

Rajesh Kumar

List of Publications by Year in descending order

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91
papers

7,685
citations

34105

52
h-index

51608

86
g-index

92
all docs

92
docs citations

92
times ranked

6058
citing authors

#	ARTICLE	IF	CITATIONS
1	Graphene oxide: strategies for synthesis, reduction and frontier applications. RSC Advances, 2016, 6, 64993-65011.	3.6	428
2	Heteroatom doped graphene engineering for energy storage and conversion. Materials Today, 2020, 39, 47-65.	14.2	400
3	Recent progress in the synthesis of graphene and derived materials for next generation electrodes of high performance lithium ion batteries. Progress in Energy and Combustion Science, 2019, 75, 100786.	31.2	379
4	A review on synthesis of graphene, h-BN and MoS ₂ for energy storage applications: Recent progress and perspectives. Nano Research, 2019, 12, 2655-2694.	10.4	283
5	Self-Assembled and One-Step Synthesis of Interconnected 3D Network of Fe ₃ O ₄ /Reduced Graphene Oxide Nanosheets Hybrid for High-Performance Supercapacitor Electrode. ACS Applied Materials & Interfaces, 2017, 9, 8880-8890.	8.0	271
6	Recent advances in the synthesis and modification of carbon-based 2D materials for application in energy conversion and storage. Progress in Energy and Combustion Science, 2018, 67, 115-157.	31.2	271
7	Recent progress on carbon-based composite materials for microwave electromagnetic interference shielding. Carbon, 2021, 177, 304-331.	10.3	239
8	Laser-assisted synthesis, reduction and micro-patterning of graphene: Recent progress and applications. Coordination Chemistry Reviews, 2017, 342, 34-79.	18.8	230
9	Graphene oxide: An efficient material and recent approach for biotechnological and biomedical applications. Materials Science and Engineering C, 2018, 86, 173-197.	7.3	212
10	Natural and waste hydrocarbon precursors for the synthesis of carbon based nanomaterials: Graphene and CNTs. Renewable and Sustainable Energy Reviews, 2016, 58, 976-1006.	16.4	179
11	An overview of recent progress in nanostructured carbon-based supercapacitor electrodes: From zero to bi-dimensional materials. Carbon, 2022, 193, 298-338.	10.3	168
12	Graphene-wrapped and cobalt oxide-intercalated hybrid for extremely durable super-capacitor with ultrahigh energy and power densities. Carbon, 2014, 79, 192-202.	10.3	166
13	Self-Assembled Hierarchical Formation of Conjugated 3D Cobalt Oxide Nanobead@CNT@Graphene Nanostructure Using Microwaves for High-Performance Supercapacitor Electrode. ACS Applied Materials & Interfaces, 2015, 7, 15042-15051.	8.0	156
14	Homogeneous reduced graphene oxide supported NiO-MnO ₂ ternary hybrids for electrode material with improved capacitive performance. Electrochimica Acta, 2019, 303, 246-256.	5.2	140
15	Microwave-assisted thin reduced graphene oxide-cobalt oxide nanoparticles as hybrids for electrode materials in supercapacitor. Journal of Energy Storage, 2021, 40, 102724.	8.1	137
16	Advances in pseudocapacitive and battery-like electrode materials for high performance supercapacitors. Journal of Materials Chemistry A, 2022, 10, 13190-13240.	10.3	137
17	Laser processing of graphene and related materials for energy storage: State of the art and future prospects. Progress in Energy and Combustion Science, 2022, 91, 100981.	31.2	124
18	Nanohole-Structured and Palladium-Embedded 3D Porous Graphene for Ultrahigh Hydrogen Storage and CO Oxidation Multifunctionalities. ACS Nano, 2015, 9, 7343-7351.	14.6	122

