

Andreas S Bommarius

List of Publications by Year in descending order

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106
papers

5,401
citations

94433

37
h-index

88630

70
g-index

111
all docs

111
docs citations

111
times ranked

5190
citing authors

#	ARTICLE	IF	CITATIONS
1	Stabilizing biocatalysts. <i>Chemical Society Reviews</i> , 2013, 42, 6534.	38.1	396
2	Stability of biocatalysts. <i>Current Opinion in Chemical Biology</i> , 2007, 11, 220-225.	6.1	367
3	Modeling cellulase kinetics on lignocellulosic substrates. <i>Biotechnology Advances</i> , 2009, 27, 833-848.	11.7	347
4	Synthesis and use of enantiomerically pure tert-leucine. <i>Tetrahedron: Asymmetry</i> , 1995, 6, 2851-2888.	1.8	248
5	Development of an Amine Dehydrogenase for Synthesis of Chiral Amines. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 3969-3972.	13.8	230
6	Status of protein engineering for biocatalysts: how to design an industrially useful biocatalyst. <i>Current Opinion in Chemical Biology</i> , 2011, 15, 194-200.	6.1	190
7	Cellulase kinetics as a function of cellulose pretreatment. <i>Metabolic Engineering</i> , 2008, 10, 370-381.	7.0	157
8	Enzymes in reversed micelles as catalysts for organic-phase synthesis reactions. <i>Industrial & Engineering Chemistry Fundamentals</i> , 1986, 25, 603-612.	0.7	151
9	Oxidoreductase-Catalyzed Synthesis of Chiral Amines. <i>ACS Catalysis</i> , 2018, 8, 10985-11015.	11.2	150
10	Recent Advances in γ -Transaminase-Mediated Biocatalysis for the Enantioselective Synthesis of Chiral Amines. <i>Catalysts</i> , 2018, 8, 254.	3.5	139
11	Biocatalysis: A Status Report. <i>Annual Review of Chemical and Biomolecular Engineering</i> , 2015, 6, 319-345.	6.8	128
12	The Evolution of an Amine Dehydrogenase Biocatalyst for the Asymmetric Production of Chiral Amines. <i>Advanced Synthesis and Catalysis</i> , 2013, 355, 1780-1786.	4.3	126
13	Fluorescence imaging using synthetic GFP chromophores. <i>Current Opinion in Chemical Biology</i> , 2015, 27, 64-74.	6.1	120
14	Development of a Thermostable Glucose Dehydrogenase by a Structure-Guided Consensus Concept. <i>ChemBioChem</i> , 2007, 8, 2295-2301.	2.6	117
15	Long-term stability of influenza vaccine in a dissolving microneedle patch. <i>Drug Delivery and Translational Research</i> , 2017, 7, 195-205.	5.8	98
16	The Crystal Structure of NAD(P)H Oxidase from <i>Lactobacillus sanfranciscensis</i> : Insights into the Conversion of O ₂ into Two Water Molecules by the Flavoenzyme. <i>Biochemistry</i> , 2006, 45, 9648-9659.	2.5	85
17	A novel chimeric amine dehydrogenase shows altered substrate specificity compared to its parent enzymes. <i>Chemical Communications</i> , 2014, 50, 14953-14955.	4.1	84
18	High-throughput screening for enhanced protein stability. <i>Current Opinion in Biotechnology</i> , 2006, 17, 606-610.	6.6	83

