# Phillip Christopher

List of Publications by Year
in descending order



| 92 | 16,452 | 53794 45 | 49909 87 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 94 | 94 | 94 | 16700 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Enhancing sintering resistance of atomically dispersed catalysts in reducing environments with organic monolayers. Green Energy and Environment, 2022, 7, 1263-1269. | 8.7 | 12 |
| 2 | Dynamic Pt Coordination in Dilute AgPt Alloy Nanoparticle Catalysts Under Reactive Environments. Topics in Catalysis, 2022, 65, 1587-1603. | 2.8 | 6 |
| 3 | Chemical Production Using Light: Are Sustainable Photons Cheap Enough?. ACS Energy Letters, 2022, 7, 880-884. | 17.4 | 18 |
| 4 | Aggregation of CeO<sub>2</sub> particles with aligned grains drives sintering of Pt single atoms in Pt/CeO<sub>2</sub> catalysts. Journal of Materials Chemistry A, 2022, 10, 7029-7035. | 10.3 | 2 |
| 5 | Sustainable Photons. ACS Energy Letters, 2022, 7, 843-843. | 17.4 | 0 |
| 6 | Gas Diffusion Electrodes for CO<sub>2</sub> and N<sub>2</sub> Reduction: A Virtual Issue. ACS Energy Letters, 2022, 7, 1469-1472. | 17.4 | 11 |
| 7 | Reply to: Distinguishing thermal from non-thermal contributions to plasmonic hydrodefluorination. Nature Catalysis, 2022, 5, 247-250. | 34.4 | 7 |
| 8 | Alumina Graphene Catalytic Condenser for Programmable Solid Acids. Jacs Au, 2022, 2, 1123-1133. | 7.9 | 9 |
| 9 | Selective Reduction of Carboxylic Acids to Aldehydes with Promoted MoO<sub>3</sub> Catalysts. ACS Catalysis, 2022, 12, 6313-6324. | 11.2 | 8 |
| 10 | Elucidating CO Oxidation Pathways on Rh Atoms and Clusters on the â€œ29â€•Cu<sub>2</sub>O/Cu(111) Surface. Journal of Physical Chemistry C, 2022, 126, 11091-11102. | 3.1 | 1 |
| 11 | A Heterogeneous Pt-ReO<sub><i>x</i></sub>/C Catalyst for Making Renewable Adipates in One Step from Sugar Acids. ACS Catalysis, 2021, 11, 95-109. | 11.2 | 20 |
| 12 | Directly Probing the Local Coordination, Charge State, and Stability of Single Atom Catalysts by Advanced Electron Microscopy: A Review. Small, 2021, 17, e2006482. | 10.0 | 49 |
| 13 | Energy Spotlight. ACS Energy Letters, 2021, 6, 2359-2361. | 17.4 | 0 |
| 14 | First-principles design of a single-atomâ€“alloy propane dehydrogenation catalyst. Science, 2021, 372, 1444-1447. | 12.6 | 185 |
| 15 | Theoretical Study of Ethylene Hydroformylation on Atomically Dispersed Rh/Al<sub>2</sub>O<sub>3</sub> Catalysts: Reaction Mechanism and Influence of the ReO<sub><i>x</i></sub> Promoter. ACS Catalysis, 2021, 11, 9506-9518. | 11.2 | 31 |
| 16 | Synthesis of Heteroatom Rhâ€“ReOx Atomically Dispersed Species on Al2O3 and Their Tunable Catalytic Reactivity in Ethylene Hydroformylation. Microscopy and Microanalysis, 2021, 27, 1570-1571. | 0.4 | 0 |
| 17 | Support functionalization as an approach for modifying activation entropies of catalytic reactions on atomically dispersed metal sites. Journal of Catalysis, 2021, 404, 883-896. | 6.2 | 17 |
| 18 | Theoretical and Experimental Characterization of Adsorbed CO and NO on Î³-Al<sub>2</sub>O<sub>3</sub>-Supported Rh Nanoparticles. Journal of Physical Chemistry C, 2021, 125, 19733-19755. | 3.1 | 9 |

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|---|---|---|---|
