

# CITATION REPORT

List of articles citing

Improving the hydrogen oxidation reaction rate by promotion of hydroxyl adsorption

DOI: 10.1038/nchem.1574

Nature Chemistry, 2013, 5, 300-6.

**Source:** <https://exaly.com/paper-pdf/55801281/citation-report.pdf>

**Version:** 2024-04-17

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

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

#	Paper	IF	Citations
793	Interfacial Interactions as an Electrochemical Tool To Understand Mo-Based Catalysts for the Hydrogen Evolution Reaction.		
792	Isolated Ni Atoms Dispersed on Ru Nanosheets: High-Performance Electrocatalysts toward Hydrogen Oxidation Reaction.		
791	Platinum-coated copper nanowires with high activity for hydrogen oxidation reaction in base. <b>2013</b> , 135, 13473-8		118
790	Best Practices for Investigating Anion Exchange Membrane Suitability for Alkaline Electrochemical Devices: Case Study Using Quaternary Ammonium Poly(2,6-dimethyl 1,4-phenylene)oxide Anion Exchange Membranes. <b>2013</b> , 160, F1258-F1274		78
789	Hydrogen electrocatalysis: a basic solution. <i>Nature Chemistry</i> , <b>2013</b> , 5, 255-6	17.6	163
788	Comparative Study of the HOR Kinetics in Pemfc and Aemfc. <b>2013</b> ,		
787	Solution-deposited F:SnO <sub>2</sub> /TiO <sub>2</sub> as a base-stable protective layer and antireflective coating for microtextured buried-junction H <sub>2</sub> evolving Si photocathodes. <b>2014</b> , 6, 22830-7		69
786	Activity-stability relationship in the surface electrochemistry of the oxygen evolution reaction. <b>2014</b> , 176, 125-33		65
785	Kinetics of the Hydrogen Oxidation/Evolution Reaction on Polycrystalline Platinum in Alkaline Electrolyte Reaction Order with Respect to Hydrogen Pressure. <b>2014</b> , 161, F1448-F1457		162
784	Nickel catalysts for hydrogen evolution from CsH <sub>2</sub> PO <sub>4</sub> . <b>2014</b> , 245, 171-174		11
783	Mechanistic Switching by Hydronium Ion Activity for Hydrogen Evolution and Oxidation over Polycrystalline Platinum Disk and Platinum/Carbon Electrodes. <b>2014</b> , 1, 1497-1507		37
782	Effects of Nanoparticle Size and Metal/Support Interactions in Pt-Catalyzed Methanol Oxidation Reactions in Gas and Liquid Phases. <b>2014</b> , 144, 1930-1938		26
781	A solvent evaporation plus hydrogen reduction method to synthesize IrNi/C catalysts for hydrogen oxidation. <b>2014</b> , 2, 10098-10103		15
780	Solvent switching and purification of colloidal nanoparticles through water/oil Interfaces within a density gradient. <b>2014</b> , 7, 1670-1679		6
779	Non-precious metal electrocatalysts with high activity for hydrogen oxidation reaction in alkaline electrolytes. <b>2014</b> , 7, 1719-1724		211
778	New insights into the electrochemical hydrogen oxidation and evolution reaction mechanism. <b>2014</b> , 7, 2255-2260		902
777	Ultrathin dendritic Pt <sub>3</sub> Cu triangular pyramid caps with enhanced electrocatalytic activity. <b>2014</b> , 6, 17748-52		57

776	Hydrogen transport in non-ideal crystalline materials. <b>2014</b> , 15, 2893-902	2
775	Electrochemical adsorption of OH on Pt(111) in alkaline solutions: combining DFT and molecular dynamics. <b>2014</b> , 15, 2003-9	21
774	Enabling silicon for solar-fuel production. <b>2014</b> , 114, 8662-719	274
773	Supported nickel-iron nanocomposites as a bifunctional catalyst towards hydrogen generation from N <sub>2</sub> H <sub>4</sub> ·H <sub>2</sub> O. <b>2014</b> , 16, 1560	70
772	High-performance Ag-Co alloy catalysts for electrochemical oxygen reduction. <i>Nature Chemistry</i> , <b>2014</b> , 6, 828-34	17.6 331
771	Activity-Stability Trends for the Oxygen Evolution Reaction on Monometallic Oxides in Acidic Environments. <b>2014</b> , 5, 2474-8	416
770	Functional links between stability and reactivity of strontium ruthenate single crystals during oxygen evolution. <b>2014</b> , 5, 4191	208
769	Platinum-Modified Gold Electrocatalysts for the Hydrogen Oxidation Reaction in Alkaline Electrolytes. <b>2014</b> , 1, 2058-2063	17
768	Galvanic displacement as a route to highly active and durable extended surface electrocatalysts. <b>2014</b> , 4, 3589-3600	56
767	Electrochemical energy engineering: a new frontier of chemical engineering innovation. <b>2014</b> , 5, 429-54	55
766	Metal sulfides as anode catalysts in direct alkaline sulfide fuel cell. <b>2014</b> , 39, 10493-10497	7
765	Insight on Tafel slopes from a microkinetic analysis of aqueous electrocatalysis for energy conversion. <b>2015</b> , 5, 13801	1315
764	Electro-oxidation and reduction of H <sub>2</sub> on platinum studied by scanning electrochemical microscopy for the purpose of local detection of H <sub>2</sub> evolution. <b>2015</b> , 47, 1187-1191	2
763	Second Order Dependence on the Surface Fraction of Pt in PtRu adatom of the Oxidation of 2-PrOH in Base. <b>2015</b> , 119, 27212-27219	1
762	Hydrogen Oxidation and Hydrogen Evolution on a Platinum Electrode in Acetonitrile. <b>2015</b> , 2, 1612-1622	24
761	Ruthenium-Alloy Electrocatalysts with Tunable Hydrogen Oxidation Kinetics in Alkaline Electrolyte. <b>2015</b> , 119, 13481-13487	75
760	Carbon-supported bimetallic PdNi catalysts for alkaline sulfide oxidation in direct alkaline sulfide fuel cell. <b>2015</b> , 45, 533-539	4
759	Carbon supported bimetallic PdCo catalysts for alkaline sulfide oxidation in direct alkaline sulfide fuel cell. <b>2015</b> , 40, 4567-4572	9

758	Identification of intrinsic catalytic activity for electrochemical reduction of water molecules to generate hydrogen. <b>2015</b> , 17, 15111-4	23
757	Optimizing the Volmer Step by Single-Layer Nickel Hydroxide Nanosheets in Hydrogen Evolution Reaction of Platinum. <b>2015</b> , 5, 3801-3806	108
756	The Effect of Carbonate and pH on Hydrogen Oxidation and Oxygen Reduction on Pt-Based Electrocatalysts in Alkaline Media. <b>2015</b> , 69, 995-1005	
755	Correlating hydrogen oxidation and evolution activity on platinum at different pH with measured hydrogen binding energy. <b>2015</b> , 6, 5848	556
754	High-pressure water electrolysis: Electrochemical mitigation of product gas crossover. <b>2015</b> , 156, 321-327	29
753	Benchmarking hydrogen evolving reaction and oxygen evolving reaction electrocatalysts for solar water splitting devices. <b>2015</b> , 137, 4347-57	2386
752	Composite Ni/NiO-CrO Catalyst for Alkaline Hydrogen Evolution Reaction. <b>2015</b> , 119, 5467-5477	90
751	A superlattice of alternately stacked Ni-Fe hydroxide nanosheets and graphene for efficient splitting of water. <b>2015</b> , 9, 1977-84	519
750	Optimizing the oxygen evolution reaction for electrochemical water oxidation by tuning solvent properties. <b>2015</b> , 7, 4514-21	19
749	Ultrathin platinum nanowires grown on single-layered nickel hydroxide with high hydrogen evolution activity. <b>2015</b> , 6, 6430	719
748	Towards First Principles-Based Prediction of Highly Accurate Electrochemical Pourbaix Diagrams. <b>2015</b> , 119, 18177-18187	63
747	Impact of solute concentration on the electrocatalytic conversion of dissolved gases in buffered solutions. <b>2015</b> , 287, 465-471	22
746	Robust Phase Control through Hetero-Seeded Epitaxial Growth for Face-Centered Cubic Pt@Ru Nanotetrahedrons with Superior Hydrogen Electro-Oxidation Activity. <b>2015</b> , 119, 17697-17706	60
745	A trimetallic VCoFe oxide nanoparticle as an efficient and stable electrocatalyst for oxygen evolution reaction. <b>2015</b> , 3, 17763-17770	99
744	Hydrogen oxidation reaction on Pd(111) electrode in alkaline media: Ab-initio DFT study of OH effects. <b>2015</b> , 1063, 63-69	2
743	Effect of the Transition Metal on Metal-Nitrogen-Carbon Catalysts for the Hydrogen Evolution Reaction. <b>2015</b> , 162, H719-H726	72
742	Engineering high-performance Pd core-MgO porous shell nanocatalysts via heterogeneous gas-phase synthesis. <b>2015</b> , 7, 13387-92	16
741	Correlating Hydrogen Oxidation/Evolution Reaction Activity with the Minority Weak Hydrogen-Binding Sites on Ir/C Catalysts. <b>2015</b> , 5, 4449-4455	81

740	New Insights into Corrosion of Ruthenium and Ruthenium Oxide Nanoparticles in Acidic Media. <b>2015</b> , 119, 10140-10147	113
739	Highly porous non-precious bimetallic electrocatalysts for efficient hydrogen evolution. <b>2015</b> , 6, 6567	359
738	Water as a Promoter and Catalyst for Dioxygen Electrochemistry in Aqueous and Organic Media. <b>2015</b> , 5, 6600-6607	92
737	Pd/Ni Synergistic Activity for Hydrogen Oxidation Reaction in Alkaline Conditions. <b>2015</b> , 176, 1074-1082	47
736	Palladium Coated Copper Nanowires as a Hydrogen Oxidation Electrocatalyst in Base. <b>2015</b> , 162, F849-F853	30
735	Single-crystalline dendritic bimetallic and multimetallic nanocubes. <b>2015</b> , 6, 7122-7129	51
734	Synthesis and Alkaline Stability of Solubilized Anion Exchange Membrane Binders Based on Poly(phenylene oxide) Functionalized with Quaternary Ammonium Groups via a Hexyl Spacer. <b>2015</b> , 162, F1236-F1242	37
733	Exchange current density of the hydrogen oxidation reaction on Pt/C in polymer solid base electrolyte. <b>2015</b> , 61, 57-60	13
732	Self-terminated electrodeposition of iridium electrocatalysts. <b>2015</b> , 8, 3557-3562	40
731	Trimetallic NiFePd nanoalloy catalysed hydrogen generation from alkaline hydrous hydrazine and sodium borohydride at room temperature. <b>2015</b> , 3, 24371-24378	53
730	Platinum and Palladium Overlayers Dramatically Enhance the Activity of Ruthenium Nanotubes for Alkaline Hydrogen Oxidation. <b>2015</b> , 5, 7015-7023	35
729	When Small is Big: The Role of Impurities in Electrocatalysis. <b>2015</b> , 58, 1174-1180	23
728	Elucidating Hydrogen Oxidation/Evolution Kinetics in Base and Acid by Enhanced Activities at the Optimized Pt Shell Thickness on the Ru Core. <b>2015</b> , 5, 6764-6772	159
727	Electrocatalytic reduction of carbon dioxide to carbon monoxide and methane at an immobilized cobalt protoporphyrin. <b>2015</b> , 6, 8177	357
726	Beneficial effect of Re doping on the electrochemical HER activity of MoS <sub>2</sub> fullerenes. <b>2015</b> , 44, 16399-404	58
725	Sputtering nickel-molybdenum nanorods as an excellent hydrogen evolution reaction catalyst. <b>2015</b> , 297, 413-418	32
724	Three-dimensional porous superaerophobic nickel nanoflower electrodes for high-performance hydrazine oxidation. <b>2015</b> , 8, 3365-3371	55
723	Electrocatalytic Hydrogen Evolution under Densely Buffered Neutral pH Conditions. <b>2015</b> , 119, 20453-20458	53

722	(Invited) Fuel Cell Electrocatalysis in Acid and Alkaline Media: The Role of the Electrode Potential in Active Site Generation. <b>2015</b> , 66, 13-30	2
721	Bulk-Palladium and Palladium-on-Gold Electrocatalysts for the Oxidation of Hydrogen in Alkaline Electrolyte. <b>2015</b> , 162, F178-F189	64
720	Noble-metal-free NiFeMo nanocatalyst for hydrogen generation from the decomposition of hydrous hydrazine. <b>2015</b> , 3, 121-124	66
719	Evaluating the corrosion behaviour of Magnesium alloy in simulated biological fluid by using SECM to detect hydrogen evolution. <b>2015</b> , 152, 294-301	34
718	Ultrathin branched PtFe and PtRuFe nanodendrites with enhanced electrocatalytic activity. <b>2015</b> , 3, 1182-1187	56
717	PtRu catalyzed hydrogen oxidation in alkaline media: oxophilic effect or electronic effect?. <b>2015</b> , 8, 177-181	317
716	PtNi octahedral nanocrystals as a class of highly active electrocatalysts toward the hydrogen evolution reaction in an alkaline electrolyte. <b>2016</b> , 4, 12392-12397	82
715	Template Synthesis of Noble Metal Nanocrystals with Unusual Crystal Structures and Their Catalytic Applications. <b>2016</b> , 49, 2841-2850	139
714	Effect of Organic Cations on Hydrogen Oxidation Reaction of Carbon Supported Platinum. <b>2016</b> , 163, F1503-F1509	25
713	The Role of Transition Metal and Nitrogen in Metal-Ni Composites for Hydrogen Evolution Reaction at Universal pHs. <b>2016</b> , 120, 29047-29053	49
712	pH Dependence of the Electron-Transfer Coefficient: Comparing a Model to Experiment for Hydrogen Evolution Reaction. <b>2016</b> , 120, 28489-28496	14
711	CO <sub>2</sub> electroreduction on P4VP modified copper deposited gas diffusion layer electrode: pH effect. <b>2016</b> , 5, 1	3
710	Partial oxidation of step-bound water leads to anomalous pH effects on metal electrode step-edges. <b>2016</b> , 18, 16216-23	37
709	Tailoring ruthenium exposure to enhance the performance of fcc platinum@ruthenium core-shell electrocatalysts in the oxygen evolution reaction. <b>2016</b> , 18, 16169-78	44
708	A surface-enhanced infrared absorption spectroscopic study of pH dependent water adsorption on Au. <b>2016</b> , 650, 51-56	23
707	Role of Chemical Composition in the Enhanced Catalytic Activity of Pt-Based Alloyed Ultrathin Nanowires for the Hydrogen Oxidation Reaction under Alkaline Conditions. <b>2016</b> , 6, 3895-3908	111
706	Recent advances in palladium-based electrocatalysts for fuel cell reactions and hydrogen evolution reaction. <b>2016</b> , 29, 198-219	235
705	Reactions of ethanol over CeO <sub>2</sub> and Ru/CeO <sub>2</sub> catalysts. <b>2016</b> , 197, 198-205	22