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19	Utilizing simple biochemical measurements to predict lifetime output of biocatalysts in continuous isothermal processes. <i>Chemical Engineering Science</i> , 2010, 65, 2118-2124.	3.8	83
20	Better library design: data-driven protein engineering. <i>Biotechnology Journal</i> , 2007, 2, 180-191.	3.5	80
21	Structure-guided consensus approach to create a more thermostable penicillin G acylase. <i>Biotechnology Journal</i> , 2006, 1, 531-536.	3.5	78
22	Biomolecular Assemblies: Moving from Observation to Predictive Design. <i>Chemical Reviews</i> , 2018, 118, 11519-11574.	47.7	71
23	Formate Oxidase (FOx) from <i>Aspergillus oryzae</i> : One Catalyst Enables Diverse H ₂ O ₂ -Dependent Biocatalytic Oxidation Reactions. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 7873-7877.	13.8	67
24	The Hofmeister effect on amyloid formation using yeast prion protein. <i>Protein Science</i> , 2010, 19, 47-56.	7.6	66
25	Biphasic Reaction System Allows for Conversion of Hydrophobic Substrates by Amine Dehydrogenases. <i>ACS Catalysis</i> , 2014, 4, 4021-4026.	11.2	65
26	Deactivation of Formate Dehydrogenase (FDH) in Solution and at Gas-Liquid Interfaces. <i>Biotechnology Progress</i> , 2005, 21, 1663-1672.	2.6	64
27	Energising the E-factor: The E ⁺ -factor. <i>Tetrahedron</i> , 2019, 75, 1311-1314.	1.9	64
28	Hydrogen peroxide-producing NADH oxidase (nox-1) from <i>Lactococcus lactis</i> . <i>Tetrahedron: Asymmetry</i> , 2004, 15, 2939-2944.	1.8	59
29	Biological pretreatment of cellulose: Enhancing enzymatic hydrolysis rate using cellulose-binding domains from cellulases. <i>Bioresource Technology</i> , 2011, 102, 2910-2915.	9.6	57
30	Green Fluorescent Protein with Anionic Tryptophan-Based Chromophore and Long Fluorescence Lifetime. <i>Biophysical Journal</i> , 2015, 109, 380-389.	0.5	56
31	The membrane reactor in the fine chemicals industry. <i>Applied Catalysis A: General</i> , 2001, 221, 171-185.	4.3	54
32	Protein engineering of cellulases. <i>Current Opinion in Biotechnology</i> , 2014, 29, 139-145.	6.6	52
33	Improved thermostability of AEH by combining B-FIT analysis and structure-guided consensus method. <i>Journal of Biotechnology</i> , 2012, 160, 214-221.	3.8	48
34	Xanthine Oxidase Reactivity in Reversed Micellar Systems: A Contribution to the Prediction of Enzymic Activity in Organized Media. <i>Journal of the American Chemical Society</i> , 1995, 117, 4515-4523.	13.7	45
35	Established and novel tools to investigate biocatalyst stability. <i>Biocatalysis and Biotransformation</i> , 2005, 23, 125-139.	2.0	45
36	Reactive crystallization: a review. <i>Reaction Chemistry and Engineering</i> , 2021, 6, 364-400.	3.7	43

