Ajay S Karakoti

List of Publications by Year
in descending order

110	11,446	53939 47	34195 103
papers	citations	h-index	g-index

114	114	114	14830
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Multifunctional applications of biochar beyond carbon storage. International Materials Reviews, 2022, 67, 150-200.	9.4	245
2	Selfâ€Assembled Fullerene Nanostructures: Synthesis and Applications. Advanced Functional Materials, 2022, 32, 2106924.	7.8	61
3	In situ x-ray photoelectron spectroscopy analysis of electrochemical interfaces in battery: Recent advances and remaining challenges. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2022, 40, .	0.9	16
4	A critical review on the role of abiotic factors on the transformation, environmental identity and toxicity of engineered nanomaterials in aquatic environment. Environmental Pollution, 2022, 296, 118726.	3.7	22
5	Copper nanoparticles decorated N-doped mesoporous carbon with bimodal pores for selective gas separation and energy storage applications. Chemical Engineering Journal, 2022, 431, 134056.	6.6	12
6	Triple Surfactant Assisted Synthesis of Novel Core-Shell Mesoporous Silica Nanoparticles with High Surface Area for Drug Delivery for Prostate Cancer. Bulletin of the Chemical Society of Japan, 2022, 95, 331-340.	2.0	11
7	Metal nitride-based nanostructures for electrochemical and photocatalytic hydrogen production. Science and Technology of Advanced Materials, 2022, 23, 76-119.	2.8	28
8	Circular economy adoption by SMEs in emerging markets: Towards a multilevel conceptual framework. Journal of Business Research, 2022, 142, 605-619.	5.8	43
9	Highly graphitized porous biocarbon nanosheets with tunable Micro-Meso interfaces and enhanced layer spacing for CO2 capture and LIBs. Chemical Engineering Journal, 2022, 433, 134464.	6.6	28
10	Egg-yolk coreâ€“shell mesoporous silica nanoparticles for high doxorubicin loading and delivery to prostate cancer cells. Nanoscale, 2022, 14, 6830-6845.	2.8	10
11	Nanomaterialsâ€based sensors for the detection of COVIDâ€19: A review. Bioengineering and Translational Medicine, 2022, 7, .	3.9	21
12	The emergence of nanoporous materials in lung cancer therapy. Science and Technology of Advanced Materials, 2022, 23, 225-274.	2.8	15
13	Morphologically tunable nanoarchitectonics of mixed kaolin-halloysite derived nitrogen-doped activated nanoporous carbons for supercapacitor and CO2 capture applications. Carbon, 2022, 192, 133-144.	5.4	24
14	Mesoporous titanium carbonitride derived from mesoporous C3N5 for highly efficient hydrogen evolution reaction. Carbon, 2022, 195, 9-18.	5.4	21
15	Nanoporous TiCN with High Specific Surface Area for Enhanced Hydrogen Evolution Reaction. ACS Applied Nano Materials, 2022, 5, 12077-12086.	2.4	9
16	Development and characterization of human fetal female reproductive tract organoids to understand MÃ¼llerian duct anomalies. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	11
17	Nanoporous activated biocarbons with high surface areas from alligator weed and their excellent performance for CO2 capture at both low and high pressures. Chemical Engineering Journal, 2021, 406, 126787.	6.6	70
18	A Review on the Synthesis and Applications of Nanoporous Carbons for the Removal of Complex Chemical Contaminants. Bulletin of the Chemical Society of Japan, 2021, 94, 1232-1257.	2.0	67

