Scale-Down Model of hydrodynamic stress to study the performance of an industrial CHO cell line under simulated production scale bioreactor conditions. <i>Journal of Biotechnology</i> , 2013, 164, 41-49.	1.9	81
36	A semicontinuous 3-column countercurrent solvent gradient purification (MCSGP) process. <i>Biotechnology and Bioengineering</i> , 2008, 99, 728-733.	1.7	78

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37	Ring-Opening Polymerization of ϵ -CL, ϵ -SCL-Lactide: Kinetic and Modeling Study. <i>Macromolecules</i> , 2009, 42, 8187-8197.	2.2	74
38	Dependence of Aggregate Strength, Structure, and Light Scattering Properties on Primary Particle Size under Turbulent Conditions in Stirred Tank. <i>Langmuir</i> , 2008, 24, 3070-3081.	1.6	73
39	Optimizing model predictive control of the chromatographic multi-column solvent gradient purification (MCSGP) process. <i>Journal of Process Control</i> , 2010, 20, 618-629.	1.7	73
40	Aggregate Breakup in a Contracting Nozzle. <i>Langmuir</i> , 2010, 26, 10-18.	1.6	73
41	On the role of salt type and concentration on the stability behavior of a monoclonal antibody solution. <i>Biophysical Chemistry</i> , 2012, 168-169, 19-27.	1.5	73
42	Experimental and CFD physical characterization of animal cell bioreactors: From micro- to production scale. <i>Biochemical Engineering Journal</i> , 2018, 131, 84-94.	1.8	73
43	Process-wide control and automation of an integrated continuous manufacturing platform for antibodies. <i>Biotechnology and Bioengineering</i> , 2020, 117, 1367-1380.	1.7	73
44	Modulation and modeling of monoclonal antibody N-glycosylation in mammalian cell perfusion reactors. <i>Biotechnology and Bioengineering</i> , 2017, 114, 1978-1990.	1.7	72
45	Impact of aggregate formation on the viscosity of protein solutions. <i>Soft Matter</i> , 2015, 11, 5513-5522.	1.2	69
46	Sorption and swelling of semicrystalline polymers in supercritical CO ₂ . <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2006, 44, 1531-1546.	2.4	67
47	A multiscale view of therapeutic protein aggregation: A colloid science perspective. <i>Biotechnology Journal</i> , 2015, 10, 367-378.	1.8	65
48	Determination of the maximum operating range of hydrodynamic stress in mammalian cell culture. <i>Journal of Biotechnology</i> , 2015, 194, 100-109.	1.9	62
49	Current trends in the production of biodegradable bioplastics: The case of polyhydroxyalkanoates. <i>Biotechnology Advances</i> , 2020, 42, 107582.	6.0	61
50	Parametric study of a 6-column countercurrent solvent gradient purification (MCSGP) unit. <i>Biotechnology and Bioengineering</i> , 2007, 98, 1029-1042.	1.7	60
51	Analysis of site-specific N-glycan remodeling in the endoplasmic reticulum and the Golgi. <i>Glycobiology</i> , 2015, 25, 1335-1349.	1.3	60
52	multifraction separation in countercurrent chromatography (MCSGP). <i>Biotechnology and Bioengineering</i> , 2013, 110, 2436-2444.	1.7	59
53	Experimental design of a twin-column countercurrent gradient purification process. <i>Journal of Chromatography A</i> , 2017, 1492, 19-26.	1.8	58
54	Advanced control strategies for the multicolumn countercurrent solvent gradient purification process. <i>AIChE Journal</i> , 2016, 62, 2341-2357.	1.8	56

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55	Estimation of Fractal Dimension in Colloidal Gels. <i>Langmuir</i> , 2003, 19, 6312-6316.	1.6	55
56	Role of Counterion Association in Colloidal Stability. <i>Langmuir</i> , 2009, 25, 2696-2702.	1.6	55
