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Efficient Synthesis of Heteroatom (N or S)-Doped Graphene Based on Ultrathin Graphene Oxide-Porous Silica Sheets for Oxygen Reduction Reactions

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942	One-pot synthesis of nitrogen and sulfur co-doped graphene supported MoS 2 as high performance anode materials for lithium-ion batteries. <b>2015</b> , 177, 298-303	41
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469	Carbon-supported photocatalysts for organic dye photodegradation. <b>2018</b> , 99-138	5
468	Amino acid-derived non-precious catalysts with excellent electrocatalytic performance and methanol tolerance in oxygen reduction reaction. <b>2018</b> , 238, 93-103	29
467	Lignosulfonate biomass derived N and S co-doped porous carbon for efficient oxygen reduction reaction. <b>2018</b> , 2, 1820-1827	26
466	High over-potential nitrogen-doped activated carbon towards hydrogen evolution inhibition in sulfuric acid solution. <b>2018</b> , 29, 14170-14179	6
465	Properties of a granulated nitrogen-doped graphene oxide aerogel. <b>2018</b> , 498, 236-243	9
464	[Mo3S13]2lCluster Decorated Sulfur-doped Reduced Graphene Oxide as Noble Metal-Free Catalyst for Hydrogen Evolution Reaction in Polymer Electrolyte Membrane Electrolyzers. <b>2018</b> , 5, 2672-2680	9
463	Efficient CO2 electroreduction over pyridinic-N active sites highly exposed on wrinkled porous carbon nanosheets. <b>2018</b> , 351, 613-621	67

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462	Preparation and Study of Multi-Heteroatom Carbon Nanotube as Excellent Electrocatalyst for Oxygen Reduction Reaction Using Polydopamine Derivative. <b>2018</b> , 2018, 1-6	2
461	A novel Sn/SnO/graphene triple core-shell heterogeneous catalyst for oxygen reduction reaction. <b>2018</b> , 96, 101-105	5
460	N-S co-doped C@SnS nanoflakes/graphene composite as advanced anode for sodium-ion batteries. <b>2018</b> , 353, 606-614	72
459	A Defect-Driven Metal-free Electrocatalyst for Oxygen Reduction in Acidic Electrolyte. <b>2018</b> , 4, 2345-2356	193
458	3D porous cellular NiCoO2/graphene network as a durable bifunctional electrocatalyst for oxygen evolution and reduction reactions. <b>2018</b> , 399, 66-75	38
457	S-enriched porous polymer derived N-doped porous carbons for electrochemical energy storage and conversion. <b>2018</b> , 12, 346-357	5
456	Low-Temperature Carbide-Mediated Growth of Bicontinuous Nitrogen-Doped Mesoporous Graphene as an Efficient Oxygen Reduction Electrocatalyst. <b>2018</b> , 30, e1803588	57
455	Recent Progress in Nitrogen-Doped Metal-Free Electrocatalysts for Oxygen Reduction Reaction. <b>2018</b> , 8, 196	46
454	Enhanced heterogeneous activation of peroxydisulfate by S, N co-doped graphene via controlling S, N functionalization for the catalytic decolorization of dyes in water. <b>2018</b> , 210, 120-128	15
453	Tailored Network Formation in Graphene Oxide Gels. <b>2018</b> , 34, 8550-8559	10
452	Aerosol Synthesis of N and N-S Doped and Crumpled Graphene Nanostructures. 2018, 8,	6
451	Target induced aggregation of Ce(III)-based coordination polymer nanoparticles for fluorimetric detection of As(III). <b>2018</b> , 190, 255-262	12
450	Synthesis of nitrogen and sulfur co-doped reduced graphene oxide as efficient metal-free cocatalyst for the photo-activity enhancement of CdS. <b>2018</b> , 236, 212-221	57
449	A facile N doping strategy to prepare mass-produced pyrrolic N-enriched carbon fibers with enhanced lithium storage properties. <b>2018</b> , 278, 106-113	20
448	Porous Co3O4 decorated nitrogen-doped graphene electrocatalysts for efficient bioelectricity generation in MFCs. <b>2018</b> , 43, 10311-10321	14
447	Styrenic block copolymer/sulfonated graphene oxide composite membranes for highly bendable ionic polymer actuators with large ion concentration gradient. <b>2018</b> , 163, 63-70	6
446	Heteroatom-doped carbon nanospheres derived from cuttlefish ink: A bifunctional electrocatalyst for oxygen reduction and evolution. <b>2018</b> , 43, 17708-17717	19
445	N-doping of graphene: toward long-term corrosion protection of Cu. <b>2018</b> , 6, 24136-24148	45

444	Excellent Compatibility of the Gravimetric and Areal Capacitances of an Electric-Double-Layer Capacitor Configured with S-Doped Activated Carbon. <b>2018</b> , 11, 3766-3773	15
443	Distorted niobium-self-doped graphene in-situ grown from 2D niobium carbide for catalyzing oxygen reduction. <b>2018</b> , 139, 1144-1151	12
442	MOF Derived Porous ZnO/C Nanocomposites for Efficient Dye Photodegradation. 2018, 1, 4695-4707	41
441	Characterization and tribological properties of rice husk carbon nanoparticles Co-doped with sulfur and nitrogen. <b>2018</b> , 462, 944-954	23
440	A nanosensor made of sulfurBitrogen co-doped carbon dots for BffBnBensing of hypochlorous acid and Zn(II) and its bioimaging properties. <b>2018</b> , 42, 15895-15904	16
439	Synthesis and assembly of three-dimensional MoS2/rGO nanovesicles for high-performance lithium storage. <b>2018</b> , 350, 1066-1072	26
438	Boosting graphene reactivity with co-doping of boron and nitrogen atoms: CO oxidation by O2 molecule. <b>2018</b> , 455, 808-814	27
437	Hybrid of FeC@N, S co-doped carbon nanotubes coated porous carbon derived from metal organic frameworks as an efficient catalyst towards oxygen reduction. <b>2019</b> , 533, 311-318	20
436	Three-dimensional mesoporous graphene-like carbons derived from a biomolecule exhibiting high-performance oxygen reduction activity. <b>2019</b> , 3, 2809-2818	6
435	Synergetic lithium storage of bimetallic sulfide Co8FeS8/N-C dodecahedral nanocages with enhanced lithium-ion battery performance. <b>2019</b> , 208, 115142	17
434	Recent progress in carbon-based materials as catalysts for electrochemical and photocatalytic water splitting. <b>2019</b> , 173-200	1
433	Investigation of performance of aluminum doped carbon nanotube (8, 0) as adequate catalyst to oxygen reduction reaction. <b>2019</b> , 92, 123-130	О
432	A review of oxygen reduction mechanisms for metal-free carbon-based electrocatalysts. 2019, 5,	257
431	A highly efficient cathode based on modified graphite felt for aniline degradation by electro-Fenton. <b>2019</b> , 235, 49-57	22
430	Examination of potential of B-CNT (6, 0), Al-CNT (6, 0) and Ga-CNT (6, 0) as novel catalysts to oxygen reduction reaction: A DFT study. <b>2019</b> , 290, 111366	О
429	Promotion of the performance of nitrogen-doped graphene by secondary heteroatoms doping in energy transformation and storage. <b>2019</b> , 25, 3499-3522	2
428	Role of boron doped silicon nanocage (B-Si48) as catalyst for oxygen reduction reaction in fuel cells. <b>2019</b> , 731, 136629	4
427	Defect-enriched tunability of electronic and charge-carrier transport characteristics of 2D borocarbonitride (BCN) monolayers from ab initio calculations. <b>2019</b> , 11, 19398-19407	11

