Andrew G Stack

List of Publications by Year
in descending order

84 papers	2,511 citations	159585 30 h-index	233421 45 g-index
85 all docs	85 docs citations	85 times ranked	2686 citing authors

#	Article	IF	Citations
1	Accurate Rates of the Complex Mechanisms for Growth and Dissolution of Minerals Using a Combination of Rare-Event Theories. Journal of the American Chemical Society, 2012, 134, 11-14.	13.7	127
2	The structure of hematite (Î±-Fe2O3) (001) surfaces in aqueous media: scanning tunneling microscopy and resonant tunneling calculations of coexisting O and Fe terminations. Geochimica Et Cosmochimica Acta, 2003, 67, 985-1000.	3.9	125
3	CO₂ Sorption to Subsingle Hydration Layer Montmorillonite Clay Studied by Excess Sorption and Neutron Diffraction Measurements. Environmental Science & Technology, 2013, 47, 205-211.	10.0	96
4	Growth Rate of Calcite Steps As a Function of Aqueous Calcium-to-Carbonate Ratio: Independent Attachment and Detachment of Calcium and Carbonate Ions. Crystal Growth and Design, 2010, 10, 1409-1413.	3.0	95
5	Point of zero charge of a corundum-water interface probed with optical second harmonic generation (SHG) and atomic force microscopy (AFM): New approaches to oxide surface charge. Geochimica Et Cosmochimica Acta, 2001, 65, 3055-3063.	3.9	77
6	Internal Domains of Natural Porous Media Revealed: Critical Locations for Transport, Storage, and Chemical Reaction. Environmental Science & Technology, 2016, 50, 2811-2829.	10.0	76
7	Interaction force measurement between E. coli cells and nanoparticles immobilized surfaces by using AFM. Colloids and Surfaces B: Biointerfaces, 2011, 82, 316-324.	5.0	70
8	Pore-Size-Dependent Calcium Carbonate Precipitation Controlled by Surface Chemistry. Environmental Science & Technology, 2014, 48, 6177-6183.	10.0	69
9	Calcite Growth Rates As a Function of Aqueous Calcium-to-Carbonate Ratio, Saturation Index, and Inhibitor Concentration: Insight into the Mechanism of Reaction and Poisoning by Strontium. Crystal Growth and Design, 2012, 12, 3540-3548.	3.0	66
10	Ultra-efficient polymer binder for silicon anode in high-capacity lithium-ion batteries. Nano Energy, 2020, 73, 104804.	16.0	57
11	The dynamic nature of crystal growth in pores. Scientific Reports, 2016, 6, 33086.	3.3	54
12	Growth Kinetics and Morphology of Barite Crystals Derived from Face-Specific Growth Rates. Crystal Growth and Design, 2015, 15, 2064-2071.	3.0	53
13	Heterogeneous Nucleation and Growth of Barium Sulfate at Organicâ€“Water Interfaces: Interplay between Surface Hydrophobicity and Ba²⁺ Adsorption. Langmuir, 2016, 32, 5277-5284.	3.5	53
14	Molecular Dynamics Simulations of Solvation and Kink Site Formation at the {001} Bariteâ^'Water Interface. Journal of Physical Chemistry C, 2009, 113, 2104-2110.	3.1	47
15	Effect of Strong Acid Functional Groups on Electrode Rise Potential in Capacitive Mixing by Double Layer Expansion. Environmental Science & Technology, 2014, 48, 14041-14048.	10.0	47
16	Adsorption mechanism of alkyl hydroxamic acid onto bastnÃ¤site: Fundamental steps toward rational collector design for rare earth elements. Journal of Colloid and Interface Science, 2019, 553, 210-219.	9.4	47
17	Organicâ€“mineral interfacial chemistry drives heterogeneous nucleation of Sr-rich (Ba <sub> <i>x</i>) Tj ETQq1 1 0.784314 rgBT /Ov the National Academy of Sciences of the United States of America, 2019, 116, 13221-13226.	7.1	45
18	Adatom Fe(III) on the hematite surface: Observation of a key reactive surface species. Geochemical Transactions, 2004, 5, 1.	0.7	44

