Lara A Estroff

List of Publications by Year in Descending Order

99 papers	13,784 citations	37 h-index	106 g-index
106 ext. papers	14,802 ext. citations	11.5 avg, IF	6.46 L-index

#	Paper	IF	Citations
99	The mesoscale order of nacreous pearls. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	1
98	Non-Destructive Spatial Mapping of Glycosaminoglycan Loss in Native and Degraded Articular Cartilage Using Confocal Raman Microspectroscopy. *Frontiers in Bioengineering and Biotechnology*, **2021**, 9, 744197	5.8	0
97	Forming Anisotropic Crystal Composites: Assessing the Mechanical Translation of Gel Network Anisotropy to Calcite Crystal Form. *Journal of the American Chemical Society*, **2021**, 143, 3439-3447	16.4	6
96	Surface-Induced Coacervation Facilitates Localized Precipitation of Mineral Precursors from Dilute Solutions. *Chemistry of Materials*, **2021**, 33, 3534-3542	9.6	1
95	Orthogonal Nanoprobes Enabling Two-Color Optical Super-Resolution Microscopy Imaging of the Two Domains of Diblock Copolymer Thin Film Nanocomposites. *Chemistry of Materials*, **2021**, 33, 5156-5167	9.6	0
94	Fluorescent Silica Nanoparticles to Label Metastatic Tumor Cells in Mineralized Bone Microenvironments. *Small*, **2021**, 17, e2001432	11	6
93	Multiple Pathways for Pathological Calcification in the Human Body. *Advanced Healthcare Materials*, **2021**, 10, e2001271	10.1	16
92	Combining TGF-β and Mechanical Anchoring to Enhance Collagen Fiber Formation and Alignment in Tissue-Engineered Menisci. *ACS Biomaterials Science and Engineering*, **2021**, 7, 1608-1620	5.5	3
91	Patternable Mesoporous Thin Film Quantum Materials via Block Copolymer Self-Assembly: An Emergent Technology?. *ACS Applied Materials & Interfaces*, **2021**, 13, 34732-34741	9.5	2
90	Mineral Distribution Spatially Patterns Bone Marrow Stromal Cell Behavior on Monolithic Bone Scaffolds. *Acta Biomaterialia*, **2020**, 112, 274-285	10.8	10
89	Crystals of Benzamide, the First Polymorphous Molecular Compound, Are Helicoidal. *Angewandte Chemie*, **2020**, 132, 14701-14709	3.6	1
88	Crystals of Benzamide, the First Polymorphous Molecular Compound, Are Helicoidal. *Angewandte Chemie - International Edition*, **2020**, 59, 14593-14601	16.4	4
87	Direct comparison of optical and electron microscopy methods for structural characterization of extracellular vesicles. *Journal of Structural Biology*, **2020**, 210, 107474	3.4	31
86	Bypassing Solid-State Intermediates by Solvent Engineering the Crystallization Pathway in Hybrid Organic–Inorganic Perovskites. *Crystal Growth and Design*, **2020**, 20, 1162-1171	3.5	6
85	Hydroxyapatite mineral enhances malignant potential in a tissue-engineered model of ductal carcinoma in situ (DCIS). *Biomaterials*, **2019**, 224, 119489	15.6	12
84	Rationally designed anionic diblock copolymer worm gels are useful model systems for calcite occlusion studies. *Polymer Chemistry*, **2019**, 10, 5131-5141	4.9	6
83	Interfaces: Cellular and Chemical Gradients to Engineer the Meniscus-to-Bone Insertion (Adv. Healthcare Mater. 7/2019). *Advanced Healthcare Materials*, **2019**, 8, 1970027	10.1	

