

# CITATION REPORT

List of articles citing

Contributions of Phase, Sulfur Vacancies, and Edges to the Hydrogen Evolution Reaction Catalytic Activity of Porous Molybdenum Disulfide Nanosheets

DOI: 10.1021/jacs.6b03714

Journal of the American Chemical Society, 2016, 138, 7965-72.

**Source:** <https://exaly.com/paper-pdf/65079850/citation-report.pdf>

**Version:** 2024-04-27

This report has been generated based on the citations recorded by exaly.com for the above article. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

#	Paper	IF	Citations
947	.		
946	Mo-Terminated Edge Reconstructions in Nanoporous Molybdenum Disulfide Film.		
945	Anion Extraction-Induced Polymorph Control of Transition Metal Dichalcogenides.		
944	Interface Designing over WS <sub>2</sub> /W <sub>2</sub> C for Enhanced Hydrogen Evolution Catalysis.		
943	Mechanochemical Coupling of MoS <sub>2</sub> and Perovskites for Hydrogen Generation.		
942	Heterogeneous Nanostructure Based on 1T-Phase MoS <sub>2</sub> for Enhanced Electrocatalytic Hydrogen Evolution.		0
941	Auto-optimizing Hydrogen Evolution Catalytic Activity of ReS <sub>2</sub> through Intrinsic Charge Engineering.		
940	Molybdenum Disulfide Modified by Laser Irradiation for Catalyzing Hydrogen Evolution.		
939	FeP/MoS <sub>2</sub> Enriched with Dense Catalytic Sites and High Electrical Conductivity for the Hydrogen Evolution Reaction.		
938	Preparation of 1T-Phase ReS <sub>2</sub> xSe <sub>2</sub> (1-x) (x = 01) Nanodots for Highly Efficient Electrocatalytic Hydrogen Evolution Reaction.		
937	Structural and Electronic Optimization of MoS <sub>2</sub> Edges for Hydrogen Evolution.		
936	Water-Soluble Defect-Rich MoS <sub>2</sub> Ultrathin Nanosheets for Enhanced Hydrogen Evolution.		
935	Molybdenum DisulfideBlack Phosphorus Hybrid Nanosheets as a Superior Catalyst for Electrochemical Hydrogen Evolution.		
934	Defect Engineering in Single-Layer MoS <sub>2</sub> Using Heavy Ion Irradiation.		
933	Oxidized CoreShell MoO <sub>2</sub> MoS <sub>2</sub> Nanostructured Thin Films for Hydrogen Evolution.		
932	Template-Driven Phase Selective Formation of Metallic 1T-MoS <sub>2</sub> Nanoflowers for Hydrogen Evolution Reaction.		
931	All The Catalytic Active Sites of MoS for Hydrogen Evolution. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 16632-16638	16.4	495

930	Fabrication of zero to three dimensional nanostructured molybdenum sulfides and their electrochemical and photocatalytic applications. <b>2016</b> , 8, 18250-18269	66
929	Oxygen-Incorporated MoS Nanosheets with Expanded Interlayers for Hydrogen Evolution Reaction and Pseudocapacitor Applications. <b>2016</b> , 8, 33681-33689	80
928	Facile synthesis of CoNi <sub>2</sub> S <sub>4</sub> and CuCo <sub>2</sub> S <sub>4</sub> with different morphologies as prominent catalysts for hydrogen evolution reaction. <b>2016</b> , 41, 19847-19854	57
927	Monolayer MoS <sub>2</sub> with S vacancies from interlayer spacing expanded counterparts for highly efficient electrochemical hydrogen production. <b>2016</b> , 4, 16524-16530	107
926	Efficient Electrocatalytic and Photoelectrochemical Hydrogen Generation Using MoS <sub>2</sub> and Related Compounds. <b>2016</b> , 1, 699-726	358
925	Ni-C-N Nanosheets as Catalyst for Hydrogen Evolution Reaction. <i>Journal of the American Chemical Society</i> , <b>2016</b> , 138, 14546-14549	16.4 336
924	Role of the Edge Properties in the Hydrogen Evolution Reaction on MoS. <b>2017</b> , 23, 4863-4869	27
923	Wet-chemistry synthesis of cobalt carbide nanoparticles as highly active and stable electrocatalyst for hydrogen evolution reaction. <b>2017</b> , 10, 1322-1328	43
922	Kinetically controlled synthesis of nanoporous Au and its enhanced electrocatalytic activity for glucose-based biofuel cells. <b>2017</b> , 9, 2514-2520	19
921	Unimer-Assisted Exfoliation for Highly Concentrated Aqueous Dispersion Solutions of Single- and Few-Layered van der Waals Materials. <b>2017</b> , 33, 1217-1226	8
920	Efficient Hydrogen Evolution Electrocatalysis Using Cobalt Nanotubes Decorated with Titanium Dioxide Nanodots. <b>2017</b> , 56, 2960-2964	251
919	Modulating Electronic and Optical Properties of Monolayer MoS <sub>2</sub> Using Nonbonded Phthalocyanine Molecules. <b>2017</b> , 121, 2959-2967	38
918	Cracked monolayer 1T MoS <sub>2</sub> with abundant active sites for enhanced electrocatalytic hydrogen evolution. <b>2017</b> , 7, 718-724	60
917	Heterostructured WS <sub>2</sub> -MoS Ultrathin Nanosheets Integrated on CdS Nanorods to Promote Charge Separation and Migration and Improve Solar-Driven Photocatalytic Hydrogen Evolution. <b>2017</b> , 10, 1563-1570	117
916	Coupling Sub-Nanometric Copper Clusters with Quasi-Amorphous Cobalt Sulfide Yields Efficient and Robust Electrocatalysts for Water Splitting Reaction. <b>2017</b> , 29, 1606200	290
915	Supercritical CO <sub>2</sub> -Assisted Reverse-Micelle-Induced Solution-Phase Fabrication of Two-Dimensional Metallic 1T-MoS <sub>2</sub> and 1T-WS <sub>2</sub> . <b>2017</b> , 3, 466-471	27
914	Cobalt-Doped Iron Sulfide as an Electrocatalyst for Hydrogen Evolution. <b>2017</b> , 164, F276-F282	42
913	Phytic acid-derivative transition metal phosphides encapsulated in N,P-codoped carbon: an efficient and durable hydrogen evolution electrocatalyst in a wide pH range. <b>2017</b> , 9, 3555-3560	158

912	An efficient ternary CoPSe nanowire array for overall water splitting. <b>2017</b> , 9, 3995-4001	63
911	Electrocatalysts for hydrogen evolution reaction. <b>2017</b> , 42, 11053-11077	438
910	Atomic Defects in Two-Dimensional Materials: From Single-Atom Spectroscopy to Functionalities in Opto-/Electronics, Nanomagnetism, and Catalysis. <b>2017</b> , 29, 1606434	146
909	P Dopants Triggered New Basal Plane Active Sites and Enlarged Interlayer Spacing in MoS <sub>2</sub> Nanosheets toward Electrocatalytic Hydrogen Evolution. <b>2017</b> , 2, 745-752	230
908	Enabling Colloidal Synthesis of Edge-Oriented MoS with Expanded Interlayer Spacing for Enhanced HER Catalysis. <b>2017</b> , 17, 1963-1969	173
907	Efficient Hydrogen Evolution Electrocatalysis Using Cobalt Nanotubes Decorated with Titanium Dioxide Nanodots. <b>2017</b> , 129, 3006-3010	35
906	Controllable nanoscale engineering of vertically aligned MoS <sub>2</sub> ultrathin nanosheets by nitrogen doping of 3D graphene hydrogel for improved electrocatalytic hydrogen evolution. <b>2017</b> , 116, 223-231	81
905	Activating and Optimizing Activity of CoS <sub>2</sub> for Hydrogen Evolution Reaction through the Synergic Effect of N Dopants and S Vacancies. <b>2017</b> , 2, 1022-1028	165
904	Assembling metallic 1T-MoS nanosheets with inorganic-ligand stabilized quantum dots for exceptional solar hydrogen evolution. <b>2017</b> , 53, 5606-5609	35
903	Layered Double Hydroxide Nanosheets with Multiple Vacancies Obtained by Dry Exfoliation as Highly Efficient Oxygen Evolution Electrocatalysts. <b>2017</b> , 129, 5961-5965	70
902	Layered Double Hydroxide Nanosheets with Multiple Vacancies Obtained by Dry Exfoliation as Highly Efficient Oxygen Evolution Electrocatalysts. <b>2017</b> , 56, 5867-5871	622
901	Design and synthesis of integrally structured Ni <sub>3</sub> N nanosheets/carbon microfibers/Ni <sub>3</sub> N nanosheets for efficient full water splitting catalysis. <b>2017</b> , 5, 9377-9390	97
900	Metallic Two-Dimensional Nanoframes: Unsupported Hierarchical Nickel-Platinum Alloy Nanoarchitectures with Enhanced Electrochemical Oxygen Reduction Activity and Stability. <b>2017</b> , 9, 18660-18674	22
899	Hydrogen evolution activity of individual mono-, bi-, and few-layer MoS <sub>2</sub> towards photocatalysis. <b>2017</b> , 8, 132-140	27
898	Electron-Doped 1T-MoS <sub>2</sub> via Interface Engineering for Enhanced Electrocatalytic Hydrogen Evolution. <b>2017</b> , 29, 4738-4744	200
897	Benzyl viologen-assisted simultaneous exfoliation and n-doping of MoS <sub>2</sub> nanosheets via a solution process. <b>2017</b> , 5, 5395-5401	9
896	Earth-Abundant Iron Diboride (FeB <sub>2</sub> ) Nanoparticles as Highly Active Bifunctional Electrocatalysts for Overall Water Splitting. <b>2017</b> , 7, 1700513	258
895	Self-Optimization of the Active Site of Molybdenum Disulfide by an Irreversible Phase Transition during Photocatalytic Hydrogen Evolution. <b>2017</b> , 56, 7610-7614	175

894	Modifying Commercial Carbon with Trace Amounts of ZIF to Prepare Derivatives with Superior ORR Activities. <b>2017</b> , 29, 1701354	82
893	Self-Optimization of the Active Site of Molybdenum Disulfide by an Irreversible Phase Transition during Photocatalytic Hydrogen Evolution. <b>2017</b> , 129, 7718-7722	46
892	Electrostatic Screening of Charged Defects in Monolayer MoS. <b>2017</b> , 8, 2148-2152	35
891	Graphene Oxide-Directed Tunable Assembly of MoS <sub>2</sub> Ultrathin Nanosheets for Electrocatalytic Hydrogen Evolution. <b>2017</b> , 2, 4696-4704	5
890	Synergistic Phase and Disorder Engineering in 1T-MoSe Nanosheets for Enhanced Hydrogen-Evolution Reaction. <b>2017</b> , 29, 1700311	303
889	Silica-Polypyrrole Hybrids as High-Performance Metal-Free Electrocatalysts for the Hydrogen Evolution Reaction in Neutral Media. <b>2017</b> , 129, 8232-8236	22
888	Silica-Polypyrrole Hybrids as High-Performance Metal-Free Electrocatalysts for the Hydrogen Evolution Reaction in Neutral Media. <b>2017</b> , 56, 8120-8124	175
887	High-quality single-layer nanosheets of MS <sub>2</sub> (M = Mo, Nb, Ta, Ti) directly exfoliated from AMS <sub>2</sub> (A = Li, Na, K) crystals. <b>2017</b> , 5, 5977-5983	23
886	Novel WS <sub>2</sub> /WO <sub>3</sub> heterostructured nanosheets as efficient electrocatalyst for hydrogen evolution reaction. <b>2017</b> , 197, 123-128	33
885	Electrocatalysis of polysulfide conversion by sulfur-deficient MoS <sub>2</sub> nanoflakes for lithium-sulfur batteries. <b>2017</b> , 10, 1476-1486	617
884	Tuning the catalytic functionality of transition metal dichalcogenides grown by chemical vapour deposition. <b>2017</b> , 5, 14950-14968	31
883	Molybdenum Disulfide-Black Phosphorus Hybrid Nanosheets as a Superior Catalyst for Electrochemical Hydrogen Evolution. <b>2017</b> , 17, 4311-4316	168
882	Insight into the hydrogen evolution reaction of nickel dichalcogenide nanosheets: activities related to non-metal ligands. <b>2017</b> , 9, 5538-5544	71
881	Enhanced electrocatalytic activity of Co@N-doped carbon nanotubes by ultrasmall defect-rich TiO <sub>2</sub> nanoparticles for hydrogen evolution reaction. <b>2017</b> , 10, 2599-2609	60
880	Emerging two-dimensional nanomaterials for electrochemical hydrogen evolution. <b>2017</b> , 5, 8187-8208	187
879	Basal-Plane Ligand Functionalization on Semiconducting 2H-MoS Monolayers. <b>2017</b> , 9, 12734-12742	86
878	Hydrazine-assisted formation of ultrathin MoS <sub>2</sub> nanosheets for enhancing their co-catalytic activity in photocatalytic hydrogen evolution. <b>2017</b> , 5, 6981-6991	97
877	Two-dimensional nanosheets for electrocatalysis in energy generation and conversion. <b>2017</b> , 5, 7257-7284	186

876	Oriented Stacking along Vertical (002) Planes of MoS <sub>2</sub> : A Novel Assembling Style to Enhance Activity for Hydrogen Evolution. <b>2017</b> , 224, 25-31	98
875	The Role of Intrinsic Defects in Electrocatalytic Activity of Monolayer VS <sub>2</sub> Basal Planes for the Hydrogen Evolution Reaction. <b>2017</b> , 121, 1530-1536	65
874	In situ sulfurized CoMoS/CoMoO <sub>4</sub> shell/core nanorods supported on N-doped reduced graphene oxide (NRGO) as efficient electrocatalyst for hydrogen evolution reaction. <b>2017</b> , 5, 2885-2896	72
873	Replacing oxygen evolution with sodium sulfide electro-oxidation toward energy-efficient electrochemical hydrogen production: Using cobalt phosphide nanoarray as a bifunctional catalyst. <b>2017</b> , 42, 26289-26295	8
872	Oxygen Vacancies Dominated NiS /CoS Interface Porous Nanowires for Portable Zn-Air Batteries Driven Water Splitting Devices. <b>2017</b> , 29, 1704681	400
871	Three electron channels toward two types of active sites in MoS <sub>2</sub> @Pt nanosheets for hydrogen evolution. <b>2017</b> , 5, 22654-22661	34
870	Structurally Deformed MoS for Electrochemically Stable, Thermally Resistant, and Highly Efficient Hydrogen Evolution Reaction. <b>2017</b> , 29, 1703863	79
869	Multifunctional MoN/C@MoS <sub>2</sub> Electrocatalysts for HER, OER, ORR, and Zn-Air Batteries. <b>2017</b> , 27, 1702300	519
868	Two Are Better than One: Heterostructures Improve Hydrogen Evolution Catalysis. <b>2017</b> , 1, 220-221	23
867	Perovskite Precursors Get a pH Tune-Up. <b>2017</b> , 1, 221-223	3
866	Synthesis of MoS <sub>2</sub> (1-x)Se <sub>2x</sub> and WS <sub>2</sub> (1-x)Se <sub>2x</sub> alloys for enhanced hydrogen evolution reaction performance. <b>2017</b> , 4, 2068-2074	23
865	Hierarchical Porous NC@CuCo Nitride Nanosheet Networks: Highly Efficient Bifunctional Electrocatalyst for Overall Water Splitting and Selective Electrooxidation of Benzyl Alcohol. <b>2017</b> , 27, 1704169	160
864	Identification of pH-dependent synergy on Ru/MoS interface: a comparison of alkaline and acidic hydrogen evolution. <b>2017</b> , 9, 16616-16621	95
863	Ultradispersed and Single-Layered MoS Nanoflakes Strongly Coupled with Graphene: An Optimized Structure with High Kinetics for the Hydrogen Evolution Reaction. <b>2017</b> , 9, 39380-39390	37
862	Salt-templated synthesis of defect-rich MoN nanosheets for boosted hydrogen evolution reaction. <b>2017</b> , 5, 24193-24198	110
861	Gold atom-decorated CoSe <sub>2</sub> nanobelts with engineered active sites for enhanced oxygen evolution. <b>2017</b> , 5, 20202-20207	42
860	Nanohybridization of MoS <sub>2</sub> with Layered Double Hydroxides Efficiently Synergizes the Hydrogen Evolution in Alkaline Media. <b>2017</b> , 1, 383-393	262
859	Porous Multishelled Ni <sub>2</sub> P Hollow Microspheres as an Active Electrocatalyst for Hydrogen and Oxygen Evolution. <b>2017</b> , 29, 8539-8547	195

858	NiMoS <sub>3</sub> Nanorods as pH-Tolerant Electrocatalyst for Efficient Hydrogen Evolution. <b>2017</b> , 5, 9006-9013	38
857	Unveiling Active Sites for the Hydrogen Evolution Reaction on Monolayer MoS. <b>2017</b> , 29, 1701955	184
856	Exploitation of the Large-Area Basal Plane of MoS and Preparation of Bifunctional Catalysts through On-Surface Self-Assembly. <b>2017</b> , 4, 1700356	5
855	Immobilized Cobalt Bis(benzenedithiolate) Complexes: Exceptionally Active Heterogeneous Electrocatalysts for Dihydrogen Production from Mildly Acidic Aqueous Solutions. <b>2017</b> , 56, 11654-11667	24
854	Comparative Study in Acidic and Alkaline Media of the Effects of pH and Crystallinity on the Hydrogen-Evolution Reaction on MoS <sub>2</sub> and MoSe <sub>2</sub> . <b>2017</b> , 2, 2234-2238	56
853	Highly efficient hydrogen evolution reaction by strain and phase engineering in composites of Pt and MoS nano-scrolls. <b>2017</b> , 19, 18356-18365	28
852	Langmuir films and uniform, large area, transparent coatings of chemically exfoliated MoS <sub>2</sub> single layers. <b>2017</b> , 5, 11275-11287	23
851	Ultrathin Two-Dimensional Multinary Layered Metal Chalcogenide Nanomaterials. <b>2017</b> , 29, 1701392	190
850	Rational design of freestanding MoS <sub>2</sub> monolayers for hydrogen evolution reaction. <b>2017</b> , 39, 409-417	83
849	In Situ Electrochemical Production of Ultrathin Nickel Nanosheets for Hydrogen Evolution Electrocatalysis. <b>2017</b> , 3, 122-133	150
848	Electrochemical maps and movies of the hydrogen evolution reaction on natural crystals of molybdenite (MoS): basal edge plane activity. <b>2017</b> , 8, 6583-6593	112
847	Copper dopants improved the hydrogen evolution activity of earth-abundant cobalt pyrite catalysts by activating the electrocatalytically inert sulfur sites. <b>2017</b> , 5, 17601-17608	44
846	Fluorine- and Nitrogen-Codoped MoS with a Catalytically Active Basal Plane. <b>2017</b> , 9, 27715-27719	47
845	Universal Surface Engineering of Transition Metals for Superior Electrocatalytic Hydrogen Evolution in Neutral Water. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 12283-12290	16.4 151
844	Rhenium doping induced structural transformation in mono-layered MoS <sub>2</sub> with improved catalytic activity for hydrogen evolution reaction. <b>2017</b> , 50, 405303	16
843	Towards well-defined MoS nanoribbons on a large scale. <b>2017</b> , 53, 9757-9760	11
842	Aligned and stable metallic MoS <sub>2</sub> on plasma-treated mass transfer channels for the hydrogen evolution reaction. <b>2017</b> , 5, 25359-25367	23
841	Understanding the high-electrocatalytic performance of two-dimensional MoS <sub>2</sub> nanosheets and their composite materials. <b>2017</b> , 5, 24540-24563	137

