Encarnacion Ruiz-Agudo

List of Publications by Year
in descending order

88 papers	5,088 citations	76196 40 h-index	91712 69 g-index
88 all docs	88 docs citations	88 times ranked	5326 citing authors

#	Article	IF	Citations
1	Thermal decomposition of calcite: Mechanisms of formation and textural evolution of CaO nanocrystals. American Mineralogist, 2009, 94, 578-593.	0.9	344
2	Coupled dissolution and precipitation at mineralâ€“fluid interfaces. Chemical Geology, 2014, 383, 132-146.	1.4	290
3	Phase and morphology evolution of calcium carbonate precipitated by carbonation of hydrated lime. Journal of Materials Science, 2012, 47, 6151-6165.	1.7	207
4	The role of saline solution properties on porous limestone salt weathering by magnesium and sodium sulfates. Environmental Geology, 2007, 52, 269-281.	1.2	193
5	Influence of Substrate Mineralogy on Bacterial Mineralization of Calcium Carbonate: Implications for Stone Conservation. Applied and Environmental Microbiology, 2012, 78, 4017-4029.	1.4	174
6	Alcohol Dispersions of Calcium Hydroxide Nanoparticles for Stone Conservation. Langmuir, 2013, 29, 11457-11470.	1.6	169
7	Formation of amorphous calcium carbonate and its transformation into mesostructured calcite. CrystEngComm, 2015, 17, 58-72.	1.3	169
8	Nanostructure and Irreversible Colloidal Behavior of Ca(OH)2:Â Implications in Cultural Heritage Conservation. Langmuir, 2005, 21, 10948-10957.	1.6	152
9	The role of background electrolytes on the kinetics and mechanism of calcite dissolution. Geochimica Et Cosmochimica Acta, 2010, 74, 1256-1267.	1.6	128
10	Mechanism of leached layer formation during chemical weathering of silicate minerals. Geology, 2012, 40, 947-950.	2.0	127
11	The Mineral-Water Interface: Where Minerals React with the Environment. Elements, 2013, 9, 177-182.	0.5	116
12	Dissolution and Carbonation of Portlandite [Ca(OH)₂] Single Crystals. Environmental Science & Technology, 2013, 47, 11342-11349.	4.6	105
13	An atomic force microscopy study of calcite dissolution in saline solutions: The role of magnesium ions. Geochimica Et Cosmochimica Acta, 2009, 73, 3201-3217.	1.6	99
14	A non-classical view on calcium oxalate precipitation and the role of citrate. Nature Communications, 2017, 8, 768.	5.8	99
15	Direct Nanoscale Observations of CO₂ Sequestration during Brucite [Mg(OH)₂] Dissolution. Environmental Science & Technology, 2012, 46, 5253-5260.	4.6	97
16	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.	4.6	92
17	Direct Nanoscale Imaging Reveals the Growth of Calcite Crystals via Amorphous Nanoparticles. Crystal Growth and Design, 2016, 16, 1850-1860.	1.4	89
18	The mechanism of thermal decomposition of dolomite: New insights from 2D-XRD and TEM analyses. American Mineralogist, 2012, 97, 38-51.	0.9	88

