Robert H Crabtree

List of Publications by Year in descending order

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198 papers 27,496 citations

7096 78 h-index 163 g-index

205 all docs 205 docs citations

times ranked

205

19805 citing authors

| # | Article | IF | Citations |
|----|--|------|-----------|
| 1 | Optimization of Surface Loading of the Silatrane Anchoring Group on TiO ₂ . ACS Applied Materials & Amp; Interfaces, 2022, 14, 6582-6589. | 8.0 | 7 |
| 2 | <i>Operando</i> Structure–Activity–Stability Relationship of Iridium Oxides during the Oxygen Evolution Reaction. ACS Catalysis, 2022, 12, 5174-5184. | 11.2 | 40 |
| 3 | Electrocatalytic, Homogeneous Ammonia Oxidation in Water to Nitrate and Nitrite with a Copper Complex. Journal of the American Chemical Society, 2022, 144, 8449-8453. | 13.7 | 31 |
| 4 | Malcolm L. H. Green. 16 April 1936 — 24 July 2020. Biographical Memoirs of Fellows of the Royal Society, 2021, 70, 175-188. | 0.1 | 0 |
| 5 | Electronic and Spin-State Effects on Dinitrogen Splitting to Nitrides in a Rhenium Pincer System. Inorganic Chemistry, 2021, 60, 6115-6124. | 4.0 | 12 |
| 6 | Distorted Copper(II) Complex with Unusually Short CF···Cu Distances. Inorganic Chemistry, 2021, 60, 14759-14764. | 4.0 | 1 |
| 7 | Accessing Molecular Dimeric Ir Water Oxidation Catalysts from Coordination Precursors. Inorganic Chemistry, 2021, 60, 14349-14356. | 4.0 | 12 |
| 8 | Organometallic complexes as preferred precursors to form molecular Ir(pyalk) coordination complexes for catalysis of oxygen evolution. Inorganica Chimica Acta, 2021, 526, 120507. | 2.4 | 2 |
| 9 | Concerted proton-electron transfer oxidation of phenols and hydrocarbons by a high-valent nickel complex. Chemical Science, 2020, 11, 1683-1690. | 7.4 | 14 |
| 10 | Alternate Strategies for Solar Fuels from Carbon Dioxide. ACS Energy Letters, 2020, 5, 2505-2507. | 17.4 | 8 |
| 11 | Diazo coupling for surface attachment of small molecules to TiO ₂ nanoparticles. Chemical Communications, 2020, 56, 9340-9343. | 4.1 | 5 |
| 12 | Surface-Attached Molecular Catalysts on Visible-Light-Absorbing Semiconductors: Opportunities and Challenges for a Stable Hybrid Water-Splitting Photoanode. ACS Energy Letters, 2020, 5, 3195-3202. | 17.4 | 31 |
| 13 | Surprisingly big linker-dependence of activity and selectivity in CO ₂ reduction by an iridium(<scp>i</scp>) pincer complex. Chemical Communications, 2020, 56, 9126-9129. | 4.1 | 10 |
| 14 | Silatrane Anchors for Metal Oxide Surfaces: Optimization for Potential Photocatalytic and Electrocatalytic Applications. ACS Applied Materials & Samp; Interfaces, 2019, 11, 5602-5609. | 8.0 | 28 |
| 15 | Transfer Hydrogenation with Glycerol as H-Donor: Catalyst Activation, Deactivation and Homogeneity. ACS Sustainable Chemistry and Engineering, 2019, 7, 15845-15853. | 6.7 | 38 |
| 16 | Strongly Coupled Phenazine–Porphyrin Dyads: Light-Harvesting Molecular Assemblies with Broad Absorption Coverage. ACS Applied Materials & Samp; Interfaces, 2019, 11, 8000-8008. | 8.0 | 36 |
| 17 | High Oxidation State Complexes of Rhodium and Iridium. , 2019, , 159-159. | | 0 |
| 18 | Modification of a pyridine-alkoxide ligand during the synthesis of coordination compounds. Inorganica Chimica Acta, 2019, 484, 75-78. | 2.4 | 2 |

