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Homogeneously dispersed multimetal oxygen-evolving catalysts

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1738	Synergistic Coupling of Anionic Ligands To Optimize the Electronic and Catalytic Properties of MetalOrganic Framework-Converted Oxygen-Evolving Catalysts.		
1737	High-Efficiency Electrocatalytic Water Oxidation on Trimetal-Based FeCoCr Oxide.		
1736	Crystalline Multi-Metal Nanosheets Array with Enriched Oxygen Vacancies as Efficient and Stable Bifunctional Electrocatalysts for Water Splitting.		
1735	Strongly Coupled FeNi Alloys/NiFe2O4@Carbonitride Layers-Assembled Microboxes for Enhanced Oxygen Evolution Reaction.		
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1733	•		
1732	Impact of Silicon Resistivity on the Performance of Silicon Photoanode for Efficient Water Oxidation Reaction.		
1731	A Nitrogen Doping Method for CoS2 Electrocatalysts with Enhanced Water Oxidation Performance.		
1730	Amorphous Multi-elements Electrocatalysts with Tunable Bifunctionality toward Overall Water Splitting.		
1729	Binding Energy Optimization Strategy Inducing Enhanced Catalytic Performance on MIL-100(FeNi) To Catalyze Water Oxidation Directly.		
1728	Valence Engineering via Selective Atomic Substitution on Tetrahedral Sites in Spinel Oxide for Highly Enhanced Oxygen Evolution Catalysis.		
1727	Charge-Transfer Effects in FeCo and FeCoY Oxides for Electrocatalytic Water Oxidation Reaction.		
1726	Self-Supported Hierarchical FeCoNi-LTH/NiCo2O4/CC Electrodes with Enhanced Bifunctional Performance for Efficient Overall Water Splitting.		
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1722	High-Valence-State NiO/Co3O4 Nanoparticles on Nitrogen-Doped Carbon for Oxygen Evolution at Low Overpotential.	
1721	Amorphous Multimetal Alloy Oxygen Evolving Catalysts.	
1720	Noble Metal-Free Nanoporous High-Entropy Alloys as Highly Efficient Electrocatalysts for Oxygen Evolution Reaction.	
1719	Self-Supported Porous NiFeW Hydroxide Nanosheets on Carbon Fiber: A Highly Efficient Electrode for Oxygen Evolution Reaction.	
1718	Zero-Gap Alkaline Water Electrolysis Using Ion-Solvating Polymer Electrolyte Membranes at Reduced KOH Concentrations. <b>2016</b> , 163, F3125-F3131	60
1717	Virtual Special Issue on Catalysis at the U.S. Department of Energy⊠ National Laboratories. <b>2016</b> , 6, 3227-3235	0
1716	Graphitic carbon nitride supported single-atom catalysts for efficient oxygen evolution reaction. <b>2016</b> , 52, 13233-13236	133
1715	Rapid prototyping of electrolyzer flow field plates. <b>2016</b> , 9, 3417-3423	40
1714	Intercalation of Cobalt into the Interlayer of Birnessite Improves Oxygen Evolution Catalysis. <b>2016</b> , 6, 7739-7743	64
1713	Colloidal synthesis of wurtz-stannite Cu2CdGeS4 nanocrystals with high catalytic activity toward iodine redox couples in dye-sensitized solar cells. <b>2016</b> , 52, 10866-9	19
1712	Low Band Gap Benzimidazole COF Supported Ni3N as Highly Active OER Catalyst. <b>2016</b> , 6, 1601189	123
1711	Transition-Metal (Co, Ni, and Fe)-Based Electrocatalysts for the Water Oxidation Reaction. <b>2016</b> , 28, 9266-929	11075
1710	Two-Dimensional Materials as Catalysts for Energy Conversion. <b>2016</b> , 146, 1917-1921	39
1709	IronNickel Nitride Nanostructures in Situ Grown on Surface-Redox-Etching Nickel Foam: Efficient and Ultrasustainable Electrocatalysts for Overall Water Splitting. <b>2016</b> , 28, 6934-6941	367
1708	A highly active and stable IrOx/SrIrO3 catalyst for the oxygen evolution reaction. <i>Science</i> , <b>2016</b> , 353, 1011-1014	1094
1707	Porous FeNi oxide nanosheets as advanced electrochemical catalysts for sustained water oxidation. <b>2016</b> , 4, 14939-14943	50
1706	Ultrathin metalBrganic framework nanosheets for electrocatalytic oxygen evolution. 2016, 1,	1444

1705	Solar-Driven Reduction of 1 atm of CO2 to Formate at 10% Energy-Conversion Efficiency by Use of a TiO2-Protected IIIIV Tandem Photoanode in Conjunction with a Bipolar Membrane and a Pd/C Cathode. <b>2016</b> , 1, 764-770	133
1704	NiMnO/NiMnO Oxides Synthesized via the Aid of Pollen: Ilmenite/Spinel Hybrid Nanoparticles for Highly Efficient Bifunctional Oxygen Electrocatalysis. <b>2016</b> , 8, 26740-26757	60
1703	Highly Ordered Mesoporous Bimetallic Phosphides as Efficient Oxygen Evolution Electrocatalysts. <b>2016</b> , 1, 792-796	116
1702	High-performance bifunctional oxygen electrocatalyst derived from iron and nickel substituted perfluorosulfonic acid/polytetrafluoroethylene copolymer. <b>2016</b> , 30, 801-809	36
1701	Enhanced Activity and Acid pH Stability of Prussian Blue-type Oxygen Evolution Electrocatalysts Processed by Chemical Etching. <b>2016</b> , 138, 16037-16045	148
1700	A nitrogen-doped ordered mesoporous carbon/graphene framework as bifunctional electrocatalyst for oxygen reduction and evolution reactions. <b>2016</b> , 30, 503-510	119
1699	Earth-Abundant Heterogeneous Water Oxidation Catalysts. <b>2016</b> , 116, 14120-14136	960
1698	The surface sulfur doping induced enhanced performance of cobalt catalysts in oxygen evolution reactions. <b>2016</b> , 52, 9450-3	34
1697	An Alkaline-Stable, Metal Hydroxide Mimicking Metal-Organic Framework for Efficient Electrocatalytic Oxygen Evolution. <b>2016</b> , 138, 8336-9	362
1696	In situ electrochemical formation of core\( \bar{\text{l}}\) hell nickel\( \bar{\text{l}}\) on disulfide and oxyhydroxide heterostructured catalysts for a stable oxygen evolution reaction and the associated mechanisms. <b>2017</b> , 5, 4335-4342	126
1695	A general approach to cobalt-based homobimetallic phosphide ultrathin nanosheets for highly efficient oxygen evolution in alkaline media. <b>2017</b> , 10, 893-899	342
1694	Intralayered Ostwald Ripening to Ultrathin Nanomesh Catalyst with Robust Oxygen-Evolving Performance. <b>2017</b> , 29, 1604765	237
1693	Unraveling Oxygen Evolution Reaction on Carbon-Based Electrocatalysts: Effect of Oxygen Doping on Adsorption of Oxygenated Intermediates. <b>2017</b> , 2, 294-300	100
1692	Control of Electrons' Spin Eliminates Hydrogen Peroxide Formation During Water Splitting. <b>2017</b> , 139, 2794-2798	141
1691	Edge reactivity and water-assisted dissociation on cobalt oxide nanoislands. <b>2017</b> , 8, 14169	89
1690	MOF Template-Directed Fabrication of Hierarchically Structured Electrocatalysts for Efficient Oxygen Evolution Reaction. <b>2017</b> , 7, 1602643	231
1689	An efficient nickel oxides/nickel structure for water oxidation: a new strategy. <b>2017</b> , 41, 1909-1913	12
1688	Earth-abundant catalysts for electrochemical and photoelectrochemical water splitting. <b>2017</b> , 1,	1885

## (2017-2017)

1687	Combining theory and experiment in electrocatalysis: Insights into materials design. <i>Science</i> , <b>2017</b> , 355,	5239
1686	Electrocatalysis for the oxygen evolution reaction: recent development and future perspectives. <b>2017</b> , 46, 337-365	3041
1685	NixWO2.72 nanorods as an efficient electrocatalyst for oxygen evolution reaction. <b>2017</b> , 2, 119-123	12
1684	Mo activated multimetal oxygen-evolving catalysts. <b>2017</b> , 8, 3484-3488	88
1683	Iron-tuned super nickel phosphide microstructures with high activity for electrochemical overall water splitting. <b>2017</b> , 34, 472-480	190
1682	Ultrathin Iron-Cobalt Oxide Nanosheets with Abundant Oxygen Vacancies for the Oxygen Evolution Reaction. <b>2017</b> , 29, 1606793	821
1681	A tailored double perovskite nanofiber catalyst enables ultrafast oxygen evolution. <b>2017</b> , 8, 14586	251
168c	Pt-like electrocatalytic behavior of RuMoO2 nanocomposites for the hydrogen evolution reaction.  2017, 5, 5475-5485	150
1679	Mesoporous nickelfron binary oxide nanorods for efficient electrocatalytic water oxidation. <b>2017</b> , 10, 2096-2105	48
1678	Iron incorporation affecting the structure and boosting catalytic activity of 땂o(OH)2: exploring the reaction mechanism of ultrathin two-dimensional carbon-free Fe3O4-decorated 昖o(OH)2 nanosheets as efficient oxygen evolution electrocatalysts. <b>2017</b> , 5, 6849-6859	53
1677	Highly efficient hydrogen evolution from seawater by a low-cost and stable CoMoP@C electrocatalyst superior to Pt/C. <b>2017</b> , 10, 788-798	450
1676	Doping of TiO2 as a tool to optimize the water splitting efficiencies of titaniaBematite photoanodes. <b>2017</b> , 1, 199-206	13
1675	Iron-cobalt bimetal oxide nanorods as efficient and robust water oxidation catalysts. <b>2017</b> , 46, 10602-10610	20
1674	Irondoped NiCoO 2 nanoplates as efficient electrocatalysts for oxygen evolution reaction. <b>2017</b> , 407, 177-184	27
1673	Noble-Metal-Free Metallic Glass as a Highly Active and Stable Bifunctional Electrocatalyst for Water Splitting. <b>2017</b> , 4, 1601086	48
1672	Recent Advances in Earth-Abundant Heterogeneous Electrocatalysts for Photoelectrochemical Water Splitting. <b>2017</b> , 1, 1700090	85
1671	Amorphous NiFe-OH/NiFeP Electrocatalyst Fabricated at Low Temperature for Water Oxidation Applications. <b>2017</b> , 2, 1035-1042	369
167c	Colloidal synthesis of urchin-like Fe doped NiSe for efficient oxygen evolution. <b>2017</b> , 9, 6821-6825	102

1669	Cobalt nickel boride as an active electrocatalyst for water splitting. <b>2017</b> , 5, 12379-12384	166
1668	Highly active catalyst derived from a 3D foam of Fe(PO)/NiP for extremely efficient water oxidation. <b>2017</b> , 114, 5607-5611	225
1667	General Formation of Monodisperse IrM (M = Ni, Co, Fe) Bimetallic Nanoclusters as Bifunctional Electrocatalysts for Acidic Overall Water Splitting. <b>2017</b> , 27, 1700886	230
1666	Theoretical Insights to Bulk Activity Towards Oxygen Evolution in Oxyhydroxides. <b>2017</b> , 147, 1533-1539	35
1665	Chemical Synthesis, Doping, and Transformation of Magic-Sized Semiconductor Alloy Nanoclusters. <b>2017</b> , 139, 6761-6770	69
1664	Ultrathin High Surface Area Nickel Boride (NixB) Nanosheets as Highly Efficient Electrocatalyst for Oxygen Evolution. <b>2017</b> , 7, 1700381	245
1663	On the Electrolytic Stability of Iron-Nickel Oxides. <b>2017</b> , 2, 590-597	61
1662	Electrocatalytic oxygen evolution reaction for energy conversion and storage: A comprehensive review. <b>2017</b> , 37, 136-157	860
1661	Earth-Abundant Iron Diboride (FeB2) Nanoparticles as Highly Active Bifunctional Electrocatalysts for Overall Water Splitting. <b>2017</b> , 7, 1700513	258
1660	CoV2O6IV2O5 Coupled with Porous N-Doped Reduced Graphene Oxide Composite as a Highly Efficient Electrocatalyst for Oxygen Evolution. <b>2017</b> , 2, 1327-1333	63
1659	Remarkable improvement of the turnon characteristics of a Fe 2 O 3 photoanode for photoelectrochemical water splitting with coating a FeCoW oxyllydroxide gel. <b>2017</b> , 212, 89-96	31
1658	Annealing temperature dependent catalytic water oxidation activity of iron oxyhydroxide thin films. <b>2017</b> , 26, 757-761	28
1657	Phase-controllable synthesis of cobalt hydroxide for electrocatalytic oxygen evolution. <b>2017</b> , 46, 10545-1054	8 45
1656	Ultrafine Metal Nanoparticles/N-Doped Porous Carbon Hybrids Coated on Carbon Fibers as Flexible and Binder-Free Water Splitting Catalysts. <b>2017</b> , 7, 1700220	126
1655	A nitrogen-doped nano carbon dodecahedron with Co@Co3O4 implants as a bi-functional electrocatalyst for efficient overall water splitting. <b>2017</b> , 5, 9533-9536	59
1654	The marriage and integration of nanostructures with different dimensions for synergistic electrocatalysis. <b>2017</b> , 10, 321-330	85
1653	Controlled self-assembly of Ni foam supported poly(ethyleneimine)/reduced graphene oxide three-dimensional composite electrodes with remarkable synergistic effects for efficient oxygen evolution. <b>2017</b> , 5, 1201-1210	23
1652	Understanding Structure-Dependent Catalytic Performance of Nickel Selenides for Electrochemical Water Oxidation. <b>2017</b> , 7, 310-315	115

1651	Cu2O@C core/shell nanoparticle as an electrocatalyst for oxygen evolution reaction. 2017, 352, 239-245	54
1650	NaCoFeO Layered Oxide As Highly Efficient Water Oxidation Electrocatalyst in Alkaline Media. <b>2017</b> , 9, 21587-21592	15
1649	Regulating Water-Reduction Kinetics in Cobalt Phosphide for Enhancing HER Catalytic Activity in Alkaline Solution. <b>2017</b> , 29, 1606980	168
1648	Integration of plasmonic and amorphous effects in MoO3⊠ spheres for efficient photoelectrochemical water oxidation. <b>2017</b> , 5, 12022-12026	24
1647	Free-Standing Holey Ni(OH) Nanosheets with Enhanced Activity for Water Oxidation. 2017, 13, 1700334	75
1646	studies of electrocatalysts using hard X-ray spectroscopy. <b>2017</b> , 221, 18-27	39
1645	Einzelatom-Elektrokatalysatoren. <b>2017</b> , 129, 14132-14148	83
1644	Single-Atom Electrocatalysts. <b>2017</b> , 56, 13944-13960	756
1643	Earth-abundant amorphous catalysts for electrolysis of water. <b>2017</b> , 38, 991-1005	37
1642	Bimetallic (FexNi1日)2P nanoarrays as exceptionally efficient electrocatalysts for oxygen evolution in alkaline and neutral media. <b>2017</b> , 38, 553-560	177
1641	Amorphous Metallic NiFeP: A Conductive Bulk Material Achieving High Activity for Oxygen Evolution Reaction in Both Alkaline and Acidic Media. <b>2017</b> , 29, 1606570	320
1640	3D Nitrogen-Anion-Decorated Nickel Sulfides for Highly Efficient Overall Water Splitting. <b>2017</b> , 29, 1701584	375
1639	An Exceptionally Facile Synthesis of Highly Efficient Oxygen Evolution Electrodes for Zinc-Oxygen Batteries. <b>2017</b> , 4, 2190-2195	13
1638	A Plasma-Assisted Route to the Rapid Preparation of Transition-Metal Phosphides for Energy Conversion and Storage. <b>2017</b> , 1, 1700111	27
1637	A Flexible Electrode Based on Al-Doped Nickel Hydroxide Wrapped around a Carbon Nanotube Forest for Efficient Oxygen Evolution. <b>2017</b> , 7, 4786-4795	23
1636	Hierarchical Fe-doped NiO x nanotubes assembled from ultrathin nanosheets containing trivalent nickel for oxygen evolution reaction. <b>2017</b> , 38, 167-174	122
1635	Highly active and durable electrocatalytic water oxidation by a NiB0.45/NiOx core-shell heterostructured nanoparticulate film. <b>2017</b> , 38, 175-184	57
1634	Three-Dimensional Dendritic Structures of NiCoMo as Efficient Electrocatalysts for the Hydrogen Evolution Reaction. <b>2017</b> , 9, 22420-22431	55

1633	An improved method to predict the Wulff shape: An example for Li2CoSiO4. <b>2017</b> , 137, 113-118	4
1632	Laccase-Catalyzed Bioelectrochemical Oxidation of Water Assisted with Visible Light. <b>2017</b> , 7, 4881-4889	15
1631	Adjusting the electronic structure by Ni incorporation: a generalized in situ electrochemical strategy to enhance water oxidation activity of oxyhydroxides. <b>2017</b> , 5, 13336-13340	38
1630	A facile growth process of highly single crystalline Ir1\( \text{IV} \text{VXO2} \) mixed metal oxide nanorods and their electrochemical properties. <b>2017</b> , 19, 3455-3464	2
1629	A Dendritic Nanostructured Copper Oxide Electrocatalyst for the Oxygen Evolution Reaction. <b>2017</b> , 56, 4792-4796	161
1628	A Dendritic Nanostructured Copper Oxide Electrocatalyst for the Oxygen Evolution Reaction. <b>2017</b> , 129, 4870-4874	29
1627	Role of Composition and Size of Cobalt Ferrite Nanocrystals in the Oxygen Evolution Reaction. <b>2017</b> , 9, 2988-2995	56
1626	Boosting the Performance of the Nickel Anode in the Oxygen Evolution Reaction by Simple Electrochemical Activation. <b>2017</b> , 56, 5061-5065	43
1625	In situ electrochemically converting Fe2O3-Ni(OH)2 to NiFe2O4-NiOOH: a highly efficient electrocatalyst towards water oxidation. <b>2017</b> , 60, 324-334	89
1624	Boosting the Performance of the Nickel Anode in the Oxygen Evolution Reaction by Simple Electrochemical Activation. <b>2017</b> , 129, 5143-5147	13
1623	Discerning lattice and electronic structures in under- and over-doped multiferroic Aurivillius films. <b>2017</b> , 121, 114107	6
1622	Transition metal ions regulated oxygen evolution reaction performance of Ni-based hydroxides hierarchical nanoarrays. <b>2017</b> , 7, 46154	71
1621	A facile fabrication method for ultrathin NiO/Ni nanosheets as a high-performance electrocatalyst for the oxygen evolution reaction. <b>2017</b> , 7, 18539-18544	9
1620	Effective Construction of High-quality Iron Oxy-hydroxides and Co-doped Iron Oxy-hydroxides Nanostructures: Towards the Promising Oxygen Evolution Reaction Application. <b>2017</b> , 7, 43590	42
1619	Microwave-assisted synthesis of a nanoamorphous (Ni0.8,Fe0.2) oxide oxygen-evolving electrocatalyst containing only fastsites. <b>2017</b> , 5, 11661-11670	23
1618	Self-supported NiMoP2 nanowires on carbon cloth as an efficient and durable electrocatalyst for overall water splitting. <b>2017</b> , 5, 7191-7199	122
1617	Trimetallic Oxyhydroxide Coralloids for Efficient Oxygen Evolution Electrocatalysis. 2017, 129, 4573-4577	56
1616	Trimetallic Oxyhydroxide Coralloids for Efficient Oxygen Evolution Electrocatalysis. <b>2017</b> , 56, 4502-4506	175

## (2017-2017)

1615	Pd Nanoparticles Coupled to WO Nanorods for Enhanced Electrochemical Oxidation of Formic Acid. <b>2017</b> , 17, 2727-2731	113
1614	In situ electrochemically generated composite-type CoOx/WOx in self-activated cobalt tungstate nanostructures: implication for highly enhanced electrocatalytic oxygen evolution. <b>2017</b> , 224, 551-560	39
1613	Photoelectrocatalytic Water Splitting: Significance of Cocatalysts, Electrolyte, and Interfaces. <b>2017</b> , 7, 675-688	364
1612	Carbon-Based Microbial-Fuel-Cell Electrodes: From Conductive Supports to Active Catalysts. <b>2017</b> , 29, 1602547	182
1611	Enhancing Oxygen Evolution Reaction at High Current Densities on Amorphous-Like Ni-Fe-S Ultrathin Nanosheets via Oxygen Incorporation and Electrochemical Tuning. <b>2017</b> , 4, 1600343	103
1610	Materials for solar fuels and chemicals. <b>2016</b> , 16, 70-81	846
1609	Highly crystallized ⊞eOOH for a stable and efficient oxygen evolution reaction. <b>2017</b> , 5, 2021-2028	106
1608	Towards Versatile and Sustainable Hydrogen Production through Electrocatalytic Water Splitting: Electrolyte Engineering. <b>2017</b> , 10, 1318-1336	104
1607	Metal-free photocatalysts for various applications in energy conversion and environmental purification. <b>2017</b> , 19, 882-899	212
1606	In Situ Coupling Strategy for the Preparation of FeCo Alloys and Co N Hybrid for Highly Efficient Oxygen Evolution. <b>2017</b> , 29, 1704091	136
1605	Vertical Growth of 2D Amorphous FePO Nanosheet on Ni Foam: Outer and Inner Structural Design for Superior Water Splitting. <b>2017</b> , 29, 1704574	206
1604	Amorphous NiFe(oxy)hydroxide nanosheet integrated partially exfoliated graphite foil for high efficiency oxygen evolution reaction. <b>2017</b> , 5, 24208-24216	47
1603	Iridium-Based Multimetallic Porous Hollow Nanocrystals for Efficient Overall-Water-Splitting Catalysis. <b>2017</b> , 29, 1703798	307
1602	3D nickel-cobalt diselenide nanonetwork for highly efficient oxygen evolution. <b>2017</b> , 62, 1373-1379	48
1601	One-step synthesis of well-structured NiSNi2P2S6 nanosheets on nickel foam for efficient overall water splitting. <b>2017</b> , 5, 22131-22136	58
1600	Microwave-Assisted Synthesis of a Stainless Steel Mesh-Supported Co3O4 Microrod Array As a Highly Efficient Catalyst for Electrochemical Water Oxidation. <b>2017</b> , 5, 11069-11079	28
1599	Facile synthesis of Cu doped cobalt hydroxide (Cutto(OH)2) nano-sheets for efficient electrocatalytic oxygen evolution. <b>2017</b> , 5, 22568-22575	74
1598	Surface and Interface Engineering for Photoelectrochemical Water Oxidation. <b>2017</b> , 1, 290-305	101

1597	Porous Perovskite-Type Lanthanum Cobaltite as Electrocatalysts toward Oxygen Evolution Reaction. <b>2017</b> , 5, 10910-10917	49
1596	Amorphous MoSx developed on Co(OH)2 nanosheets generating efficient oxygen evolution catalysts. <b>2017</b> , 5, 23103-23114	48
1595	Bifunctional electro-catalytic performances of CoWO4 nanocubes for water redox reactions (OER/ORR). <b>2017</b> , 7, 45615-45623	70
1594	Synthesis of NiII <sup>a</sup> Nanocages with Improved Electrocatalytic Performance for the Oxygen Evolution Reaction. <b>2017</b> , 5, 9787-9792	39
1593	First-Row Transition Metal Based Catalysts for the Oxygen Evolution Reaction under Alkaline Conditions: Basic Principles and Recent Advances. <b>2017</b> , 13, 1701931	240
1592	Mixed-Metal-Organic Framework Self-Template Synthesis of Porous Hybrid Oxyphosphides for Efficient Oxygen Evolution Reaction. <b>2017</b> , 9, 38621-38628	32
1591	Regulating p-block metals in perovskite nanodots for efficient electrocatalytic water oxidation. <b>2017</b> , 8, 934	83
1590	Vertically oriented CoO@FeOOH nanowire arrays anchored on carbon cloth as a highly efficient electrode for oxygen evolution reaction. <b>2017</b> , 257, 356-363	37
1589	From 3D to 2D Co and Ni Oxyhydroxide Catalysts: Elucidation of the Active Site and Influence of Doping on the Oxygen Evolution Activity. <b>2017</b> , 7, 8558-8571	41
1588	High-Valence-State NiO/Co3O4 Nanoparticles on Nitrogen-Doped Carbon for Oxygen Evolution at Low Overpotential. <b>2017</b> , 2, 2177-2182	150
1587	Plasma-Assisted Synthesis of Self-Supporting Porous CoNPs@C Nanosheet as Efficient and Stable Bifunctional Electrocatalysts for Overall Water Splitting. <b>2017</b> , 9, 31913-31921	27
1586	Rational Design of Cobalt-Iron Selenides for Highly Efficient Electrochemical Water Oxidation. <b>2017</b> , 9, 33833-33840	101
1585	Enhancing the water oxidation activity of Ni2P nanocatalysts by iron-doping and electrochemical activation. <b>2017</b> , 253, 498-505	32
1584	Formation of Ni-Fe Mixed Diselenide Nanocages as a Superior Oxygen Evolution Electrocatalyst. <b>2017</b> , 29, 1703870	327
1583	Porous Multishelled Ni2P Hollow Microspheres as an Active Electrocatalyst for Hydrogen and Oxygen Evolution. <b>2017</b> , 29, 8539-8547	195
1582	Electron Delocalization Boosting Highly Efficient Electrocatalytic Water Oxidation in Layered Hydrotalcites. <b>2017</b> , 121, 21962-21968	16
1581	NiSe2/FeSe2 nanodendrites: a highly efficient electrocatalyst for oxygen evolution reaction. <b>2017</b> , 7, 4604-4608	42
1580	Synergistic action of Co-Fe layered double hydroxide electrocatalyst and multiple ions of sea salt for efficient seawater oxidation at near-neutral pH. <b>2017</b> , 251, 336-343	50

1579	Epitaxial encapsulation of homodispersed CeO2 in a cobaltporphyrin network derived thin film for the highly efficient oxygen evolution reaction. <b>2017</b> , 5, 20126-20130	30
1578	Highly efficient electrocatalytic oxidation of urea on a Mn-incorporated Ni(OH)/carbon fiber cloth for energy-saving rechargeable Zn-air batteries. <b>2017</b> , 53, 10711-10714	22
1577	Construction of hierarchically porous graphitized carbon-supported NiFe layered double hydroxides with a core-shell structure as an enhanced electrocatalyst for the oxygen evolution reaction. <b>2017</b> , 9, 11596-11604	71
1576	Self-Templated Fabrication of CoOMoO2 Nanocages for Enhanced Oxygen Evolution. <b>2017</b> , 27, 1702324	167
1575	Three-dimensional radial \(\text{HmO2}\) synthesized from different redox potential for bifunctional oxygen electrocatalytic activities. <b>2017</b> , 362, 332-341	49
1574	Hollow and Porous Nickel Cobalt Perselenide Nanostructured Microparticles for Enhanced Electrocatalytic Oxygen Evolution. <b>2017</b> , 29, 7032-7041	73
1573	Dynamic surface self-reconstruction is the key of highly active perovskite nano-electrocatalysts for water splitting. <b>2017</b> , 16, 925-931	467
1572	High-Performance Pyrochlore-Type Yttrium Ruthenate Electrocatalyst for Oxygen Evolution Reaction in Acidic Media. <b>2017</b> , 139, 12076-12083	202
1571	Nanostructured materials on 3D nickel foam as electrocatalysts for water splitting. <b>2017</b> , 9, 12231-12247	276
1570	Cobalt-based nanosheet arrays as efficient electrocatalysts for overall water splitting. <b>2017</b> , 5, 17640-17646	33
1569	NiWO3 Nanoparticles Grown on Graphitic Carbon Nitride (g-C3N4) Supported Toray Carbon as an Efficient Bifunctional Electrocatalyst for Oxygen and Hydrogen Evolution Reactions. <b>2017</b> , 34, 1700043	10
1568	Nitrogen doped NiS2 nanoarrays with enhanced electrocatalytic activity for water oxidation. <b>2017</b> , 5, 17811-17816	51
1567	Strong Surface Hydrophilicity in Co-Based Electrocatalysts for Water Oxidation. <b>2017</b> , 9, 26867-26873	41
1566	An ambient temperature, CO-assisted solution processing of amorphous cobalt sulfide in a thiol/amine based quasi-ionic liquid for oxygen evolution catalysis. <b>2017</b> , 53, 9418-9421	29
1565	Two-dimensional boron-doped graphyne nanosheet: A new metal-free catalyst for oxygen evolution reaction. <b>2017</b> , 123, 558-564	47
1564	Synthesis and Demonstration of Subnanometric Iridium Oxide as Highly Efficient and Robust Water Oxidation Catalyst. <b>2017</b> , 7, 5983-5986	75
1563	Interface-Engineered Ni(OH) /  /  /  /  /  /  /  /  /  /  /	22
1562	Crystalline nickel manganese antimonate as a stable water-oxidation catalyst in aqueous 1.0 M H2SO4. <b>2017</b> , 10, 2103-2108	104

1561	Ni2P(O)/Fe2P(O) Interface Can Boost Oxygen Evolution Electrocatalysis. 2017, 2, 2257-2263	116
1560	Amorphous Bimetallic Oxide-Graphene Hybrids as Bifunctional Oxygen Electrocatalysts for Rechargeable Zn-Air Batteries. <b>2017</b> , 29, 1701410	187
1559	Facile and fast fabrication of iron-phosphate supported on nickel foam as a highly efficient and stable oxygen evolution catalyst. <b>2017</b> , 5, 18627-18633	48
1558	Carbon cloth supported cobalt phosphide as multifunctional catalysts for efficient overall water splitting and zinc-air batteries. <b>2017</b> , 9, 18977-18982	76
1557	Molybdenum-containing amorphous metal oxide catalysts for oxygen evolution reaction. <b>2017</b> , 42, 29773-297	78D3
1556	Tuning Mixed Nickel Iron Phosphosulfide Nanosheet Electrocatalysts for Enhanced Hydrogen and Oxygen Evolution. <b>2017</b> , 7, 8549-8557	215
1555	Colloidal synthesis of monodisperse trimetallic IrNiFe nanoparticles as highly active bifunctional electrocatalysts for acidic overall water splitting. <b>2017</b> , 5, 24836-24841	65
1554	Two orders of magnitude enhancement in oxygen evolution reactivity on amorphous BaSrCoFeO nanofilms with tunable oxidation state. <b>2017</b> , 3, e1603206	134
1553	Sugar Blowing-Induced Porous Cobalt Phosphide/Nitrogen-Doped Carbon Nanostructures with Enhanced Electrochemical Oxidation Performance toward Water and Other Small Molecules. <b>2017</b> , 13, 1700796	49
1552	In Situ Derived Co?B Nanoarray: A High-Efficiency and Durable 3D Bifunctional Electrocatalyst for Overall Alkaline Water Splitting. <b>2017</b> , 13, 1700805	257
1551	Ultrathin Two-Dimensional Nanostructured Materials for Highly Efficient Water Oxidation. <b>2017</b> , 13, 1700806	85
1550	Cu nanowires shelled with NiFe layered double hydroxide nanosheets as bifunctional electrocatalysts for overall water splitting. <b>2017</b> , 10, 1820-1827	733
1549	Computational Design Principles of Two-Center First-Row Transition Metal Oxide Oxygen Evolution Catalysts. <b>2017</b> , 121, 15665-15674	8
1548	Amorphous nickel-iron oxides/carbon nanohybrids for an efficient and durable oxygen evolution reaction. <b>2017</b> , 10, 3629-3637	34
1547	Tungsten Nitride-Cobalt Anchored in N-Doped Ordered Porous Carbon as an Efficient Oxygen Reduction Reaction Electrocatalyst. <b>2017</b> , 12, 60-66	14
1546	Identifying the Active Sites on N-doped Graphene toward Oxygen Evolution Reaction. <b>2017</b> , 9, 846-852	37
1545	Efficient Electrochemical and Photoelectrochemical Water Splitting by a 3D Nanostructured Carbon Supported on Flexible Exfoliated Graphene Foil. <b>2017</b> , 29, 1604480	139
1544	Synergistic Effect of Cobalt and Iron in Layered Double Hydroxide Catalysts for the Oxygen Evolution Reaction. <b>2017</b> , 10, 156-165	91

1543	Simple Aqueous Preparation of High Activity and Stability NiFe Hydrous Oxide Catalysts for Water Oxidation. <b>2017</b> , 5, 1106-1112	21
1542	Measurement Techniques for the Study of Thin Film Heterogeneous Water Oxidation Electrocatalysts. <b>2017</b> , 29, 120-140	335
1541	In situ confined synthesis of molybdenum oxide decorated nickellion alloy nanosheets from MoO42[Intercalated layered double hydroxides for the oxygen evolution reaction. <b>2017</b> , 5, 87-91	122
1540	The Brightest Light in Canada: The Canadian Light Source. <b>2017</b> , 1, 4	O
1539	Sub-3 nm Ultrafine Monolayer Layered Double Hydroxide Nanosheets for Electrochemical Water Oxidation. <b>2018</b> , 8, 1703585	190
1538	Surface Oxidation of AuNi Heterodimers to Achieve High Activities toward Hydrogen/Oxygen Evolution and Oxygen Reduction Reactions. <b>2018</b> , 14, e1703749	49
1537	Temperature Effect on Co-Based Catalysts in Oxygen Evolution Reaction. 2018, 57, 2766-2772	35
1536	Iron Hydroxide-Modified Nickel Hydroxylphosphate Single-Wall Nanotubes as Efficient Electrocatalysts for Oxygen Evolution Reactions. <b>2018</b> , 10, 9407-9414	28
1535	Imidazolate-mediated assembled structures of Co-LDH sheets for efficient electrocatalytic oxygen evolution. <b>2018</b> , 6, 4636-4641	34
1534	Single-Atom Au/NiFe Layered Double Hydroxide Electrocatalyst: Probing the Origin of Activity for Oxygen Evolution Reaction. <b>2018</b> , 140, 3876-3879	560
1533	Microwave Reaction: A Facile Economic and Green Method to Synthesize Oxygen-Decorated Graphene from Carbon Cloth for Oxygen Electrocatalysis. <b>2018</b> , 10, 2305-2310	6
1532	One-step growth of nitrogen-decorated ironlickel sulfide nanosheets for the oxygen evolution reaction. <b>2018</b> , 6, 5592-5597	42
1531	Heterostructured WO3@CoWO4 bilayer nanosheets for enhanced visible-light photo, electro and photoelectro-chemical oxidation of water. <b>2018</b> , 6, 6265-6272	50
1530	Redox tuning the Weakley-type polyoxometalate archetype for the oxygen evolution reaction. <b>2018</b> , 1, 208-213	66
1529	A nanoporous metal phosphide catalyst for bifunctional water splitting. <b>2018</b> , 6, 5574-5579	76
1528	Ultrasmall Ir nanoparticles for efficient acidic electrochemical water splitting. <b>2018</b> , 5, 1121-1125	28
1527	Stable iridium dinuclear heterogeneous catalysts supported on metal-oxide substrate for solar water oxidation. <b>2018</b> , 115, 2902-2907	156
1526	3D Network nanostructured NiCoP nanosheets supported on N-doped carbon coated Ni foam as a highly active bifunctional electrocatalyst for hydrogen and oxygen evolution reactions. <b>2018</b> , 12, 417-424	17