840	Tuning Mixed Nickel Iron Phosphosulfide Nanosheet Electrocatalysts for Enhanced Hydrogen and Oxygen Evolution. <b>2017</b> , 7, 8549-8557	215
839	Improving the intrinsic electrocatalytic hydrogen evolution activity of few-layer NiPS by cobalt doping. <b>2017</b> , 53, 8199-8202	48
838	Tailoring catalytic activities of transition metal disulfides for water splitting. <b>2017</b> , 4, 68-80	19
837	CO <sub>2</sub> -assisted fabrication of novel heterostructures of h-MoO <sub>3</sub> /1T-MoS <sub>2</sub> for enhanced photoelectrocatalytic performance. <b>2017</b> , 425, 56-62	29
836	Ultrathin two-dimensional materials for photo- and electrocatalytic hydrogen evolution. <b>2018</b> , 21, 749-770	147
835	Elaborately assembled core-shell structured metal sulfides as a bifunctional catalyst for highly efficient electrochemical overall water splitting. <b>2018</b> , 47, 494-502	302
834	Stable methylammonium-intercalated 1T'-MoS <sub>2</sub> for efficient electrocatalytic hydrogen evolution. <b>2018</b> , 6, 5613-5617	27
833	Synthesis of polyacrylamide immobilized molybdenum disulfide (MoS <sub>2</sub> @PDA@PAM) composites via mussel-inspired chemistry and surface-initiated atom transfer radical polymerization for removal of copper (II) ions. <b>2018</b> , 86, 174-184	127
832	Large-scale controlled synthesis of porous two-dimensional nanosheets for the hydrogen evolution reaction through a chemical pathway. <b>2018</b> , 10, 6168-6176	20
831	MoS <sub>2</sub> and WS <sub>2</sub> nanocone arrays: Impact of surface topography on the hydrogen evolution electrocatalytic activity and mass transport. <b>2018</b> , 11, 70-81	23
830	Novel structured transition metal dichalcogenide nanosheets. <b>2018</b> , 47, 3301-3338	207
829	Hydrothermal synthesis of ternary MoS <sub>2</sub> xSe <sub>2</sub> (1-x) nanosheets for electrocatalytic hydrogen evolution. <b>2018</b> , 5, 1386-1390	14
828	Enhanced hydrogen evolution reaction activity of hydrogen-annealed vertical MoS nanosheets. <b>2018</b> , 8, 14369-14376	20
827	Revealing the Double-Edged Sword Role of Graphene on Boosted Charge Transfer versus Active Site Control in TiO Nanotube Arrays@RGO/MoS Heterostructure. <b>2018</b> , 14, e1704531	38
826	Pt-like Hydrogen Evolution Electrocatalysis on PANI/CoP Hybrid Nanowires by Weakening the Shackles of Hydrogen Ions on the Surfaces of Catalysts. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 5118-5126	16.4 339
825	Revealing the Contribution of Individual Factors to Hydrogen Evolution Reaction Catalytic Activity. <b>2018</b> , 30, e1706076	54
824	Efficient Hydrogen Evolution Reaction Catalysis in Alkaline Media by All-in-One MoS with Multifunctional Active Sites. <b>2018</b> , 30, e1707105	212
823	Hydrogen Evolution Reaction at Anion Vacancy of Two-Dimensional Transition-Metal Dichalcogenides: Ab Initio Computational Screening. <b>2018</b> , 9, 2049-2055	62



822	Synergistic Effect of Charge Generation and Separation in Epitaxially Grown BiOCl/BiS Nano-Heterostructure. <b>2018</b> , 10, 15304-15313		64
821	Stable 1T-phase MoS as an effective electron mediator promoting photocatalytic hydrogen production. <b>2018</b> , 10, 9292-9303		49
820	Well-Dispersed Ruthenium in Mesoporous Crystal TiO as an Advanced Electrocatalyst for Hydrogen Evolution Reaction. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 5719-5727	16.4	152
819	Petal-like CdS nanostructures coated with exfoliated sulfur-doped carbon nitride via chemically activated chain termination for enhanced visible-light-driven photocatalytic water purification and H <sub>2</sub> generation. <b>2018</b> , 229, 181-191		123
818	A sulfur vacancy rich CdS based composite photocatalyst with g-CN as a matrix derived from a Cd-S cluster assembled supramolecular network for H <sub>2</sub> production and VOC removal. <b>2018</b> , 47, 4219-4227		30
817	Novel SiQDs/MoS <sub>2</sub> heterostructures with increasing solar absorption for the photocatalytic degradation of malachite green. <b>2018</b> , 53, 8120-8131		5
816	Defect-rich O-incorporated 1T-MoS <sub>2</sub> nanosheets for remarkably enhanced visible-light photocatalytic H <sub>2</sub> evolution over CdS: The impact of enriched defects. <b>2018</b> , 229, 227-236		126
815	Noble Metal-Free Nanocatalysts with Vacancies for Electrochemical Water Splitting. <b>2018</b> , 14, e1703323		187
814	Directly Assembled 3D Molybdenum Disulfide on Silicon Wafer for Efficient Photoelectrochemical Water Reduction. <b>2018</b> , 2, 1700142		30
813	Large Dendritic Monolayer MoS Grown by Atmospheric Pressure Chemical Vapor Deposition for Electrocatalysis. <b>2018</b> , 10, 4630-4639		60
812	Molybdenum Oxide Cluster Anion Reactions with CH and HO: Cooperativity and Chemifragmentation. <b>2018</b> , 122, 41-52		8
811	Balancing the Hydrogen Evolution Reaction, Surface Energetics, and Stability of Metallic MoS Nanosheets via Covalent Functionalization. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 441-450 <sup>16.4</sup>	16.4	184
810	Nitrogen-doped carbon active sites boost the ultra-stable hydrogen evolution reaction on defect-rich MoS <sub>2</sub> nanosheets. <b>2018</b> , 43, 2026-2033		32
809	Mo-Terminated Edge Reconstructions in Nanoporous Molybdenum Disulfide Film. <b>2018</b> , 18, 482-490		76
808	Ultrafine PtO nanoparticles coupled with a Co(OH)F nanowire array for enhanced hydrogen evolution. <b>2018</b> , 54, 810-813		54
807	MoS Quantum Dot Growth Induced by S Vacancies in a ZnInS Monolayer: Atomic-Level Heterostructure for Photocatalytic Hydrogen Production. <b>2018</b> , 12, 751-758		296
806	Ultrathin molybdenum disulfide/carbon nitride nanosheets with abundant active sites for enhanced hydrogen evolution. <b>2018</b> , 10, 1766-1773		46
805	Crystallographic Facet Dependence of the Hydrogen Evolution Reaction on CoPS: Theory and Experiments. <b>2018</b> , 8, 1143-1152		49

804	Preparation of High-Percentage 1T-Phase Transition Metal Dichalcogenide Nanodots for Electrochemical Hydrogen Evolution. <b>2018</b> , 30, 1705509	234
803	In Situ Engineering of Double-Phase Interface in Mo/Mo <sub>2</sub> C Heteronanoshets for Boosted Hydrogen Evolution Reaction. <b>2018</b> , 3, 341-348	111
802	An electrochemical anodization strategy towards high-activity porous MoS electrodes for the hydrogen evolution reaction.. <b>2018</b> , 8, 15030-15035	4
801	Defect-enriched iron fluoride-oxide nanoporous thin films bifunctional catalyst for water splitting. <b>2018</b> , 9, 1809	137
800	TMD-based highly efficient electrocatalysts developed by combined computational and experimental approaches. <b>2018</b> , 47, 4332-4356	154
799	Auto-optimizing Hydrogen Evolution Catalytic Activity of ReS through Intrinsic Charge Engineering. <b>2018</b> , 12, 4486-4493	77
798	Hydrogen evolution enhancement of ultra-low loading, size-selected molybdenum sulfide nanoclusters by sulfur enrichment. <b>2018</b> , 235, 84-91	35
797	Metallic Transition-Metal Dichalcogenide Nanocatalysts for Energy Conversion. <b>2018</b> , 4, 1510-1537	97
796	Few-layer tiny nanoflakes of molybdenum sulfide loaded on porous carbon as an efficient electrocatalyst for hydrogen generation. <b>2018</b> , 750, 927-934	5
795	Transition metal atom doping of the basal plane of MoS monolayer nanosheets for electrochemical hydrogen evolution. <b>2018</b> , 9, 4769-4776	124
794	Electrical, structural, and topographical properties of direct current (DC) sputtered bilayer molybdenum thin films. <b>2018</b> , 29, 15671-15681	7
793	Highly Efficient MoS <sub>2</sub> /Ag <sub>2</sub> S/Ag Photoelectrocatalyst Obtained from a Recycled DVD Surface. <b>2018</b> , 6, 7818-7825	25
792	Identification of few-layer ReS <sub>2</sub> as photo-electro integrated catalyst for hydrogen evolution. <b>2018</b> , 48, 337-344	56
791	MOF-Based Transparent Passivation Layer Modified ZnO Nanorod Arrays for Enhanced Photo-Electrochemical Water Splitting. <b>2018</b> , 8, 1800101	109
790	High phase-purity 1T'-MoS- and 1T'-MoSe-layered crystals. <b>2018</b> , 10, 638-643	510
789	Boosting hydrogen evolution via optimized hydrogen adsorption at the interface of CoP <sub>3</sub> and Ni <sub>2</sub> P. <b>2018</b> , 6, 5560-5565	76
788	1T@2H-MoSe <sub>2</sub> nanosheets directly arrayed on Ti plate: An efficient electrocatalytic electrode for hydrogen evolution reaction. <b>2018</b> , 11, 4587-4598	40
787	One-step synthesis of ultrathin ECo(OH) nanomeshes and their high electrocatalytic activity toward the oxygen evolution reaction. <b>2018</b> , 54, 4045-4048	52

786	Targeted bottom-up synthesis of 1T-phase MoS <sub>2</sub> arrays with high electrocatalytic hydrogen evolution activity by simultaneous structure and morphology engineering. <b>2018</b> , 11, 4368-4379	32
785	Ultra-small freestanding amorphous molybdenum sulfide colloidal nanodots for highly efficient photocatalytic hydrogen evolution reaction. <b>2018</b> , 232, 446-453	45
784	Unilamellar Metallic MoS <sub>2</sub> /Graphene Superlattice for Efficient Sodium Storage and Hydrogen Evolution. <b>2018</b> , 3, 997-1005	140
783	Regulating the Charge and Spin Ordering of Two-Dimensional Ultrathin Solids for Electrocatalytic Water Splitting. <b>2018</b> , 4, 1263-1283	158
782	Metal organic framework-derived CoPS/N-doped carbon for efficient electrocatalytic hydrogen evolution. <b>2018</b> , 10, 7291-7297	83
781	Emerging Two-Dimensional Nanomaterials for Electrocatalysis. <b>2018</b> , 118, 6337-6408	1057
780	Metallic CuCoS nanosheets of atomic thickness as efficient bifunctional electrocatalysts for portable, flexible Zn-air batteries. <b>2018</b> , 10, 6581-6588	59
779	Advanced catalysts for sustainable hydrogen generation and storage via hydrogen evolution and carbon dioxide/nitrogen reduction reactions. <b>2018</b> , 92, 64-111	161
778	Promoting Active Sites in CoreShell Nanowire Array as MottSchottky Electrocatalysts for Efficient and Stable Overall Water Splitting. <b>2018</b> , 28, 1704447	165
777	Constrained Growth of MoS <sub>2</sub> Nanosheets within a Mesoporous Silica Shell and Its Effects on Defect Sites and Catalyst Stability for H <sub>2</sub> S Decomposition. <b>2018</b> , 8, 714-724	38
776	Acid-Assisted Exfoliation toward Metallic Sub-nanopore TaS Monolayer with High Volumetric Capacitance. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 493-498	16.4 83
775	Electropolymerization of Aniline on Nickel-Based Electrocatalysts Substantially Enhances Their Performance for Hydrogen Evolution. <b>2018</b> , 1, 3-8	44
774	Group 6 transition metal dichalcogenide nanomaterials: synthesis, applications and future perspectives. <b>2018</b> , 3, 90-204	203
773	Holey 2D Nanomaterials for Electrochemical Energy Storage. <b>2018</b> , 8, 1702179	211
772	MoB/g-C <sub>3</sub> N <sub>4</sub> Interface Materials as a Schottky Catalyst to Boost Hydrogen Evolution. <b>2018</b> , 130, 505-509	48
771	MoB/g-C N Interface Materials as a Schottky Catalyst to Boost Hydrogen Evolution. <b>2018</b> , 57, 496-500	228
770	Effect of Intercalated Metals on the Electrocatalytic Activity of 1T-MoS <sub>2</sub> for the Hydrogen Evolution Reaction. <b>2018</b> , 3, 7-13	132
769	Active basal plane catalytic activity and conductivity in Zn doped MoS <sub>2</sub> nanosheets for efficient hydrogen evolution. <b>2018</b> , 260, 24-30	47

768	Cobaloxime anchored MoS <sub>2</sub> nanosheets as electrocatalysts for the hydrogen evolution reaction. <b>2018</b> , 6, 138-144	37
767	Oxygen Vacancies Confined in Nickel Molybdenum Oxide Porous Nanosheets for Promoted Electrocatalytic Urea Oxidation. <b>2018</b> , 8, 1-7	241
766	Defective molybdenum sulfide quantum dots as highly active hydrogen evolution electrocatalysts. <b>2018</b> , 11, 751-761	60
765	Synthesis, stabilization and applications of 2-dimensional 1T metallic MoS <sub>2</sub> . <b>2018</b> , 6, 23932-23977	155
764	Highly active single-layer MoS catalysts synthesized by swift heavy ion irradiation. <b>2018</b> , 10, 22908-22916	26
763	Electrochemical activity of 1T' structured rhenium selenide nanosheets via electronic structural modulation from selenium-vacancy generation. <b>2018</b> , 6, 22526-22533	28
762	Defect-rich MoS <sub>2</sub> /carbon nanofiber arrays on carbon cloth for highly efficient electrocatalytic hydrogen evolution. <b>2018</b> , 43, 23118-23125	15
761	Synthesis of Air-stable 1T Phase of Molybdenum Disulfide for Efficient Electrocatalytic Hydrogen Evolution. <b>2018</b> , 11, 707	6
760	Nickel-Doped Silver Sulfide: An Efficient Air-Stable Electrocatalyst for Hydrogen Evolution from Neutral Water. <b>2018</b> , 3, 17070-17076	6
759	Metallic MoS nanosheets: multifunctional electrocatalyst for the ORR, OER and Li-O batteries. <b>2018</b> , 10, 22549-22559	61
758	Hierarchical MoS <sub>2</sub> /Ni <sub>3</sub> S <sub>2</sub> core-shell nanofibers for highly efficient and stable overall-water-splitting in alkaline media. <b>2018</b> , 10, 214-221	11
757	Gallium nitride nanowire as a linker of molybdenum sulfides and silicon for photoelectrocatalytic water splitting. <b>2018</b> , 9, 3856	54
756	2D layered transition metal dichalcogenides (MoS <sub>2</sub> ): Synthesis, applications and theoretical aspects. <b>2018</b> , 13, 242-270	75
755	Stable Sulfur-Intercalated 1T' MoS <sub>2</sub> on Graphitic Nanoribbons as Hydrogen Evolution Electrocatalyst. <b>2018</b> , 28, 1802744	53
754	Enhancing Catalytic Activity of MoS <sub>2</sub> Basal Plane S-Vacancy by Co Cluster Addition. <b>2018</b> , 3, 2685-2693	79
753	Conductive Molybdenum Sulfide for Efficient Electrocatalytic Hydrogen Evolution. <b>2018</b> , 14, e1803361	56
752	Abrupt Thermal Shock of (NH)MoS Leads to Ultrafast Synthesis of Porous Ensembles of MoS Nanocrystals for High Gain Photodetectors. <b>2018</b> , 10, 38193-38200	1
751	Mechanochemical Coupling of MoS <sub>2</sub> and Perovskites for Hydrogen Generation. <b>2018</b> , 1, 6409-6416	21

750	Metallic 1T-MoS <sub>2</sub> nanosheets and their composite materials: Preparation, properties and emerging applications. <b>2018</b> , 10, 264-279	39
749	Magnetic and electrocatalytic properties of transition metal doped MoS <sub>2</sub> nanocrystals. <b>2018</b> , 124, 153903	26
748	Activating the MoS Basal Plane by Controllable Fabrication of Pores for an Enhanced Hydrogen Evolution Reaction. <b>2018</b> , 24, 19075-19080	14
747	A Pseudolayered MoS as Li-Ion Intercalation Host with Enhanced Rate Capability and Durability. <b>2018</b> , 14, e1803344	20
746	Sub-1.5 nm Ultrathin CoP Nanosheet Aerogel: Efficient Electrocatalyst for Hydrogen Evolution Reaction at All pH Values. <b>2018</b> , 14, e1802824	70
745	Hierarchical [email protected] <sub>2</sub> Nanoflowers with Strong Electromagnetic Wave Absorption and Broad Bandwidth. <b>2018</b> , 1, 5179-5187	47
744	Metallic-Phase MoS <sub>2</sub> Nanopetals with Enhanced Electrocatalytic Activity for Hydrogen Evolution. <b>2018</b> , 6, 13435-13442	36
743	Synergistic modulation in MX <sub>2</sub> (where M = Mo or W or V, and X = S or Se) for an enhanced hydrogen evolution reaction. <b>2018</b> , 6, 21847-21858	32
742	Sulphur edge and vacancy assisted nitrogenphosphorus co-doped exfoliated tungsten disulfide: a superior electrocatalyst for hydrogen evolution reaction. <b>2018</b> , 6, 19712-19726	28
741	Controllable Synthesis of MoS <sub>2</sub> /h-CdS/c-CdS Nanocomposites with Enhanced Photocatalytic Hydrogen Evolution Under Visible Light Irradiation. <b>2018</b> , 148, 3445-3453	5
740	Oxygen-Incorporated NiMoP <sub>2</sub> Nanowire Arrays for Enhanced Hydrogen Evolution Activity in Alkaline Solution. <b>2018</b> ,	5
739	Differentiating Polymorphs in Molybdenum Disulfide via Electron Microscopy. <b>2018</b> , 30, e1802397	45
738	Ni-Doped MoS <sub>2</sub> as an Efficient Catalyst for Electrochemical Hydrogen Evolution in Alkine Media. <b>2018</b> , 3, 9493-9498	17
737	FeS /CoS Interface Nanosheets as Efficient Bifunctional Electrocatalyst for Overall Water Splitting. <b>2018</b> , 14, e1801070	218
736	Hierarchical MoS <sub>2</sub> nanoflowers on carbon cloth as an efficient cathode electrode for hydrogen evolution under all pH values. <b>2018</b> , 43, 11038-11046	53
735	Chemically activating MoS via spontaneous atomic palladium interfacial doping towards efficient hydrogen evolution. <b>2018</b> , 9, 2120	300
734	Nitrogen-Doped CoP Electrocatalysts for Coupled Hydrogen Evolution and Sulfur Generation with Low Energy Consumption. <b>2018</b> , 30, e1800140	224
733	Lithiation-induced amorphization of Pd <sub>3</sub> P <sub>2</sub> S <sub>8</sub> for highly efficient hydrogen evolution. <b>2018</b> , 1, 460-468	153

732	Self-Limited on-Site Conversion of MoO <sub>3</sub> Nanodots into Vertically Aligned Ultrasmall Monolayer MoS <sub>2</sub> for Efficient Hydrogen Evolution. <b>2018</b> , 8, 1800734	92
731	Engineering MoS <sub>2</sub> nanomesh with holes and lattice defects for highly active hydrogen evolution reaction. <b>2018</b> , 239, 537-544	134
730	Metallic 1T phase MoS <sub>2</sub> nanosheets decorated hollow cobalt sulfide polyhedra for high-performance lithium storage. <b>2018</b> , 6, 12613-12622	34
729	In-Situ Growth of NiFe <sub>2</sub> O <sub>4</sub> /2D MoS <sub>2</sub> p-n Heterojunction Immobilizing Palladium Nanoparticles for Enhanced Visible-Light Photocatalytic Activities. <b>2018</b> , 6, 8935-8944	32
728	Increasing Exfoliation Yield in the Synthesis of MoS <sub>2</sub> Quantum Dots for Optoelectronic and Other Applications through a Continuous Multicycle Acoustomicrofluidic Approach. <b>2018</b> , 1, 2503-2508	13
727	Intercalation of aromatic amine for the 2H-1T' phase transition of MoS by experiments and calculations. <b>2018</b> , 10, 11349-11356	41
726	Synergetic photocatalytic effect between 1 T@2H-MoS and plasmon resonance induced by Ag quantum dots. <b>2018</b> , 29, 285402	19
725	The rise of two-dimensional MoS <sub>2</sub> for catalysis. <b>2018</b> , 13, 1	62
724	High-performance iron (III) oxide electrocatalyst for water oxidation in strongly acidic media. <b>2018</b> , 365, 29-35	31
723	Skutterudite-Type Ternary Co <sub>1-x</sub> Ni <sub>x</sub> P <sub>3</sub> Nanoneedle Array Electrocatalysts for Enhanced Hydrogen and Oxygen Evolution. <b>2018</b> , 3, 1744-1752	119
722	Pomegranate-like molybdenum phosphide@phosphorus-doped carbon nanospheres coupled with carbon nanotubes for efficient hydrogen evolution reaction. <b>2018</b> , 139, 234-240	41
721	Enhanced hydrogen evolution of MoS <sub>2</sub> /RGO: vanadium, nitrogen dopants triggered new active sites and expanded interlayer. <b>2018</b> , 5, 2092-2099	26
720	Well-patterned Au nanodots on MoS <sub>2</sub> /TiO <sub>2</sub> hybrids for enhanced hydrogen evolution activity. <b>2018</b> , 283, 419-427	12
719	Systematic design of superaerophobic nanotube-array electrode comprised of transition-metal sulfides for overall water splitting. <b>2018</b> , 9, 2452	269
718	A metallic MoS <sub>2</sub> nanosheet array on graphene-protected Ni foam as a highly efficient electrocatalytic hydrogen evolution cathode. <b>2018</b> , 6, 16458-16464	27
717	Engineering Sulfur Defects, Atomic Thickness, and Porous Structures into Cobalt Sulfide Nanosheets for Efficient Electrocatalytic Alkaline Hydrogen Evolution. <b>2018</b> , 8, 8077-8083	148
716	Coupling Interface Constructions of MoS/Fe Ni S Heterostructures for Efficient Electrochemical Water Splitting. <b>2018</b> , 30, e1803151	163
715	Mesoporous reduced graphene oxide/WSe <sub>2</sub> composite particles for efficient sodium-ion batteries and hydrogen evolution reactions. <b>2018</b> , 459, 309-317	31

