Kai Sundmacher

List of Publications by Year in Descending Order

393 papers	**8,349** citations
46 h-index	**69** g-index
413 ext. papers	**9,704** ext. citations
4.7 avg, IF	**6.66** L-index

#	Paper	IF	Citations
393	Sustainability of green solvents – review and perspective. *Green Chemistry*, **2022**, 24, 410-437	10	9
392	Integrated metal–organic framework and pressure/vacuum swing adsorption process design: Descriptor optimization. *AICHE Journal*, **2022**, 68, e17524	3.6	2
391	Load-flexible fixed-bed reactors by multi-period design optimization. *Chemical Engineering Journal*, **2022**, 428, 130771	14.7	1
390	Closed-loop real-time optimization for unsteady operating production systems. *Journal of Process Control*, **2022**, 113, 80-95	3.9	
389	Increased efficiency of charge-mediated fusion in polymer/lipid hybrid membranes.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2122468119	11.5	3
388	Fusion-Induced Growth of Biomimetic Polymersomes: Behavior of Poly(dimethylsiloxane)-Poly(ethylene oxide) Vesicles in Saline Solutions Under High Agitation. *Macromolecular Rapid Communications*, **2021**, e2100712	4.8	4
387	Integrated computer-aided molecular and process design: Green solvents for the hydroformylation of long-chain olefines. *Chemical Engineering Science*, **2021**, 249, 117243	4.4	1
386	Computer-aided solvent screening for the fractionation of wet microalgae biomass. *Green Chemistry*, **2021**, 23, 10014-10029	10	0
385	Comparative Screening of Organic Solvents, Ionic Liquids, and Their Binary Mixtures for Vitamin E Extraction from Deodorizer Distillate. *Chemical Engineering and Processing: Process Intensification*, **2021**, 108711	3.7	0
384	Light-Powered Reactivation of Flagella and Contraction of Microtubule Networks: Toward Building an Artificial Cell. *ACS Synthetic Biology*, **2021**, 10, 1490-1504	5.7	2
383	Scale up of Transmembrane NADH Oxidation in Synthetic Giant Vesicles. *Bioconjugate Chemistry*, **2021**, 32, 897-903	6.3	2
382	Hybrid Data-Driven and Mechanistic Modeling Approaches for Multiscale Material and Process Design. *Engineering*, **2021**, 7, 1231-1231	9.7	5
381	Bottom-Up Synthesis of Artificial Cells: Recent Highlights and Future Challenges. *Annual Review of Chemical and Biomolecular Engineering*, **2021**, 12, 287-308	8.9	6
380	Model-based optimal design of phase change ionic liquids for efficient thermal energy storage. *Green Energy and Environment*, **2021**, 6, 392-404	5.7	8
379	Integrated ionic liquid and rate-based absorption process design for gas separation: Global optimization using hybrid models. *AICHE Journal*, **2021**, 67, e17340	3.6	8
378	Advances in the HCl gas-phase electrolysis employing an oxygen-depolarized cathode. *Electrochimica Acta*, **2021**, 365, 137282	6.7	0
377	Evaluation of COSMO-RS for solid–liquid equilibria prediction of binary eutectic solvent systems. *Green Energy and Environment*, **2021**, 6, 371-379	5.7	10

