

Botond Szilágyi

List of Publications by Year in descending order

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Version: 2024-02-01

54
papers

826
citations

471509

17
h-index

552781

26
g-index

54
all docs

54
docs citations

54
times ranked

570
citing authors

#	ARTICLE	IF	CITATIONS
1	Integrated Continuous Pharmaceutical Technologies – A Review. <i>Organic Process Research and Development</i> , 2021, 25, 721-739.	2.7	72
2	Real-Time Image Processing Based Online Feedback Control System for Cooling Batch Crystallization. <i>Organic Process Research and Development</i> , 2017, 21, 511-519.	2.7	48
3	End-to-end continuous manufacturing of conventional compressed tablets: From flow synthesis to tableting through integrated crystallization and filtration. <i>International Journal of Pharmaceutics</i> , 2020, 581, 119297.	5.2	42
4	Application of Model-Free and Model-Based Quality-by-Control (QbC) for the Efficient Design of Pharmaceutical Crystallization Processes. <i>Crystal Growth and Design</i> , 2020, 20, 3979-3996.	3.0	38
5	Graphical processing unit (GPU) acceleration for numerical solution of population balance models using high resolution finite volume algorithm. <i>Computers and Chemical Engineering</i> , 2016, 91, 167-181.	3.8	36
6	Experimental implementation of a Quality-by-Control (QbC) framework using a mechanistic PBM-based nonlinear model predictive control involving chord length distribution measurement for the batch cooling crystallization of l-ascorbic acid. <i>Chemical Engineering Science</i> , 2019, 195, 335-346.	3.8	32
7	High-throughput screening of organic reactions in microdroplets using desorption electrospray ionization mass spectrometry (DESI-MS): hardware and software implementation. <i>Analytical Methods</i> , 2020, 12, 3654-3669.	2.7	32
8	Model-based analysis of stirred cooling crystallizer of high aspect ratio crystals with linear and nonlinear breakage. <i>Computers and Chemical Engineering</i> , 2017, 98, 180-196.	3.8	31
9	Systematic model identification and optimization-based active polymorphic control of crystallization processes. <i>Chemical Engineering Science</i> , 2017, 174, 374-386.	3.8	29
10	Chord Length Distribution Based Modeling and Adaptive Model Predictive Control of Batch Crystallization Processes Using High Fidelity Full Population Balance Models. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 3320-3332.	3.7	28
11	High-Throughput Experimentation and Continuous Flow Evaluation of Nucleophilic Aromatic Substitution Reactions. <i>ACS Combinatorial Science</i> , 2020, 22, 184-196.	3.8	27
12	Aspect Ratio Distribution and Chord Length Distribution Driven Modeling of Crystallization of Two-Dimensional Crystals for Real-Time Model-Based Applications. <i>Crystal Growth and Design</i> , 2018, 18, 5311-5321.	3.0	26
13	Population Balance Modeling and Optimization of an Integrated Batch Crystallizer – Wet Mill System for Crystal Size Distribution Control. <i>Crystal Growth and Design</i> , 2018, 18, 1415-1424.	3.0	24
14	Reaction precipitation of amorphous calcium phosphate: Population balance modelling and kinetics. <i>Chemical Engineering Research and Design</i> , 2015, 93, 278-286.	5.6	23
15	Modeling of pharmaceutical filtration and continuous integrated crystallization-filtration processes. <i>Chemical Engineering Journal</i> , 2021, 413, 127566.	12.7	21
16	Experimental Investigation of an Integrated Crystallization and Wet-Milling System with Temperature Cycling to Control the Size and Aspect Ratio of Needle-Shaped Pharmaceutical Crystals. <i>Crystal Growth and Design</i> , 2021, 21, 3981-3993.	3.0	21
17	Combining extractive heterogeneous-azeotropic distillation and hydrophilic pervaporation for enhanced separation of non-ideal ternary mixtures. <i>Frontiers of Chemical Science and Engineering</i> , 2020, 14, 913-927.	4.4	18
18	Model-based analysis and quality-by-design framework for high aspect ratio crystals in crystallizer-wet mill systems using GPU acceleration enabled optimization. <i>Computers and Chemical Engineering</i> , 2019, 126, 421-433.	3.8	17

