

Christine V Putnis

List of Publications by Year in descending order

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116
papers

5,714
citations

61945

43
h-index

85498

71
g-index

119
all docs

119
docs citations

119
times ranked

5126
citing authors

#	ARTICLE	IF	CITATIONS
1	The mechanism of reequilibration of solids in the presence of a fluid phase. <i>Journal of Solid State Chemistry</i> , 2007, 180, 1783-1786.	1.4	328
2	The dissolution rates of natural glasses as a function of their composition at pH 4 and 10.6, and temperatures from 25 to 74Å°C. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 4843-4858.	1.6	321
3	Coupled dissolution and precipitation at mineralâ€“fluid interfaces. <i>Chemical Geology</i> , 2014, 383, 132-146.	1.4	290
4	Direct observations of pseudomorphism: compositional and textural evolution at a fluid-solid interface. <i>American Mineralogist</i> , 2005, 90, 1909-1912.	0.9	183
5	Direct observation of heavy metal-mineral association from the Clark Fork River Superfund Complex: Implications for metal transport and bioavailability. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 1651-1663.	1.6	169
6	Reaction induced fracturing during replacement processes. <i>Contributions To Mineralogy and Petrology</i> , 2009, 157, 127-133.	1.2	163
7	The role of background electrolytes on the kinetics and mechanism of calcite dissolution. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 1256-1267.	1.6	128
8	Mechanism of leached layer formation during chemical weathering of silicate minerals. <i>Geology</i> , 2012, 40, 947-950.	2.0	127
9	The Mineral-Water Interface: Where Minerals React with the Environment. <i>Elements</i> , 2013, 9, 177-182.	0.5	116
10	Hematite in porous red-clouded feldspars: Evidence of large-scale crustal fluidâ€“rock interaction. <i>Lithos</i> , 2007, 95, 10-18.	0.6	114
11	Direct observations of mineral fluid reactions using atomic force microscopy: the specific example of calcite. <i>Mineralogical Magazine</i> , 2012, 76, 227-253.	0.6	109
12	The effect of cation:anion ratio in solution on the mechanism of barite growth at constant supersaturation: Role of the desolvation process on the growth kinetics. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 5168-5179.	1.6	105
13	Dissolution and Carbonation of Portlandite [Ca(OH) ₂] Single Crystals. <i>Environmental Science & Technology</i> , 2013, 47, 11342-11349.	4.6	105
14	An experimental study of the replacement of leucite by analcime. <i>American Mineralogist</i> , 2007, 92, 19-26.	0.9	104
15	Environmentally important, poorly crystalline Fe/Mn hydrous oxides: Ferrihydrite and a possibly new vernadite-like mineral from the Clark Fork River Superfund Complex. <i>American Mineralogist</i> , 2005, 90, 718-724.	0.9	101
16	A mechanism of mineral replacement: isotope tracing in the model system KCl-KBr-H ₂ O. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 2839-2848.	1.6	99
17	An atomic force microscopy study of calcite dissolution in saline solutions: The role of magnesium ions. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3201-3217.	1.6	99
18	Direct Nanoscale Observations of CO ₂ Sequestration during Brucite [Mg(OH) ₂] Dissolution. <i>Environmental Science & Technology</i> , 2012, 46, 5253-5260.	4.6	97

