Miroslav Å oÃ³Å¡

List of Publications by Year
in descending order

117 papers	3,333 citations	126708 33 h-index	182168 51 g-index
124 all docs	124 docs citations	124 times ranked	2586 citing authors

#	Article	IF	Citations
1	Effect of shear rate on aggregate size and morphology investigated under turbulent conditions in stirred tank. Journal of Colloid and Interface Science, 2008, 319, 577-589.	5.0	142
2	Characterization and comparison of ATF and TFF in stirred bioreactors for continuous mammalian cell culture processes. Biochemical Engineering Journal, 2016, 110, 17-26.	1.8	126
3	Kinetics of the hydrolytic degradation of poly(lactic acid). Polymer Degradation and Stability, 2012, 97, 2460-2466.	2.7	122
4	Process performance and product quality in an integrated continuous antibody production process. Biotechnology and Bioengineering, 2017, 114, 298-307.	1.7	115
5	Evaluating the impact of cell culture process parameters on monoclonal antibody N-glycosylation. Journal of Biotechnology, 2014, 188, 88-96.	1.9	98
6	Breakup of dense colloidal aggregates under hydrodynamic stresses. Physical Review E, 2009, 79, 061401.	0.8	92
7	Induction of mammalian cell death by simple shear and extensional flows. Biotechnology and Bioengineering, 2009, 104, 360-370.	1.7	83
8	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. Journal of Biotechnology, 2013, 164, 41-49.	1.9	81
9	Experimental and Modeling Study of Breakage and Restructuring of Open and Dense Colloidal Aggregates. Langmuir, 2011, 27, 5739-5752.	1.6	77
10	Generation and Geometrical Analysis of Dense Clusters with Variable Fractal Dimension. Journal of Physical Chemistry B, 2009, 113, 10587-10599.	1.2	75
11	Role of turbulent shear rate distribution in aggregation and breakage processes. AICHE Journal, 2006, 52, 158-173.	1.8	74
12	Dependence of Aggregate Strength, Structure, and Light Scattering Properties on Primary Particle Size under Turbulent Conditions in Stirred Tank. Langmuir, 2008, 24, 3070-3081.	1.6	73
13	Aggregate Breakup in a Contracting Nozzle. Langmuir, 2010, 26, 10-18.	1.6	73
14	Experimental and CFD physical characterization of animal cell bioreactors: From micro- to production scale. Biochemical Engineering Journal, 2018, 131, 84-94.	1.8	73
15	Modulation and modeling of monoclonal antibody Nâ€linked glycosylation in mammalian cell perfusion reactors. Biotechnology and Bioengineering, 2017, 114, 1978-1990.	1.7	72
16	Investigation of aggregation, breakage and restructuring kinetics of colloidal dispersions in turbulent flows by population balance modeling and static light scattering. Chemical Engineering Science, 2006, 61, 2349-2363.	1.9	63
17	Determination of the maximum operating range of hydrodynamic stress in mammalian cell culture. Journal of Biotechnology, 2015, 194, 100-109.	1.9	62
18	Analysis of site-specific<i>N</i>-glycan remodeling in the endoplasmic reticulum and the Golgi. Glycobiology, 2015, 25, 1335-1349.	1.3	60