714	Hierarchical urchin-like peapodded core-shell-structured NiCo <sub>2</sub> @Ni <sub>1/3</sub> Co <sub>2</sub> /3S <sub>2</sub> @C catalyst with synergistically high-efficiency electrocatalytic properties toward hydrogen evolution reaction. <b>2018</b> , 365, 351-358	6
713	Metallic MoS for High Performance Energy Storage and Energy Conversion. <b>2018</b> , 14, e1800640	127
712	Molecular chemistry approaches for tuning the properties of two-dimensional transition metal dichalcogenides. <b>2018</b> , 47, 6845-6888	139
711	One-Pot Rapid Synthesis of Mo(S,Se) <sub>2</sub> Nanosheets on Graphene for Highly Efficient Hydrogen Evolution. <b>2018</b> , 6, 11502-11510	14
710	2H/1T Phase Transition of Multilayer MoS <sub>2</sub> by Electrochemical Incorporation of S Vacancies. <b>2018</b> , 1, 4754-4765	65
709	Reaction Mechanism with Thermodynamic Structural Screening for Electrochemical Hydrogen Evolution on Monolayer 1T' Phase MoS <sub>2</sub> . <b>2018</b> , 30, 5404-5411	29
708	Nitrogen-rich 1T'-MoS layered nanostructures using alkyl amines for high catalytic performance toward hydrogen evolution. <b>2018</b> , 10, 14726-14735	29
707	Coordination Polymer Derived NiS@g-C <sub>3</sub> N <sub>4</sub> Composite Photocatalyst for Sulfur Vacancy and Photothermal Effect Synergistic Enhanced H <sub>2</sub> Production. <b>2018</b> , 6, 11869-11876	53
706	Electrodeposited molybdenum sulfide as a cathode for proton exchange membrane water electrolyzer. <b>2018</b> , 392, 69-78	27
705	Atomic-Scale Core/Shell Structure Engineering Induces Precise Tensile Strain to Boost Hydrogen Evolution Catalysis. <b>2018</b> , 30, e1707301	115
704	Role of oxygen adsorption in modification of optical and surface electronic properties of MoS <sub>2</sub> . <b>2018</b> , 123, 165103	12
703	Defect- and Phase-Induced Acceleration of Electrocatalytic Hydrogen Production by Ultrathin and Small MoS <sub>2</sub> -Decorated rGO Sheets. <b>2018</b> , 1, 4622-4632	16
702	Sensing behavior of flower-shaped MoS nanoflakes: case study with methanol and xylene. <b>2018</b> , 9, 608-615	20
701	MoS <sub>2</sub> nanoparticles coupled to SnS <sub>2</sub> nanosheets: The structural and electronic modulation for synergetic electrocatalytic hydrogen evolution. <b>2018</b> , 366, 8-15	32
700	Metal-Organic-Framework-Derived Hollow CoS <sub>x</sub> @MoS <sub>2</sub> Microcubes as Superior Bifunctional Electrocatalysts for Hydrogen Evolution and Oxygen Evolution Reactions. <b>2018</b> , 6, 12961-12968	54
699	Progress and prospects of aberration-corrected STEM for functional materials. <b>2018</b> , 194, 182-192	25
698	Anion-Induced Size Selection of EMo <sub>2</sub> C Supported on Nitrogen-Doped Carbon Nanotubes for Electrocatalytic Hydrogen Evolution. <b>2018</b> , 6, 11922-11929	25
697	Ar <sup>2+</sup> Beam Irradiation-Induced Multivacancies in MoSe <sub>2</sub> Nanosheet for Enhanced Electrochemical Hydrogen Evolution. <b>2018</b> , 3, 2167-2172	49



696	Nitrogen-promoted molybdenum dioxide nanosheets for electrochemical hydrogen generation. <b>2018</b> , 6, 12532-12540	29
695	Preparation of 1T'-Phase ReSSe ( $x = 0-1$ ) Nanodots for Highly Efficient Electrocatalytic Hydrogen Evolution Reaction. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 8563-8568	16.4 77
694	Improved Hydrogen Evolution Reaction Performance using MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures by Physicochemical Process. <b>2018</b> , 6, 8400-8409	82
693	Paramagnetic defects in hydrothermally grown few-layered MoS <sub>2</sub> nanocrystals. <b>2018</b> , 33, 1565-1572	7
692	Preparation of 2D material dispersions and their applications. <b>2018</b> , 47, 6224-6266	291
691	Recent Development of Metallic (1T) Phase of Molybdenum Disulfide for Energy Conversion and Storage. <b>2018</b> , 8, 1703482	197
690	Hydrogen Evolution Catalyzed by a Molybdenum Sulfide Two-Dimensional Structure with Active Basal Planes. <b>2018</b> , 10, 22042-22049	15
689	2D graphdiyne materials: challenges and opportunities in energy field. <b>2018</b> , 61, 765-786	89
688	Rapid synthesis of defective and composition-controlled metal chalcogenide nanosheets by supercritical hydrothermal processing. <b>2019</b> , 1, 3383-3387	7
687	Li <sup>+</sup> -clipping for edge S-vacancy MoS <sub>2</sub> quantum dots as an efficient bifunctional electrocatalyst enabling discharge growth of amorphous Li <sub>2</sub> O <sub>2</sub> film. <b>2019</b> , 65, 103996	34
686	A bifunctional electrode engineered by sulfur vacancies for efficient electrocatalysis. <b>2019</b> , 11, 16658-16666	12
685	MoS <sub>2</sub> /Co <sub>3</sub> S <sub>4</sub> hollow polyhedrons derived from ZIF-67 towards hydrogen evolution reaction and hydrodesulfurization. <b>2019</b> , 44, 24246-24255	11
684	In Situ Generation of Bifunctional Fe-Doped MoS Nanocanopies for Efficient Electrocatalytic Water Splitting. <b>2019</b> , 58, 11202-11209	40
683	Electrocatalysis on Edge-Rich Spiral WS for Hydrogen Evolution. <b>2019</b> , 13, 10448-10455	47
682	Iron doped cobalt phosphide ultrathin nanosheets on nickel foam for overall water splitting. <b>2019</b> , 7, 20658-20666	78
681	Multi-functional NiS <sub>2</sub> /FeS <sub>2</sub> /N-doped carbon nanorods derived from metal-organic frameworks with fast reaction kinetics for high performance overall water splitting and lithium-ion batteries. <b>2019</b> , 436, 226857	19
680	In-situ visualization of hydrogen evolution sites on helium ion treated molybdenum dichalcogenides under reaction conditions. <b>2019</b> , 3,	21
679	The Origin of High Activity of Amorphous MoS in the Hydrogen Evolution Reaction. <b>2019</b> , 12, 4383-4389	54



678	Bosk-like monocrystal of Co <sub>3</sub> N <sub>4</sub> grown on porous Ti for electrocatalytic hydrogen evolution. <b>2019</b> , 30, 15097-15104	0
677	Ru nanoassembly catalysts for hydrogen evolution and oxidation reactions in electrolytes at various pH values. <b>2019</b> , 258, 117952	58
676	Self-Templated Conversion of Metallogel into Heterostructured TMP@Carbon Quasiaerogels Boosting Bifunctional Electrocatalysis. <b>2019</b> , 29, 1903660	66
675	Porous MoS <sub>2</sub> Framework and Its Functionality for Electrochemical Hydrogen Evolution Reaction and Lithium Ion Batteries. <b>2019</b> , 2, 5900-5908	15
674	A Critical Review on Energy Conversion and Environmental Remediation of Photocatalysts with Remodeling Crystal Lattice, Surface, and Interface. <b>2019</b> , 13, 9811-9840	196
673	Building MoS <sub>2</sub> /S-doped g-C <sub>3</sub> N <sub>4</sub> layered heterojunction electrocatalysts for efficient hydrogen evolution reaction. <b>2019</b> , 375, 441-447	37
672	Chalcogenide vacancies drive the electrocatalytic performance of rhenium dichalcogenides. <b>2019</b> , 11, 14684-14690	6
671	C <sub>3</sub> N <sub>4</sub> -digested 3D construction of hierarchical metallic phase MoS <sub>2</sub> nanostructures. <b>2019</b> , 7, 18388-18396	18
670	Mo Concentration Controls the Morphological Transitions from Dendritic to Semicompact, and to Compact Growth of Monolayer Crystalline MoS on Various Substrates. <b>2019</b> , 11, 42751-42759	16
669	Colloidal Single-Layer Photocatalysts for Methanol-Storable Solar H Fuel. <b>2019</b> , 31, e1905540	23
668	MoS <sub>2</sub> confined on graphene by triethanolamine for enhancing electrocatalytic hydrogen evolution performance. <b>2019</b> , 44, 28151-28162	23
667	Piezotronic effect of single/few-layers MoS <sub>2</sub> nanosheets composite with TiO <sub>2</sub> nanorod heterojunction. <b>2019</b> , 66, 104168	30
666	Two-dimensional transition-metal dichalcogenides for electrochemical hydrogen evolution reaction. <b>2019</b> , 18, 100140	16
665	Simultaneously Engineering Electron Conductivity, Site Density and Intrinsic Activity of MoS via the Cation and Anion Codoping Strategy. <b>2019</b> , 11, 39782-39788	11
664	Activating the MoS Basal Planes for Electrocatalytic Hydrogen Evolution by 2H/1T' Structural Interfaces. <b>2019</b> , 11, 42014-42020	22
663	FeP/MoS <sub>2</sub> Enriched with Dense Catalytic Sites and High Electrical Conductivity for the Hydrogen Evolution Reaction. <b>2019</b> , 7, 17671-17681	10
662	Ultrathin nickel boride nanosheets anchored on functionalized carbon nanotubes as bifunctional electrocatalysts for overall water splitting. <b>2019</b> , 7, 764-774	75
661	Incorporation of an efficient In <sub>2</sub> S <sub>3</sub> thin film as window material into CdTe photovoltaic devices. <b>2019</b> , 6, 125510	4

660	Single-Atom Ru Doping Induced Phase Transition of MoS <sub>2</sub> and S Vacancy for Hydrogen Evolution Reaction. <b>2019</b> , 3, 1900653	111
659	MoS <sub>2</sub> Moiré Superlattice for Hydrogen Evolution Reaction. <b>2019</b> , 4, 2830-2835	56
658	Fullerene-like WS <sub>2</sub> supported Pd catalyst for hydrogen evolution reaction. <b>2019</b> , 380, 215-223	22
657	Carbon Layer Coated Ni <sub>3</sub> S <sub>2</sub> /MoS <sub>2</sub> Nanohybrids as Efficient Bifunctional Electrocatalysts for Overall Water Splitting. <b>2019</b> , 6, 5603-5609	7
656	Anion Extraction-Induced Polymorph Control of Transition Metal Dichalcogenides. <b>2019</b> , 19, 8644-8652	9
655	Structural and Electronic Optimization of MoS Edges for Hydrogen Evolution. <i>Journal of the American Chemical Society</i> , <b>2019</b> , 141, 18578-18584	16.4 150
654	Two-Step Hydrothermal Synthesis of CoSe/MoSe <sub>2</sub> as Hydrogen Evolution Electrocatalysts in Acid and Alkaline Electrolytes. <b>2019</b> , 6, 4842-4847	12
653	Surface Engineering of MoS via Laser-Induced Exfoliation in Protic Solvents. <b>2019</b> , 15, e1903791	17
652	Facile Synthesis of N-Doped Hollow Carbon Spheres @MoS <sub>2</sub> via Polymer Microspheres Template Method and One-Step Calcination for Enhanced Hydrogen Evolution Reaction. <b>2019</b> , 6, 1101-1106	13
651	Oxygen Evolution Reaction on 2D Ferromagnetic Fe <sub>3</sub> GeTe <sub>2</sub> : Boosting the Reactivity by the Self-Reduction of Surface Hydroxyl. <b>2019</b> , 29, 1904782	23
650	Fe doped skutterudite-type CoP <sub>3</sub> nanoneedles as efficient electrocatalysts for hydrogen and oxygen evolution in alkaline media. <b>2019</b> , 808, 151767	10
649	Ultrahigh-current-density niobium disulfide catalysts for hydrogen evolution. <b>2019</b> , 18, 1309-1314	148
648	A fantastic two-dimensional MoS <sub>2</sub> material based on the inert basal planes activation: Electronic structure, synthesis strategies, catalytic active sites, catalytic and electronics properties. <b>2019</b> , 399, 213020	57
647	Two-dimensional MoS <sub>2</sub> /hexamine hybrid nanostructures for enhanced catalytic hydrogen evolution reaction. <b>2019</b> , 7, 22571-22578	8
646	Iron phosphides supported on three-dimensional iron foam as an efficient electrocatalyst for water splitting reactions. <b>2019</b> , 54, 14872-14883	21
645	Electrochemically assisted synthesis of three-dimensional FeP nanosheets to achieve high electrocatalytic activity for hydrogen evolution reaction. <b>2019</b> , 44, 24197-24208	10
644	In situ growth of triazine/heptazine based carbon nitride film for efficient (photo)electrochemical performance. <b>2019</b> , 9, 425-435	15
643	Highly stable single Pt atomic sites anchored on aniline-stacked graphene for hydrogen evolution reaction. <b>2019</b> , 12, 1000-1007	264

642	Nanoscale mapping of hydrogen evolution on metallic and semiconducting MoS <sub>2</sub> nanosheets. <b>2019</b> , 4, 619-624	28
641	Insights into the intrinsic capacity of interlayer-expanded MoS <sub>2</sub> as a Li-ion intercalation host. <b>2019</b> , 7, 1187-1195	19
640	A facile layer-by-layer fabrication of three dimensional MoS <sub>2</sub> -rGO-CNTs with high performance for hydrogen evolution reaction. <b>2019</b> , 300, 235-241	25
639	Enhanced synergistic catalysis by a novel triple-phase interface design of NiO/Ru@Ni for the hydrogen evolution reaction. <b>2019</b> , 7, 2344-2350	43
638	Solvent-free nanocasting toward universal synthesis of ordered mesoporous transition metal sulfide@N-doped carbon composites for electrochemical applications. <b>2019</b> , 12, 2250-2258	18
637	An in-situ photoelectron spectroscopy study of the thermal processing of ammonium tetrathiomolybdate, (NH <sub>4</sub> ) <sub>2</sub> MoS <sub>4</sub> , precursor. <b>2019</b> , 476, 1079-1085	21
636	A 2D metal-organic framework/Ni(OH) heterostructure for an enhanced oxygen evolution reaction. <b>2019</b> , 11, 3599-3605	86
635	Structure and phase regulation in Mo <sub>x</sub> C (xMoC <sub>1-x</sub> /xMo <sub>2</sub> C) to enhance hydrogen evolution. <b>2019</b> , 247, 78-85	72
634	Novel Binder-Free Three-Dimensional MoS <sub>2</sub> -Based Electrode for Efficient and Stable Electrocatalytic Hydrogen Evolution. <b>2019</b> , 2, 1102-1110	29
633	Vertical nanosheet array of 1T phase MoS <sub>2</sub> for efficient and stable hydrogen evolution. <b>2019</b> , 246, 296-302	71
632	Two dimensional MoS meets porphyrins via intercalation to enhance the electrocatalytic activity toward hydrogen evolution. <b>2019</b> , 11, 3780-3785	12
631	A generalized strategy for the synthesis of two-dimensional metal oxide nanosheets based on a thermoregulated phase transition. <b>2019</b> , 11, 3200-3207	16
630	Artesunate enhances adriamycin cytotoxicity by inhibiting glycolysis in adriamycin-resistant chronic myeloid leukemia K562/ADR cells.. <b>2019</b> , 9, 1004-1014	3
629	Intercalated complexes of 1T'-MoS <sub>2</sub> nanosheets with alkylated phenylenediamines as excellent catalysts for electrochemical hydrogen evolution. <b>2019</b> , 7, 2334-2343	21
628	Catalysis of hydrogen evolution reaction by Ni <sub>12</sub> P <sub>5</sub> single crystalline nanoplates and spherical nanoparticles. <b>2019</b> , 21, 228-235	12
627	Engineering Two-Dimensional Materials and Their Heterostructures as High-Performance Electrocatalysts. <b>2019</b> , 2, 373-394	47
626	MoS <sub>2</sub> nanoflower supported Pt nanoparticle as an efficient electrocatalyst for ethanol oxidation reaction. <b>2019</b> , 44, 16411-16423	20
625	Interfacial N-Cu-S coordination mode of CuSCN/CN with enhanced electrocatalytic activity for hydrogen evolution. <b>2019</b> , 11, 12938-12945	8

624	Recent advances in metal sulfides: from controlled fabrication to electrocatalytic, photocatalytic and photoelectrochemical water splitting and beyond. <b>2019</b> , 48, 4178-4280	463
623	Atomic Plane-Vacancy Engineering of Transition-Metal Dichalcogenides with Enhanced Hydrogen Evolution Capability. <b>2019</b> , 11, 25264-25270	28
622	Phosphorous doped cobalt-iron sulfide/carbon nanotube as active and robust electrocatalysts for water splitting. <b>2019</b> , 318, 892-900	28
621	Toward heterostructured transition metal hybrids with highly promoted electrochemical hydrogen evolution.. <b>2019</b> , 9, 19924-19929	3
620	Coupled Biphasic (1T-2H)-MoSe on Mold Spore Carbon for Advanced Hydrogen Evolution Reaction. <b>2019</b> , 15, e1901796	54
619	Role of Sulfur Vacancies and Undercoordinated Mo Regions in MoS Nanosheets toward the Evolution of Hydrogen. <b>2019</b> , 13, 6824-6834	229
618	Agent-assisted VSSe ternary alloy single crystals as an efficient stable electrocatalyst for the hydrogen evolution reaction. <b>2019</b> , 7, 15714-15721	14
617	1T/2H multi-phase MoS <sub>2</sub> heterostructures: synthesis, characterization and thermal catalysis decomposition of dihydroxylammonium 5,5'-bistetrazole-1,1'-diolate. <b>2019</b> , 43, 10434-10441	8
616	Water-Soluble Defect-Rich MoS Ultrathin Nanosheets for Enhanced Hydrogen Evolution. <b>2019</b> , 10, 3282-3289	31
615	Atomically dispersed platinum supported on curved carbon supports for efficient electrocatalytic hydrogen evolution. <b>2019</b> , 4, 512-518	419
614	Enhanced Electrocatalytic Oxygen Evolution Activity by Tuning Both the Oxygen Vacancy and Orbital Occupancy of B-Site Metal Cation in NdNiO <sub>3</sub> . <b>2019</b> , 29, 1902449	35
613	Expanding Interlayer Spacing in MoS <sub>2</sub> for Realizing an Advanced Supercapacitor. <b>2019</b> , 4, 1602-1609	109
612	Recent progress in Co <sub>9</sub> S <sub>8</sub> -based materials for hydrogen and oxygen electrocatalysis. <b>2019</b> , 7, 16068-16088	66
611	Insight into the design of defect electrocatalysts: From electronic structure to adsorption energy. <b>2019</b> , 31, 47-68	173
610	New vesicular carbon-based rhenium phosphides with all-pH range electrocatalytic hydrogen evolution activity. <b>2019</b> , 256, 117851	22
609	Modulating the electronic structure of ultrathin layered double hydroxide nanosheets with fluorine: an efficient electrocatalyst for the oxygen evolution reaction. <b>2019</b> , 7, 14483-14488	50
608	MoS <sub>2</sub> nanosheets decorated Ni(OH) <sub>2</sub> nanorod array for active overall water splitting. <b>2019</b> , 796, 86-92	35
607	Silicon quantum dot-assisted synthesis of MoS <sub>2</sub> /rGO sandwich structures with excellent supercapacitive performance. <b>2019</b> , 43, 8660-8668	7

