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Highly active and stable hybrid catalyst of cobalt-doped FeS₂ nanosheets-carbon nanotubes for hydrogen evolution reaction

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#	Paper	IF	Citations
763	In Situ Synthesis of Nano CuS-Embedded MOF Hierarchical Structures and Application in Dye Adsorption and Hydrogen Evolution Reaction.		
762	Cobalt-Doped FeSe ₂ RGO as Highly Active and Stable Electrocatalysts for Hydrogen Evolution Reactions.		
761	Dual-Functional Starfish-like PDoped CoNiS Nanosheets Supported on Nickel Foams with Enhanced Electrochemical Performance and Excellent Stability for Overall Water Splitting.		
760	Three-Dimensional Nanoporous Co ₉ S ₄ P ₄ Pentlandite as a Bifunctional Electrocatalyst for Overall Neutral Water Splitting.		
759	Monomeric MoS ₄ ²⁻ -Derived Polymeric Chains with Active Molecular Units for Efficient Hydrogen Evolution Reaction.		
758	Molybdenum Disulfide Nanoflakes Covered Carbonized Catkin Microtube Hybrids as Superior Catalysts for Electrochemical Hydrogen Evolution.		
757	Large-Scale Synthesis of Carbon-Shell-Coated FeP Nanoparticles for Robust Hydrogen Evolution Reaction Electrocatalyst.		
756	Highly Efficient and Robust Nickel Phosphides as Bifunctional Electrocatalysts for Overall Water-Splitting.		
755	Component-Controlled Synthesis of Necklace-Like Hollow Ni ₉ Ru ₁ Nanoalloys as Electrocatalysts for Hydrogen Evolution Reaction.		
754	PdCu@Pd Nanocube with Pt-like Activity for Hydrogen Evolution Reaction.		
753	FeS ₂ @C CoreShell Nanochains as Efficient Electrocatalysts for Hydrogen Evolution Reaction.		
752	Partial Surface Selenization of Cobalt Sulfide Microspheres for Enhancing the Hydrogen Evolution Reaction.		
751	Enhanced the Hydrogen Evolution Performance by Ruthenium Nanoparticles Doped into Cobalt Phosphide Nanocages.		
750	Binder-Free Growth of Nickel-Doped Iron Sulfide on Nickel Foam via Electrochemical Deposition for Electrocatalytic Water Splitting.		
749	Highly Crystalline Pd ₁₃ Cu ₃ S ₇ Nanoplates Prepared via Partial Cation Exchange of Cu _{1.81} S Templates as an Efficient Electrocatalyst for the Hydrogen Evolution Reaction.		
748	Phase-engineered transition-metal dichalcogenides for energy and electronics. 2015 , 40, 585-591		49
747	Blending Cr ₂ O ₃ into a NiO/Ni Electrocatalyst for Sustained Water Splitting. 2015 , 127, 12157-12161		43

746	Development of a Dinitrosyl Iron Complex Molecular Catalyst into a Hydrogen Evolution Cathode. 2015 , 127, 15037-15042		8
745	CoSe ₂ Supported on Nitrogen-Doped Carbon Nanohorns as a Methanol-Tolerant Cathode for Air-Breathing Microlaminar Flow Fuel Cells. 2015 , 2, 1339-1345		30
744	Blending Cr ₂ O ₃ into a NiO-Ni electrocatalyst for sustained water splitting. 2015 , 54, 11989-93		132
743	Cobalt diselenide nanobelts grafted on carbon fiber felt: an efficient and robust 3D cathode for hydrogen production. 2015 , 6, 4594-4598		103
742	Ultrafine Metal Phosphide Nanocrystals in Situ Decorated on Highly Porous Heteroatom-Doped Carbons for Active Electrocatalytic Hydrogen Evolution. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 28369-76	9.5	59
741	Onsite Substitution Synthesis of Ultrathin Ni Nanofilms Loading Ultrafine Pt Nanoparticles for Hydrogen Evolution. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 26101-7	9.5	29
740	Susceptibility of FeS ₂ hydrogen evolution performance to sulfide poisoning. 2015 , 58, 29-32		12
739	MoS ₂ nanosheet-coated CoS ₂ nanowire arrays on carbon cloth as three-dimensional electrodes for efficient electrocatalytic hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 22886-22891	13	161
738	The CoTe ₂ nanostructure: an efficient and robust catalyst for hydrogen evolution. 2015 , 51, 17012-5		40
737	Correcting the Hydrogen Diffusion Limitation in Rotating Disk Electrode Measurements of Hydrogen Evolution Reaction Kinetics. 2015 , 162, F1470-F1481		89
736	Rising Again: Opportunities and Challenges for Platinum-Free Electrocatalysts. 2015 , 27, 7218-7235		97
735	High-Performance Overall Water Splitting Electrocatalysts Derived from Cobalt-Based Metal-Organic Frameworks. 2015 , 27, 7636-7642		486
734	Recent advances in transition-metal dichalcogenide based nanomaterials for water splitting. <i>Nanoscale</i> , 2015 , 7, 19764-88	7.7	263
733	Molecular cathode and photocathode materials for hydrogen evolution in photoelectrochemical devices. 2015 , 25, 90-105		78
732	Three-Dimensional Heterostructures of MoS ₂ Nanosheets on Conducting MoO ₂ as an Efficient Electrocatalyst To Enhance Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 23328-35	9.5	103
731	Development of a Dinitrosyl Iron Complex Molecular Catalyst into a Hydrogen Evolution Cathode. 2015 , 54, 14824-9		27
730	An integrated cobalt disulfide (CoS ₂) co-catalyst passivation layer on silicon microwires for photoelectrochemical hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 23466-23476	13	56
729	Component-controllable synthesis of Co(S x Se 1-x) ₂ nanowires supported by carbon fiber paper as high-performance electrode for hydrogen evolution reaction. 2015 , 18, 1-11		113

728	The effect of structural dimensionality on the electrocatalytic properties of the nickel selenide phase. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 23448-59	3.6	30
727	Nanostructured SnS-N-doped graphene as an advanced electrocatalyst for the hydrogen evolution reaction. 2015 , 51, 15716-9		65
726	Ni ₃ Se ₂ film as a non-precious metal bifunctional electrocatalyst for efficient water splitting. 2015 , 5, 4954-4958		117
725	Metallic Iron-Nickel Sulfide Ultrathin Nanosheets As a Highly Active Electrocatalyst for Hydrogen Evolution Reaction in Acidic Media. <i>Journal of the American Chemical Society</i> , 2015 , 137, 11900-3	16.4	519
724	High-Performance Electrocatalysis for Hydrogen Evolution Reaction Using Se-Doped Pyrite-Phase Nickel Diphosphide Nanostructures. 2015 , 5, 6355-6361		217
723	Easy gas-flow-induced CVD synthesis and tunable electromagnetic characteristics of centipede-shaped iron/cementite/multiwalled carbon nanotube (Fe/Fe ₃ C/MWCNT) heterostructures. 2015 , 283, 286-297		25
722	Polybenzimidazole and polybenzimidazole/MoS ₂ hybrids as an active nitrogen sites: hydrogen generation application. <i>RSC Advances</i> , 2015 , 5, 100996-101005	3.7	8
721	C and N Hybrid Coordination Derived Co-C-N Complex as a Highly Efficient Electrocatalyst for Hydrogen Evolution Reaction. <i>Journal of the American Chemical Society</i> , 2015 , 137, 15070-3	16.4	315
720	Mesoporous MoO ₃ Material as an Efficient Electrocatalyst for Hydrogen Evolution Reactions. 2016 , 6, 1600528		262
719	Two-Dimensional Hollow TiO ₂ Nanoplates with Enhanced Photocatalytic Activity. 2016 , 22, 6368-73		16
718	Engineering the Electronic Structure of 2D WS ₂ Nanosheets Using Co Incorporation as Co _x W _(1-x) S ₂ for Conspicuously Enhanced Hydrogen Generation. <i>Small</i> , 2016 , 12, 3802-9	11	47
717	Chalcogenide and Phosphide Solid-State Electrocatalysts for Hydrogen Generation. 2016 , 81, 1045-1055		53
716	Ultrasmall Cu ₇ S ₄ @MoS ₂ Hetero-Nanoframes with Abundant Active Edge Sites for Ultrahigh-Performance Hydrogen Evolution. 2016 , 128, 6612-6615		14
715	Electrocatalytic hydrogen evolution reaction based on reduced graphene oxide:Pt nanocomposite. 2016 ,		1
714	The Role of Transition Metal and Nitrogen in Metal-N-C Composites for Hydrogen Evolution Reaction at Universal pHs. 2016 , 120, 29047-29053		49
713	Co/CoO nanoparticles immobilized on Co-N-doped carbon as trifunctional electrocatalysts for oxygen reduction, oxygen evolution and hydrogen evolution reactions. 2016 , 52, 5946-9		190
712	Metal Doping Effect of the M-Co ₂ P/Nitrogen-Doped Carbon Nanotubes (M = Fe, Ni, Cu) Hydrogen Evolution Hybrid Catalysts. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 13890-901	9.5	138
711	Catalysis with two-dimensional materials and their heterostructures. 2016 , 11, 218-30		1433

710	Template-directed approach to two-dimensional molybdenum phosphide-carbon nanocomposites with high catalytic activities in the hydrogen evolution reaction. 2016 , 40, 6015-6021		20
709	Fabrication of Low Adsorption Energy Ni-Mo Cluster Cocatalyst in Metal-Organic Frameworks for Visible Photocatalytic Hydrogen Evolution. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 10808-19	9.5	92
708	Highly Efficient and Robust Nickel Phosphides as Bifunctional Electrocatalysts for Overall Water-Splitting. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 10826-34	9.5	162
707	Carbon-coated hollow mesoporous FeP microcubes: an efficient and stable electrocatalyst for hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 8974-8977	13	120
706	Development of 4-methoxyphenol chemical sensor based on NiS ₂ -CNT nanocomposites. 2016 , 64, 157-165		36
705	Hydrogen and CO ₂ Reduction Reactions: Mechanisms and Catalysts. 2016 , 105-160		8
704	Electromagnetic and mechanical properties of Fe ₃ O ₄ -coated amorphous carbon nanotube/polyvinyl chloride composites. 2016 , 23, 901-907		4
703	Oxidation Induced Doping of Nanoparticles Revealed by in Situ X-ray Absorption Studies. 2016 , 16, 3738-47		22
702	Versatile nanoporous bimetallic phosphides towards electrochemical water splitting. 2016 , 9, 2257-2261		409
701	Electrocatalysts for hydrogen oxidation and evolution reactions. 2016 , 59, 217-238		116
700	Conductive Mesoporous Catalytic Films. Current Distortion and Performance Degradation by Dual-Phase Ohmic Drop Effects. Analysis and Remedies. 2016 , 120, 21263-21271		16
699	Electrocatalytic hydrogen evolution using the MS@MoS ₂ /rGO (M = Fe or Ni) hybrid catalyst. 2016 , 52, 11795-11798		31
698	Development of highly-sensitive hydrazine sensor based on facile CoS ₂ -CNT nanocomposites. <i>RSC Advances</i> , 2016 , 6, 90470-90479	3.7	39
697	Ultrafine Co ₂ P nanoparticles encapsulated in nitrogen and phosphorus dual-doped porous carbon nanosheet/carbon nanotube hybrids: high-performance bifunctional electrocatalysts for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 15501-15510	13	75
696	A p-Si/NiCoSex core/shell nanopillar array photocathode for enhanced photoelectrochemical hydrogen production. 2016 , 9, 3113-3119		142
695	Nanostructured Bifunctional Redox Electrocatalysts. <i>Small</i> , 2016 , 12, 5656-5675	11	134
694	Electrospun carbon nanofiber@CoS ₂ core/sheath hybrid as an efficient all-pH hydrogen evolution electrocatalyst. 2016 , 3, 1280-1288		32
693	Carbon-Coated Nickel Phosphide Nanosheets as Efficient Dual-Electrocatalyst for Overall Water Splitting. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 27850-27858	9.5	94

692	Ni ₂ P@CoP hybrid nanosheet arrays supported on carbon cloth as an efficient flexible cathode for hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 16992-16999	13	122
691	Combined covalent and noncovalent carboxylation of carbon nanotubes for sensitivity enhancement of clinical immunosensors. 2016 , 52, 13039-13042		20
690	Phase-controlled synthesis and comparative study of β - and γ -WP 2 submicron particles as efficient electrocatalysts for hydrogen evolution. <i>Electrochimica Acta</i> , 2016 , 216, 304-311	6.7	15
689	Electrospun MnCo ₂ O ₄ nanofibers for efficient hydrogen evolution reaction. 2016 , 3, 095018		15
688	Mechanistic Insights on Ternary Ni ₂ -Co _x P for Hydrogen Evolution and Their Hybrids with Graphene as Highly Efficient and Robust Catalysts for Overall Water Splitting. 2016 , 26, 6785-6796		422
687	Hierarchically nanostructured MoS ₂ with rich in-plane edges as a high-performance electrocatalyst for the hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 14577-14585	13	48
686	Anchoring CoO Domains on CoSe Nanobelts as Bifunctional Electrocatalysts for Overall Water Splitting in Neutral Media. 2016 , 3, 1500426		205
685	Ultrasmall diiron phosphide nanodots anchored on graphene sheets with enhanced electrocatalytic activity for hydrogen production via high-efficiency water splitting. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 16028-16035	13	36
684	Three-dimensional porous structural MoP ₂ nanoparticles as a novel and superior catalyst for electrochemical hydrogen evolution. 2016 , 328, 551-557		73
683	Cobalt nickel phosphide nanoparticles decorated carbon nanotubes as advanced hybrid catalysts for hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 14675-14686	13	114
682	A highly active and durable CuPdPt/C electrocatalyst for an efficient hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 15309-15315	13	27
681	Ternary Metal Phosphide with Triple-Layered Structure as a Low-Cost and Efficient Electrocatalyst for Bifunctional Water Splitting. 2016 , 26, 7644-7651		303
680	Achieving High Aqueous Energy Storage via Hydrogen-Generation Passivation. 2016 , 28, 7626-32		42
679	Interlaced NiS ₂ @MoS ₂ nanoflake-nanowires as efficient hydrogen evolution electrocatalysts in basic solutions. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 13439-13443	13	188
678	NiCoFe Layered Triple Hydroxides with Porous Structures as High-Performance Electrocatalysts for Overall Water Splitting. 2016 , 1, 445-453		265
677	Nitrogen, phosphorus co-doped carbon dots/CoS ₂ hybrid for enhanced electrocatalytic hydrogen evolution reaction. <i>RSC Advances</i> , 2016 , 6, 66893-66899	3.7	19
676	Simultaneous H ₂ Generation and Biomass Upgrading in Water by an Efficient Noble-Metal-Free Bifunctional Electrocatalyst. 2016 , 55, 9913-7		275
675	Simultaneous H ₂ Generation and Biomass Upgrading in Water by an Efficient Noble-Metal-Free Bifunctional Electrocatalyst. 2016 , 128, 10067-10071		75

674	Molybdenum Carbide Anchored on Graphene Nanoribbons as Highly Efficient All-pH Hydrogen Evolution Reaction Electrocatalyst. 2016 , 4, 6313-6321		89
673	Laser-Induced Explosion of Nitrated Carbon Nanotubes: Nonadiabatic and Reactive Molecular Dynamics Simulations. <i>Journal of the American Chemical Society</i> , 2016 , 138, 15927-15934	16.4	25
672	Galvanic exchange at layered doubled hydroxide/N-doped graphene as an in-situ method to fabricate powerful electrocatalysts for hydrogen evolution reaction. 2016 , 116, 1087-1096		17
671	Self-supported three-dimensional mesoporous semimetallic WP nanowire arrays on carbon cloth as a flexible cathode for efficient hydrogen evolution. <i>Nanoscale</i> , 2016 , 8, 19779-19786	7.7	71
670	Recent Trends and Perspectives in Electrochemical Water Splitting with an Emphasis on Sulfide, Selenide, and Phosphide Catalysts of Fe, Co, and Ni: A Review. 2016 , 6, 8069-8097		1378
669	Highly Active and Stable Catalysts of Phytic Acid-Derivative Transition Metal Phosphides for Full Water Splitting. <i>Journal of the American Chemical Society</i> , 2016 , 138, 14686-14693	16.4	533
668	One-step synthesis of nickel phosphide nanowire array supported on nickel foam with enhanced electrocatalytic water splitting performance. <i>RSC Advances</i> , 2016 , 6, 107859-107864	3.7	54
667	Ammonia intercalated flower-like MoS ₂ nanosheet film as electrocatalyst for high efficient and stable hydrogen evolution. 2016 , 6, 31092		66
666	Novel CoP Hollow Prisms as Bifunctional Electrocatalysts for Hydrogen Evolution Reaction in Acid media and Overall Water-splitting in Basic media. <i>Electrochimica Acta</i> , 2016 , 220, 98-106	6.7	50
665	Self-Templated Growth of Vertically Aligned 2H-1T MoS for Efficient Electrocatalytic Hydrogen Evolution. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 31702-31708	9.5	108
664	CoNi-Based Nanotubes/Nanosheets as Efficient Water Splitting Electrocatalysts. 2016 , 6, 1501661		206
663	Hierarchically Porous Nickel Sulfide Multifunctional Superstructures. 2016 , 6, 1502333		226
662	Ultrasmall Cu ₇ S ₄ @MoS ₂ Hetero-Nanoframes with Abundant Active Edge Sites for Ultrahigh-Performance Hydrogen Evolution. 2016 , 55, 6502-5		110
661	Monocrystalline Ni ₁₂ P ₅ hollow spheres with ultrahigh specific surface areas as advanced electrocatalysts for the hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 9755-9759	13	36
660	Magnetic Co@g-C ₃ N ₄ Core-Shells on rGO Sheets for Momentum Transfer with Catalytic Activity toward Continuous-Flow Hydrogen Generation. 2016 , 32, 6272-81		57
659	Nanostructured catalysts for electrochemical water splitting: current state and prospects. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 11973-12000	13	590
658	Design, synthesis, and energy-related applications of metal sulfides. 2016 , 3, 402-421		190
657	Ternary NiCoP nanosheet arrays: An excellent bifunctional catalyst for alkaline overall water splitting. 2016 , 9, 2251-2259		255

