Jeffrey D Rimer

List of Publications by Citations

121 papers	4,897 citations	35 h-index	68 g-index
141 ext. papers	6,077 ext. citations	9.5 avg, IF	6.16 L-index

#	Paper	IF	Citations
121	CRYSTAL GROWTH. Crystallization by particle attachment in synthetic, biogenic, and geologic environments. *Science*, **2015**, 349, aaa6760	33.3	1035
120	In situ imaging of silicalite-1 surface growth reveals the mechanism of crystallization. *Science*, **2014**, 344, 729-32	33.3	247
119	Crystal growth inhibitors for the prevention of L-cystine kidney stones through molecular design. *Science*, **2010**, 330, 337-341	33.3	179
118	Structure of the Silica Phase Extracted from Silica/(TPA)OH Solutions Containing Nanoparticles. *Journal of Physical Chemistry B*, **2003**, 107, 10006-10016	3.4	153
117	SSZ-13 Crystallization by Particle Attachment and Deterministic Pathways to Crystal Size Control. *Journal of the American Chemical Society*, **2015**, 137, 13007-17	16.4	144
116	Controlling crystal polymorphism in organic-free synthesis of Na-zeolites. *Journal of the American Chemical Society*, **2013**, 135, 2641-52	16.4	131
115	Spontaneous Formation of Silica Nanoparticles in Basic Solutions of Small Tetraalkylammonium Cations. *Journal of Physical Chemistry B*, **2004**, 108, 12271-12275	3.4	130
114	Physical basis for the formation and stability of silica nanoparticles in basic solutions of monovalent cations. *Langmuir*, **2005**, 21, 8960-71	4	116
113	Molecular modifiers reveal a mechanism of pathological crystal growth inhibition. *Nature*, **2016**, 536, 446-50	50.4	107
112	Epitaxial Growth of ZSM-5@Silicalite-1: A Core-Shell Zeolite Designed with Passivated Surface Acidity. *ACS Nano*, **2015**, 9, 4006-16	16.7	102
111	Kinetic and Thermodynamic Studies of Silica Nanoparticle Dissolution. *Chemistry of Materials*, **2007**, 19, 4189-4197	9.6	94
110	Mechanisms of hematin crystallization and inhibition by the antimalarial drug chloroquine. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 4946-51	11.5	93
109	A facile strategy to design zeolite L crystals with tunable morphology and surface architecture. *Journal of the American Chemical Society*, **2013**, 135, 6608-17	16.4	93
108	Specificity of growth inhibitors and their cooperative effects in calcium oxalate monohydrate crystallization. *Journal of the American Chemical Society*, **2014**, 136, 367-76	16.4	80
107	Evolution of self-assembled silica-tetrapropylammonium nanoparticles at elevated temperatures. *Journal of Physical Chemistry B*, **2005**, 109, 12762-71	3.4	80
106	Engineering Crystal Modifiers: Bridging Classical and Nonclassical Crystallization. *Chemistry of Materials*, **2016**, 28, 8453-8465	9.6	74
105	Implications of methanol disproportionation on catalyst lifetime for methanol-to-olefins conversion by HSSZ-13. *Journal of Catalysis*, **2017**, 346, 154-160	7.3	71