#	Article	IF	Citations
19	Effect of pH on calcite growth at constant ratio and supersaturation. Geochimica Et Cosmochimica Acta, 2011, 75, 284-296.	1.6	84
20	Protection and consolidation of stone heritage by self-inoculation with indigenous carbonatogenic bacterial communities. Nature Communications, 2017, 8, 279.	5.8	83
21	Nanolimes: from synthesis to application. Pure and Applied Chemistry, 2018, 90, 523-550.	0.9	80
22	Direct observation of microcrack development in marble caused by thermal weathering. Environmental Earth Sciences, 2011, 62, 1375-1386.	1.3	77
23	Damage Mechanisms of Porous Materials due to In-Pore Salt Crystallization. Physical Review Letters, 2012, 109, 265503.	2.9	77
24	Nonclassical crystallization in vivo et in vitro (II): Nanogranular features in biomimetic minerals disclose a general colloid-mediated crystal growth mechanism. Journal of Structural Biology, 2016, 196, 260-287.	1.3	74
25	Posner's cluster revisited: direct imaging of nucleation and growth of nanoscale calcium phosphate clusters at the calcite-water interface. CrystEngComm, 2012, 14, 6252.	1.3	71
26	Control of silicate weathering by interface-coupled dissolution-precipitation processes at the mineral-solution interface. Geology, 2016, 44, 567-570.	2.0	68
27	Effects of particulate matter from gasoline and diesel vehicle exhaust emissions on silicate stones sulfation. Atmospheric Environment, 2006, 40, 6905-6917.	1.9	67
28	Ion-specific effects on the kinetics of mineral dissolution. Chemical Geology, 2011, 281, 364-371.	1.4	64
29	Kinetics and Mechanism of Calcium Hydroxide Conversion into Calcium Alkoxides: Implications in Heritage Conservation Using Nanolimes. Langmuir, 2016, 32, 5183-5194.	1.6	62
30	Interactions of arsenic with calcite surfaces revealed by in situ nanoscale imaging. Geochimica Et Cosmochimica Acta, 2015, 159, 61-79.	1.6	60
31	Nonclassical crystallization in vivo et in vitro (I): Process-structure-property relationships of nanogranular biominerals. Journal of Structural Biology, 2016, 196, 244-259.	1.3	60
32	Specific effects of background electrolytes on the kinetics of step propagation during calcite growth. Geochimica Et Cosmochimica Acta, 2011, 75, 3803-3814.	1.6	57
33	Selenium incorporation into calcite and its effect on crystal growth: An atomic force microscopy study. Chemical Geology, 2013, 340, 151-161.	1.4	57
34	Microstructure and Rheology of Lime Putty. Langmuir, 2010, 26, 3868-3877.	1.6	56
35	In situ Imaging of Interfacial Precipitation of Phosphate on Goethite. Environmental Science & Technology, 2015, 49, 4184-4192.	4.6	56
36	Modelling the effects of salt solutions on the hydration of calcium ions. Physical Chemistry Chemical Physics, 2014, 16, 7772-7785.	1.3	54

