Kenneth H Sandhage

List of Publications by Year
in descending order

67 papers	2,989 citations	172457 29 h-index	161849 54 g-index
68 all docs	68 docs citations	68 times ranked	3973 citing authors

#	Article	IF	Citations
1	Chemical reduction of three-dimensional silica micro-assemblies into microporous silicon replicas. Nature, 2007, 446, 172-175.	27.8	727
2	High thermal conductivity of chain-oriented amorphous polythiophene. Nature Nanotechnology, 2014, 9, 384-390.	31.5	327
3	Solvent and polymer matrix effects on TIPS-pentacene/polymer blend organic field-effect transistors. Journal of Materials Chemistry, 2012, 22, 5531.	6.7	109
4	Syntheses of Porous Selfâ€Supporting Metalâ€Nanoparticle Assemblies with 3D Morphologies Inherited from Biosilica Templates (Diatom Frustules). Advanced Materials, 2009, 21, 474-478.	21.0	96
5	3D Rutile Titaniaâ€Based Structures with Morpho Butterfly Wing Scale Morphologies. Angewandte Chemie - International Edition, 2008, 47, 7921-7923.	13.8	91
6	Thin, Conformal, and Continuous SnO2 Coatings on Three-Dimensional Biosilica Templates through Hydroxy-Group Amplification and Layer-By-Layer Alkoxide Deposition. Angewandte Chemie - International Edition, 2007, 46, 5724-5727.	13.8	68
7	Anatase assemblies from algae: coupling biological self-assembly of 3-D nanoparticle structures with synthetic reaction chemistry. Chemical Communications, 2004, , 796.	4.1	67
8	Merging Biological Self-Assembly with Synthetic Chemical Tailoring: The Potential for 3-D Genetically Engineered Micro/Nano-Devices (3-D GEMS). International Journal of Applied Ceramic Technology, 2005, 2, 317-326.	2.1	67
9	Three-Dimensional Magnesia-Based Nanocrystal Assemblies Via Low-Temperature Magnesiothermic Reaction of Diatom Microshells. Journal of the American Ceramic Society, 2005, 88, 2005-2010.	3.8	66
10	Direct and Indirect Dissolution of Sapphire in Calcia-Magnesia-Alumina-Silica Melts: Dissolution Kinetics. Journal of the American Ceramic Society, 1990, 73, 3633-3642.	3.8	63
11	Indirect Dissolution of Sapphire into Silicate Melts. Journal of the American Ceramic Society, 1988, 71, 478-489.	3.8	62
12	Protein-Mediated Layer-by-Layer Syntheses of Freestanding Microscale Titania Structures with Biologically Assembled 3-D Morphologies. Chemistry of Materials, 2009, 21, 5704-5710.	6.7	62
13	Biocatalytic Nanoscale Coatings Through Biomimetic Layer-by-Layer Mineralization. Advanced Functional Materials, 2011, 21, 4243-4251.	14.9	61
14	Sol-gel synthesis on self-replicating single-cell scaffolds: applying complex chemistries to nature's 3-D nanostructured templates. Chemical Communications, 2005, , 651.	4.1	60
15	Freestanding monolithic silicon aerogels. Journal of Materials Chemistry, 2012, 22, 16196.	6.7	58
16	Layerâ€Byâ€Layer Dendritic Growth of Hyperbranched Thin Films for Surface Solâ€“Gel Syntheses of Conformal, Functional, Nanocrystalline Oxide Coatings on Complex 3D (Bio)silica Templates. Advanced Functional Materials, 2009, 19, 2768-2776.	14.9	55
17	Inkjet catalyst printing and electroless copper deposition for low-cost patterned microwave passive devices on paper. Electronic Materials Letters, 2013, 9, 669-676.	2.2	51
18	Indirect Dissolution of Sapphire into Calcia-Magnesia-Alumina-Silica Melts: Electron Microprobe Analysis of the Dissolution Process. Journal of the American Ceramic Society, 1990, 73, 3643-3649.	3.8	48

