Xing-Zhong Cao

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353 papers	9,929 citations	50 h-index	87 g-index
372 ext. papers	12,612 ext. citations	6.2 avg, IF	6.48 L-index

#	Paper	IF	Citations
353	Contributions of Phase, Sulfur Vacancies, and Edges to the Hydrogen Evolution Reaction Catalytic Activity of Porous Molybdenum Disulfide Nanosheets. *Journal of the American Chemical Society*, **2016**, 138, 7965-72	16.4	811
352	Understanding the effect of surface/bulk defects on the photocatalytic activity of TiO2: anatase versus rutile. *Physical Chemistry Chemical Physics*, **2013**, 15, 10978-88	3.6	457
351	Oxygen vacancy-rich 2D/2D BiOCl-g-C3N4 ultrathin heterostructure nanosheets for enhanced visible-light-driven photocatalytic activity in environmental remediation. *Applied Catalysis B: Environmental*, **2018**, 220, 290-302	21.8	335
350	Synergistic Phase and Disorder Engineering in 1T-MoSe Nanosheets for Enhanced Hydrogen-Evolution Reaction. *Advanced Materials*, **2017**, 29, 1700311	24	303
349	Defect-Tailoring Mediated Electron-Hole Separation in Single-Unit-Cell Bi O Br Nanosheets for Boosting Photocatalytic Hydrogen Evolution and Nitrogen Fixation. *Advanced Materials*, **2019**, 31, e1807576	24	188
348	Synergistic effect of combining carbon nanotubes and graphene oxide in mixed matrix membranes for efficient CO2 separation. *Journal of Membrane Science*, **2015**, 479, 1-10	9.6	183
347	Enhanced water permeation through sodium alginate membranes by incorporating graphene oxides. *Journal of Membrane Science*, **2014**, 469, 272-283	9.6	180
346	Generating Defect-Rich Bismuth for Enhancing the Rate of Nitrogen Electroreduction to Ammonia. *Angewandte Chemie - International Edition*, **2019**, 58, 9464-9469	16.4	178
345	A superior catalyst with dual redox cycles for the selective reduction of NO(x) by ammonia. *Chemical Communications*, **2013**, 49, 7726-8	5.8	155
344	A highly permeable graphene oxide membrane with fast and selective transport nanochannels for efficient carbon capture. *Energy and Environmental Science*, **2016**, 9, 3107-3112	35.4	155
343	Atomically-thin Bi2MoO6 nanosheets with vacancy pairs for improved photocatalytic CO2 reduction. *Nano Energy*, **2019**, 61, 54-59	17.1	150
342	A Surface Defect-Promoted Ni Nanocatalyst with Simultaneously Enhanced Activity and Stability. *Chemistry of Materials*, **2013**, 25, 1040-1046	9.6	150
341	The role of oxygen vacancies in improving the performance of CoO as a bifunctional cathode catalyst for rechargeable Li-O2 batteries. *Journal of Materials Chemistry A*, **2015**, 3, 17598-17605	13	131
340	Defect engineering in metal-organic frameworks: a new strategy to develop applicable actinide sorbents. *Chemical Communications*, **2018**, 54, 370-373	5.8	131
339	Enhanced interfacial interaction and CO2 separation performance of mixed matrix membrane by incorporating polyethylenimine-decorated metal-organic frameworks. *ACS Applied Materials & Interfaces*, **2015**, 7, 1065-77	9.5	130
338	A MOF Glass Membrane for Gas Separation. *Angewandte Chemie - International Edition*, **2020**, 59, 4365-4369	14	125
337	Enhancing the CO2 separation performance of composite membranes by the incorporation of amino acid-functionalized graphene oxide. *Journal of Materials Chemistry A*, **2015**, 3, 6629-6641	13	118