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| 19 | N,N,O Pincer Ligand with a Deprotonatable Site That Promotes Redox‣eveling, High Mn Oxidation States, and a Mn 2 O 2 Dimer Competent for Catalytic Oxygen Evolution. European Journal of Inorganic Chemistry, 2019, 2019, 2115-2123. | 2.0 | 8 |
| 20 | A Dinuclear Iridium(V,V) Oxo-Bridged Complex Characterized Using a Bulk Electrolysis Technique for Crystallizing Highly Oxidizing Compounds. Inorganic Chemistry, 2018, 57, 5684-5691. | 4.0 | 17 |
| 21 | Direct Interfacial Electron Transfer from High-Potential Porphyrins into Semiconductor Surfaces: A Comparison of Linkers and Anchoring Groups. Journal of Physical Chemistry C, 2018, 122, 13529-13539. | 3.1 | 31 |
| 22 | Key factors in pincer ligand design. Chemical Society Reviews, 2018, 47, 1959-1968. | 38.1 | 364 |
| 23 | On the damage done to the structure of the <i>Thermoplasma acidophilum</i> proteasome by electron radiation. Protein Science, 2018, 27, 2051-2061. | 7.6 | 5 |
| 24 | Unusual Stability of a Bacteriochlorin Electrocatalyst under Reductive Conditions. A Case Study on CO ₂ Conversion to CO. ACS Catalysis, 2018, 8, 10131-10136. | 11.2 | 28 |
| 25 | Some crystal growth strategies for diffraction structure studies of iridium complexes. Inorganica Chimica Acta, 2018, 480, 183-188. | 2.4 | 3 |
| 26 | Water-Nucleophilic Attack Mechanism for the Cu ^{II} (pyalk) ₂ Water-Oxidation Catalyst. ACS Catalysis, 2018, 8, 7952-7960. | 11.2 | 37 |
| 27 | A Pyridine Alkoxide Chelate Ligand That Promotes Both Unusually High Oxidation States and Water-Oxidation Catalysis. Accounts of Chemical Research, 2017, 50, 952-959. | 15.6 | 84 |
| 28 | Hypervalency, secondary bonding and hydrogen bonding: siblings under the skin. Chemical Society Reviews, 2017, 46, 1720-1729. | 38.1 | 96 |
| 29 | Inferring Protonation States of Hydroxamate Adsorbates on TiO ₂ Surfaces. Journal of Physical Chemistry C, 2017, 121, 11985-11990. | 3.1 | 5 |
| 30 | Nitrogen-Containing Liquid Organic Hydrogen Carriers: Progress and Prospects. ACS Sustainable Chemistry and Engineering, 2017, 5, 4491-4498. | 6.7 | 89 |
| 31 | Antimony Complexes for Electrocatalysis: Activity of a Mainâ€Group Element in Proton Reduction. Angewandte Chemie - International Edition, 2017, 56, 9111-9115. | 13.8 | 51 |
| 32 | Anchoring groups for photocatalytic water oxidation on metal oxide surfaces. Chemical Society Reviews, 2017, 46, 6099-6110. | 38.1 | 189 |
| 33 | Synthesis of pyridine-alkoxide ligands for formation of polynuclear complexes. New Journal of Chemistry, 2017, 41, 6709-6719. | 2.8 | 12 |
| 34 | Electrocatalytic Water Oxidation by a Copper(II) Complex of an Oxidation-Resistant Ligand. ACS Catalysis, 2017, 7, 3384-3387. | 11.2 | 149 |
| 35 | Homogeneous Transition Metal Catalysis of Acceptorless Dehydrogenative Alcohol Oxidation: Applications in Hydrogen Storage and to Heterocycle Synthesis. Chemical Reviews, 2017, 117, 9228-9246. | 47.7 | 432 |
| 36 | Linker Length-Dependent Electron-Injection Dynamics of Trimesitylporphyrins on SnO ₂ Films. Journal of Physical Chemistry C, 2017, 121, 22690-22699. | 3.1 | 13 |