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19	Rapid Hydrolysis of Organophosphorous Esters Induced by Nanostructured, Fluorine-Doped Titania Replicas of Diatom Frustules. Journal of the American Ceramic Society, 2007, 90, 1632-1636.	3.8	47
20	Oriented Growth of Al₂O₃:ZnO Nanolaminates for Use as Electronâ€Selective Electrodes in Inverted Polymer Solar Cells. Advanced Functional Materials, 2012, 22, 1531-1538.	14.9	47
21	Free-standing microscale structures of nanocrystalline zirconia with biologically replicable three-dimensional shapes. Journal of Materials Research, 2005, 20, 282-287.	2.6	46
22	Freestanding microscale 3D polymeric structures with biologically-derived shapes and nanoscale features. Journal of Materials Research, 2004, 19, 2541-2545.	2.6	42
23	Three-Dimensional Assemblies of Zirconia Nanocrystals Via Shape-Preserving Reactive Conversion of Diatom Microshells. Journal of the American Ceramic Society, 2006, 89, 694-698.	3.8	42
24	Conversion of Pollen Particles into Three-Dimensional Ceramic Replicas Tailored for Multimodal Adhesion. Chemistry of Materials, 2013, 25, 4529-4536.	6.7	41
25	Biologically Enabled Syntheses of Freestanding Metallic Structures Possessing Subwavelength Pore Arrays for Extraordinary (Surface Plasmonâ€Mediated) Infrared Transmission. Advanced Functional Materials, 2012, 22, 2550-2559.	14.9	38
26	Identification of peptides capable of inducing the formation of titania but not silica via a subtractive bacteriophage display approach. Journal of Materials Chemistry, 2008, 18, 3871.	6.7	35
27	Roles of thermally-induced vertical phase segregation and crystallization on the photovoltaic performance of bulk heterojunction inverted polymer solar cells. Energy and Environmental Science, 2011, 4, 3456.	30.8	34
28	Rapid Flowâ€Through Biocatalysis with High Surface Area, Enzymeâ€Loaded Carbon and Goldâ€Bearing Diatom Frustule Replicas. Advanced Functional Materials, 2013, 23, 4611-4620.	14.9	32
29	Zn2SiO4-coated microparticles with biologically-controlled 3D shapes. Physica Status Solidi A, 2005, 202, R105-R107.	1.7	30
30	Syntheses of nanostructured Cu- and Ni-based micro-assemblies with selectable 3-D hierarchical biogenic morphologies. Journal of Materials Chemistry, 2012, 22, 1305-1312.	6.7	28
31	Indirect Dissolution of (Al, Cr)2O3 in CaO-MgO-Al2O3-SiO2 (CMAS) Melts. Journal of the American Ceramic Society, 1991, 74, 1941-1954.	3.8	27
32	Manganese-Doped Zinc Orthosilicate-Bearing Phosphor Microparticles with Controlled Three-Dimensional Shapes Derived from Diatom Frustules. Journal of the American Ceramic Society, 2007, 90, 1304-1308.	3.8	25
33	Phosphor Microparticles of Controlled Three-Dimensional Shape from Phytoplankton. Journal of the Electrochemical Society, 2006, 153, H34.	2.9	24
34	Proteinâ€Enabled Layerâ€byâ€Layer Syntheses of Aligned, Porousâ€Wall, Highâ€Aspectâ€Ratio TiO₂ Nanotube Arrays. Advanced Functional Materials, 2011, 21, 1693-1700.	14.9	24
35	A novel, facile, layer-by-layer substrate surface modification for the fabrication of all-inkjet-printed flexible electronic devices on Kapton. Journal of Materials Chemistry C, 2016, 4, 7052-7060.	5.5	23
36	Containment materials for liquid tin at 1350â€¯Â°C as a heat transfer fluid for high temperature concentrated solar power. Solar Energy, 2018, 164, 47-57.	6.1	20

