Encarnacion Ruiz-Agudo

List of Publications by Citations

88 papers	3,813 citations	38 h-index	60 g-index
88 ext. papers	4,403 ext. citations	4.9 avg, IF	5.7 L-index

#	Paper	IF	Citations
88	Thermal decomposition of calcite: Mechanisms of formation and textural evolution of CaO nanocrystals. *American Mineralogist*, **2009**, 94, 578-593	2.9	250
87	Coupled dissolution and precipitation at mineral–fluid interfaces. *Chemical Geology*, **2014**, 383, 132-146	4.2	219
86	The role of saline solution properties on porous limestone salt weathering by magnesium and sodium sulfates. *Environmental Geology*, **2007**, 52, 269-281		151
85	Phase and morphology evolution of calcium carbonate precipitated by carbonation of hydrated lime. *Journal of Materials Science*, **2012**, 47, 6151-6165	4.3	148
84	Formation of amorphous calcium carbonate and its transformation into mesostructured calcite. *CrystEngComm*, **2015**, 17, 58-72	3.3	131
83	Alcohol dispersions of calcium hydroxide nanoparticles for stone conservation. *Langmuir*, **2013**, 29, 11457-70	4	130
82	Influence of substrate mineralogy on bacterial mineralization of calcium carbonate: implications for stone conservation. *Applied and Environmental Microbiology*, **2012**, 78, 4017-29	4.8	128
81	Nanostructure and irreversible colloidal behavior of Ca(OH)2: implications in cultural heritage conservation. *Langmuir*, **2005**, 21, 10948-57	4	128
80	The role of background electrolytes on the kinetics and mechanism of calcite dissolution. *Geochimica Et Cosmochimica Acta*, **2010**, 74, 1256-1267	5.5	108
79	Mechanism of leached layer formation during chemical weathering of silicate minerals. *Geology*, **2012**, 40, 947-950	5	108
78	The Mineral-Water Interface: Where Minerals React with the Environment. *Elements*, **2013**, 9, 177-182	3.8	84
77	An atomic force microscopy study of calcite dissolution in saline solutions: The role of magnesium ions. *Geochimica Et Cosmochimica Acta*, **2009**, 73, 3201-3217	5.5	84
76	Direct nanoscale observations of CO2 sequestration during brucite [Mg(OH)2] dissolution. *Environmental Science & Technology*, **2012**, 46, 5253-60	10.3	78
75	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, 834-42	10.3	70
74	Dissolution and carbonation of Portlandite [Ca(OH)2] single crystals. *Environmental Science & Technology*, **2013**, 47, 11342-9	10.3	69
73	Direct Nanoscale Imaging Reveals the Growth of Calcite Crystals via Amorphous Nanoparticles. *Crystal Growth and Design*, **2016**, 16, 1850-1860	3.5	68
72	A non-classical view on calcium oxalate precipitation and the role of citrate. *Nature Communications* , **2017**, 8, 768	17.4	67

71	Effect of pH on calcite growth at constant aCa2+/aCO32- ratio and supersaturation. *Geochimica Et Cosmochimica Acta*, **2011**, 75, 284-296	5.5	66
70	The mechanism of thermal decomposition of dolomite: New insights from 2D-XRD and TEM analyses. *American Mineralogist*, **2012**, 97, 38-51	2.9	63
69	Direct observation of microcrack development in marble caused by thermal weathering. *Environmental Earth Sciences*, **2011**, 62, 1375-1386	2.9	61
68	Posner's cluster revisited: direct imaging of nucleation and growth of nanoscale calcium phosphate clusters at the calcite-water interface. *CrystEngComm*, **2012**, 14, 6252	3.3	60
67	Damage mechanisms of porous materials due to in-pore salt crystallization. *Physical Review Letters*, **2012**, 109, 265503	7.4	57
66	Effects of particulate matter from gasoline and diesel vehicle exhaust emissions on silicate stones sulfation. *Atmospheric Environment*, **2006**, 40, 6905-6917	5.3	57
65	Ion-specific effects on the kinetics of mineral dissolution. *Chemical Geology*, **2011**, 281, 364-371	4.2	56
64	Protection and consolidation of stone heritage by self-inoculation with indigenous carbonatogenic bacterial communities. *Nature Communications*, **2017**, 8, 279	17.4	55
63	Control of silicate weathering by interface-coupled dissolution-precipitation processes at the mineral-solution interface. *Geology*, **2016**, 44, 567-570	5	54
62	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	3.4	54
61	Nanolimes: from synthesis to application. *Pure and Applied Chemistry*, **2018**, 90, 523-550	2.1	53
60	Specific effects of background electrolytes on the kinetics of step propagation during calcite growth. *Geochimica Et Cosmochimica Acta*, **2011**, 75, 3803-3814	5.5	51
59	Selenium incorporation into calcite and its effect on crystal growth: An atomic force microscopy study. *Chemical Geology*, **2013**, 340, 151-161	4.2	49
58	Microstructure and rheology of lime putty. *Langmuir*, **2010**, 26, 3868-77	4	49
57	Kinetics and Mechanism of Calcium Hydroxide Conversion into Calcium Alkoxides: Implications in Heritage Conservation Using Nanolimes. *Langmuir*, **2016**, 32, 5183-94	4	48
56	Modelling the effects of salt solutions on the hydration of calcium ions. *Physical Chemistry Chemical Physics*, **2014**, 16, 7772-85	3.6	46
55	Nonclassical crystallization in vivo et in vitro (I): Process-structure-property relationships of nanogranular biominerals. *Journal of Structural Biology*, **2016**, 196, 244-259	3.4	45
54	Interactions of arsenic with calcite surfaces revealed by in situ nanoscale imaging. *Geochimica Et Cosmochimica Acta*, **2015**, 159, 61-79	5.5	44