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| 37 | Synthesis and Characterization of Iridium(V) Coordination Complexes With an N,Oâ€Donor Organic Ligand. Angewandte Chemie, 2017, 129, 13227-13231. | 2.0 | 11 |
| 38 | Optimization of Photoanodes for Photocatalytic Water Oxidation by Combining a Heterogenized Iridium Waterâ€Oxidation Catalyst with a Highâ€Potential Porphyrin Photosensitizer. ChemSusChem, 2017, 10, 4526-4534. | 6.8 | 34 |
| 39 | Antimony Complexes for Electrocatalysis: Activity of a Mainâ€Group Element in Proton Reduction. Angewandte Chemie, 2017, 129, 9239-9243. | 2.0 | 12 |
| 40 | Synthesis and Characterization of Iridium(V) Coordination Complexes With an N,Oâ€Donor Organic Ligand. Angewandte Chemie - International Edition, 2017, 56, 13047-13051. | 13.8 | 24 |
| 41 | Activation, Deactivation and Reversibility in a Series of Homogeneous Iridium Dehydrogenation Catalysts. Israel Journal of Chemistry, 2017, 57, 937-944. | 2.3 | 14 |
| 42 | Redox Activity of Oxo-Bridged Iridium Dimers in an N,O-Donor Environment: Characterization of Remarkably Stable Ir(IV,V) Complexes. Journal of the American Chemical Society, 2017, 139, 9672-9683. | 13.7 | 45 |
| 43 | Introduction: CH Activation. Chemical Reviews, 2017, 117, 8481-8482. | 47.7 | 264 |
| 44 | A full set of iridium(<scp>iv</scp>) pyridine-alkoxide stereoisomers: highly geometry-dependent redox properties. Chemical Science, 2017, 8, 1642-1652. | 7.4 | 32 |
| 45 | Cp* versus Bis-carbonyl Iridium Precursors as CH Oxidation Precatalysts. Organometallics, 2017, 36, 199-206. | 2.3 | 9 |
| 46 | Heterogenized Iridium Water-Oxidation Catalyst from a Silatrane Precursor. ACS Catalysis, 2016, 6, 5371-5377. | 11.2 | 79 |
| 47 | High-Potential Porphyrins Supported on SnO ₂ and TiO ₂ Surfaces for Photoelectrochemical Applications. Journal of Physical Chemistry C, 2016, 120, 28971-28982. | 3.1 | 28 |
| 48 | Solution Structures of Highly Active Molecular Ir Water-Oxidation Catalysts from Density Functional Theory Combined with High-Energy X-ray Scattering and EXAFS Spectroscopy. Journal of the American Chemical Society, 2016, 138, 5511-5514. | 13.7 | 63 |
| 49 | Electrocatalytic Nitrogen Fixation for Distributed Fertilizer Production?. ACS Sustainable Chemistry and Engineering, 2016, 4, 5855-5858. | 6.7 | 59 |
| 50 | One-Step Trimethylstannylation of Benzyl and Alkyl Halides. Journal of Organic Chemistry, 2016, 81, 9483-9488. | 3.2 | 4 |
| 51 | Catalytic Oxygen Evolution from Manganese Complexes with an Oxidationâ€Resistant N,N,Oâ€Donor Ligand. ChemPlusChem, 2016, 81, 1129-1132. | 2.8 | 18 |
| 52 | Controlling the rectification properties of molecular junctions through molecule–electrode coupling. Nanoscale, 2016, 8, 16357-16362. | 5.6 | 33 |