336	A hierarchical heterostructure based on Pd nanoparticles/layered double hydroxide nanowalls for enhanced ethanol electrooxidation. *Journal of Materials Chemistry A*, **2013**, 1, 5840	13	114
335	Oxygen vacancy□induced ferromagnetism in un-doped ZnO thin films. *Journal of Applied Physics*, **2012**, 111, 033501	2.5	113
334	Photocatalytic reduction of CO2 on BiOX: Effect of halogen element type and surface oxygen vacancy mediated mechanism. *Applied Catalysis B: Environmental*, **2020**, 274, 119063	21.8	112
333	Highly Selective Photoreduction of CO with Suppressing H Evolution over Monolayer Layered Double Hydroxide under Irradiation above 600 nm. *Angewandte Chemie - International Edition*, **2019**, 58, 11860-11867	16.4	109
332	Lanthanum-doped ZnO quantum dots with greatly enhanced fluorescent quantum yield. *Journal of Materials Chemistry*, **2012**, 22, 8221		107
331	Highly dispersed TiO6 units in a layered double hydroxide for water splitting. *Chemistry - A European Journal*, **2012**, 18, 11949-58	4.8	104
330	Incorporating Zwitterionic Graphene Oxides into Sodium Alginate Membrane for Efficient Water/Alcohol Separation. *ACS Applied Materials & Interfaces*, **2016**, 8, 2097-103	9.5	90
329	Ultrathin and Vacancy-Rich CoAl-Layered Double Hydroxide/Graphite Oxide Catalysts: Promotional Effect of Cobalt Vacancies and Oxygen Vacancies in Alcohol Oxidation. *ACS Catalysis*, **2018**, 8, 3104-3115	13.1	87
328	Defect Modulation of Z-Scheme TiO2/Cu2O Photocatalysts for Durable Water Splitting. *ACS Catalysis*, **2019**, 9, 8346-8354	13.1	86
327	Fabrication of ultrathin membrane via layer-by-layer self-assembly driven by hydrophobic interaction towards high separation performance. *ACS Applied Materials & Interfaces*, **2013**, 5, 13275-83	9.5	85
326	Highly water-permeable and stable hybrid membrane with asymmetric covalent organic framework distribution. *Journal of Membrane Science*, **2016**, 520, 583-595	9.6	80
325	Alkali Etching of Layered Double Hydroxide Nanosheets for Enhanced Photocatalytic N2 Reduction to NH3. *Advanced Energy Materials*, **2020**, 10, 2002199	21.8	78
324	Polyamide nanofiltration membrane with high separation performance prepared by EDC/NHS mediated interfacial polymerization. *Journal of Membrane Science*, **2013**, 427, 92-100	9.6	77
323	Embedding dopamine nanoaggregates into a poly(dimethylsiloxane) membrane to confer controlled interactions and free volume for enhanced separation performance. *Journal of Materials Chemistry A*, **2013**, 1, 3713	13	76
322	Functionally graded membranes from nanoporous covalent organic frameworks for highly selective water permeation. *Journal of Materials Chemistry A*, **2018**, 6, 583-591	13	76
321	Facilitated transport membranes by incorporating graphene nanosheets with high zinc ion loading for enhanced CO2 separation. *Journal of Membrane Science*, **2017**, 522, 351-362	9.6	72
320	SPEEK/amine-functionalized TiO2 submicrospheres mixed matrix membranes for CO2 separation. *Journal of Membrane Science*, **2014**, 467, 23-35	9.6	69
319	Manipulating the interfacial interactions of composite membranes via a mussel-inspired approach for enhanced separation selectivity. *Journal of Materials Chemistry A*, **2015**, 3, 19980-19988	13	64