53	In situ nanoscale observations of the dissolution of dolomite cleavage surfaces. *Geochimica Et Cosmochimica Acta*, **2012**, 80, 1-13	5.5	44
52	In situ imaging of interfacial precipitation of phosphate on Goethite. *Environmental Science & Technology*, **2015**, 49, 4184-92	10.3	42
51	The influence of pH on barite nucleation and growth. *Chemical Geology*, **2015**, 391, 7-18	4.2	38
50	An atomic force microscopy study of the dissolution of calcite in the presence of phosphate ions. *Geochimica Et Cosmochimica Acta*, **2013**, 117, 115-128	5.5	37
49	Sodium Sulfate Crystallization in the Presence of Phosphonates: Implications in Ornamental Stone Conservation. *Crystal Growth and Design*, **2006**, 6, 1575-1583	3.5	35
48	Mechanistic Principles of Barite Formation: From Nanoparticles to Micron-Sized Crystals. *Crystal Growth and Design*, **2015**, 15, 3724-3733	3.5	28
47	Effectiveness of oxalic acid treatments for the protection of marble surfaces. *Materials and Design*, **2017**, 115, 82-92	8.1	28
46	Characterization of indoor and outdoor atmospheric pollutants impacting architectural monuments: the case of San Jer□imo Monastery (Granada, Spain). *Environmental Earth Sciences*, **2011**, 63, 1433-1445	2.9	28
45	Crystallization and Colloidal Stabilization of Ca(OH) in the Presence of Nopal Juice (Opuntia ficus indica): Implications in Architectural Heritage Conservation. *Langmuir*, **2017**, 33, 10936-10950	4	27
44	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	5.3	27
43	An integrated methodology for salt damage assessment and remediation: the case of San Jer□imo Monastery (Granada, Spain). *Environmental Earth Sciences*, **2011**, 63, 1475-1486	2.9	27
42	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	6.7	26
41	Coupled dissolution and precipitation at the cerussite-phosphate solution interface: implications for immobilization of lead in soils. *Environmental Science & Technology*, **2013**, 47, 13502-10	10.3	25
40	Sequestration of selenium on calcite surfaces revealed by nanoscale imaging. *Environmental Science & Technology*, **2013**, 47, 13469-76	10.3	25
39	Interactions between Organophosphonate-Bearing Solutions and (101 4) Calcite Surfaces: An Atomic Force Microscopy and First-Principles Molecular Dynamics Study. *Crystal Growth and Design*, **2010**, 10, 3022-3035	3.5	25
38	Mechanism and kinetics of dehydration of epsomite crystals formed in the presence of organic additives. *Journal of Physical Chemistry B*, **2007**, 111, 41-52	3.4	24
37	Experimental study of the replacement of calcite by calcium sulphates. *Geochimica Et Cosmochimica Acta*, **2015**, 156, 75-93	5.5	23
36	The Carbonation of Wollastonite: A Model Reaction to Test Natural and Biomimetic Catalysts for Enhanced CO2 Sequestration. *Minerals (Basel, Switzerland)*, **2018**, 8, 209	2.4	19

