Christine V Putnis

List of Publications by Year
in descending order

116 papers	5,714 citations	61984 43 h-index	85541 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. Journal of Solid State Chemistry, 2007, 180, 1783-1786.	2.9	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 74Â°C. Geochimica Et Cosmochimica Acta, 2004, 68, 4843-4858.	3.9	321
3	Coupled dissolution and precipitation at mineralâ€“fluid interfaces. Chemical Geology, 2014, 383, 132-146.	3.3	290
4	Direct observations of pseudomorphism: compositional and textural evolution at a fluid-solid interface. American Mineralogist, 2005, 90, 1909-1912.	1.9	183
5	Direct observation of heavy metal-mineral association from the Clark Fork River Superfund Complex: Implications for metal transport and bioavailability. Geochimica Et Cosmochimica Acta, 2005, 69, 1651-1663.	3.9	169
6	Reaction induced fracturing during replacement processes. Contributions To Mineralogy and Petrology, 2009, 157, 127-133.	3.1	163
7	The role of background electrolytes on the kinetics and mechanism of calcite dissolution. Geochimica Et Cosmochimica Acta, 2010, 74, 1256-1267.	3.9	128
8	Mechanism of leached layer formation during chemical weathering of silicate minerals. Geology, 2012, 40, 947-950.	4.4	127
9	The Mineral-Water Interface: Where Minerals React with the Environment. Elements, 2013, 9, 177-182.	0.5	116
10	Hematite in porous red-clouded feldspars: Evidence of large-scale crustal fluidâ€“rock interaction. Lithos, 2007, 95, 10-18.	1.4	114
11	Direct observations of mineral fluid reactions using atomic force microscopy: the specific example of calcite. Mineralogical Magazine, 2012, 76, 227-253.	1.4	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. Geochimica Et Cosmochimica Acta, 2007, 71, 5168-5179.	3.9	105
13	Dissolution and Carbonation of Portlandite [Ca(OH)₂] Single Crystals. Environmental Science & Technology, 2013, 47, 11342-11349.	10.0	105
14	An experimental study of the replacement of leucite by analcime. American Mineralogist, 2007, 92, 19-26.	1.9	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. American Mineralogist, 2005, 90, 718-724.	1.9	101
16	A mechanism of mineral replacement: isotope tracing in the model system KCl-KBr-H2O. Geochimica Et Cosmochimica Acta, 2004, 68, 2839-2848.	3.9	99
17	An atomic force microscopy study of calcite dissolution in saline solutions: The role of magnesium ions. Geochimica Et Cosmochimica Acta, 2009, 73, 3201-3217.	3.9	99
18	Direct Nanoscale Observations of CO₂ Sequestration during Brucite [Mg(OH)₂] Dissolution. Environmental Science & Technology, 2012, 46, 5253-5260.	10.0	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. Environmental Science & Technology, 2012, 46, 834-842.	10.0	92
20	Direct Nanoscale Imaging Reveals the Growth of Calcite Crystals via Amorphous Nanoparticles. Crystal Growth and Design, 2016, 16, 1850-1860.	3.0	89
21	The mechanism of cation and oxygen isotope exchange in alkali feldspars under hydrothermal conditions. Contributions To Mineralogy and Petrology, 2009, 157, 65-76.	3.1	86
22	Effect of pH on calcite growth at constant ratio and supersaturation. Geochimica Et Cosmochimica Acta, 2011, 75, 284-296.	3.9	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. Numerische Mathematik, 2011, 311, 211-236.	1.4	72
24	Posner's cluster revisited: direct imaging of nucleation and growth of nanoscale calcium phosphate clusters at the calcite-water interface. CrystEngComm, 2012, 14, 6252.	2.6	71