| 53 | Organometallic Iridium Complex Containing a Dianionic, Tridentate, Mixed Organic–Inorganic Ligand. Inorganic Chemistry, 2016, 55, 8121-8129. | 4.0 | 4 |
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| 56 | Molecular design of light-harvesting photosensitizers: effect of varied linker conjugation on interfacial electron transfer. Physical Chemistry Chemical Physics, 2016, 18, 18678-18682. | 2.8 | 21 |
| 57 | Structure–function relationships in single molecule rectification by N-phenylbenzamide derivatives. New Journal of Chemistry, 2016, 40, 7373-7378. | 2.8 | 7 |
| 58 | New Ir Bis-Carbonyl Precursor for Water Oxidation Catalysis. Inorganic Chemistry, 2016, 55, 2427-2435. | 4.0 | 28 |
| 59 | Dihydrogen Complexation. Chemical Reviews, 2016, 116, 8750-8769. | 47.7 | 170 |
| 60 | Molecular titanium–hydroxamate complexes as models for TiO ₂ surface binding. Chemical Communications, 2016, 52, 2972-2975. | 4.1 | 30 |
| 61 | Facile solvolysis of a surprisingly twisted tertiary amide. New Journal of Chemistry, 2016, 40, 1974-1981. | 2.8 | 3 |
| 62 | Towards multielectron photocatalysis: a porphyrin array for lateral hole transfer and capture on a metal oxide surface. Physical Chemistry Chemical Physics, 2015, 17, 12728-12734. | 2.8 | 29 |
| 63 | A Stable Coordination Complex of Rh(IV) in an N,O-Donor Environment. Journal of the American Chemical Society, 2015, 137, 15692-15695. | 13.7 | 27 |
| 64 | Methanol Dehydrogenation by Iridium N-Heterocyclic Carbene Complexes. Inorganic Chemistry, 2015, 54, 5079-5084. | 4.0 | 146 |
| 65 | A molecular catalyst for water oxidation that binds to metal oxide surfaces. Nature Communications, 2015, 6, 6469. | 12.8 | 256 |
| 66 | Molecular Catalysts for Water Oxidation. Chemical Reviews, 2015, 115, 12974-13005. | 47.7 | 964 |
| 67 | Iridium catalyzed reversible dehydrogenation – Hydrogenation of quinoline derivatives under mild conditions. Journal of Organometallic Chemistry, 2015, 792, 184-189. | 1.8 | 71 |
| 68 | Stable Iridium(IV) Complexes of an Oxidation-Resistant Pyridine-Alkoxide Ligand: Highly Divergent Redox Properties Depending on the Isomeric Form Adopted. Journal of the American Chemical Society, 2015, 137, 7243-7250. | 13.7 | 51 |
| 69 | Iridium-based complexes for water oxidation. Dalton Transactions, 2015, 44, 12452-12472. | 3.3 | 156 |
| 70 | Preparation of Halogenated Fluorescent Diaminophenazine Building Blocks. Journal of Organic Chemistry, 2015, 80, 9881-9888. | 3.2 | 14 |
| 71 | Gel-assisted crystallization of [Ir ₄ (IMe) ₇ (CO)H ₁₀] ²⁺ and [Ir ₄ (IMe) ₈ H ₉] ³⁺ clusters derived from catalytic glycerol dehydrogenation. Dalton Transactions, 2015, 44, 18403-18410. | 3.3 | 20 |
| 72 | Computational Design of Intrinsic Molecular Rectifiers Based on Asymmetric Functionalization of <i>N</i> -Phenylbenzamide. Journal of Chemical Theory and Computation, 2015, 11, 5888-5896. | 5.3 | 34 |