656	Cobalt-Doped FeSe ₂ -RGO as Highly Active and Stable Electrocatalysts for Hydrogen Evolution Reactions. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 18036-42	9.5	73
655	Size-dependent magnetic and electrocatalytic properties of nickel phosphide nanoparticles. 2016 , 366, 439-447		14
654	Iron triad (Fe, Co, Ni) ternary phosphide nanosheet arrays as high-performance bifunctional electrodes for full water splitting in basic and neutral conditions. <i>RSC Advances</i> , 2016 , 6, 9647-9655	3.7	57
653	Facet-controlled hollow Rh ₂ S ₃ hexagonal nanoprisms as highly active and structurally robust catalysts toward hydrogen evolution reaction. 2016 , 9, 850-856		91
652	Exploration of the electrochemical mechanism of ultrasmall multiple phases molybdenum carbides nanocrystals for hydrogen evolution reaction. <i>RSC Advances</i> , 2016 , 6, 9240-9246	3.7	38
651	Morphology-activity correlation in hydrogen evolution catalyzed by cobalt sulfides. 2016 , 3, 279-285		29
650	Low-Cost Nanostructured Iron Sulfide Electrocatalysts for PEM Water Electrolysis. 2016 , 6, 2626-2631		83
649	Heterogeneous Spin States in Ultrathin Nanosheets Induce Subtle Lattice Distortion To Trigger Efficient Hydrogen Evolution. <i>Journal of the American Chemical Society</i> , 2016 , 138, 5087-92	16.4	277
648	Electrodeposited Co-doped NiSe ₂ nanoparticles film: a good electrocatalyst for efficient water splitting. <i>Nanoscale</i> , 2016 , 8, 3911-5	7.7	299
647	Design and Epitaxial Growth of MoSe ₂ /NiSe Vertical Heteronanostructures with Electronic Modulation for Enhanced Hydrogen Evolution Reaction. 2016 , 28, 1838-1846		238
646	Beaded stream-like CoSe ₂ nanoneedle array for efficient hydrogen evolution electrocatalysis. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 4553-4561	13	76
645	Rapid Characterization of Multi-Metallic Electrocatalysts for the Water Splitting Reactions Utilizing Printed Microelectrodes on a Chip. 2016 , 163, H359-H366		8
644	Controlled electrodeposition of CoMoS _x on carbon cloth: A 3D cathode for highly-efficient electrocatalytic hydrogen evolution. 2016 , 41, 3811-3819		36
643	Hierarchical spheres constructed by defect-rich MoS ₂ /carbon nanosheets for efficient electrocatalytic hydrogen evolution. 2016 , 22, 490-498		232
642	Small-sized Ni(1 1 1) particles in metal-organic frameworks with low over-potential for visible photocatalytic hydrogen generation. 2016 , 190, 12-25		107
641	Stable mesoporous ZnFe ₂ O ₄ as an efficient electrocatalyst for hydrogen evolution reaction. <i>Electrochimica Acta</i> , 2016 , 190, 186-192	6.7	35
640	Metallic Co ₉ S ₈ nanosheets grown on carbon cloth as efficient binder-free electrocatalysts for the hydrogen evolution reaction in neutral media. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 6860-6867	13	214
639	Hierarchically Porous Urchin-Like Ni ₂ P Superstructures Supported on Nickel Foam as Efficient Bifunctional Electrocatalysts for Overall Water Splitting. 2016 , 6, 714-721		604

638	A mini review on nickel-based electrocatalysts for alkaline hydrogen evolution reaction. 2016 , 9, 28-46		568
637	Synthesis, characterization and fabrication of ultrathin iron pyrite (FeS ₂) thin films and field-effect transistors. <i>RSC Advances</i> , 2016 , 6, 8290-8296	3.7	12
636	One-step synthesis of Ni ₃ S ₂ nanowires at low temperature as efficient electrocatalyst for hydrogen evolution reaction. 2017 , 42, 7136-7142		50
635	Active Edge Sites Engineering in Nickel Cobalt Selenide Solid Solutions for Highly Efficient Hydrogen Evolution. 2017 , 7, 1602089		145
634	High efficient solar hydrogen generation by modulation of Co-Ni sulfide (220) surface structure and adjusting adsorption hydrogen energy. 2017 , 206, 353-363		39
633	Revelation of the Excellent Intrinsic Activity of MoS ₂ /NiS ₂ /MoO Nanowires for Hydrogen Evolution Reaction in Alkaline Medium. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 7084-7090	9.5	81
632	Metal organic framework derived NiFe@N-doped graphene microtube composites for hydrogen evolution catalyst. 2017 , 116, 68-76		62
631	Achieving electroreduction of CO ₂ to CH ₃ OH with high selectivity using a pyrite/nickel sulfide nanocomposite. <i>RSC Advances</i> , 2017 , 7, 1376-1381	3.7	41
630	High performance electrocatalysis for hydrogen evolution reaction using nickel-doped CoS ₂ nanostructures: experimental and DFT insights. <i>Electrochimica Acta</i> , 2017 , 228, 428-435	6.7	85
629	Nano-netlike carbon fibers decorated with highly dispersed CoSe ₂ nanoparticles as efficient hydrogen evolution electrocatalysts. <i>Journal of Alloys and Compounds</i> , 2017 , 702, 611-618	5.7	16
628	Non-Noble Metal-based Carbon Composites in Hydrogen Evolution Reaction: Fundamentals to Applications. 2017 , 29, 1605838		900
627	Cobalt-Doped Iron Sulfide as an Electrocatalyst for Hydrogen Evolution. 2017 , 164, F276-F282		42
626	Ionic Liquid as Reaction Medium for Synthesis of Hierarchically Structured One-Dimensional MoO ₃ for Efficient Hydrogen Evolution. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 7217-7223	9.5	73
625	Graphene and Their Hybrid Electrocatalysts for Water Splitting. 2017 , 9, 1554-1568		58
624	Theoretical designing and experimental fabricating unique quadruple multimetallic phosphides with remarkable hydrogen evolution performance. 2017 , 34, 421-427		25
623	Iron-tuned super nickel phosphide microstructures with high activity for electrochemical overall water splitting. 2017 , 34, 472-480		190
622	One-pot synthesis of heterogeneous Co ₃ O ₄ -nanocube/Co(OH) ₂ -nanosheet hybrids for high-performance flexible asymmetric all-solid-state supercapacitors. 2017 , 35, 138-145		262
621	Highly active nickel-doped FeS ₂ nanoparticles trigger non-enzymatic glucose detection. 2017 , 193, 311-315		14

620	Atomic Layer Deposition of Iron Sulfide and Its Application as a Catalyst in the Hydrogenation of Azobenzenes. 2017 , 56, 3226-3231		35
619	Design and Application of Foams for Electrocatalysis. 2017 , 9, 1721-1743		202
618	Atomic Layer Deposition of Iron Sulfide and Its Application as a Catalyst in the Hydrogenation of Azobenzenes. 2017 , 129, 3274-3279		12
617	Nickel-Cobalt Diselenide 3D Mesoporous Nanosheet Networks Supported on Ni Foam: An All-pH Highly Efficient Integrated Electrocatalyst for Hydrogen Evolution. 2017 , 29, 1606521		301
616	Design and fabrication of size-controlled PtAu bimetallic alloy nanostructure in carbon nanofibers: a bifunctional material for biosensors and the hydrogen evolution reaction. 2017 , 52, 8207-8218		23
615	Activating and Optimizing Activity of CoS ₂ for Hydrogen Evolution Reaction through the Synergic Effect of N Dopants and S Vacancies. 2017 , 2, 1022-1028		165
614	Ultrasensitive hydrazine sensor fabrication based on Co-doped ZSM-5 zeolites for environmental safety. <i>RSC Advances</i> , 2017 , 7, 21164-21174	3.7	14
613	The electrochemical selective reduction of NO using CoSe@CNTs hybrid. 2017 , 24, 14249-14258		15
612	Tuning Unique Peapod-Like Co(S _x Se _{1-x}) ₂ Nanoparticles for Efficient Overall Water Splitting. 2017 , 27, 1701008		148
611	Recent Methods for the Synthesis of Noble-Metal-Free Hydrogen-Evolution Electrocatalysts: From Nanoscale to Sub-nanoscale. 2017 , 1, 1700118		76
610	Component-Controlled Synthesis of Necklace-Like Hollow NiRu Nanoalloys as Electrocatalysts for Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 17326-17336	9.5	42
609	One-pot synthesis of MoSe ₂ hetero-dimensional hybrid self-assembled by nanodots and nanosheets for electrocatalytic hydrogen evolution and photothermal therapy. 2017 , 10, 2667-2682		34
608	Low-temperature Synthesis of Heterostructures of Transition Metal Dichalcogenide Alloys (WMoS) and Graphene with Superior Catalytic Performance for Hydrogen Evolution. 2017 , 11, 5103-5112		116
607	Flower-like CoS ₂ /MoS ₂ nanocomposite with enhanced electrocatalytic activity for hydrogen evolution reaction. 2017 , 42, 12246-12253		55
606	Significant enhancement of photocatalytic activity of multi-walled carbon nanotubes modified WSe ₂ composite. 2017 , 197, 67-70		19
605	Computational studies on the interactions of glycine amino acid with graphene, h-BN and h-SiC monolayers. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 1896-1908	3.6	42
604	Strongly coupled MoS ₂ nanoflake-carbon nanotube nanocomposite as an excellent electrocatalyst for hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 1558-1566	13	90
603	Phosphorus-doped NiCoS nanocrystals grown on electrospun carbon nanofibers as ultra-efficient electrocatalysts for the hydrogen evolution reaction. 2017 , 2, 277-283		64

602	Efficient hydrogen production on MoNi electrocatalysts with fast water dissociation kinetics. <i>Nature Communications</i> , 2017 , 8, 15437	17.4	583
601	Outstanding hydrogen evolution reaction catalyzed by porous nickel diselenide electrocatalysts. 2017 , 10, 1487-1492		138
600	Hierarchical NiCoP nanocone arrays supported on Ni foam as an efficient and stable bifunctional electrocatalyst for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 14828-14837	13	187
599	Two-Dimensional Cobalt/N-Doped Carbon Hybrid Structure Derived from Metal-Organic Frameworks as Efficient Electrocatalysts for Hydrogen Evolution. 2017 , 5, 5646-5650		38
598	Ternary Ni ₃ Co ₃ Se ₄ with a Fine Hollow Nanostructure as a Robust Electrocatalyst for Hydrogen Evolution. 2017 , 9, 4169-4174		17
597	Integrated 3D MoSe ₂ @Ni _{0.85} Se Nanowire Network with Synergistic Cooperation as Highly Efficient Electrocatalysts for Hydrogen Evolution Reaction in Alkaline Medium. <i>Electrochimica Acta</i> , 2017 , 246, 712-719	6.7	52
596	Three-Dimensional Dendritic Structures of NiCoMo as Efficient Electrocatalysts for the Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 22420-22431	9.5	55
595	A superhydrophilic nanoglue for stabilizing metal hydroxides onto carbon materials for high-energy and ultralong-life asymmetric supercapacitors. 2017 , 10, 1958-1965		228
594	Modulating electronic structure of CoP electrocatalysts towards enhanced hydrogen evolution by Ce chemical doping in both acidic and basic media. 2017 , 38, 290-296		142
593	Engineering phase transformation of cobalt selenide in carbon cages and the phases' bifunctional electrocatalytic activity for water splitting. 2017 , 28, 315401		14
592	Nitrogen-Doped Nanoporous Carbon Membranes with Co/CoP Janus-Type Nanocrystals as Hydrogen Evolution Electrode in Both Acidic and Alkaline Environments. 2017 , 11, 4358-4364		168
591	Active sites and mechanism on nitrogen-doped carbon catalyst for hydrogen evolution reaction. <i>Journal of Catalysis</i> , 2017 , 348, 151-159	7.3	55
590	A glassy carbon electrode modified with Ce ₂ S ₃ -decorated CNT nanocomposites for uric acid sensor development: a real sample analysis. <i>RSC Advances</i> , 2017 , 7, 14649-14659	3.7	41
589	Heteroatoms dual doped porous graphene nanosheets as efficient bifunctional metal-free electrocatalysts for overall water-splitting. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 7784-7790	13	71
588	Enhanced electrocatalytic activity of Co@N-doped carbon nanotubes by ultrasmall defect-rich TiO ₂ nanoparticles for hydrogen evolution reaction. 2017 , 10, 2599-2609		60
587	Enhancing the Photocatalytic Hydrogen Evolution Performance of a Metal/Semiconductor Catalyst through Modulation of the Schottky Barrier Height by Controlling the Orientation of the Interface. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 12494-12500	9.5	33
586	Simple one-pot aqueous synthesis of AuPd alloy nanocrystals/reduced graphene oxide as highly efficient and stable electrocatalyst for oxygen reduction and hydrogen evolution reactions. <i>Journal of Colloid and Interface Science</i> , 2017 , 499, 128-137	9.3	38
585	Integrated hydrogen evolution and water-cleaning via a robust graphene supported noble-metal-free FeCoS system. <i>Nanoscale</i> , 2017 , 9, 5887-5895	7.7	12

584	New insights into high-valence state Mo in molybdenum carbide nanobelts for hydrogen evolution reaction. 2017 , 42, 10880-10890	20
583	In-situ anion exchange synthesis of copper selenide electrode as electrocatalyst for hydrogen evolution reaction. 2017 , 42, 10925-10930	14
582	Molybdenum Carbide-Embedded Nitrogen-Doped Porous Carbon Nanosheets as Electrocatalysts for Water Splitting in Alkaline Media. 2017 , 11, 3933-3942	302
581	Recent Advances in Ultrathin Two-Dimensional Nanomaterials. 2017 , 117, 6225-6331	2919
580	A Cake-Style CoS ₂ @MoS ₂ /RGO Hybrid Catalyst for Efficient Hydrogen Evolution. 2017 , 27, 1602699	182
579	One-Dimensional Earth-Abundant Nanomaterials for Water-Splitting Electrocatalysts. 2017 , 4, 1600380	195
578	Ternary NiCo P Nanowires as pH-Universal Electrocatalysts for Highly Efficient Hydrogen Evolution Reaction. 2017 , 29, 1605502	419
577	An efficient CoS ₂ /CoSe ₂ hybrid catalyst for electrocatalytic hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 2504-2507	13 71
576	Plasmon-Enhanced Photoelectrical Hydrogen Evolution on Monolayer MoS Decorated Cu S-Au Nanocrystals. <i>Small</i> , 2017 , 13, 1602235	11 30
575	Quaternary pyrite-structured nickel/cobalt phosphosulfide nanowires on carbon cloth as efficient and robust electrodes for water electrolysis. 2017 , 10, 814-825	57
574	Synthesis of single-crystal-like nanoporous carbon membranes and their application in overall water splitting. <i>Nature Communications</i> , 2017 , 8, 13592	17.4 123
573	In situ sulfurized CoMoS/CoMoO ₄ shell/core nanorods supported on N-doped reduced graphene oxide (NRGO) as efficient electrocatalyst for hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 2885-2896	13 72
572	In Situ Growth of Sn-Doped Ni ₃ S ₂ Nanosheets on Ni Foam as High-Performance Electrocatalyst for Hydrogen Evolution Reaction. 2017 , 4, 594-600	48
571	Enhancing Oxygen Evolution Reaction at High Current Densities on Amorphous-Like Ni-Fe-S Ultrathin Nanosheets via Oxygen Incorporation and Electrochemical Tuning. 2017 , 4, 1600343	103
570	Field Effect Enhanced Hydrogen Evolution Reaction of MoS Nanosheets. 2017 , 29, 1604464	111
569	Plasmon-Induced Hot Electrons on Mesoporous Carbon for Decomposition of Organic Pollutants under Outdoor Sunlight Irradiation. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 327-334	9.5 4
568	Improving Hydrogen Evolution Activity of Earth-Abundant Cobalt-Doped Iron Pyrite Catalysts by Surface Modification with Phosphide. <i>Small</i> , 2017 , 13, 1603356	11 51
567	Polyoxometalate-Surfactant Hybrids Directed Assembly of NiS into Hollow Microsphere as Pt-Comparable Electrocatalyst for Hydrogen Evolution Reaction in Alkaline Medium. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 40162-40170	9.5 29