| 19 | <i>Why Seeing Is Not Always Believing</i>: Common Pitfalls in Photocatalysis and Electrocatalysis. ACS Energy Letters, 2021, 6, 707-709. | 17.4 | 28 |
| 20 | Fundamental insights into heterogeneous single-atom catalysis. Journal of Chemical Physics, 2021, 155, 210401. | 3.0 | 6 |
| 21 | Light-driven methane dry reforming with single atomic site antenna-reactor plasmonic photocatalysts. Nature Energy, 2020, 5, 61-70. | 39.5 | 466 |
| 22 | Uniformity Is Key in Defining Structureâ€“Function Relationships for Atomically Dispersed Metal Catalysts: The Case of Pt/CeO<sub>2</sub>. Journal of the American Chemical Society, 2020, 142, 169-184. | 13.7 | 170 |
| 23 | Relationship between Atomic Scale Structure and Reactivity of Pt Catalysts: Hydrodeoxygenation of <i>m</i>-Cresol over Isolated Pt Cations and Clusters. ACS Catalysis, 2020, 10, 595-603. | 11.2 | 68 |
| 24 | Selective Methanol Carbonylation to Acetic Acid on Heterogeneous Atomically Dispersed ReO<sub>4</sub>/SiO<sub>2</sub> Catalysts. Journal of the American Chemical Society, 2020, 142, 14178-14189. | 13.7 | 51 |
| 25 | Recent advances in single-atom catalysts and single-atom alloys: opportunities for exploring the uncharted phase space in-between. Current Opinion in Chemical Engineering, 2020, 29, 67-73. | 7.8 | 32 |
| 26 | Atomically Dispersed Pt-group Catalysts: Reactivity, Uniformity, Structural Evolution, and Paths to Increased Functionality. Journal of Physical Chemistry Letters, 2020, 11, 10114-10123. | 4.6 | 24 |
| 27 | Automating Academic Laboratories: Promoting Reliability, Productivity, and Safety. ACS Energy Letters, 2020, 5, 2737-2738. | 17.4 | 1 |
| 28 | Dynamic Control of Elementary Step Energetics via Pulsed Illumination Enhances Photocatalysis on Metal Nanoparticles. ACS Energy Letters, 2020, 5, 3518-3525. | 17.4 | 41 |
| 29 | Energy Spotlight. ACS Energy Letters, 2020, 5, 3051-3052. | 17.4 | 0 |
| 30 | The Catalytic Mechanics of Dynamic Surfaces: Stimulating Methods for Promoting Catalytic Resonance. ACS Catalysis, 2020, 10, 12666-12695. | 11.2 | 54 |
| 31 | Insights into Spectator-Directed Catalysis: CO Adsorption on Amine-Capped Platinum Nanoparticles on Oxide Supports. ACS Applied Materials & Interfaces, 2020, 12, 27765-27776. | 8.0 | 14 |
| 32 | Plasmon-driven carbonâ€“fluorine (C(sp3)â€“F) bond activation with mechanistic insights into hot-carrier-mediated pathways. Nature Catalysis, 2020, 3, 564-573. | 34.4 | 81 |
| 33 | Catalytic resonance theory: parallel reaction pathway control. Chemical Science, 2020, 11, 3501-3510. | 7.4 | 35 |
| 34 | Reductant composition influences the coordination of atomically dispersed Rh on anatase TiO<sub>2</sub>. Catalysis Science and Technology, 2020, 10, 1597-1601. | 4.1 | 34 |
| 35 | Low-Temperature Ammonia Production during NO Reduction by CO Is Due to Atomically Dispersed Rhodium Active Sites. ACS Catalysis, 2020, 10, 5217-5222. | 11.2 | 40 |
| 36 | Photochemistry of Plasmonic Titanium Nitride Nanocrystals. Journal of Physical Chemistry C, 2019, 123, 21796-21804. | 3.1 | 33 |

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|---|---|---|---|
| 37 | Atomically Dispersed Rh Active Sites on Oxide Supports with Controlled Acidity for Gas-Phase Halide-Free Methanol Carbonylation to Acetic Acid. Industrial & Engineering Chemistry Research, 2019, 58, 12632-12641. | 3.7 | 42 |