1525	Multifunctional Single-Crystallized Carbonate Hydroxides as Highly Efficient Electrocatalyst for Full Water splitting. <b>2018</b> , 8, 1800175	68
1524	Molten-salt synthesis of porous La0.6Sr0.4Co0.2Fe0.8O2.9 perovskite as an efficient electrocatalyst for oxygen evolution. <b>2018</b> , 11, 4796-4805	24
1523	Heterogeneous Fe single-cluster catalyst for ammonia synthesis via an associative mechanism. <b>2018</b> , 9, 1610	233
1522	MoSe nanosheet/MoO nanobelt/carbon nanotube membrane as flexible and multifunctional electrodes for full water splitting in acidic electrolyte. <b>2018</b> , 10, 9268-9275	43
1521	Trapping [PMoO] clusters into pre-synthesized ZIF-67 toward Mo Co C particles confined in uniform carbon polyhedrons for efficient overall water splitting. <b>2018</b> , 9, 4746-4755	130
1520	The Design of Water Oxidation Electrocatalysts from Nanoscale Metal-Organic Frameworks. <b>2018</b> , 24, 15143-15155	46
1519	Highly dispersed and disordered nickelfron layered hydroxides and sulphides: robust and high-activity water oxidation catalysts. <b>2018</b> , 2, 1561-1573	22
1518	Photoactivity and Stability of WO3/BiVO4 Photoanodes: Effects of the Contact Electrolyte and of Ni/Fe Oxyhydroxide Protection. <b>2018</b> , 122, 13969-13978	18
1517	Ni nanotube array-based electrodes by electrochemical alloying and de-alloying for efficient water splitting. <b>2018</b> , 10, 9276-9285	26
1516	Oxidized Laser-Induced Graphene for Efficient Oxygen Electrocatalysis. <b>2018</b> , 30, e1707319	63
1515	Atomic Iridium Incorporated in Cobalt Hydroxide for Efficient Oxygen Evolution Catalysis in Neutral Electrolyte. <b>2018</b> , 30, e1707522	174
1514	Definitive Structural Identification toward Molecule-Type Sites within 1D and 2D Carbon-Based Catalysts. <b>2018</b> , 8, 1800436	12
1513	Multi-Anion Intercalated Layered Double Hydroxide Nanosheet-Assembled Hollow Nanoprisms with Improved Pseudocapacitive and Electrocatalytic Properties. <b>2018</b> , 13, 1129-1137	18
1512	1T?-Mo1\deltaWxS2/CdS Heterostructure Enabling Robust Photocatalytic Water Splitting: Unveiling the Interfacial Charge Polarization. <b>2018</b> , 2, 1800032	23
1511	Structure Effects of 2D Materials on Enickel Hydroxide for Oxygen Evolution Reaction. 2018, 12, 3875-3885	132
1510	CoFeW ternary oxides nanoparticles for oxygen evolution reaction. <b>2018</b> , 223, 246-249	13
1509	Water oxidation by Ni(1,4,8,11-tetraazacyclotetradecane) in the presence of carbonate: new findings and an alternative mechanism. <b>2018</b> , 47, 6519-6527	25
1508	Activating Titania for Efficient Electrocatalysis by Vacancy Engineering. 2018, 8, 4288-4293	104

1507	Ultrathin amorphous cobaltManadium hydr(oxy)oxide catalysts for the oxygen evolution reaction. <b>2018</b> , 11, 1736-1741	211
1506	Amorphous Ni(Fe)O H -coated nanocone arrays self-supported on stainless steel mesh as a promising oxygen-evolving anode for large scale water splitting. <b>2018</b> , 389, 160-168	18
1505	Self-Supported Stainless Steel Nanocone Array Coated with a Layer of Ni-Fe Oxides/(Oxy)hydroxides as a Highly Active and Robust Electrode for Water Oxidation. <b>2018</b> , 10, 8786-8796	45
1504	Ternary interfacial superstructure enabling extraordinary hydrogen evolution electrocatalysis. <b>2018</b> , 21, 602-610	32
1503	Integrated Flexible Electrode for Oxygen Evolution Reaction: Layered Double Hydroxide Coupled with Single-Walled Carbon Nanotubes Film. <b>2018</b> , 6, 2911-2915	30
1502	Design of wide-range energy material beamline at the Shanghai Synchrotron Radiation Facility. <b>2018</b> , 29, 1	3
1501	A novel strategy for preparing layered double hydroxide/exfoliated carbon nanostructures composites as superior electrochemical catalysts with respect to oxygen evolution and methanol oxidation. 2018, 744, 347-356	9
1500	Al-Induced In Situ Formation of Highly Active Nanostructured Water-Oxidation Electrocatalyst Based on Ni-Phosphide. <b>2018</b> , 8, 2595-2600	53
1499	Dendritic core-shell nickel-iron-copper metal/metal oxide electrode for efficient electrocatalytic water oxidation. <b>2018</b> , 9, 381	241
1498	A review of anion-regulated multi-anion transition metal compounds for oxygen evolution electrocatalysis. <b>2018</b> , 5, 521-534	76
1497	Recent Progress on Multimetal Oxide Catalysts for the Oxygen Evolution Reaction. 2018, 8, 1702774	408
1496	Liquid Exfoliated Co(OH)2 Nanosheets as Low-Cost, Yet High-Performance, Catalysts for the Oxygen Evolution Reaction. <b>2018</b> , 8, 1702965	75
1495	Highly Active Trimetallic NiFeCr Layered Double Hydroxide Electrocatalysts for Oxygen Evolution Reaction. <b>2018</b> , 8, 1703189	342
1494	Ce-Doped NiFe-Layered Double Hydroxide Ultrathin Nanosheets/Nanocarbon Hierarchical Nanocomposite as an Efficient Oxygen Evolution Catalyst. <b>2018</b> , 10, 6336-6345	161
1493	Comprehensive Understanding of the Spatial Configurations of CeO2 in NiO for the Electrocatalytic Oxygen Evolution Reaction: Embedded or Surface-Loaded. <b>2018</b> , 28, 1706056	99
1492	In Situ Growth of MoS Nanosheet Arrays and TS (T = Fe, Co, and Ni) Nanocubes onto Molybdate for Efficient Oxygen Evolution Reaction and Improved Hydrogen Evolution Reaction. <b>2018</b> , 3, 464-471	17
1491	Facile synthesis of FeCo alloys encapsulated in nitrogen-doped graphite/carbon nanotube hybrids: efficient bi-functional electrocatalysts for oxygen and hydrogen evolution reactions. <b>2018</b> , 42, 3409-3414	25
1490	Strongly electrophilic heteroatoms confined in atomic CoOOH nanosheets realizing efficient electrocatalytic water oxidation. <b>2018</b> , 6, 3202-3210	47

1489	Ultrathin Ir nanowires as high-performance electrocatalysts for efficient water splitting in acidic media. <b>2018</b> , 10, 1892-1897	83
1488	Mutually beneficial Co3O4@MoS2 heterostructures as a highly efficient bifunctional catalyst for electrochemical overall water splitting. <b>2018</b> , 6, 2067-2072	129
1487	Controlled Synthesis of a Three-Segment Heterostructure for High-Performance Overall Water Splitting. <b>2018</b> , 10, 1771-1780	16
1486	The Role of Composition of Uniform and Highly Dispersed Cobalt Vanadium Iron Spinel Nanocrystals for Oxygen Electrocatalysis. <b>2018</b> , 8, 1259-1267	72
1485	IrO x /CN x NTs as electrocatalysts for oxygen evolution reaction in a HCO3 ICO2 system at neutral pH. <b>2018</b> , 53, 4939-4948	6
1484	An aluminum/cobalt/iron/nickel alloy as a precatalyst for water oxidation. <b>2018</b> , 43, 2083-2090	35
1483	Mimic the Photosystem II for Water Oxidation in Neutral Solution: A Case of Co3O4. <b>2018</b> , 8, 1702313	14
1482	Rational Design of Nickel Hydroxide-Based Nanocrystals on Graphene for Ultrafast Energy Storage. <b>2018</b> , 8, 1702247	172
1481	Active Salt/Silica-Templated 2D Mesoporous FeCo-N -Carbon as Bifunctional Oxygen Electrodes for Zinc-Air Batteries. <b>2018</b> , 57, 1856-1862	267
1480	Extraction of nickel from NiFe-LDH into NiP@NiFe hydroxide as a bifunctional electrocatalyst for efficient overall water splitting. <b>2018</b> , 9, 1375-1384	183
1479	Nitrogenated-Graphite-Encapsulated Carbon Black as a Metal-Free Electrocatalyst for the Oxygen Evolution Reaction in Acid. <b>2018</b> , 5, 583-588	10
1478	High Spin State Promotes Water Oxidation Catalysis at Neutral pH in Spinel Cobalt Oxide. <b>2018</b> , 57, 1441-144	519
1477	Catalyst electro-redeposition controls morphology and oxidation state for selective carbon dioxide reduction. <b>2018</b> , 1, 103-110	479
1476	Active Salt/Silica-Templated 2D Mesoporous FeCo-Nx-Carbon as Bifunctional Oxygen Electrodes for ZincAir Batteries. <b>2018</b> , 130, 1874-1880	36
1475	General synthesis and definitive structural identification of MN4C4 single-atom catalysts with tunable electrocatalytic activities. <b>2018</b> , 1, 63-72	968
1474	Enhancing Full Water-Splitting Performance of Transition Metal Bifunctional Electrocatalysts in Alkaline Solutions by Tailoring CeO2II ransition Metal Oxides Ni Nanointerfaces. 2018, 3, 290-296	101
1473	Unlocking the potential of graphene for water oxidation using an orbital hybridization strategy. <b>2018</b> , 11, 407-416	35
1472	Phase-segregated NiP @FeP O core@shell nanoparticles: ready-to-use nanocatalysts for electro- and photo-catalytic water oxidation through activation by structural transformation and spontaneous ligand removal. <b>2018</b> , 9, 4830-4836	15

1471	Highly Efficient Photoelectrochemical Hydrogen Generation Reaction Using Tungsten Phosphosulfide Nanosheets. <b>2018</b> , 10, 17280-17286	16
1470	Accelerating Neutral Hydrogen Evolution with Tungsten Modulated Amorphous Metal Hydroxides. <b>2018</b> , 8, 5200-5205	49
1469	Hybrid 2D Dual-Metal <b>©</b> rganic Frameworks for Enhanced Water Oxidation Catalysis. <b>2018</b> , 28, 1801554	367
1468	Intensification of anodic charge transfer by contaminant degradation for efficient H2 production. <b>2018</b> , 6, 10297-10303	19
1467	NiMoD nanorod-derived composite catalysts for efficient alkaline water-to-hydrogen conversion via urea electrolysis. <b>2018</b> , 11, 1890-1897	335
1466	The Flexibility of an Amorphous Cobalt Hydroxide Nanomaterial Promotes the Electrocatalysis of Oxygen Evolution Reaction. <b>2018</b> , 14, e1703514	85
1465	Preparation of double-shell Co9S8/Fe3O4 embedded in S/N co-decorated hollow carbon nanoellipsoid derived from Bi-Metal organic frameworks for oxygen evolution reaction. <b>2018</b> , 391, 59-66	22
1464	Electrodeposited Amorphous Tungsten-doped Cobalt Oxide as an Efficient Catalyst for the Oxygen Evolution Reaction. <b>2018</b> , 13, 1530-1534	4
1463	Efficient catalysts for oxygen evolution derived from cobalt-based alloy nanochains. 2018, 8, 2427-2433	16
1462	Strongly coupling of Co9S8/Zn-Co-S heterostructures rooted in carbon nanocages towards efficient oxygen evolution reaction. <b>2018</b> , 361, 322-330	55
1461	What Should We Make with CO2 and How Can We Make It?. <b>2018</b> , 2, 825-832	546
1460	Surface engineering of FeCo-based electrocatalysts supported on carbon paper by incorporating non-noble metals for water oxidation. <b>2018</b> , 42, 7254-7261	10
1459	Insights into the Active Electrocatalytic Areas of Layered Double Hydroxide and Amorphous Nickellron Oxide Oxygen Evolution Electrocatalysts. <b>2018</b> , 1, 1415-1423	12
1458	Design strategies for non-precious metal oxide electrocatalysts for oxygen evolution reactions. <b>2018</b> , 10, 16-23	22
1457	Tuning oxygen vacancies in two-dimensional iron-cobalt oxide nanosheets through hydrogenation for enhanced oxygen evolution activity. <b>2018</b> , 11, 3509-3518	110
1456	Amorphous CoFeBO nanoparticles as highly active electrocatalysts for efficient water oxidation reaction. <b>2018</b> , 43, 6138-6149	35
1455	Regulating the Charge and Spin Ordering of Two-Dimensional Ultrathin Solids for Electrocatalytic Water Splitting. <b>2018</b> , 4, 1263-1283	158
1454	In situ growth of iron-nickel nitrides on carbon nanotubes with enhanced stability and activity for oxygen evolution reaction. <b>2018</b> , 267, 8-14	34

1453	Composition-Dependent Effect of the Calcination of Cobalt-, Nickel-, and Gallium-Based Layered Double Hydroxides to Mixed Metal Oxides in the Oxygen Evolution Reaction. <b>2018</b> , 5, 93-100	12
1452	Polyoxometalate electrocatalysts based on earth-abundant metals for efficient water oxidation in acidic media. <b>2018</b> , 10, 24-30	269
1451	New insights into evaluating catalyst activity and stability for oxygen evolution reactions in alkaline media. <b>2018</b> , 2, 237-251	107
1450	An integrated electrochemical device based on earth-abundant metals for both energy storage and conversion. <b>2018</b> , 11, 282-293	59
1449	Computational modelling of water oxidation catalysts. <b>2018</b> , 7, 22-30	24
1448	Electrochemical water oxidation: The next five years. <b>2018</b> , 7, 31-35	32
1447	Eutectic-Derived Mesoporous Ni-Fe-O Nanowire Network Catalyzing Oxygen Evolution and Overall Water Splitting. <b>2018</b> , 8, 1701347	217
1446	Hollowed structured PtNi bifunctional electrocatalyst with record low total overpotential for oxygen reduction and oxygen evolution reactions. <b>2018</b> , 222, 26-34	87
1445	Cobalt oxide nanosheets anchored onto nitrogen-doped carbon nanotubes as dual purpose electrodes for lithium-ion batteries and oxygen evolution reaction. <b>2018</b> , 42, 853-862	26
1444	Amorphous NiFeB nanoparticles realizing highly active and stable oxygen evolving reaction for water splitting. <b>2018</b> , 11, 1664-1675	94
1443	Metalörganic frameworks for electrocatalysis. <b>2018</b> , 373, 22-48	245
1442	Theory-driven design of high-valence metal sites for water oxidation confirmed using in situ soft X-ray absorption. <b>2018</b> , 10, 149-154	328
1441	Unraveling Geometrical Site Confinement in Highly Efficient Iron-Doped Electrocatalysts toward Oxygen Evolution Reaction. <b>2018</b> , 8, 1701686	95
1440	Coffee-Waste Templating of Metal Ion-Substituted Cobalt Oxides for the Oxygen Evolution Reaction. <b>2018</b> , 11, 605-611	30
1439	Computational Intelligence-Assisted Understanding of Nature-Inspired Superhydrophobic Behavior. <b>2018</b> , 5, 1700520	16
1438	A New Member of Electrocatalysts Based on Nickel Metaphosphate Nanocrystals for Efficient Water Oxidation. <b>2018</b> , 30, 1705045	117
1437	A Highly Efficient Oxygen Evolution Catalyst Consisting of Interconnected Nickel-Iron-Layered Double Hydroxide and Carbon Nanodomains. <b>2018</b> , 30, 1705106	153
1436	Composition effects of electrodeposited Co-Fe as electrocatalysts for the oxygen evolution reaction. <b>2018</b> , 260, 872-881	33

1435	Engineering the Surface Structure of Binary/Ternary Ferrite Nanoparticles as High-Performance Electrocatalysts for the Oxygen Evolution Reaction. <b>2018</b> , 10, 1075-1083	14
1434	Nanoporous Zn-doped Co3O4 sheets with single-unit-cell-wide lateral surfaces for efficient oxygen evolution and water splitting. <b>2018</b> , 44, 371-377	111
1433	Microwave-assisted synthesis of the cobalt-iron phosphates nanosheets as an efficient electrocatalyst for water oxidation. <b>2018</b> , 260, 420-429	27
1432	When NiO@Ni Meets WS Nanosheet Array: A Highly Efficient and Ultrastable Electrocatalyst for Overall Water Splitting. <b>2018</b> , 4, 112-119	84
1431	High-Performance Transition Metal Phosphide Alloy Catalyst for Oxygen Evolution Reaction. <b>2018</b> , 12, 158-167	231
1430	Ultrafine and highly disordered Ni2Fe1 nanofoams enabled highly efficient oxygen evolution reaction in alkaline electrolyte. <b>2018</b> , 44, 319-326	85
1429	Remarkably enhanced water splitting activity of nickel foam due to simple immersion in a ferric nitrate solution. <b>2018</b> , 11, 3959-3971	45
1428	Cobalt manganese spinel as an effective cocatalyst for photocatalytic water oxidation. <b>2018</b> , 224, 886-894	54
1427	Short Hydrogen Bonds on Reconstructed Nanocrystal Surface Enhance Oxygen Evolution Activity. <b>2018</b> , 8, 466-473	16
1426	Bimetal metal-organic frameworks derived Co0.4Fe0.28P and Co0.37Fe0.26S nanocubes for enhanced oxygen evolution reaction. <b>2018</b> , 263, 576-584	27
1425	Rapidly catalysis of oxygen evolution through sequential engineering of vertically layered FeNi structure. <b>2018</b> , 43, 359-367	39
1424	Defective molybdenum sulfide quantum dots as highly active hydrogen evolution electrocatalysts. <b>2018</b> , 11, 751-761	60
1423	Recent Progress on Layered Double Hydroxides and Their Derivatives for Electrocatalytic Water Splitting. <b>2018</b> , 5, 1800064	329
1422	A multifunctional vanadium-doped cobalt oxide layer on silicon photoanodes for efficient and stable photoelectrochemical water oxidation. <b>2018</b> , 6, 21167-21177	12
1421	IrOOH nanosheets as acid stable electrocatalysts for the oxygen evolution reaction. 2018, 6, 21558-21566	43
1420	Phosphorized polyoxometalate-etched iron-hydroxide porous nanotubes for efficient electrocatalytic oxygen evolution. <b>2018</b> , 6, 24479-24485	30
1419	Simple preparation of carbonBimetal oxide nanospinels for high-performance bifunctional oxygen electrocatalysts. <b>2018</b> , 42, 20156-20162	7
1418	An in situ generated amorphous CoFePi and crystalline Ni(PO3)2 heterojunction as an efficient electrocatalyst for oxygen evolution. <b>2018</b> , 6, 24920-24927	46

1417	Morphology engineering of nickel molybdate hydrate nanoarray for electrocatalytic overall water splitting: from nanorod to nanosheet <b>2018</b> , 8, 35131-35138	14
1416	CoP Nanoparticles Wrapped in Amorphous Porous Carbon as an Efficient and Stable Catalyst for Water Oxidation. <b>2018</b> , 6, 580	6
1415	Low-Crystalline NiS Hybridized with BiOCl Nanosheet as Highly Efficient Electrocatalyst for Dye-Sensitized Solar Cells. <b>2018</b> , 3, 11716-11723	4
1414	Identification of Stabilizing High-Valent Active Sites by Operando High-Energy Resolution Fluorescence-Detected X-ray Absorption Spectroscopy for High-Efficiency Water Oxidation. <b>2018</b> , 17263-17270	62
1413	Facile Preparation of Amorphous Fe-Co-Ni Hydroxide Arrays: A Highly Efficient Integrated Electrode for Water Oxidation. <b>2018</b> , 57, 15610-15617	14
1412	Porous CoO-CeO2 heterostructures as highly active and stable electrocatalysts for water oxidation. <b>2018</b> , 43, 22529-22537	22
1411	WSSe Nanoparticles Decorated Three-Dimensional Graphene on Nickel Foam: A Robust and Highly Efficient Electrocatalyst for the Hydrogen Evolution Reaction. <b>2018</b> , 8,	19
1410	Impact of nanoparticle size and lattice oxygen on water oxidation on NiFeOxHy. <b>2018</b> , 1, 820-829	212
1409	Recent developments in earth-abundant and non-noble electrocatalysts for water electrolysis. <b>2018</b> , 7, 121-138	119
1408	Overall water splitting by graphdiyne-exfoliated and -sandwiched layered double-hydroxide nanosheet arrays. <b>2018</b> , 9, 5309	188
1407	Efficient oxygen evolution electrocatalysis in acid by a perovskite with face-sharing IrO octahedral dimers. <b>2018</b> , 9, 5236	193
1406	Ostwald Ripening Driven Exfoliation to Ultrathin Layered Double Hydroxides Nanosheets for Enhanced Oxygen Evolution Reaction. <b>2018</b> , 10, 44518-44526	31
1405	Direct Observation of Structural Evolution of Metal Chalcogenide in Electrocatalytic Water Oxidation. <b>2018</b> , 12, 12369-12379	220
1404	Oxygen-Doped Nickel Iron Phosphide Nanocube Arrays Grown on Ni Foam for Oxygen Evolution Electrocatalysis. <b>2018</b> , 14, e1802204	115
1403	One-pot synthesis of graphene- cobalt hydroxide composite nanosheets (Co/G NSs) for electrocatalytic water oxidation. <b>2018</b> , 8, 13772	7
1402	Selective Electrochemical H2O2 Production through Two-Electron Oxygen Electrochemistry. <b>2018</b> , 8, 1801909	263
1401	Enhanced Oxygen Evolution Reaction for Single Atomic Co Catalyst via Support Modification: A Density Functional Theory Design Predication. <b>2018</b> , 57, 13020-13026	16
1400	Co O /Fe Co P Interface Nanowire for Enhancing Water Oxidation Catalysis at High Current Density. <b>2018</b> , 30, e1803551	115

1399	The CoMo-LDH ultrathin nanosheet as a highly active and bifunctional electrocatalyst for overall water splitting. <b>2018</b> , 5, 2964-2970	34
1398	Bimetallic Hofmann-Type Metal©rganic Framework Nanoparticles for Efficient Electrocatalysis of Oxygen Evolution Reaction. <b>2018</b> ,	14
1397	Ce-Directed Double-Layered Nanosheet Architecture of NiFe-Based Hydroxide as Highly Efficient Water Oxidation Electrocatalyst. <b>2018</b> , 6, 15411-15418	17
1396	Nickel foam-supported NiFe layered double hydroxides nanoflakes array as a greatly enhanced electrocatalyst for oxygen evolution reaction. <b>2018</b> , 43, 21824-21834	32
1395	Identification of Facet-Governing Reactivity in Hematite for Oxygen Evolution. 2018, 30, e1804341	61
1394	Highly Efficient Acidic Oxygen Evolution Electrocatalysis Enabled by Porous Ir <b>©</b> u Nanocrystals with Three-Dimensional Electrocatalytic Surfaces. <b>2018</b> , 30, 8571-8578	53
1393	Catalyst or Precatalyst? The Effect of Oxidation on Transition Metal Carbide, Pnictide, and Chalcogenide Oxygen Evolution Catalysts. <b>2018</b> , 3, 2956-2966	196
1392	Tuning Sulfur Doping for Bifunctional Electrocatalyst with Selectivity between Oxygen and Hydrogen Evolution. <b>2018</b> , 1, 5822-5829	12
1391	Oxygen Evolution Reaction on Nitrogen-Doped Defective Carbon Nanotubes and Graphene. <b>2018</b> , 122, 25882-25892	46
1390	Spontaneous Reduction of Copper(II) to Copper(I) at Solid-Liquid Interface. <b>2018</b> , 9, 6364-6371	14
1389	An Efficient Family of Misfit-Layered Calcium Cobalt Oxide Catalyst for Oxygen Evolution Reaction. <b>2018</b> , 5, 1801281	11
1388	Atomistic Investigation of Doping Effects on Electrocatalytic Properties of Cobalt Oxides for Water Oxidation. <b>2018</b> , 5, 1801632	9
1387	Scalable Dealloying Route to Mesoporous Ternary CoNiFe Layered Double Hydroxides for Efficient Oxygen Evolution. <b>2018</b> , 6, 16096-16104	40
1386	Surface-Confined Fabrication of Ultrathin Nickel Cobalt-Layered Double Hydroxide Nanosheets for High-Performance Supercapacitors. <b>2018</b> , 28, 1803272	149
1385	Ultrasmall Ru/Cu-doped RuO Complex Embedded in Amorphous Carbon Skeleton as Highly Active Bifunctional Electrocatalysts for Overall Water Splitting. <b>2018</b> , 14, e1803009	104
1384	Co-Mo-P Based Electrocatalyst for Superior Reactivity in the Alkaline Hydrogen Evolution Reaction. <b>2018</b> , 10, 4832-4837	19
1383	Template-Directed Growth of Bimetallic Prussian Blue-Analogue Nanosheet Arrays and Their Derived Porous Metal Oxides for Oxygen Evolution Reaction. <b>2018</b> , 11, 3708-3713	24
	Derived Forous Metal Oxides for Oxygen Evolution Reaction. 2010, 11, 3700-3713	

1381	Template Electro-Etching-Mediated FeOOH Nanotubes as Highly Efficient Photoactive Electrocatalysts for Oxygen Evolution Reaction. <b>2018</b> ,	3
1380	Ultrafine iridium oxide supported on carbon nanotubes for efficient catalysis of oxygen evolution and oxygen reduction reactions. <b>2018</b> , 10, 153-160	14
1379	Charge State Manipulation of Cobalt Selenide Catalyst for Overall Seawater Electrolysis. <b>2018</b> , 8, 1801926	140
1378	Amorphous Multi-elements Electrocatalysts with Tunable Bifunctionality toward Overall Water Splitting. <b>2018</b> , 8, 9926-9935	82
1377	Lithium Electrochemical Tuning for Electrocatalysis. <b>2018</b> , 30, e1800978	34
1376	A Porous Pyrochlore Y2[Ru1.6Y0.4]O7Œlectrocatalyst for Enhanced Performance towards the Oxygen Evolution Reaction in Acidic Media. <b>2018</b> , 130, 14073-14077	23
1375	A Porous Pyrochlore Y [Ru Y ]O Electrocatalyst for Enhanced Performance towards the Oxygen Evolution Reaction in Acidic Media. <b>2018</b> , 57, 13877-13881	58
1374	Ni-Doped MoS2 as an Efficient Catalyst for Electrochemical Hydrogen Evolution in Alkine Media. <b>2018</b> , 3, 9493-9498	17
1373	Solid solution nitride/carbon nanotube hybrids enhance electrocatalysis of oxygen in zinc-air batteries. <b>2018</b> , 15, 380-387	20
1372	Iridium-Tungsten Alloy Nanodendrites as pH-Universal Water-Splitting Electrocatalysts. <b>2018</b> , 4, 1244-1252	123
1372 1371	Iridium-Tungsten Alloy Nanodendrites as pH-Universal Water-Splitting Electrocatalysts. <b>2018</b> , 4, 1244-1252  Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. <b>2018</b> , 280, 1-8	123
	Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. <b>2018</b> ,	
1371	Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. <b>2018</b> , 280, 1-8  Highly stable and efficient non-precious metal electrocatalysts of Mo-doped NiOOH nanosheets for	22
1371 1370	Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. 2018, 280, 1-8  Highly stable and efficient non-precious metal electrocatalysts of Mo-doped NiOOH nanosheets for oxygen evolution reaction. 2018, 43, 12140-12145  Chemical transformations at the nanoscale: nanocrystal-seeded synthesis of #CuVO with enhanced	22
1371 1370 1369	Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. 2018, 280, 1-8  Highly stable and efficient non-precious metal electrocatalysts of Mo-doped NiOOH nanosheets for oxygen evolution reaction. 2018, 43, 12140-12145  Chemical transformations at the nanoscale: nanocrystal-seeded synthesis of #CuVO with enhanced photoconversion efficiencies. 2018, 9, 5658-5665  Stable and Efficient Nitrogen-Containing Carbon-Based Electrocatalysts for Reactions in	22 17 22
1371 1370 1369 1368	Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. 2018, 280, 1-8  Highly stable and efficient non-precious metal electrocatalysts of Mo-doped NiOOH nanosheets for oxygen evolution reaction. 2018, 43, 12140-12145  Chemical transformations at the nanoscale: nanocrystal-seeded synthesis of #CuVO with enhanced photoconversion efficiencies. 2018, 9, 5658-5665  Stable and Efficient Nitrogen-Containing Carbon-Based Electrocatalysts for Reactions in Energy-Conversion Systems. 2018, 11, 2267-2295	22 17 22 15
1371 1370 1369 1368	Fe3+ doped amorphous Co2BOy(OH)z with enhanced activity for oxygen evolution reaction. 2018, 280, 1-8  Highly stable and efficient non-precious metal electrocatalysts of Mo-doped NiOOH nanosheets for oxygen evolution reaction. 2018, 43, 12140-12145  Chemical transformations at the nanoscale: nanocrystal-seeded synthesis of ©CuVO with enhanced photoconversion efficiencies. 2018, 9, 5658-5665  Stable and Efficient Nitrogen-Containing Carbon-Based Electrocatalysts for Reactions in Energy-Conversion Systems. 2018, 11, 2267-2295  Nickel Vacancies Boost Reconstruction in Nickel Hydroxide Electrocatalyst. 2018, 3, 1373-1380  Synergy between Fe and Ni in the optimal performance of (Ni,Fe)OOH catalysts for the oxygen	22 17 22 15 119

1363	Electrical and structural engineering of cobalt selenide nanosheets by Mn modulation for efficient oxygen evolution. <b>2018</b> , 236, 569-575	82
1362	Metal®rganic Framework-Derived [email®protected] Composite Nanowire Electrocatalyst for Efficient Water Splitting. <b>2018</b> , 3, 1434-1442	109
1361	Water splitting by electrolysis at high current densities under 1.6 volts. 2018, 11, 2858-2864	273
1360	Uniquely integrated Fe-doped Ni(OH) nanosheets for highly efficient oxygen and hydrogen evolution reactions. <b>2018</b> , 10, 10620-10628	104
1359	Tuning Spin State of Rock-Salt-Based Oxides by Manipulation of Crystallinity for Efficient Oxygen Electrocatalysis. <b>2018</b> , 8, 1703469	30
1358	PPy enhanced Fe, W Co-doped Co3O4 free-standing electrode for highly-efficient oxygen evolution reaction. <b>2018</b> , 48, 1189-1195	0
1357	Highly active and dual-function self-supported multiphase NiSNiS2Ni3S2/NF electrodes for overall water splitting. <b>2018</b> , 6, 14207-14214	64
1356	Composite Metal Oxide-Carbon Nanotube Electrocatalysts for the Oxygen Evolution and Oxygen Reduction Reactions. <b>2018</b> , 5, 2850-2856	13
1355	Atomically Thin Defect-Rich Felmn Hybrid Nanosheets as High Efficient Electrocatalyst for Water Oxidation. <b>2018</b> , 28, 1802463	122
1354	FeCoW multimetal oxide-coated W:BiVO4 photoanode for efficient oxygen evolution. <b>2018</b> , 2, 2053-2059	7
1353	Maneuvering the Physical Properties and Spin States To Enhance the Activity of LaBrtoffet Perovskite Oxide Nanoparticles in Electrochemical Water Oxidation. <b>2018</b> , 1, 3342-3350	19
1352	Constructing self-standing and non-precious metal heterogeneous nanowire arrays as high-performance oxygen evolution electrocatalysts: Beyond the electronegativity effect of the substrate. <b>2018</b> , 396, 421-428	12
1351	Improving Electrocatalysts for Oxygen Evolution Using NixFe3NO4/Ni Hybrid Nanostructures Formed by Solvothermal Synthesis. <b>2018</b> , 3, 1698-1707	91
1350	Systematic design of superaerophobic nanotube-array electrode comprised of transition-metal sulfides for overall water splitting. <b>2018</b> , 9, 2452	269
1349	Assembling Ni-Co phosphides/carbon hollow nanocages and nanosheets with carbon nanotubes into a hierarchical necklace-like nanohybrid for electrocatalytic oxygen evolution reaction. <b>2018</b> , 10, 13555-13564	58
1348	Well-aligned metalorganic framework array-derived CoS2 nanosheets toward robust electrochemical water splitting. <b>2018</b> , 2, 1732-1738	21
1347	Binary Ni2FeOx anchored on modified graphite for efficient and durable oxygen evolution electrocatalysis. <b>2018</b> , 2, 2160-2164	2
1346	Synergistically Enhanced Oxygen Evolution Reaction Catalysis for Multielement Transition-Metal Oxides. <b>2018</b> , 1, 3711-3721	36

1345	Single-Phase Pyrochlore Y2Ir2O7 Electrocatalyst on the Activity of Oxygen Evolution Reaction. <b>2018</b> , 1, 3992-3998	34
1344	Surface Sulfurization of NiCo-Layered Double Hydroxide Nanosheets Enable Superior and Durable Oxygen Evolution Electrocatalysis. <b>2018</b> , 1, 4040-4049	45
1343	Activity enhancement via borate incorporation into a NiFe (oxy)hydroxide catalyst for electrocatalytic oxygen evolution. <b>2018</b> , 6, 16959-16964	14
1342	1D/1D Hierarchical Nickel Sulfide/Phosphide Nanostructures for Electrocatalytic Water Oxidation. <b>2018</b> , 3, 2021-2029	65
1341	Electronic Structure Evolution in Tricomponent Metal Phosphides with Reduced Activation Energy for Efficient Electrocatalytic Oxygen Evolution. <b>2018</b> , 14, e1801756	52
1340	Atomic-level insight into super-efficient electrocatalytic oxygen evolution on iron and vanadium co-doped nickel (oxy)hydroxide. <b>2018</b> , 9, 2885	398
1339	Nano-V2O5/Ti porous membrane electrode with enhanced electrochemical activity for the high-efficiency oxidation of cyclohexane. <b>2018</b> , 20, 3944-3953	29
1338	Bimetallic NiMoN Nanowires with a Preferential Reactive Facet: An Ultraefficient Bifunctional Electrocatalyst for Overall Water Splitting. <b>2018</b> , 11, 3198-3207	60
1337	Electrocatalysis Beyond the Computational Hydrogen Electrode. 2018, 1-33	6
1336	FeCo2S4 Nanosheet Arrays Supported on Ni Foam: An Efficient and Durable Bifunctional Electrocatalyst for Overall Water-Splitting. <b>2018</b> , 6, 11724-11733	60
1335	Hollow nanoparticles as emerging electrocatalysts for renewable energy conversion reactions. <b>2018</b> , 47, 8173-8202	157
1334	Coupling confinement activating cobalt oxide ultra-small clusters for high-turnover oxygen evolution electrocatalysis. <b>2018</b> , 6, 15684-15689	21
1333	Comparative Analysis of Solar-to-Fuel Conversion Efficiency: A Direct, One-Step Electrochemical CO2 Reduction Reactor versus a Two-Step, Cascade Electrochemical CO2 Reduction Reactor. <b>2018</b> , 3, 1892-1897	13
1332	Monolithic electrochemical cells for overall water splitting. <b>2018</b> , 397, 37-43	12
1331	Microwave-assisted CVD-like synthesis of dispersed monolayer/few-layer N-doped graphene encapsulated metal nanocrystals for efficient electrocatalytic oxygen evolution. <b>2018</b> , 9, 7009-7016	35
1330	Partially amorphous nickelfron layered double hydroxide nanosheet arrays for robust bifunctional electrocatalysis. <b>2018</b> , 6, 16121-16129	129
1329	A sea-change: manganese doped nickel/nickel oxide electrocatalysts for hydrogen generation from seawater. <b>2018</b> , 11, 1898-1910	106
1328	Ultrahigh-performance tungsten-doped perovskites for the oxygen evolution reaction. <b>2018</b> , 6, 9854-9859	60