566	Intermediate bands of MoS ₂ enabled by Co doping for enhanced hydrogen evolution. 2017 , 4, 1895-1899	25
565	Synthesis of Mesoporous CoS and NiCoS with Superior Supercapacitive Performance Using a Facile Solid-Phase Sulfurization. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 36837-36848	9.5 49
564	Structure Confined Porous Mo ₂ C for Efficient Hydrogen Evolution. 2017 , 27, 1703933	113
563	Carbon-Based Electrocatalysts for Hydrogen and Oxygen Evolution Reactions. 2017 , 7, 7855-7865	302
562	Ternary Ni-Fe-V sulfides bundles on nickel foam as free-standing hydrogen evolution electrodes in alkaline medium. <i>Electrochimica Acta</i> , 2017 , 256, 241-251	6.7 15
561	Atomically thin non-layered nanomaterials for energy storage and conversion. 2017 , 46, 7338-7373	123
560	Porous CoP nanosheet arrays grown on nickel foam as an excellent and stable catalyst for hydrogen evolution reaction. 2017 , 42, 26995-27003	20
559	A three-dimensional hierarchically porous Mo ₂ C architecture: salt-template synthesis of a robust electrocatalyst and anode material towards the hydrogen evolution reaction and lithium storage. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 20228-20238	13 87
558	Enhanced Catalytic Activity in Nitrogen-Anion Modified Metallic Cobalt Disulfide Porous Nanowire Arrays for Hydrogen Evolution. 2017 , 7, 7405-7411	120
557	Hydrogen generation by water splitting using MoS ₂ and other transition metal dichalcogenides. 2017 , 41, 49-65	176
556	A Mn-doped NiP nanosheet array: an efficient and durable hydrogen evolution reaction electrocatalyst in alkaline media. 2017 , 53, 11048-11051	242
555	Ultrafine Pt Nanoparticle-Decorated Co(OH) ₂ Nanosheet Arrays with Enhanced Catalytic Activity toward Hydrogen Evolution. 2017 , 7, 7131-7135	145
554	Mesoporous Iron Sulfide for Highly Efficient Electrocatalytic Hydrogen Evolution. <i>Journal of the American Chemical Society</i> , 2017 , 139, 13604-13607	16.4 207
553	A Clean and Facile Synthesis Strategy of MoS Nanosheets Grown on Multi-Wall CNTs for Enhanced Hydrogen Evolution Reaction Performance. 2017 , 7, 8825	40
552	NH ₂ -MIL-125(Ti)/graphitic carbon nitride heterostructure decorated with NiPd co-catalysts for efficient photocatalytic hydrogen production. 2017 , 219, 101-108	68
551	Fluorinated carbon fiber as a novel nanocarrier for cancer chemo-photothermal therapy. 2017 , 5, 6128-6137	28
550	Theoretical evaluation of the structure-Activity relationship in graphene-based electrocatalysts for hydrogen evolution reactions. <i>RSC Advances</i> , 2017 , 7, 27033-27039	3.7 11
549	Toward Activity Origin of Electrocatalytic Hydrogen Evolution Reaction on Carbon-Rich Crystalline Coordination Polymers. <i>Small</i> , 2017 , 13, 1700783	11 13

548	An amorphous FeMoS nanorod array toward efficient hydrogen evolution electrocatalysis under neutral conditions. 2017 , 53, 9000-9003		108
547	FeS ₂ nano-clusters catalyze water splitting by removing formed oxygen using aid of an artificial gill under visible light. <i>Journal of Catalysis</i> , 2017 , 352, 572-578	7.3	18
546	Nickel Diselenide Ultrathin Nanowires Decorated with Amorphous Nickel Oxide Nanoparticles for Enhanced Water Splitting Electrocatalysis. <i>Small</i> , 2017 , 13, 1701487	11	83
545	FeS ₂ -doped MoS ₂ nanoflower with the dominant 1T-MoS ₂ phase as an excellent electrocatalyst for high-performance hydrogen evolution. <i>Electrochimica Acta</i> , 2017 , 249, 72-78	6.7	34
544	Nanostructured Metal Chalcogenides for Energy Storage and Electrocatalysis. 2017 , 27, 1702317		234
543	Fe-Doped Ni ₃ C Nanodots in N-Doped Carbon Nanosheets for Efficient Hydrogen-Evolution and Oxygen-Evolution Electrocatalysis. 2017 , 129, 12740-12744		43
542	Fe-Doped Ni C Nanodots in N-Doped Carbon Nanosheets for Efficient Hydrogen-Evolution and Oxygen-Evolution Electrocatalysis. 2017 , 56, 12566-12570		240
541	Photocatalytic pathway toward degradation of environmental pharmaceutical pollutants: structure, kinetics and mechanism approach. 2017 , 7, 4548-4569		168
540	Electronic Modulation of Electrocatalytically Active Center of CuS Nanodisks by Cobalt-Doping for Highly Efficient Oxygen Evolution Reaction. 2017 , 11, 12230-12239		93
539	Tungsten-coated nano-boron carbide as a non-noble metal bifunctional electrocatalyst for oxygen evolution and hydrogen evolution reactions in alkaline media. <i>Nanoscale</i> , 2017 , 9, 19176-19182	7.7	22
538	Rational Bottom-Up Engineering of Electrocatalysts by Atomic Layer Deposition: A Case Study of Fe _x Co _{1-x} Sy-Based Catalysts for Electrochemical Hydrogen Evolution. 2017 , 2, 2778-2785		50
537	Crystal lattice distortion in ultrathin Co(OH) ₂ nanosheets inducing elongated Co-OH bonds for highly efficient oxygen evolution reaction. 2017 , 19, 5809-5817		28
536	Enhanced hydrogen evolution reaction of MoO ₃ /Mo cathode by loading small amount of Pt nanoparticles in alkaline solution. 2017 , 42, 17030-17037		14
535	Controlled Synthesis of Unique Porous FeSe ₂ Nanomesh Arrays towards Efficient Hydrogen Evolution Reaction. <i>Electrochimica Acta</i> , 2017 , 247, 435-442	6.7	21
534	A comprehensive review on recent progress in aluminum-air batteries. 2017 , 2, 246-277		171
533	Synthesis of lawn-like NiS ₂ nanowires on carbon fiber paper as bifunctional electrode for water splitting. 2017 , 42, 17038-17048		52
532	Fe-Doped CoP Nanoarray: A Monolithic Multifunctional Catalyst for Highly Efficient Hydrogen Generation. 2017 , 29, 1602441		690
531	Enhanced catalytic activity towards hydrogen evolution on polythiophene via microstructural changes. 2017 , 42, 886-894		10

530	Development of Creatine sensor based on antimony-doped tin oxide (ATO) nanoparticles. 2017 , 242, 167-175		40
529	Activating MoS ₂ /CNs by tuning (001) plane as efficient electrocatalysts for hydrogen evolution reaction. 2017 , 42, 2088-2095		65
528	Upconversion optical/magnetic resonance imaging-guided small tumor detection and in vivo tri-modal bioimaging based on high-performance luminescent nanorods. 2017 , 115, 90-103		41
527	Superb Alkaline Hydrogen Evolution and Simultaneous Electricity Generation by Pt-Decorated Ni ₃ N Nanosheets. 2017 , 7, 1601390		176
526	Fabrication of bridge like Pt@MWCNTs/CoS ₂ electrocatalyst on conductive polymer matrix for electrochemical hydrogen evolution. <i>Chemical Engineering Journal</i> , 2017 , 308, 275-288	14.7	36
525	In-situ wet tearing based subnanometer MoSeS for efficient hydrogen evolution. 2017 , 60, 929-936		6
524	The Effects of CeO ₂ Nanorods and CeO ₂ Nanoflakes on Ni ₈ Alloys in Hydrogen Evolution Reactions in Alkaline Solutions. 2017 , 7, 197		6
523	Engineering Pyrite-Type Bimetallic Ni-Doped CoS ₂ Nanoneedle Arrays over a Wide Compositional Range for Enhanced Oxygen and Hydrogen Electrocatalysis with Flexible Property. 2017 , 7, 366		23
522	Recent advances in unveiling active sites in molybdenum sulfide-based electrocatalysts for the hydrogen evolution reaction. 2017 , 4, 19		38
521	Ultrathin two-dimensional materials for photo- and electrocatalytic hydrogen evolution. 2018 , 21, 749-770		147
520	Al-Doped NiP nanosheet array: a superior and durable electrocatalyst for alkaline hydrogen evolution. 2018 , 54, 2894-2897		84
519	Improved hydrogen storage properties of MgH ₂ by the addition of FeS micro-spheres. <i>Dalton Transactions</i> , 2018 , 47, 5217-5225	4.3	32
518	Accelerated Hydrogen Evolution Reaction in CoS ₂ by Transition-Metal Doping. 2018 , 3, 779-786		147
517	Effect of Supports on Catalytic Centers. 2018 , 169-201		
516	Atomic Layer Deposition of the Metal Pyrites FeS ₂ , CoS ₂ , and NiS ₂ . 2018 , 130, 6000-6004		9
515	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> , 2018 , 140, 5118-5126	16.4	339
514	Atomic Layer Deposition of the Metal Pyrites FeS ₂ , CoS ₂ , and NiS ₂ . 2018 , 57, 5898-5902		66
513	Metal-organic framework derived Fe/FeC@N-doped-carbon porous hierarchical polyhedrons as bifunctional electrocatalysts for hydrogen evolution and oxygen-reduction reactions. <i>Journal of Colloid and Interface Science</i> , 2018 , 524, 93-101	9.3	65

512	Ternary interfacial superstructure enabling extraordinary hydrogen evolution electrocatalysis. 2018 , 21, 602-610			32
511	Synthesis of Sub-2 nm Iron-Doped NiSe ₂ Nanowires and Their Surface-Confined Oxidation for Oxygen Evolution Catalysis. 2018 , 130, 4084-4088			21
510	An electrocatalyst with anti-oxidized capability for overall water splitting. 2018 , 11, 3411-3418			9
509	Anion-Cation Double Substitution in Transition Metal Dichalcogenide to Accelerate Water Dissociation Kinetic for Electrocatalysis. 2018 , 8, 1702139			47
508	Wet-chemistry topotactic synthesis of bimetallic ironBickel sulfide nanoarrays: an advanced and versatile catalyst for energy efficient overall water and urea electrolysis. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 4346-4353	13		127
507	Template-directed synthesis of sulphur doped NiCoFe layered double hydroxide porous nanosheets with enhanced electrocatalytic activity for the oxygen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 3224-3230	13		122
506	Hydrogen Evolution Reaction on Hybrid Catalysts of Vertical MoS ₂ Nanosheets and Hydrogenated Graphene. 2018 , 8, 1828-1836			135
505	Synthesis of Sub-2 nm Iron-Doped NiSe Nanowires and Their Surface-Confined Oxidation for Oxygen Evolution Catalysis. 2018 , 57, 4020-4024			100
504	Preferential horizontal growth of tungsten sulfide on carbon and insight into active sulfur sites for the hydrogen evolution reaction. <i>Nanoscale</i> , 2018 , 10, 3838-3848	7.7		22
503	Ionic Liquid-Assisted Synthesis of Mesoporous Carbons with Surface-Enriched Nitrogen for the Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 3912-3920	9.5		33
502	Dominating Role of Aligned MoS/NiS Nanoarrays Supported on Three-Dimensional Ni Foam with Hydrophilic Interface for Highly Enhanced Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 1752-1760	9.5		120
501	Ultrafine metal phosphide nanoparticles in situ encapsulated in porous N,P-codoped nanofibrous carbon coated on carbon paper for effective water splitting. <i>Electrochimica Acta</i> , 2018 , 261, 454-463	6.7		39
500	Fabrication of nanoporous Si electrocathode by high-energy argon ion irradiation for improved electrocatalytic hydrogen production. 2018 , 43, 64-71			8
499	Highly active and stable electrocatalytic hydrogen evolution catalyzed by nickel, iron doped cobalt disulfide@reduced graphene oxide nanohybrid electrocatalysts. 2018 , 7, 44-50			34
498	Noble metal-free NiCo nanoparticles supported on montmorillonite/MoS ₂ heterostructure as an efficient UV/Visible light-driven photocatalyst for hydrogen evolution. 2018 , 43, 1375-1385			16
497	Nanoporous Sulfur-Doped Copper Oxide (CuOS) for Overall Water Splitting. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 745-752	9.5		59
496	Hydrogen evolution reactions boosted by bridge bonds between electrocatalysts and electrodes. <i>Nanoscale</i> , 2018 , 10, 4068-4076	7.7		8
495	Three-dimensional structures of Mn doped CoP on flexible carbon cloth for effective oxygen evolution reaction. 2018 , 33, 1258-1267			15

494	First-Principles Computational Screening of Highly Active Pyrites Catalysts for Hydrogen Evolution Reaction through a Universal Relation with a Thermodynamic Variable. 2018 , 122, 2107-2112		15
493	Ultrafine CoS nanoparticles embedded in a nitrogen-doped porous carbon hollow nanosphere composite as an anode for superb sodium-ion batteries and lithium-ion batteries. <i>Nanoscale</i> , 2018 , 10, 2804-2811	7.7	47
492	Electronic modulation of transition metal phosphide doping as efficient and pH-universal electrocatalysts for hydrogen evolution reaction. 2018 , 9, 1970-1975		131
491	Enhanced Catalysis of Electrochemical Overall Water Splitting in Alkaline Media by Fe Doping in Ni ₃ S ₂ Nanosheet Arrays. 2018 , 8, 5431-5441		328
490	Anchoring Ni ₂ P on the UiO-66-NH ₂ /g-C ₃ N ₄ -derived C-doped ZrO ₂ /g-C ₃ N ₄ Heterostructure: Highly Efficient Photocatalysts for H ₂ Production from Water Splitting. 2018 , 10, 3327-3335		34
489	Tunable electronic coupling of cobalt sulfide/carbon composites for optimizing oxygen evolution reaction activity. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 10304-10312	13	68
488	Dual-Function Electrocatalytic and Macroporous Hollow-Fiber Cathode for Converting Waste Streams to Valuable Resources Using Microbial Electrochemical Systems. 2018 , 30, e1707072		72
487	One-step co-electrodeposition of hierarchical radial Ni ₃ P nanospheres on Ni foam as highly active flexible electrodes for hydrogen evolution reaction and supercapacitor. <i>Chemical Engineering Journal</i> , 2018 , 348, 310-318	14.7	84
486	Rare Cobalt-Based Phosphate Nanoribbons with Unique 5-Coordination for Electrocatalytic Water Oxidation. 2018 , 3, 1254-1260		46
485	A metal-vacancy-solid-solution NiAlP nanowall array bifunctional electrocatalyst for exceptional all-pH overall water splitting. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 9420-9427	13	47
484	Dual Tuning of Ni-Co-A (A = P, Se, O) Nanosheets by Anion Substitution and Holey Engineering for Efficient Hydrogen Evolution. <i>Journal of the American Chemical Society</i> , 2018 , 140, 5241-5247	16.4	347
483	Controlled Growth of MoS ₂ Nanosheets on 2D N-Doped Graphdiyne Nanolayers for Highly Associated Effects on Water Reduction. 2018 , 28, 1707564		82
482	Parallelized Reaction Pathway and Stronger Internal Band Bending by Partial Oxidation of Metal Sulfide/Graphene Composites: Important Factors of Synergistic Oxygen Evolution Reaction Enhancement. 2018 , 8, 4091-4102		79
481	Layered double hydroxides with atomic-scale defects for superior electrocatalysis. 2018 , 11, 4524-4534		86
480	Microwave-assisted synthesis of graphene-like cobalt sulfide freestanding sheets as an efficient bifunctional electrocatalyst for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 7592-7607	13	73
479	NiO nanoparticles decorated at Nile blue-modified reduced graphene oxide, new powerful electrocatalysts for water splitting. 2018 , 816, 160-170		10
478	N-doped graphitic carbon materials hybridized with transition metals (compounds) for hydrogen evolution reaction: Understanding the synergistic effect from atomistic level. 2018 , 133, 260-266		75
477	Fe-B alloy coupled with Fe clusters as an efficient cocatalyst for photocatalytic hydrogen evolution. <i>Chemical Engineering Journal</i> , 2018 , 344, 506-513	14.7	92

