Photo-illuminated diamond as a solid-state source of s nitrogen reduction

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Citation Report

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#	Article	IF	CITATIONS
16	A source of energetic electrons. Nature Materials, 2013, 12, 780-781.	13.3	32
17	Direct observation of phonon emission from hot electrons: spectral features in diamond secondary electron emission. Journal of Physics Condensed Matter, 2014, 26, 395008.	0.7	4
18	Rapid sol–gel synthesis of nanodiamond aerogel. Journal of Materials Research, 2014, 29, 2905-2911.	1.2	20
19	Water shells of diamond nanoparticles in colloidal solutions. Applied Physics Letters, 2014, 104, .	1.5	29
20	Selective Photoelectrochemical Reduction of Aqueous CO ₂ to CO by Solvated Electrons. Angewandte Chemie - International Edition, 2014, 53, 9746-9750.	7.2	90
21	Effective improvement of photocatalytic hydrogen evolution via a facile in-situ solvothermal N-doping strategy in N-TiO2/N-graphene nanocomposite. International Journal of Hydrogen Energy, 2014, 39, 6845-6852.	3.8	48
22	Photoelectron emission from lithiated diamond. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2209-2222.	0.8	30
24	Challenges in reduction of dinitrogen by proton and electron transfer. Chemical Society Reviews, 2014, 43, 5183-5191.	18.7	1,234
25	Photoemission from diamond films and substrates into water: dynamics of solvated electrons and implications for diamond photoelectrochemistry. Faraday Discussions, 2014, 172, 397-411.	1.6	27
26	Ag2O/TiO2/V2O5 one-dimensional nanoheterostructures for superior solar light photocatalytic activity. Nanoscale, 2014, 6, 6790.	2.8	60
27	Mechanism of N ₂ Reduction to NH ₃ by Aqueous Solvated Electrons. Journal of Physical Chemistry B, 2014, 118, 195-203.	1.2	49
28	Tritium labeling of detonation nanodiamonds. Chemical Communications, 2014, 50, 2916-2918.	2.2	29
29	A Review on Visible Light Active Perovskite-Based Photocatalysts. Molecules, 2014, 19, 19995-20022.	1.7	471
30	Extremely high negative electron affinity of diamond via magnesium adsorption. Physical Review B, 2015, 92, .	1.1	34
32	Impairing the radioresistance of cancer cells by hydrogenated nanodiamonds. Biomaterials, 2015, 61, 290-298.	5.7	62
33	Misfit accommodation mechanism at the heterointerface between diamond and cubic boron nitride. Nature Communications, 2015, 6, 6327.	5.8	66
34	Valence holes observed in nanodiamonds dispersed in water. Nanoscale, 2015, 7, 2987-2991.	2.8	33
36	Real-Time Measurement of the Vertical Binding Energy during the Birth of a Solvated Electron. Journal of the American Chemical Society, 2015, 137, 3520-3524.	6.6	41

#	Article	IF	CITATIONS
37	Light Metals on Oxygen-Terminated Diamond (100): Structure and Electronic Properties. Chemistry of Materials, 2015, 27, 1306-1315.	3.2	26
38	Photochemical Nitrogen Conversion to Ammonia in Ambient Conditions with FeMoS-Chalcogels. Journal of the American Chemical Society, 2015, 137, 2030-2034.	6.6	287
39	The solvation of electrons by an atmospheric-pressure plasma. Nature Communications, 2015, 6, 7248.	5.8	248
40	Nanodiamond–TiO ₂ composites for photocatalytic degradation of microcystin-LA in aqueous solutions under simulated solar light. RSC Advances, 2015, 5, 58363-58370.	1.7	39
41	Generating hydrated electrons through photoredox catalysis with 9-anthrolate. Physical Chemistry Chemical Physics, 2015, 17, 13829-13836.	1.3	19
42	Angle-Resolved Photoemission of Solvated Electrons in Sodium-Doped Clusters. Journal of Physical Chemistry Letters, 2015, 6, 1487-1492.	2.1	34
43	Efficient Visible Light Nitrogen Fixation with BiOBr Nanosheets of Oxygen Vacancies on the Exposed {001} Facets. Journal of the American Chemical Society, 2015, 137, 6393-6399.	6.6	1,468
44	Enhanced quantum yield of nitrogen fixation for hydrogen storage with in situ-formed carbonaceous radicals. Chemical Communications, 2015, 51, 4785-4788.	2.2	43
45	Plasmon-assisted radiolytic energy conversion in aqueous solutions. Scientific Reports, 2014, 4, 5249.	1.6	17
46	Experimentally probing the libration of interfacial water: the rotational potential of water is stiffer at the air/water interface than in bulk liquid. Physical Chemistry Chemical Physics, 2016, 18, 18424-18430.	1.3	42
47	Photofixation of atmospheric nitrogen to ammonia with a novel ternary metal sulfide catalyst under visible light. RSC Advances, 2016, 6, 49862-49867.	1.7	61
48	Plasma Catalytic Synthesis of Ammonia Using Functionalized-Carbon Coatings in an Atmospheric-Pressure Non-equilibrium Discharge. Plasma Chemistry and Plasma Processing, 2016, 36, 917-940.	1.1	74
49	Surface controlled generation of reactive radicals from persulfate by carbocatalysis on nanodiamonds. Applied Catalysis B: Environmental, 2016, 194, 7-15.	10.8	390
50	Infrared ray assisted microwave synthesis: a convenient method for large-scale production of graphitic carbon nitride with outstanding nitrogen photofixation ability. RSC Advances, 2016, 6, 45931-45937.	1.7	34
51	Nitrogenase-mimic iron-containing chalcogels for photochemical reduction of dinitrogen to ammonia. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5530-5535.	3.3	211
52	Ammonia Synthesis by N ₂ and Steam Electrolysis in Solid-State Cells at 220°C and Atmospheric Pressure. Journal of the Electrochemical Society, 2016, 163, E282-E287.	1.3	24
53	Photoemission of Energetic Hot Electrons Produced via Up-Conversion in Doped Quantum Dots. Nano Letters, 2016, 16, 7270-7275.	4.5	32
54	Bifurcate localization modes of excess electron in aqueous Ca ²⁺ â√amide solution revealed by ab initio molecular dynamics simulation: towards hydrated electron versus hydrated amide anion. Physical Chemistry Chemical Physics, 2016, 18, 18868-18879.	1.3	2

#	Article	IF	CITATIONS
55	Boron-doped diamond semiconductor electrodes: Efficient photoelectrochemical CO2 reduction through surface modification. Scientific Reports, 2016, 6, 38010.	1.6	43
56	Electrochemical Production of Oxalate and Formate from CO ₂ by Solvated Electrons Produced Using an Atmospheric-Pressure Plasma. Journal of the Electrochemical Society, 2016, 163, F1157-F1161.	1.3	38
57	Hydrogenated Bismuth Molybdate Nanoframe for Efficient Sunlightâ€Đriven Nitrogen Fixation from Air. Chemistry - A European Journal, 2016, 22, 18722-18728.	1.7	92
58	Photoprompted Hot Electrons from Bulk Cross-Linked Graphene Materials and Their Efficient Catalysis for Atmospheric Ammonia Synthesis. ACS Nano, 2016, 10, 10507-10515.	7.3	125
59	Nanostructured photoelectrochemical solar cell for nitrogen reduction using plasmon-enhanced black silicon. Nature Communications, 2016, 7, 11335.	5.8	294
60	Transient photoresponse of nitrogen-doped ultrananocrystalline diamond electrodes in saline solution. Applied Physics Letters, 2016, 108, .	1.5	8
61	Challenges and Perspectives in Designing Artificial Photosynthetic Systems. Chemistry - A European Journal, 2016, 22, 9870-9885.	1.7	64
62	Effect of sulfur vacancies on the nitrogen photofixation performance of ternary metal sulfide photocatalysts. Catalysis Science and Technology, 2016, 6, 5884-5890.	2.1	160
63	Nanodiamonds: From Synthesis and Purification to Deposition Techniques, Hybrids Fabrication and Applications. Carbon Nanostructures, 2016, , 1-45.	0.1	3
64	Atmosphericâ€pressure photoelectron emission from Hâ€terminated and aminoâ€terminated diamond. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 2069-2074.	0.8	2
65	Amino-terminated diamond surfaces: Photoelectron emission and photocatalytic properties. Surface Science, 2016, 650, 295-301.	0.8	26
66	Facet-dependent solar ammonia synthesis of BiOCl nanosheets via a proton-assisted electron transfer pathway. Nanoscale, 2016, 8, 1986-1993.	2.8	242
67	Combining energy and electron transfer in a supramolecular environment for the "green―generation and utilization of hydrated electrons through photoredox catalysis. Chemical Science, 2016, 7, 3862-3868.	3.7	67
68	Camma radiation effects on hydrogen-terminated nanocrystalline diamond bio-transistors. Diamond and Related Materials, 2016, 63, 186-191.	1.8	5
69	Direct Nanoscale Sensing of the Internal Electric Field in Operating Semiconductor Devices Using Single Electron Spins. ACS Nano, 2017, 11, 1238-1245.	7.3	82
70	Hydroxyl radical production induced by plasma hydrogenated nanodiamonds under X-ray irradiation. Chemical Communications, 2017, 53, 1237-1240.	2.2	25
71	Strain Concentration at the Boundaries in 5-Fold Twins of Diamond and Silicon. ACS Applied Materials & amp; Interfaces, 2017, 9, 4253-4258.	4.0	19
72	Ultraâ€small CuO nanoparticles with tailored energyâ€band diagram synthesized by a hybrid plasmaâ€liquid process. Plasma Processes and Polymers, 2017, 14, 1600224.	1.6	55

#	Article	IF	CITATIONS
73	Photon-Driven Nitrogen Fixation: Current Progress, Thermodynamic Considerations, and Future Outlook. ACS Catalysis, 2017, 7, 2624-2643.	5.5	445
74	Unusual Water Hydrogen Bond Network around Hydrogenated Nanodiamonds. Journal of Physical Chemistry C, 2017, 121, 5185-5194.	1.5	104
75	Three-dimensional photocatalysts with a network structure. Journal of Materials Chemistry A, 2017, 5, 5661-5679.	5.2	86
76	Reversible Nitrogen Fixation Based on a Rechargeable Lithium-Nitrogen Battery for Energy Storage. CheM, 2017, 2, 525-532.	5.8	146
77	Unoccupied surface state induced by ozone and ammonia on H-terminated diamond electrodes for photocatalytic ammonia synthesis. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, 04D102.	0.9	5
78	Solvated-electron initiated rapid polymerization at ambient-temperature: a case of monomer solubility. Polymer Chemistry, 2017, 8, 3475-3484.	1.9	8
79	Metal nanoparticles induced photocatalysis. National Science Review, 2017, 4, 761-780.	4.6	161
80	Photochemistry and photo-electrochemistry on synthetic semiconducting diamond. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2017, 31, 139-152.	5.6	17
81	Recent developments in immobilizing titanium dioxide on supports for degradation of organic pollutants in wastewater- A review. International Journal of Environmental Science and Technology, 2017, 14, 2039-2052.	1.8	41
82	Nitrogen Photofixation over IIIâ€Nitride Nanowires Assisted by Ruthenium Clusters of Low Atomicity. Angewandte Chemie - International Edition, 2017, 56, 8701-8705.	7.2	96
83	Ambient nitrogen reduction cycle using a hybrid inorganic–biological system. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6450-6455.	3.3	167
84	Nitrogen Photofixation over Illâ€Nitride Nanowires Assisted by Ruthenium Clusters of Low Atomicity. Angewandte Chemie, 2017, 129, 8827-8831.	1.6	25
85	Light‣witchable Oxygen Vacancies in Ultrafine Bi ₅ O ₇ Br Nanotubes for Boosting Solarâ€Driven Nitrogen Fixation in Pure Water. Advanced Materials, 2017, 29, 1701774.	11.1	533
86	Biomedical applications of nanodiamond (Review). Nanotechnology, 2017, 28, 252001.	1.3	230
87	In situ construction of Z-scheme g-C ₃ N ₄ /Mg _{1.1} Al _{0.3} Fe _{0.2} O _{1.7} nanorod heterostructures with high N ₂ photofixation ability under visible light. RSC Advances, 2017, 7, 18099-18107.	1.7	51
88	Electrochemical Ammonia Synthesis—The Selectivity Challenge. ACS Catalysis, 2017, 7, 706-709.	5.5	689
89	Solar Water Splitting and Nitrogen Fixation with Layered Bismuth Oxyhalides. Accounts of Chemical Research, 2017, 50, 112-121.	7.6	554
90	Production of Liquid Solar Fuels and Their Use in Fuel Cells. Joule, 2017, 1, 689-738.	11.7	149

#	Article	IF	CITATIONS
91	<i>In situ</i> imaging of the dynamics of photo-induced structural phase transition at high pressures by picosecond acoustic interferometry. New Journal of Physics, 2017, 19, 053026.	1.2	7
92	Enhanced Nitrogen Photofixation over LaFeO ₃ via Acid Treatment. ACS Sustainable Chemistry and Engineering, 2017, 5, 9965-9971.	3.2	28
93	Layeredâ€Doubleâ€Hydroxide Nanosheets as Efficient Visibleâ€Lightâ€Driven Photocatalysts for Dinitrogen Fixation. Advanced Materials, 2017, 29, 1703828.	11.1	524
94	Recent Progress in Semiconductorâ€Based Nanocomposite Photocatalysts for Solarâ€ŧo hemical Energy Conversion. Advanced Energy Materials, 2017, 7, 1700529.	10.2	189
95	Photocatalytic reduction of CO2 to CO by diamond nanoparticles. Diamond and Related Materials, 2017, 78, 24-30.	1.8	38
97	Electro-synthesis of ammonia from nitrogen at ambient temperature and pressure in ionic liquids. Energy and Environmental Science, 2017, 10, 2516-2520.	15.6	497
98	Defined functionality and increased luminescence of nanodiamonds for sensing and diagnostic applications by targeted high temperature reactions and electron beam irradiation. Materials Chemistry Frontiers, 2017, 1, 2527-2540.	3.2	12
99	Highly enhanced stability and efficiency for atmospheric ammonia photocatalysis by hot electrons from a graphene composite catalyst with Al2O3. Carbon, 2017, 124, 72-78.	5.4	28
100	Ammonia synthesis from N ₂ and H ₂ O using a lithium cycling electrification strategy at atmospheric pressure. Energy and Environmental Science, 2017, 10, 1621-1630.	15.6	342
101	Fe3+ doping promoted N2 photofixation ability of honeycombed graphitic carbon nitride: The experimental and density functional theory simulation analysis. Applied Catalysis B: Environmental, 2017, 201, 58-69.	10.8	287
102	Nitrogen transfer properties in tantalum nitride based materials. Catalysis Today, 2017, 286, 147-154.	2.2	31
103	Breaking scaling relations to achieve low-temperature ammonia synthesis through LiH-mediated nitrogen transfer and hydrogenation. Nature Chemistry, 2017, 9, 64-70.	6.6	451
104	Hydrogenated nanodiamonds: Synthesis and surface properties. Current Opinion in Solid State and Materials Science, 2017, 21, 10-16.	5.6	39
105	Photocatalytic robust solar energy reduction of dinitrogen to ammonia on ultrathin MoS2. Applied Catalysis B: Environmental, 2017, 200, 323-329.	10.8	232
106	Ni2P loading on Cd0.5Zn0.5S solid solution for exceptional photocatalytic nitrogen fixation under visible light. Chemical Engineering Journal, 2017, 307, 311-318.	6.6	176
107	Promoted Fixation of Molecular Nitrogen with Surface Oxygen Vacancies on Plasmonâ€Enhanced TiO ₂ Photoelectrodes. Angewandte Chemie - International Edition, 2018, 57, 5278-5282.	7.2	365
108	Photoredox catalysis over graphene aerogel-supported composites. Journal of Materials Chemistry A, 2018, 6, 4590-4604.	5.2	171
109	Analysis of Photocatalytic Nitrogen Fixation on Rutile TiO ₂ (110). ACS Sustainable Chemistry and Engineering, 2018, 6, 4648-4660.	3.2	79

#	Article	IF	CITATIONS
110	Promoted Fixation of Molecular Nitrogen with Surface Oxygen Vacancies on Plasmonâ€Enhanced TiO ₂ Photoelectrodes. Angewandte Chemie, 2018, 130, 5376-5380.	1.6	45
111	Aqueous electrocatalytic N2 reduction under ambient conditions. Nano Research, 2018, 11, 2992-3008.	5.8	221
112	Anchoring PdCu Amorphous Nanocluster on Graphene for Electrochemical Reduction of N ₂ to NH ₃ under Ambient Conditions in Aqueous Solution. Advanced Energy Materials, 2018, 8, 1800124.	10.2	454
113	Subwavelength optical lithography via classical light: A possible implementation. Physical Review A, 2018, 97, .	1.0	4
114	Electron affinity of liquid water. Nature Communications, 2018, 9, 247.	5.8	114
115	Different Atomic Terminations Affect the Photocatalytic Nitrogen Fixation of Bismuth Oxybromide: A First Principles Study. Chemistry - an Asian Journal, 2018, 13, 799-808.	1.7	21
116	Non-Transition-Metal Catalytic System for N ₂ Reduction to NH ₃ : AÂDensity Functional Theory Study of Al-Doped Graphene. Journal of Physical Chemistry Letters, 2018, 9, 570-576.	2.1	43
117	The Radiosensitizing Effect of Nanodiamonds (NDs) on HeLa Cells Under Xâ€Ray Irradiation. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700715.	0.8	4
118	Reduced 3d Transition Metal Oxides Work as Solid‣tate Sources of Solvated Electrons and Directly Inject Electrons into Water for H ₂ Production under Mild Thermal or IR Excitation. Advanced Sustainable Systems, 2018, 2, 1700139.	2.7	8
119	Deterministic Nanopatterning of Diamond Using Electron Beams. ACS Nano, 2018, 12, 2873-2882.	7.3	19
120	MXene-derived TiO ₂ @C/g-C ₃ N ₄ heterojunctions for highly efficient nitrogen photofixation. Journal of Materials Chemistry A, 2018, 6, 4102-4110.	5.2	333
121	Recent development on MoS2-based photocatalysis: A review. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2018, 35, 39-55.	5.6	404
122	Monochromatic Photocathodes from Graphene-Stabilized Diamondoids. Nano Letters, 2018, 18, 1099-1103.	4.5	8
123	Enhanced Photocatalytic Activity of Diamond Thin Films Using Embedded Ag Nanoparticles. ACS Applied Materials & Interfaces, 2018, 10, 5395-5403.	4.0	17
124	Facile Ammonia Synthesis from Electrocatalytic N ₂ Reduction under Ambient Conditions on N-Doped Porous Carbon. ACS Catalysis, 2018, 8, 1186-1191.	5.5	520
125	Photocatalytic NH 3 versus H 2 evolution over g-C 3 N 4 /Cs x WO 3 : O 2 and methanol tipping the scale. Applied Catalysis B: Environmental, 2018, 235, 197-206.	10.8	53
126	Efficient nitrogen fixation to ammonia on MXenes. Physical Chemistry Chemical Physics, 2018, 20, 14504-14512.	1.3	82
127	Highly efficient electrochemical ammonia synthesis <i>via</i> nitrogen reduction reactions on a VN nanowire array under ambient conditions. Chemical Communications, 2018, 54, 5323-5325.	2.2	203