| 38 | Energy Selects. ACS Energy Letters, 2019, 4, 2021-2023. | 17.4 | 2 |
| 39 | Plasmon-Mediated Catalytic O<sub>2</sub> Dissociation on Ag Nanostructures: Hot Electrons or Near Fields?. ACS Energy Letters, 2019, 4, 1803-1809. | 17.4 | 136 |
| 40 | Synthesis of Heteroatom Rhâ€“ReO<sub><i>x</i></sub> Atomically Dispersed Species on Al<sub>2</sub>O<sub>3</sub> and Their Tunable Catalytic Reactivity in Ethylene Hydroformylation. ACS Catalysis, 2019, 9, 10899-10912. | 11.2 | 81 |
| 41 | Single-Atom Catalysts: Are All Sites Created Equal?. ACS Energy Letters, 2019, 4, 2249-2250. | 17.4 | 36 |
| 42 | Impact of chemical interface damping on surface plasmon dephasing. Faraday Discussions, 2019, 214, 59-72. | 3.2 | 53 |
| 43 | Single-step catalytic conversion of furfural to 2-pentanol over bimetallic Coâ€“Cu catalysts. Reaction Chemistry and Engineering, 2019, 4, 261-267. | 3.7 | 17 |
| 44 | Theory of hot electrons: general discussion. Faraday Discussions, 2019, 214, 245-281. | 3.2 | 34 |
| 45 | Structural evolution of atomically dispersed Pt catalysts dictates reactivity. Nature Materials, 2019, 18, 746-751. | 27.5 | 404 |
| 46 | Response to Comment on â€œQuantifying hot carrier and thermal contributions in plasmonic photocatalysisâ€ Science, 2019, 364, . | 12.6 | 131 |
| 47 | Influence of Metal Oxide Support Acid Sites on Cu-Catalyzed Nonoxidative Dehydrogenation of Ethanol to Acetaldehyde. ACS Catalysis, 2019, 9, 3537-3550. | 11.2 | 72 |
| 48 | Resonant and Selective Excitation of Photocatalytically Active Defect Sites in TiO<sub>2</sub>. ACS Applied Materials & Interfaces, 2019, 11, 10351-10355. | 8.0 | 1 |
| 49 | Rh single atoms on TiO2 dynamically respond to reaction conditions by adapting their site. Nature Communications, 2019, 10, 4488. | 12.8 | 191 |
| 50 | We Editors Are Authors, Too. ACS Energy Letters, 2019, 4, 249-250. | 17.4 | 2 |
| 51 | Recent Developments in Nitrogen Reduction Catalysts: A Virtual Issue. ACS Energy Letters, 2019, 4, 163-166. | 17.4 | 115 |
| 52 | Nitrate Removal via a Formate Radical-Induced Photochemical Process. Environmental Science & Technology, 2019, 53, 316-324. | 10.0 | 43 |
| 53 | Effects of Cuâ€“Ni Bimetallic Catalyst Composition and Support on Activity, Selectivity, and Stability for Furfural Conversion to 2-Methyfuran. ACS Sustainable Chemistry and Engineering, 2018, 6, 2152-2161. | 6.7 | 80 |
| 54 | Surface-Mediated Processes for Energy Production and Conversion: Critical Considerations in Model System Design for DFT Calculations. ACS Energy Letters, 2018, 3, 3015-3016. | 17.4 | 10 |

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|---|---|---|---|
| 55 | Quantifying hot carrier and thermal contributions in plasmonic photocatalysis. Science, 2018, 362, 69-72. | 12.6 | 756 |
| 56 | Nature of stable single atom Pt catalysts dispersed on anatase TiO2. Journal of Catalysis, 2018, 367, 104-114. | 6.2 | 189 |
| 57 | Monitoring Chemical Reactions with Terahertz Rotational Spectroscopy. ACS Photonics, 2018, 5, 3097-3106. | 6.6 | 19 |
| 58 | Hybrid Catalytic Biorefining of Hardwood Biomass to Methylated Furans and Depolymerized Technical Lignin. ACS Sustainable Chemistry and Engineering, 2018, 6, 10587-10594. | 6.7 | 33 |