25	Control of silicate weathering by interface-coupled dissolution-precipitation processes at the mineral-solution interface. Geology, 2016, 44, 567-570.	4.4	68
26	In Situ Nanoscale Imaging of Struvite Formation during the Dissolution of Natural Brucite: Implications for Phosphorus Recovery from Wastewaters. Environmental Science & Technology, 2016, 50, 13032-13041.	10.0	65
27	Ion-specific effects on the kinetics of mineral dissolution. Chemical Geology, 2011, 281, 364-371.	3.3	64
28	Textural Evolution of Plagioclase Feldspar across a Shear Zone: Implications for Deformation Mechanism and Rock Strength. Journal of Petrology, 2014, 55, 1457-1477.	2.8	62
29	The mechanism and kinetics of DTPA-promoted dissolution of barite. Applied Geochemistry, 2008, 23, 2778-2788.	3.0	60
30	Interactions of arsenic with calcite surfaces revealed by in situ nanoscale imaging. Geochimica Et Cosmochimica Acta, 2015, 159, 61-79.	3.9	60
31	Specific effects of background electrolytes on the kinetics of step propagation during calcite growth. Geochimica Et Cosmochimica Acta, 2011, 75, 3803-3814.	3.9	57
32	Selenium incorporation into calcite and its effect on crystal growth: An atomic force microscopy study. Chemical Geology, 2013, 340, 151-161.	3.3	57
33	An Atomic Force Microscopy study of the growth of calcite in the presence of sodium sulfate. Chemical Geology, 2008, 253, 243-251.	3.3	56
34	In situ Imaging of Interfacial Precipitation of Phosphate on Goethite. Environmental Science & Technology, 2015, 49, 4184-4192.	10.0	56
35	Modelling the effects of salt solutions on the hydration of calcium ions. Physical Chemistry Chemical Physics, 2014, 16, 7772-7785.	2.8	54
36	The experimental replacement of ilmenite by rutile in HCl solutions. Mineralogical Magazine, 2010, 74, 633-644.	1.4	53

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37	In situ nanoscale observations of the dissolution of dolomite cleavage surfaces. Geochimica Et Cosmochimica Acta, 2012, 80, 1-13.	3.9	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. Crystal Growth and Design, 2009, 9, 4344-4350.	3.0	52
39	An atomic force microscopy and molecular simulations study of the inhibition of barite growth by phosphonates. Surface Science, 2004, 553, 61-74.	1.9	48
40	Zircon coronas around Feâ€"Ti oxides: a physical reference frame for metamorphic and metasomatic reactions. Contributions To Mineralogy and Petrology, 2008, 156, 517-527.	3.1	48
41	The influence of pH on barite nucleation and growth. Chemical Geology, 2015, 391, 7-18.	3.3	48
42	Crystal growth of apatite by replacement of an aragonite precursor. Journal of Crystal Growth, 2010, 312, 2431-2440.	1.5	47
43	Molecular Understanding of Humic Acid-Limited Phosphate Precipitation and Transformation. Environmental Science & Technology, 2020, 54, 207-215.	10.0	46
44	In situ AFM study of the dissolution and recrystallization behaviour of polished and stressed calcite surfaces. Geochimica Et Cosmochimica Acta, 2006, 70, 1728-1738.	3.9	44
45	Mechanistic Principles of Barite Formation: From Nanoparticles to Micron-Sized Crystals. Crystal Growth and Design, 2015, 15, 3724-3733.	3.0	43
46	Direct Observation of Spiral Growth, Particle Attachment, and Morphology Evolution of Hydroxyapatite. Crystal Growth and Design, 2016, 16, 4509-4518.	3.0	43
47	Pseudomorphic replacement of single calcium carbonate crystals by polycrystalline apatite. Mineralogical Magazine, 2008, 72, 77-80.	1.4	42
48	An atomic force microscopy study of the dissolution of calcite in the presence of phosphate ions. Geochimica Et Cosmochimica Acta, 2013, 117, 115-128.	3.9	42
