

James J De Yoreo

List of Publications by Year in descending order

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81
papers

8,947
citations

94269

37
h-index

66788

78
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95
all docs

95
docs citations

95
times ranked

9559
citing authors

#	ARTICLE	IF	CITATIONS
1	In situ imaging of amorphous intermediates during brucite carbonation in supercritical CO ₂ . <i>Nature Materials</i> , 2022, 21, 345-351.	13.3	18
2	Spiers Memorial Lecture: Assembly-based pathways of crystallization. <i>Faraday Discussions</i> , 2022, 235, 9-35.	1.6	10
3	Frontispiece: Peptoid-Directed Formation of Five-Fold Twinned Au Nanostars through Particle Attachment and Facet Stabilization. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	1
4	Peptoid-Directed Formation of Five-Fold Twinned Au Nanostars through Particle Attachment and Facet Stabilization. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	2
5	Particle-based hematite crystallization is invariant to initial particle morphology. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2112679119.	3.3	9
6	Peptoid-Directed Formation of Five-Fold Twinned Au Nanostars through Particle Attachment and Facet Stabilization. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	5
7	Frontispiz: Peptoid-Directed Formation of Five-Fold Twinned Au Nanostars through Particle Attachment and Facet Stabilization. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	0
8	Rotational dynamics and transition mechanisms of surface-adsorbed proteins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2020242119.	3.3	6
9	Impact of Nanoparticle Size and Surface Chemistry on Peptoid Self-Assembly. <i>ACS Nano</i> , 2022, 16, 8095-8106.	7.3	9
10	Amyloid-like amelogenin nanoribbons template mineralization via a low-energy interface of ion binding sites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2106965119.	3.3	19
11	Engineering Biomolecular Self-Assembly at Solid-Liquid Interfaces. <i>Advanced Materials</i> , 2021, 33, e1905784.	11.1	25
12	Quantifying the Dynamics of Protein Self-Organization Using Deep Learning Analysis of Atomic Force Microscopy Data. <i>Nano Letters</i> , 2021, 21, 158-165.	4.5	17
13	Design of biologically active binary protein 2D materials. <i>Nature</i> , 2021, 589, 468-473.	13.7	85
14	Self-similar mesocrystals form via interface-driven nucleation and assembly. <i>Nature</i> , 2021, 590, 416-422.	13.7	98
15	Highly Bright and Photostable Two-Dimensional Nanomaterials Assembled from Sequence-Defined Peptoids. , 2021, 3, 420-427.		16
16	Disentangling Rotational Dynamics and Ordering Transitions in a System of Self-Organizing Protein Nanorods via Rotationally Invariant Latent Representations. <i>ACS Nano</i> , 2021, 15, 6471-6480.	7.3	19
17	Programmable two-dimensional nanocrystals assembled from POSS-containing peptoids as efficient artificial light-harvesting systems. <i>Science Advances</i> , 2021, 7, .	4.7	20
18	Ion-dependent protein-surface interactions from intrinsic solvent response. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	10

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19	Early-Stage Aggregation and Crystalline Interactions of Peptoid Nanomembranes. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 6126-6133.	2.1	14
20	Phase Transformation Mechanism of Amorphous Calcium Phosphate to Hydroxyapatite Investigated by Liquid-Cell Transmission Electron Microscopy. <i>Crystal Growth and Design</i> , 2021, 21, 5126-5134.	1.4	29
21	Peptoid-directed assembly of CdSe nanoparticles. <i>Nanoscale</i> , 2021, 13, 1273-1282.	2.8	18
22	Moving beyond the Solvent-Tip Approximation to Determine Site-Specific Variations of Interfacial Water Structure through 3D Force Microscopy. <i>Journal of Physical Chemistry C</i> , 2021, 125, 1282-1291.	1.5	31
23	Organothiol Monolayer Formation Directly on Muscovite Mica. <i>Angewandte Chemie</i> , 2020, 132, 2343-2347.	1.6	1
24	Organothiol Monolayer Formation Directly on Muscovite Mica. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 2323-2327.	7.2	4
25	Assembly of a patchy protein into variable 2D lattices via tunable multiscale interactions. <i>Nature Communications</i> , 2020, 11, 3770.	5.8	31
26	Role of the Solvent's Surfactant Duality of Ionic Liquids in Directing Two-Dimensional Particle Assembly. <i>Journal of Physical Chemistry C</i> , 2020, 124, 24215-24222.	1.5	8
27	What atoms do when they get together. <i>Nature Chemistry</i> , 2020, 12, 883-885.	6.6	2
28	Connecting energetics to dynamics in particle growth by oriented attachment using real-time observations. <i>Nature Communications</i> , 2020, 11, 1045.	5.8	74
29	A Mechanistic Understanding of Nonclassical Crystal Growth in Hydrothermally Synthesized Sodium Yttrium Fluoride Nanowires. <i>Chemistry of Materials</i> , 2020, 32, 2753-2763.	3.2	27
30	Effect of Hydrophilicity and Interfacial Water Structure on Particle Attachment. <i>Journal of Physical Chemistry C</i> , 2020, 124, 5480-5488.	1.5	18
31	Sequence-Structure-Binding Relationships Reveal Adhesion Behavior of the Car9 Solid-Binding Peptide: An Integrated Experimental and Simulation Study. <i>Journal of the American Chemical Society</i> , 2020, 142, 2355-2363.	6.6	21
32	Shape-preserving amorphous-to-crystalline transformation of CaCO ₃ revealed by in situ TEM. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 3397-3404.	3.3	97
33	Controlling protein assembly on inorganic crystals through designed protein interfaces. <i>Nature</i> , 2019, 571, 251-256.	13.7	85
34	Hierarchical Assembly of Peptoid-Based Cylindrical Micelles Exhibiting Efficient Resonance Energy Transfer in Aqueous Solution. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 12223-12230.	7.2	34
35	Hierarchical Assembly of Peptoid-Based Cylindrical Micelles Exhibiting Efficient Resonance Energy Transfer in Aqueous Solution. <i>Angewandte Chemie</i> , 2019, 131, 12351-12358.	1.6	1
36	Organic mineral interfacial chemistry drives heterogeneous nucleation of Sr-rich (Ba, Sr) carbonate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 13221-13226.	3.3	45

