Rachel Smith

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8301284/publications.pdf

Version: 2024-02-01

61	3,244	236925 25	149698 56
papers	citations	h-index	g-index

65	65	65	2280
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Model-driven design using population balance modelling for high-shear wet granulation. Powder Technology, 2022, 396, 578-595.	4.2	2
2	Exploring the role of crystal habit in the Ostwald rule of stages. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, 20210601.	2.1	1
3	Carbon binder domain networks and electrical conductivity in lithium-ion battery electrodes: A critical review. Renewable and Sustainable Energy Reviews, 2022, 166, 112624.	16.4	41
4	Characterisation of aluminium black dross before and after stepwise salt-phase dissolution in non-aqueous solvents. Journal of Hazardous Materials, 2021, 401, 123351.	12.4	22
5	High-shear granulation: An investigation into granule breakage rates. Advanced Powder Technology, 2021, 32, 1390-1398.	4.1	4
6	Efficient global sensitivity-based model calibration of a high-shear wet granulation process. Chemical Engineering Science, 2021, 238, 116569.	3.8	5
7	Îhe role of surface energy in the apparent solubility of two different calcite crystal habits. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210200.	2.1	2
8	Tableting model assessment of porosity and tensile strength using a continuous wet granulation route. International Journal of Pharmaceutics, 2021, 607, 120934.	5.2	4
9	Model driven design for twin screw granulation using mechanistic-based population balance model. International Journal of Pharmaceutics, 2021, 607, 120939.	5.2	17
10	Application of feeding guiders to improve the powder distribution in the two scales of roller compactors. International Journal of Pharmaceutics, 2020, 573, 118815.	5.2	2
11	Gas permeability, wettability and morphology of gas diffusion layers before and after performing a realistic ex-situ compression test. Renewable Energy, 2020, 151, 1082-1091.	8.9	26
12	Formation and internal microstructure of granules from wetting and non-wetting efavirenz/iron oxide blends. Chemical Engineering Science, 2020, 227, 115909.	3.8	2
13	Roller compaction: Infrared thermography as a PAT for monitoring powder flow from feeding to compaction zone. International Journal of Pharmaceutics, 2020, 578, 119114.	5.2	8
14	A breakage kernel for use in population balance modelling of twin screw granulation. Powder Technology, 2020, 363, 525-540.	4.2	21
15	High-shear granulation: An investigation into the granule consolidation and layering mechanism. Powder Technology, 2019, 355, 514-525.	4.2	15
16	Nuclei size distribution modelling in wet granulation. Chemical Engineering Science: X, 2019, 4, 100038.	1.5	2
17	A new mathematical model for nucleation of spherical agglomerates by the immersion mechanism. Chemical Engineering Science: X, 2019, 4, 100048.	1.5	5
18	A novel method for the analysis of particle coating behaviour via contact spreading in a tumbling drum: Effect of coating liquid viscosity. Powder Technology, 2019, 351, 102-114.	4.2	3

#	Article	IF	Citations
19	Improving feeding powder distribution to the compaction zone in the roller compaction. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 128, 57-68.	4.3	5
20	Kinetics of immersion nucleation driven by surface tension. Powder Technology, 2018, 335, 62-69.	4.2	4
21	Particle design via spherical agglomeration: A critical review of controlling parameters, rate processes and modelling. Powder Technology, 2018, 326, 327-343.	4.2	68
22	Characteristics of multi-component formulation granules formed using distributive mixing elements in twin screw granulation. Drug Development and Industrial Pharmacy, 2018, 44, 1826-1837.	2.0	4
23	Impact of Endogenous Bile Salts on the Thermodynamics of Supersaturated Active Pharmaceutical Ingredient Solutions. Crystal Growth and Design, 2017, 17, 1264-1275.	3.0	28
24	Impact of Bile Salts on Solution Crystal Growth Rate and Residual Supersaturation of an Active Pharmaceutical Ingredient. Crystal Growth and Design, 2017, 17, 3528-3537.	3.0	25
25	Granule breakage in twin screw granulation: Effect of material properties and screw element geometry. Powder Technology, 2017, 315, 290-299.	4.2	21
26	Maintaining Supersaturation of Active Pharmaceutical Ingredient Solutions with Biologically Relevant Bile Salts. Crystal Growth and Design, 2017, 17, 2782-2791.	3.0	31
27	Compositional effect of complex biorelevant media on the crystallization kinetics of an active pharmaceutical ingredient. CrystEngComm, 2017, 19, 4797-4806.	2.6	14
28	Scaling of continuous twin screw wet granulation. AICHE Journal, 2017, 63, 921-932.	3.6	27
29	Microstructure of single-droplet granules formed from ultra-fine powders. Powder Technology, 2017, 305, 19-26.	4.2	6
30	Statistical analysis and comparison of a continuous high shear granulator with a twin screw granulator: Effect of process parameters on critical granule attributes and granulation mechanisms. International Journal of Pharmaceutics, 2016, 513, 357-375.	5.2	47
31	Influence of Particle Size Distribution on the Performance of Ionic Liquid-based Electrochemical Double Layer Capacitors. Scientific Reports, 2016, 6, 22062.	3.3	52
32	Influence of Surface Wettability on Microbubble Formation. Langmuir, 2016, 32, 1269-1278.	3.5	19
33	A review of pulsed flow fluidisation; the effects of intermittent gas flow on fluidised gasâ€“solid bed behaviour. Powder Technology, 2016, 292, 108-121.	4.2	40
34	Granulation and Tabletting. Particle Technology Series, 2016, , 107-136.	0.5	2
35	The Metastability and Nucleation Thresholds of Ibuprofen in Ethanol and Water-Ethanol Mixtures. International Journal of Chemical Engineering, 2015, 2015, 1-7.	2.4	3
36	Assessment of Recent Process Analytical Technology (PAT) Trends: A Multiauthor Review. Organic Process Research and Development, 2015, 19, 3-62.	2.7	329