#	Reference	IF	Cit.
376	Computer-Aided Screening of Deep Eutectic Solvent Systems for the Associative Extraction of α-Tocopherol from Deodorizer Distillate. *Computer Aided Chemical Engineering*, **2021**, 50, 341-346	0.6	
375	Neural recommender system for the activity coefficient prediction and UNIFAC model extension of ionic liquid-solute systems. *AICHE Journal*, **2021**, 67, e17171	3.6	14
374	Rational Design of Ionic Liquid Phase-Change Material for Efficient Thermal Energy Storage. *Computer Aided Chemical Engineering*, **2021**, 191-196	0.6	0
373	Multi-Period Design Optimization of Flexible Fixed-Bed Reactors by Stoichiometry-Based Model Reduction. *Computer Aided Chemical Engineering*, **2021**, 947-952	0.6	
372	Power-to-Chemicals: A Superstructure Problem for Sustainable Syngas Production. *Mathematics in Industry*, **2021**, 145-168	0.2	0
371	Forschungsarbeiten am Institut für Verfahrenstechnik der Otto-von-Guericke-Universität Magdeburg. *Chemie-Ingenieur-Technik*, **2021**, 93, 345-352	0.8	
370	β-Carotene extraction from Dunaliella salina by supercritical CO_2. *Journal of Applied Phycology*, **2021**, 33, 1435-1445	3.2	5
369	Guest Editorial Special Issue on Deep Integration of Artificial Intelligence and Data Science for Process Manufacturing. *IEEE Transactions on Neural Networks and Learning Systems*, **2021**, 32, 3294-3295	10.3	
368	En route to dynamic life processes by SNARE-mediated fusion of polymer and hybrid membranes. *Nature Communications*, **2021**, 12, 4972	17.4	10
367	Decoupling oxygen and water transport dynamics in polymer electrolyte membrane fuel cells through frequency response methods based on partial pressure perturbations. *Electrochimica Acta*, **2021**, 390, 138788	6.7	2
366	Non-intrusive Time-POD for Optimal Control of a Fixed-Bed Reactor for CO_2 Methanation. *IFAC-PapersOnLine*, **2021**, 54, 122-127	0.7	
365	Hybrid Semi-parametric Modeling in Separation Processes: A Review. *Chemie-Ingenieur-Technik*, **2020**, 92, 842-855	0.8	10
364	Model-Based Analysis of the Limiting Mechanisms in the Gas-Phase Oxidation of HCl Employing an Oxygen Depolarized Cathode. *Journal of the Electrochemical Society*, **2020**, 167, 013537	3.9	2
363	Symmetry Breaking and Emergence of Directional Flows in Minimal Actomyosin Cortices. *Cells*, **2020**, 9,	7.9	4
362	Light-Driven ATP Regeneration in Diblock/Grafted Hybrid Vesicles. *ChemBioChem*, **2020**, 21, 2149-2160	3.8	22
361	Selectivity and Sustainability of Electroenzymatic Process for Glucose Conversion to Gluconic Acid. *Catalysts*, **2020**, 10, 269	4	4
360	Transformation of remnant algal biomass to 5-HMF and levulinic acid: influence of a biphasic solvent system.. *RSC Advances*, **2020**, 10, 24753-24763	3.7	17
359	Constructing artificial respiratory chain in polymer compartments: Insights into the interplay between oxidase and the membrane. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 15006-15017	11.5	22

358	Systematic Green Solvent Selection for the Hydroformylation of Long-Chain Alkenes. *ACS Sustainable Chemistry and Engineering*, **2020**,	8.3	2
357	Time-minimal set point transition for nonlinear SISO systems under different constraints. *Automatica*, **2020**, 114, 108806	5.7	3
356	Spezielle labortechnische Reaktoren: Wendelrohrreaktor. *Springer Reference Naturwissenschaften*, **2020**, 1289-1320	0.2	
355	Numerical Methods for Coupled Population Balance Systems Applied to the Dynamical Simulation of Crystallization Processes **2020**, 475-518		0
354	Systematic Screening of Deep Eutectic Solvents as Sustainable Separation Media Exemplified by the CO_2 Capture Process. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 8741-8751	8.3	29