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19	Role of Counterion Association in Colloidal Stability. Langmuir, 2009, 25, 2696-2702.	1.6	55
20	Determination of maximum turbulent energy dissipation rate generated by a rushton impeller through large eddy simulation. AICHE Journal, 2013, 59, 3642-3658.	1.8	55
21	Controlling the time evolution of mAb Nâ€linked glycosylation â€•Part II: Modelâ€based predictions. Biotechnology Progress, 2016, 32, 1135-1148.	1.3	53
22	Effect of Solid Volume Fraction on Aggregation and Breakage in Colloidal Suspensions in Batch and Continuous Stirred Tanks. Langmuir, 2007, 23, 1664-1673.	1.6	50
23	First Crystal Structures of Pharmaceutical Ibrutinib: Systematic Solvate Screening and Characterization. Crystal Growth and Design, 2017, 17, 3116-3127.	1.4	49
24	Insights into pHâ€induced metabolic switch by flux balance analysis. Biotechnology Progress, 2015, 31, 347-357.	1.3	46
25	Nitrogen-rich hierarchically porous polyaniline-based adsorbents for carbon dioxide (CO2) capture. Chemical Engineering Journal, 2019, 360, 1199-1212.	6.6	46
26	Population balance modeling of aggregation and breakage in turbulent Taylorâ€"Couette flow. Journal of Colloid and Interface Science, 2007, 307, 433-446.	5.0	44
27	Intracellular CHO Cell Metabolite Profiling Reveals Steadyâ€State Dependent Metabolic Fingerprints in Perfusion Culture. Biotechnology Progress, 2017, 33, 879-890.	1.3	44
28	Controlling the time evolution of mAb Nâ€linked glycosylation, Part I: Microbioreactor experiments. Biotechnology Progress, 2016, 32, 1123-1134.	1.3	43
29	Glycosylation flux analysis reveals dynamic changes of intracellular glycosylation flux distribution in Chinese hamster ovary fed-batch cultures. Metabolic Engineering, 2017, 43, 9-20.	3.6	42
30	Adaptation for survival: Phenotype and transcriptome response of CHO cells to elevated stress induced by agitation and sparging. Journal of Biotechnology, 2014, 189, 94-103.	1.9	39
31	Fingerprint detection and process prediction by multivariate analysis of fedâ€batch monoclonal antibody cell culture data. Biotechnology Progress, 2015, 31, 1633-1644.	1.3	37
32	Experimental determination of maximum effective hydrodynamic stress in multiphase flow using shear sensitive aggregates. AICHE Journal, 2015, 61, 1735-1744.	1.8	36
33	Interpretation of Light Scattering and Turbidity Measurements in Aggregated Systems: Effect of Intra-Cluster Multiple-Light Scattering. Journal of Physical Chemistry B, 2009, 113, 14962-14970.	1.2	35
34	Experimental Characterization of Breakage Rate of Colloidal Aggregates in Axisymmetric Extensional Flow. Langmuir, 2014, 30, 14385-14395.	1.6	35
35	High-throughput profiling of nucleotides and nucleotide sugars to evaluate their impact on antibody N-glycosylation. Journal of Biotechnology, 2016, 229, 3-12.	1.9	35
36	Comparison of computer simulation of reactive distillation using aspen plus and hysys software. Chemical Engineering and Processing: Process Intensification, 2002, 41, 413-418.	1.8	33

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37	Minimizing hydrodynamic stress in mammalian cell culture through the lobed Taylorâ€Couette bioreactor. Biotechnology Journal, 2011, 6, 1504-1515.	1.8	33
38	Robust factor selection in early cell culture process development for the production of a biosimilar monoclonal antibody. Biotechnology Progress, 2017, 33, 181-191.	1.3	33
39	Size and Structure of Clusters Formed by Shear Induced Coagulation: Modeling by Discrete Element Method. Langmuir, 2015, 31, 7727-7737.	1.6	32
40	Breakup of Finite-Size Colloidal Aggregates in Turbulent Flow Investigated by Three-Dimensional (3D) Particle Tracking Velocimetry. Langmuir, 2016, 32, 55-65.	1.6	32
41	Perfusive ion-exchange chromatographic materials with high capacity. Journal of Chromatography A, 2014, 1374, 180-188.	1.8	30
42	On the modeling of PSA cycles with hysteresis-dependent isotherms. Chemical Engineering Science, 2000, 55, 431-440.	1.9	28
43	Initial growth kinetics and structure of colloidal aggregates in a turbulent coagulator. Powder Technology, 2005, 156, 226-234.	2.1	28
44	Isotope labeling to determine the dynamics of metabolic response in CHO cell perfusion bioreactors using MALDIâ€TOFâ€MS. Biotechnology Progress, 2017, 33, 1630-1639.	1.3	28
45	Effect of Fluid Dynamics on Particle Size Distribution in Particulate Processes. Chemical Engineering and Technology, 2006, 29, 191-199.	0.9	27
46	Characterisation of porous media by the virtual capillary condensation method. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2007, 300, 11-20.	2.3	27
47	Characterization of liquidâ€liquid dispersions with variable viscosity by coupled computational fluid dynamics and population balances. AICHE Journal, 2015, 61, 2403-2414.	1.8	25
48	Microarray-based MALDI-TOF mass spectrometry enables monitoring of monoclonal antibody production in batch and perfusion cell cultures. Methods, 2016, 104, 33-40.	1.9	25
49	Flow-Induced Aggregation and Breakup of Particle Clusters Controlled by Surface Nanoroughness. Langmuir, 2013, 29, 14386-14395.	1.6	24
50	Pilot-scale verification of maximum tolerable hydrodynamic stress for mammalian cell culture. Applied Microbiology and Biotechnology, 2016, 100, 3489-3498.	1.7	24
51	Utilizing the Discrete Element Method for the Modeling of Viscosity in Concentrated Suspensions. Langmuir, 2016, 32, 8451-8460.	1.6	24
52	Ibrutinib Polymorphs: Crystallographic Study. Crystal Growth and Design, 2018, 18, 1315-1326.	1.4	23
53	Unified network model for adsorptionâ€“desorption in systems with hysteresis. AICHE Journal, 1999, 45, 735-750.	1.8	21
54	Effect of flow field heterogeneity in coagulators on aggregate size and structure. AICHE Journal, 2010, 56, 2573-2587.	1.8	21