		CITATION REP	ORT	
#	Article		IF	CITATIONS
128	A physical catalyst for the electrolysis of nitrogen to ammonia. Science Advances, 2018, 4, e1	700336.	4.7	264
129	Ammonia photosynthesis under ambient conditions using an efficient nanostructured FeS2/C solar-energy-material with water feedstock and nitrogen gas. Nano Energy, 2018, 48, 361-368	NT 3.	8.2	50
130	Boron Doped Diamond: A Designer Electrode Material for the Twenty-First Century. Annual Re Analytical Chemistry, 2018, 11, 463-484.	view of	2.8	152
131	Iron-titanium dioxide composite nanoparticles prepared with an energy effective method for e visible-light-driven photocatalytic nitrogen reduction to ammonia. Journal of Alloys and Compo 2018, 746, 147-152.	fficient ounds,	2.8	15
132	Effect of surface termination on the reactivity of nano-sized diamond particle surfaces for bio applications. Carbon, 2018, 134, 244-254.		5.4	16
133	Nitrogen reduction utilizing solvated electrons produced by thermal excitation of trapped elec in reduced titanium oxide. New Journal of Chemistry, 2018, 42, 6084-6090.	trons	1.4	8
134	The potential of manganese nitride based materials as nitrogen transfer reagents for nitrogen chemical looping. Applied Catalysis B: Environmental, 2018, 223, 60-66.		10.8	71
135	Photocatalytic fixation of nitrogen to ammonia: state-of-the-art advancements and future pro Materials Horizons, 2018, 5, 9-27.	spects.	6.4	586
136	Rational design of electrocatalysts and photo(electro)catalysts for nitrogen reduction to amm (NH ₃) under ambient conditions. Energy and Environmental Science, 2018, 11, 4	ionia 15-56.	15.6	1,217
137	Silicon Surface Photochemistry. , 2018, , 611-620.			3
138	Cr ₂ O ₃ nanofiber: a high-performance electrocatalyst toward artifici N ₂ fixation to NH ₃ under ambient conditions. Chemical Communic 2018, 54, 12848-12851.	al ations,	2.2	100
139	Ti ₃ C ₂ T _x (TÂ= F, OH) MXene nanosheets: conductive 2 ambient electrohydrogenation of N ₂ to NH ₃ . Journal of Materials Ch A, 2018, 6, 24031-24035.	D catalysts for nemistry	5.2	231
140	Nanostructured Bromide-Derived Ag Film: An Efficient Electrocatalyst for N2Reduction to NH3 Ambient Conditions. Inorganic Chemistry, 2018, 57, 14692-14697.	Junder	1.9	27
141	Potholeâ€rich Ultrathin WO ₃ Nanosheets that Trigger N≡N Bond Activation o Direct Nitrate Photosynthesis. Angewandte Chemie, 2019, 131, 741-745.	of Nitrogen for	1.6	21
142	Design, modification and application of semiconductor photocatalysts. Journal of the Taiwan Institute of Chemical Engineers, 2018, 93, 590-602.		2.7	94
143	Oxygen Vacancy Engineering Promoted Photocatalytic Ammonia Synthesis on Ultrathin Two-Dimensional Bismuth Oxybromide Nanosheets. Nano Letters, 2018, 18, 7372-7377.		4.5	308
144	Fabrication of Lattice-Doped TiO ₂ Nanofibers by Vapor-Phase Growth for Visible Light-Driven N ₂ Conversion to Ammonia. ACS Applied Materials & amp; Interfaces 37453-37460.	s, 2018, 10,	4.0	24
145	Mn ₃ O ₄ Nanocube: An Efficient Electrocatalyst Toward Artificial N ₂ Fixation to NH ₃ . Small, 2018, 14, e1803111.		5.2	126

#	Article	IF	CITATIONS
146	Production of ammonia via a chemical looping process based on metal imides as nitrogen carriers. Nature Energy, 2018, 3, 1067-1075.	19.8	207
147	Goldâ€Decorated Nanodiamonds: Powerful Multifunctional Materials for Sensing, Imaging, Diagnostics, and Therapy. European Journal of Inorganic Chemistry, 2018, 2018, 5138-5145.	1.0	7
148	Efficient and durable N ₂ reduction electrocatalysis under ambient conditions: β-FeOOH nanorods as a non-noble-metal catalyst. Chemical Communications, 2018, 54, 11332-11335.	2.2	144
149	Nitrogen-free commercial carbon cloth with rich defects for electrocatalytic ammonia synthesis under ambient conditions. Chemical Communications, 2018, 54, 11188-11191.	2.2	79
150	Ag nanosheets for efficient electrocatalytic N ₂ fixation to NH ₃ under ambient conditions. Chemical Communications, 2018, 54, 11427-11430.	2.2	238
151	Nitrogen Fixation Reaction Derived from Nanostructured Catalytic Materials. Advanced Functional Materials, 2018, 28, 1803309.	7.8	212
152	Electrochemical Ammonia Synthesis via Nitrogen Reduction Reaction on a MoS ₂ Catalyst: Theoretical and Experimental Studies. Advanced Materials, 2018, 30, e1800191.	11.1	697
153	Greening Ammonia toward the Solar Ammonia Refinery. Joule, 2018, 2, 1055-1074.	11.7	603
154	Fixation of atmospheric nitrogen by nanodiamonds. New Journal of Chemistry, 2018, 42, 11160-11164.	1.4	4
155	A Review of Electrocatalytic Reduction of Dinitrogen to Ammonia under Ambient Conditions. Advanced Energy Materials, 2018, 8, 1800369.	10.2	950
156	Photothermal effects during nanodiamond synthesis from a carbon aerogel in a laser-heated diamond anvil cell. Diamond and Related Materials, 2018, 87, 134-142.	1.8	12
157	Tuning Solvated Electrons by Polar–Nonpolar Oxide Heterostructure. Journal of Physical Chemistry Letters, 2018, 9, 3049-3056.	2.1	13
158	Ambient ammonia synthesis via palladium-catalyzed electrohydrogenation of dinitrogen at low overpotential. Nature Communications, 2018, 9, 1795.	5.8	620
159	Refining Defect States in W ₁₈ O ₄₉ by Mo Doping: A Strategy for Tuning N ₂ Activation towards Solar-Driven Nitrogen Fixation. Journal of the American Chemical Society, 2018, 140, 9434-9443.	6.6	722
160	Electrochemical N ₂ fixation to NH ₃ under ambient conditions: Mo ₂ N nanorod as a highly efficient and selective catalyst. Chemical Communications, 2018, 54, 8474-8477.	2.2	287
161	Electron-driven heterogeneous catalytic synthesis of ammonia: Current states and perspective. Carbon Resources Conversion, 2018, 1, 2-31.	3.2	50
162	Ambient Electrosynthesis of Ammonia: Electrode Porosity and Composition Engineering. Angewandte Chemie, 2018, 130, 12540-12544.	1.6	14
163	Single atom accelerates ammonia photosynthesis. Science China Chemistry, 2018, 61, 1187-1196.	4.2	107

#	Article	IF	CITATIONS
164	MoO ₃ nanosheets for efficient electrocatalytic N ₂ fixation to NH ₃ . Journal of Materials Chemistry A, 2018, 6, 12974-12977.	5.2	292
165	Emerging Applications of Plasmons in Driving CO ₂ Reduction and N ₂ Fixation. Advanced Materials, 2018, 30, e1802227.	11.1	155
166	New opportunities for efficient N ₂ fixation by nanosheet photocatalysts. Nanoscale, 2018, 10, 15429-15435.	2.8	111
167	Ambient N2 fixation to NH3 at ambient conditions: Using Nb2O5 nanofiber as a high-performance electrocatalyst. Nano Energy, 2018, 52, 264-270.	8.2	331
168	Nitrogen Fixation with Water on Carbon-Nitride-Based Metal-Free Photocatalysts with 0.1% Solar-to-Ammonia Energy Conversion Efficiency. ACS Applied Energy Materials, 2018, 1, 4169-4177.	2.5	103
169	Plasma physics of liquids—A focused review. Applied Physics Reviews, 2018, 5, 031103.	5.5	149
170	High-Efficiency Electrosynthesis of Ammonia with High Selectivity under Ambient Conditions Enabled by VN Nanosheet Array. ACS Sustainable Chemistry and Engineering, 2018, 6, 9545-9549.	3.2	170
171	The Use of Controls for Consistent and Accurate Measurements of Electrocatalytic Ammonia Synthesis from Dinitrogen. ACS Catalysis, 2018, 8, 7820-7827.	5.5	242
172	Atomically dispersed Au1 catalyst towards efficient electrochemical synthesis of ammonia. Science Bulletin, 2018, 63, 1246-1253.	4.3	225
173	Efficient Electrochemical N ₂ Reduction to NH ₃ on MoN Nanosheets Array under Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2018, 6, 9550-9554.	3.2	210
174	MnO ₂ nanoarrays: an efficient catalyst electrode for nitrite electroreduction toward sensing and NH ₃ synthesis applications. Chemical Communications, 2018, 54, 10340-10342.	2.2	41
175	Enabling Effective Electrocatalytic N ₂ Conversion to NH ₃ by the TiO ₂ Nanosheets Array under Ambient Conditions. ACS Applied Materials & Interfaces, 2018, 10, 28251-28255.	4.0	222
176	TiO ₂ nanoparticles–reduced graphene oxide hybrid: an efficient and durable electrocatalyst toward artificial N ₂ fixation to NH ₃ under ambient conditions. Journal of Materials Chemistry A, 2018, 6, 17303-17306.	5.2	165
177	High-performance artificial nitrogen fixation at ambient conditions using a metal-free electrocatalyst. Nature Communications, 2018, 9, 3485.	5.8	615
178	Ambient Electrochemical Synthesis of Ammonia from Nitrogen and Water Catalyzed by Flower‣ike Gold Microstructures. ChemSusChem, 2018, 11, 3480-3485.	3.6	176
179	Achieving a Recordâ€High Yield Rate of 120.9 for N ₂ Electrochemical Reduction over Ru Singleâ€Atom Catalysts. Advanced Materials, 2018, 30, e1803498.	11.1	736
180	Combining nanostructuration with boron doping to alter sub band gap acceptor states in diamond materials. Journal of Materials Chemistry A, 2018, 6, 16645-16654.	5.2	14
181	Raman spectroscopy study of detonation nanodiamond. Diamond and Related Materials, 2018, 87, 248-260.	1.8	73

#	Article	IF	CITATIONS
182	Photocatalytic nitrogen fixation: An attractive approach for artificial photocatalysis. Chinese Journal of Catalysis, 2018, 39, 1180-1188.	6.9	117
183	Ambient Electrosynthesis of Ammonia: Electrode Porosity and Composition Engineering. Angewandte Chemie - International Edition, 2018, 57, 12360-12364.	7.2	160
184	Efficient solar-driven conversion of nitrogen to ammonia in pure water <i>via</i> hydrogenated bismuth oxybromide. RSC Advances, 2018, 8, 21871-21878.	1.7	37
185	Single-atom molybdenum immobilized on photoactive carbon nitride as efficient photocatalysts for ambient nitrogen fixation in pure water. Journal of Materials Chemistry A, 2019, 7, 19831-19837.	5.2	108
186	Atomic-level insights in tuning defective structures for nitrogen photofixation over amorphous SmOCl nanosheets. Nano Energy, 2019, 65, 104003.	8.2	36
187	Ceria-reduced graphene oxide nanocomposite as an efficient electrocatalyst towards artificial N ₂ conversion to NH ₃ under ambient conditions. Chemical Communications, 2019, 55, 10717-10720.	2.2	33
188	Diamond surface functionalization: from gemstone to photoelectrochemical applications. Journal of Materials Chemistry C, 2019, 7, 10134-10165.	2.7	62
189	Br doped porous bismuth oxychloride micro-sheets with rich oxygen vacancies and dominating {0 0 1} facets for enhanced nitrogen photo-fixation performances. Journal of Colloid and Interface Science, 2019, 556, 111-119.	5.0	66
190	Photocatalytic ammonia synthesis: Recent progress and future. EnergyChem, 2019, 1, 100013.	10.1	204
191	Amorphous Sn/Crystalline SnS ₂ Nanosheets via In Situ Electrochemical Reduction Methodology for Highly Efficient Ambient N ₂ Fixation. Small, 2019, 15, e1902535.	5.2	80
192	Enhanced Electrochemical N ₂ Reduction to NH ₃ on Reduced Graphene Oxide by Tannic Acid Modification. ACS Sustainable Chemistry and Engineering, 2019, 7, 14368-14372.	3.2	17
193	Electrospun TiC/C nanofibers for ambient electrocatalytic N ₂ reduction. Journal of Materials Chemistry A, 2019, 7, 19657-19661.	5.2	48
194	Metal-Free B@ <i>g</i> -CN: Visible/Infrared Light-Driven Single Atom Photocatalyst Enables Spontaneous Dinitrogen Reduction to Ammonia. Nano Letters, 2019, 19, 6391-6399.	4.5	236
195	Metal–Nonmetal One-Dimensional Electrocatalyst: AuPdP Nanowires for Ambient Nitrogen Reduction to Ammonia. ACS Sustainable Chemistry and Engineering, 2019, 7, 15772-15777.	3.2	37
196	Photocatalytic and electrocatalytic approaches towards atmospheric nitrogen reduction to ammonia under ambient conditions. Nano Convergence, 2019, 6, 15.	6.3	62
197	Nanoporous Gold Embedded ZIF Composite for Enhanced Electrochemical Nitrogen Fixation. Angewandte Chemie - International Edition, 2019, 58, 15362-15366.	7.2	205
198	Spinel LiMn ₂ O ₄ Nanofiber: An Efficient Electrocatalyst for N ₂ Reduction to NH ₃ under Ambient Conditions. Inorganic Chemistry, 2019, 58, 9597-9601.	1.9	90
199	Efficient Photoelectrochemical Route for the Ambient Reduction of N ₂ to NH ₃ Based on Nanojunctions Assembled from MoS ₂ Nanosheets and TiO ₂ . ACS Applied Materials & Interfaces, 2019, 11, 28809-28817.	4.0	123

#	Article	IF	CITATIONS
200	Boosting electrocatalytic nitrogen fixation <i>via</i> energy-efficient anodic oxidation of sodium gluconate. Chemical Communications, 2019, 55, 10170-10173.	2.2	46
201	ZIF-67-Derived Cobalt/Nitrogen-Doped Carbon Composites for Efficient Electrocatalytic N ₂ Reduction. ACS Applied Energy Materials, 2019, 2, 6071-6077.	2.5	67
202	Ambient electrocatalytic nitrogen reduction on a MoO ₂ /graphene hybrid: experimental and DFT studies. Catalysis Science and Technology, 2019, 9, 4248-4254.	2.1	87
203	sp ² /sp ³ Framework from Diamond Nanocrystals: A Key Bridge of Carbonaceous Structure to Carbocatalysis. ACS Catalysis, 2019, 9, 7494-7519.	5.5	86
204	Nitrogenâ€Doped NiO Nanosheet Array for Boosted Electrocatalytic N ₂ Reduction. ChemCatChem, 2019, 11, 4529-4536.	1.8	74
205	ZnO Quantum Dots Coupled with Graphene toward Electrocatalytic N ₂ Reduction: Experimental and DFT Investigations. Chemistry - A European Journal, 2019, 25, 11933-11939.	1.7	71
206	Activated TiO2 with tuned vacancy for efficient electrochemical nitrogen reduction. Applied Catalysis B: Environmental, 2019, 257, 117896.	10.8	220
207	Efficient Nitrogen Fixation Catalyzed by Gallium Nitride Nanowire Using Nitrogen and Water. IScience, 2019, 17, 208-216.	1.9	16
208	Excavated cubic platinum–iridium alloy nanocrystals with high-index facets as highly efficient electrocatalysts in N ₂ fixation to NH ₃ . Chemical Communications, 2019, 55, 9335-9338.	2.2	48
209	An MnO ₂ –Ti ₃ C ₂ T _x MXene nanohybrid: an efficient and durable electrocatalyst toward artificial N ₂ fixation to NH ₃ under ambient conditions. Journal of Materials Chemistry A, 2019, 7, 18823-18827.	5.2	107
210	Boosted Electrocatalytic N ₂ Reduction on Fluorine-Doped SnO ₂ Mesoporous Nanosheets. Inorganic Chemistry, 2019, 58, 10424-10431.	1.9	84
211	Doping strain induced bi-Ti3+ pairs for efficient N2 activation and electrocatalytic fixation. Nature Communications, 2019, 10, 2877.	5.8	279
212	Ambient electrocatalytic N ₂ reduction to NH ₃ by metal fluorides. Journal of Materials Chemistry A, 2019, 7, 17761-17765.	5.2	37
213	Photocatalytic oxidation of methanol to formaldehyde on bismuth-based semiconductors. Journal of Hazardous Materials, 2019, 380, 120822.	6.5	35
214	Doping single transition metal atom into PtTe sheet for catalyzing nitrogen reduction and hydrogen evolution reactions. Journal of Chemical Physics, 2019, 151, 144710.	1.2	9
215	Nanoporous Gold Embedded ZIF Composite for Enhanced Electrochemical Nitrogen Fixation. Angewandte Chemie, 2019, 131, 15506-15510.	1.6	46
216	Greatly Improving Electrochemical N ₂ Reduction over TiO ₂ Nanoparticles by Iron Doping. Angewandte Chemie, 2019, 131, 18620-18624.	1.6	44
217	Photoactive Earthâ€Abundant Iron Pyrite Catalysts for Electrocatalytic Nitrogen Reduction Reaction. Small, 2019, 15, e1904723.	5.2	33