353	Screening of functional solvent system for automatic aldehyde and ketone separation in aldol reaction: A combined COSMO-RS and experimental approach. *Chemical Engineering Journal*, **2020**, 385, 123399	14.7	12
352	Extending the UNIFAC model for ionic liquid-solute systems by combining experimental and computational databases. *AICHE Journal*, **2020**, 66, e16821	3.6	29
351	Reconstruction and analysis of a carbon-core metabolic network for Dunaliella salina. *BMC Bioinformatics*, **2020**, 21, 1	3.6	104
350	The FluxMax approach: Simultaneous flux optimization and heat integration by discretization of thermodynamic state space illustrated on methanol synthesis process. *Chemical Engineering Science*, **2020**, 215, 115382	4.4	6
349	Optimal catalyst particle design for flexible fixed-bed CO_2 methanation reactors. *Chemical Engineering Journal*, **2020**, 387, 123704	14.7	34
348	Computer-aided solvent selection and design for efficient chemical processes. *Current Opinion in Chemical Engineering*, **2020**, 27, 35-44	5.4	29
347	Computer Aided Molecular Design of Green Solvents for the Hydroformylation of Long-Chain Olefines. *Computer Aided Chemical Engineering*, **2020**, 48, 745-750	0.6	1
346	In silico Screening of Metal-organic Frameworks for Acetylene/ethylene Separation. *Computer Aided Chemical Engineering*, **2020**, 895-900	0.6	3
345	Power-to-Syngas Processes by Reactor-Separator Superstructure Optimization. *Computer Aided Chemical Engineering*, **2020**, 48, 1387-1392	0.6	
344	CO_2 methanation process synthesis by superstructure optimization. *Journal of CO_2 Utilization*, **2020**, 40, 101228	7.6	5
343	Polymer Electrolyte Fuel Cell Degradation Mechanisms and Their Diagnosis by Frequency Response Analysis Methods: A Review. *Energies*, **2020**, 13, 5825	3.1	16
342	Optimal Tube Bundle Arrangements in Side-Fired Methane Steam Reforming Furnaces. *Frontiers in Energy Research*, **2020**, 8,	3.8	1
341	Energy-Efficient Distillation Processes by Additional Heat Transfer Derived From the FluxMax Approach. *Frontiers in Energy Research*, **2020**, 8,	3.8	1

340	Mixed-Integer Linear Programming (MILP) Approach for the Synthesis of Efficient Power-to-Syngas Processes. *Frontiers in Energy Research*, **2020**, 8,	3.8	4
339	Porosity and Structure of Hierarchically Porous Ni/Al2O3 Catalysts for CO_2 Methanation. *Catalysts*, **2020**, 10, 1471	4	12
338	Big Data Creates New Opportunities for Materials Research: A Review on Methods and Applications of Machine Learning for Materials Design. *Engineering*, **2019**, 5, 1017-1026	9.7	78
337	Electrochemical gas phase oxidation of hydrogen chloride to chlorine: Model-based analysis of transport and reaction mechanisms. *Electrochimica Acta*, **2019**, 324, 134780	6.7	3
336	Analysis of mass transport processes in the anodic porous transport layer in PEM water electrolysers. *International Journal of Hydrogen Energy*, **2019**, 44, 28077-28087	6.7	12
335	Miniplant-Scale Evaluation of a Semibatch-Continuous Tandem Reactor System for the Hydroformylation of Long-Chain Olefins. *Industrial & Engineering Chemistry Research*, **2019**, 58, 2471-2480	3.9	3
334	The FluxMax approach for simultaneous process synthesis and heat integration: Production of hydrogen cyanide. *AICHE Journal*, **2019**, 65, e16554	3.6	11
333	Energy-Efficient Gas-Phase Electrolysis of Hydrogen Chloride. *Chemie-Ingenieur-Technik*, **2019**, 91, 795-808	0.8	4
332	Rational design of double salt ionic liquids as extraction solvents: Separation of thiophene/n-octane as example. *AICHE Journal*, **2019**, 65, e16625	3.6	21