1327	Atomically Thin 2D Multinary Nanosheets for Energy-Related Photo, Electrocatalysis. <b>2018</b> , 5, 1800244	39
1326	Electrochemical Oxidation of 5-Hydroxymethylfurfural with NiFe Layered Double Hydroxide (LDH) Nanosheet Catalysts. <b>2018</b> , 8, 5533-5541	202
1325	Adding refractory 5d transition metal W into PtCo system: an advanced ternary alloy for efficient oxygen reduction reaction. <b>2018</b> , 6, 10700-10709	29
1324	NiFe-Based Metal@rganic Framework Nanosheets Directly Supported on Nickel Foam Acting as Robust Electrodes for Electrochemical Oxygen Evolution Reaction. <b>2018</b> , 8, 1800584	290
1323	Nanocomposites Based on CoSe-Decorated FeSe Nanoparticles Supported on Reduced Graphene Oxide as High-Performance Electrocatalysts toward Oxygen Evolution Reaction. <b>2018</b> , 10, 19258-19270	96
1322	Nickel Molybdenum Nitride Nanorods Grown on Ni Foam as Efficient and Stable Bifunctional Electrocatalysts for Overall Water Splitting. <b>2018</b> , 10, 30400-30408	50
1321	Single Co Atoms Anchored in Porous N-Doped Carbon for Efficient ZincAir Battery Cathodes. <b>2018</b> , 8, 8961-8969	250
1320	Novel Cobalt Germanium Hydroxide for Electrochemical Water Oxidation. <b>2018</b> , 10, 30357-30366	12
1319	Bimetallic MOF-Derived FeCo-P/C Nanocomposites as Efficient Catalysts for Oxygen Evolution Reaction. <b>2018</b> , 2, 1800214	92
1318	Fe-CoP Electrocatalyst Derived from a Bimetallic Prussian Blue Analogue for Large-Current-Density Oxygen Evolution and Overall Water Splitting. <b>2018</b> , 5, 1800949	212
1317	Recent progress on earth abundant electrocatalysts for oxygen evolution reaction (OER) in alkaline medium to achieve efficient water splitting [A review. <b>2018</b> , 400, 31-68	279
1316	Sub-3 nm pores in two-dimensional nanomesh promoting the generation of electroactive phase for robust water oxidation. <b>2018</b> , 53, 74-82	72
1315	Superaerophobic P-doped Ni(OH)/NiMoO hierarchical nanosheet arrays grown on Ni foam for electrocatalytic overall water splitting. <b>2018</b> , 47, 8787-8793	38
1314	Structural properties of tungsten-doped cobalt molybdate and its application in electrochemical oxygen evolution reaction. <b>2018</b> , 29, 13103-13111	11
1313	Highly Active Surface Structure in Nanosized Spinel Cobalt-Based Oxides for Electrocatalytic Water Splitting. <b>2018</b> , 122, 14447-14458	12
1312	Metal-Organic Framework-Derived Nickel-Cobalt Sulfide on Ultrathin Mxene Nanosheets for Electrocatalytic Oxygen Evolution. <b>2018</b> , 10, 22311-22319	184
1311	Three dimensional carbon substrate materials for electrolysis of water. <b>2018</b> , 61, 1143-1153	22
1310	Single-Atom Catalysts for Electrochemical Water Splitting. <b>2018</b> , 3, 1713-1721	198

1309	Anion insertion enhanced electrodeposition of robust metal hydroxide/oxide electrodes for oxygen evolution. <b>2018</b> , 9, 2373	188
1308	Boosting water oxidation electrocatalysts with surface engineered amorphous cobalt hydroxide nanoflakes. <b>2018</b> , 10, 12991-12996	46
1307	Recent Progress on Nickel-Based Oxide/(Oxy)Hydroxide Electrocatalysts for the Oxygen Evolution Reaction. <b>2019</b> , 25, 703-713	100
1306	Recent Approaches to Design Electrocatalysts Based on Metal-Organic Frameworks and Their Derivatives. <b>2019</b> , 14, 3474-3501	25
1305	Hierarchical Nickel Clusters Encapsulated in Ultrathin N-doped Graphitic Nanocarbon Hybrids for Effective Hydrogen Evolution Reaction. <b>2019</b> , 7, 15127-15136	15
1304	A Stand-Alone Module for Solar-Driven H2 Production Coupled with Redox-Mediated Sulfide Remediation. <b>2019</b> , 7, 1900575	3
1303	In Situ Synthesis of Ternary NiCoRu-Based Layered Double Hydroxide by Chlorine Corrosion toward Electrocatalytic Water Oxidation. <b>2019</b> , 7, 14361-14367	20
1302	Co3O4 arrays with tailored morphology as robust water oxidation and urea splitting catalyst. <b>2019</b> , 809, 151821	10
1301	Iron tungsten mixed composite as a robust oxygen evolution electrocatalyst. <b>2019</b> , 55, 10944-10947	16
1300	Micropore-confined amorphous SnO2 subnanoclusters as robust anode materials for Na-ion capacitors. <b>2019</b> , 7, 21711-21721	21
1299	Carbon Derived from Soft Pyrolysis of a Covalent Organic Framework as a Support for Small-Sized RuO Showing Exceptionally Low Overpotential for Oxygen Evolution Reaction. <b>2019</b> , 4, 13465-13473	23
1298	Research advances towards large-scale solar hydrogen production from water. <b>2019</b> , 1, 100014	82
1297	Scaled-Up Synthesis of Amorphous NiFeMo Oxides and Their Rapid Surface Reconstruction for Superior Oxygen Evolution Catalysis. <b>2019</b> , 58, 15772-15777	200
1296	2D/2D Heterojunction of Ni <b>CoB</b> /Graphdiyne for Optimized Electrocatalytic Overall Water Splitting. <b>2019</b> , 11, 5407-5411	10
1295	Stable Iron Hydroxide Nanosheets@Cobalt-Metal-Organic-Framework Heterostructure for Efficient Electrocatalytic Oxygen Evolution. <b>2019</b> , 12, 4623-4628	27
1294	Scaled-Up Synthesis of Amorphous NiFeMo Oxides and Their Rapid Surface Reconstruction for Superior Oxygen Evolution Catalysis. <b>2019</b> , 131, 15919-15924	41
1293	Donor-Acceptor Nanocarbon Ensembles to Boost Metal-Free All-pH Hydrogen Evolution Catalysis by Combined Surface and Dual Electronic Modulation. <b>2019</b> , 58, 16217-16222	32
1292	A biomimetic nanoleaf electrocatalyst for robust oxygen evolution reaction. <b>2019</b> , 259, 118017	28

1291 Anisotropic iron-doping patterns in two-dimensional cobalt oxide nanoislands on Au(111). **2019**, 12, 2364-23721

1290	Facile Two-Step Synthesis of Delafossite CuFeO2 Photocathodes by Ultrasonic Spray Pyrolysis and Hybrid Microwave Annealing. <b>2019</b> , 3, 1238-1245	4
1289	A template-directed bifunctional NiSx/nitrogen-doped mesoporous carbon electrocatalyst for rechargeable ZnBir batteries. <b>2019</b> , 7, 19889-19897	27
1288	Bimetallic Porphyrin MOF Anchored onto rGO Nanosheets as a Highly Efficient 2D Electrocatalyst for Oxygen Evolution Reaction in Alkaline Conditions. <b>2019</b> , 4, 8661-8670	10
1287	Construction of multi-dimensional core/shell Ni/NiCoP nano-heterojunction for efficient electrocatalytic water splitting. <b>2019</b> , 259, 118039	68
1286	Amorphous multinary phyllosilicate catalysts for electrochemical water oxidation. <b>2019</b> , 7, 18380-18387	10
1285	Remarkable improvements in the performance and stability of Si photoanodes adopting nanocrystalline NiOx electrocatalyst and stoichiometric SiO2 protection. <b>2019</b> , 493, 1150-1158	4
1284	Insights into the Electrochemical Oxygen Evolution Reaction with ab Initio Calculations and Microkinetic Modeling: Beyond the Limiting Potential Volcano. <b>2019</b> , 123, 18960-18977	84
1283	NiFe Layered Double Hydroxide on Nitrogen Doped TiO2 Nanotube Arrays toward Efficient Oxygen Evolution. <b>2019</b> , 2, 5960-5967	31
1282	Fluorine and tin co-doping synergistically improves the photoelectrochemical water oxidation performance of TiO nanorod arrays by enhancing the ultraviolet light conversion efficiency. <b>2019</b> , 48, 12096-12104	6
1281	P-Doped Iron-Nickel Sulfide Nanosheet Arrays for Highly Efficient Overall Water Splitting. <b>2019</b> , 11, 27667-2	7686
1280	Toward a Design of Active Oxygen Evolution Catalysts: Insights from Automated Density Functional Theory Calculations and Machine Learning. <b>2019</b> , 9, 7651-7659	68
1279	Nanowires assembled from iron manganite nanoparticles: Synthesis, characterization, and investigation of electrocatalytic properties for water oxidation reaction. <b>2019</b> , 34, 3231-3239	4
1278	Preferential Microstructure Design of Two-Dimensional Electrocatalysts for Boosted Oxygen Evolution Reaction. <b>2019</b> , 11, 4662-4670	16
1277	In-situ Growth of a Bimetallic Cobalt-Nickel Organic Framework on Iron Foam: Achieving the Electron Modification on a Robust Self-supported Oxygen Evolution Electrode. <b>2019</b> , 11, 6061-6069	14
1276	Initiating an efficient electrocatalyst for water splitting via valence configuration of cobalt-iron oxide. <b>2019</b> , 258, 117968	47
1275	Facile synthesis of CoFeP microcubes derived from metal-organic frameworks for efficient oxygen evolution reaction. <b>2019</b> , 554, 202-209	9
1274	Importance of Entropic Contribution to Electrochemical Water Oxidation Catalysis. <b>2019</b> , 4, 1918-1929	17

1273	A manganese(ii) phthalocyanine under water-oxidation reaction: new findings. 2019, 48, 12147-12158	6
1272	Bimetal©rganic Framework Derived High-Valence-State Cu-Doped Co3O4 Porous Nanosheet Arrays for Efficient Oxygen Evolution and Water Splitting. <b>2019</b> , 11, 4420-4426	17
1271	Cobalt/iron bimetal-organic frameworks as efficient electrocatalysts for the oxygen evolution reaction. <b>2019</b> , 40, 1205-1211	27
1270	Ultrasonic-Assisted Synthesis of Amorphous Polyelemental Hollow Nanoparticles as Efficient and Stable Bifunctional Electrocatalysts for Overall Water Splitting. <b>2019</b> , 6, 1900586	8
1269	High loading accessible active sites via designable 3D-printed metal architecture towards promoting electrocatalytic performance. <b>2019</b> , 7, 18338-18347	15
1268	Co and Fe Codoped WO as Alkaline-Solution-Available Oxygen Evolution Reaction Catalyst to Construct Photovoltaic Water Splitting System with Solar-To-Hydrogen Efficiency of 16.9. <b>2019</b> , 6, 1900465	37
1267	Coupling interface constructions of NiOtr2O3 heterostructures for efficient electrocatalytic oxygen evolution. <b>2019</b> , 320, 134577	17
1266	Three-dimensional Ni foam supported pristine graphene as a superior oxygen evolution electrode. <b>2019</b> , 44, 22947-22954	4
1265	High-Efficiency Electrocatalytic Water Oxidation on Trimetal-Based Fe©o©r Oxide. 2019, 2, 5584-5590	4
1264	Amorphous N-Doped Cobalt Borophosphate Nanoparticles as Robust and Durable Electrocatalyst for Water Oxidation. <b>2019</b> , 7, 13981-13988	13
1263	NiFe (sulfur)oxyhydroxide porous nanoclusters/Ni foam composite electrode drives a large-current-density oxygen evolution reaction with an ultra-low overpotential. <b>2019</b> , 7, 18816-18822	17
1262	Innovative multi-processed N-doped carbon and Fe3O4 cathode for enhanced bioelectro-Fenton microbial fuel cell performance. <b>2019</b> , 43, 7594	6
1261	Fabrication of Amorphous BiOCl/TiO2-C3N4 Heterostructure for Efficient Water Oxidation. 2019, 4, 8277-828	3213
1260	NiCoFe oxide amorphous nanohetrostructres for oxygen evolution reaction. <b>2019</b> , 44, 22991-23001	26
1259	pli tungsten oxide homojunctions for Vis-NIR light-enhanced electrocatalytic hydrogen evolution. <b>2019</b> , 7, 19573-19580	14
1258	Electrochemical Synthesis of Cation Vacancy-Enriched Ultrathin Bimetallic Oxyhydroxide Nanoplatelets for Enhanced Water Oxidation. <b>2019</b> , 11, 25958-25966	15
1257	Amorphous Cobalt Boride Nanosheets Directly Grown on Nickel Foam: Controllable Alternately Dipping Deposition for Efficient Oxygen Evolution. <b>2019</b> , 6, 3684-3689	36
1256	Recent Progress on Surface Reconstruction of Earth-Abundant Electrocatalysts for Water Oxidation. <b>2019</b> , 15, e1901980	99

1255	Design of Multi-Metallic-Based Electrocatalysts for Enhanced Water Oxidation. <b>2019</b> , 20, 2936-2945	31
1254	Quantum-Dot-Derived Catalysts for CO2 Reduction Reaction. <b>2019</b> , 3, 1703-1718	78
1253	A review of transition metal-based bifunctional oxygen electrocatalysts. <b>2019</b> , 66, 829-865	38
1252	A hierarchically porous and hydrophilic 3D nickel <b>l</b> ron/MXene electrode for accelerating oxygen and hydrogen evolution at high current densities. <b>2019</b> , 63, 103880	149
1251	Dopant-tuned stabilization of intermediates promotes electrosynthesis of valuable C3 products. <b>2019</b> , 10, 4807	13
1250	Three-dimensional open nano-netcage electrocatalysts for efficient pH-universal overall water splitting. <b>2019</b> , 10, 4875	119
1249	Water Oxidation Catalysts for Artificial Photosynthesis. <b>2019</b> , 31, e1902069	125
1248	Synergistically Tuning Water and Hydrogen Binding Abilities Over Co4N by Cr Doping for Exceptional Alkaline Hydrogen Evolution Electrocatalysis. <b>2019</b> , 9, 1902449	131
1247	Phosphorus Incorporation into Co S Nanocages for Highly Efficient Oxygen Evolution Catalysis. <b>2019</b> , 15, e1904507	51
1246	Exploring the Influence of Halogen Coordination Effect of Stable Bimetallic MOFs on Oxygen Evolution Reaction. <b>2019</b> , 25, 15830-15836	19
1245	Adjustable Ternary FeCoNi Nanohybrids for Enhanced Oxygen Evolution Reaction. 2019, 25, 15361-15366	5
1244	Enhancing Oxygen Evolution Reaction through Modulating Electronic Structure of Trimetallic Electrocatalysts Derived from Metal-Organic Frameworks. <b>2019</b> , 15, e1901940	127
1243	Enhanced Electrocatalytic Performance through Body Enrichment of Co-Based Bimetallic Nanoparticles In Situ Embedded Porous N-Doped Carbon Spheres. <b>2019</b> , 15, e1903395	41
1242	Cation-Modulated HER and OER Activities of Hierarchical VOOH Hollow Architectures for High-Efficiency and Stable Overall Water Splitting. <b>2019</b> , 15, e1904688	57
1241	Bifunctional atomic iron-based catalyst for oxygen electrode reactions. <b>2019</b> , 378, 353-362	25
1240	Noble Metal-Free Nanoporous High-Entropy Alloys as Highly Efficient Electrocatalysts for Oxygen Evolution Reaction. <b>2019</b> , 1, 526-533	93
1239	Architected materials for advanced electrochemical systems. <b>2019</b> , 44, 789-795	6
1238	Heptanuclear brucite disk with cyanide bridges in a cocrystal and tracking its pyrolysis to an efficient oxygen evolution electrode. <b>2019</b> , 64, 1667-1674	10

1237	Current Status of Self-Supported Catalysts for Robust and Efficient Water Splitting for Commercial Electrolyzer. <b>2019</b> , 11, 5898-5912	27
1236	Ultrasmall Co@Co(OH) Nanoclusters Embedded in N-Enriched Mesoporous Carbon Networks as Efficient Electrocatalysts for Water Oxidation. <b>2019</b> , 12, 5117-5125	18
1235	Electrochemically accessing ultrathin Co (oxy)-hydroxide nanosheets and operando identifying their active phase for the oxygen evolution reaction. <b>2019</b> , 12, 739-746	98
1234	Ultrathin nickel boride nanosheets anchored on functionalized carbon nanotubes as bifunctional electrocatalysts for overall water splitting. <b>2019</b> , 7, 764-774	75
1233	Donor Acceptor Nanocarbon Ensembles to Boost Metal-Free All-pH Hydrogen Evolution Catalysis by Combined Surface and Dual Electronic Modulation. <b>2019</b> , 131, 16363-16368	6
1232	Universal scaling relations for the rational design of molecular water oxidation catalysts with near-zero overpotential. <b>2019</b> , 10, 4993	85
1231	Electronic structure regulation on layered double hydroxides for oxygen evolution reaction. <b>2019</b> , 40, 1822-1840	32
1230	Non-noble metal-nitride based electrocatalysts for high-performance alkaline seawater electrolysis. <b>2019</b> , 10, 5106	318
1229	Breaking the Local Symmetry of LiCoO via Atomic Doping for Efficient Oxygen Evolution. <b>2019</b> , 19, 8774-8779	20
1228	Rapid solvent-evaporation strategy for three-dimensional cobalt-based complex hierarchical architectures as catalysts for water oxidation. <b>2019</b> , 9, 15681	2
1227	Fe/Ru Oxide as a Versatile and Effective Cocatalyst for Boosting Z-Scheme Water-Splitting: Suppressing Undesirable Backward Electron Transfer. <b>2019</b> , 11, 45606-45611	7
1226	The Synergetic Effect of Ni and Fe Bi-metal Single Atom Catalysts on Graphene for Highly Efficient Oxygen Evolution Reaction. <b>2019</b> , 6,	14
1225	Superb water splitting activity of the electrocatalyst FeCo(PO) designed with computation aid. <b>2019</b> , 10, 5195	65
1224	Ordered Mesoporous CobaltNickel Nitride Prepared by Nanocasting for Oxygen Evolution Reaction Electrocatalysis. <b>2019</b> , 6, 1900960	34
1223	Anionic Dopant Delocalization through p-Band Modulation to Endow Metal Oxides with Enhanced Visible-Light Photoactivity. <b>2019</b> , 131, 16813-16820	2
1222	Anionic Dopant Delocalization through p-Band Modulation to Endow Metal Oxides with Enhanced Visible-Light Photoactivity. <b>2019</b> , 58, 16660-16667	13
1221	Comparison of Water Sampling between Environmental DNA Metabarcoding and Conventional Microscopic Identification: A Case Study in Gwangyang Bay, South Korea. <b>2019</b> , 9, 3272	8
1220	Intercalated Iridium Diselenide Electrocatalysts for Efficient pH-Universal Water Splitting. <b>2019</b> , 58, 14764-14	769

1219	A universal and controllable strategy of constructing transition-metal nitride heterostructures for highly enhanced bifunctional electrocatalysis. <b>2019</b> , 43, 14701-14707	8
1218	Intercalated Iridium Diselenide Electrocatalysts for Efficient pH-Universal Water Splitting. <b>2019</b> , 131, 14906-14911	18
1217	Cu-Based Nanosheet Arrays for Water-Splitting. <b>2019</b> , 2, 6000-6009	10
1216	Modulation of oxygen vacancy in tungsten oxide nanosheets for Vis-NIR light-enhanced electrocatalytic hydrogen production and anticancer photothermal therapy. <b>2019</b> , 11, 18183-18190	10
1215	VanadiumBobalt oxyhydroxide shows ultralow overpotential for the oxygen evolution reaction. <b>2019</b> , 7, 21911-21917	38
1214	Nickel nitrideBlack phosphorus heterostructure nanosheets for boosting the electrocatalytic activity towards the oxygen evolution reaction. <b>2019</b> , 7, 22063-22069	41
1213	Operando Insight into the Oxygen Evolution Kinetics on the Metal-Free Carbon-Based Electrocatalyst in an Acidic Solution. <b>2019</b> , 11, 34854-34861	20
1212	Novel CobaltIronIvanadium Layered Double Hydroxide Nanosheet Arrays for Superior Water Oxidation Performance. <b>2019</b> , 7, 16828-16834	29
1211	Structure-property relationship of graphene coupled metal (Ni, Co, Fe) (oxy)hydroxides for efficient electrochemical evolution of oxygen. <b>2019</b> , 377, 619-628	12
1210	An exceptionally stable octacobalt-cluster-based metal-organic framework for enhanced water oxidation catalysis. <b>2019</b> , 10, 9859-9864	20
1209	Self-Supported Porous Ni-Fe-W Hydroxide Nanosheets on Carbon Fiber: A Highly Efficient Electrode for Oxygen Evolution Reaction. <b>2019</b> , 58, 13037-13048	15
1208	Precipitating Metal Nitrate Deposition of Amorphous Metal Oxyhydroxide Electrodes Containing Ni, Fe, and Co for Electrocatalytic Water Oxidation. <b>2019</b> , 9, 9650-9662	25
1207	Template-Directed Bifunctional Dodecahedral CoP/CN@MoS Electrocatalyst for High Efficient Water Splitting. <b>2019</b> , 11, 36649-36657	45
1206	In Situ Derived Electrocatalysts from Fetto Sulfides with Enhanced Activity toward Oxygen Evolution. <b>2019</b> , 58, 18976-18985	17
1205	A review on tungsten-trioxide-based photoanodes for water oxidation. <b>2019</b> , 40, 1408-1420	33
1204	Defect Engineering in Photocatalytic Nitrogen Fixation. <b>2019</b> , 9, 9739-9750	163
1203	Construction of porous nanoscale NiO/NiCo2O4 heterostructure for highly enhanced electrocatalytic oxygen evolution activity. <b>2019</b> , 379, 1-9	49
1202	Deep Reconstruction of Nickel-Based Precatalysts for Water Oxidation Catalysis. <b>2019</b> , 4, 2585-2592	69

1201	Valence Engineering Dual-Cation and Boron Doping in Pyrite Selenide for Highly Efficient Oxygen Evolution. <b>2019</b> , 13, 11469-11476	37
1200	Charge carrier dynamics in tantalum oxide overlayered and tantalum doped hematite photoanodes. <b>2019</b> , 7, 3206-3215	15
1199	Mesoporous cobaltfronBrganic frameworks: a plasma-enhanced oxygen evolution electrocatalyst. <b>2019</b> , 7, 3090-3100	57
1198	An amorphous nanoporous PdCuNi-S hybrid electrocatalyst for highly efficient hydrogen production. <b>2019</b> , 246, 156-165	49
1197	Concentrated-acid triggered superfast generation of porous amorphous cobalt oxide toward efficient water oxidation catalysis in alkaline solution. <b>2019</b> , 55, 1797-1800	14
1196	Constructing organic superacids from superhalogens is a rational route as verified by DFT calculations. <b>2019</b> , 21, 2804-2815	8
1195	Amorphous cobaltIron hydroxides as high-efficiency oxygen-evolution catalysts based on a facile electrospinning process. <b>2019</b> , 6, 687-693	48
1194	Ag nanoparticle-decorated, ordered mesoporous silica as an efficient electrocatalyst for alkaline water oxidation reaction. <b>2019</b> , 48, 2220-2227	27
1193	Arising synergetic and antagonistic effects in the design of Ni- and Ru-based water splitting electrocatalysts. <b>2019</b> , 7, 639-646	20
1192	One-step construction of core/shell nanoarrays with a holey shell and exposed interfaces for overall water splitting. <b>2019</b> , 7, 1196-1205	33
1191	Bimetallic metal-organic framework nanosheets as efficient electrocatalysts for oxygen evolution reaction. <b>2019</b> , 272, 32-37	34
1190	A 2D metal-organic framework/Ni(OH) heterostructure for an enhanced oxygen evolution reaction. <b>2019</b> , 11, 3599-3605	86
1189	Activating CoFe2O4 electrocatalysts by trace Au for enhanced oxygen evolution activity. <b>2019</b> , 478, 206-212	26
1188	Hybridizing NiCo2O4 and Amorphous NixCoy Layered Double Hydroxides with Remarkably Improved Activity toward Efficient Overall Water Splitting. <b>2019</b> , 7, 4784-4791	49
1187	Activation of transition metal oxides by in-situ electro-regulated structure-reconstruction for ultra-efficient oxygen evolution. <b>2019</b> , 58, 778-785	57
1186	Amorphous Nanocages of Cu-Ni-Fe Hydr(oxy)oxide Prepared by Photocorrosion For Highly Efficient Oxygen Evolution. <b>2019</b> , 58, 4189-4194	106
1185	Amorphous Nanocages of Cu-Ni-Fe Hydr(oxy)oxide Prepared by Photocorrosion For Highly Efficient Oxygen Evolution. <b>2019</b> , 131, 4233-4238	27
1184	Engineering NiO/NiFe LDH Intersection to Bypass Scaling Relationship for Oxygen Evolution Reaction via Dynamic Tridimensional Adsorption of Intermediates. <b>2019</b> , 31, e1804769	176

1183	Polydopamine-assisted construction of cobalt phosphide encapsulated in N-doped carbon porous polyhedrons for enhanced overall water splitting. <b>2019</b> , 145, 694-700	46
1182	Layered and two dimensional metal oxides for electrochemical energy conversion. <b>2019</b> , 12, 41-58	204
1181	Direct observation of active catalyst surface phases and the effect of dynamic self-optimization in NiFe-layered double hydroxides for alkaline water splitting. <b>2019</b> , 12, 572-581	240
1180	High-performance oxygen evolution electrocatalysis by boronized metal sheets with self-functionalized surfaces. <b>2019</b> , 12, 684-692	110
1179	Facile synthesis of hierarchical porous NiCoSeO networks with controllable composition as a new and efficient water oxidation catalyst. <b>2019</b> , 11, 3268-3274	17
1178	Artesunate enhances adriamycin cytotoxicity by inhibiting glycolysis in adriamycin-resistant chronic myeloid leukemia K562/ADR cells <b>2019</b> , 9, 1004-1014	3
1177	One-step synthesis of nickellion layered double hydroxides with tungstate acid anions via flash nano-precipitation for the oxygen evolution reaction. <b>2019</b> , 3, 237-244	25
1176	Boosting electrochemical water splitting via ternary NiMoCo hybrid nanowire arrays. <b>2019</b> , 7, 2156-2164	61
1175	Tungsten-inert gas welding electrodes as low-cost, green and pH-universal electrocatalysts for the hydrogen evolution reaction. <b>2019</b> , 43, 11529-11542	2
1174	A Fully Reversible Water Electrolyzer Cell Made Up from FeCoNi (Oxy)hydroxide Atomic Layers. <b>2019</b> , 9, 1901312	69
1173	Impact of Ir-Valence Control and Surface Nanostructure on Oxygen Evolution Reaction over a Highly Efficient IrTiO2 Nanorod Catalyst. <b>2019</b> , 9, 6974-6986	56
1172	Room temperature thiosulfate ion redox reaction-driven synthesis of a robust porous copper-cobalt-sulfur-oxygen nanowire coating on copper foam for highly-efficient and low-cost oxygen evolution reaction. <b>2019</b> , 55, 8587-8590	
1171	Intrinsic Effects of Ruddlesden-Popper-Based Bifunctional Catalysts for High-Temperature Oxygen Reduction and Evolution. <b>2019</b> , 9, 1901573	24
1170	Unconventional CN vacancies suppress iron-leaching in Prussian blue analogue pre-catalyst for boosted oxygen evolution catalysis. <b>2019</b> , 10, 2799	116
1169	Recent progress made in the mechanism comprehension and design of electrocatalysts for alkaline water splitting. <b>2019</b> , 12, 2620-2645	532
1168	Mixed Transition Metal Oxide with Vacancy-Induced Lattice Distortion for Enhanced Catalytic Activity of Oxygen Evolution Reaction. <b>2019</b> , 9, 7099-7108	52
1167	Defect-Rich Nitrogen Doped Co3O4/C Porous Nanocubes Enable High-Efficiency Bifunctional Oxygen Electrocatalysis. <b>2019</b> , 29, 1902875	142
1166	Direct magnetic enhancement of electrocatalytic water oxidation in alkaline media. <b>2019</b> , 4, 519-525	199

1165	Small sized Fetto sulfide nanoclusters anchored on carbon for oxygen evolution. <b>2019</b> , 7, 15851-15861	57
1164	Novel nickellobalt phosphite with face-sharing octahedra derived electrocatalyst for efficient water splitting. <b>2019</b> , 6, 2014-2023	12
1163	The 3dBd orbital repulsion of transition metals in oxyhydroxide catalysts facilitates water oxidation. <b>2019</b> , 7, 14455-14461	16
1162	Zirconium-Regulation-Induced Bifunctionality in 3D Cobalt-Iron Oxide Nanosheets for Overall Water Splitting. <b>2019</b> , 31, e1901439	191
1161	Facile Synthesis of CoFe2O4-CoFex/C Nanofibers Electrocatalyst for the Oxygen Evolution Reaction. <b>2019</b> , 166, H412-H417	6
1160	Designing Highly Efficient and Long-Term Durable Electrocatalyst for Oxygen Evolution by Coupling B and P into Amorphous Porous NiFe-Based Material. <b>2019</b> , 15, e1901020	36
1159	Prussian blue analogue-derived Ni and Co bimetallic oxide nanoplate arrays block-built from porous and hollow nanocubes for the efficient oxygen evolution reaction. <b>2019</b> , 11, 11765-11773	38
1158	An Fe-doped NiV LDH ultrathin nanosheet as a highly efficient electrocatalyst for efficient water oxidation. <b>2019</b> , 6, 1890-1896	30
1157	NiSMoS2 hetero-nanosheet array electrocatalysts for efficient overall water splitting. <b>2019</b> , 3, 2056-2066	37
1156	Free-standing S, N co-doped graphene/Ni foam as highly efficient and stable electrocatalyst for oxygen evolution reaction. <b>2019</b> , 317, 408-415	16
1155	One-step electrodeposition of cerium-doped nickel hydroxide nanosheets for effective oxygen generation <b>2019</b> , 9, 17891-17896	10
1154	In-situ surface selective removal: An efficient way to prepare water oxidation catalyst. <b>2019</b> , 44, 14955-14967	10
1153	Modulation of Molecular Spatial Distribution and Chemisorption with Perforated Nanosheets for Ethanol Electro-oxidation. <b>2019</b> , 31, e1900528	57
1152	Tunable catalytic activity of cobalt-intercalated layered MnO2 for water oxidation through confinement and local ordering. <b>2019</b> , 374, 143-149	8
1151	A Simple Synthetic Strategy toward Defect-Rich Porous Monolayer NiFe-Layered Double Hydroxide Nanosheets for Efficient Electrocatalytic Water Oxidation. <b>2019</b> , 9, 1900881	220
1150	Single atom tungsten doped ultrathin ENi(OH) for enhanced electrocatalytic water oxidation. <b>2019</b> , 10, 2149	210
1149	The Holy Grail in Platinum-Free Electrocatalytic Hydrogen Evolution: Molybdenum-Based Catalysts and Recent Advances. <b>2019</b> , 6, 3570-3589	27
1148	In situ Surface Chemistry Engineering of Cobalt-Sulfide Nanosheets for Improved Oxygen Evolution Activity. <b>2019</b> , 2, 4439-4449	26

1147	Metal-organic frameworks and their derivatives for metal-air batteries. 2019, 23, 757-771	60
1146	Charge redistribution of Co on cobalt (II) oxide surface for enhanced oxygen evolution electrocatalysis. <b>2019</b> , 61, 267-274	18
1145	A unique sandwich structure of a CoMnP/Ni2P/NiFe electrocatalyst for highly efficient overall water splitting. <b>2019</b> , 7, 12325-12332	38
1144	Valence Engineering via Selective Atomic Substitution on Tetrahedral Sites in Spinel Oxide for Highly Enhanced Oxygen Evolution Catalysis. <b>2019</b> , 141, 8136-8145	120
1143	"Superaerophobic" Nickel Phosphide Nanoarray Catalyst for Efficient Hydrogen Evolution at Ultrahigh Current Densities. <b>2019</b> , 141, 7537-7543	233
1142	In-situ synthesis of bimetallic phosphide with carbon tubes as an active electrocatalyst for oxygen evolution reaction. <b>2019</b> , 254, 292-299	88
1141	Molecular Evidence for the Catalytic Process of Cobalt Porphyrin Catalyzed Oxygen Evolution Reaction in Alkaline Solution. <b>2019</b> , 141, 7665-7669	35
1140	In situ growth of layered double hydroxides on boehmite AlOOH for active and stable oxygen evolution in alkaline media. <b>2019</b> , 11, 10348-10357	9
1139	Efficient Oxygen Evolution Catalysis Triggered by Nickel Phosphide Nanoparticles Compositing with Reduced Graphene Oxide with Controlled Architecture. <b>2019</b> , 7, 9566-9573	21
1138	A highly efficient alkaline HER CoMo bimetallic carbide catalyst with an optimized Mo d-orbital electronic state. <b>2019</b> , 7, 12434-12439	32
1137	Single Atoms and Clusters Based Nanomaterials for Hydrogen Evolution, Oxygen Evolution Reactions, and Full Water Splitting. <b>2019</b> , 9, 1900624	294
1136	Single phase of spinel CoRhO nanotubes with remarkably enhanced catalytic performance for the oxygen evolution reaction. <b>2019</b> , 11, 9287-9295	17
1135	Co-Modified MoS2 Hybrids as Superior Bifunctional Electrocatalysts for Water Splitting Reactions: Integrating Multiple Active Components in One. <b>2019</b> , 6, 1900372	11
1134	Homogeneously Distributed NiFe Alloy Nanoparticles on 3D Carbon Fiber Network as a Bifunctional Electrocatalyst for Overall Water Splitting. <b>2019</b> , 6, 2497-2502	23
1133	Highly Active and Stable Water Splitting in Acidic Media Using a Bifunctional Iridium/Cucurbit[6]uril Catalyst. <b>2019</b> , 4, 1301-1307	34
1132	In situ engineering bi-metallic phospho-nitride bi-functional electrocatalysts for overall water splitting. <b>2019</b> , 254, 414-423	69
1131	NiCoMo Hydroxide Nanosheet Arrays Synthesized via Chloride Corrosion for Overall Water Splitting. <b>2019</b> , 4, 952-959	152
1130	Robust and superwetting island-shaped phytate bimetallic oxyhydroxide porous nanoclusters via a mild self-assembly-etching-catching-electrochemical oxidization strategy for an enhanced oxygen evolution reaction. <b>2019</b> , 55, 4503-4506	2

1129	Nickel Nanocrystal Assemblies as Efficient Electrocatalysts for Hydrogen Evolution from pH-Neutral Aqueous Solution. <b>2019</b> , 6, 2100-2106	11
1128	Unprecedented High Oxygen Evolution Activity of Electrocatalysts Derived from Surface-Mounted Metal-Organic Frameworks. <b>2019</b> , 141, 5926-5933	87
1127	Boosting the oxygen evolution reaction activity of a perovskite through introducing multi-element synergy and building an ordered structure. <b>2019</b> , 7, 9924-9932	39
1126	NiFe Alloy Nanoparticles with hcp Crystal Structure Stimulate Superior Oxygen Evolution Reaction Electrocatalytic Activity. <b>2019</b> , 58, 6099-6103	160
1125	Ultrathin Black Phosphorus-on-Nitrogen Doped Graphene for Efficient Overall Water Splitting: Dual Modulation Roles of Directional Interfacial Charge Transfer. <b>2019</b> , 141, 4972-4979	158
1124	Hierarchical Porous Ni3S4 with Enriched High-Valence Ni Sites as a Robust Electrocatalyst for Efficient Oxygen Evolution Reaction. <b>2019</b> , 29, 1900315	169
1123	NiFe Alloy Nanoparticles with hcp Crystal Structure Stimulate Superior Oxygen Evolution Reaction Electrocatalytic Activity. <b>2019</b> , 131, 6160-6164	8
1122	Well-Dispersed Nickel- and Zinc-Tailored Electronic Structure of a Transition Metal Oxide for Highly Active Alkaline Hydrogen Evolution Reaction. <b>2019</b> , 31, e1807771	149
1121	Mesoporous Ultrathin Cobalt Oxides Nanosheets Grown on Carbon Cloth as a High-Performance Electrode for Oxygen Evolution Reaction. <b>2019</b> , 2, 1977-1987	16
1120	Electrochemical Oxidation of a Highly Soluble Redox Mediator in Aqueous Solution for Energy Conversion. <b>2019</b> , 7, 7241-7251	6
1119	Chemical and structural origin of lattice oxygen oxidation in CoIn oxyhydroxide oxygen evolution electrocatalysts. <b>2019</b> , 4, 329-338	542
1118	Bimetallic Metal-Organic Framework-Derived Nanosheet-Assembled Nanoflower Electrocatalysts for Efficient Oxygen Evolution Reaction. <b>2019</b> , 14, 1590-1594	15
1117	Outlining the Scaling-Based and Scaling-Free Optimization of Electrocatalysts. <b>2019</b> , 9, 4218-4225	52
1116	Amorphous nickel sulfide nanosheets with embedded vanadium oxide nanocrystals on nickel foam for efficient electrochemical water oxidation. <b>2019</b> , 7, 10534-10542	39
1115	Engineering the electronic structure of single atom Ru sites via compressive strain boosts acidic water oxidation electrocatalysis. <b>2019</b> , 2, 304-313	420
1114	Metal-Organic Gel-Derived Multimetal Oxides as Effective Electrocatalysts for the Oxygen Evolution Reaction. <b>2019</b> , 12, 2480-2486	12
1113	Tracking the pyrolysis process of a 3-MeOsalophen-ligand based complex for promoted oxygen evolution reaction. <b>2019</b> , 10, 4560-4566	17
1112	The construction of self-supported thorny leaf-like nickel-cobalt bimetal phosphides as efficient bifunctional electrocatalysts for urea electrolysis. <b>2019</b> , 7, 9078-9085	89