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19	Numerical analysis of crystallization of high aspect ratio crystals with breakage. Powder Technology, 2015, 283, 152-162.	4.2	16
20	Polymorphic Control and Scale-Up Strategy for Antisolvent Crystallization Using Direct Nucleation Control. Crystal Growth and Design, 2020, 20, 2683-2697.	3.0	16
21	A Novel Robust Digital Design of a Network of Industrial Continuous Cooling Crystallizers of Dextrose Monohydrate: From Laboratory Experiments to Industrial Application. Industrial & Engineering Chemistry Research, 2020, 59, 22231-22246.	3.7	15
22	Combination of PAT and mechanistic modeling tools in a fully continuous powder to granule line: Rapid and deep process understanding. Powder Technology, 2021, 388, 70-81.	4.2	14
23	Dynamic flowsheet model development and digital design of continuous pharmaceutical manufacturing with dissolution modeling of the final product. Chemical Engineering Journal, 2021, 419, 129947.	12.7	13
24	Polymorphic Control and Scale-up Strategy for Crystallization from a Ternary Antisolvent System by Supersaturation Control. Crystal Growth and Design, 2020, 20, 1337-1346.	3.0	12
25	Thermodynamic Polymorph Selection in Enantiotropic Systems Using Supersaturation-Controlled Batch and Semibatch Cooling Crystallization. Crystal Growth and Design, 2019, 19, 6715-6726.	3.0	11
26	Membrane Flash Index: Powerful and Perspicuous Help for Efficient Separation System Design. ACS Omega, 2020, 5, 15136-15145.	3.5	11
27	Digital Design of the Crystallization of an Active Pharmaceutical Ingredient Using a Population Balance Model with a Novel Size Dependent Growth Rate Expression. From Development of a Digital Twin to <i>In Silico</i> Optimization and Experimental Validation. Crystal Growth and Design, 2022, 22, 497-512.	3.0	11
28	Cd (II) and Zn (II) biosorption on <i>Lactarius piperatus</i> macrofungus: Equilibrium isotherm and kinetic studies. Environmental Progress and Sustainable Energy, 2014, 33, 1158-1170.	2.3	10
29	Surface pinning explains the low heat transfer coefficient between water and a carbon nanotube film. Carbon, 2016, 100, 27-35.	10.3	10
30	Polymorphic Control and Scale-Up Strategy for Antisolvent Crystallization Using a Sequential Supersaturation and Direct Nucleation Control Approach. Crystal Growth and Design, 2020, 20, 5538-5550.	3.0	10
31	Iterative model-based experimental design for spherical agglomeration processes. AIChE Journal, 2021, 67, e17178.	3.6	10
32	From modeling to virtual laboratory development of a continuous binary distillation column for engineering education using MATLAB and LabVIEW. Computer Applications in Engineering Education, 2019, 27, 1019-1029.	3.4	9
33	Novel semibatch supersaturation control approach for the cooling crystallization of heat-sensitive materials. AIChE Journal, 2020, 66, e16955.	3.6	9
34	Simulation and experimental investigation of a novel supersaturation feedback control strategy for cooling crystallization in semi-batch implementation. Chemical Engineering Science, 2020, 225, 115807.	3.8	9
35	Monitoring and digital design of the cooling crystallization of a high-aspect ratio anticancer drug using a two-dimensional population balance model. Chemical Engineering Science, 2022, 257, 117700.	3.8	9
36	Modeling and analysis of MSMR cascades involving nucleation, growth and agglomeration mechanisms with slurry recycling. Chemical Engineering Research and Design, 2021, 174, 42-56.	5.6	8

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37	Cross-Pharma Collaboration for the Development of a Simulation Tool for the Model-Based Digital Design of Pharmaceutical Crystallization Processes (CrySiV). <i>Crystal Growth and Design</i> , 2021, 21, 6448-6464.	3.0	8
38	Experimental analysis and compartmental modeling of the residence time distribution in DN6 and DN15 continuous oscillatory baffled crystallizer (COBC) systems. <i>Chemical Engineering Research and Design</i> , 2020, 161, 322-331.	5.6	7
39	COD reduction of process wastewater with vacuum evaporation. <i>Waste Treatment and Recovery</i> , 2018, 3, 1-7.	0.2	6
40	Piezoelectric-based high performance spray solvent delivery system for desorption electrospray ionization mass spectrometry: Systematic design and case studies for high throughput screening of N-alkylation reactions. <i>Chemical Engineering Science</i> , 2019, 195, 1010-1020.	3.8	6
41	Kinetic Modeling and Optimization of the Rh/C-Catalyzed Continuous Green Synthesis of Acetic Acid from Methanol in a Two-Phase Fixed Bed Tubular Reactor. <i>Organic Process Research and Development</i> , 2018, 22, 1745-1752.	2.7	4
42	Improvement of Component Flux Estimating Model for Pervaporation Processes. <i>Membranes</i> , 2020, 10, 418.	3.0	4
43	Implementation of sonicated continuous plug flow crystallization technology for processing of acetylsalicylic acid reaction mixture. <i>Powder Technology</i> , 2022, 400, 117255.	4.2	4
44	Modeling Crystallization from Solution with Heat Effects. <i>Crystal Growth and Design</i> , 2015, 15, 5726-5737.	3.0	3
45	Development of a Model-Based Quality-by-Control Framework for Crystallization Design. <i>Computer Aided Chemical Engineering</i> , 2019, , 319-324.	0.5	3
46	Enabling Mechanical Separation of Enantiomers through Controlled Batchwise Concomitant Crystallization: Digital Design and Experimental Validation. <i>Crystal Growth and Design</i> , 2020, 20, 7726-7741.	3.0	3
47	Coupled Population Balance-CFD Modelling of a Continuous Precipitation Reactor. <i>Computer Aided Chemical Engineering</i> , 2014, , 187-192.	0.5	2
48	Batch Cooling Crystallization of Plate-like Crystals: A Simulation Study. <i>Periodica Polytechnica: Chemical Engineering</i> , 2015, 59, 151-158.	1.1	2
49	Real-time feasible model-based crystal size and shape control of crystallization processes. <i>Computer Aided Chemical Engineering</i> , 2019, 46, 1273-1278.	0.5	2
50	Graphical Processing Unit (GPU) Accelerated Solution of Multi-Dimensional Population Balances Using High Resolution Finite Volume Algorithm. <i>Computer Aided Chemical Engineering</i> , 2015, 37, 947-952.	0.5	1
51	Model Based Estimation of 2D Crystallization Kinetics From Concentration and CLD Measurements. <i>Computer Aided Chemical Engineering</i> , 2017, 40, 169-174.	0.5	1
52	Optimization-Based Process Synthesis for Integrated Crystallizer-Wet Mill System for Improved Crystal Shape Control. <i>Computer Aided Chemical Engineering</i> , 2018, 43, 681-686.	0.5	1
53	Optimization-based digital design of a commercial pharmaceutical crystallization process for size and shape control. <i>Computer Aided Chemical Engineering</i> , 2021, , 1143-1148.	0.5	1
54	Modelling and Simulation of Particle Size Distribution of Precipitates in Continuous Tubular Crystallizers. <i>Periodica Polytechnica: Chemical Engineering</i> , 2015, 59, 138-144.	1.1	0