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19	Kinetics of Calcium Phosphate Nucleation and Growth on Calcite: Implications for Predicting the Fate of Dissolved Phosphate Species in Alkaline Soils. <i>Environmental Science & Technology</i> , 2012, 46, 834-842.	4.6	92
20	Direct Nanoscale Imaging Reveals the Growth of Calcite Crystals via Amorphous Nanoparticles. <i>Crystal Growth and Design</i> , 2016, 16, 1850-1860.	1.4	89
21	The mechanism of cation and oxygen isotope exchange in alkali feldspars under hydrothermal conditions. <i>Contributions To Mineralogy and Petrology</i> , 2009, 157, 65-76.	1.2	86
22	Effect of pH on calcite growth at constant ratio and supersaturation. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 284-296.	1.6	84
23	Mineral replacement reactions in solid solution-aqueous solution systems: Volume changes, reactions paths and end-points using the example of model salt systems. <i>Numerische Mathematik</i> , 2011, 311, 211-236.	0.7	72
24	Posner's cluster revisited: direct imaging of nucleation and growth of nanoscale calcium phosphate clusters at the calcite-water interface. <i>CrystEngComm</i> , 2012, 14, 6252.	1.3	71
25	Control of silicate weathering by interface-coupled dissolution-precipitation processes at the mineral-solution interface. <i>Geology</i> , 2016, 44, 567-570.	2.0	68
26	In Situ Nanoscale Imaging of Struvite Formation during the Dissolution of Natural Brucite: Implications for Phosphorus Recovery from Wastewaters. <i>Environmental Science & Technology</i> , 2016, 50, 13032-13041.	4.6	65
27	Ion-specific effects on the kinetics of mineral dissolution. <i>Chemical Geology</i> , 2011, 281, 364-371.	1.4	64
28	Textural Evolution of Plagioclase Feldspar across a Shear Zone: Implications for Deformation Mechanism and Rock Strength. <i>Journal of Petrology</i> , 2014, 55, 1457-1477.	1.1	62
29	The mechanism and kinetics of DTPA-promoted dissolution of barite. <i>Applied Geochemistry</i> , 2008, 23, 2778-2788.	1.4	60
30	Interactions of arsenic with calcite surfaces revealed by in situ nanoscale imaging. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 159, 61-79.	1.6	60
31	Specific effects of background electrolytes on the kinetics of step propagation during calcite growth. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 3803-3814.	1.6	57
32	Selenium incorporation into calcite and its effect on crystal growth: An atomic force microscopy study. <i>Chemical Geology</i> , 2013, 340, 151-161.	1.4	57
33	An Atomic Force Microscopy study of the growth of calcite in the presence of sodium sulfate. <i>Chemical Geology</i> , 2008, 253, 243-251.	1.4	56
34	In situ Imaging of Interfacial Precipitation of Phosphate on Goethite. <i>Environmental Science & Technology</i> , 2015, 49, 4184-4192.	4.6	56
35	Modelling the effects of salt solutions on the hydration of calcium ions. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 7772-7785.	1.3	54
36	The experimental replacement of ilmenite by rutile in HCl solutions. <i>Mineralogical Magazine</i> , 2010, 74, 633-644.	0.6	53

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37	In situ nanoscale observations of the dissolution of dolomite cleavage surfaces. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 80, 1-13.	1.6	53
38	An Atomic Force Microscopy Study of the Growth of a Calcite Surface as a Function of Calcium/Total Carbonate Concentration Ratio in Solution at Constant Supersaturation. <i>Crystal Growth and Design</i> , 2009, 9, 4344-4350.	1.4	52
39	An atomic force microscopy and molecular simulations study of the inhibition of barite growth by phosphonates. <i>Surface Science</i> , 2004, 553, 61-74.	0.8	48
40	Zircon coronas around Fe-Ti oxides: a physical reference frame for metamorphic and metasomatic reactions. <i>Contributions To Mineralogy and Petrology</i> , 2008, 156, 517-527.	1.2	48
41	The influence of pH on barite nucleation and growth. <i>Chemical Geology</i> , 2015, 391, 7-18.	1.4	48
42	Crystal growth of apatite by replacement of an aragonite precursor. <i>Journal of Crystal Growth</i> , 2010, 312, 2431-2440.	0.7	47
43	Molecular Understanding of Humic Acid-Limited Phosphate Precipitation and Transformation. <i>Environmental Science & Technology</i> , 2020, 54, 207-215.	4.6	46
44	In situ AFM study of the dissolution and recrystallization behaviour of polished and stressed calcite surfaces. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 1728-1738.	1.6	44
45	Mechanistic Principles of Barite Formation: From Nanoparticles to Micron-Sized Crystals. <i>Crystal Growth and Design</i> , 2015, 15, 3724-3733.	1.4	43
46	Direct Observation of Spiral Growth, Particle Attachment, and Morphology Evolution of Hydroxyapatite. <i>Crystal Growth and Design</i> , 2016, 16, 4509-4518.	1.4	43
47	Pseudomorphic replacement of single calcium carbonate crystals by polycrystalline apatite. <i>Mineralogical Magazine</i> , 2008, 72, 77-80.	0.6	42
48	An atomic force microscopy study of the dissolution of calcite in the presence of phosphate ions. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 117, 115-128.	1.6	42
49	Peridotite weathering is the missing ingredient of Earth's continental crust composition. <i>Nature Communications</i> , 2018, 9, 634.	5.8	36
50	Direct Observations of the Occlusion of Soil Organic Matter within Calcite. <i>Environmental Science & Technology</i> , 2019, 53, 8097-8104.	4.6	35
51	Timescales of interface-coupled dissolution-precipitation reactions on carbonates. <i>Geoscience Frontiers</i> , 2019, 10, 17-27.	4.3	34
52	The mechanism of fluid infiltration in peridotites at Almklovdalen, western Norway. <i>Geofluids</i> , 2002, 2, 203-215.	0.3	33
53	Dissolution and Precipitation Dynamics at Environmental Mineral Interfaces Imaged by In Situ Atomic Force Microscopy. <i>Accounts of Chemical Research</i> , 2020, 53, 1196-1205.	7.6	33
54	Crystal Growth and Dissolution of Calcite in the Presence of Fluoride Ions: An Atomic Force Microscopy Study. <i>Crystal Growth and Design</i> , 2010, 10, 60-69.	1.4	30