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37	Self-Assembling 2D Arrays with <i>de Novo</i> Protein Building Blocks. <i>Journal of the American Chemical Society</i> , 2019, 141, 8891-8895.	6.6	37
38	Monitoring solvent dynamics and ion associations in the formation of cubic octamer polyanion in tetramethylammonium silicate solutions. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 4717-4720.	1.3	9
39	Addressing some of the technical challenges associated with liquid phase S/TEM studies of particle nucleation, growth and assembly. <i>Micron</i> , 2019, 118, 35-42.	1.1	24
40	Growth of Au and ZnS nanostructures via engineered peptide and M13 bacteriophage templates. <i>Soft Matter</i> , 2018, 14, 2996-3002.	1.2	2
41	Supersaturated calcium carbonate solutions are classical. <i>Science Advances</i> , 2018, 4, eaao6283.	4.7	116
42	Nucleation and phase transformation pathways in electrolyte solutions investigated by in situ microscopy techniques. <i>Current Opinion in Colloid and Interface Science</i> , 2018, 34, 74-88.	3.4	19
43	<i>In Situ</i> TEM and AFM Investigation of Morphological Controls during the Growth of Single Crystal BaWO ₄ . <i>Crystal Growth and Design</i> , 2018, 18, 1367-1375.	1.4	20
44	De novo design of self-assembling helical protein filaments. <i>Science</i> , 2018, 362, 705-709.	6.0	112
45	Building two-dimensional materials one row at a time: Avoiding the nucleation barrier. <i>Science</i> , 2018, 362, 1135-1139.	6.0	155
46	Control of Calcium Phosphate Nucleation and Transformation through Interactions of Enamelin and Amelogenin Exhibits the "Goldilocks Effect". <i>Crystal Growth and Design</i> , 2018, 18, 7391-7400.	1.4	29
47	Impact of Solution Chemistry and Particle Anisotropy on the Collective Dynamics of Oriented Aggregation. <i>ACS Nano</i> , 2018, 12, 10114-10122.	7.3	40
48	Controlled synthesis of highly-branched plasmonic gold nanoparticles through peptoid engineering. <i>Nature Communications</i> , 2018, 9, 2327.	5.8	74
49	Near surface nucleation and particle mediated growth of colloidal Au nanocrystals. <i>Nanoscale</i> , 2018, 10, 11907-11912.	2.8	48
50	Tuning crystallization pathways through sequence engineering of biomimetic polymers. <i>Nature Materials</i> , 2017, 16, 767-774.	13.3	116
51	Direction-specific van der Waals attraction between rutile TiO ₂ nanocrystals. <i>Science</i> , 2017, 356, 434-437.	6.0	103
52	A classical view on nonclassical nucleation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E7882-E7890.	3.3	181
53	Trends in mica-mica adhesion reflect the influence of molecular details on long-range dispersion forces underlying aggregation and coalignment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 7537-7542.	3.3	56
54	The energetics of prenucleation clusters in lattice solutions. <i>Journal of Chemical Physics</i> , 2016, 145, 211921.	1.2	13