476	Regulating the Charge and Spin Ordering of Two-Dimensional Ultrathin Solids for Electrocatalytic Water Splitting. 2018 , 4, 1263-1283		158
475	A transition metal oxysulfide cathode for the proton exchange membrane water electrolyzer. 2018 , 232, 93-100		33
474	Two-dimensional Co ₃ W ₃ C nanosheets on graphene nanocomposition: An Pt-like electrocatalyst toward hydrogen evolution reaction in wide pH range. 2018 , 8, 65-72		16
473	Scalable synthesis of heterostructure molybdenum and nickel sulfides nanosheets for efficient hydrogen generation in alkaline electrolyte. 2018 , 316, 171-176		16
472	Efficient Hydrogen Evolution on Cu Nanodots-Decorated NiS Nanotubes by Optimizing Atomic Hydrogen Adsorption and Desorption. <i>Journal of the American Chemical Society</i> , 2018 , 140, 610-617	16.4	410
471	Iron Pyrite (FeS ₂): Sustainable Photovoltaic Material. 2018 , 281-318		2
470	Improved photostability of a CuO photoelectrode with Ni-doped seed layer. 2018 , 44, 89-95		18
469	Advanced catalysts for sustainable hydrogen generation and storage via hydrogen evolution and carbon dioxide/nitrogen reduction reactions. 2018 , 92, 64-111		161
468	Insights into perovskite-catalyzed peroxymonosulfate activation: Maneuverable cobalt sites for promoted evolution of sulfate radicals. 2018 , 220, 626-634		274
467	Comparative studies on the electrocatalytic hydrogen evolution property of Cu ₂ SnS ₃ and Cu ₄ SnS ₄ ternary alloys prepared by solvothermal method. 2018 , 43, 3967-3975		18
466	Mixed Metal Sulfides for Electrochemical Energy Storage and Conversion. 2018 , 8, 1701592		503
465	Hierarchical cobalt poly-phosphide hollow spheres as highly active and stable electrocatalysts for hydrogen evolution over a wide pH range. 2018 , 427, 800-806		28
464	MoS ₂ /MoP heterostructured nanosheets on polymer-derived carbon as an electrocatalyst for hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 616-622	13	86
463	Aptamer-functionalized carbon nanomaterials electrochemical sensors for detecting cancer relevant biomolecules. 2018 , 129, 380-395		100
462	Functional Defective Metal-Organic Coordinated Network of Mesoporous Nanoframes for Enhanced Electrocatalysis. 2018 , 28, 1704177		50
461	Facile one-step synthesis of phosphorus-doped CoS ₂ as efficient electrocatalyst for hydrogen evolution reaction. <i>Electrochimica Acta</i> , 2018 , 259, 955-961	6.7	65
460	Three-dimensional well-mixed / highly-densed NiS-CoS nanorod arrays: An efficient and stable bifunctional electrocatalyst for hydrogen and oxygen evolution reactions. <i>Electrochimica Acta</i> , 2018 , 260, 82-91	6.7	90
459	From Enzymes to Functional Materials-Towards Activation of Small Molecules. 2018 , 24, 1471-1493		42

458	Thiourea sensor development based on hydrothermally prepared CMO nanoparticles for environmental safety. 2018 , 99, 586-592		39
457	Theoretical Study of Hydrogen on LaFeO ₃ (010) Surface Adsorption and Subsurface Diffusion. <i>Materials</i> , 2018 , 11,	3.5	
456	Interlayer-expanded and defect-rich metal dichalcogenide (MX ₂) nanosheets for active and stable hydrogen evolution. 2018 , 5, 3140-3147		14
455	An in situ generated amorphous CoFePi and crystalline Ni(PO ₃) ₂ heterojunction as an efficient electrocatalyst for oxygen evolution. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 24920-24927	13	46
454	Integration of Theory and Experiment on Mesoporous Nickel Sulfide Microsphere for Hydrogen Evolution Reaction. 2018 , 6, 15995-16000		38
453	Pyrite FeS ₂ nanostructures: Synthesis, properties and applications. 2018 , 236-237, 104-124		18
452	General Approach of in Situ Etching and Doping To Synthesize a Nickel-Doped MxOy (M = Co, Mn, Fe) Nanosheets Array on Nickel Foam as Large-Sized Electrodes for Overall Water Splitting. 2018 , 1, 6279-6287 ²³		
451	Earth-Abundant Electrocatalysts in Proton Exchange Membrane Electrolyzers. 2018 , 8, 657		27
450	Recent progress in transition metal phosphides with enhanced electrocatalysis for hydrogen evolution. <i>Nanoscale</i> , 2018 , 10, 21617-21624	7.7	227
449	Hierarchical MoS ₂ /Ni ₃ S ₂ core-shell nanofibers for highly efficient and stable overall-water-splitting in alkaline media. 2018 , 10, 214-221		11
448	3D Architectures of Quaternary Co-Ni-S-P/Graphene Hybrids as Highly Active and Stable Bifunctional Electrocatalysts for Overall Water Splitting. 2018 , 8, 1802319		87
447	Fe ₅ C ₂ nanoparticles as low-cost HER electrocatalyst: the importance of Co substitution. 2018 , 63, 1358-1363		29
446	A Janus Nickel Cobalt Phosphide Catalyst for High-Efficiency Neutral-pH Water Splitting. 2018 , 57, 15445-15449 ²²		
445	A Janus Nickel Cobalt Phosphide Catalyst for High-Efficiency Neutral-pH Water Splitting. 2018 , 130, 15671-15675		75
444	Three-dimensional porous Ni-CNT composite nanocones as high performance electrocatalysts for hydrogen evolution reaction. 2018 , 829, 194-207		35
443	Ultrathin-Nanosheets-Composed CoSP Nanobrushes as an All-pH Highly Efficient Catalyst toward Hydrogen Evolution. 2018 , 6, 15618-15623		11
442	Novel Cobalt-Doped NiSe Chalcogenides (Co NiSe) as High Active and Stable Electrocatalysts for Hydrogen Evolution Reaction in Electrolysis Water Splitting. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 40491-40499	9.5	58
441	N and V Coincorporated Ni Nanosheets for Enhanced Hydrogen Evolution Reaction. 2018 , 6, 16525-16531		18

440	Self-Assembly Precursor-Derived MoP Supported on N,P-Codoped Reduced Graphene Oxides as Efficient Catalysts for Hydrogen Evolution Reaction. <i>Inorganic Chemistry</i> , 2018 , 57, 13859-13865	5.1	12
439	Defect Engineering of Cobalt-Based Materials for Electrocatalytic Water Splitting. 2018 , 6, 15954-15969		107
438	Chemical Diversity of Metal Sulfide Minerals and Its Implications for the Origin of Life. 2018 , 8,		18
437	Co Nanoparticles Encapsulated in Porous N-Doped Carbon Nanofibers as an Efficient Electrocatalyst for Hydrogen Evolution Reaction. 2018 , 165, J3271-J3275		20
436	Synthesis of FeS ₂ /CoS ₂ Core-Shell and Core-Shell Hybrid Nanocubes. 2018 , 30, 8121-8125		13
435	Self-powered H ₂ production with bifunctional hydrazine as sole consumable. <i>Nature Communications</i> , 2018 , 9, 4365	17.4	95
434	MoCoFeS hybridized with reduced graphene oxide as a new electrocatalyst for hydrogen evolution reaction. 2018 , 711, 32-36		11
433	Ni nanoparticle-decorated-MnO ₂ nanodendrites as highly selective and efficient catalysts for CO ₂ electroreduction. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 19438-19444	13	21
432	Pyrite FeS/C nanoparticles as an efficient bi-functional catalyst for overall water splitting. <i>Dalton Transactions</i> , 2018 , 47, 14917-14923	4.3	39
431	Template-Directed Growth of Bimetallic Prussian Blue-Analogue Nanosheet Arrays and Their Derived Porous Metal Oxides for Oxygen Evolution Reaction. 2018 , 11, 3708-3713		24
430	Heteroatom-Doped, Carbon-Supported Metal Catalysts for Electrochemical Energy Conversions. 2018 , 675-698		
429	CeO ₂ -Decorated NiFe-Layered Double Hydroxide for Efficient Alkaline Hydrogen Evolution by Oxygen Vacancy Engineering. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 35145-35153	9.5	93
428	Electrochemically in situ controllable assembly of hierarchically-ordered and integrated inorganic-carbon hybrids for efficient hydrogen evolution. 2018 , 5, 1194-1203		21
427	Spherical Ruthenium Disulfide-Sulfur-Doped Graphene Composite as an Efficient Hydrogen Evolution Electrocatalyst. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 34098-34107	9.5	41
426	Bifunctional CoNi/CoFe ₂ O ₄ /Ni foam electrodes for efficient overall water splitting at a high current density. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 19221-19230	13	87
425	Cobalt phosphosulfide in the tetragonal phase: a highly active and durable catalyst for the hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 12353-12360	13	36
424	Hydrogen adsorption engineering by intramolecular proton transfer on 2D nanosheets. 2018 , 10, 441-454		12
423	Nitrogen-Doped CoP Electrocatalysts for Coupled Hydrogen Evolution and Sulfur Generation with Low Energy Consumption. 2018 , 30, e1800140		224

4 ²²	Co doping of wormlike Cu ₂ S: An efficient and durable heterogeneous electrocatalyst for alkaline water oxidation. <i>Journal of Alloys and Compounds</i> , 2018 , 762, 637-642	5.7	15
4 ²¹	Phase Modulation of (1T-2H)-MoSe ₂ /TiC-C Shell/Core Arrays via Nitrogen Doping for Highly Efficient Hydrogen Evolution Reaction. 2018 , 30, e1802223		183
4 ²⁰	P vacancies-enriched 3D hierarchical reduced cobalt phosphide as a precursor template for defect engineering for efficient water oxidation. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 14939-14948	13	76
4 ¹⁹	Ultrafine Pt Nanoparticle-Decorated Pyrite-Type CoS ₂ Nanosheet Arrays Coated on Carbon Cloth as a Bifunctional Electrode for Overall Water Splitting. 2018 , 8, 1800935		217
4 ¹⁸	Engineering nanoporous Ag/Pd core/shell interfaces with ultrathin Pt doping for efficient hydrogen evolution reaction over a wide pH range. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 14281-14290	13	28
4 ¹⁷	Experimental and Computational Investigation of Hydrogen Evolution Reaction Mechanism on Nitrogen Functionalized Carbon Nanotubes. 2018 , 10, 3872-3882		11
4 ¹⁶	Reduced Graphene Oxide-Supported Porous Carbon Nano-octahedrons as High-Performance Electrocatalysts for Hydrogen Evolution. 2018 , 6, 10252-10259		30
4 ¹⁵	Multicomponent electrocatalyst with ultralow Pt loading and high hydrogen evolution activity. 2018 , 3, 773-782		330
4 ¹⁴	N-doped hollow carbon nanospheres as platinum anchoring material for efficient hydrogen evolution. 2018 , 459, 453-458		15
4 ¹³	Synthesis of Thin-Film Metal Pyrites by an Atomic Layer Deposition Approach. 2018 , 24, 18568-18574		14
4 ¹²	Self-Interconnected Porous Networks of NiCo Disulfide as Efficient Bifunctional Electrocatalysts for Overall Water Splitting. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 27723-27733	9.5	51
4 ¹¹	A 3D porous WP ₂ nanosheets@carbon cloth flexible electrode for efficient electrocatalytic hydrogen evolution. 2018 , 12, 425-432		8
4 ¹⁰	CoSe ₂ /WSe ₂ /WO ₃ hybrid nanowires on carbon cloth for efficient hydrogen evolution reaction. <i>Journal of Alloys and Compounds</i> , 2018 , 768, 889-895	5.7	13
4 ⁰⁹	Hierarchical Ni ₂ Mo ₂ S and Ni ₂ Fe ₂ S Nanosheets with Ultrahigh Energy Density for Flexible All Solid-State Supercapacitors. 2018 , 28, 1803287		141
4 ⁰⁸	Iron Vacancies Induced Bifunctionality in Ultrathin Feroxyhyte Nanosheets for Overall Water Splitting. 2018 , 30, e1803144		160
4 ⁰⁷	Sulfur-Doped Nickel Phosphide Nanoplates Arrays: A Monolithic Electrocatalyst for Efficient Hydrogen Evolution Reactions. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 26303-26311	9.5	62
4 ⁰⁶	Single-Walled Carbon Nanotube Induced Optimized Electron Polarization of Rhodium Nanocrystals To Develop an Interface Catalyst for Highly Efficient Electrocatalysis. 2018 , 8, 8092-8099		57
4 ⁰⁵	One-step electrodeposition of a hierarchically structured S-doped NiCo film as a highly-efficient electrocatalyst for the hydrogen evolution reaction. <i>Nanoscale</i> , 2018 , 10, 15238-15248	7.7	35

404	Hierarchical NiSe ₂ sheet-like nano-architectures as an efficient and stable bifunctional electrocatalyst for overall water splitting: Phase and morphology engineering. <i>Electrochimica Acta</i> , 2018 , 279, 195-203	6.7	28
403	A sea-change: manganese doped nickel/nickel oxide electrocatalysts for hydrogen generation from seawater. 2018 , 11, 1898-1910		106
402	Electron density modulation of NiCoS nanowires by nitrogen incorporation for highly efficient hydrogen evolution catalysis. <i>Nature Communications</i> , 2018 , 9, 1425	17.4	266
401	Surface engineering-modulated porous N-doped rod-like molybdenum phosphide catalysts: towards high activity and stability for hydrogen evolution reaction over a wide pH range.. <i>RSC Advances</i> , 2018 , 8, 26871-26879	3.7	11
400	Enhanced electrocatalysis for alkaline hydrogen evolution by Mn doping in a NiS nanosheet array. 2018 , 54, 10100-10103		56
399	Hierarchical Co-FeS/CoS heterostructures as a superior bifunctional electrocatalyst.. <i>RSC Advances</i> , 2018 , 8, 28684-28691	3.7	23
398	Surface Modified Carbon Cloth via Nitrogen Plasma for Supercapacitor Applications. 2018 , 165, A2446-A2450		23
397	Heterostructures for Electrochemical Hydrogen Evolution Reaction: A Review. 2018 , 28, 1803291		514
396	Fe-CoP Electrocatalyst Derived from a Bimetallic Prussian Blue Analogue for Large-Current-Density Oxygen Evolution and Overall Water Splitting. 2018 , 5, 1800949		212
395	One step fabrication of carbon supported cobalt pentlandite (Co ₉ S ₈) via the thermolysis of lignin and Co ₃ O ₄ . 2018 , 27, 196-203		13
394	Metal Organic Framework Derived Fe-Doped CoSe ₂ Incorporated in Nitrogen-Doped Carbon Hybrid for Efficient Hydrogen Evolution. 2018 , 6, 8672-8678		40
393	Enhanced electrocatalytic hydrogen generation from water cobalt-doped CuZnSnS nanoparticles.. <i>RSC Advances</i> , 2018 , 8, 20341-20346	3.7	20
392	Fe _{1-x} Co _x S ₂ Solid Solutions with Tunable Energy Structures to Enhance the Performance of Triiodide Reduction in Dye-Sensitized Solar Cells. 2018 , 4, 1043-1047		8
391	In situ growth of single-layered Ni(OH) ₂ nanosheets on a carbon cloth for highly efficient electrocatalytic oxidation of urea. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 13867-13873	13	51
390	Nanocrystalline Pyrite for Photovoltaic Applications. 2018 , 3, 6488-6524		10
389	Hierarchical Carbon Nanotube@SiO ₂ -TiO ₂ Reinforced Polyurethane Composites: Thermal, Mechanical and Abrasion Resistance Properties. 2019 , 58, 295-304		2
388	Edge-Contact Geometry and Anion-Deficit Construction for Activating Ultrathin MoS on WO in the Hydrogen Evolution Reaction. <i>Inorganic Chemistry</i> , 2019 , 58, 11241-11247	5.1	5
387	Cation-tunable flower-like (Ni _x Fe _{1-x}) ₂ P@graphitized carbon films as ultra-stable electrocatalysts for overall water splitting in alkaline media. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 20357-20368	13	12