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55	Direct nanoscale observations of the coupled dissolution of calcite and dolomite and the precipitation of gypsum. <i>Beilstein Journal of Nanotechnology</i> , 2014, 5, 1245-1253.	1.5	30
56	Experimental study of the replacement of calcite by calcium sulphates. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 156, 75-93.	1.6	30
57	Coupled Dissolution and Precipitation at the Cerussite-Phosphate Solution Interface: Implications for Immobilization of Lead in Soils. <i>Environmental Science & Technology</i> , 2013, 47, 13502-13510.	4.6	29
58	Sequestration of Selenium on Calcite Surfaces Revealed by Nanoscale Imaging. <i>Environmental Science & Technology</i> , 2013, 47, 13469-13476.	4.6	28
59	Interactions between mineral surfaces and dissolved species: From monovalent ions to complex organic molecules. <i>Numerische Mathematik</i> , 2005, 305, 791-825.	0.7	27
60	The pseudomorphic replacement of marble by apatite: The role of fluid composition. <i>Chemical Geology</i> , 2016, 425, 1-11.	1.4	27
61	Siderite dissolution coupled to iron oxyhydroxide precipitation in the presence of arsenic revealed by nanoscale imaging. <i>Chemical Geology</i> , 2017, 449, 123-134.	1.4	27
62	The effect of fluid composition on the mechanism of the aragonite to calcite transition. <i>Mineralogical Magazine</i> , 2008, 72, 111-114.	0.6	26
63	Hydration Effects on the Stability of Calcium Carbonate Pre-Nucleation Species. <i>Minerals (Basel)</i> , 2018, 8, 1078-1093.	0.8	26
64	Molecular-Scale Investigations Reveal Noncovalent Bonding Underlying the Adsorption of Environmental DNA on Mica. <i>Environmental Science & Technology</i> , 2019, 53, 11251-11259.	4.6	26
65	Interactions between Organophosphonate-Bearing Solutions and (101̄...4) Calcite Surfaces: An Atomic Force Microscopy and First-Principles Molecular Dynamics Study. <i>Crystal Growth and Design</i> , 2010, 10, 3022-3035.	1.4	25
66	The replacement of a carbonate rock by fluorite: Kinetics and microstructure. <i>American Mineralogist</i> , 2017, 102, 126-134.	0.9	25
67	Interfacial Precipitation of Phosphate on Hematite and Goethite. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 207.	0.8	25
68	Humic Acids Limit the Precipitation of Cadmium and Arsenate at the Brushite-Fluid Interface. <i>Environmental Science & Technology</i> , 2019, 53, 194-202.	4.6	25
69	Exploring the effect of poly(acrylic acid) on pre- and post-nucleation BaSO ₄ species: new insights into the mechanisms of crystallization control by polyelectrolytes. <i>CrystEngComm</i> , 2016, 18, 2830-2842.	1.3	24
70	Interaction between Epsomite Crystals and Organic Additives. <i>Crystal Growth and Design</i> , 2008, 8, 2665-2673.	1.4	23
71	Hydration effects on gypsum dissolution revealed by in situ nanoscale atomic force microscopy observations. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 179, 110-122.	1.6	23
72	Sequestration of Antimony on Calcite Observed by Time-Resolved Nanoscale Imaging. <i>Environmental Science & Technology</i> , 2018, 52, 107-113.	4.6	23