104	Synthesis of zeolites in the absence of organic structure-directing agents: factors governing crystal selection and polymorphism. *Reviews in Chemical Engineering*, **2014**, 30, 1-49	5	71
103	Tailoring silicalite-1 crystal morphology with molecular modifiers. *Angewandte Chemie - International Edition*, **2012**, 51, 3345-9	16.4	69
102	Silica self-assembly and synthesis of microporous and mesoporous silicates. *Chemistry - A European Journal*, **2006**, 12, 2926-34	4.8	69
101	Computational Assessment of the Dominant Factors Governing the Mechanism of Methanol Dehydration over H-ZSM-5 with Heterogeneous Aluminum Distribution. *ACS Catalysis*, **2016**, 6, 2287-2298	13.1	68
100	Nucleation of FAU and LTA Zeolites from Heterogeneous Aluminosilicate Precursors. *Chemistry of Materials*, **2016**, 28, 4906-4916	9.6	62
99	Periodic, vdW-corrected density functional theory investigation of the effect of Al siting in H-ZSM-5 on chemisorption properties and site-specific acidity. *Catalysis Communications*, **2014**, 52, 98-102	3.2	60
98	Antimalarials inhibit hematin crystallization by unique drug-surface site interactions. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 7531-7536	11.5	56
97	Natural promoters of calcium oxalate monohydrate crystallization. *Journal of the American Chemical Society*, **2014**, 136, 12648-57	16.4	49
96	Assembly and Evolution of Amorphous Precursors in Zeolite L Crystallization. *Chemistry of Materials* , **2016**, 28, 1714-1727	9.6	48
95	Transient modes of zeolite surface growth from 3D gel-like islands to 2D single layers. *Nature Communications*, **2018**, 9, 2129	17.4	48
94	Finned zeolite catalysts. *Nature Materials*, **2020**, 19, 1074-1080	27	45
93	Nanoscale Control of Homoepitaxial Growth on a Two-Dimensional Zeolite. *Angewandte Chemie - International Edition*, **2017**, 56, 535-539	16.4	42
92	Organic-Free Synthesis of a Highly Siliceous Faujasite Zeolite with Spatially Biased Q (nAl) Si Speciation. *Angewandte Chemie - International Edition*, **2017**, 56, 13366-13371	16.4	42
91	Calcium oxalate monohydrate aggregation induced by aggregation of desialylated Tamm-Horsfall protein. *Urological Research*, **2011**, 39, 269-82		41
90	Sweep flocculation and adsorption of viruses on aluminum flocs during electrochemical treatment prior to surface water microfiltration. *Environmental Science & Technology*, **2013**, 47, 4612-8	10.3	40
89	Framework stabilization of Si-rich LTA zeolite prepared in organic-free media. *Chemical Communications*, **2015**, 51, 269-72	5.8	38
88	Ultrasmall Zeolite L Crystals Prepared from Highly Interdispersed Alkali-Silicate Precursors. *Angewandte Chemie - International Edition*, **2018**, 57, 11283-11288	16.4	38
87	The role of macromolecules in the formation of kidney stones. *Urolithiasis*, **2017**, 45, 57-74	3.2	35

86	Nucleation of open framework materials: Navigating the voids. *MRS Bulletin*, **2016**, 41, 393-398	3.2	35
85	Cooperative effects of inorganic and organic structure-directing agents in ZSM-5 crystallization. *Molecular Systems Design and Engineering*, **2018**, 3, 159-170	4.6	35
84	Deconvoluting the Competing Effects of Zeolite Framework Topology and Diffusion Path Length on Methanol to Hydrocarbons Reaction. *ACS Catalysis*, **2018**, 8, 11042-11053	13.1	35
83	High-throughput platform for design and screening of peptides as inhibitors of calcium oxalate monohydrate crystallization. *Journal of Crystal Growth*, **2013**, 373, 13-19	1.6	31
82	Diverse Physical States of Amorphous Precursors in Zeolite Synthesis. *Industrial & Engineering Chemistry Research*, **2018**, 57, 8460-8471	3.9	29
81	Impact of acid site speciation and spatial gradients on zeolite catalysis. *Journal of Catalysis*, **2020**, 391, 56-68	7.3	28
80	Self-assembly and phase behavior of germanium oxide nanoparticles in basic aqueous solutions. *Langmuir*, **2007**, 23, 2784-91	4	27
79	Factors Governing MgO(111) Faceting in the Thermal Decomposition of Oxide Precursors. *Chemistry of Materials*, **2018**, 30, 2641-2650	9.6	25
78	Crystal Engineering for Catalysis. *Annual Review of Chemical and Biomolecular Engineering*, **2018**, 9, 283-309	8.9	25
77	Molecular Mechanisms of Hematin Crystallization from Organic Solvent. *Crystal Growth and Design*, **2015**, 15, 5535-5542	3.5	24
76	Thermodynamics of Silica Nanoparticle Self-Assembly in Basic Solutions of Monovalent Cations. *Journal of Physical Chemistry C*, **2008**, 112, 14754-14761	3.8	24
75	Effects of diffusional constraints on lifetime and selectivity in methanol-to-olefins catalysis on HSAPO-34. *Journal of Catalysis*, **2019**, 369, 122-132	7.3	24
74	Enhanced Surface Activity of MWW Zeolite Nanosheets Prepared via a One-Step Synthesis. *Journal of the American Chemical Society*, **2020**, 142, 8211-8222	16.4	24
73	Silver-Promoted Dehydroaromatization of Ethylene over ZSM-5 Catalysts. *ChemCatChem*, **2017**, 9, 1675-1682	5.2	23
72	Designed Peptoids as Tunable Modifiers of Zeolite Crystallization. *Chemistry of Materials*, **2017**, 29, 9536-9546	9.6	22
71	Molecular Modifiers Suppress Nonclassical Pathways of Zeolite Crystallization. *Chemistry of Materials*, **2019**, 31, 3228-3238	9.6	22
70	Hematin crystallization from aqueous and organic solvents. *Journal of Chemical Physics*, **2013**, 139, 121911	3.9	22
69	Organic-Free Interzeolite Transformation in the Absence of Common Building Units. *Chemistry - A European Journal*, **2019**, 25, 5893-5898	4.8	21