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19	Silica-based nanomaterials as drug delivery tools for skin cancer (melanoma) treatment. Emergent Materials, 2021, 4, 1067-1092.	3.2	14
20	Microporous Carbon Nitride (C₃N_{5.4}) with Tetrazine based Molecular Structure for Efficient Adsorption of CO₂ and Water. Angewandte Chemie, 2021, 133, 21412-21419.	1.6	6
21	Redox Active Cerium Oxide Nanoparticles: Current Status and Burning Issues. Small, 2021, 17, e2102342.	5.2	79
22	Milk derived highly ordered mesoporous carbon with CaF2 nanoclusters as an efficient electrode for supercapacitors. Carbon, 2021, 180, 101-109.	5.4	22
23	Microporous Carbon Nitride (C₃N_{5.4}) with Tetrazine based Molecular Structure for Efficient Adsorption of CO₂ and Water. Angewandte Chemie - International Edition, 2021, 60, 21242-21249.	7.2	46
24	Silicaâ€Based Nanoparticles as Drug Delivery Vehicles for Prostate Cancer Treatment. Chemical Record, 2021, 21, 1535-1568.	2.9	12
25	Nanostructured Carbon Nitrides for CO₂ Capture and Conversion. Advanced Materials, 2020, 32, e1904635.	11.1	188
26	Combination of humic acid and clay reduce the ecotoxic effect of TiO2 NPs: A combined physico-chemical and genetic study using zebrafish embryo. Science of the Total Environment, 2020, 698, 134133.	3.9	24
27	Preparation of nanoparticles for surface analysis. , 2020, , 295-347.		4
28	Polymer-Coated Cerium Oxide Nanoparticles as Oxidoreductase-like Catalysts. ACS Applied Materials & Interfaces, 2020, 12, 42056-42066.	4.0	83
29	Carbon Capture and Conversion: Nanostructured Carbon Nitrides for CO₂ Capture and Conversion (Adv. Mater. 18/2020). Advanced Materials, 2020, 32, 2070142.	11.1	4
30	Emerging trends in porous materials for CO₂capture and conversion. Chemical Society Reviews, 2020, 49, 4360-4404.	18.7	473
31	Highly enhanced photocatalytic hydrogen evolution activity of graphitic carbon nitride with 3D connected mesoporous structure. Sustainable Materials and Technologies, 2020, 25, e00184.	1.7	10
32	Emerging Advanced Nanomaterials and their Applications. Small, 2020, 16, e2001287.	5.2	1
33	Carbon Nanoflakes and Nanotubes from Halloysite Nanoclays and their Superior Performance in CO₂ Capture and Energy Storage. ACS Applied Materials & Interfaces, 2020, 12, 11922-11933.	4.0	32
34	Tuning the ATP-triggered pro-oxidant activity of iron oxide-based nanozyme towards an efficient antibacterial strategy. Journal of Colloid and Interface Science, 2020, 567, 154-164.	5.0	50
35	Magnetic Nanoparticles: Current Trends and Future Aspects in Diagnostics and Nanomedicine. Current Drug Metabolism, 2019, 20, 457-472.	0.7	78
36	Montmorillonite clay and humic acid modulate the behavior of copper oxide nanoparticles in aqueous environment and induces developmental defects in zebrafish embryo. Environmental Pollution, 2019, 255, 113313.	3.7	33