#	Article	IF	CITATIONS
218	Greatly Improving Electrochemical N ₂ Reduction over TiO ₂ Nanoparticles by Iron Doping. Angewandte Chemie - International Edition, 2019, 58, 18449-18453.	7.2	379
219	Web-Net: A Novel Nest Networks with Ultra-Hierarchical Sampling for Building Extraction from Aerial Imageries. Remote Sensing, 2019, 11, 1897.	1.8	36
220	Catalyst-free, highly selective synthesis of ammonia from nitrogen and water by a plasma electrolytic system. Science Advances, 2019, 5, eaat5778.	4.7	180
221	Probing Photocatalytic Nitrogen Reduction to Ammonia with Water on the Rutile TiO ₂ (110) Surface by First-Principles Calculations. ACS Catalysis, 2019, 9, 9178-9187.	5.5	56
222	Facilitating nitrogen accessibility to boron-rich covalent organic frameworks via electrochemical excitation for efficient nitrogen fixation. Nature Communications, 2019, 10, 3898.	5.8	191
223	An Fe ₂ O ₃ nanoparticle-reduced graphene oxide composite for ambient electrocatalytic N ₂ reduction to NH ₃ . Inorganic Chemistry Frontiers, 2019, 6, 2682-2685.	3.0	35
224	Cr ₃ C ₂ Nanoparticle-Embedded Carbon Nanofiber for Artificial Synthesis of NH ₃ through N ₂ Fixation under Ambient Conditions. ACS Applied Materials & amp; Interfaces, 2019, 11, 35764-35769.	4.0	43
225	Low energy (1–19 eV) electron scattering from condensed thymidine (dT) I: absolute vibrational excitation cross sections. Physical Chemistry Chemical Physics, 2019, 21, 23808-23817.	1.3	2
226	Reduced State of the Graphene Oxide@Polyoxometalate Nanocatalyst Achieving High-Efficiency Nitrogen Fixation under Light Driving Conditions. ACS Applied Materials & Interfaces, 2019, 11, 37927-37938.	4.0	45
227	Recent Developments in Polymeric Carbon Nitride-Derived Photocatalysts and Electrocatalysts for Nitrogen Fixation. ACS Catalysis, 2019, 9, 10260-10278.	5.5	116
228	Energetic hot electrons from exciton-to-hot electron upconversion in Mn-doped semiconductor nanocrystals. Journal of Chemical Physics, 2019, 151, 120901.	1.2	17
229	One-pot synthesis of bi-metallic PdRu tripods as an efficient catalyst for electrocatalytic nitrogen reduction to ammonia. Journal of Materials Chemistry A, 2019, 7, 801-805.	5.2	136
230	Over 56.55% Faradaic efficiency of ambient ammonia synthesis enabled by positively shifting the reaction potential. Nature Communications, 2019, 10, 341.	5.8	412
231	Pd–Co nanoalloys nested on CuO nanosheets for efficient electrocatalytic N2 reduction and room-temperature Suzuki–Miyaura coupling reaction. Nanoscale, 2019, 11, 1379-1385.	2.8	40
232	Electronic Structure Tunability of Diamonds by Surface Functionalization. Journal of Physical Chemistry C, 2019, 123, 4168-4177.	1.5	20
233	Unexpected Hydrated Electron Source for Preparative Visible-Light Driven Photoredox Catalysis. Journal of the American Chemical Society, 2019, 141, 2122-2127.	6.6	120
234	CuO/Graphene Nanocomposite for Nitrogen Reduction Reaction. ChemCatChem, 2019, 11, 1441-1447.	1.8	95
235	Optical limiting properties of surface functionalized nanodiamonds probed by the Z-scan method. Scientific Reports, 2019, 9, 519.	1.6	23

#	Article	IF	CITATIONS
236	Trimetallic PdCulr with long-spined sea-urchin-like morphology for ambient electroreduction of nitrogen to ammonia. Journal of Materials Chemistry A, 2019, 7, 3190-3196.	5.2	45
237	Recent progress towards mild-condition ammonia synthesis. Journal of Energy Chemistry, 2019, 36, 25-36.	7.1	202
238	Electrochemical synthesis of ammonia from N ₂ and H ₂ O using a typical non-noble metal carbon-based catalyst under ambient conditions. Catalysis Science and Technology, 2019, 9, 1208-1214.	2.1	37
239	Electrochemical synthesis of ammonia by zirconia-based catalysts at ambient conditions. Applied Catalysis A: General, 2019, 581, 116-122.	2.2	38
240	MoS2 nanosheets supported gold nanoparticles for electrochemical nitrogen fixation at various pH value. Electrochimica Acta, 2019, 317, 34-41.	2.6	44
241	Ultrathin g-C3N4 with enriched surface carbon vacancies enables highly efficient photocatalytic nitrogen fixation. Journal of Colloid and Interface Science, 2019, 553, 530-539.	5.0	112
242	Greatly Enhanced Electrocatalytic N ₂ Reduction on TiO ₂ via V Doping. Small Methods, 2019, 3, 1900356.	4.6	164
243	A rigorous electrochemical ammonia synthesis protocol with quantitative isotope measurements. Nature, 2019, 570, 504-508.	13.7	1,006
244	Ambient electrohydrogenation of N ₂ for NH ₃ synthesis on non-metal boron phosphide nanoparticles: the critical role of P in boosting the catalytic activity. Journal of Materials Chemistry A, 2019, 7, 16117-16121.	5.2	105
245	Experimental and theoretical understanding on electrochemical activation and inactivation processes of Nb ₃ O ₇ (OH) for ambient electrosynthesis of NH ₃ . Journal of Materials Chemistry A, 2019, 7, 16969-16978.	5.2	39
246	Ambient electrochemical N ₂ reduction to NH ₃ under alkaline conditions enabled by a layered K ₂ Ti ₄ O ₉ nanobelt. Chemical Communications, 2019, 55, 7546-7549.	2.2	16
247	Electrocatalytic Nitrogen Reduction to Ammonia by Fe ₂ O ₃ Nanorod Array on Carbon Cloth. ACS Sustainable Chemistry and Engineering, 2019, 7, 11754-11759.	3.2	77
248	B ₄ C nanosheets decorated with <i>in situ</i> -derived boron-doped graphene quantum dots for high-efficiency ambient N ₂ fixation. Chemical Communications, 2019, 55, 7406-7409.	2.2	43
249	TiS ₂ nanosheets for efficient electrocatalytic N ₂ fixation to NH ₃ under ambient conditions. Inorganic Chemistry Frontiers, 2019, 6, 1986-1989.	3.0	19
250	Oxygen vacancy enables electrochemical N2 fixation over WO3 with tailored structure. Nano Energy, 2019, 62, 869-875.	8.2	150
251	Enhanced photocatalytic N2 fixation by promoting N2 adsorption with a co-catalyst. Science Bulletin, 2019, 64, 918-925.	4.3	109
252	Fluorine-free Ti ₃ C ₂ T _x (T = O, OH) nanosheets (â^¼50–100 nm) for nitrogen fixation under ambient conditions. Journal of Materials Chemistry A, 2019, 7, 14462-14465.	5.2	76
253	Advanced Nonâ€metallic Catalysts for Electrochemical Nitrogen Reduction under Ambient Conditions. Chemistry - A European Journal, 2019, 25, 12464-12485	1.7	57

#	Article	IF	CITATIONS
254	A perovskite La ₂ Ti ₂ O ₇ nanosheet as an efficient electrocatalyst for artificial N ₂ fixation to NH ₃ in acidic media. Chemical Communications, 2019, 55, 6401-6404.	2.2	74
255	Synthesis of Fe2O3 loaded porous g-C3N4 photocatalyst for photocatalytic reduction of dinitrogen to ammonia. Chemical Engineering Journal, 2019, 373, 572-579.	6.6	181
256	Diamond photochemistry with visible light. Diamond and Related Materials, 2019, 96, 195-197.	1.8	4
257	Anion (O, N, C, and S) vacancies promoted photocatalytic nitrogen fixation. Green Chemistry, 2019, 21, 2852-2867.	4.6	121
258	Clustered DNA Damage Induced by 2–20 eV Electrons and Transient Anions: General Mechanism and Correlation to Cell Death. Journal of Physical Chemistry Letters, 2019, 10, 2985-2990.	2.1	33
259	Bimetallic Ag ₃ Cu porous networks for ambient electrolysis of nitrogen to ammonia. Journal of Materials Chemistry A, 2019, 7, 12526-12531.	5.2	67
260	Nanosecond transient absorption studies of the pH-dependent hydrated electron quenching by HSO3â^'. Photochemical and Photobiological Sciences, 2019, 18, 1526-1532.	1.6	23
261	Boron Nanosheet: An Elemental Two-Dimensional (2D) Material for Ambient Electrocatalytic N ₂ -to-NH ₃ Fixation in Neutral Media. ACS Catalysis, 2019, 9, 4609-4615.	5.5	253
262	Efficient photocatalytic nitrogen fixation under ambient conditions enabled by the heterojunctions of n-type Bi ₂ MoO ₆ and oxygen-vacancy-rich p-type BiOBr. Nanoscale, 2019, 11, 10439-10445.	2.8	160
263	MnO–carbon nanofiber composite material toward electro-chemical N ₂ fixation under ambient conditions. New Journal of Chemistry, 2019, 43, 7932-7935.	1.4	12
264	Oxygen Vacancies in Ta ₂ O ₅ Nanorods for Highly Efficient Electrocatalytic N ₂ Reduction to NH ₃ under Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2019, 7, 9622-9628.	3.2	56
265	Synergistic electrocatalytic N ₂ reduction using a PTCA nanorod–rGO hybrid. Journal of Materials Chemistry A, 2019, 7, 12446-12450.	5.2	27
266	In Situ Hydrothermal Growth of TiO ₂ Nanoparticles on a Conductive Ti ₃ C ₂ T _{<i>x</i>} MXene Nanosheet: A Synergistically Active Ti-Based Nanohybrid Electrocatalyst for Enhanced N ₂ Reduction to NH ₃ at Ambient Conditions. Inorganic Chemistry, 2019, 58, 5414-5418.	1.9	71
267	Construction of PdO–Pd interfaces assisted by laser irradiation for enhanced electrocatalytic N ₂ reduction reaction. Journal of Materials Chemistry A, 2019, 7, 12627-12634.	5.2	86
268	Promoting photocatalytic nitrogen fixation with alkali metal cations and plasmonic nanocrystals. Nanoscale, 2019, 11, 10072-10079.	2.8	54
269	Site-Selective Growth of Crystalline Ceria with Oxygen Vacancies on Gold Nanocrystals for Near-Infrared Nitrogen Photofixation. Journal of the American Chemical Society, 2019, 141, 5083-5086.	6.6	222
270	Metal-free N, S co-doped graphene for efficient and durable nitrogen reduction reaction. Journal of Materials Science, 2019, 54, 9088-9097.	1.7	79
271	High-yield production of few-layer boron nanosheets for efficient electrocatalytic N ₂ reduction. Chemical Communications, 2019, 55, 4246-4249.	2.2	96

#	Article	IF	CITATIONS
272	Hexagonal boron nitride nanosheet for effective ambient N2 fixation to NH3. Nano Research, 2019, 12, 919-924.	5.8	120
273	Oxygenâ€Doped Porous Carbon Nanosheet for Efficient N ₂ Fixation to NH ₃ at Ambient Conditions. ChemistrySelect, 2019, 4, 3547-3550.	0.7	21
274	Boosting electrocatalytic N ₂ reduction to NH ₃ on β-FeOOH by fluorine doping. Chemical Communications, 2019, 55, 3987-3990.	2.2	104
275	Mn3O4 nanoparticles@reduced graphene oxide composite: An efficient electrocatalyst for artificial N2 fixation to NH3 at ambient conditions. Nano Research, 2019, 12, 1093-1098.	5.8	93
276	Nitrogen (N), Phosphorus (P)-Codoped Porous Carbon as a Metal-Free Electrocatalyst for N ₂ Reduction under Ambient Conditions. ACS Applied Materials & Interfaces, 2019, 11, 12408-12414.	4.0	103
277	Electrocatalytic N ₂ -to-NH ₃ conversion with high faradaic efficiency enabled using a Bi nanosheet array. Chemical Communications, 2019, 55, 5263-5266.	2.2	95
278	Diamond Colloidal Probe Force Spectroscopy. Analytical Chemistry, 2019, 91, 5537-5541.	3.2	13
279	Fabrication of an Feâ€Doped SrTiO ₃ Photocatalyst with Enhanced Dinitrogen Photofixation Performance. European Journal of Inorganic Chemistry, 2019, 2019, 2182-2192.	1.0	20
280	Efficient electrohydrogenation of N ₂ to NH ₃ by oxidized carbon nanotubes under ambient conditions. Chemical Communications, 2019, 55, 4997-5000.	2.2	79
281	Structured Polyaniline: An Efficient and Durable Electrocatalyst for the Nitrogen Reduction Reaction in Acidic Media. ChemElectroChem, 2019, 6, 2215-2218.	1.7	16
282	Nanoparticle-Based Diamond Electrodes. Topics in Applied Physics, 2019, , 257-312.	0.4	0
283	In Situ Growth of Nitrogen-Doped Carbon-Coated γ-Fe ₂ O ₃ Nanoparticles on Carbon Fabric for Electrochemical N ₂ Fixation. ACS Sustainable Chemistry and Engineering, 2019, 7, 8853-8859.	3.2	58
284	Effect by Diamond Surface Modification on Biomolecular Adhesion. Materials, 2019, 12, 865.	1.3	3
285	Carbon Nanomaterials for Energy and Biorelated Catalysis: Recent Advances and Looking Forward. ACS Central Science, 2019, 5, 389-408.	5.3	67
286	Ambient Electrosynthesis of Ammonia on a Core–Shellâ€5tructured Au@CeO ₂ Catalyst: Contribution of Oxygen Vacancies in CeO ₂ . Chemistry - A European Journal, 2019, 25, 5904-5911.	1.7	69
287	Highâ€Performance Electrocatalytic Conversion of N ₂ to NH ₃ Using Oxygenâ€Vacancyâ€Rich TiO ₂ In Situ Grown on Ti ₃ C ₂ T <i>_x</i> MXene. Advanced Energy Materials, 2019, 9, 1803406.	10.2	346
288	Sulfur dots–graphene nanohybrid: a metal-free electrocatalyst for efficient N ₂ -to-NH ₃ fixation under ambient conditions. Chemical Communications, 2019, 55, 3152-3155.	2.2	106
289	K Atom Promotion of O ₂ Chemisorption on Au(111) Surface. Journal of the American Chemical Society, 2019, 141, 4438-4444.	6.6	31

ARTICLE IF CITATIONS A Flowerâ€like Bismuth Oxide as an Efficient, Durable and Selective Electrocatalyst for Artificial 290 1.8 31 N₂ Fixation in Ambient Condition. ChemCatChem, 2019, 11, 1884-1888. High-performance N₂-to-NH₃ fixation by a metal-free electrocatalyst. 2.8 Nanoscale, 2019, 11, 4231-4235. Dendritic Cu: a high-efficiency electrocatalyst for N₂ fixation to NH₃ under 292 2.2 68 ambient conditions. Chemical Communications, 2019, 55, 14474-14477. Ultrasmall V₈C₇ nanoparticles embedded in conductive carbon for efficient electrocatalytic N₂ reduction toward ambient NH₃ production. Journal of Materials Chemistry A, 2019, 7, 26227-26230. PdP₂ nanoparticlesâ€"reduced graphene oxide for electrocatalytic N₂ conversion to NH₃ under ambient conditions. Journal of Materials Chemistry A, 2019, 7, 294 5.2 81 24760-24764. Ruthenium(<scp>iii</scp>) polyethyleneimine complexes for bifunctional ammonia production and biomass upgrading. Journal of Materials Chemistry A, 2019, 7, 25433-25440. 5.2 Electrochemical reduction of N₂ to ammonia on Co single atom embedded N-doped 296 5.2 51 porous carbon under ambient conditions. Journal of Materials Chemistry A, 2019, 7, 26358-26363. High-efficiency electrocatalyst for N₂ conversion to NH₃ based on Au 2.2 26 nanoparticles loaded on defective WO_{3â[^]x}. Chemical Communications, 2019, 55, 13307-13310. Amorphous Sulfur Decorated Gold Nanowires as Efficient Electrocatalysts toward Ambient Ammonia 298 3.2 30 Synthesis. ACS Sustainable Chemistry and Engineering, 2019, 7, 19969-19974. Achieving 59% faradaic efficiency of the N₂ electroreduction reaction in an aqueous Zn–N₂ battery by facilely regulating the surface mass transport on metallic copper. Chemical Communications, 2019, 55, 12801-12804. 2.2 Ambient Nitrogen Reduction to Ammonia Electrocatalyzed by Bimetallic PdRu Porous Nanostructures. 300 3.2 94 ACS Sustainable Chemistry and Engineering, 2019, 7, 2400-2405. La2O3 nanoplate: An efficient electrocatalyst for artificial N2 fixation to NH3 with excellent 38 selectivity at ambient condition. Electrochímica Acta, 2019, 298, 106-111. High-Performance N₂-to-NH₃ Conversion Electrocatalyzed by 302 5.3 292 Mo₂C Nanorod. ACS Central Science, 2019, 5, 116-121. Review on photocatalytic and electrocatalytic artificial nitrogen fixation for ammonia synthesis at 5.8 mild conditions: Advances, challenges and perspectives. Nano Research, 2019, 12, 1229-1249. Photocatalysis and Photoelectrocatalysis Methods of Nitrogen Reduction for Sustainable Ammonia 304 4.6 144 Synthesis. Small Methods, 2019, 3, 1800352. Boron-Doped TiO₂ for Efficient Electrocatalytic N₂ Fixation to NH₃ at Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2019, 7, 117-122. Environmentally Friendly Functionalization of Porous Carbon Electrodes for Aqueous-Based 306 1.1 10 Electrochemical Capacitors. IEEE Nanotechnology Magazine, 2019, 18, 73-82. Potholeâ€rich Ultrathin WO₃ Nanosheets that Trigger Nâ‰iN Bond Activation of Nitrogen for Direct Nitrate Photosynthesis. Angewandte Chemie - International Edition, 2019, 58, 731-735.