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19	Multi-scale characterization of pore evolution in a combustion metamorphic complex, Hatrurim basin, Israel: Combining (ultra) small-angle neutron scattering and image analysis. Geochimica Et Cosmochimica Acta, 2013, 121, 339-362.	3.9	42
20	Upscaling Calcite Growth Rates from the Mesoscale to the Macroscale. Environmental Science & Technology, 2013, 47, 7555-7562.	10.0	42
21	Precipitation in Pores: A Geochemical Frontier. Reviews in Mineralogy and Geochemistry, 2015, 80, 165-190.	4.8	42
22	Extraction of organic compounds from representative shales and the effect on porosity. Journal of Natural Gas Science and Engineering, 2016, 35, 646-660.	4.4	40
23	Solvent-pore interactions in the Eagle Ford shale formation. Fuel, 2019, 238, 298-311.	6.4	40
24	Uncovering the Atomistic Mechanism for Calcite Step Growth. Angewandte Chemie - International Edition, 2017, 56, 8464-8467.	13.8	39
25	Direct Imaging of Nanoscale Dissolution of Dicalcium Phosphate Dihydrate by an Organic Ligand: Concentration Matters. Environmental Science & Technology, 2013, 47, 13365-13374.	10.0	38
26	Hydration Structure of the Barite (001)â€"Water Interface: Comparison of X-ray Reflectivity with Molecular Dynamics Simulations. Journal of Physical Chemistry C, 2017, 121, 12236-12248.	3.1	38
27	Reaction of hydroquinone with hematite. Journal of Colloid and Interface Science, 2004, 274, 433-441.	9.4	35
28	Structure and Dynamics of Water on Aqueous Barium Ion and the {001} Barite Surface. Journal of Physical Chemistry C, 2007, 111, 16387-16391.	3.1	34
29	In Situ ²⁷Al NMR Spectroscopy of Aluminate in Sodium Hydroxide Solutions above and below Saturation with Respect to Gibbsite. Inorganic Chemistry, 2018, 57, 11864-11873.	4.0	33
30	Moving beyond the Solvent-Tip Approximation to Determine Site-Specific Variations of Interfacial Water Structure through 3D Force Microscopy. Journal of Physical Chemistry C, 2021, 125, 1282-1291.	3.1	31
31	Molecular Dynamics Calculation of the Activation Volume for Water Exchange on Li+. Journal of the American Chemical Society, 2006, 128, 14778-14779.	13.7	30
32	A comparative study of surface energies and water adsorption on Ce-bastnÃsite, La-bastnÃsite, and calcite via density functional theory and water adsorption calorimetry. Physical Chemistry Chemical Physics, 2017, 19, 7820-7832.	2.8	30
33	Magnesite Step Growth Rates as a Function of the Aqueous Magnesium:Carbonate Ratio. Crystal Growth and Design, 2014, 14, 6033-6040.	3.0	28
34	Crystal Structures, Surface Stability, and Water Adsorption Energies of La-BastnÃsite via Density Functional Theory and Experimental Studies. Journal of Physical Chemistry C, 2016, 120, 16767-16781.	3.1	28
35	Synthesis and structure of synthetically pure and deuterated amorphous (basic) calcium carbonates. Chemical Communications, 2017, 53, 2942-2945.	4.1	28
36	Free-Energy Landscape of the Dissolution of Gibbsite at High pH. Journal of Physical Chemistry Letters, 2018, 9, 1809-1814.	4.6	25