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37	Investigating the role of ATP towards amplified peroxidase activity of Iron oxide nanoparticles in different biologically relevant buffers. Applied Surface Science, 2019, 492, 337-348.	3.1	15
38	An unexpected phase transformation of ceria nanoparticles in aqueous media. Journal of Materials Research, 2019, 34, 465-473.	1.2	13
39	CHAPTER 4. NPâ€“Protein Corona Interaction: Characterization Methods and Analysis. Issues in Toxicology, 2019, , 80-131.	0.2	0
40	Investigation of the Ligandâ€“Nanoparticle Interface: A Cryogenic Approach for Preserving Surface Chemistry. Journal of Physical Chemistry C, 2018, 122, 3582-3590.	1.5	12
41	Gold core/ceria shell-based redox active nanozyme mimicking the biological multienzyme complex phenomenon. Journal of Colloid and Interface Science, 2018, 513, 831-842.	5.0	105
42	Ligand-mediated reversal of the oxidation state dependent ROS scavenging and enzyme mimicking activity of ceria nanoparticles. Chemical Communications, 2018, 54, 13973-13976.	2.2	48
43	Importance of sample preparation on reliable surface characterisation of nanoâ€objects: ISO standard 20579â€4. Surface and Interface Analysis, 2018, 50, 902-906.	0.8	14
44	ATP-mediated intrinsic peroxidase-like activity of Fe 3 O 4 -based nanozyme: One step detection of blood glucose at physiological pH. Colloids and Surfaces B: Biointerfaces, 2017, 153, 52-60.	2.5	142
45	Phosphate-dependent modulation of antibacterial strategy: a redox state-controlled toxicity of cerium oxide nanoparticles. Bulletin of Materials Science, 2017, 40, 1231-1240.	0.8	13
46	Investigation of trimethylacetic acid adsorption on stoichiometric and oxygen-deficient CeO₂(111) surfaces. Physical Chemistry Chemical Physics, 2016, 18, 15625-15631.	1.3	9
47	Redox-Sensitive Cerium Oxide Nanoparticles Protect Human Keratinocytes from Oxidative Stress Induced by Glutathione Depletion. Langmuir, 2016, 32, 12202-12211.	1.6	81
48	Fluorescent magnesium nanocomplex in a protein scaffold for cell nuclei imaging applications. RSC Advances, 2015, 5, 94236-94240.	1.7	6
49	Aqueous medium induced optical transitions in cerium oxide nanoparticles. Physical Chemistry Chemical Physics, 2015, 17, 6217-6221.	1.3	13
50	ATP-enhanced peroxidase-like activity of gold nanoparticles. Journal of Colloid and Interface Science, 2015, 456, 100-107.	5.0	101
51	Surface functionalization of quantum dots for biological applications. Advances in Colloid and Interface Science, 2015, 215, 28-45.	7.0	199
52	Cerium oxide nanoparticles protect against Aî²-induced mitochondrial fragmentation and neuronal cell death. Cell Death and Differentiation, 2014, 21, 1622-1632.	5.0	166
53	Bioâ€distribution and in vivo antioxidant effects of cerium oxide nanoparticles in mice. Environmental Toxicology, 2013, 28, 107-118.	2.1	249
54	Dissociative Binding of Carboxylic Acid Ligand on Nanoceria Surface in Aqueous Solution: A Joint In Situ Spectroscopic Characterization and First-Principles Study. Journal of Physical Chemistry C, 2013, 117, 24329-24338.	1.5	48

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55	Surface characterization of nanomaterials and nanoparticles: Important needs and challenging opportunities. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2013, 31, 50820.	0.9	227
56	Enzyme-free detection of hydrogen peroxide from cerium oxide nanoparticles immobilized on poly(4-vinylpyridine) self-assembled monolayers. Journal of Materials Chemistry B, 2013, 1, 3443.	2.9	19
57	Nanoceria: A Rare-Earth Nanoparticle as a Novel Anti-Angiogenic Therapeutic Agent in Ovarian Cancer. PLoS ONE, 2013, 8, e54578.	1.1	206
58	Antibacterial Activity of Polymer Coated Cerium Oxide Nanoparticles. PLoS ONE, 2012, 7, e47827.	1.1	91
59	Electron beam induced surface morphology changes of CeO<inf>2</inf> nanocrystals: An in-situ aberration corrected TEM study. , 2012, , .		1
60	Radiation-Induced Reduction of Ceria in Single and Polycrystalline Thin Films. Journal of Physical Chemistry C, 2012, 116, 361-366.	1.5	26
61	Linker-Induced Anomalous Emission of Organic-Molecule Conjugated Metal-Oxide Nanoparticles. ACS Nano, 2012, 6, 4854-4863.	7.3	10
62	Influence of Aging and Environment on Nanoparticle Chemistry: Implication to Confinement Effects in Nanoceria. Journal of Physical Chemistry C, 2012, 116, 14108-14114.	1.5	103
63	Preparation and characterization challenges to understanding environmental and biological impacts of ceria nanoparticles. Surface and Interface Analysis, 2012, 44, 882-889.	0.8	105
64	Mechanical properties of ceria nanorods and nanochains; the effect of dislocations, grain-boundaries and oriented attachment. Nanoscale, 2011, 3, 1823.	2.8	42
65	Thickness dependent self limiting 1-D tin oxidenanowire arrays by nanosecond pulsed laser irradiation. Nanoscale, 2011, 3, 1090-1101.	2.8	14
66	Influence of aging on the properties of cerium oxide nanoparticles - implications to quantum confinement effect. , 2011, , .		1
67	Nanoceria extend photoreceptor cell lifespan in tubby mice by modulation of apoptosis/survival signaling pathways. Neurobiology of Disease, 2011, 42, 514-523.	2.1	136
68	A phosphate-dependent shift in redox state of cerium oxide nanoparticles and its effects on catalytic properties. Biomaterials, 2011, 32, 6745-6753.	5.7	285
69	Probing the Size- and Environment-Induced Phase Transformation in CdSe Quantum Dots. Journal of Physical Chemistry Letters, 2011, 2, 2925-2929.	2.1	23
70	PEGylated Inorganic Nanoparticles. Angewandte Chemie - International Edition, 2011, 50, 1980-1994.	7.2	455
71	Combined cytotoxic and anti-invasive properties of redox-active nanoparticles in tumorâ€“stroma interactions. Biomaterials, 2011, 32, 2918-2929.	5.7	208
72	Aging effects of nanoscale ceria in ceriaâ€“platinum composite electrodes for direct alcohol electro-oxidation. Electrochimica Acta, 2011, 56, 2541-2545.	2.6	10