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55	Surface-Directed Assembly of Sequence-Defined Synthetic Polymers into Networks of Hexagonally Patterned Nanoribbons with Controlled Functionalities. <i>ACS Nano</i> , 2016, 10, 5314-5320.	7.3	57
56	A Microkinetic Model of Calcite Step Growth. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 11086-11090.	7.2	24
57	Self-Repair and Patterning of 2D Membrane-Like Peptoid Materials. <i>Advanced Functional Materials</i> , 2016, 26, 8960-8967.	7.8	50
58	Investigating materials formation with liquid-phase and cryogenic TEM. <i>Nature Reviews Materials</i> , 2016, 1, .	23.3	153
59	Sequence-Defined Energetic Shifts Control the Disassembly Kinetics and Microstructure of Amelogenin Adsorbed onto Hydroxyapatite (100). <i>Langmuir</i> , 2015, 31, 10451-10460.	1.6	24
60	Calcium carbonate nucleation driven by ion binding in a biomimetic matrix revealed by in situ electron microscopy. <i>Nature Materials</i> , 2015, 14, 394-399.	13.3	353
61	Crystallization by particle attachment in synthetic, biogenic, and geologic environments. <i>Science</i> , 2015, 349, aaa6760.	6.0	1,467
62	Investigating Processes of Nanocrystal Formation and Transformation via Liquid Cell TEM. <i>Microscopy and Microanalysis</i> , 2014, 20, 425-436.	0.2	94
63	A Unified Description of Attachment-Based Crystal Growth. <i>ACS Nano</i> , 2014, 8, 6526-6530.	7.3	121
64	In situ TEM imaging of CaCO ₃ nucleation reveals coexistence of direct and indirect pathways. <i>Science</i> , 2014, 345, 1158-1162.	6.0	584
65	Reconciling disparate views of template-directed nucleation through measurement of calcite nucleation kinetics and binding energies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 1304-1309.	3.3	122
66	Tuning calcite morphology and growth acceleration by a rational design of highly stable protein-mimetics. <i>Scientific Reports</i> , 2014, 4, 6266.	1.6	65
67	Ion-association complexes unite classical and non-classical theories for the biomimetic nucleation of calcium phosphate. <i>Nature Communications</i> , 2013, 4, 1507.	5.8	602
68	Microscopic Evidence for Liquid-Liquid Separation in Supersaturated CaCO ₃ Solutions. <i>Science</i> , 2013, 341, 885-889.	6.0	433
69	Surface Selectivity of Calcite on Self-Assembled Monolayers. <i>Journal of Physical Chemistry C</i> , 2013, 117, 5154-5163.	1.5	14
70	Polysaccharide chemistry regulates kinetics of calcite nucleation through competition of interfacial energies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 9261-9266.	3.3	173
71	Direct observation of kinetic traps associated with structural transformations leading to multiple pathways of S-layer assembly. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 12968-12973.	3.3	77
72	The thermodynamics of calcite nucleation at organic interfaces: Classical vs. non-classical pathways. <i>Faraday Discussions</i> , 2012, 159, 509.	1.6	189

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73	Direction-Specific Interactions Control Crystal Growth by Oriented Attachment. <i>Science</i> , 2012, 336, 1014-1018.	6.0	958
74	Engineered Biomimetic Polymers as Tunable Agents for Controlling CaCO ₃ Mineralization. <i>Journal of the American Chemical Society</i> , 2011, 133, 5214-5217.	6.6	103
75	Self-catalyzed growth of S layers via an amorphous-to-crystalline transition limited by folding kinetics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 16536-16541.	3.3	160
76	Scanning Probe-based Fabrication of 3D Nanostructures via Affinity Templates, Functional RNA, and Meniscus-mediated Surface Remodeling. <i>Scanning</i> , 2008, 30, 159-171.	0.7	15
77	Solvent-mediated repair and patterning of surfaces by AFM. <i>Nanotechnology</i> , 2008, 19, 105304.	1.3	20
78	Structural Development of Mercaptophenol Self-Assembled Monolayers and the Overlying Mineral Phase during Templated CaCO ₃ Crystallization from a Transient Amorphous Film. <i>Journal of the American Chemical Society</i> , 2007, 129, 10370-10381.	6.6	89
79	Physical Controls on Directed Virus Assembly at Nanoscale Chemical Templates. <i>Journal of the American Chemical Society</i> , 2006, 128, 10801-10807.	6.6	47
80	Principles of Crystal Nucleation and Growth. <i>Reviews in Mineralogy and Geochemistry</i> , 2003, 54, 57-93.	2.2	883
81	Nonclassical Crystallization Pathways in Biomolecular Self-Assembly. <i>ACS Symposium Series</i> , 0, , 89-103.	0.5	0