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37	Morphologyâ€Preserving Conversion of a 3D Bioorganic Template into a Nanocrystalline Multicomponent Oxide Compound. Angewandte Chemie - International Edition, 2010, 49, 7765-7768.	13.8	19
38	High surface area, micro/mesoporous carbon particles with selectable 3-D biogenic morphologies for tailored catalysis, filtration, or adsorption. Energy and Environmental Science, 2011, 4, 3980.	30.8	19
39	Materials â€œalchemyâ€• Shape-preserving chemical transformation of micro-to-macroscopic 3-D structures. Jom, 2010, 62, 32-43.	1.9	17
40	Three-dimensional magnetite replicas of pollen particles with tailorable and predictable multimodal adhesion. Journal of Materials Chemistry C, 2015, 3, 632-643.	5.5	17
41	Surface modification of bulk titanium substrates for biomedical applications via lowâ€temperature microwave hydrothermal oxidation. Journal of Biomedical Materials Research - Part A, 2018, 106, 782-796.	4.0	16
42	Kinetic mechanism of TiO2 nanocarving via reaction with hydrogen gas. Journal of Materials Research, 2006, 21, 1822-1829.	2.6	15
43	Enhanced hydrothermal conversion of surfactant-modified diatom microshells into barium titanate replicas. Journal of Materials Research, 2007, 22, 1121-1127.	2.6	13
44	Nanomanufacturing: Direct Fabrication of Arbitrary-Shaped Ferroelectric Nanostructures on Plastic, Glass, and Silicon Substrates (Adv. Mater. 33/2011). Advanced Materials, 2011, 23, 3740-3740.	21.0	13
45	Intragranular Tungsten/Zirconium Carbide Nanocomposites via a Selective Liquid/Solid Displacement Reaction. Journal of the American Ceramic Society, 2012, 95, 2769-2772.	3.8	13
46	The kinetics of incongruent reduction of tungsten carbide via reaction with a hafniumâ€“copper melt. Acta Materialia, 2009, 57, 3924-3931.	7.9	12
47	3D photoluminescent lanthanide-doped barium titanate structures synthesized by coating and shape-preserving reaction of complex-shaped bioorganic templates. Journal of Materials Chemistry, 2012, 22, 10435.	6.7	12
48	Individually Dispersed Gold Nanoshell-Bearing Cellulose Nanocrystals with Tailorable Plasmon Resonance. Langmuir, 2018, 34, 4427-4436.	3.5	11
49	Magnesiothermically Formed Porous Silicon Thin Films on Siliconâ€onâ€Insulator Optical Microresonators for Highâ€Sensitivity Detection. Advanced Optical Materials, 2014, 2, 235-239.	7.3	10
50	Tunable multimodal adhesion of 3D, nanocrystalline CoFe 2 O 4 pollen replicas. Bioinspiration and Biomimetics, 2017, 12, 066009.	2.9	10
51	Unlocking the Latent Antimicrobial Potential of Biomimetically Synthesized Inorganic Materials. Advanced Functional Materials, 2013, 23, 4236-4245.	14.9	9
52	Reactive conversion of polycrystalline SnO₂ into single-crystal nanofiber arrays at low oxygen partial pressure. Journal of Materials Research, 2008, 23, 2639-2644.	2.6	8
53	Graphene enhanced wireless sensors. , 2012, , .		7
54	Conversion of porous anodic Al₂O₃into freestanding, uniformly aligned, multi-wall TiO₂nanotube arrays for electrode applications. Journal of Materials Chemistry A, 2013, 1, 128-134.	10.3	6

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55	In situ high-temperature X-ray diffraction analysis of Mg2Si formation kinetics via reaction of Mg films with Si single crystal substrates. Intermetallics, 2018, 94, 200-209.	3.9	5
56	Corrosion of Al2O3/Cr and Ti2O3/Cr composites in flowing air and CO2 at 750Â°C. Corrosion Science, 2021, 179, 109115.	6.6	4
57	3-D Microparticles of BaTiO3 and Zn2SiO4 Via the Chemical (Sol-Gel, Acetate, or Hydrothermal) Conversion of Biological (Diatom) Templates. Ceramic Engineering and Science Proceedings, 0, , 49-56.	0.1	3
58	Validation of the Porous Medium Approximation for Hydrodynamics Analysis in Compact Heat Exchangers. Journal of Fluids Engineering, Transactions of the ASME, 2022, 144, .	1.5	3
59	Kinetic mechanism of conformal magnesium silicide (Mg2Si) film formation via reaction of Si single crystals with Mg vapor. Journal of Materials Science, 2020, 55, 1107-1116.	3.7	2
60	Sequence Specific Morphological Control Over the Formation of Germanium Oxide During Peptide Mediated Synthesis. Ceramic Engineering and Science Proceedings, 0, , 25-32.	0.1	1
61	Corrosion of a dense, co-continuous SiC/Si composite in CO2 and synthetic air at 750ÂÂ°C. Journal of Materials Research and Technology, 2021, 15, 4852-4859.	5.8	1
62	Perovskite Particles from Phytoplankton. Materials Research Society Symposia Proceedings, 2005, 873, 1.	0.1	0
63	Template Routes to Non-Oxide Ceramic Nano- and Micro-Structures. Materials Research Society Symposia Proceedings, 2006, 921, 1.	0.1	0
64	Titania Nanotubes: Protein-Enabled Layer-by-Layer Syntheses of Aligned, Porous-Wall, High-Aspect-Ratio TiO2 Nanotube Arrays (Adv. Funct. Mater. 9/2011). Advanced Functional Materials, 2011, 21, 1537-1537.	14.9	0
65	Gold Nanostructures: Biologically-Enabled Syntheses of Freestanding Metallic Structures Possessing Subwavelength Pore Arrays for Extraordinary (Surface Plasmon-Mediated) Infrared Transmission (Adv. Funct. Mater. 12/2012). Advanced Functional Materials, 2012, 22, 2655-2655.	14.9	0
66	Biomimetics: Unlocking the Latent Antimicrobial Potential of Biomimetically Synthesized Inorganic Materials (Adv. Funct. Mater. 34/2013). Advanced Functional Materials, 2013, 23, 4166-4166.	14.9	0
67	Surface-Enhanced Two-Photon Excitation Fluorescence of Various Fluorophores Evaluated Using a Multiphoton Microscope. Journal of Lightwave Technology, 2015, 33, 3446-3452.	4.6	0