Bruce C Gates

List of Publications by Citations

208 papers	10,451 citations	53 h-index	95 g-index
218 ext. papers	12,010 ext. citations	9.1 avg, IF	6.88 L-index

#	Paper	IF	Citations
208	Upgrading of lignin-derived bio-oils by catalytic hydrodeoxygenation. *Energy and Environmental Science*, **2014**, 7, 103-129	35.4	627
207	Catalysis by supported gold: correlation between catalytic activity for CO oxidation and oxidation states of gold. *Journal of the American Chemical Society*, **2004**, 126, 2672-3	16.4	454
206	Atomically dispersed supported metal catalysts. *Annual Review of Chemical and Biomolecular Engineering*, **2012**, 3, 545-74	8.9	431
205	Catalysis by Metal Organic Frameworks: Perspective and Suggestions for Future Research. *ACS Catalysis*, **2019**, 9, 1779-1798	13.1	375
204	A single-site platinum CO oxidation catalyst in zeolite KLTL: microscopic and spectroscopic determination of the locations of the platinum atoms. *Angewandte Chemie - International Edition*, **2014**, 53, 8904-7	16.4	217
203	Core-shell structured catalysts for thermocatalytic, photocatalytic, and electrocatalytic conversion of CO. *Chemical Society Reviews*, **2020**, 49, 2937-3004	58.5	201
202	Catalytic Conversion of Guaiacol Catalyzed by Platinum Supported on Alumina: Reaction Network Including Hydrodeoxygenation Reactions. *Energy & Fuels*, **2011**, 25, 3417-3427	4.1	201
201	Metal-organic framework nodes as nearly ideal supports for molecular catalysts: NU-1000- and UiO-66-supported iridium complexes. *Journal of the American Chemical Society*, **2015**, 137, 7391-6	16.4	192
200	A Pd@Zeolite Catalyst for Nitroarene Hydrogenation with High Product Selectivity by Sterically Controlled Adsorption in the Zeolite Micropores. *Angewandte Chemie - International Edition*, **2017**, 56, 9747-9751	16.4	184
199	Sinter-resistant metal nanoparticle catalysts achieved by immobilization within zeolite crystals via seed-directed growth. *Nature Catalysis*, **2018**, 1, 540-546	36.5	175
198	Atomically dispersed supported metal catalysts: perspectives and suggestions for future research. *Catalysis Science and Technology*, **2017**, 7, 4259-4275	5.5	175
197	Supported molecular catalysts: metal complexes and clusters on oxides and zeolites. *Dalton Transactions*, **2003**, 3303	4.3	168
196	Molecular metal catalysts on supports: organometallic chemistry meets surface science. *Accounts of Chemical Research*, **2014**, 47, 2612-20	24.3	157
195	Direct imaging of single metal atoms and clusters in the pores of dealuminated HY zeolite. *Nature Nanotechnology*, **2010**, 5, 506-10	28.7	151
194	Catalytic conversion of compounds representative of lignin-derived bio-oils: a reaction network for guaiacol, anisole, 4-methylanisole, and cyclohexanone conversion catalysed by Pt/Al2O3. *Catalysis Science and Technology*, **2012**, 2, 113-118	5.5	142
193	Imaging isolated gold atom catalytic sites in zeolite NaY. *Angewandte Chemie - International Edition*, **2012**, 51, 5842-6	16.4	140
192	Toward Benchmarking in Catalysis Science: Best Practices, Challenges, and Opportunities. *ACS Catalysis*, **2016**, 6, 2590-2602	13.1	139