386	Hydrogenation of Functionalized Nitroarenes Catalyzed by Single-Phase Pyrite FeS Nanoparticles on N,S-Codoped Porous Carbon. 2019 , 12, 4636-4644		29
385	Donor-Acceptor Nanocarbon Ensembles to Boost Metal-Free All-pH Hydrogen Evolution Catalysis by Combined Surface and Dual Electronic Modulation. 2019 , 58, 16217-16222		32
384	Continuous Network of Phase-Tuned Nickel Sulfide Nanostructures for Electrocatalytic Water Splitting. 2019 , 2, 5061-5070		26
383	Highly dispersive NiCoS nanoparticles anchored on nitrogen-doped carbon nanofibers for efficient hydrogen evolution reaction. <i>Journal of Colloid and Interface Science</i> , 2019 , 555, 294-303	9-3	25
382	Facile synthesis of cobalt nanoparticles embedded nitrogen-doped carbon nanotubes as electrocatalyst of hydrogen evolution reaction. 2019 , 27, 808-815		3
381	Chemical Doped Ternary and Quaternary Transition-Metal-Based Electrocatalysts for Hydrogen Evolution Reaction. 2019 , 11, 4998-5012		4
380	Fabrication of C/Co-FeS ₂ /CoS ₂ with Highly Efficient Hydrogen Evolution Reaction. 2019 , 9, 556		5
379	Promoting Highly Reversible Sodium Storage of Iron Sulfide Hollow Polyhedrons via Cobalt Incorporation and Graphene Wrapping. 2019 , 9, 1901584		46
378	Synthesis and characterization of rhenium disulfide nanosheets decorated rGO as electrode towards hydrogen generation in different media. 2019 , 125, 1		6
377	The fabrication of Co:ZnS/CoS ₂ heterostructure nanowires with a superior hydrogen evolution performance. 2019 , 3, 2771-2778		1
376	NiCoFe oxide amorphous nanohetrostrutres for oxygen evolution reaction. 2019 , 44, 22991-23001		26
375	Ce-doped CoS ₂ pyrite with weakened O ₂ adsorption suppresses catalyst leaching and stabilizes electrocatalytic H ₂ evolution. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 17775-17781	13	19
374	A review of transition metal-based bifunctional oxygen electrocatalysts. 2019 , 66, 829-865		38
373	Mn-doped Co ₃ O ₄ nanoarrays as a promising electrocatalyst for oxygen evolution reaction. 2019 , 6, 115033		6
372	Simple preparation and excellent microwave attenuation property of Fe ₃ O ₄ - and FeS ₂ - decorated graphene nanosheets by liquid-phase exfoliation. <i>Journal of Alloys and Compounds</i> , 2019 , 810, 151881	5-7	4
371	Functionalized Hybridization of 2D Nanomaterials. 2019 , 6, 1901837		40
370	Rational design of phosphorus-doped cobalt sulfides electrocatalysts for hydrogen evolution. 2019 , 12, 2960-2965		29
369	Two-dimensional transition-metal dichalcogenides for electrochemical hydrogen evolution reaction. 2019 , 18, 100140		16

368	Appearance of a Td* phase across the TdIT? phase boundary in the Weyl semimetal MoTe2. 2019 , 100,		8
367	Donor-Acceptor Nanocarbon Ensembles to Boost Metal-Free All-pH Hydrogen Evolution Catalysis by Combined Surface and Dual Electronic Modulation. 2019 , 131, 16363-16368		6
366	Advanced Co ₃ O ₄ /CuO nano-composite based electrocatalyst for efficient hydrogen evolution reaction in alkaline media. 2019 , 44, 26148-26157		34
365	Salt-Templated Construction of Ultrathin Cobalt Doped Iron Thiophosphite Nanosheets toward Electrochemical Ammonia Synthesis. <i>Small</i> , 2019 , 15, e1903500	11	36
364	Photoactive Earth-Abundant Iron Pyrite Catalysts for Electrocatalytic Nitrogen Reduction Reaction. <i>Small</i> , 2019 , 15, e1904723	11	22
363	Graphene Nanoarchitectonics: Recent Advances in Graphene-Based Electrocatalysts for Hydrogen Evolution Reaction. 2019 , 31, e1903415		170
362	Precursor-Transformation Strategy Preparation of CuP Nanodots-Decorated CoP Nanowires Hybrid Catalysts for Boosting pH-Universal Electrocatalytic Hydrogen Evolution. <i>Small</i> , 2019 , 15, e1904681	11	19
361	Recent progress in two-dimensional nanomaterials: Synthesis, engineering, and applications. 2019 , 18, 100133		33
360	Li-free Cathode Materials for High Energy Density Lithium Batteries. 2019 , 3, 2086-2102		123
359	First-principles investigation of the hydrogen evolution reaction on different surfaces of pyrites MnS, FeS, CoS, NiS. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 21561-21567	3.6	11
358	Mn-doped CoSe nanosheets as high-efficiency catalysts for the oxygen evolution reaction. <i>Dalton Transactions</i> , 2019 , 48, 14238-14241	4.3	8
357	Se-incorporated Cu-based sulfide nanoparticles for enhanced hydrogen evolution. 2019 ,		
356	The Role of Ru in Improving the Activity of Pd toward Hydrogen Evolution and Oxidation Reactions in Alkaline Solutions. 2019 , 9, 9614-9621		61
355	Electrochemical Growth of Metallic Nanoparticles onto Immobilized Polymer Brush Ionic Liquid as a Hybrid Electrocatalyst for the Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 38265-38275	9.5	6
354	In-situ growth of NCNT and encapsulation of CoS/Co as a sustainable multifunctional electrocatalyst. <i>Journal of Colloid and Interface Science</i> , 2019 , 557, 291-300	9.3	2
353	NiS ₂ /MoS ₂ on carbon cloth as a bifunctional electrocatalyst for overall water splitting. <i>Electrochimica Acta</i> , 2019 , 326, 134983	6.7	26
352	An amorphous nanoporous PdCuNi-S hybrid electrocatalyst for highly efficient hydrogen production. 2019 , 246, 156-165		49
351	Coupling pentlandite nanoparticles and dual-doped carbon networks to yield efficient and stable electrocatalysts for acid water oxidation. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 461-468	13	33

350	Enhanced electrocatalytic activity of water oxidation in an alkaline medium via Fe doping in CoS nanosheets. 2019 , 55, 2469-2472		38
349	Synthesis of a Cu ₂ O/Carbon Film/NiCoB-Graphene Oxide Heterostructure as Photocathode for Photoelectrochemical Water Splitting. 2019 , 6, 2004-2012		9
348	Porous Mn-Doped FeP/Co (PO) Nanosheets as Efficient Electrocatalysts for Overall Water Splitting in a Wide pH Range. 2019 , 12, 1334-1341		56
347	One-dimensional CoS-MoS nano-flakes decorated MoO sub-micro-wires for synergistically enhanced hydrogen evolution. <i>Nanoscale</i> , 2019 , 11, 3500-3505	7.7	23
346	One-step controllable synthesis of amorphous (Ni-Fe)S /NiFe(OH) hollow microtube/sphere films as superior bifunctional electrocatalysts for quasi-industrial water splitting at large-current-density. 2019 , 246, 337-348		103
345	Fe/P dual doping boosts the activity and durability of CoS ₂ polycrystalline nanowires for hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 5195-5200	13	42
344	Engineering multiphase for activating electroactive sites for highly efficient hydrogen evolution: Experimental and theoretical investigation. 2019 , 44, 13323-13333		2
343	Amorphous quaternary alloy phosphide hierarchical nanoarrays with pagoda-like structure grown on Ni foam as pH-universal electrocatalyst for hydrogen evolution reaction. 2019 , 489, 519-527		17
342	Boosting the hydrogen evolution performance of a ternary Mo _x Co _{1-x} P nanowire array by tuning the Mo/Co ratio. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 14842-14848	13	21
341	Recent advances in metal sulfides: from controlled fabrication to electrocatalytic, photocatalytic and photoelectrochemical water splitting and beyond. 2019 , 48, 4178-4280		463
340	Porous Nitrogen Self-Doped Carbon Wrapped Iron Phosphide Hollow Spheres as Efficient Bifunctional Electrocatalysts for Water Splitting. 2019 , 6, 3437-3444		9
339	Iron Sulfide Materials: Catalysts for Electrochemical Hydrogen Evolution. 2019 , 7, 75		16
338	Adsorption of Hydrogen in Microporous Carbon Adsorbents of Different Origin. 2019 , 55, 413-419		8
337	Iron and Iodine Co-doped Triazine-Based Frameworks with Efficient Oxygen Reduction Reaction in Alkaline and Acidic Media. 2019 , 7, 11787-11794		5
336	High-Current-Density HER Electrocatalysts: Graphene-like Boron Layer and Tungsten as Key Ingredients in Metal Diborides. 2019 , 12, 3726-3731		24
335	NiS-MoS ₂ Hetero-nanosheet Arrays on Carbon Cloth for High-Performance Flexible Hybrid Energy Storage Devices. 2019 , 7, 11672-11681		33
334	Role of Sulfur Vacancies and Undercoordinated Mo Regions in MoS Nanosheets toward the Evolution of Hydrogen. 2019 , 13, 6824-6834		229
333	RETRACTED ARTICLE: MOF-derived highly active Ni/Co/NC electrocatalyst and its application for hydrogen evolution reaction. 2019 , 26, 1713-1720		4

332	The Doping Effect of 13-Atom Iron Clusters on Water Adsorption and O-H Bond Dissociation. 2019 , 123, 4891-4899		9
331	NiS/MoS ₂ hetero-nanosheet array electrocatalysts for efficient overall water splitting. 2019 , 3, 2056-2066		37
330	MoS ₂ coating on different carbonaceous materials: Comparison of electrochemical properties and hydrogen evolution reaction performance. 2019 , 847, 113198		30
329	Interface and defect engineering of hybrid nanostructures toward an efficient HER catalyst. <i>Nanoscale</i> , 2019 , 11, 12489-12496	7.7	18
328	N-doped cobalt disulfide decorated on carbon cloth as an efficient electrode for oxygen generation. 2019 , 44, 16615-16623		5
327	Engineering hierarchical NiFe-layered double hydroxides derived phosphosulfide for high-efficiency hydrogen evolving electrocatalysis. 2019 , 44, 16378-16386		11
326	Heterostructures in two-dimensional colloidal metal chalcogenides: Synthetic fundamentals and applications. 2019 , 12, 1750-1769		19
325	A novel strategy for 2D/2D NiS/graphene heterostructures as efficient bifunctional electrocatalysts for overall water splitting. 2019 , 254, 471-478		77
324	RGO induced one-dimensional bimetallic carbide nanorods: An efficient and pH-universal hydrogen evolution reaction electrocatalyst. 2019 , 62, 85-93		37
323	Evaluating DNA Derived and Hydrothermally Aided Cobalt Selenide Catalysts for Electrocatalytic Water Oxidation. <i>Inorganic Chemistry</i> , 2019 , 58, 6877-6884	5.1	14
322	Rosette-like MoS nanoflowers as highly active and stable electrodes for hydrogen evolution reactions and supercapacitors.. <i>RSC Advances</i> , 2019 , 9, 13820-13828	3.7	16
321	Enhanced the Hydrogen Evolution Performance by Ruthenium Nanoparticles Doped into Cobalt Phosphide Nanocages. 2019 , 7, 9737-9742		22
320	Trash to treasure: A novel chemical route to synthesis of NiO/C for hydrogen production. 2019 , 44, 16144-16152		22
319	Immobilized Single Molecular Molybdenum Disulfide on Carbonized Polyacrylonitrile for Hydrogen Evolution Reaction. 2019 , 13, 6720-6729		27
318	Arousing the Reactive Fe Sites in Pyrite (FeS) via Integration of Electronic Structure Reconfiguration and in Situ Electrochemical Topotactic Transformation for Highly Efficient Oxygen Evolution Reaction. <i>Inorganic Chemistry</i> , 2019 , 58, 7615-7627	5.1	28
317	"Superaerophobic" Nickel Phosphide Nanoarray Catalyst for Efficient Hydrogen Evolution at Ultrahigh Current Densities. <i>Journal of the American Chemical Society</i> , 2019 , 141, 7537-7543	16.4	233
316	Atomically Dispersed Cobalt- and Nitrogen-Codoped Graphene toward Bifunctional Catalysis of Oxygen Reduction and Hydrogen Evolution Reactions. 2019 , 7, 9249-9256		39
315	Fe ₂ O ₃ nanocatalysts on N-doped carbon nanomaterial for highly efficient electrochemical hydrogen evolution in alkaline. 2019 , 426, 74-83		29

314	Co-Modified MoS ₂ Hybrids as Superior Bifunctional Electrocatalysts for Water Splitting Reactions: Integrating Multiple Active Components in One. 2019 , 6, 1900372		11
313	Morphological and Interfacial Engineering of Cobalt-Based Electrocatalysts by Carbon Dots for Enhanced Water Splitting. 2019 , 7, 7047-7057		42
312	Electrospun PW ₁₂ Ni ₅ O _{43.5} (isogenous) nanocomposites for highly efficient hydrogen evolution reaction. 2019 , 6, 075015		2
311	Nickel Nanocrystal Assemblies as Efficient Electrocatalysts for Hydrogen Evolution from pH-Neutral Aqueous Solution. 2019 , 6, 2100-2106		11
310	A Combined experimental and theoretical study of the accelerated hydrogen evolution kinetics over wide pH range on porous transition metal doped tungsten phosphide electrocatalysts. 2019 , 251, 162-167		39
309	Heterogeneous electrocatalysts design for nitrogen reduction reaction under ambient conditions. 2019 , 27, 69-90		154
308	Graphene/graphene nanoribbon aerogels decorated with S-doped MoSe ₂ nanosheets as an efficient electrocatalyst for hydrogen evolution. 2019 , 6, 1209-1216		9
307	Direct Conversion of Methanol to Ethanol on the Metal-Carbon Interface. 2019 , 11, 2277-2282		1
306	Facile in situ generation of bismuth tungstate nanosheet-multiwalled carbon nanotube composite as unconventional affinity material for quartz crystal microbalance detection of antibiotics. 2019 , 373, 50-59		12
305	Metal or metal-containing nanoparticle@MOF nanocomposites as a promising type of photocatalyst. <i>Coordination Chemistry Reviews</i> , 2019 , 388, 63-78	23.2	157
304	A self-templating method for metal-organic frameworks to construct multi-shelled bimetallic phosphide hollow microspheres as highly efficient electrocatalysts for hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 8602-8608	13	60
303	Hierarchical mulberry-like Fe ₃ S ₄ /Co ₉ S ₈ nanoparticles as highly reversible anode for lithium-ion batteries. <i>Electrochimica Acta</i> , 2019 , 304, 405-414	6.7	33
302	New Family of Plasmonic Photocatalysts without Noble Metals. 2019 , 31, 2320-2327		17
301	Tailoring the Electronic Structure of Co ₂ P by N Doping for Boosting Hydrogen Evolution Reaction at All pH Values. 2019 , 9, 3744-3752		231
300	Novel urchin-like FeCo oxide nanostructures supported carbon spheres as a highly sensitive sensor for hydrazine sensing application. 2019 , 172, 243-252		10
299	Hydrogen production by PEM water electrolysis [A review. 2019 , 2, 442-454		314
298	Hydrogen Evolution and Oxidation: Mechanistic Studies and Material Advances. 2019 , 31, e1808066		201
297	P doped MoS nanoplates embedded in nitrogen doped carbon nanofibers as an efficient catalyst for hydrogen evolution reaction. <i>Journal of Colloid and Interface Science</i> , 2019 , 547, 291-298	9.3	25