606	Mesoporous TiO <sub>2</sub> nanospheres loaded with highly dispersed Pd nanoparticles for pH-universal hydrogen evolution reaction. <b>2019</b> , 6, 100038	14
605	Amine-assisted exfoliation and electrical conductivity modulation toward few-layer FePS <sub>3</sub> nanosheets for efficient hydrogen evolution. <b>2019</b> , 7, 13928-13934	20
604	Fabrication of MoS <sub>2</sub> decorated reduced graphene oxide sheets from solid Mo-precursor for electrocatalytic hydrogen evolution reaction. <b>2019</b> , 313, 341-351	19
603	Immobilized Single Molecular Molybdenum Disulfide on Carbonized Polyacrylonitrile for Hydrogen Evolution Reaction. <b>2019</b> , 13, 6720-6729	27
602	Beyond 1T-phase? Synergistic Electronic Structure and Defects Engineering in 2H-MoS <sub>2</sub> xSe <sub>2</sub> (1-x) Nanosheets for Enhanced Hydrogen Evolution Reaction and Sodium Storage. <b>2019</b> , 11, 3200-3211	12
601	A facile preparation of WS <sub>2</sub> nanosheets as a highly effective HER catalyst. <b>2019</b> , 1, 101-109	12
600	The Holy Grail in Platinum-Free Electrocatalytic Hydrogen Evolution: Molybdenum-Based Catalysts and Recent Advances. <b>2019</b> , 6, 3570-3589	27
599	Defect engineering of molybdenum disulfide through ion irradiation to boost hydrogen evolution reaction performance. <b>2019</b> , 12, 1613-1618	31
598	Quasi-one-dimensional Mo chains for efficient hydrogen evolution reaction. <b>2019</b> , 61, 194-200	27
597	Triggering Catalytic Active Sites for Hydrogen Evolution Reaction by Intrinsic Defects in Janus Monolayer MoSSe. <b>2019</b> , 123, 12261-12267	29
596	Confining Free Radicals in Close Vicinity to Contaminants Enables Ultrafast Fenton-like Processes in the Interspacing of MoS Membranes. <b>2019</b> , 58, 8134-8138	172
595	Recent advances of phase engineering in group VI transition metal dichalcogenides. <b>2019</b> , 1, 46-58	12
594	WS <sub>2</sub> Nanosheets with Highly-Enhanced Electrochemical Activity by Facile Control of Sulfur Vacancies. <b>2019</b> , 11, 2667-2675	36
593	Surface intercalated spherical MoSSe nanocatalysts for highly efficient and durable hydrogen evolution reactions. <b>2019</b> , 48, 8279-8287	78
592	Confining Free Radicals in Close Vicinity to Contaminants Enables Ultrafast Fenton-like Processes in the Interspacing of MoS <sub>2</sub> Membranes. <b>2019</b> , 131, 8218-8222	14
591	Synthetic strategies of two-dimensional porous materials towards highly effective catalysts. <b>2019</b> , 15, 100109	11
590	Boundary activated hydrogen evolution reaction on monolayer MoS. <b>2019</b> , 10, 1348	168
589	One-pot synthesis of porous 1T-phase MoS <sub>2</sub> integrated with single-atom Cu doping for enhancing electrocatalytic hydrogen evolution reaction. <b>2019</b> , 251, 87-93	91

588	Molybdenum Disulfide Modified by Laser Irradiation for Catalyzing Hydrogen Evolution. <b>2019</b> , 7, 6999-7003	33
587	The atomic origin of nickel-doping-induced catalytic enhancement in MoS for electrochemical hydrogen production. <b>2019</b> , 11, 7123-7128	52
586	The role of 1T@2H-MoS <sub>2</sub> in improving the photocatalytic activity of Bi <sub>2</sub> S <sub>3</sub> . <b>2019</b> , 246, 214-218	7
585	Scalable Production of Few-Layer Niobium Disulfide Nanosheets via Electrochemical Exfoliation for Energy-Efficient Hydrogen Evolution Reaction. <b>2019</b> , 11, 13205-13213	38
584	Facile Preparation of 1T/2H-Mo(S <sub>1-x</sub> Se <sub>x</sub> ) <sub>2</sub> Nanoparticles for Boosting Hydrogen Evolution Reaction. <b>2019</b> , 11, 2217-2222	105
583	Fabrication of MoS <sub>2</sub> /WSe <sub>2</sub> heterostructures as electrocatalyst for enhanced hydrogen evolution reaction. <b>2019</b> , 480, 611-620	53
582	Facile and Large-Scale Fabrication of Sub-3 nm PtNi Nanoparticles Supported on Porous Carbon Sheet: A Bifunctional Material for the Hydrogen Evolution Reaction and Hydrogenation. <b>2019</b> , 25, 7191-7200	12
581	Surface reorganization engineering of the N-doped MoS <sub>2</sub> heterostructures MoO <sub>x</sub> @N-doped MoS <sub>2</sub> by in situ electrochemical oxidation activation for efficient oxygen evolution reaction. <b>2019</b> , 7, 10572-10580	25
580	Tuning orbital orientation endows molybdenum disulfide with exceptional alkaline hydrogen evolution capability. <b>2019</b> , 10, 1217	218
579	Unveiling the Interfacial Effects for Enhanced Hydrogen Evolution Reaction on MoS <sub>2</sub> /WTe <sub>2</sub> Hybrid Structures. <b>2019</b> , 15, e1900078	27
578	Energy-saving hydrogen production coupling urea oxidation over a bifunctional nickel-molybdenum nanotube array. <b>2019</b> , 60, 894-902	125
577	Sisyphus effects in hydrogen electrochemistry on metal silicides enabled by silicene subunit edge. <b>2019</b> , 64, 617-624	24
576	In-Plane Anisotropic Properties of 1T'-MoS Layers. <b>2019</b> , 31, e1807764	36
575	P doped MoS nanoplates embedded in nitrogen doped carbon nanofibers as an efficient catalyst for hydrogen evolution reaction. <b>2019</b> , 547, 291-298	25
574	Recommended Practices and Benchmark Activity for Hydrogen and Oxygen Electrocatalysis in Water Splitting and Fuel Cells. <b>2019</b> , 31, e1806296	465
573	Morphology-Controlled Metal Sulfides and Phosphides for Electrochemical Water Splitting. <b>2019</b> , 31, e1806682	304
572	Tree-Like NiS <sub>2</sub> /MoS <sub>2</sub> -RGO Nanocomposites as pH Universal Electrocatalysts for Hydrogen Evolution Reaction. <b>2019</b> , 149, 1197-1210	22
571	Multivariate Control of Effective Cobalt Doping in Tungsten Disulfide for Highly Efficient Hydrogen Evolution Reaction. <b>2019</b> , 9, 1357	11

570	Covalent organic frameworks derived hollow structured N-doped noble carbon for asymmetric-electrolyte Zn-air battery. <b>2019</b> , 62, 385-392	20
569	Interface Engineering of Co(OH)/Ag/FeP Hierarchical Superstructure as Efficient and Robust Electrocatalyst for Overall Water Splitting. <b>2019</b> , 11, 7936-7945	48
568	Bulk 1T/2H-MoS <sub>2</sub> with Tunable Phases and Residual S, N Co-Doped Carbon as a Highly Active and Durable Catalyst for Hydrogen Evolution. <b>2019</b> , 2, 2022-2033	11
567	Phase engineering of two-dimensional transition metal dichalcogenides. <b>2019</b> , 62, 759-775	58
566	1T-2H Crx-MoS <sub>2</sub> Ultrathin Nanosheets for Durable and Enhanced Hydrogen Evolution Reaction. <b>2019</b> , 7, 7227-7232	14
565	Pathways for Improving the Photovoltaic Efficiency of Porphyrin and Phosphorene Antidot Lattice Nanocomposites: An Insight from a Theoretical Study. <b>2019</b> , 123, 5303-5311	17
564	Defect chemistry in 2D materials for electrocatalysis. <b>2019</b> , 12, 215-238	62
563	Half-unit-cell ZnIn <sub>2</sub> S <sub>4</sub> monolayer with sulfur vacancies for photocatalytic hydrogen evolution. <b>2019</b> , 248, 193-201	167
562	Direct solution-phase synthesis of 1T' WSe nanosheets. <b>2019</b> , 10, 712	82
561	Hydrogenated ZnInS microspheres: boosting photocatalytic hydrogen evolution by sulfur vacancy engineering and mechanism insight. <b>2019</b> , 21, 25484-25494	33
560	S-Edge-rich MoS arrays vertically grown on carbon aerogels as superior bifunctional HER/OER electrocatalysts. <b>2019</b> , 11, 20284-20294	22
559	Activating MoS <sub>2</sub> basal planes for hydrogen evolution through direct CVD morphology control. <b>2019</b> , 7, 27603-27611	12
558	Recent advances in two-dimensional materials and their nanocomposites in sustainable energy conversion applications. <b>2019</b> , 11, 21622-21678	109
557	Strain and defect engineered monolayer Ni-MoS for pH-universal hydrogen evolution catalysis. <b>2019</b> , 11, 18329-18337	41
556	CoNi Bimetal Cocatalyst Modifying a Hierarchical ZnIn <sub>2</sub> S <sub>4</sub> Nanosheet-Based Microsphere Noble-Metal-Free Photocatalyst for Efficient Visible-Light-Driven Photocatalytic Hydrogen Production. <b>2019</b> , 7, 20190-20201	47
555	Polymorphic cobalt diselenide as extremely stable electrocatalyst in acidic media via a phase-mixing strategy. <b>2019</b> , 10, 5338	40
554	Defect-Engineered MoS Nanostructures for Reactive Oxygen Species Generation in the Dark: Antipollutant and Antifungal Performances. <b>2019</b> , 11, 48179-48191	14
553	The rapid electrochemical activation of MoTe for the hydrogen evolution reaction. <b>2019</b> , 10, 4916	48



552	Crucial Effect of Halogen on the Photocatalytic Hydrogen Evolution for Bi <sub>19</sub> X <sub>3</sub> S <sub>27</sub> (X = Cl, Br) Nanomaterials. <b>2019</b> , 58, 22958-22966	9
551	NO reduction over an Al-embedded MoS monolayer: a first-principles study.. <b>2019</b> , 9, 38973-38981	4
550	Layer dependence of the photoelectrochemical performance of a WSe photocathode characterized using microscale measurements.. <b>2019</b> , 9, 30925-30931	2
549	Hierarchical Nanoroll-Like MoS <sub>2</sub> /Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> hybrid with high electrocatalytic hydrogen evolution activity. <b>2019</b> , 241, 89-94	145
548	Activation of MoS Basal Planes for Hydrogen Evolution by Zinc. <b>2019</b> , 58, 2029-2033	124
547	Hierarchical MoS <sub>2</sub> nanosheets integrated Ti <sub>3</sub> C <sub>2</sub> MXenes for electrocatalytic hydrogen evolution. <b>2019</b> , 44, 965-976	76
546	Electrochemical Hydrogen Evolution at the Interface of Monolayer VS and Water from First-Principles Calculations. <b>2019</b> , 11, 2944-2949	11
545	Benchmarking the Activity, Stability, and Inherent Electrochemistry of Amorphous Molybdenum Sulfide for Hydrogen Production. <b>2019</b> , 9, 1802614	62
544	Activation of MoS <sub>2</sub> Basal Planes for Hydrogen Evolution by Zinc. <b>2019</b> , 131, 2051-2055	26
543	Template-Driven Phase Selective Formation of Metallic 1T-MoS <sub>2</sub> Nanoflowers for Hydrogen Evolution Reaction. <b>2019</b> , 7, 2008-2017	30
542	Pseudomorphic Transformation of Interpenetrated Prussian Blue Analogs into Defective Nickel Iron Selenides for Enhanced Electrochemical and Photo-Electrochemical Water Splitting. <b>2019</b> , 9, 1802983	115
541	Poor crystalline MoS <sub>2</sub> with highly exposed active sites for the improved hydrogen evolution reaction performance. <b>2019</b> , 777, 514-523	31
540	Activating MoS <sub>2</sub> Basal Plane with Ni <sub>2</sub> P Nanoparticles for Pt-Like Hydrogen Evolution Reaction in Acidic Media. <b>2019</b> , 29, 1809151	75
539	Insight for the effect of bridging S <sub>22</sub> - in molybdenum sulfide catalysts toward sulfur-resistant methanation. <b>2019</b> , 471, 670-677	8
538	Electronic structure and the hydrogen evolution reaction in layered ReS <sub>2</sub> regulated by alkali-metal atom intercalation. <b>2019</b> , 52, 165301	3
537	Two-dimensional-related catalytic materials for solar-driven conversion of CO into valuable chemical feedstocks. <b>2019</b> , 48, 1972-2010	233
536	SnS <sub>2</sub> quantum dots growth on MoS <sub>2</sub> : Atomic-level heterostructure for electrocatalytic hydrogen evolution. <b>2019</b> , 300, 45-52	24
535	2D Transition Metal Dichalcogenide Thin Films Obtained by Chemical Gas Phase Deposition Techniques. <b>2019</b> , 6, 1800688	13



534	High-efficiency hydrogen evolution from seawater using hetero-structured T/Td phase ReS <sub>2</sub> nanosheets with cationic vacancies. <b>2019</b> , 55, 42-48	68
533	Metallic 1T-MoS <sub>2</sub> nanosheets in-situ entrenched on N,P,S-codoped hierarchical carbon microflower as an efficient and robust electro-catalyst for hydrogen evolution. <b>2019</b> , 243, 614-620	57
532	Low-temperature one-pot synthesis of WS nanoflakes as electrocatalyst for hydrogen evolution reaction. <b>2019</b> , 30, 045603	7
531	Efficient hydrogen generation on graphdiyne-based heterostructure. <b>2019</b> , 55, 135-142	41
530	Phase-Controlled Synthesis of 1T-MoSe <sub>2</sub> /NiSe Heterostructure Nanowire Arrays via Electronic Injection for Synergistically Enhanced Hydrogen Evolution. <b>2019</b> , 3, 1800317	41
529	One-step hydrothermal synthesis of high-percentage 1T-phase MoS <sub>2</sub> quantum dots for remarkably enhanced visible-light-driven photocatalytic H <sub>2</sub> evolution. <b>2019</b> , 243, 76-85	91
528	P,Se-Codoped MoS <sub>2</sub> Nanosheets as Accelerated Electrocatalysts for Hydrogen Evolution. <b>2019</b> , 11, 689-692	43
527	The role of conductivity and phase structure in enhancing catalytic activity of CoSe for hydrogen evolution reaction. <b>2019</b> , 294, 142-147	38
526	Ion Beam Defect Engineering on ReS <sub>2</sub> /Si Photocathode with Significantly Enhanced Hydrogen Evolution Reaction. <b>2019</b> , 6, 1801663	15
525	Single-crystalline (FexNi1-x)2P nanosheets with dominant {011 $\bar{1}$ 0} facets: Efficient electrocatalysts for hydrogen evolution reaction at all pH values. <b>2019</b> , 56, 813-822	51
524	One-pot hydrothermal synthesis of Al-doped MoS <sub>2</sub> @graphene aerogel nanocomposite electrocatalysts for enhanced hydrogen evolution reaction. <b>2019</b> , 12, 250-258	15
523	Optimizing thermoelectric performance of MoS <sub>2</sub> films by spontaneous noble metal nanoparticles decoration. <b>2019</b> , 781, 744-750	20
522	Modulierung der elektronischen Strukturen anorganischer Nanomaterialien für eine effiziente elektrokatalytische Wasserspaltung. <b>2019</b> , 131, 4532-4551	27
521	Modulating Electronic Structures of Inorganic Nanomaterials for Efficient Electrocatalytic Water Splitting. <b>2019</b> , 58, 4484-4502	194
520	Phosphorous-doped molybdenum disulfide anchored on silicon as an efficient catalyst for photoelectrochemical hydrogen generation. <b>2020</b> , 263, 118259	28
519	Exfoliated colloidal MoS <sub>2</sub> nanosheet with predominantly 1T phase for electrocatalytic hydrogen production. <b>2020</b> , 45, 18645-18656	5
518	One-step synthesis of MoS <sub>2</sub> nanoparticles with different morphologies for electromagnetic wave absorption. <b>2020</b> , 502, 144129	23
517	2D Electrocatalysts for Converting Earth-Abundant Simple Molecules into Value-Added Commodity Chemicals: Recent Progress and Perspectives. <b>2020</b> , 32, e1904870	49

516	Direct growth of high-content 1T phase MoS <sub>2</sub> film by pulsed laser deposition for hydrogen evolution reaction. <b>2020</b> , 504, 144320	12
515	2 D Materials for Inhibiting the Shuttle Effect in Advanced Lithium-Sulfur Batteries. <b>2020</b> , 13, 1447-1479	30
514	Two-Dimensional MoS for Li-S Batteries: Structural Design and Electronic Modulation. <b>2020</b> , 13, 1392-1408	13
513	Microwave Hydrothermal Synthesis of 1T@2H-MoS <sub>2</sub> as an Excellent Photocatalyst. <b>2020</b> , 12, 893-902	14
512	Assembling amorphous (Fe-Ni)Co -OH/Ni <sub>3</sub> S <sub>2</sub> nanohybrids with S-vacancy and interfacial effects as an ultra-highly efficient electrocatalyst: Inner investigation of mechanism for alkaline water-to-hydrogen/oxygen conversion. <b>2020</b> , 263, 118338	34
511	Engineering multiple defects for active sites exposure towards enhancement of Ni <sub>3</sub> S <sub>2</sub> charge storage characteristics. <b>2020</b> , 384, 123364	21
510	Synthesis of unsupported two-dimensional molybdenum carbide nanosheets for hydrogen evolution. <b>2020</b> , 261, 126987	13
509	Molybdenum disulfide (MoS <sub>2</sub> ): A versatile activator of both peroxymonosulfate and persulfate for the degradation of carbamazepine. <b>2020</b> , 384, 123264	105
508	Recent Advances in Electrocatalytic Hydrogen Evolution Using Nanoparticles. <b>2020</b> , 120, 851-918	722
507	Porous carbon coupled with an interlaced MoP/MoS <sub>2</sub> heterojunction hybrid for efficient hydrogen evolution reaction. <b>2020</b> , 45, 45-51	26
506	Recent Advances in Two-dimensional Materials for Electrochemical Energy Storage and Conversion. <b>2020</b> , 36, 10-23	27
505	Bond Electronegativity as Hydrogen Evolution Reaction Catalyst Descriptor for Transition Metal (TM = Mo, W) Dichalcogenides. <b>2020</b> , 32, 1224-1234	28
504	Plasmon-Enhanced Oxygen Evolution Catalyzed by Fe <sub>2</sub> N-Embedded TiO <sub>x</sub> N <sub>y</sub> Nanoshells. <b>2020</b> , 3, 146-151	6
503	Different phases of few-layer MoS <sub>2</sub> and their silver/gold nanocomposites for efficient hydrogen evolution reaction. <b>2020</b> , 10, 154-163	15
502	MoC based Mott-Schottky electrocatalyst for boosting the hydrogen evolution reaction performance. <b>2020</b> , 4, 407-416	16
501	Tuning the surface charge density of exfoliated thin molybdenum disulfide sheets via non-covalent functionalization for promoting hydrogen evolution reaction. <b>2020</b> , 8, 510-517	12
500	Selective Preparation of 1T- and 2H-Phase MoS <sub>2</sub> Nanosheets with Abundant Monolayer Structure and Their Applications in Energy Storage Devices. <b>2020</b> , 3, 998-1009	28
499	Hierarchical flower-like Fe <sub>3</sub> O <sub>4</sub> /MoS <sub>2</sub> composites for selective broadband electromagnetic wave absorption performance. <b>2020</b> , 130, 105760	81

498	Morphology-controlled Tantalum Diselenide Structures as Self-optimizing Hydrogen Evolution Catalysts. <b>2020</b> , 3, 12-18	7
497	Morphology/phase-dependent MoS <sub>2</sub> nanostructures for high-efficiency electrochemical activity. <b>2020</b> , 818, 152909	12
496	The synergistic effect of proton intercalation and electron transfer via electro-activated molybdenum disulfide/graphite felt toward hydrogen evolution reaction. <b>2020</b> , 381, 175-185	17
495	Nonprecious anodic catalysts for low-molecular-hydrocarbon fuel cells: Theoretical consideration and current progress. <b>2020</b> , 77, 100805	62
494	One-step construction of multi-doped nanoporous carbon-based nanoarchitecture as an advanced bifunctional oxygen electrode for Zn-Air batteries. <b>2020</b> , 265, 118594	34
493	Chemical Insights into the Rapid, Light-Induced Auto-Oxidation of Molybdenum Disulfide Aqueous Dispersions. <b>2020</b> , 32, 148-156	6
492	Metal-Semiconductor Phase Twinned Hierarchical MoS Nanowires with Expanded Interlayers for Sodium-Ion Batteries with Ultralong Cycle Life. <b>2020</b> , 16, e1906607	46
491	Nanoscale Variations in the Electrocatalytic Activity of Layered Transition-Metal Dichalcogenides. <b>2020</b> , 124, 789-798	26
490	Kinetic-Oriented Construction of MoS <sub>2</sub> Synergistic Interface to Boost pH-Universal Hydrogen Evolution. <b>2020</b> , 30, 1908520	35
489	NiS <sub>x</sub> @MoS <sub>2</sub> heterostructure prepared by atomic layer deposition as high-performance hydrogen evolution reaction electrocatalysts in alkaline media. <b>2020</b> , 35, 822-830	10
488	Boron triggers the phase transformation of Mo C (EMoC /EMoC) for enhanced hydrogen production. <b>2019</b> , 31, 105707	3
487	High-Resolution Electrochemical Mapping of the Hydrogen Evolution Reaction on Transition-Metal Dichalcogenide Nanosheets. <b>2020</b> , 132, 3629-3636	10
486	High-Resolution Electrochemical Mapping of the Hydrogen Evolution Reaction on Transition-Metal Dichalcogenide Nanosheets. <b>2020</b> , 59, 3601-3608	65
485	Bimetal nickel/cobalt phosphide directly grown on commercial graphite substrate by the one-step electrodeposition as efficient electrocatalytic electrode. <b>2020</b> , 30, 461-468	5
484	Boosting electrochemical oxygen evolution over yolk-shell structured OMoS <sub>2</sub> nanoreactors with sulfur vacancy and decorated Pt nanoparticles. <b>2020</b> , 78, 105284	46
483	1D/2D Heterostructures as Ultrathin Catalysts for Hydrogen Evolution Reaction. <b>2020</b> , 16, e2004296	4
482	Engineering Electrocatalytic Microcells for Two-Dimensional Materials. <b>2020</b> , 1, 100190	2
481	Recent progress in noble metal nanocluster and single atom electrocatalysts for the hydrogen evolution reaction. <b>2020</b> , 8, 22467-22487	45