82	Top-down Fabrication of Spatially Controlled Mineral-Gradient Scaffolds for Interfacial Tissue Engineering. *ACS Biomaterials Science and Engineering*, **2019**, 5, 2988-2997	5.5	10
81	Mapping and Profiling Lipid Distribution in a 3D Model of Breast Cancer Progression. *ACS Central Science*, **2019**, 5, 768-780	16.8	19
80	Intrafibrillar, bone-mimetic collagen mineralization regulates breast cancer cell adhesion and migration. *Biomaterials*, **2019**, 198, 95-106	15.6	36
79	Preparation of Macroscopic Block-Copolymer-Based Gyroidal Mesoscale Single Crystals by Solvent Evaporation. *Advanced Materials*, **2019**, 31, e1902565	24	10
78	Understanding the Stiff-to-Compliant Transition of the Meniscal Attachments by Spatial Correlation of Composition, Structure, and Mechanics. *ACS Applied Materials & Interfaces*, **2019**, 11, 26559-26570	9.5	16
77	Quantitative Comparison of Dye and Ultrasmall Fluorescent Silica Core–Shell Nanoparticle Probes for Optical Super-Resolution Imaging of Model Block Copolymer Thin Film Surfaces. *ACS Macro Letters*, **2019**, 8, 1378-1382	6.6	5
76	Cellular and Chemical Gradients to Engineer the Meniscus-to-Bone Insertion. *Advanced Healthcare Materials*, **2019**, 8, e1800806	10.1	14
75	Crystallinity of hydroxyapatite drives myofibroblastic activation and calcification in aortic valves. *Acta Biomaterialia*, **2018**, 71, 24-36	10.8	22
74	Studying biomineralization pathways in a 3D culture model of breast cancer microcalcifications. *Biomaterials*, **2018**, 179, 71-82	15.6	19
73	Revealing Mechanisms of Microvesicle Biogenesis in Breast Cancer Cells via in situ Microscopy. *Microscopy and Microanalysis*, **2018**, 24, 1256-1257	0.5	1
72	Mechanistic Insights into Diblock Copolymer Nanoparticle-Crystal Interactions Revealed via in Situ Atomic Force Microscopy. *Journal of the American Chemical Society*, **2018**, 140, 7936-7945	16.4	27
71	Correlative imaging reveals physiochemical heterogeneity of microcalcifications in human breast carcinomas. *Journal of Structural Biology*, **2018**, 202, 25-34	3.4	23
70	Protein-crystal interface mediates cell adhesion and proangiogenic secretion. *Biomaterials*, **2017**, 116, 174-185	15.6	10
69	Block Copolymer Directed Nanostructured Surfaces as Templates for Confined Surface Reactions. *Macromolecules*, **2017**, 50, 542-549	5.5	13
68	Physical Confinement Promoting Formation of Cu2O–Au Heterostructures with Au Nanoparticles Entrapped within Crystalline Cu2O Nanorods. *Chemistry of Materials*, **2017**, 29, 555-563	9.6	17
67	Next Generation Tissue Engineering of Orthopedic Soft Tissue-to-Bone Interfaces. *MRS Communications*, **2017**, 7, 289-308	2.7	31
66	Nanopatterning of Crystalline Transition Metal Oxides by Surface Templated Nucleation on Block Copolymer Mesostructures. *Crystal Growth and Design*, **2017**, 17, 5775-5782	3.5	5
65	Multiscale characterization of the mineral phase at skeletal sites of breast cancer metastasis. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 10542-10547	11.5	41

64	Exploring reaction pathways in the hydrothermal growth of phase-pure bismuth ferrites. *Journal of Crystal Growth*, **2017**, 468, 104-109	1.6	5
63	Mosaic anisotropy model for magnetic interactions in mesostructured crystals. *APL Materials*, **2017**, 5, 104901	5.7	2
62	Mineralized 3D Culture Systems for Studying Bone Metastatic Breast Cancer **2017**, 169-192		
61	Cooperative Effects of Confinement and Surface Functionalization Enable the Formation of Au/Cu2O Metal□emiconductor Heterostructures. *Crystal Growth and Design*, **2016**, 16, 6804-6811	3.5	8
60	Site-Specific Preparation of Intact Solid-Liquid Interfaces by Label-Free In Situ Localization and Cryo-Focused Ion Beam Lift-Out. *Microscopy and Microanalysis*, **2016**, 22, 1338-1349	0.5	26
59	Formation of Periodically-Ordered Calcium Phosphate Nanostructures by Block Copolymer-Directed Self-Assembly. *Chemistry of Materials*, **2016**, 28, 838-847	9.6	10
58	Self-Assembled Gyroidal Mesoporous Polymer-Derived High Temperature Ceramic Monoliths. *Chemistry of Materials*, **2016**, 28, 2131-2137	9.6	22
57	Structure and Properties of Nanocomposites Formed by the Occlusion of Block Copolymer Worms and Vesicles Within Calcite Crystals. *Advanced Functional Materials*, **2016**, 26, 1382-1392	15.6	56
56	Synergistic Biomineralization Phenomena Created by a Combinatorial Nacre Protein Model System. *Biochemistry*, **2016**, 55, 2401-10	3.2	22
55	Tuning hardness in calcite by incorporation of amino acids. *Nature Materials*, **2016**, 15, 903-10	27	127
54	Chemical and physical properties of carbonated hydroxyapatite affect breast cancer cell behavior. *Acta Biomaterialia*, **2015**, 24, 333-42	10.8	40
53	Effect of the Materials Properties of Hydroxyapatite Nanoparticles on Fibronectin Deposition and Conformation. *Crystal Growth and Design*, **2015**, 15, 2452-2460	3.5	28
52	Direct Crystallization Route to Methylammonium Lead Iodide Perovskite from an Ionic Liquid. *Chemistry of Materials*, **2015**, 27, 3197-3199	9.6	65
51	Hierarchically structured hematite architectures achieved by growth in a silica hydrogel. *Journal of the American Chemical Society*, **2015**, 137, 5184-92	16.4	21
50	Microscopy techniques for investigating the control of organic constituents on biomineralization. *MRS Bulletin*, **2015**, 40, 480-489	3.2	13
49	Nanoscale assembly processes revealed in the nacroprismatic transition zone of Pinna nobilis mollusc shells. *Nature Communications*, **2015**, 6, 10097	17.4	54
48	Revealing the Internal Structure and Local Chemistry of Nanocrystals Grown in Hydrogel with Cryo-FIB Lift-Out and Cryo-STEM. *Microscopy and Microanalysis*, **2015**, 21, 2291-2292	0.5	2
47	Role of Akaganeite (□FeOOH) in the Growth of Hematite (□Fe2O3) in an Inorganic Silica Hydrogel. *Crystal Growth and Design*, **2015**, 15, 3388-3398	3.5	27

