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**Multifunctional, ultra-flyweight, synergistically assembled carbon aerogels**

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| 1600 | Mechanically flexible and multifunctional polymer-based graphene foams for elastic conductors and oil-water separators. <i>Advanced Materials</i> , <b>2013</b> , 25, 5658-62  | 24 | 307       |
| 1599 | Design of three-dimensional porous carbon materials: from static to dynamic skeletons. <b>2013</b> , 52, 7930-2  |    | 29        |
| 1598 | An overview of carbon materials for flexible electrochemical capacitors. <b>2013</b> , 5, 8799-820   |    | 235       |
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| 1596 | Highly deformation-tolerant carbon nanotube sponges as supercapacitor electrodes. <b>2013</b> , 5, 8472-9  |    | 86        |
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| 1262 | Highly Stable and Conductive Microcapsules for Enhancement of Joule Heating Performance. <b>2016</b> , 10, 4695-703   | 67  |
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| 1250 | Constructing Three-Dimensional Hierarchical Architectures by Integrating Carbon Nanofibers into Graphite Felts for Water Purification. <b>2016</b> , 4, 2351-2358                      | 43  |
| 1249 | Functionalization of chemically derived graphene for improving its electrocapacitive energy storage properties. <b>2016</b> , 9, 1891-1930   | 181 |
| 1248 | TiO <sub>2</sub> /Graphene Composites with Excellent Performance in Photocatalysis. <b>2016</b> , 23-67  | 4   |
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| 1243 | Ultralow Electrical Percolation in Graphene Aerogel/Epoxy Composites. <b>2016</b> , 28, 6731-6741  | 112 |

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| 1241 | Naturally Dried Graphene Aerogels with Superelasticity and Tunable Poisson's Ratio. <i>Advanced Materials</i> , <b>2016</b> , 28, 9223-9230  | 24 | 187 |
| 1240 | Superhydrophobic graphene-decorated mesh gauze: recycling oils and organic solvents enhanced by large-diameter capillary action. <b>2016</b> , 59, 581-588                         |    | 7   |
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| 1237 | Advanced Sorbents for Oil-Spill Cleanup: Recent Advances and Future Perspectives. <i>Advanced Materials</i> , <b>2016</b> , 28, 10459-10490  | 24 | 391 |
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| 1223 | 3D Porous Graphene by Low-Temperature Plasma Welding for Bone Implants. <i>Advanced Materials</i> , <b>2016</b> , 28, 8959-8967   | 24 43 |
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| 1101 | Synthesis and electromagnetic interference shielding of cellulose-derived carbon aerogels functionalized with $\text{FeO}$ and polypyrrole. <b>2017</b> , 161, 158-165   |    | 36  |
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| 1099 | Multifunctional Cellulosic Scaffolds From Modified Cellulose Nanocrystals. <b>2017</b> , 9, 2010-2015  |    | 54  |

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| 1098 | Functionalization of Biodegradable PLA Nonwoven Fabric as Superoleophilic and Superhydrophobic Material for Efficient Oil Absorption and Oil/Water Separation. <b>2017</b> , 9, 5968-5973 | 180    |
| 1097 | Facile fabrication of mechanical monolithic polyamide aerogels via a modified sol-gel method. <b>2017</b> , 82, 417-423   | 6      |
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| 1095 | Modern Inorganic Aerogels. <b>2017</b> , 56, 13200-13221  | 200    |
| 1094 | Advances in Production and Applications of Carbon Nanotubes. <b>2017</b> , 375, 18  | 46     |
| 1093 | Direct growth of special-shape graphene on different templates by remote catalyzation of Cu nanoparticles. <b>2017</b> , 33, 800-806  | 12     |
| 1092 | Cellulose Nanofibril Aerogels: Synergistic Improvement of Hydrophobicity, Strength, and Thermal Stability via Cross-Linking with Diisocyanate. <b>2017</b> , 9, 2825-2834                 | 105    |
| 1091 | Facile Fabrication of Ultralow-Density Transparent Boehmite Nanofiber Cryogel Beads and Their Application to a Nanoglue. <b>2017</b> , 3, 168-171   | 4      |
| 1090 | High-Performance Three-Dimensional Mesoporous Graphene Electrode for Supercapacitors using Lyophilization and Plasma Reduction. <b>2017</b> , 9, 5222-5230                                | 29     |
| 1089 | Ice-Templating: Processing Routes, Architectures, and Microstructures. <b>2017</b> , 171-252  |        |
| 1088 | Ice-Templated Materials: Polymers, Ceramics, Metals and Their Composites. <b>2017</b> , 253-350   | 2      |
| 1087 | Properties and Applications of Ice-Templated Materials. <b>2017</b> , 439-548   | 1      |
| 1086 | Hierarchical Structures Based on Two-Dimensional Nanomaterials for Rechargeable Lithium Batteries. <b>2017</b> , 7, 1601906   | 172    |
| 1085 | Graphene and Other 2D Colloids: Liquid Crystals and Macroscopic Fibers. <i>Advanced Materials</i> , <b>2017</b> , 29, 1606794   | 24 101 |
| 1084 | Unconventional High-Performance Laser Protection System Based on Dichroic Dye-Doped Cholesteric Liquid Crystals. <b>2017</b> , 7, 42955   | 11     |
| 1083 | Three-Dimensional Rebar Graphene. <b>2017</b> , 9, 7376-7384  | 39     |
| 1082 | Extraordinary rate capability achieved by a 3D "skeleton/skin" carbon aerogel-polyaniline hybrid with vertically aligned pores. <b>2017</b> , 53, 2810-2813                               | 105    |
| 1081 | Facile fabrication of multifunctional monolithic polyamide aerogels. <b>2017</b> , 24, 1165-1173  | 4      |