480	BiOCl nanosheets with periodic nanochannels for high-efficiency photooxidation. <b>2020</b> , 78, 105340	21
479	Longitudinal unzipping of 2D transition metal dichalcogenides. <b>2020</b> , 11, 5032	7
478	An inclusive review on the synthesis of molybdenum carbide and its hybrids as catalyst for electrochemical water splitting. <b>2020</b> , 494, 111116	13
477	Nanoscale engineering and Mo-doping of 2D ultrathin ReS nanosheets for remarkable electrocatalytic hydrogen generation. <b>2020</b> , 12, 17045-17052	10
476	Active Site Engineering in Porous Electrocatalysts. <b>2020</b> , 32, e2002435	140
475	Expediting Hydrogen Evolution through Topological Surface States on Bi <sub>2</sub> Te <sub>3</sub> . <b>2020</b> , 10, 2656-2666	18
474	Hydrogen evolution on non-metal oxide catalysts. <b>2020</b> , 2, 042002	9
473	Achieving high hydrogen evolution reaction activity of a MoC monolayer. <b>2020</b> , 22, 26189-26199	4
472	The innovative bio-inspired fabrication of the cheap cross-linked cellulose/graphene oxide/ZnO bio-nanopolymer and its high catalytic performance. <b>2020</b> , 27, 1	0
471	Atomic-scale evidence for highly selective electrocatalytic N-N coupling on metallic MoS. <b>2020</b> , 117, 31631-31688	
470	Molybdenum Tungsten Disulfide with a Large Number of Sulfur Vacancies and Electronic Unoccupied States on Silicon Micropillars for Solar Hydrogen Evolution. <b>2020</b> , 12, 54671-54682	9
469	1T/2H Mixed Phase MoS Nanosheets Integrated by a 3D Nitrogen-Doped Graphene Derivative for Enhanced Electrocatalytic Hydrogen Evolution. <b>2020</b> , 12, 55884-55893	18
468	Engineering of Amorphous Structures and Sulfur Defects into Ultrathin FeS Nanosheets to Achieve Superior Electrocatalytic Alkaline Oxygen Evolution. <b>2020</b> , 12, 51846-51853	11
467	Defect Engineering of Molybdenum-Based Materials for Electrocatalysis. <b>2020</b> , 10, 1301	6
466	Excess Se-doped MoSe <sub>2</sub> and nitrogen-doped reduced graphene oxide composite as electrocatalyst for hydrogen evolution and oxygen reduction reaction. <b>2020</b> , 848, 156588	15
465	Pristine edge structures of T'-phase transition metal dichalcogenides (ReSe, ReS) atomic layers. <b>2020</b> , 12, 17005-17012	6
464	RuS <sub>2-x</sub> quantum dots/rGO as bifunctional hydrogen electrocatalysts for harvesting electrochemical neutralization energy. <b>2020</b> , 472, 228625	12
463	Phase-Engineering of 1T/2H Molybdenum Disulfide by Using Ionic Liquid for Enhanced Electrocatalytic Hydrogen Evolution. <b>2020</b> , 7, 3347-3352	4

462	Hydrothermally Synthesized MoS <sub>2</sub> Nanoclusters for Hydrogen Evolution Reaction. <b>2020</b> , 32, 2564-2570	1
461	Recent advance and prospectives of electrocatalysts based on transition metal selenides for efficient water splitting. <b>2020</b> , 78, 105234	81
460	Hydrophobic electrocatalyst for the enhanced activity of oxygen reduction reaction through controllable liquid/gas/solid interface. <b>2020</b> , 532, 147357	8
459	Polyoxometalate-derived MoS <sub>2</sub> nanosheets embedded around iron-hydroxide nanorods as the platform for sensitively determining miRNA-21. <b>2020</b> , 323, 128647	46
458	Covalent 0D/2D Heterostructuring of Co <sub>9</sub> S <sub>8</sub> /MoS <sub>2</sub> for Enhanced Hydrogen Evolution in All pH Electrolytes. <b>2020</b> , 30, 2002536	52
457	Defects Enhance the Electrocatalytic Hydrogen Evolution Properties of MoS <sub>2</sub> -based Materials. <b>2020</b> , 15, 3123-3134	18
456	Few-layer MoS <sub>2</sub> and Pt nanoparticles Co-anchored on MWCNTs for efficient hydrogen evolution over a wide pH range. <b>2020</b> , 358, 136927	7
455	Interface construction of P-Substituted MoS <sub>2</sub> as efficient and robust electrocatalyst for alkaline hydrogen evolution reaction. <b>2020</b> , 78, 105253	34
454	Interactions between Transition-Metal Surfaces and MoS <sub>2</sub> Monolayers: Implications for Hydrogen Evolution and CO <sub>2</sub> Reduction Reactions. <b>2020</b> , 124, 20116-20124	4
453	Dynamic evolution and reversibility of single-atom Ni(II) active site in 1T-MoS <sub>2</sub> electrocatalysts for hydrogen evolution. <b>2020</b> , 11, 4114	52
452	Controlled growth of atomically thin transition metal dichalcogenides via chemical vapor deposition method. <b>2020</b> , 8, 100098	13
451	Defect engineering on MoS <sub>2</sub> surface with argon ion bombardments and thermal annealing. <b>2020</b> , 532, 147461	5
450	Semimetal 1H-SnS <sub>2</sub> Enables High-Efficiency Electroreduction of CO <sub>2</sub> to CO. <b>2020</b> , 4, 2000567	28
449	Defect Engineering in Metastable Phases of Transition-Metal Dichalcogenides for Electrochemical Applications. <b>2020</b> , 15, 3961-3972	3
448	One-pot synthesis of MoS <sub>2</sub> (1-x)Se <sub>2x</sub> on N-doped reduced graphene oxide: tailoring chemical and structural properties for photoenhanced hydrogen evolution reaction. <b>2020</b> , 2, 4830-4840	1
447	Electronic, optical and magnetic properties of PrXO <sub>3</sub> (X = V, Cr): first-principle calculations. <b>2020</b> , 100, 3125-3140	6
446	Single-Step Chemical Vapor Deposition Growth of Platinum Nanocrystal: Monolayer MoS <sub>2</sub> Dendrite Hybrid Materials for Efficient Electrocatalysis. <b>2020</b> , 32, 8243-8256	13
445	Two-dimensional nonlayered materials for electrocatalysis. <b>2020</b> , 13, 3993-4016	31

444	Oxygen-Doped VS <sub>4</sub> Microspheres with Abundant Sulfur Vacancies as a Superior Electrocatalyst for the Hydrogen Evolution Reaction. <b>2020</b> , 8, 15055-15064	6
443	Structure of Nanocrystalline, Partially Disordered MoS <sub>2</sub> Derived from HRTEM An Abundant Material for Efficient HER Catalysis. <b>2020</b> , 10, 856	9
442	Boosting Solar Hydrogen Production of Molybdenum Tungsten Sulfide-Modified Si Micropyramids by Introducing Phosphate. <b>2020</b> , 12, 41515-41526	5
441	MOF-derived PdNiCo alloys encapsulated in nitrogen-doped graphene for robust hydrogen evolution reactions. <b>2020</b> , 22, 6063-6070	2
440	Basal plane activation in monolayer MoTe <sub>2</sub> for the hydrogen evolution reaction via phase boundaries. <b>2020</b> , 8, 19522-19532	7
439	Modulation of electronic structures in two-dimensional electrocatalysts for the hydrogen evolution reaction. <b>2020</b> , 56, 11910-11930	20
438	Synthesis of Porous Mo <sub>2</sub> C/Nitrogen-Doped Carbon Nanocomposites for Efficient Hydrogen Evolution Reaction. <b>2020</b> , 5, 14307-14311	2
437	In Situ Thermal-Stage Fitted-STEM Characterization of Spherical-Shaped Co/MoS <sub>2</sub> Nanoparticles for Conversion of Heavy Crude Oils. <b>2020</b> , 10, 1239	1
436	Controllable fabrication and structure evolution of hierarchical 1T-MoS <sub>2</sub> nanospheres for efficient hydrogen evolution. <b>2020</b> , 7, 314-314	8
435	Peroxide-Induced Tuning of the Conductivity of Nanometer-Thick MoS <sub>2</sub> Films for Solid-State Sensors. <b>2020</b> , 3, 10864-10877	5
434	Vanadium-doping in interlayer-expanded MoS <sub>2</sub> nanosheets for the efficient electrocatalytic hydrogen evolution reaction. <b>2020</b> , 7, 2497-2505	9
433	Enhanced performance of in-plane transition metal dichalcogenides monolayers by configuring local atomic structures. <b>2020</b> , 11, 2253	58
432	Cationic Hexagonal Boron Nitride, Graphene, and MoS <sub>2</sub> Nanosheets Heteroassembled with Their Anionic Counterparts for Photocatalysis and Sodium-Ion Battery Applications. <b>2020</b> , 3, 5327-5334	7
431	Enhancement of the Photoelectrocatalytic H <sub>2</sub> Evolution on a Rutile-TiO <sub>2</sub> (001) Surface Decorated with Dendritic MoS <sub>2</sub> Monolayer Nanoflakes. <b>2020</b> , 3, 5756-5764	8
430	Activation strategies of water-splitting electrocatalysts. <b>2020</b> , 8, 10096-10129	35
429	Designing Champion Nanostructures of Tungsten Dichalcogenides for Electrocatalytic Hydrogen Evolution. <b>2020</b> , 32, e2002584	48
428	Chemical activation of hollow carbon nanospheres induced self-assembly of metallic 1T phase MoS <sub>2</sub> ultrathin nanosheets for electrochemical lithium storage. <b>2020</b> , 353, 136545	12
427	2H-MoS <sub>2</sub> nanoflowers with exposed edges for hydrogen producing electrochemical cell. <b>2020</b> , 25, 101270	4

426	Polyaniline engineering defect-induced nitrogen doped carbon-supported Co <sub>3</sub> O <sub>4</sub> hybrid composite as a high-efficiency electrocatalyst for oxygen evolution reaction. <b>2020</b> , 526, 146626	11
425	Honeycomb spherical 1T-MoS <sub>2</sub> as efficient counter electrodes for quantum dot sensitized solar cells. <b>2020</b> , 396, 125374	24
424	Highly Effective Electrochemical Exfoliation of Ultrathin Tantalum Disulfide Nanosheets for Energy-Efficient Hydrogen Evolution Electrocatalysis. <b>2020</b> , 12, 24675-24682	15
423	Rational Catalyst Design for N <sub>2</sub> Reduction under Ambient Conditions: Strategies toward Enhanced Conversion Efficiency. <b>2020</b> , 10, 6870-6899	126
422	Defect Engineering of 2D Materials for Electrochemical Energy Storage. <b>2020</b> , 7, 2000494	10
421	Effects of Ion Energy and Density on the Plasma Etching-Induced Surface Area, Edge Electrical Field, and Multivacancies in MoSe Nanosheets for Enhancement of the Hydrogen Evolution Reaction. <b>2020</b> , 16, e2001470	16
420	Optimized electronic structure and p-band centre control engineering to enhance surface absorption and inherent conductivity for accelerated hydrogen evolution over a wide pH range. <b>2020</b> , 22, 14537-14543	2
419	Defect-Mediated Adsorption of Metal Ions for Constructing Ni Hydroxide/MoS <sub>2</sub> Heterostructures as High-Performance Water-Splitting Electrocatalysts. <b>2020</b> , 3, 7039-7047	14
418	Electronically Modulated CoP by Ce Doping as a Highly Efficient Electrocatalyst for Water Splitting. <b>2020</b> , 8, 10009-10016	45
417	Hydrazine Hydrate Induced Two-Dimensional Porous Co <sup>3+</sup> Enriched Co <sub>3</sub> O <sub>4</sub> Nanosheets for Enhanced Water Oxidation Catalysis. <b>2020</b> , 8, 9813-9821	28
416	Conversion of Intercalated MoO to Multi-Heteroatoms-Doped MoS with High Hydrogen Evolution Activity. <b>2020</b> , 32, e2001167	41
415	Enhanced alkaline hydrogen evolution performance of ruthenium by synergetic doping of cobalt and phosphorus. <b>2020</b> , 4, 4637-4643	2
414	Porous Two-Dimensional Materials for Photocatalytic and Electrocatalytic Applications. <b>2020</b> , 2, 1377-1413	88
413	Understanding the Enhanced Electrocatalytic Hydrogen Evolution via Integrating Electrochemically Inactive g-C <sub>3</sub> N <sub>4</sub> : The Effect of Interfacial Engineering. <b>2020</b> , 8, 10313-10320	13
412	Synthesis of CoS <sub>2</sub> /SnO <sub>2</sub> @MoS <sub>2</sub> nanocube heterostructures for achieving enhanced electrocatalytic hydrogen evolution in acidic media. <b>2020</b> , 7, 2660-2668	11
411	Dual-Enhanced Doping in ReSe for Efficiently Photoenhanced Hydrogen Evolution Reaction. <b>2020</b> , 7, 2000216	12
410	How to Reliably Report the Overpotential of an Electrocatalyst. <b>2020</b> , 5, 1083-1087	70
409	Atomic-scale engineering of chemical-vapor-deposition-grown 2D transition metal dichalcogenides for electrocatalysis. <b>2020</b> , 13, 1593-1616	86



408	Polyoxomolybdate-derived MoS <sub>2</sub> /nitrogen-doped reduced graphene oxide hybrids for efficient hydrogen evolution. <b>2020</b> , 45, 12318-12330	7
407	Scalable Synthesis of a MoS <sub>2</sub> /Black Phosphorus Heterostructure for pH-Universal Hydrogen Evolution Catalysis. <b>2020</b> , 12, 2840-2848	26
406	Recent Advances in Metal-Organic Frameworks and Their Derived Materials for Electrocatalytic Water Splitting. <b>2020</b> , 7, 1805-1824	27
405	Recent Modification Strategies of MoS for Enhanced Electrocatalytic Hydrogen Evolution. <b>2020</b> , 25,	18
404	Ruthenium Nanoparticles on Cobalt-Doped 1T' Phase MoS Nanosheets for Overall Water Splitting. <b>2020</b> , 16, e2000081	41
403	PVP Functionalized Marigold-like MoS <sub>2</sub> as a New Electrocatalyst for Highly Efficient Electrochemical Hydrogen Evolution. <b>2020</b> , 11, 383-392	2
402	Ethanol introduced synthesis of ultrastable 1T-MoS for removal of Cr(VI). <b>2020</b> , 394, 122525	29
401	Defect engineering of nanostructured electrocatalysts for enhancing nitrogen reduction. <b>2020</b> , 8, 7457-7473	26
400	Magnetic Enhancement for Hydrogen Evolution Reaction on Ferromagnetic MoS Catalyst. <b>2020</b> , 20, 2923-2930	55
399	In situ monitoring of the electrochemically induced phase transition of thermodynamically metastable 1T-MoS at nanoscale. <b>2020</b> , 12, 9246-9254	12
398	The Adsorption of Europium and Uranium on the Sodium Dodecyl Sulfate Modified Molybdenum Disulfide Composites. <b>2020</b> , 65, 2178-2185	4
397	Distance Synergy of MoS -Confined Rhodium Atoms for Highly Efficient Hydrogen Evolution. <b>2020</b> , 59, 10502-10507	53
396	Distance Synergy of MoS <sub>2</sub> -Confined Rhodium Atoms for Highly Efficient Hydrogen Evolution. <b>2020</b> , 132, 10588-10593	10
395	Interface Engineering of MoS -Modified Graphitic Carbon Nitride Nano-photocatalysts for an Efficient Hydrogen Evolution Reaction. <b>2020</b> , 85, 1379-1388	11
394	Optimized Metal Chalcogenides for Boosting Water Splitting. <b>2020</b> , 7, 1903070	81
393	Two-Dimensional Materials in Large-Areas: Synthesis, Properties and Applications. <b>2020</b> , 12, 66	94
392	Self-assembly of 0D/2D homostructure for enhanced hydrogen evolution. <b>2020</b> , 36, 83-90	13
391	Three-Dimensional Carbon-Supported MoS <sub>2</sub> With Sulfur Defects as Oxygen Electrodes for Li-O <sub>2</sub> Batteries. <b>2020</b> , 8,	5



390	Two-Dimensional Layered Materials: High-Efficient Electrocatalysts for Hydrogen Evolution Reaction. <b>2020</b> , 3, 6270-6296	27
389	Engineering Mo-O-C interface in MoS <sub>2</sub> @rGO via charge transfer boosts hydrogen evolution. <b>2020</b> , 399, 126018	28
388	Vacancies and edges: Enhancing supercapacitive performance metrics of electrode materials. <b>2020</b> , 31, 101614	9
387	Advanced Characterization Techniques for Identifying the Key Active Sites of Gas-Involved Electrocatalysts. <b>2020</b> , 30, 2001704	11
386	Insights into N, P, S multi-doped Mo <sub>2</sub> C/C composites as highly efficient hydrogen evolution reaction catalysts. <b>2020</b> , 2, 3334-3340	8
385	One-Step Hydrothermal Synthesis of 1T@2H MoS <sub>2</sub> for Enhanced Photocatalytic Degradation Performance of Methyl Blue. <b>2020</b> , 993, 1496-1501	
384	Research progress on the preparations, characterizations and applications of large scale 2D transition metal dichalcogenides films. <b>2020</b> , 21, 100161	21
383	Hierarchical Tubular Architecture Constructed by Vertically Aligned CoS -MoS Nanosheets for Hydrogen Evolution Electrocatalysis. <b>2020</b> , 26, 6195-6204	10
382	Electrocatalyst engineering and structure-activity relationship in hydrogen evolution reaction: From nanostructures to single atoms. <b>2020</b> , 63, 921-948	48
381	Boosting aqueous zinc-ion storage in MoS <sub>2</sub> via controllable phase. <b>2020</b> , 389, 124405	53
380	One-step synthesis of Co-doped 1T-MoS <sub>2</sub> nanosheets with efficient and stable HER activity in alkaline solutions. <b>2020</b> , 244, 122642	26
379	Engineering Substrate Interaction To Improve Hydrogen Evolution Catalysis of Monolayer MoS Films beyond Pt. <b>2020</b> , 14, 1707-1714	49
378	Two-dimensional materials for energy conversion and storage. <b>2020</b> , 111, 100637	73
377	Sulfur Vacancy-Rich O-Doped 1T-MoS Nanosheets for Exceptional Photocatalytic Nitrogen Fixation over CdS. <b>2020</b> , 12, 7257-7269	105
376	Atom removal on the basal plane of layered MoS <sub>2</sub> leading to extraordinarily enhanced electrocatalytic performance. <b>2020</b> , 336, 135740	13
375	Structural-Phase Catalytic Redox Reactions in Energy and Environmental Applications. <b>2020</b> , 32, e1905739	31
374	1T phase boosted MoSe <sub>2</sub> /pg-C <sub>3</sub> N <sub>4</sub> with Z-scheme heterojunction for enhanced photocatalytic degradation of contaminants. <b>2020</b> , 510, 145341	18
373	Mechanism of upconversion luminescence enhancement in Yb/Er co-doped YO through Li incorporation. <b>2020</b> , 22, 2819-2826	5