- 296 A chloroplast structured photocatalyst enabled by microwave synthesis. *Nature Communications*, **2019**, 10, 1570 17.4 60
- 295 Chemical Functionalization of ZnS: A Perspective from the Ligand-ZnS Bond Character. **2019**, 123, 6054-6061 3
- 294 Morphology-Controlled Metal Sulfides and Phosphides for Electrochemical Water Splitting. **2019**, 31, e1806682 304
- 293 Nanoarchitectonics for Transition-Metal-Sulfide-Based Electrocatalysts for Water Splitting. **2019**, 31, e1807134 613
- 292 Tree-Like NiS₂/MoS₂-RGO Nanocomposites as pH Universal Electrocatalysts for Hydrogen Evolution Reaction. **2019**, 149, 1197-1210 22
- 291 Multivariate Control of Effective Cobalt Doping in Tungsten Disulfide for Highly Efficient Hydrogen Evolution Reaction. **2019**, 9, 1357 11
- 290 Mo-doped Ni₂P hollow nanostructures: highly efficient and durable bifunctional electrocatalysts for alkaline water splitting. *Journal of Materials Chemistry A*, **2019**, 7, 7636-7643 13 77
- 289 Engineering Two-Dimensional Transition Metal Dichalcogenide Electrocatalysts for Water Splitting Hydrogen Generation. **2019**, 1845-1873 1
- 288 Synthesis of foam-like carbon monoliths from styrene-Butadiene rubber-based powder puff. **2019**, 479, 655-662 2
- 287 Self-supported 3D porous N-Doped nickel selenide electrode for hydrogen evolution reaction over a wide range of pH. *Electrochimica Acta*, **2019**, 304, 202-209 6.7 27
- 286 Design of doped cesium lead halide perovskite as a photo-catalytic CO₂ reduction catalyst. *Journal of Materials Chemistry A*, **2019**, 7, 6911-6919 13 39
- 285 Flexible vanadium-doped NiP nanosheet arrays grown on carbon cloth for an efficient hydrogen evolution reaction. *Nanoscale*, **2019**, 11, 4198-4203 7.7 88
- 284 Nitrogen and sulfur-codoped porous carbon derived from a BSA/ionic liquid polymer complex: multifunctional electrode materials for water splitting and supercapacitors.. *RSC Advances*, **2019**, 9, 5189-5196 3.7 7
- 283 Improving hydrogen evolution performance of Co:FeS₂/CoS₂ nano-heterostructure at elevated temperatures. **2019**, 9, 786-791 2
- 282 Micrometer-Scale biomass carbon tube matrix auxiliary MoS₂ heterojunction for electrocatalytic hydrogen evolution. **2019**, 44, 32019-32029 21
- 281 Fe@Fe₂P Core-Shell Nanorods Encapsulated in Nitrogen Doped Carbon Nanotubes as Robust and Stable Electrocatalyst Toward Hydrogen Evolution. **2019**, 6, 1413-1418 19
- 280 Cooperativity by Multi-Metals Confined in Supertetrahedral Sulfide Nanoclusters To Enhance Electrocatalytic Hydrogen Evolution. **2019**, 31, 553-559 35
- 279 Exceptional Performance of Hierarchical Ni-Fe (hydr)oxide@NiCu Electrocatalysts for Water Splitting. **2019**, 31, e1806769 81

278	One-Pot Synthesis of Co-Doped VSe ₂ Nanosheets for Enhanced Hydrogen Evolution Reaction. 2019 , 2, 644-653		41
277	Hydrogen evolution reaction catalyzed by nickel/nickel phosphide nanospheres synthesized through electrochemical methods. <i>Electrochimica Acta</i> , 2019 , 298, 229-236	6.7	12
276	Synthesis and characterization of (Co, Fe, Ni) ₉ S ₈ nanocomposite supported on reduced graphene oxide as an efficient and stable electrocatalyst for methanol electrooxidation toward DMFC. 2019 , 30, 3521-3529		14
275	Interface-Engineered Nickel Cobaltite Nanowires through NiO Atomic Layer Deposition and Nitrogen Plasma for High-Energy, Long-Cycle-Life Foldable All-Solid-State Supercapacitors. <i>Small</i> , 2019 , 15, e1803716	11	55
274	Plasma Hydrogenated TiO ₂ /Nickel Foam as an Efficient Bifunctional Electrocatalyst for Overall Water Splitting. 2019 , 7, 885-894		27
273	Metal-organic framework derived Ni/NiO micro-particles with subtle lattice distortions for high-performance electrocatalyst and supercapacitor. 2019 , 244, 732-739		146
272	Photovoltaic Counter Electrodes: An Alternative Approach to Extend Light Absorption Spectra and Enhance Performance of Dye-Sensitized Solar Cells. 2019 , 84, 241-246		5
271	Electrochemical fabrication of Fe-based binary and ternary phosphide cathodes for proton exchange membrane water electrolyzer. <i>Journal of Alloys and Compounds</i> , 2019 , 807, 148813	5.7	16
270	SnS ₂ quantum dots growth on MoS ₂ : Atomic-level heterostructure for electrocatalytic hydrogen evolution. <i>Electrochimica Acta</i> , 2019 , 300, 45-52	6.7	24
269	Electrocatalytic Oxidation of 4-Aminophenol Molecules at the Surface of an FeS /Carbon Nanotube Modified Glassy Carbon Electrode in Aqueous Medium. 2019 , 84, 175-182		34
268	Effect of nickel-doped FeS ₂ nanoparticles-reduced graphene oxide electrocatalysts for efficient hydrogen evolution. <i>Journal of Alloys and Compounds</i> , 2019 , 775, 1293-1300	5.7	23
267	Ultrathin g-Mo ₂ C dominated by (100) Surface/Cu Schottky junction as efficient catalyst for hydrogen evolution. 2019 , 44, 853-859		16
266	Single-Walled Carbon Nanotubes Wrapped CoFe ₂ O ₄ Nanorods with Enriched Oxygen Vacancies for Efficient Overall Water Splitting. 2019 , 2, 1026-1032		34
265	Heteroatom-doped MoSe Nanosheets with Enhanced Hydrogen Evolution Kinetics for Alkaline Water Splitting. <i>Chemistry - an Asian Journal</i> , 2019 , 14, 301-306	4.5	30
264	Highly active and stable electrocatalysts of FeS ₂ /reduced graphene oxide for hydrogen evolution. 2019 , 54, 1422-1433		21
263	Rational Design of Transition Metal-Based Materials for Highly Efficient Electrocatalysis. 2019 , 3, 1800211		166
262	In situ growth of N-doped carbon coated CoNi alloy with graphene decoration for enhanced HER performance. 2019 , 29, 129-135		28
261	3D flower-like defected MoS ₂ magnetron-sputtered on candle soot for enhanced hydrogen evolution reaction. 2020 , 263, 117750		49

260	A modulated electronic state strategy designed to integrate active HER and OER components as hybrid heterostructures for efficient overall water splitting. 2020 , 260, 118197		80
259	Interface control and catalytic performances of Au-NiS _x heterostructures. <i>Chemical Engineering Journal</i> , 2020 , 382, 122794	14.7	12
258	Nanocarbon-Based Hybrids as Electrocatalysts for Hydrogen and Oxygen Evolution From Water Splitting. 2020 , 379-418		2
257	Oxygen Reduction Reactions on Single- or Few-Atom Discrete Active Sites for Heterogeneous Catalysis. 2020 , 10, 1902084		57
256	Ultrafine Cobalt-Doped Iron Disulfide Nanoparticles in Ordered Mesoporous Carbon for Efficient Hydrogen Evolution. 2020 , 12, 788-794		11
255	Superhydrophilic Al-Doped NiP ₂ Nanosheets as Efficient Electrocatalysts for Hydrogen Evolution Reaction. 2020 , 8, 1900936		10
254	Hierarchical microsphere assembled by nanoplates embedded with MoS and (NiFe)S nanoparticles as low-cost electrocatalyst for hydrogen evolution reaction. 2020 , 31, 035403		5
253	Capacitive behavior of MoS ₂ decorated with FeS ₂ @carbon nanospheres. <i>Chemical Engineering Journal</i> , 2020 , 379, 122240	14.7	69
252	Fe-Doped CoP Flower-Like Microstructure on Carbon Membrane as Integrated Electrode with Enhanced Sodium Ion Storage. 2020 , 26, 1298-1305		27
251	Bimetal Networked Nanosheets Co _x Ni _{3-x} S ₂ as An Efficient Electrocatalyst for Hydrogen Evolution. 2020 , 12, 609-614		6
250	Highly efficient hydrogen evolution reaction of Co ₃ O ₄ supports on N-doped carbon nanotubes in an alkaline solution. 2020 , 26, 3437-3446		7
249	Prussian blue analogues and their derived nanomaterials for electrocatalytic water splitting. <i>Coordination Chemistry Reviews</i> , 2020 , 407, 213156	23.2	81
248	Generation of NiS nanorod arrays with high-density bridging S by introducing a small amount of NaVO ₃ ·2H ₂ O for superior hydrogen evolution reaction. <i>Nanoscale</i> , 2020 , 12, 2063-2070	7.7	2
247	High active and easily prepared cobalt encapsulated in carbon nanotubes for hydrogen evolution reaction. 2020 , 45, 3948-3958		7
246	Construction of crystalline and amorphous interface between FeS ₂ and polyaniline for enhanced electrocatalytic activity. 2020 , 505, 144534		3
245	Nonprecious anodic catalysts for low-molecular-hydrocarbon fuel cells: Theoretical consideration and current progress. 2020 , 77, 100805		62
244	Performance modulation of energy storage devices: A case of Ni-Co-S electrode materials. <i>Chemical Engineering Journal</i> , 2020 , 392, 123651	14.7	63
243	Hydrogen Evolution by Ni ₂ P Catalysts Derived from Phosphine MOFs. 2020 , 3, 176-183		18

242	Ultrafine Co:FeS ₂ /CoS ₂ Heterostructure Nanowires for Highly Efficient Hydrogen Evolution Reaction. 2020 , 3, 514-520		14
241	Recent Progress on Pyrite FeS ₂ Nanomaterials for Energy and Environment Applications: Synthesis, Properties and Future Prospects. 2020 , 31, 899-937		5
240	3D Carbon Materials for Efficient Oxygen and Hydrogen Electrocatalysis. 2020 , 10, 1902494		56
239	Heterostructured MoS ₂ @Bi ₂ Se ₃ nanoflowers: A highly efficient electrocatalyst for hydrogen evolution. <i>Journal of Catalysis</i> , 2020 , 381, 590-598	7.3	21
238	Boosting Electrocatalytic HER Activity of 3D Interconnected CoSP via Metal Doping: Active and Stable Electrocatalysts for pH-Universal Hydrogen Generation. 2020 , 32, 9591-9601		24
237	Pyrrhotite Fe S microcubes as a new anode material in potassium-ion batteries. 2020 , 6, 75		5
236	The electropositive environment of Rh in Rh ₁ Sn ₂ /SWNTs for boosting trifunctional electrocatalysis. 2020 , 45, 32050-32058		1
235	Electrocatalytic reduction of carbon dioxide on gold-copper bimetallic nanoparticles: Effects of surface composition on selectivity. <i>Electrochimica Acta</i> , 2020 , 356, 136756	6.7	15
234	Pulse Electrodeposition of a Superhydrophilic and Binder-Free Ni-Fe-P Nanostructure as Highly Active and Durable Electrocatalyst for Both Hydrogen and Oxygen Evolution Reactions. <i>ACS Applied Materials & Interfaces</i> , 2020 ,	9.5	29
233	Increasing the active sites and intrinsic activity of transition metal chalcogenide electrocatalysts for enhanced water splitting. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 25465-25498	13	36
232	Nonprecious Bimetallic Iron-Molybdenum Sulfide Electrocatalysts for the Hydrogen Evolution Reaction in Proton Exchange Membrane Electrolyzers. 2020 , 10, 14336-14348		17
231	Se Doping Regulates the Activity of NiTe ₂ for Electrocatalytic Hydrogen Evolution Reaction. 2020 , 124, 26793-26800		6
230	Dendritic Ferroselite (FeSe ₂) with 2D Carbon-Based Nanosheets of rGO and g-C ₃ N ₄ as Efficient Catalysts for Electrochemical Hydrogen Evolution. 2020 , 3, 12682-12691		9
229	Hybridization of Bimetallic Molybdenum-Tungsten Carbide with Nitrogen-Doped Carbon: A Rational Design of Super Active Porous Composite Nanowires with Tailored Electronic Structure for Boosting Hydrogen Evolution Catalysis. 2020 , 30, 2003198		21
228	Phase Engineering of Iron-Cobalt Sulfides for Zn-Air and Na-Ion Batteries. 2020 , 14, 10438-10451		20
227	Self-supported high-entropy alloy electrocatalyst for highly efficient H ₂ evolution in acid condition. 2020 , 6, 736-742		10
226	Pyrite-type electrocatalysts for hydrogen evolution. 2020 , 45, 555-561		1
225	In situ coupling of CoP with MoO ₂ for enhanced hydrogen evolution. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 16018-16023	13	10

224	Nanoporous V-Doped NiP Microsphere: A Highly Efficient Electrocatalyst for Hydrogen Evolution Reaction at All pH. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 37092-37099	9.5	18
223	A review on nickel cobalt sulphide and their hybrids: Earth abundant, pH stable electro-catalyst for hydrogen evolution reaction. 2020 , 45, 24518-24543		34
222	Rational design of NiFe LDH@Ni ₃ N nano/microsheet arrays as a bifunctional electrocatalyst for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 17202-17211	13	36
221	Defects Enhance the Electrocatalytic Hydrogen Evolution Properties of MoS ₂ -based Materials. <i>Chemistry - an Asian Journal</i> , 2020 , 15, 3123-3134	4.5	18
220	Hydrogen evolution reaction at the interfaces of two-dimensional lateral heterostructures: a first-principles study.. <i>RSC Advances</i> , 2020 , 10, 38484-38489	3.7	5
219	Template Construction of Porous CoP/COP Microflowers Threaded with Carbon Nanotubes toward High-Efficiency Oxygen Evolution and Hydrogen Evolution Electrocatalysts. <i>Inorganic Chemistry</i> , 2020 , 59, 12232-12239	5.1	5
218	Nickel-doped pyrrhotite iron sulfide nanosheets as a highly efficient electrocatalyst for water splitting. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 20323-20330	13	26
217	Mesoporous Thin-Film NiS ₂ as an Idealized Pre-Electrocatalyst for a Hydrogen Evolution Reaction. 2020 , 10, 15114-15122		20
216	Boosting Polysulfide Conversion in Lithium-Sulfur Batteries by Cobalt-Doped Vanadium Nitride Microflowers. 2020 , 3, 4523-4530		18
215	Rational Assembly of Hierarchically Porous CoFe _{1-x} S ₂ @Carbon Superparticles for Efficient Hydrogen Evolution. 2020 , 3, 4139-4143		4
214	Canonic-Like HER Activity of Cr Mo B Solid Solution: Overpowering Pt/C at High Current Density. 2020 , 32, e2000855		32
213	Sulfur-Doped CoSe Porous Nanosheets as Efficient Electrocatalysts for the Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 28288-28297	9.5	44
212	Photocatalysis, enhanced anti-bacterial performance and discerning thiourea sensing of Ag ₂ O/BiO ₂ /TiO ₂ hetero-structure. 2020 , 8, 104051		17
211	Surface modification engineering on three-dimensional self-supported NiCoP to construct NiCoOx/NiCoP for highly efficient alkaline hydrogen evolution reaction. <i>Journal of Alloys and Compounds</i> , 2020 , 835, 155364	5.7	6
210	Unraveling the Beneficial Microstructure Evolution in Pyrite for Boosted Lithium Storage Performance. 2020 , 26, 11841-11850		3
209	A multifunctional Ni-doped iron pyrite/reduced graphene oxide composite as an efficient counter electrode for DSSCs and as a non-enzymatic hydrogen peroxide electrochemical sensor. <i>Dalton Transactions</i> , 2020 , 49, 8516-8527	4.3	9
208	Boosting the lithium-ion and sodium-ion storage performances of pyrite by regulating the energy barrier of ion transport. <i>Nanoscale</i> , 2020 , 12, 13781-13790	7.7	8
207	Tailoring the ruthenium reactive sites on N doped molybdenum carbide nanosheets via the anti-Ostwald ripening as efficient electrocatalyst for hydrogen evolution reaction in alkaline media. 2020 , 277, 119236		47