57	Enhanced process understanding and multivariate prediction of the relationship between cell culture process and monoclonal antibody quality. <i>Biotechnology Progress</i> , 2017, 33, 1368-1380.	1.3	54
58	Controlling the time evolution of mAb N-glycosylation – Part II: Model-based predictions. <i>Biotechnology Progress</i> , 2016, 32, 1135-1148.	1.3	53
59	Simulation model for overloaded monoclonal antibody variants separations in ion-exchange chromatography. <i>Journal of Chromatography A</i> , 2012, 1253, 32-43.	1.8	52
60	Modelling the breakup of solid aggregates in turbulent flows. <i>Journal of Fluid Mechanics</i> , 2008, 612, 261-289.	1.4	50
61	Investigation of size, surface charge, PEGylation degree and concentration on the cellular uptake of polymer nanoparticles. <i>Colloids and Surfaces B: Biointerfaces</i> , 2014, 123, 639-647.	2.5	50
62	Role of the ligand density in cation exchange materials for the purification of proteins. <i>Journal of Chromatography A</i> , 2010, 1217, 2216-2225.	1.8	49
63	Electrostatic model for protein adsorption in ion-exchange chromatography and application to monoclonal antibodies, lysozyme and chymotrypsinogen A. <i>Journal of Chromatography A</i> , 2010, 1217, 5610-5621.	1.8	49
64	Shear-Driven Solidification of Dilute Colloidal Suspensions. <i>Physical Review Letters</i> , 2011, 106, 138301.	2.9	49
65	Fragmentation of Amyloid Fibrils Occurs in Preferential Positions Depending on the Environmental Conditions. <i>Journal of Physical Chemistry B</i> , 2015, 119, 4644-4652.	1.2	49
66	End-to-End Self-Assembly of RADA 16-I Nanofibrils in Aqueous Solutions. <i>Biophysical Journal</i> , 2012, 102, 1617-1626.	0.2	48
67	Hybrid-EKF: Hybrid model coupled with extended Kalman filter for real-time monitoring and control of mammalian cell culture. <i>Biotechnology and Bioengineering</i> , 2020, 117, 2703-2714.	1.7	48
68	Sequential Multivariate Cell Culture Modeling at Multiple Scales Supports Systematic Shaping of a Monoclonal Antibody Toward a Quality Target. <i>Biotechnology Journal</i> , 2018, 13, e1700461.	1.8	47
69	Guaiacol hydrodeoxygenation as a model for lignin upgrading. Role of the support surface features on Ni-based alumina-silica catalysts. <i>Fuel</i> , 2019, 243, 501-508.	3.4	47
70	Application of mixed mode resins for the purification of antibodies. <i>Journal of Chromatography A</i> , 2010, 1217, 5753-5760.	1.8	46
71	Time evolution of amyloid fibril length distribution described by a population balance model. <i>Chemical Engineering Science</i> , 2012, 78, 21-32.	1.9	46
72	Insights into pH-induced metabolic switch by flux balance analysis. <i>Biotechnology Progress</i> , 2015, 31, 347-357.	1.3	46

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73	Synthesis of surfactant free PCL-PEG brushed nanoparticles with tunable degradation kinetics. <i>International Journal of Pharmaceutics</i> , 2013, 453, 551-559.	2.6	45
74	Intracellular CHO Cell Metabolite Profiling Reveals Steady-State Dependent Metabolic Fingerprints in Perfusion Culture. <i>Biotechnology Progress</i> , 2017, 33, 879-890.	1.3	44
75	Dependence of fractal dimension of DLCA clusters on size of primary particles. <i>Advances in Colloid and Interface Science</i> , 2013, 195-196, 41-49.	7.0	43
76	Kinetic Analysis of the Multistep Aggregation Mechanism of Monoclonal Antibodies. <i>Journal of Physical Chemistry B</i> , 2014, 118, 10595-10606.	1.2	43
77	Controlling the time evolution of mAb-linked glycosylation, Part I: Microbioreactor experiments. <i>Biotechnology Progress</i> , 2016, 32, 1123-1134.	1.3	43