#	Article	IF	CITATIONS
308	Photoelectrochemical Synthesis of Ammonia on the Aerophilic-Hydrophilic Heterostructure with 37.8% Efficiency. CheM, 2019, 5, 617-633.	5.8	241
309	Electrochemical Fabrication of Porous Au Film on Ni Foam for Nitrogen Reduction to Ammonia. Small, 2019, 15, e1804769.	5.2	132
310	In-situ approach to fabricate BiOI photocathode with oxygen vacancies: Understanding the N2 reduced behavior in photoelectrochemical system. Chemical Engineering Journal, 2019, 362, 349-356.	6.6	121
311	g-C3N4 nanosheets decorated with carbon dots and CdS nanoparticles: Novel nanocomposites with excellent nitrogen photofixation ability under simulated solar irradiation. Ceramics International, 2019, 45, 2542-2555.	2.3	95
312	Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation. Angewandte Chemie - International Edition, 2019, 58, 2321-2325.	7.2	543
313	Sâ€Doped Carbon Nanospheres: An Efficient Electrocatalyst toward Artificial N ₂ Fixation to NH ₃ . Small Methods, 2019, 3, 1800251.	4.6	165
314	Atomically Dispersed Molybdenum Catalysts for Efficient Ambient Nitrogen Fixation. Angewandte Chemie, 2019, 131, 2343-2347.	1.6	95
315	Electrocatalytic N ₂ Fixation over Hollow VO ₂ Microspheres at Ambient Conditions. ChemElectroChem, 2019, 6, 1014-1018.	1.7	59
316	Enabling the electrocatalytic fixation of N ₂ to NH ₃ by C-doped TiO ₂ nanoparticles under ambient conditions. Nanoscale Advances, 2019, 1, 961-964.	2.2	44
317	A Biomassâ€Derived Carbonâ€Based Electrocatalyst for Efficient N ₂ Fixation to NH ₃ under Ambient Conditions. Chemistry - A European Journal, 2019, 25, 1914-1917.	1.7	68
318	Defect engineering: A versatile tool for tuning the activation of key molecules in photocatalytic reactions. Journal of Energy Chemistry, 2019, 37, 43-57.	7.1	143
319	Fe-Pt nanoclusters modified Mott-Schottky photocatalysts for enhanced ammonia synthesis at ambient conditions. Applied Catalysis B: Environmental, 2020, 262, 118276.	10.8	40
320	Recent Advanced Materials for Electrochemical and Photoelectrochemical Synthesis of Ammonia from Dinitrogen: One Step Closer to a Sustainable Energy Future. Advanced Energy Materials, 2020, 10, 1902020.	10.2	113
321	RuO2-loaded TiO2–MXene as a high performance photocatalyst for nitrogen fixation. Journal of Physics and Chemistry of Solids, 2020, 136, 109141.	1.9	54
322	New insights into mechanisms on electrochemical N2 reduction reaction driven by efficient zero-valence Cu nanoparticles. Journal of Power Sources, 2020, 448, 227417.	4.0	22
323	Facile synthesis of a Ru-dispersed N-doped carbon framework catalyst for electrochemical nitrogen reduction. Catalysis Science and Technology, 2020, 10, 1336-1342.	2.1	44
324	Electrochemical ammonia synthesis through N2 and H2O under ambient conditions: Theory, practices, and challenges for catalysts and electrolytes. Nano Energy, 2020, 69, 104469.	8.2	123
325	Point-defect-optimized electron distribution for enhanced electrocatalysis: Towards the perfection of the imperfections. Nano Today, 2020, 31, 100833.	6.2	52

#	Article	IF	CITATIONS
326	Ti ³⁺ self-doped TiO _{2â^'x} nanowires for efficient electrocatalytic N ₂ reduction to NH ₃ . Chemical Communications, 2020, 56, 1074-1077.	2.2	49
327	Efficient electrocatalytic conversion of N ₂ to NH ₃ on NiWO ₄ under ambient conditions. Nanoscale, 2020, 12, 1478-1483.	2.8	23
328	An ultrasmall Ru ₂ P nanoparticles–reduced graphene oxide hybrid: an efficient electrocatalyst for NH ₃ synthesis under ambient conditions. Journal of Materials Chemistry A, 2020, 8, 77-81.	5.2	115
329	In2O3 nanoparticle-reduced graphene oxide hybrid for electrocatalytic nitrogen fixation: Computational and experimental studies. Journal of Materials Science, 2020, 55, 4624-4632.	1.7	41
330	FeOOH quantum dots decorated graphene sheet: An efficient electrocatalyst for ambient N2 reduction. Nano Research, 2020, 13, 209-214.	5.8	48
331	High-performance nitrogen electroreduction at low overpotential by introducing Pb to Pd nanosponges. Applied Catalysis B: Environmental, 2020, 265, 118481.	10.8	62
332	Hierarchical hollow nanotubes of NiFeV-layered double hydroxides@CoVP heterostructures towards efficient, pH-universal electrocatalytical nitrogen reduction reaction to ammonia. Applied Catalysis B: Environmental, 2020, 265, 118559.	10.8	252
333	Tuning electronic structure of PdZn nanocatalyst via acid-etching strategy for highly selective and stable electrolytic nitrogen fixation under ambient conditions. Applied Catalysis B: Environmental, 2020, 265, 118568.	10.8	42
334	Mesoporous Au ₃ Pd Film on Ni Foam: A Self-Supported Electrocatalyst for Efficient Synthesis of Ammonia. ACS Applied Materials & Interfaces, 2020, 12, 436-442.	4.0	49
335	Bioinspired Electrocatalyst for Electrochemical Reduction of N ₂ to NH ₃ in Ambient Conditions. ACS Applied Materials & Interfaces, 2020, 12, 2445-2451.	4.0	39
336	DyF ₃ : An Efficient Electrocatalyst for N ₂ Fixation to NH ₃ under Ambient Conditions. Chemistry - an Asian Journal, 2020, 15, 487-489.	1.7	36
337	Multi-functional Mo-doping in MnO2 nanoflowers toward efficient and robust electrocatalytic nitrogen fixation. Applied Catalysis B: Environmental, 2020, 264, 118525.	10.8	211
338	Plasma-engineered NiO nanosheets with enriched oxygen vacancies for enhanced electrocatalytic nitrogen fixation. Inorganic Chemistry Frontiers, 2020, 7, 455-463.	3.0	79
339	Support effect boosting the electrocatalytic N ₂ reduction activity of Ni ₂ P/N,P-codoped carbon nanosheet hybrids. Journal of Materials Chemistry A, 2020, 8, 2691-2700.	5.2	32
340	P-Doped graphene toward enhanced electrocatalytic N ₂ reduction. Chemical Communications, 2020, 56, 1831-1834.	2.2	67
341	Fine rhodium phosphides nanoparticles embedded in N, P dual-doped carbon film: New efficient electrocatalysts for ambient nitrogen fixation. Applied Catalysis B: Environmental, 2020, 265, 118589.	10.8	60
342	CoS ₂ Nanoparticles-Embedded N-Doped Carbon Nanobox Derived from ZIF-67 for Electrocatalytic N ₂ -to-NH ₃ Fixation under Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2020, 8, 29-33.	3.2	46
343	Ambient Electrochemical N ₂ Reduction to NH ₃ on Nitrogen and Phosphorus Coâ€doped Porous Carbon with Trace Iron in Alkaline Electrolytes. ChemElectroChem, 2020, 7, 212-216.	1.7	11

#	ARTICLE	IF	CITATIONS
344	Reduced graphene oxides with engineered defects enable efficient electrochemical reduction of dinitrogen to ammonia in wide pH range. Nano Energy, 2020, 68, 104323.	8.2	64
345	Nano-diamond based photocatalysis for solar hydrogen production. International Journal of Hydrogen Energy, 2020, 45, 31538-31554.	3.8	15
346	Threeâ€Phase Electrolysis by Gold Nanoparticle on Hydrophobic Interface for Enhanced Electrochemical Nitrogen Reduction Reaction. Advanced Science, 2020, 7, 2002630.	5.6	69
347	Construction of upconversion fluoride/attapulgite nanocomposite for visible-light-driven photocatalytic nitrogen fixation. Frontiers of Materials Science, 2020, 14, 469-480.	1.1	5
348	Electrostatic promotion of the catalyst activity for ammonia photosynthesis upon a robust affordable nanostructured uni-electrodic photodevice/reactor. Catalysis Science and Technology, 2020, 10, 7998-8004.	2.1	5
349	Two-Dimensional Supramolecular Nanoarchitectures of Polypseudorotaxanes Based on Cucurbit[8]uril for Highly Efficient Electrochemical Nitrogen Reduction. Chemistry of Materials, 2020, 32, 8724-8732.	3.2	19
351	Cu ₃ P nanoparticle-reduced graphene oxide hybrid: an efficient electrocatalyst to realize N ₂ -to-NH ₃ conversion under ambient conditions. Chemical Communications, 2020, 56, 9328-9331.	2.2	54
352	Atomic-level active sites steering in ultrathin photocatalysts to trigger high efficiency nitrogen fixation. Chemical Engineering Journal, 2020, 402, 126208.	6.6	40
353	Work function regulation of nitrogen-doped carbon nanotubes triggered by metal nanoparticles for efficient electrocatalytic nitrogen fixation. Journal of Materials Chemistry A, 2020, 8, 26066-26074.	5.2	32
354	Electrocatalytic reduction of nitrogen to ammonia under ambient conditions using a nanorod-structured MoN catalyst. New Journal of Chemistry, 2020, 44, 21070-21075.	1.4	6
355	The Synthesis of V2O3 Nanorings by Hydrothermal Process as an Efficient Electrocatalyst Toward N2 Fixation to NH3. Frontiers in Energy Research, 2020, 8, .	1.2	1
356	Boosted Photoelectrochemical N ₂ Reduction over Mo ₂ C In Situ Coated with Graphitized Carbon. Langmuir, 2020, 36, 14802-14810.	1.6	20
357	Nanostructured Boron Doped Diamond Electrodes with Increased Reactivity for Solarâ€Driven CO ₂ Reduction in Room Temperature Ionic Liquids. ChemCatChem, 2020, 12, 5548-5557.	1.8	15
358	Contribution of Nitrogen Vacancies to Ammonia Synthesis over Metal Nitride Catalysts. Journal of the American Chemical Society, 2020, 142, 14374-14383.	6.6	126
359	Molecule template method for precise synthesis of Mo-based alloy clusters and electrocatalytic nitrogen reduction on partially reduced PtMo alloy oxide cluster. Nano Energy, 2020, 78, 105211.	8.2	38
360	Boosting Electrocatalytic Nitrogen Fixation with Co–N ₃ Site-Decorated Porous Carbon. ACS Sustainable Chemistry and Engineering, 2020, 8, 13430-13439.	3.2	28
361	Multiphasic 1T@2H MoSe2 as a highly efficient catalyst for the N2 reduction to NH3. Applied Surface Science, 2020, 532, 147372.	3.1	22
362	Synergizing hole accumulation and transfer on composite Ni/CoO _x for photoelectrochemical water oxidation. Chemical Communications, 2020, 56, 10179-10182.	2.2	3

#	Article	IF	CITATIONS
363	Engineering Surface Atomic Architecture of NiTe Nanocrystals Toward Efficient Electrochemical N ₂ Fixation. Advanced Functional Materials, 2020, 30, 2004208.	7.8	42
364	Effects of AuCuB Catalysts with Porous Nanostructures on Electrosynthesis of Ammonia. ACS Sustainable Chemistry and Engineering, 2020, 8, 12588-12594.	3.2	16
365	Electrocatalytic N2 reduction to NH3 with high Faradaic efficiency enabled by vanadium phosphide nanoparticle on V foil. Nano Research, 2020, 13, 2967-2972.	5.8	45
366	Pore-Size-Tuned Pd Films Grown on Ni Foam as an Advanced Catalyst for Electrosynthesis of Ammonia. ACS Sustainable Chemistry and Engineering, 2020, 8, 11827-11833.	3.2	9
367	Electrochemical reduction of nitrate to ammonia via direct eight-electron transfer using a copper–molecular solid catalyst. Nature Energy, 2020, 5, 605-613.	19.8	722
368	Enabling electrochemical conversion of N ₂ to NH ₃ under ambient conditions by a CoP ₃ nanoneedle array. Journal of Materials Chemistry A, 2020, 8, 17956-17959.	5.2	53
369	Enhanced electrocatalytic N ₂ -to-NH ₃ fixation by ZrS ₂ nanofibers with a sulfur vacancy. Chemical Communications, 2020, 56, 14031-14034.	2.2	25
370	Visible-Light Activation of Photocatalytic for Reduction of Nitrogen to Ammonia by Introducing Impurity Defect Levels into Nanocrystalline Diamond. Materials, 2020, 13, 4559.	1.3	3
371	Exceptional size-dependent activity enhancement in the catalytic electroreduction of N2 over Mo nanoparticles. International Journal of Hydrogen Energy, 2020, 45, 31841-31848.	3.8	9
372	MXene-Derived Nanocomposites as Earth-Abundant Efficient Electrocatalyst for Nitrogen Reduction Reaction under Ambient Conditions. Inorganic Chemistry, 2020, 59, 16672-16678.	1.9	7
373	Atomically-precise dopant-controlled single cluster catalysis for electrochemical nitrogen reduction. Nature Communications, 2020, 11, 4389.	5.8	110
374	Perovskite Oxide Based Materials for Energy and Environment-Oriented Photocatalysis. ACS Catalysis, 2020, 10, 10253-10315.	5.5	401
375	Electrochemically shape-controlled synthesis of great stellated dodecahedral Au nanocrystals with high-index facets for nitrogen reduction to ammonia. Chemical Communications, 2020, 56, 12162-12165.	2.2	15
376	Exposure of Definite Palladium Facets Boosts Electrocatalytic Nitrogen Fixation at Low Overpotential. Advanced Energy Materials, 2020, 10, 2002131.	10.2	45
377	A mesoporous Au film with surface sulfur modification for efficient ammonia electrosynthesis. Journal of Materials Chemistry A, 2020, 8, 20414-20419.	5.2	34
378	Palladium Nanothorn Assembly Array for Efficient Electroreduction of Nitrogen to Ammonia. ACS Sustainable Chemistry and Engineering, 2020, 8, 14228-14233.	3.2	10
379	A MoFe nitrogenase-mimicking electrocatalyst for nitrogen fixation with high faradaic efficiency. Journal of Materials Chemistry A, 2020, 8, 19278-19282.	5.2	18
380	Anchoring Au(111) on a Bismuth Sulfide Nanorod: Boosting the Artificial Electrocatalytic Nitrogen Reduction Reaction under Ambient Conditions. ACS Applied Materials & Interfaces, 2020, 12, 55838-55843.	4.0	35

#	Article	IF	CITATIONS
381	2D-layered Ti3C2 MXenes for promoted synthesis of NH3 on P25 photocatalysts. Applied Catalysis B: Environmental, 2020, 273, 119054.	10.8	111
382	Oxidationâ€etching induced morphology regulation of Cu catalysts for highâ€performance electrochemical <scp>N₂</scp> reduction. EcoMat, 2020, 2, e12026.	6.8	13
383	Spontaneous Atomic Ruthenium Doping in Mo ₂ CT <i>_X</i> MXene Defects Enhances Electrocatalytic Activity for the Nitrogen Reduction Reaction. Advanced Energy Materials, 2020, 10, 2001364.	10.2	173
384	Rational Catalyst Design for N ₂ Reduction under Ambient Conditions: Strategies toward Enhanced Conversion Efficiency. ACS Catalysis, 2020, 10, 6870-6899.	5.5	273
385	Efficient solar-driven nitrogen fixation over an elemental phosphorus photocatalyst. Catalysis Science and Technology, 2020, 10, 4119-4125.	2.1	11
386	2D/2D Heterostructured Photocatalysts: An Emerging Platform for Artificial Photosynthesis. Solar Rrl, 2020, 4, 2000132.	3.1	94
387	Recent Advances and Challenges of Electrocatalytic N ₂ Reduction to Ammonia. Chemical Reviews, 2020, 120, 5437-5516.	23.0	718
388	Synergistic Effect of Surface-Terminated Oxygen Vacancy and Single-Atom Catalysts on Defective MXenes for Efficient Nitrogen Fixation. Journal of Physical Chemistry Letters, 2020, 11, 5051-5058.	2.1	88
389	Novel confinement of Mn3O4 nanoparticles on two-dimensional carbide enabling high-performance electrochemical synthesis of ammonia under ambient conditions. Chemical Engineering Journal, 2020, 396, 125163.	6.6	24
390	Enhanced Electrochemical Reduction of N ₂ to Ammonia over Pyrite FeS ₂ with Excellent Selectivity. ACS Sustainable Chemistry and Engineering, 2020, 8, 10572-10580.	3.2	48
391	Promoting electrocatalytic nitrogen reduction to ammonia <i>via</i> Fe-boosted nitrogen activation on MnO ₂ surfaces. Journal of Materials Chemistry A, 2020, 8, 13679-13684.	5.2	38
392	Three-dimensional Pd–Ag–S porous nanosponges for electrocatalytic nitrogen reduction to ammonia. Nanoscale, 2020, 12, 13507-13512.	2.8	49
393	Water- and acid-stable self-passivated dihafnium sulfide electride and its persistent electrocatalytic reaction. Science Advances, 2020, 6, eaba7416.	4.7	30
394	Identifying the Origin of Ti ³⁺ Activity toward Enhanced Electrocatalytic N ₂ Reduction over TiO ₂ Nanoparticles Modulated by Mixedâ€Valent Copper. Advanced Materials, 2020, 32, e2000299.	11.1	278
395	Defective Carbon-Doped Boron Nitride Nanosheets for Highly Efficient Electrocatalytic Conversion of N ₂ to NH ₃ . ACS Sustainable Chemistry and Engineering, 2020, 8, 5278-5286.	3.2	61
396	Ru-doped, oxygen-vacancy-containing CeO ₂ nanorods toward N ₂ electroreduction. Journal of Materials Chemistry A, 2020, 8, 7229-7234.	5.2	45
397	Hydrogen plasma treated nanodiamonds lead to an overproduction of hydroxyl radicals and solvated electrons in solution under ionizing radiation. Carbon, 2020, 162, 510-518.	5.4	21
398	Mo-Doped FeP Nanospheres for Artificial Nitrogen Fixation. ACS Applied Materials & amp; Interfaces, 2020, 12, 17452-17458.	4.0	36