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55	Taylor-Couette unit with a lobed inner cylinder cross section. AIChE Journal, 2007, 53, 1109-1120.	1.8	20
56	Synthesis of Macroporous Polymer Particles Using Reactive Gelation under Shear. Langmuir, 2014, 30, 6946-6953.	1.6	20
57	Dependence of initial cluster aggregation kinetics on shear rate for particles of different sizes under turbulence. AIChE Journal, 2009, 55, 3076-3087.	1.8	18
58	Structure and Kinetics of Shear Aggregation in Turbulent Flows. I. Early Stage of Aggregation. Langmuir, 2010, 26, 13142-13152.	1.6	18
59	Proteomic analysis of micro-scale bioreactors as scale-down model for a mAb producing CHO industrial fed-batch platform. Journal of Biotechnology, 2018, 279, 27-36.	1.9	18
60	Slip on a particle surface as the possible origin of shear thinning in non-Brownian suspensions. Physical Chemistry Chemical Physics, 2017, 19, 5979-5984.	1.3	17
61	Application of polymeric macroporous supports for temperature-responsive chromatography of pharmaceuticals. Journal of Chromatography A, 2015, 1407, 90-99.	1.8	16
62	Effects of mixing on aggregation and gelation of nanoparticles. Chemical Engineering and Processing: Process Intensification, 2006, 45, 936-943.	1.8	15
63	Self-assembly of poly(L-lactide-co-glycolide) and magnetic nanoparticles into nanoclusters for controlled drug delivery. European Polymer Journal, 2020, 133, 109795.	2.6	15
64	An unstructured model of metabolic and temperature dependent cell cycle arrest in hybridoma batch and fed-batch cultures. Biochemical Engineering Journal, 2015, 93, 260-273.	1.8	14
65	Macroporous Polymer Particles via Reactive Gelation under Shear: Effect of Primary Particle Properties and Operating Parameters. Langmuir, 2014, 30, 13970-13978.	1.6	13
66	Shear-Induced Reactive Gelation. Langmuir, 2015, 31, 12727-12735.	1.6	13
67	Highâ€throughput nucleoside phosphate monitoring in mammalian cell fedâ€batch cultivation using quantitative matrixâ€assisted laser desorption/ionization timeâ€ofâ€flight mass spectrometry. Biotechnology Journal, 2015, 10, 190-198.	1.8	13
68	Multi-scale analysis of amorphous solid dispersions prepared by freeze drying of ibuprofen loaded acrylic polymer nanoparticles. Journal of Drug Delivery Science and Technology, 2019, 53, 101182.	1.4	13
69	Morphology of Shear-Induced Colloidal Aggregates in Porous Media: Consequences for Transport, Deposition, and Re-entrainment. Environmental Science & Technology, 2020, 54, 5813-5821.	4.6	13
70	Preparation of carbon-based monolithic CO2 adsorbents with hierarchical pore structure. Chemical Engineering Journal, 2020, 388, 124308.	6.6	13
71	Percolation models of adsorptionâ€“desorption equilibria and kinetics for systems with hysteresis. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2007, 300, 191-203.	2.3	12
72	Quantification of a Single Aggregate Inner Porosity and Pore Accessibility Using Hard X-ray Phase-Contrast Nanotomography. Langmuir, 2011, 27, 12788-12791.	1.6	12