426	Alkali-Driven Assembly of Protein-Rich Biomass Boosts the Electrocatalytic Activity of the Derived Carbon Materials for Oxygen Reduction. <b>2019</b> , 11, 4822-4829		13	
425	Fe-boosting Sn-based dual-shell nanostructures from new covalent porphyrin frameworks as efficient electrocatalysts for oxygen reduction and zinc-air batteries. <b>2019</b> , 320, 134593		13	
424	Nitrogen-doped metal-free carbon catalysts for (electro)chemical CO conversion and valorisation. <b>2019</b> , 48, 13508-13528		47	
423	Preparation of nitrogen and sulphur Co-doped reduced graphene oxide (rGO-NS) using N and S heteroatom of thiourea. <b>2019</b> , 509, 012119		15	
422	Synergistic Effect of Covalent Bonding and Physical Encapsulation of Sulfur in the Pores of a Microporous COF to Improve Cycling Performance in Li-S Batteries. <b>2019</b> , 25, 12394-12404		28	
421	Porous hollow carbon tube derived from kapok fibres as efficient metal-free oxygen reduction catalysts. <b>2019</b> , 62, 1710-1718		12	
420	Effect of oxidizing treatment on electrocatalytic activity of boron-doped amorphous carbon thin films. <b>2019</b> , 29, 487-495		2	
419	Seed-Initiated Synthesis and Tunable Doping Graphene for High-Performance Photodetectors. <b>2019</b> , 7, 1901388		6	
418	Palladium/Copper Alloy Hollow Nanocubes Supported on Sulfur-doped Graphene as Highly Efficient Catalyst for Ethylene Glycol Oxidation. <b>2019</b> , 4, 9716-9721		1	
417	Heteroatom-doped graphene aerogels and carbon-magnetite catalysts for the heterogeneous electro-Fenton degradation of acetaminophen in aqueous solution. <b>2019</b> , 378, 68-79		21	
416	Potentiostatic regeneration of oxygen reduction activity in MnOx @ graphene hybrid nanostructures. <b>2019</b> , 325, 134947		8	
415	Prussian blue/ZIF-67-derived carbon layers-encapsulated FeCo nanoparticles for hydrogen and oxygen evolution reaction. <b>2019</b> , 853, 113557		5	
414	Amorphous Ruthenium-Sulfide with Isolated Catalytic Sites for Pt-Like Electrocatalytic Hydrogen Production Over Whole pH Range. <b>2019</b> , 15, e1904043		35	
413	O-Doping Boosts the Electrochemical Oxygen Reduction Activity of a Single Fe Site in Hydrophilic Carbon with Deep Mesopores. <b>2019</b> , 11, 45825-45831		25	
412	Nature of the Synergistic Effect of N and S Co-Doped Graphene for the Enhanced Simultaneous Determination of Toxic Pollutants. <b>2019</b> , 11, 44545-44555		8	
411	Carbon Dots Exhibiting Concentration-Dependent Full-Visible-Spectrum Emission for Light-Emitting Diode Applications. <b>2019</b> , 11, 46054-46061		32	
410	Mutually Exclusive p-Type and n-Type Hybrid Electrode of MoS2 and Graphene for Artificial Soft Touch Fingers. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1905454	15.6	18	
409	Lightweight Kevlar-Reinforced Graphene Oxide Architectures with High Strength for Energy Storage. <b>2019</b> , 6, 1900786		8	

408	Construction of a sp3/sp2 Carbon Interface in 3D N-Doped Nanocarbons for the Oxygen Reduction Reaction. <b>2019</b> , 131, 15233-15241	30
407	Construction of a sp /sp Carbon Interface in 3D N-Doped Nanocarbons for the Oxygen Reduction Reaction. <b>2019</b> , 58, 15089-15097	110
406	Facile preparation of sulfur/nitrogen co-doped graphene coupled with Ni(OH)2 for battery-type electrode with superior electrochemical performance. <b>2019</b> , 810, 151932	7
405	A convenient and universal platform for sensing environmental nitro-aromatic explosives based on amphiphilic carbon dots. <b>2019</b> , 177, 108621	17
404	Synthesis and fine-tuning the pore properties of a thiophene based porous organic framework by post-oxidation treatment. <b>2019</b> , 7, 21953-21958	4
403	Preparation of sulfur-doped graphite by solid-state microwave method: The effect of reaction conditions on the sulfur-doping process. <b>2019</b> , 731, 136615	2
402	Synthesis of nano-scale zero-valent iron-reduced graphene oxide-silica nano-composites for the efficient removal of arsenic from aqueous solutions. <b>2019</b> , 26, 33507-33516	11
401	Insight into the Mechanism of Oxygen Reduction Reaction on Micro/Mesoporous Carbons: Ultramicropores versus Nitrogen-Containing Catalytic Centers in Ordered Pore Structure. <b>2019</b> , 2, 7412-7424	18
400	Facile preparation of N,S-graphene oxide nanosheets as a fluorescence BffBnBensing platform for sensitive detection of biothiols. <b>2019</b> , 43, 2790-2796	5
399	Enhanced cycle performance of hierarchical porous sphere MnCo2O4 for asymmetric supercapacitors. <b>2019</b> , 301, 294-303	46
398	Large-scale CoS@C hybrids with tunable carbon thickness for high-rate and long-term performances of an aqueous battery. <b>2019</b> , 11, 3741-3747	4
397	Coupled cluster investigation of the interaction of beryllium, magnesium, and calcium with pyridine: Implications for the adsorption on nitrogen-doped graphene. <b>2019</b> , 1150, 57-62	7
396	Single Transition Metal Atom-Doped Graphene Supported on a Nickel Substrate: Enhanced Oxygen Reduction Reactions Modulated by Electron Coupling. <b>2019</b> , 123, 3703-3710	21
395	Activation of persulfate with dual-doped reduced graphene oxide for degradation of alkylphenols. <b>2019</b> , 376, 120891	18
394	In Situ Preparation of Ru@N-Doped Carbon Catalyst for the Hydrogenolysis of Lignin To Produce Aromatic Monomers. <b>2019</b> , 9, 5828-5836	54
393	Biomass-derived hierarchical honeycomb-like porous carbon tube catalyst for the metal-free oxygen reduction reaction. <b>2019</b> , 847, 113230	20
392	Carbon nitride as a new way to facilitate the next generation of carbon-based supercapacitors. <b>2019</b> , 3, 2176-2204	34
391	Doping Graphene Oxide Aerogel with Nitrogen during Reduction with Hydrazine and Low Temperature Annealing in Air. <b>2019</b> , 93, 296-300	4

390	Solid-State Fluorescent Carbon Dots with Aggregation-Induced Yellow Emission for White Light-Emitting Diodes with High Luminous Efficiencies. <b>2019</b> , 11, 24395-24403	87
389	Hydrothermal synthesis of nitrogen, sulfur co-doped graphene and its high performance in supercapacitor and oxygen reduction reaction. <b>2019</b> , 290, 109556	28
388	Nitrogen-doped graphene as peroxymonosulfate activator and electron transfer mediator for the enhanced degradation of sulfamethoxazole. <b>2019</b> , 375, 122041	81
387	Preparation of sulfur-doped graphene fibers and their application in flexible fibriform micro-supercapacitors. <b>2019</b> , 13, 145-153	7
386	Role of oxygen, nitrogen and sulfur functionalities on the surface of nanoporous carbons in CO2 adsorption: A critical review. <b>2019</b> , 287, 29-55	77
385	Identification of Active Sites for Oxygen Reduction Reaction on Nitrogen- and Sulfur-Codoped Carbon Catalysts. <b>2019</b> , 123, 16065-16074	15
384	N,P-coordinated fullerene-like carbon nanostructures with dual active centers toward highly-efficient multi-functional electrocatalysis for CO2RR, ORR and Zn-air battery. <b>2019</b> , 7, 15271-15277	60
383	A freestanding polypyrrole hybrid electrode supported by conducting silk fabric coated with PEDOT:PSS and MWCNTs for high-performance supercapacitor. <b>2019</b> , 317, 42-51	26
382	Toward efficient photocatalytic pure water splitting for simultaneous H2 and H2O2 production. <b>2019</b> , 62, 823-831	78
381	Supermolecule Self-Assembly Promoted Porous N, P Co-Doped Reduced Graphene Oxide for High Energy Density Supercapacitors. <b>2019</b> , 2, 4084-4091	21
380	Constructing a desirable electrocatalyst for ORR employing site isolation strategy. <b>2019</b> , 44, 16557-16565	3
379	Chlorine-Doped Graphene Quantum Dots with Enhanced Anti- and Pro-Oxidant Properties. <b>2019</b> , 11, 21822-21829	44
378	Chemical etching of silicon assisted by graphene oxide. <b>2019</b> , 58, 050924	7
377	Selective Activation of S or N-Containing Carbon Segments by Alkalic or Acidic Activators. <b>2019</b> , 58, 9048-905	55 1
376	Preparation of electrospun PCL-based scaffolds by mono/multi-functionalized GO. <b>2019</b> , 14, 045012	9
375	The Inhibition Mechanism of Lithium Dendrite on Nitrogen-Doped Defective Graphite: The First Principles Studies. <b>2019</b> , 166, A1603-A1610	1
374	Nitrogen-doped porous carbon from coal for high efficiency CO2 electrocatalytic reduction. <b>2019</b> , 151, 46-52	50
373	Impact of phosphorous and sulphur substitution on Dirac cone modification and optical behaviors of monolayer graphene for nano-electronic devices. <b>2019</b> , 489, 358-371	3