704	Size-Dependent Hydrogen Oxidation and Evolution Activities on Supported Palladium Nanoparticles in Acid and Base. <b>2016</b> , 163, F499-F506	81
703	Design principles for hydrogen evolution reaction catalyst materials. <b>2016</b> , 29, 29-36	437
702	Activity and stability of cobalt phosphides for hydrogen evolution upon water splitting. <b>2016</b> , 29, 37-45	130
701	Electrocatalysts for hydrogen oxidation and evolution reactions. <b>2016</b> , 59, 217-238	116
700	New Insight into the Hydrogen Evolution Reaction under Buffered Near-Neutral pH Conditions: Enthalpy and Entropy of Activation. <b>2016</b> , 120, 24187-24196	31
699	Ni-based bimetallic heterogeneous catalysts for energy and environmental applications. <b>2016</b> , 9, 3314-3347	413
698	Oxygen-Tolerant Electrodes with Platinum-Loaded Covalent Triazine Frameworks for the Hydrogen Oxidation Reaction. <b>2016</b> , 128, 13378-13382	20
697	Oxygen-Tolerant Electrodes with Platinum-Loaded Covalent Triazine Frameworks for the Hydrogen Oxidation Reaction. <b>2016</b> , 55, 13184-13188	103
696	Reversible Electrocatalytic Activity of Carbon-Supported Pt Ni in Hydrogen Reactions. <b>2016</b> , 17, 3964-3973	6
695	Carbon supported IrM (M = Fe, Ni, Co) alloy nanoparticles for the catalysis of hydrogen oxidation in acidic and alkaline medium. <b>2016</b> , 37, 1142-1148	21
694	Gold-supported cerium-doped NiOx catalysts for water oxidation. <b>2016</b> , 1,	366
693	Tuning of Silver Catalyst Mesostructure Promotes Selective Carbon Dioxide Conversion into Fuels. <b>2016</b> , 55, 15282-15286	196
692	A Novel Cathode Architecture Using Ordered Pt Nanostructure Thin Film for AAEMFC Application. <b>2016</b> , 220, 67-74	4
691	Electrochemical Stability of Magnesium Surfaces in an Aqueous Environment. <b>2016</b> , 120, 26922-26933	41
690	Tuning of Silver Catalyst Mesostructure Promotes Selective Carbon Dioxide Conversion into Fuels. <b>2016</b> , 128, 15508-15512	67
689	Universal dependence of hydrogen oxidation and evolution reaction activity of platinum-group metals on pH and hydrogen binding energy. <b>2016</b> , 2, e1501602	396
688	Cation-Hydroxide-Water Coadsorption Inhibits the Alkaline Hydrogen Oxidation Reaction. <b>2016</b> , 7, 4464-4469	43
687	Hollow Chevrel-Phase NiMo <sub>3</sub> S <sub>4</sub> for Hydrogen Evolution in Alkaline Electrolytes. <b>2016</b> , 128, 15466-15471	44

686	Hollow Chevrel-Phase NiMo S for Hydrogen Evolution in Alkaline Electrolytes. <b>2016</b> , 55, 15240-15245	119
685	Synthesis and development of nano WO <sub>3</sub> catalyst incorporated NiP coating for electrocatalytic hydrogen evolution reaction. <b>2016</b> , 41, 10090-10102	27
684	Hydrogen Electrooxidation under Conditions of High Mass Transport in Room-Temperature Ionic Liquids and the Role of Underpotential-Deposited Hydrogen. <b>2016</b> , 120, 11498-11507	5
683	Enhanced oxygen evolution reaction of metallic nickel phosphide nanosheets by surface modification. <b>2016</b> , 3, 1021-1027	45
682	Carbon-supported Pt-RuS <sub>2</sub> nanocomposite as hydrogen oxidation reaction catalysts for fuel cells. <b>2016</b> , 46, 77-83	3
681	Nickel supported on nitrogen-doped carbon nanotubes as hydrogen oxidation reaction catalyst in alkaline electrolyte. <b>2016</b> , 7, 10141	269
680	pH and Alkali Cation Effects on the Pt Cyclic Voltammogram Explained Using Density Functional Theory. <b>2016</b> , 120, 457-471	116
679	Palladium/nickel bifunctional electrocatalyst for hydrogen oxidation reaction in alkaline membrane fuel cell. <b>2016</b> , 304, 332-339	115
678	The Effect of Carbonate and pH on Hydrogen Oxidation and Oxygen Reduction on Pt-Based Electrocatalysts in Alkaline Media. <b>2016</b> , 163, F291-F295	11
677	Interfacial effects on the catalysis of the hydrogen evolution, oxygen evolution and CO <sub>2</sub> -reduction reactions for (co-)electrolyzer development. <b>2016</b> , 29, 4-28	82
676	Enhanced Supply of Hydroxyl Species in CeO <sub>2</sub> -Modified Platinum Catalyst Studied by in Situ ATR-FTIR Spectroscopy. <b>2016</b> , 6, 2026-2034	44
675	Palladium Nanoparticle/Graphitic Carbon Nitride Porous Synergistic Catalyst for Hydrogen Evolution/Oxidation Reactions over a Broad Range of pH and Correlation of Its Catalytic Activity with Measured Hydrogen Binding Energy. <b>2016</b> , 6, 1929-1941	185
674	Superior anti-CO poisoning capability: Au-decorated PtFe nanocatalysts for high-performance methanol oxidation. <b>2016</b> , 52, 3903-6	47
673	Electrolyte Engineering toward Efficient Hydrogen Production Electrocatalysis with Oxygen-Crossover Regulation under Densely Buffered Near-Neutral pH Conditions. <b>2016</b> , 120, 1785-1794	22
672	Relationships between Atomic Level Surface Structure and Stability/Activity of Platinum Surface Atoms in Aqueous Environments. <b>2016</b> , 6, 2536-2544	146
671	Design of active and stable Co-Mo-S <sub>x</sub> chalcogels as pH-universal catalysts for the hydrogen evolution reaction. <b>2016</b> , 15, 197-203	683
670	Influence of the electrolyte composition on the activity and selectivity of electrocatalytic centers. <b>2016</b> , 262, 24-35	36
669	Double layer effects in electrocatalysis: The oxygen reduction reaction and ethanol oxidation reaction on Au(1 1 1), Pt(1 1 1) and Ir(1 1 1) in alkaline media containing Na and Li cations. <b>2016</b> , 262, 41-47	61



668	Highly active nanostructured palladium-ceria electrocatalysts for the hydrogen oxidation reaction in alkaline medium. <b>2017</b> , 33, 293-305	125
667	Combining theory and experiment in electrocatalysis: Insights into materials design. <b>2017</b> , 355,	5239
666	High-efficiency electrochemical hydrogen evolution based on the intermetallic Pt <sub>2</sub> Si compound prepared by magnetron-sputtering. <b>2017</b> , 7, 1553-1560	27
665	Intermetallic Nanocrystals: Syntheses and Catalytic Applications. <b>2017</b> , 29, 1605997	246
664	Hydrogen evolution electrocatalysis with binary-nonmetal transition metal compounds. <b>2017</b> , 5, 5995-6012	117
663	Suppression of Hydrogen Evolution by Oxygen Reduction in Nanoporous Electrocatalysts. <b>2017</b> , 139, 3663-3668	23
662	Engineering phase and surface composition of Pt <sub>3</sub> Co nanocatalysts: A strategy for enhancing CO tolerance. <b>2017</b> , 34, 224-232	61
661	Factors in electrode fabrication for performance enhancement of anion exchange membrane water electrolysis. <b>2017</b> , 347, 283-290	35
660	Elucidating the alkaline oxygen evolution reaction mechanism on platinum. <b>2017</b> , 5, 11634-11643	71
659	Water and its partially dissociated fragments at metal surfaces. <b>2017</b> , 36, 1-38	12
658	Platinum-nickel alloy excavated nano-multipods with hexagonal close-packed structure and superior activity towards hydrogen evolution reaction. <b>2017</b> , 8, 15131	262
657	Stabilization of ultrathin (hydroxy)oxide films on transition metal substrates for electrochemical energy conversion. <b>2017</b> , 2,	125
656	IrPdRu/C as H <sub>2</sub> Oxidation Catalysts for Alkaline Fuel Cells. <b>2017</b> , 139, 6807-6810	77
655	On the pH Dependence of the Potential of Maximum Entropy of Ir(111) Electrodes. <b>2017</b> , 7, 1246	27
654	Competition between Hydrogen Evolution and Carbon Dioxide Reduction on Copper Electrodes in Mildly Acidic Media. <b>2017</b> , 33, 9307-9313	181
653	Tuning Nb/Bi Interactions To Facilitate Fuel Cell Electrocatalysis. <b>2017</b> , 7, 4936-4946	39
652	A novel cathode architecture using Cu nanoneedle arrays as the cathode support for AAEMFC application. <b>2017</b> , 5, 14794-14800	4
651	Fuel Cells: An Overview with Emphasis on Polymer Electrolyte Fuel Cells. <b>2017</b> , 51-94	

650	Balanced work function as a driver for facile hydrogen evolution reaction - comprehension and experimental assessment of interfacial catalytic descriptor. <b>2017</b> , 19, 17019-17027	45
649	Nanostructured Pt Surfaces with Ir Submonolayers for Enhanced NH <sub>3</sub> Electro-oxidation. <b>2017</b> , 4, 1327-1333	12
648	Interfacial water reorganization as a pH-dependent descriptor of the hydrogen evolution rate on platinum electrodes. <b>2017</b> , 2,	505
647	Investigating the Influences of the Adsorbed Species on Catalytic Activity for Hydrogen Oxidation Reaction in Alkaline Electrolyte. <b>2017</b> , 139, 5156-5163	164
646	Identifying the significance of proton-electron transfer in CH <sub>4</sub> production on Cu (100) in CO <sub>2</sub> electro-reduction. <b>2017</b> , 793, 184-187	6
645	Engineering stepped edge surface structures of MoS <sub>2</sub> sheet stacks to accelerate the hydrogen evolution reaction. <b>2017</b> , 10, 593-603	236
644	Energy and fuels from electrochemical interfaces. <b>2016</b> , 16, 57-69	1064
643	Towards Versatile and Sustainable Hydrogen Production through Electrocatalytic Water Splitting: Electrolyte Engineering. <b>2017</b> , 10, 1318-1336	104
642	Thin MoS <sub>2</sub> nanosheets grafted MOFs-derived porous Co <sub>9</sub> Ni <sub>1</sub> flakes grown on electrospun carbon nanofibers as self-supported bifunctional catalysts for overall water splitting. <b>2017</b> , 5, 23898-23908	98
641	Encased Copper Boosts the Electrocatalytic Activity of N-Doped Carbon Nanotubes for Hydrogen Evolution. <b>2017</b> , 9, 36857-36864	60
640	Adsorbed Hydroxide Does Not Participate in the Volmer Step of Alkaline Hydrogen Electrocatalysis. <b>2017</b> , 7, 8314-8319	58
639	Ir-oriented nanocrystalline assemblies with high activity for hydrogen oxidation/evolution reactions in an alkaline electrolyte. <b>2017</b> , 5, 22959-22963	25
638	Benzene Adsorption: A Significant Inhibitor for the Hydrogen Oxidation Reaction in Alkaline Conditions. <b>2017</b> , 8, 4918-4924	37
637	Experimental Proof of the Bifunctional Mechanism for the Hydrogen Oxidation in Alkaline Media. <b>2017</b> , 129, 15800-15804	16
636	Experimental Proof of the Bifunctional Mechanism for the Hydrogen Oxidation in Alkaline Media. <b>2017</b> , 56, 15594-15598	118
635	Stability and catalytic properties of nanostructured carbons in electrochemical environments. <b>2017</b> , 355, 156-166	12
634	Precious metal-free approach to hydrogen electrocatalysis for energy conversion: From mechanism understanding to catalyst design. <b>2017</b> , 42, 69-89	109
633	Electrolyte Engineering towards Efficient Water Splitting at Mild pH. <b>2017</b> , 10, 4155-4162	32

632	Nanohybridization of MoS <sub>2</sub> with Layered Double Hydroxides Efficiently Synergizes the Hydrogen Evolution in Alkaline Media. <b>2017</b> , 1, 383-393	262
631	Understanding the structure and reactivity of NiCu nanoparticles: an atomistic model. <b>2017</b> , 19, 26812-26820	11
630	Oxygen evolution reaction dynamics monitored by an individual nanosheet-based electronic circuit. <b>2017</b> , 8, 645	36
629	Pt/RuO <sub>2</sub> -TiO <sub>2</sub> Electrocatalysts Exhibit Excellent Hydrogen Evolution Activity in Alkaline Media. <b>2017</b> , 164, F1234-F1240	15
628	Support Interaction Effect of Platinum Nanoparticles on Non-, Y-, Ce-Doped Anatase and Its Implication on the ORR in Acid and Alkaline Media. <b>2017</b> , 4, 3264-3275	17
627	Excavated octahedral Pt-Co alloy nanocrystals built with ultrathin nanosheets as superior multifunctional electrocatalysts for energy conversion applications. <b>2017</b> , 39, 582-589	103
626	Hydrogen oxidation reaction in alkaline media: Relationship between electrocatalysis and electrochemical double-layer structure. <b>2017</b> , 41, 765-771	60
625	Exclusive Hydrogen Generation by Electrocatalysts Coated with an Amorphous Chromium-Based Layer Achieving Efficient Overall Water Splitting. <b>2017</b> , 5, 8079-8088	32
624	Anion-Exchange Membrane Fuel Cells with Improved CO Tolerance: Impact of Chemically Induced Bicarbonate Ion Consumption. <b>2017</b> , 9, 28650-28658	8
623	Pt/C/Ni(OH) <sub>2</sub> Bi-Functional Electrocatalyst for Enhanced Hydrogen Evolution Reaction Activity under Alkaline Conditions. <b>2017</b> , 164, F1307-F1315	33
622	Nature of Highly Active Electrocatalytic Sites for the Hydrogen Evolution Reaction at Pt Electrodes in Acidic Media. <b>2017</b> , 2, 8141-8147	31
621	Balancing activity, stability and conductivity of nanoporous core-shell iridium/iridium oxide oxygen evolution catalysts. <b>2017</b> , 8, 1449	168
620	A novel Ir/CeO <sub>2</sub> nanoparticle electrocatalyst for the hydrogen oxidation reaction of alkaline anion exchange membrane fuel cells. <b>2017</b> , 7, 31574-31581	33
619	Co <sub>3</sub> O <sub>4</sub> nanoparticles assembled on polypyrrole/graphene oxide for electrochemical reduction of oxygen in alkaline media. <b>2017</b> , 38, 1281-1290	11
618	Photophysics and electrochemistry relevant to photocatalytic water splitting involved at solid-electrolyte interfaces. <b>2017</b> , 26, 259-269	14
617	Electrocatalysts for the generation of hydrogen, oxygen and synthesis gas. <b>2017</b> , 58, 1-35	311
616	Electrochemical properties of lithium air batteries with Pt <sub>100</sub> /Ru <sub>x</sub> (0 ≤ x ≤ 100) electrocatalysts for air electrodes. <b>2017</b> , 340, 121-125	7
615	Catalysis by Metal Carbides and Nitrides. <b>2017</b> , 511-552	4

614	Discovering and Utilizing Structure Sensitivity: From Chemical Catalysis in the Gas Phase to Electrocatalysis in the Liquid Phase. <b>2017</b> , 177, 613-641	1
613	Recent development on carbon based heterostructures for their applications in energy and environment: A review. <b>2018</b> , 64, 16-59	109
612	Mass transport modelling for the electroreduction of CO on Cu nanowires. <b>2018</b> , 29, 044001	60
611	Palladium-based nanoelectrocatalysts for renewable energy generation and conversion. <b>2018</b> , 1, 29-40	22
610	Synergistic effect between undercoordinated platinum atoms and defective nickel hydroxide on enhanced hydrogen evolution reaction in alkaline solution. <b>2018</b> , 48, 590-599	60
609	Janus effect of O <sub>2</sub> plasma modification on the electrocatalytic hydrogen evolution reaction of MoS <sub>2</sub> . <b>2018</b> , 361, 384-392	28
608	Photocatalytic water splitting in a fluidized bed system: Computational modeling and experimental studies. <b>2018</b> , 222, 423-436	16
607	Recent progress and perspectives of bifunctional oxygen reduction/evolution catalyst development for regenerative anion exchange membrane fuel cells. <b>2018</b> , 47, 172-198	98
606	Effects of Anion Identity and Concentration on Electrochemical Reduction of CO <sub>2</sub> . <b>2018</b> , 5, 1064-1072	102
605	N-Modified NiO Surface for Superior Alkaline Hydrogen Evolution. <b>2018</b> , 11, 1020-1024	9
604	Die Wasserstoffentwicklungsreaktion in alkalischer Lösung: Von der Theorie und Einkristallmodellen zu praktischen Elektrokatalysatoren. <b>2018</b> , 130, 7690-7702	64
603	Perspective towards Establishing Apparent Hydrogen Binding Energy as the Descriptor for Hydrogen Oxidation/Evolution Reactions. <b>2018</b> , 165, H27-H29	62
602	Origin of the overpotentials for HCOO and CO formation in the electroreduction of CO on Cu(211): the reductive desorption processes decide. <b>2018</b> , 20, 5756-5765	14
601	Ni(OH)-FeP hybrid nanoarray for alkaline hydrogen evolution reaction with superior activity. <b>2018</b> , 54, 1201-1204	93
600	Fuel Exhaling Fuel Cell. <b>2018</b> , 9, 388-392	19
599	Fuel Cell Electrocatalysis. <b>2018</b> , 27-60	1
598	Strain Effect in Bimetallic Electrocatalysts in the Hydrogen Evolution Reaction. <b>2018</b> , 3, 1198-1204	124
597	Dealloyed Pt <sub>3</sub> Co nanoparticles with higher geometric strain for superior hydrogen evolution reaction. <b>2018</b> , 262, 229-236	14