49	Peridotite weathering is the missing ingredient of Earthâ€™s continental crust composition. Nature Communications, 2018, 9, 634.	12.8	36
50	Direct Observations of the Occlusion of Soil Organic Matter within Calcite. Environmental Science & Technology, 2019, 53, 8097-8104.	10.0	35
51	Timescales of interface-coupled dissolution-precipitation reactions on carbonates. Geoscience Frontiers, 2019, 10, 17-27.	8.4	34
52	The mechanism of fluid infiltration in peridotites at Almklovdalen, western Norway. Geofluids, 2002, 2, 203-215.	0.7	33
53	Dissolution and Precipitation Dynamics at Environmental Mineral Interfaces Imaged by In Situ Atomic Force Microscopy. Accounts of Chemical Research, 2020, 53, 1196-1205.	15.6	33
54	Crystal Growth and Dissolution of Calcite in the Presence of Fluoride Ions: An Atomic Force Microscopy Study. Crystal Growth and Design, 2010, 10, 60-69.	3.0	30

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55	Direct nanoscale observations of the coupled dissolution of calcite and dolomite and the precipitation of gypsum. Beilstein Journal of Nanotechnology, 2014, 5, 1245-1253.	2.8	30
56	Experimental study of the replacement of calcite by calcium sulphates. Geochimica Et Cosmochimica Acta, 2015, 156, 75-93.	3.9	30
57	Coupled Dissolution and Precipitation at the Cerussite-Phosphate Solution Interface: Implications for Immobilization of Lead in Soils. Environmental Science & Technology, 2013, 47, 13502-13510.	10.0	29
58	Sequestration of Selenium on Calcite Surfaces Revealed by Nanoscale Imaging. Environmental Science & Technology, 2013, 47, 13469-13476.	10.0	28
59	Interactions between mineral surfaces and dissolved species: From monovalent ions to complex organic molecules. Numerische Mathematik, 2005, 305, 791-825.	1.4	27
60	The pseudomorphic replacement of marble by apatite: The role of fluid composition. Chemical Geology, 2016, 425, 1-11.	3.3	27
61	Siderite dissolution coupled to iron oxyhydroxide precipitation in the presence of arsenic revealed by nanoscale imaging. Chemical Geology, 2017, 449, 123-134.	3.3	27
62	The effect of fluid composition on the mechanism of the aragonite to calcite transition. Mineralogical Magazine, 2008, 72, 111-114.	1.4	26
63	Hydration Effects on the Stability of Calcium Carbonate Pre-Nucleation Species. Minerals (Basel,) Tj ETQq1 1 0.784314 rgBT /Overlock 1	2.0	26
64	Molecular-Scale Investigations Reveal Noncovalent Bonding Underlying the Adsorption of Environmental DNA on Mica. Environmental Science & Technology, 2019, 53, 11251-11259.	10.0	26
65	Interactions between Organophosphonate-Bearing Solutions and (101Ì…4) Calcite Surfaces: An Atomic Force Microscopy and First-Principles Molecular Dynamics Study. Crystal Growth and Design, 2010, 10, 3022-3035.	3.0	25
66	The replacement of a carbonate rock by fluorite: Kinetics and microstructure. American Mineralogist, 2017, 102, 126-134.	1.9	25
67	Interfacial Precipitation of Phosphate on Hematite and Goethite. Minerals (Basel, Switzerland), 2018, 8, 207.	2.0	25
68	Humic Acids Limit the Precipitation of Cadmium and Arsenate at the Brushiteâ€“Fluid Interface. Environmental Science & Technology, 2019, 53, 194-202.	10.0	25
69	Exploring the effect of poly(acrylic acid) on pre- and post-nucleation BaSO₄species: new insights into the mechanisms of crystallization control by polyelectrolytes. CrystEngComm, 2016, 18, 2830-2842.	2.6	24
70	Interaction between Epsomite Crystals and Organic Additives. Crystal Growth and Design, 2008, 8, 2665-2673.	3.0	23