#	Article	IF	CITATIONS
399	Electrocatalytic production of ammonia: Biomimetic electrode–electrolyte design for efficient electrocatalytic nitrogen fixation under ambient conditions. Applied Catalysis B: Environmental, 2020, 271, 118919.	10.8	55
400	Ambient Ammonia Electrosynthesis: Current Status, Challenges, and Perspectives. ChemSusChem, 2020, 13, 3061-3078.	3.6	65
401	Exfoliated metallic niobium disulfate nanosheets for enhanced electrochemical ammonia synthesis and Zn-N2 battery. Applied Catalysis B: Environmental, 2020, 270, 118892.	10.8	41
402	Mo-doped SnS ₂ with enriched S-vacancies for highly efficient electrocatalytic N ₂ reduction: the critical role of the Mo–Sn–Sn trimer. Journal of Materials Chemistry A, 2020, 8, 7117-7124.	5.2	156
403	Multi-yolk–shell bismuth@porous carbon as a highly efficient electrocatalyst for artificial N ₂ fixation under ambient conditions. Inorganic Chemistry Frontiers, 2020, 7, 2006-2016.	3.0	15
404	Defective titanium dioxide nanobamboo arrays architecture for photocatalytic nitrogen fixation up to 780Ânm. Chemical Engineering Journal, 2020, 401, 126033.	6.6	47
405	Monolayer Cubic Boron Nitride Terminated Diamond (111) Surfaces for Quantum Sensing and Electron Emission Applications. ACS Applied Materials & Interfaces, 2020, 12, 33336-33345.	4.0	14
406	Sn dendrites for electrocatalytic N ₂ reduction to NH ₃ under ambient conditions. Sustainable Energy and Fuels, 2020, 4, 4469-4472.	2.5	54
407	Greatly Enhanced Electrocatalytic N ₂ Reduction over V ₂ O ₃ /C by P Doping. ChemNanoMat, 2020, 6, 1315-1319.	1.5	71
408	Anchoring Au nanoparticles on Bi ultrathin nanosheets for use as an efficient heterogeneous catalyst for ambient-condition electrochemical ammonia synthesis. Sustainable Energy and Fuels, 2020, 4, 4516-4521.	2.5	12
409	Defect and Interface Engineering on Twoâ€Dimensional Nanosheets for the Photocatalytic Nitrogen Reduction Reaction. ChemPhotoChem, 2020, 4, 5322-5336.	1.5	12
410	Enabling electrochemical N2 reduction to NH3 in the low overpotential region using non-noble metal Bi electrodes via surface composition modification. Journal of Materials Chemistry A, 2020, 8, 13842-13851.	5.2	16
411	Nanostructured photocatalysts for nitrogen fixation. Nano Energy, 2020, 71, 104645.	8.2	120
412	Surface oxidized two-dimensional antimonene nanosheets for electrochemical ammonia synthesis under ambient conditions. Journal of Materials Chemistry A, 2020, 8, 4735-4739.	5.2	57
413	Ambient electrochemical NH ₃ synthesis from N ₂ and water enabled by ZrO ₂ nanoparticles. Chemical Communications, 2020, 56, 3673-3676.	2.2	59
414	Recent advances in catalysts, electrolytes and electrode engineering for the nitrogen reduction reaction under ambient conditions. Nanoscale, 2020, 12, 6900-6920.	2.8	97
415	Fe-doping induced morphological changes, oxygen vacancies and Ce ³⁺ –Ce ³⁺ pairs in CeO ₂ for promoting electrocatalytic nitrogen fixation. Journal of Materials Chemistry A, 2020, 8, 5865-5873.	5.2	172
416	Synergistic boron-dopants and boron-induced oxygen vacancies in MnO ₂ nanosheets to promote electrocatalytic nitrogen reduction. Journal of Materials Chemistry A, 2020, 8, 5200-5208.	5.2	157

#	Article	IF	Citations
417	Electrolyte Engineering for Efficient Electrochemical Nitrate Reduction to Ammonia on a Titanium Electrode. ACS Sustainable Chemistry and Engineering, 2020, 8, 2672-2681.	3.2	217
418	One-step synthesis of self-standing porous palladium-ruthenium nanosheet array on Ni foam for ambient electrosynthesis of ammonia. International Journal of Hydrogen Energy, 2020, 45, 5997-6005.	3.8	24
419	Atomic Modulation, Structural Design, and Systematic Optimization for Efficient Electrochemical Nitrogen Reduction. Advanced Science, 2020, 7, 1902390.	5.6	73
420	Ag nanoparticles-reduced graphene oxide hybrid: an efficient electrocatalyst for artificial N2 fixation to NH3 at ambient conditions. Journal of Materials Science, 2020, 55, 5203-5210.	1.7	12
421	Bi nanodendrites for efficient electrocatalytic N ₂ fixation to NH ₃ under ambient conditions. Chemical Communications, 2020, 56, 2107-2110.	2.2	71
422	Light and Shadow Effects in the Submerged Photolytic Synthesis of Micropatterned CuO Nanoflowers and ZnO Nanorods as Optoelectronic Surfaces. ACS Applied Nano Materials, 2020, 3, 1783-1791.	2.4	5
423	Two-dimensional (2D)/2D Interface Engineering of a MoS ₂ /C ₃ N ₄ Heterostructure for Promoted Electrocatalytic Nitrogen Fixation. ACS Applied Materials & Interfaces, 2020, 12, 7081-7090.	4.0	255
424	Artificial nitrogen fixation over bismuth-based photocatalysts: fundamentals and future perspectives. Journal of Materials Chemistry A, 2020, 8, 4978-4995.	5.2	97
425	Filling the nitrogen vacancies with sulphur dopants in graphitic C3N4 for efficient and robust electrocatalytic nitrogen reduction. Applied Catalysis B: Environmental, 2020, 267, 118693.	10.8	177
426	Engineering Abundant Edge Sites of Bismuth Nanosheets toward Superior Ambient Electrocatalytic Nitrogen Reduction via Topotactic Transformation. ACS Sustainable Chemistry and Engineering, 2020, 8, 2735-2741.	3.2	33
427	Electrocatalysis of N ₂ to NH ₃ by HKUSTâ€1 with High NH ₃ Yield. Chemistry - an Asian Journal, 2020, 15, 1272-1276.	1.7	30
428	<i>In situ</i> electrochemical reduction-assisted exfoliation: conversion of BiOCl nanoplates into Bi nanosheets enables efficient electrocatalytic nitrogen fixation. Sustainable Energy and Fuels, 2020, 4, 3334-3339.	2.5	15
429	Photoelectrochemical Synthesis of Ammonia with Black Phosphorus. Advanced Functional Materials, 2020, 30, 2002731.	7.8	69
430	Alternative route for electrochemical ammonia synthesis by reduction of nitrate on copper nanosheets. Applied Materials Today, 2020, 19, 100620.	2.3	144
431	Amorphous/Crystalline Heteroâ€Phase TiO ₂ â€Coated αâ€Fe ₂ O ₃ Core–Shell Nanospindles: A Highâ€Performance Artificial Nitrogen Fixation Electrocatalyst. Chemistry - A European Journal, 2020, 26, 10226-10229.	1.7	7
432	Alternative Strategies Toward Sustainable Ammonia Synthesis. Transactions of Tianjin University, 2020, 26, 67-91.	3.3	51
433	Co3(hexahydroxytriphenylene)2: A conductive metal—organic framework for ambient electrocatalytic N2 reduction to NH3. Nano Research, 2020, 13, 1008-1012.	5.8	56
434	Phosphorus cation substitution in TiO2 nanorods toward enhanced N2 electroreduction. Applied Surface Science, 2020, 523, 146517.	3.1	8

#	Article	IF	CITATIONS
435	Self-supporting CoMoC nanoporous catalysts for N2 reduction reaction under ambient conditions. Applied Surface Science, 2020, 521, 146385.	3.1	14
436	Diamond Nanoparticles in Heterogeneous Catalysis. Chemistry of Materials, 2020, 32, 4116-4143.	3.2	23
437	CuCo2S4 integrated multiwalled carbon nanotube as high-performance electrocatalyst for electroreduction of nitrogen to ammonia. International Journal of Hydrogen Energy, 2020, 45, 14640-14647.	3.8	17
438	Porous LaFeO3 nanofiber with oxygen vacancies as an efficient electrocatalyst for N2 conversion to NH3 under ambient conditions. Journal of Energy Chemistry, 2020, 50, 402-408.	7.1	87
439	Updates on the Roadmap for Photocatalysis. ACS Catalysis, 2020, 10, 5493-5501.	5.5	293
440	Bimetallic Mo–Co nanoparticles anchored on nitrogen-doped carbon for enhanced electrochemical nitrogen fixation. Journal of Materials Chemistry A, 2020, 8, 9091-9098.	5.2	62
441	The Journey toward Low Temperature, Low Pressure Catalytic Nitrogen Fixation. Advanced Energy Materials, 2020, 10, 2000659.	10.2	127
442	Integration of Fe2O3-based photoanode and atomically dispersed cobalt cathode for efficient photoelectrochemical NH3 synthesis. Chinese Chemical Letters, 2021, 32, 805-810.	4.8	13
443	Photoangeregte Anionen in organischen Reaktionen. Angewandte Chemie, 2021, 133, 6338-6363.	1.6	13
444	Enhanced photocatalytic N2 fixation via defective and fluoride modified TiO2 surface. Applied Catalysis B: Environmental, 2021, 282, 119580.	10.8	125
445	A review of surface functionalisation of diamond for thermionic emission applications. Carbon, 2021, 171, 532-550.	5.4	26
446	Fundamentals and Recent Progress of Photocatalytic Nitrogenâ€Fixation Reaction over Semiconductors. Solar Rrl, 2021, 5, 2000487.	3.1	90
447	Efficient Visible Light Driven Ammonia Synthesis on Sandwich Structured C3N4/MoS2/Mn3O4 catalyst. Applied Catalysis B: Environmental, 2021, 281, 119476.	10.8	37
448	Excited State Anions in Organic Transformations. Angewandte Chemie - International Edition, 2021, 60, 6270-6292.	7.2	85
449	Modulating Singleâ€Atom Palladium Sites with Copper for Enhanced Ambient Ammonia Electrosynthesis. Angewandte Chemie, 2021, 133, 349-354.	1.6	44
450	B (boron), O (oxygen) dual-doped carbon spheres as a high-efficiency electrocatalyst for nitrogen reduction. International Journal of Hydrogen Energy, 2021, 46, 439-448.	3.8	22
451	Photocatalytic nitrogen fixation: Oxygen vacancy modified novel micro-nanosheet structure Bi2O2CO3 with band gap engineering. Journal of Colloid and Interface Science, 2021, 583, 499-509.	5.0	87
452	Multi‧ite Electrocatalysts Boost pHâ€Universal Nitrogen Reduction by Highâ€Entropy Alloys. Advanced Functional Materials, 2021, 31, 2006939.	7.8	99

#	Article	IF	CITATIONS
453	Commercial indium-tin oxide glass: A catalyst electrode for efficient N2 reduction at ambient conditions. Chinese Journal of Catalysis, 2021, 42, 1024-1029.	6.9	59
454	Theory-guided construction of electron-deficient sites via removal of lattice oxygen for the boosted electrocatalytic synthesis of ammonia. Nano Research, 2021, 14, 1457-1464.	5.8	10
455	Site-exposed Ti ₃ C ₂ MXene anchored in N-defect g-C ₃ N ₄ heterostructure nanosheets for efficient photocatalytic N ₂ fixation. Catalysis Science and Technology, 2021, 11, 1027-1038.	2.1	34
456	Electron emission from H-terminated diamond enhanced by polypyrrole grafting. Carbon, 2021, 176, 642-649.	5.4	8
457	A magnetron sputtered Mo ₃ Si thin film: an efficient electrocatalyst for N ₂ reduction under ambient conditions. Journal of Materials Chemistry A, 2021, 9, 884-888.	5.2	72
458	Electrospun Zn-doped Ga2O3 nanofibers and their application in photodegrading rhodamine B dye. Ceramics International, 2021, 47, 4963-4971.	2.3	12
459	Nitrogen reduction through confined electro-catalysis with carbon nanotube inserted metal–organic frameworks. Journal of Materials Chemistry A, 2021, 9, 1480-1486.	5.2	27
460	Efficient photocatalytic nitrogen fixation to ammonia over bismuth monoxide quantum dots-modified defective ultrathin graphitic carbon nitride. Chemical Engineering Journal, 2021, 406, 126868.	6.6	84
461	Recent advances of monoelemental 2D materials for photocatalytic applications. Journal of Hazardous Materials, 2021, 405, 124179.	6.5	78
462	Modulating Singleâ€Atom Palladium Sites with Copper for Enhanced Ambient Ammonia Electrosynthesis. Angewandte Chemie - International Edition, 2021, 60, 345-350.	7.2	150
463	Emerging applications of nanodiamonds in photocatalysis. Functional Diamond, 2021, 1, 93-109.	1.7	13
464	Electrochemical N ₂ fixation to NH ₃ under ambient conditions: porous LiFe ₅ O ₈ nanoparticle–reduced graphene oxide as a highly efficient and selective catalyst. Inorganic Chemistry Frontiers, 2021, 8, 3156-3161.	3.0	4
465	An advanced electrocatalyst for efficient synthesis of ammonia based on chemically coupled NiS@MoS ₂ heterostructured nanospheres. Sustainable Energy and Fuels, 2021, 5, 2640-2648.	2.5	12
466	Modulating Oxygen Vacancies of TiO ₂ Nanospheres by Mn-Doping to Boost Electrocatalytic N ₂ Reduction. ACS Sustainable Chemistry and Engineering, 2021, 9, 1512-1517.	3.2	48
467	High performance Pd _x Cu _y bimetal catalysts with adjustable Faraday current efficiency for nitrogen fixation. Inorganic Chemistry Frontiers, 2021, 8, 3336-3341.	3.0	6
468	High-performance ammonia fixation electrocatalyzed by ReS ₂ nanosheet array. New Journal of Chemistry, 2021, 45, 11457-11460.	1.4	2
469	Charge carrier dynamics investigation of Cu ₂ S–In ₂ S ₃ heterostructures for the conversion of dinitrogen to ammonia <i>via</i> photo-electrocatalytic reduction. Journal of Materials Chemistry A, 2021, 9, 10497-10507.	5.2	19
470	Emulsion-template synthesis of mesoporous nickel oxide nanoflowers composed of crossed nanosheets for effective nitrogen reduction. Dalton Transactions, 2021, 50, 5835-5844.	1.6	24

#	Article	IF	CITATIONS
471	CuS concave polyhedral superstructures enabled efficient N ₂ electroreduction to NH ₃ at ambient conditions. Inorganic Chemistry Frontiers, 2021, 8, 3105-3110.	3.0	54
472	Comparing electrocatalytic and thermocatalytic conversion of nitrate on platinum–ruthenium alloys. Catalysis Science and Technology, 2021, 11, 7098-7109.	2.1	18
473	A new nitrogen fixation strategy: the direct formation of *N ₂ ^{â^'} excited state on metal-free photocatalyst. Journal of Materials Chemistry A, 2021, 9, 6214-6222.	5.2	8
474	Rational construction of Au ₃ Cu@Cu nanocages with porous core–shell heterostructured walls for enhanced electrocatalytic N ₂ fixation. Journal of Materials Chemistry A, 2021, 9, 8372-8377.	5.2	25
475	Nanomaterials for Photocatalytic Energy Conversion. Materials Horizons, 2021, , 43-84.	0.3	0
476	Electrochemical synthesis of ammonia from nitrogen catalyzed by CoMoO ₄ nanorods under ambient conditions. Journal of Materials Chemistry A, 2021, 9, 5060-5066.	5.2	23
477	A nanoporous CeO ₂ nanowire array by acid etching preparation: an efficient electrocatalyst for ambient N ₂ reduction. Materials Advances, 2021, 2, 3552-3555.	2.6	2
478	A CeP nanoparticle-reduced graphene oxide hybrid: an efficient electrocatalyst for the NH ₃ synthesis under ambient conditions. Inorganic Chemistry Frontiers, 2021, 8, 2103-2106.	3.0	10
479	Research progress of two-dimensional layered and related derived materials for nitrogen reduction reaction. Sustainable Energy and Fuels, 2021, 5, 3260-3277.	2.5	10
480	Nanodiamond surface chemistry controls assembly of polypyrrole and generation of photovoltage. Scientific Reports, 2021, 11, 590.	1.6	10
481	Bimetallic mesoporous RhRu film for electrocatalytic nitrogen reduction to ammonia. Inorganic Chemistry Frontiers, 2021, 8, 4276-4281.	3.0	7
482	Rigid anchoring of highly crystallized and uniformly dispersed Pd nanocrystals on carbon fibers for ambient electrocatalytic reduction of nitrogen to ammonia. Dalton Transactions, 2021, 50, 6975-6981.	1.6	3
483	The application and improvement of TiO ₂ (titanate) based nanomaterials for the photoelectrochemical conversion of CO ₂ and N ₂ into useful products. Catalysis Science and Technology, 2021, 11, 768-778.	2.1	18
484	Structure, reactivity, and spectroscopy of nitrogenase-related synthetic and biological clusters. Chemical Society Reviews, 2021, 50, 8743-8761.	18.7	13
485	Refining active sites and hydrogen spillover for boosting visible-light-driven ammonia synthesis at room temperature. Journal of Materials Chemistry A, 2021, 9, 22827-22832.	5.2	6
486	Electrochemical nitrogen reduction: recent progress and prospects. Chemical Communications, 2021, 57, 7335-7349.	2.2	74
487	A large scaled-up monocrystalline 3R MoS ₂ electrocatalyst for efficient nitrogen reduction reactions. New Journal of Chemistry, 2021, 45, 2488-2495.	1.4	15
488	Nanodiamonds: From synthesis to applications. , 2021, , 209-246.		Ο