68	Organic-Free Synthesis of a Highly Siliceous Faujasite Zeolite with Spatially Biased Q4(nAl) Si Speciation. *Angewandte Chemie*, **2017**, 129, 13551-13556	3.6	20
67	Crystallization of Mordenite Platelets using Cooperative Organic Structure-Directing Agents. *Journal of the American Chemical Society*, **2019**, 141, 20155-20165	16.4	20
66	Enhanced Selective Oxidation of Ammonia in a Pt/Al2O3@Cu/ZSM-5 Core-Shell Catalyst. *ACS Catalysis*, **2020**, 10, 3604-3617	13.1	19
65	Optimized Synthesis of ZSM-11 Catalysts using 1,8-Diaminooctane as a Structure-Directing Agent. *ChemPhysChem*, **2018**, 19, 529-537	3.2	19
64	Identifying alkali metal inhibitors of crystal growth: a selection criterion based on ion pair hydration energy. *Chemical Communications*, **2015**, 51, 13964-7	5.8	18
63	Antagonistic cooperativity between crystal growth modifiers. *Nature*, **2020**, 577, 497-501	50.4	17
62	Tuning Zeolite Precursor Interactions by Switching the Valence of Polyamine Modifiers. *Langmuir*, **2016**, 32, 11888-11898	4	17
61	Factors Differentiating the Effectiveness of Polyprotic Acids as Inhibitors of Calcium Oxalate Crystallization in Kidney Stone Disease. *Crystal Growth and Design*, **2018**, 18, 5617-5627	3.5	17
60	Regulating Nonclassical Pathways of Silicalite-1 Crystallization through Controlled Evolution of Amorphous Precursors. *Angewandte Chemie - International Edition*, **2019**, 58, 15712-15716	16.4	16
59	Nanoscale Control of Homoepitaxial Growth on a Two-Dimensional Zeolite. *Angewandte Chemie*, **2017**, 129, 550-554	3.6	15
58	Hydroxycitrate: a potential new therapy for calcium urolithiasis. *Urolithiasis*, **2019**, 47, 311-320	3.2	15
57	Synthesis Strategies for Ultrastable Zeolite GIS Polymorphs as Sorbents for Selective Separations. *Chemistry - A European Journal*, **2016**, 22, 16078-16088	4.8	15
56	Molecular modifiers of kidney stones. *Current Opinion in Nephrology and Hypertension*, **2017**, 26, 256-265	3.5	14
55	Growth of Large Hematin Crystals in Biomimetic Solutions. *Crystal Growth and Design*, **2014**, 14, 2123-2127	3.5	14
54	Elucidating the Effects of Polyprotic Acid Speciation in Calcium Oxalate Crystallization. *Crystal Growth and Design*, **2017**, 17, 4280-4288	3.5	14
53	Tailoring Silicalite-1 Crystal Morphology with Molecular Modifiers. *Angewandte Chemie*, **2012**, 124, 3401-3405	3.6	14
52	Ethylene Dehydroaromatization over Ga-ZSM-5 Catalysts: Nature and Role of Gallium Speciation. *Angewandte Chemie - International Edition*, **2020**, 59, 19592-19601	16.4	14
51	In situ imaging of two-dimensional surface growth reveals the prevalence and role of defects in zeolite crystallization. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 28632-28639	11.5	13