331	Radiation-based model reduction for the optimization of high temperature tube bundle reactors: Synthesis of hydrogen cyanide. *Computers and Chemical Engineering*, **2019**, 127, 186-199	4	2
330	Compartments for Synthetic Cells: Osmotically Assisted Separation of Oil from Double Emulsions in a Microfluidic Chip. *ChemBioChem*, **2019**, 20, 2604-2608	3.8	11
329	Derivation of rate equations for equilibrium limited gas-solid reactions. *Chemical Engineering Science*, **2019**, 203, 76-85	4.4	1
328	Artificial Organelles for Energy Regeneration. *Advanced Biology*, **2019**, 3, e1800323	3.5	18
327	Polymer-Based Module for NAD Regeneration with Visible Light. *ChemBioChem*, **2019**, 20, 2593-2596	3.8	18
326	Optimal Solvent Design for Extractive Distillation Processes: A Multiobjective Optimization-Based Hierarchical Framework. *Industrial & Engineering Chemistry Research*, **2019**, 58, 5777-5786	3.9	38
325	Directed Growth of Biomimetic Microcompartments. *Advanced Biology*, **2019**, 3, e1800314	3.5	14
324	Operation range extension via hot-spot control for catalytic CO_2 methanation reactors. *Reaction Chemistry and Engineering*, **2019**, 4, 1019-1037	4.9	40
323	Stochastic-deterministic population balance modeling and simulation of a fluidized bed crystallizer experiment. *Chemical Engineering Science*, **2019**, 208, 115102	4.4	4

322	Systematic Selection of Green Solvents and Process Optimization for the Hydroformylation of Long-Chain Olefines. *Processes*, **2019**, 7, 882	2.9	5
321	Surrogate Modeling for Liquid⊡liquid Equilibria Using a Parameterization of the Binodal Curve. *Processes*, **2019**, 7, 753	2.9	4
320	Global optimization of distillation columns using explicit and implicit surrogate models. *Chemical Engineering Science*, **2019**, 197, 235-245	4.4	30
319	Overview of Surrogate Modeling in Chemical Process Engineering. *Chemie-Ingenieur-Technik*, **2019**, 91, 228-239	0.8	75
318	Exergetic assessment of CO_2 methanation processes for the chemical storage of renewable energies. *Applied Energy*, **2019**, 233-234, 271-282	10.7	32
317	Cyclic operation of a semi-batch reactor for the hydroformylation of long-chain olefins and integration in a continuous production process. *Chemical Engineering Journal*, **2019**, 377, 120453	14.7	4
316	Helically coiled segmented flow tubular reactor for the hydroformylation of long-chain olefins in a thermomorphic multiphase system. *Chemical Engineering Journal*, **2019**, 377, 120060	14.7	19
315	Productivity versus product quality: Exploring the limits of autothermal microchannel reactors in methane steam reforming. *Chemical Engineering Journal*, **2019**, 377, 120048	14.7	7
314	Transmembrane NADH Oxidation with Tetracyanoquinodimethane. *Langmuir*, **2018**, 34, 5435-5443	4	9
313	Techno-⊡konomische Optimierung des Produktionsnetzwerkes f⊡ die Synthese von Ameisens⊡re aus erneuerbaren Ressourcen. *Chemie-Ingenieur-Technik*, **2018**, 90, 256-266	0.8	2
312	Computationally efficient NMPC for batch and semi-batch processes using parsimonious input parameterization. *Journal of Process Control*, **2018**, 66, 12-22	3.9	4
311	Particle-image-velocimetry measurements in organic liquid multiphase systems for an optimal reactor design and operation. *Journal of Visualization*, **2018**, 21, 5-17	1.6	
310	Computer-aided design of ionic liquids as solvents for extractive desulfurization. *AICHE Journal*, **2018**, 64, 1013-1025	3.6	97
309	Sequential bottom-up assembly of mechanically stabilized synthetic cells by microfluidics. *Nature Materials*, **2018**, 17, 89-96	27	211