78	Protein adsorption on ion exchange resins and monoclonal antibody charge variant modulation. <i>Journal of Chromatography A</i> , 2016, 1447, 82-91.	1.8	43
79	Improved Performance in Mammalian Cell Perfusion Cultures by Growth Inhibition. <i>Biotechnology Journal</i> , 2019, 14, e1700722.	1.8	43
80	Shear-induced reaction-limited aggregation kinetics of Brownian particles at arbitrary concentrations. <i>Journal of Chemical Physics</i> , 2010, 132, 134903.	1.2	42
81	Criticality for shear-induced gelation of charge-stabilized colloids. <i>Soft Matter</i> , 2010, 6, 2692.	1.2	42
82	A new flow cell and chemometric protocol for implementing in-line Raman spectroscopy in chromatography. <i>Biotechnology Progress</i> , 2019, 35, e2847.	1.3	42
83	Role of Sedimentation and Buoyancy on the Kinetics of Diffusion Limited Colloidal Aggregation. <i>Langmuir</i> , 2003, 19, 10710-10718.	1.6	41
84	Role of Cleaning-in-Place in the Purification of mAb Supernatants Using Continuous Cation Exchange Chromatography. <i>Separation Science and Technology</i> , 2009, 44, 1-26.	1.3	41
85	Characterization of Low-Molecular-Weight PLA using HPLC. <i>Macromolecular Materials and Engineering</i> , 2010, 295, 58-66.	1.7	41
86	Modeling of Molecular Weight Distribution in Ring-Opening Polymerization of ϵ -CLA-Lactide. <i>Industrial & Engineering Chemistry Research</i> , 2014, 53, 7333-7342.	1.8	41
87	Kinetics of Monoclonal Antibody Aggregation from Dilute toward Concentrated Conditions. <i>Journal of Physical Chemistry B</i> , 2016, 120, 3267-3280.	1.2	40
88	Hybrid Models for the simulation and prediction of chromatographic processes for protein capture. <i>Journal of Chromatography A</i> , 2021, 1650, 462248.	1.8	40
89	Chromatographic behavior of a polyclonal antibody mixture on a strong cation exchanger column. Part I: Adsorption characterization. <i>Journal of Chromatography A</i> , 2008, 1214, 59-70.	1.8	39
90	Adaptation for survival: Phenotype and transcriptome response of CHO cells to elevated stress induced by agitation and sparging. <i>Journal of Biotechnology</i> , 2014, 189, 94-103.	1.9	39

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91	Production of Polymeric Materials with Controlled Pore Structure: the "Reactive Gelation" Process. <i>Macromolecular Materials and Engineering</i> , 2005, 290, 221-229.	1.7	38
92	Current status and future challenges in continuous biochromatography. <i>Current Opinion in Chemical Engineering</i> , 2018, 22, 138-144.	3.8	38
93	Fingerprint detection and process prediction by multivariate analysis of fed-batch monoclonal antibody cell culture data. <i>Biotechnology Progress</i> , 2015, 31, 1633-1644.	1.3	37
94	Influence of protein/glycan interaction on site-specific glycan heterogeneity. <i>FASEB Journal</i> , 2017, 31, 4623-4635.	0.2	37
95	Chromatographic behavior of a polyclonal antibody mixture on a strong cation exchanger column. Part II: Adsorption modelling. <i>Journal of Chromatography A</i> , 2008, 1214, 71-80.	1.8	36
96	PLA-based nanoparticles with tunable hydrophobicity and degradation kinetics. <i>Journal of Polymer Science Part A</i> , 2012, 50, 5191-5200.	2.5	36
97	Role of tentacles and protein loading on pore accessibility and mass transfer in cation exchange materials for proteins. <i>Journal of Chromatography A</i> , 2013, 1285, 48-56.	1.8	36
98	Synthesis and Ring-Opening Polymerization of Cyclic Butylene 2,5-Furandicarboxylate. <i>Macromolecular Chemistry and Physics</i> , 2015, 216, 2141-2146.	1.1	36