206	Depletion Effect-mediated Association of Carbon Nanotube-Polymer Composites and Their Application as Inexpensive Electrode Support Materials. 2020 , 20, 5353-5358		2
205	Hetero carbon structures derived from waste plastics as an efficient electrocatalyst for water splitting and high-performance capacitors. 2020 , 124, 114284		1
204	Construction of echinoids-like MoS ₂ @NiS ₂ electrocatalyst for efficient and robust water oxidation. <i>Electrochimica Acta</i> , 2020 , 353, 136527	6.7	7
203	Compositional engineering of sulfides, phosphides, carbides, nitrides, oxides, and hydroxides for water splitting. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 13415-13436	13	51
202	Recent Advances in Metal-Organic Frameworks and Their Derived Materials for Electrocatalytic Water Splitting. 2020 , 7, 1805-1824		27
201	Superhydrophilic MoS ₂ /NiS ₂ nanoflake heterostructures grown on 3D Ni foam as an efficient electrocatalyst for overall water splitting. 2020 , 31, 6607-6617		6
200	Pt nanodendrites with (111) crystalline facet as an efficient, stable and pH-universal catalyst for electrochemical hydrogen production. 2020 , 31, 2478-2482		6
199	Optimized Metal Chalcogenides for Boosting Water Splitting. 2020 , 7, 1903070		81
198	Strongly coupled dual zerovalent nonmetal doped nickel phosphide Nanoparticles/N, B-graphene hybrid for pH-Universal hydrogen evolution catalysis. 2020 , 278, 119284		27
197	Employing DNA scaffold with rhenium electrocatalyst for enhanced HER activities. 2020 , 528, 147049		5
196	Three-Dimensional PdCuRu Alloy Porous Nanosheets as Efficient Electrocatalysts for Hydrogen Evolution Reaction in Varied Electrolytes. 2020 , 7, 3135-3139		3
195	Nickel-cobalt bimetallic sulfide NiCoS nanostructures for a robust hydrogen evolution reaction in acidic media.. <i>RSC Advances</i> , 2020 , 10, 22196-22203	3.7	1
194	Enhanced photocatalytic hydrogen evolution over monolayer HTi ₂ NbO ₇ nanosheets with highly dispersed Pt nanoclusters. 2020 , 511, 145501		10
193	Novel self-supported MoS ₂ /FeS ₂ nanocomposite as an excellent electrocatalyst for hydrogen evolution. 2020 , 101, 106156		3
192	Mechanochemical-assisted synthesis of ternary Ru-Ni-S pyrite analogue for enhanced hydrogen evolution performance. 2020 , 162, 172-180		9
191	Hollow FeP/FeO Hybrid Nanoparticles on Carbon Nanotubes as Efficient Electrocatalysts for the Oxygen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 12783-12792	9.5	15
190	Synergic Effect in a New Electrocatalyst Ni ₂ SbTe ₂ for Oxygen Reduction Reaction. 2020 , 124, 3671-3680		7
189	Activating Titanium Dioxide as a New Efficient Electrocatalyst: From Theory to Experiment. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 11607-11615	9.5	5

188	Vertically Aligned Metal-Organic Framework Derived from Sacrificial Cobalt Nanowire Template Interconnected with Nickel Foam Supported Selenite Network as an Integrated 3D Electrode for Overall Water Splitting. <i>Inorganic Chemistry</i> , 2020 , 59, 3817-3827	5.1	26
187	Electrocatalyst engineering and structure-activity relationship in hydrogen evolution reaction: From nanostructures to single atoms. 2020 , 63, 921-948		48
186	Monolayer carbon-encapsulated Mo-doped Ni nanoparticles anchored on single-wall carbon nanotube film for total water splitting. 2020 , 269, 118823		24
185	Platinum-rhodium alloyed dendritic nanoassemblies: An all-pH efficient and stable electrocatalyst for hydrogen evolution reaction. 2020 , 45, 6110-6119		56
184	Anion-exchange phase control of manganese sulfide for oxygen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 3901-3909	13	18
183	Nickel sulfide nanocrystals for electrochemical and photoelectrochemical hydrogen generation. 2020 , 8, 3240-3247		10
182	Surface electron state engineering enhanced hydrogen evolution of hierarchical molybdenum disulfide in acidic and alkaline media. 2020 , 266, 118649		33
181	2D Hybrid Superlattice-Based On-Chip Electrocatalytic Microdevice for Revealing Enhanced Catalytic Activity. 2020 , 14, 1635-1644		20
180	Recent advancements in heterostructured interface engineering for hydrogen evolution reaction electrocatalysis. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 6926-6956	13	75
179	Photocatalytic hydrogen evolution over nickel cobalt bimetallic phosphate anchored graphitic carbon nitrides by regulation of the d-band electronic structure. 2020 , 10, 3654-3663		3
178	Unique advantages of 2D inorganic nanosheets in exploring high-performance electrocatalysts: Synthesis, application, and perspective. <i>Coordination Chemistry Reviews</i> , 2020 , 415, 213280	23.2	34
177	Facile preparation of novel $Cd_xZn_{2-x}GeO_4$ solid solutions with efficient photocatalytic hydrogen evolution. <i>Journal of Alloys and Compounds</i> , 2020 , 830, 154391	5.7	5
176	Controllable fabrication of graphitic nanocarbon encapsulating Fe_xNi_y hybrids for efficient splitting of water. <i>Journal of Alloys and Compounds</i> , 2020 , 829, 154421	5.7	1
175	Bionic Design of a Mo(IV)-Doped FeS_2 Catalyst for Electroreduction of Dinitrogen to Ammonia. 2020 , 10, 4914-4921		50
174	Hierarchical Manganese-Nickel Sulfide Nanosheet Arrays as an Advanced Electrode for All-Solid-State Asymmetric Supercapacitors. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 21505-21514	9.5	37
173	Hierarchical 3D Oxygenated Cobalt Molybdenum Selenide Nanosheets as Robust Trifunctional Catalyst for Water Splitting and Zinc-Air Batteries. <i>Small</i> , 2020 , 16, e2000797	11	23
172	Development of reproducible thiourea sensor with binary SnO_2/V_2O_5 nanomaterials by electrochemical method. 2020 , 13, 5406-5416		10
171	Efficient Co-doped pyrrhotite $Fe_{0.95}S_{1.05}$ nanoplates for electrochemical water splitting. <i>Chemical Engineering Journal</i> , 2020 , 402, 125069	14.7	28

170	Facile synthesis of double-layered CoNiO ₂ /CoO nanowire arrays as multifunction electrodes for hydrogen electrocatalysis and supercapacitors. <i>Electrochimica Acta</i> , 2020 , 342, 136093	6.7	15
169	A novel Microcystis aeruginosa supported manganese catalyst for hydrogen generation through methanolysis of sodium borohydride. 2020 , 45, 12755-12765		16
168	Sulfur and selenium doped nickel chalcogenides as efficient and stable electrocatalysts for hydrogen evolution reaction: The importance of the dopant atoms in and beneath the surface. 2020 , 74, 104787		31
167	The coupling of experiments with density functional theory in the studies of the electrochemical hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 8783-8812	13	15
166	High-precision regulation synthesis of Fe-doped Co ₂ P nanorod bundles as efficient electrocatalysts for hydrogen evolution in all-pH range and seawater. 2021 , 55, 92-101		28
165	Porous Ni-Mo bimetallic hybrid electrocatalyst by intermolecular forces in precursors for enhanced hydrogen generation. <i>Chemical Engineering Journal</i> , 2021 , 405, 126962	14.7	10
164	Carbon-based electrocatalysts for sustainable energy applications. 2021 , 116, 100717		71
163	Phosphorus-doped Fe ₇ S ₈ @C nanowires for efficient electrochemical hydrogen and oxygen evolutions: Controlled synthesis and electronic modulation on active sites. 2021 , 74, 168-175		10
162	Hollow cobalt-nickel phosphide nanocages for efficient electrochemical overall water splitting. 2021 , 64, 861-869		14
161	CarbonBased transition metal sulfides/selenides nanostructures for electrocatalytic water splitting. <i>Journal of Alloys and Compounds</i> , 2021 , 852, 156810	5.7	21
160	CoS ₂ /MoS ₂ decorated with nitrogen doped reduced graphene oxide and multiwalled carbon nanotube 3D hybrid as efficient electrocatalyst for hydrogen evolution reaction. 2021 , 46, 13952-13959		14
159	Ultrafine VN nanoparticles confined in Co@N-doped carbon nanotubes for boosted hydrogen evolution reaction. <i>Journal of Alloys and Compounds</i> , 2021 , 853, 157257	5.7	11
158	Recent advances in non-precious metal electrocatalysts for pH-universal hydrogen evolution reaction. 2021 , 6, 458-478		22
157	Oxygen-vacancy-rich cobaltAluminium hydrotalcite structures served as high-performance supercapacitor cathode. 2021 , 9, 620-632		13
156	Rational design of Ni-induced NC @Mo ₂ C@MoS ₂ sphere electrocatalyst for efficient hydrogen evolution reaction in acidic and alkaline media. 2021 , 46, 5250-5258		6
155	Engineering iron phosphide-on-plasmonic Ag/Au-nanoshells as an efficient cathode catalyst in water splitting for hydrogen production. 2021 , 218, 119520		3
154	Pr-doped NiCoP nanowire arrays for efficient hydrogen evolution in both acidic and alkaline media. <i>Journal of Alloys and Compounds</i> , 2021 , 862, 158047	5.7	6
153	Metal organic framework derived Ni _{0.15} Co _{0.85} S ₂ @MoS ₂ heterostructure as an efficient and stable electrocatalyst for hydrogen evolution. 2021 , 254, 117629		2

152	Modification strategies on transition metal-based electrocatalysts for efficient water splitting. 2021 , 58, 446-462		36
151	Nitrogen doped FeS ₂ nanoparticles for efficient and stable hydrogen evolution reaction. 2021 , 56, 283-289		12
150	FeS ₂ -anchored transition metal single atoms for highly efficient overall water splitting: a DFT computational screening study. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 2438-2447	13	23
149	Theoretical exploration of the interaction between hydrogen and pyrite-type FeS ₂ surfaces. 2021 , 537, 147900		2
148	Surface and Interface Engineering: Molybdenum Carbide-Based Nanomaterials for Electrochemical Energy Conversion. <i>Small</i> , 2021 , 17, e1903380	11	38
147	One-Step Electrodeposition Synthesis of Bimetal Fe- and Co-Doped NiPi/P for Highly Efficient Overall Water Splitting. 2021 , 60, 2070-2078		8
146	Heteroatom-Doping of Non-Noble Metal-Based Catalysts for Electrocatalytic Hydrogen Evolution: An Electronic Structure Tuning Strategy.. 2021 , 5, e2000988		60
145	CoOx electro-catalysts anchored on nitrogen-doped carbon nanotubes for the oxygen evolution reaction. 2021 , 5, 820-827		2
144	Design strategies toward transition metal selenide-based catalysts for electrochemical water splitting. 2021 , 5, 1347-1365		7
143	Tailoring the d-band center of N-doped carbon nanotube arrays with Co ₄ N nanoparticles and single-atom Co for a superior hydrogen evolution reaction. 2021 , 13,		37
142	Research progress of two-dimensional layered and related derived materials for nitrogen reduction reaction.		4
141	Engineering sulfur vacancies into FeS nanosheet arrays for efficient alkaline hydrogen evolution. <i>Nanoscale</i> , 2021 , 13, 12951-12955	7.7	5
140	Surface self-reconstructed amorphous/crystalline hybrid iron disulfide for high-efficiency water oxidation electrocatalysis. <i>Dalton Transactions</i> , 2021 , 50, 6333-6342	4.3	1
139	Electrochemical nitrogen reduction: recent progress and prospects. 2021 , 57, 7335-7349		13
138	Nanostructured multifunctional electrocatalysts for efficient energy conversion systems: Recent perspectives. 2021 , 10, 137-157		10
137	(Fe,Ni) ₉ S ₈ Nanosheets on a Three-Dimensional Conductive Substrate for Efficient Oxygen Evolution Reaction Electrocatalysis. 2021 , 8, 719-725		1
136	Multi-Elemental Electronic Coupling for Enhanced Hydrogen Generation. <i>Small</i> , 2021 , 17, e2006617	11	2
135	In situ growth of flower-like Cu ₃ BiS ₃ on copper foam for electrocatalyzing hydrogen evolution reaction. 2021 , 27, 1645-1652		1

134	Recent advances in nonmetallic atom-doped metal nanocrystals: Synthesis and catalytic applications. 2021 , 32, 2679-2679		1
133	Sub-2 nm Thiophosphate Nanosheets with Heteroatom Doping for Enhanced Oxygen Electrocatalysis. 2021 , 31, 2100618		52
132	Gelatin-Based Nanocomposites: A Review. 1-49		7
131	Activate FeS Nanorods by Ni Doping for Efficient Dye-Sensitized Photocatalytic Hydrogen Production. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 14198-14206	9.5	12
130	Metal-organic framework-derived Ni doped Co ₃ S ₄ hierarchical nanosheets as a monolithic electrocatalyst for highly efficient hydrogen evolution reaction in alkaline solution. 2021 ,		0
129	Single-Atom Co-Decorated MoS ₂ Nanosheets Assembled on Metal Nitride Nanorod Arrays as an Efficient Bifunctional Electrocatalyst for pH-Universal Water Splitting. 2021 , 31, 2100233		36
128	Self-Template Construction of High-Performance Co, N-Decorated Carbon Nanotubes from a Novel Cobalt Dicyandiamide Molecule. 2021 , 13, 2609-2617		0
127	Cation Modulation of Cobalt Sulfide Supported by Mesopore-Rich Hydrangea-Like Carbon Nanoflower for Oxygen Electrocatalysis. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 18683-18692	9.5	4
126	Scalable Synthesis of Hollow MoS ₂ Nanoparticles Modified on Porous Ni for Improved Hydrogen Evolution Reaction. 2021 , 168, 056519		1
125	Local Atomic and Electronic Structure of Iron-Sulfide Nanosheets. 2021 , 15, 570-574		
124	Effect of Co Doping on Electrocatalytic Performance of Co-NiS/CoS Heterostructures. 2021 , 11,		2
123	In situ fabrication of cobalt/nickel sulfides nanohybrid based on various sulfur sources as highly efficient bifunctional electrocatalysts for overall water splitting.		2
122	Highly active metal-free hetero-nanotube catalysts for the hydrogen evolution reaction. 2021 , 32,		
121	Design of earth-abundant ternary Fe _{1-x} Co _x S ₂ on RGO as efficient electrocatalysts for hydrogen evolution reaction. <i>Journal of Alloys and Compounds</i> , 2021 , 862, 158610	5.7	4
120	Synthesis and Applications of Nanostructured Hollow Transition Metal Chalcogenides. <i>Small</i> , 2021 , 17, e2006813	11	7
119	Revealing the catalytic micro-mechanism of MoN, WN and WC on hydrogen evolution reaction. 2021 ,		4
118	Silicon oxide-protected nickel nanoparticles as biomass-derived catalysts for urea electro-oxidation. <i>Journal of Colloid and Interface Science</i> , 2021 , 589, 56-64	9.3	12
117	Cr-Doped CoP Nanorod Arrays as High-Performance Hydrogen Evolution Reaction Catalysts at High Current Density. <i>Small</i> , 2021 , 17, e2100832	11	10

116	Acid-durable, high-performance cobalt phosphide catalysts for hydrogen evolution in proton exchange membrane water electrolysis. <i>International Journal of Energy Research</i> , 2021 , 45, 16842-16855 ^{4,5}	4
115	One-pot solvothermal synthesis of Co ₂ P nanoparticles: An efficient HER and OER electrocatalysts. 2021 , 46, 21924-21938	20
114	Layer-by-Layer Assembly-Based Electrocatalytic Fibril Electrodes Enabling Extremely Low Overpotentials and Stable Operation at 1 A cm ² in Water-Splitting Reaction. 2021 , 31, 2102530	3
113	Ru atom-modified Co ₄ N-CoF ₂ heterojunction catalyst for high-performance alkaline hydrogen evolution. <i>Chemical Engineering Journal</i> , 2021 , 414, 128865	14.7 12
112	Novel WS ₂ /FeS Hierarchical Nanosphere as a Highly Efficient Electrocatalyst for Hydrogen Evolution Reaction. 2021 , 27, 10998-11004	6
111	Highly Efficient Oxygen Evolution Reaction Enabled by Phosphorus Doping of the Fe Electronic Structure in Iron-Nickel Selenide Nanosheets. 2021 , 8, e2101775	24
110	Metal Phosphides and Sulfides in Heterogeneous Catalysis: Electronic and Geometric Effects. 2021 , 11, 9102-9127	7
109	Heterojunction catalyst in electrocatalytic water splitting. <i>Coordination Chemistry Reviews</i> , 2021 , 439, 213953	23.2 39
108	Highly electrochemically-active surface area of Ni(OH) ₂ with petal structure in situ grown on conductive Ni foam for efficient hydrogen evolution reaction.	0
107	Fe/Co and Ni/Co-pentlandite type electrocatalysts for the hydrogen evolution reaction. 2021 , 42, 1360-1369	12
106	PVA decorated Pt nanoparticles as an efficient electrocatalyst for hydrogen evolution reaction. 2021 , 27, 4885	
105	Recent development in electrocatalysts for hydrogen production through water electrolysis. 2021 , 46, 32284-32317	39
104	Tuning the cationic ratio of Fe ₁ Co _x Ni _y P integrated on Vertically aligned reduced graphene oxide array via electroless plating as efficient self-supported bifunctional electrocatalyst for water splitting. 1-33	2
103	Regulating electronic structure of two-dimensional porous Ni/Ni ₃ N nanosheets architecture by Co atomic incorporation boosts alkaline water splitting.	9
102	Ni, N-codoped NiMoO ₄ grown on 3D nickel foam as bifunctional electrocatalysts for hydrogen production in urea-water electrolysis. <i>Electrochimica Acta</i> , 2021 , 391, 138931	6.7 6
101	Promoting highly dispersed Co ₃ O ₄ nanoparticles onto polyethylene unraveling the catalytic mechanism with stable catalytic activity for oxygen evolution reaction: From fundamentals to applications. 2021 , 46, 35261-35270	1
100	Chemical transformation approach for high-performance ternary NiFeCo metal compound-based water splitting electrodes. 2021 , 294, 120246	12
99	Recent progress in CoP-based materials for electrochemical water splitting. 2021 , 46, 34194-34215	9