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| 73 | Selective conversion of glycerol to lactic acid with iron pincer precatalysts. Chemical Communications, 2015, 51, 16201-16204. | 4.1 | 86 |
| 74 | Deactivation in Homogeneous Transition Metal Catalysis: Causes, Avoidance, and Cure. Chemical Reviews, 2015, 115, 127-150. | 47.7 | 294 |
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| 81 | Experimental and computational studies of borohydride catalyzed hydrosilylation of a variety of Cî€O and Cî€N functionalities including esters, amides and heteroarenes. New Journal of Chemistry, 2014, 38, 1694-1700. | 2.8 | 42 |
| 82 | Electrochemical Activation of Cp* Iridium Complexes for Electrode-Driven Water-Oxidation Catalysis. Journal of the American Chemical Society, 2014, 136, 13826-13834. | 13.7 | 105 |
| 83 | Efficient selective and atom economic catalytic conversion of glycerol to lactic acid. Nature Communications, 2014, 5, 5084. | 12.8 | 207 |
| 84 | Catalyst Activation by Loss of Cyclopentadienyl Ligands in Hydrogen Transfer Catalysis with Cp*Ir ^{III} Complexes. ACS Catalysis, 2014, 4, 973-985. | 11.2 | 68 |
| 85 | A Carbeneâ€Rich but Carbonylâ€Poor [Ir ₆ (IMe) ₈ (CO) ₂ H ₁₄] ²⁺ Polyhydride Cluster as a Deactivation Product from Catalytic Glycerol Dehydrogenation. Angewandte Chemie - International Edition. 2014. 53. 12808-12811. | 13.8 | 42 |
| 86 | A Carbeneâ€Rich but Carbonylâ€Poor [Ir ₆ (IMe) ₈ (CO) ₂ H ₁₄] ²⁺ Polyhydride Cluster as a Deactivation Product from Catalytic Glycerol Dehydrogenation. Angewandte Chemie, 2014, 126, 13022-13025. | 2.0 | 9 |
| 87 | Modular Assembly of High-Potential Zinc Porphyrin Photosensitizers Attached to TiO ₂ with a Series of Anchoring Groups. Journal of Physical Chemistry C, 2013, 117, 14526-14533. | 3.1 | 90 |
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| 89 | Electron Injection Dynamics from Photoexcited Porphyrin Dyes into SnO2 and TiO2 Nanoparticles. Journal of Physical Chemistry C, 2013, 117, 21662-21670. | 3.1 | 54 |
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| 92 | Comparison of primary oxidants for water-oxidation catalysis. Chemical Society Reviews, 2013, 42, 2247-2252. | 38.1 | 227 |
| 93 | Hydroxamate Anchors for Improved Photoconversion in Dye-Sensitized Solar Cells. Inorganic Chemistry, 2013, 52, 6752-6764. | 4.0 | 102 |
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| 98 | Particle Formation during Oxidation Catalysis with Cp* Iridium Complexes. Journal of the American Chemical Society, 2012, 134, 9785-9795. | 13.7 | 150 |
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| 100 | Sodium Periodate as a Primary Oxidant for Water-Oxidation Catalysts. Inorganic Chemistry, 2012, 51, 6147-6152. | 4.0 | 86 |
| 101 | Symmetrical Hydrogen Bonds in Iridium(III) Alkoxides with Relevance to Outer Sphere Hydrogen Transfer. Inorganic Chemistry, 2012, 51, 12313-12323. | 4.0 | 17 |
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| 105 | Bioinspired High-Potential Porphyrin Photoanodes. Journal of Physical Chemistry C, 2012, 116, 4892-4902. | 3.1 | 69 |
| 106 | Electron-Rich CpIr(biphenyl-2,2′-diyl) Complexes with π-Accepting Carbon Donor Ligands. Organometallics, 2012, 31, 7158-7164. | 2.3 | 17 |
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| 110 | Secondary Coordination Sphere Interactions Facilitate the Insertion Step in an Iridium(III) CO ₂ Reduction Catalyst. Journal of the American Chemical Society, 2011, 133, 9274-9277. | 13.7 | 388 |
| 111 | An Iridium(IV) Species, [Cp*Ir(NHC)Cl] ⁺ , Related to a Water-Oxidation Catalyst. Organometallics, 2011, 30, 965-973. | 2.3 | 127 |
| 112 | Oxidative Synthesis of Amides and Pyrroles via Dehydrogenative Alcohol Oxidation by Ruthenium Diphosphine Diamine Complexes. Organometallics, 2011, 30, 4174-4179. | 2.3 | 180 |
| 113 | Definition of the hydrogen bond (IUPAC Recommendations 2011). Pure and Applied Chemistry, 2011, 83, 1637-1641. | 1.9 | 1,449 |
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| 115 | Iridium-Catalyzed Hydrogenation of N-Heterocyclic Compounds under Mild Conditions by an Outer-Sphere Pathway. Journal of the American Chemical Society, 2011, 133, 7547-7562. | 13.7 | 296 |
| 116 | A visible light water-splitting cell with a photoanode formed by codeposition of a high-potential porphyrin and an iridium water-oxidation catalyst. Energy and Environmental Science, 2011, 4, 2389. | 30.8 | 257 |
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| 126 | Deposition of an oxomanganese water oxidation catalyst on TiO2 nanoparticles: computational modeling, assembly and characterization. Energy and Environmental Science, 2009, 2, 230. | 30.8 | 80 |

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| 138 | Syntheses, 2007, , 173-176. | 0.3 | 16 |
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| 141 | Computational structure–activity relationships in H2storage: how placement of N atoms affects release temperatures in organic liquid storage materials. Chemical Communications, 2007, , 2231-2233. | 4.1 | 163 |
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