372	Achieving Rich and Active Alkaline Hydrogen Evolution Heterostructures via Interface Engineering on 2D 1T-MoS <sub>2</sub> Quantum Sheets. <b>2020</b> , 30, 2000551	46
371	Flexible and free-standing hetero-electrocatalyst of high-valence-cation doped MoS <sub>2</sub> /MoO <sub>2</sub> /CNT foam with synergistically enhanced hydrogen evolution reaction catalytic activity. <b>2020</b> , 8, 14944-14954	13
370	Unique advantages of 2D inorganic nanosheets in exploring high-performance electrocatalysts: Synthesis, application, and perspective. <b>2020</b> , 415, 213280	34
369	Preparation of the flower-like MoS <sub>2</sub> /SnS <sub>2</sub> heterojunction as an efficient electrocatalyst for hydrogen evolution reaction. <b>2020</b> , 487, 110890	9
368	Preparation and Application of Manganese Dioxide/Graphene Composite in Lithium Sulfur Batteries. <b>2020</b> , 35, 1-8	1
367	Synthesis and characterization of chitosan grafted molybdenum disulfide composites as an adsorbent for graphene oxide removal. <b>2020</b> , 143, 109471	5
366	Ultrastable molybdenum disulfide-based electrocatalyst for hydrogen evolution in acidic media. <b>2020</b> , 456, 227998	13
365	Intercalation and elimination of carbonate ions of NiCo layered double hydroxide for enhanced oxygen evolution catalysis. <b>2020</b> , 45, 12629-12640	18
364	A novel high efficient electrochemiluminescence sensor based on reductive Cu(I) particles catalyzed Zn-doped MoS QDs for HPV 16 DNA determination. <b>2020</b> , 160, 112217	39
363	Graphene-Templated Growth of WS <sub>2</sub> Nanoclusters for Catalytic Conversion of Polysulfides in Lithium Sulfur Batteries. <b>2020</b> , 3, 4923-4930	11
362	The coupling of experiments with density functional theory in the studies of the electrochemical hydrogen evolution reaction. <b>2020</b> , 8, 8783-8812	15
361	Two-dimensional nanoscale MoS <sub>2</sub> for thermal catalysis of dihydroxylammonium-5,5?-bistetrazole-1,1?-diolate (TKX-50). <b>2021</b> , 143, 3003-3008	0
360	Recent Advances in Plasmonic Nanostructures for Enhanced Photocatalysis and Electrocatalysis. <b>2021</b> , 33, e2000086	112
359	2D Transition Metal Dichalcogenides: Design, Modulation, and Challenges in Electrocatalysis. <b>2021</b> , 33, e1907818	119
358	Spectroscopic investigation of defects mediated oxidization of single-layer MoS <sub>2</sub> . <b>2021</b> , 64, 611-619	2
357	Electrocatalytic reduction of Cr(VI) over heterophase MoS <sub>2</sub> film electrode. <b>2021</b> , 404, 126556	9
356	Design of Hybrid Zeolitic Imidazolate Framework-Derived Material with C-Mo-S Triatomic Coordination for Electrochemical Oxygen Reduction. <b>2021</b> , 17, e2003256	7
355	Cu doped SnS <sub>2</sub> nanostructure induced sulfur vacancy towards boosted photocatalytic hydrogen evolution. <b>2021</b> , 407, 127180	23

354	Anion-mediated transition metal electrocatalysts for efficient water electrolysis: Recent advances and future perspectives. <b>2021</b> , 427, 213552	28
353	Phase-Junction Electrocatalysts towards Enhanced Hydrogen Evolution Reaction in Alkaline Media. <b>2021</b> , 133, 263-271	3
352	Self-Supported Oxygen and Molybdenum Dual-Doped Cobalt Phosphide Hierarchical Nanomaterials as Superior Bifunctional Electrocatalysts for Overall Water Splitting. <b>2021</b> , 8, 103-111	4
351	Enhancement of 1T-MoS <sub>2</sub> Superambient Temperature Stability and Hydrogen Evolution Performance by Intercalating a Phenanthroline Monolayer. <b>2021</b> , 7, 447-456	6
350	Chalcogen-vacancy group VI transition metal dichalcogenide nanosheets for electrochemical and photoelectrochemical hydrogen evolution. <b>2021</b> , 9, 101-109	4
349	Ultrafine multi-metallic carbide nanocrystals encased in a carbon matrix as durable electrocatalysts towards effective alkaline hydrogen evolution reaction. <b>2021</b> , 2, 336-344	2
348	Design of 2D Layered Catalyst by Coherent Heteroepitaxial Conversion for Robust Hydrogen Generation. <b>2021</b> , 31, 2005449	4
347	Defect Electrocatalysts and Alkaline Electrolyte Membranes in Solid-State Zinc-Air Batteries: Recent Advances, Challenges, and Future Perspectives.. <b>2021</b> , 5, e2000868	16
346	Recent progress on the phase modulation of molybdenum disulphide/diselenide and their applications in electrocatalysis. <b>2021</b> , 9, 1418-1428	12
345	Self-Assembly Approach Towards MoS <sub>2</sub> -Embedded Hierarchical Porous Carbons for Enhanced Electrocatalytic Hydrogen Evolution. <b>2021</b> , 27, 2155-2164	1
344	Modification strategies on transition metal-based electrocatalysts for efficient water splitting. <b>2021</b> , 58, 446-462	36
343	Synergistically modulating electronic structure of NiS <sub>2</sub> hierarchical architectures by phosphorus doping and sulfur-vacancies defect engineering enables efficient electrocatalytic water splitting. <b>2021</b> , 420, 127630	23
342	Anion Vacancy Engineering in Electrocatalytic Water Splitting. <b>2021</b> , 7, 102-109	4
341	Atomic-Level and Modulated Interfaces of Photocatalyst Heterostructure Constructed by External Defect-Induced Strategy: A Critical Review. <b>2021</b> , 17, e2004980	19
340	Defective Structures in Metal Compounds for Energy-Related Electrocatalysis. <b>2021</b> , 2, 2000067	54
339	Phase-Junction Electrocatalysts towards Enhanced Hydrogen Evolution Reaction in Alkaline Media. <b>2021</b> , 60, 259-267	30
338	Strategies to improve electrocatalytic and photocatalytic performance of two-dimensional materials for hydrogen evolution reaction. <b>2021</b> , 42, 511-556	57
337	Engineering metallic MoS <sub>2</sub> monolayers with responsive hydrogen evolution electrocatalytic activities for enzymatic reaction monitoring. <b>2021</b> , 9, 11056-11063	4

336	Two-dimensional biomaterials: material science, biological effect and biomedical engineering applications. <b>2021</b> , 50, 11381-11485	23
335	1T Phase Transition Metal Dichalcogenides for Hydrogen Evolution Reaction. <b>2021</b> , 4, 194-218	10
334	Structure and properties of 2D materials in general and their importance to energy storage. <b>2021</b> , 11-75	
333	High electron transfer of TiO <sub>2</sub> nanorod@carbon layer supported flower-like WS <sub>2</sub> nanosheets for triiodide electrocatalytic reduction. <b>2021</b> , 45, 3387-3391	0
332	Effect of carbon and nitrogen double vacancies on the improved photocatalytic hydrogen evolution over porous carbon nitride nanosheets. <b>2021</b> , 11, 3270-3278	2
331	One-step synthesis of single-site vanadium substitution in 1T-WS monolayers for enhanced hydrogen evolution catalysis. <b>2021</b> , 12, 709	42
330	Vertically oriented MoS <sub>2</sub> /WS <sub>2</sub> heterostructures on reduced graphene oxide sheets as electrocatalysts for hydrogen evolution reaction. <b>2021</b> , 5, 3396-3403	4
329	Simultaneous phase control and carbon intercalation of MoS <sub>2</sub> for electrochemical hydrogen evolution catalysis.	
328	Structural, optical, magnetic and electrochemical properties of hydrothermally synthesized WS <sub>2</sub> nanoflakes. <b>2021</b> , 36, 884-895	1
327	Hierarchical ultrathin defect-rich CoFe <sub>2</sub> O <sub>4</sub> @BC nanoflowers synthesized via a temperature-regulated strategy with outstanding hydrogen evolution reaction activity. <b>2021</b> , 8, 1455-1467	7
326	A palladium doped 1T-phase molybdenum disulfide-black phosphorene two-dimensional van der Waals heterostructure for visible-light enhanced electrocatalytic hydrogen evolution. <b>2021</b> , 13, 5892-5900	2
325	Concomitant induction to few-layer and 1T-rich two-dimensional MoS by rigid segment-containing polysulfide as a sulfur source and in situ intercalator. <b>2021</b> , 57, 2277-2280	3
324	Phase control of ultrafine FeSe nanocrystals in a N-doped carbon matrix for highly efficient and stable oxygen reduction reaction. <b>2021</b> , 9, 3464-3471	4
323	Porous nickel powder supported NiB/CNTs: an efficient catalyst for hydrogen production via water splitting. <b>2021</b> , 28, 543-554	2
322	Self-cascade MoS nanozymes for efficient intracellular antioxidation and hepatic fibrosis therapy. <b>2021</b> , 13, 12613-12622	4
321	Defect engineering and characterization of active sites for efficient electrocatalysis. <b>2021</b> , 13, 3327-3345	14
320	Doping regulation in transition metal compounds for electrocatalysis. <b>2021</b> , 50, 9817-9844	43
319	Highly Efficient MoS <sub>2</sub> Nanocatalysts for Slurry-Phase Hydrogenation of Unconventional Feedstocks into Fuels. <b>2021</b> , 35, 2590-2601	1

3 <sup>18</sup>	Hierarchical fibrous bimetallic electrocatalyst based on ZnO-MoS <sub>2</sub> composite nanostructures as high performance for hydrogen evolution reaction. <b>2021</b> , 883, 115061	4
3 <sup>17</sup>	Synergetic Lipid Extraction with Oxidative Damage Amplifies Cell-Membrane-Destructive Stresses and Enables Rapid Sterilization. <b>2021</b> , 60, 7744-7751	8
3 <sup>16</sup>	Synergetic Lipid Extraction with Oxidative Damage Amplifies Cell-Membrane-Destructive Stresses and Enables Rapid Sterilization. <b>2021</b> , 133, 7823-7830	5
3 <sup>15</sup>	Fine-tuning interlayer spacing in MoS <sub>2</sub> for enriching 1T phase via alkylated ammonium ions for electrocatalytic hydrogen evolution reaction. <b>2021</b> , 46, 8377-8390	5
3 <sup>14</sup>	High-Voltage Rechargeable Aqueous Zinc-Based Batteries: Latest Progress and Future Perspectives. <b>2021</b> , 1, 2000066	26
3 <sup>13</sup>	Identifying Metallic Transition-Metal Dichalcogenides for Hydrogen Evolution through Multilevel High-Throughput Calculations and Machine Learning. <b>2021</b> , 12, 2102-2111	11
3 <sup>12</sup>	Exploring the N Adsorption and Activation Mechanisms over the 2H/1T Mixed-Phase Ultrathin MoWS Nanosheets for Boosting N Photosynthesis. <b>2021</b> , 13, 7127-7134	8
3 <sup>11</sup>	In situ integrated 2D reduced graphene oxide nanosheets with MoSSe for hydrogen evolution reaction and supercapacitor application. <b>2021</b> , 3, 100054	8
3 <sup>10</sup>	Defect-Rich Heterogeneous MoS/rGO/NiS Nanocomposite for Efficient pH-Universal Hydrogen Evolution. <b>2021</b> , 11,	6
3 <sup>09</sup>	Direct Observation of the Light-Induced Exfoliation of Molybdenum Disulfide Sheets in Water Medium. <b>2021</b> , 15, 5661-5670	8
3 <sup>08</sup>	One-Step Hydrothermal Synthesis of Phase-Engineered MoS <sub>2</sub> /MoO <sub>3</sub> Electrocatalysts for Hydrogen Evolution Reaction. <b>2021</b> , 4, 2642-2656	15
3 <sup>07</sup>	Metallic Transition Metal Dichalcogenides of Group VIB: Preparation, Stabilization, and Energy Applications. <b>2021</b> , 17, e2005573	6
3 <sup>06</sup>	Intercalation as a versatile tool for fabrication, property tuning, and phase transitions in 2D materials. <b>2021</b> , 5,	30
3 <sup>05</sup>	Recent advances in vacancy engineering of metal-organic frameworks and their derivatives for electrocatalysis. <b>2021</b> , 1, 66-87	87
3 <sup>04</sup>	Rational strain engineering of single-atom ruthenium on nanoporous MoS for highly efficient hydrogen evolution. <b>2021</b> , 12, 1687	62
3 <sup>03</sup>	Advances in transition metal dichalcogenide-based two-dimensional nanomaterials. <b>2021</b> , 19, 100399	21
3 <sup>02</sup>	MoS Nanocomposite Films with High Irradiation Tolerance and Self-Adaptive Lubrication. <b>2021</b> , 13, 20435-20447	
3 <sup>01</sup>	Insights into the principles, design methodology and applications of electrocatalysts towards hydrogen evolution reaction. <b>2021</b> , 7, 8577-8577	1

300	Defect-engineered three-dimensional vanadium diselenide microflowers/nanosheets on carbon cloth by chemical vapor deposition for high-performance hydrogen evolution reaction. <b>2021</b> , 32,	2
299	Two-dimensional nanomaterials with engineered bandgap: Synthesis, properties, applications. <b>2021</b> , 37, 101059	24
298	Defects-type three-dimensional Co <sub>3</sub> O <sub>4</sub> nanomaterials for energy conversion and low temperature energy storage. <b>2021</b> , 546, 149064	22
297	Self-Assembly of MoS Monolayer Sheets by Desulfurization. <b>2021</b> , 37, 4971-4983	3
296	Design Strategies for High-Voltage Aqueous Batteries. <b>2021</b> , 2, 2100001	19
295	Hierarchical Ni <sub>3</sub> S <sub>4</sub> @MoS <sub>2</sub> nanocomposites as efficient electrocatalysts for hydrogen evolution reaction. <b>2021</b> ,	5
294	Enhanced Valley Splitting in Monolayer WSe by Phase Engineering. <b>2021</b> , 15, 8244-8251	1
293	Charge-Modulated VS <sub>2</sub> Monolayer for Effective Hydrogen Evolution Reaction. <b>2021</b> , 125, 12004-12011	4
292	Di-defects synergy boost electrocatalysis hydrogen evolution over two-dimensional heterojunctions. <b>2022</b> , 15, 677	8
291	Few-Layer MoS <sub>2</sub> Nanosheet/Carbon Nanotube Composite Films for Long-Lifetime Lithium Storage and Hydrogen Generation. <b>2021</b> , 4, 4754-4762	6
290	Sulfur vacancies and morphology dependent sodium storage properties of MoS and its sodiation/desodiation mechanism. <b>2021</b> , 589, 147-156	11
289	Metal-Assisted Efficient Nanotubular Electrocatalyst of MoS <sub>2</sub> for Hydrogen Production. <b>2021</b> , 13, 3237-3246	1
288	3D-Stretched Film Ni S Nanosheet/Macromolecule Anthraquinone Derivative Polymers for Electrocatalytic Overall Water Splitting. <b>2021</b> , 17, e2101003	3
287	0D Ni(OH) <sub>2</sub> nanoparticles/1D Mn <sub>0.3</sub> Cd <sub>0.7</sub> S nanorods with rich S vacancies for improved photocatalytic H <sub>2</sub> production. <b>2021</b> , 414, 129157	18
286	Vacancy-rich 1T-MoS <sub>2</sub> monolayer confined to MoO <sub>3</sub> matrix: An interface-engineered hybrid for efficiently electrocatalytic conversion of nitrogen to ammonia. <b>2021</b> , 286, 119870	13
285	Recent Advances in Transition Metal Dichalcogenide Cathode Materials for Aqueous Rechargeable Multivalent Metal-Ion Batteries. <b>2021</b> , 11,	5
284	Clean and Affordable Hydrogen Fuel from Alkaline Water Splitting: Past, Recent Progress, and Future Prospects. <b>2021</b> , 33, e2007100	144
283	Synergistic Pt doping and phase conversion engineering in two-dimensional MoS <sub>2</sub> for efficient hydrogen evolution. <b>2021</b> , 84, 105898	21

282	Roadmap and Direction toward High-Performance MoS Hydrogen Evolution Catalysts. <b>2021,</b>	28
281	Self-Supporting Electrodes for Gas-Involved Key Energy Reactions. <b>2021, 31, 2104620</b>	14
280	Molybdenum sulfide-modified metal-free graphitic carbon nitride/black phosphorus photocatalyst synthesized via high-energy ball-milling for efficient hydrogen evolution and hexavalent chromium reduction. <b>2021, 413, 125400</b>	19
279	Engineering single-atomic ruthenium catalytic sites on defective nickel-iron layered double hydroxide for overall water splitting. <b>2021, 12, 4587</b>	98
278	Evolution of defect formation during atomically precise desulfurization of monolayer MoS <sub>2</sub> . <b>2021, 2,</b>	3
277	Ru-Doped CuO/MoS <sub>2</sub> Nanostructures as Bifunctional Water-Splitting Electrocatalysts in Alkaline Media. <b>2021, 4, 7675-7685</b>	4
276	Co-promoted few-layer and defect-rich MoS <sub>2</sub> for enhanced hydrodeoxygenation of p-cresol. <b>2021, 621, 118175</b>	7
275	Interface effect of C <sub>3</sub> N <sub>4</sub> -Ti <sub>4</sub> O <sub>7</sub> -MoS <sub>2</sub> composite toward enhanced electrocatalytic hydrogen evolution reaction. <b>2021, 49, 986-996</b>	2
274	Molecular Functionalization of 2H-Phase MoS Nanosheets via an Electrolytic Route for Enhanced Catalytic Performance. <b>2021, 13, 33157-33171</b>	1
273	High Electrocatalytic Activity of Defected MX <sub>2</sub> /Graphene Heterostructures (M = Mo, W; X = S, Se) for Hydrogen Evolution Reaction. <b>2021, 125, 15292-15300</b>	3
272	Construction of defect-rich 1T-MoS <sub>2</sub> towards efficient electrocatalytic hydrogen evolution: Recent advances and future perspectives. <b>2021, 25, 101305</b>	0
271	Highly Active Mo <sub>2</sub> C@WS <sub>2</sub> Hybrid Electrode for Enhanced Hydrogen Evolution Reaction. <b>2021, 11, 1060</b>	0
270	Construction of unique ternary composite MCNTs@CoS <sub>x</sub> @MoS <sub>2</sub> with three-dimensional lamellar heterostructure as high-performance bifunctional electrocatalysts for hydrogen evolution and oxygen evolution reactions. <b>2021, 417, 129270</b>	9
269	Molybdenum disulfide nanosheets vertically grown on self-supported titanium dioxide/nitrogen-doped carbon nanofiber film for effective hydrogen peroxide decomposition and "memory catalysis". <b>2021, 596, 384-395</b>	5
268	Activating the Basal Plane of 2H-MoS by Doping Phosphor for Enhancement in the Photocatalytic Degradation of Organic Contaminants. <b>2021, 13, 38586-38594</b>	3
267	Recent Advances on Transition Metal Dichalcogenides for Electrochemical Energy Conversion. <b>2021, 33, e2008376</b>	24
266	Ni nanosheets evenly distributed on MoS <sub>2</sub> for selective electrochemical detection of nitrite. <b>2021, 625, 126865</b>	8
265	Sulfur-vacancy-tunable interlayer magnetic coupling in centimeter-scale MoS <sub>2</sub> bilayer. 1	1



264	Controllably Doping Nitrogen into 1T/2H MoS Heterostructure Nanosheets for Enhanced Supercapacitive and Electrocatalytic Performance by Low-Power N Plasma. <b>2021</b> , 13, 44427-44439	7
263	Atmosphere plasma treatment and Co heteroatoms doping on basal plane of colloidal 2D VSe <sub>2</sub> nanosheets for enhanced hydrogen evolution. <b>2021</b> , 46, 32425-32434	1
262	Strain-Induced Ferroelectric Heterostructure Catalysts of Hydrogen Production through Piezophototronic and Piezoelectrocatalytic System. <b>2021</b> , 15, 16106-16117	7
261	One-step plasma nitriding synthesis of NixN/NF (x = 3, 4) for efficient hydrogen evolution. <b>2021</b> , 561, 149972	2
260	Highly Controllable Hierarchically Porous Ag/Ag <sub>2</sub> S Heterostructure by Cation Exchange for Efficient Hydrogen Evolution. <b>2021</b> , 17, e2103064	5
259	In situ etching growth of defective ZnS nanosheets anchored vertically on layered-double-hydroxide microflowers for accelerated photocatalytic activity. <b>2021</b> , 292, 120187	15
258	Recent progress in the synthesis of novel two-dimensional van der Waals materials.. <b>2022</b> , 9, nwab164	10
257	Sulfur vacancies affect the environmental fate, corona formation, and microalgae toxicity of molybdenum disulfide nanoflakes. <b>2021</b> , 419, 126499	3
256	Nanoflower-like 1T/2H mixed-phase MoSe <sub>2</sub> as an efficient electrocatalyst for hydrogen evolution. <b>2021</b> , 878, 160381	5
255	Recent progress in CoP-based materials for electrochemical water splitting. <b>2021</b> , 46, 34194-34215	9
254	High proportion of 1 T phase MoS <sub>2</sub> prepared by a simple solvothermal method for high-efficiency electrocatalytic hydrogen evolution. <b>2021</b> , 422, 130100	11
253	Electropositive carbon sites and sulfur vacancies in SnS <sub>2</sub> /g-C <sub>3</sub> N <sub>4</sub> for achieving adsorption and photocatalytic degradation of As(III) in stages by pH regulation. <b>2021</b> , 877, 160292	3
252	Vacancy engineering in VS <sub>2</sub> nanosheets for ultrafast pseudocapacitive sodium ion storage. <b>2021</b> , 421, 129715	14
251	Single noble metal atoms doped 2D materials for catalysis. <b>2021</b> , 297, 120389	17
250	Recent progress in solution assembly of 2D materials for wearable energy storage applications. <b>2021</b> , 62, 27-42	5
249	Large-scale synthesis of low-cost bimetallic polyphthalocyanine for highly stable water oxidation. <b>2021</b> , 299, 120637	6
248	Defect engineering in metal sulfides for energy conversion and storage. <b>2021</b> , 448, 214147	19
247	Mechanistic insights of hydrogen evolution reaction on quaternary earth-abundant chalcogenide Cu <sub>2</sub> BaSnS <sub>4</sub> from first principles. <b>2021</b> , 570, 151049	0