596	Origin of Superior HOR/HER Activity of Bimetallic Pt-Ru Catalysts in Alkaline Media Identified via Ru@Pt Core-Shell Nanoparticles. <b>2018</b> , 165, H229-H239	42
595	Electrocatalysts and Mechanisms of Hydrogen Oxidation in Alkaline Media for Anion Exchange Membrane Fuel Cells. <b>2018</b> , 79-103	3
594	Development and characterization of electro active CeO <sub>2</sub> /RuO <sub>2</sub> mixed oxide and its role in alkaline hydrogen evolution reaction. <b>2018</b> , 749, 250-261	12
593	Anion Exchange Membrane Fuel Cells. <b>2018</b> ,	5
592	Anion exchange membrane fuel cells: Current status and remaining challenges. <b>2018</b> , 375, 170-184	486
591	Probing the Surface of Platinum during the Hydrogen Evolution Reaction in Alkaline Electrolyte. <b>2018</b> , 122, 864-870	33
590	The Hydrogen Evolution Reaction in Alkaline Solution: From Theory, Single Crystal Models, to Practical Electrocatalysts. <b>2018</b> , 57, 7568-7579	659
589	Interfacial Interactions as an Electrochemical Tool To Understand Mo-Based Catalysts for the Hydrogen Evolution Reaction. <b>2018</b> , 8, 828-836	23
588	Voltammetric and Scanning Electrochemical Microscopy Investigations of the Hydrogen Evolution Reaction in Acid at Nanostructured Ensembles of Ultramicroelectrode Dimensions: Theory and Experiment. <b>2018</b> , 122, 71-82	8
587	Hydrogen oxidation reaction in alkaline media: From mechanism to recent electrocatalysts. <b>2018</b> , 44, 288-303	126
586	Engineering oxygen vacancy on NiO nanorod arrays for alkaline hydrogen evolution. <b>2018</b> , 43, 103-109	366
585	Nickel-molybdenum alloy catalysts for the hydrogen evolution reaction: Activity and stability revised. <b>2018</b> , 259, 1154-1161	85
584	Review of cell performance in anion exchange membrane fuel cells. <b>2018</b> , 375, 158-169	575
583	The role of the hydrogen evolution reaction in the solid-electrolyte interphase formation mechanism for "Water-in-Salt" electrolytes. <b>2018</b> , 11, 3491-3499	140
582	Rhodium metal/rhodium oxide (Rh/Rh <sub>2</sub> O <sub>3</sub> ) nanostructures with Pt-like or better activity towards hydrogen evolution and oxidation reactions (HER, HOR) in acid and base: correlating its HOR/HER activity with hydrogen binding energy and oxophilicity of the catalyst. <b>2018</b> , 6, 23531-23541	76
581	Boosting Alkaline Hydrogen Evolution Activity with Ni-Doped MoS <sub>2</sub> /Reduced Graphene Oxide Hybrid Aerogel. <b>2019</b> , 12, 457-466	33
580	Determination of Hydrogen Oxidation Reaction Mechanism Based on Pt/Ru Energetics in Alkaline Electrolyte. <b>2018</b> , 165, J3355-J3362	20
579	Unraveling mysteries of hydrogen electrooxidation in anion exchange membrane fuel cells. <b>2018</b> , 12, 182-188	40

578	Impact of ionomer adsorption on alkaline hydrogen oxidation activity and fuel cell performance. <b>2018</b> , 12, 189-195	37
577	Current understandings of the sluggish kinetics of the hydrogen evolution and oxidation reactions in base. <b>2018</b> , 12, 209-217	44
576	The Fate of Water at the Electrochemical Interfaces: Electrochemical Behavior of Free Water Versus Coordinating Water. <b>2018</b> , 9, 6683-6688	55
575	Ab Initio Thermodynamics of Iridium Surface Oxidation and Oxygen Evolution Reaction. <b>2018</b> , 122, 29350-29358	4
574	Understanding how high-performance anion exchange membrane fuel cells were achieved: Component, interfacial, and cell-level factors. <b>2018</b> , 12, 233-239	52
573	Mechanistic Study of the Hydrogen Oxidation/Evolution Reaction over Bimetallic PtRu Catalysts. <b>2018</b> , 165, J3378-J3383	16
572	On the presence of surface bound hydroxyl species on polycrystalline Pt electrodes in the Hydrogen potential region (0.4 V-RHE). <b>2018</b> , 367, 332-337	27
571	Facile Synthesis of Superstructured MoS <sub>2</sub> and Graphitic Nanocarbon Hybrid for Efficient Hydrogen Evolution Reaction. <b>2018</b> , 6, 14441-14449	30
570	Energetic Span as a Rate-Determining Term for Electrocatalytic Volcanos. <b>2018</b> , 8, 10590-10598	39
569	Open hollow CoPt clusters embedded in carbon nanoflake arrays for highly efficient alkaline water splitting. <b>2018</b> , 6, 20214-20223	29
568	Recent advances in understanding the pH dependence of the hydrogen oxidation and evolution reactions. <b>2018</b> , 367, 328-331	22
567	BCC-Phased PdCu Alloy as a Highly Active Electrocatalyst for Hydrogen Oxidation in Alkaline Electrolytes. <b>2018</b> , 140, 16580-16588	74
566	A Review on Recent Advances for Electrochemical Reduction of Carbon Dioxide to Methanol Using Metal-Organic Framework (MOF) and Non-MOF Catalysts: Challenges and Future Prospects. <b>2018</b> , 6, 15895-15914	119
565	Introduction: Low-Temperature Fuel Cells. <b>2018</b> , 1-49	3
564	Determining the Viability of Hydroxide-Mediated Bifunctional HER/HOR Mechanisms through Single-Crystal Voltammetry and Microkinetic Modeling. <b>2018</b> , 165, J3209-J3221	35
563	Hydrogen Oxidation on Ni-Based Electrocatalysts: The Effect of Metal Doping. <b>2018</b> , 8, 454	55
562	Nickel-hydrogen batteries for large-scale energy storage. <b>2018</b> , 115, 11694-11699	37
561	Co Nanoparticles Encapsulated in Porous N-Doped Carbon Nanofibers as an Efficient Electrocatalyst for Hydrogen Evolution Reaction. <b>2018</b> , 165, J3271-J3275	20

560	Interfacing nickel nitride and nickel boosts both electrocatalytic hydrogen evolution and oxidation reactions. <b>2018</b> , 9, 4531	241
559	Unlocking Bifunctional Electrocatalytic Activity for CO <sub>2</sub> Reduction Reaction by Win-Win MetalOxide Cooperation. <b>2018</b> , 3, 2816-2822	45
558	Lithium Electrochemical Tuning for Electrocatalysis. <b>2018</b> , 30, e1800978	34
557	Surface Adsorption Affects the Performance of Alkaline Anion-Exchange Membrane Fuel Cells. <b>2018</b> , 8, 9429-9439	38
556	Iridium-Tungsten Alloy Nanodendrites as pH-Universal Water-Splitting Electrocatalysts. <b>2018</b> , 4, 1244-1252	123
555	Polyoxomolybdate-derived carbon-encapsulated multicomponent electrocatalysts for synergistically boosting hydrogen evolution. <b>2018</b> , 6, 17874-17881	23
554	Pilot-scale study of simultaneous desulfurization and denitration using hexamminecobalt(II) solution. <b>2018</b> , 10, 235-242	3
553	Tuning the electrocatalytic activity of Pt by structurally ordered PdFe/C for the hydrogen oxidation reaction in alkaline media. <b>2018</b> , 6, 11346-11352	31
552	Facile Synthesis of Molybdenum Diselenide Layers for High-Performance Hydrogen Evolution Electrocatalysts. <b>2018</b> , 3, 5799-5807	16
551	Electrocatalysts for Hydrogen Oxidation Reaction in Alkaline Electrolytes. <b>2018</b> , 8, 6665-6690	186
550	The Predominance of Hydrogen Evolution on Transition Metal Sulfides and Phosphides under CO <sub>2</sub> Reduction Conditions: An Experimental and Theoretical Study. <b>2018</b> , 3, 1450-1457	48
549	Pt and Pt-Ni(OH) Electrodes for the Hydrogen Evolution Reaction in Alkaline Electrolytes and Their Nanoscaled Electrocatalysts. <b>2018</b> , 11, 2643-2653	53
548	Metal Surface and Interface Energy Electrocatalysis: Fundamentals, Performance Engineering, and Opportunities. <b>2018</b> , 4, 2054-2083	140
547	Metal Organic Framework Derived Materials: Progress and Prospects for the Energy Conversion and Storage. <b>2018</b> , 30, e1705146	237
546	Calixarene Intercalated NiCo Layered Double Hydroxide for Enhanced Oxygen Evolution Catalysis. <b>2018</b> , 6, 9649-9660	35
545	Contribution of electrolyte in nanoscale electrolysis of pure and buffered water by particulate photocatalysis. <b>2018</b> , 2, 2044-2052	13
544	Intrinsic Activity of Some Oxygen and Hydrogen Evolution Reaction Electrocatalysts under Industrially Relevant Conditions. <b>2018</b> , 1, 4196-4202	7
543	The oxophilic and electronic effects on anchored platinum nanoparticles on sp <sup>2</sup> carbon sites: The hydrogen evolution and oxidation reactions in alkaline medium. <b>2018</b> , 283, 1829-1834	21

542	Electrochemical Carbon Monoxide Reduction on Polycrystalline Copper: Effects of Potential, Pressure, and pH on Selectivity toward Multicarbon and Oxygenated Products. <b>2018</b> , 8, 7445-7454	175
541	A sea-change: manganese doped nickel/nickel oxide electrocatalysts for hydrogen generation from seawater. <b>2018</b> , 11, 1898-1910	106
540	Evaluating Hydrogen Evolution and Oxidation in Alkaline Media to Establish Baselines. <b>2018</b> , 165, F441-F455	34
539	Highly Dispersed Platinum on Honeycomb-like [email protected] Film as a Synergistic Electrocatalyst for the Hydrogen Evolution Reaction. <b>2018</b> , 8, 8866-8872	93
538	Fundamental Atomic Insight in Electrocatalysis. <b>2018</b> , 1-31	4
537	Interfacing with silica boosts the catalysis of copper. <b>2018</b> , 9, 3367	99
536	An ultrafine platinum-cobalt alloy decorated cobalt nanowire array with superb activity toward alkaline hydrogen evolution. <b>2018</b> , 10, 12302-12307	162
535	Platinum Nanostructure/Nitrogen-Doped Carbon Hybrid: Enhancing its Base Media HER/HOR Activity through Bi-functionality of the Catalyst. <b>2018</b> , 11, 2388-2401	41
534	Maximizing Hydrogen Evolution Performance on Pt in Buffered Solutions: Mass Transfer Constrains of H <sub>2</sub> and Buffer Ions. <b>2019</b> , 123, 21554-21563	19
533	Highly Selective Pt/TiO <sub>x</sub> Catalysts for the Hydrogen Oxidation Reaction. <b>2019</b> , 2, 5534-5539	22
532	Low Dimensional Platinum-Based Bimetallic Nanostructures for Advanced Catalysis. <b>2019</b> , 52, 3384-3396	59
531	Revealing Energetics of Surface Oxygen Redox from Kinetic Fingerprint in Oxygen Electrocatalysis. <b>2019</b> , 141, 13803-13811	87
530	Exploiting dynamic water structure and structural sensitivity for nanoscale electrocatalyst design. <b>2019</b> , 64, 103963	17
529	Importance of Water Structure and Catalyst Electrolyte Interface on the Design of Water Splitting Catalysts. <b>2019</b> , 31, 8248-8259	33
528	Poisonous Species in Complete Ethanol Oxidation Reaction on Palladium Catalysts. <b>2019</b> , 123, 20853-20868	24
527	Electrocatalytically inactive SnS <sub>2</sub> promotes water adsorption/dissociation on molybdenum dichalcogenides for accelerated alkaline hydrogen evolution. <b>2019</b> , 64, 103918	37
526	Ru nanoassembly catalysts for hydrogen evolution and oxidation reactions in electrolytes at various pH values. <b>2019</b> , 258, 117952	58
525	Lamellar platinum rhodium aerogels with superior electrocatalytic performance for both hydrogen oxidation and evolution reaction in alkaline environment. <b>2019</b> , 435, 226798	23



524	Rapid precipitation-reduction synthesis of carbon-supported silver for efficient oxygen reduction reaction in alkaline solution. <b>2019</b> , 23, 2601-2607	2
523	PtCuNi Tetrahedra Catalysts with Tailored Surfaces for Efficient Alcohol Oxidation. <b>2019</b> , 19, 5431-5436	56
522	Hydrogen Oxidation in Alkaline Media: the Bifunctional Mechanism for Water Formation. <b>2019</b> , 10, 584-590	5
521	Shaping well-defined noble-metal-based nanostructures for fabricating high-performance electrocatalysts: advances and perspectives. <b>2019</b> , 6, 2582-2618	36
520	Strategies toward Selective Electrochemical Ammonia Synthesis. <b>2019</b> , 9, 8316-8324	88
519	Boosting Hydrogen Oxidation Activity of Ni in Alkaline Media through Oxygen-Vacancy-Rich CeO <sub>2</sub> /Ni Heterostructures. <b>2019</b> , 58, 14179-14183	105
518	Over-Potential Deposited Hydrogen (Hopd) as Terminating Agent for Platinum and Gold Electro(cod)Deposition. <b>2019</b> , 10, 591-603	1
517	Insight into hydrogen production through molecular simulation of an electrode-ionomer electrolyte system. <b>2019</b> , 151, 034702	1
516	Boosting Hydrogen Oxidation Activity of Ni in Alkaline Media through Oxygen-Vacancy-Rich CeO <sub>2</sub> /Ni Heterostructures. <b>2019</b> , 131, 14317-14321	25
515	Anomalous hydrogen evolution behavior in high-pH environment induced by locally generated hydronium ions. <b>2019</b> , 10, 4876	118
514	Hydrogen from photo-electrocatalytic water splitting. <b>2019</b> , 419-486	4
513	Hydrogen oxidation reaction on modified platinum model electrodes in alkaline media. <b>2019</b> , 327, 135016	11
512	Switching of Kinetically Relevant Reactants for the Aqueous Cathodic Process Determined by Mass-transport Coupled with Protolysis. <b>2019</b> , 11, 5961-5968	6
511	Understanding Surface Reactivity of Amorphous Transition-Metal-Incorporated Aluminum Oxide Thin Films. <b>2019</b> , 123, 27048-27054	0
510	Unified Approach to Implicit and Explicit Solvent Simulations of Electrochemical Reaction Energetics. <b>2019</b> , 15, 6895-6906	51
509	Synthesis and Advanced Electrochemical Characterization of Multifunctional Electrocatalytic Composite for Unitized Regenerative Fuel Cell. <b>2019</b> , 9, 11468-11483	10
508	Alkaline Anion-Exchange Membrane Fuel Cells: Challenges in Electrocatalysis and Interfacial Charge Transfer. <b>2019</b> , 119, 11945-11979	134
507	Numerical Simulations of Seasonal Variations of Rainfall over the Island of Hawaii. <b>2019</b> , 58, 1219-1232	1