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19	Cutting edge development on graphene derivatives modified by liquid crystal and CdS/TiO ₂ hybrid matrix: optoelectronics and biotechnological aspects. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2021, 46, 385-449.	12.3	117
20	Honeycomb-like open-edged reduced-graphene-oxide-enclosed transition metal oxides (NiO/Co ₃ O ₄) as improved electrode materials for high-performance supercapacitor. <i>Journal of Energy Storage</i> , 2020, 30, 101539.	8.1	112
21	Synthesis, Characterization, and Tribological Evaluation of TiO ₂ -Reinforced Boron and Nitrogen co-Doped Reduced Graphene Oxide Based Hybrid Nanomaterials as Efficient Antiwear Lubricant Additives. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 11698-11710.	8.0	104
22	A review on the current research on microwave processing techniques applied to graphene-based supercapacitor electrodes: An emerging approach beyond conventional heating. <i>Journal of Energy Chemistry</i> , 2022, 74, 252-282.	12.9	104
23	Microwave-assisted synthesis of Mn ₃ O ₄ -Fe ₂ O ₃ /Fe ₃ O ₄ @rGO ternary hybrids and electrochemical performance for supercapacitor electrode. <i>Diamond and Related Materials</i> , 2020, 101, 107622.	3.9	102
24	Nitrogen-Sulfur Co-Doped Reduced Graphene Oxide-Nickel Oxide Nanoparticle Composites for Electromagnetic Interference Shielding. <i>ACS Applied Nano Materials</i> , 2019, 2, 4626-4636.	5.0	94
25	Facile in-situ simultaneous electrochemical reduction and deposition of reduced graphene oxide embedded palladium nanoparticles as high performance electrode materials for supercapacitor with excellent rate capability. <i>Electrochimica Acta</i> , 2019, 314, 124-134.	5.2	93
26	A review of the microwave-assisted synthesis of carbon nanomaterials, metal oxides/hydroxides and their composites for energy storage applications. <i>Nanoscale</i> , 2021, 13, 11679-11711.	5.6	93
27	Microwave-assisted synthesis of palladium nanoparticles intercalated nitrogen doped reduced graphene oxide and their electrocatalytic activity for direct-ethanol fuel cells. <i>Journal of Colloid and Interface Science</i> , 2018, 515, 160-171.	9.4	91
28	Microwave-assisted synthesis of void-induced graphene-wrapped nickel oxide hybrids for supercapacitor applications. <i>RSC Advances</i> , 2016, 6, 26612-26620.	3.6	90
29	Microwave as a Tool for Synthesis of Carbon-Based Electrodes for Energy Storage. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 20306-20325.	8.0	90
30	Self-assembled nanostructures of 3D hierarchical faceted-iron oxide containing vertical carbon nanotubes on reduced graphene oxide hybrids for enhanced electromagnetic interface shielding. <i>Composites Part B: Engineering</i> , 2019, 168, 66-76.	12.0	88
31	Rapid and controllable synthesis of Fe ₃ O ₄ octahedral nanocrystals embedded-reduced graphene oxide using microwave irradiation for high performance lithium-ion batteries. <i>Electrochimica Acta</i> , 2018, 281, 78-87.	5.2	87
32	Facile and fast microwave-assisted formation of reduced graphene oxide-wrapped manganese cobaltite ternary hybrids as improved supercapacitor electrode material. <i>Applied Surface Science</i> , 2019, 481, 296-306.	6.1	86
33	Freestanding 3D Graphene-Nickel Encapsulated Nitrogen-Rich Aligned Bamboo Like Carbon Nanotubes for High-Performance Supercapacitors with Robust Cycle Stability. <i>Advanced Materials Interfaces</i> , 2015, 2, 1500191.	3.7	82
34	Fabrication and electrochemical evaluation of micro-supercapacitors prepared by direct laser writing on free-standing graphite oxide paper. <i>Energy</i> , 2019, 179, 676-684.	8.8	82
35	Fabrication of interdigitated micro-supercapacitor devices by direct laser writing onto ultra-thin, flexible and free-standing graphite oxide films. <i>RSC Advances</i> , 2016, 6, 84769-84776.	3.6	77
36	Direct laser writing of micro-supercapacitors on thick graphite oxide films and their electrochemical properties in different liquid inorganic electrolytes. <i>Journal of Colloid and Interface Science</i> , 2017, 507, 271-278.	9.4	72