246	Se and O co-insertion induce the transition of MoS <sub>2</sub> from 2H to 1T phase for designing high-active electrocatalyst of hydrogen evolution reaction. <b>2021</b> , 425, 130611	8
245	Effect of heteroatom doping on the charge storage and operating voltage window of nickel-based sulfide composite electrodes in alkaline electrolytes. <b>2022</b> , 427, 130885	3
244	Understanding the correlation between electronic structure and asymmetric defect distribution in dual-metal Janus FeReS <sub>3</sub> monolayer. <b>2022</b> , 275, 125275	1
243	Interlayer-expanded MoS <sub>2</sub> nanoflowers anchored on the graphene: A high-performance Li <sup>+</sup> /Mg <sup>2+</sup> co-intercalation cathode material. <b>2022</b> , 428, 131214	2
242	Functionalized Cd <sub>0.5</sub> Zn <sub>0.5</sub> S Chalcogenide Nanotwins Enabling Z-Scheme Photocatalytic Water Splitting. <b>2021</b> , 4, 759-768	8
241	HERs in an acidic medium over MoS <sub>2</sub> nanosheets: from fundamentals to synthesis and the recent progress. <b>2021</b> , 5, 1952-1987	7
240	High-efficiency electrolysis of biomass and its derivatives: Advances in anodic oxidation reaction mechanism and transition metal-based electrocatalysts. <b>2021</b> , 2, 847-864	3
239	Atomic-layered Pt clusters on S-vacancy rich MoS with high electrocatalytic hydrogen evolution. <b>2021</b> , 57, 7011-7014	3
238	In Situ Synthesis of Few-Layered g-C N with Vertically Aligned MoS Loading for Boosting Solar-to-Hydrogen Generation. <b>2018</b> , 14, 1703003	71
237	Few-layer FePS <sub>3</sub> decorated with thin MoS <sub>2</sub> nanosheets for efficient hydrogen evolution reaction in alkaline and acidic media. <b>2020</b> , 525, 146623	15
236	Phase and composition controllable synthesis of nickel phosphide-based nanoparticles via a low-temperature process for efficient electrocatalytic hydrogen evolution. <b>2017</b> , 258, 866-875	25
235	Activating the MoS <sub>2</sub> Basal Plane toward Enhanced Solar Hydrogen Generation via in Situ Photoelectrochemical Control. <b>2021</b> , 6, 267-276	14
234	Facile synthesis of amorphous MoS-Fe anchored on Zr-MOFs towards efficient and stable electrocatalytic hydrogen evolution. <b>2020</b> , 56, 2763-2766	14
233	1% defect enriches MoS quantum dot: catalysis and blue luminescence. <b>2020</b> , 12, 4352-4358	7
232	Optimizing electron density of nickel sulfide electrocatalysts through sulfur vacancy engineering for alkaline hydrogen evolution. <b>2020</b> , 8, 18207-18214	18
231	Roadmap for advanced aqueous batteries: From design of materials to applications. <b>2020</b> , 6, eaba4098	455
230	Editors' Choice Review Conductive Forms of MoS <sub>2</sub> and Their Applications in Energy Storage and Conversion. <b>2020</b> , 167, 126517	19
229	Construction of 1T@2H MoS heterostructures from natural molybdenite with enhanced electrochemical performance for lithium-ion batteries. <b>2021</b> , 11, 33481-33489	0

228	Synthesis of emerging two-dimensional (2D) materials [Advances, challenges and prospects. <b>2021</b> , 30, 100305	5
227	Phase engineering of transition metal compounds for boosting lithium/sodium storage. <b>2021</b> , 9, 100701	1
226	Elucidating the Strain-Vacancy-Activity Relationship on Structurally Deformed Co@CoO Nanosheets for Aqueous Phase Reforming of Formaldehyde. <b>2021</b> , 17, e2102970	3
225	Electronic coupling induced by structural deformation and magnetic dopants in dual-metal Janus MoReS <sub>3</sub> and WReS <sub>3</sub> for hydrogen evolution reaction. <b>2021</b> , 785, 139120	
224	Ordered clustering of anion vacancies in PtX <sub>2</sub> (X=S, Se, Te) monolayer for hydrogen evolution reaction. <b>2021</b> , 27, 101495	2
223	Chapter 9:High Electrocatalytic Performance of Two-dimensional Layered MoS <sub>2</sub> -based Materials for the Hydrogen Evolution Reaction. <b>2019</b> , 283-310	0
222	Unveiling the role of 2D monolayer Mn-doped MoS material: toward an efficient electrocatalyst for H evolution reaction. <b>2021</b> ,	3
221	1T-2H MoSe <sub>2</sub> modified MAPbI <sub>3</sub> for effective photocatalytic hydrogen evolution. <b>2022</b> , 893, 162329	2
220	Chemically coupled 0D-3D hetero-structure of Co <sub>9</sub> S <sub>8</sub> -Ni <sub>3</sub> S <sub>4</sub> hollow spheres for Zn-based supercapacitors. <b>2022</b> , 430, 132836	7
219	Controlling 1T/2H heterophase junctions in the MoS <sub>2</sub> microsphere for the highly efficient photocatalytic hydrogen evolution.	0
218	Facile fabrication of conductive MoS <sub>2</sub> thin films by sonication in hot water and evaluation of their electrocatalytic performance in the hydrogen evolution reaction.	1
217	Polydopamine and Nafion bi-layer passivation modified CdS photoanode for photoelectrochemical hydrogen evolution.	1
216	High-yield exfoliation of MoS <sub>2</sub> (WS <sub>2</sub> ) monolayers towards efficient photocatalytic hydrogen evolution. <b>2021</b> , 431, 133286	1
215	Functional role of single-atom catalysts in electrocatalytic hydrogen evolution: Current developments and future challenges. <b>2022</b> , 452, 214289	5
214	Cataluminescence on 2D WS <sub>2</sub> nanosheets surface for H <sub>2</sub> S sensing. <b>2022</b> , 353, 131111	0
213	High piezocatalytic capability in CuS/MoS nanocomposites using mechanical energy for degrading pollutants. <b>2021</b> ,	2
212	An overview on advances in design and development of materials for electrochemical generation of hydrogen and oxygen. <b>2021</b> , 23, 100902	4
211	Single-Atom Engineering to Ignite 2D Transition Metal Dichalcogenide Based Catalysis: Fundamentals, Progress, and Beyond. <b>2021</b> ,	20

210	1T-Phase molybdenum sulfide/cobalt oxide nanopillars hybrid nanostructure coupled with nitrogen-doped carbon thin-film as high efficiency electrocatalyst for oxygen evolution. <b>2021</b> , 608, 3040-3040	0
209	Targeted Regulation of the Electronic States of Nickel Toward the Efficient Electrosynthesis of Benzonitrile and Hydrogen Production. <b>2021</b> , 13, 56140-56150	3
208	Sulfur Vacancy and Ti C T Cocatalyst Synergistically Boosting Interfacial Charge Transfer in 2D/2D Ti C T /ZnIn S Heterostructure for Enhanced Photocatalytic Hydrogen Evolution. <b>2021</b> , e2103715	17
207	Defect-Assisted Anchoring of Pt Single Atoms on MoS Nanosheets Produces High-Performance Catalyst for Industrial Hydrogen Evolution Reaction. <b>2021</b> , e2104824	5
206	Defective Ultrathin ZnIn S for Photoreductive Deuteration of Carbonyls Using D O as the Deuterium Source. <b>2021</b> , e2103408	1
205	Recent Advances in Manifold Exfoliated Synthesis of Two-Dimensional Non-precious Metal-Based Nanosheet Electrocatalysts for Water Splitting. 2100153	6
204	Highly Photoluminescent Monolayer MoS <sub>2</sub> and WS <sub>2</sub> Achieved via Superacid Assisted Vacancy Reparation and Doping Strategy. <b>2021</b> , 15, 2100104	0
203	Role of topological surface states and mirror symmetry in topological crystalline insulator SnTe as an efficient electrocatalyst. <b>2021</b> , 13, 18160-18172	1
202	Recent advances in MoS-based materials for electrocatalysis.. <b>2022</b> ,	4
201	Electronic state reconfiguration induced by non-metal-dopants in Janus FeReS <sub>3</sub> monolayer for hydrogen evolution reaction. <b>2022</b> , 29, 101718	
200	Porous direct Z-scheme heterostructures of S-deficient CoS/CdS hexagonal nanoplates for robust photocatalytic H <sub>2</sub> generation. <b>2022</b> , 24, 404-416	1
199	Electronic structure transformation induced by dual-metal orbital hybridization in Re <sub>x</sub> Mn <sub>1-x</sub> S <sub>2</sub> monolayer for hydrogen evolution reaction. <b>2022</b> , 28, 101671	
198	Molybdenum disulfide as excellent Co-catalyst boosting catalytic degradation of sulfamethoxazole by nZVI/PDS process. <b>2022</b> , 285, 120398	4
197	Boosting photocatalytic hydrogen evolution: Orbital redistribution of ultrathin ZnIn <sub>2</sub> S <sub>4</sub> nanosheets via atomic defects. <b>2022</b> , 305, 121007	5
196	Metal/antiperovskite metal nitride composites Ag/AgNNi <sub>3</sub> as novel efficient electrocatalysts for hydrogen evolution reaction in alkaline media. <b>2022</b> , 112, 222-229	0
195	Photocatalytic Performance and Mechanism of Hydrogen Evolution from Water Over ZnCdS/Co@CoO in Sacrificial Agent-Free System.	
194	Persulfate coupled with Cu <sup>2+</sup> /LDH-MoS <sub>4</sub> : A novel process for the efficient atrazine abatement, mechanism and degradation pathway. <b>2022</b> , 134933	0
193	Mo <sub>2</sub> C@C nanofibers film as durable self-supported electrode for efficient electrocatalytic hydrogen evolution.. <b>2022</b> ,	2

192	A concise discussion on MoS <sub>2</sub> basal plane activation toward the ennoblement of electrocatalytic HER output.	0
191	Modulation of Water Dissociation Kinetics with a "Breathable" Wooden Electrode for Efficient Hydrogen Evolution.. <b>2022</b> ,	1
190	Plasma functionalized MoSe <sub>2</sub> for efficient nonenzymatic sensing of hydrogen peroxide in ultra-wide pH range.	0
189	Two-Dimensional Confined Synthesis of Metastable 1T-Phase MoS <sub>2</sub> Nanosheets for the Hydrogen Evolution Reaction. <b>2022</b> , 5, 1377-1384	4
188	Lattice distortion of crystalline-amorphous nickel molybdenum sulfide nanosheets for high-efficiency overall water splitting: libraries of lone pairs of electrons and surface reconstitution.. <b>2022</b> ,	2
187	Edge Rich Ultrathin Layered MoS Nanostuctures for Superior Visible Light Photocatalytic Activity.. <b>2022</b> ,	1
186	Electrochemical Water Splitting: H <sub>2</sub> Evolution Reaction. <b>2022</b> , 59-89	0
185	Functional group scission-induced lattice strain in chiral macromolecular metal-organic framework arrays for electrocatalytic overall water splitting. <b>2022</b> , 307, 121151	3
184	The defect is perfect: MoS <sub>2</sub> /TiO <sub>2</sub> modified with unsaturated Mo vacancies to construct Z-scheme heterojunction & improve mobility of e <sup>-</sup> . <b>2022</b> , 337, 130511	2
183	High zinc-ion intercalation reaction activity of MoS <sub>2</sub> cathode based on regulation of thermodynamic metastability and interlayer water. <b>2022</b> , 410, 140016	1
182	Electronegativity Induced Charge Balancing to Boost Stability and Activity of Amorphous Electrocatalyst.. <b>2021</b> , e2100537	6
181	Asymmetric super-exchange interaction induced by inter-site distance effect for hydrogen evolution reaction. <b>2022</b> , 279, 125748	
180	Effect of work-function and morphology of heterostructure components on CO <sub>2</sub> reduction photo-catalytic activity of MoS <sub>2</sub> -Cu <sub>2</sub> O heterostructure. <b>2022</b> , 433, 132709	1
179	Construction of a sensitive electrochemical sensor based on hybrid 1T/2H MoS <sub>2</sub> nanoflowers anchoring on rGO nanosheets for the voltammetric determination of acetaminophen. <b>2022</b> , 175, 107129	0
178	2D-Heterostructure assisted activation of MoS <sub>2</sub> basal plane for enhanced photoelectrochemical hydrogen evolution reaction. <b>2022</b> , 435, 134963	3
177	Electron Irradiation Induces the Conversion from 2H-WSe <sub>2</sub> to 1T-WSe <sub>2</sub> and Promotes the Performance of Electrocatalytic Hydrogen Evolution.	1
176	Atomic Sharpness of Jagged Edges of Two-Dimensional WS <sub>2</sub> Grown by Chemical Vapor Deposition. <b>2022</b> , 100183	1
175	Phosphorus Vacancies as Effective Polysulfide Promoter for High-Energy-Density LithiumSulfur Batteries. 2102739	12

174	Electronic reconfiguration in layered Bi <sub>2</sub> Se <sub>3</sub> surface induced by dual-metal hybridization for hydrogen evolution reaction. <b>2022</b> , 29, 101779	0
173	Designed synthesis of a hierarchical MoSe <sub>2</sub> @WSe <sub>2</sub> hybrid nanostructure as a bifunctional electrocatalyst for total water-splitting. <b>2022</b> , 6, 1708-1718	0
172	Photocatalytic Performance and Mechanism of Hydrogen Evolution from Water Over ZnCdS/Co@Coo in Sacrificial Agent-Free System.	
171	Hydrogen Evolution Reaction Activity Obtained Using Platinum Single Atoms on TiO <sub>2</sub> Nanosheets Modified with Graphene.	
170	Cotrollable growth of monolayer MoS <sub>2</sub> films and the application in devices. <b>2022</b> ,	
169	Quantitatively Deciphering Electronic Properties of Defects at Atomically Thin Transition-Metal Dichalcogenides.. <b>2022</b> ,	3
168	Ni(II)-Based Coordination Polymer with Pi-Conjugated Organic Linker as Catalyst for Oxygen Evolution Reaction Activity. <b>2022</b> , 36, 2722-2730	0
167	Bifunctional P-Intercalated and Doped Metallic (1T)-Copper Molybdenum Sulfide Ultrathin 2D-Nanosheets with Enlarged Interlayers for Efficient Overall Water Splitting.. <b>2022</b> ,	6
166	Intrinsic defects of nonprecious metal electrocatalysts for energy conversion: Synthesis, advanced characterization, and fundamentals. <b>2022</b> ,	0
165	Electrochemical hydrogen generation technology: Challenges in electrodes materials for a sustainable energy.	1
164	Using Exciton/Trion Dynamics to Spatially Monitor the Catalytic Activities of MoS during the Hydrogen Evolution Reaction.. <b>2022</b> ,	0
163	Insights into the Hydrogen Evolution Reaction on 2D Transition-Metal Dichalcogenides. <b>2022</b> , 126, 5151-5158	6
162	Laser-Assisted Synthesis of Au Aerogel with High-Index Facets for Ethanol Oxidation.. <b>2022</b> ,	1
161	Dynamic Growth/Etching Model for the Synthesis of Two-Dimensional Transition Metal Dichalcogenides via Chemical Vapour Deposition.	1
160	Direct Synthesis of Stable 1T-MoS Doped with Ni Single Atoms for Water Splitting in Alkaline Media.. <b>2022</b> , e2107238	4
159	Phase-reconfiguration Induced NiS/NiFe O Composite for Performance-enhanced Zinc-Air Batteries.. <b>2022</b> , e2110172	10
158	Regulating MoS <sub>2</sub> edge site for photocatalytic nitrogen fixation: A theoretical and experimental study. <b>2022</b> , 136211	3
157	Phase engineering-defective 1 T@2H MoS <sub>2</sub> nanoflowers as excellent full spectrum photocatalyst. <b>2022</b> , 164898	0

156	Design Strategies for Large Current Density Hydrogen Evolution Reaction.. <b>2022</b> , 10, 866415	1
155	Provoking Metallic 1T Phase Conversion of 2H-MoS <sub>2</sub> via an Effectual Solvothermal Route for Electrocatalytic Water Reduction in Acid.	3
154	Dual-phase MoS <sub>2</sub> /MXene/CNT ternary nanohybrids for efficient electrocatalytic hydrogen evolution. <b>2022</b> , 6,	2
153	Hydrazine Hydrate Intercalated 1T-Dominant MoS with Superior Ambient Stability for Highly Efficient Electrocatalytic Applications.. <b>2022</b> ,	3
152	WS <sub>2</sub> /p-Si-based photocathodes with high activity originated from the unique vertical geometry of the 2D WS <sub>2</sub> nanoplatelets. <b>2022</b> , 33, 100361	0
151	Increased 1T-MoS <sub>2</sub> in MoS <sub>2</sub> @CoS <sub>2</sub> /G composite for high-efficiency hydrogen evolution reaction. <b>2022</b> , 907, 164539	1
150	Synthesis of g-C <sub>3</sub> N <sub>4</sub> /Fe <sub>3</sub> O <sub>4</sub> /MoS <sub>2</sub> composites for efficient hydrogen evolution reaction. <b>2022</b> , 906, 164265	2
149	CdS/ethylenediamine nanowires 3D photocatalyst with rich sulfur vacancies for efficient syngas production from CO <sub>2</sub> photoreduction. <b>2022</b> , 308, 121227	2
148	Nanofiltration membranes fabricated through ultra-thin FeCo(OH) <sub>2</sub> nanosheets with high chlorine resistance and long-term stability for efficient dye removal. <b>2022</b> , 653, 120540	0
147	The catalytic mechanism of CO <sub>2</sub> electrochemical reduction over transition metal-modified 1T'-MoS <sub>2</sub> monolayers. <b>2022</b> , 590, 153001	1
146	Electronic modulation and vacancy engineering of Ni <sub>9</sub> S <sub>8</sub> to synergistically boost efficient water splitting: Active vacancy-metal pairs. <b>2022</b> , 310, 121356	1
145	Atomically thin transition metal dichalcogenides for the hydrogen evolution reaction. <b>2021</b> ,	0
144	Ultrafast Joule heating synthesis of hierarchically porous graphene-based Co-N-C single-atom monoliths. 1	3
143	Molybdenum Sulfide Quantum Dots Decorated on TiO <sub>2</sub> for Photocatalytic Hydrogen Evolution. <b>2022</b> , 5, 702-709	1
142	Designing Self-Supported Electrocatalysts for Electrochemical Water Splitting: Surface/Interface Engineering toward Enhanced Electrocatalytic Performance. <b>2021</b> ,	8
141	Controlled Synthesis of Perforated Oxide Nanosheets with High Density Nanopores Showing Superior Water Purification Performance.. <b>2022</b> ,	2
140	Surface engineering strategies for MoS <sub>2</sub> towards electrochemical hydrogen evolution.. <b>2022</b> ,	0
139	Highly efficient removal and sequestration of Cr(VI) in confined MoS <sub>2</sub> interlayer Nanochannels: Performance and mechanism. <b>2022</b> , 293, 121104	

138 Data\_Sheet\_1.pdf. **2020**,

137 Multicomponent TiO/Ag/CuS@Se Heterostructures Constructed by an Interface Engineering Strategy for Promoting the Electrocatalytic Nitrogen Reduction Reaction Performance.. **2022**, 1

136 Two-dimensional Transition Metal Dichalcogenides for Electrocatalytic Oxygen Reduction Reaction. **2022**, 128

135 Defect engineering for modifying transition metal oxides. **2022**, 161-190

134 Tuning Phase Compositions of MoS<sub>2</sub> Nanomaterials for Enhanced Heavy Metal Removal: Performance and Mechanism. 0

133 Nickel nanoparticle-activated MoS for efficient visible light photocatalytic hydrogen evolution.. **2022**, 1

132 In-Plane Mott-Schottky Effects Enabling Efficient Hydrogen Evolution from Mo N -MoS Heterojunction Nanosheets in Universal-pH Electrolytes.. **2022**, e2201137 1

131 Atom elimination strategy for MoS<sub>2</sub> nanosheets to enhance photocatalytic hydrogen evolution. **2022**, 3

130 Direct Z-scheme MoSe/TiO heterostructure with improved piezoelectric and piezo-photocatalytic performance.. **2022**, 622, 637-651 1

129 One-step ultrafast laser induced synthesis of strongly coupled 1T-2H MoS<sub>2</sub>/N-rGO quantum-dot heterostructures for enhanced hydrogen evolution. **2022**, 445, 136618 1

128 Atomistic Understanding of Two-dimensional Electrocatalysts from First Principles.. **2022**, 8

127 Boosting the Photocatalytic Activity and Resistance of Photostability of ZnS Nanoparticles.. **2022**, 1

126 Atomic and structural modifications of two-dimensional transition metal dichalcogenides for various advanced applications. 1

125 Synergistic effect of S vacancy and P dopants in MoS<sub>2</sub>/Mo<sub>2</sub>C to promote electrocatalytic hydrogen evolution.