308	NMPC using Pontryagin⊡ Minimum Principle-Application to a two-phase semi-batch hydroformylation reactor under uncertainty. *Computers and Chemical Engineering*, **2018**, 108, 47-56	4	13
307	Reactor-network synthesis via flux profile analysis. *Chemical Engineering Journal*, **2018**, 335, 1018-1030	14.7	21
306	Linear Programming Approach for Structure Optimization of Renewable-to-Chemicals (R2Chem) Production Networks. *Industrial & Engineering Chemistry Research*, **2018**, 57, 9889-9902	3.9	11
305	MaxSynBio: Avenues Towards Creating Cells from the Bottom Up. *Angewandte Chemie - International Edition*, **2018**, 57, 13382-13392	16.4	155

304	Integrated Process and Ionic Liquid Design by Combining Flowsheet Simulation with Quantum-Chemical Solvent Screening. *Computer Aided Chemical Engineering*, **2018**, 44, 2167-2172	0.6	4
303	Computer Aided Design of Green Thermomorphic Solvent Systems for Homogeneous Catalyst Recovery. *Computer Aided Chemical Engineering*, **2018**, 1783-1788	0.6	5
302	Out-of-equilibrium microcompartments for the bottom-up integration of metabolic functions. *Nature Communications*, **2018**, 9, 2391	17.4	41
301	Spezielle labortechnische Reaktoren: Wendelrohrreaktor. *Springer Reference Naturwissenschaften*, **2018**, 1-33	0.2	
300	Continuous production of CO from CO_2 by RWGS chemical looping in fixed and fluidized bed reactors. *Chemical Engineering Journal*, **2018**, 336, 278-296	14.7	25
299	Thermodynamic Network Flow Approach for Chemical Process Synthesis. *Computer Aided Chemical Engineering*, **2018**, 43, 881-886	0.6	2
298	Quantitative single cell analysis uncovers the life/death decision in CD95 network. *PLoS Computational Biology*, **2018**, 14, e1006368	5	15
297	Identification of Key Transport Phenomena in High-Temperature Reactors: Flow and Heat Transfer Characteristics. *Industrial & Engineering Chemistry Research*, **2018**, 57, 15884-15897	3.9	4
296	Mechanisms behind overshoots in mean cluster size profiles in aggregation-breakup processes. *Journal of Colloid and Interface Science*, **2018**, 528, 336-348	9.3	5
295	MaxSynBio: Wege zur Synthese einer Zelle aus nicht lebenden Komponenten. *Angewandte Chemie*, **2018**, 130, 13566-13577	3.6	25
294	Toward Fast Dynamic Optimization: An Indirect Algorithm That Uses Parsimonious Input Parameterization. *Industrial & Engineering Chemistry Research*, **2018**, 57, 10038-10048	3.9	8
293	A hybrid stochastic deterministic optimization approach for integrated solvent and process design. *Chemical Engineering Science*, **2017**, 159, 207-216	4.4	40
292	Measurement and simulation of mass transfer and backmixing behavior in a gas-liquid helically coiled tubular reactor. *Chemical Engineering Science*, **2017**, 170, 410-421	4.4	23
291	Dynamic optimization of constrained semi-batch processes using Pontryagin s minimum principle An effective quasi-Newton approach. *Computers and Chemical Engineering*, **2017**, 99, 135-144	4	14
290	Systematic Method for Screening Ionic Liquids as Extraction Solvents Exemplified by an Extractive Desulfurization Process. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 3382-3389	8.3	92
289	Continuous Crystallization in a Helically Coiled Flow Tube: Analysis of Flow Field, Residence Time Behavior, and Crystal Growth. *Industrial & Engineering Chemistry Research*, **2017**, 56, 3699-3712	3.9	32
288	POD-DEIM for efficient reduction of a dynamic 2D catalytic reactor model. *Computers and Chemical Engineering*, **2017**, 106, 777-784	4	9
287	CO production from CO_2 via reverse water gas shift reaction performed in a chemical looping mode: Kinetics on modified iron oxide. *Journal of CO2 Utilization*, **2017**, 17, 60-68	7.6	35