1111	oxynitride. <b>2019</b> , 11, 7239-7246	21
1110	Amorphous FeCoNi oxide for oxygen evolution reaction. <b>2019</b> , 12, 311-317	24
1109	Electroactive Edge-Site-Enriched £Co0.9Fe0.1(OH)x Nanoplates for Efficient Overall Water Splitting. <b>2019</b> , 6, 2415-2422	4
1108	Realizing Ultrafast Oxygen Evolution by Introducing Proton Acceptor into Perovskites. <b>2019</b> , 9, 1900429	53
1107	IrW nanobranches as an advanced electrocatalyst for pH-universal overall water splitting. <b>2019</b> , 11, 8898-8905	5 44
1106	ZnO As an Active and Selective Catalyst for Electrochemical Water Oxidation to Hydrogen Peroxide. <b>2019</b> , 9, 4593-4599	95
1105	Tuning the coupling interface of ultrathin NiS@NiV-LDH heterogeneous nanosheet electrocatalysts for improved overall water splitting. <b>2019</b> , 11, 8855-8863	80
1104	Size-Dependent Activity of Iron-Nickel Oxynitride towards Electrocatalytic Oxygen Evolution. <b>2019</b> , 5, 883-887	5
1103	Se-Doping Activates FeOOH for Cost-Effective and Efficient Electrochemical Water Oxidation. <b>2019</b> , 141, 7005-7013	279
1102	Zn0.35Co0.65O IA Stable and Highly Active Oxygen Evolution Catalyst Formed by Zinc Leaching and Tetrahedral Coordinated Cobalt in Wurtzite Structure. <b>2019</b> , 9, 1900328	27
1101	Edge/Defect Sites in ⊞Co Fe (OH) Nanoplates Responsible for Water Oxidation Activity. <b>2019</b> , 12, 2755-2762	3
1100	Electrochemically Driven Coordination Tuning of FeOOH Integrated on Carbon Fiber Paper for Enhanced Oxygen Evolution. <b>2019</b> , 15, e1901015	36
1099	A strong coupled 2D metal-organic framework and ternary layered double hydroxide hierarchical nanocomposite as an excellent electrocatalyst for the oxygen evolution reaction. <b>2019</b> , 307, 275-284	26
1098	Synergistic Coupling of Anionic Ligands To Optimize the Electronic and Catalytic Properties of Metal <b>D</b> rganic Framework-Converted Oxygen-Evolving Catalysts. <b>2019</b> , 2, 2138-2148	24
1097	Rational Design of Nanoarray Architectures for Electrocatalytic Water Splitting. <b>2019</b> , 29, 1808367	186
1096	Synergistic effect of charge transfer and short H-bonding on nanocatalyst surface for efficient oxygen evolution reaction. <b>2019</b> , 59, 443-452	21
1095	A hierarchical oxygen vacancy-rich WO3 with Banowire-array-on-nanosheet-array Btructure for highly efficient oxygen evolution reaction. <b>2019</b> , 7, 6730-6739	35
1094	An Unconventional Iron Nickel Catalyst for the Oxygen Evolution Reaction. <b>2019</b> , 5, 558-568	136

1093	Water Oxidation Catalysts: The Quest for New Oxide-Based Materials. <b>2019</b> , 7, 29	13
1092	A new metalorganic open framework enabling facile synthesis of carbon encapsulated transition metal phosphide/sulfide nanoparticle electrocatalysts. <b>2019</b> , 7, 7168-7178	37
1091	Recent advances in precious metal-free bifunctional catalysts for electrochemical conversion systems. <b>2019</b> , 7, 8006-8029	139
1090	One-Step Preparation of Cobalt-Nanoparticle-Embedded Carbon for Effective Water Oxidation Electrocatalysis. <b>2019</b> , 6, 1996-1999	5
1089	Cr-Doped FeNi-P Nanoparticles Encapsulated into N-Doped Carbon Nanotube as a Robust Bifunctional Catalyst for Efficient Overall Water Splitting. <b>2019</b> , 31, e1900178	172
1088	Recent Advances in the Development of Molecular Catalyst-Based Anodes for Water Oxidation toward Artificial Photosynthesis. <b>2019</b> , 12, 1775-1793	37
1087	Direct electrosynthesis of sodium hydroxide and hydrochloric acid from brine streams. <b>2019</b> , 2, 106-113	36
1086	Recent advances in developing high-performance nanostructured electrocatalysts based on 3d transition metal elements. <b>2019</b> , 4, 789-808	37
1085	Promoting Electrocatalytic Oxygen Evolution over Transition-Metal Phosphide-Based Nanocomposites via Architectural and Electronic Engineering. <b>2019</b> , 11, 46825-46838	17
1084	Intramolecular electronic coupling in porous iron cobalt (oxy)phosphide nanoboxes enhances the electrocatalytic activity for oxygen evolution. <b>2019</b> , 12, 3348-3355	147
1083	Simple synthesis of a vacancy-rich NiO 2D/3D dendritic self-supported electrode for efficient overall water splitting. <b>2019</b> , 11, 22734-22742	13
1082	Surface dual-oxidation induced metallic copper doping into NiFe electrodes for electrocatalytic water oxidation. <b>2019</b> , 7, 22889-22897	15
1081	A partial sulfidation approach that significantly enhance the activity of FeCo layered double hydroxide for oxygen evolution reaction. <b>2019</b> , 44, 31987-31994	9
1080	Comparative Performance of Microbial Desalination Cells Using Air Diffusion and Liquid Cathode Reactions: Study of the Salt Removal and Desalination Efficiency. <b>2019</b> , 7,	21
1079	Strategies to Break the Scaling Relation toward Enhanced Oxygen Electrocatalysis. <b>2019</b> , 1, 1494-1518	151
1078	Charge-Transfer Effects in Fetto and Fetto Oxides for Electrocatalytic Water Oxidation Reaction. <b>2019</b> , 2, 8903-8911	9
1077		
	High-performance FelloBn oxide electrocatalysts for oxygen evolution reaction. <b>2019</b> , 14, 100364	4

1075	Hybrid Organic-Inorganic Gel Electrocatalyst for Stable Acidic Water Oxidation. 2019, 13, 14368-14376	18
1074	A general synthesis approach for amorphous noble metal nanosheets. <b>2019</b> , 10, 4855	145
1073	Strategies to break linear scaling relationships. <b>2019</b> , 2, 971-976	127
1072	Modulated transition metal-oxygen covalency in the octahedral sites of CoFe layered double hydroxides with vanadium doping leading to highly efficient electrocatalysts. <b>2019</b> , 11, 23296-23303	24
1071	Sulfurization-induced edge amorphization in copperflickelflobalt layered double hydroxide nanosheets promoting hydrazine electro-oxidation. <b>2019</b> , 7, 24437-24444	46
1070	Reconstructing bimetallic carbide Mo6Ni6C for carbon interconnected MoNi alloys to boost oxygen evolution electrocatalysis. <b>2019</b> , 6, 115-121	39
1069	SILAR deposited iron phosphate as a bifunctional electrocatalyst for efficient water splitting. <b>2019</b> , 534, 350-356	27
1068	Defect-Rich 2D Material Networks for Advanced Oxygen Evolution Catalysts. <b>2019</b> , 4, 328-336	106
1067	Low-Crystalline Bimetallic Metal©rganic Framework Electrocatalysts with Rich Active Sites for Oxygen Evolution. <b>2019</b> , 4, 285-292	150
1066	Platinum Nanocrystals Decorated on Defect-Rich MoS2 Nanosheets for pH-Universal Hydrogen Evolution Reaction. <b>2019</b> , 19, 60-65	24
1065	Computational Electrochemistry of Water Oxidation on Metal-Doped and Metal-Supported Defective h-BN. <b>2019</b> , 12, 1995-2007	7
1064	Charge-Redistribution-Enhanced Nanocrystalline Ru@IrOx Electrocatalysts for Oxygen Evolution in Acidic Media. <b>2019</b> , 5, 445-459	205
1063	Breathing-Mimicking Electrocatalysis for Oxygen Evolution and Reduction. <b>2019</b> , 3, 557-569	77
1062	Controllable tuning of Fe-N nanosheets by Co substitution for enhanced oxygen evolution reaction. <b>2019</b> , 57, 644-652	61
1061	Tuning the Electronic Structure of NiO via Li Doping for the Fast Oxygen Evolution Reaction. <b>2019</b> , 31, 419-428	56
1060	Defect-Based Single-Atom Electrocatalysts. <b>2019</b> , 3, 1800406	94
1059	Defect-Induced Pt-Co-Se Coordinated Sites with Highly Asymmetrical Electronic Distribution for Boosting Oxygen-Involving Electrocatalysis. <b>2019</b> , 31, e1805581	118
1058	Homogeneous cobalt and iron oxide hollow nanocages derived from ZIF-67 etched by Fe species for enhanced water oxidation. <b>2019</b> , 296, 418-426	17

1057	Recent advances in transition metalBased catalysts with heterointerfaces for energy conversion and storage. <b>2019</b> , 11, 16-28	53
1056	Coordination-assisted synthesis of iron-incorporated cobalt oxide nanoplates for enhanced oxygen evolution. <b>2019</b> , 11, 112-118	28
1055	Plasma Hydrogenated TiO2/Nickel Foam as an Efficient Bifunctional Electrocatalyst for Overall Water Splitting. <b>2019</b> , 7, 885-894	27
1054	Noble-Metal-Free Electrocatalysts for Oxygen Evolution. <b>2019</b> , 15, e1804201	262
1053	Co <b>E</b> e Bimetal Phosphate Composite Loaded on Reduced Graphene Oxide for Oxygen Evolution. <b>2019</b> , 14, 1950003	5
1052	Synthesis of 1D to 3D nanostructured NiCo2S4 on nickel foam and their application in oxygen evolution reaction. <b>2019</b> , 476, 600-607	23
1051	Highly Active Cobalt/Tungsten Carbide@N-Doped Porous Carbon Nanomaterials Derived from Metal-Organic Frameworks as Bifunctional Catalysts for Overall Water Splitting. <b>2019</b> , 7, 1800969	24
1050	Phytic acid-derived Co2-xNixP2O7-C/RGO and its superior OER electrocatalytic performance. <b>2019</b> , 44, 844-852	19
1049	Inorganic Photochemistry and Solar Energy Harvesting: Current Developments and Challenges to Solar Fuel Production. <b>2019</b> , 2019, 1-23	25
1048	Tracking Structural Self-Reconstruction and Identifying True Active Sites toward Cobalt Oxychloride Precatalyst of Oxygen Evolution Reaction. <b>2019</b> , 31, e1805127	126
1047	Fabrication of NiFe layered double hydroxide with well-defined laminar superstructure as highly efficient oxygen evolution electrocatalysts. <b>2019</b> , 12, 1327-1331	42
1046	Boosting the Electrocatalytic Water Oxidation Performance of CoFeO Nanoparticles by Surface Defect Engineering. <b>2019</b> , 11, 3978-3983	52
1045	Single Crystal Growth and Magnetic Properties of High Oxidation State Material Ba2CoO4. <b>2019</b> , 13, 1800537	2
1044	2D carbide nanomeshes and their assembling into 3D microflowers for efficient water splitting. <b>2019</b> , 243, 678-685	92
1043	Design of Noble Metal Electrocatalysts on an Atomic Level. <b>2019</b> , 6, 289-303	23
1042	Non-3d Metal Modulation of a Cobalt Imidazolate Framework for Excellent Electrocatalytic Oxygen Evolution in Neutral Media. <b>2019</b> , 58, 139-143	72
1041	Non-3d Metal Modulation of a Cobalt Imidazolate Framework for Excellent Electrocatalytic Oxygen Evolution in Neutral Media. <b>2019</b> , 131, 145-149	11
1040	Promoting Electrocatalysis upon Aerogels. <b>2019</b> , 31, e1804881	75

### (2020-2019)

1039	Multi-site electrocatalysts for hydrogen evolution in neutral media by destabilization of water molecules. <b>2019</b> , 4, 107-114	264
1038	Ultrasmall Abundant Metal-Based Clusters as Oxygen-Evolving Catalysts. <b>2019</b> , 141, 232-239	41
1037	Fluoride-Induced Dynamic Surface Self-Reconstruction Produces Unexpectedly Efficient Oxygen-Evolution Catalyst. <b>2019</b> , 19, 530-537	134
1036	Influence of Cr doping on the oxygen evolution potential of SnO2/Ti and Sb-SnO2/Ti electrodes. <b>2019</b> , 832, 436-443	22
1035	Hierarchical Bimetallic Selenide Nanosheet-Constructed Nanotubes for Efficient Electrocatalytic Water Oxidation. <b>2019</b> , 6, 331-335	11
1034	A New Defect-Rich CoGa Layered Double Hydroxide as Efficient and Stable Oxygen Evolution Electrocatalyst. <b>2019</b> , 3, 1800286	23
1033	Construction of surface lattice oxygen in metallic NtuCoS1.97 porous nanowire for wearable ZnBir battery. <b>2019</b> , 34, 1-9	12
1032	Recent progress on earth abundant electrocatalysts for hydrogen evolution reaction (HER) in alkaline medium to achieve efficient water splitting 🖪 review. <b>2019</b> , 34, 111-160	198
1031	Ultrathin Graphdiyne-Wrapped Iron Carbonate Hydroxide Nanosheets toward Efficient Water Splitting. <b>2019</b> , 11, 2618-2625	48
1030	Nickel complexes as molecular catalysts for water splitting and CO2 reduction. <b>2019</b> , 378, 237-261	120
1029	Multiscale design for high-performance glycolic acid electro-synthesis cell: Preparation of nanoscale-IrO2-applied Ti anode and optimization of cell assembling. <b>2020</b> , 351, 12-20	9
1028	Engineering Ni2P-NiSe2 heterostructure interface for highly efficient alkaline hydrogen evolution. <b>2020</b> , 262, 118245	113
1027	Hydrogen sensing and adsorption kinetics on ordered mesoporous anatase TiO2 surface. <b>2020</b> , 500, 144219	17
1026	The Comparison between Single Atom Catalysis and Surface Organometallic Catalysis. <b>2020</b> , 120, 734-813	120
1025	A general bimetal-ion adsorption strategy to prepare nickel single atom catalysts anchored on graphene for efficient oxygen evolution reaction. <b>2020</b> , 43, 52-57	51
1024	Engineering the multiscale structure of bifunctional oxygen electrocatalyst for highly efficient and ultrastable zinc-air battery. <b>2020</b> , 24, 402-411	28
1023	Highly efficient Ni nanotube arrays and Ni nanotube arrays coupled with NiFe layered-double-hydroxide electrocatalysts for overall water splitting. <b>2020</b> , 448, 227434	25
1022	Self-dissociation-assembly of ultrathin metal-organic framework nanosheet arrays for efficient oxygen evolution. <b>2020</b> , 68, 104296	43

1021	Geometric structures, electronic characteristics, stabilities, catalytic activities, and descriptors of graphene-based single-atom catalysts. <b>2020</b> , 2, 120-131	24
1020	Stannites IA New Promising Class of Durable Electrocatalysts for Efficient Water Oxidation. <b>2020</b> , 12, 1161-1168	12
1019	Trimetallic oxyhydroxide modified 3D coral-like BiVO4 photoanode for efficient solar water splitting. <b>2020</b> , 384, 123323	21
1018	Pressure-driven catalyst synthesis of Co-doped Fe3C@Carbon nano-onions for efficient oxygen evolution reaction. <b>2020</b> , 268, 118385	27
1017	Aggregation-enhanced adsorption and optoelectronic performance of metal-free organic dye on anatase (1 0 1) toward water-splitting purpose: A first-principles investigation. <b>2020</b> , 502, 144139	3
1016	MOF-derived nitrogen-doped CoO@CoP arrays as bifunctional electrocatalysts for efficient overall water splitting. <b>2020</b> , 330, 135210	45
1015	Assembling amorphous (Fe-Ni)Co -OH/Ni3S2 nanohybrids with S-vacancy and interfacial effects as an ultra-highly efficient electrocatalyst: Inner investigation of mechanism for alkaline water-to-hydrogen/oxygen conversion. <b>2020</b> , 263, 118338	34
1014	Molybdenum-based nanoparticles (Mo2C, MoP and MoS2) coupled heteroatoms-doped carbon nanosheets for efficient hydrogen evolution reaction. <b>2020</b> , 263, 118352	81
1013	Boosting Oxygen Evolution Reaction by Creating Both Metal Ion and Lattice-Oxygen Active Sites in a Complex Oxide. <b>2020</b> , 32, e1905025	122
1012	Understanding the Enhancement of the Catalytic Properties of Goethite by Transition Metal Doping: Critical Role of O* Formation Energy Relative to OH* and OOH*. <b>2020</b> , 3, 1634-1643	9
1011	A one-pot "shielding-to-etching" strategy to synthesize amorphous MoS modified CoS/CoSe heterostructured nanotube arrays for boosted energy-saving H generation. <b>2020</b> , 12, 991-1001	23
1010	An advanced and highly efficient Ce assisted NiFe-LDH electrocatalyst for overall water splitting. <b>2020</b> , 4, 312-323	48
1009	Electrochemical Performance Evaluation of CuO@Cu2O Nanowires Array on Cu Foam as Bifunctional Electrocatalyst for Efficient Water Splitting. <b>2020</b> , 48, e20001-e20012	14
1008	Facile Preparation Process of NiCoPNiCoSe2 Nano-Bilayer Films for Oxygen Evolution Reaction with High Efficiency and Long Duration. <b>2020</b> , 8, 1240-1251	9
1007	Operando diffuse reflectance UV-vis spectroelectrochemistry for investigating oxygen evolution electrocatalysts. <b>2020</b> , 10, 517-528	8
1006	La:Ni-Cl oxyhydroxide gels with enhanced electroactivity as positive materials for hybrid supercapacitors. <b>2020</b> , 49, 1107-1115	7
1005	Exceptional performance of hierarchical Nifle oxyhydroxide@NiFe alloy nanowire array electrocatalysts for large current density water splitting. <b>2020</b> , 13, 86-95	334
1004	Accelerative oxygen evolution by Cu-doping into Fe-Co oxides. <b>2020</b> , 4, 143-148	4

1003	Room-temperature photodeposition of conformal transition metal based cocatalysts on BiVO4 for enhanced photoelectrochemical water splitting. <b>2020</b> , 13, 231-237	12
1002	Decorated by Cu nanoparticles CoS2 nanoneedle array for effective water oxidation electrocatalysis. <b>2020</b> , 821, 153219	6
1001	Synergistic function of iron and cobalt in metallic glasses for highly improving persulfate activation in water treatment. <b>2020</b> , 822, 153574	11
1000	Facile synthesis of Fe, Co bimetal embedded nanoporous carbon polyhedron composites for an efficient oxygen evolution reaction. <b>2020</b> , 563, 189-196	21
999	Fabrication of FeO@CuCo2S4 multifunctional electrode for ultrahigh-capacity supercapacitors and efficient oxygen evolution reaction. <b>2020</b> , 44, 1798-1811	26
998	CoFe-based electrocatalysts for oxygen evolution and reduction reaction. <b>2020</b> , 265-293	
997	Emerged carbon nanomaterials from metal-organic precursors for electrochemical catalysis in energy conversion. <b>2020</b> , 393-423	4
996	Incorporation of Fe/Co species on carbon: A facile strategy for boosting oxygen evolution. <b>2020</b> , 111, 107674	3
995	A multiphase nickel iron sulfide hybrid electrode for highly active oxygen evolution. <b>2020</b> , 63, 356-363	12
994	Multi-component nanoporous alloy/(oxy)hydroxide for bifunctional oxygen electrocatalysis and rechargeable Zn-air batteries. <b>2020</b> , 268, 118431	38
993	Pulsed laser rusted stainless steel: a robust electrode material applied for energy storage and generation applications. <b>2020</b> , 4, 1242-1253	7
992	Temperature-regulated reversible transformation of spinel-to-oxyhydroxide active species for electrocatalytic water oxidation. <b>2020</b> , 8, 1631-1635	16
991	Achieving electronic structure reconfiguration in metallic carbides for robust electrochemical water splitting. <b>2020</b> , 8, 2453-2462	38
990	Rational phase transformation and morphology design to optimize oxygen evolution property of cobalt tungstate. <b>2020</b> , 31, 145603	1
989	Amorphous WO3 induced lattice distortion for a low-cost and high-efficient electrocatalyst for overall water splitting in acid. <b>2020</b> , 4, 1712-1722	11
988	Selectively Etching Vanadium Oxide to Modulate Surface Vacancies of Unary Metal <b>B</b> ased Electrocatalysts for High-Performance Water Oxidation. <b>2020</b> , 10, 1903571	43
987	FeO-based nanostructures and nanohybrids for photoelectrochemical water splitting. <b>2020</b> , 110, 100632	33
986	In-situ X-ray techniques for non-noble electrocatalysts. <b>2020</b> , 92, 733-749	6

985	Atomically Dispersed Mo Supported on Metallic Co9S8 Nanoflakes as an Advanced Noble-Metal-Free Bifunctional Water Splitting Catalyst Working in Universal pH Conditions. <b>2020</b> , 10, 1903137	97
984	Si-Based Water Oxidation Photoanodes Conjugated with Earth-Abundant Transition Metal-Based Catalysts. <b>2020</b> , 2, 107-126	18
983	Porous Ni1\( \text{LuxO}\) Nanowire Arrays as Noble-Metal-Free High-Performance Catalysts for Ammonia-Borane Electrooxidation. <b>2020</b> , 10, 721-735	12
982	Laser Fragmentation-Induced Defect-Rich Cobalt Oxide Nanoparticles for Electrochemical Oxygen Evolution Reaction. <b>2020</b> , 13, 520-528	36
981	Revealing the effects of oxygen defects on the electro-catalytic activity of nickel oxide. <b>2020</b> , 45, 424-432	15
980	Enhanced Water Oxidation Activity by Introducing Gallium into Cobalt-Iron Oxide System. <b>2020</b> , 7, 118-123	3
979	Oxygen Evolution on Metal-oxy-hydroxides: Beneficial Role of Mixing Fe, Co, Ni Explained via Bifunctional Edge/acceptor Route. <b>2020</b> , 12, 1436-1442	20
978	Liquefied Sunshine: Transforming Renewables into Fertilizers and Energy Carriers with Electromaterials. <b>2020</b> , 32, e1904804	24
977	Hierarchical molybdenum-doped cobaltous hydroxide nanotubes assembled by cross-linked porous nanosheets with efficient electronic modulation toward overall water splitting. <b>2020</b> , 562, 400-408	13
976	Dynamic observation of manganese adatom mobility at perovskite oxide catalyst interfaces with water. <b>2020</b> , 1,	9
975	Cobalt-substituted iron-based wolframite synthesized via polyol route for efficient oxygen evolution reaction. <b>2020</b> , 120, 106834	2
974	1D/2D hierarchical Co1-xFexO@N-doped carbon nanostructures for flexible zinclir batteries. <b>2020</b> , 363, 137264	5
973	Strategies for improving Co/Ni-based bimetal-organic framework to water splitting. 2020, 45, 28240-28251	6
972	Transforming Carnation-Shaped MOF-Ni to Nifle Prussian Blue Analogue Derived Efficient Bifunctional Electrocatalyst for Urea Electrolysis. <b>2020</b> , 8, 16037-16045	26
971	High-valence metals improve oxygen evolution reaction performance by modulating 3d metal oxidation cycle energetics. <b>2020</b> , 3, 985-992	149
970	Controllable synthesis of CoFeMo layered double hydroxide nanoarrays for promoting the oxygen evolution reaction. <b>2020</b> , 49, 15417-15424	1
969	Unveiling the Promotion of Surface-Adsorbed Chalcogenate on the Electrocatalytic Oxygen Evolution Reaction. <b>2020</b> , 132, 22656-22660	18
968	Facile Route of P-doped Defect-rich Manganese-cobalt Oxide Spinel with Enhanced Oxygen Evolution Reaction Performance. <b>2020</b> , 6, 1812-1818	5

967	Application of ion beam technology in (photo)electrocatalytic materials for renewable energy. <b>2020</b> , 7, 041303	10
966	Binder-Free Heterostructured NiFe2O4/NiFe LDH Nanosheet Composite Electrocatalysts for Oxygen Evolution Reactions. <b>2020</b> , 3, 10831-10840	19
965	Tungsten Oxide/Carbide Surface Heterojunction Catalyst with High Hydrogen Evolution Activity. <b>2020</b> , 5, 3560-3568	27
964	Dopants fixation of Ruthenium for boosting acidic oxygen evolution stability and activity. <b>2020</b> , 11, 5368	68
963	Preparation of nickel-iron hydroxides by microorganism corrosion for efficient oxygen evolution. <b>2020</b> , 11, 5075	94
962	Interlayer ligand engineering of 恥i(OH)2 for oxygen evolution reaction. <b>2020</b> , 63, 1684-1693	6
961	Anion Etching for Accessing Rapid and Deep Self-Reconstruction of Precatalysts for Water Oxidation. <b>2020</b> , 3, 2124-2137	86
960	Boron-Doped Graphene Oxide-Supported Nickel Nitride Nanoparticles for Electrocatalytic Oxygen Evolution in Alkaline Electrolytes. <b>2020</b> , 3, 9924-9930	5
959	Noble-metal-free electrocatalysts toward H2O2 production. <b>2020</b> , 8, 23123-23141	53
958	Octahedral Coordinated Trivalent Cobalt Enriched Multimetal Oxygen-Evolution Catalysts. <b>2020</b> , 10, 2002593	21
957	S-doped Co-Fe-Pi nanosheets as highly efficient oxygen evolution electrocatalysts in alkaline media. <b>2020</b> , 362, 137123	4
956	Influence of Composition on Performance in Metallic IronNickelCobalt Ternary Anodes for Alkaline Water Electrolysis. <b>2020</b> , 10, 12139-12147	11
955	Emerging linear activity trend in the oxygen evolution reaction with dual-active-sites mechanism. <b>2020</b> , 8, 20946-20952	5
954	Gas diffusion electrode design for electrochemical carbon dioxide reduction. <b>2020</b> , 49, 7488-7504	70
953	Tailoring the d-Band Centers Endows (NixFe1⊠)2P Nanosheets with Efficient Oxygen Evolution Catalysis. <b>2020</b> , 10, 9086-9097	140
952	Unveiling the Origin of Catalytic Sites of Pt Nanoparticles Decorated on Oxygen-Deficient Vanadium-Doped Cobalt Hydroxide Nanosheet for Hybrid SodiumAir Batteries. <b>2020</b> , 3, 7464-7473	5
951	Multicomponent Spinel Metal Oxide Nanocomposites as High-Performance Bifunctional Catalysts in ZnAir Batteries. <b>2020</b> , 3, 7710-7718	9
950	Fabrication of CuOx nanowires@NiMnOx nanosheets core@shell-type electrocatalysts: crucial roles of defect modification and valence states for overall water electrolysis. <b>2020</b> , 8, 16463-16476	15

949	Phosphorus-Accumulating Organism Assisted Phosphorization of Ni-Fe Nanocomposites for Efficient Oxygen Evolution Reaction. <b>2020</b> , 8, 11456-11464	1
948	Embedding Ultrafine Metal Oxide Nanoparticles in Monolayered Metal-Organic Framework Nanosheets Enables Efficient Electrocatalytic Oxygen Evolution. <b>2020</b> , 14, 1971-1981	57
947	Two-dimensional Noble Metal Nanomaterials for Electrocatalysis. <b>2020</b> , 36, 597-610	3
946	Discerning Activity and Inactivity in Earth-Abundant Molecular Oxygen Evolution Catalysts. <b>2020</b> , 12, 4775-4779	4
945	Faster hydrogen production in alkaline media. <b>2020</b> , 3, 967-968	5
944	Nb-incorporated Fe (oxy)hydroxide derived from structural transformation for efficient oxygen evolution electrocatalysis. <b>2020</b> , 8, 24598-24607	7
943	Facile immobilization of polyoxometalates for low-cost molybdenum/tungsten phosphide nanoparticles on carbon black for efficient electrocatalytic hydrogen evolution. <b>2020</b> , 73, 2590-2601	1
942	Low-cost valence-rich copperfronBulfurBxygen porous nanocluster that drives an exceptional energy-saving carbohydrazide oxidization reaction in alkali and near-neutral electrolytes. <b>2020</b> , 8, 24419-2442	7 <sup>1</sup>
941	Continuous Surface Strain Tuning for NiFe-Layered Double Hydroxides Using a Multi-inlet Vortex Mixer. <b>2020</b> , 59, 19897-19906	
940	Development and performance of A-site rich perovskite-type material for enhanced oxygen evolution reaction in alkaline electrolyte. <b>2020</b> , 31, 21272-21278	1
939	Enhanced Electrocatalytic Activity of Murdochite-Type NiMnO for Water Oxidation via Surface Reconstruction. <b>2020</b> , 12, 39205-39214	9
938	The triple structure design of 2D amorphous Fe-doped indium phosphate nanosheets as a highly efficient electrocatalyst for water oxidation. <b>2020</b> , 8, 18232-18243	10
937	Loading Copper Atoms on Graphdiyne for Highly Efficient Hydrogen Production. 2020, 21, 2145-2149	25
936	Autogenous growth of the hierarchical V-doped NiFe layer double metal hydroxide electrodes for an enhanced overall water splitting. <b>2020</b> , 49, 11217-11225	13
935	Synergizing hole accumulation and transfer on composite Ni/CoO for photoelectrochemical water oxidation. <b>2020</b> , 56, 10179-10182	1
934	Anion-dependent topochemical conversion of CoAl-LDH microplates to hierarchical superstructures of CoOOH nanoplates with controllable orientation. <b>2020</b> , 56, 10285-10288	3
933	Unveiling the critical role of the Mn dopant in a NiFe(OH)2 catalyst for water oxidation. <b>2020</b> , 8, 17471-17476	10
932	Recent advance and prospectives of electrocatalysts based on transition metal selenides for efficient water splitting. <b>2020</b> , 78, 105234	81

931	High-Valent Nickel Promoted by Atomically Embedded Copper for Efficient Water Oxidation. <b>2020</b> , 10, 9725-9734		42	
930	Breaking the scaling relationship via dual metal doping in a cobalt spinel for the OER: a computational prediction. <b>2020</b> , 22, 18672-18680		1	
929	High intrinsic activity of the oxygen evolution reaction in low-cost NiO nanowall electrocatalysts. <b>2020</b> , 1, 1971-1979		12	
928	Interfacial electronic interaction of atomically dispersed IrClx on ultrathin Co(OH)2/CNTs for efficient electrocatalytic water oxidation. <b>2020</b> , 279, 119398		13	
927	2D intrinsically defective RuO2/Graphene heterostructures as All-pH efficient oxygen evolving electrocatalysts with unprecedented activity. <b>2020</b> , 78, 105185		21	
926	Construction of N-doped carbon nanotube encapsulated active nanoparticles in hierarchically porous carbonized wood frameworks to boost the oxygen evolution reaction. <b>2020</b> , 279, 119367		24	
925	Two-dimensional Metal-Organic Frameworks as Electrocatalysts for Oxygen Evolution Reaction. <b>2020</b> , 36, 504-510		10	
924	In situ growth of Fe and Nb co-doped 卧i(OH)2 nanosheet arrays on nickel foam for an efficient oxygen evolution reaction. <b>2020</b> , 7, 3465-3474		6	
923	Lattice oxygen activation enabled by high-valence metal sites for enhanced water oxidation. <b>2020</b> , 11, 4066		105	
922	Metallic single-atoms confined in carbon nanomaterials for the electrocatalysis of oxygen reduction, oxygen evolution, and hydrogen evolution reactions. <b>2020</b> , 10, 6420-6448		15	
921	Using nature's blueprint to expand catalysis with Earth-abundant metals. Science, 2020, 369,	33.3	124	
920	Dual-modulation of phase and electronic structure in hierarchical Ni3Fe/Ni3FeN catalyst by Mo-doping to achieve efficient oxygen evolution reaction. <b>2020</b> , 529, 147172		7	
919	Non-precious-metal catalysts for alkaline water electrolysis: operando characterizations, theoretical calculations, and recent advances. <b>2020</b> , 49, 9154-9196		147	
918	Insights into the electronic origin of enhancing the catalytic activity of Co3O4 for oxygen evolution by single atom ruthenium. <b>2020</b> , 34, 100955		12	
917	Alkaline Water Oxidation Using a Bimetallic Phospho-Boride Electrocatalyst. <b>2020</b> , 13, 6534-6540		2	
916	In Situ Growth of 3D NiFe LDH-POM Micro-Flowers on Nickel Foam for Overall Water Splitting. <b>2020</b> , 16, e2003777		28	
915	Molten-Salt-Protected Pyrolysis for Fabricating Perovskite Nanocrystals with Promoted Water Oxidation Behavior. <b>2020</b> , 8, 16711-16719		7	
914	Partially exposed RuP surface in hybrid structure endows its bifunctionality for hydrazine oxidation and hydrogen evolution catalysis. <b>2020</b> , 6,		66	

913	Local Surface Modulation Activates Metal Oxide Electrocatalyst for Hydrogen Evolution: Synthesis, Characterization, and DFT Study of Novel Black ZnO. <b>2020</b> , 3, 10590-10599	8
912	Loading of individual Se-doped FeO-decorated Ni/NiO particles on carbon cloth: facile synthesis and efficient electrocatalysis for the oxygen evolution reaction. <b>2020</b> , 49, 15682-15692	3
911	Reconstruction-Determined Alkaline Water Electrolysis at Industrial Temperatures. 2020, 32, e2001136	67
910	High-Efficiency Anion Exchange Membrane Water Electrolysis Employing Non-Noble Metal Catalysts. <b>2020</b> , 10, 2002285	48
909	CuO@Fe-NiS nanoflower in situ grown on copper foam at room temperature as an excellent oxygen evolution electrocatalyst. <b>2020</b> , 56, 12339-12342	4
908	In situ X-ray diffraction and X-ray absorption spectroscopy of electrocatalysts for energy conversion reactions. <b>2020</b> , 8, 19079-19112	39
907	Facile Synthesis of Sulfur-Doped Mesoporous Carbon Nitride Supported Defect-Rich Cobalt Sulfide for Electrocatalytic Water Oxidation. <b>2020</b> , 20, 6321-6328	5
906	Iridium Single Atoms Coupling with Oxygen Vacancies Boosts Oxygen Evolution Reaction in Acid Media. <b>2020</b> , 142, 18378-18386	128
905	Efficient electrocatalyst of ⊞eO nanorings for oxygen evolution reaction in acidic conditions <b>2020</b> , 10, 29077-29081	2
904	Synthetic Approaches to Metallo-Supramolecular Co Polygons and Potential Use for HO Oxidation. <b>2020</b> , 59, 14432-14438	1
903	Microenvironment modulation of single-atom catalysts and their roles in electrochemical energy conversion. <b>2020</b> , 6,	86
902	Toward more efficient and stable bifunctional electrocatalysts for oxygen electrodes using FeCo2O4/carbon nanofiber prepared by electrospinning. <b>2020</b> , 18, 100508	12
901	P-doped nickel sulfide nanosheet arrays for alkaline overall water splitting. <b>2020</b> , 10, 7581-7590	6
900	Achieving delafossite analog by in situ electrochemical self-reconstruction as an oxygen-evolving catalyst. <b>2020</b> , 117, 21906-21913	31
899	NiCo O -Based Nanosheets with Uniform 4 nm Mesopores for Excellent Zn-Air Battery Performance. <b>2020</b> , 32, e2001651	39
898	Nanocrystals as Precursors in Solid-State Reactions for Size- and Shape-Controlled Polyelemental Nanomaterials. <b>2020</b> , 142, 15931-15940	12
897	The critical role of electrochemically activated adsorbates in neutral OER. 2020, 63, 2509-2516	9
896	Role of Boron in Enhancing Electron Delocalization to Improve Catalytic Activity of Fe-Based Metallic Glasses for Persulfate-Based Advanced Oxidation. <b>2020</b> , 12, 44789-44797	8