99	Experimental determination of maximum effective hydrodynamic stress in multiphase flow using shear sensitive aggregates. <i>AIChE Journal</i> , 2015, 61, 1735-1744.	1.8	36
100	Stabilization of polymer colloid dispersions with pH-sensitive poly-acrylic acid brushes. <i>Colloid and Polymer Science</i> , 2013, 291, 1659-1667.	1.0	35
101	High-throughput profiling of nucleotides and nucleotide sugars to evaluate their impact on antibody N-glycosylation. <i>Journal of Biotechnology</i> , 2016, 229, 3-12.	1.9	35
102	Development of a shake tube-based scale-down model for perfusion cultures. <i>Biotechnology and Bioengineering</i> , 2018, 115, 2703-2713.	1.7	35
103	Perfusion cell culture for the production of conjugated recombinant fusion proteins reduces clipping and quality heterogeneity compared to batch-mode processes. <i>Journal of Biotechnology</i> , 2019, 302, 26-31.	1.9	35
104	Effect of polyol sugars on the stabilization of monoclonal antibodies. <i>Biophysical Chemistry</i> , 2015, 197, 40-46.	1.5	34
105	Model assisted comparison of Protein A resins and multi-column chromatography for capture processes. <i>Journal of Biotechnology</i> , 2018, 285, 64-73.	1.9	34
106	Minimizing hydrodynamic stress in mammalian cell culture through the lobed Taylor-Couette bioreactor. <i>Biotechnology Journal</i> , 2011, 6, 1504-1515.	1.8	33
107	Distributed pore model for bio-molecule chromatography. <i>Journal of Chromatography A</i> , 2013, 1298, 26-34.	1.8	33
108	Robust factor selection in early cell culture process development for the production of a biosimilar monoclonal antibody. <i>Biotechnology Progress</i> , 2017, 33, 181-191.	1.3	33

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109	Effect of Temperature on High Shear-Induced Gelation of Charge-Stabilized Colloids without Adding Electrolytes. <i>Langmuir</i> , 2010, 26, 2761-2768.	1.6	32
110	Understanding mAb aggregation during low pH viral inactivation and subsequent neutralization. <i>Biotechnology and Bioengineering</i> , 2020, 117, 687-700.	1.7	32
111	Oligonucleotides: Current Trends and Innovative Applications in the Synthesis, Characterization, and Purification. <i>Biotechnology Journal</i> , 2020, 15, e1900226.	1.8	32
112	PEGylated Nanoparticles Obtained through Emulsion Polymerization as Paclitaxel Carriers. <i>Molecular Pharmaceutics</i> , 2016, 13, 40-46.	2.3	31
113	Perfusible ion-exchange chromatographic materials with high capacity. <i>Journal of Chromatography A</i> , 2014, 1374, 180-188.	1.8	30
114	Biocompatible fluorescent nanoparticles for <i>in vivo</i> stem cell tracking. <i>Nanotechnology</i> , 2013, 24, 245603.	1.3	29
115	Decision Tree-PLS (DT-PLS) algorithm for the development of process: Specific local prediction models. <i>Biotechnology Progress</i> , 2019, 35, e2818.	1.3	29
116	Modern trends in downstream processing of biotherapeutics through continuous chromatography: The potential of Multicolumn Countercurrent Solvent Gradient Purification. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 132, 116051.	5.8	29
117	Hybrid Models Based on Machine Learning and an Increasing Degree of Process Knowledge: Application to Capture Chromatographic Step. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 10466-10478.	1.8	29
118	Synthesis of Fluorescent PMMA-Based Nanoparticles. <i>Macromolecular Materials and Engineering</i> , 2013, 298, 771-778.	1.7	28
119	Kinetic modeling of protein PEGylation. <i>Chemical Engineering Science</i> , 2015, 137, 816-827.	1.9	28