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73	Underlying Role of Brushite in Pathological Mineralization of Hydroxyapatite. <i>Journal of Physical Chemistry B</i> , 2019, 123, 2874-2881.	1.2	23
74	Influence of chemical and structural factors on the calcite→calcium oxalate transformation. <i>CrystEngComm</i> , 2013, 15, 9968.	1.3	22
75	Coupled fluctuations in element release during dolomite dissolution. <i>Mineralogical Magazine</i> , 2014, 78, 1355-1362.	0.6	22
76	Imaging Organophosphate and Pyrophosphate Sequestration on Brucite by in Situ Atomic Force Microscopy. <i>Environmental Science & Technology</i> , 2017, 51, 328-336.	4.6	21
77	Direct Observation of Simultaneous Immobilization of Cadmium and Arsenate at the Brushite→Fluid Interface. <i>Environmental Science & Technology</i> , 2018, 52, 3493-3502.	4.6	21
78	Metal Sequestration through Coupled Dissolution→Precipitation at the Brucite→Water Interface. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 346.	0.8	21
79	Base-metals and organic content in stream sediments in the vicinity of a landfill. <i>Applied Geochemistry</i> , 2004, 19, 137-151.	1.4	20
80	Direct observations of the modification of calcite growth morphology by Li ⁺ through selectively stabilizing an energetically unfavourable face. <i>CrystEngComm</i> , 2011, 13, 3962.	1.3	20
81	Mechanisms of Modulation of Calcium Phosphate Pathological Mineralization by Mobile and Immobile Small-Molecule Inhibitors. <i>Journal of Physical Chemistry B</i> , 2018, 122, 1580-1587.	1.2	20
82	AFM study of the epitaxial growth of brushite (CaHPO ₄ ·2H ₂ O) on gypsum cleavage surfaces. <i>American Mineralogist</i> , 2010, 95, 1747-1757.	0.9	19
83	Effect of ferrous iron on the nucleation and growth of CaCO ₃ in slightly basic aqueous solutions. <i>CrystEngComm</i> , 2017, 19, 447-460.	1.3	19
84	Removal of Fe(II) from groundwater via aqueous portlandite carbonation and calcite-solution interactions. <i>Chemical Engineering Journal</i> , 2016, 283, 404-411.	6.6	17
85	Template-Assisted Crystallization of Sulfates onto Calcite: Implications for the Prevention of Salt Damage. <i>Crystal Growth and Design</i> , 2013, 13, 40-51.	1.4	16
86	Visualizing Organophosphate Precipitation at the Calcite→Water Interface by in Situ Atomic-Force Microscopy. <i>Environmental Science & Technology</i> , 2016, 50, 259-268.	4.6	15
87	Direct imaging of coupled dissolution-precipitation and growth processes on calcite exposed to chromium-rich fluids. <i>Chemical Geology</i> , 2020, 552, 119770.	1.4	15
88	The Control of Solution Composition on Ligand-Promoted Dissolution: DTPA→Barite Interactions. <i>Crystal Growth and Design</i> , 2009, 9, 5266-5272.	1.4	14
89	Direct Observations of the Dissolution of Fluorite Surfaces with Different Orientations. <i>Crystal Growth and Design</i> , 2014, 14, 69-77.	1.4	14
90	Porosity generated during the fluid-mediated replacement of calcite by fluorite. <i>CrystEngComm</i> , 2016, 18, 6867-6874.	1.3	14