50	Spontaneous Pillaring of Pentasil Zeolites. *Advanced Materials*, **2021**, 33, e2100897	24	13
49	Seed-Assisted zeolite synthesis: The impact of seeding conditions and interzeolite transformations on crystal structure and morphology. *Microporous and Mesoporous Materials*, **2020**, 300, 110174	5.3	12
48	Inorganic ions regulate amorphous-to-crystal shape preservation in biomineralization. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 3360-3362	11.5	12
47	Regulating Nonclassical Pathways of Silicalite-1 Crystallization through Controlled Evolution of Amorphous Precursors. *Angewandte Chemie*, **2019**, 131, 15859-15863	3.6	12
46	Time-Resolved Dynamics of Intracrystalline Mesoporosity Generation in USY Zeolite. *Chemistry of Materials*, **2019**, 31, 5005-5013	9.6	11
45	Lipid or aqueous medium for hematin crystallization?. *CrystEngComm*, **2015**, 17, 7790-7800	3.3	11
44	A microfluidic approach for probing hydrodynamic effects in barite scale formation. *Lab on A Chip*, **2019**, 19, 1534-1544	7.2	10
43	Early Onset of Kinetic Roughening due to a Finite Step Width in Hematin Crystallization. *Physical Review Letters*, **2017**, 119, 198101	7.4	10
42	A high-throughput assay for screening modifiers of calcium oxalate crystallization. *AICHE Journal*, **2016**, 62, 3538-3546	3.6	10
41	Citrate therapy for calcium phosphate stones. *Current Opinion in Nephrology and Hypertension*, **2019**, 28, 130-139	3.5	10
40	Synthesis of NiO Crystals Exposing Stable High-Index Facets. *Angewandte Chemie - International Edition*, **2020**, 59, 15119-15123	16.4	10
39	Deconstructing Quinoline-Class Antimalarials to Identify Fundamental Physicochemical Properties of Beta-Hematin Crystal Growth Inhibitors. *Chemistry - A European Journal*, **2017**, 23, 13638-13647	4.8	8
38	Strontium Ions Function as Both an Accelerant and Structure-Directing Agent of Chabazite Crystallization **2021**, 3, 187-192		8
37	Time-Resolved Dynamics of Struvite Crystallization: Insights from the Macroscopic to Molecular Scale. *Chemistry - A European Journal*, **2020**, 26, 3555-3563	4.8	8
36	Tracking Zeolite Crystallization by Elemental Mapping. *Chemistry of Materials*, **2020**, 32, 3278-3287	9.6	7
35	Deleterious effects of non-framework Al species on the catalytic performance of ZSM-5 crystals synthesized at low temperature. *Reaction Chemistry and Engineering*, **2019**, 4, 1957-1968	4.9	7
34	Biomimetic Assay for Hematin Crystallization Inhibitors: A New Platform To Screen Antimalarial Drugs. *Crystal Growth and Design*, **2017**, 17, 197-206	3.5	7
33	Engaging a Battle on Two Fronts: Dual Role of Polyphosphates as Potent Inhibitors of Struvite Nucleation and Crystal Growth. *Chemistry of Materials*, **2020**, 32, 8672-8682	9.6	7

32	A second mechanism employed by artemisinins to suppress Plasmodium falciparum hinges on inhibition of hematin crystallization. *Journal of Biological Chemistry*, **2021**, 296, 100123	5.4	7
31	Time-resolved dissolution elucidates the mechanism of zeolite MFI crystallization. *Science Advances* , **2021**, 7,	14.3	6
30	Structuring of Organic Solvents at Solid Interfaces and Ramifications for Antimalarial Adsorption on Hematin Crystals. *ACS Applied Materials & Interfaces*, **2018**, 10, 29288-29298	9.5	5
29	Ultrasmall Zeolite L Crystals Prepared from Highly Interdispersed Alkali-Silicate Precursors. *Angewandte Chemie*, **2018**, 130, 11453-11458	3.6	4
28	Bridging the Gap between Structurally Distinct 2D Lamellar Zeolitic Precursors through a 3D Germanosilicate Intermediate. *Angewandte Chemie - International Edition*, **2019**, 58, 14529-14533	16.4	4
27	Core-shell and Egg-shell Zeolite Catalysts for Enhanced Hydrocarbon Processing. *Journal of Catalysis*, **2021**, 405, 664-664	7.3	4
26	Zinc Ions Modify Calcium Oxalate Growth by Distinct Transformation of Crystal Surface Termination. *Crystal Growth and Design*, **2021**, 21, 3375-3383	3.5	4
25	Few-Unit-Cell MFI Zeolite Synthesized using a Simple Di-quaternary Ammonium Structure-Directing Agent. *Angewandte Chemie - International Edition*, **2021**, 60, 19214-19221	16.4	4
24	Controlling Nucleation Pathways in Zeolite Crystallization: Seeding Conceptual Methodologies for Advanced Materials Design.. *Journal of the American Chemical Society*, **2021**, 143, 21446-21460	16.4	4
23	Crystallization of Hierarchical Ammonium Urate: Insight into the Formation of Cetacean Renal Stones. *Crystal Growth and Design*, **2019**, 19, 6727-6735	3.5	3
22	Quantification and Statistical Analysis of Errors Related to the Approximate Description of Active Site Models in Metal-Exchanged Zeolites. *ChemCatChem*, **2019**, 11, 5055-5067	5.2	3
21	Tuning selectivity in nickel oxide-catalyzed oxidative dehydrogenation of ethane through control over non-stoichiometric oxygen density. *Catalysis Science and Technology*, **2021**, 11, 531-541	5.5	3
20	Synthesis, Structure and Catalytic Properties of Faceted Oxide Crystals. *ChemCatChem*, **2021**, 13, 6-27	5.2	3
19	Synthesis of NiO Crystals Exposing Stable High-Index Facets. *Angewandte Chemie*, **2020**, 132, 15231-15235	3.6	2
18	Synthesis Strategies for Ultrastable Zeolite GIS Polymorphs as Sorbents for Selective Separations. *Chemistry - A European Journal*, **2016**, 22, 15961-15961	4.8	2
17	Catalyst Deactivation Probed by Positron Annihilation Spectroscopy. *ACS Catalysis*,14967-14976	13.1	2
16	Acidic Polysaccharides as Green Alternatives for Barite Scale Dissolution. *ACS Applied Materials & Interfaces*, **2020**, 12, 55434-55443	9.5	2
15	Understanding initial zeolite oligomerization steps with first principles calculations. *AICHE Journal*, **2020**, 66, e17107	3.6	2