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| 1080 | Synthesizing new types of ultrathin 2D metal oxide nanosheets via half-successive ion layer adsorption and reaction. <b>2017</b> , 4, 025031  | 14  |
| 1079 | Morphology and physical properties of graphene nanoplatelet embedded poly(vinyl alcohol) composite aerogel. <b>2017</b> , 17, 727-731   | 4   |
| 1078 | Bacterial cellulose-based sheet-like carbon aerogels for the in situ growth of nickel sulfide as high performance electrode materials for asymmetric supercapacitors. <b>2017</b> , 9, 4445-4455    | 62  |
| 1077 | High Toughness in Ultralow Density Graphene Oxide Foam. <b>2017</b> , 4, 1700030  | 15  |
| 1076 | Parameter Study of Three-Dimensional Printing Graphene Oxide Based on Directional Freezing. <b>2017</b> , 139,  | 12  |
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| 1074 | Three-Dimensional Porous Graphene Networks and Hybrids for Lithium-Ion Batteries and Supercapacitors. <b>2017</b> , 2, 171-200  | 98  |
| 1073 | Fabrication of highly reinforced and compressible graphene/carbon nanotube hybrid foams via a facile self-assembly process for application as strain sensors and beyond. <b>2017</b> , 5, 2723-2730 | 36  |
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| 1069 | Synthesis of lignin-based polyurethane/graphene oxide foam and its application as an absorbent for oil spill clean-ups and recovery. <b>2017</b> , 323, 191-202                                     | 121 |
| 1068 | Electromagnetic interference shielding properties and mechanisms of chemically reduced graphene aerogels. <b>2017</b> , 412, 529-536  | 50  |
| 1067 | Multifunctional shape-memory foams with highly tunable properties via organo-phase cryo-polymerization. <b>2017</b> , 5, 9793-9800  | 12  |
| 1066 | High-Quality Graphene Microflower Design for High-Performance Li <sup>B</sup> and Al-Ion Batteries. <b>2017</b> , 7, 1700051  | 117 |
| 1065 | Ultralight Multifunctional Carbon-Based Aerogels by Combining Graphene Oxide and Bacterial Cellulose. <b>2017</b> , 13, 1700453   | 60  |
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| 1063 | High performance graphene-based foam fabricated by a facile approach for oil absorption. <b>2017</b> , 5, 11263-11270   | 60  |