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37	Effects of Ionic Strength, Salt, and pH on Aggregation of Boehmite Nanocrystals: Tumbler Small-Angle Neutron and X-ray Scattering and Imaging Analysis. Langmuir, 2018, 34, 15839-15853.	3.5	25
38	Reaction of hydroquinone with hematite. Journal of Colloid and Interface Science, 2004, 274, 442-450.	9.4	24
39	Long-Range Electron Transfer across Cytochromeâˆ'Hematite (Î±-Fe2O3) Interfaces. Journal of Physical Chemistry C, 2009, 113, 2096-2103.	3.1	24
40	Unraveling the Effects of Strontium Incorporation on Barite Growthâ€"In Situ and Ex Situ Observations Using Multiscale Chemical Imaging. Crystal Growth and Design, 2018, 18, 5521-5533.	3.0	23
41	The Growth Morphology of the {100} Surface of KDP (Archerite) on the Molecular Scale. Journal of Physical Chemistry B, 2004, 108, 18284-18290.	2.6	22
42	Pyromorphite Growth on Lead-Sulfide Surfaces. Environmental Science & Technology, 2004, 38, 5529-5534.	10.0	22
43	Simultaneous Adsorption and Incorporation of Sr²⁺ at the Barite (001)â€"Water Interface. Journal of Physical Chemistry C, 2019, 123, 1194-1207.	3.1	21
44	Modeling Water Exchange on an Aluminum Polyoxocation. Journal of Physical Chemistry B, 2005, 109, 23771-23775.	2.6	20
45	Precise determination of water exchanges on a mineral surface. Physical Chemistry Chemical Physics, 2016, 18, 28819-28828.	2.8	20
46	Molecular Recognition at Mineral Interfaces: Implications for the Beneficiation of Rare Earth Ores. ACS Applied Materials & Interfaces, 2020, 12, 16327-16341.	8.0	20
47	Self-Assembled Monolayers as Templates for Heme Crystallization. Crystal Growth and Design, 2010, 10, 798-805.	3.0	19
48	Investigating calcite growth rates using a quartz crystal microbalance with dissipation (QCM-D). Geochimica Et Cosmochimica Acta, 2018, 222, 269-283.	3.9	19
49	Countercations Control Local Specific Bonding Interactions and Nucleation Mechanisms in Concentrated Water-in-Salt Solutions. Journal of Physical Chemistry Letters, 2019, 10, 3318-3325.	4.6	19
50	Next generation models of carbonate mineral growth and dissolution. , 2014, 4, 278-288.		18
51	Water Uptake by Silica Nanopores: Impacts of Surface Hydrophilicity and Pore Size. Journal of Physical Chemistry C, 2020, 124, 15188-15194.	3.1	18
52	Wellbore Cement Porosity Evolution in Response to Mineral Alteration during CO2 Flooding. Environmental Science & Technology, 2017, 51, 692-698.	10.0	17
53	Opposing Effects of Impurity Ion Sr²⁺ on the Heterogeneous Nucleation and Growth of Barite (BaSO₄). Crystal Growth and Design, 2021, 21, 5828-5839.	3.0	17
54	Adhesion of <i>Shewanella oneidensis</i> MR-1 to Iron (Oxy)(Hydr)Oxides: Microcolony Formation and Isotherm. Environmental Science & Technology, 2010, 44, 1602-1609.	10.0	16