506	Weakening hydrogen adsorption on nickel via interstitial nitrogen doping promotes bifunctional hydrogen electrocatalysis in alkaline solution. <b>2019</b> , 12, 3522-3529	92
505	Tuning the electronic structure of PtRu bimetallic nanoparticles for promoting the hydrogen oxidation reaction in alkaline media. <b>2019</b> , 6, 2900-2905	32
504	Role of Hydroxyl Species in Hydrogen Oxidation Reaction: A DFT Study. <b>2019</b> , 123, 23931-23939	21
503	The hydrogen evolution reaction: from material to interfacial descriptors. <b>2019</b> , 10, 9165-9181	267
502	The Role of Ru in Improving the Activity of Pd toward Hydrogen Evolution and Oxidation Reactions in Alkaline Solutions. <b>2019</b> , 9, 9614-9621	61
501	A computational study on Pt and Ru dimers supported on graphene for the hydrogen evolution reaction: new insight into the alkaline mechanism. <b>2019</b> , 7, 3648-3654	86
500	One-pot synthesis of IrNi@Ir core-shell nanoparticles as highly active hydrogen oxidation reaction electrocatalyst in alkaline electrolyte. <b>2019</b> , 59, 26-32	42
499	Unifying the Hydrogen Evolution and Oxidation Reactions Kinetics in Base by Identifying the Catalytic Roles of Hydroxyl-Water-Cation Adducts. <b>2019</b> , 141, 3232-3239	119
498	CoP-Doped MOF-Based Electrocatalyst for pH-Universal Hydrogen Evolution Reaction. <b>2019</b> , 58, 4679-4684	348
497	Engineering Surface Structure of Pt Nanoshells on Pd Nanocubes to Preferentially Expose Active Surfaces for ORR by Manipulating the Growth Kinetics. <b>2019</b> , 19, 1743-1748	43
496	Uniform Pd <sub>0.33</sub> Ir <sub>0.67</sub> nanoparticles supported on nitrogen-doped carbon with remarkable activity toward the alkaline hydrogen oxidation reaction. <b>2019</b> , 7, 3161-3169	30
495	Non-equilibrium fractal growth of MoS <sub>2</sub> for electrocatalytic hydrogen evolution. <b>2019</b> , 21, 478-486	5
494	Does the oxophilic effect serve the same role for hydrogen evolution/oxidation reaction in alkaline media?. <b>2019</b> , 62, 601-609	43
493	Progress and Perspectives of Electrochemical CO Reduction on Copper in Aqueous Electrolyte. <b>2019</b> , 119, 7610-7672	1244
492	A silicon-doped iridium electrode prepared by magnetron-sputtering as an advanced electrocatalyst for overall water splitting in acidic media. <b>2019</b> , 3, 2321-2328	6
491	The application of CeO <sub>2</sub> -based materials in electrocatalysis. <b>2019</b> , 7, 17675-17702	62
490	Quantitative Understanding of the Sluggish Kinetics of Hydrogen Reactions in Alkaline Media Based on a Microscopic Hamiltonian Model for the Volmer Step. <b>2019</b> , 123, 17325-17334	27
489	Palladium-Based Catalysts with Enhanced Alkaline Hydrogen Oxidation Activity for Anion Exchange Membrane Fuel Cells. <b>2019</b> , 2, 4999-5008	39

488	Recent progress made in the mechanism comprehension and design of electrocatalysts for alkaline water splitting. <b>2019</b> , 12, 2620-2645	532
487	Perspectives on Low-Temperature Electrolysis and Potential for Renewable Hydrogen at Scale. <b>2019</b> , 10, 219-239	118
486	Enhanced Electrocatalytic Hydrogen Oxidation on Ni/NiO/C Derived from a Nickel-Based Metal-Organic Framework. <b>2019</b> , 58, 10644-10649	73
485	Mixed Electron-Proton Conductors Enable Spatial Separation of Bond Activation and Charge Transfer in Electrocatalysis. <b>2019</b> , 141, 11115-11122	13
484	Enhanced Electrocatalytic Hydrogen Oxidation on Ni/NiO/C Derived from a Nickel-Based Metal-Organic Framework. <b>2019</b> , 131, 10754-10759	24
483	In situ high-potential-driven surface restructuring of ternary AgPd-Pt aerogels with record-high performance improvement for formate oxidation electrocatalysis. <b>2019</b> , 11, 14174-14185	45
482	pH Effects on Hydrogen Evolution and Oxidation over Pt(111): Insights from First-Principles. <b>2019</b> , 9, 6194-6201	64
481	Atomic tailoring of platinum catalysts. <b>2019</b> , 2, 477-478	4
480	Nanoporous Palladium-Silver Surface Alloys as Efficient and pH-Universal Catalysts for the Hydrogen Evolution Reaction. <b>2019</b> , 4, 1379-1386	44
479	Breaking the volcano-plot limits for Pt-based electrocatalysts by selective tuning adsorption of multiple intermediates. <b>2019</b> , 7, 13635-13640	19
478	Enhancement of Palladium HOR Activity in Alkaline Conditions through Ceria Surface Doping. <b>2019</b> , 166, F3234-F3239	11
477	Rh and Rh Alloy Nanoparticles as Highly Active H <sub>2</sub> Oxidation Catalysts for Alkaline Fuel Cells. <b>2019</b> , 9, 5057-5062	30
476	A General Method to Probe Oxygen Evolution Intermediates at Operating Conditions. <b>2019</b> , 3, 1498-1509	115
475	Fe <sub>2</sub> O <sub>3</sub> nanocatalysts on N-doped carbon nanomaterial for highly efficient electrochemical hydrogen evolution in alkaline. <b>2019</b> , 426, 74-83	29
474	Double-Site Ni <sub>2</sub> N Nanosheet for Best Alkaline HER Performance at High Current Density >500 mA cm <sup>2</sup> . <b>2019</b> , 6, 1900308	10
473	The Hydrogen Electrode Reaction. <b>2019</b> , 75-141	
472	The Hydrogen Oxidation Reaction in Alkaline Medium: An Overview. <b>2019</b> , 2, 312-331	33
471	Theoretical investigation on the high HER catalytic activity of 2D layered GeP <sub>3</sub> nanomaterials and its further enhancement by applying the surface strain or coupling with graphene. <b>2019</b> , 481, 272-280	15

470	Tailoring the Electronic Structure of Co <sub>2</sub> P by N Doping for Boosting Hydrogen Evolution Reaction at All pH Values. <b>2019</b> , 9, 3744-3752	231
469	Two-dimensional copper nanosheets for electrochemical reduction of carbon monoxide to acetate. <b>2019</b> , 2, 423-430	203
468	Selectivity of Photoelectrochemical Water Splitting on TiO <sub>2</sub> Anatase Single Crystals. <b>2019</b> , 123, 10857-10867	21
467	Robust and biocompatible catalysts for efficient hydrogen-driven microbial electrosynthesis. <b>2019</b> , 2,	46
466	On the feasibility of bifunctional hydrogen oxidation on Ni and NiCu surfaces. <b>2019</b> , 305, 452-458	17
465	Hydrogen Evolution and Oxidation: Mechanistic Studies and Material Advances. <b>2019</b> , 31, e1808066	201
464	Nitrogen-plasma treated hafnium oxyhydroxide as an efficient acid-stable electrocatalyst for hydrogen evolution and oxidation reactions. <b>2019</b> , 10, 1543	30
463	Ni N as an Active Hydrogen Oxidation Reaction Catalyst in Alkaline Medium. <b>2019</b> , 58, 7445-7449	114
462	Turning Catalysts on by Light-Induced Stress: When Red Means Go. <b>2019</b> , 6, 3264-3267	2
461	Ni <sub>3</sub> N as an Active Hydrogen Oxidation Reaction Catalyst in Alkaline Medium. <b>2019</b> , 131, 7523-7527	14
460	CoP-Doped MOF-Based Electrocatalyst for pH-Universal Hydrogen Evolution Reaction. <b>2019</b> , 131, 4727-4732	56
459	Stoichiometry and surface structure dependence of hydrogen evolution reaction activity and stability of MoxC MXenes. <b>2019</b> , 371, 325-332	33
458	Exceptionally active iridium evolved from a pseudo-cubic perovskite for oxygen evolution in acid. <b>2019</b> , 10, 572	142
457	Rhodium Phosphide: A New Type of Hydrogen Oxidation Reaction Catalyst with Non-Linear Correlated Catalytic Response to pH. <b>2019</b> , 6, 1990-1995	10
456	Solvent-Adsorbate Interactions and Adsorbate-Specific Solvent Structure in Carbon Dioxide Reduction on a Stepped Cu Surface. <b>2019</b> , 123, 5999-6009	39
455	Surface modification of Pt nanoparticles with other metals boosting the alkaline hydrogen oxidation reaction. <b>2019</b> , 55, 3101-3104	24
454	Modulating the oxophilic properties of inorganic nanomaterials for electrocatalysis of small carbonaceous molecules. <b>2019</b> , 29, 100802	13
453	Nano-folded Gold Catalysts for Electroreduction of Carbon Dioxide. <b>2019</b> , 19, 9154-9159	17

452	Recent advances in two-dimensional materials and their nanocomposites in sustainable energy conversion applications. <b>2019</b> , 11, 21622-21678	109
451	Hierarchical nanoporous intermetallic compounds with self-grown transition-metal hydroxides as bifunctional catalysts for the alkaline hydrogen evolution reaction. <b>2019</b> , 7, 25925-25931	9
450	. <b>2019</b> ,	3
449	Prediction of Stable and Active (Oxy-Hydro) Oxide Nanoislands on Noble-Metal Supports for Electrochemical Oxygen Reduction Reaction. <b>2019</b> , 11, 2006-2013	14
448	Chimney effect of the interface in metal oxide/metal composite catalysts on the hydrogen evolution reaction. <b>2019</b> , 245, 122-129	81
447	pH effects on the electrochemical reduction of CO towards C products on stepped copper. <b>2019</b> , 10, 32	207
446	Benchmarking the Activity, Stability, and Inherent Electrochemistry of Amorphous Molybdenum Sulfide for Hydrogen Production. <b>2019</b> , 9, 1802614	62
445	Effect of Monovalent Cations on the HOR/HER Activity for Pt in Alkaline Environment. <b>2019</b> , 166, F66-F73	30
444	Palladium-ceria nanocatalyst for hydrogen oxidation in alkaline media: Optimization of the Pd/CeO <sub>2</sub> interface. <b>2019</b> , 57, 820-826	47
443	Hydrogen evolution reaction on copper: Promoting water dissociation by tuning the surface oxophilicity. <b>2019</b> , 100, 30-33	52
442	Design of Noble Metal Electrocatalysts on an Atomic Level. <b>2019</b> , 6, 289-303	23
441	The Comparability of Pt to Pt-Ru in Catalyzing the Hydrogen Oxidation Reaction for Alkaline Polymer Electrolyte Fuel Cells Operated at 80 °C. <b>2019</b> , 58, 1442-1446	70
440	Advanced Electrocatalytic Performance of Ni-Based Materials for Oxygen Evolution Reaction. <b>2019</b> , 7, 341-349	27
439	Chemical Requirement for Extracting Energetic Charge Carriers from Plasmonic Metal Nanoparticles to Perform Electron-Transfer Reactions. <b>2019</b> , 141, 643-647	74
438	Unraveling the composition-activity relationship of PtRu binary alloy for hydrogen oxidation reaction in alkaline media. <b>2019</b> , 412, 282-286	18
437	Improved hydrogen oxidation reaction under alkaline conditions by AuPt alloy nanoparticles. <b>2020</b> , 40, 52-56	13
436	Iodide as Terminating Agent for Platinum Electrodeposition. <b>2020</b> , 11, 14-24	1
435	Recent Advances in Two-dimensional Materials for Electrochemical Energy Storage and Conversion. <b>2020</b> , 36, 10-23	27

434	Remarkably Enhanced Hydrogen Oxidation Reaction Activity of Carbon-supported Pt by Facile Nickel Modification. <b>2020</b> , 36, 105-109	4
433	Engineering heterometallic bonding in bimetallic electrocatalysts: towards optimized hydrogen oxidation and evolution reactions. <b>2020</b> , 10, 893-903	9
432	Ultrafine Pt cluster and RuO <sub>2</sub> heterojunction anode catalysts designed for ultra-low Pt-loading anion exchange membrane fuel cells. <b>2020</b> , 5, 316-324	22
431	Pd-Decorated Tungsten as Pt-Free Bimetallic Catalysts for Hydrogen Oxidation Reaction in Alkaline Electrolyte. <b>2020</b> , 60, 563-569	3
430	Conversion of Carbon Dioxide into Hydrocarbons Vol. 1 Catalysis. <b>2020</b> ,	2
429	Advances and challenges in electrochemical CO <sub>2</sub> reduction processes: an engineering and design perspective looking beyond new catalyst materials. <b>2020</b> , 8, 1511-1544	141
428	Renewable electricity storage using electrolysis. <b>2020</b> , 117, 12558-12563	71
427	Guiding topological semimetals towards water oxidation in a Kagomé crystal lattice. <b>2020</b> , 63, 1	
426	Modulation of iridium-based catalyst by a trace of transition metals for hydrogen oxidation/evolution reaction in alkaline. <b>2020</b> , 333, 135444	11
425	CoP nanowires coupled with CoMoP nanosheets as a highly efficient cooperative catalyst for hydrogen evolution reaction. <b>2020</b> , 68, 104332	105
424	Rational Synthesis for a Noble Metal Carbide. <b>2020</b> , 142, 1247-1253	7
423	Theoretical models for hydrogen evolution reaction at combined Mo <sub>2</sub> C and N-doped graphene. <b>2020</b> , 381, 234-247	15
422	The role of adsorbed hydroxide in hydrogen evolution reaction kinetics on modified platinum. <b>2020</b> , 5, 891-899	120
421	Surface-governed electrochemical hydrogenation in FeNi-based metallic glass. <b>2020</b> , 475, 228700	4
420	Controllable Heteroatom Doping Effects of CrCoP Nanoparticles: a Robust Electrocatalyst for Overall Water Splitting in Alkaline Solutions. <b>2020</b> , 12, 47397-47407	18
419	Ni/NiO nanosheets for alkaline hydrogen evolution reaction: In situ electrochemical-Raman study. <b>2020</b> , 361, 137040	40
418	Integration of a Pd-CeO <sub>2</sub> /C Anode with Pt and Pt-Free Cathode Catalysts in High Power Density Anion Exchange Membrane Fuel Cells. <b>2020</b> , 3, 10209-10214	12
417	Inter-regulated d-band centers of the NiB/Ni heterostructure for boosting hydrogen electrooxidation in alkaline media. <b>2020</b> , 11, 12118-12123	25

416	Theoretical insights into the factors affecting the electrochemical reduction of CO <sub>2</sub> . <b>2020</b> , 4, 4352-4369	7
415	Two-dimensional Noble Metal Nanomaterials for Electrocatalysis. <b>2020</b> , 36, 597-610	3
414	Hydrogen Oxidation Reaction on Pd-Ni(OH) <sub>2</sub> Composite Electrocatalysts in an Alkaline Electrolyte. <b>2020</b> , 5, 7803-7807	3
413	Ferrites for electrocatalytic water splitting applications. <b>2020</b> , 123-145	
412	Non-precious nickel-based catalysts for hydrogen oxidation reaction in alkaline electrolyte. <b>2020</b> , 121, 106871	4
411	Beyond Adsorption Descriptors in Hydrogen Electrocatalysis. <b>2020</b> , 10, 14747-14762	30
410	Bayesian learning of chemisorption for bridging the complexity of electronic descriptors. <b>2020</b> , 11, 6132	17
409	Preparation and Electrocatalysis Application of Pure Metallic Aerogel: A Review. <b>2020</b> , 10, 1376	5
408	In situ observation of pH change during water splitting in neutral pH conditions: impact of natural convection driven by buoyancy effects. <b>2020</b> , 13, 5104-5116	22
407	Insight into the overpotentials of electrocatalytic hydrogen evolution on black phosphorus decorated with metal clusters. <b>2020</b> , 358, 136902	1
406	Synthesis of CeO <sub>x</sub> -Decorated Pd/C Catalysts by Controlled Surface Reactions for Hydrogen Oxidation in Anion Exchange Membrane Fuel Cells. <b>2020</b> , 30, 2002087	29
405	RuS <sub>2-x</sub> quantum dots/rGO as bifunctional hydrogen electrocatalysts for harvesting electrochemical neutralization energy. <b>2020</b> , 472, 228625	12
404	Electrocatalytic hydrogen evolution under neutral pH conditions: current understandings, recent advances, and future prospects. <b>2020</b> , 13, 3185-3206	85
403	Cathodic activation of synthesized highly defective monoclinic hydroxyl-functionalized ZrO <sub>2</sub> nanoparticles for efficient electrochemical production of hydrogen in alkaline media. <b>2020</b> , 44, 10695-10709	4
402	Interfacial water shuffling the intermediates of hydrogen oxidation and evolution reactions in aqueous media. <b>2020</b> , 13, 3064-3074	31
401	Mechanistic Analysis of Hydrogen Evolution Reaction on Pt in HClO <sub>4</sub> Using Inverted Rotating Disc Electrode. <b>2020</b> , 32, 2545-2554	3
400	Anodic molecular hydrogen formation on Ru and Cu electrodes. <b>2020</b> , 10, 6870-6878	9
399	Carbon Anode in Carbon History. <b>2020</b> , 25,	2