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| 1062 | Three-dimensional hierarchical porous graphene aerogel for efficient adsorption and preconcentration of chemical warfare agents. <b>2017</b> , 122, 556-563   | 44  |
| 1061 | Pressure-Sensitive and Conductive Carbon Aerogels from Poplars Catkins for Selective Oil Absorption and Oil/Water Separation. <b>2017</b> , 9, 18001-18007  | 127 |
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| 1058 | Hydrophobic surface modification of FMSS and its application as effective sorbents for oil spill clean-ups and recovery. <b>2017</b> , 63, 4090-4102  | 12  |
| 1057 | Nanohole-structured, iron oxide-decorated and gelatin-functionalized graphene for high rate and high capacity Li-Ion anode. <b>2017</b> , 119, 355-364  | 23  |
| 1056 | Sulfur Vapor-Infiltrated 3D Carbon Nanotube Foam for Binder-Free High Areal Capacity Lithium-Sulfur Battery Composite Cathodes. <b>2017</b> , 11, 4877-4884   | 193 |
| 1055 | A hydrazone-carboxyl ligand-linked cellulose nanocrystal aerogel with high elasticity and fast oil/water separation. <b>2017</b> , 24, 797-809  | 26  |
| 1054 | Bottom-up Design of Three-Dimensional Carbon-Honeycomb with Superb Specific Strength and High Thermal Conductivity. <b>2017</b> , 17, 179-185   | 65  |
| 1053 | Modification of formaldehyde-melamine-sodium bisulfite copolymer foam and its application as effective sorbents for clean up of oil spills. <b>2017</b> , 160, 384-395  | 39  |
| 1052 | Offenzellige Schwämme mit niedrigen Dichten als Funktionsmaterialien. <b>2017</b> , 129, 15726-15745  | 7   |
| 1051 | Low-Density, Mechanical Compressible, Water-Induced Self-Recoverable Graphene Aerogels for Water Treatment. <b>2017</b> , 9, 22456-22464  | 66  |
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| 1049 | In situ, facile synthesis of La <sub>0.8</sub> Sr <sub>0.2</sub> MnO <sub>3</sub> /nitrogen-doped graphene: a high-performance catalyst for rechargeable Li-O <sub>2</sub> batteries. <b>2017</b> , 23, 2241-2250 | 9   |
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| 1046 | Biomimetic Architected Graphene Aerogel with Exceptional Strength and Resilience. <b>2017</b> , 11, 6817-6824   | 214 |
| 1045 | Oxide Film Efficiently Suppresses Dendrite Growth in Aluminum-Ion Battery. <b>2017</b> , 9, 22628-22634   | 72  |



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| 1043 | Ultralight, scalable, and high-temperature-resilient ceramic nanofiber sponges. <b>2017</b> , 3, e1603170  | 123 |
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| 1041 | Free-standing PEDOT:PSS/CNT aerogels and their electrochemical performance. <b>2017</b> , 32, 622-629  | 8   |
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| 1039 | Self-Expansion Construction of Ultralight Carbon Nanotube Aerogels with a 3D and Hierarchical Cellular Structure. <b>2017</b> , 13, 1700966  | 9   |
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| 1037 | Synthesis of silica aerogel monoliths with controlled specific surface areas and pore sizes. <b>2017</b> , 4, 075020   | 6   |
| 1036 | Carbon Nanoparticle Hybrid Aerogels: 3D Double-Interconnected Network Porous Microstructure, Thermoelectric, and Solvent-Removal Functions. <b>2017</b> , 9, 21820-21828   | 45  |
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| 1031 | Plasma surface modification of materials and their entrapment of water contaminant: A review. <b>2017</b> , 14, 1600218  | 33  |
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| 1029 | Ultrahigh capacity and superior stability of three-dimensional porous graphene networks containing in situ grown carbon nanotube clusters as an anode material for lithium-ion batteries. <b>2017</b> , 5, 7595-7602 | 33  |
| 1028 | Detecting Subtle Vibrations Using Graphene-Based Cellular Elastomers. <b>2017</b> , 9, 11345-11349   | 24  |
| 1027 | Facile preparation of cross-linked polyimide aerogels with carboxylic functionalization for CO <sub>2</sub> capture. <b>2017</b> , 322, 1-9  | 39  |

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| 1026 | One-Pot Sintering Strategy for Efficient Fabrication of High-Performance and Multifunctional Graphene Foams. <b>2017</b> , 9, 13323-13330   | 30     |
| 1025 | Facile syntheses of 3-dimension graphene aerogel and nanowalls with high specific surface areas. <b>2017</b> , 677, 7-12  | 19     |
| 1024 | Efficient gaseous thermal insulation aerogels from 2-dimension nitrogen-doped graphene sheets. <b>2017</b> , 109, 1026-1030   | 11     |
| 1023 | Graphene/cellulose nanocrystals hybrid aerogel with tunable mechanical strength and hydrophilicity fabricated by ambient pressure drying technique. <b>2017</b> , 7, 16467-16473  | 30     |
| 1022 | Template-Method Synthesis of High-Surface-Area Monolithic Carbon Aerogels and Their Applications for Hydrogen and Deuterium Adsorption. <b>2017</b> , 16, 1750010   | 3      |
| 1021 | Facile synthesis of ultra-light graphene aerogels with super absorption capability for organic solvents and strain-sensitive electrical conductivity. <b>2017</b> , 320, 539-548  | 52     |
| 1020 | Preparation, microstructure, and piezoresistive behavior of conductive nanocomposite foams based on poly(1-butene) and carbon black. <b>2017</b> , 123, 1   | 4      |
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| 1015 | Porous 3D Few-Layer Graphene-like Carbon for Ultrahigh-Power Supercapacitors with Well-Defined Structure-Performance Relationship. <i>Advanced Materials</i> , <b>2017</b> , 29, 1604569                                      | 24 310 |
| 1014 | MnO <sub>2</sub> Framework for Instantaneous Mineralization of Carcinogenic Airborne Formaldehyde at Room Temperature. <b>2017</b> , 7, 1057-1067   | 143    |
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| 973 | Vertically Aligned Graphene Nanosheet Arrays: Synthesis, Properties and Applications in Electrochemical Energy Conversion and Storage. <b>2017</b> , 7, 1700678  |    | 92  |