#	Article	IF	Citations
37	Evaluating the influence of polymers on nucleation and growth in supersaturated solutions of acetaminophen. CrystEngComm, 2015, 17, 1242-1248.	2.6	27
38	Coalescence model for induction growth behavior in high shear granulation. Powder Technology, 2015, 270, 435-444.	4.2	20
39	Investigation of an 11 mm diameter twin screw granulator: Screw element performance and in-line monitoring via image analysis. International Journal of Pharmaceutics, 2015, 496, 24-32.	5.2	25
40	Population Balance Model Validation and Predictionof CQAs for Continuous Milling Processes: toward QbDin Pharmaceutical Drug Product Manufacturing. Journal of Pharmaceutical Innovation, 2013, 8, 147-162.	2.4	38
41	Experimental validation of a 2-D population balance model for spray coating processes. Chemical Engineering Science, 2013, 95, 360-365.	3.8	6
42	Multi-scale modeling of a spray coating process in a paddle mixer/coater: the effect of particle size distribution on particle segregation and coating uniformity. Chemical Engineering Science, 2013, 95, 203-210.	3.8	16
43	A regime map for granule formation by drop impact on powder beds. AICHE Journal, 2013, 59, 96-107.	3.6	37
44	Distribution nucleation: Quantifying liquid distribution on the particle surface using the dimensionless particle coating number. Chemical Engineering Science, 2013, 92, 134-145.	3.8	34
45	Quantitative analysis of the inhibitory effect of HPMC on felodipine crystallization kinetics using population balance modeling. CrystEngComm, 2013, 15, 2197-2205.	2.6	33
46	A general compartmentâ€based population balance model for particle coating and layered granulation. AICHE Journal, 2012, 58, 1397-1408.	3.6	38
47	Examining the failure modes of wet granular materials using dynamic diametrical compression. Powder Technology, 2012, 224, 189-195.	4.2	18
48	A priori performance prediction in pharmaceutical wet granulation: Testing the applicability of the nucleation regime map to a formulation with a broad size distribution and dry binder addition. International Journal of Pharmaceutics, 2011, 418, 254-264.	5.2	32
49	Granule formation mechanisms and morphology from single drop impact on powder beds. Powder Technology, 2011, 212, 69-79.	4.2	64
50	Modeling the crystallization of proteins and small organic molecules in nanoliter drops. AICHE Journal, 2010, 56, 79-91.	3.6	8
51	Breakage of drop nucleated granules in a breakage only high shear mixer. Chemical Engineering Science, 2010, 65, 5651-5657.	3.8	20
52	Experimental validation studies on a multi-dimensional and multi-scale population balance model of batch granulation. Chemical Engineering Science, 2009, 64, 775-786.	3.8	59
53	Wet granule breakage in a breakage only high-hear mixer: Effect of formulation properties on breakage behaviour. Powder Technology, 2009, 189, 158-164.	4.2	55
54	Mechanical Characterization of Protein Crystals. Particle and Particle Systems Characterization, 2008, 25, 266-276.	2.3	28

#	Article	IF	Citations
55	A three-dimensional population balance model of granulation with a mechanistic representation of the nucleation and aggregation phenomena. Chemical Engineering Science, 2008, 63, 1315-1329.	3.8	90
56	Dimensionless spray flux in wet granulation: Monte-Carlo simulations and experimental validation. Powder Technology, 2004, 141, 20-30.	4.2	43
57	Nucleation regime map for liquid bound granules. AICHE Journal, 2003, 49, 350-361.	3.6	195
58	A population balance model for high shear granulation. Chemical Engineering Communications, 2003, 190, 1309-1334.	2.6	9
59	Drop Penetration into Porous Powder Beds. Journal of Colloid and Interface Science, 2002, 253, 353-366.	9.4	235
60	Nucleation, growth and breakage phenomena in agitated wet granulation processes: a review. Powder Technology, 2001, 117, 3-39.	4.2	1,021
61	Growth regime map for liquid-bound granules: further development and experimental validation. Powder Technology, 2001, 117, 83-97.	4.2	183