398	Review of recent research work on CeO <sub>2</sub> -based electrocatalysts in liquid-phase electrolytes. <b>2020</b> , 480, 229091	20
397	Water Electrolysis in Saturated Phosphate Buffer at Neutral pH. <b>2020</b> , 13, 5921-5933	16
396	Bimetallic nickel-molybdenum/tungsten nanoalloys for high-efficiency hydrogen oxidation catalysis in alkaline electrolytes. <b>2020</b> , 11, 4789	63
395	Ultra-thin layers of iridium electrodeposited on Ti <sub>2</sub> AlC support as cost effective catalysts for hydrogen production by water electrolysis. <b>2020</b> , 878, 114575	3
394	Bifunctional mechanism of hydrogen oxidation reaction on atomic level tailored-Ru@Pt core-shell nanoparticles with tunable Pt layers. <b>2020</b> , 872, 114348	7
393	Interfacial Structure of Water as a New Descriptor of the Hydrogen Evolution Reaction. <b>2020</b> , 59, 22397-22402	36
392	Interfacial Structure of Water as a New Descriptor of the Hydrogen Evolution Reaction. <b>2020</b> , 132, 22583-22588	
391	Random alloy and intermetallic nanocatalysts in fuel cell reactions. <b>2020</b> , 12, 19557-19581	16
390	Mechanistic Insights into the Hydrogen Oxidation Reaction on PtNi Alloys in Alkaline Media: A First-Principles Investigation. <b>2020</b> , 12, 40248-40260	15
389	Operando characterization techniques for electrocatalysis. <b>2020</b> , 13, 3748-3779	83
388	The history of organoplatinum chemistry in Iran: 40-year research. <b>2020</b> , 17, 2683-2715	5
387	Improved Hydrogen Oxidation Reaction Activity and Stability of Buried Metal-Oxide Electrocatalyst Interfaces. <b>2020</b> , 32, 7716-7724	22
386	Modeling Hydrogen Evolution Reaction Kinetics through Explicit Water/Metal Interfaces. <b>2020</b> , 124, 28083-28092	24
385	Self-Optimized Ligand Effect in L12-PtPdFe Intermetallic for Efficient and Stable Alkaline Hydrogen Oxidation Reaction. <b>2020</b> , 10, 15207-15216	25
384	Mesoporous PdAgIr nanoalloys to catalyze formate oxidation with an unprecedentedly low onset potential. <b>2020</b> , 8, 25780-25790	6
383	Synthesis of Mo and Ru solid-solution alloy NPs and their hydrogen evolution reaction activity. <b>2020</b> , 56, 14475-14478	8
382	Atomistic Insight into Cation Effects on Binding Energies in Cu-Catalyzed Carbon Dioxide Reduction. <b>2020</b> , 124, 24765-24775	12
381	Electronic structure and oxophilicity optimization of mono-layer Pt for efficient electrocatalysis. <b>2020</b> , 74, 104877	25



380	Enhancement of Alkaline Hydrogen Oxidation Reaction of Ru-Ir Alloy Nanoparticles through Bifunctional Mechanism on Ru-Ir Pair Site. <b>2020</b> , 12, 22771-22777	15
379	NiO/Ni/CNT as an Efficient Hydrogen Electrode Catalyst for a Unitized Regenerative Alkaline Microfluidic Cell. <b>2020</b> , 3, 4746-4755	7
378	The critical importance of ionomers on the electrochemical activity of platinum and platinum-free catalysts for anion-exchange membrane fuel cells. <b>2020</b> , 4, 3300-3307	17
377	Pt <sub>0.25</sub> Ru <sub>0.75</sub> /N-C as Highly Active and Durable Electrocatalysts toward Alkaline Hydrogen Oxidation Reaction. <b>2020</b> , 7, 2000310	10
376	Caffeinated Interfaces Enhance Alkaline Hydrogen Electrocatalysis. <b>2020</b> , 10, 6798-6802	9
375	Perspective The Next Decade of AEMFCs: Near-Term Targets to Accelerate Applied R&D. <b>2020</b> , 167, 084514	36
374	Dipole-Field Interactions Determine the CO <sub>2</sub> Reduction Activity of 2D Fe <sub>N</sub> C Single-Atom Catalysts. <b>2020</b> , 10, 7826-7835	48
373	IrMo Nanocatalysts for Efficient Alkaline Hydrogen Electrocatalysis. <b>2020</b> , 10, 7322-7327	39
372	Towards designing efficient catalyst for hydrogen oxidation reaction. <b>2020</b> , 39, 1107-1109	7
371	Why the activity of the hydrogen oxidation reaction on platinum decreases as pH increases. <b>2020</b> , 354, 136620	15
370	Discrepant roles of adsorbed OH* species on IrWO <sub>x</sub> for boosting alkaline hydrogen electrocatalysis. <b>2020</b> , 65, 1735-1742	20
369	Interface Modulation of MoS <sub>2</sub> /Metal Oxide Heterostructures for Efficient Hydrogen Evolution Electrocatalysis. <b>2020</b> , 16, e2002212	39
368	Sequential Electrochemical Flow Cell for Complex Multicomponent Electrocatalysis. <b>2020</b> , 167, 106510	1
367	Influence of the NaOH Concentration on the Hydrogen Electrode Reaction Kinetics of Ni and NiCu Electrodes. <b>2020</b> , 7, 1438-1447	4
366	Multifunctional Electrocatalysts: Ru <sub>M</sub> (M = Co, Ni, Fe) for Alkaline Fuel Cells and Electrolyzers. <b>2020</b> , 10, 4608-4616	40
365	Gold-Incorporated Cobalt Phosphide Nanoparticles on Nitrogen-Doped Carbon for Enhanced Hydrogen Evolution Electrocatalysis. <b>2020</b> , 12, 16548-16556	31
364	Defect Engineering in Carbon-Based Electrocatalysts: Insight into Intrinsic Carbon Defects. <b>2020</b> , 30, 2001097	132
363	Enhancing the Understanding of Hydrogen Evolution and Oxidation Reactions on Pt(111) through Ab Initio Simulation of Electrode/Electrolyte Kinetics. <b>2020</b> , 142, 4985-4989	35

362	Engineering the hydrogen evolution reaction of transition metals: effect of Li ions. <b>2020</b> , 8, 15795-15808	6
361	Nanosponge-like Solid Solution of NiMo with a High Hydrogen Evolution Reaction Performance over a Wide Range of Current Densities. <b>2020</b> ,	5
360	Platinum-Nickel Nanowires with Improved Hydrogen Evolution Performance in Anion Exchange Membrane-Based Electrolysis. <b>2020</b> , 10, 9953-9966	12
359	0.03 V Electrolysis Voltage Driven Hydrazine Assisted Hydrogen Generation on NiCo phosphide Nanowires Supported NiCoHydroxide Nanosheets. <b>2020</b> , 7, 3089-3097	4
358	Effect of Atomic Ordering Transformation of PtNi Nanoparticles on Alkaline Hydrogen Evolution: Unexpected Superior Activity of the Disordered Phase. <b>2020</b> , 124, 5036-5045	13
357	Recent trends in hydrogen and oxygen electrocatalysis for anion exchange membrane technologies. <b>2020</b> , 21, 146-159	3
356	Strain modulation of phase transformation of noble metal nanomaterials. <b>2020</b> , 2, 715-734	21
355	A versatile and robust surface-poison-resisting Scanning Amperometric Proton Microscopy. <b>2020</b> , 875, 113918	1
354	MOF-derived electrocatalysts for oxygen reduction, oxygen evolution and hydrogen evolution reactions. <b>2020</b> , 49, 1414-1448	587
353	Strategies for design of electrocatalysts for hydrogen evolution under alkaline conditions. <b>2020</b> , 36, 125-138	152
352	Full Model for the Two-Step Polarization Curves of Hydrogen Evolution, Measured on RDEs in Dilute Acid Solutions. <b>2020</b> , 124, 3988-4000	5
351	Removal of Surface Poisoning Improves Hydrogen Oxidation Performance of Pt Catalysts under Basic Conditions. <b>2020</b> , 3, 1854-1859	7
350	Recent Advances on Water-Splitting Electrocatalysis Mediated by Noble-Metal-Based Nanostructured Materials. <b>2020</b> , 10, 1903120	273
349	Achieving Rich and Active Alkaline Hydrogen Evolution Heterostructures via Interface Engineering on 2D 1T-MoS <sub>2</sub> Quantum Sheets. <b>2020</b> , 30, 2000551	46
348	Interphase-oxidized ruthenium metal with half-filled d-orbitals for hydrogen oxidation in an alkaline solution. <b>2020</b> , 8, 10168-10174	13
347	Understanding Surface Modulation to Improve the Photo/Electrocatalysts for Water Oxidation/Reduction. <b>2020</b> , 25,	4
346	Lattice-confined Ru clusters with high CO tolerance and activity for the hydrogen oxidation reaction. <b>2020</b> , 3, 454-462	107
345	Subnano Ruthenium Species Anchored on Tin Dioxide Surface for Efficient Alkaline Hydrogen Evolution Reaction. <b>2020</b> , 1, 100026	10

344	Electrokinetic Analysis of Poorly Conductive Electrocatalytic Materials. <b>2020</b> , 10, 4990-4996	21
343	Surface Composition Dependent Ligand Effect in Tuning the Activity of Nickel-Copper Bimetallic Electrocatalysts toward Hydrogen Evolution in Alkaline. <b>2020</b> , 142, 7765-7775	99
342	Ceria Entrapped Palladium Novel Composites for Hydrogen Oxidation Reaction in Alkaline Medium. <b>2020</b> , 167, 054514	11
341	Isolated Pd Sites as Selective Catalysts for Electrochemical and Direct Hydrogen Peroxide Synthesis. <b>2020</b> , 10, 5928-5938	30
340	Fabrication and Applications of 3D Nanoarchitectures for Advanced Electrocatalysts and Sensors. <b>2020</b> , 32, e1907500	10
339	Into the Secret Double layer: Alkali cation mediates the hydrogen evolution reaction in basic medium. <b>2020</b> , 51, 101-104	3
338	Isolated Ni Atoms Dispersed on Ru Nanosheets: High-Performance Electrocatalysts toward Hydrogen Oxidation Reaction. <b>2020</b> , 20, 3442-3448	80
337	Prussian blue- and Prussian blue analogue-derived materials: progress and prospects for electrochemical energy conversion. <b>2020</b> , 16, 100404	34
336	The coupling of experiments with density functional theory in the studies of the electrochemical hydrogen evolution reaction. <b>2020</b> , 8, 8783-8812	15
335	Insight into the hydrogen oxidation electrocatalytic performance enhancement on Ni via oxophilic regulation of MoO <sub>2</sub> . <b>2021</b> , 54, 202-207	22
334	Understanding the oxophilic effect on the hydrogen electrode reaction through PtM nanostructures. <b>2021</b> , 25, 187-194	5
333	Electrodeposited NiRh alloy as an efficient low-precious metal catalyst for alkaline hydrogen oxidation reaction. <b>2021</b> , 45, 5325-5336	2
332	Interface engineering of heterostructured electrocatalysts towards efficient alkaline hydrogen electrocatalysis. <b>2021</b> , 66, 85-96	40
331	Recent advances in non-precious metal electrocatalysts for pH-universal hydrogen evolution reaction. <b>2021</b> , 6, 458-478	22
330	WO <sub>x</sub> -Surface Decorated PtNi@Pt Dendritic Nanowires as Efficient pH-Universal Hydrogen Evolution Electrocatalysts. <b>2021</b> , 11, 2003192	27
329	Metal-metal (hydr)oxide heterostructures for electrocatalysis of hydrogen electrode reactions. <b>2021</b> , 26, 100667	6
328	Microkinetic Modeling: A Tool for Rational Catalyst Design. <b>2021</b> , 121, 1049-1076	57
327	Facile fabrication of amorphous NiMo catalysts for alkaline hydrogen oxidation reaction. <b>2021</b> , 94, 309-316	6

326	The rational design of CuSe@(Co,Cu)Se core-shell structures as bifunctional electrocatalysts for neutral-pH overall water splitting. <b>2021</b> , 13, 1134-1143	3
325	Spectroscopic Verification of Adsorbed Hydroxy Intermediates in the Bifunctional Mechanism of the Hydrogen Oxidation Reaction. <b>2021</b> , 60, 5708-5711	24
324	Nanoporous Surface High-Entropy Alloys as Highly Efficient Multisite Electrocatalysts for Nonacidic Hydrogen Evolution Reaction. <b>2021</b> , 31, 2009613	47
323	SnO <sub>2</sub> /CeO <sub>2</sub> nanoparticle-decorated mesoporous ZSM-5 as bifunctional electrocatalyst for HOR and ORR. <b>2021</b> , 417, 127913	6
322	Alloying Nickel with Molybdenum Significantly Accelerates Alkaline Hydrogen Electrocatalysis. <b>2021</b> , 133, 5835-5841	5
321	Spectroscopic Verification of Adsorbed Hydroxy Intermediates in the Bifunctional Mechanism of the Hydrogen Oxidation Reaction. <b>2021</b> , 133, 5772-5775	2
320	Alloying Nickel with Molybdenum Significantly Accelerates Alkaline Hydrogen Electrocatalysis. <b>2021</b> , 60, 5771-5777	41
319	Stabilization of non-native polymorphs for electrocatalysis and energy storage systems. <b>2021</b> , 10, e389	2
318	Noble-Metal Based Random Alloy and Intermetallic Nanocrystals: Syntheses and Applications. <b>2021</b> , 121, 736-795	92
317	Tuning of Pt <sub>10</sub> Ir <sub>90</sub> nanoparticle motifs for enhancing the HOR performance in alkaline media. <b>2021</b> , 9, 15415-15431	
316	A Review and Perspective on Electrocatalysts Containing Cr for Alkaline Water Electrolysis: Hydrogen Evolution Reaction. <b>2021</b> , 12, 104-116	6
315	Alkaline Anion Exchange Membrane (AEM) Water Electrolyzers—Current/Future Perspectives in Electrolyzers for Hydrogen. <b>2021</b> ,	
314	Transition-Metal- and Nitrogen-Doped Carbide-Derived Carbon/Carbon Nanotube Composites as Cathode Catalysts for Anion-Exchange Membrane Fuel Cells.. <b>2021</b> , 11, 1920-1931	33
313	Theoretical study of the H/D isotope effect of CH/CD adsorption on a Rh(111) surface using a combined plane wave and localized basis sets method.. <b>2021</b> , 11, 10253-10257	2
312	Research Progress of in Situ Modification of Transition Metal Substrates for Direct Electro-catalytic Water Splitting. <b>2021</b> , 11, 59-69	
311	Iridium and Ruthenium Modified Polyaniline Polymer Leads to Nanostructured Electrocatalysts with High Performance Regarding Water Splitting. <b>2021</b> , 13,	5
310	Engineering the Near-Surface of PtRu Nanoparticles to Improve Hydrogen Oxidation Activity in Alkaline Electrolyte. <b>2021</b> , 17, e2006698	12
309	Atomic-level insight into reasonable design of metal-based catalysts for hydrogen oxidation in alkaline electrolytes. <b>2021</b> , 14, 2620-2638	19