46	Crystallization kinetics of organic-inorganic trihalide perovskites and the role of the lead anion in crystal growth. *Journal of the American Chemical Society*, **2015**, 137, 2350-8	16.4	266
45	Ultrasmooth organic-inorganic perovskite thin-film formation and crystallization for efficient planar heterojunction solar cells. *Nature Communications*, **2015**, 6, 6142	17.4	695
44	Engineering of crystal surfaces and subsurfaces by framework biomineralization protein phases. *CrystEngComm*, **2014**, 16, 7406-7409	3.3	19
43	The intrinsically disordered C-RING biomineralization protein, AP7, creates protein phases that introduce nanopatterning and nanoporosities into mineral crystals. *Biochemistry*, **2014**, 53, 4317-9	3.2	21
42	Influence of Thermal Processing Protocol upon the Crystallization and Photovoltaic Performance of Organic–Inorganic Lead Trihalide Perovskites. *Journal of Physical Chemistry C*, **2014**, 118, 17171-17177	3.8	214
41	Thermally induced structural evolution and performance of mesoporous block copolymer-directed alumina perovskite solar cells. *ACS Nano*, **2014**, 8, 4730-9	16.7	241
40	Sectioning of individual hematite pseudocubes with focused ion beam enables quantitative structural characterization at nanometer length scales. *Microscopy and Microanalysis*, **2014**, 20, 635-44	0.5	4
39	STEM Characterization of Nano-Crystallites in the Nacre Biomineralization of Mollusk Shells (Pinna nobilis). *Microscopy and Microanalysis*, **2014**, 20, 1332-1333	0.5	
38	Impact of the organic halide salt on final perovskite composition for photovoltaic applications. *APL Materials*, **2014**, 2, 081802	5.7	47
37	Hierarchical porous polymer scaffolds from block copolymers. *Science*, **2013**, 341, 530-4	33.3	214
36	Evaluation of strengthening mechanisms in calcite single crystals from mollusk shells. *Acta Biomaterialia*, **2013**, 9, 5353-9	10.8	61
35	Rediscovering Hydrogel-Based Double-Diffusion Systems for Studying Biomineralization. *CrystEngComm*, **2012**, 14, 5681-5700	3.3	29
34	Synthesis and Formation Mechanism of Aminated Mesoporous Silica Nanoparticles. *Chemistry of Materials*, **2012**, 24, 3895-3905	9.6	52
33	The effect of magnesium substitution on the hardness of synthetic and biogenic calcite. *MRS Communications*, **2012**, 2, 113-116	2.7	43
32	Crystal Growth of Calcium Carbonate in Hydrogels as a Model of Biomineralization. *Advanced Functional Materials*, **2012**, 22, 2891-2914	15.6	157
31	Hydrogels: Crystal Growth of Calcium Carbonate in Hydrogels as a Model of Biomineralization (Adv. Funct. Mater. 14/2012). *Advanced Functional Materials*, **2012**, 22, 2890-2890	15.6	1
30	Hydroxyapatite nanoparticle-containing scaffolds for the study of breast cancer bone metastasis. *Biomaterials*, **2011**, 32, 5112-22	15.6	113
29	Calcite Prisms from Mollusk Shells (Atrina Rigida): Swiss-cheese-like Organic–Inorganic Single-crystal Composites. *Advanced Functional Materials*, **2011**, 21, 2028-2034	15.6	87