14	Minerals from colloidal assembly. *Nature Materials*, **2020**, 19, 375-376	27	1
13	Bridging the Gap between Structurally Distinct 2D Lamellar Zeolitic Precursors through a 3D Germanosilicate Intermediate. *Angewandte Chemie*, **2019**, 131, 14671-14675	3.6	1
12	Few-Unit-Cell MFI Zeolite Synthesized using a Simple Di-quaternary Ammonium Structure-Directing Agent. *Angewandte Chemie*, **2021**, 133, 19363-19370	3.6	1
11	Suppressing Barium Sulfate Crystallization with Hydroxycitrate: A Dual Nucleation and Growth Inhibitor. *Chemistry of Materials*, **2021**, 33, 6997-7007	9.6	1
10	Alginate as a green inhibitor of barite nucleation and crystal growth. *Molecular Systems Design and Engineering*, **2021**, 6, 508-519	4.6	1
9	High-Index (Ni,Mg)O Crystallization during Molten Salt Synthesis. *Chemistry of Materials*, **2021**, 33, 3155-3163	9.6	0
8	Local Ordering of Molten Salts at NiO Crystal Interfaces Promotes High-Index Faceting. *Angewandte Chemie - International Edition*, **2021**, 60, 25391-25396	16.4	0
7	Titelbild: Nanoscale Control of Homoepitaxial Growth on a Two-Dimensional Zeolite (Angew. Chem. 2/2017). *Angewandte Chemie*, **2017**, 129, 431-431	3.6	
6	R□ktitelbild: Organic-Free Synthesis of a Highly Siliceous Faujasite Zeolite with Spatially Biased Q4(nAl) Si Speciation (Angew. Chem. 43/2017). *Angewandte Chemie*, **2017**, 129, 13718-13718	3.6	
5	Low Dose Electron Microscopy of Amonium Urates. *Microscopy and Microanalysis*, **2020**, 26, 2230-2231	0.5	
4	R□ktitelbild: Tailoring Silicalite-1 Crystal Morphology with Molecular Modifiers (Angew. Chem. 14/2012). *Angewandte Chemie*, **2012**, 124, 3550-3550	3.6	
3	Back Cover: Tailoring Silicalite-1 Crystal Morphology with Molecular Modifiers (Angew. Chem. Int. Ed. 14/2012). *Angewandte Chemie - International Edition*, **2012**, 51, 3492-3492	16.4	
2	Ethylene Dehydroaromatization over Ga-ZSM-5 Catalysts: Nature and Role of Gallium Speciation. *Angewandte Chemie*, **2020**, 132, 19760-19769	3.6	
1	Factors controlling the molecular modification of one-dimensional zeolites. *Physical Chemistry Chemical Physics*, **2021**, 23, 18610-18617	3.6	