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55	Studies of Mineral Nucleation and Growth Across Multiple Scales: Review of the Current State of Research Using the Example of Barite (BaSO₄). ACS Earth and Space Chemistry, 2021, 5, 3338-3361.	2.7	15
56	Virtual Probes of Mineral-Water Interfaces: The More Flops, the Better!. Elements, 2013, 9, 211-216.	0.5	14
57	Decoding Oxyanion Aqueous Solvation Structure: A Potassium Nitrate Example at Saturation. Journal of Physical Chemistry B, 2018, 122, 7584-7589.	2.6	14
58	Resolving local configurational contributions to X-ray and neutron radial distribution functions within solutions of concentrated electrolytes â€" a case study of concentrated NaOH. Physical Chemistry Chemical Physics, 2019, 21, 6828-6838.	2.8	14
59	Influence of microstructure on replacement and porosity generation during experimental dolomitization of limestones. Geochimica Et Cosmochimica Acta, 2021, 303, 137-158.	3.9	14
60	A Molecular-Scale Approach to Rare-Earth Beneficiation: Thinking Small to Avoid Large Losses. IScience, 2020, 23, 101435.	4.1	13
61	Coupled Multimodal Dynamics of Hydrogen-Containing Ion Networks in Water-Deficient, Sodium Hydroxide-Aluminate Solutions. Journal of Physical Chemistry B, 2018, 122, 12097-12106.	2.6	12
62	Micro-continuum approach for mineral precipitation. Scientific Reports, 2021, 11, 3495.	3.3	12
63	Geochemical reaction mechanism discovery from molecular simulation. Environmental Chemistry, 2015, 12, 20.	1.5	11
64	Chlorite topography and dissolution of the interlayer studied with atomic force microscopy. American Mineralogist, 2014, 99, 128-138.	1.9	10
65	Mineralâ€"Water Interface Structure of Xenotime (YPO4) {100}. Journal of Physical Chemistry C, 2018, 122, 20232-20243.	3.1	10
66	Controls of Microstructure and Chemical Reactivity on the Replacement of Limestone by Fluorite Studied Using Spatially Resolved Small Angle X-ray and Neutron Scattering. ACS Earth and Space Chemistry, 2019, 3, 1998-2016.	2.7	10
67	Hydration structure and water exchange kinetics at xenotimeâ€"water interfaces: implications for rare earth minerals separation. Physical Chemistry Chemical Physics, 2020, 22, 7719-7727.	2.8	10
68	Grain detachment and transport clogging during mineral dissolution in carbonate rocks with permeable grain boundaries. Geochimica Et Cosmochimica Acta, 2020, 280, 202-220.	3.9	10
69	Dissolution Morphology of Iron (Oxy)(Hydr)Oxides Exposed to the Dissimilatory Iron-Reducing Bacterium<i>Shewanella oneidensis</i>MR-1. Geomicrobiology Journal, 2009, 26, 83-92.	2.0	9
70	Geochemical Evidence for Rare-Earth Element Mobilization during Kaolin Diagenesis. ACS Earth and Space Chemistry, 2018, 2, 506-520.	2.7	9
71	Pb Sorption at the Barite (001)â€"Water Interface. Journal of Physical Chemistry C, 2020, 124, 22035-22045.	3.1	9
72	Response to comment on â€œPoint of zero charge of a corundum-water interface probed with optical second harmonic generation (SHG) and atomic force microscopy (AFM): new approaches to oxide surface chargeâ€. Geochimica Et Cosmochimica Acta, 2003, 67, 321-322.	3.9	8

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73	Local molecular environment drives speciation and reactivity of ion complexes in concentrated salt solution. Journal of Molecular Liquids, 2021, 340, 116898.	4.9	8
74	Molecular Structure of Adsorbed Water Phases in Silica Nanopores. Journal of Physical Chemistry C, 2022, 126, 2885-2895.	3.1	8
75	Radiolysis and Radiation-Driven Dynamics of Boehmite Dissolution Observed by In Situ Liquid-Phase TEM. Environmental Science & Technology, 2022, 56, 5029-5036.	10.0	8
76	Solution and Interface Structure and Dynamics in Geochemistry: Gateway to Link Elementary Processes to Mineral Nucleation and Growth. Crystal Growth and Design, 2022, 22, 853-870.	3.0	8
77	Long-Term ¹³C Uptake by ¹²C-Enriched Calcite. ACS Earth and Space Chemistry, 2021, 5, 998-1005.	2.7	7
78	Uncovering the Atomistic Mechanism for Calcite Step Growth. Angewandte Chemie, 2017, 129, 8584-8587.	2.0	6
79	Improving Rare-Earth Mineral Separation with Insights from Molecular Recognition: Functionalized Hydroxamic Acid Adsorption onto BastnÃsite and Calcite. Langmuir, 2022, 38, 5439-5453.	3.5	6
80	The â€œgood,â€•the â€œbad,â€•and the â€œhiddenâ€•in neutron scattering and molecular dynamics of ionic aqueous solutions. Journal of Chemical Physics, 2022, 156, .	3.0	6
81	Numerical Study of Mineral Nucleation and Growth on a Substrate. ACS Earth and Space Chemistry, 2022, 6, 1655-1665.	2.7	6
82	Density Functional Tight-Binding Simulations Reveal the Presence of Surface Defects on the Quartz (101)â€“Water Interface. Journal of Physical Chemistry C, 2021, 125, 16246-16255.	3.1	4
83	Frustrated Coulombic and Cation Size Effects on Nanoscale Boehmite Aggregation: A Tumbler Small- and Ultra-Small-Angle Neutron Scattering Study. Journal of Physical Chemistry C, 2022, 126, 4391-4414.	3.1	4
84	5. Precipitation in Pores: A Geochemical Frontier. , 2015, , 165-190.		1