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37	Hydrogen gas sensing properties of microwave-assisted 2D Hybrid Pd/rGO: Effect of temperature, humidity and UV illumination. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 7653-7665.	7.1	71
38	Synthesis of nano-carbon (nanotubes, nanofibres, graphene) materials. <i>Bulletin of Materials Science</i> , 2011, 34, 607-614.	1.7	70
39	Heteroatom doping of 2D graphene materials for electromagnetic interference shielding: a review of recent progress. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2022, 47, 570-619.	12.3	68
40	Facile and single step synthesis of three dimensional reduced graphene oxide-NiCoO ₂ composite using microwave for enhanced electron field emission properties. <i>Applied Surface Science</i> , 2017, 416, 259-265.	6.1	67
41	Nanocomposite matrix conjugated with carbon nanomaterials for photocatalytic wastewater treatment. <i>Journal of Hazardous Materials</i> , 2021, 410, 124657.	12.4	66
42	Scalable synthesis of aligned carbon nanotubes bundles using green natural precursor: neem oil. <i>Nanoscale Research Letters</i> , 2011, 6, 92.	5.7	65
43	An ionic liquid-assisted method for splitting carbon nanotubes to produce graphene nano-ribbons by microwave radiation. <i>Carbon</i> , 2013, 53, 391-398.	10.3	65
44	Controlled density of defects assisted perforated structure in reduced graphene oxide nanosheets-palladium hybrids for enhanced ethanol electro-oxidation. <i>Carbon</i> , 2017, 117, 137-146.	10.3	65
45	Microwave-assisted synthesis and deposition of a thin ZnO layer on microwave-exfoliated graphene: optical and electrochemical evaluations. <i>RSC Advances</i> , 2015, 5, 67988-67995.	3.6	61
46	Hydrothermal synthesis of a uniformly dispersed hybrid graphene-TiO ₂ nanostructure for optical and enhanced electrochemical applications. <i>RSC Advances</i> , 2015, 5, 7112-7120.	3.6	60
47	Electrochemical deposition of uniform and porous Co-Ni layered double hydroxide nanosheets on nickel foam for supercapacitor electrode with improved electrochemical efficiency. <i>Journal of Energy Storage</i> , 2022, 50, 104638.	8.1	59
48	Catalyst-free synthesis of a three-dimensional nanoworm-like gallium oxide-graphene nanosheet hybrid structure with enhanced optical properties. <i>RSC Advances</i> , 2016, 6, 17669-17677.	3.6	58
49	Simultaneous reduction and covalent grafting of polythiophene on graphene oxide sheets for excellent capacitance retention. <i>RSC Advances</i> , 2016, 6, 52945-52949.	3.6	57
50	Synthesis of self-assembled and hierarchical palladium-CNTs-reduced graphene oxide composites for enhanced field emission properties. <i>Materials and Design</i> , 2017, 122, 110-117.	7.0	57
51	Synthesis, characterization and optical properties of graphene sheets-ZnO multipod nanocomposites. <i>Journal of Alloys and Compounds</i> , 2012, 526, 129-134.	5.5	55
52	Pressure-dependent synthesis of high-quality few-layer graphene by plasma-enhanced arc discharge and their thermal stability. <i>Journal of Nanoparticle Research</i> , 2013, 15, 1.	1.9	55
53	Microwave heating time dependent synthesis of various dimensional graphene oxide supported hierarchical ZnO nanostructures and its photoluminescence studies. <i>Materials and Design</i> , 2016, 111, 291-300.	7.0	52
54	Large scale synthesis of bundles of aligned carbon nanotubes using a natural precursor: turpentine oil. <i>Journal of Experimental Nanoscience</i> , 2010, 5, 498-508.	2.4	51