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| 968 | Unusually low and density-insensitive thermal conductivity of three-dimensional gyroid graphene. <b>2017</b> , 9, 13477-13484   | 33  |
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| 964 | Mussel-Inspired Self-Healing of Ultralight Magnetic Frameworks. <b>2017</b> , 5, 7905-7911  | 10  |
| 963 | Oil Spill Cleanup by Textiles. <b>2017</b> , 27-45  | 1   |
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| 961 | Featherlight, Mechanically Robust Cellulose Ester Aerogels for Environmental Remediation. <b>2017</b> , 2, 4297-4305  | 36  |
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| 951 | Three-dimensional nanostructured graphene: Synthesis and energy, environmental and biomedical applications. <b>2017</b> , 234, 53-85   | 103   |
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| 946 | Ultrasensitive Pressure Sensor Based on an Ultralight Sparkling Graphene Block. <b>2017</b> , 9, 22885-22892   | 89    |
| 945 | Self-assembly of defect-rich graphene oxide nanosheets with NaTiO nanowires and their superior absorptive capacity to toxic dyes. <b>2017</b> , 28, 245601                                     | 1     |
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| 941 | Study on flame retarded flexible polyurethane foam/alumina aerogel composites with improved fire safety. <b>2017</b> , 311, 310-317  | 64    |
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| 595 | Self-supported microbial carbon aerogel bioelectrocatalytic anode promoting extracellular electron transfer for efficient hydrogen evolution. <b>2019</b> , 303, 268-274                     | 10    |

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| 593 | Extraordinary tensile strength and ductility of scalable nanoporous graphene. <b>2019</b> , 5, eaat6951  | 49  |
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| 589 | Double-negative-index ceramic aerogels for thermal superinsulation. <b>2019</b> , 363, 723-727   | 229 |
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| 581 | Kinetics adsorption of heavy oil spills in rivers on magnetite-(CTAB-montmorillonite) adsorbent. <b>2019</b> , 509, 012136   | 1   |
| 580 | Green Synthesis of Composite Graphene Aerogels with Robust Magnetism for Effective Water Remediation. <b>2019</b> , 12,  | 8   |
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| 578 | Polypyrrole nanospheres@graphene aerogel with high specific surface area, compressibility, and proper water wettability prepared in dimethylformamide-dependent environment. <b>2019</b> , 185, 121974 | 2   |
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| 560 | Dopamine constructing composite of Ni(HCO <sub>3</sub> ) <sub>2</sub> -polydopamine-reduced graphene oxide for high performance electrode in hybrid supercapacitors. <b>2019</b> , 296, 49-58                                | 19  |
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| 558 | Three-Dimensional Graphene@Carbon Nanotube Aerogel-Supported Layered MoS <sub>2</sub> /Co <sub>9</sub> S <sub>8</sub> Composite as an Efficient pH-Universal Electrocatalyst for Hydrogen Evolution. <b>2019</b> , 6, 748-756    | 14    |
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| 551 | 2D reentrant micro-honeycomb structure of graphene-CNT in polyurethane: High stretchability, superior electrical/thermal conductivity, and improved shape memory properties. <b>2019</b> , 162, 580-588                          | 38    |
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| 549 | Durable Superhydrophobic/Superoleophilic Graphene-Based Foam for High-Efficiency Oil Spill Cleanups and Recovery. <b>2019</b> , 53, 1509-1517  | 53    |
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| 547 | Graphite tube woven fabric/boron nitride/polymer composite with enhanced thermal conductivity and electric isolation. <b>2019</b> , 40, E1808-E1817  | 8     |
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| 542 | Blackberry-like hollow graphene spheres synthesized by spray drying for high-performance lithium-sulfur batteries. <b>2019</b> , 295, 822-828  | 27    |
| 541 | Extremely elastic and conductive N-doped graphene sponge for monitoring human motions. <b>2019</b> , 11, 1159-1168   | 20    |