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91	In Situ Atomic Force Microscopy Imaging of Octacalcium Phosphate Crystallization and Its Modulation by Amelogenin's C-Terminus. <i>Crystal Growth and Design</i> , 2017, 17, 2194-2202.	1.4	14
92	Influence of pH and citrate on the formation of oxalate layers on calcite revealed by in situ nanoscale imaging. <i>CrystEngComm</i> , 2017, 19, 3420-3429.	1.3	14
93	Direct observations of the influence of solution composition on magnesite dissolution. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 109, 113-126.	1.6	13
94	Nanoparticles formed during mineral-fluid interactions. <i>Chemical Geology</i> , 2021, 586, 120614.	1.4	13
95	Phosphorylated/Nonphosphorylated Motifs in Amelotin Turn Off/On the Acidic Amorphous Calcium Phosphate-to-Apatite Phase Transformation. <i>Langmuir</i> , 2020, 36, 2102-2109.	1.6	12
96	Energetic Basis for Inhibition of Calcium Phosphate Biomineralization by Osteopontin. <i>Journal of Physical Chemistry B</i> , 2017, 121, 5968-5976.	1.2	11
97	Nanoscale imaging of the simultaneous occlusion of nanoplastics and glyphosate within soil minerals. <i>Environmental Science: Nano</i> , 2021, 8, 2855-2865.	2.2	11
98	Atomic force microscopy imaging of classical and nonclassical surface growth dynamics of calcium orthophosphates. <i>CrystEngComm</i> , 2018, 20, 2886-2896.	1.3	10
99	The effect of a copolymer inhibitor on baryte precipitation. <i>Mineralogical Magazine</i> , 2014, 78, 1423-1430.	0.6	9
100	Dynamics and Molecular Mechanism of Phosphate Binding to a Biomimetic Hexapeptide. <i>Environmental Science & Technology</i> , 2018, 52, 10472-10479.	4.6	9
101	Dynamic force spectroscopy for quantifying single-molecule organo-mineral interactions. <i>CrystEngComm</i> , 2021, 23, 11-23.	1.3	8
102	Face-Specific Occlusion of Lipid Vesicles within Calcium Oxalate Monohydrate. <i>Crystal Growth and Design</i> , 2021, 21, 2398-2404.	1.4	8
103	Facet-Specific Dissolution-Precipitation at Struvite-Water Interfaces. <i>Crystal Growth and Design</i> , 2021, 21, 4111-4120.	1.4	8
104	A potentiometric study of the performance of a commercial copolymer in the precipitation of scale forming minerals. <i>CrystEngComm</i> , 2016, 18, 5744-5753.	1.3	7
105	Mineral Surface Rearrangement at High Temperatures: Implications for Extraterrestrial Mineral Grain Reactivity. <i>ACS Earth and Space Chemistry</i> , 2017, 1, 113-121.	1.2	7
106	Inhibition of Spiral Growth and Dissolution at the Brushite (010) Interface by Chondroitin 4-Sulfate. <i>Journal of Physical Chemistry B</i> , 2019, 123, 845-851.	1.2	7
107	Relative rates of fluid advection, elemental diffusion and replacement govern reaction front patterns. <i>Earth and Planetary Science Letters</i> , 2021, 565, 116950.	1.8	7
108	<i>In situ</i> observations of the occlusion of a clay-sugar compound within calcite. <i>Environmental Science: Nano</i> , 2022, 9, 523-531.	2.2	6

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109	Baryte cohesive layers formed on a (010) gypsum surface by a pseudomorphic replacement. <i>European Journal of Mineralogy</i> , 2019, 31, 289-299.	0.4	5
110	Crystallization via Nonclassical Pathways: Nanoscale Imaging of Mineral Surfaces. <i>ACS Symposium Series</i> , 0, , 1-35.	0.5	3
111	Macro- to nanoscale study of the effect of aqueous sulphate on calcite growth. <i>Mineralogical Magazine</i> , 2008, 72, 141-144.	0.6	2
112	Halide-Dependent Dissolution of Dicalcium Phosphate Dihydrate and Its Modulation by an Organic Ligand. <i>Crystal Growth and Design</i> , 2017, 17, 3868-3876.	1.4	2
113	Direct Observations of the Coupling between Quartz Dissolution and Mg-Silicate Formation. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 617-625.	1.2	2
114	Ion partitioning and element mobilization during mineral replacement reactions in natural and experimental systems. , 0, , 189-226.		2
115	Editorial for Special Issue "Mineral Surface Reactions at the Nanoscale", <i>Minerals (Basel)</i> TJ ETQq1 1 0.784314 rgBT /Overlock 10 T	0.8	1
116	Mineral reactivity: from biomineralization and Earth's climate evolution, to CO2 capture and monument conservation. <i>European Journal of Mineralogy</i> , 2019, 31, 205-207.	0.4	0