372	Biomass pectin-derived N, S-enriched carbon with hierarchical porous structure as a metal-free catalyst for enhancing bio-electricity generation. <b>2019</b> , 44, 16624-16638	15
371	La0.7Ca0.3MnO3 nanoparticles anchored on N-doped graphene: Highly efficient bifunctional catalyst as counter electrode for dye-sensitized solar cells. <b>2019</b> , 844, 34-42	14
370	Direct transformation of lignin into fluorescence-switchable graphene quantum dots and their application in ultrasensitive profiling of a physiological oxidant. <b>2019</b> , 21, 3343-3352	47
369	Holey two dimensional manganese cobalt oxide nanosheets as a high-performance electrode for supercapattery. <b>2019</b> , 373, 547-555	36
368	Oxygen vacancy enhanced photoelectrochemical performance of BiMoO/B, N co-doped graphene for fabricating lincomycin aptasensor. <b>2019</b> , 135, 145-152	29
367	Theoretical studies on the structures and properties of doped graphenes with and without an external electrical field <b>2019</b> , 9, 11939-11950	3
366	Maximizing the utility of single atom electrocatalysts on a 3D graphene nanomesh. <b>2019</b> , 7, 15575-15579	24
365	A universal route to N-coordinated metals anchored on porous carbon nanosheets for highly efficient oxygen electrochemistry. <b>2019</b> , 7, 13591-13601	35
364	(Photo)electrocatalysis of molecular oxygen reduction by S-doped graphene decorated with a star-shaped oligothiophene. <b>2019</b> , 11, 7335-7346	12
363	Functionalized Carbon Dots on Graphene as Outstanding Non-Metal Bifunctional Oxygen Electrocatalyst. <b>2019</b> , 15, e1900296	37
362	Hierarchically porous metal-free carbon with record high mass activity for oxygen reduction and Zn-air batteries. <b>2019</b> , 7, 9831-9836	42
361	Graphene-Encapsulated Co S Nanoparticles on N,S-Codoped Carbon Nanotubes: An Efficient Bifunctional Oxygen Electrocatalyst. <b>2019</b> , 12, 3390-3400	34
360	Photocatalytic reforming of sugar and glucose into H2 over functionalized graphene dots. <b>2019</b> , 7, 8384-8393	18
359	The mechanism and activity of oxygen reduction reaction on single atom doped graphene: a DFT method <b>2019</b> , 9, 7086-7093	18
358	Effect of different pretreatment methods on sesame husk-based activated carbon for supercapacitors with aqueous and organic electrolytes. <b>2019</b> , 30, 7873-7882	12
357	Recent Progress in Defective Carbon-Based Oxygen Electrode Materials for Rechargeable Zink-Air Batteries. <b>2019</b> , 2, 509-523	26
356	Mn3O4 nanoparticles@reduced graphene oxide composite: An efficient electrocatalyst for artificial N2 fixation to NH3 at ambient conditions. <b>2019</b> , 12, 1093-1098	66
355	Fast Microwave Synthesis of Hierarchical Porous Carbons from Waste Palm Boosted by Activated Carbons for Supercapacitors. <b>2019</b> , 9,	16

354	Interface Coupling of Nito Layered Double Hydroxide Nanowires and Cobalt-Based Zeolite Organic Frameworks for Efficient Overall Water Splitting. <b>2019</b> , 7, 8255-8264	25
353	Chemical vapor deposition-grown carbon nanotubes/graphene hybrids for electrochemical energy storage and conversion. <b>2019</b> , 15, 100091	22
352	Promoting electrocatalytic CO2 reduction on nitrogen-doped carbon with sulfur addition. <b>2019</b> , 252, 240-249	81
351	High efficient adsorption and storage of iodine on S, N co-doped graphene aerogel. <b>2019</b> , 373, 705-715	30
350	Magnetic nitrogen-doped reduced graphene oxide as a novel magnetic solid-phase extraction adsorbent for the separation of bisphenol endocrine disruptors in carbonated beverages. <b>2019</b> , 201, 194-203	37
349	Synthesis of nitrogen-doped graphene wrapped SnO hollow spheres as high-performance microwave absorbers <b>2019</b> , 9, 10745-10753	9
348	Progress in Nonmetal-Doped Graphene Electrocatalysts for the Oxygen Reduction Reaction. <b>2019</b> , 12, 2133-2146	45
347	A multi-functional-group modified cellulose for enhanced heavy metal cadmium adsorption: Performance and quantum chemical mechanism. <b>2019</b> , 224, 509-518	66
346	MnO2 nanowires/CNTs composites as efficient non-precious metal catalyst for oxygen reduction reaction. <b>2019</b> , 837, 55-59	13
345	Facile synthesis of mesoporous and highly nitrogen/sulfur dual-doped graphene and its ultrahigh discharge capacity in non-aqueous lithium oxygen batteries. <b>2019</b> , 29, 297-305	4
344	Surfactant assisted electrospinning of WS2 nanofibers and its promising performance as anode material of sodium-ion batteries. <b>2019</b> , 302, 259-269	21
343	Improved inverted-organic-solar-cell performance via sulfur doping of ZnO films as electron buffer layer. <b>2019</b> , 96, 66-72	8
342	Hierarchically structured carbon materials derived from lotus leaves as efficient electrocatalyst for microbial energy harvesting. <b>2019</b> , 666, 865-874	17
341	A facile synthesis of label-free carbon dots with unique selectivity-tunable characteristics for ferric ion detection and cellular imaging applications. <b>2019</b> , 43, 4734-4744	28
340	Sulfur dots-graphene nanohybrid: a metal-free electrocatalyst for efficient N-to-NH fixation under ambient conditions. <b>2019</b> , 55, 3152-3155	88
339	Chemical Modification of the sp-Hybridized Carbon Atoms of Graphdiyne by Using Organic Sulfur. <b>2019</b> , 25, 5643-5647	23
338	Metal-organic framework-derived core-shell-structured nitrogen-doped CoCx/FeCo@C hybrid supported by reduced graphene oxide sheets as high performance bifunctional electrocatalysts for ORR and OER. <b>2019</b> , 371, 185-195	52
337	A review of recent progress on electrocatalysts toward efficient glycerol electrooxidation. 2019,	12