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| 540 | Ultralight, Superelastic, and Fatigue-Resistant Graphene Aerogel Templated by Graphene Oxide Liquid Crystal Stabilized Air Bubbles. <b>2019</b> , 11, 1303-1310                          | 37    |
| 539 | Recent Advances in 3D Graphene Architectures and Their Composites for Energy Storage Applications. <b>2019</b> , 15, e1803858  | 74    |
| 538 | Underwater superoleophobic and underoil superhydrophobic surface made by liquid-exfoliated MoS <sub>2</sub> for on-demand oil-water separation. <b>2019</b> , 361, 322-328               | 29    |
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| 536 | One-step synthesis of peanut hull/graphene aerogel for highly efficient oil-water separation. <b>2019</b> , 207, 764-771   | 62    |
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| 528 | Fabrication of regular macro-mesoporous reduced graphene aerogel beads with ultra-high mechanical property for efficient bilirubin adsorption. <b>2020</b> , 106, 110282                 | 11    |
| 527 | Robust, Superelastic Hard Carbon with In Situ Ultrafine Crystals. <b>2020</b> , 30, 1907486  | 13    |
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| 506 | Ultralight and highly compressible coal oxide-modified graphene aerogels for organic solvent absorption and light-to-heat conversion. <b>2020</b> , 44, 2228-2235  | 8  |
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| 503 | Self-Assembled Boron Nitride Nanotube Reinforced Graphene Oxide Aerogels for Dielectric Nanocomposites with High Thermal Management Capability. <b>2020</b> , 12, 1436-1443                     |    | 19  |
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| 469 | Highly Elastic Hydrated Cellulosic Materials with Durable Compressibility and Tunable Conductivity. <b>2020</b> ,   | 35  |



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| 468 | An elegant coupling: Freeze-casting and versatile polymer composites. <b>2020</b> , 109, 101289   | 26  |
| 467 | Determination of trace polycyclic aromatic hydrocarbons in water and milk using solid-phase extraction packed with graphene/chitosan composite aerogel prior to gas chromatography-mass spectrometry. <b>2020</b> , 43, 3940-3948 | 13  |
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| 461 | CT, MR and EPR imaging of graphene oxide aerogels. <b>2020</b> , 109, 106402  | 1   |
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| 457 | 3D Graphene Materials: From Understanding to Design and Synthesis Control. <b>2020</b> , 120, 10336-10453   | 117 |
| 456 | Robust Bifunctional Compressed Carbon Foam for Highly Effective Oil/Water Emulsion Separation. <b>2020</b> , 12, 44952-44960  | 14  |
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| 453 | Preparation of Carbonized Kapok Fiber/Reduced Graphene Oxide Aerogel for Oil-Water Separation. <b>2020</b> , 43, 2418-2427  | 8   |
| 452 | BCN monolayer for high capacity Al-based dual-ion batteries. <b>2020</b> , 1, 2418-2425   | 3   |
| 451 | Ab Initio Calculations of Carbon Bilayers with Diamond-Like Structures. <b>2020</b> , 61, 835-843   | 2   |

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| 443 | Carboxylated wood-based sponges with underoil superhydrophilicity for deep dehydration of crude oil. <b>2020</b> , 8, 11354-11361  | 22 |
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| 441 | rGO-CNT aerogel embedding iron phosphide nanocubes for high-performance Li-polysulfide batteries. <b>2020</b> , 167, 446-454   | 9  |
| 440 | Fe ionic induced strong bioinspired Fe <sub>3</sub> O <sub>4</sub> @graphene aerogel with excellent electromagnetic shielding effectiveness. <b>2020</b> , 525, 146569     | 11 |
| 439 | Gelation, flame retardancy, and physical properties of phosphorylated microcrystalline cellulose aerogels. <b>2020</b> , 242, 116422                                       | 22 |
| 438 | Amorphous Carbon Nanocages by Thermal CVD Synthesis from the Precursor of Phenol, and their Excellent Adsorbility for Dye. <b>2020</b> , 15, 2050056                       | 1  |
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