#	Article	IF	CITATIONS
489	Sulfur defect-rich WS2â^'x nanosheet electrocatalysts for N2 reduction. Science China Materials, 2021, 64, 1910-1918.	3.5	13
490	Molybdenum-Containing Metalloenzymes and Synthetic Catalysts for Conversion of Small Molecules. Catalysts, 2021, 11, 217.	1.6	3
491	Iron-Doped MoO ₃ Nanosheets for Boosting Nitrogen Fixation to Ammonia at Ambient Conditions. ACS Applied Materials & Interfaces, 2021, 13, 7142-7151.	4.0	21
492	Photocatalytic Nitrogen Reduction by Ti ₃ C ₂ MXene Derived Oxygen Vacancyâ€Rich C/TiO ₂ . Advanced Sustainable Systems, 2021, 5, 2000282.	2.7	37
493	Advances in Materials and Applications of Inorganic Electrides. Chemical Reviews, 2021, 121, 3121-3185.	23.0	125
494	Exploring the N ₂ Adsorption and Activation Mechanisms over the 2H/1T Mixed-Phase Ultrathin Mo _{1–<i>x</i>} W _{<i>x</i>} S ₂ Nanosheets for Boosting N ₂ Photosynthesis. ACS Applied Materials & Interfaces, 2021, 13, 7127-7134.	4.0	24
496	Promotion of biological nitrogen fixation activity of an anaerobic consortium using humin as an extracellular electron mediator. Scientific Reports, 2021, 11, 6567.	1.6	11
497	Increasing electrocatalytic nitrate reduction activity by controlling adsorption through PtRu alloying. Journal of Catalysis, 2021, 395, 143-154.	3.1	94
498	An Experimentally Verified LCâ€MS Protocol toward an Economical, Reliable, and Quantitative Isotopic Analysis in Nitrogen Reduction Reactions. Small Methods, 2021, 5, e2000694.	4.6	16
499	2D Vanadium Carbide (MXene) for Electrochemical Synthesis of Ammonia Under Ambient Conditions. Catalysis Letters, 2021, 151, 3516-3522.	1.4	23
500	Perovskite ceramic oxide as an efficient electrocatalyst for nitrogen fixation. International Journal of Hydrogen Energy, 2021, 46, 10293-10302.	3.8	36
501	Rational design on photo(electro)catalysts for artificial nitrogen looping. EcoMat, 2021, 3, e12096.	6.8	8
502	Synergistic Effect of Boron Nitride and Carbon Domains in Boron Carbide Nitride Nanotube Supported Singleâ€Atom Catalysts for Efficient Nitrogen Fixation. Chemistry - A European Journal, 2021, 27, 6945-6953.	1.7	17
503	Theoretical Study on P-coordinated Metal Atoms Embedded in Arsenene for the Conversion of Nitrogen to Ammonia. ACS Omega, 2021, 6, 8662-8671.	1.6	16
504	Emerging polymeric carbon nitride Z-scheme systems for photocatalysis. Cell Reports Physical Science, 2021, 2, 100355.	2.8	99
505	Impact of Nitrogen, Boron and Phosphorus Impurities on the Electronic Structure of Diamond Probed by X-ray Spectroscopies. Journal of Carbon Research, 2021, 7, 28.	1.4	1
506	Photocatalytic fixation of nitrogen to ammonia by NiFe-LDH-derived sulfide microspheres. Journal of Materials Science: Materials in Electronics, 2021, 32, 13396-13408.	1.1	4
507	Vacancy Engineering in Semiconductor Photocatalysts: Implications in Hydrogen Evolution and Nitrogen Fixation Applications. Advanced Functional Materials, 2021, 31, 2009807.	7.8	166

#	Article	IF	CITATIONS
508	Conversion of Waste Plastics into Valueâ€Added Carbonaceous Fuels under Mild Conditions. Advanced Materials, 2021, 33, e2005192.	11.1	74
509	Electrochemical nitrogen fixation via bimetallic Sn-Ti sites on defective titanium oxide catalysts. Journal of Colloid and Interface Science, 2021, 588, 242-247.	5.0	9
510	Unveiling Electrochemical Urea Synthesis by Coâ€Activation of CO ₂ and N ₂ with Mott–Schottky Heterostructure Catalysts. Angewandte Chemie, 2021, 133, 11005-11013.	1.6	38
511	In Situ Derived Bi Nanoparticles Confined in Carbon Rods as an Efficient Electrocatalyst for Ambient N ₂ Reduction to NH ₃ . Inorganic Chemistry, 2021, 60, 7584-7589.	1.9	15
512	Electrochemical and photochemical CO2 reduction using diamond. Carbon, 2021, 175, 440-453.	5.4	24
513	Metal–Organic Framework Membranes Encapsulating Gold Nanoparticles for Direct Plasmonic Photocatalytic Nitrogen Fixation. Journal of the American Chemical Society, 2021, 143, 5727-5736.	6.6	157
514	Defect-Induced Ce-Doped Bi ₂ WO ₆ for Efficient Electrocatalytic N ₂ Reduction. ACS Applied Materials & Interfaces, 2021, 13, 19864-19872.	4.0	59
515	Proton-filtering covalent organic frameworks with superior nitrogen penetration flux promote ambient ammonia synthesis. Nature Catalysis, 2021, 4, 322-331.	16.1	216
516	Unveiling Electrochemical Urea Synthesis by Coâ€Activation of CO ₂ and N ₂ with Mott–Schottky Heterostructure Catalysts. Angewandte Chemie - International Edition, 2021, 60, 10910-10918.	7.2	182
517	Zinc doped Fe2O3 for boosting Electrocatalytic Nitrogen Fixation to ammonia under mild conditions. International Journal of Hydrogen Energy, 2021, 46, 14331-14337.	3.8	14
518	Mo2C embedded on nitrogen-doped carbon toward electrocatalytic nitrogen reduction to ammonia under ambient conditions. International Journal of Hydrogen Energy, 2021, 46, 13011-13019.	3.8	28
519	Emerging Materials and Methods toward Ammoniaâ€Based Energy Storage and Conversion. Advanced Materials, 2021, 33, e2005721.	11.1	137
520	Promoting N2 electroreduction to ammonia by fluorine-terminating Ti3C2Tx MXene. Nano Convergence, 2021, 8, 14.	6.3	13
521	Low-overpotential electrochemical ammonia synthesis using BiOCl-modified 2D titanium carbide MXene. Chinese Chemical Letters, 2022, 33, 394-398.	4.8	30
522	Can Hydrated Electrons be Produced from Water with Visible Light?. ChemPhotoChem, 2021, 5, 680-690.	1.5	4
523	Molecular dynamics study at N2/H2O-rGO interfaces for nitrogen reduction reaction. Journal of Molecular Graphics and Modelling, 2021, 104, 107840.	1.3	4
524	Facile Synthesis of Holey Phosphorene via Low Temperature Electrochemical Exfoliation for Electrocatalytic Nitrogen Reduction. ChemistrySelect, 2021, 6, 5021-5026.	0.7	5
525	TiB2 thin film enabled efficient NH3 electrosynthesis at ambient conditions. Materials Today Physics, 2021, 18, 100396.	2.9	55

#	Article	IF	Citations
526	Boosting Selective Nitrogen Reduction via Geometric Coordination Engineering on Singleâ€Tungstenâ€Atom Catalysts. Advanced Materials, 2021, 33, e2100429.	11.1	128
527	Green Synthesis of Nitrogenâ€ŧoâ€Ammonia Fixation: Past, Present, and Future. Energy and Environmental Materials, 2022, 5, 452-457.	7.3	51
528	Electrochemical ammonia synthesis via nitrate reduction on Fe single atom catalyst. Nature Communications, 2021, 12, 2870.	5.8	605
529	The activation of porous atomic layered MoS2 basal-plane to induce adjacent Mo atom pairs promoting high efficiency electrochemical N2 fixation. Applied Catalysis B: Environmental, 2021, 285, 119810.	10.8	35
530	Recent advances in wireless photofixation of dinitrogen to ammonia under the ambient condition: A review. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2021, 47, 100402.	5.6	22
531	Ternary AuPS Alloy Mesoporous Film for Efficient Electroreduction of Nitrogen to Ammonia. ACS Applied Materials & Interfaces, 2021, 13, 28057-28063.	4.0	6
532	Electrochemical preparation of porous ZnCuNi by electrodeposition in ethaline deep eutectic solvent followed by anodic or cathodic dealloying in alkaline aqueous solutions for higher nitrate reduction activity. Journal of Electroanalytical Chemistry, 2021, 890, 115256.	1.9	4
533	Enhanced Photofixation of Dinitrogen to Ammonia over a Biomimetic Metal (Fe,Mo)-Doped Mesoporous MCM-41 Zeolite Catalyst under Ambient Conditions. ACS Sustainable Chemistry and Engineering, 2021, 9, 8748-8758.	3.2	17
534	Ambient ammonia production via electrocatalytic nitrite reduction catalyzed by a CoP nanoarray. Nano Research, 2022, 15, 972-977.	5.8	98
535	Sustainable Nitrogen Photofixation Promoted by Carbon Nitride Supported Bimetallic RuPd Nanoparticles under Mild Conditions. ACS Sustainable Chemistry and Engineering, 2021, 9, 8721-8730.	3.2	3
536	Boosting electrochemical nitrogen fixation by mesoporous Rh film with boron and sulfur co-doping. Materials Today Energy, 2021, 20, 100681.	2.5	11
537	Ag@TiO 2 as an Efficient Electrocatalyst for N 2 Fixation to NH 3 under Ambient Conditions. ChemistrySelect, 2021, 6, 5271-5274.	0.7	3
538	Theoretical scanning of bimetallic alloy for designing efficient N2 electroreduction catalyst. Materials Today Energy, 2021, 20, 100684.	2.5	21
539	Enhancing electrochemical ammonia synthesis on palladium nanorods through surface hydrogenation. Chemical Engineering Journal, 2021, 416, 129105.	6.6	57
540	Modulation of photo-generated solvated electrons for ammonia synthesis via facet-dependent engineering of heterojunctions. Applied Catalysis B: Environmental, 2021, 288, 119990.	10.8	40
541	High-Density Covalent Grafting of Spin-Active Molecular Moieties to Diamond Surfaces. Langmuir, 2021, 37, 9222-9231.	1.6	3
542	Atomically Dispersed Manganese Lewis Acid Sites Catalyze Electrohydrogenation of Nitrogen to Ammonia. CCS Chemistry, 2022, 4, 2115-2126.	4.6	19
543	Enhancing electrocatalytic N2-to-NH3 fixation by suppressing hydrogen evolution with alkylthiols modified Fe3P nanoarrays. Nano Research, 2022, 15, 1039-1046.	5.8	74

#	Article	IF	CITATIONS
544	Low-Energy Electron Damage to Condensed-Phase DNA and Its Constituents. International Journal of Molecular Sciences, 2021, 22, 7879.	1.8	27
545	Can Metal Intermixing Cooperatively Improve Perovskites as Redox Materials for Thermochemical Ammonia Synthesis? A Case Study on (Sr,Y)(Ti,Ru)O ₃ . Journal of Physical Chemistry C, 2021, 125, 17019-17030.	1.5	2
546	Enhanced electrocatalytic performance of mesoporous Au-Rh bimetallic films for ammonia synthesis. Chemical Engineering Journal, 2021, 418, 129493.	6.6	19
547	Ti ₂ O ₃ Nanoparticles with Ti ³⁺ Sites toward Efficient NH ₃ Electrosynthesis under Ambient Conditions. ACS Applied Materials & Interfaces, 2021, 13, 41715-41722.	4.0	89
548	Nanoporous B ₁₃ C ₂ towards Highly Efficient Electrochemical Nitrogen Fixation. Small, 2021, 17, e2102814.	5.2	44
549	Methods for nitrogen activation by reduction and oxidation. Nature Reviews Methods Primers, 2021, 1,	11.8	107
550	Metal-free carbon-based nanomaterials for electrochemical nitrogen and carbon dioxide reductions. Materials Research Bulletin, 2021, 140, 111294.	2.7	10
551	New Strategies for Nitrogen Fixation and Pollution Control. Chinese Journal of Chemistry, 2021, 39, 3199-3210.	2.6	9
552	Constructing the Z-scheme TiO2/Au/BiOI nanocomposite for enhanced photocatalytic nitrogen fixation. Applied Surface Science, 2021, 556, 149785.	3.1	54
553	Ambient electrosynthesis of NH3 from N2 using Bi-doped CeO2 cube as electrocatalyst. International Journal of Hydrogen Energy, 2021, 46, 31523-31532.	3.8	11
554	Photocatalytic nitrogen reduction to ammonia: Insights into the role of defect engineering in photocatalysts. Nano Research, 2022, 15, 2773-2809.	5.8	69
555	Precise synthesis of Fe–N2 with N vacancies coordination for boosting electrochemical artificial N2 fixation. Applied Catalysis B: Environmental, 2021, 293, 120216.	10.8	26
556	Metal-free boron and sulphur co-doped carbon nanofibers with optimized p-band centers for highly efficient nitrogen electroreduction to ammonia. Applied Catalysis B: Environmental, 2021, 292, 120144.	10.8	55
557	Pd-Loaded Ti ₃ C ₂ Nanosheets for Ammonia Production by Electrocatalytic Reduction of Nitrogen. Integrated Ferroelectrics, 2021, 219, 9-19.	0.3	3
558	Electronic and Interface Regulation of Wurtzite Surfaces Promotes Photocatalytic Ammonia Synthesis under Visible Light Irradiation. ACS Sustainable Chemistry and Engineering, 2021, 9, 13630-13639.	3.2	6
559	Au nanowire modified with tannic acid for enhanced electrochemical synthesis of ammonia. Materials Today Energy, 2021, 21, 100828.	2.5	7
560	Alloying effect-induced electron polarization drives nitrate electroreduction to ammonia. Chem Catalysis, 2021, 1, 1088-1103.	2.9	80
561	Shining photocatalysis by gold-based nanomaterials. Nano Energy, 2021, 88, 106306.	8.2	64

#	Article	IF	CITATIONS
562	Facet-controlled palladium nanocrystalline for enhanced nitrate reduction towards ammonia. Journal of Colloid and Interface Science, 2021, 600, 620-628.	5.0	43
563	La-doped TiO2 nanorods toward boosted electrocatalytic N2-to-NH3 conversion at ambient conditions. Chinese Journal of Catalysis, 2021, 42, 1755-1762.	6.9	35
564	Tunable and stable localized surface plasmon resonance in SrMoO4 for enhanced visible light driven nitrogen reduction. Chinese Journal of Catalysis, 2021, 42, 1763-1771.	6.9	20
565	Spectroscopic insight of low energy electron emission from diamond surfaces. Carbon, 2021, 185, 376-383.	5.4	1
566	Porous graphdiyne loading CoOx quantum dots for fixation nitrogen reaction. Nano Energy, 2021, 89, 106333.	8.2	47
567	Removal of oxytetracycline promoted by manganese-doped biochar based on density functional theory calculations: Comprehensive evaluation of the effect of transition metal doping. Science of the Total Environment, 2022, 806, 150268.	3.9	14
568	Interface engineering of MoS2@Fe(OH)3 nanoarray heterostucture: Electrodeposition of MoS2@Fe(OH)3 as N2 and H+ channels for artificial NH3 synthesis under mild conditions. Journal of Colloid and Interface Science, 2022, 606, 1374-1379.	5.0	15
569	Sulfur vacancy engineering of MoS2 via phosphorus incorporation for improved electrocatalytic N2 reduction to NH3. Applied Catalysis B: Environmental, 2022, 300, 120733.	10.8	85
570	Taming the challenges of activity and selectivity in catalysts for electrochemical N2 fixation via single metal atom supported on WS2. Applied Surface Science, 2022, 571, 151357.	3.1	16
571	Ni2P nanosheet array for high-efficiency electrohydrogenation of nitrite to ammonia at ambient conditions. Journal of Colloid and Interface Science, 2022, 606, 1055-1063.	5.0	62
572	An amorphous WC thin film enabled high-efficiency N ₂ reduction electrocatalysis under ambient conditions. Chemical Communications, 2021, 57, 7806-7809.	2.2	50
573	2D g-C ₃ N ₄ as a bifunctional photocatalyst for co-catalyst and sacrificial agent-free photocatalytic N ₂ fixation and dye photodegradation. New Journal of Chemistry, 2021, 45, 7174-7184.	1.4	15
574	Single-atom metal–N ₄ site molecular electrocatalysts for ambient nitrogen reduction. Catalysis Science and Technology, 2021, 11, 2589-2596.	2.1	9
575	High-efficiency electrochemical nitrite reduction to ammonium using a Cu ₃ P nanowire array under ambient conditions. Green Chemistry, 2021, 23, 5487-5493.	4.6	73
576	Heterojunction photocatalysts for artificial nitrogen fixation: fundamentals, latest advances and future perspectives. Nanoscale, 2021, 13, 7011-7033.	2.8	62
577	YF ₃ : a nanoflower-like catalyst for efficient nitrogen fixation to ammonia under ambient conditions. Catalysis Science and Technology, 2021, 11, 6750-6754.	2.1	4
578	Electrochemically synthesized SnO ₂ with tunable oxygen vacancies for efficient electrocatalytic nitrogen fixation. Nanoscale, 2021, 13, 16307-16315.	2.8	13
579	Alkylthiol surface engineering: an effective strategy toward enhanced electrocatalytic N ₂ -to-NH ₃ fixation by a CoP nanoarray. Journal of Materials Chemistry A, 2021, 9, 13861-13866.	5.2	83