336	Melamine-assisted synthesis of paper mill sludge-based carbon nanotube/nanoporous carbon nanocomposite for enhanced electrocatalytic oxygen reduction activity. <b>2019</b> , 44, 31094-31103	8
335	The magnetic graphene oxide/NHC catalyzed aerobic direct amidation and cross-dehydrogenative coupling of aldehydes. <b>2019</b> , 43, 16555-16565	11
334	An energy band compactable B-rGO/PbTiO p-n junction: a highly dynamic and durable photocatalyst for enhanced photocatalytic H evolution. <b>2019</b> , 11, 22328-22342	42
333	Ultramicropore-influenced mechanism of oxygen electroreduction on metal-free carbon catalysts. <b>2019</b> , 7, 27110-27123	18
332	Carbon-Based Nanomaterials as Sustainable Noble-Metal-Free Electrocatalysts. <b>2019</b> , 7, 759	15
331	Facile Synthesis of Water-Soluble Fullerene (C) Nanoparticles via Mussel-Inspired Chemistry as Efficient Antioxidants. <b>2019</b> , 9,	14
330	Enhancement of the supercapacitive properties of laser deposited graphene-based electrodes through carbon nanotube loading and nitrogen doping. <b>2019</b> , 21, 25175-25186	8
329	Noble metal-free two dimensional carbon-based electrocatalysts for water splitting. <b>2019</b> , 1,	15
328	Engineering doping-vacancy double defects and insights into the conversion mechanisms of an MnDE ultrafine nanowire anode for enhanced Li/Na-ion storage and hybrid capacitors. <b>2019</b> , 1, 4669-4678	6
327	Phytic acid-guided ultra-thin N,P co-doped carbon coated carbon nanotubes for efficient all-pH electrocatalytic hydrogen evolution. <b>2019</b> , 11, 23027-23034	16
326	Theoretical investigation of the ORR on boron-silicon nanotubes (B-SiNTs) as acceptable catalysts in fuel cells <b>2019</b> , 9, 31572-31582	O
325	Nanostructured carbons containing FeNi/NiFeO supported over N-doped carbon nanofibers for oxygen reduction and evolution reactions <b>2019</b> , 9, 36586-36599	7
324	An advanced cathode material for high-power Li-ion storage full cells with a long lifespan. <b>2019</b> , 7, 22444-224	152
323	N-, P-, and S-doped graphene-like carbon catalysts derived from onium salts with enhanced oxygen chemisorption for Zn-air battery cathodes. <b>2019</b> , 241, 442-451	190
322	Heteroatom-doped graphene and its application as a counter electrode in dye-sensitized solar cells. <b>2019</b> , 43, 1702-1734	15
321	A simple synthesis of nitrogen-sulfur co-doped porous carbon using ionic liquids as dopant for high rate performance Li-ion batteries. <b>2019</b> , 834, 17-25	13
320	UIO-66-NH -Derived Mesoporous Carbon Catalyst Co-Doped with Fe/N/S as Highly Efficient Cathode Catalyst for PEMFCs. <b>2019</b> , 15, e1803520	47
319	Two-dimensional materials as catalysts for solar fuels: hydrogen evolution reaction and CO2 reduction. <b>2019</b> , 7, 430-454	87

318	Sp2-carbon dominant carbonaceous materials for energy conversion and storage. 2019, 137, 1-37	18
317	Oxygen Electroreduction on Nanoporous Carbons: Textural Features vs Nitrogen and Boron Catalytic Centers. <b>2019</b> , 11, 851-860	20
316	Rational Design and Construction of Cocatalysts for Semiconductor-Based Photo-Electrochemical Oxygen Evolution: A Comprehensive Review. <b>2019</b> , 6, 1801505	73
315	In-situ encapsulating FeS/Fe3C nanoparticles into nitrogen-sulfur dual-doped graphene networks for high-rate and ultra-stable lithium storage. <b>2019</b> , 779, 193-201	17
314	Production of S-doped porous graphene via post-treatment with MgSO4 as sulphur source. <b>2019</b> , 359, 801-809	15
313	Sulfur and nitrogen enriched graphene foam scaffolds for aqueous rechargeable zinc-iodine battery. <b>2019</b> , 296, 755-761	53
312	Fe-N4 complex embedded free-standing carbon fabric catalysts for higher performance ORR both in alkaline & acidic media. <b>2019</b> , 56, 524-530	56
311	B-Doped Fe/N/C Porous Catalyst for High-Performance Oxygen Reduction in Anion-Exchange Membrane Fuel Cells. <b>2019</b> , 6, 1754-1760	9
310	Matching Relationship Between Carbon Material and Pd Precursor. <b>2019</b> , 149, 813-822	8
309	Catalytic performance and mechanism of graphene electrode doped with S and N heteroatoms for N-(4-hydroxyphenyl)ethanamide electrochemical degradation. <b>2019</b> , 368, 316-325	16
308	Ornamental morphology of ionic liquid functionalized ternary doped N, P, F and N, B, F-reduced graphene oxide and their prevention activities of bacterial biofilm-associated with orthopedic implantation. <b>2019</b> , 98, 1122-1132	24
307	Active Sites and Mechanism of Oxygen Reduction Reaction Electrocatalysis on Nitrogen-Doped Carbon Materials. <b>2019</b> , 31, e1804297	252
306	Various strategies to tune the electrocatalytic performance of molybdenum phosphide supported on reduced graphene oxide for hydrogen evolution reaction. <b>2019</b> , 536, 638-645	19
305	Doped-Graphene Modified Electrochemical Sensors. <b>2019</b> , 67-87	2
304	Three-Dimensional Nitrogen-Doped Graphene Frameworks from Electrochemical Exfoliation of Graphite as Efficient Supercapacitor Electrodes. <b>2019</b> , 5, 152-157	13
303	In situ construction of nitrogen-doped graphene with surface-grown carbon nanotubes as a multifactorial synergistic catalyst for oxygen reduction. <b>2019</b> , 142, 40-50	30
302	Bottom-up synthesis and structural design strategy for graphene quantum dots with tunable emission to the near infrared region. <b>2019</b> , 142, 673-684	39
301	Hierarchical design and development of nanostructured trifunctional catalysts for electrochemical oxygen and hydrogen reactions. <b>2019</b> , 56, 724-732	31

300	Characterization. <b>2019</b> , 109-151	4
299	Synthesis and Surface Modification. <b>2019</b> , 27, 67-108	1
298	Polarimetric Vis-NIR photodetector based on self-aligned single-walled carbon nanotubes. <b>2019</b> , 143, 844-850	8
297	MnO2-Mediated Synthesis of Mn3O4@CaMn7O12 Core@Shell Nanorods for Electrocatalytic Oxygen Reduction Reaction. <b>2019</b> , 6, 618-622	3
296	Ni3S2/Ni@S/C composite: Facile synthesis and high performance as the anode for Na-ion batteries. <b>2019</b> , 238, 81-84	19
295	Heteroatom-Doped Carbon Materials: Synthesis, Mechanism, and Application for Sodium-Ion Batteries. <b>2019</b> , 3, 1800323	102
294	Cobalt and nitrogen codoped porous carbon as superior bifunctional electrocatalyst for oxygen reduction and hydrogen evolution reaction in alkaline medium. <b>2019</b> , 30, 681-685	30
293	Design and application of heterogeneous catalysts as peroxydisulfate activator for organics removal: An overview. <b>2019</b> , 358, 110-133	138
292	Customized unique core-shell Fe2N@N-doped carbon with tunable void space for microwave response. <b>2020</b> , 156, 49-57	72
291	Recent development of covalent organic frameworks (COFs): synthesis and catalytic (organic-electro-photo) applications. <b>2020</b> , 7, 411-454	153
<b>2</b> 90	A taurine-functionalized 3D graphene-based foam for electrochemical determination of hydrogen peroxide. <b>2020</b> , 208, 120356	8
289	Al-zigzag-SiNT (9, 0), Al-armchair-SiNT (5, 5) and Al-chiral-SiNT (9, 3) as catalysts with high efficiency to oxygen reduction reaction in fuel cells. <b>2020</b> , 136, 109149	
288	Boron-, sulfur-, and phosphorus-doped graphene for environmental applications. <b>2020</b> , 698, 134239	44
287	Promoting opposite diffusion and efficient conversion of polysulfides in TraplFe C-Doped asymmetric porous membranes as integrated electrodes. <b>2020</b> , 382, 122858	4
286	In situ conversion of iron sulfide (FeS) to iron oxyhydroxide (FeOOH) on N, S co-doped porous carbon nanosheets: An efficient electrocatalyst for the oxygen reduction reaction and zinc-air batteries. <b>2020</b> , 558, 323-333	15
285	Porous carbon nanosheets from biological nucleobase precursor as efficient pH-independent oxygen reduction electrocatalyst. <b>2020</b> , 156, 179-186	26
284	Lignin derived multi-doped (N, S, Cl) carbon materials as excellent electrocatalyst for oxygen reduction reaction in proton exchange membrane fuel cells. <b>2020</b> , 44, 106-114	35
283	Fe,Ni,S,N-doped carbon materials as highly active Bi-functional catalysts for rechargeable Zinc-Air battery. <b>2020</b> , 258, 126826	4