308	Carbide-Supported PtRu Catalysts for Hydrogen Oxidation Reaction in Alkaline Electrolyte. <b>2021</b> , 11, 932-947	17
307	Metal nanoparticles entrapped in metal matrices. <b>2021</b> , 3, 4597-4612	1
306	Hydrogen production from water electrolysis: role of catalysts. <b>2021</b> , 8, 4	88
305	Atomistic Insights into the Hydrogen Oxidation Reaction of Palladium-Ceria Bifunctional Catalysts for Anion-Exchange Membrane Fuel Cells. <b>2021</b> , 11, 2561-2571	9
304	Enhanced Methanol Electro-Oxidation Activity of Nanoclustered Gold. <b>2021</b> , 17, e2004541	3
303	Morphological engineering of carbon-based materials: in the quest of efficient catalysts for overall water splitting. <b>2021</b> , 46, 7284-7296	4
302	Strain and interfacial engineering to accelerate hydrogen evolution reaction of two-dimensional phosphorus carbide*. <b>2021</b> , 30, 027101	0
301	Designing Synergistic Electrocatalysts for H <sub>2</sub> Oxidation and Evolution Reactions in Alkaline Media. <b>2021</b> , 125, 7188-7203	3
300	Non-Platinum Group Metal Electrocatalysts toward Efficient Hydrogen Oxidation Reaction. <b>2021</b> , 31, 2010633	19
299	Vacancy-defects turn off conjugated bond shield activated catalytic molecular adsorption process. <b>2021</b> , 543, 148790	2
298	A fundamental comprehension and recent progress in advanced Pt-based ORR nanocatalysts. <b>2021</b> , 2, 56-75	43
297	A general strategy for synthesizing hierarchical architectures assembled by dendritic Pt-based nanoalloys for electrochemical hydrogen evolution. <b>2021</b> , 46, 11573-11586	5
296	Recent Advances in Electrocatalysts for Proton Exchange Membrane Fuel Cells and Alkaline Membrane Fuel Cells. <b>2021</b> , e2006292	71
295	Nanoparticle exsolution in perovskite oxide and its sustainable electrochemical energy systems. <b>2021</b> , 492, 229626	1
294	First principles study of Ir <sub>3</sub> Ru, IrRu and IrRu <sub>3</sub> catalysts for hydrogen oxidation reaction: Effect of surface modification and ruthenium content. <b>2021</b> , 545, 149002	5
293	Tuning of electrocatalytic activity of WO <sub>3</sub> /TiO <sub>2</sub> nanocomposite electrode for alkaline hydrogen evolution reaction. <b>2021</b> , 46, 15145-15160	4
292	Interface- and Surface-Engineered PdO-RuO Hetero-Nanostructures with High Activity for Hydrogen Evolution/Oxidation Reactions. <b>2021</b> , 14, 2112-2125	8
291	The Interrelated Effect of Cations and Electrolyte pH on the Hydrogen Evolution Reaction on Gold Electrodes in Alkaline Media. <b>2021</b> , 133, 13564-13574	4

290	Effects of functional supports on efficiency and stability of atomically dispersed noble-metal electrocatalysts. <b>2021</b> , 3, 100054	8
289	Recent Advances in Multimetal and Doped Transition-Metal Phosphides for the Hydrogen Evolution Reaction at Different pH values. <b>2021</b> , 13, 22077-22097	21
288	Self-Driven Multiplex Reaction: Reactant and Product Diffusion via a Transpiration-Inspired Capillary. <b>2021</b> , 13, 22031-22039	1
287	Electrospinning Highly Dispersed Ru Nanoparticle-Embedded Carbon Nanofibers Boost CO Reduction in a H/CO Fuel Cell. <b>2021</b> , 13, 23523-23531	1
286	Ternary nickel-tungsten-copper alloy rivals platinum for catalyzing alkaline hydrogen oxidation. <b>2021</b> , 12, 2686	20
285	The Interrelated Effect of Cations and Electrolyte pH on the Hydrogen Evolution Reaction on Gold Electrodes in Alkaline Media. <b>2021</b> , 60, 13452-13462	40
284	Architectural Design for Enhanced C Product Selectivity in Electrochemical CO Reduction Using Cu-Based Catalysts: A Review. <b>2021</b> , 15, 7975-8000	41
283	Atomic-Level Modulation of the Interface Chemistry of Platinum-Nickel Oxide toward Enhanced Hydrogen Electrocatalysis Kinetics. <b>2021</b> , 21, 4845-4852	15
282	Compressive Strain Reduces the Hydrogen Evolution and Oxidation Reaction Activity of Platinum in Alkaline Solution. <b>2021</b> , 11, 8165-8173	11
281	Prevailing conjugated porous polymers for electrochemical energy storage and conversion: Lithium-ion batteries, supercapacitors and water-splitting. <b>2021</b> , 436, 213782	14
280	Recent Advances in Electrocatalysts for Alkaline Hydrogen Oxidation Reaction. <b>2021</b> , 17, e2100391	13
279	Ultrafine Nickel Nanoparticles Encapsulated in N-Doped Carbon Promoting Hydrogen Oxidation Reaction in Alkaline Media. <b>2021</b> , 11, 7422-7428	15
278	On the relationship between potential of zero charge and solvent dynamics in the reversible hydrogen electrode. <b>2021</b> , 398, 161-170	0
277	Interfacial Electronic Coupling of NC@WO <sub>3</sub> -W C Decorated Ru Clusters as a Reversible Catalyst toward Electrocatalytic Hydrogen Oxidation and Evolution Reactions. <b>2021</b> , 14, 2992-3000	4
276	Elemental Engineering of High-Charge-Density Boron in Nickel as Multifunctional Electrocatalysts for Hydrogen Oxidation and Water Splitting. <b>2021</b> , 4, 5434-5442	8
275	Electrokinetic and in situ spectroscopic investigations of CO electrochemical reduction on copper. <b>2021</b> , 12, 3264	29
274	Alloying non-precious metals into Ni-based electrocatalysts for enhanced hydrogen oxidation reaction in alkaline media: A computational study. <b>2021</b> , 554, 149627	2
273	High crystallinity design of Ir-based catalysts drives catalytic reversibility for water electrolysis and fuel cells. <b>2021</b> , 12, 4271	17

272 Hydrogen Oxidation Reaction ( HOR ). **2021**, 111-132

271 DFT Applications in Selected Electrocatalytic Systems. **2021**, 391-419

270 Noble-Metal-Free Multicomponent Nanointegration for Sustainable Energy Conversion. **2021**, 121, 10271-10366

269 Hydrogen-Intercalation-Induced Lattice Expansion of Pd@Pt Core-Shell Nanoparticles for Highly Efficient Electrocatalytic Alcohol Oxidation. **2021**, 143, 11262-11270 18

268 Unravelling the roles of alkali-metal cations for the enhanced oxygen evolution reaction in alkaline media. **2021**, 288, 119981 15

267 Modulating 3d Orbitals of Ni Atoms on Ni-Pt Edge Sites Enables Highly-Efficient Alkaline Hydrogen Evolution. **2021**, 11, 2101789 5

266 Well-dispersed pyrite-type RuS<sub>2</sub> nanocrystals anchored on porous nitrogen and sulfur co-doped hollow carbon spheres for enhanced alkaline hydrogen evolution. **2021**, 417, 129318 10

265 Electron Density Modulation of MoO/Ni to Produce Superior Hydrogen Evolution and Oxidation Activities. **2021**, 13, 39470-39479 7

264 Tailoring the hydrophilic and hydrophobic reaction fields of the electrode interface on single crystal Pt electrodes for hydrogen evolution/oxidation reactions. **2021**, 46, 28078-28086 3

263 Alkaline Fuel Cells. **2022**, 623-648

262 Cation- and pH-Dependent Hydrogen Evolution and Oxidation Reaction Kinetics. **2021**, 1, 1674-1687 24

261 Strategies for the enhanced water splitting activity over metal-organic frameworks-based electrocatalysts and photocatalysts. **2021**, 15, 100124 8

260 The role of ruthenium in improving the kinetics of hydrogen oxidation and evolution reactions of platinum. **2021**, 4, 711-718 38

259 Operando toolbox for heterogeneous interface in electrocatalysis. **2021**, 1, 509-522 2

258 Pd<sub>4</sub>O<sub>3</sub> Subsurface Oxide on Pd(111) Formed during Oxygen Adsorption-Induced Surface Reconstruction and Its Activity toward Formate Oxidation Reactions. **2021**, 125, 19497-19508 1

257 Formic acid reduction and CO<sub>2</sub> activation at Mo<sub>2</sub>C: The important role of surface oxide. e2100130 1

256 RuNi alloy nanoparticles encapsulated in oxygen-doped carbon as bifunctional catalyst towards hydrogen electrocatalysis. 0

255 Modelling electrocatalytic reactions with a concerted treatment of multistep electron transfer kinetics and local reaction conditions. **2021**, 33, 2 2

254	Modification of the Intermediate Binding Energies on Ni/Ni <sub>3</sub> N Heterostructure for Enhanced Alkaline Hydrogen Oxidation Reaction. 2106156	20
253	Can hydrogen anion be a possible intermediate of the hydrogen electrode reaction?. <b>2021</b> , 896, 115150	
252	Inside solid-liquid interfaces: Understanding the influence of the electrical double layer on alkaline hydrogen evolution reaction. <b>2021</b> , 293, 120220	13
251	Infusing theory into deep learning for interpretable reactivity prediction. <b>2021</b> , 12, 5288	8
250	Lattice-Confined Ir Clusters on Pd Nanosheets with Charge Redistribution for the Hydrogen Oxidation Reaction under Alkaline Conditions. <b>2021</b> , 33, e2105400	20
249	Isolating the contributions of surface Sn atoms in the bifunctional behaviour of PtSn CO oxidation electrocatalysts. <b>2021</b> , 390, 138811	0
248	Hydrogen oxidation and oxygen reduction reactions on palladium nano-electrocatalyst supported on nickel-deficient MOF-derived carbons. <b>2021</b> , 390, 138860	5
247	Trace Oxophilic Metal Induced Surface Reconstruction at Buried RuRh Cluster Interfaces Possesses Extremely Fast Hydrogen Redox Kinetics. <b>2021</b> , 90, 106579	9
246	Atomically Dispersed Ruthenium on Nickel Hydroxide Ultrathin Nanoribbons for Highly Efficient Hydrogen Evolution Reaction in Alkaline Media. <b>2021</b> , 33, e2104764	10
245	Compressive Strain in N-Doped Palladium/Amorphous-Cobalt (II) Interface Facilitates Alkaline Hydrogen Evolution. <b>2021</b> , 17, e2103798	2
244	Controlled deposition of 2D-confined Pd or Ir nano-islands on Au(1 1 1) following Cu UPD, and their HER activity. <b>2021</b> , 896, 115285	0
243	Boosting alkaline hydrogen electrooxidation on an unconventional fcc-Ru polycrystal. <b>2021</b> , 61, 15-22	10
242	Nitrogen-doped graphite encapsulating RuCo nanoparticles toward high-activity catalysis of water oxidation and reduction. <b>2021</b> , 422, 130077	5
241	Improved hydrogen evolution activity of layered double hydroxide by optimizing the electronic structure. <b>2021</b> , 297, 120478	23
240	Enhancing hydrogen oxidation electrocatalysis of nickel-based catalyst by simultaneous chemical anchoring and electronic structure regulation. <b>2021</b> , 425, 130654	3
239	Multifunctional electrocatalysts of nickel boride nanoparticles for superior hydrogen oxidation and water splitting. <b>2021</b> , 22, 100846	12
238	Electrocatalysts development for hydrogen oxidation reaction in alkaline media: From mechanism understanding to materials design. <b>2021</b> , 42, 2094-2104	3
237	Penta-Twinned Rh@Pt Core-Shell nanobranches with engineered shell thickness for reversible and active hydrogen redox electrocatalysis. <b>2022</b> , 429, 132414	3



236	Recent advances in alkaline hydrogen oxidation reaction. <b>2022</b> , 66, 107-122	7
235	A perspective on the electrocatalytic conversion of carbon dioxide to methanol with metallomacrocyclic catalysts. <b>2022</b> , 64, 263-275	6
234	Reactive molecular dynamics simulations of nickel-based heterometallic catalysts for hydrogen evolution in an alkaline KOH solution. <b>2022</b> , 201, 110860	1
233	Tuning the electronic structures of cobalt-molybdenum bimetallic carbides to boost the hydrogen oxidation reaction in alkaline medium. <b>2022</b> , 428, 131206	4
232	Strong electrostatic adsorption-engaged fabrication of sub-3.0 nm PtRu alloy nanoparticles as synergistic electrocatalysts toward hydrogen evolution. <b>2021</b> , 13, 10044-10050	3
231	Inhibition of hydrogen evolution without debilitating electrochemical CO <sub>2</sub> reduction via the local suppression of proton concentration and blocking of step-edges by pyridine functionalization on Cu electrocatalysts. <b>2021</b> , 11, 4857-4865	4
230	Amine-ligand modulated ruthenium nanoclusters as a superior bi-functional hydrogen electrocatalyst in alkaline media.	4
229	Nanoscale electrocatalyst design for alkaline hydrogen evolution reaction through activity descriptor identification. <b>2021</b> , 5, 4042-4058	1
228	Metal oxide-based electrocatalysts for low-temperature electrochemical production and oxidation of hydrogen (HER and HOR). <b>2021</b> , 9-35	
227	Operando X-ray absorption spectroscopy of a Pd/ENiOOH 2 nm cubes hydrogen oxidation catalyst in an alkaline membrane fuel cell. <b>2021</b> , 11, 1337-1344	2
226	Heterojunction-induced nickel-based oxygen vacancies on N-enriched porous carbons for enhanced alkaline hydrogen oxidation and oxygen reduction. <b>2021</b> , 5, 2399-2408	6
225	electrochemical activation as a generic strategy for promoting the electrocatalytic hydrogen evolution reaction and alcohol electro-oxidation in alkaline medium.. <b>2021</b> , 11, 10615-10624	6
224	Electrochemical Reduction of Carbon Dioxide to Methanol Using Metal-Organic Frameworks and Non-metal-Organic Frameworks Catalyst. <b>2020</b> , 91-131	1
223	Catalyst Engineering for Electrochemical Energy Conversion from Water to Water: Water Electrolysis and the Hydrogen Fuel Cell. <b>2020</b> , 6, 653-679	30
222	The possible implications of magnetic field effect on understanding the reactant of water splitting. <b>2022</b> , 43, 148-157	6
221	Theory of Electrochemical Proton-Coupled Electron Transfer in Diabatic Vibronic Representation: Application to Proton Discharge on Metal Electrodes in Alkaline Solution. <b>2020</b> , 124, 27309-27322	10
220	Rational prediction of multifunctional bilayer single atom catalysts for the hydrogen evolution, oxygen evolution and oxygen reduction reactions. <b>2020</b> , 12, 20413-20424	7
219	Boosting Lattice Oxygen Oxidation of Perovskite to Efficiently Catalyze Oxygen Evolution Reaction by FeOOH Decoration. <b>2020</b> , 2020, 6961578	58