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73	Testing in EHS: What is the current status of experimentation?. , 2011, , 18-19.		0
74	Nanoceria Inhibit the Development and Promote the Regression of Pathologic Retinal Neovascularization in the Vldlr Knockout Mouse. PLoS ONE, 2011, 6, e16733.	1.1	129
75	Effect of Submicron Grains on Ionic Conductivity of Nanocrystalline Doped Ceria. Journal of Nanoscience and Nanotechnology, 2010, 10, 6495-6503.	0.9	27
76	Ultralight Multiwalled Carbon Nanotube Aerogel. ACS Nano, 2010, 4, 7293-7302.	7.3	477
77	Cerium Oxide Nanoparticles Protect Cells Against Oxidative Stress Induced by Glutathione Depletion. Free Radical Biology and Medicine, 2010, 49, S198.	1.3	0
78	Multiwall carbon nanotube-poly(4-styrenesulfonic acid) supported polypyrrole/manganese oxide nano-composites for high performance electrochemical electrodes. Journal of Power Sources, 2010, 195, 1256-1262.	4.0	91
79	Synthesis dependent core level binding energy shift in the oxidation state of platinum coated on ceriaâ€“titania and its effect on catalytic decomposition of methanol. Applied Catalysis A: General, 2010, 388, 262-271.	2.2	29
80	Precursor Dependent Microstructure Evolution and Nonstoichiometry in Nanostructured Cerium Oxide Coatings Using the Solution Precursor Plasma Spray Technique. Journal of the American Ceramic Society, 2010, 93, 3700-3708.	1.9	19
81	Tuning Hydrated Nanoceria Surfaces: Experimental/Theoretical Investigations of Ion Exchange and Implications in Organic and Inorganic Interactions. Langmuir, 2010, 26, 7188-7198.	1.6	35
82	Rare earth oxides as nanoadditives in 3-D nanocomposite scaffolds for bone regeneration. Journal of Materials Chemistry, 2010, 20, 8912.	6.7	126
83	Redox-active radical scavenging nanomaterials. Chemical Society Reviews, 2010, 39, 4422.	18.7	458
84	Unveiling the mechanism of uptake and sub-cellular distribution of cerium oxide nanoparticles. Molecular BioSystems, 2010, 6, 1813.	2.9	144
85	Nanoceria exhibit redox state-dependent catalase mimetic activity. Chemical Communications, 2010, 46, 2736.	2.2	912
86	Nanoceria-Modified Platinumâ^'Gold Composite Electrodes for the Electrochemical Oxidation of Methanol and Ethanol in Acidic Media. Journal of Physical Chemistry C, 2010, 114, 4595-4602.	1.5	28
87	Antiâ€inflammatory Properties of Cerium Oxide Nanoparticles. Small, 2009, 5, 2848-2856.	5.2	610
88	Symmetry-Driven Spontaneous Self-Assembly of Nanoscale Ceria Building Blocks to Fractal Superoctahedra. Crystal Growth and Design, 2009, 9, 1614-1620.	1.4	16
89	Luminescence Properties of Europium-Doped Cerium Oxide Nanoparticles: Role of Vacancy and Oxidation States. Langmuir, 2009, 25, 10998-11007.	1.6	254
90	PEGylated Nanoceria as Radical Scavenger with Tunable Redox Chemistry. Journal of the American Chemical Society, 2009, 131, 14144-14145.	6.6	302