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282	Synthesis of a high-temperature stable electrochemically exfoliated graphene. <b>2020</b> , 157, 681-692	34
281	Enhanced active sulfur in soft carbon via synergistic doping effect for ultrafitable lithium <b>[</b> bn batteries. <b>2020</b> , 24, 450-457	27
280	Preparation of Cu2S@rGO hybrid composites as anode materials for enhanced electrochemical properties of lithium ion battery. <b>2020</b> , 816, 152539	9
279	Role of radical and non-radical pathway in activating persulfate for degradation of p-nitrophenol by sulfur-doped ordered mesoporous carbon. <b>2020</b> , 384, 123304	131
278	Novel construction of nanostructured carbon materials as sulfur hosts for advanced lithium-sulfur batteries. <b>2020</b> , 44, 70-91	15
277	Metal Organic Framework (MOF)-Derived carbon-encapsulated cuprous sulfide cathode based on displacement reaction for Hybrid Mg2+/Li+ batteries. <b>2020</b> , 445, 227325	32
276	Simultaneous ultrasensitive determination of dihydroxybenzene isomers using GC electrodes modified with nitrogen-doped carbon nano-onions. <b>2020</b> , 304, 127325	15
275	Graphene-cobalt based oxygen electrocatalysts. <b>2020</b> , 358, 184-195	2
274	The duet of surface and radical-based carbocatalysis for oxidative destructions of aqueous contaminants over built-in nanotubes of graphite. <b>2020</b> , 384, 121486	13
273	La-doping and carbon-coating collaboratively enhance the cycling and rate properties of LiFeBO3 for Li-ion battery. <b>2020</b> , 741, 137090	4
272	Carbon dots self-decorated heteroatom-doped porous carbon with superior electrocatalytic activity for oxygen reduction. <b>2020</b> , 335, 135666	16
271	One-step construction of hierarchically porous carbon nanorods with extraordinary capacitive behavior. <b>2020</b> , 160, 176-187	14
270	N,S co-doped hierarchically porous carbon materials for efficient metal-free catalysis. <b>2020</b> , 22, 742-752	32
269	Structural phase transformation from SnS/reduced graphene oxide to SnS/sulfur-doped graphene and its lithium storage properties. <b>2020</b> , 12, 1697-1706	21
268	Strongly coupled iron selenides-nitrogen-bond as an electronic transport bridge for enhanced synergistic oxygen electrocatalysis in rechargeable zinc-O2 batteries. <b>2020</b> , 265, 118569	44
267	Tunable-quaternary (N, S, O, P)-doped porous carbon microspheres with ultramicropores for CO2 capture. <b>2020</b> , 507, 145130	24
266	Activation of graphitic nitrogen sites for boosting oxygen reduction. <b>2020</b> , 159, 611-616	18
265	Fe and N co-doped carbon derived from melamine resin capsuled biomass as efficient oxygen reduction catalyst for air-cathode microbial fuel cells. <b>2020</b> , 45, 3163-3175	31

264	Rapid Inversion of Surface Charges in Heteroatom-Doped Porous Carbon: A Route to Robust Electrochemical Desalination. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 1909387	15.6	23
263	Enhanced cathodic catalytic activity of an N-doped micropore structure obtained through the six-coordinate bond of an EDTA-Ce composite for the oxygen reduction reaction. <b>2020</b> , 505, 144418		2
262	Chlorine-Promoted Nitrogen and Sulfur Co-Doped Biocarbon Catalyst for Electrochemical Carbon Dioxide Reduction. <b>2020</b> , 7, 320-327		9
261	Nitrogen and sulfur co-doped biochar derived from peanut shell with enhanced adsorption capacity for diethyl phthalate. <b>2020</b> , 258, 113674		31
260	Ionomer distribution control in porous carbon-supported catalyst layers for high-power and low Pt-loaded proton exchange membrane fuel cells. <b>2020</b> , 19, 77-85		190
259	Hierarchical N-Doped HMCN/CNT Hybrid Carbon Frameworks Assembling Cobalt Selenide Nanoparticles for Advanced Properties of Lithium/Sodium Storage. <b>2020</b> , 7, 1901699		11
258	MOFs-Assisted Synthesis of Hierarchical Porous NickelCobalt Nitride Heterostructure for Oxygen Reduction Reaction and Supercapacitor. <b>2020</b> , 8, 382-392		20
257	Highly stable lithium anode enabled by self-assembled monolayer of dihexadecanoalkyl phosphate. <b>2020</b> , 13, 1324-1331		7
256	Assembling reduced graphene oxide with sulfur/nitrogen- "hooks" for electrochemical determination of Hg(II). <b>2020</b> , 1100, 31-39		23
255	NiCo2S4 spheres grown on N,S co-doped rGO with high sulfur vacancies as superior oxygen bifunctional electrocatalysts. <b>2020</b> , 331, 135356		16
254	Hexagonal CoSe2 nanosheets stabilized by nitrogen-doped reduced graphene oxide for efficient hydrogen evolution reaction. <b>2020</b> , 45, 1738-1747		10
253	Co-doped carbon materials synthesized with polymeric precursors as bifunctional electrocatalysts <b>2020</b> , 10, 35966-35978		6
252	Confined pyrolysis of a dye pollutant for two-dimensional F,N,S tri-doped nanocarbon as a high performance oxidative coupling reaction catalyst. <b>2020</b> , 22, 7839-7847		2
251	Conversion of maize straw into nitrogen-doped porous graphitized carbon with ultra-high surface area as excellent oxygen reduction electrocatalyst for flexible zinclir batteries. <b>2020</b> , 362, 137143		17
250	Graphene Aerogels: Structure Control, Thermal Characterization and Thermal Transport. <b>2020</b> , 41, 1		5
249	Scalable Production of Wearable Solid-State Li-Ion Capacitors from N-Doped Hierarchical Carbon. <b>2020</b> , 32, e2005531		26
248	Carbon dioxide reduction to multicarbon hydrocarbons and oxygenates on plant moss-derived, metal-free, in situ nitrogen-doped biochar. <b>2020</b> , 739, 140340		5
247	Synthesis of Holey Graphene Nanoparticle Compounds. <b>2020</b> , 12, 36513-36522		3

246 Enhanced electromagnetic wave absorption properties of ionic liquid doped graphene. **2020**, 31, 13273-13283 2

245	Thermal Transformation of End-of-Life Latex to Valuable Materials. <b>2020</b> , 4, 166	
244	The roles of free carbon over ZnO in enhancing the photocatalytic properties for removal of Cr(VI). <b>2020</b> , 1-10	0
243	MoS2/graphene composites: Fabrication and electrochemical energy storage. <b>2020</b> , 33, 470-502	36
242	S-Doped hierarchical graphene decorated with Co-porphyrins as an efficient electrocatalyst for zinclir batteries. <b>2020</b> , 44, 14343-14349	4
241	Starch fermentation wastewater as a precursor to prepare S,N-doped carbon dots for selective Fe(III) detection and carbon microspheres for solution decolorization. <b>2020</b> , 159, 105338	9
240	Metal-Free Multi-Heteroatom-Doped Carbon Bifunctional Electrocatalysts Derived from a Covalent Triazine Polymer. <b>2020</b> , 16, e2004342	40
239	Integrated Z-Scheme Nanosystem Based on Metal Sulfide Nanorods for Efficient Photocatalytic Pure Water Splitting. <b>2020</b> , 13, 6528-6533	5
238	Heteroatom-Doped Carbon NanoparticleIbnic Liquid Composites as Electrochemical Sensors for Uric Acid. <b>2020</b> , 3, 11383-11390	18
237	Tuning the electronic properties of hydrogen passivated C3N nanoribbons through van der Waals stacking. <b>2020</b> , 15, 1	O
236	Two-Dimensional NiIr@N-Doped Carbon Nanocomposites Supported on Ni Foam for Electrocatalytic Overall Water Splitting. <b>2020</b> , 26, 14496-14501	3
235	One-pot fabrication of dual-emission and single-emission biomass carbon dots for Cu and tetracycline sensing and multicolor cellular imaging. <b>2020</b> , 412, 7481-7489	12
234	Modified graphene supported Ag-Cu NPs with enhanced bimetallic synergistic effect in oxidation and Chan-Lam coupling reactions <b>2020</b> , 10, 30048-30061	7
233	Synergistically Controlled Mechanism of Sodium Birnessite with a Larger Interlayer Distance for Fast Ion Intercalation toward Sodium-Ion Batteries. <b>2020</b> , 124, 28431-28436	5
232	Electrocatalytic behaviour of conducting poly o-toluidine at O2 and N2 atmospheric condition. <b>2020</b> ,	
231	One-step generation of S and N co-doped reduced graphene oxide for high-efficiency adsorption towards methylene blue <b>2020</b> , 10, 37757-37765	6
230	Sulfur-Doped Carbon Nanohorn Bifunctional Electrocatalyst for Water Splitting. 2020, 10,	6
229	Hierarchical porous carbon sheets for high-performance room temperature sodium ulfur batteries: integration of nitrogen-self-doping and space confinement. <b>2020</b> , 8, 24590-24597	20

