Yael Politi

List of Publications by Year
in descending order

29 papers	3,195 citations	331670 21 h-index	477307 29 g-index
31 all docs	31 docs citations	31 times ranked	3388 citing authors

#	Article	IF	Citations
1	Sea Urchin Spine Calcite Forms via a Transient Amorphous Calcium Carbonate Phase. Science, 2004, 306, 1161-1164.	12.6	881
2	Transformation mechanism of amorphous calcium carbonate into calcite in the sea urchin larval spicule. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17362-17366.	7.1	380
3	The Mechanical Role of Metal Ions in Biogenic Proteinâ€Based Materials. Angewandte Chemie - International Edition, 2014, 53, 12026-12044.	13.8	229
4	Role of Magnesium Ion in the Stabilization of Biogenic Amorphous Calcium Carbonate: A Structureâ˚Function Investigation. Chemistry of Materials, 2010, 22, 161-166.	6.7	204
5	Mechanism of Calcite Co-Orientation in the Sea Urchin Tooth. Journal of the American Chemical Society, 2009, 131, 18404-18409.	13.7	181
6	A Spider's Fang: How to Design an Injection Needle Using Chitinâ€Based Composite Material. Advanced Functional Materials, 2012, 22, 2519-2528.	14.9	153
7	A hydrated crystalline calcium carbonate phase: Calcium carbonate hemihydrate. Science, 2019, 363, 396-400.	12.6	153
8	Asprich mollusk shell protein: in vitro experiments aimed at elucidating function in CaCO3 crystallization. CrystEngComm, 2007, 9, 1171.	2.6	105
9	The Crystallization of Amorphous Calcium Carbonate is Kinetically Governed by Ion Impurities and Water. Advanced Science, 2018, 5, 1701000.	11.2	101
10	Overview of the amorphous precursor phase strategy in biomineralization. Frontiers of Materials Science in China, 2009, 3, 104-108.	0.5	97
11	Role of Sacrificial Proteinâ€"Metal Bond Exchange in Mussel Byssal Thread Self-Healing. Biomacromolecules, 2015, 16, 2852-2861.	5.4	95
12	Opposite Particle Size Effect on Amorphous Calcium Carbonate Crystallization in Water and during Heating in Air. Chemistry of Materials, 2015, 27, 4237-4246.	6.7	80
13	Multiscale structural gradients enhance the biomechanical functionality of the spider fang. Nature Communications, 2014, 5, 3894.	12.8	76
14	Oxygen Spectroscopy and Polarization-Dependent Imaging Contrast (PIC)-Mapping of Calcium Carbonate Minerals and Biominerals. Journal of Physical Chemistry B, 2014, 118, 8449-8457.	2.6	60
15	Additives Control the Stability of Amorphous Calcium Carbonate via Two Different Mechanisms: Surface Adsorption versus Bulk Incorporation. Advanced Functional Materials, 2020, 30, 2000003.	14.9	49
16	A spiderâ€™s biological vibration filter: Micromechanical characteristics of a biomaterial surface. Acta Biomaterialia, 2014, 10, 4832-4842.	8.3	44
17	Hydrogen Bonding in Amorphous Calcium Carbonate and Molecular Reorientation Induced by Dehydration. Journal of Physical Chemistry C, 2018, 122, 3591-3598.	3.1	42
18	Structural and mechanical properties of the arthropod cuticle: Comparison between the fang of the spider Cupiennius salei and the carapace of American lobster Homarus americanus. Journal of Structural Biology, 2013, 183, 172-179.	2.8	40

#	ARTICLE	IF	CITATIONS
19	Interplay between Calcite, Amorphous Calcium Carbonate, and Intracrystalline Organics in Sea Urchin Skeletal Elements. Crystal Growth and Design, 2018, 18, 2189-2201.	3.0	34
20	Micro- and nano-structural details of a spider's filter for substrate vibrations: relevance for low-frequency signal transmission. Journal of the Royal Society Interface, 2015, 12, 20141111.	3.4	31
21	Adaptations for Wear Resistance and Damage Resilience: Micromechanics of Spider Cuticular â€œToolsâ€• Advanced Functional Materials, 2020, 30, 2000400.	14.9	26
22	Ordering of protein and water molecules at their interfaces with chitin nano-crystals. Journal of Structural Biology, 2016, 193, 124-131.	2.8	22
23	Epidermal Cell Surface Structure and Chitinâ€"Protein Co-assembly Determine Fiber Architecture in the Locust Cuticle. ACS Applied Materials & Interfaces, 2020, 12, 25581-25590.	8.0	22
24	Nano-channels in the spider fang for the transport of Zn ions to cross-link His-rich proteins pre-deposited in the cuticle matrix. Arthropod Structure and Development, 2017, 46, 30-38.	1.4	21
25	Growth and regrowth of adult sea urchin spines involve hydrated and anhydrous amorphous calcium carbonate precursors. Journal of Structural Biology: X, 2019, 1, 100004.	1.3	19
26	Multiscale X-ray study of <i>Bacillus subtilis</i> biofilms reveals interlinked structural hierarchy and elemental heterogeneity. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	19
27	Mechanics of Arthropod Cuticle-Versatility by Structural and Compositional Variation. Springer Series in Materials Science, 2019, , 287-327.	0.6	14
28	The spider cuticle: a remarkable material toolbox for functional diversity. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200332.	3.4	14
29	Heat-Mediated Micro- and Nano-pore Evolution in Sea Urchin Biominerals. Crystal Growth and Design, 2022, 22, 3727-3739.	3.0	3