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37	The Short-chain Dehydrogenase/Reductase Engineering Database (SDRED): A classification and analysis system for a highly diverse enzyme family. <i>Proteins: Structure, Function and Bioinformatics</i> , 2019, 87, 443-451.	2.6	32
38	Pooling for Improved Screening of Combinatorial Libraries for Directed Evolution. <i>Biotechnology Progress</i> , 2006, 22, 961-967.	2.6	31
39	NAD(P)H oxidase V from <i>Lactobacillus plantarum</i> (NoxV) displays enhanced operational stability even in absence of reducing agents. <i>Journal of Molecular Catalysis B: Enzymatic</i> , 2011, 71, 159-165.	1.8	30
40	Metagenomic Mining for Amine Dehydrogenase Discovery. <i>Advanced Synthesis and Catalysis</i> , 2020, 362, 2427-2436.	4.3	30
41	Enzymatic reactive crystallization for improving ampicillin synthesis. <i>Chemical Engineering Science</i> , 2017, 165, 81-88.	3.8	28
42	Mutagenesis-independent Stabilization of Class B Flavin Monooxygenases in Operation. <i>Advanced Synthesis and Catalysis</i> , 2017, 359, 2121-2131.	4.3	28
43	Biocatalytic Reaction And Recycling by Using CO ₂ -Induced Organic-Aqueous Tunable Solvents. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 4670-4673.	13.8	27
44	Accelerated Biocatalyst Stability Testing for Process Optimization. <i>Biotechnology Progress</i> , 2008, 21, 762-774.	2.6	27
45	Coupling chiral homogeneous biocatalytic reactions with benign heterogeneous separation. <i>Green Chemistry</i> , 2007, 9, 888.	9.0	26
46	Crystallization Kinetics of Ampicillin Using Online Monitoring Tools and Robust Parameter Estimation. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 2153-2162.	3.7	26
47	Continuous reactive crystallization of β -lactam antibiotics catalyzed by penicillin G acylase. Part I: Model development. <i>Computers and Chemical Engineering</i> , 2019, 123, 331-343.	3.8	25
48	Amino ester hydrolase from <i>Xanthomonas campestris</i> pv. <i>campestris</i> , ATCC 33913 for enzymatic synthesis of ampicillin. <i>Journal of Molecular Catalysis B: Enzymatic</i> , 2010, 67, 21-28.	1.8	24
49	Contributions of the Prion Protein Sequence, Strain, and Environment to the Species Barrier. <i>Journal of Biological Chemistry</i> , 2016, 291, 1277-1288.	3.4	23
50	Enzyme-Mediated Conversion of Flavin Adenine Dinucleotide (FAD) to 8-Formyl FAD in Formate Oxidase Results in a Modified Cofactor with Enhanced Catalytic Properties. <i>Biochemistry</i> , 2017, 56, 3800-3807.	2.5	23
51	Informing Efforts to Develop Nitroreductase for Amine Production. <i>Molecules</i> , 2018, 23, 211.	3.8	23
52	Production of active pharmaceutical ingredients (APIs) from lignin-derived phenol and catechol. <i>Green Chemistry</i> , 2021, 23, 7488-7498.	9.0	23
53	Bubble Column Enables Higher Reaction Rate for Deracemization of (R,S)-1-Phenylethanol with Coupled Alcohol Dehydrogenase/NADH Oxidase System. <i>Advanced Synthesis and Catalysis</i> , 2019, 361, 2574-2581.	4.3	22
54	Separate Sets of Mutations Enhance Activity and Substrate Scope of Amine Dehydrogenase. <i>ChemCatChem</i> , 2020, 12, 2436-2439.	3.7	22

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55	<i>In Situ</i> Imaging Combined with Deep Learning for Crystallization Process Monitoring: Application to Cephalexin Production. <i>Organic Process Research and Development</i> , 2021, 25, 1670-1679.	2.7	22
56	Ion-specific Effects on Prion Nucleation and Strain Formation. <i>Journal of Biological Chemistry</i> , 2013, 288, 30300-30308.	3.4	21
57	Fully biological production of adipic acid analogs from branched catechols. <i>Scientific Reports</i> , 2020, 10, 13367.	3.3	21
58	Optimization of reactive simulated moving bed systems with modulation of feed concentration for production of glycol ether ester. <i>Journal of Chromatography A</i> , 2014, 1360, 196-208.	3.7	20
59	Continuous production of a chiral amine in a packed bed reactor with co-immobilized amine dehydrogenase and formate dehydrogenase. <i>Chemical Engineering Journal</i> , 2021, 407, 127065.	12.7	20
60	Model-based design and experimental validation of simulated moving bed reactor for production of glycol ether ester. <i>Chemical Engineering Journal</i> , 2016, 301, 188-199.	12.7	19
61	Reactive crystallization of β -lactam antibiotics: strategies to enhance productivity and purity of ampicillin. <i>Reaction Chemistry and Engineering</i> , 2016, 1, 321-329.	3.7	19
62	Transesterification of propylene glycol methyl ether in chromatographic reactors using anion exchange resin as a catalyst. <i>Journal of Chromatography A</i> , 2016, 1466, 84-95.	3.7	17
63	Formate Oxidase (FOx) aus <i>Aspergillus oryzae</i> : ein Katalysator für verschiedene H ₂ O ₂ -abhängige biokatalytische Oxidationen. <i>Angewandte Chemie</i> , 2019, 131, 7955-7959.	2.0	17
64	Photoirradiation Generates an Ultrastable 8-Formyl FAD Semiquinone Radical with Unusual Properties in Formate Oxidase. <i>Biochemistry</i> , 2018, 57, 5818-5826.	2.5	16
65	Conversion improvement for catalytic synthesis of propylene glycol methyl ether acetate by reactive chromatography: Experiments and parameter estimation. <i>Chemical Engineering Journal</i> , 2015, 259, 397-409.	12.7	15
66	Effect of peptide linker length and composition on immobilization and catalysis of leucine zipper enzyme fusion proteins. <i>AIChE Journal</i> , 2018, 64, 2934-2946.	3.6	15
67	Kinetic model discrimination of penicillin G acylase thermal deactivation by non-isothermal continuous activity assay. <i>Chemical Engineering Science</i> , 2018, 187, 79-86.	3.8	15
68	FOx News: Towards Methanol-driven Biocatalytic Oxyfunctionalisation Reactions. <i>ChemCatChem</i> , 2020, 12, 2713-2716.	3.7	15
69	Crystallization Kinetics of Cephalexin Monohydrate in the Presence of Cephalexin Precursors. <i>Crystal Growth and Design</i> , 2019, 19, 5065-5074.	3.0	14
70	Continuous reactive crystallization of β -lactam antibiotics catalyzed by penicillin G acylase. Part II: Case study on ampicillin and product purity. <i>Computers and Chemical Engineering</i> , 2019, 126, 332-341.	3.8	14
71	Ampicillin Synthesis Using a Two-Enzyme Cascade with Both β -Amino Ester Hydrolase and Penicillin G Acylase. <i>ChemCatChem</i> , 2010, 2, 987-991.	3.7	13
72	Mechanistic studies of formate oxidase from <i>Aspergillus oryzae</i> : A novel member of the glucose-Methanol-choline oxidoreductase enzyme superfamily that oxidizes carbon acids. <i>Archives of Biochemistry and Biophysics</i> , 2018, 643, 24-31.	3.0	13