228	Nanocarbon-Based Catalytic Ozonation for Aqueous Oxidation: Engineering Defects for Active Sites and Tunable Reaction Pathways. <b>2020</b> , 10, 13383-13414	36
227	The capacitance properties of nitrogen doped reduced graphene oxide obtained by using commercial protein powder as a nitrogen dopant. <b>2020</b> , 24, 1095-1103	3
226	Biomass-mediated synthesis of carbon-supported ZnMn2O4 nanoparticles as high-performance anode materials for lithium-ion batteries. <b>2020</b> , 600, 124941	7
225	Heteroatom doped graphene engineering for energy storage and conversion. <b>2020</b> , 39, 47-65	214
224	Bimetallic manganese-vanadium functionalized N,S-doped carbon nanotubes as efficient oxygen evolution and oxygen reduction electrocatalysts. <b>2020</b> , 277, 119195	36
223	Ordered Nanoporous Nitrogen- and Oxygen-Codoped Carbon Nanospheres as Electrocatalysts for Oxygen-Reduction Reaction in Direct Methanol Fuel Cells. <b>2020</b> , 3, 5139-5148	5
222	NitrogenBxygen co-doped porous carbons prepared by mild potassium hydroxide activation of cicada slough for high-performance supercapacitors. <b>2020</b> , 29, 101433	4
221	Ni-doped hierarchical porous carbon with a p/n-junction promotes electrochemical water splitting. <b>2020</b> , 45, 17493-17503	4
220	Heteroatom doped carbon nanosheets from waste tires as electrode materials for electrocatalytic oxygen reduction reaction: Effect of synthesis techniques on properties and activity. <b>2020</b> , 167, 104-113	16
219	One-step hydrothermal synthesis of magnetic nitrogen-doped graphene for magnetic solid-phase extraction of nonsteroidal anti-inflammatory drugs in environmental water samples. <b>2020</b> , 43, 3110-3119	3
218	Electrochemical sensors based on nitrogen-doped reduced graphene oxide for the simultaneous detection of ascorbic acid, dopamine and uric acid. <b>2020</b> , 842, 155873	49
217	Single-Atom Catalysts for Electrocatalytic Applications. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 200076 <b>8</b> 5.6	173
216	High Sulfur-Doped Hard Carbon with Advanced Potassium Storage Capacity via a Molten Salt Method. <b>2020</b> , 12, 30431-30437	23
215	Using ONIOM calculations to investigate the abilities of simple and nitrogen, boron, sulfur-doped carbon nanotubes in sensing of carbon monoxide. <b>2020</b> , 120, e26214	1
214	Nitrogen and Sulfur Vacancies in Carbon Shell to Tune Charge Distribution of Co6Ni3S8 Core and Boost Sodium Storage. <b>2020</b> , 10, 1904147	47
213	Facile fabrication of N/S/P tri-doped carbon dots for tetracycline detection by an internal filtering effect of a two-way matching strategy. <b>2020</b> , 12, 2551-2554	9
212	Synergistic Effect of High-Performance N,SIIiO2/N,SRGO Nanocomposites for Photoelectrochemical Water Oxidation. <b>2020</b> , 9, 031002	4
211	Bifunctional electrocatalysts for ZnBir batteries: recent developments and future perspectives. <b>2020</b> , 8, 6144-6182	81

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210	Green sustainable, facile nitrogen self-doped porous carbon derived from chitosan/cellulose nanocrystal biocomposites as a potential anode material for lithium-ion batteries. <b>2020</b> , 109, 79-89	14
209	Defect Engineering for Fuel-Cell Electrocatalysts. <b>2020</b> , 32, e1907879	170
208	Producing elemental sulfur from SO2 by calcium loaded activated coke: Enhanced activity and selectivity. <b>2020</b> , 401, 126022	14
207	Theoretical insights into oxygen reduction reaction catalyzed by phosphorus-doped divacancy CN nanosheet. <b>2020</b> , 100, 107647	3
206	Size-tunable SnS2 nanoparticles assembled on graphene as anodes for high performance lithium/sodium-ion batteries. <b>2020</b> , 354, 136730	21
205	Concise, Single-Step Synthesis of Sulfur-Enriched Graphene: Immobilization of Molecular Clusters and Battery Applications. <b>2020</b> , 59, 7836-7841	10
204	Preparation of ultrathin molybdenum disulfide dispersed on graphene via cobalt doping: A bifunctional catalyst for hydrogen and oxygen evolution reaction. <b>2020</b> , 45, 9583-9591	13
203	Synthesis of an Ultrafine CoP Nanocrystal/Graphene Sandwiched Structure for Efficient Overall Water Splitting. <b>2020</b> , 36, 1916-1922	11
202	Efficient and stable hybrid electrocatalyst of mixed MnP-MoP nanoparticles-N,P-codoped graphene for hydrogen evolution reaction. <b>2020</b> , 593, 124609	11
201	Kraft lignin derived S and O co-doped porous graphene for metal-free benzylic alcohol oxidation. <b>2020</b> , 10, 2786-2796	5
200	Effect of a graphene oxide intermediate layer in Cu2ZnSn(S,Se)4 solar cells. 2020, 8, 4920-4930	13
199	Nitrogen and sulfur co-doped NaTi2(PO4)3/hole graphene composite as high-performance electrosorption electrodes for hybrid capacitive deionization. <b>2020</b> , 55, 6017-6029	12
198	A low-overpotential sodium/fluorinated graphene battery based on silver nanoparticles as catalyst. <b>2020</b> , 565, 70-76	4
197	Sulfathiazole derivative with phosphaphenanthrene group: Synthesis, characterization and its high flame-retardant activity on epoxy resin. <b>2020</b> , 173, 109078	26
196	Polydopamine-based functional materials and their applications in energy, environmental, and catalytic fields: State-of-the-art review. <b>2020</b> , 387, 124019	80
195	Sulfur doped-graphene for enhanced acetaminophen degradation via electro-catalytic activation: Efficiency and mechanism. <b>2020</b> , 715, 136730	10
194	Sulfurdoped Graphene as an Efficient Metalfree Carbocatalyst for the Synthesis of 1,5 <b>B</b> enzodiazepines Derivatives. <b>2020</b> , 5, 968-978	5
193	N, S-Doped porous carbons for persulfate activation to remove tetracycline: Nonradical mechanism. <b>2020</b> , 391, 122055	66

192	Two-dimensional materials for energy conversion and storage. <b>2020</b> , 111, 100637	73
191	A Disquisition on the Active Sites of Heterogeneous Catalysts for Electrochemical Reduction of CO2 to Value-Added Chemicals and Fuel. <b>2020</b> , 10, 1902106	57
190	Applications of metal®rganic framework-derived materials in fuel cells and metal-air batteries. <b>2020</b> , 409, 213214	97
189	Self-Assembled Fe, N-Doped Chrysanthemum-Like Carbon Microspheres for Efficient Oxygen Reduction Reaction and Zn <b>A</b> ir Battery. <b>2020</b> , 8, 2000145	6
188	Porous Nitrogen-doped Reduced Graphene Oxide Gels as Efficient Supercapacitor Electrodes and Oxygen Reduction Reaction Electrocatalysts. <b>2020</b> , 38, 1123-1131	7
187	Study of the effect of chemical composition on the surface wettability of three-dimensional graphene foams. <b>2020</b> , 31, 1839-1842	4
186	Fabrication of S-MoSe2/NSG/Au/MIPs imprinted composites for electrochemical detection of dopamine based on synergistic effect. <b>2020</b> , 156, 104845	7
185	Co-Doped Electrochemically Exfoliated Graphene/Polymer Nanocomposites with High Dielectric Constant and Low Dielectric Loss for Flexible Dielectrics and Charge Storage. <b>2020</b> , 3, 4512-4521	14
184	Optimized Enhancement Effect of Sulfur in Fe-N-S Codoped Carbon Nanosheets for Efficient Oxygen Reduction Reaction. <b>2020</b> , 12, 23995-24006	24
183	An Fe-N/S-C hybrid electrocatalyst derived from bimetal-organic framework for efficiently electrocatalyzing oxygen reduction reaction in acidic media. <b>2021</b> , 52, 291-300	10
182	Non-N-Doped Carbons as Metal-Free Electrocatalysts. <b>2021</b> , 5, 2000134	11
181	Significantly improving the performance of self-powered biosensor by effectively combining with high-energy enzyme biofuel cells, N-doped graphene, and ultrathin hollow carbon shell. <b>2021</b> , 327, 128933	25
180	Bisphenol S-doped g-C3N4 nanosheets modified by boron nitride quantum dots as efficient visible-light-driven photocatalysts for degradation of sulfamethazine. <b>2021</b> , 405, 126661	25
179	Facile synthesis of N, S co-doped MoO2@C nanorods as an outstanding electrocatalyst for hydrogen evolution reaction. <b>2021</b> , 537, 147971	15
178	Fabrication of copper centered metal organic framework and nitrogen, sulfur dual doped graphene oxide composite as a novel electrocatalyst for oxygen reduction reaction. <b>2021</b> , 214, 119053	19
177	Carbon-based metal-free catalysts for electrochemical CO2 reduction: Activity, selectivity, and stability. <b>2021</b> , 3, 24-49	14
176	Simultaneous defect-engineered and thiol modified of MoO2 for improved catalytic activity in lithium-sulfur batteries: A study of synergistic polysulfide adsorption-conversion function. <b>2021</b> , 409, 128177	13
175	A study on the effect of introducing S-doped GO into the active layer on the performance of wire mesh Ti/Ce-Mn/SnO2-Sb-La electrodes. <b>2021</b> , 862, 158033	2