895	Double Hydroxide. <b>2020</b> , 5, 3185-3194	17
894	NaBH induces a high ratio of Ni/Ni boosting OER activity of the NiFe LDH electrocatalyst <b>2020</b> , 10, 33475-3	3482
893	Selective Surface Reconstruction of a Defective Iridium-Based Catalyst for High-Efficiency Water Splitting. <b>2020</b> , 30, 2004375	49
892	Unveiling the Promotion of Surface-Adsorbed Chalcogenate on the Electrocatalytic Oxygen Evolution Reaction. <b>2020</b> , 59, 22470-22474	93
891	Capturing the active sites of multimetallic (oxy)hydroxides for the oxygen evolution reaction. <b>2020</b> , 13, 4225-4237	71
890	Carbon-Supported PtNi Nanocrystals for Alkaline Oxygen Reduction and Evolution Reactions: Electrochemical Activity and Durability upon Accelerated Stress Tests. <b>2020</b> , 3, 8858-8870	6
889	Bioinspired Water Oxidation Using a Mn-Oxo Cluster Stabilized by Non-Innocent Organic Tyrosine Y161 and Plastoquinone Mimics. <b>2020</b> , 8, 13648-13659	3
888	Gel Electrocatalysts: An Emerging Material Platform for Electrochemical Energy Conversion. <b>2020</b> , 32, e2003191	39
887	Genuine Active Species Generated from Fe N Nanotube by Synergistic CoNi Doping for Boosted Oxygen Evolution Catalysis. <b>2020</b> , 16, e2003824	10
886	Modulation of electronic structures in two-dimensional electrocatalysts for the hydrogen evolution reaction. <b>2020</b> , 56, 11910-11930	20
885	Tuning the Electronic Structures of Multimetal Oxide Nanoplates to Realize Favorable Adsorption Energies of Oxygenated Intermediates. <b>2020</b> ,	19
884	Engineering NiFe layered double hydroxide by valence control and intermediate stabilization toward the oxygen evolution reaction. <b>2020</b> , 8, 26130-26138	24
883	3D flower-like polypyrrole-derived N-doped porous carbon coupled cobalt oxide as efficient oxygen evolution electrocatalyst. <b>2020</b> , 45, 31926-31941	7
882	Amorphous Multimetal Alloy Oxygen Evolving Catalysts. <b>2020</b> , 2, 624-632	25
881	Bulk COFs and COF nanosheets for electrochemical energy storage and conversion. 2020, 49, 3565-3604	256
880	Trimetallic CoFeCr hydroxide electrocatalysts synthesized at a low temperature for accelerating water oxidation via tuning the electronic structure of active sites. <b>2020</b> , 4, 3647-3653	7
879	High-Index CoreBhell Ni <b>P</b> t Nanoparticles as Oxygen Reduction Electrocatalysts. <b>2020</b> , 3, 5718-5731	11
878	Advancement of Platinum (Pt)-Free (Non-Pt Precious Metals) and/or Metal-Free (Non-Precious-Metals) Electrocatalysts in Energy Applications: A Review and Perspectives. <b>2020</b> , 34, 6634-6695	53

877	Enhancing Water Oxidation Activity by Tuning Two-Dimensional Architectures and Compositions on CoMo Hydr(oxy)oxide. <b>2020</b> , 124, 16879-16887	6
876	In-situ structure and catalytic mechanism of NiFe and CoFe layered double hydroxides during oxygen evolution. <b>2020</b> , 11, 2522	273
875	Crystalline Cobalt/Amorphous LaCoO Hybrid Nanoparticles Embedded in Porous Nitrogen-Doped Carbon as Efficient Electrocatalysts for Hydrazine-Assisted Hydrogen Production. <b>2020</b> , 12, 24701-24709	22
874	Synthesis of double perovskite La2MnNiO6 nanoparticles as highly efficient oxygen evolution electro-catalysts. <b>2020</b> , 46, 20038-20044	5
873	Amorphous versus Crystalline in Water Oxidation Catalysis: A Case Study of NiFe Alloy. <b>2020</b> , 20, 4278-4285	99
872	Conductive Boron Nitride as Promising Catalyst Support for the Oxygen Evolution Reaction. <b>2020</b> , 10, 1902521	12
871	Exceeding the volcano relationship in oxygen reduction/evolution reactions using single-atom-based catalysts with dual-active-sites. <b>2020</b> , 8, 10193-10198	15
870	Activation strategies of water-splitting electrocatalysts. <b>2020</b> , 8, 10096-10129	35
869	Tuning the d-band center enables nickel-iron phosphide nanoprisms as efficient electrocatalyst towards oxygen evolution. <b>2020</b> , 45, 17388-17397	9
868	Dynamic active-site generation of atomic iridium stabilized on nanoporous metal phosphides for water oxidation. <b>2020</b> , 11, 2701	105
867	Catalytic activity atlas of ternary Co⊞e№ metal oxides for the oxygen evolution reaction. <b>2020</b> , 8, 15951-15961	14
866	Multifunctional Active-Center-Transferable Platinum/Lithium Cobalt Oxide Heterostructured Electrocatalysts towards Superior Water Splitting. <b>2020</b> , 132, 14641-14648	11
865	Multifunctional Active-Center-Transferable Platinum/Lithium Cobalt Oxide Heterostructured Electrocatalysts towards Superior Water Splitting. <b>2020</b> , 59, 14533-14540	64
864	Sulfur-Modified Oxygen Vacancies in Ironflobalt Oxide Nanosheets: Enabling Extremely High Activity of the Oxygen Evolution Reaction to Achieve the Industrial Water Splitting Benchmark. <b>2020</b> , 132, 14772-14778	10
863	Sulfur-Modified Oxygen Vacancies in Iron-Cobalt Oxide Nanosheets: Enabling Extremely High Activity of the Oxygen Evolution Reaction to Achieve the Industrial Water Splitting Benchmark. <b>2020</b> , 59, 14664-14670	73
862	Graphdiyne Interface Engineering: Highly Active and Selective Ammonia Synthesis. <b>2020</b> , 132, 13121-13127	5
861	An integrated capture of copper scrap and electrodeposition process to enrich and prepare pure palladium for recycling of spent catalyst from automobile. <b>2020</b> , 108, 172-182	16
860	Controllable Synthesis of Fe-Doped NiCo O Nanobelts as Superior Catalysts for Oxygen Evolution Reaction. <b>2020</b> , 26, 13725-13729	3

859	electrocatalyst. <b>2020</b> , 277, 119175	6
858	Synergistic Modulation of Non-Precious-Metal Electrocatalysts for Advanced Water Splitting. <b>2020</b> , 53, 1111-1123	145
857	In situ structural evolution of the multi-site alloy electrocatalyst to manipulate the intermediate for enhanced water oxidation reaction. <b>2020</b> , 13, 2200-2208	41
856	Vacancy-Rich Ni(OH) Drives the Electrooxidation of Amino C-N Bonds to Nitrile C?N Bonds. <b>2020</b> , 59, 16974-16981	34
855	First-principles study of oxygen evolution reaction on Ni3Fe-layered double hydroxides surface with different oxygen coverage. <b>2020</b> , 490, 110957	1
854	Vacancy-Rich Ni(OH)2 Drives the Electrooxidation of Amino CN Bonds to Nitrile C?N Bonds. <b>2020</b> , 132, 17122-17129	9
853	Surface-Guided Formation of Amorphous Mixed-Metal Oxyhydroxides on Ultrathin MnO2 Nanosheet Arrays for Efficient Electrocatalytic Oxygen Evolution. <b>2020</b> , 10, 2001059	38
852	Manganese MOF Enables Efficient Oxygen Evolution in Acid. <b>2020</b> , 2, 798-800	5
851	Boosting the Oxygen Evolution Electrocatalysis Performance of Iron Phosphide via Architectural Design and Electronic Modulation. <b>2020</b> , 8, 9206-9216	7
850	MOF-derived hollow spherical Co2P@C composite with micro-nanostructure for highly efficient oxygen evolution reaction in alkaline solution. <b>2020</b> , 288, 121456	6
849	CoreBhell Dendritic Superstructural Catalysts by Design for Highly Efficient and Stable Electrochemical Oxygen Evolution Reaction. <b>2020</b> , 7, 2000777	5
848	Electrochemically Modifying the Electronic Structure of IrO2 Nanoparticles for Overall Electrochemical Water Splitting with Extensive Adaptability. <b>2020</b> , 10, 2001600	59
847	IrMo Nanocatalysts for Efficient Alkaline Hydrogen Electrocatalysis. <b>2020</b> , 10, 7322-7327	39
846	Atomically dispersed catalysts for hydrogen/oxygen evolution reactions and overall water splitting. <b>2020</b> , 471, 228446	39
845	A high-performance bimetallic cobalt iron oxide catalyst for the oxygen evolution reaction. <b>2020</b> , 22, 4317-4323	8
844	FeNi alloy nanoparticles embedded in electrospun nitrogen-doped carbon fibers for efficient oxygen evolution reaction. <b>2020</b> , 578, 805-813	11
843	Discrepant roles of adsorbed OH* species on IrWOx for boosting alkaline hydrogen electrocatalysis. <b>2020</b> , 65, 1735-1742	20
842	Single-Atom Catalysts for Electrocatalytic Applications. <b>2020</b> , 30, 2000768	173

841	A Review on Challenges and Successes in Atomic-Scale Design of Catalysts for Electrochemical Synthesis of Hydrogen Peroxide. <b>2020</b> , 10, 7495-7511	95
840	Solvent dispersion triggered the formation of NiFe-gel as an efficient electrocatalyst for enhancing the oxygen evolution reaction. <b>2020</b> , 56, 7781-7784	6
839	Trace tungsten and iron-doped nickel hydroxide nanosheets for an efficient oxygen evolution reaction. <b>2020</b> , 4, 2792-2799	1
838	Energy-Efficient Ammonia Production from Air and Water Using Electrocatalysts with Limited Faradaic Efficiency. <b>2020</b> , 5, 1124-1127	13
837	Dynamic stability of active sites in hydr(oxy)oxides for the oxygen evolution reaction. <b>2020</b> , 5, 222-230	241
836	Facile Synthesis of an Efficient Ni <b>E</b> e <b>I</b> o Based Oxygen Evolution Reaction Electrocatalyst. <b>2020</b> , 167, 046507	18
835	Highly Efficient Oxygen Evolution by a Thermocatalytic Process Cascaded Electrocatalysis Over Sulfur-Treated Fe-Based Metal (Drganic-Frameworks. 2020, 10, 2000184	37
834	Rational Design of a N,S Co-Doped Supermicroporous CoFe-Organic Framework Platform for Water Oxidation. <b>2020</b> , 13, 2564-2570	14
833	Metal-Organic Frameworks in Heterogeneous Catalysis: Recent Progress, New Trends, and Future Perspectives. <b>2020</b> , 120, 8468-8535	448
832	Efficient Ammonia Electrosynthesis from Nitrate on Strained Ruthenium Nanoclusters. <b>2020</b> , 142, 7036-7046	159
831	N- & S-co-doped carbon nanofiber network embedded with ultrafine NiCo nanoalloy for efficient oxygen electrocatalysis and Zn-air batteries. <b>2020</b> , 12, 9581-9589	22
830	Approaching the activity limit of CoSe for oxygen evolution via Fe doping and Co vacancy. <b>2020</b> , 11, 1664	104
829	Boosting oxygen evolution reaction by activation of lattice-oxygen sites in layered Ruddlesden-Popper oxide. <b>2020</b> , 2, e12021	24
828	Intermetallic borides: structures, synthesis and applications in electrocatalysis. <b>2020</b> , 7, 2248-2264	34
827	Controlled engineering of nickel carbide induced N-enriched carbon nanotubes for hydrogen and oxygen evolution reactions in wide pH range. <b>2020</b> , 341, 136032	33
826	Poorly crystallized nickel hydroxide carbonate loading with Fe3+ ions as improved electrocatalysts for oxygen evolution. <b>2020</b> , 114, 107851	4
825	A molten-salt protected pyrolysis approach for fabricating a ternary nickel-cobalt-iron oxide nanomesh catalyst with promoted oxygen-evolving performance. <b>2020</b> , 56, 4579-4582	14
824		

823	Revealing the defect-dominated oxygen evolution activity of hematene. <b>2020</b> , 8, 6709-6716	23
822	Designed Formation of Double-Shelled Ni-Fe Layered-Double-Hydroxide Nanocages for Efficient Oxygen Evolution Reaction. <b>2020</b> , 32, e1906432	167
821	Electrochemical deposition as a universal route for fabricating single-atom catalysts. 2020, 11, 1215	130
820	Efficient Electronic Transport in Partially Disordered Co3O4 Nanosheets for Electrocatalytic Oxygen Evolution Reaction. <b>2020</b> , 3, 3071-3081	14
819	Enhancing the oxygen evolution reaction performance of NiFeOOH electrocatalyst for Zn-air battery by N-doping. <b>2020</b> , 389, 375-381	14
818	Recent advances in cobalt based heterogeneous catalysts for oxygen evolution reaction. <b>2020</b> , 511, 119854	26
817	Iron-doped cobalt phosphate 1D amorphous ultrathin nanowires as a highly efficient electrocatalyst for water oxidation. <b>2020</b> , 4, 4704-4712	4
816	Single atom alloy: An emerging atomic site material for catalytic applications. 2020, 34, 100917	44
815	Accurate synergy effect of NiBn dual active sites enhances electrocatalytic oxidation of urea for hydrogen evolution in alkaline medium. <b>2020</b> , 8, 14680-14689	32
814	Hydrogels and Hydrogel-Derived Materials for Energy and Water Sustainability. <b>2020</b> , 120, 7642-7707	266
813	Bimetallic iron-iridium alloy nanoparticles supported on nickel foam as highly efficient and stable catalyst for overall water splitting at large current density. <b>2020</b> , 278, 119327	71
812	Cathodic activated stainless steel mesh as a highly active electrocatalyst for the oxygen evolution reaction with self-healing possibility. <b>2020</b> , 49, 153-160	23
811	Insights on boosting oxygen evolution reaction performance via boron incorporation into nitrogen-doped carbon electrocatalysts. <b>2020</b> , 528, 146979	11
810	Monolayered Platinum Nanoparticles as Efficient Electrocatalysts for the Mass Production of Electrolyzed Hydrogen Water. <b>2020</b> , 10, 10126	7
809	Hierarchical microspheres of Co2CrO4 nanoplates for electrocatalytic water oxidation. 2020, 22, 1	1
808	Effect of heavy metals on toxicogenetic damage of European eels Anguilla anguilla. <b>2020</b> , 27, 38047-38055	5
807	Removal of Gas Bubbles on an Electrode Using a Magnet. <b>2020</b> , 3, 6752-6757	10
806	Active Electron Density Modulation of Co O -Based Catalysts Enhances their Oxygen Evolution Performance. <b>2020</b> , 59, 6929-6935	61

805	Well-defined ColtDH as Electronic pumplbn Co-LDH nanocages for enhanced oxygen evolution reaction. <b>2020</b> , 269, 118782	19
804	Strong electronic couple engineering of transition metal phosphides-oxides heterostructures as multifunctional electrocatalyst for hydrogen production. <b>2020</b> , 269, 118803	35
803	Rational modulating electronegativity of substituents in amorphous metal-organic frameworks for water oxidation catalysis. <b>2020</b> , 45, 9723-9732	10
802	Uncovering near-free platinum single-atom dynamics during electrochemical hydrogen evolution reaction. <b>2020</b> , 11, 1029	184
801	Fe-Based Electrocatalysts for Oxygen Evolution Reaction: Progress and Perspectives. <b>2020</b> , 10, 4019-4047	196
800	In situ growth of 3D walnut-like nano-architecture Mo-Ni2P@NiFe LDH/NF arrays for synergistically enhanced overall water splitting. <b>2020</b> , 49, 189-197	35
799	Active Electron Density Modulation of Co3O4-Based Catalysts Enhances their Oxygen Evolution Performance. <b>2020</b> , 132, 6996-7002	20
798	Boosting the oxygen evolution catalytic performance of perovskites via optimizing calcination temperature. <b>2020</b> , 8, 6480-6486	19
797	Two-sites are better than one: revisiting the OER mechanism on CoOOH by DFT with electrode polarization. <b>2020</b> , 22, 7031-7038	20
796	Hydrogen energy currency: Beyond state-of-the-art transition metal oxides for oxygen electrocatalysis. <b>2020</b> , 21, 55-61	5
795	Simple fabrication of trimetallic platinum-nickel-cobalt hollow alloyed 3D multipods for highly boosted hydrogen evolution reaction. <b>2020</b> , 570, 205-211	49
794	In situ growth of free-standing perovskite hydroxide electrocatalysts for efficient overall water splitting. <b>2020</b> , 8, 5919-5926	9
793	VS2 Microflowers with In Situ Embedded Few-Layer MoS2 Nanobelts for Enhanced Hydrogen Evolution Reaction at High Current Density. <b>2020</b> , 167, 026508	4
792	Nickel Foam-Supported Amorphous FeCo(Mn) D Nanoclusters with Abundant Oxygen Vacancies through Selective Dealloying for Efficient Electrocatalytic Oxygen Evolution. <b>2020</b> , 7, 684-690	5
791	Porous amorphous FeCo alloys as pre-catalysts for promoting the oxygen evolution reaction. <b>2020</b> , 828, 154465	26
790	Amorphous cobalt-cerium binary metal oxides as high performance electrocatalyst for oxygen evolution reaction. <b>2020</b> , 384, 14-21	17
789	Promoting the Fe(VI) active species generation by structural and electronic modulation of efficient iron oxide based water oxidation catalyst without Ni or Co. <b>2020</b> , 72, 104656	18
788	Oxygen evolution reaction: a perspective on a decade of atomic scale simulations. <b>2020</b> , 11, 2943-2950	34

787	Recent advances in ternary layered double hydroxide electrocatalysts for the oxygen evolution reaction. <b>2020</b> , 44, 9981-9997	39
786	Non-Noble-Metal-Based Electrocatalysts toward the Oxygen Evolution Reaction. <b>2020</b> , 30, 1910274	362
7 <sup>8</sup> 5	Tuning electronic correlations of ultra-small IrO2 nanoparticles with La and Pt for enhanced oxygen evolution performance and long-durable stability in acidic media. <b>2020</b> , 266, 118643	23
7 <sup>8</sup> 4	Plasma-induced surface reorganization of porous CoO-CoO heterostructured nanosheets for electrocatalytic water oxidation. <b>2020</b> , 565, 400-404	5
783	General anion-exchange reaction derived amorphous mixed-metal oxides hollow nanoprisms for highly efficient water oxidation electrocatalysis. <b>2020</b> , 266, 118642	34
782	Fe-substituted cobalt-phosphate polyoxometalates as enhanced oxygen evolution catalysts in acidic media. <b>2020</b> , 41, 853-857	14
781	Hydration-Effect-Promoting Ni-Fe Oxyhydroxide Catalysts for Neutral Water Oxidation. <b>2020</b> , 32, e1906806	33
780	Photo-Induced Exciton Dynamics and Broadband Light Harvesting in ZnO Nanorod-Templated Multilayered Two-Dimensional MoS2/MoO3 Photoanodes for Solar Fuel Generation. <b>2020</b> , 3, 1223-1231	14
779	Construction of an iron and oxygen co-doped nickel phosphide based on MOF derivatives for highly efficient and long-enduring water splitting. <b>2020</b> , 8, 4570-4578	56
778	Non-redox doping boosts oxygen evolution electrocatalysis on hematite. <b>2020</b> , 11, 2464-2471	15
778 777	Non-redox doping boosts oxygen evolution electrocatalysis on hematite. <b>2020</b> , 11, 2464-2471  One-step electrodeposition of NixFe3MO4/Ni hybrid nanosheet arrays as highly active and robust electrocatalysts for the oxygen evolution reaction. <b>2020</b> , 22, 1710-1719	15
	One-step electrodeposition of NixFe3NO4/Ni hybrid nanosheet arrays as highly active and robust	
777	One-step electrodeposition of NixFe3\( Ni hybrid nanosheet arrays as highly active and robust electrocatalysts for the oxygen evolution reaction. <b>2020</b> , 22, 1710-1719  Self-assembly of homointerface engineered IrCo0.14 bracelet-like nanorings as efficient and stable	
777 776	One-step electrodeposition of NixFe3NO4/Ni hybrid nanosheet arrays as highly active and robust electrocatalysts for the oxygen evolution reaction. 2020, 22, 1710-1719  Self-assembly of homointerface engineered IrCo0.14 bracelet-like nanorings as efficient and stable bifunctional catalysts for electrochemical water splitting in acidic media. 2020, 337, 135738  High-Valence Nickel Single-Atom Catalysts Coordinated to Oxygen Sites for Extraordinarily	7
777 776 775	One-step electrodeposition of NixFe3NO4/Ni hybrid nanosheet arrays as highly active and robust electrocatalysts for the oxygen evolution reaction. 2020, 22, 1710-1719  Self-assembly of homointerface engineered IrCo0.14 bracelet-like nanorings as efficient and stable bifunctional catalysts for electrochemical water splitting in acidic media. 2020, 337, 135738  High-Valence Nickel Single-Atom Catalysts Coordinated to Oxygen Sites for Extraordinarily Activating Oxygen Evolution Reaction. 2020, 7, 1903089  Nickel-Doping Effect on Mn3O4 Nanoparticles for Electrochemical Water Oxidation under Neutral	<ul><li>7</li><li>93</li></ul>
777 776 775	One-step electrodeposition of NixFe3NO4/Ni hybrid nanosheet arrays as highly active and robust electrocatalysts for the oxygen evolution reaction. 2020, 22, 1710-1719  Self-assembly of homointerface engineered IrCo0.14 bracelet-like nanorings as efficient and stable bifunctional catalysts for electrochemical water splitting in acidic media. 2020, 337, 135738  High-Valence Nickel Single-Atom Catalysts Coordinated to Oxygen Sites for Extraordinarily Activating Oxygen Evolution Reaction. 2020, 7, 1903089  Nickel-Doping Effect on Mn3O4 Nanoparticles for Electrochemical Water Oxidation under Neutral Condition. 2020, 4, 1900733	11 7 93 16
777 776 775 774 773	One-step electrodeposition of NixFe3NO4/Ni hybrid nanosheet arrays as highly active and robust electrocatalysts for the oxygen evolution reaction. 2020, 22, 1710-1719  Self-assembly of homointerface engineered IrCo0.14 bracelet-like nanorings as efficient and stable bifunctional catalysts for electrochemical water splitting in acidic media. 2020, 337, 135738  High-Valence Nickel Single-Atom Catalysts Coordinated to Oxygen Sites for Extraordinarily Activating Oxygen Evolution Reaction. 2020, 7, 1903089  Nickel-Doping Effect on Mn3O4 Nanoparticles for Electrochemical Water Oxidation under Neutral Condition. 2020, 4, 1900733  Structural-Phase Catalytic Redox Reactions in Energy and Environmental Applications. 2020, 32, e1905739  Exfoliation of metal-organic frameworks into efficient single-layer metal-organic nanosheet	11 7 93 16 31

769	Unraveling the electrocatalytically active sites and stability of Co & Co oxides on nanocarbon for oxygen evolution reaction in acid solution. <b>2020</b> , 49, 8-13	8
768	Gold Nanoclusters as Electrocatalysts for Energy Conversion. <b>2020</b> , 10,	18
767	In situ interfacial engineering of nickel tungsten carbide Janus structures for highly efficient overall water splitting. <b>2020</b> , 65, 640-650	22
766	Ru Nanoparticles Decorated on 2D MoO2 Nanosheets as Efficient and Durable Electrocatalysts for the Hydrogen Evolution Reaction in a Wide pH Range. <b>2020</b> , 124, 10804-10814	16
765	Identifying Key Structural Subunits and Their Synergism in Low-Iridium Triple Perovskites for Oxygen Evolution in Acidic Media. <b>2020</b> , 32, 3904-3910	14
764	Bulk and Surface Properties Regulation of Single/Double Perovskites to Realize Enhanced Oxygen Evolution Reactivity. <b>2020</b> , 13, 3045-3052	19
763	Cr-doped CoFe layered double hydroxides: Highly efficient and robust bifunctional electrocatalyst for the oxidation of water and urea. <b>2020</b> , 272, 118959	94
762	Bionic Design of a Mo(IV)-Doped FeS2 Catalyst for Electroreduction of Dinitrogen to Ammonia. <b>2020</b> , 10, 4914-4921	50
761	Oxygen vacancy-rich amorphous porous NiFe(OH) derived from Ni(OH)/Prussian blue as highly efficient oxygen evolution electrocatalysts. <b>2020</b> , 12, 9557-9568	25
760	Designing transition-metal-boride-based electrocatalysts for applications in electrochemical water splitting. <b>2020</b> , 12, 9327-9351	35
759	Facile synthesis of nanoparticle-stacked tungsten-doped nickel iron layered double hydroxide nanosheets for boosting oxygen evolution reaction. <b>2020</b> , 8, 8096-8103	30
758	Fast cation exchange of layered sodium transition metal oxides for boosting oxygen evolution activity and enhancing durability. <b>2020</b> , 8, 8075-8083	5
757	Partially hydroxylated ultrathin iridium nanosheets as efficient electrocatalysts for water splitting. <b>2020</b> , 7, 1340-1348	27
756	Enhanced OER Performances of Au@NiCoS Core-Shell Heterostructure. <b>2020</b> , 10,	5
755	Graphdiyne Interface Engineering: Highly Active and Selective Ammonia Synthesis. <b>2020</b> , 59, 13021-13027	89
754	Electrocatalysts Based on Transition Metal Borides and Borates for the Oxygen Evolution Reaction. <b>2020</b> , 26, 11661-11672	20
753	Operando Raman Spectroscopy Reveals Cr-Induced-Phase Reconstruction of NiFe and CoFe Oxyhydroxides for Enhanced Electrocatalytic Water Oxidation. <b>2020</b> , 32, 4303-4311	60
752	Voltage- and time-dependent valence state transition in cobalt oxide catalysts during the oxygen evolution reaction. <b>2020</b> , 11, 1984	60

751	heterostructures. <b>2020</b> , 273, 119014	69
75°	Ni3Fe nanoparticles enclosed by B-doped carbon for efficient bifunctional performances of oxygen and hydrogen evolution reactions. <b>2020</b> , 835, 155267	24
749	Rapid microwave-assisted preparation of high-performance bifunctional Ni3Fe/Co-N-C for rechargeable Zn-air battery. <b>2020</b> , 395, 125151	33
748	Electronic engineering of CoSe/FeSe hollow nanospheres for efficient water oxidation. <b>2020</b> , 12, 10196-1020	4 24
747	Self-Assembled Ruddlesden-Popper/Perovskite Hybrid with Lattice-Oxygen Activation as a Superior Oxygen Evolution Electrocatalyst. <b>2020</b> , 16, e2001204	34
746	Preparation of nano-Co3O4-coated Albizia procera-derived carbon by direct thermal decomposition method for electrochemical water oxidation. <b>2020</b> , 13, 4785-4796	21
745	Recent progress of precious-metal-free electrocatalysts for efficient water oxidation in acidic media. <b>2020</b> , 51, 113-133	21
744	Strongly coupled carbon encapsulated Ni-WO2 hybrids as efficient catalysts for water-to-hydrogen conversion via urea electro-oxidation. <b>2020</b> , 458, 228014	29
743	Low-Temperature Molten Salt Synthesis for Ligand-Free Transition Metal Oxide Nanoparticles. <b>2020</b> , 3, 3984-3990	2
742	Electrodeposition of (hydro)oxides for an oxygen evolution electrode. <b>2020</b> , 11, 10614-10625	35
741	High-throughput, combinatorial synthesis of multimetallic nanoclusters. <b>2020</b> , 117, 6316-6322	50
740	Metal-Organic Framework-Based Engineered Materials-Fundamentals and Applications. 2020, 25,	32
739	Ruthenium nanoclusters anchored on cobalt phosphide hollow microspheres by green phosphating process for full water splitting in acidic electrolyte. <b>2021</b> , 32, 511-515	18
738	Controllable CO adsorption determines ethylene and methane productions from CO2 electroreduction. <b>2021</b> , 66, 62-68	21
737	Grain Boundaries Boost Oxygen Evolution Reaction in NiFe Electrocatalysts <b>2021</b> , 5, e2000755	7
736	Tuning the electronic structure of the earth-abundant electrocatalysts for oxygen evolution reaction (OER) to achieve efficient alkaline water splitting [A review. <b>2021</b> , 56, 299-342	44
735	Synthesis of hollow CoSe2/MoSe2 nanospheres for efficient hydrazine-assisted hydrogen evolution. <b>2021</b> , 404, 126529	17
734	Ni1-xCoxSe nanostructures deposited on nickel foam by a facile potentiostatic route for enhanced OER performance. <b>2021</b> , 148, 109658	4

733	Multi-site catalyst derived from Cr atoms-substituted CoFe nanoparticles for high-performance oxygen evolution activity. <b>2021</b> , 404, 126513	13
732	Advanced Electrocatalysis for Energy and Environmental Sustainability via Water and Nitrogen Reactions. <b>2021</b> , 33, e2000381	108
731	Carbon-based electrocatalysts for sustainable energy applications. <b>2021</b> , 116, 100717	71
730	Activity and Stability Boosting of an Oxygen-Vacancy-Rich BiVO Photoanode by NiFe-MOFs Thin Layer for Water Oxidation. <b>2021</b> , 60, 1433-1440	79
729	More than physical support: The effect of nickel foam corrosion on electrocatalytic performance. <b>2021</b> , 538, 147977	10
728	Amorphous cobalt-manganese sulfide electrode for efficient water oxidation: Meeting the fundamental requirements of an electrocatalyst. <b>2021</b> , 405, 126993	10
727	N- doped CoP nanoparticles embedded in electrospun N-doped porous carbon nanofiber as high-efficiency oxygen evolution electrocatalysts. <b>2021</b> , 854, 156830	7
726	Operando X-ray spectroscopy visualizing the chameleon-like structural reconstruction on an oxygen evolution electrocatalyst. <b>2021</b> , 14, 906-915	37
725	Bottom-up fabrication of ultrathin CoFe layered double hydroxide nanosheets on oxidized carbon nanotube as a water oxidation electrocatalyst. <b>2021</b> , 857, 157570	3
724	Activity and Stability Boosting of an Oxygen-Vacancy-Rich BiVO4 Photoanode by NiFe-MOFs Thin Layer for Water Oxidation. <b>2021</b> , 133, 1453-1460	14
723	In-situ constructed Ru-rich porous framework on NiFe-based ribbon for enhanced oxygen evolution reaction in alkaline solution. <b>2021</b> , 70, 197-204	9
722	Nanoporous metallic-glass electrocatalysts for highly efficient oxygen evolution reaction. <b>2021</b> , 852, 156876	12
721	Nanocarbon-based metal-free and non-precious metal bifunctional electrocatalysts for oxygen reduction and oxygen evolution reactions. <b>2021</b> , 58, 610-628	10
720	A vast exploration of improvising synthetic strategies for enhancing the OER kinetics of LDH structures: a review. <b>2021</b> , 9, 1314-1352	65
719	High-Entropy Metal Sulfide Nanoparticles Promise High-Performance Oxygen Evolution Reaction. <b>2021</b> , 11, 2002887	67
718	Atomic-level tungsten doping triggered low overpotential for electrocatalytic water splitting. <b>2021</b> , 587, 581-589	1
717	Al, Fe-codoped CoP nanoparticles anchored on reduced graphene oxide as bifunctional catalysts to enhance overall water splitting. <b>2021</b> , 421, 127856	15
716	Fe-modified Co(OH)Cl microspheres for highly efficient oxygen evolution reaction. <b>2021</b> , 582, 803-814	6

### (2021-2021)

715	energy conversion systems. <b>2021</b> , 46, 3510-3529	4
714	Origin of the electrocatalytic oxygen evolution activity of nickel phosphides: in-situ electrochemical oxidation and Cr doping to achieve high performance. <b>2021</b> , 66, 708-719	21
713	Enhanced electrocatalytic performance of FeNiCoP amorphous alloys as oxygen-evolving catalysts for electrolytic water splitting application. <b>2021</b> , 368, 137618	15
712	Surface-oxidized FetToNi alloys anchored to N-doped carbon nanotubes as efficient catalysts for oxygen reduction reaction. <b>2021</b> , 857, 158249	25
711	Nanocatalyst Design for Long-Term Operation of Proton/Anion Exchange Membrane Water Electrolysis. <b>2021</b> , 11, 2003188	30
710	Synergistic effect of dual sites on bimetal-organic frameworks for highly efficient peroxide activation. <b>2021</b> , 406, 124692	11
709	Oxygen evolution reaction over catalytic single-site Co in a well-defined brookite TiO2 nanorod surface. <b>2021</b> , 4, 36-45	88
708	Materials Engineering in Perovskite for Optimized Oxygen Evolution Electrocatalysis in Alkaline Condition. <b>2021</b> , 17, e2006638	16
707	Substitutionally Dispersed High-Oxidation CoOx Clusters in the Lattice of Rutile TiO2 Triggering Efficient Co?Ti Cooperative Catalytic Centers for Oxygen Evolution Reactions. <b>2021</b> , 31, 2009610	38
706	Unprecedented electrocatalytic oxygen evolution performances by cobalt-incorporated molybdenum carbide microflowers with controlled charge re-distribution. <b>2021</b> , 9, 1770-1783	3
705	Fundamental insights and rational design of low-cost polyoxometalates for the oxygen evolution reaction. <b>2021</b> , 393, 202-206	6
704	Efficient and durable FeCoNi-(Oxy)hydroxide anode: Stoichiometric ration regulated morphology-, defect- and valence-dependent water oxidation performance. <b>2021</b> , 417, 127934	1
703	Tailoring Binding Abilities by Incorporating Oxophilic Transition Metals on 3D Nanostructured Ni Arrays for Accelerated Alkaline Hydrogen Evolution Reaction. <b>2021</b> , 143, 1399-1408	55
702	Advanced Oxygen Electrocatalysis in Energy Conversion and Storage. <b>2021</b> , 31, 2007602	39
701	Self-supported bifunctional electrocatalysts with Ni nanoparticles encapsulated in vertical N-doped carbon nanotube for efficient overall water splitting. <b>2021</b> , 413, 127531	14
700	Tailoring the activity of NiFe layered double hydroxide with CeCO3OH as highly efficient water oxidation electrocatalyst. <b>2021</b> , 46, 2018-2025	3
699	Promoting electrocatalytic water oxidation through tungsten-modulated oxygen vacancies on hierarchical FeNi-layered double hydroxide. <b>2021</b> , 80, 105540	25
698	Defects as catalytic sites for the oxygen evolution reaction in Earth-abundant MOF-74 revealed by DFT. <b>2021</b> , 11, 1443-1450	4