#	Article	IF	CITATIONS
580	A two-dimensional MXene-supported metal–organic framework for highly selective ambient electrocatalytic nitrogen reduction. Nanoscale, 2021, 13, 2843-2848.	2.8	81
581	Ultrathin 2D Photocatalysts: Electronicâ€Structure Tailoring, Hybridization, and Applications. Advanced Materials, 2018, 30, 1704548.	11.1	409
582	Scalable synthesis of nanoporous boron for high efficiency ammonia electrosynthesis. Materials Today, 2020, 38, 58-66.	8.3	29
583	Local Modulation of Single-Atomic Mn Sites for Enhanced Ambient Ammonia Electrosynthesis. ACS Catalysis, 2021, 11, 509-516.	5.5	93
584	Photocatalytic N ₂ Reduction: Uncertainties in the Determination of Ammonia Production. ACS Sustainable Chemistry and Engineering, 2021, 9, 560-568.	3.2	20
585	Au nanoparticle-embedded, nitrogen-deficient hollow mesoporous carbon nitride spheres for nitrogen photofixation. Journal of Materials Chemistry A, 2020, 8, 16218-16231.	5.2	74
586	The role of sp-hybridized boron atoms in the highly efficient photocatalytic N ₂ reduction activity of boron-doped triphenylene–graphdiyne. Journal of Materials Chemistry A, 2021, 9, 26077-26085.	5.2	12
587	Boosting Electrochemical Nitrate-Ammonia Conversion Via Organic Ligands-Tuned Proton Transfer. SSRN Electronic Journal, 0, , .	0.4	0
588	Mechanocatalytic Roomâ€īemperature Synthesis of Ammonia from Its Elements Down to Atmospheric Pressure. Angewandte Chemie - International Edition, 2021, 60, 26385-26389.	7.2	34
589	CO ₂ Reduction to Higher Hydrocarbons by Plasma Discharge in Carbonated Water. ACS Energy Letters, 2021, 6, 3924-3930.	8.8	7
590	Fabricating Ag/PW ₁₂ /Zrâ€ <i>m</i> TiO ₂ Composite via Doping and Interface Engineering: An Efficient Catalyst with Bifunctionality in Photo―and Electroâ€Driven Nitrogen Reduction Reactions. Advanced Sustainable Systems, 2022, 6, 2100307.	2.7	9
591	Detection of Aqueous Solvated Electrons Produced by Photoemission from Solids Using Transient Absorption Measurements. ACS Measurement Science Au, 2022, 2, 46-56.	1.9	8
592	Synergistic Multisites Fe ₂ Mo ₆ S ₈ Electrocatalysts for Ambient Nitrogen Conversion to Ammonia. ACS Nano, 2021, 15, 16887-16895.	7.3	27
593	Mechanocatalytic Roomâ€Temperature Synthesis of Ammonia from Its Elements Down to Atmospheric Pressure. Angewandte Chemie, 2021, 133, 26589.	1.6	5
594	Two-Dimensional Heterojunction Electrocatalyst: Au-Bi ₂ Te ₃ Nanosheets for Electrochemical Ammonia Synthesis. ACS Applied Materials & Interfaces, 2021, 13, 47458-47464.	4.0	24
595	Recent advances in understanding the role of solvated electrons at the plasma-liquid interface of solution-based gas discharges. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 186, 106307.	1.5	18
596	In-situ polymerization of polyaniline modified by phosphotungstic acid on the surface of hollow carbon for two-way efficient reduction of nitrate in water. Chemical Engineering Journal, 2022, 430, 133175.	6.6	15
597	Photoelectrochemical reduction of nitrate to ammonia over CuPc/CeO2 heterostructure: Understanding the synergistic effect between oxygen vacancies and Ce sites. Chemical Engineering Journal, 2022, 433, 133225.	6.6	21

ARTICLE IF CITATIONS Li-intercalation boosted oxygen vacancies enable efficient electrochemical nitrogen reduction on 598 30 6.6 ultrathin TiO2 nanosheets. Chemical Engineering Journal, 2022, 430, 133085. MOF-derived Fe2O3@MoS2: An efficient electrocatalyst for ammonia synthesis under mild conditions. 599 6.6 Chemical Engineering Journal, 2022, 430, 132694. Fe doped InVO4 nanosheets with rich surface oxygen vacancies for enhanced electrochemical 600 6.6 15 nitrogen fixation. Chemical Engineering Journal, 2022, 431, 133383. Modulation of surface properties on cobalt phosphide for high-performance ambient ammonia electrosynthesis. Applied Catalysis B: Environmental, 2022, 303, 120874. Atomically Dispersed Zinc(I) Active Sites to Accelerate Nitrogen Reduction Kinetics for Ammonia 602 11.1 99 Electrosynthesis. Advanced Materials, 2022, 34, e2103548. Photochemical and nonthermal chemical modification of porous silicon., 2021, , 51-112. Interface hydrophobic tunnel engineering: A general strategy to boost electrochemical conversion of 604 8.2 33 N2 to NH3. Nano Energy, 2022, 92, 106784. Modulating surface electronic structure of mesoporous Rh nanoparticles by Se-doping for enhanced 1.9 electrochemical ammonia synthesis. Journal of Electroanalytical Chemistry, 2022, 904, 115874. Communicationâ€"Partial Oxidation of MnS for Synergistic Electrocatalysis of N2-to-NH3 Fixation at 606 0 1.3 Ambient Conditions. Journal of the Electrochemical Society, 2021, 168, 116518. K+-Intercalated carbon nitride with electron storage property for high-efficiency visible light driven 6.6 nitrogen fixation. Chemical Engineering Journal, 2022, 433, 133573 Computational Screening of High Activity and Selectivity TM/g-C₃N₄ Single-Atom Catalysts for Electrocatalytic Reduction of Nitrates to Ammonia. Journal of Physical 608 2.1 57 Chemistry Letters, 2021, 12, 11143-11150. MnO2 nanoarray with oxygen vacancies: An efficient catalyst for NO electroreduction to NH3 at 609 54 ambient conditions. Matérials Today Physics, 2022, 22, 100586. All room-temperature synthesis, N2 photofixation and reactivation over 2D cobalt oxides. Applied 610 10.8 11 Catalysis B: Environmental, 2022, 304, 121001. Photocatalytic Performance of Perovskite and Metal–Organic Framework Hybrid Material for the Reduction of N₂ to Ammonia. Inorganic Chemistry, 2022, 61, 1735-1744. Iron covalent doping in WB₂ to boost its hydrogen evolution activity. Inorganic 612 3.08 Chemistry Frontiers, 2022, 9, 524-530. Catalytic photo-redox of simulated air into ammonia over bimetallic MOFs nanosheets with oxygen 24 vacancies. Applied Catalysis B: Environmental, 2022, 305, 121046. Ultrathin MoS2 Nanosheets for Electrocatalytic N2-To-NH3 Fixation Under Ambient Conditions. 614 0.5 2 International Journal of Electrochemical Science, 0, , 11555-11566. Enhancing electrocatalytic nitrogen reduction to ammonia with rare earths (La, Y, and Sc) on high-index faceted platinum alloy concave nanocubes. Journal of Materials Chemistry A, 2021, 9, 5.2 26277-26285.

#	Article	IF	CITATIONS
616	High-performance NH ₃ production <i>via</i> NO electroreduction over a NiO nanosheet array. Chemical Communications, 2021, 57, 13562-13565.	2.2	51
617	Efficient ammonia electrosynthesis by coupling to concurrent methanol oxidation. Chem Catalysis, 2022, 2, 358-371.	2.9	11
618	Vacancy engineering of oxidized Nb2CTx MXenes for a biased nitrogen fixation. Green Energy and Environment, 2023, 8, 1185-1194.	4.7	11
619	Nitrogen reduction reaction under ambient conditions by K ₃ Ti ₈ O ₁₇ nanorod electrocatalyst. Sustainable Energy and Fuels, 2022, 6, 1519-1528.	2.5	6
621	Electroreduction of nitrogen to ammonia over bimetallic mesoporous RuAu film. Materials Today Energy, 2022, 23, 100920.	2.5	1
622	Efficient full-spectrum driven ammonia synthesis over heterostructured TiO2 nanosheet arrays. Chemical Communications, 2021, 58, 278-281.	2.2	3
624	Metastable Brominated Nanodiamond Surface Enables Room Temperature and Catalysis-Free Amine Chemistry. Journal of Physical Chemistry Letters, 2022, 13, 1147-1158.	2.1	3
625	New insight on electroreduction of nitrate to ammonia driven by oxygen vacancies-induced strong interface interactions. Journal of Catalysis, 2022, 406, 39-47.	3.1	29
626	Efficient electrocatalytic reduction of N2 to ammonia at ambient conditions with municipal sludge-derived porous carbon codoped with multiple heteroatoms. Electrochimica Acta, 2022, 408, 139934.	2.6	4
627	Boosting the electrochemical nitrogen reduction by rhenium-doping modulated TiO2 nanofibers. Chemical Engineering Journal, 2022, 434, 134648.	6.6	16
628	A photo-assisted electrochemical-based demonstrator for green ammonia synthesis. Journal of Energy Chemistry, 2022, 68, 826-834.	7.1	7
629	Enhanced electrocatalytic performance of TiO ₂ nanoparticles by Pd doping toward ammonia synthesis under ambient conditions. Chemical Communications, 2022, 58, 3214-3217.	2.2	9
630	Modular assembly of electron transfer pathways in bimetallic MOFs for photocatalytic ammonia synthesis. Catalysis Science and Technology, 2022, 12, 2015-2022.	2.1	10
631	Dual Active Centers Bridged by Oxygen Vacancies of Ruthenium Singleâ€Atom Hybrids Supported on Molybdenum Oxide for Photocatalytic Ammonia Synthesis. Angewandte Chemie, 2022, 134, .	1.6	8
632	Dual Active Centers Bridged by Oxygen Vacancies of Ruthenium Singleâ€Atom Hybrids Supported on Molybdenum Oxide for Photocatalytic Ammonia Synthesis. Angewandte Chemie - International Edition, 2022, 61, .	7.2	45
634	Recent advances in material design and reactor engineering for electrocatalytic ambient nitrogen fixation. Materials Chemistry Frontiers, 2022, 6, 843-879.	3.2	14
635	Ambient electrochemical N ₂ -to-NH ₃ conversion catalyzed by TiO ₂ decorated juncus effusus-derived carbon microtubes. Inorganic Chemistry Frontiers, 2022, 9, 1514-1519.	3.0	100
636	ЗÐКОÐЫ ГЕТЕÐОГЕÐÐОГО КÐТÐÐ>Ð~ЗЕ InterConf, 0, , 782-807.	0.0	0

#	Article	IF	CITATIONS
637	Delicate Tuning of the Ni/Co Ratio in Bimetal Layered Double Hydroxides for Efficient N ₂ Electroreduction. ChemSusChem, 2022, 15, e202200127.	3.6	7
638	Nonthermal Plasma Catalytic Ammonia Synthesis over a Ni Catalyst Supported on MgO/SBA-15. Industrial & Engineering Chemistry Research, 2022, 61, 3292-3302.	1.8	20
639	One-step hydrothermal synthesis of Co–Ni–S/Ni foam as an electrocatalyst for nitrogen reduction reaction. Materials Today Energy, 2022, 26, 100995.	2.5	6
640	Enhanced photocatalytic nitrogen fixation of etched Ag-doped PM-CdS catalyst under visible light irradiation. Optical Materials, 2022, 125, 112137.	1.7	7
641	Direct conversion of N2 and O2: status, challenge and perspective. National Science Review, 2022, 9, .	4.6	16
642	Pollution to solution: A universal electrocatalyst for reduction of all NOx-based species to NH3. Chem Catalysis, 2022, 2, 622-638.	2.9	27
643	Regulating Electronic Structure in Bi ₂ O ₃ Architectures by Ti Mediation: A Strategy for Dual Active Sites Synergistically Promoting Photocatalytic Nitrogen Hydrogenation. ChemSusChem, 2022, 15, .	3.6	6
644	Surface Reconstruction on Uniform Cu Nanodisks Boosted Electrochemical Nitrate Reduction to Ammonia. , 2022, 4, 650-656.		42
645	Effects of oxidative adsorbates and cluster formation on the electronic structure of nanodiamonds. Journal of Computational Chemistry, 2022, 43, 923-929.	1.5	6
646	Photoelectrochemical Nitrate Reduction to Ammonia on Ordered Silicon Nanowire Array Photocathodes. Angewandte Chemie, 2022, 134, .	1.6	2
647	Surface Modification of 2D Photocatalysts for Solar Energy Conversion. Advanced Materials, 2022, 34, e2200180.	11.1	184
648	Photoelectrochemical Nitrate Reduction to Ammonia on Ordered Silicon Nanowire Array Photocathodes. Angewandte Chemie - International Edition, 2022, 61, .	7.2	25
649	High-efficiency NO electroreduction to NH3 over honeycomb carbon nanofiber at ambient conditions. Journal of Colloid and Interface Science, 2022, 616, 261-267.	5.0	26
650	Boron nitride quantum dots coupled with CoP nanosheet arrays grown on carbon cloth for efficient nitrogen reduction reaction. Chemical Engineering Journal, 2022, 440, 135853.	6.6	16
651	Oxygen Vacancies of CeO ₂ Nanospheres by Mn-Doping: An Efficient Electrocatalyst for N ₂ Reduction under Ambient Conditions. Inorganic Chemistry, 2022, 61, 28-31.	1.9	8
652	Degradation of Perfluorooctanoic Acid with Hydrated Electron by a Heterogeneous Catalytic System. Environmental Science & Technology, 2022, 56, 6223-6231.	4.6	30
653	Rational Synthesis and Regulation of Hollow Structural Materials for Electrocatalytic Nitrogen Reduction Reaction. Advanced Science, 2022, 9, e2104183.	5.6	33
654	Robust Photoelectrochemical Route for the Ambient Fixation of Dinitrogen into Ammonia over a Nanojunction Assembled from Ceria and an Iron Boride/Phosphide Cocatalyst. Inorganic Chemistry, 2022, 61, 131-140.	1.9	10

#	Article	IF	CITATIONS
655	Latticeâ€Confined Singleâ€Atom Fe ₁ S _{<i>x</i>} on Mesoporous TiO ₂ for Boosting Ambient Electrocatalytic N ₂ Reduction Reaction. Angewandte Chemie, 2022, 134, .	1.6	10
656	Latticeâ€Confined Singleâ€Atom Fe ₁ S _{<i>x</i>} on Mesoporous TiO ₂ for Boosting Ambient Electrocatalytic N ₂ Reduction Reaction. Angewandte Chemie - International Edition, 2022, 61, .	7.2	54
658	Phosphorus incorporation accelerates ammonia electrosynthesis over a mesoporous Au film. Chemical Communications, 2022, 58, 6088-6091.	2.2	24
659	Strategies to activate inert nitrogen molecules for efficient ammonia electrosynthesis: current status, challenges, and perspectives. Energy and Environmental Science, 2022, 15, 2776-2805.	15.6	48
660	Electrochemical ammonia synthesis: Mechanism, recent developments, and challenges in catalyst design. , 2022, , 497-514.		3
661	Alkali Metal Salt Interference on the Salicylate Method for Quantifying Ammonia from Nitrogen Reduction. , 0, , .		4
662	AuCu nanofibers for electrosynthesis of urea from carbon dioxide and nitrite. Cell Reports Physical Science, 2022, 3, 100869.	2.8	33
663	LAWS OF HETEROGENEOUS CATALYSIS. InterConf, 0, , 376-398.	0.0	2
664	High-efficiency photoemission from magnetically doped quantum dots driven by multi-step spin-exchange Auger ionization. Nature Photonics, 2022, 16, 433-440.	15.6	15
665	Efficient conversion of low-concentration nitrate sources into ammonia on a Ru-dispersed Cu nanowire electrocatalyst. Nature Nanotechnology, 2022, 17, 759-767.	15.6	318
666	High-entropy perovskite oxides: A versatile class of materials for nitrogen reduction reactions. Science China Materials, 2022, 65, 2711-2720.	3.5	13
667	Photocatalytic Dinitrogen Fixation with Water on High-Phosphorus-Doped Carbon Nitride with Surface Nitrogen Vacancies. Langmuir, 2022, 38, 7137-7145.	1.6	5
668	ITO@TiO2 nanoarray: An efficient and robust nitrite reduction reaction electrocatalyst toward NH3 production under ambient conditions. EScience, 2022, 2, 382-388.	25.0	88
669	Ammonia production from nitrogen under simulated solar irradiation, low overpotential, and mild conditions. Electrochimica Acta, 2022, 421, 140475.	2.6	3
670	Highly Durable and Selective Fe- and Mo-Based Atomically Dispersed Electrocatalysts for Nitrate Reduction to Ammonia via Distinct and Synergized NO ₂ [–] Pathways. ACS Catalysis, 2022, 12, 6651-6662.	5.5	58
671	Cu nanoparticles decorated juncus-derived carbon for efficient electrocatalytic nitrite-to-ammonia conversion. Journal of Colloid and Interface Science, 2022, 624, 394-399.	5.0	39
672	Ambient N ₂ -to-NH ₃ fixation over a CeO ₂ nanoparticle decorated three-dimensional carbon skeleton. Sustainable Energy and Fuels, 2022, 6, 3344-3348.	2.5	50
673	Unveiling the critical role of TiO2-supported atomically dispersed Cu species for enhanced photofixation of N2 to nitrate. Fundamental Research, 2022, , .	1.6	1

