Denis Gebauer

List of Publications by Citations

91 papers	5,144 citations	31 h-index	71 g-index
113 ext. papers	5,950 ext. citations	8.3 avg, IF	6.06 L-index

#	Paper	IF	Citations
91	Stable prenucleation calcium carbonate clusters. *Science*, **2008**, 322, 1819-22	33.3	1109
90	Pre-nucleation clusters as solute precursors in crystallisation. *Chemical Society Reviews*, **2014**, 43, 2348-71	58.5	557
89	Prenucleation clusters and non-classical nucleation. *Nano Today*, **2011**, 6, 564-584	17.9	410
88	Stable prenucleation mineral clusters are liquid-like ionic polymers. *Nature Communications*, **2011**, 2, 590	17.4	353
87	Calcium carbonate polyamorphism and its role in biomineralization: how many amorphous calcium carbonates are there?. *Angewandte Chemie - International Edition*, **2012**, 51, 11960-70	16.4	252
86	Proto-calcite and proto-vaterite in amorphous calcium carbonates. *Angewandte Chemie - International Edition*, **2010**, 49, 8889-91	16.4	232
85	The Multiple Roles of Additives in CaCO3 Crystallization: A Quantitative Case Study. *Advanced Materials*, **2009**, 21, 435-439	24	218
84	A metastable liquid precursor phase of calcium carbonate and its interactions with polyaspartate. *Faraday Discussions*, **2012**, 159, 291	3.6	143
83	How to control the scaling of CaCO3: a "fingerprinting technique" to classify additives. *Physical Chemistry Chemical Physics*, **2011**, 13, 16811-20	3.6	83
82	Colloidal Stabilization of Calcium Carbonate Prenucleation Clusters with Silica. *Advanced Functional Materials*, **2012**, 22, 4301-4311	15.6	75
81	A transparent hybrid of nanocrystalline cellulose and amorphous calcium carbonate nanoparticles. *Nanoscale*, **2011**, 3, 3563-6	7.7	74
80	Designing Solid Materials from Their Solute State: A Shift in Paradigms toward a Holistic Approach in Functional Materials Chemistry. *Journal of the American Chemical Society*, **2019**, 141, 4490-4504	16.4	69
79	Water Dynamics from THz Spectroscopy Reveal the Locus of a Liquid-Liquid Binodal Limit in Aqueous CaCO Solutions. *Angewandte Chemie - International Edition*, **2017**, 56, 490-495	16.4	64
78	Water as the Key to Proto-Aragonite Amorphous CaCO3. *Angewandte Chemie - International Edition* , **2016**, 55, 8117-20	16.4	63
77	A straightforward treatment of activity in aqueous CaCO3 solutions and the consequences for nucleation theory. *Advanced Materials*, **2014**, 26, 752-7	24	62
76	Proto-Calcite and Proto-Vaterite in Amorphous Calcium Carbonates. *Angewandte Chemie*, **2010**, 122, 9073-9075	3.6	61
75	On classical and non-classical views on nucleation. *Numerische Mathematik*, **2018**, 318, 969-988	5.3	61