697	Molecular and heterogeneous water oxidation catalysts: recent progress and joint perspectives. <b>2021</b> , 50, 2444-2485	33
696	Surface covalent sulfur enriching Ni active sites of Ni3S2 nanoparticles for efficient oxygen evolution. <b>2021</b> , 45, 3210-3214	2
695	Electrocatalytic water splitting with unprecedentedly low overpotentials by nickel sulfide nanowires stuffed into carbon nitride scabbards.	22
694	Graphene-coated nanoporous nickel towards a metal-catalyzed oxygen evolution reaction. <b>2021</b> , 13, 10916-10924	7
693	Optimized hierarchical nickel sulfide as a highly active bifunctional catalyst for overall water splitting. <b>2021</b> , 50, 7776-7782	12
692	NiOfIoFe2O4 electrocatalyst prepared on Ni foam by one-step hydrothermal method for efficient overall water splitting. <b>2021</b> , 56, 8575-8587	3
691	Tungsten doped manganese silicate films as stable and efficient oxygen evolution catalysts in near-neutral media. <b>2021</b> , 9, 17893-17904	4
690	V2O3-Decorated Spinel CoFe2O4 with Carbon-Encapsulated Mesoporous Nanosheets for Efficient Water Splitting. <b>2021</b> , 9, 980-986	11
689	Graphdiyne@NiOx(OH)y heterostructure for efficient overall water splitting. 2021, 5, 5305-5311	4
688	Make it stereoscopic: interfacial design for full-temperature adaptive flexible zinclir batteries. <b>2021</b> , 14, 4926-4935	29
687	Hierarchical superhydrophilic/superaerophobic CoMnP/Ni2P nanosheet-based microplate arrays for enhanced overall water splitting.	7
686	Concisely Synthesized FeNiWOx Film as a Highly Efficient and Robust Catalyst for Electrochemical Water Oxidation. <b>2021</b> , 4, 1410-1420	7
685	Vertical Alignment of Fe-Doped 酌i Oxyhydroxides for Highly Active and Stable Oxygen Evolution Reaction.	
684	Inductive effect as a universal concept to design efficient catalysts for CO2 electrochemical reduction: electronegativity difference makes a difference. <b>2021</b> , 9, 4626-4647	4
683	A bifunctional hexa-filamentous microfibril multimetallic foam: an unconventional high-performance electrode for total water splitting under industrial operation conditions. <b>2021</b> , 9, 4971-49	983 <sup>7</sup>
682	High-performance overall water splitting based on amorphous iron doped cobalt tungstate via facile co-precipitation. <b>2021</b> , 9, 9753-9760	9
681	Self-sorting multimetal <mark>o</mark> rganic gel electrocatalysts for a highly efficient oxygen evolution reaction. <b>2021</b> , 9, 17451-17458	11
680	Low-crystallinity mesoporous NiGaFe hydroxide nanosheets on macroporous Ni foam for high-efficiency oxygen evolution electrocatalysis. <b>2021</b> , 9, 6223-6231	9

679	Lattice oxygen redox chemistry in solid-state electrocatalysts for water oxidation. 2021, 14, 4647-4671	31
678	Defect engineering and characterization of active sites for efficient electrocatalysis. <b>2021</b> , 13, 3327-3345	14
677	Bifunctional OER-ORR electrodes for metal-air batteries. <b>2021</b> , 139-186	О
676	A Co-MOF-derived flower-like CoS@S,N-doped carbon matrix for highly efficient overall water splitting <b>2021</b> , 11, 16823-16833	5
675	Lattice-strained nickel hydroxide nanosheets for the boosted diluted CO2 photoreduction. <b>2021</b> , 8, 2360-237	<b>1</b> 7
674	Understanding polyoxometalates as water oxidation catalysts through iron cobalt reactivity. <b>2021</b> , 12, 8755-8766	5
673	Earth-Abundant Amorphous Electrocatalysts for Electrochemical Hydrogen Production: A Review. <b>2021</b> , 2, 2000071	13
672	Synthesis of an in situ corethell interlink ultrathin-nanosheet Fe@FexNiO/Ni@NiyCoP nanohybrid by scalable layer-to-layer assembly strategy as an ultra-highly efficient bifunctional electrocatalyst for alkaline/neutral water reduction/oxidation. <b>2021</b> , 9, 5833-5847	5
671	Surface and bulk reconstruction of CoW sulfides during pH-universal electrocatalytic hydrogen evolution. <b>2021</b> , 9, 11359-11369	8
670	Soft synthesis and characterization of goethite-based nanocomposites as promising cyclooctene oxidation catalysts <b>2021</b> , 11, 27589-27602	1
669	Recent Advances of CeO2-Based Electrocatalysts for Oxygen and Hydrogen Evolution as well as Nitrogen Reduction. <b>2021</b> , 8, 996-1020	14
668	Dynamically Stable Active Sites from Surface Evolution of Perovskite Materials during the Oxygen Evolution Reaction. <b>2021</b> , 143, 2741-2750	58
667	Fe2+-Induced In Situ Intercalation and Cation Exsolution of Co80Fe20(OH)(OCH3) with Rich Vacancies for Boosting Oxygen Evolution Reaction. <b>2021</b> , 31, 2009245	11
666	An Efficient Turing-Type Ag Se-CoSe Multi-Interfacial Oxygen-Evolving Electrocatalyst*. <b>2021</b> , 60, 6553-6560	15
665	Designing High-Valence Metal Sites for Electrochemical Water Splitting. <b>2021</b> , 31, 2009779	67
664	Hydrogen production from water electrolysis: role of catalysts. <b>2021</b> , 8, 4	88
663	Graphdiyne Ultrathin Nanosheets for Efficient Water Splitting. <b>2021</b> , 31, 2010112	19
662	Electrochemical Water Splitting. <b>2021</b> , 533-555	1

661	Sulfur doping optimized intermediate energetics of FeCoOOH for enhanced oxygen evolution catalytic activity. <b>2021</b> , 2, 100331	5
660	Carbon-supported layered double hydroxide nanodots for efficient oxygen evolution: Active site identification and activity enhancement. <b>2021</b> , 14, 3329-3336	5
659	Efficient overall water splitting in acid with anisotropic metal nanosheets. <b>2021</b> , 12, 1145	31
658	Oxygen-deficient Cu doped NiFeO nanosheets hydroxide as electrode material for efficient oxygen evolution reaction and supercapacitor. <b>2021</b> , 32, 195403	О
657	Hybrid Zeolitic Imidazolate Frameworks for Promoting Electrocatalytic Oxygen Evolution via a Dual-Site Relay Mechanism. <b>2021</b> , 60, 3074-3081	7
656	Spatial Confinement of a Carbon Nanocone for an Efficient Oxygen Evolution Reaction. <b>2021</b> , 12, 2252-2258	1
655	TopDown Synthesis of Noble Metal Particles on High-Entropy Oxide Supports for Electrocatalysis. <b>2021</b> , 33, 1771-1780	29
654	A-Site Management Prompts the Dynamic Reconstructed Active Phase of Perovskite Oxide OER Catalysts. <b>2021</b> , 11, 2003755	42
653	An Efficient Turing-Type Ag2Se-CoSe2 Multi-Interfacial Oxygen-Evolving Electrocatalyst**. <b>2021</b> , 133, 6627-6634	4
652	Transition metal-based electrocatalysts for overall water splitting. 2021,	18
651	Electrochemically Controlled Synthesis of Ultrathin Nickel Hydroxide Nanosheets for Electrocatalytic Oxygen Evolution. <b>2021</b> , 60, 3365-3374	7
650	Promotion of Electrochemical Water Oxidation Activity of Au Supported Cobalt Oxide upon Addition of Cr: Insights using in situ Raman Spectroscopy. <b>2021</b> , 13, 2053-2063	3
649	Significantly Enhanced Overall Water Splitting Performance by Partial Oxidation of Ir through Au Modification in Core-Shell Alloy Structure. <b>2021</b> , 143, 4639-4645	44
648	Phase-Separated Mo <b>N</b> i Alloy for Hydrogen Oxidation and Evolution Reactions with High Activity and Enhanced Stability. <b>2021</b> , 11, 2003511	22
647	Applications of Amorphous Nanomaterials in Electrocatalysis. 2021, 223-268	
646	Progress on X-ray Absorption Spectroscopy for the Characterization of Perovskite-Type Oxide Electrocatalysts. <b>2021</b> , 35, 5716-5737	13
645	Synthesis of 2D Amorphous Nanomaterials. <b>2021</b> , 137-161	
644	Inexpensive Amorphous FeIII Oxo-/Hydroxide as Highly Active and Ultradurable Electrocatalyst for Water Electrolysis. <b>2021</b> , 8, 887-894	6

643	Homogeneously dispersed cobalt/iron electrocatalysts with oxygen vacancies and favorable hydrophilicity for efficient oxygen evolution reaction. <b>2021</b> , 46, 11652-11663	5
642	Photocatalytic and Photoelectrochemical Overall Water Splitting. <b>2021</b> , 189-242	1
641	Metal-Organic Fragments with Adhesive Excipient and Their Utilization to Stabilize Multimetallic Electrocatalysts for High Activity and Robust Durability in Oxygen Evolution Reaction. <b>2021</b> , 8, e2100044	3
640	Regulating the Local Charge Distribution of Ni Active Sites for the Urea Oxidation Reaction. <b>2021</b> , 133, 10671-10676	15
639	A Bidirectional Nanomodification Approach for Synthesizing Hierarchically Architected Mixed Oxide Electrodes for Oxygen Evolution. <b>2021</b> , 17, e2007287	1
638	Cobalt tungsten phosphide with tunable W-doping as highly efficient electrocatalysts for hydrogen evolution reaction. <b>2021</b> , 14, 4073	7
637	Regulating the Local Charge Distribution of Ni Active Sites for the Urea Oxidation Reaction. <b>2021</b> , 60, 10577-10582	46
636	Stabilizing Highly Active Ru Sites by Suppressing Lattice Oxygen Participation in Acidic Water Oxidation. <b>2021</b> , 143, 6482-6490	38
635	Electrochemically induced in-situ surface self-reconstruction on Ni, Fe, Zn ternary-metal hydroxides towards the oxygen-evolution performance. <b>2021</b> , 410, 128331	12
634	Top-Level Design Strategy to Construct an Advanced High-Entropy Co-Cu-Fe-Mo (Oxy)Hydroxide Electrocatalyst for the Oxygen Evolution Reaction. <b>2021</b> , 33, e2100745	35
633	Trimetallic Spinel NiCo2⊠FexO4 Nanoboxes for Highly Efficient Electrocatalytic Oxygen Evolution. <b>2021</b> , 133, 11947-11952	7
632	A CoN-based OER Electrocatalyst Capable in Neutral Medium: Atomic Layer Deposition as Rational Strategy for Fabrication. <b>2021</b> , 31, 2101324	12
631	Constructing Ultrathin W-Doped NiFe Nanosheets via Facile Electrosynthesis as Bifunctional Electrocatalysts for Efficient Water Splitting. <b>2021</b> , 13, 20070-20080	12
630	Isolating the Electrocatalytic Activity of a Confined NiFe Motif within Zirconium Phosphate. <b>2021</b> , 11, 2003545	8
629	Trimetallic Spinel NiCo Fe O Nanoboxes for Highly Efficient Electrocatalytic Oxygen Evolution. <b>2021</b> , 60, 11841-11846	78
628	Regulating Oriented Adsorption on Targeted Nickel Sites for Antibiotic Oxidation with Simultaneous Hydrogen Energy Recovery by a Direct Electrochemical Process. <b>2021</b> , 13, 18673-18682	1
627	Synthesis of Ag-Ni-Fe-P Multielemental Nanoparticles as Bifunctional Oxygen Reduction/Evolution Reaction Electrocatalysts. <b>2021</b> , 15, 7131-7138	9
626	In situ growth of ZIF67 at the edge of nanosheet transformed into yolk-shell CoSe2 for high efficiency urea electrolysis. <b>2021</b> , 491, 229592	10

625	Electrocatalysis for the Oxygen Evolution Reaction in Acidic Media: Progress and Challenges. <b>2021</b> , 11, 4320	8
624	Stable, Efficient, Copper Coordination Polymer-Derived Heterostructured Catalyst for Oxygen Evolution under pH-Universal Conditions. <b>2021</b> , 13, 25461-25471	O
623	Engineering Oxygen Vacancies in Mesocrystalline CuO Nanosheets for Water Oxidation. <b>2021</b> , 4, 6135-6144	5
622	Library Creation of Ultrasmall Multi-metallic Nanoparticles Confined in Mesoporous MFI Zeolites. <b>2021</b> , 133, 14692-14698	1
621	Two-dimensional intrinsic ferromagnetic monolayer transition metal oxyhydroxide. 2021, 103,	1
620	Multidimensional Nonstoichiometric Electrode Materials for Electrochemical Energy Conversion and Storage. 2100640	10
619	Phosphate-induced interfacial electronic engineering in VPO4-Ni2P heterostructure for improved electrochemical water oxidation. <b>2021</b> , 33, 452-452	1
618	Dynamic Surface Chemistry of Catalysts in Oxygen Evolution Reaction. <b>2021</b> , 1, 2100011	28
617	Synergistically Integrating Nickel Porous Nanosheets with 5d Transition Metal Oxides Enabling Efficient Electrocatalytic Overall Water Splitting. <b>2021</b> , 60, 8189-8199	5
616	Advanced High Entropy Perovskite Oxide Electrocatalyst for Oxygen Evolution Reaction. <b>2021</b> , 31, 2101632	54
615	Engineering Two-Phase Bifunctional Oxygen Electrocatalysts with Tunable and Synergetic Components for Flexible Zn-Air Batteries. <b>2021</b> , 13, 126	19
615		19
	Components for Flexible Zn-Air Batteries. <b>2021</b> , 13, 126  Cuprous sulfide derived CuO nanowires as effective electrocatalyst for oxygen evolution. <b>2021</b> ,	
614	Components for Flexible Zn-Air Batteries. <b>2021</b> , 13, 126  Cuprous sulfide derived CuO nanowires as effective electrocatalyst for oxygen evolution. <b>2021</b> , 547, 149235	12
614	Components for Flexible Zn-Air Batteries. 2021, 13, 126  Cuprous sulfide derived CuO nanowires as effective electrocatalyst for oxygen evolution. 2021, 547, 149235  Benchmarking of oxygen evolution catalysts on porous nickel supports. 2021, 5, 1281-1300  Progress in the use of electrodes modified with coordination compounds for methanol	23
614 613	Cuprous sulfide derived CuO nanowires as effective electrocatalyst for oxygen evolution. 2021, 547, 149235  Benchmarking of oxygen evolution catalysts on porous nickel supports. 2021, 5, 1281-1300  Progress in the use of electrodes modified with coordination compounds for methanol electro-oxidation. 2021, 520, 120293  Unveiling the role of surface P® group in P-doped Co3O4 for electrocatalytic oxygen evolution by	12 23 3
614 613 612	Cuprous sulfide derived CuO nanowires as effective electrocatalyst for oxygen evolution. 2021, 547, 149235  Benchmarking of oxygen evolution catalysts on porous nickel supports. 2021, 5, 1281-1300  Progress in the use of electrodes modified with coordination compounds for methanol electro-oxidation. 2021, 520, 120293  Unveiling the role of surface P® group in P-doped Co3O4 for electrocatalytic oxygen evolution by On-chip micro-device. 2021, 83, 105748  Library Creation of Ultrasmall Multi-metallic Nanoparticles Confined in Mesoporous MFI Zeolites.	12 23 3 16

607	Generated High-Valent Iron Single-Atom Catalyst for Efficient Oxygen Evolution. <b>2021</b> , 21, 4795-4801	17
606	Promoting Bifunctional Water Splitting by Modification of the Electronic Structure at the Interface of NiFe Layered Double Hydroxide and Ag. <b>2021</b> , 13, 26055-26063	9
605	Enhancing Hydrogen Evolution Electrocatalytic Performance in Neutral Media via Nitrogen and Iron Phosphide Interactions. <b>2021</b> , 1, 2100032	12
604	Metal®rganic Frameworks for Photo/Electrocatalysis. <b>2021</b> , 2, 2100033	47
603	CoMoN-An efficient multifunctional electrocatalyst. <b>2021</b> , 2, 100096	11
602	Cost-efficient nickel-based thermo-electrochemical cells for utilizing low-grade thermal energy. <b>2021</b> , 494, 229705	7
601	Solution-Processed Ni-Based Nanocomposite Electrocatalysts: An Approach to Highly Efficient Electrochemical Water Splitting. <b>2021</b> , 4, 5255-5264	2
600	Oxygen-evolving catalytic atoms on metal carbides. <b>2021</b> , 20, 1240-1247	58
599	Thermally templated cobalt oxide nanobubbles on crumpled graphene sheets: A promising non-precious metal catalysts for acidic oxygen evolution. <b>2021</b> , 382, 138277	2
598	Self-supported three-dimensional macroporous amorphous NiFe bimetallic-organic frameworks for enhanced water oxidation. <b>2021</b> , 550, 149323	12
597	Two-Dimensional Layered NiLiP2S6 Crystals as an Efficient Bifunctional Electrocatalyst for Overall Water Splitting. <b>2021</b> , 11, 786	
596	High-Performance Perovskite Composite Electrocatalysts Enabled by Controllable Interface Engineering. <b>2021</b> , 17, e2101573	44
595	Tuning the morphology and electron structure of metal-organic framework-74 as bifunctional electrocatalyst for OER and HER using bimetallic collaboration strategy. <b>2021</b> , 865, 158795	7
594	Conductivity Modulation of 3D-Printed Shellular Electrodes through Embedding Nanocrystalline Intermetallics into Amorphous Matrix for Ultrahigh-Current Oxygen Evolution. <b>2021</b> , 11, 2100968	2
593	Mechanisms of water oxidation on heterogeneous catalyst surfaces. <b>2021</b> , 14, 3446-3457	12
592	Realizing the Synergy of Interface Engineering and Chemical Substitution for Ni3N Enables its Bifunctionality Toward Hydrazine Oxidation Assisted Energy-Saving Hydrogen Production. <b>2021</b> , 31, 2103673	21
591	Single-Step Direct Laser Writing of Multimetal Oxygen Evolution Catalysts from Liquid Precursors. <b>2021</b> , 15, 9796-9807	4
590	Boron-doped amorphous iridium oxide with ultrahigh mass activity for acidic oxygen evolution reaction. 1	4

589	Progress of Nonprecious-Metal-Based Electrocatalysts for Oxygen Evolution in Acidic Media. <b>2021</b> , 33, e2003786	33
588	Clean and Affordable Hydrogen Fuel from Alkaline Water Splitting: Past, Recent Progress, and Future Prospects. <b>2021</b> , 33, e2007100	144
587	Multi-scale regulation in S, N co-incorporated carbon encapsulated Fe-doped Co9S8 achieving efficient water oxidation with low overpotential. 1	7
586	Improving the electrocatalytic activity of NiFe bimetal-organic framework toward oxygen evolution reaction by Zr doping. <b>2021</b> , 381, 138292	2
585	Plasmon-Enhanced Electrocatalysis. <b>2021</b> , 261-293	1
584	An Extreme Energy-Saving Carbohydrazide Oxidization Reaction Directly Driven by Commercial Graphite Paper in Alkali and Near-Neutral Seawater Electrolytes. <b>2021</b> , 6, 15737-15741	
583	High-throughput screening and rational design to drive discovery in molecular water oxidation catalysis. <b>2021</b> , 2, 100492	3
582	Principles of Water Electrolysis and Recent Progress in Cobalt-, Nickel-, and Iron-Based Oxides for the Oxygen Evolution Reaction.	
581	Thermoelectric Driven Self-Powered Water Electrolyzer Using Nanostructured CuFeS2 Plates as Bifunctional Electrocatalyst. <b>2021</b> , 4, 7020-7029	8
580	Design Principles of NiFe-Layered Double Hydroxide Anode Catalysts for Anion Exchange Membrane Water Electrolyzers. <b>2021</b> , 13, 37179-37186	6
579	FeO/NiO Interface for the Electrochemical Oxygen Evolution in Seawater and Domestic Sewage. <b>2021</b> , 13, 37152-37161	7
578	Advances in Understanding the Electrocatalytic Reconstruction Chemistry of Coordination Compounds. <b>2021</b> , 17, e2100629	1
577	Novel core-shell CuMo-oxynitride@N-doped graphene nanohybrid as multifunctional catalysts for rechargeable zinc-air batteries and water splitting. <b>2021</b> , 85, 105987	30
576	Energy-saving hydrogen production by chlorine-free hybrid seawater splitting coupling hydrazine degradation. <b>2021</b> , 12, 4182	38
575	Engineering single-atomic ruthenium catalytic sites on defective nickel-iron layered double hydroxide for overall water splitting. <b>2021</b> , 12, 4587	98
574	Principles of Water Electrolysis and Recent Progress in Cobalt-, Nickel-, and Iron-Based Oxides for the Oxygen Evolution Reaction. <b>2021</b> ,	34
573	Constructing Active Sites from Atomic-Scale Geometrical Engineering in Spinel Oxide Solid Solutions for Efficient and Robust Oxygen Evolution Reaction Electrocatalysts. <b>2021</b> , 8, e2101653	7
572	Molten-salt thermosynthesis of amorphous RuCoFe nanosheets as bifunctional catalysts for electrochemical water splitting. <b>2021</b> , 127, 1	

Metal single-atom-confined electrocatalysts to water oxidation: Development, innovation, and 571 challenges. e202100102 Tuning electronic property and surface reconstruction of amorphous iron borides via W-P 570 33 co-doping for highly efficient oxygen evolution. 2021, 288, 120037 Interfacing or Doping? Role of Ce in Highly Promoted Water Oxidation of NiFe-Layered Double 569 30 Hydroxide. 2021, 11, 2101281 In-situ Surface-selective Removal of Al Element from NiFeAl Ternary Nanowires for Large-current 568 Oxygen Evolution Reaction. 2021, 7, 1138 Engineering of aerogel-based electrocatalysts for oxygen evolution reaction. e2100113 567 O Ni-Mo based mixed-phase polyionic compounds nanorod arrays on nickel foam as advanced 566 9 bifunctional electrocatalysts for water splitting. 2021, 416, 129127 Rapid and Scalable Synthesis of Prussian Blue Analogue Nanocubes for Electrocatalytic Water 565 3 Oxidation 2021, 39, 2347-2353 Advances in Magnetic-Field Assisted Photoelectrochemical Systems for Highly Efficient Conversion 564 2 of Renewable Energy. 2021, 8, 2100446 A hybrid CoOOH-rGO/Fe2O3 photoanode with spatial charge separation and charge transfer for 6 563 efficient photoelectrochemical water oxidation. 2021, 399, 170-181 Stability challenges of electrocatalytic oxygen evolution reaction: From mechanistic understanding 562 62 to reactor design. 2021, 5, 1704-1731 Improving the onset potential and Tafel slope determination of earth-abundant water oxidation 561 7 electrocatalysts. 2021, 388, 138613 Carbon-Based Composites as Electrocatalysts for Oxygen Evolution Reaction in Alkaline Media. 6 560 2021, 14, Manipulating the Local Coordination and Electronic Structures for Efficient Electrocatalytic Oxygen 559 30 Evolution. 2021, 33, e2103004 Engineering Self-Reconstruction via Flexible Components in Layered Double Hydroxides for 558 2 Superior-Evolving Performance. 2021, 17, e2101671 A Review on Cerium-Containing Electrocatalysts for Oxygen Evolution Reaction. 557 1 Activating Metal Oxides Nanocatalysts for Electrocatalytic Water Oxidation by Quenching-Induced 556 25 Near-Surface Metal Atom Functionality. 2021, 143, 14169-14177 Recent Progress on Structurally Ordered Materials for Electrocatalysis. 2021, 11, 2101937 555 23 In situ formation of amorphous Fe-based bimetallic hydroxides from metal-organic frameworks as 554 9 efficient oxygen evolution catalysts. 2021, 42, 1370-1378

553	(NixFeyCo6-x-y)Mo6C cuboids as outstanding bifunctional electrocatalysts for overall water splitting. <b>2021</b> , 290, 120049	21
552	Rational Design of Superior Electrocatalysts for Water Oxidation: Crystalline or Amorphous Structure?. <b>2021</b> , 1, 2100030	22
551	Cobalt Iron Oxides Prepared by Acidic Redox-Assisted Precipitation: Characterization, Applications, and New Opportunities. <b>2021</b> ,	1
550	Electrochemical Insight into NaxCoO2 for the Oxygen Evolution Reaction and the Oxygen Reduction Reaction. <b>2021</b> , 33, 6299-6310	4
549	Origin of enhanced water oxidation activity in an iridium single atom anchored on NiFe oxyhydroxide catalyst. <b>2021</b> , 118,	21
548	Lanthanum-doped ⊞i(OH)2 1D-2D-3D hierarchical nanostructures for robust bifunctional electro-oxidation. <b>2021</b> , 57, 104-111	10
547	Self-Reconstruction of Sulfate-Containing High Entropy Sulfide for Exceptionally High-Performance Oxygen Evolution Reaction Electrocatalyst. 2106229	23
546	Direct Oxidation of Cyclohexane to Adipic Acid by a WFeCoO(OH) Catalyst: Role of Brfisted Acidity and Oxygen Vacancies. <b>2021</b> , 11, 10754-10766	2
545	Multi-Sites Electrocatalysis in High-Entropy Alloys. <b>2021</b> , 31, 2106715	17
544	In Situ/Operando Capturing Unusual Ir6+ Facilitating Ultrafast Electrocatalytic Water Oxidation. <b>2021</b> , 31, 2104746	10
543	Photo-assistant electrocatalytic activity improvement towards oxygen evolution. 2021,	3
542	Self-supported hierarchical porous FeNiCo-based amorphous alloys as high-efficiency bifunctional electrocatalysts toward overall water splitting. <b>2021</b> ,	4
541	Main Descriptors To Correlate Structures with the Performances of Electrocatalysts. 2021,	1
540	Synthesis and Electronic Modulation of Nanostructured Layered Double Hydroxides for Efficient Electrochemical Oxygen Evolution. <b>2021</b> , 14, 5112-5134	4
539	Promoted Self-construction of 卧iOOH in Amorphous High Entropy Electrocatalysts for the Oxygen Evolution Reaction. <b>2021</b> , 301, 120764	19
538	Synergistic doping and tailoring: Realizing in depth modulation on valence state of CoFe spinel oxide for high-efficiency water oxidation. <b>2021</b> , 572, 151388	2
537	Constructing a Graphene-Encapsulated Amorphous/Crystalline Heterophase NiFe Alloy by Microwave Thermal Shock for Boosting the Oxygen Evolution Reaction. <b>2021</b> , 11, 12284-12292	21
536	Activation of urchin-like Ni-doped W18O49/NF by electrochemical tuning for efficient water splitting. <b>2021</b> , 63, 642-642	O

### (2021-2021)

535	Restructuring highly electron-deficient metal-metal oxides for boosting stability in acidic oxygen evolution reaction. <b>2021</b> , 12, 5676	20
534	In Situ Electrochemical Activation of Fe/Co-Based 8-Hydroxyquinoline Nanostructures on Copper Foam for Oxygen Evolution. <b>2021</b> , 4, 9409-9417	2
533	NiCo-Based Electrocatalysts for the Alkaline Oxygen Evolution Reaction: A Review. 12485-12509	39
532	Morphological-modulated FeNi-based amorphous alloys as efficient alkaline water splitting electrocatalysts. <b>2021</b> , 389, 138756	2
531	One-dimensional iridium-based nanowires for efficient water electrooxidation and beyond. 1	3
530	Cu-Co bimetal oxide hierarchical nanostructures as high-performance electrocatalyst for oxygen evolution reaction. <b>2021</b> , 21, 100703	4
529	Interfacial electronic engineering of carbon encapsulated Co5.47N-WO2 for boosting overall water splitting. <b>2021</b> , 390, 138887	4
528	High-efficient electrocatalyst of MoNi4@MoO3- nanorod for hydrogen evolution reaction in alkaline solutions. <b>2021</b> , 876, 160152	1
527	Main Descriptors To Correlate Structures with the Performances of Electrocatalysts.	1
526	Inductive effects in cobalt-doped nickel hydroxide electronic structure facilitating urea electrooxidation. <b>2021</b> , 279, 130550	6
525	Nitrogen-doped porous carbon encapsulated nickel iron alloy nanoparticles, one-step conversion synthesis for application as bifunctional catalyst for water electrolysis. <b>2021</b> , 389, 138785	3
524	Structural Transformation of Heterogeneous Materials for Electrocatalytic Oxygen Evolution Reaction. <b>2021</b> , 121, 13174-13212	51
523	☐-Electron Complementation Induced V-Co Phosphide for Efficient Overall Water Splitting. <b>2021</b> , 11, 2101758	23
522	Aligned Co3O4toOOH heterostructure nanosheet arrays grown on carbon paper with oxygen vacancies for enhanced and robust oxygen evolution. <b>2021</b> , 46, 34287-34297	4
521	Chemical transformation approach for high-performance ternary NiFeCo metal compound-based water splitting electrodes. <b>2021</b> , 294, 120246	12
520	Rational design of core-shell-structured CoPx@FeOOH for efficient seawater electrolysis. <b>2021</b> , 294, 120256	33
519	Construction of iron doped cobalt- vanadate- cobalt oxide with metal-organic framework oriented nanoflakes for portable rechargeable zinc-air batteries powered total water splitting. <b>2021</b> , 88, 106238	24
518	Enhanced electrocatalytic oxygen evolution reaction kinetics using dual-phase engineering of self-supported hierarchical NiCoV(OH)x nanowire arrays. <b>2021</b> , 304, 121309	О

517	Ni-decorated Fe-/N- co-doped carbon anchored on porous cobalt oxide nanowires arrays for efficient electrocatalytic oxygen evolution. <b>2021</b> , 243, 116774	7
516	Syntheses, characterization and oxygen evolution reaction (OER) electrocatalytic properties of M(II) based bromo-salophen complexes. <b>2021</b> , 1243, 130928	2
515	Experimental and theoretical investigation of reconstruction and active phases on honeycombed Ni3N-Co3N/C in water splitting. <b>2021</b> , 297, 120461	15
514	Ni2+/Co2+ doped Au-Fe7S8 nanoplatelets with exceptionally high oxygen evolution reaction activity. <b>2021</b> , 89, 106463	9
513	Effective fabrication of porous Au-Ag alloy nanorods for in situ Raman monitoring catalytic oxidation and reduction reactions. <b>2021</b> , 91, 262-269	2
512	Bimetallic NiSe0.1MoS6.4 sulfoselenide nanosheets supported on nickel foam for efficient hydrogen evolution. <b>2021</b> , 628, 127228	1
511	Phosphorus doped nickel selenide for full device water splitting. <b>2021</b> , 602, 115-122	3
510	Recent progress on transition metal oxides as advanced materials for energy conversion and storage. <b>2021</b> , 42, 317-369	21
509	Cu induced formation of dendritic CoFeCu ternary alloys on Ni foam for efficient oxygen evolution reaction. <b>2021</b> , 880, 160523	4
508	Formation of hierarchical NiFe Prussian blue analogues/Prussian blue on nickel foam for superior water oxidation. <b>2021</b> , 567, 150835	3
507	Enhancing the Cycling Stability of Transition-Metal-Oxide-Based Electrochemical Electrode via Pourbaix Diagram Engineering. <b>2021</b> , 42, 252-258	7
506	Enabling the life-cycle consideration and approach for the design of efficient water splitting catalyst via engineering amorphous precursor. <b>2021</b> , 296, 120335	1
505	V2C MXene synergistically coupling FeNi LDH nanosheets for boosting oxygen evolution reaction. <b>2021</b> , 297, 120474	22
504	Surface reconstruction on silver nanoparticles decorated trimetallic hydroxide nanosheets to generate highly active oxygen-deficient (oxy)hydroxide layer for high-efficient water oxidation. <b>2021</b> , 425, 131662	8
503	Stable and active NiFeW layered double hydroxide for enhanced electrocatalytic oxygen evolution reaction. <b>2021</b> , 426, 130768	12
502	Promoting high-energy supercapacitor performance over NiCoP/N-doped carbon hybrid hollow nanocages via rational architectural and electronic modulation. <b>2021</b> , 569, 151098	5
501	MXene-induced electronic optimization of metal-organic framework-derived CoFe LDH nanosheet arrays for efficient oxygen evolution. <b>2021</b> , 298, 120599	15
500	Precisely engineering the electronic structure of active sites boosts the activity of iron-nickel selenide on nickel foam for highly efficient and stable overall water splitting. <b>2021</b> , 299, 120678	14

### (2021-2021)

499	Stone-Wales defect-rich carbon-supported dual-metal single atom sites for Zn-air batteries. <b>2021</b> , 90, 106488	9
498	Tailoring surface and interface electronic structure of NiFe LDH via V doping for enhanced oxygen evolution reaction. <b>2021</b> , 885, 160929	8
497	Integrating high-efficiency oxygen evolution catalysts featuring accelerated surface reconstruction from waste printed circuit boards via a boriding recycling strategy. <b>2021</b> , 298, 120583	11
496	Efficient preparation of Ni-M (MIFFe, Co, Mo) bimetallic oxides layer on Ni nanorod arrays for electrocatalytic oxygen evolution. <b>2021</b> , 25, 101185	3
495	Unexpected increasing Co valence state of an exsolved catalyst by Mo doping for enhanced oxygen evolution reaction. <b>2021</b> , 425, 130681	4
494	Understanding the activity and stability of flame-made Co3O4 spinels: A route towards the scalable production of highly performing OER electrocatalysts. <b>2022</b> , 429, 132180	13
493	Metal-organic framework-derived carbon nanotubes with multi-active Fe-N/Fe sites as a bifunctional electrocatalyst for zinc-air battery. <b>2022</b> , 66, 306-313	12
492	In-situ synthesis of microflower composed of N-doped carbon films and Mo2C coupled with Ni or FeNi alloy for water splitting. <b>2022</b> , 427, 131712	4
491	Fe and Co dual-doped Ni3S4 nanosheet with enriched high-valence Ni sites for efficient oxygen evolution reaction. <b>2022</b> , 427, 130742	17
490	Sustainable nitrogen fixation over Ru single atoms decorated Cu2O using electrons produced from photoelectrocatalytic organics degradation. <b>2022</b> , 428, 130373	3
489	Amorphous High-entropy Non-precious metal oxides with surface reconstruction toward highly efficient and durable catalyst for oxygen evolution reaction. <b>2022</b> , 606, 635-644	6
488	Molybdenum oxide-iron, cobalt, copper alloy hybrid as efficient bifunctional catalyst for alkali water electrolysis. <b>2022</b> , 606, 1662-1672	2
487	Cobalt and vanadium co-doped FeOOH nanoribbons: an iron-rich electrocatalyst for efficient water oxidation. <b>2021</b> , 5, 6485-6490	3
486	Oxygen vacancy enriched NiMoO4 nanorods via microwave heating: a promising highly stable electrocatalyst for total water splitting. <b>2021</b> , 9, 11691-11704	12
485	Oxygen-evolution reactions (OER) on transition-metal-doped Fe3Co(PO4)4 iron-phosphate surfaces: a first-principles study. <b>2021</b> , 11, 4619-4626	1
484	Coffet (oxy) Hydroxides as Efficient Oxygen Evolution Reaction Catalysts. <b>2021</b> , 11, 2003412	24
483	Electrochemical integration of amorphous NiFe (oxy)hydroxides on surface-activated carbon fibers for high-efficiency oxygen evolution in alkaline anion exchange membrane water electrolysis. <b>2021</b> , 9, 14043-14051	31
482	Local spin-state tuning of cobaltiron selenide nanoframes for the boosted oxygen evolution. <b>2021</b> , 14, 365-373	57

481	A New High Entropy Glycerate for High Performance Oxygen Evolution Reaction. 2021, 8, 2002446	36
480	A Tunable Amorphous Heteronuclear Iron and Cobalt Imidazolate Framework Analogue for Efficient Oxygen Evolution Reactions. <b>2021</b> , 2021, 702-707	1
479	Design of an amorphous and defect-rich CoMoOF layer as a pH-universal catalyst for the hydrogen evolution reaction. <b>2021</b> , 9, 8730-8739	12
478	Electrodeposited Trimetallic NiFeW Hydroxide Electrocatalysts for Efficient Water Oxidation. <b>2021</b> , 14, 1324-1335	7
477	Structural Dynamics of Ultrathin Cobalt Oxide Nanoislands under Potential Control. <b>2021</b> , 31, 2009923	10
476	Engineering Bimetallic NiFe-Based Hydroxides/Selenides Heterostructure Nanosheet Arrays for Highly-Efficient Oxygen Evolution Reaction. <b>2021</b> , 17, e2007334	39
475	Covalent organic frameworks (COFs) for electrochemical applications. <b>2021</b> , 50, 6871-6913	104
474	Microbial Desalination. <b>2021</b> , 213-225	
473	Non-Fermi Liquids as Highly Active Oxygen Evolution Reaction Catalysts. <b>2017</b> , 4, 1700176	23
472	An Efficient and Earth-Abundant Oxygen-Evolving Electrocatalyst Based on Amorphous Metal Borides. <b>2018</b> , 8, 1701475	220
471	Recent Advances in Non-Precious Metal-Based Electrodes for Alkaline Water Electrolysis. <b>2020</b> , 6, 336-355	34
470	Electrocatalysis Beyond the Computational Hydrogen Electrode. <b>2020</b> , 1505-1537	8
469	Utilizing in-situ polymerization of pyrrole to fabricate composited hollow nanospindles for boosting oxygen evolution reaction. <b>2020</b> , 274, 119112	16
468	The electrochemical overall water splitting promoted by MoS2 in coupled nickel <b>i</b> ron (oxy)hydride/molybdenum sulfide/graphene composite. <b>2020</b> , 397, 125454	15
467	Na+-induced in situ reconstitution of metal phosphate enabling efficient electrochemical water oxidation in neutral and alkaline media. <b>2020</b> , 398, 125537	11
466	Modulating interfacial electronic structure of CoNi LDH nanosheets with Ti3C2T MXene for enhancing water oxidation catalysis. <b>2020</b> , 398, 125605	51
465	Valence-engineered MoNi4/MoOx@NF as a Bi-functional electrocatalyst compelling for urea-assisted water splitting reaction. <b>2020</b> , 350, 136382	8