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73	Master Curves for Aggregation and Gelation:Â Effects of Cluster Structure and Polydispersity. Industrial & Engineering Chemistry Research, 2007, 46, 1709-1720.	1.8	11
74	Formation of multi-compartmental particles by controlled aggregation of liposomes. Powder Technology, 2016, 295, 115-121.	2.1	11
75	Complex methodology for rational design of Apremilast-benzoic acid co-crystallization process. International Journal of Pharmaceutics, 2019, 570, 118639.	2.6	11
76	Transcriptome and proteome analysis of steadyâ€state in a perfusion CHO cell culture process. Biotechnology and Bioengineering, 2019, 116, 1959-1972.	1.7	11
77	Sizing Polydisperse Dispersions by Focused Beam Reflectance and Small Angle Static Light Scattering. Particle and Particle Systems Characterization, 2006, 23, 438-447.	1.2	10
78	Shear-stability and gelation of inverse latexes. Soft Matter, 2013, 9, 10866.	1.2	9
79	Synthesis of Hetero-nanoclusters: The Case of Polymerâ€“Magnetite Systems. Langmuir, 2014, 30, 2266-2273.	1.6	9
80	Mechanochemically Induced Polymorphic Transformations of Sofosbuvir. Crystal Growth and Design, 2020, 20, 139-147.	1.4	9
81	Numerical Modeling of Viscoelasticity in Particle Suspensions Using the Discrete Element Method. Langmuir, 2019, 35, 12754-12764.	1.6	8
82	Formation of the First Non-Isostructural Cocrystal of Apremilast Explained. Crystal Growth and Design, 2020, 20, 5785-5795.	1.4	8
83	COMF: Comprehensive Model-Fitting Method for Simulating Isothermal and Single-Step Solid-State Reactions. Crystals, 2020, 10, 139.	1.0	8
84	Synthesis of conductive macroporous composite polymeric materials using porogen-free method. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2018, 557, 137-145.	2.3	7
85	Numerical Study of Soft Colloidal Nanoparticles Interaction in Shear Flow. Langmuir, 2018, 34, 15600-15611.	1.6	7
86	Characterization of hydrodynamic stress in ambr250Â® bioreactor system and its impact on mammalian cell culture. Biochemical Engineering Journal, 2022, 177, 108240.	1.8	7
87	Design and simulation of a distillation column for separation of dichloropropane from a multicomponent mixture. Chemical Engineering and Processing: Process Intensification, 2003, 42, 273-284.	1.8	6
88	Urease adsorption immobilization on ionic liquid-like macroporous polymeric support. Journal of Materials Science, 2019, 54, 14884-14896.	1.7	6
89	Carboxyethyl-functionalized 3D porous polypyrrole synthesized using a porogen-free method for covalent immobilization of urease. Microporous and Mesoporous Materials, 2021, 311, 110690.	2.2	6
90	Hybrid Approach for Mixing Time Characterization and Scale-Up in Geometrical Nonsimilar Stirred Vessels Equipped with Eccentric Multi-Impeller Systemsâ€"An Industrial Perspective. Processes, 2021, 9, 880.	1.3	6