318	The role of Sn in enhancing the visible-light photocatalytic activity of hollow hierarchical microspheres of the Bi/BiOBr heterojunction. *Physical Chemistry Chemical Physics*, **2015**, 17, 8078-86	3.6	63
317	Intrinsic room temperature ferromagnetism in boron-doped ZnO. *Applied Physics Letters*, **2010**, 97, 232502	3.4	62
316	Roles of Oxygen Vacancies in the Bulk and Surface of CeO for Toluene Catalytic Combustion. *Environmental Science & Technology*, **2020**, 54, 12684-12692	10.3	62
315	A novel pathway for high performance RO membrane: Preparing active layer with decreased thickness and enhanced compactness by incorporating tannic acid into the support. *Journal of Membrane Science*, **2018**, 555, 157-168	9.6	60
314	Origin of the defects-induced ferromagnetism in un-doped ZnO single crystals. *Applied Physics Letters*, **2013**, 102, 071914	3.4	60
313	Ni-Ce-Ti as a superior catalyst for the selective catalytic reduction of NOx with NH3. *Molecular Catalysis*, **2018**, 445, 179-186	3.3	56
312	Fabrication of supported PdAu nanoflower catalyst for partial hydrogenation of acetylene. *Journal of Catalysis*, **2014**, 317, 263-271	7.3	56
311	Enhanced pervaporation performance of MIL-101 (Cr) filled polysiloxane hybrid membranes in desulfurization of model gasoline. *Chemical Engineering Science*, **2015**, 135, 479-488	4.4	56
310	Hydrogenated Oxygen-Deficient Blue Anatase as Anode for High-Performance Lithium Batteries. *ACS Applied Materials & Interfaces*, **2015**, 7, 23431-8	9.5	55
309	Preparation of ultrathin, robust membranes through reactive layer-by-layer (LbL) assembly for pervaporation dehydration. *Journal of Membrane Science*, **2017**, 537, 229-238	9.6	54
308	Fabrication of a PdAg mesocrystal catalyst for the partial hydrogenation of acetylene. *Journal of Catalysis*, **2015**, 330, 61-70	7.3	53
307	Insight into cobalt-doping in Li2FeSiO4 cathode material for lithium-ion battery. *Journal of Power Sources*, **2015**, 274, 194-202	8.9	53
306	Correlation between Cu precipitates and irradiation defects in Fe□Cu model alloys investigated by positron annihilation spectroscopy. *Acta Materialia*, **2016**, 103, 658-664	8.4	53
305	High-performance composite membrane with enriched CO2-philic groups and improved adhesion at the interface. *ACS Applied Materials & Interfaces*, **2014**, 6, 6654-63	9.5	52
304	Precise nanopore tuning for a high-throughput desalination membrane via co-deposition of dopamine and multifunctional POSS. *Journal of Materials Chemistry A*, **2018**, 6, 13191-13202	13	51
303	Highly water-selective membranes based on hollow covalent organic frameworks with fast transport pathways. *Journal of Membrane Science*, **2018**, 565, 331-341	9.6	50
302	Polydimethyl siloxane□raphene nanosheets hybrid membranes with enhanced pervaporative desulfurization performance. *Journal of Membrane Science*, **2015**, 487, 152-161	9.6	49
301	Effect of NiO-doping on the microstructure and the dielectric properties of CaCu3Ti4O12 ceramics. *Ceramics International*, **2014**, 40, 9061-9067	5.1	49

300	Investigations on Zr incorporation into LiV(PO)/C cathode materials for lithium ion batteries. *Physical Chemistry Chemical Physics*, **2017**, 19, 5155-5162	3.6	47
299	Embedding Ag+@COFs within Pebax membrane to confer mass transport channels and facilitated transport sites for elevated desulfurization performance. *Journal of Membrane Science*, **2018**, 552, 1-12	9.6	47
298	Integrated polyamide thin-film nanofibrous composite membrane regulated by functionalized interlayer for efficient water/isopropanol separation. *Journal of Membrane Science*, **2018**, 553, 70-81	9.6	45
297	Self-assembled iron-containing mordenite monolith for carbon dioxide sieving. *Science*, **2021**, 373, 315-320	3.3	45
296	Incorporating one-dimensional aminated titania nanotubes into sulfonated poly(ether ether ketone) membrane to construct CO2-facilitated transport pathways for enhanced CO2 separation. *Journal of Membrane Science*, **2015**, 488, 13-29	9.6	43
295	Enhanced pervaporation dehydration performance of ultrathin hybrid membrane by incorporating bioinspired multifunctional modifier and TiCl4 into chitosan. *Journal of Membrane Science*, **2013**, 446, 395-404	9.6	42
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293	Investigation on the activation mechanism of hydrogen absorption in TiZrNbTa high entropy alloy. *Journal of Alloys and Compounds*, **2019**, 781, 613-620	5.7	40
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289	Constructing CO2 transport passageways in Matrimid membranes using nanohydrogels for efficient carbon capture. *Journal of Membrane Science*, **2015**, 474, 156-166	9.6	37
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285	Investigation of vacancy-type defects in helium irradiated FeCrNi alloy by slow positron beam. *Journal of Nuclear Materials*, **2015**, 458, 240-244	3.3	36
284	Oxygen vacancy-rich hierarchical BiOBr hollow microspheres with dramatic CO photoreduction activity. *Journal of Colloid and Interface Science*, **2021**, 593, 231-243	9.3	35
283	Systematic investigation on Cadmium-incorporation in LiFeSiO/C cathode material for lithium-ion batteries. *Scientific Reports*, **2014**, 4, 5064	4.9	33