174	Colloidal Ni2P Nanocrystals Encapsulated in Heteroatom-Doped Graphene Nanosheets: A Synergy of [email[protected] Heterostructure Toward Overall Water Splitting. <b>2021</b> , 33, 234-245	26
173	Recent progress in the development of biomass-derived nitrogen-doped porous carbon. <b>2021</b> , 9, 3703-3728	69
172	Effect of conjugation level on the performance of porphyrin polymer based supercapacitors. <b>2021</b> , 34, 102018	19
171	Synthesis of CQDs@FeOOH nanoneedles with abundant active edges for efficient electro-catalytic degradation of levofloxacin: Degradation mechanism and toxicity assessment. <b>2021</b> , 282, 119597	25
170	Influence of surface functionalities of pyrogenic carbonaceous materials on the generation of reactive species towards organic contaminants: A review. <b>2021</b> , 404, 127066	30
169	Microporous Organic Polymers: A Synthetic Platform for Engineering Heterogeneous Carbocatalysts. <b>2021</b> , 14, 624-631	3
168	Reduced graphene oxide wrapped sulfur nanocomposite as cathode material for lithium sulfur battery. <b>2021</b> , 47, 14790-14797	7
167	How do the doping concentrations of N and B in graphene modify the water adsorption?. <b>2021</b> , 11, 19560-199	56β
166	Nitrogen and Sulfur Co-doped Hierarchical Porous Biochar Derived from the Pyrolysis of Mantis Shrimp Shell for Supercapacitor Electrodes. <b>2021</b> , 35, 1557-1566	17
165	Efficient energy storage in mustard husk derived porous spherical carbon nanostructures.	3
164	Finely dispersed CuO on nitrogen-doped carbon hollow nanospheres for selective oxidation of sp3 CH bonds. <b>2021</b> , 45, 16179-16186	1
163	Designing electrode materials for the electrochemical reduction of carbon dioxide. <b>2021</b> , 8, 2420-2443	3
162	Rational design and solvent-free synthesis of iron-embedded 2D composite materials derived from biomass for efficient oxygen reduction reaction. <b>2021</b> , 5, 3979-3986	0
161	Biomass-derived functional carbon nanomaterials for the development of futuristic energy devices. <b>2021</b> , 317-341	О
160	Template-Free Self-Caging Nanochemistry for Large-Scale Synthesis of Sulfonated-Graphene@Sulfur Nanocage for Long-Life Lithium-Sulfur Batteries. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2008652	17
159	Porous Carbons as Oxygen Reduction Electrocatalysts. <b>2021</b> , 41-77	
158	Three dimensional graphene materials doped with heteroatoms for extraction and adsorption of environmental pollutants in wastewater. <b>2021</b> , 39, 17-43	1
157	Heteroatom-doped carbon-based oxygen reduction electrocatalysts with tailored four-electron and two-electron selectivity. <b>2021</b> , 57, 7350-7361	6

156	2D Materials Bridging Experiments and Computations for Electro/Photocatalysis. 2003841	35
155	A Highly Efficient Nonenzymatic Hydrogen Peroxide Electrochemical Sensor Using Mesoporous Carbon Doped ZnO Nanocomposite. <b>2021</b> , 168, 027512	12
154	Metal-Organic Frameworks and Their Derivatives: Designing Principles and Advances toward Advanced Cathode Materials for Alkali Metal Ion Batteries. <b>2021</b> , 17, e2006424	17
153	An Anode Material for Lithium Storage: [email[protected],S-Doped Carbon Synthesized via In Situ Self-Polymerization. <b>2021</b> , 4, 3555-3562	O
152	Scalable solid-phase synthesis of defect-rich graphene for oxygen reduction electrocatalysis. 2021,	2
151	Pre-cryocrushing of natural carbon precursors to prepare nitrogen, sulfur co-doped porous microcellular carbon as an efficient ORR catalyst. <b>2021</b> , 173, 800-808	20
150	Effect of Functionalization of Reduced Graphene Oxide Coatings with Nitrogen and Sulfur Groups on Their Anti-Corrosion Properties. <b>2021</b> , 14,	3
149	H2O2 Electrogeneration from O2 Electroreduction by N-Doped Carbon Materials: A Mini-Review on Preparation Methods, Selectivity of N Sites, and Prospects. <b>2021</b> , 8, 2002091	9
148	Liquid versus gas phase dehydrogenation of formic acid over Co@N-doped carbon materials. The role of single atomic sites. <b>2021</b> , 504, 111457	4
147	Promoting Atomically Dispersed MnN Sites Sulfur Doping for Oxygen Reduction: Unveiling Intrinsic Activity and Degradation in Fuel Cells. <b>2021</b> , 15, 6886-6899	30
146	Photocatalytic Cellulose Reforming for H2 and Formate Production by Using Graphene Oxide-Dot Catalysts. <b>2021</b> , 11, 4955-4967	7
145	Synergistic carbon coating of MOF-derived porous carbon and CNTs on silicon for high performance lithium-ion batteries. <b>2021</b> , 888, 115014	4
144	Synthesis of graphene oxide and graphene quantum dots from miscanthus via ultrasound-assisted mechano-chemical cracking method. <b>2021</b> , 73, 105519	12
143	Ball-Milling Effect on Biomass-Derived Nanocarbon Catalysts for the Oxygen Reduction Reaction. <b>2021</b> , 6, 6019-6028	4
142	Tailoring conductive network nanostructures of ZIF-derived cobalt-decorated N-doped graphene/carbon nanotubes for microwave absorption applications. <b>2021</b> , 591, 463-473	24
141	Active sites engineering via tuning configuration between graphitic-N and thiophenic-S dopants in one-step synthesized graphene nanosheets for efficient water-cycled electrocatalysis. <b>2021</b> , 416, 129096	11
140	Self-Supporting Electrodes for Gas-Involved Key Energy Reactions. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2104620	14
139	Recent Strategies on Hybrid Inorganic-Graphene Materials for Enhancing the Electrocatalytic Activity Towards Heavy Metal Detection. 1	1