71	Hydration effects on gypsum dissolution revealed by in situ nanoscale atomic force microscopy observations. Geochimica Et Cosmochimica Acta, 2016, 179, 110-122.	3.9	23
72	Sequestration of Antimony on Calcite Observed by Time-Resolved Nanoscale Imaging. Environmental Science & Technology, 2018, 52, 107-113.	10.0	23

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73	Underlying Role of Brushite in Pathological Mineralization of Hydroxyapatite. Journal of Physical Chemistry B, 2019, 123, 2874-2881.	2.6	23
74	Influence of chemical and structural factors on the calciteâ€“calcium oxalate transformation. CrystEngComm, 2013, 15, 9968.	2.6	22
75	Coupled fluctuations in element release during dolomite dissolution. Mineralogical Magazine, 2014, 78, 1355-1362.	1.4	22
76	Imaging Organophosphate and Pyrophosphate Sequestration on Brucite by in Situ Atomic Force Microscopy. Environmental Science & Technology, 2017, 51, 328-336.	10.0	21
77	Direct Observation of Simultaneous Immobilization of Cadmium and Arsenate at the Brushiteâ€“Fluid Interface. Environmental Science & Technology, 2018, 52, 3493-3502.	10.0	21
78	Metal Sequestration through Coupled Dissolutionâ€“Precipitation at the Bruciteâ€“Water Interface. Minerals (Basel, Switzerland), 2018, 8, 346.	2.0	21
79	Base-metals and organic content in stream sediments in the vicinity of a landfill. Applied Geochemistry, 2004, 19, 137-151.	3.0	20
80	Direct observations of the modification of calcite growth morphology by Li+ through selectively stabilizing an energetically unfavourable face. CrystEngComm, 2011, 13, 3962.	2.6	20
81	Mechanisms of Modulation of Calcium Phosphate Pathological Mineralization by Mobile and Immobile Small-Molecule Inhibitors. Journal of Physical Chemistry B, 2018, 122, 1580-1587.	2.6	20
82	AFM study of the epitaxial growth of brushite (CaHPO4{middle dot}2H2O) on gypsum cleavage surfaces. American Mineralogist, 2010, 95, 1747-1757.	1.9	19
83	Effect of ferrous iron on the nucleation and growth of CaCO₃in slightly basic aqueous solutions. CrystEngComm, 2017, 19, 447-460.	2.6	19
84	Removal of Fe(II) from groundwater via aqueous portlandite carbonation and calcite-solution interactions. Chemical Engineering Journal, 2016, 283, 404-411.	12.7	17
85	Template-Assisted Crystallization of Sulfates onto Calcite: Implications for the Prevention of Salt Damage. Crystal Growth and Design, 2013, 13, 40-51.	3.0	16
86	Visualizing Organophosphate Precipitation at the Calciteâ€“Water Interface by in Situ Atomic-Force Microscopy. Environmental Science & Technology, 2016, 50, 259-268.	10.0	15
87	Direct imaging of coupled dissolution-precipitation and growth processes on calcite exposed to chromium-rich fluids. Chemical Geology, 2020, 552, 119770.	3.3	15
88	The Control of Solution Composition on Ligand-Promoted Dissolution: DTPAâˆ’Barite Interactions. Crystal Growth and Design, 2009, 9, 5266-5272.	3.0	14
89	Direct Observations of the Dissolution of Fluorite Surfaces with Different Orientations. Crystal Growth and Design, 2014, 14, 69-77.	3.0	14
90	Porosity generated during the fluid-mediated replacement of calcite by fluorite. CrystEngComm, 2016, 18, 6867-6874.	2.6	14

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91	In Situ Atomic Force Microscopy Imaging of Octacalcium Phosphate Crystallization and Its Modulation by Amelogeninâ€™s C-Terminus. Crystal Growth and Design, 2017, 17, 2194-2202.	3.0	14
92	Influence of pH and citrate on the formation of oxalate layers on calcite revealed by in situ nanoscale imaging. CrystEngComm, 2017, 19, 3420-3429.	2.6	14