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281	Combining co-solvent-optimized interfacial polymerization and protective coating-controlled chlorination for highly permeable reverse osmosis membranes with high rejection. *Journal of Membrane Science*, **2019**, 572, 61-72	9.6	33
280	Heterostructured filler in mixed matrix membranes to coordinate physical and chemical selectivities for enhanced CO2 separation. *Journal of Membrane Science*, **2018**, 567, 272-280	9.6	33
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277	The effect of oxygen vacancies in ZnO at an Au/ZnO interface on its catalytic selective oxidation of glycerol. *Journal of Catalysis*, **2019**, 377, 271-282	7.3	32
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275	Facile Aluminum Reduction Synthesis of Blue TiO2 with Oxygen Deficiency for Lithium-Ion Batteries. *Chemistry - A European Journal*, **2015**, 21, 18309-15	4.8	32
274	Enhanced desulfurization performance of PDMS membranes by incorporating silver decorated dopamine nanoparticles. *Journal of Materials Chemistry A*, **2014**, 2, 12907	13	31
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272	Generating Defect-Rich Bismuth for Enhancing the Rate of Nitrogen Electroreduction to Ammonia. *Angewandte Chemie*, **2019**, 131, 9564-9569	3.6	30
271	Enhanced desulfurization performance and stability of Pebax membrane by incorporating Cu+ and Fe2+ ions co-impregnated carbon nitride. *Journal of Membrane Science*, **2017**, 526, 94-105	9.6	29
270	Anionic surfactant-doped Pebax membrane with optimal free volume characteristics for efficient CO2 separation. *Journal of Membrane Science*, **2015**, 493, 460-469	9.6	29
269	Localized Defects on Copper Sulfide Surface for Enhanced Plasmon Resonance and Water Splitting. *Small*, **2017**, 13, 1700867	11	29
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265	Microporous Polyamide Membranes for Molecular Sieving of Nitrogen from Volatile Organic Compounds. *Angewandte Chemie - International Edition*, **2017**, 56, 5755-5759	16.4	27

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260	MXene versus graphene oxide: Investigation on the effects of 2D nanosheets in mixed matrix membranes for CO2 separation. *Journal of Membrane Science*, **2021**, 620, 118850	9.6	26
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252	Creation of hierarchical structures within membranes by incorporating mesoporous microcapsules for enhanced separation performance and stability. *Journal of Materials Chemistry A*, **2014**, 2, 5267	13	24
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250	Passivation mechanism of thermal atomic layer-deposited Al2O3 films on silicon at different annealing temperatures. *Nanoscale Research Letters*, **2013**, 8, 114	5	24
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244	Synergistic effect of internal electric field and oxygen vacancy on the photocatalytic activity of BiOBrI with isomorphous fluorine substitution. *Journal of Colloid and Interface Science*, **2019**, 554, 500-511	9.3	23
243	A MOF Glass Membrane for Gas Separation. *Angewandte Chemie*, **2020**, 132, 4395-4399	3.6	22
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241	Support morphology-dependent alloying behaviour and interfacial effects of bimetallic Ni-Cu/CeO catalysts. *Chemical Science*, **2019**, 10, 3556-3566	9.4	21
240	Mussel-inspired construction of organic-inorganic interfacial nanochannels for ion/organic molecule selective permeation. *Journal of Membrane Science*, **2018**, 555, 337-347	9.6	21
239	Highly swelling resistant membranes for model gasoline desulfurization. *Journal of Membrane Science*, **2016**, 514, 440-449	9.6	21
238	Hybrid membranes with Cu(II) loaded metal organic frameworks for enhanced desulfurization performance. *Separation and Purification Technology*, **2019**, 210, 258-267	8.3	21
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207	Electron-Doping Mottronics in Strongly Correlated Perovskite. *Advanced Materials*, **2020**, 32, e1905060	24	14
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204	Elevated performance of hybrid membranes by incorporating metal organic framework CuBTC for pervaporative desulfurization of gasoline. *Chemical Engineering and Processing: Process Intensification*, **2018**, 123, 12-19	3.7	14
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