#	Article	IF	Citations
37	In situ nanoscale observations of the dissolution of dolomite cleavage surfaces. Geochimica Et Cosmochimica Acta, 2012, 80, 1-13.	1.6	53
38	The influence of pH on barite nucleation and growth. Chemical Geology, 2015, 391, 7-18.	1.4	48
39	Sodium Sulfate Crystallization in the Presence of Phosphonates:â€‰ Implications in Ornamental Stone Conservation. Crystal Growth and Design, 2006, 6, 1575-1583.	1.4	43
40	Mechanistic Principles of Barite Formation: From Nanoparticles to Micron-Sized Crystals. Crystal Growth and Design, 2015, 15, 3724-3733.	1.4	43
41	An atomic force microscopy study of the dissolution of calcite in the presence of phosphate ions. Geochimica Et Cosmochimica Acta, 2013, 117, 115-128.	1.6	42
42	Effectiveness of oxalic acid treatments for the protection of marble surfaces. Materials and Design, 2017, 115, 82-92.	3.3	42
43	Crystallization and Colloidal Stabilization of Ca(OH)₂ in the Presence of Nopal Juice (<i>Opuntia ficus indica</i>): Implications in Architectural Heritage Conservation. Langmuir, 2017, 33, 10936-10950.	1.6	39
44	Gypsum crust as a source of calcium for the consolidation of carbonate stones using a calcium phosphate-based consolidant. Construction and Building Materials, 2017, 143, 298-311.	3.2	36
45	An integrated methodology for salt damage assessment and remediation: the case of San JerÃ³nimo Monastery (Granada, Spain). Environmental Earth Sciences, 2011, 63, 1475-1486.	1.3	34
46	The Carbonation of Wollastonite: A Model Reaction to Test Natural and Biomimetic Catalysts for Enhanced CO2 Sequestration. Minerals (Basel, Switzerland), 2018, 8, 209.	0.8	34
47	Mechanism and Kinetics of Dehydration of Epsomite Crystals Formed in the Presence of Organic Additives. Journal of Physical Chemistry B, 2007, 111, 41-52.	1.2	33
48	Characterization of indoor and outdoor atmospheric pollutants impacting architectural monuments: the case of San JerÃ³nimo Monastery (Granada, Spain). Environmental Earth Sciences, 2011, 63, 1433-1445.	1.3	32
49	Boron incorporation into calcite during growth: Implications for the use of boron in carbonates as a pH proxy. Earth and Planetary Science Letters, 2012, 345-348, 9-17.	1.8	30
50	Experimental study of the replacement of calcite by calcium sulphates. Geochimica Et Cosmochimica Acta, 2015, 156, 75-93.	1.6	30
51	Coupled Dissolution and Precipitation at the Cerussite-Phosphate Solution Interface: Implications for Immobilization of Lead in Soils. Environmental Science & Technology, 2013, 47, 13502-13510.	4.6	29
52	Nonclassical Crystallization of Calcium Hydroxide via Amorphous Precursors and the Role of Additives. Crystal Growth and Design, 2020, 20, 4418-4432.	1.4	29
53	Sequestration of Selenium on Calcite Surfaces Revealed by Nanoscale Imaging. Environmental Science & Technology, 2013, 47, 13469-13476.	4.6	28
54	Hydration Effects on the Stability of Calcium Carbonate Pre-Nucleation Species. Minerals (Basel,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6	0.8	26

#	Article	IF	Citations
55	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.	1.4	25
56	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.	1.3	24
57	Interaction between Epsomite Crystals and Organic Additives. Crystal Growth and Design, 2008, 8, 2665-2673.	1.4	23
58	Hydration effects on gypsum dissolution revealed by in situ nanoscale atomic force microscopy observations. Geochimica Et Cosmochimica Acta, 2016, 179, 110-122.	1.6	23
59	The multiple roles of carbonic anhydrase in calcium carbonate mineralization. CrystEngComm, 2019, 21, 7407-7423.	1.3	23
60	Influence of chemical and structural factors on the calciteâ€“calcium oxalate transformation. CrystEngComm, 2013, 15, 9968.	1.3	22
61	Coupled fluctuations in element release during dolomite dissolution. Mineralogical Magazine, 2014, 78, 1355-1362.	0.6	22
62	Kinetic effect of carbonic anhydrase enzyme on the carbonation reaction of lime mortar. International Journal of Architectural Heritage, 2018, 12, 779-789.	1.7	22
63	Imaging Organophosphate and Pyrophosphate Sequestration on Brucite by in Situ Atomic Force Microscopy. Environmental Science & Technology, 2017, 51, 328-336.	4.6	21
64	Direct observations of the modification of calcite growth morphology by Li+ through selectively stabilizing an energetically unfavourable face. CrystEngComm, 2011, 13, 3962.	1.3	20
65	Bioinspired Alkoxysilane Conservation Treatments for Building Materials Based on Amorphous Calcium Carbonate and Oxalate Nanoparticles. ACS Applied Nano Materials, 2019, 2, 4954-4967.	2.4	20
66	AFM study of the epitaxial growth of brushite (CaHPO4{middle dot}2H2O) on gypsum cleavage surfaces. American Mineralogist, 2010, 95, 1747-1757.	0.9	19
67	Effect of ferrous iron on the nucleation and growth of CaCO₃in slightly basic aqueous solutions. CrystEngComm, 2017, 19, 447-460.	1.3	19
68	Bacterial Diversity Evolution in Maya Plaster and Stone Following a Bio-Conservation Treatment. Frontiers in Microbiology, 2020, 11, 599144.	1.5	19
69	Crystallographic Control in the Replacement of Calcite by Calcium Sulfates. Crystal Growth and Design, 2016, 16, 4950-4959.	1.4	17
70	Reaction of pseudowollastonite with carbonate-bearing fluids: Implications for CO2 mineral sequestration. Chemical Geology, 2019, 524, 158-173.	1.4	17
71	Template-Assisted Crystallization of Sulfates onto Calcite: Implications for the Prevention of Salt Damage. Crystal Growth and Design, 2013, 13, 40-51.	1.4	16
72	Visualizing Organophosphate Precipitation at the Calciteâ€“Water Interface by in Situ Atomic-Force Microscopy. Environmental Science & Technology, 2016, 50, 259-268.	4.6	15