## (2021-2020)

463	Photochemically deposited Ir-doped NiCo oxyhydroxide nanosheets provide highly efficient and stable electrocatalysts for the oxygen evolution reaction. <b>2020</b> , 75, 104885	18
462	Revealing the Structural Aspect of Ultrastable Self-Supportive Bifunctional Electrocatalyst for Solar-Driven Water Splitting. <b>2020</b> , 124, 13525-13534	3
461	Three-Dimensional Ordered Macroporous NiFe2O4 Self-Supporting Electrode with Enhanced Mass Transport for High-Efficiency Oxygen Evolution Reaction. <b>2021</b> , 4, 268-274	4
460	Data-Driven Descriptor Engineering and Refined Scaling Relations for Predicting Transition Metal Oxide Reactivity. <b>2021</b> , 11, 734-742	19
459	Dynamic Structure Evolution of Composition Segregated Iridium-Nickel Rhombic Dodecahedra toward Efficient Oxygen Evolution Electrocatalysis. <b>2018</b> , 12, 7371-7379	53
458	Corrosion engineering towards efficient oxygen evolution electrodes with stable catalytic activity for over 6000 hours. <b>2018</b> , 9, 2609	244
457	Confined local oxygen gas promotes electrochemical water oxidation to hydrogen peroxide. <b>2020</b> , 3, 125-134	106
456	Pseudo-atomic-scale metals well-dispersed on nano-carbons as ultra-low metal loading oxygen-evolving electrocatalysts. <b>2020</b> , 11, 6012-6019	4
455	Electrosynthesis of CuO nanocrystal array as a highly efficient and stable electrocatalyst for oxygen evolution reaction. <b>2018</b> , 31, 806-812	3
454	Grain boundary engineering of CoO nanomeshes for efficient electrochemical oxygen evolution. <b>2020</b> , 31, 455401	4
453	Stabilizing oxygen intermediates on redox-flexible active sites in multimetallic NifeAlfo layered double hydroxide anodes for excellent alkaline and seawater electrolysis.	5
452	Deciphering the alternating synergy between interlayer Pt single-atom and NiFe layered double hydroxide for overall water splitting.	23
451	A simple, rapid and scalable synthesis approach for ultra-small size transition metal selenides with efficient water oxidation performance.	1
450	Design principles of noble metal-free electrocatalysts for hydrogen production in alkaline media: combining theory and experiment.	2
449	Tuning the Electronic Structure of CoO Nanowire Arrays by N-Doping for Efficient Hydrogen Evolution in Alkaline Solutions. <b>2021</b> , 11, 1237	1
448	Bimetallic Iron <b>©</b> obalt Nanoparticles Coated with Amorphous Carbon for Oxygen Evolution.	3
447	Synergetic Cobalt-Copper-Based Bimetal Drganic Framework Nanoboxes toward Efficient Electrochemical Oxygen Evolution. <b>2021</b> , 133, 26601	0
446	Strongly coupled N-doped graphene quantum dots/Ni(Fe)OxHy electrocatalysts with accelerated reaction kinetics for water oxidation. <b>2021</b> , 430, 133068	4

445	Enhancing oxygen evolution reaction activity of Co4N1-x film electrodes through nitrogen deficiency. <b>2021</b> ,	O
444	Scalable Synthesis of Sm2O3/Fe2O3 Hierarchical Oxygen Vacancy-Based Gyroid-Inspired Morphology: With Enhanced Electrocatalytic Activity for Oxygen Evolution Performance.	4
443	Iridium metallene oxide for acidic oxygen evolution catalysis. <b>2021</b> , 12, 6007	18
442	Solar-Driven Water Splitting at 13.8% Solar-to-Hydrogen Efficiency by an Earth-Abundant Electrolyzer. <b>2021</b> , 9, 14070-14078	2
441	Identification of the Active-Layer Structures for Acidic Oxygen Evolution from 9R-BaIrO Electrocatalyst with Enhanced Iridium Mass Activity. <b>2021</b> , 143, 18001-18009	11
440	Stable Water Oxidation Catalysts Based on in-situ Electrochemical Transition of Nickel Phosphate. 1	
439	Synergetic Cobalt-Copper-Based Bimetal-Organic Framework Nanoboxes toward Efficient Electrochemical Oxygen Evolution. <b>2021</b> , 60, 26397-26402	17
438	Chromium Oxynitride (CrON) Nanoparticles: an Unexplored Electrocatalyst for Oxygen Evolution Reaction. 1	2
437	Interpolation between W Dopant and Co Vacancy in CoOOH for Enhanced Oxygen Evolution Catalysis. <b>2021</b> , e2104667	7
436	Engineering [Fe(CN)6]3D acancy via free-chelating agents in Prussian blue analogues on reduced graphene oxide for efficient oxygen evolution reaction. <b>2022</b> , 574, 151620	5
435	Extraordinary acidic oxygen evolution on new phase 3R-iridium oxide. 2021,	8
434	Schottky Heterojunction Nanosheet Array Achieving High-Current-Density Oxygen Evolution for Industrial Water Splitting Electrolyzers. 2102353	21
433	Constructing spin pathways in LaCoO3 by Mn substitution to promote oxygen evolution reaction. <b>2021</b> , 119, 163902	2
432	N, H Dual-Doped Black Anatase TiO2 Thin Films toward Significant Self-Activation in Electrocatalytic Hydrogen Evolution Reaction in Alkaline Media. 2100137	3
431	Polymorphic Phase Engineered Structures (PPES s) for EC Energy Conversion. 2022, 147-170	
430	Covalent Organic Frameworks as Tunable Supports for HER, OER, and ORR Catalysts: A New Addition to Heterogeneous Electrocatalysts. <b>2022</b> , 389-444	
429	Study of Activity and Super-Capacitance Exhibited by Bifunctional Raney 2.0 Catalyst for Alkaline Water-Splitting Electrolysis. <b>2021</b> , 2, 1-17	О
428	Amorphous aerogel of trimetallic FeCoNi alloy for highly efficient oxygen evolution. <b>2022</b> , 430, 132955	7

427	Metal and metal oxide amorphous nanomaterials towards electrochemical applications. 2021,	3
426	Recent advances of two-dimensional CoFe layered-double-hydroxides for electrocatalytic water oxidation. <b>2021</b> ,	4
425	Modulating electronic structure of ternary NiMoV LDH nanosheet array induced by doping engineering to promote urea oxidation reaction. <b>2021</b> , 430, 133100	9
424	The Effect of Fe Dopant Location in Co(Fe)OOH Nanoparticles for the Oxygen Evolution Reaction. <b>2021</b> ,	5
423	Regulation of Electrocatalytic Activity by Local Microstructure: Focusing on the Catalytic Active Zone. <b>2021</b> ,	
422	Surface Reconstruction Enabled Efficient Hydrogen Generation on a Cobalt-Iron Phosphate Electrocatalyst in Neutral Water. <b>2021</b> , 13, 53798-53809	1
421	Electronic structure and magnetic assets of FeCoGaO4 nanoparticles: An XANES investigation. <b>2021</b> , 161, 110476	О
420	In Situ/Operando Insights into the Stability and Degradation Mechanisms of Heterogeneous Electrocatalysts. <b>2021</b> , e2104205	2
419	Facile Synthesis of Amorphous MoCo Lamellar Hydroxide for Alkaline Water Oxidation. 2021,	O
418	Self-reconstruction of cationic activated Ni-MOFs enhanced the intrinsic activity of electrocatalytic water oxidation.	2
417	Improved kinetics of OER on Ru-Pb binary electrocatalyst by decoupling proton-electron transfer. <b>2022</b> , 43, 130-138	3
416	Mn-doping tuned electron configuration and oxygen vacancies in NiO nanoparticles for stable electrocatalytic oxygen evolution reaction. <b>2021</b> , 151952	O
415	Recent Progress and Perspective of Co-based Catalysts for Water Splitting: Design and Nanoarchitectonics. <b>2021</b> , 100911	4
414	Carbonate-Derived Multi-Metal Catalysts for Electrochemical Water-Splitting at High Current Densities.	1
413	Urchin-liked FexCo1-x/CoOOH/FeOOH nanoparticles for highly efficient oxygen evolution reaction. <b>2021</b> , 577, 151830	4
412	Evaluating Properties of Carbon-Free Nano-NiCoFe-LDHs with Molybdate as Oxygen Evolution Catalysts and Their Applications in Rechargeable Air Electrodes.	2
411	Crystallinity-Modulated Co2⊠VxO4 Nanoplates for Efficient Electrochemical Water Oxidation. 14884-14891	О
410	Non-Bonding Interaction of Neighboring Fe and Ni Single-Atom Pairs on MOF-Derived N-Doped Carbon for Enhanced CO Electroreduction. <b>2021</b> , 143, 19417-19424	55

409	Boosting surface reconstruction for OER: A combined effect of heteroatom incorporation and anion etching in cobalt silicate precatalyst.	0
408	Support Effects in Electrocatalysis and Their Synchrotron Radiation-Based Characterizations. <b>2021</b> , 12, 11543-11554	O
407	Hybrid electrocatalyst of CoFe2O4 decorating carbon spheres for alkaline oxygen evolution reaction. <b>2021</b> , 48, 5442-5442	О
406	Structural Insights into Multi-Metal Spinel Oxide Nanoparticles for Boosting Oxygen Reduction Electrocatalysis. <b>2021</b> , e2107868	4
405	In situ activation of Br-confined Ni-based metal-organic framework hollow prisms toward efficient electrochemical oxygen evolution. <b>2021</b> , 7, eabk0919	17
404	Single-atom catalysis for Zinc-air/O2 Batteries, Water Electrolyzers and Fuel Cells applications. <b>2021</b> ,	11
403	Redox reaction does not facilitate oxygen evolution on bismuth ruthenate pyrochlore.	
402	Shining Light on Anion-Mixed Nanocatalysts for Efficient Water Electrolysis: Fundamentals, Progress, and Perspectives <b>2022</b> , 14, 43	6
401	Engineering the oxygen vacancies of rocksalt-type high-entropy oxides for enhanced electrocatalysis <b>2021</b> ,	2
400	Facile synthesis of iron titanate/nitrogen-doped graphene on Ni foam as a binder-free electrocatalyst for oxygen evolution reaction. <b>2022</b> , 904, 115950	
399	Recent advances in the pre-oxidation process in electrocatalytic urea oxidation reactions 2022,	4
398	V2O3/FeOOH with rich heterogeneous interfaces on Ni foam for efficient oxygen evolution reaction. <b>2022</b> , 162, 106393	1
397	One-step fabrication of Cu2O-Cu catalytic electrodes with regular porous array by ultra-fast laser scanning. <b>2022</b> , 900, 163455	1
396	Grain boundary density and electronic dual modulation of intermetallic Co2B by Fe doping toward efficient catalyst for oxygen evolution reaction. <b>2022</b> , 305, 121034	2
395	Advanced interfacial engineering of oxygen-enriched Fe Sn1DSe nanostructures for efficient overall water splitting and flexible zinc-air batteries. <b>2022</b> , 305, 120924	4
394	Metal-organic frameworks derived transition metal phosphides for electrocatalytic water splitting. <b>2022</b> , 68, 494-520	6
393	Highly Active and Durable Single-Atom Tungsten-Doped NiS Se Nanosheet@NiS Se Nanorod Heterostructures for Water Splitting <b>2022</b> , e2107053	18
392	Nickel Sulfate as an Influential Precursor of Amorphous High-Valent Ni(III) Oxides for Efficient Water Oxidation in Preparation via a Mixed Metal-Imidazole Casting Method.	2

391	Unraveling of cocatalysts photodeposited selectively on facets of BiVO to boost solar water splitting <b>2022</b> , 13, 484	21
390	Multi-touch cobalt phosphide-tungsten phosphide heterojunctions anchored on reduced graphene oxide boosting wide pH hydrogen evolution.	3
389	Operando Monitoring and Deciphering the Structural Evolution in Oxygen Evolution Electrocatalysis. 2103383	17
388	Surface-Tailored Medium Entropy Alloys as Radically Low Overpotential Oxygen Evolution Electrocatalysts <b>2022</b> , e2105611	6
387	NiSe2/FeSe2 heterostructured nanoparticles supported on rGO for efficient water electrolysis. <b>2022</b> , 9, 448-457	4
386	Intermolecular Energy Gap-Induced Formation of High-Valent Cobalt Species in CoOOH Surface Layer on Cobalt Sulfides for Efficient Water Oxidation.	
385	Electrocatalytic Oxygen Evolution Reaction. <b>2022</b> , 35-85	
384	Recent advances in non-precious group metal-based catalysts for water electrolysis and beyond. <b>2021</b> , 10, 50-88	4
383	Vertically grown p-n heterojunction FeCoNi LDH/CuO arrays with modulated interfacial charges to facilitate electrocatalytic oxygen evolution reaction.	6
382	Phase reconfiguration of multivalent nickel sulfides in hydrogen evolution.	9
381	Facile synthesis of black phosphorus directly grown on carbon paper as an efficient OER Electrocatalyst: Role of Interfacial charge transfer and induced local charge distribution. <b>2022</b> , 33, 103371	2
380	Electrocatalytic oxidative upgrading of biomass platform chemicals: from the aspect of reaction mechanism <b>2022</b> ,	9
379	Elucidating the reaction pathway of crystalline multi-metal borides for highly efficient oxygen-evolving electrocatalysts. <b>2022</b> , 10, 1569-1578	1
378	In situ/operando analysis of surface reconstruction of transition metal-based oxygen evolution electrocatalysts. <b>2022</b> , 3, 100729	3
377	One-step integration of amorphous RuBx and crystalline Ru nanoparticles into B/N-doped porous carbon polyhedra for robust electrocatalytic activity towards the HER in both acidic and basic media.	2
376	Intermolecular Energy Gap-Induced Formation of High-Valent Cobalt Species in CoOOH Surface Layer on Cobalt Sulfides for Efficient Water Oxidation <b>2022</b> ,	9
375	Coordination modulation of iridium single-atom catalyst maximizing water oxidation activity <b>2022</b> , 13, 24	20
374	In Situ Investigation on Life-Time Dynamic Structure <b>P</b> erformance Correlation Toward Electrocatalyst Service Behavior in Water Splitting. 2111777	4

373	Crystal-Phase Control of Ternary Metal Oxides by Solid-State Synthesis with Nanocrystals.	2
372	An efficient amorphous ternary transition metal boride (WFeNiB) electrocatalyst for oxygen evolution from water.	О
371	Electrode reconstruction strategy for oxygen evolution reaction: maintaining Fe-CoOOH phase with intermediate-spin state during electrolysis <b>2022</b> , 13, 605	23
370	First-principles study of the oxygen evolution reaction on Ni3Fe-layered double hydroxides surfaces with varying sulfur coverage. <b>2022</b> , 519, 112116	1
369	Amorphous-crystalline cobalt-molybdenum bimetallic phosphide heterostructured nanosheets as Janus electrocatalyst for efficient water splitting. <b>2022</b> , 47, 7783-7792	2
368	Re nanoclusters anchored on nanosheet supports: Formation of Re-O-matrix bonding and evaluation as all-pH-range hydrogen evolution reaction (HER) electrocatalysts. <b>2022</b> , 69, 185-193	1
367	Design of hydrangea-type Co/Mo bimetal MOFs and MOF-derived Co/Mo2C embedded carbon composites for highly efficient oxygen evolution reaction. <b>2022</b> , 435, 134815	5
366	Superaerophobic/Superhydrophilic Surfaces as Advanced Electrocatalyst for Hydrogen Evolution Reaction: A Comprehensive Review.	6
365	Bridging electrocatalyst and cocatalyst studies for solar hydrogen production water splitting <b>2022</b> , 13, 2824-2840	О
364	Sacrificial W Facilitates Self-Reconstruction with Abundant Active Sites for Water Oxidation 2022, e2107249	1
364 363	Sacrificial W Facilitates Self-Reconstruction with Abundant Active Sites for Water Oxidation 2022, e2107249  Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction Electrocatalyst.	0
	Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction	
363	Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction Electrocatalyst.  Controlled synthesis of three-dimensional branched Mo\(\text{NiCoP}(\text{NiXCoYH2PO2 core/shell})\)	0
363 362	Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction Electrocatalyst.  Controlled synthesis of three-dimensional branched MoNiCoP@NiCoP/NiXCoYH2PO2 core/shell nanorod heterostructures for high-performance water and urea electrolysis. 2022,	0
363 362 361	Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction Electrocatalyst.  Controlled synthesis of three-dimensional branched MoNiCoP@NiCoP/NiXCoYH2PO2 core/shell nanorod heterostructures for high-performance water and urea electrolysis. 2022,  Trimetallic oxide-hydroxide porous nanosheets for efficient water oxidation. 2022, 435, 135019  In-situ reconstructed Ru atom array on BMnO2 with enhanced performance for acidic water	O O 2
363 362 361 360	Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction Electrocatalyst.  Controlled synthesis of three-dimensional branched MoNiCoP@NiCoP/NiXCoYH2PO2 core/shell nanorod heterostructures for high-performance water and urea electrolysis. 2022,  Trimetallic oxide-hydroxide porous nanosheets for efficient water oxidation. 2022, 435, 135019  In-situ reconstructed Ru atom array on EMnO2 with enhanced performance for acidic water oxidation. 2021, 4, 1012-1023  Valence oscillation and dynamic active sites in monolayer NiCo hydroxides for water oxidation.	o o 2 37
363 362 361 360 359	Iron-Doped Ni-Al layered double hydroxide as an Efficient Oxygen Evolution Reaction Electrocatalyst.  Controlled synthesis of three-dimensional branched MoNiCoP@NiCoP/NiXCoYH2PO2 core/shell nanorod heterostructures for high-performance water and urea electrolysis. 2022,  Trimetallic oxide-hydroxide porous nanosheets for efficient water oxidation. 2022, 435, 135019  In-situ reconstructed Ru atom array on EMnO2 with enhanced performance for acidic water oxidation. 2021, 4, 1012-1023  Valence oscillation and dynamic active sites in monolayer NiCo hydroxides for water oxidation. 2021, 4, 1050-1058  Water Oxidation on Crmnfeconi High Entropy Alloy: Improvement Through Rejuvenation and Spin	o o 2 37

In-Situ Electrochemical Surface Reconstruction of Feconi Trimetal Phosphides to Active 355 Oxyhydroxide for Large-Current-Density Oxygen Evolution. Tuning the Electronic Structure and Inverse Degree of Inverse Spinel Ferrites by Integrating 354 Samarium Orthoferrite for Efficient Water Oxidation. Three-dimensional CoOOH nanoframes confining high-density Mo single atoms for 353 4 large-current-density oxygen evolution. 2022, 10, 6242-6250 Theoretical Understanding and Brief Insight into Heterogeneous Single Atom Catalysis. 352 Mixed Metal FeNi MIL-88B Metal-Organic Frameworks Decorated on Reduced Graphene Oxide as a 2 351 Robust and Highly Efficient Electrocatalyst for Alkaline Water Oxidation.. 2022, In situ electrochemical dehydrogenation of ultrathin Co(OH)2 nanosheets for enhanced hydrogen 350 evolution. 2022, In Situ Exploring of the Origin of the Enhanced Oxygen Evolution Reaction Efficiency of 349 3 Metal(Co/Fe)Drganic Framework Catalysts Via Postprocessing. 2022, 12, 3138-3148 Trilayer Metal-Organic Frameworks as Multifunctional Electrocatalysts for Energy Conversion and 348 12 Storage Applications.. 2022, Insight into the Catalytic Activity of Amorphous Multimetallic Catalysts under a Magnetic Field 347 4 toward the Oxygen Evolution Reaction.. 2022, Boosting Hydrogen Oxidation Performance of Phase-Engineered Ni Electrocatalyst under Alkaline 346 Media. 2022, 10, 3682-3689 New Undisputed Evidence and Strategy for Enhanced Lattice-Oxygen Participation of Perovskite 345 15 Electrocatalyst through Cation Deficiency Manipulation.. 2022, e2200530 Recent advances in rare-earth-based materials for electrocatalysis. 2022, 344 10 Non-noble metal-based amorphous high-entropy oxides as efficient and reliable electrocatalysts 10 343 for oxygen evolution reaction. 1 Operando Identification of Active Species and Intermediates on Sulfide Interfaced by Fe3O4 for 342 7 Ultrastable Alkaline Oxygen Evolution at Large Current Density. 4318-4326 Synthesis of hierarchical transition metal oxyhydroxides in aqueous solution at ambient 341 1 temperature and their application as OER electrocatalysts. 2022, Core-Shell Nanostructured Ru@Ir-O Electrocatalysts for Superb Oxygen Evolution in Acid.. 2022, e2108031 340 Facile sol-gel preparation of high-entropy multielemental electrocatalysts for efficient oxidation of  $\circ$ 339 methanol and urea. 1 Mixed B-site ruddlesden-popper phase Sr2(Ru Ir1)D4 enables enhanced activity for oxygen 338 evolution reaction. 2022,

337	Recent advances in solid II quid gas three-phase interfaces in electrocatalysis for energy conversion and storage.	2
336	Mesoporous single crystals with Fe-rich skin for ultra-low overpotential in oxygen evolution catalysis <b>2022</b> , e2200088	5
335	From Nickel Foam to Highly Active NiFe-based Oxygen Evolution Catalysts. 2022, 9,	
334	Nanostructuring Matters: Stabilization of Electrocatalytic Oxygen Evolution Reaction Activity of ZnCoO by Zinc Leaching <b>2022</b> ,	3
333	Overdoping strategy for preparing of two-phase oxide electrocatalyst to boost oxygen evolution reaction <b>2022</b> ,	
332	Implanting Electrons Donor to Enlarge d-p Hybridization of High-entropy (Oxy)hydroxide: A Novel Design to Boost Oxygen Evolution <b>2022</b> , e2110511	7
331	Unraveling the Synergistic Effect of Heteroatomic Substitution and Vacancy Engineering in CoFeO for Superior Electrocatalysis Performance <b>2022</b> ,	7
330	The nature of synergistic effects in transition metal oxides/in-situ intermediate-hydroxides for enhanced oxygen evolution reaction. <b>2022</b> , 100987	O
329	Facile electrodeposited amorphous CoMoEe electrocatalysts for oxygen evolution reaction. <b>2022</b> , 47, 12506-12514	0
328	Oxygen Evolution Reaction in Alkaline Environment: Material Challenges and Solutions. 2110036	17
327	A facile and environmental-friendly approach to synthesize S-doped Fe/Ni layered double hydroxide catalyst with high oxygen evolution reaction efficiency in water splitting.	О
326	Boosting the electrochemical energy storage and conversion performance by structural distortion in metal-organic frameworks. <b>2022</b> , 136269	O
325	Operando High-Valence Cr-Modified NiFe Hydroxides for Water Oxidation 2022, e2200303	7
324	Oxygen vacancy enhanced Ternary Nickel-Tungsten-Cerium metal alloy-oxides for efficient alkaline electrochemical full cell water splitting using Anion exchange membrane.	
323	Regulating the transformation behavior of nickel iron metalBrganic frameworks through a dual-ligand strategy for enhanced oxygen evolution reaction performance. <b>2022</b> , 153252	3
322	Partial crystallization of Coffe oxyhydroxides towards enhanced oxygen evolution activity. <b>2022</b> ,	1
321	How computations accelerate electrocatalyst discovery. 2022,	2
320	Zeolitic-imidazolate frameworks-derived Co3S4/NiS@Ni foam heterostructure as highly efficient	2

## (2018-2022)

319	Carbon aerogels with nickel@N-doped carbon core-shell nanoclusters as electrochemical sensors for simultaneous determination of hydroquinone and catechol. <b>2022</b> , 414, 140199	1
318	La-doped NiFe-LDH coupled with hierarchical vertically aligned MXene frameworks for efficient overall water splitting. <b>2022</b> , 70, 472-479	4
317	Electronic modulation of iridium-molybdenum oxides with a low crystallinity for high-efficiency acidic oxygen evolution reaction. <b>2022</b> , 440, 135851	1
316	NiS nanostrips@FeNi-NiFeO nanoparticles embedded in N-doped carbon microsphere: An improved electrocatalyst for oxygen evolution reaction <b>2022</b> , 617, 1-10	1
315	Sugar-cubic Fe2O3/nitrogen-doped graphene nanocomposite as high-performance anode material for oxygen evolution reaction. <b>2022</b> , 910, 164852	0
314	Metal-organic framework interface engineering for highly efficient oxygen evolution reaction <b>2022</b> , 619, 148-157	o
313	Electronic structure regulation and polysulfide bonding of Co-doped (Ni, Fe)1+xS enable highly efficient and stable electrocatalytic overall water splitting. <b>2022</b> , 441, 136121	1
312	From Stochastic Self-Assembly of Nanoparticles to Nanostructured (Photo)Electrocatalysts for Renewable Power-to-X Applications via Scalable Flame Synthesis. <b>2022</b> , 32, 2110020	4
311	Assembling and Regulating of Transition Metal-Based Heterophase Vanadates as Efficient Oxygen Evolution Catalysts. <b>2021</b> , e2105763	5
310	From Theory to Experiment: Cascading of Thermocatalysis and Electrolysis in Oxygen Evolution Reactions. <b>2022</b> , 7, 343-348	3
309	5f Covalency Synergistically Boosting Oxygen Evolution of UCoO Catalyst. 2021,	4
308	Heterostructure of core-shell IrCo@IrCoOx as efficient and stable catalysts for oxygen evolution reaction. <b>2021</b> ,	1
307	Installation of high-valence tungsten in MIL-125(Ti) for boosted photocatalytic hydrogen evolution. <b>2022</b> , 65, 1237-1244	0
306	Highly active ruthenium site stabilized by modulating electron-feeding for sustainable acidic oxygen-evolution electrocatalysis.	8
305	Enriched d -Band Holes Enabling Fast Oxygen Evolution Kinetics on Atomic-Layered Defect-Rich Lithium Cobalt Oxide Nanosheets. 2200663	3
304	High-entropy FeCoNiMn (oxy)hydroxide as high-performance electrocatalyst for OER and boosting clean carrier production under quasi-industrial condition. <b>2022</b> , 131680	1
303	Table_1.DOCX. <b>2019</b> ,	
302	Table_1.DOCX. <b>2018</b> ,	

301 Data\_Sheet\_1.PDF. **2019**,

300	Reinforced layered double hydroxide oxygen evolution electrocatalysts: polyoxometallic acid wet-etching approach and synergistic mechanism <b>2022</b> , e2110696	5
299	Structural Reconstruction of Catalysts in Electroreduction Reaction: Identifying, Understanding, and Manipulating <b>2022</b> , e2110699	1
298	Bottom-up Synthesis of 2D Layered High-Entropy Transition Metal Hydroxides.	3
297	Material design and surface chemistry for advanced rechargeable zincBir batteries.	3
296	Ultrahigh stable covalent organic framework-derived carbon-nitrogen-supported palladium nanoparticles for highly efficient electrocatalytic methanol and ethanol oxidation.	О
295	Direct observation of dynamic surface reconstruction and active phases on honeycomb Ni3NLO3N/CC for oxygen evolution reaction. 1	1
294	Regulating multiscale structures of nickel-iron-based electrocatalysts for efficient water oxidation. <b>2022</b> , 100870	
293	Fabrication of Fe2O3 nanostructure on CNT for oxygen evolution reaction. 2022,	0
292	Filling Octahedral Interstices by Building Geometrical Defects to Construct Active Sites for Boosting the Oxygen Evolution Reaction on NiFe 2 O 4. 2201011	2
291	Efficient and stable noble-metal-free catalyst for acidic water oxidation 2022, 13, 2294	6
290	Metal-Functionalized Hydrogels as Efficient Oxygen Evolution Electrocatalysts 2022,	О
289	Tuning the Electronic and Steric Interaction at the Atomic Interface for Enhanced Oxygen Evolution <b>2022</b> ,	17
288	Selectively anchoring single atoms on specific sites of supports for improved oxygen evolution <b>2022</b> , 13, 2473	12
287	Electrodeposited Ni-Mo Surface Alloy @ Ni-Foam for Electrocatalytic Hydrogen Generation in Acidic and Alkaline Media. <b>2022</b> , 169, 056511	O
286	Black phosphorous dots phosphatized bio-based carbon nanofibers/bimetallic organic framework as catalysts for oxygen evolution reaction. <b>2022</b> , 47, 17194-17203	
285	Tuning the Electronic Structure and Inverse Degree of Inverse Spinel Ferrites by Integrating Samarium Orthoferrite for Efficient Water Oxidation. <b>2022</b> , 121504	2
284	Defect-Engineered Hydroxylated Mesoporous Spinel Oxides as Bifunctional Electrocatalysts for Oxygen Reduction and Evolution Reactions <b>2022</b> ,	3

283	Reaction descriptors for the oxygen evolution reaction: Recent advances, challenges, and opportunities. <b>2022</b> , 101044	1
282	Electrocatalytic Water Oxidation: An Overview With an Example of Translation From Lab to Market. <b>2022</b> , 10,	Ο
281	Bandgap Engineering in Novel Fluorite-Type Rare Earth High-Entropy Oxides (RE-HEOs) with Computational and Experimental Validation for Photocatalytic Water Splitting Applications. 2200067	3
280	Regulating local charges of atomically dispersed Mo+ sites by nitrogen coordination on cobalt nanosheets to trigger water dissociation for boosted hydrogen evolution in alkaline media. <b>2022</b> ,	2
279	Recent Development and Future Perspectives of Amorphous Transition Metal-Based Electrocatalysts for Oxygen Evolution Reaction. 2200827	8
278	Constructing nickel-iron oxyhydroxides integrated with iron oxides by microorganism corrosion for oxygen evolution <b>2022</b> , 119, e2202812119	0
277	Cerium-incorporated Ni2P nanosheets for enhancing hydrogen production from overall water splitting and urea electrolysis. <b>2022</b> , 912, 165234	4
276	A dual-site doping strategy for developing efficient perovskite oxide electrocatalysts towards oxygen evolution reaction. <b>2022</b> , 99, 107344	5
275	Morphological and Electronic Optimization of Nanostructured FeCoNi-Based Electrocatalysts by Al Dopants for Neutral/Alkaline Water Splitting.	0
274	Water electrolysis: from textbook knowledge to the latest scientific strategies and industrial developments <b>2022</b> ,	21
273	Triggering the Lattice Oxygen Activation of Single-atomic Mo Sites Anchored Ni-Fe Oxyhydroxides Nanoarrays for Electrochemical Water Oxidation <b>2022</b> , e2202523	10
272	Mesoporous Mn-Fe oxyhydroxides for oxygen evolution.	4
271	Heat-Triggered Ferri-to-Paramagnetic Transition Accelerates Redox Couple-Mediated Electrocatalytic Water Oxidation. 2111234	0
270	Amorphous Ni-P-S@FeOOH/CC Catalyst for High Oxygen Evolution Activity: Preparation, Characterization and Modeling. <b>2022</b> , 117761	1
269	Anodic Deposition of Highly Efficient Nickel Iron Oxide Electrocatalysts for Water Oxidation and Role of Anions in Catalyst Deposition. <b>2022</b> , 140607	
268	Ternary NiMoCo alloys and fluffy carbon nanotubes grown on ZIF-67-derived polyhedral carbon frameworks as bifunctional electrocatalyst for efficient and stable overall water splitting. <b>2022</b> , 424, 140613	O
267	Prospects of non-noble metal single atoms embedded in two-dimensional (2D) carbon and non-carbon-based structures in electrocatalytic applications. <b>2022</b> , 467, 214613	1
266	A single-atom library for guided monometallic and concentration-complex multimetallic designs. <b>2022</b> , 21, 681-688	15

265 Accelerated Chemical Space Search Using a Quantum-Inspired Cluster Expansion Approach.

264	Ru-Optimized Geometric Sites of Cations in Cofe/Cofe2o4 Electrocatalysts with Graphitic Carbon Shells for Boosting Water Oxidation.	
263	Activating surface atoms of high entropy oxides for enhancing oxygen evolution reaction. 2022,	О
262	Ru-Co Pair Sites Catalyst Boosts the Energetics for Oxygen Evolution Reaction.	17
261	Ru-Co Pair Sites Catalyst Boosts the Energetics for Oxygen Evolution Reaction.	0
260	Co-Based Nanosheets with Transitional Metal Doping for Oxygen Evolution Reaction. <b>2022</b> , 12, 1788	
259	Boosting the performance of single-atom catalysts via external electric field polarization. 2022, 13,	5
258	Emerging low-nuclearity supported metal catalysts with atomic level precision for efficient heterogeneous catalysis.	22
257	Ru-optimized geometric sites of cations in CoFe/CoFe2O4 electrocatalysts with graphitic carbon shells for boosting water oxidation. <b>2022</b> , 425, 140665	1
256	Co, Mn co-doped Fe9S11@Ni9S8 supported on nickel foam as a high efficiency electrocatalyst for the oxygen evolution reaction and urea oxidation reaction.	O
255	Sulfide and selenide-based electrocatalyst for oxygen evolution reaction (OER). 2022, 463-494	
254	Band Bending Induced Charge Redistribution on the Amorphous Mil-53(Al)/Co-Ldh Conjunction to Boost the Supercapacitive and Oxygen Evolution Performance.	
253	High-content atomically distributed W(v,vi) on FeCo layered double hydroxide with high oxygen evolution reaction activity.	0
252	Water Oxidation Using Molecular Photocatalysts. <b>2022</b> , 1397-1428	
251	Engineering a Local Free Water Enriched Microenvironment for Surpassing Platinum Hydrogen Evolution Activity.	2
250	In Situ Chalcogen Leaching Manipulates Reactant Interface toward Efficient Amine Electrooxidation.	4
249	A high-performance transition-metal phosphide electrocatalyst for converting solar energy into hydrogen at 19.6% STH efficiency.	0
248	Porous Bimetallic Cobalt-Iron Phosphide Nanofoam for Efficient and Stable Oxygen Evolution Catalysis. <b>2022</b> ,	O