120	Strong cation-exchange chromatography of proteins on a sulfoalkylated monolithic cryogel. <i>Journal of Chromatography A</i> , 2015, 1386, 13-21.	1.8	28
121	Isotope labeling to determine the dynamics of metabolic response in CHO cell perfusion bioreactors using MALDI-TOF-MS. <i>Biotechnology Progress</i> , 2017, 33, 1630-1639.	1.3	28
122	Diffusion (DOSY) ¹ H NMR as an Alternative Method for Molecular Weight Determination of Poly(ethylene furanoate) (PEF) Polyesters. <i>Macromolecular Chemistry and Physics</i> , 2017, 218, 1600436.	1.1	28
123	Model-assisted process characterization and validation for a continuous two-column protein A capture process. <i>Biotechnology and Bioengineering</i> , 2019, 116, 87-98.	1.7	28
124	Longitudinal Tracking of Human Fetal Cells Labeled with Super Paramagnetic Iron Oxide Nanoparticles in the Brain of Mice with Motor Neuron Disease. <i>PLoS ONE</i> , 2012, 7, e32326.	1.1	28
125	High Shear-Induced Gelation of Charge-Stabilized Colloids in a Microchannel without Adding Electrolytes. <i>Langmuir</i> , 2009, 25, 4715-4723.	1.6	27
126	Model-based design space determination of peptide chromatographic purification processes. <i>Journal of Chromatography A</i> , 2013, 1284, 80-87.	1.8	27

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127	Combining Mechanistic Modeling and Raman Spectroscopy for Monitoring Antibody Chromatographic Purification. <i>Processes</i> , 2019, 7, 683.	1.3	27
128	Bioactive polyacrylamide hydrogels with gradients in mechanical stiffness. <i>Biotechnology and Bioengineering</i> , 2013, 110, 1508-1519.	1.7	26
129	Behavior of human serum albumin on strong cation exchange resins: I. Experimental analysis. <i>Journal of Chromatography A</i> , 2010, 1217, 5484-5491.	1.8	25
130	Controlled PEGylation of PLA-Based Nanoparticles. <i>Macromolecular Chemistry and Physics</i> , 2012, 213, 2012-2018.	1.1	25
131	Separation of Lanthanides by Continuous Chromatography. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 8880-8886.	1.8	25
132	Model-based prediction of monoclonal antibody retention in ion-exchange chromatography. <i>Journal of Chromatography A</i> , 2013, 1298, 17-25.	1.8	25
133	Microarray-based MALDI-TOF mass spectrometry enables monitoring of monoclonal antibody production in batch and perfusion cell cultures. <i>Methods</i> , 2016, 104, 33-40.	1.9	25
134	Effect of SiO ₂ Nanoparticles on the Performance of PVdF-HFP/Ionic Liquid Separator for Lithium-Ion Batteries. <i>Nanomaterials</i> , 2018, 8, 926.	1.9	25
135	Process design and development of a mammalian cell perfusion culture in shake-tube and benchtop bioreactors. <i>Biotechnology and Bioengineering</i> , 2019, 116, 1973-1985.	1.7	25
136	Semi-continuous scale-down models for clone and operating parameter screening in perfusion bioreactors. <i>Biotechnology Progress</i> , 2019, 35, e2790.	1.3	25
137	Design of Biopharmaceutical Formulations Accelerated by Machine Learning. <i>Molecular Pharmaceutics</i> , 2021, 18, 3843-3853.	2.3	25
138	Hybrid modeling – a key enabler towards realizing digital twins in biopharma?. <i>Current Opinion in Chemical Engineering</i> , 2021, 34, 100715.	3.8	25
139	Analysis of the aggregation-fragmentation population balance equation with application to coagulation. <i>Journal of Colloid and Interface Science</i> , 2007, 316, 428-441.	5.0	24
140	Experimental implementation of automatic “cycle to cycle”™ control to a nonlinear chiral simulated moving bed separation. <i>Journal of Chromatography A</i> , 2010, 1217, 2013-2021.	1.8	24