286	Concentration-alternating frequency response: A new method for studying polymer electrolyte membrane fuel cell dynamics. *Electrochimica Acta*, **2017**, 243, 53-64	6.7	13
285	Understanding PEM fuel cell dynamics: The reversal curve. *International Journal of Hydrogen Energy*, **2017**, 42, 15818-15827	6.7	18
284	Disorientation angle distribution of primary particles in potash alum aggregates. *Journal of Crystal Growth*, **2017**, 467, 93-106	1.6	9
283	Catalyst Layer Modeling **2017**, 259-285		1
282	Model-based Optimal Sabatier Reactor Design for Power-to-Gas Applications. *Energy Technology*, **2017**, 5, 911-921	3.5	31
281	Toward Artificial Mitochondrion: Mimicking Oxidative Phosphorylation in Polymer and Hybrid Membranes. *Nano Letters*, **2017**, 17, 6816-6821	11.5	71
280	Economic linear objective function approach for structure optimization of renewables-to-chemicals (R2Chem) networks. *Computer Aided Chemical Engineering*, **2017**, 40, 1975-1980	0.6	3
279	Set point tracking of a biogas plant coupled to a methanation reactor. *Computer Aided Chemical Engineering*, **2017**, 40, 1645-1650	0.6	
278	Influence of the autonomous oscillations and the CO concentration on the performance of an ECPrOx reactor. *Electrochimica Acta*, **2017**, 251, 602-612	6.7	1
277	Optimal Reactor Design via Flux Profile Analysis for an Integrated Hydroformylation Process. *Industrial & Engineering Chemistry Research*, **2017**, 56, 11507-11518	3.9	16
276	Carotenoid Production Process Using Green Microalgae of the Dunaliella Genus: Model-Based Analysis of Interspecies Variability. *Industrial & Engineering Chemistry Research*, **2017**, 56, 12888-12898	3.9	3
275	Numerical study of liquid-liquid mixing in helical pipes. *Chemical Engineering Science*, **2017**, 172, 250-261	4.4	46
274	Crystal Population Growth in a Continuous Helically Coiled Flow Tube Crystallizer. *Chemical Engineering and Technology*, **2017**, 40, 1584-1590	2	12
273	Thermodynamic analysis and optimization of RWGS processes for solar syngas production from CO2. *AICHE Journal*, **2017**, 63, 15-22	3.6	24
272	CO2 methanation: Optimal start-up control of a fixed-bed reactor for power-to-gas applications. *AICHE Journal*, **2017**, 63, 23-31	3.6	59
271	Recovery and Separation of Carbohydrate Derivatives from the Lipid Extracted Alga Dunaliella by Mild Liquefaction. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 588-595	8.3	6
270	Integrated reaction extraction process for the hydroformylation of long-chain alkenes with a homogeneous catalyst. *Computers and Chemical Engineering*, **2017**, 105, 212-223	4	20
269	Efficient simulation of intrinsic, extrinsic and external noise in biochemical systems. *Bioinformatics*, **2017**, 33, i319-i324	7.2	3

268	Physics-Based Surrogate Models for Optimal Control of a CO2 Methanation Reactor. *Computer Aided Chemical Engineering*, **2017**, 40, 127-132	0.6	1
267	Process Optimization by Applying a Simultaneous Dynamic Method. *Computer Aided Chemical Engineering*, **2017**, 40, 2047-2052	0.6	
266	Dynamic Optimization of Constrained Semi-Batch Processes using Pontryagins Minimum Principle and Parsimonious Parameterization. *Computer Aided Chemical Engineering*, **2017**, 40, 2041-2046	0.6	
265	Computationally Efficient Steady-State Process Simulation by Applying a Simultaneous Dynamic Method. *Computer Aided Chemical Engineering*, **2016**, 38, 517-522	0.6	3
264	Probabilistic reactor design in the framework of elementary process functions. *Computers and Chemical Engineering*, **2016**, 94, 45-59	4	26
263	Autonomous Voltage Oscillations in a Direct Methanol Fuel Cell. *Electrochimica Acta*, **2016**, 212, 545-552	6.7	17