247	Purification of residual Ni and Co hydroxides from Fe-free alkaline electrolyte for electrocatalysis studies.	1
246	Orbital Dependence in Single-Atom Electrocatalytic Reactions. 5969-5976	1
245	Electron spin modulation engineering in oxygen-involved electrocatalysis.	
244	Unveiling the active sites of ultrathin Co-Fe layered double hydroxides for the oxygen evolution reaction. <b>2022</b> , 43, 2240-2248	8
243	Pulse electrodeposited FeCoNiMnW high entropy alloys as efficient and stable bifunctional electrocatalysts for acidic water splitting. <b>2022</b> , 446, 137452	2
242	Deep reconstruction of transition metal molybdate@hydroxide heterostructure triggered by anion-exchange reaction as high efficiency water oxidation electrocatalyst. <b>2022</b> , 447, 137540	1
241	Transformation of CoFe2O4 spinel structure into active and robust CoFe alloy/N-doped carbon electrocatalyst for oxygen evolution reaction. <b>2022</b> , 625, 70-82	2
240	Room temperature, fast fabrication of square meter-sized oxygen evolution electrode toward industrial alkaline electrolyzer. <b>2022</b> , 316, 121605	1
239	Bifunctional Petal-Like Carbon-Nitrogen Doped Nifeox/ Nickel Foam Nanohybrid Electrocatalyst for Efficient Overall Water Splitting.	
238	Co/N Nanoparticles Supported on a C3n4/Polydopamine Framework as a Bifunctional Electrocatalyst for Rechargeable Zinc-Air Batteries.	
237	High performance transition metal-based electrocatalysts for green hydrogen production. <b>2022</b> , 58, 7874-7889	3
236	Construction of Ni3+-rich nanograss arrays for boosting alkaline water oxidation.	
235	Molybdenum-ironBobalt oxyhydroxide with rich oxygen vacancies for the oxygen evolution reaction.	1
234	Atomic Scale Synergistic Interactions Lead to Breakthrough Catalysts for Electrocatalytic Water Splitting.	
233	Engineering a Local Free Water Enriched Microenvironment for Surpassing Platinum Hydrogen Evolution Activity.	O
232	Perfect Matching Factor between a Customized Double-Junction GaAs Photovoltaic Device and an Electrolyzer for Efficient Solar Water Splitting.	1
231	Electronic Modulation of Ru Nanosheet by dd Orbital Coupling for Enhanced Hydrogen Oxidation Reaction in Alkaline Electrolytes. 2202404	1
230	Oxygen-vacancy-rich TiO2 enables highly active and durable water electrolysis of urchin-like RuO2 catalyst.	O

229	Anti-dissolution Pt single site with Pt(OH)(O3)/Co(P) coordination for efficient alkaline water splitting electrolyzer. <b>2022</b> , 13,	3
228	Polyol Synthesis of Ni and Fe Co-Incorporated Tungsten Oxide for Highly Efficient and Durable Oxygen Evolution Reaction.	1
227	Tracking the Oxygen Dynamics of Solidliquid Electrochemical Interfaces by Correlative In Situ Synchrotron Spectroscopies. <b>2022</b> , 55, 1949-1959	2
226	Ultra-dispersed Copper Nanoparticles Constructing Crystalline-amorphous Interface Sites for Alkaline Water Splitting. <b>2022</b> ,	
225	In-situ transformed trimetallic metal-organic frameworks as an efficient pre-catalyst for electrocatalytic oxygen evolution.	0
224	Operando identification of active sites in Co-Cr oxyhydroxide oxygen evolution electrocatalysts. <b>2022</b> , 101, 107562	Ο
223	Recent advances of micro-nanofiber materials for rechargeable zinc-air batteries. 2022, 51, 181-211	2
222	Understanding of Oxygen Redox in Oxygen Evolution Reaction. 2107956	5
221	One-Pot Synthesis of Nitrate-Intercalated NiFe Layered Double Hydroxides with an 8.2 Interlayer Spacing. 2200973	
220	Heterogenization of Molecular Electrocatalytic Active Sites Through Reticular Chemistry. 2203791	O
219	FeINII single atom catalysts for the electrochemical conversion of carbon, nitrogen and oxygen elements. <b>2022</b> , 100141	0
218	Oriented interlayered charge transfer in NiCoFe layered double hydroxide/MoO3 stacked heterostructure promoting the oxygen-evolving behavior. <b>2022</b> , 627, 891-899	1
217	Co-doped NiMo oxides: highly efficient and robust electrocatalysts for urea electrooxidation assisted hydrogen production. <b>2022</b> , 10, 16825-16833	2
216	Bimetallic NiMo nitride@C3N4 for highly active and stable water catalysis. 2022, 16,	
215	Modulating the Electronic Structure of RuO 2 through Cr Solubilizing for Improved Oxygen Evolution Reaction. 2200636	1
214	Progress on nanostructured gel catalysts for oxygen electrocatalysis.	O
213	Dynamics of Both Active Phase and Catalysis Pathway for Spinel Water-Oxidation Catalysts. 2207116	4
212	Nanocomposite: Co4-substituted polyoxometalate@盱eOOH as high-performance electrocatalysts for oxygen evolution reaction in alkaline conditions. <b>2022</b> , 644, 118810	

211	The Role of Hydroxide Binding Energy in Alkaline Hydrogen Oxidation Reaction Kinetics on RuCr Nanosheet $\ensuremath{\mathbb{I}}$	0
210	Combined Corner-Sharing and Edge-Sharing Networks in Hybrid Nanocomposite with Unusual Lattice-Oxygen Activation for Efficient Water Oxidation. 2207618	1
209	Unraveling Ni-Fe 2D nanostructure with enhanced oxygen evolution via in situ and operando spectroscopies. <b>2022</b> ,	1
208	Introducing Brfisted acid sites to accelerate the bridging-oxygen-assisted deprotonation in acidic water oxidation. <b>2022</b> , 13,	3
207	Synergistic effect of V and Fe in Ni/Fe/V ternary layered double hydroxides for efficient and durable oxygen evolution reaction.	
206	Rationally Constructing Chalcogenide Hydroxide Heterostructures with Amendment of Electronic Structure for Overall Water-Splitting Reaction.	1
205	Metal-oxygen bonding nanoarchitectonics for regulation of oxygen evolution reaction performance in FeNi-codoped CoOOH. <b>2022</b> ,	Ο
204	Co/N nanoparticles supported on a C3N4/polydopamine framework as a bifunctional electrocatalyst for rechargeable zinc-air batteries. <b>2022</b> , 921, 116702	
203	Plasmon-promoted oxygen evolution catalysis with Ag nanocrystals loaded ⊞Co(OH)2 nanosheets. <b>2022</b> , 33, 103728	О
202	Band bending induced charge redistribution on the amorphous MIL-53(Al)/Co-LDH conjunction to boost the supercapacitive and oxygen evolution performance. <b>2022</b> , 429, 141057	O
201	Nb-doped NiFe LDH nanosheet with superhydrophilicity and superaerophobicity surface for solar cell-driven electrocatalytic water splitting. <b>2022</b> , 429, 140947	1
200	Additive manufacturing 3D customizable low-cost superwetting polyacrylate-based hierarchically micro-nanoporous lattice anode for energy-saving large-current-density water splitting application. <b>2022</b> , 245, 110189	Ο
199	Interface modulation induced by the 1T Co-WS2 shell nanosheet layer at the metallic NiTe2/Ni coreBanoskeleton: Glib electrode-kinetics for HER, OER, and ORR. <b>2022</b> , 102, 107712	Ο
198	Ternary cobaltifonthanganese layered double hydroxides with 1D/2D hierarchical nanostructure for oxygen evolution reaction and urea oxidation reaction. <b>2022</b> , 925, 166754	1
197	Structural engineering and electronic state tuning optimization of molybdenum-doped cobalt hydroxide nanosheet self-assembled hierarchical microtubules for efficient electrocatalytic oxygen evolution. <b>2022</b> , 628, 398-406	2
196	Bifunctional keel flower-like Ni-Co-V multicomponent oxide catalyst with enhanced electron transport for accelerating overall water splitting. <b>2022</b> , 628, 467-476	Ο
195	Synergistic coupling of Ni3ZnC0.7 decorated with homogeneous multimetal CoNiCuFe nitrogen-codoped carbon matrix as high-entropy catalysts for efficient overall water splitting. <b>2023</b> , 135, 26-33	0
194	Anion dependency of spinel type cobalt catalysts for efficient overall water splitting in an acid medium. <b>2023</b> , 451, 138471	3

193	Variable nanosheets for highly efficient oxygen evolution reaction. 2022,	0
192	Bifunctional petal-like carbonflitrogen covered NiFeOx/nickel foam nanohybrid electrocatalyst for efficient overall water splitting. <b>2022</b> , 922, 116764	О
191	Atomic scale synergistic interactions lead to breakthrough catalysts for electrocatalytic water splitting. <b>2023</b> , 320, 122016	0
190	Hematite decorated with nanodot-like cobalt (oxy)hydroxides for boosted photoelectrochemical water oxidation. <b>2023</b> , 629, 217-226	О
189	Efficient electrocatalysis for oxygen evolution: W-doped NiFe nanosheets with oxygen vacancies constructed by facile electrodeposition and corrosion. <b>2023</b> , 452, 139104	1
188	Carbon nitride based Schottky junction with a NiMo synergistic interaction for highly efficient photocatalytic hydrogen production.	О
187	Doping and heterojunction strategies for constructing V-doped Ni3FeN/Ni anchored on N-doped graphene tubes as an efficient overall water splitting electrocatalyst. <b>2022</b> , 10, 18877-18888	1
186	pl hybridization in CoFe LDH nanoflowers for efficient oxygen evolution electrocatalysis.	1
185	Optimal rule-of-thumb design of NiFeMo layered double hydroxide nanoflakes for highly efficient and durable overall water-splitting at large currents. <b>2022</b> , 10, 20497-20508	0
184	Non-noble metal nanocatalysts for oxygen evolution reaction. 2022,	О
183	The role of crystal facets and disorder on photo-electrosynthesis.	О
182	Transition metal atom M (M = Fe, Co, Cu, Cr) doping and oxygen vacancy modulated MNi5P4NiMOH nanosheets as multifunctional electrocatalysts for efficient overall water splitting and urea electrolysis reaction.	О
181	Boosting efficient alkaline fresh water and seawater electrolysis via electrochemical reconstruction. <b>2022</b> , 15, 3945-3957	4
180	Vacancy engineering and hydrophilic construction of CoFe-MOF for boosting water splitting by in situ phytic acid treatment. <b>2023</b> , 607, 155079	О
179	Spin dependent electrochemistry. <b>2023</b> ,	О
178	Utilizing the cross-linked effect and reconstruction strategy of phytic acid to build Fe-Co-Ni trimetallic amorphous carbon-matrix compounds as efficient oxygen evolution catalyst. <b>2023</b> , 629, 1003-1014	0
177	Using Machine Learning to Predict Oxygen Evolution Activity for Transition Metal Hydroxide Electrocatalysts. <b>2022</b> , 14, 41141-41148	1
176	Rational design of perovskite ferrites as high-performance proton-conducting fuel cell cathodes. <b>2022</b> , 5, 777-787	1

175	Neighboring Cationic Vacancy Assisted Adsorption Optimization on Single-Atom Sites for Improved Oxygen Evolution. <b>2022</b> , 12, 12458-12468	2
174	Magnetic Field Manipulation of Tetrahedral Units in Spinel Oxides for Boosting Water Oxidation. 2204143	Ο
173	A stable oxygen evolution splitting electrocatalysts high entropy alloy FeCoNiMnMo in simulated seawater. <b>2022</b> ,	0
172	Chemical Synthesis, Characterization and Properties of Multi-Element Nanoparticles.	O
171	High-temperature Co-electrolysis of CO2/H2O and direct methanation over Co-impregnated SOEC. Bimetallic synergy between Co and Ni. <b>2022</b> , 47, 35017-35037	0
170	Oxygen reactivity regulation via double-exchange interaction for enhanced water oxidation.	1
169	Multistage Electron Distribution Engineering of Iridium Oxide bylCodoping W and Sn for Enhanced Acidic Water Oxidation Electrocatalysis. 2203365	0
168	Regulated electronic structure and improved electrocatalytic performances of S-doped FeWO4 for rechargeable zinc-air batteries. <b>2022</b> ,	1
167	Electronic and Nano-structural Modulation of Co(OH)2 Nanosheets by Fe-Benzenedicarboxylate for Efficient Oxygen Evolution.	0
166	A hierarchical nickel-iron hydroxide nanosheet[from the high voltage cathodic polarization for alkaline water splitting. <b>2022</b> , 47, 34421-34429	O
165	Iron Carbide Nanoparticles Embedded in Edge-Rich, N and F Codoped Graphene/Carbon Nanotubes Hybrid for Oxygen Electrocatalysis. <b>2022</b> , 12, 1023	О
164	Modulating hydrogen bonding in single-atom catalysts to break scaling relation for oxygen evolution. <b>2022</b> ,	1
163	Chemical Synthesis, Characterization and Properties of Multi-Element Nanoparticles.	0
162	Hierarchical Bimetallic Iron-Cobalt Phosphides Nano-Island Nanostructures for Improved Oxygen Evolution Reaction. <b>2022</b> , 116806	1
161	Enhanced oxygen evolution over dual corner-shared cobalt tetrahedra. 2022, 13,	4
160	High valence metals engineering strategies of Fe/Co/Ni-based catalysts for boosted OER electrocatalysis. <b>2022</b> ,	3
159	OH spectator at IrMo intermetallic narrowing activity gap between alkaline and acidic hydrogen evolution reaction. <b>2022</b> , 13,	1
158	In Situ/Operando Soft X-ray Spectroscopic Identification of a Co4+ Intermediate in the Oxygen Evolution Reaction of Defective Co3O4 Nanosheets. <b>2022</b> , 13, 8386-8396	1

157	Cation Defect Engineering of Transition Metal Electrocatalysts for Oxygen Evolution Reaction. 2202317	3
156	Improved Corrosion-Resistance and Regulated Electro-state of Elastic Polyaniline Coated Nickel Phosphide for Efficient Water Oxidation.	Ο
155	Multicomponent transition metal oxides and (oxy)hydroxides for oxygen evolution.	2
154	Electrochemical hydrogen production coupled with oxygen evolution, organic synthesis, and waste reforming. <b>2022</b> , 107875	2
153	Adsorption of Cr(VI) in aqueous solution by Polypyrrole nanotube and polypyrrole nanoparticle; Kinetics, isotherm equilibrium, and thermodynamics. <b>2022</b> , 109981	O
152	Water oxidation on CrMnFeCoNi high entropy alloy: Improvement through rejuvenation and spin polarization. <b>2022</b> , 929, 167344	O
151	Cr-doped CoFe layered double hydroxide nanosheets as high-efficiency electrocatalyst for oxygen evolution reaction. <b>2022</b> , 171, 111015	1
150	Constructing hierarchical nanosheet-on-microwire FeCo LDH@Co3O4 arrays for high-rate water oxidation.	O
149	CoMo Layered Double Hydroxide Equipped with Carbon Nanotubes for Electrocatalytic Oxygen Evolution Reaction.	О
148	Constructing Air-Stable and Reconstruction-Inhibited Transition Metal Sulfide Catalysts via Tailoring Electron-Deficient Distribution for Water Oxidation. 13234-13246	1
147	Substitution-triggered broken symmetry of cobalt tungstate boosts redox kinetics in pseudocapacitive storage. <b>2022</b> , 101115	2
146	On the Mechanism of Heterogeneous Water Oxidation Catalysis: A Theoretical Perspective. <b>2022</b> , 10, 182	О
145	Deciphering Ligand Controlled Structural Evolution of Prussian Blue Analogues and Their Electrochemical Activation during Alkaline Water Oxidation.	О
144	Nickelfholybdenumfliobium metallic glass for efficient hydrogen oxidation in hydroxide exchange membrane fuel cells.	2
143	A Universal Saline-Alkaline Etching Procedure to Enhance the Activity of Oxygen Evolution Catalysts. 3910-3916	1
142	Active Motif Change of Ni-Fe Spinel Oxide by Ir Doping for Highly Durable and Facile Oxygen Evolution Reaction. 2209543	2
141	Deciphering Ligand Controlled Structural Evolution of Prussian Blue Analogues and Their Electrochemical Activation during Alkaline Water Oxidation.	О
140	CoP/Fe-Co 9 S 8 for Highly Efficient Overall Water Splitting with Surface Reconstruction and Self-Termination. 2204742	O

139	Fluorine-doped nickel oxyhydroxide as a robust electrocatalyst for oxygen evolution reaction. <b>2022</b> , 141475	О
138	Charged matrix stabilized cobalt oxide electrocatalyst with extraordinary oxygen evolution performance at pH 7. <b>2022</b> , 436, 141448	1
137	New high-entropy transition-metal sulfide nanoparticles for electrochemical oxygen evolution reaction. <b>2022</b> , 436, 141444	0
136	Intellectually constructing amorphous NiCoP dendrites for efficient oxygen evolution reaction. <b>2023</b> , 609, 155338	0
135	Current and future trends for spinel-type electrocatalysts in electrocatalytic oxygen evolution reaction. <b>2023</b> , 475, 214869	6
134	Expediting hole transfer via surface states in hematite-based composite photoanodes.	O
133	Electrocatalytic Performance of Bimetallic Ni-Mo Alloy with Thermally Modulated Microstructure for Hydrogen Generation at Ultra-Low Overpotential in Acidic Media. <b>2022</b> ,	O
132	Efficient Ternary Mn-Based Spinel Oxide with Multiple Active Sites for Oxygen Evolution Reaction Discovered via High-Throughput Screening Methods. 2204520	O
131	Construction of Ordered Atomic DonorAcceptor Architectures in bcc IrGa Intermetallic Compounds toward Highly Electroactive and Stable Overall Water Splitting. 2202703	O
130	NCNT grafted perovskite oxide as an active bifunctional electrocatalyst for rechargeable zinc-air battery. <b>2022</b> , 100287	1
129	Multi-Configuration Structure Based on Catalysis Electrodes and composite membrane for Efficient Alkaline Water Splitting. <b>2022</b> , 140373	О
128	Identifying the geometric catalytic active sites of crystalline cobalt oxyhydroxides for oxygen evolution reaction. <b>2022</b> , 13,	O
127	Surface metal-EDTA coordination layer activates NixFe3-xO4 spinel as an outstanding electrocatalyst for oxygen evolution reaction. <b>2022</b> ,	О
126	Mott Schottky CoSx-MoOx@NF heterojunctions electrode for H2 production and urea-rich wastewater purification. <b>2022</b> , 160170	O
125	Modulation to favorable surface adsorption energy for oxygen evolution reaction intermediates over carbon-tunable alloys towards sustainable hydrogen production.	0
124	Hybrid Electrocatalysts with Oxide/Oxide and Oxide/Hydroxide Interfaces for Oxygen Electrode Reactions. <b>2022</b> , 111-132	O
123	Aerogels-Inspired based Photo and Electrocatalyst for Water Splitting to Produce Hydrogen. <b>2022</b> , 29, 101670	0
122	Theory-guided electrocatalyst engineering: From mechanism analysis to structural design. <b>2022</b> , 43, 2987-3018	<b>s</b> o

121	Unveiling Chemically Robust Bimetallic Squarate-Based Metal@rganic Frameworks for Electrocatalytic Oxygen Evolution Reaction. 2202964	О
120	Secondary ZincAir Batteries: A View on Rechargeability Aspects. <b>2022</b> , 8, 244	O
119	Bimetal metal-organic framework hollow nanoprisms for enhanced electrochemical oxygen evolution. <b>2022</b> ,	0
118	Metal-doped nickel-based chalcogenides and phosphochalcogenides for electrochemical water splitting.	О
117	Ni3S2/MxSyNiCo LDH (M = Cu, Fe, V, Ce, Bi) heterostructure nanosheet arrays on Ni foam as high-efficiency electrocatalyst boosting for electrocatalytic overall water splitting and urea splitting.	0
116	First-principles study of oxygen evolution on Co3O4 with short-range ordered Ir doping. <b>2023</b> , 535, 112852	O
115	Ni-based ultrathin nanostructures for overall electrochemical water splitting.	О
114	Dual-doping Fe-Ni oxide for ultrahigh performance seawater oxidation by high-concentration electrolytes. <b>2023</b> , 658, 130682	O
113	B doped NiFe hydroxides/multiwalled carbon nanotube electrocatalysts toward oxygen evolution reaction for rechargeable Zn-air batteries. <b>2023</b> , 295, 127168	О
112	Acid-stable antimonate based catalysts for the electrocatalytic oxygen evolution reaction.	O
111	Surface Reconstruction of an FeNi Foam Substrate for Efficient Oxygen Evolution. 2022, 61, 20073-20079	1
110	Crystalline nickel sulfide integrated with amorphous cobalt sulfide as an efficient bifunctional electrocatalyst for water splitting. <b>2022</b> ,	O
109	High-Performance Oxygen Evolution Reaction Electrocatalysts Discovered via High-Throughput Aerogel Synthesis. 601-611	О
108	High entropy materials based electrocatalysts for water splitting: Synthesis strategies, catalytic mechanisms, and prospects.	O
107	Electronic Optimization and Modification of Efficient Ir Clusters Embedded onto Ni-Mo-P for Electrocatalytic Oxygen Evolution Reaction.	О
106	Bimetallic-Based Electrocatalysts for Oxygen Evolution Reaction. 2212160	1
105	Accelerated chemical space search using a quantum-inspired cluster expansion approach. 2022,	O
104	Iridium single atoms incorporated in Co3O4 efficiently catalyze the oxygen evolution in acidic conditions. <b>2022</b> , 13,	1

103	Enhanced Electrocatalytic Activity of Mo-Doped NiFe Layered Double Hydroxide Nanosheet Arrays for the Hydrogen Evolution Reaction.	O
102	Ru tailored hydrous cobalt phosphate as a rational approach for high-performance alkaline oxygen evolution reaction. <b>2022</b> , 26, 101267	O
101	Nanopore-rich NiFe LDH targets the formation of the high-valent nickel for enhanced oxygen evolution reaction.	O
100	Engineering the Electronic Structure of Single Atom Iron Sites with Boosted Oxygen Bifunctional Activity for Zinc-Air Batteries. 2209644	1
99	Molecule-Enhanced Electrocatalysis of Sustainable Oxygen Evolution Using Organoselenium Functionalized Metal®rganic Nanosheets.	О
98	Partially crystallized Nife oxyhydroxides promotes oxygen evolution. 2022,	O
97	Immobilizing Low-Cost Metal Nitrides in Electrochemically Reconstructed Platinum Group Metal (PGM)-Free Oxy-(Hydroxides) Surface for Exceptional OER Kinetics in Anion Exchange Membrane Water Electrolysis. 2203401	О
96	Application of HTS in Green Hydrogen and Fuel Cells. <b>2023</b> , 13-54	O
95	Editorial: Defect chemistry in electrocatalysis. 10,	О
94	Engineering active Ni-doped Co2P catalyst for efficient electrooxidation coupled with hydrogen evolution.	O
93	Moderate heat treatment of CoFe Prussian blue analogues for enhanced oxygen evolution reaction performance. <b>2022</b> ,	O
92	Operando Reconstruction toward Dual-Cation-Defects Co-Containing NiFe Oxyhydroxide for Ultralow Energy Consumption Industrial Water Splitting Electrolyzer. 2203595	O
91	Mechanisms of Oxygen Evolution Reaction in Metal Oxides: Adsorbate Evolution Mechanism versus Lattice Oxygen Mechanism. 2,	0
90	Interface engineering of the NiCo2O4@MoS2/TM heterostructure to realize the efficient alkaline oxygen evolution reaction. <b>2023</b> ,	1
89	Etching-Induced Surface Reconstruction of NiMoO4 for Oxygen Evolution Reaction. 2023, 15,	1
88	Regulating Complex Transition Metal Oxyhydroxides Using Ni3S2: 3D NiCoFe(oxy)hydroxide/Ni3S2/Ni Foam for an Efficient Alkaline Oxygen Evolution Reaction.	O
87	Surface Reconstruction of IronCobaltNickel Phosphides to Achieve High-Current-Density Water Oxidation Performance.	0
86	Electronic optimization and modification of efficient Ir clusters embedded onto NiMoP for electrocatalytic oxygen evolution reaction. <b>2023</b> , 6,	O

85	Arming Ru with Oxygen Vacancy Enriched RuO 2 Sub-nanometer Skin Activates Superior Bifunctionality for pH-Universal Overall Water Splitting. 2206351	3
84	Controlled synthesis of WfIo3S4@Co3O4 as an environmentally friendly and low cost electrocatalyst for overall water splitting. <b>2023</b> ,	0
83	Lattice oxygen activation in disordered rocksalts for boosting oxygen evolution.	0
82	Entropy-Stabilized Multicomponent Porous Spinel Nanowires of NiFeXO4 (X = Fe, Ni, Al, Mo, Co, Cr) for Efficient and Durable Electrocatalytic Oxygen Evolution Reaction in Alkaline Medium.	O
81	Demonstrating the Source of Inherent Instability in NeFe LDH-Based OER Electrocatalysts.	0
80	Review of photo- and electro-catalytic multi-metallic layered double hydroxides. <b>2023</b> , 480, 215008	1
79	Synthesis of heteroatom incorporated porous carbon encapsulated Fe-doped Co9S8 as an efficient bifunctional electrocatalyst for overall water splitting. <b>2023</b> , 175, 111220	0
78	Tuning OER Electrocatalysts toward LOM Pathway through the Lens of Multi-Descriptor Feature Selection by Artificial Intelligence-Based Approach. 299-320	O
77	Modern Technologies of Hydrogen Production. <b>2023</b> , 11, 56	O
76	Excellent CoOxHy/C Oxygen Evolution Catalysts Evolved from the Rapid In Situ Electrochemical Reconstruction of Cobalt Transition Metals Doped into the V2SnC MAX Phase at A Layers.	0
75	Speciation of Oxygen Functional Groups on the Carbon Support Controls the Electrocatalytic Activity of Cobalt Oxide Nanoparticles in the Oxygen Evolution Reaction. <b>2023</b> , 15, 5148-5160	1
74	2D MetalBrganic framework derived Co/CoSe2 heterojunctions with interfacial electron redistribution as bifunctional electrocatalysts for urea-assisted rechargeable ZnBir batteries.	1
73	Apparent activity and specific activity of lanthanides (La, Ce, Nd) decorated Co-MOF derivatives for electrocatalytic water splitting.	0
7 <sup>2</sup>	Polymorphism-Interface-Induced Work Function Regulating on Ru Nanocatalyst for Enhanced Alkaline Hydrogen Oxidation Reaction. 2211586	O
71	Tailoring Metal®xygen Bonds Boosts Oxygen Reaction Kinetics for High-Performance ZincAir Batteries.	0
70	Ni3S2/Co9S8 embedded poor crystallinity NiCo layered double hydroxides hierarchical nanostructures for efficient overall water splitting. <b>2023</b> , 637, 85-93	O
69	High-entropy alloys in water electrolysis: Recent advances, fundamentals, and challenges.	0
68	Reversion of catalyst valence states for highly efficient water oxidation.	O

67	Insight into the Mechanism for Catalytic Activity of the Oxygen/Hydrogen Evolution Reaction on a Dual-Site Catalyst. <b>2023</b> , 14, 2201-2207	О
66	Iron Oxyhydroxide: Structure and Applications in Electrocatalytic Oxygen Evolution Reaction. 2300557	О
65	Selective CO 2 -to-C 2 H 4 Photoconversion Enabled by Oxygen-Mediated Triatomic Sites in Partially Oxidized Bimetallic Sulfide. <b>2023</b> , 62,	0
64	Advance in 3D self-supported amorphous nanomaterials for energy storage and conversion.	O
63	Doping Shortens the Metal/Metal Distance and Promotes OH Coverage in Non-Noble Acidic Oxygen Evolution Reaction Catalysts. <b>2023</b> , 145, 7829-7836	O
62	Magnetic Heating Amorphous NiFe Hydroxide Nanosheets Encapsulated Ni Nanoparticles@Wood Carbon to Boost Oxygen Evolution Reaction Activity.	O
61	Disordered and ultrafine PtNiMo alloy for superior electrocatalytic hydrogen evolution in alkaline. <b>2023</b> , 301, 127585	O
60	Modulating the electronic structure of CoS2 by Sn doping boosting urea oxidation for efficient alkaline hydrogen production. <b>2023</b> , 642, 574-583	O
59	Bifunctional Co 3 S 4 Nanowires for Robust Sulfion Oxidation and Hydrogen Generation with Low Power Consumption. <b>2023</b> , 33, 2212183	0
58	Understanding electrode-intermediate interaction of a highly active and cyclable FexCo1-xSy aerogel for Oxygen Evolution Reaction and pseudocapacitive applications. <b>2023</b> , 560, 232696	O
57	NiFe-based tungstate@layered double hydroxide heterostructure supported on graphene as efficient oxygen evolution reaction catalyst. <b>2023</b> , 28, 101369	0
56	Robust and Promising Electrocatalytic Oxygen Evolution Reaction by Activated Cu <b>LoB</b> Amorphous Nanosheets. <b>2023</b> , 11, 2541-2553	O
55	Activated FeS 2 @NiS 2 CoreBhell Structure Boosting Cascade Reaction for Superior Electrocatalytic Oxygen Evolution. 2207472	0
54	Handily etching nickel foams into catalystBubstrate fusion self-stabilized electrodes toward industrial-level water electrolysis.	0
53	Single-atomic tungsten-doped Co 3 O 4 nanosheets for enhanced electrochemical kinetics in lithiumBulfur batteries.	O
52	Copper-Doped Cobalt Oxychloride for Efficient Oxygen Evolution Reactions in an Alkaline Medium. <b>2023</b> , 6, 2489-2496	O
51	Phase Purity Regulated by Mechano-Chemical Synthesis of Metal Organic Frameworks for the Electrocatalytic Oxygen Evolution Reaction. <b>2023</b> , 62, 3457-3463	0
50	Prussian Blue Analogue-Assisted Formation of IronNickel Selenide Porous Nanosheets for Enhanced Oxygen Evolution. <b>2023</b> , 6, 2178-2186	O

49	Mott insulating ruthenium oxides for highly efficient oxygen evolution reaction.	0
48	Surface synergistic effect of sub-2[hm NiFeCr hydroxide nanodots yielding high oxygen evolution mass activities. <b>2023</b> , 461, 141917	O
47	Selective CO 2 -to-C 2 H 4 Photoconversion Enabled by Oxygen-Mediated Triatomic Sites in Partially Oxidized Bimetallic Sulfide. <b>2023</b> , 135,	О
46	Nano Si-Doped Ruthenium Oxide Particles from Caged Precursors for High-Performance Acidic Oxygen Evolution. 2207429	O
45	Floating Seawater Splitting Device Based on NiFeCrMo Metal Hydroxide Electrocatalyst and Perovskite/Silicon Tandem Solar Cells. <b>2023</b> , 17, 4539-4550	О
44	Iron-Doped Monoclinic Strontium Iridate as a Highly Efficient Oxygen Evolution Electrocatalyst in Acidic Media. <b>2023</b> , 13, 797	O
43	Non-covalent ligand-oxide interaction promotes oxygen evolution. 2023, 14,	0
42	Iridium Incorporation into MnO 2 for an Enhanced Electrocatalytic Oxygen Evolution Reaction.	O
41	Recent Advances of Transition Metal Basic Salts for Electrocatalytic Oxygen Evolution Reaction and Overall Water Electrolysis. <b>2023</b> , 15,	0
40	Strain engineering of high-entropy alloy catalysts for electrocatalytic water splitting. <b>2023</b> , 26, 106326	O
39	Alloying of Cu with Ru Enabling the Relay Catalysis for Reduction of Nitrate to Ammonia.	0
38	A Review of Water Electrolysis, Fuel Cells and Its Use in Energy Storage. <b>2023</b> , 275-288	O
37	Supramolecular tuning of supported metal phthalocyanine catalysts for hydrogen peroxide electrosynthesis. <b>2023</b> , 6, 234-243	0
36	Emerging high entropy metal sulphides and phosphides for electrochemical water splitting.	O
35	Supporting Trimetallic Metal-Organic Frameworks on S/N-Doped Carbon Macroporous Fibers for Highly Efficient Electrocatalytic Oxygen Evolution.	0
34	Anisotropic Strain Boosted Hydrogen Evolution Reaction Activity of F-NiCoMo LDH for Overall Water Splitting. <b>2023</b> , 170, 036509	O
33	Multiple metallic dopants in nickel nanoparticles for electrocatalytic oxygen evolution. 2023,	О
32	Hierarchical Polyoxometallate Confined in Woven Thin Films for Single-Cluster Catalysis: Simplified Electrodes for Far-Fetched O2 Evolution from Seawater. <b>2023</b> , 13, 4587-4596	0

31	Oxygen Evolution/Reduction Reaction Catalysts: From In Situ Monitoring and Reaction Mechanisms to Rational Design.	O
30	Remote Synergy between Heterogeneous Single Atoms and Clusters for Enhanced Oxygen Evolution.	O
29	Quasi-Two-Dimensional Intermetallic Electride CeRuSi for Efficient Alkaline Hydrogen Evolution. <b>2023</b> , 13, 4752-4759	O
28	Vacancy Promotion in Layered Double Hydroxide Electrocatalysts for Improved Oxygen Evolution Reaction Performance. <b>2023</b> , 13, 4799-4810	O
27	Amorphous Oxysulfide Reconstructed from Spinel NiCo 2 S 4 for Efficient Water Oxidation.	0
26	Rational Synthesis of Core-Shell-Structured Nickel Sulfide-Based Nanostructures for Efficient Seawater Electrolysis.	O
25	Progress in Research and Application of Metal Drganic Gels: A Review. <b>2023</b> , 13, 1178	О
24	Cobalt loaded on concave hollow carbon octadecahedron for zinclir batteries. 2023, 122, 133901	O
23	Fe3+-Preactivated Ni/ Co-Based Antiperovskite Nitrides for Boosting Oxygen Evolution: Surface Tuning and Catalytic Mechanism. <b>2023</b> , 13, 5043-5052	0
22	Non-planar Nest-like [Fe2S2] Cluster Sites for Efficient Oxygen Reduction Catalysis.	O
21	High-Density Cationic Defects Coupling with Local Alkaline-Enriched Environment for Efficient and Stable Water Oxidation.	0
20	Lithium Electrochemical Tuning Engineering in an Aqueous System of LiCoO2 for Enhanced Oxygen Evolution Activity. <b>2023</b> , 170, 046502	O
19	High-Density Cationic Defects Coupling with Local Alkaline-Enriched Environment for Efficient and Stable Water Oxidation.	0
18	Modulating the Electronic Structure of Co in Collo6Mo6C2 for Effective Oxygen Evolution Reaction. <b>2023</b> , 37, 6025-6035	O
17	Lamella-heterostructured nanoporous bimetallic iron-cobalt alloy/oxyhydroxide and cerium oxynitride electrodes as stable catalysts for oxygen evolution. <b>2023</b> , 14,	0
16	C+ ion implanted single crystal diamond with amorphous surface for efficient oxygen evolution catalysis. <b>2023</b> ,	O
15	Electrocatalytic water splitting: Mechanism and electrocatalyst design.	O
14	Ce Site in Amorphous Iron Oxyhydroxide Nanosheet toward Enhanced Electrochemical Water Oxidation.	O

13	Engineering Cost-Efficient CoS-Based Electrocatalysts for Rechargeable Zn-Air Battery Application.	O
12	Regulating electronic states of nitride/hydroxide to accelerate kinetics for oxygen evolution at large current density. <b>2023</b> , 14,	O
11	One-step electrodeposited FeCoW hydroxide as a superior and durable catalyst for electrocatalytic water oxidation. <b>2023</b> ,	0
10	Surface-growing organophosphorus layer on layered double hydroxides enables boosted and durable electrochemical freshwater/seawater oxidation. <b>2023</b> , 332, 122749	o
9	Recent Advances in Water-Splitting Electrocatalysts Based on Electrodeposition. 2023, 16, 3044	0
8	Highly Efficient Spatial Three-Level CoP@ZIF-8/pNF Based on Modified Porous NF as Dual Functional Electrocatalyst for Water Splitting. <b>2023</b> , 13, 1386	O
7	Self-reconstruction of (CoNiFeCuCr)Se high-entropy selenide for efficient oxygen evolution reaction. <b>2023</b> , 157282	0
6	Solar-Driven H 2 Production in PVE Systems. <b>2023</b> , 341-373	O
5	Rapid Synthesis of Ultrathin Ni:FeOOH with In Situ-Induced Oxygen Vacancies for Enhanced Water Oxidation Activity and Stability of BiVO4 Photoanodes.	0
4	V-Integration Modulates t 2g -Electrons of a Single Crystal Ir 1- $\times$ (Ir 0.8 V 0.2 O 2 ) $\times$ -BHC for Boosted and Durable OER in Acidic Electrolyte.	O
3	Designed NiMoC@C and NiFeMo2C@C core-shell nanoparticles for oxygen evolution in alkaline media. 11,	0
2	Surface Self-Reconstruction of Fe-Ni 3 S 2 Electrocatalyst for Value-Generating Nitrile Evolution Reaction to Drive Efficient Hydrogen Production.	O
1	Advances in Transition-Metal-Based Dual-Atom Oxygen Electrocatalysts.	0