| 59 | Combining <i>In-Situ</i> Transmission Electron Microscopy and Infrared Spectroscopy for Understanding Dynamic and Atomic-Scale Features of Supported Metal Catalysts. Journal of Physical Chemistry C, 2018, 122, 25143-25157. | 3.1 | 41 |
| 60 | Approaches for Understanding and Controlling Interfacial Effects in Oxide-Supported Metal Catalysts. ACS Catalysis, 2018, 8, 7368-7387. | 11.2 | 224 |
| 61 | Unifying Mechanistic Analysis of Factors Controlling Selectivity in Fructose Dehydration to 5-Hydroxymethylfurfural by Homogeneous Acid Catalysts in Aprotic Solvents. ACS Catalysis, 2018, 8, 5591-5600. | 11.2 | 73 |
| 62 | Quantitative and Atomic-Scale View of CO-Induced Pt Nanoparticle Surface Reconstruction at Saturation Coverage via DFT Calculations Coupled with <i>in Situ</i> TEM and IR. Journal of the American Chemical Society, 2017, 139, 4551-4558. | 13.7 | 186 |
| 63 | Support Induced Control of Surface Composition in Cuâ€“Ni/TiO<sub>2</sub> Catalysts Enables High Yield Co-Conversion of HMF and Furfural to Methylated Furans. ACS Catalysis, 2017, 7, 4070-4082. | 11.2 | 152 |
| 64 | Balancing Near-Field Enhancement, Absorption, and Scattering for Effective Antennaâ€“Reactor Plasmonic Photocatalysis. Nano Letters, 2017, 17, 3710-3717. | 9.1 | 202 |
| 65 | Photon Energy Threshold in Direct Photocatalysis with Metal Nanoparticles: Key Evidence from the Action Spectrum of the Reaction. Journal of Physical Chemistry Letters, 2017, 8, 2526-2534. | 4.6 | 50 |
| 66 | Integration of heterogeneous and biochemical catalysis for production of fuels and chemicals from biomass. Current Opinion in Biotechnology, 2017, 45, 127-135. | 6.6 | 58 |
| 67 | Hot Charge Carrier Transmission from Plasmonic Nanostructures. Annual Review of Physical Chemistry, 2017, 68, 379-398. | 10.8 | 218 |
| 68 | Using probe molecule FTIR spectroscopy to identify and characterize Pt-group metal based single atom catalysts. Chinese Journal of Catalysis, 2017, 38, 1473-1480. | 14.0 | 86 |
| 69 | Catalyst Architecture for Stable Single Atom Dispersion Enables Site-Specific Spectroscopic and Reactivity Measurements of CO Adsorbed to Pt Atoms, Oxidized Pt Clusters, and Metallic Pt Clusters on TiO<sub>2</sub>. Journal of the American Chemical Society, 2017, 139, 14150-14165. | 13.7 | 525 |
| 70 | Evaluation of platinum catalysts for naval submarine pollution control. Applied Catalysis B: Environmental, 2017, 203, 533-540. | 20.2 | 15 |
| 71 | Adsorbate-mediated strong metalâ€“support interactions in oxide-supported Rh catalysts. Nature Chemistry, 2017, 9, 120-127. | 13.6 | 609 |
| 72 | Mechanism of CO2 reduction by H2 on Ru(0 0 0 1) and general selectivity descriptors for late-transition metal catalysts. Journal of Catalysis, 2016, 343, 86-96. | 6.2 | 104 |

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|---|---|---|---|
| 73 | Utilizing Quantitative <i>in Situ</i> FTIR Spectroscopy To Identify Well-Coordinated Pt Atoms as the Active Site for CO Oxidation on Al<sub>2</sub>O<sub>3</sub>-Supported Pt Catalysts. ACS Catalysis, 2016, 6, 5599-5609. | 11.2 | 246 |