74	Influence of Selected Artificial Peptides on Calcium Carbonate Precipitation - A Quantitative Study. *Crystal Growth and Design*, **2009**, 9, 2398-2403	3.5	59
73	Sweet on biomineralization: effects of carbohydrates on the early stages of calcium carbonate crystallization. *European Journal of Mineralogy*, **2014**, 26, 537-552	2.2	58
72	Exploring the influence of organic species on pre- and post-nucleation calcium carbonate. *Faraday Discussions*, **2012**, 159, 61	3.6	53
71	Entropy Drives Calcium Carbonate Ion Association. *ChemPhysChem*, **2016**, 17, 3535-3541	3.2	51
70	Mg2+ tunes the wettability of liquid precursors of CaCO3: toward controlling mineralization sites in hybrid materials. *Journal of the American Chemical Society*, **2013**, 135, 12512-5	16.4	45
69	The multiple effects of amino acids on the early stages of calcium carbonate crystallization. *Zeitschrift Fur Kristallographie - Crystalline Materials*, **2012**, 227, 744-757	1	45
68	Disordered amorphous calcium carbonate from direct precipitation. *CrystEngComm*, **2015**, 17, 4842-4849	3.3	43
67	The Molecular Mechanism of Iron(III) Oxide Nucleation. *Journal of Physical Chemistry Letters*, **2016**, 7, 3123-30	6.4	41
66	Influence of conducting polymers based on carboxylated polyaniline on in vitro CaCO3 crystallization. *Langmuir*, **2008**, 24, 12496-507	4	36
65	Alignment of Amorphous Iron Oxide Clusters: A Non-Classical Mechanism for Magnetite Formation. *Angewandte Chemie - International Edition*, **2017**, 56, 4042-4046	16.4	35
64	High-resolution insights into the early stages of silver nucleation and growth. *Faraday Discussions*, **2015**, 179, 59-77	3.6	34
63	A solvothermal method for synthesizing monolayer protected amorphous calcium carbonate clusters. *Chemical Communications*, **2016**, 52, 7036-8	5.8	32
62	How Can Additives Control the Early Stages of Mineralisation?. *Minerals (Basel, Switzerland)*, **2018**, 8, 179	2.4	31
61	Distinct Short-Range Order Is Inherent to Small Amorphous Calcium Carbonate Clusters (. *Angewandte Chemie - International Edition*, **2016**, 55, 12206-9	16.4	31
60	Liquid Metastable Precursors of Ibuprofen as Aqueous Nucleation Intermediates. *Angewandte Chemie - International Edition*, **2019**, 58, 19103-19109	16.4	29
59	Growth of organic crystals via attachment and transformation of nanoscopic precursors. *Nature Communications*, **2017**, 8, 15933	17.4	28
58	Stable Prenucleation Calcium Carbonate Clusters Define Liquid-Liquid Phase Separation. *Angewandte Chemie - International Edition*, **2020**, 59, 6155-6159	16.4	28
57	Synergy of Mg2+ and poly(aspartic acid) in additive-controlled calcium carbonate precipitation. *CrystEngComm*, **2015**, 17, 6857-6862	3.3	27

56	Osteopontin Stabilizes Metastable States Prior to Nucleation during Apatite Formation. *Chemistry of Materials*, **2016**, 28, 8550-8555	9.6	26
55	pH-Dependent Schemes of Calcium Carbonate Formation in the Presence of Alginates. *Crystal Growth and Design*, **2016**, 16, 1349-1359	3.5	26
54	Diffusion parameters in single-crystalline Li3N as probed by6Li and7Li spin-alignment echo NMR spectroscopy in comparison with results from8Li [illegible]radiation detected NMR. *Journal of Physics Condensed Matter*, **2008**, 20, 022201	1.8	26
53	A CaCO3/nanocellulose-based bioinspired nacre-like material. *Journal of Materials Chemistry A*, **2017**, 5, 16128-16133	13	23
52	Kinetic control of particle-mediated calcium carbonate crystallization. *CrystEngComm*, **2011**, 13, 4641	3.3	22
51	Short-Range Structure of Amorphous Calcium Hydrogen Phosphate. *Crystal Growth and Design*, **2019**, 19, 3030-3038	3.5	21
50	Die Polyamorphie von Calciumcarbonat und ihre Bedeutung f[illegible] die Biomineralisation: Wie viele amorphe Calciumcarbonat-Phasen gibt es?. *Angewandte Chemie*, **2012**, 124, 12126-12137	3.6	21
49	New insights into the early stages of silica-controlled barium carbonate crystallisation. *Nanoscale*, **2014**, 6, 14939-49	7.7	19
48	Investigating the early stages of mineral precipitation by potentiometric titration and analytical ultracentrifugation. *Methods in Enzymology*, **2013**, 532, 45-69	1.7	19
47	Stabilization of Mineral Precursors by Intrinsically Disordered Proteins. *Advanced Functional Materials*, **2018**, 28, 1802063	15.6	18
46	A general strategy for colloidal stable ultrasmall amorphous mineral clusters in organic solvents. *Chemical Science*, **2017**, 8, 1400-1405	9.4	18
45	The Role of Chloride Ions during the Formation of Akagan[illegible]te Revisited. *Minerals (Basel, Switzerland)*, **2015**, 5, 778-787	2.4	18
44	Porous tablets of crystalline calcium carbonate via sintering of amorphous nanoparticles. *CrystEngComm*, **2013**, 15, 1257	3.3	17
43	On Biomineralization: Enzymes Switch on Mesocrystal Assembly. *ACS Central Science*, **2019**, 5, 357-364	16.8	16
42	On mechanisms of mesocrystal formation: magnesium ions and water environments regulate the crystallization of amorphous minerals. *CrystEngComm*, **2018**, 20, 4395-4405	3.3	16
41	A Model Sea Urchin Spicule Matrix Protein, rSpSM50, Is a Hydrogelator That Modifies and Organizes the Mineralization Process. *Biochemistry*, **2017**, 56, 2663-2675	3.2	15
40	Introducing the crystalline phase of dicalcium phosphate monohydrate. *Nature Communications*, **2020**, 11, 1546	17.4	13
39	Crystallization Caught in the Act with Terahertz Spectroscopy: Non-Classical Pathway for l-(+)-Tartaric Acid. *Chemistry - A European Journal*, **2017**, 23, 14128-14132	4.8	13