262	Structure optimization of power-to-chemicals (P2C) networks by linear programming for the economic utilization of renewable surplus energy. *Computer Aided Chemical Engineering*, **2016**, 1551-1556	0.6	10
261	A Short-Cut Method for the Quantification of Crystallization Kinetics. 1. Method Development. *Crystal Growth and Design*, **2016**, 16, 6743-6755	3.5	9
260	Dynamische Methode zur Berechnung thermodynamischer Gleichgewichte in reaktiven Mehrphasensystemen. *Chemie-Ingenieur-Technik*, **2016**, 88, 1617-1627	0.8	2
259	Thermomorphic solvent selection for homogeneous catalyst recovery based on COSMO-RS. *Chemical Engineering and Processing: Process Intensification*, **2016**, 99, 97-106	3.7	36
258	Flow cytometry enables dynamic tracking of algal stress response: A case study using carotenogenesis in Dunaliella salina. *Algal Research*, **2016**, 13, 227-234	5	13
257	Optimal configuration and pressure levels of electrolyzer plants in context of power-to-gas applications. *Applied Energy*, **2016**, 167, 107-124	10.7	54
256	Image-based analytical crystal shape computation exemplified for potassium dihydrogen phosphate (KDP). *Chemical Engineering Science*, **2016**, 139, 61-74	4.4	3
255	Nonlinear Model Order Reduction for Catalytic Tubular Reactors. *Computer Aided Chemical Engineering*, **2016**, 38, 2373-2378	0.6	1
254	Efficient simulation of heterogeneity and stochasticity in microbial processes. *Computer Aided Chemical Engineering*, **2016**, 1213-1218	0.6	
253	Design and Comparison of Optimal Reactor Concepts for the Hydroformylation of Olefins by Use of a Probabilistic Design Framework. *Computer Aided Chemical Engineering*, **2016**, 38, 1365-1370	0.6	
252	Optimal design of solvents for extractive reaction processes. *AICHE Journal*, **2016**, 62, 3238-3249	3.6	27
251	Hydrogen and Carbon Monoxide Production by Chemical Looping over Iron-Aluminium Oxides. *Energy Technology*, **2016**, 4, 304-313	3.5	31

250	The interaction of protein-coated bionanoparticles and surface receptors reevaluated: how important is the number of bonds?. *Soft Matter*, **2016**, 12, 6451-62	3.6	2
249	Material development and process optimization for gas-phase hydrogen chloride electrolysis with oxygen depolarized cathode. *Journal of Applied Electrochemistry*, **2016**, 46, 755-767	2.6	6
248	Optimal Control of Crystal Shapes in Batch Crystallization Experiments by Growth-Dissolution Cycles. *Crystal Growth and Design*, **2016**, 16, 3297-3306	3.5	33
247	Binding kinetics and multi-bond: Finding correlations by synthesizing interactions between ligand-coated bionanoparticles and receptor surfaces. *Analytical Biochemistry*, **2016**, 505, 8-17	3.1	1
246	Diagnostic concept for dynamically operated biogas production plants. *Renewable Energy*, **2016**, 96, 479-489	4.8	16
245	Dynamic flux balance modeling to increase the production of high-value compounds in green microalgae. *Biotechnology for Biofuels*, **2016**, 9, 165	7.8	19
244	Valorization of the aqueous phase obtained from hydrothermally treated Dunaliella salina remnant biomass. *Bioresource Technology*, **2016**, 219, 64-71	11	22
243	Rational selection of experimental readout and intervention sites for reducing uncertainties in computational model predictions. *BMC Bioinformatics*, **2015**, 16, 13	3.6	3
242	Model-based analysis of a gas/vapor–liquid microchannel membrane contactor. *AICHE Journal*, **2015**, 61, 2240-2256	3.6	10
241	Fast evaluation of univariate aggregation integrals on equidistant grids. *Computers and Chemical Engineering*, **2015**, 74, 115-127	4	12