93	Direct observations of the influence of solution composition on magnesite dissolution. Geochimica Et Cosmochimica Acta, 2013, 109, 113-126.	3.9	13
94	Nanoparticles formed during mineral-fluid interactions. Chemical Geology, 2021, 586, 120614.	3.3	13
95	Phosphorylated/Nonphosphorylated Motifs in Amelotin Turn Off/On the Acidic Amorphous Calcium Phosphate-to-Apatite Phase Transformation. Langmuir, 2020, 36, 2102-2109.	3.5	12
96	Energetic Basis for Inhibition of Calcium Phosphate Biomineralization by Osteopontin. Journal of Physical Chemistry B, 2017, 121, 5968-5976.	2.6	11
97	Nanoscale imaging of the simultaneous occlusion of nanoplastics and glyphosate within soil minerals. Environmental Science: Nano, 2021, 8, 2855-2865.	4.3	11
98	Atomic force microscopy imaging of classical and nonclassical surface growth dynamics of calcium orthophosphates. CrystEngComm, 2018, 20, 2886-2896.	2.6	10
99	The effect of a copolymer inhibitor on baryte precipitation. Mineralogical Magazine, 2014, 78, 1423-1430.	1.4	9
100	Dynamics and Molecular Mechanism of Phosphate Binding to a Biomimetic Hexapeptide. Environmental Science & Technology, 2018, 52, 10472-10479.	10.0	9
101	Dynamic force spectroscopy for quantifying single-molecule organoâ€“mineral interactions. CrystEngComm, 2021, 23, 11-23.	2.6	8
102	Face-Specific Occlusion of Lipid Vesicles within Calcium Oxalate Monohydrate. Crystal Growth and Design, 2021, 21, 2398-2404.	3.0	8
103	Facet-Specific Dissolutionâ€“Precipitation at Struviteâ€“Water Interfaces. Crystal Growth and Design, 2021, 21, 4111-4120.	3.0	8
104	A potentiometric study of the performance of a commercial copolymer in the precipitation of scale forming minerals. CrystEngComm, 2016, 18, 5744-5753.	2.6	7
105	Mineral Surface Rearrangement at High Temperatures: Implications for Extraterrestrial Mineral Grain Reactivity. ACS Earth and Space Chemistry, 2017, 1, 113-121.	2.7	7
106	Inhibition of Spiral Growth and Dissolution at the Brushite (010) Interface by Chondroitin 4-Sulfate. Journal of Physical Chemistry B, 2019, 123, 845-851.	2.6	7
107	Relative rates of fluid advection, elemental diffusion and replacement govern reaction front patterns. Earth and Planetary Science Letters, 2021, 565, 116950.	4.4	7
108	<i>In situ</i> observations of the occlusion of a clay-sugar compound within calcite. Environmental Science: Nano, 2022, 9, 523-531.	4.3	6

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109	Baryte cohesive layers formed on a (010) gypsum surface by a pseudomorphic replacement. European Journal of Mineralogy, 2019, 31, 289-299.	1.3	5
110	Crystallization via Nonclassical Pathways: Nanoscale Imaging of Mineral Surfaces. ACS Symposium Series, 0, , 1-35.	0.5	3
111	Macro- to nanoscale study of the effect of aqueous sulphate on calcite growth. Mineralogical Magazine, 2008, 72, 141-144.	1.4	2
112	Halide-Dependent Dissolution of Dicalcium Phosphate Dihydrate and Its Modulation by an Organic Ligand. Crystal Growth and Design, 2017, 17, 3868-3876.	3.0	2
113	Direct Observations of the Coupling between Quartz Dissolution and Mg-Silicate Formation. ACS Earth and Space Chemistry, 2019, 3, 617-625.	2.7	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 â€œMineral Surface Reactions at the Nanoscaleâ€• Minerals (Basel,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	2.0	1
116	Mineral reactivity: from biomineralization and Earthâ€™s climate evolution, to CO2 capture and monument conservation. European Journal of Mineralogy, 2019, 31, 205-207.	1.3	0