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55	Synthesis of mesoporous Co(OH) ₂ nanostructure film via electrochemical deposition using lyotropic liquid crystal template as improved electrode materials for supercapacitors application. Journal of Electroanalytical Chemistry, 2020, 857, 113728.	3.8	51
56	Superior performance of Ni(OH) ₂ -ErGO@ NF electrode materials as pseudocapacitance using electrochemical deposition via two simple successive steps. Journal of Energy Storage, 2020, 30, 101485.	8.1	49
57	One-pot synthesis of reduced graphene oxide nanosheets anchored ZnO nanoparticles via microwave approach for electrochemical performance as supercapacitor electrode. Journal of Materials Science: Materials in Electronics, 2020, 31, 15456-15465.	2.2	47
58	Surface modification of aligned TiO ₂ nanotubes by Cu ₂ O nanoparticles and their enhanced photo electrochemical properties and hydrogen generation application. International Journal of Hydrogen Energy, 2018, 43, 6867-6878.	7.1	46
59	<i>In situ</i> growth of laser-induced graphene micro-patterns on arbitrary substrates. Nanoscale, 2022, 14, 8914-8918.	5.6	44
60	Tribological studies of some SAPS-free Schiff bases derived from 4-aminoantipyrine and aromatic aldehydes and their synergistic interaction with borate ester. Journal of Materials Chemistry A, 2014, 2, 10424-10434.	10.3	42
61	Tribological studies of stearic acid-modified CaCu _{2.9} Zn _{0.1} Ti ₄ O ₁₂ nanoparticles as effective zero SAPS antiwear lubricant additives in paraffin oil. Journal of Materials Chemistry A, 2014, 2, 375-386.	10.3	42
62	Growth analysis and high-yield synthesis of aligned-stacked branched nitrogen-doped carbon nanotubes using sesame oil as a natural botanical hydrocarbon precursor. Materials and Design, 2016, 94, 166-175.	7.0	42
63	Simple and Fast Approach for Synthesis of Reduced Graphene Oxide-MoS ₂ Hybrids for Room Temperature Gas Detection. IEEE Transactions on Electron Devices, 2018, 65, 3943-3949.	3.0	40
64	Synthesis of reduced graphene oxide nanosheet-supported agglomerated cobalt oxide nanoparticles and their enhanced electron field emission properties. New Journal of Chemistry, 2017, 41, 8431-8436.	2.8	36
65	Enhanced magnetic performance of iron oxide nanoparticles anchored pristine/ N-doped multi-walled carbon nanotubes by microwave-assisted approach. Journal of Alloys and Compounds, 2017, 695, 1793-1801.	5.5	36
66	Two-dimensional layered molybdenum disulfide (MoS ₂)-reduced graphene oxide (rGO) heterostructures modified with Fe ₃ O ₄ for electrochemical sensing of epinephrine. Materials Chemistry and Physics, 2022, 287, 126274.	4.0	35
67	Mechanical pressure induced chemical cutting of boron nitride sheets into boron nitride quantum dots and optical properties. Journal of Alloys and Compounds, 2016, 683, 38-45.	5.5	33
68	Antioxidant, antimicrobial, and photocatalytic activity of green synthesized ZnO-NPs from Myrica esculenta fruits extract. Inorganic Chemistry Communication, 2022, 141, 109518.	3.9	32
69	Facile synthesis of highly fluorescent free-standing films comprising graphitic carbon nitride (g-C ₃ N ₄) nanolayers. New Journal of Chemistry, 2020, 44, 2644-2651.	2.8	29
70	Evaluation of antiwear activity of substituted benzoylhydrazones and their copper(II) complexes in paraffin oil as efficient low SAPS additives and their interactions with the metal surface using density functional theory. Journal of Materials Chemistry A, 2015, 3, 5092-5109.	10.3	28
71	Microwave-assisted facile synthesis of layered reduced graphene oxide-tungsten disulfide sandwiched Fe ₃ O ₄ nanocomposite as effective and sensitive sensor for detection of dopamine. Materials Chemistry and Physics, 2022, 287, 126283.	4.0	28
72	Clean and Efficient Synthesis of Graphene Nanosheets and Rectangular Aligned-Carbon Nanotubes Bundles Using Green Botanical Hydrocarbon Precursor: Sesame Oil. Science of Advanced Materials, 2014, 6, 76-83.	0.7	26