35	Hydration effects on gypsum dissolution revealed by in situ nanoscale atomic force microscopy observations. *Geochimica Et Cosmochimica Acta*, **2016**, 179, 110-122	5.5	17
34	Influence of chemical and structural factors on the calcite□calcium oxalate transformation. *CrystEngComm*, **2013**, 15, 9968	3.3	17
33	Hydration Effects on the Stability of Calcium Carbonate Pre-Nucleation Species. *Minerals (Basel, Switzerland)*, **2017**, 7, 126	2.4	17
32	Coupled fluctuations in element release during dolomite dissolution. *Mineralogical Magazine*, **2014**, 78, 1355-1362	1.7	17
31	AFM study of the epitaxial growth of brushite (CaHPO4□2H2O) on gypsum cleavage surfaces. *American Mineralogist*, **2010**, 95, 1747-1757	2.9	17
30	Interaction between Epsomite Crystals and Organic Additives. *Crystal Growth and Design*, **2008**, 8, 2665-2673	3.5	17
29	Exploring the effect of poly(acrylic acid) on pre- and post-nucleation BaSO4 species: new insights into the mechanisms of crystallization control by polyelectrolytes. *CrystEngComm*, **2016**, 18, 2830-2842	3.3	15
28	Direct observations of the modification of calcite growth morphology by Li+ through selectively stabilizing an energetically unfavourable face. *CrystEngComm*, **2011**, 13, 3962	3.3	14
27	Imaging Organophosphate and Pyrophosphate Sequestration on Brucite by in Situ Atomic Force Microscopy. *Environmental Science & Technology*, **2017**, 51, 328-336	10.3	13
26	Bioinspired Alkoxysilane Conservation Treatments for Building Materials Based on Amorphous Calcium Carbonate and Oxalate Nanoparticles. *ACS Applied Nano Materials*, **2019**, 2, 4954-4967	5.6	13
25	Kinetic effect of carbonic anhydrase enzyme on the carbonation reaction of lime mortar. *International Journal of Architectural Heritage*, **2018**, 12, 779-789	2.1	12
24	Visualizing Organophosphate Precipitation at the Calcite-Water Interface by in Situ Atomic-Force Microscopy. *Environmental Science & Technology*, **2016**, 50, 259-68	10.3	12
23	Template-Assisted Crystallization of Sulfates onto Calcite: Implications for the Prevention of Salt Damage. *Crystal Growth and Design*, **2013**, 13, 40-51	3.5	12
22	Effect of ferrous iron on the nucleation and growth of CaCO3 in slightly basic aqueous solutions. *CrystEngComm*, **2017**, 19, 447-460	3.3	9
21	Nonclassical Crystallization of Calcium Hydroxide via Amorphous Precursors and the Role of Additives. *Crystal Growth and Design*, **2020**, 20, 4418-4432	3.5	9
20	Influence of pH and citrate on the formation of oxalate layers on calcite revealed by in situ nanoscale imaging. *CrystEngComm*, **2017**, 19, 3420-3429	3.3	9
19	Crystallographic Control in the Replacement of Calcite by Calcium Sulfates. *Crystal Growth and Design*, **2016**, 16, 4950-4959	3.5	9
18	The multiple roles of carbonic anhydrase in calcium carbonate mineralization. *CrystEngComm*, **2019**, 21, 7407-7423	3.3	9

17	Reaction of pseudowollastonite with carbonate-bearing fluids: Implications for CO2 mineral sequestration. *Chemical Geology*, **2019**, 524, 158-173	4.2	8
16	Evaluaci□ de las propiedades f□sicas de dos rocas carbon□icas usadas como material de construcci□ actual e hist□ico en Andaluc□ Oriental, Espa□. *Materiales De Construccion*, **2011**, 61, 93-114	1.8	8
15	Bacterial Diversity Evolution in Maya Plaster and Stone Following a Bio-Conservation Treatment. *Frontiers in Microbiology*, **2020**, 11, 599144	5.7	8
14	A potentiometric study of the performance of a commercial copolymer in the precipitation of scale forming minerals. *CrystEngComm*, **2016**, 18, 5744-5753	3.3	6
13	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	1.7	5
12	Carbonates337-375		4
11	Stabilization of Calcium Oxalate Precursors during the Pre- and Post-Nucleation Stages with Poly(acrylic acid). *Nanomaterials*, **2021**, 11,	5.4	3
10	Carbonation of calcium-magnesium pyroxenes: Physical-chemical controls and effects of reaction-driven fracturing. *Geochimica Et Cosmochimica Acta*, **2021**, 304, 258-280	5.5	3
9	Degradation of ancient Maya carved tuff stone at Copan and its bacterial bioconservation. *Npj Materials Degradation*, **2021**, 5,	5.7	3
8	Synthesis of high surface area CaSO□0.5HO nanorods using calcium ethoxide as precursor. *Chemical Communications*, **2021**, 57, 7304-7307	5.8	3
7	New polymer-based treatments for the prevention of damage by salt crystallization in stone. *Materials and Structures/Materiaux Et Constructions*, **2019**, 52, 1	3.4	2
6	[Mn2(Fpymo)4(H2O)4]: Synthesis, structure, magnetism and thermally induced solid-to-solid polymerisation reactions. *Inorganica Chimica Acta*, **2007**, 360, 84-90	2.7	2
5	Citrate Stabilizes Hydroxylapatite Precursors: Implications for Bone Mineralization. *ACS Biomaterials Science and Engineering*, **2021**, 7, 2346-2357	5.5	2
4	Bioremediation of a polymetallic, arsenic-dominated reverse osmosis reject stream. *Letters in Applied Microbiology*, **2021**,	2.9	1
3	Kinetics and Mechanisms of Acid-pH Weathering of Pyroxenes. *Geochemistry, Geophysics, Geosystems*, **2021**, 22, e2021GC009711	3.6	0
2	Interplay between arsenic and selenium biomineralization in Shewanella sp. O23S.. *Environmental Pollution*, **2022**, 119451	9.3	0
1	Crystallization via Nonclassical Pathways: Nanoscale Imaging of Mineral Surfaces. *ACS Symposium Series*,1-35	0.4	0