38	Bio-inspired materials science at its best--flexible mesocrystals of calcite. *Angewandte Chemie - International Edition*, **2013**, 52, 8208-9	16.4	13
37	Functional Prioritization and Hydrogel Regulation Phenomena Created by a Combinatorial Pearl-Associated Two-Protein Biomineralization Model System. *Biochemistry*, **2017**, 56, 3607-3618	3.2	12
36	THz-Spektroskopie erlaubt R�kschl�se auf die Wasserdynamik und die Lage einer fl�sig-fl�sig-binodalen Grenze in w�srigen CaCO3-L�ungen. *Angewandte Chemie*, **2017**, 129, 504-509	3.6	10
35	Impurity-free amorphous calcium carbonate, a preferential material for pharmaceutical and medical applications. *European Journal of Mineralogy*, **2019**, 31, 231-236	2.2	10
34	Selective Synergism Created by Interactive Nacre Framework-Associated Proteins Possessing EGF and vWA Motifs: Implications for Mollusk Shell Formation. *Biochemistry*, **2018**, 57, 2657-2666	3.2	10
33	Calcium ions as bioinspired triggers to reversibly control the coil-to-helix transition in peptide-polymer conjugates. *Soft Matter*, **2011**, 7, 9616	3.6	10
32	A nacre protein forms mesoscale hydrogels that �ijack�the biomineralization process within a seawater environment. *CrystEngComm*, **2016**, 18, 7675-7679	3.3	10
31	Role of Water in CaCO Biomineralization. *Journal of the American Chemical Society*, **2021**, 143, 1758-1762	16.4	9
30	Fl�sige metastabile Vorstufen von Ibuprofen als Zwischenprodukt der Nukleation in w�sriger L�ung. *Angewandte Chemie*, **2019**, 131, 19279-19286	3.6	8
29	Wasser als Schl�sel zu amorphem Proto-Aragonit-CaCO3. *Angewandte Chemie*, **2016**, 128, 8249-8252	3.6	8
28	Polyaspartic acid facilitates oxolation within iron(iii) oxide pre-nucleation clusters and drives the formation of organic-inorganic composites. *Journal of Chemical Physics*, **2016**, 145, 211917	3.9	8
27	Ubiquitin Designer Proteins as a New Additive Generation toward Controlling Crystallization. *Journal of the American Chemical Society*, **2019**, 141, 12240-12245	16.4	7
26	Uncovering the Role of Bicarbonate in Calcium Carbonate Formation at Near-Neutral pH. *Angewandte Chemie - International Edition*, **2021**, 60, 16707-16713	16.4	7
25	Cold densification and sintering of nanovaterite by pressing with water. *Journal of the European Ceramic Society*, **2020**, 40, 893-900	6	7
24	Capturing an amorphous BaSO4 intermediate precursor to barite. *CrystEngComm*, **2020**, 22, 1310-1313	3.3	6
23	Potentiometric Titration Method for the Determination of Solubility Limits and p Values of Weak Organic Acids in Water. *Analytical Chemistry*, **2020**, 92, 9511-9515	7.8	5
22	Nucleation of Hematite: A Nonclassical Mechanism. *Chemistry - A European Journal*, **2019**, 25, 13002-13007	4.8	5
21	Anisotropic nanowire growth via a self-confined amorphous template process: A reconsideration on the role of amorphous calcium carbonate. *Nano Research*, **2016**, 9, 1334-1345	10	5