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73	Synthesis, structural analysis, upconversion luminescence and magnetic properties of Ho ³⁺ /Yb ³⁺ co-doped GdVO ₄ nanophosphor. <i>Materials Chemistry and Physics</i> , 2020, 253, 123333.	4.0	22
74	Synthesis of carbon and carbon-nitrogen nanotubes using green precursor: jatropha-derived biodiesel. <i>Journal of Experimental Nanoscience</i> , 2013, 8, 606-620.	2.4	21
75	Synthesis of coal-derived single-walled carbon nanotube from coal by varying the ratio of Zr/Ni as bimetallic catalyst. <i>Journal of Nanoparticle Research</i> , 2013, 15, 1.	1.9	18
76	Fe ₃ O ₄ -embedded rGO composites as anode for rechargeable FeOx-air batteries. <i>Materials Today Communications</i> , 2020, 25, 101540.	1.9	18
77	EFFECT OF NITROGEN VARIATION ON THE SYNTHESIS OF VERTICALLY ALIGNED BAMBOO-SHAPED NANOTUBES USING SUNFLOWER OIL. <i>International Journal of Nanoscience</i> , 2011, 10, 809-813.	0.7	17
78	Highly zone-dependent synthesis of different carbon nanostructures using plasma-enhanced arc discharge technique. <i>Journal of Nanoparticle Research</i> , 2015, 17, 1.	1.9	17
79	Functionalization Effects on the Electrical Properties of Multi-Walled Carbon Nanotube-Polyacrylamide Composites. <i>Journal of Nanoscience and Nanotechnology</i> , 2009, 9, 5455-5460.	0.9	16
80	Synthesis of self-aligned and vertically oriented carbon incorporated titania nanotube for improved photoelectrochemical hydrogen generation. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 4782-4792.	7.1	16
81	Investigation on influence of thickness variation effect of TiO ₂ film, spacer and counter electrode for improved dye-sensitized solar cells performance. <i>Optik</i> , 2021, 227, 166108.	2.9	12
82	Non-Functionalized Fluorescent Carbon Nanoparticles: <i>In Vitro</i> Imaging and Organic Solvent Sensing Applications. <i>Science of Advanced Materials</i> , 2015, 7, 706-713.	0.7	7
83	Functionalized Nanosize Graphene and Its Derivatives for Removal of Contaminations and Water Treatment. , 2019, , 133-185.		5
84	Tunable optical and electrical properties of p-type Cu ₂ O thin films. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 11158-11172.	2.2	5
85	Microwave-Assisted Modification of Graphene and Its Derivatives: Synthesis, Reduction and Exfoliation. <i>Carbon Nanostructures</i> , 2019, , 279-311.	0.1	5
86	Two-dimensional layered reduced graphene oxide-tungsten disulphide nanocomposite for highly sensitive and selective determination of para nitrophenol. <i>Environmental Nanotechnology, Monitoring and Management</i> , 2022, 18, 100724.	2.9	5
87	PREPARATION OF CARBON-NITROGEN NANOTUBES (CNNTs)-POLY ETHYLENE OXIDE (PEO) COMPOSITES FILMS AND THEIR ELECTRICAL CONDUCTIVITY MEASUREMENT. <i>International Journal of Nanoscience</i> , 2011, 10, 1091-1094.	0.7	4
88	Graphene/Graphene Oxide and Carbon Nanotube Based Sensors for the Determination and Removal of Bisphenols. , 2019, , 329-372.		1
89	One step synthesis Pd/NiO@rGO/CNTs nanocomposite for energy storage as supercapacitor application. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012109.	0.4	1
90	Bio-Inspired Engineering of 3D Carbon Nanostructures. <i>Springer Series in Biomaterials Science and Engineering</i> , 2016, , 365-420.	1.0	1

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91	Reply to "Comment on "Nanohole-Structured and Palladium-Embedded 3D Porous Graphene for Ultrahigh Hydrogen Storage and CO Oxidation Multifunctionalities" ACS Nano, 2016, 10, 9057-9060.	14.6	0