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73	Proteinâ€inorganic calciumâ€phosphate supraparticles as a robust platform for enzyme coâ€immobilization. <i>Biotechnology and Bioengineering</i> , 2020, 117, 1979-1989.	3.3	13
74	Deactivation of TEMâ€1 Î²â€Lactamase Investigated by Isothermal Batch and Nonâ€Isothermal Continuous Enzyme Membrane Reactor Methods. <i>ChemCatChem</i> , 2009, 1, 131-137.	3.7	12
75	Applying Direct Yellow 11 to a modified Simonsâ€™ staining assay. <i>Cellulose</i> , 2017, 24, 2367-2373.	4.9	12
76	Mutual Influence of Furfural and Furancarboxylic Acids on Their Solubility in Aqueous Solutions: Experiments and Perturbed-Chain Statistical Associating Fluid Theory (PC-SAFT) Predictions. <i>Journal of Chemical & Engineering Data</i> , 2018, 63, 1460-1470.	1.9	12
77	Similarities in Recalcitrant Structures of Industrial Nonâ€Kraft and Kraft Lignin. <i>ChemSusChem</i> , 2020, 13, 4624-4632.	6.8	12
78	Sparged but not stirred: Rapid, ADH-NADH oxidase catalyzed deracemization of alcohols in a bubble column. <i>Chemical Engineering Journal</i> , 2021, 417, 127909.	12.7	12
79	Amine dehydrogenases occur in nature. <i>Nature Catalysis</i> , 2019, 2, 288-289.	34.4	11
80	Engineering towards Nitroreductase Functionality in Eneâ€Reductase Scaffolds. <i>ChemBioChem</i> , 2015, 16, 811-818.	2.6	10
81	Engineered amine dehydrogenase exhibits altered kinetic mechanism compared to parent with implications for industrial application. <i>Chemical Engineering Journal</i> , 2019, 369, 634-640.	12.7	10
82	Modulation of the Formation of AÎ²- and Sup35NM-Based Amyloids by Complex Interplay of Specific and Nonspecific Ion Effects. <i>Journal of Physical Chemistry B</i> , 2018, 122, 4972-4981.	2.6	9
83	A high-throughput pH-based colorimetric assay: application focus on alpha/beta hydrolases. <i>Analytical Biochemistry</i> , 2018, 549, 80-90.	2.4	9
84	Solvent Selection for Lignin Value Prior to Pulping. <i>ChemSusChem</i> , 2020, 13, 267-273.	6.8	9
85	Model development for enzymatic reactive crystallization of Î²-lactam antibiotics: a reactionâ€diffusion-crystallization approach. <i>Reaction Chemistry and Engineering</i> , 2020, 5, 2064-2080.	3.7	9
86	Reduced deactivation of mechanochemically delaminated hierarchical zeolite MCM-22 catalysts during 4-propylphenol cracking. <i>Journal of Catalysis</i> , 2022, 411, 187-192.	6.2	9
87	An effective chemical pretreatment method for lignocellulosic biomass with substituted imidazoles. <i>Biotechnology Progress</i> , 2015, 31, 25-34.	2.6	8
88	Experimental evaluation of simulated moving bed reactor for transesterification reaction synthesis of glycol ether ester. <i>Adsorption</i> , 2019, 25, 795-807.	3.0	8
89	Pore Blocking by Phenolates as Deactivation Path during the Cracking of 4-Propylphenol over ZSM-5. <i>Catalysts</i> , 2021, 11, 721.	3.5	8
90	Periodic wet milling as a solution to size-based separation of crystal products from biocatalyst for continuous reactive crystallization. <i>Chemical Engineering Research and Design</i> , 2022, 177, 473-483.	5.6	8