#	Article	IF	Citations
73	Citrate Stabilizes Hydroxylapatite Precursors: Implications for Bone Mineralization. ACS Biomaterials Science and Engineering, 2021, 7, 2346-2357.	2.6	15
74	Carbonation of calcium-magnesium pyroxenes: Physical-chemical controls and effects of reaction-driven fracturing. Geochimica Et Cosmochimica Acta, 2021, 304, 258-280.	1.6	14
75	Influence of pH and citrate on the formation of oxalate layers on calcite revealed by in situ nanoscale imaging. CrystEngComm, 2017, 19, 3420-3429.	1.3	14
76	EvaluaciÃ³n de las propiedades fÃsicas de dos rocas carbonÃ¡ticas usadas como material de construcciÃ³n actual e histÃ³rico en AndalucÃa Oriental, EspaÃ±a. Materiales De Construccion, 2011, 61, 93-114.	0.2	14
77	Interplay between arsenic and selenium biomineralization in Shewanella sp. O23S. Environmental Pollution, 2022, 306, 119451.	3.7	11
78	Degradation of ancient Maya carved tuff stone at Copan and its bacterial bioconservation. Npj Materials Degradation, 2021, 5, .	2.6	9
79	A potentiometric study of the performance of a commercial copolymer in the precipitation of scale forming minerals. CrystEngComm, 2016, 18, 5744-5753.	1.3	7
80	Kinetics and Mechanisms of Acidâ€pH Weathering of Pyroxenes. Geochemistry, Geophysics, Geosystems, 2021, 22, e2021GC009711.	1.0	7
81	Synthesis of high surface area CaSO₄Â·0.5H₂O nanorods using calcium ethoxide as precursor. Chemical Communications, 2021, 57, 7304-7307.	2.2	6
82	Bioremediation of a polymetallic, arsenic-dominated reverse osmosis reject stream. Letters in Applied Microbiology, 2022, 75, 1084-1092.	1.0	6
83	Suppression of salt weathering of porous limestone by borax-induced promotion of sodium and magnesium sulphate crystallization. Geological Society Special Publication, 2010, 331, 93-102.	0.8	5
84	Stabilization of Calcium Oxalate Precursors during the Pre- and Post-Nucleation Stages with Poly(acrylic acid). Nanomaterials, 2021, 11, 235.	1.9	5
85	Carbonates. , 0, , 337-375.		5
86	Crystallization via Nonclassical Pathways: Nanoscale Imaging of Mineral Surfaces. ACS Symposium Series, 0, , 1-35.	0.5	3
87	[Mn2(Fpymo)4(H2O)4]: Synthesis, structure, magnetism and thermally induced solid-to-solid polymerisation reactions. Inorganica Chimica Acta, 2007, 360, 84-90.	1.2	2
88	New polymer-based treatments for the prevention of damage by salt crystallization in stone. Materials and Structures/Materiaux Et Constructions, 2019, 52, 1.	1.3	2