#	Article	IF	CITATIONS
674	Phase Transferâ€Mediated Degradation of Etherâ€Based Localized Highâ€Concentration Electrolytes in Alkali Metal Batteries. Angewandte Chemie, 2022, 134, .	1.6	4
675	Heterogeneous Pd-PdO mesoporous film for ammonia electrosynthesis. Nanotechnology, 2022, 33, 385703.	1.3	1
676	Support Amorphization Engineering Regulates Single-Atom Ru as an Electron Pump for Nitrogen Photofixation. ACS Catalysis, 2022, 12, 8139-8146.	5.5	20
677	Phase Transferâ€Mediated Degradation of Etherâ€Based Localized Highâ€Concentration Electrolytes in Alkali Metal Batteries. Angewandte Chemie - International Edition, 2022, 61, .	7.2	21
678	Feâ€ V S ₂ Electrocatalyst with Organic Matrixâ€Mediated Electron Transfer for Highly Efficient Nitrogen Fixation. ChemSusChem, 2022, 15, .	3.6	8
679	High-throughput identification of highly active and selective single-atom catalysts for electrochemical ammonia synthesis through nitrate reduction. Nano Energy, 2022, 100, 107517.	8.2	49
680	Ultra-efficient N2 electroreduction achieved over a rhodium single-atom catalyst (Rh1/MnO2) in water-in-salt electrolyte. Applied Catalysis B: Environmental, 2022, 316, 121651.	10.8	56
681	Plasma-etched Ti ₂ O ₃ with oxygen vacancies for enhanced NH ₃ electrosynthesis and Zn–N ₂ batteries. Inorganic Chemistry Frontiers, 2022, 9, 4608-4613.	3.0	96
682	Mesoporosity Engineering to Boost Ammonia Synthesis From Nitrate Electroreduction. SSRN Electronic Journal, 0, , .	0.4	0
683	High Performance Cobaltâ€Vanadium Layered Double Hydroxide Nanosheets for Photoelectrochemical Reduction of Nitrogen. European Journal of Inorganic Chemistry, 2022, 2022, .	1.0	5
684	Interfacial engineering of metallic rhodium by thiol modification approach for ambient electrosynthesis of ammonia. Nano Research, 2022, 15, 8826-8835.	5.8	9
685	Filling Mesopores of Conductive Metal–Organic Frameworks with Cu Clusters for Selective Nitrate Reduction to Ammonia. ACS Applied Materials & Interfaces, 2022, 14, 32176-32182.	4.0	16
686	Interstitial boron-doped nanoporous palladium film for electro-reduction of nitrogen to ammonia. Chemical Engineering Journal, 2022, 449, 137771.	6.6	9
687	An integrated Si photocathode with lithiation-activated molybdenum oxide nanosheets for efficient ammonia synthesis. Nano Energy, 2022, 102, 107639.	8.2	11
688	The Preparation of Au-Loaded Ti ₃ C ₂ Nanosheet and Research on Its Electrocatalytic Nitrogen Reduction Performance. Integrated Ferroelectrics, 2022, 228, 174-182.	0.3	0
689	Accelerating Protonation Kinetics for Ammonia Electrosynthesis on Single Iron Sites Embedded in Carbon with Intrinsic Defects. Advanced Functional Materials, 2022, 32, .	7.8	45
690	Recent progress of photocatalysts based on tungsten and related metals for nitrogen reduction to ammonia. Frontiers in Chemistry, 0, 10, .	1.8	4
691	MoC nanocrystals confined in N-doped carbon nanosheets toward highly selective electrocatalytic nitric oxide reduction to ammonia. Nano Research, 2022, 15, 8890-8896.	5.8	69

#	Article	IF	CITATIONS
692	Atomic‣ayerâ€Deposited Oxygenâ€Deficient TiO ₂ on Carbon Cloth: An Efficient Electrocatalyst for Nitrogen Fixation. ChemCatChem, 2022, 14, .	1.8	1
694	Heterostructured Bi ₂ S ₃ /MoS ₂ Nanoarrays for Efficient Electrocatalytic Nitrate Reduction to Ammonia Under Ambient Conditions. ACS Applied Materials & Interfaces, 2022, 14, 38835-38843.	4.0	17
695	Boosting electrochemical nitrate-ammonia conversion via organic ligands-tuned proton transfer. Nano Energy, 2022, 103, 107705.	8.2	16
696	Recent advances and perspectives in cobalt-based heterogeneous catalysts for photocatalytic water splitting, CO2 reduction, and N2 fixation. Chinese Journal of Catalysis, 2022, 43, 2273-2300.	6.9	45
697	Using magnesium reduction strategy to produce black Ga2O3 with variable oxygen vacancies for photocatalytic applications. Journal of Alloys and Compounds, 2022, 926, 166887.	2.8	4
698	Bifunctional copper-cobalt spinel electrocatalysts for efficient tandem-like nitrate reduction to ammonia. Chemical Engineering Journal, 2022, 450, 138343.	6.6	33
699	Highly efficient electrochemical N ₂ reduction over strongly coupled CeO ₂ –Mo ₂ C nanocomposites anchored by reduced graphene oxide. Dalton Transactions, 0, , .	1.6	2
700	Modulating oxygen vacancies of CeO ₂ nanospheres by Zn-doping: an efficient electrocatalyst for N ₂ reduction under ambient conditions. Energy Advances, 0, , .	1.4	0
701	Oxygen vacancies in Co ₃ O ₄ nanoarrays promote nitrate electroreduction for ammonia synthesis. Sustainable Energy and Fuels, 2022, 6, 4130-4136.	2.5	81
702	Electroreduction of nitrate to ammonia on atomically-dispersed Cu-N4 active sites with high efficiency and stability. Fuel, 2023, 332, 126106.	3.4	8
703	Controlled etching to immobilize highly dispersed Fe in MXene for electrochemical ammonia production. , 2022, 1, 117-125.		11
704	Steering the Topological Defects in Amorphous Laser-Induced Graphene for Direct Nitrate-to-Ammonia Electroreduction. ACS Catalysis, 2022, 12, 11639-11650.	5.5	33
705	Facet Engineering of a Metalâ€Organic Framework Support Modulates the Microenvironment of Pd Nanoparticles for Selective Hydrogenation. Angewandte Chemie, 0, , .	1.6	0
706	Facet Engineering of a Metal–Organic Framework Support Modulates the Microenvironment of Palladium Nanoparticles for Selective Hydrogenation. Angewandte Chemie - International Edition, 2022, 61, .	7.2	39
707	Actinide-uranium single-atom catalysis for electrochemical nitrogen fixation. Science Bulletin, 2022, 67, 2001-2012.	4.3	25
708	Regulating the interfacial charge transfer and constructing symmetryâ€breaking sites for the enhanced N ₂ electroreduction activity. , 2023, 5, .		13
709	Early dynamics of the emission of solvated electrons from nanodiamonds in water. Nanoscale, 2022, 14, 17188-17195.	2.8	13
710	Role of the Membrane Transport Mechanism in Electrochemical Nitrogen Reduction Experiments. Membranes, 2022, 12, 969.	1.4	3

#	Article	IF	Citations
711	Mesoporous MnO2 nanosheets for efficient electrocatalytic nitrogen reduction via high spin polarization induced by oxygen vacancy. Nano Research, 2023, 16, 4664-4670.	5.8	9
712	Electric field - induced catalysis. Laws of field catalysis. InterConf, 2022, , 332-351.	0.0	1
713	In Situ Derived Co ₂ B Nanosheet Array: A High-Efficiency Electrocatalyst for Ambient Ammonia Synthesis via Nitrate Reduction. ACS Applied Materials & Interfaces, 2022, 14, 49650-49657.	4.0	19
714	Mesoporous PdN Alloy Nanocubes for Efficient Electrochemical Nitrate Reduction to Ammonia. Advanced Materials, 2023, 35, .	11.1	38
715	Plasmon-Generated Solvated Electrons for Chemical Transformations. Journal of the American Chemical Society, 0, , .	6.6	10
716	Ambient ammonia production via electrocatalytic nitrite reduction over MoO2 nanoparticles self-supported on molybdenum plate. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2023, 657, 130549.	2.3	10
717	Advancing Critical Chemical Processes for a Sustainable Future: Challenges for Industry and the Max Planck–Cardiff Centre on the Fundamentals of Heterogeneous Catalysis (FUNCAT). Angewandte Chemie - International Edition, 2022, 61, .	7.2	8
718	Advancing Critical Chemical Processes for a Sustainable Future: Challenges for Industry and the Max Planck–Cardiff Centre on the Fundamentals of Heterogeneous Catalysis (FUNCAT). Angewandte Chemie, 2022, 134, .	1.6	1
719	Boosting Photocatalytic N ₂ Fixation on Nâ€Defect gâ€C ₃ N ₄ /WO ₃ : the Synergistic Effects of Nitrogen Vacancy and Zâ€Scheme Heterojunction. Advanced Materials Technologies, 2023, 8, .	3.0	8
720	Constructing asymmetric active sites on defective Ru/W ₁₈ O ₄₉ for photocatalytic nitrogen fixation. Catalysis Science and Technology, 2023, 13, 854-861.	2.1	4
721	V-doped TiO2 nanobelt array for high-efficiency electrocatalytic nitrite reduction to ammonia. Materials Today Physics, 2023, 30, 100944.	2.9	47
722	When nitrogen reduction meets single-atom catalysts. Progress in Materials Science, 2023, 132, 101044.	16.0	14
723	Recent progress in electrocatalytic nitrogen reduction to ammonia (NRR). Coordination Chemistry Reviews, 2023, 478, 214981.	9.5	54
724	Facile and controllable preparation of carbon microsphere for electro-driven nitrogen reduction: Accommodating nitrogen doping with hierarchical porous structure. Journal of Colloid and Interface Science, 2023, 634, 995-1004.	5.0	0
725	Singleâ€Atom or Dualâ€Atom in TiO2 Nanosheet: Which is the Better Choice for Electrocatalytic Urea Synthesis?. Angewandte Chemie, 0, , .	1.6	2
726	Coupling Fe and Mo single atoms on hierarchical N-doped carbon nanotubes enhances electrochemical nitrogen reduction reaction performance. Nano Research, 2023, 16, 5743-5749.	5.8	4
727	Singleâ€Atom or Dualâ€Atom in TiO ₂ Nanosheet: Which is the Better Choice for Electrocatalytic Urea Synthesis?. Angewandte Chemie - International Edition, 2023, 62, .	7.2	38
728	Swinging Hydrogen Evolution to Nitrate Reduction Activity in Molybdenum Carbide by Ruthenium Doping. ACS Catalysis, 2022, 12, 15045-15055.	5.5	30

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729 Змїна параÐÐ,гмÐ, Đ⁰аÑ,аĐ»Ñ–Đ·Ñƒ: лоĐ¼Đ⁰ ÑÑ,ÐμÑ€ÐμоÑ,Ð,ÐįÑ–Đ². InterC**omf**, 2022,1, 285-303.

730	Activation. ACS Applied Materials & amp; Interfaces, 2022, 14, 55559-55567.	4.0	11
731	Photoelectrochemistry-driven ambient nitrogen reduction to ammonia: Materials' design insights. Catalysis Today, 2023, 423, 113979.	2.2	0
732	Universal Synthesized Strategy for Amorphous Pdâ€Based Nanosheets Boosting Ambient Ammonia Electrosynthesis. Small Methods, 2023, 7, .	4.6	4
733	Degradation of perfluorooctanesulfonate (PFOS) by sub-bandgap irradiation of hydrogen-terminated nanodiamond. Applied Catalysis B: Environmental, 2023, 325, 122306.	10.8	6
734	Deciphering Electrolyte Selection for Electrochemical Reduction of Carbon Dioxide and Nitrogen to Highâ€Valueâ€Added Chemicals. Advanced Functional Materials, 2023, 33, .	7.8	28
735	Electrocatalysis Mechanism and Structure–Activity Relationship of Atomically Dispersed Metalâ€Nitrogenâ€Carbon Catalysts for Electrocatalytic Reactions. Small Methods, 2023, 7, .	4.6	7
736	To Molecularly Block Hydrogen Evolution Sites of Molybdenum Disulfide toward Improved Catalytic Performance for Electrochemical Nitrogen Reduction. Small Methods, 2023, 7, .	4.6	5
737	Preparation of Sulfur and Nitrogen Co-doped Carbon-Based Porous Nanomaterials for Efficient Electrocatalytic N2 Reduction. Journal of Electronic Materials, 2023, 52, 2227-2235.	1.0	1
738	Knowledgeâ€Driven Design and Labâ€Based Evaluation of Bâ€doped TiO ₂ Photocatalysts for Ammonia Synthesis. Advanced Energy Materials, 2023, 13, .	10.2	23
739	Mechanism for plasmon-generated solvated electrons. Proceedings of the National Academy of Sciences of the United States of America, 2023, 120, .	3.3	8
740	Integrated adsorption and photodegradation of tetracycline by bismuth oxycarbonate/biochar nanocomposites. Chemical Engineering Journal, 2023, 457, 141228.	6.6	42
741			
	Rational Design of Diamond Electrodes. Accounts of Chemical Research, 2023, 56, 117-127.	7.6	6
742	Rational Design of Diamond Electrodes. Accounts of Chemical Research, 2023, 56, 117-127. High-Index Surface Structure Engineering of Au–Pd Concave Triple-Octahedrons for Boosting Electrocatalytic Nitrate Reduction to Ammonia. ACS Sustainable Chemistry and Engineering, 2023, 11, 1631-1637.	7.6 3.2	6 8
742 743	 Rational Design of Diamond Electrodes. Accounts of Chemical Research, 2023, 56, 117-127. High-Index Surface Structure Engineering of Auâ€"Pd Concave Triple-Octahedrons for Boosting Electrocatalytic Nitrate Reduction to Ammonia. ACS Sustainable Chemistry and Engineering, 2023, 11, 1631-1637. Synthesis of highly twinned ZnSe nanorods for enhancing N₂electrochemical conversion to NH₃. Chemical Communications, 2023, 59, 2465-2468. 	7.6 3.2 2.2	6 8 3
742 743 744	Rational Design of Diamond Electrodes. Accounts of Chemical Research, 2023, 56, 117-127. High-Index Surface Structure Engineering of Auâ€"Pd Concave Triple-Octahedrons for Boosting Electrocatalytic Nitrate Reduction to Ammonia. ACS Sustainable Chemistry and Engineering, 2023, 11, 1631-1637. Synthesis of highly twinned ZnSe nanorods for enhancing N ₂ electrochemical conversion to NH ₃ . Chemical Communications, 2023, 59, 2465-2468. Single atomic cerium sites anchored on nitrogen-doped hollow carbon spheres for highly selective electroreduction of nitric oxide to ammonia. Journal of Colloid and Interface Science, 2023, 638, 650-657.	7.6 3.2 2.2 5.0	6 8 3 58
742 743 744 745	Rational Design of Diamond Electrodes. Accounts of Chemical Research, 2023, 56, 117-127. High-Index Surface Structure Engineering of Au–Pd Concave Triple-Octahedrons for Boosting Electrocatalytic Nitrate Reduction to Ammonia. ACS Sustainable Chemistry and Engineering, 2023, 11, 1631-1637. Synthesis of highly twinned ZnSe nanorods for enhancing N ₂ electrochemical conversion to NH ₃ . Chemical Communications, 2023, 59, 2465-2468. Single atomic cerium sites anchored on nitrogen-doped hollow carbon spheres for highly selective electroreduction of nitric oxide to ammonia. Journal of Colloid and Interface Science, 2023, 638, 650-657. Facile preparation of single-atom Ru catalysts <i>via</i> a two-dimensional interface directed synthesis technique for the NRR. Chemical Communications, 2023, 59, 5403-5406.	7.6 3.2 2.2 5.0 2.2	6 8 3 58 3

#	Article	IF	CITATIONS
747	Newly designed photocatalyst of Fe4 single clusters on g-C6N6 for nitrogen reduction reaction. Computational and Theoretical Chemistry, 2023, 1222, 114074.	1.1	1
748	Hydrogenation of HPHT nanodiamonds and their nanoscale interaction with chitosan. Diamond and Related Materials, 2023, 134, 109754.	1.8	8
749	TiO ₂ /CeO ₂ Frame with Enriched Oxygen Vacancies and Heteroâ€Interfaces for Efficient Electrochemical N ₂ Reduction. ChemCatChem, 2023, 15, .	1.8	2
750	Semiconducting electrodes for neural interfacing: a review. Chemical Society Reviews, 2023, 52, 1491-1518.	18.7	5
751	Surface Nanotexturing of Boron-Doped Diamond Films by Ultrashort Laser Pulses. Micromachines, 2023, 14, 389.	1.4	2
752	Copperâ€Phthalocyanineâ€based Covalent Organic Polymers for Electrocatalytic Ambient Ammonia Synthesis. ChemCatChem, 2023, 15, .	1.8	0
753	Raman fingerprints of ultrasmall nanodiamonds produced from adamantane. Diamond and Related Materials, 2023, 133, 109770.	1.8	3
754	Electrocatalytic Reduction of Nitrate to Ammonia via a Au/Cu Single Atom Alloy Catalyst. Environmental Science & Technology, 2023, 57, 3134-3144.	4.6	30
755	Hydrogen-assisted activation of N2 molecules on atomic steps of ZnSe nanorods. Nano Research, 2023, 16, 6721-6727.	5.8	3
756	Hydrated electrons as nodes in porous clathrate hydrates. Journal of Chemical Physics, 2023, 158, .	1.2	1
757	Efficient N ₂ electroreduction to ammonia in an isopropanol–PBS electrolyte using NiFe ₂ O ₄ <i>in situ</i> grown on nickel foam. Energy Advances, 2023, 2, 547-555.	1.4	1
758	Research progress in green synthesis of ammonia as hydrogen-storage carrier under â€ [~] hydrogen 2.0 economy'. Clean Energy, 2023, 7, 116-131.	1.5	4
759	Research Progress of Tungsten Oxide-Based Catalysts in Photocatalytic Reactions. Catalysts, 2023, 13, 579.	1.6	3
760	Highly Occupied Surface States at Deuteriumâ€Grown Boronâ€Doped Diamond Interfaces for Efficient Photoelectrochemistry. Small, 2023, 19, .	5.2	1
761	Highly Selective N2 Electroreduction to NH3 Using a Boronâ€Vacancyâ€Rich Diatomic NbB Catalyst. Small, 2023, 19, .	5.2	10
762	Machine Learning Frontier Orbital Energies of Nanodiamonds. Journal of Chemical Theory and Computation, 2023, 19, 4461-4473.	2.3	2
763	Au-based heterostructure composites for photo and electro catalytic energy conversions. Sustainable Materials and Technologies, 2023, 36, e00609.	1.7	4
766	Plasma Electrochemistry for Carbon–Carbon Bond Formation via Pinacol Coupling. Journal of the American Chemical Society, 2023, 145, 10470-10474.	6.6	2

		CITATION REPORT		
#	Article	IF	Citations	
795	Engineering photocatalytic ammonia synthesis. Chemical Society Reviews, 2023, 52, 6938-6956.	18.7	4	
830	Photocatalytic production of ammonia. , 2024, , 89-112.		0	
832	The current methods of ammonia synthesis by Haber-Bosch process. , 2024, , 1-32.		0	