98	Constructing hierarchical carbon network wrapped Fe ₃ Se ₄ nanoparticles for sodium ion storage and hydrogen evolution reaction. <i>Electrochimica Acta</i> , 2021 , 392, 138997	6.7	0
97	Two-dimensional pyrite supported transition metal for highly-efficient electrochemical CO ₂ reduction: A theoretical screening study. <i>Chemical Engineering Journal</i> , 2021 , 424, 130541	14.7	11
96	In situ synthesis of dicobalt phosphide on tungsten carbide-cobalt cemented carbide substrates as a hydrogen evolution reaction electrocatalyst. 2021 , 204, 114159		1
95	Fe ₂ GeS ₄ (010) surface oxidation mechanism and potential application of the oxidized surface in gas sensing: A first-principles study. <i>Journal of Alloys and Compounds</i> , 2021 , 888, 161532	5.7	
94	Construction photothermal/pyroelectric property of hollow FeS ₂ /Bi ₂ S ₃ nanostructure with enhanced full spectrum photocatalytic activity. 2021 , 298, 120573		8
93	Concentration modulate engineering of cobalt-selenium-sulfide electrodes toward water splitting: A first principle study. 2021 , 570, 151229		2
92	Co-doped Ni ₃ S ₂ porous nanocones as high-performance bifunctional electrocatalysts in water splitting. <i>Chemical Engineering Journal</i> , 2021 , 425, 130455	14.7	12
91	Elemental diversity-enhanced HER and OER photoelectrochemical catalytic performance in FeCo-AuNP/nitrogen-carbon composite catalysts. 2021 , 568, 151005		2
90	Defect engineering in metal sulfides for energy conversion and storage. <i>Coordination Chemistry Reviews</i> , 2021 , 448, 214147	23.2	19
89	An aqueous high-performance hybrid supercapacitor with MXene and polyoxometalates electrodes. <i>Chemical Engineering Journal</i> , 2022 , 427, 131854	14.7	6
88	One-step synthesis of heterostructured cobalt-iron selenide as bifunctional catalyst for overall water splitting. 2022 , 275, 125201		2
87	Atomic-level engineering of two-dimensional electrocatalysts for CO reduction. <i>Nanoscale</i> , 2021 , 13, 7081-7095	7.7	7
86	Covalent organic frameworks (COFs) for electrochemical applications. 2021 , 50, 6871-6913		104
85	Hierarchical Co(OH)F Superstructure Built by Low-Dimensional Substructures for Electrocatalytic Water Oxidation. 2017 , 29, 1700286		167
84	3D mesoporous rose-like nickel-iron selenide microspheres as advanced electrocatalysts for the oxygen evolution reaction. 2018 , 11, 2149-2158		47
83	Influence of surface restructuring on the activity of SrTiO ₃ photoelectrodes for photocatalytic hydrogen reduction. 2019 , 3,		2
82	Engineering Two-Dimensional Transition Metal Dichalcogenide Electrocatalysts for Water Splitting Hydrogen Generation. 2018 , 1-29		
81	Designing Highly Active High Current Density HER Electrocatalysts: Synergistic Effects of Mo and W in EMo xW 1-XB 2 with Graphene-Like Boron Layers. <i>SSRN Electronic Journal</i> ,		1

80 codoping.

- 79 2 D -Materials-Based Heterostructures for EC Energy Conversion. **2022**, 53-128
- 78 Interface engineering and anion engineering of Mo-based heterogeneous electrocatalysts for hydrogen evolution reaction. 0
- 77 Modulating Interband Energy Separation of Boron-Doped Fe₇S₈/FeS₂ Electrocatalysts to Boost Alkaline Hydrogen Evolution Reaction. 2107802 12
- 76 Construction of amorphous Fe_{0.95}S_{1.05} nanorods with high electrocatalytic activity for enhanced hydrogen evolution reaction. *Electrochimica Acta*, **2021**, 402, 139554 6.7 2
- 75 Metal-organic framework-derived FeS₂/CoNiSe₂ heterostructure nanosheets for highly-efficient oxygen evolution reaction. **2022**, 578, 152016 4
- 74 Battery-type electrodeposited ternary metal sulfides electrodes for advanced hybrid energy storage devices. **2021**, 115881 1
- 73 Microwave-Assisted Auto-Combustion Synthesis of Binary/Ternary Co Ni Ferrite for Electrochemical Hydrogen and Oxygen Evolution.. **2021**, 6, 33024-33032 1
- 72 The determination of the HOR/HER reaction mechanism from experimental kinetic data. *Physical Chemistry Chemical Physics*, **2021**, 3.6 6
- 71 Intercalation of cobalt cations into Co₉S₈ interlayers for highly efficient and stable electrocatalytic hydrogen evolution. *Journal of Materials Chemistry A*, 13 1
- 70 Structural engineering and surface modification of nickel double hydroxide nanosheets for all-solid-state asymmetric supercapacitors. **2022**, 45, 103720 1
- 69 Structural, electronic, and electrocatalytic evaluation of spinel transition metal sulfide supported reduced graphene oxide. *Journal of Materials Chemistry A*, 13 3
- 68 Modulating the electrocatalytic CO reduction performances of bismuth nanoparticles with carbon substrates with controlled degrees of oxidation. *Nanoscale*, **2021**, 7.7 1
- 67 Highly Active and Durable Single-Atom Tungsten-Doped NiS Se Nanosheet@NiS Se Nanorod Heterostructures for Water Splitting.. **2022**, e2107053 18
- 66 Bimetallic persulfide nanoflakes assembled by dealloying and sulfurization: a versatile electro-catalyst for overall water splitting and Zn||air batteries. **2022**, 12, 497-508 0
- 65 Nanostructured nonoxide nanomaterials an introduction. **2022**, 1-24 0
- 64 Electrochemical Hydrogen Evolution Reaction. **2022**, 87-122
- 63 Oxides free nanomaterials for (photo)electrochemical water splitting. **2022**, 369-408

62	Chromium phosphide nanoparticles embedded in porous nitrogen-/phosphorus-doped carbon as efficient electrocatalysts for a nitrogen reduction reaction.		1
61	Green technology for environmental hazard remediation. 2022 , 413-431		
60	Insights into the Effect of Precursors on the FeP-Catalyzed Hydrogen Evolution Reaction.. <i>Inorganic Chemistry</i> , 2022 ,	5.1	0
59	Iron doped titania/multiwalled carbon nanotube nanocomposite: A robust electrocatalyst for hydrogen evolution reaction in aqueous acidic medium. <i>Electrochimica Acta</i> , 2022 , 407, 139921	6.7	3
58	Ultra-sensitive, selective, and rapid carcinogenic 1,2-diaminobenzene chemical determination using sol-gel coating low-dimensional facile CuS modified-CNT nanocomposites by electrochemical approach. <i>Microchemical Journal</i> , 2022 , 175, 107230	4.8	2
57	Superaerophobic/Superhydrophilic Surfaces as Advanced Electrocatalyst for Hydrogen Evolution Reaction: A Comprehensive Review. <i>Journal of Materials Chemistry A</i> ,	13	6
56	A facile and simple microwave-assisted synthesis method for mesoporous ultrathin iron sulfide nanosheets as an efficient bifunctional electrocatalyst for overall water splitting.. <i>Dalton Transactions</i> , 2022 ,	4.3	2
55	Carbon Nanostructure Based Composites for Environmental and Energy Applications. <i>Engineering Materials</i> , 2022 , 35-74	0.4	0
54	Interfacial Nanobubbles' Growth at the Initial Stage of Electrocatalytic Hydrogen Evolution. <i>SSRN Electronic Journal</i> ,	1	
53	Pt- and Pd-modified transition metal nitride catalysts for the hydrogen evolution reaction.. <i>Physical Chemistry Chemical Physics</i> , 2022 ,	3.6	1
52	Hydrogen spillover in complex oxide multifunctional sites improves acidic hydrogen evolution electrocatalysis.. <i>Nature Communications</i> , 2022 , 13, 1189	17.4	12
51	Electrochemical (Bio)Sensors for the Detection of Organophosphorus Pesticides Based on Nanomaterial-Modified Electrodes: A Review.. <i>Critical Reviews in Analytical Chemistry</i> , 2022 , 1-26	5.2	1
50	Low-Pressure Plasma-Processed Ruthenium/Nickel Foam Electrocatalysts for Hydrogen Evolution Reaction.. <i>Materials</i> , 2022 , 15,	3.5	0
49	In-situ fabrication of NiSe/MoSe hollow rod array for enhanced catalysts for efficient hydrogen evolution reaction.. <i>Journal of Colloid and Interface Science</i> , 2022 , 617, 611-619	9.3	3
48	Electronic structure regulation and polysulfide bonding of Co-doped (Ni, Fe) _{1+x} S enable highly efficient and stable electrocatalytic overall water splitting. <i>Chemical Engineering Journal</i> , 2022 , 441, 136121	14.7	1
47	Designing Self-Supported Electrocatalysts for Electrochemical Water Splitting: Surface/Interface Engineering toward Enhanced Electrocatalytic Performance. <i>ACS Applied Materials & Interfaces</i> , 2021 ,	9.5	8
46	Vacancy-mediated transition metals as efficient electrocatalysts for water splitting.. <i>Nanoscale</i> , 2022 , 14, 7181-7188	7.7	0
45	S site doped-pyrite by single atom for efficiently catalyzing N ₂ electrochemical reduction. <i>Chemical Engineering Journal</i> , 2022 , 442, 136350	14.7	1

44	Highly dispersed ruthenium nanoparticles on nitrogen doped carbon toward efficient hydrogen evolution in both alkaline and acidic electrolytes.. <i>RSC Advances</i> , 2022 , 12, 13932-13937	3.7	1
43	A monolith electrode featuring FeS ₂ embedded in porous carbon nanofibers for efficient hydrogen evolution. <i>Electrochimica Acta</i> , 2022 , 140471	6.7	0
42	Optimizing Atomically Dispersed Metal Electrocatalysts for Hydrogen Evolution: Chemical Coordination Effect and Electronic Metal Support Interaction.. <i>Chemistry - an Asian Journal</i> , 2022 ,	4.5	1
41	In-situ hydrothermal synthesis of NiMoO ₂ heterostructure on porous bulk NiMo alloy for efficient hydrogen evolution reaction. <i>Transactions of Nonferrous Metals Society of China</i> , 2022 , 32, 1598-1608	3.3	1
40	Strategies to improve electrocatalytic performance of MoS ₂ -based catalysts for hydrogen evolution reactions. <i>RSC Advances</i> , 2022 , 12, 17959-17983	3.7	2
39	Surface Design Strategy of Catalysts for Water Electrolysis. <i>Small</i> , 2202336	11	9
38	Graphene oxide-based materials in electrocatalysis. 2022 , 189-238		
37	Binder-free ternary transition metal sulfides for energy storage applications. <i>International Journal of Energy Research</i> ,	4.5	
36	Comparative study on the distinct activity for NiFe-based phosphide and sulfide pre-electrocatalysts towards hydrogen evolution reaction. <i>Journal of Catalysis</i> , 2022 , 413, 425-433	7.3	1
35	Recent progress in first row transition metal Layered double hydroxide (LDH) based electrocatalysts towards water splitting: A review with insights on synthesis. <i>Coordination Chemistry Reviews</i> , 2022 , 469, 214666	23.2	7
34	Modified Co electronic states in double-anionic CoPS nanocrystals induce highly efficient electrocatalytic hydrogen evolution. <i>Journal of Alloys and Compounds</i> , 2022 , 922, 166114	5.7	
33	Self-template synthesis of lychee like Mn-doped Co ₂ P yolk-shell spheres for enhanced hydrogen evolution reaction activity. 2022 ,		0
32	Iron Pyrite in Photovoltaics: A Review on Recent Trends and Challenges.		
31	ML-guided design and screening of chalcogenide catalysts for hydrogen evolution reaction. 2022 ,		0
30	Transition metal tellurides/2D Ti ₃ C ₂ T _x MXene: Investigation towards active alkaline hydrogen evolution reaction. 2022 ,		0
29	The application of plasma technology in activating the hydrogen evolution performance of nanostructured electrocatalysts. 2022 , 63-104		0
28	Fabrication and Development of Binder-Free MnBeS Mixed Metal Sulfide Loaded Ni-Foam as Electrode for the Asymmetric Coin Cell Supercapacitor Device. 2022 , 12, 3193		0
27	Light-Induced Ammonia Generation over Defective Carbon Nitride Modified with Pyrite. 2202403		1

26	Interfacial Nanobubbles Growth at the Initial Stage of Electrocatalytic Hydrogen Evolution.	0
25	FeNiS ₂ /reduced graphene oxide electrocatalysis with reconstruction to generate FeNi oxo/hydroxide as a highly-efficient water oxidation electrocatalyst.	0
24	Recent advances in interface engineering strategy for highly-efficient electrocatalytic water splitting.	3
23	Realizing Favorable Synergism Toward Efficient Hydrogen Evolution Reaction with Heterojunction Engineered Cu ₇ S ₄ /CuS ₂ /NiS ₂ and Functionalized Carbon Sheet Heterostructures. 2201478	0
22	Construction of Core-Shell Ni-Co(OH)F@NiCo ₂ S ₄ Nanorods for Highly-Efficient Hydrazine-assisted Hydrogen Evolution.	0
21	Rational Design of NiSe/ReSe ₂ Nanocomposite For Efficient Electrochemical Hydrogen Evolution Reaction.	0
20	Recent progress on design and applications of transition metal chalcogenide-associated electrocatalysts for the overall water splitting. 2023 , 44, 7-49	0
19	Carbon nanotube sponges filled sandwich panels with superior high-power continuous wave laser resistance. 2022 , 12,	0
18	A Series of Low-Coordinate Iron Selenido Complexes: Reactivity of a Linear Iron(I) Silylamide Towards Selenium.	0
17	0D/1D CdSe@CdS QDs/GONRs nanocatalyst for efficient photoelectrochemical water splitting. 2023 , 129,	0
16	Effects of Metal-Support Interaction in the Electrocatalysis of the Hydrogen Evolution Reaction of the Metal-Decorated Titanium Dioxide Supported Carbon. 2023 , 13, 22	0
15	Recent Progress in Metal Phosphorous Chalcogenides: Potential High-Performance Electrocatalysts. 2207249	2
14	Theoretical study on the interactions of Anemopsis californica compounds with graphene monolayers: A DFT perspective.	0
13	Synthesis and water splitting performance of FeCoNbS bifunctional electrocatalyst. 2023 ,	0
12	Recent advances in metal/covalent organic frameworks based materials: Their synthesis, structure design and potential applications for hydrogen production. 2023 , 483, 215066	1
11	Aerogels containing ionomers and microwave assisted growth of carbon nanostructures on carbon urchins for multifunctional electromagnetic interference shielding. 2023 , 118036	0
10	Electrocatalysts for Hydrogen Evolution Reaction. 2023 , 115-146	0
9	A General and Scalable Approach to Sulfur-Doped Mono-/Bi-/Trimetallic Nanoparticles Confined in Mesoporous Carbon. 2023 , 17, 3889-3900	0

- 8 Evaluation of thermal plasma-synthesized cobalt boride nanoparticles as efficient water-splitting catalysts. **2023**, 11, 109578 ○
- 7 Interfacial nanobubbles growth at the initial stage of electrocatalytic hydrogen evolution. ○
- 6 Recent advances and future prospects on Ni₃S₂-Based electrocatalysts for efficient alkaline water electrolysis. **2023**, ○
- 5 Facial synthesis of FeS₂@Carbon nanotube composite as an efficient electrocatalyst for hydrogen evolution reaction. **2023**, 16, ○
- 4 Bifunctional Catalysts with Morphology-Controllable Iron Sulfide Nanosheets for Overall Water Splitting. **2023**, 2023, 1-11 ○
- 3 Problem-Based Learning as a Practical Approach to Postgraduate Materials Science Education. ○
- 2 Highly Efficient Electrocatalytic Hydrogen Production over Carbon Nanotubes Loaded with Platinum Nanoparticles Using Solution Processing. ○
- 1 Dopant triggered atomic configuration activates water splitting to hydrogen. **2023**, 14, ○