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91	Exposure to Titanium Dioxide Nanomaterials Provokes Inflammation of an in Vitro Human Immune Construct. ACS Nano, 2009, 3, 2523-2532.	7.3	152
92	Abstract C42: Suppression of tumor invasion by inorganic nanoparticles. , 2009, , .		1
93	Regeneration of Adult Mice Motoneurons Utilizing a Defined System and Anti-Oxidant Nanoparticles. Journal of Nanoneuroscience, 2009, 1, 130-143.	0.5	13
94	Abstract C48: Antiangiogenic properties of rare earth nanoparticles: Implications in ovarian cancer. , 2009, , .		0
95	The role of cerium redox state in the SOD mimetic activity of nanoceria. Biomaterials, 2008, 29, 2705-2709.	5.7	813
96	Nanoceria as antioxidant: Synthesis and biomedical applications. Jom, 2008, 60, 33-37.	0.9	315
97	Characterization challenges for nanomaterials. Surface and Interface Analysis, 2008, 40, 529-537.	0.8	121
98	Selfâ€Assembly of Cerium Oxide Nanostructures in Ice Molds. Small, 2008, 4, 1210-1216.	5.2	37
99	In situ carbon nanotube reinforcements in a plasma-sprayed aluminum oxide nanocomposite coating. Acta Materialia, 2008, 56, 571-579.	3.8	101
100	Mapping Nanostructure: A Systematic Enumeration of Nanomaterials by Assembling Nanobuilding Blocks at Crystallographic Positions. ACS Nano, 2008, 2, 1237-1251.	7.3	50
101	Hierarchical assembly of inorganic nanostructure building blocks to octahedral superstructuresâ€"a true template-free self-assembly. Nanotechnology, 2007, 18, 075303.	1.3	43
102	Room Temperature Hydrogen Detection Using 1-D Nanostructured Tin Oxide Sensor. Journal of Nanoscience and Nanotechnology, 2007, 7, 3354-3357.	0.9	18
103	Role of Catalyst on Refractive Index Tunability of Porous Silica Antireflective Coatings by Solâ^'Gel Technique. Journal of Physical Chemistry C, 2007, 111, 8291-8298.	1.5	104
104	Direct Synthesis of Nanoceria in Aqueous Polyhydroxyl Solutions. Journal of Physical Chemistry C, 2007, 111, 17232-17240.	1.5	103
105	One dimensional nanostructured materials. Progress in Materials Science, 2007, 52, 699-913.	16.0	567
106	Novel Nanoscale Ceriaâ€"Platinum Composite Electrodes for Direct Alcohol Electro-Oxidation. Catalysis Letters, 2007, 119, 319-326.	1.4	30
107	Spiral Growth of One Dimensional Titania Nanostructures Using Anodic Oxidation. Journal of Nanoscience and Nanotechnology, 2006, 6, 2084-2089.	0.9	5
108	The potential toxicity of nanomaterialsâ€"The role of surfaces. Jom, 2006, 58, 77-82.	0.9	194

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109	Colloidal stability by surface modification. Jom, 2005, 57, 52-56.	0.9	25
110	Assessment of the impact of abiotic factors on the stability of engineered nanomaterials in fish embryo media. Emergent Materials, 0, , 1.	3.2	2