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91	In situ mixed donor synthesis of ampicillin with ethylene glycol co-solvent. <i>Biotechnology and Bioengineering</i> , 2014, 111, 1054-1058.	3.3	7
92	Reactive crystallization of selected enantiomers: Chemo-enzymatic stereoinversion of amino acids at supersaturated conditions. <i>Chemical Engineering Science</i> , 2015, 122, 416-425.	3.8	7
93	Direct Observation of Growth Rate Dispersion in the Enzymatic Reactive Crystallization of Ampicillin. <i>Processes</i> , 2019, 7, 390.	2.8	7
94	Techno-economic analysis of water precipitation for lignin value prior to pulping. <i>Chemical Engineering Research and Design</i> , 2019, 143, 4-10.	5.6	6
95	Biocatalytic Reductive Amination by Native Amine Dehydrogenases to Access Short Chiral Alkyl Amines and Amino Alcohols. <i>Frontiers in Catalysis</i> , 2021, 1, .	3.9	6
96	Tuning the Morphology of Protein-Inorganic Calcium-Phosphate Supraparticles via Directed Assembly. <i>Langmuir</i> , 2020, 36, 15296-15308.	3.5	4
97	Purification of chimeric amine dehydrogenase using a tailor-made aqueous two-phase system - A case study. <i>Journal of Molecular Liquids</i> , 2021, 323, 114991.	4.9	4
98	Kinetic model development for β -amino ester hydrolase (AEH)-catalyzed synthesis of β -lactam antibiotics. <i>Chemical Engineering Journal</i> , 2021, 426, 131816.	12.7	4
99	Transesterification of propylene glycol methyl ether by reactive simulated moving bed chromatography using homogeneous catalyst. <i>Adsorption</i> , 2018, 24, 309-324.	3.0	3
100	Modeling Amyloid Aggregation Kinetics: A Case Study with Sup35NM. <i>Journal of Physical Chemistry B</i> , 2021, 125, 4955-4963.	2.6	3
101	Reactor Design and Optimization of β -Amino Ester Hydrolase- Catalyzed Synthesis of Cephalexin. <i>Frontiers in Bioengineering and Biotechnology</i> , 2022, 10, 826357.	4.1	3
102	Long-Term Biocatalyst Performance: Mechanistic Prediction and Continuous Non-isothermal Testing. <i>ChemSusChem</i> , 2022, , e202102701.	6.8	3
103	The role of residue C410 on activation of the human vitamin D receptor by various ligands. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2012, 128, 76-86.	2.5	2
104	Cover Image, Volume 87, Issue 6. <i>Proteins: Structure, Function and Bioinformatics</i> , 2019, 87, C1-C1.	2.6	1
105	Evaluation of ionic equilibria in mixed-buffer isothermal titration calorimetry and continuously stirred tank reactors. <i>International Journal of Pharmaceutics</i> , 2021, 594, 120170.	5.2	1
106	Identifying interacting residues using Boolean Learning and Support Vector Machines: Case study on mRFP and DsRed proteins. <i>Biotechnology Journal</i> , 2008, 3, 63-73.	3.5	0