28	Gel incorporation inside of organic single crystals grown in agarose hydrogels. *CrystEngComm*, **2011**, 13, 1060-1062	3.3	32
27	Room-temperature preparation of crystalline TiO2 thin films and their applications in polymer/TiO2 hybrid optoelectronic devices. *Organic Electronics*, **2011**, 12, 1073-1079	3.5	16
26	Matrix Interactions in Biomineralization: Aragonite Nucleation by an Intrinsically Disordered Nacre Polypeptide, n16N, Associated with a Chitin Substrate. *Crystal Growth and Design*, **2010**, 10, 1383-1389	3.5	54
25	Silk Fibroin Hydrogels Coupled with the n16N Chitin Complex: An in Vitro Organic Matrix for Controlling Calcium Carbonate Mineralization. *Crystal Growth and Design*, **2010**, 10, 5169-5175	3.5	46
24	Intrinsically disordered mollusk shell prismatic protein that modulates calcium carbonate crystal growth. *Biomacromolecules*, **2010**, 11, 2539-44	6.9	34
23	Synthetic alpha-helix mimetics as agonists and antagonists of islet amyloid polypeptide aggregation. *Angewandte Chemie - International Edition*, **2010**, 49, 736-9	16.4	89
22	Calcite Growth in Hydrogels: Assessing the Mechanism of Polymer-Network Incorporation into Single Crystals. *Advanced Materials*, **2009**, 21, 470-473	24	108
21	Visualizing the 3D internal structure of calcite single crystals grown in agarose hydrogels. *Science*, **2009**, 326, 1244-7	33.3	232
20	A non-chromatographic method for the purification of a bivalently active monoclonal IgG antibody from biological fluids. *Journal of the American Chemical Society*, **2009**, 131, 9361-7	16.4	25
19	Porous calcite single crystals grown from a hydrogel medium. *CrystEngComm*, **2007**, 9, 1153	3.3	60
18	Hydrogels coupled with self-assembled monolayers: an in vitro matrix to study calcite biomineralization. *Journal of the American Chemical Society*, **2007**, 129, 5480-3	16.4	101
17	Multivalency in Ligand Design. *Methods and Principles in Medicinal Chemistry*, **2006**, 11-53	0.4	86
16	Cryo-Tem, X-Ray Diffraction and Modeling of an Organic Hydrogel **2006**, 721-742		3
15	Promotion of opsonization by antibodies and phagocytosis of Gram-positive bacteria by a bifunctional polyacrylamide. *Biomaterials*, **2006**, 27, 3663-74	15.6	39
14	Self-assembled monolayers of thiolates on metals as a form of nanotechnology. *Chemical Reviews*, **2005**, 105, 1103-69	68.1	6730
13	Self-Assembled Monolayers of Thiolates on Metals as a Form of Nanotechnology. *ChemInform*, **2005**, 36, no		6
12	Water Gelation by Small Organic Molecules. *ChemInform*, **2004**, 35, no		2
11	Design of a synthetic foldamer that modifies the growth of calcite crystals. *Journal of the American Chemical Society*, **2004**, 126, 2-3	16.4	103

10	Water gelation by small organic molecules. *Chemical Reviews*, **2004**, 104, 1201-18	68.1	1779
9	An organic hydrogel as a matrix for the growth of calcite crystals. *Organic and Biomolecular Chemistry*, **2004**, 2, 137-41	3.9	109
8	Characterization of an Organic Hydrogel: A Cryo-Transmission Electron Microscopy and X-ray Diffraction Study. *Advanced Materials*, **2003**, 15, 38-42	24	91
7	Fiber formation in water by a mono-urea dicarboxylic acid. *Chemical Communications*, **2003**, 2958-9	5.8	3
6	At the Interface of Organic and Inorganic Chemistry: Bioinspired Synthesis of Composite Materials. *Chemistry of Materials*, **2001**, 13, 3227-3235	9.6	236
5	Effective Gelation of Water Using a Series of Bis-urea Dicarboxylic Acids We thank the National Science Foundation (CHE9817240) for financial support of this work and Dr. James Eckert (Department of Geology, Yale University) for assistance with the electron microscopy. We also thank R. E. Meléndez for compound 1. *Angewandte Chemie - International Edition*, **2000**, 39, 3447-3450	16.4	220
4	Enantiopure eta4-(1-sulfinyldiene)iron(0) tricarbonyl complexes as templates for carbocycle construction via ring-closing metathesis. *Organic Letters*, **2000**, 2, 365-8	6.2	31
3	Mode of Occupation of Tabun Cave, Mt Carmel, Israel During the Mousterian Period: A Study of the Sediments and Phytoliths. *Journal of Archaeological Science*, **1999**, 26, 1249-1260	2.9	162
2	Diastereoselective Allylations of Enantiopure 3- and 4-Substituted 4-(1Z)-(Sulfinyldienal)iron(0) Tricarbonyl Complexes. *Organometallics*, **1998**, 17, 1841-1849	3.8	9
1	Synthesis and Diastereoselective Complexation of Enantiopure Sulfinyl Dienes: The Preparation of Sulfinyl Iron(0) Dienes. *Journal of Organic Chemistry*, **1997**, 62, 6326-6343	4.2	54