124 Highly Dispersed Co-, N-, S-Doped Topological Defect-Rich Hollow Carbon Nanoboxes as Superior Bifunctional Oxygen Electrocatalysts for Rechargeable Zn/Air Batteries. 1

123 Mo<sup>3+</sup> hydride as the common origin of H<sub>2</sub> evolution and selective NADH regeneration in molybdenum sulfide electrocatalysts. **2022**, 5, 397-404 4

122 Spin-related bimetallic-hybridization induced by asymmetric super-nearest exchange interaction in single-atom dimer for hydrogen evolution reaction. **2022**, 287, 126291 0

121 Modulating the electronic structures of layer-expanded MoS<sub>2</sub> nanoreactor via cobalt doping and carbon intercalation for enhanced electrocatalytic hydrogen evolution. **2022**, 446, 137080 1



120	Recent advances in molybdenum disulfide-based advanced oxidation processes. <b>2022,</b>	0
119	Constructing Reactive Micro-Environment in Basal Plane of MoS <sub>2</sub> for pH-Universal Hydrogen Evolution Catalysis. 2107974	2
118	Large-Area MoS <sub>2</sub> Nanosheets with Triangular Nanopore Arrays as Active and Robust Electrocatalysts for Hydrogen Evolution.	1
117	Electrocatalytic activity of pristine and electrochemically activated SnSe <sub>2</sub> nanoplates for the hydrogen evolution reaction. <b>2022,</b> 918, 116464	0
116	Photocatalytic performance and mechanism of hydrogen evolution from water over ZnCdS/Co@CoO in sacrificial agent-free system. <b>2022,</b>	1
115	Manipulating Coordination Structures of Mixed-Valence Copper Single Atoms on 1T-MoS <sub>2</sub> for Efficient Hydrogen Evolution. 7687-7695	2
114	Unipolar resistive switching behavior in MoS <sub>2</sub> -polyvinyl alcohol-based memory device.	
113	STEM Image Analysis Based on Deep Learning: Identification of Vacancy Defects and Polymorphs of MoS <sub>2</sub> . <b>2022,</b> 22, 4677-4685	1
112	The effect of morphology on electrochemical hydrogen evolution reaction of ReSe <sub>2</sub> nano-structures.	1
111	Defect engineered 2D mesoporous Mo-Co-O nanosheets with crystalline-amorphous composite structure for efficient oxygen evolution.	1
110	Atomic-Level Design of Active Site on Two-Dimensional MoS <sub>2</sub> toward Efficient Hydrogen Evolution: Experiment, Theory, and Artificial Intelligence Modelling. 2206163	1
109	Nitrogen-Doped Cobalt-Molybdenum Sulfide Hybrid Heterojunctions as Active Electrocatalysts for Producing Hydrogen in Alkaline Media.	1
108	Nanoplatfoms with synergistic redox cycles and rich defects for activatable image-guided tumor-specific therapy. <b>2022,</b>	7
107	Modulation of morphology and electronic structure on MoS <sub>2</sub> -based electrocatalysts for water splitting.	2
106	Unraveling the capacitive effect in the vacancy-heterostructure WTe <sub>2</sub> /MoTe <sub>2</sub> for hydrogen evolution reaction by the grand canonical potential kinetics. <b>2022,</b>	
105	Molecularly Imprinted Sensor Based on 1T/2H MoS <sub>2</sub> and MWCNTs for Voltammetric Detection of Acetaminophen. <b>2022,</b> 113772	1
104	Strategies for designing efficient electrocatalytic HER catalysts at the atomic scale. <b>2022,</b> 2, 1505-1509	0
103	Flexible Sensor Platform: Nano-grain of 2D Heterostructure by Cold-Plasma. <b>2022,</b>	

102	Recent Progress in Phase Regulation, Functionalization, and Biosensing Applications of Polyphase MoS <sub>2</sub> . <b>2022</b> , 18, 2202956	0
101	Construction of heterogeneous 1T/2H MoSe <sub>2</sub> homojunction nanosheets with excellent broad-spectrum photocatalytic activity. <b>2022</b> , 57, 14386-14397	0
100	Amorphous/2H-MoS <sub>2</sub> nanoflowers with P doping and S vacancies to achieve efficient pH-universal hydrogen evolution at high current density.	1
99	Controllable Synthesis of Large-Scale Monolayer MoS <sub>2</sub> Dendritic Flakes with Serrated Edges and Their Multimodal Microscopy and AFM Characterizations. <b>2022</b> , 126, 13449-13457	0
98	Defect Mediated Improvements in the Photoelectrochemical Activity of MoS <sub>2</sub> /SnS <sub>2</sub> Ultrathin Sheets on Si Photocathode for Hydrogen Evolution.	
97	Nanostructure MoS <sub>2</sub> electrocatalyst modified large area carbon electrode for efficient hydrogen evolution. <b>2022</b> , 97, 095003	
96	Electronegativity Enhanced Strong Metal-Support Interaction in Ru@Fe <sub>3</sub> N for Enhanced Alkaline Hydrogen Evolution. <b>2022</b> , 14, 36688-36699	0
95	Electron-Injection and Atomic-Interface Engineering toward Stabilized Defected 1T-Rich MoS <sub>2</sub> as High Rate Anode for Sodium Storage. <b>2022</b> , 16, 12425-12436	4
94	Electronic State Coupling Between Structural Deformation and Surficial Defects in Co-Layered LaCoSi for Hydrogen Evolution Reaction. 2200287	1
93	Interface Engineering-Induced 1T-MoS <sub>2</sub> /NiS Heterostructure for Efficient Hydrogen Evolution Reaction. <b>2022</b> , 12, 947	0
92	Non-bonding electronic reconfiguration by surface engineering in shandite A <sub>3</sub> M <sub>2</sub> S <sub>2</sub> (A=Fe, Co; M=In, Sn) for hydrogen evolution reaction. <b>2022</b> , 290, 126565	
91	Unique three-dimensional heterostructure of MoS <sub>2</sub> @Co-MOF decorated with Co-Al layered double hydroxide: An effective synergistic alkaline hydrogen evolution electrocatalyst. <b>2022</b> , 430, 141072	0
90	Nano Killers Activation by permonosulfate enables efficient anaerobic microorganisms disinfection. <b>2022</b> , 440, 129742	0
89	Two-step coal-assisted water electrolysis for energy-saving hydrogen production at cell voltage of 1.2 V with current densities larger than 150 mA/cm <sup>2</sup> . <b>2022</b> , 260, 125145	0
88	Recent advances in metallic transition metal dichalcogenides as electrocatalysts for hydrogen evolution reaction. <b>2022</b> , 25, 105098	2
87	Super-exchange interaction induced by neighboring bimetallic hybridization in bismuthene for hydrogen evolution reaction. <b>2022</b> , 806, 140012	0
86	Radical-Friedel-Crafts benzylation of arenes with benzyl ethers over 2H-MoS <sub>2</sub> : ether cleavage into carbon- and oxygen-centered radicals.	0
85	Recent advances in solution assisted synthesis of transition metal chalcogenides for photo-electrocatalytic hydrogen evolution. <b>2022</b> , 24, 20638-20673	3

84	Surface Oxidation Protection Strategy of Transition Metal Sulfides by Vanadium Pentoxide for Electrocatalytic Hydrogen Evolution Reaction.	0
83	Cobalt porphyrin / molybdenum disulfide nanoensembles for light-assisted electrocatalytic water oxidation and selective hydrogen peroxide production.	0
82	Unraveling the Role of Defects in Electrocatalysts for Water Splitting: Recent Advances and Perspectives. <b>2022</b> , 36, 11660-11690	1
81	Spreading the full spectrum of layer-structured compounds for kinetics-enhanced aqueous multivalent metal-ion batteries. <b>2022</b> ,	1
80	A Critical Review on New and Efficient 2D Materials for Catalysis. 2200771	0
79	Electronic Properties and Electrocatalytic Water Splitting Activity for Precious-Metal-Adsorbed Silicene with Nonmetal Doping. <b>2022</b> , 7, 33156-33166	0
78	Hydrogen evolution reaction activity obtained using platinum single atoms on TiO <sub>2</sub> nanosheets modified with graphene. <b>2022</b> , 57, 16448-16459	0
77	Molecular Engineering Strategies toward Molybdenum Diselenide Design for Energy Storage and Conversion. 2202600	1
76	Magnesium/Lithium Hybrid Batteries Based on SnS <sub>2</sub> -MoS <sub>2</sub> with Reversible Conversion Reactions. <b>2022</b> , 2022, 1-14	0
75	Molecular intercalation of transition metal dichalcogenide nanosheets to enhance electrocatalytic activity toward hydrogen evolution reaction.	0
74	A Unified Theory for H <sub>2</sub> Evolution on Mo-Based Electrocatalysts. 3695-3702	0
73	Unraveling the Atomic-Level Manipulation Mechanism of Li <sub>2</sub> S Redox Kinetics via Electron-Donor Doping for Designing High-Volumetric-Energy-Density, Lean-Electrolyte Lithium Sulfur Batteries. 2204192	2
72	Phase-Field Modeling of Chemical Vapor-Deposited 2D MoSe <sub>2</sub> Domains with Varying Morphology for Electronic Devices and Catalytic Applications.	1
71	Recent progress of electrochemical hydrogen evolution over 1T-MoS <sub>2</sub> catalysts. 10,	1
70	Research progress of 1T-MoS <sub>2</sub> in electrocatalytic hydrogen evolution. <b>2022</b> ,	0
69	β-Cyclodextrin Modified Molybdenum Disulfide for the Adsorption of Europium.	0
68	A short review on generation of green fuel hydrogen through water splitting. <b>2022</b> ,	2
67	Unveiling Partial Transformation and Activity Origin of Sulfur Vacancies for Hydrogen Evolution. 4198-4203	0

66	2D Transition Metal Dichalcogenides-Based Electrocatalysts for Hydrogen Evolution Reaction. 2208994	3
65	Molybdenum-Based Nanomaterials for Photothermal Cancer Therapy. 2200065	3
64	Co-Ion Desorption as the Main Charging Mechanism in Metallic 1T-MoS <sub>2</sub> Supercapacitors.	0
63	Adsorption performance and mechanism of chromium on Cyclodextrin-modified molybdenum disulfide.	0
62	Bilayer functional interlayer coupling defect and Li-ion channel for high-performance Li-S batteries. <b>2022</b> , 436, 141377	0
61	Nanoscale Defect Engineering to Tune Electronic Structure and Surface Property of Two-Dimensional MoS <sub>2</sub> Film for Hydrogen Evolution Reaction.	0
60	MoS <sub>2</sub> /carbon heterostructured catalysts for the hydrogen evolution reaction: N-doping modulation of substrate effects in acid and alkaline electrolytes. <b>2022</b> ,	0
59	Strong Interaction of Single Atom Pt with Cd <sub>0.5</sub> Zn <sub>0.5</sub> S: Electronic Structure Regulation and Photocatalytic Hydrogen Evolution Promotion. <b>2022</b> , 100281	0
58	Recent progress in electronic modulation of electrocatalysts for high-efficient polysulfide conversion of Li-S batteries. <b>2022</b> , 43, 2946-2965	1
57	Aerogels-Inspired based Photo and Electrocatalyst for Water Splitting to Produce Hydrogen. <b>2022</b> , 29, 101670	0
56	Molten-Salt-Induced Phosphorus Vacancy Defect Engineering of Heterostructured Cobalt Phosphide for Efficient Overall Water Splitting.	0
55	A high-efficiency solar water evaporation-photocatalysis system achieved by manipulating surface wettability and constructing heterojunction. <b>2023</b> , 611, 155678	0
54	Phosphorus vacancies improve the hydrogen evolution of MoP electrocatalysts.	0
53	A nanoelectrode-based study of water splitting electrocatalysts.	0
52	Surface Oxidation Protection Strategy of CoS <sub>2</sub> by V <sub>2</sub> O <sub>5</sub> for Electrocatalytic Hydrogen Evolution Reaction.	0
51	Vacancy Fused Multiple Layers of Copper Sulfoselenide Superstructures: A Propitious HER Electrocatalyst in Acid.	0
50	Axially coordinated Co <sup>II</sup> sites for the electroreduction of nitrobenzene.	0
49	Construction of 3D flower-like FeTiO <sub>3</sub> /MoS <sub>2</sub> heterostructure photocatalyst for degradation of tetracycline hydrochloride. <b>2023</b> , 937, 168425	0

- 48 VdW Heterostructure Electrochemical Applications. **2022**, 261-293 ○
- 47 A review of modulation strategies for improving catalytic performance of transition metal phosphides for oxygen evolution reaction. **2022**, 122313 ○
- 46 Potential and support-dependent hydrogen evolution reaction activation energies on sulfur vacancies of MoS<sub>2</sub> from GC-DFT. **2022**, ○
- 45 Orbital Modulation with P Doping Improves Acid and Alkaline Hydrogen Evolution Reaction of MoS<sub>2</sub>. **2022**, 12, 4273 ○
- 44 Phase Transition Induced via the Template Enabling Cocoon-like MoS<sub>2</sub> an Exceptionally Electromagnetic Absorber. 2205407 ○
- 43 Development of Anion Exchange Membrane Water Electrolysis and the Associated Challenges: A Review. 1
- 42 The super-exchange interaction between single-atom dimers and clusters increases reactive activity for hydrogen evolution reaction. ○
- 41 Colossal Vacancy Effect of 2D CuInP<sub>2</sub>S<sub>6</sub> Quantum Dots for Enhanced Broadband Photodetection. ○
- 40 Effect of MoSe<sub>2</sub> nanoribbons with NW30 edge reconstructions on electronic and catalytic properties by strain engineering. ○
- 39 Two-dimensional metal phase layered molybdenum disulfide for electrocatalytic hydrogen evolution reaction. ○
- 38 Tailoring Polymorphic Heterostructures of MoS<sub>2</sub>/WS<sub>2</sub> (1T/1T, 2H/2H) for Efficient Hydrogen Evolution Reaction. **2023**, 11, 568-577 ○
- 37 Tuning the 1T/2H phases in W<sub>x</sub>Mo<sub>1-x</sub>Se<sub>2</sub> nanosheets. ○
- 36 Recent Advances in Defect-Engineered Transition Metal Dichalcogenides for Enhanced Electrocatalytic Hydrogen Evolution: Perfecting Imperfections. **2023**, 8, 1851-1863 ○
- 35 Semimetallic Orbital Hybridization by Particular Surface Engineering in Ternary Cobalt Silicide to Accelerate Oxygen Evolution Reaction. 2200445 ○
- 34 Synergy between sulfur vacancy and Schottky junction into CoB/ZnIn<sub>2</sub>S<sub>4</sub>S photocatalysts: Oriented charge flow and regulated carriers transfer dynamics to activate reactive oxygen species generation for efficient photocatalytic disinfection. **2023**, 387, 135742 ○
- 33 Defect engineering of electrocatalysts for metal-based battery. **2023**, 45, 27-87 ○
- 32 Scalable synthesis of MoS<sub>2</sub> nanosheets electrocatalyst towards high-efficiency nitrite reduction to ammonia. **2023**, 559, 232668 ○
- 31 Accurate immunochromatography with colorimetric/photothermal dual-readout to detect nitrofurazone metabolites. **2023**, 380, 133323 ○

- 30 Efficient Hydrogen and Oxygen Evolution Catalysis Using 3D-Structured Nickel Phosphosulfide Nanosheets in Alkaline Media. **2023**, 28, 315 ○
- 29 In Situ Porousized MoS<sub>2</sub> Nano Islands Enhance HER/OER Bifunctional Electrocatalysis. 2207177 ○
- 28 High Resolution Electrochemical Imaging for Sulfur Vacancies on 2D Molybdenum Disulfide. 2201529 ○
- 27 Defect engineering of two-dimensional materials for advanced energy conversion and storage. **2023**, 52, 1723-1772 1
- 26 Enhancing photocatalytic properties of continuous few-layer MoS<sub>2</sub> thin films for hydrogen production by water splitting through defect engineering with Ar plasma treatment. **2023**, 109, 108295 ○
- 25 Unique porous ZnS-CdS-CoS<sub>x</sub> Reuleaux triangle nanosheets: Highly promoted visible-light photocatalytic H<sub>2</sub> evolution via synergistic effect of Z-scheme heterojunction and vacancy defects. **2023**, 342, 127847 ○
- 24 Rational design of 2D heterostructured photo- & electro-catalysts for hydrogen evolution reaction: A review. **2023**, 15, 100402 ○
- 23 Sulphur vacancy defects engineered metal sulfides for amended photo(electro)catalytic water splitting: A review. **2023**, 152, 50-64 ○
- 22 Interface engineering of porous nickel-iron phosphates with enriched oxygen vacancies as an efficient bifunctional electrocatalyst for high current water splitting. **2023**, 443, 141932 ○
- 21 Electronic reconfiguration induced by anchoring orbital interaction onto asymmetric FeIn<sub>2</sub>S<sub>4</sub> surface for hydrogen evolution reaction. **2023**, 654, 414704 ○
- 20 A Mini Review on Transition Metal Chalcogenides for Electrocatalytic Water Splitting: Bridging Material Design and Practical Application. **2023**, 37, 2608-2630 1
- 19 Electron induced construction of heterogeneous MoS<sub>2</sub> for highly efficient hydrogen evolution reaction. **2023**, 932, 117267 ○
- 18 Highly active and stable MoS<sub>2</sub>-TiO<sub>2</sub> nanocomposite catalyst for slurry-phase phenanthrene hydrogenation. **2023**, 46, 125-136 ○
- 17 Development of copper foam-based composite catalysts for electrolysis of water and beyond. **2023**, 7, 1604-1626 ○
- 16 Unlocking the Ultrahigh-Current-Density Hydrogen Evolution on 2H-MoS<sub>2</sub> via Simultaneous Structural Control across Seven Orders of Magnitude. 2300145 ○
- 15 Progress and Perspectives for Solar-Driven Water Electrolysis to Produce Green Hydrogen. 2300254 ○
- 14 Exploring the Sub-nanoscale Structure of Cobalt Molybdenum Sulfide and the Role of a Cobalt Promoter in Catalytic Hydrogen Evolution. ○
- 13 Colloidal synthesis of hexagonal CuFe(S<sub>x</sub>Se<sub>1-x</sub>)<sub>2</sub> nanoplates with exposed highly active (220) facets for boosting overall water splitting. **2023**, 10, 2387-2398 ○

- 12 Effects of  $^{60}\text{Co}$   $\gamma$  irradiation of thin-layer molybdenum disulfide for the hydrogen evolution reaction. ○
- 11 Ex Situ Characterization of 1T/2H MoS<sub>2</sub> and Their Carbon Composites for Energy Applications, a Review. **2023**, 17, 5163-5186 ○
- 10 Electrochemical hydrogen evolution on Pt-based catalysts from a theoretical perspective. **2023**, 158, 141002 ○
- 9 Enlarged Interlayer Spacing of Marigold-Shaped 1T-MoS<sub>2</sub> with Sulfur Vacancies via Oxygen-Assisted Phosphorus Embedding for Rechargeable Zinc-Ion Batteries. **2023**, 13, 1185 ○
- 8 Stimulating the Intrinsic Activities of the MoS<sub>2</sub> Nanosheet Coated on S,N-Graphene for Efficient Membrane Electrofiltration. ○
- 7 Electronegativity principle for hydrogen evolution activity using first-principles calculations. ○
- 6 Consecutive Synthesis of MoO<sub>2</sub>, Mo<sub>2</sub>C and MoS<sub>2</sub> Nanodots as Efficient Electrochemical Hydrogen Evolution Electrocatalysts. ○
- 5 Ce Site in Amorphous Iron Oxyhydroxide Nanosheet toward Enhanced Electrochemical Water Oxidation. ○
- 4 Identification of Co<sup>III</sup>/Mo Active Centers on Co-Doped MoS<sub>2</sub> Electrocatalyst. **2023**, 15, 19695-19704 ○
- 3 Structure phase engineering strategy through acetic acid coupling to boost hydrogen evolution reaction performance of 2H phase MoS<sub>2</sub> at wide pH range. **2023**, 347, 128428 ○
- 2 Modulating MoS<sub>2</sub> nanostructure by vanadium incorporation for high-efficiency hydrogen evolution reaction. **2023**, 294, 116515 ○
- 1 Spin-Dependent Reconstruction Induced by Surface Symmetry Breaking in Manganese Spinel Oxides Toward Acidic Oxygen Evolution Reaction. ○