20	Secrets of the Sea Urchin Spicule Revealed: Protein Cooperativity Is Responsible for ACC Transformation, Intracrystalline Incorporation, and Guided Mineral Particle Assembly in Biocomposite Material Formation. *ACS Omega*, **2018**, 3, 11823-11830	3.9	5
19	Pseudo-Biomineralization: Complex Mineral Structures Shaped by Microbes. *ACS Biomaterials Science and Engineering*, **2019**, 5, 5088-5096	5.5	4
18	Chemical trigger toward phase separation in the aqueous Al(III) system revealed. *Science Advances*, **2020**, 6, eaba6878	14.3	4
17	Modulating Nucleation by Kosmotropes and Chaotropes: Testing the Waters. *Crystals*, **2017**, 7, 302	2.3	4
16	Non-stoichiometric hydrated magnesium-doped calcium carbonate precipitation in ethanol. *Chemical Communications*, **2019**, 55, 12944-12947	5.8	4
15	Retrosynthesis of CaCO via amorphous precursor particles using gastroliths of the Red Claw lobster (Cherax quadricarinatus). *Journal of Structural Biology*, **2017**, 199, 46-56	3.4	3
14	Nonclassical nucleation towards separation and recycling science: Iron and aluminium (Oxy)(hydr)oxides. *Current Opinion in Colloid and Interface Science*, **2020**, 46, 114-127	7.6	3
13	Stabile Calciumcarbonat-Pr�ukleationscluster bestimmen die Fl�sig-fl�sig-Phasenseparation. *Angewandte Chemie*, **2020**, 132, 6212-6217	3.6	3
12	Indications that Amorphous Calcium Carbonates Occur in Pathological Mineralisation� Urinary Stone from a Guinea Pig. *Minerals (Basel, Switzerland)*, **2018**, 8, 84	2.4	3
11	Three Reasons Why Aspartic Acid and Glutamic Acid Sequences Have a Surprisingly Different Influence on Mineralization. *Journal of Physical Chemistry B*, **2021**, 125, 10335-10343	3.4	3
10	Ausrichtung amorpher Eisenoxid-Cluster: ein nichtklassischer Mechanismus f� die Magnetitbildung. *Angewandte Chemie*, **2017**, 129, 4100-4104	3.6	2
9	Biologisch inspirierte Materialwissenschaften in Hochform �flexible Calcit-Mesokristalle. *Angewandte Chemie*, **2013**, 125, 8366-8367	3.6	2
8	Baryte cohesive layers formed on a (010) gypsum surface by a pseudomorphic replacement. *European Journal of Mineralogy*, **2019**, 31, 289-299	2.2	2
7	In Situ TEM Imaging of Solution-Phase Chemical Reactions Using 2D-Heterostructure Mixing Cells. *Advanced Materials*, **2021**, 33, e2100668	24	1
6	Ausgepr�te Nahordnung in kleinen amorphen Calciumcarbonat-Clustern (. *Angewandte Chemie*, **2016**, 128, 12393-12397	3.6	0
5	Wie bilden sich Kristalle?. *Nachrichten Aus Der Chemie*, **2013**, 61, 1097-1100	0.1	
4	The Influence of Cytochrome C on the Polycondensation of Silicic Acid. *Zeitschrift Fur Physikalische Chemie*, **2006**, 220, 371-381	3.1	
3	Reply to comment: Non-classical nucleation towards separation and recycling science: Iron and aluminium (oxy)(hydr)oxides. *Current Opinion in Colloid and Interface Science*, **2020**, 46, 130	7.6	

2	Aufdeckung der Rolle von Hydrogencarbonat-Ionen bei der Bildung von Calciumcarbonat im nahezu neutralen pH-Bereich. *Angewandte Chemie*, **2021**, 133, 16843-16850	3.6
1	On the Role of Poly-Glutamic Acid in the Early Stages of Iron(III) (Oxy)(hydr)oxide Formation. *Minerals (Basel, Switzerland)*, **2021**, 11, 715	2.4