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91	Viscosity and drop size evolution during suspension polymerization. AIChE Journal, 2016, 62, 4229-4239.	1.8	5
92	Explaining dissolution properties of rivaroxaban cocrystals. International Journal of Pharmaceutics, 2022, 622, 121854.	2.6	5
93	Effects of Coalescence on Shear-Induced Gelation of Colloids. Langmuir, 2017, 33, 1180-1188.	1.6	4
94	An environmentally benign methodology to elaborating polymer nanocomposites with tunable properties using core-shell nanoparticles and cellulose nanocrystals. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2018, 553, 169-179.	2.3	4
95	Monitoring of particle sizes distribution during Valsartan precipitation in the presence of nonionic surfactant. International Journal of Pharmaceutics, 2021, 600, 120515.	2.6	4
96	Comparison between two multicomponent drug delivery systems based on PEGylated-poly (l-lactide-co-glycolide) and superparamagnetic nanoparticles: Nanoparticulate versus nanocluster systems. Journal of Drug Delivery Science and Technology, 2021, 64, 102643.	1.4	4
97	The preparation of mono- and multicomponent nanoparticle aggregates with layer-by-layer structure using emulsion templating method in microfluidics. Chemical Engineering Science, 2022, 247, 117084.	1.9	4
98	Design and simulation of a reactor for the chlorination of acetone in gaseous phase. Chemical Engineering Science, 2001, 56, 627-632.	1.9	3
99	Assessment of gel formation in colloidal dispersions during mixing in turbulent jets. AIChE Journal, 2013, 59, 4567-4581.	1.8	3
100	Temperature modulated polymer nanoparticle bonding: A numerical and experimental study. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2020, 601, 125010.	2.3	3
101	Study of the Shear-Thinning Effect between Polymer Nanoparticle Surfaces during Shear-Induced Aggregation. Industrial & Engineering Chemistry Research, 2021, 60, 10654-10665.	1.8	3
102	Low-temperature polymorphs of lacosamide. Journal of Crystal Growth, 2021, 562, 126085.	0.7	3
103	Exploring the polymorphism of sofosbuvir <i>via</i> mechanochemistry: effect of milling jar geometry and material. CrystEngComm, 2022, 24, 2107-2117.	1.3	3
104	Testing the flow-through capillary for the study of re-solvation processes in pharmaceutical compounds. Powder Diffraction, 2020, 35, 160-165.	0.4	2
105	Breakup of Individual Colloidal Aggregates in Turbulent Flow Investigated by 3D Particle Tracking Velocimetry. , 2018, , 83-95.		2
106	Ambient-temperature porogen-free method for preparation of silica-based macroporous materials. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 634, 128033.	2.3	2
107	Impact of Solventâ€"Drug Interactions on the Desolvation of a Pharmaceutical Solvate. Journal of Physical Chemistry B, 2022, 126, 503-512.	1.2	2
108	Characterization and Insights into the Formation of New Multicomponent Solid Forms of Sofosbuvir. Crystal Growth and Design, 0, , .	1.4	2

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109	The impact of the lamination pressure on the properties of electrospinned nanofibrous films. European Journal of Pharmaceutical Sciences, 2022, 173, 106170.	1.9	2
110	Probing Coagulation and Fouling in Colloidal Dispersions with Viscosity Measurements: In Silico Proof of Concept. Advances in Polymer Science, 2017, , 161-182.	0.4	1
111	Size, shape and surface structure of gold snowflake-like particles tailored by the addition of monovalent and divalent inorganic salts. Surfaces and Interfaces, 2021, 25, 101160.	1.5	1
112	Breakage Study of the Urchinlike Crystal Clusters of Ibrutinib. Organic Process Research and Development, 2022, 26, 111-122.	1.3	1
113	Description of N-linked glycosylation as a function of different operating parameters via mathematical modelling. New Biotechnology, 2012, 29, S216.	2.4	0
114	Investigation of process parameters and their effect on cell metabolism and N-linked glycosylation. New Biotechnology, 2012, 29, S103.	2.4	0
115	CHO cell proteome characterization for the continuous manufacturing of monoclonal antibodies. New Biotechnology, 2016, 33, S42.	2.4	0
116	Impact of crystallization conditions and filtration cake washing on the clustering of metformin hydrochloride crystals. Powder Technology, 2022, 405, 117522.	2.1	0
117	Structureâ€"property relations of a unique and systematic dataset of 19 isostructural multicomponent apremilast forms. IUCrJ, 2022, 9, 508-515.	1.0	0