240	Miniemulsion-Based Process for Controlling the Size and Shape of Zinc Oxide Nanoparticles. *Industrial & Engineering Chemistry Research*, **2015**, 54, 10293-10300	3.9	12
239	Comparison of flocculation methods for harvesting Dunaliella. *Bioresource Technology*, **2015**, 196, 145-52	11	32
238	Robust design of optimal solvents for chemical reactions—A combined experimental and computational strategy. *Chemical Engineering Science*, **2015**, 137, 613-625	4.4	41
237	Data Driven Conceptual Process Design for the Hydroformylation of 1-Dodecene in a Thermomorphic Solvent System. *Industrial & Engineering Chemistry Research*, **2015**, 54, 6761-6771	3.9	11
236	Energy and operating cost assessment of competing harvesting methods for D. salina in a β-carotene production process. *Algal Research*, **2015**, 12, 161-169	5	12
235	Reduction of microkinetic reaction models for reactor optimization exemplified for hydrogen production from methane. *Chemical Engineering Journal*, **2015**, 281, 981-994	14.7	9
234	Synthetic Methane from CO2: Dynamic Optimization of the Sabatier Process for Power-to-Gas Applications. *Computer Aided Chemical Engineering*, **2015**, 37, 1157-1162	0.6	8
233	Face-Specific Growth and Dissolution Kinetics of Potassium Dihydrogen Phosphate Crystals from Batch Crystallization Experiments. *Crystal Growth and Design*, **2015**, 15, 219-227	3.5	37

232	UPLC-MS analysis of Chlamydomonas reinhardtii and Scenedesmus obliquus lipid extracts and their possible metabolic roles. *Journal of Applied Phycology*, **2015**, 27, 1149-1159	3.2	9
231	Generalizing ODE modeling structure for multivariate systems with distributed parameters. *IFAC-PapersOnLine*, **2015**, 48, 240-247	0.7	1
230	Computer-aided design of solvents for the recovery of a homogeneous catalyst used for alkene hydroformylation. *Computer Aided Chemical Engineering*, **2015**, 37, 2075-2080	0.6	3
229	Integrated solvent and process design exemplified for a Diels Alder reaction. *AICHE Journal*, **2015**, 61, 147-158	3.6	66
228	Robust process design for the bioproduction of β-carotene in green microalgae. *Computer Aided Chemical Engineering*, **2015**, 2117-2122	0.6	
227	Model-based Observation and Design of Crystal Shapes via Controlled Growth-Dissolution Cycles. *Computer Aided Chemical Engineering*, **2015**, 1673-1678	0.6	1
226	Multi-Level Design of Process Systems for Efficient Chemicals Production and Energy Conversion. *Computer Aided Chemical Engineering*, **2015**, 37, 25-34	0.6	3
225	A Dynamic Method for Computing Thermodynamic Equilibria in Process Simulation. *Computer Aided Chemical Engineering*, **2015**, 37, 299-304	0.6	5
224	MAXNET Energy Focusing Research in Chemical Energy Conversion on the Electrocatlytic Oxygen Evolution. *Green*, **2015**, 5,		3
223	Model-Based Identification and Experimental Validation of the Optimal Reaction Route for the Hydroformylation of 1-Dodecene. *Industrial & Engineering Chemistry Research*, **2015**, 54, 1755-1765	3.9	45
222	Simulation based ionic liquid screening for benzene cyclohexane extractive separation. *Chemical Engineering Science*, **2014**, 113, 45-53	4.4	46
221	Model-based method for the screening of solvents for chemical reactions. *Chemical Engineering Science*, **2014**, 115, 177-185	4.4	46
220	Image-Based in Situ Identification of Face Specific Crystal Growth Rates from Crystal Populations. *Crystal Growth and Design*, **2014**, 14, 952-971	3.5	61
219	Simultaneous design of the optimal reaction and process concept for multiphase systems. *Chemical Engineering Science*, **2014**, 115, 69-87	4.4	47
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