191	Simultaneous Presence of Cationic and Reduced Gold in Functioning MgO-Supported CO Oxidation Catalysts:Evidence from X-ray Absorption Spectroscopy. *Journal of Physical Chemistry B*, **2002**, 106, 7659-7665	3.4	135
190	Product Selectivity Controlled by Nanoporous Environments in Zeolite Crystals Enveloping Rhodium Nanoparticle Catalysts for CO Hydrogenation. *Journal of the American Chemical Society*, **2019**, 141, 8482-8488	16.4	132
189	Structure and reactivity of a mononuclear gold-complex catalyst supported on magnesium oxide. *Angewandte Chemie - International Edition*, **2003**, 42, 690-3	16.4	132
188	Mononuclear AuIII and AuI Complexes Bonded to Zeolite NaY: Catalysts for CO Oxidation at 298 K. *Journal of Physical Chemistry B*, **2004**, 108, 16999-17002	3.4	131
187	Tuning Zr6 MetalOrganic Framework (MOF) Nodes as Catalyst Supports: Site Densities and Electron-Donor Properties Influence Molecular Iridium Complexes as Ethylene Conversion Catalysts. *ACS Catalysis*, **2016**, 6, 235-247	13.1	128
186	Metal clusters on supports: synthesis, structure, reactivity, and catalytic properties. *Chemical Communications*, **2010**, 46, 5997-6015	5.8	124
185	Tuning the Surface Chemistry of Metal Organic Framework Nodes: Proton Topology of the Metal-Oxide-Like Zr Nodes of UiO-66 and NU-1000. *Journal of the American Chemical Society*, **2016**, 138, 15189-15196	16.4	119
184	Supported molecular iridium catalysts: resolving effects of metal nuclearity and supports as ligands. *Journal of the American Chemical Society*, **2011**, 133, 16186-95	16.4	117
183	Single-site catalyst promoters accelerate metal-catalyzed nitroarene hydrogenation. *Nature Communications*, **2018**, 9, 1362	17.4	111
182	Catalytic Reactions of Guaiacol: Reaction Network and Evidence of Oxygen Removal in Reactions with Hydrogen. *Catalysis Letters*, **2011**, 141, 779-783	2.8	109
181	Structure and Dynamics of ZrO Metal-Organic Framework Node Surfaces Probed with Ethanol Dehydration as a Catalytic Test Reaction. *Journal of the American Chemical Society*, **2018**, 140, 3751-3759	16.4	108
180	Oxide- and zeolite-supported molecular metal complexes and clusters: physical characterization and determination of structure, bonding, and metal oxidation state. *Journal of Physical Chemistry B*, **2006**, 110, 13326-51	3.4	107
179	A site-isolated mononuclear iridium complex catalyst supported on MgO: Characterization by spectroscopy and aberration-corrected scanning transmission electron microscopy. *Journal of Catalysis*, **2010**, 269, 318-328	7.3	98
178	Structure and Bonding of a Site-Isolated Transition Metal Complex: Rhodium Dicarbonyl in Highly Dealuminated Zeolite Y. *Journal of the American Chemical Society*, **2000**, 122, 8056-8066	16.4	97
177	Surface Catalytic Sites Prepared from [HRe(CO)5] and [H3Re3(CO)12]: Mononuclear, Trinuclear, and Metallic Rhenium Catalysts Supported on MgO. *The Journal of Physical Chemistry*, **1990**, 94, 8439-8450		97
176	Oxidation of supported rhodium clusters by support hydroxy groups. *Angewandte Chemie - International Edition*, **2003**, 42, 1391-4	16.4	93
175	Selective Hydrodeoxygenation of Guaiacol Catalyzed by Platinum Supported on Magnesium Oxide. *Catalysis Letters*, **2012**, 142, 1190-1196	2.8	92
174	Role of cluster size in catalysis: spectroscopic investigation of gamma-Al2O3-supported Ir4 and Ir6 during ethene hydrogenation. *Journal of the American Chemical Society*, **2003**, 125, 7107-15	16.4	92