218	Deciphering the alternating synergy between interlayer Pt single-atom and NiFe layered double hydroxide for overall water splitting.	23
217	Design principles of noble metal-free electrocatalysts for hydrogen production in alkaline media: combining theory and experiment.	2
216	Effect of Support for Non-Noble NiMo Electrocatalyst in Alkaline Hydrogen Oxidation. 2100226	1
215	PtCo@PtSn Heterojunction with High Stability/Activity for pH-Universal H <sub>2</sub> Evolution. 2107597	14
214	Single-Atom Catalysts: Advances and Challenges in Metal-Support Interactions for Enhanced Electrocatalysis. 1	15
213	Enhanced Electrocatalytic Oxidation of Formate via Introducing Surface Reactive Oxygen Species to a CeO Substrate. <b>2021</b> , 13, 51643-51651	0
212	Synergistic Electrocatalysts for Alkaline Hydrogen Oxidation and Evolution Reactions. 2107479	13
211	Porous Ni(OH) <sub>2</sub> permselective membrane to identify the mechanism of hydrogen evolution reaction in buffered solution. <b>2021</b> , 401, 139444	0
210	Dynamics and Surface Propensity of H and OH within Rigid Interfacial Water: Implications for Electrocatalysis. <b>2021</b> , 12, 10128-10134	1
209	Understanding the role of mass transport in tuning the hydrogen evolution kinetics on gold in alkaline media. <b>2021</b> , 155, 134705	4
208	Mastering the surface strain of platinum catalysts for efficient electrocatalysis. <b>2021</b> , 598, 76-81	37
207	Ultrahigh-Current-Density and Long-Term-Durability Electrocatalysts for Water Splitting. <b>2021</b> , e2104513	4
206	In Situ Electrocatalytic Infrared Spectroscopy for Dynamic Reactions.	7
205	Subnanometer high-entropy alloy nanowires enable remarkable hydrogen oxidation catalysis. <b>2021</b> , 12, 6261	24
204	Fundamental Atomic Insight in Electrocatalysis. <b>2020</b> , 1473-1503	1
203	Intermetallic CuZr Clusters Anchored on Hierarchical Nanoporous Copper as Efficient Catalysts for Hydrogen Evolution Reaction. <b>2020</b> , 2020, 2987234	11
202	Interfacial engineering of 3D hollow CoSe <sub>2</sub> @ultrathin MoSe <sub>2</sub> core@shell heterostructure for efficient pH-universal hydrogen evolution reaction. 1	6
201	A potential and pH inclusive microkinetic model for hydrogen reactions on Pt surface. <b>2021</b> ,	3

200	Electrocatalysis Beyond 2020: How to Tune the Preexponential Frequency Factor.	1
199	FeP Modulated Adsorption with Hydrogen and Phosphate Species for Hydrogen Oxidation in High-Temperature Polymer Electrolyte Membrane Fuel Cells. 2106758	2
198	Ammonium Ionic Liquid Cation Promotes Electrochemical CO <sub>2</sub> Reduction to Ethylene over Formate while Inhibiting the Hydrogen Evolution on Copper Electrode.	2
197	Low-cost single-atom transition metals on two-dimensional SnO nanosheets for efficient hydrogen evolution catalysis in all pH-range. <b>2022</b> , 578, 152021	1
196	Ordered Pt <sub>3</sub> M (M = Early d-Block Metals) Intermetallic Nanocrystals: Synthesis and Electrocatalysis. <b>2022</b> , 585-594	0
195	Boosting alkaline hydrogen evolution electrocatalysis through electronic communicating vessels on Co <sub>2</sub> P/Co <sub>4</sub> N heterostructure catalyst. <b>2021</b> , 433, 133831	3
194	Approaching in-depth mechanistic understanding of electrochemical hydrogen conversion from computational simulations. <b>2021</b> , 1, 1160-1162	0
193	Modeling Potential-Dependent Electrochemical Activation Barriers: Revisiting the Alkaline Hydrogen Evolution Reaction. <b>2021</b> , 143, 19341-19355	7
192	Recent Advances in Manifold Exfoliated Synthesis of Two-Dimensional Non-precious Metal-Based Nanosheet Electrocatalysts for Water Splitting. 2100153	6
191	Selective Catalyst Surface Access through Atomic Layer Deposition. <b>2021</b> ,	0
190	N,O-C Nanocage-mediated high-efficient hydrogen evolution reaction on IrNi@N,O-C electrocatalyst. <b>2022</b> , 304, 120996	4
189	Tuning the selectivity of electrochemical levulinic acid reduction to 4-hydroxyvaleric acid: a monomer for biocompatible and biodegradable plastics. <b>2021</b> , 23, 9154-9164	0
188	Gas crossover regulation by porosity-controlled glass sheet achieves pure hydrogen production by buffered water electrolysis at neutral pH.. <b>2021</b> , e202102294	3
187	Heterostructured nickel/vanadium nitrides composites for efficient electrocatalytic hydrogen evolution in neutral medium. <b>2022</b> , 521, 230934	3
186	Metal-organic frameworks derived RuP <sub>2</sub> with yolk-shell structure and efficient performance for hydrogen evolution reaction in both acidic and alkaline media. <b>2022</b> , 305, 121043	4
185	Identifying the dominant transport mechanism in single nanoscale pores and 3D nanoporous media. <b>2022</b> ,	0
184	Role of Noncovalent Interactions on the Electrocatalytic Oxidation of Ethanol in Alkali Metal Hydroxide Solutions.. <b>2022</b> ,	0
183	Catalyst overcoating engineering towards high-performance electrocatalysis. <b>2021</b> ,	6

182	Improving the intrinsic activity of electrocatalysts for sustainable energy conversion: where are we and where can we go?. <b>2021</b> , 13, 14-26	11
181	Seamless separation of OH <sub>ad</sub> and H <sub>ad</sub> on a NiO catalyst toward exceptional alkaline hydrogen evolution. <b>2022</b> , 10, 1278-1283	1
180	Correlating Alkaline Hydrogen Electrocatalysis and Hydroxide Binding Energies on Mo-Modified Ru Catalysts. <b>2022</b> , 10, 1616-1623	3
179	Electrochemical Hydrogen Evolution Reaction. <b>2022</b> , 87-122	
178	Iridium-based electrocatalysts toward sustainable energy conversion.	1
177	How pH affects electrochemical processes.. <b>2022</b> , 375, 379-380	5
176	Strategies for Improving Anion Exchange Membrane Fuel Cell Performance by Optimizing Electrode Conditions. <b>2022</b> , 169, 014515	0
175	Interfacial Water Enrichment and Reorientation on Pt/C Catalysts Induced by Metal Oxides Participation for Boosting the Hydrogen Evolution Reaction.. <b>2022</b> , 1069-1076	2
174	Boosting hydrogen production with ultralow working voltage by selenium vacancy-enhanced ultrafine platinum-nickel nanowires.	6
173	Single palladium site in ordered porous heteroatom-doped carbon for high-performance alkaline hydrogen oxidation. <b>2022</b> , 306, 121029	16
172	Electrocatalysis in Alkaline Media and Alkaline Membrane-Based Energy Technologies.. <b>2022</b> ,	25
171	RuP Nanoparticles Supported on N, O Codoped Porous Hollow Carbon for Efficient Hydrogen Oxidation Reaction. 2102193	2
170	Unraveling the rate-limiting step of two-electron transfer electrochemical reduction of carbon dioxide.. <b>2022</b> , 13, 803	8
169	Innocent buffers reveal the intrinsic pH- and coverage-dependent kinetics of the hydrogen evolution reaction on noble metals. <b>2022</b> ,	4
168	Facile Fabrication of Bifunctional Hydrogen Catalytic Electrodes for Long-Life Nickel-Hydrogen Gas Batteries.. <b>2022</b> ,	2
167	Strategies to optimize water management in anion exchange membrane fuel cells. <b>2022</b> , 525, 231141	3
166	Electrolysis energy efficiency of highly concentrated FeCl <sub>2</sub> solutions for power-to-solid energy storage technology. <b>2022</b> , 26, 929-938	1
165	Single-Atom Molybdenum Engineered Platinum Nanocatalyst for Boosted Alkaline Hydrogen Oxidation. 2103336	5

164	Electronic Modulation of Pt Nanoparticles on NiN-MoC by Support-Induced Strategy for Accelerating Hydrogen Oxidation and Evolution.. <b>2022</b> , 2107-2116	3
163	Boosting Hydrogen Oxidation Performance of Phase-Engineered Ni Electrocatalyst under Alkaline Media. <b>2022</b> , 10, 3682-3689	2
162	Effect of Hydrogen Pressure on the Intrinsic Kinetics of Hydrogen Evolution Reaction at Pt(111) Electrode. <b>2022</b> , 169, 036505	1
161	Interface-Engineered Porous PtPdO Nanostructures for Highly Efficient Hydrogen Evolution and Oxidation Reactions in Base and Acid. <b>2022</b> , 10, 3704-3715	2
160	Membrane-electrode assembly design parameters for optimal CO <sub>2</sub> reduction.	0
159	The exclusive surface and electronic effects of Ni on promoting the activity of Pt towards alkaline hydrogen oxidation. 1	2
158	Challenges and Recent Progress in Unravelling the Intrinsic pH Effect in Electrocatalysis. <b>2022</b> , 101003	2
157	From Fundamentals and Theories to Heterostructured Electrocatalyst Design: An In-depth Understanding of Alkaline Hydrogen Evolution Reaction. <b>2022</b> , 107231	7
156	An efficient nickel hydrogen oxidation catalyst for hydroxide exchange membrane fuel cells.. <b>2022</b> ,	8
155	Void confinement and doping-modulation of IrNi alloy nanoparticles on hollow carbon spheres for efficient hydrogen oxidation/evolution reactions. <b>2022</b> , 319, 123637	1
154	RuO <sub>2</sub> as promoter in Pt-RuO <sub>2</sub> - nanostructures/carbon composite, a pH -universal catalyst for hydrogen evolution/oxidation reactions. <b>2022</b> , 46, 6406-6420	2
153	Electrocatalytic Water Splitting: From Harsh and Mild Conditions to Natural Seawater. <b>2021</b> , e2105830	9
152	Review of the Hydrogen Evolution Reaction: A Basic Approach. <b>2021</b> , 14, 8535	3
151	Cathodic corrosion of Au in aqueous methanolic alkali metal hydroxide electrolytes: Notable role of water.	1
150	Rational Design of Better Hydrogen Evolution Electrocatalysts for Water Splitting: A Review.. <b>2022</b> , e2200307	8
149	Understanding and leveraging the effect of cations in the electrical double layer for electrochemical CO <sub>2</sub> reduction. <b>2022</b> ,	5
148	Electrocatalytic Hydrogen Oxidation in Alkaline Media: From Mechanistic Insights to Catalyst Design.. <b>2022</b> ,	4
147	Equilibrated PtIr/IrO Atomic Heterojunctions on Ultrafine 1D Nanowires Enable Superior Dual-Electrocatalysis for Overall Water Splitting.. <b>2022</b> , e2201333	4

146	Pathways for the Formation of C <sub>2</sub> + Products under Alkaline Conditions during the Electrochemical Reduction of CO <sub>2</sub> . 1679-1686	8
145	IrO <sub>2</sub> modified Crystalline-PdO nanowires based bi-functional electro-catalyst for HOR/HER in acid and base. <b>2022</b> , 191, 151-160	1
144	Exploring the chemistry of Organic/Water-in-salt Electrolyte in Graphene-polypyrrole based high-voltage (2.4 V) microsupercapacitor. <b>2022</b> , 140499	1
143	Controlled doping of electrocatalysts through engineering impurities.. <b>2022</b> , e2203030	2
142	The Role of Electrocatalysts in the Development of Gigawatt-Scale PEM Electrolyzers. 6159-6171	4
141	Predicting Catalytic Activity in Hydrogen Evolution Reaction. <b>2022</b> , 101037	3
140	Fast Transformation of CO <sub>2</sub> into CO Via a Hydrogen Bond Network on the Cu Electrocatalysts. <b>2022</b> , 126, 7841-7848	0
139	Trace nitrogen-incorporation stimulates dual active sites of nickel catalysts for efficient hydrogen oxidation electrocatalysis. <b>2022</b> , 445, 136700	2
138	Water electrolysis: from textbook knowledge to the latest scientific strategies and industrial developments.. <b>2022</b> ,	21
137	Innovative Strategies in Design of Transition Metal-based Catalysts for Large-current-density Alkaline Water/Seawater Electrolysis. <b>2022</b> , 100727	5
136	Enhancing the connection between computation and experiments in electrocatalysis. <b>2022</b> , 5, 374-381	4
135	Nano-Sized PtRu/C Electrocatalyst With Separated Phases and High Dispersion Improves Electrochemical Performance of Hydrogen Oxidation Reaction. <b>2022</b> , 10,	
134	High performing platinum/copper catalyst for self-breathing polymer electrolyte membrane fuel cell.	1
133	Design of Ru-Ni diatomic sites for efficient alkaline hydrogen oxidation. <b>2022</b> , 8,	14
132	Oxygen-Inserted Top-Surface Layers of Ni for Boosting Alkaline Hydrogen Oxidation Electrocatalysis.	8
131	Spontaneous Formate Oxidation on the 2D Surface Metal Fluoride Interface Reconstructed from the AgPdF Surface. <b>2022</b> , 126, 9683-9695	
130	Redox-Active Crystalline Coordination Catalyst for Hybrid Electrocatalytic Full Reaction.	0
129	Redox-Active Crystalline Coordination Catalyst for Hybrid Electrocatalytic Full Reaction.	3

128	PlatinumRuthenium Single Atom Alloy as a Bifunctional Electrocatalyst toward Methanol and Hydrogen Oxidation Reactions. <b>2022</b> , 14, 27814-27822	0
127	In Situ Probe of the Hydrogen Oxidation Reaction Intermediates on PtRu a Bimetallic Catalyst Surface by CoreShell Nanoparticle-Enhanced Raman Spectroscopy.	5
126	Delicate surface vacancies engineering of Ru doped MOF-derived Ni-NiO@C hollow microsphere superstructure to achieve outstanding hydrogen oxidation performance. <b>2022</b> , 72, 395-404	2
125	Full atomistic mechanism study of hydrogen evolution reaction on Pt surfaces at universal pHs: Ab initio simulations at electrochemical interfaces. <b>2022</b> , 425, 140709	1
124	Janus bimetallic materials as efficient electrocatalysts for hydrogen oxidation and evolution reactions. <b>2022</b> , 625, 128-135	0
123	Plasma-assisted highly dispersed Pt single atoms on Ru nanoclusters electrocatalyst for pH-universal hydrogen evolution. <b>2022</b> , 448, 137611	1
122	Constructing Dual Active Sites for Synergistic Electrocatalysis of Hydrogen Oxidation: Single-Metal-Atoms Anchored on WC <sub>2</sub> O <sub>2</sub> MXene.	1
121	Heterogeneous electron transfer reorganization energy at the inner Helmholtz plane in a polybromide redox-active ionic liquid.	1
120	Theoretical Advances in Understanding and Designing the Active Sites for Hydrogen Evolution Reaction. <b>2022</b> , 12, 8404-8433	10
119	Activation of H <sub>2</sub> O Tailored by Interfacial Electronic States at a Nanoscale Interface for Enhanced Electrocatalytic Hydrogen Evolution. <b>2022</b> , 2, 1457-1471	1
118	Electronic Modulation of Ru Nanosheet by d-d Orbital Coupling for Enhanced Hydrogen Oxidation Reaction in Alkaline Electrolytes. 2202404	1
117	Bimetallic CobaltNickel Electrode Made by a Sputtering Technique for Electrocatalytic Hydrogen Evolution Reaction: Effect of Nickel Ratios.	0
116	Ternary PtRuTe alloy nanofibers as an efficient and durable electrocatalyst for hydrogen oxidation reaction in alkaline media.	0
115	RuCo Alloys Anchoring on Hierarchical Oxidized CNT Architectures with Boosted Catalytic Activity for Water Splitting. <b>2022</b> , 140874	0
114	A kinetic descriptor for the electrolyte effect on the oxygen reduction kinetics on Pt(111).	3
113	Unfolding essence of nanoscience for improved water splitting hydrogen generation in the light of newly emergent nanocatalysts. <b>2022</b> ,	1
112	Understanding of Oxygen Redox in Oxygen Evolution Reaction. 2107956	5
111	The mechanism for acetate formation in electrochemical CO(2) reduction on Cu: selectivity with potential, pH, and nanostructuring.	7