141	Flow-Induced Aggregation and Breakup of Particle Clusters Controlled by Surface Nanoroughness. <i>Langmuir</i> , 2013, 29, 14386-14395.	1.6	24
142	Pilot-scale verification of maximum tolerable hydrodynamic stress for mammalian cell culture. <i>Applied Microbiology and Biotechnology</i> , 2016, 100, 3489-3498.	1.7	24
143	Equilibrium Theory Based Design Space for the Multicolumn Countercurrent Solvent Gradient Purification Process. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 13482-13489.	1.8	24
144	Aggregation Kinetics of Coalescing Polymer Colloids. <i>Langmuir</i> , 2009, 25, 9703-9713.	1.6	23

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145	Synthesis of Water-Based Dispersions of Polymer/TiO ₂ Hybrid Nanospheres. <i>Nanomaterials</i> , 2015, 5, 1454-1468.	1.9	23
146	Integrated process for high conversion and high yield protein PEGylation. <i>Biotechnology and Bioengineering</i> , 2016, 113, 1711-1718.	1.7	23
147	Cell culture process metabolomics together with multivariate data analysis tools opens new routes for bioprocess development and glycosylation prediction. <i>Biotechnology Progress</i> , 2020, 36, e3012.	1.3	23
148	Kinetics of Free-Radical Cross-Linking Polymerization: Comparative Experimental and Numerical Study. <i>Macromolecules</i> , 2013, 46, 5831-5841.	2.2	22
149	Linear isotherm determination from linear gradient elution experiments. <i>Journal of Chromatography A</i> , 2015, 1375, 33-41.	1.8	22
150	Insight into the Synthesis Process of an Industrial Ziegler-Natta Catalyst. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 886-896.	1.8	22
151	Design space and robustness analysis of batch and counter-current frontal chromatography processes for the removal of antibody aggregates. <i>Journal of Chromatography A</i> , 2020, 1619, 460943.	1.8	22
152	Effect of flow field heterogeneity in coagulators on aggregate size and structure. <i>AIChE Journal</i> , 2010, 56, 2573-2587.	1.8	21
153	Stability and gelation behavior of bovine serum albumin pre-aggregates in the presence of calcium chloride. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 4906.	1.3	21
154	In Vitro Aggregation Behavior of a Non-Amyloidogenic λ Light Chain Dimer Deriving from U266 Multiple Myeloma Cells. <i>PLoS ONE</i> , 2012, 7, e33372.	1.1	21
155	Modeling Focused Beam Reflectance Measurement and its Application to Sizing of Particles of Variable Shape. <i>Particle and Particle Systems Characterization</i> , 2006, 23, 360-373.	1.2	20
156	Taylor-Couette unit with a lobed inner cylinder cross section. <i>AIChE Journal</i> , 2007, 53, 1109-1120.	1.8	20
157	Copolymerization of VDF and HFP in Supercritical Carbon Dioxide: Experimental Analysis of the Reaction Loci. <i>Macromolecules</i> , 2010, 43, 9714-9723.	2.2	20
158	Synthesis of Macroporous Polymer Particles Using Reactive Gelation under Shear. <i>Langmuir</i> , 2014, 30, 6946-6953.	1.6	20
159	Viscosity scaling in concentrated dispersions and its impact on colloidal aggregation. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 24392-24402.	1.3	20
160	Model-based development of an on-column PEGylation process. <i>Reaction Chemistry and Engineering</i> , 2016, 1, 204-217.	1.9	20
161	Biocompatible Polymer Nanoformulation To Improve the Release and Safety of a Drug Mimic Molecule Detectable via ICP-MS. <i>Molecular Pharmaceutics</i> , 2017, 14, 124-134.	2.3	20
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