138	Magnetic porous nano-carbon catalysts supported silver nanoparticles derived from chitin and their application in catalytic reduction reactions. <b>2021</b> , 138, 51439	1
137	Electrocatalytic oxidation of hydrazine at sulphur-doped graphene-modified glassy carbon electrode. <b>2021</b> , 44, 1	1
136	Modifying carbon nanotubes supported palladium nanoparticles via regulating the electronic metallarbon interaction for phenol hydrogenation. <b>2021</b> , 131758	1
135	High-Performance Potassium-Ion Batteries with Robust Stability Based on N/S-Codoped Hollow Carbon Nanocubes. <b>2021</b> , 13, 41619-41627	4
134	Thiourea-assisted one-step fabrication of a novel nitrogen and sulfur co-doped biochar from nanocellulose as metal-free catalyst for efficient activation of peroxymonosulfate. <b>2021</b> , 416, 125796	18
133	Unraveling electrochemical oxygen reduction mechanism on single-atom catalysts by a computational investigation.	1
132	Enhanced organics degradation by three-dimensional (3D) electrochemical activation of persulfate using sulfur-doped carbon particle electrode: The role of thiophene sulfur functional group and specific capacitance. <b>2021</b> , 416, 125810	11
131	A Disposable Printed Liquid Gate Graphene Field Effect Transistor for a Salivary Cortisol Test. <b>2021</b> , 6, 3024-3031	6
130	Sulfurflitrogen co-doped graphene supported cobaltflickel sulfide rGO@SN-CoNi2S4 as highly efficient bifunctional catalysts for hydrogen/oxygen evolution reactions. 1	5
129	Synthesis of Oxygen Functional Group-Controlled Monolayer Graphene Oxide. <b>2021</b> , 94, 2195-2201	O
128	Iron/Iron Carbide (Fe/Fe3C) Encapsulated in S, N Codoped Graphitic Carbon as a Robust HER Electrocatalyst.	3
127	SiOx microparticles embedded into 3D wrinkled N, S co-doped multilayer graphene sheets as a high-performance anode for long-life full lithium-ion batteries. <b>2021</b> , 390, 138841	3
126	Quo vadis carbocatalysis?. <b>2021</b> , 61, 219-227	
125	Generation of hydroxyl radicals by metal-free bifunctional electrocatalysts for enhanced organics removal. <b>2021</b> , 791, 148107	4
124	Porous carbon spheres anode with the stable output of low delithiation plateau and constant delithiation ratio for lithium ion hybrid capacitor. <b>2021</b> , 58, 196-205	Ο
123	Photocatalytic degradation of cyanide using polyurethane foam immobilized Fe-TCPP-S-TiO-rGO nano-composite. <b>2021</b> , 297, 113312	10
122	Dimensional engineering of carbon dots derived sulfur and nitrogen co-doped carbon as efficient oxygen reduction reaction electrocatalysts for aluminum-air batteries. <b>2021</b> , 425, 130603	10
121	Fast and efficient cadmium biosorption by Chlorella vulgaris K-01 strain: The role of cell walls in metal sequestration. <b>2021</b> , 60, 102497	1

120	Carbonized fibers with multi-elemental doping and hollow architecture derived from natural cotton for tunable microwave absorption properties. <b>2021</b> , 884, 161084	2
119	Fragment-interconnected nitrogen-doped porous carbon nanosheets loaded with platinum group metals for highly boosted hydrogen evolution reaction in alkaline solution. <b>2022</b> , 605, 528-536	O
118	Application of a Catechol-Polyamine Co-Deposition method for synthesis of Heteroatom-Doped carbon nanomaterials. <b>2022</b> , 429, 132363	0
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79	Functionality and design of Co-MOFs: unique opportunities in electrocatalysts for oxygen reduction reaction. <b>2022</b> , 12, 1723-1740	O
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65	Improving the performance of recovered lead oxide powder from waste lead paste as active material for lead-acid battery.	o
64	A new approach to prepare N-/S-doped free-standing graphene oxides for vanadium redox flow battery.	0
63	Synthesis of all-biomass-derived carbon nanofibers for dual-functional filtration membranes and oxygen evolution reaction electrocatalysts. <b>2022</b> , 165600	
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61	Constructing two dimensional composite nanosheets with montmorillonite and graphene-like carbon: Towards high-rate-performance PVA based gel polymer electrolytes for quasi-solid-state supercapacitors. <b>2022</b> , 287, 126333	O
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55	Mechanistic Insight into Collectively Exhaustive CoPi-NPC Nanosheets for Oxygen Reduction Reaction and Zn-Air Battery. <b>2022</b> , 121656	O
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53	Graphene-Based Materials for Electrocatalysis. <b>2022</b> , 245-273	
52	Peroxydisulfate activation by sulfur-doped ordered mesoporous carbon: Insight into the intrinsic relationship between defects and 1O2 generation. <b>2022</b> , 221, 118797	2
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50	Synthesis of Carbon-Based Nanomaterials. <b>2022</b> , 15-51	
49	Review of carbon-based nanocomposites as electrocatalyst for H2O2 production from oxygen. <b>2022</b> , 28, 4045-4063	

48	Surface-dominated ultra-stable sodium and potassium storage enabled by N/P/O tri-doped porous carbon. <b>2022</b> , 138444	1
47	Supramolecular-driven fabrication of porous nitrogen/sulfur co-doped graphene toward high-performance supercapacitor.	
46	Graphene-based lithium-ion battery anode materials manufactured by mechanochemical ball milling process: A review and perspective. <b>2022</b> , 110232	3
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44	Investigating graphdiyne based materials for rechargeable batteries. 2022, 46, 101588	1
43	Nitrogen implantation into graphene oxide and reduced graphene oxides using radio frequency plasma treatment in microscale. <b>2022</b> , 199, 415-423	O
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40	Self-assembly of biomass-based hybrid hydrogel electrode for an additive-free flexible supercapacitor. <b>2022</b> , 10, 16853-16865	O
39	Various defects in graphene: a review. <b>2022</b> , 12, 21520-21547	5
38	Manipulation of n -> 🖰 electronic transitions via implanting thiophene rings into two-dimensional carbon nitride nanosheets for efficient photocatalytic water purification. <b>2022</b> , 10, 20559-20570	1
37	Nanoarchitectonics of neomycin-derived fluorescent carbon dots for selective detection of Fe3+ ions. <b>2022</b> , 14, 3289-3298	1
36	2D NbIrTe4 and TaRhTe4 Monolayers: Two Fascinating Topological Insulators as Electrocatalysts for Oxygen Reduction.	0
35	Extent of carbon surface oxygen affinity and its effects on the activity of metal-free carbon catalysts in oxygen reduction reaction: Interplay of porosity and N-, O- and S- enriched surface chemistry.	O
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31	Highly Capacitive, CNT-Rich, and N-Doped Carbon Skeleton Materials Derived from the Two-Step	1

30	Probing the Interaction between Nitrogen Dopants and Edge Structures of Doped Graphene Catalysts for the Highly Efficient Oxygen Reduction Reaction.	0
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27	Amorphous carbon engineering of hierarchical carbonaceous nanocomposites toward boosted dielectric polarization for electromagnetic wave absorption. <b>2023</b> , 201, 1011-1024	1
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25	Surface-Engineering of Carbon Fibre Paper Electrode Through Molecular Imprinting Technique Towards Electrochemical Sensing of Food additive in Shrimps. <b>2022</b> , 108155	0
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22	Carbon Surface-Influenced Heterogeneity of Ni and Co Catalytic Sites as a Factor Affecting the Efficiency of Oxygen Reduction Reaction. <b>2022</b> , 12, 4432	0
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18	Preparation of Sulfur and Nitrogen Co-doped Carbon-Based Porous Nanomaterials for Efficient Electrocatalytic N2 Reduction.	0
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16	Heteroatom dopant strategy triggered high-potential plateau to non-graphitized carbon with highly disordered microstructure for high-performance sodium ion storage. <b>2023</b> ,	0
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11	Modification of graphene with nitrogen and oxygen via radical reactions with simple mechanical treatment. <b>2023</b> , 135, 109857	O
10	Multivalent cobalt species supported on graphene aerogel for degradation of sulfamethoxazole via high-valent cobalt-oxo species. <b>2023</b> , 463, 142367	O
9	Mechanical activation-enhanced doping and defect strategy to construct FeB co-doped carbon nitride for efficient photocatalytic tetracycline degradation and hydrogen evolution. <b>2023</b> , 314, 123618	O
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6	Graphene Nanoribbons as Ladder Polymers	O
5	The Role of the Precursor on the Electrochemical Performance of N,S Co-Doped Graphene Electrodes in Aqueous Electrolytes. <b>2023</b> , 9, 168	O
4	Strong Metal-Support Interactions through Sulfur-Anchoring of Metal Catalysts on Carbon Supports.	O
3	Strong Metal-Support Interactions through Sulfur-Anchoring of Metal Catalysts on Carbon Supports.	O
2	Heteroatom Modified TiO2/Graphene Aerogel Composites by Electron Beam Irradiation in Supercapacitors. <b>2023</b> , 6, 6312-6322	0
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