110	Designing High-Performance Se-Decorated Edges of MoSe <sub>2</sub> Nanostripes for the Hydrogen Oxidation Reaction: Effect of Transition Metal Doping. <b>2022</b> , 126, 13617-13628	1
109	Core-shell nanocatalysts with reduced platinum content toward more cost-effective proton exchange membrane fuel cells.	1
108	The Role of Hydroxide Binding Energy in Alkaline Hydrogen Oxidation Reaction Kinetics on RuCr Nanosheet □	0
107	Recent advances in transition metal-based electrocatalysts for seawater electrolysis.	0
106	Improving Alkaline Hydrogen Oxidation Activity of Palladium through Interactions with Transition-Metal Oxides. 10894-10904	5
105	Electrolyte engineering for oxygen evolution reaction over non-noble metal electrodes achieving high current density in the presence of chloride ion.	1
104	Boosting Electrochemical CO <sub>2</sub> Reduction to Methane via Tuning Oxygen Vacancy Concentration and Surface Termination on a Copper/Ceria Catalyst. 10973-10983	1
103	Probing the effect of metal-CeO <sub>2</sub> interactions in carbon supported electrocatalysts on alkaline hydrogen oxidation and evolution reactions. <b>2022</b> , 543, 121161	0
102	Electric-field-reinforced Hydrophobic Cationic Sieve Lowers the Concentration Threshold of Water-in-Salt Electrolytes. 2207040	0
101	What Controls Activity Trends of Electrocatalytic Hydrogen Evolution Reaction?-Activation Energy Versus Frequency Factor. 11597-11605	2
100	Revisited Mechanisms for Glucose Electrooxidation at Platinum and Gold Nanoparticles.	1
99	Fundamentals on kinetics of hydrogen redox reaction at a polycrystalline platinum disk electrode. <b>2022</b> , 922, 116788	0
98	Interfacial component coupling effects towards precise heterostructure design for efficient electrocatalytic water splitting. <b>2022</b> , 103, 107753	2
97	Toward the fast and durable alkaline hydrogen oxidation reaction on ruthenium.	4
96	Ultrafine platinum-iridium distorted nanowires as robust catalysts toward bifunctional hydrogen catalysis. <b>2022</b> , 10, 18972-18977	0
95	D-p orbital hybridization in RhSn catalyst boosts hydrogen oxidation reaction under alkaline electrolyte.	1
94	Ru doped CoP Nanosheets for Efficient Hydrogen Evolution in Microbial Electrolysis Cells.	0
93	Understanding hydrogen oxidation/evolution electrochemical interfaces through in situ Raman scattering and infrared absorption spectroscopies. <b>2023</b> ,	0



92	The contribution of water molecules to the hydrogen evolution reaction. <b>2022</b> , 65, 1854-1866	0
91	Unveiling hydrogen evolution dependence on KOH concentration for polycrystalline and nanostructured nickel-based catalysts.	0
90	Hydrogen bond network connectivity in the electric double layer dominates the kinetic pH effect in hydrogen electrocatalysis on Pt.	10
89	Determining the hydronium $pK_{\text{a}}$ at platinum surfaces and the effect on pH-dependent hydrogen evolution reaction kinetics. <b>2022</b> , 119,	0
88	Design Strategies and in situ Infrared, Raman, and X-ray Absorption Spectroscopy Techniques Insight into the Electrocatalysts of Hydrogen Energy System. 2200201	0
87	Interfacial Structure of Pt(110) Electrode during Hydrogen Evolution Reaction in Alkaline Solutions. <b>2022</b> , 13, 8403-8408	0
86	Surface microstructures and oxygen evolution properties of cobalt oxide deposited on Ir(111) and Pt(111) single crystal substrates.	0
85	A Framework for the Relationships between Stability and Functional Properties of Electrochemical Energy Materials.	1
84	Design of a Metal/Oxide/Carbon Interface for Highly Active and Selective Electrocatalysis.	0
83	Atomically dispersed chromium coordinated with hydroxyl clusters enabling efficient hydrogen oxidation on ruthenium. <b>2022</b> , 13,	3
82	Platinum-free electrocatalysts for hydrogen oxidation reaction in alkaline media. <b>2022</b> , 107877	0
81	Identifying and Interpreting Geometric Configuration-Dependent Activity of Spinel Catalysts for Water Reduction.	0
80	Boron-Doped Platinum-Group Metals in Electrocatalysis: A Perspective. 12750-12764	1
79	Nickel-Molybdenum-Bismuth metallic glass for efficient hydrogen oxidation in hydroxide exchange membrane fuel cells.	2
78	Unexpected High-Performance Photocatalytic Hydrogen Evolution in Co@NCNT@ZnIn <sub>2</sub> S <sub>4</sub> Triggered by Directional Charge Separation and Transfer. 2205266	1
77	Electroreduction CO <sub>2</sub> -to-CH <sub>4</sub> over scalable porphyrin-based conjugated porous polymers promoted by direct auxiliary bonding interaction.	0
76	Anion-exchange membrane water electrolyzers and fuel cells.	4
75	The Role of Discrepant Reactive Intermediates on Ru-Ru <sub>2</sub> P Heterostructure for pH-Universal Hydrogen Oxidation Reaction.	1

74	The Role of Discrepant Reactive Intermediates on Ru-Ru <sub>2</sub> P Heterostructure for pH-Universal Hydrogen Oxidation Reaction.	0
73	Tailoring Interfacial Charge Transfer of Epitaxially Grown Ir Clusters for Boosting Hydrogen Oxidation Reaction. 2202913	0
72	Platinum-Water Interaction Induced Interfacial Water Orientation That Governs the pH-Dependent Hydrogen Oxidation Reaction. <b>2022</b> , 13, 10550-10557	0
71	Anion exchange membrane fuel cell: New insights and advancements.	0
70	Metal/semiconductor contact induced Mott-Schottky junction for enhancing the electrocatalytic activity of water-splitting catalysts.	0
69	Engineering Surface Oxophilicity of Copper for Electrochemical CO <sub>2</sub> Reduction to Ethanol. 2204579	0
68	Recent advances in understanding and design of efficient hydrogen evolution electrocatalysts for water splitting: A comprehensive review. <b>2022</b> , 102811	1
67	Metal-doped nickel-based chalcogenides and phosphochalcogenides for electrochemical water splitting.	0
66	One-step Hydrothermal Preparation of Bilayer Films of NiCo LDH/Pt Loaded on Nickel Foam Surface for HER Catalyst Activity.	0
65	High-performing catalysts for energy-efficient commercial alkaline water electrolysis. <b>2022</b> , 7, 31-60	2
64	Ruthenium nanoparticles supported on Ni <sub>3</sub> N nanosheets as bifunctional electrocatalysts for hydrogen oxidation/evolution reactions.	0
63	Adjusting OH tolerance of Ni <sub>4</sub> clusters supported on ultra-small carbon nanotube with lattice vacancies for hydrogen oxidation catalysts. <b>2023</b> , 27, 101262	0
62	Recent trends in electrochemical catalyst design for hydrogen evolution, oxygen evolution, and overall water splitting. <b>2023</b> , 439, 141715	0
61	Metal-glycerolates and their derivatives as electrode materials: A review on recent developments, challenges, and future perspectives. <b>2023</b> , 477, 214954	0
60	Steering Pt surface via N-doped carbon layer to highly active CO-tolerant hydrogen oxidation reaction catalyst in alkaline media. <b>2023</b> , 614, 156131	0
59	High-Throughput Fluorescent Screening and Machine Learning for Feature Selection of Electrocatalysts for the Alkaline Hydrogen Oxidation Reaction. <b>2022</b> , 10, 16299-16312	0
58	Electroshock synthesis of a bifunctional nonprecious multi-element alloy for alkaline hydrogen oxidation and evolution. <b>2022</b> , 2, 20220024	1
57	Advanced energy materials: Current trends and challenges in electro- and photo-catalysts for H <sub>2</sub> O splitting. <b>2022</b> ,	0

- 56 Targeted Intermetallic Nanocatalysts for Sustainable Biomass and CO<sub>2</sub> Valorization. **2022**, 12, 14999-15020 ○
- 55 Amorphous Mo-doped Ni<sub>0.5</sub>Se<sub>0.5</sub> Nanosheets@Crystalline Ni<sub>0.5</sub>Se<sub>0.5</sub> Nanorods for High Current-density Electrocatalytic Water Splitting in Neutral Media. ○
- 54 Fast and Durable Alkaline Hydrogen Oxidation Reaction at Electron-Deficient Ruthenium-Ruthenium Oxide Interface. 2208821 ○
- 53 Acoustically-Induced Water Frustration for Enhanced Hydrogen Evolution Reaction in Neutral Electrolytes. 2203164 1
- 52 Lattice and Surface Engineering of Ruthenium Nanostructures for Enhanced Hydrogen Oxidation Catalysis. 2210328 ○
- 51 Development of Anion Exchange Membrane Water Electrolysis and the Associated Challenges: A Review. 1
- 50 Amorphous Mo-doped Ni<sub>0.5</sub>Se<sub>0.5</sub> Nanosheets@Crystalline Ni<sub>0.5</sub>Se<sub>0.5</sub> Nanorods for High Current-density Electrocatalytic Water Splitting in Neutral Media. 1
- 49 Understanding Cation Effects on the Hydrogen Evolution Reaction. 657-665 ○
- 48 Improved Alkaline Hydrogen Oxidation on Strain-Modulated Pt Overlayers at Ordered Intermetallic Pt<sub>55</sub>B<sub>45</sub> Cores. 685-690 ○
- 47 Hydroxyl-Binding Energy-Induced Kinetic Gap Narrowing between Acidic and Alkaline Hydrogen Oxidation Reaction on Intermetallic Ru<sub>3</sub>Sn<sub>7</sub> Catalyst. 2207603 ○
- 46 Interfacial Engineering of Ni/V<sub>2</sub>O<sub>3</sub> Heterostructure Catalyst for Boosting Hydrogen Oxidation Reaction in Alkaline Electrolytes. ○
- 45 Pd-based Metallic Glasses as Promising Materials for Hydrogen Energy Applications. ○
- 44 Designing interface structures of nickel with transition metal nitrides for enhanced hydrogen electro-oxidation. **2023**, 102659 ○
- 43 Interfacial Engineering of Ni/V<sub>2</sub>O<sub>3</sub> Heterostructure Catalyst for Boosting Hydrogen Oxidation Reaction in Alkaline Electrolytes. ○
- 42 Redrawing HER Volcano with Interfacial Processes: The Role of Hydrogen Spillover in Boosting H<sub>2</sub> Evolution in Alkaline Media. **2023**, 13, 89 ○
- 41 PtM/CNT (M = Mo, Ni, CoCr) Electrocatalysts with Reduced Platinum Content for Anodic Hydrogen Oxidation and Cathodic Oxygen Reduction in Alkaline Electrolytes. **2023**, 13, 161 ○
- 40 Alkaline hydrogen oxidation reaction on Ni-based electrocatalysts: From mechanistic study to material development. **2023**, 478, 214980 ○
- 39 Enhanced alkaline hydrogen oxidation reaction using electrodeposited Ni-Ir alloy catalysts. **2023**, 614, 156207 ○

- 38 Uniform PtRu<sub>0.6</sub> Nanoparticles Supported on Nitrogen-Doped Carbon Obtained from ZIF-8/GO Hybrid with Remarkable Alkaline Hydrogen Oxidation Activity. ○
- 37 Electrocatalysts based on MoS<sub>2</sub> and WS<sub>2</sub> for hydrogen evolution reaction: An overview. 20220057 ○
- 36 Advanced nickel-based catalysts for the hydrogen oxidation reaction in alkaline media synthesized by reactive spray deposition technology: Study of the effect of particle size. **2023**, ○
- 35 Advanced in-situ electrochemical scanning probe microscopies in electrocatalysis. **2023**, 47, 93-120 ○
- 34 Phytic acid empowered two nanoscale Polypyrrole tunnels and transition Metal-(Oxy)hydroxide Sheets in a single platform for unmitigated redox water splitting. **2023**, 463, 142280 ○
- 33 Metal-organic framework derived carbon-based electrocatalysis for hydrogen evolution reactions: A review. **2023**, 22, 100371 ○
- 32 Cation effects on electrocatalytic reduction processes at the example of the hydrogen evolution reaction. **2023**, 39, 101268 ○
- 31 Rational design of 2D heterostructured photo- & electro-catalysts for hydrogen evolution reaction: A review. **2023**, 15, 100402 ○
- 30 A Ni-MoO<sub>x</sub> composite catalyst for the hydrogen oxidation reaction in anion exchange membrane fuel cell. **2023**, 332, 122740 ○
- 29 Single-Atom Iridium-Based Catalysts: Synthesis Strategies and Electro(Photo)-Catalytic Applications for Renewable Energy Conversion and Storage. **2023**, 486, 215143 ○
- 28 Role of hydroxyl on metal surface in hydrogenation reactions. **2023**, 418, 216-224 ○
- 27 Alkaline Hydrogen Oxidation Reaction Catalysts: Insight into Catalytic Mechanisms, Classification, Activity Regulation and Challenges. **2023**, 4, ○
- 26 Recent advances of ruthenium-based electrocatalysts for hydrogen energy. **2023**, 5, 225-239 ○
- 25 Core-shell nanoparticle enhanced Raman spectroscopy in situ probing the composition and evolution of interfacial species on PtCo surfaces. ○
- 24 Recent Advancements in the Synthetic Mechanism and Surface Engineering of Transition Metal Selenides for Energy Storage and Conversion Applications. **2023**, 11, ○
- 23 Dealloying of an amorphous TiCuRu alloy results in a nanostructured electrocatalyst for hydrogen evolution reaction. ○
- 22 Kinetic-Modulated Crystal Phase of Ru for Hydrogen Oxidation. 2207038 ○
- 21 Promoting water dissociation for efficient solar driven CO<sub>2</sub> electroreduction via improving hydroxyl adsorption. **2023**, 14, ○

- 20 Multicomponent Intermetallic Nanoparticles on Hierarchical Metal Network as Versatile Electrocatalysts for Highly Efficient Water Splitting. 2214412
- 19 Bio-Inspired FeMo<sub>2</sub>S<sub>4</sub> Microspheres as Bifunctional Electrocatalysts for Boosting Hydrogen Oxidation/Evolution Reactions in Alkaline Solution. **2023**, 15, 11853-11865
- 18 Structural Analysis of PtPd Core-Shell Bimetallic Nanoparticles and their Enhanced Catalytic Performance for Ethanol Oxidation Reaction. **2023**, 15,
- 17 Proton-donating and chemistry-dependent buffering capability of amino acids for the hydrogen evolution reaction. **2023**, 25, 8005-8012
- 16 Research on engineered electrocatalysts for efficient water splitting: a comprehensive review. **2023**, 25, 8992-9019
- 15 Recent advances and future prospects on Ni<sub>3</sub>S<sub>2</sub>-Based electrocatalysts for efficient alkaline water electrolysis. **2023**,
- 14 A Recent Review of Primary Hydrogen Carriers, Hydrogen Production Methods, and Applications. **2023**, 13, 562
- 13 Boosting alkaline hydrogen evolution performance by constructing ultrasmall Ru clusters/Na<sup>+</sup>, K<sup>+</sup>-decorated porous carbon composites.
- 12 Tuning Electron Transfer in Atomic-Scale Pt-Supported Catalysts for the Alkaline Hydrogen Oxidation Reaction. **2023**, 62, 5032-5039
- 11 Development of electrochemistry in Serbia-challenges and perspectives.
- 10 Rational Design of Hydrogen Evolution Reaction Electrocatalysts for Commercial Alkaline Water Electrolysis. 2200404
- 9 The primary gas phase hydration shell of hydroxide. **2023**, 9,
- 8 Electronegativity principle for hydrogen evolution activity using first-principles calculations.
- 7 Shape-Controlled Synthesis of Platinum-Based Nanocrystals and Their Electrocatalytic Applications in Fuel Cells. **2023**, 15,
- 6 Ideal gas reference for association/dissociation reactions: Concentration bias and kinetic reference voltage/potentials in electrolysis. **2023**, 158, 124129
- 5 Efficient Electrocatalytic Nitrate Reduction to Ammonia Based on DNA-Templated Copper Nanoclusters. **2023**, 15, 18928-18939
- 4 Deciphering the effect of pH on electrocatalytic reactions with kinetic modelling. **2023**, 101294
- 3 Engineering strategies and active site identification of MXene-based catalysts for electrochemical conversion reactions.

- 2 RuO<sub>2</sub>-PdO nanowire networks with rich interfaces and defects supported on carbon toward the efficient alkaline hydrogen oxidation reaction. **2023**, ○
- 1 In Situ Sonoactivation of Polycrystalline Ni for the Hydrogen Evolution Reaction in Alkaline Media. ○