| 74 | Critical role of interfacial effects on the reactivity of semiconductor-cocatalyst junctions for photocatalytic oxygen evolution from water. Catalysis Science and Technology, 2016, 6, 6836-6844. | 4.1 | 11 |
| 75 | Non-plasmonic metal nanoparticles as visible light photocatalysts for the selective oxidation of aliphatic alcohols with molecular oxygen at near ambient conditions. Chemical Communications, 2016, 52, 11567-11570. | 4.1 | 32 |
| 76 | Scaled Degree of Rate Control: Identifying Elementary Steps That Control Differences in Performance of Transition-Metal Catalysts. ACS Catalysis, 2016, 6, 5268-5272. | 11.2 | 23 |
| 77 | Isolated Metal Active Site Concentration and Stability Control Catalytic CO<sub>2</sub> Reduction Selectivity. Journal of the American Chemical Society, 2015, 137, 3076-3084. | 13.7 | 544 |
| 78 | A general and robust approach for defining and solving microkinetic catalytic systems. AIChE Journal, 2015, 61, 188-199. | 3.6 | 15 |
| 79 | Plasmons at the interface. Science, 2015, 349, 587-588. | 12.6 | 79 |
| 80 | Adsorbate Specificity in Hot Electron Driven Photochemistry on Catalytic Metal Surfaces. Journal of Physical Chemistry C, 2014, 118, 28017-28031. | 3.1 | 53 |
| 81 | Direct Photocatalysis by Plasmonic Nanostructures. ACS Catalysis, 2014, 4, 116-128. | 11.2 | 773 |
| 82 | Controlling Catalytic Selectivity on Metal Nanoparticles by Direct Photoexcitation of Adsorbateâ€“Metal Bonds. Nano Letters, 2014, 14, 5405-5412. | 9.1 | 217 |
| 83 | Catalytic and Photocatalytic Transformations on Metal Nanoparticles with Targeted Geometric and Plasmonic Properties. Accounts of Chemical Research, 2013, 46, 1890-1899. | 15.6 | 245 |
| 84 | Singular characteristics and unique chemical bond activation mechanisms of photocatalytic reactions on plasmonic nanostructures. Nature Materials, 2012, 11, 1044-1050. | 27.5 | 720 |
| 85 | Design of Plasmonic Platforms for Selective Molecular Sensing Based on Surface-Enhanced Raman Spectroscopy. Journal of Physical Chemistry C, 2012, 116, 9824-9829. | 3.1 | 22 |
| 86 | Predictive Model for the Design of Plasmonic Metal/Semiconductor Composite Photocatalysts. ACS Catalysis, 2011, 1, 1441-1447. | 11.2 | 279 |
| 87 | Visible-light-enhanced catalytic oxidation reactions on plasmonic silver nanostructures. Nature Chemistry, 2011, 3, 467-472. | 13.6 | 1,662 |
| 88 | Plasmonic-metal nanostructures for efficient conversion of solar to chemical energy. Nature Materials, 2011, 10, 911-921. | 27.5 | 4,163 |
| 89 | Enhancing Photochemical Activity of Semiconductor Nanoparticles with Optically Active Ag Nanostructures: Photochemistry Mediated by Ag Surface Plasmons. Journal of Physical Chemistry C, 2010, 114, 9173-9177. | 3.1 | 307 |
| 90 | Shapeâ€•and Sizeâ€Specific Chemistry of Ag Nanostructures in Catalytic Ethylene Epoxidation. ChemCatChem, 2010, 2, 78-83. | 3.7 | 186 |

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|---|---|---|---|
| 91 | Overcoming Limitation in the Design of Selective Solid Catalysts by Manipulating Shape and Size of Catalytic Particles: Epoxidation Reactions on Silver. ChemCatChem, 2010, 2, 1061-1063. | 3.7 | 34 |
| 92 | Engineering Selectivity in Heterogeneous Catalysis: Ag Nanowires as Selective Ethylene Epoxidation Catalysts. Journal of the American Chemical Society, 2008, 130, 11264-11265. | 13.7 | 288 |