173	A "smart" catalyst: sinter-resistant supported iridium clusters visualized with electron microscopy. *Angewandte Chemie - International Edition*, **2012**, 51, 5929-34	16.4	88
172	Beyond Ordered Materials: Understanding Catalytic Sites on Amorphous Solids. *ACS Catalysis*, **2017**, 7, 7543-7557	13.1	84
171	Gold Nanoclusters Supported on MgO: Synthesis, Characterization, and Evidence of Au6. *Nano Letters*, **2001**, 1, 689-692	11.5	84
170	Real-time characterization of formation and breakup of iridium clusters in highly dealuminated zeolite Y. *Angewandte Chemie - International Edition*, **2008**, 47, 9245-8	16.4	83
169	Homogeneity of Surface Sites in Supported Single-Site Metal Catalysts: Assessment with Band Widths of Metal Carbonyl Infrared Spectra. *Journal of Physical Chemistry Letters*, **2016**, 7, 3854-3860	6.4	78
168	Role of cationic gold in supported CO oxidation catalysts. *Topics in Catalysis*, **2007**, 44, 103-114	2.3	67
167	A Pd@Zeolite Catalyst for Nitroarene Hydrogenation with High Product Selectivity by Sterically Controlled Adsorption in the Zeolite Micropores. *Angewandte Chemie*, **2017**, 129, 9879-9883	3.6	64
166	Conversion of Anisole Catalyzed by Platinum Supported on Alumina: The Reaction Network. *Energy & Fuels*, **2011**, 25, 4776-4785	4.1	64
165	Dynamic structural changes in a molecular zeolite-supported iridium catalyst for ethene hydrogenation. *Journal of the American Chemical Society*, **2009**, 131, 15887-94	16.4	62
164	Catalytic Conversion of Anisole: Evidence of Oxygen Removal in Reactions with Hydrogen. *Catalysis Letters*, **2011**, 141, 817-820	2.8	60
163	Tuning Catalytic Selectivity: Zeolite- and Magnesium Oxide-Supported Molecular Rhodium Catalysts for Hydrogenation of 1,3-Butadiene. *ACS Catalysis*, **2012**, 2, 2100-2113	13.1	59
162	Tuning the Properties of Zr6O8 Nodes in the Metal Organic Framework UiO-66 by Selection of Node-Bound Ligands and Linkers. *Chemistry of Materials*, **2019**, 31, 1655-1663	9.6	58
161	Zeolite- and MgO-Supported Molecular Iridium Complexes: Support and Ligand Effects in Catalysis of Ethene Hydrogenation and HD Exchange in the Conversion of H2+ D2. *ACS Catalysis*, **2011**, 1, 1549-1561	13.1	58
160	Upgrading of Lignin-Derived Compounds: Reactions of Eugenol Catalyzed by HY Zeolite and by Pt/Al2O3. *Catalysis Letters*, **2012**, 142, 151-160	2.8	57
159	A Site-Isolated Iridium Diethylene Complex Supported on Highly Dealuminated Y Zeolite: Synthesis and Characterization. *Journal of Physical Chemistry C*, **2007**, 111, 15064-15073	3.8	57
158	Molecular Rhodium Complexes Supported on the Metal-Oxide-Like Nodes of Metal Organic Frameworks and on Zeolite HY: Catalysts for Ethylene Hydrogenation and Dimerization. *ACS Applied Materials & Interfaces*, **2017**, 9, 33511-33520	9.5	55
157	Zeolite-supported organorhodium fragments: essentially molecular surface chemistry elucidated with spectroscopy and theory. *Journal of the American Chemical Society*, **2009**, 131, 8460-73	16.4	55
156	Beating Heterogeneity of Single-Site Catalysts: MgO-Supported Iridium Complexes. *ACS Catalysis*, **2018**, 8, 3489-3498	13.1	54

155	Molecular heterogeneous catalysis: a single-site zeolite-supported rhodium complex for acetylene cyclotrimerization. *Chemistry - A European Journal*, **2007**, 13, 7294-304	4.8	53
154	Evidence from NMR and EXAFS studies of a dynamically uniform mononuclear single-site zeolite-supported rhodium catalyst. *Angewandte Chemie - International Edition*, **2006**, 45, 574-6	16.4	51
153	Atomically Dispersed Metals on Well-Defined Supports including Zeolites and Metal-Organic Frameworks: Structure, Bonding, Reactivity, and Catalysis. *Chemical Reviews*, **2020**, 120, 11956-11985	68.1	50
152	Isostructural Zeolite-Supported Rhodium and Iridium Complexes: Tuning Catalytic Activity and Selectivity by Ligand Modification. *ACS Catalysis*, **2015**, 5, 5647-5656	13.1	49
151	Structure, Dynamics, and Reactivity for Light Alkane Oxidation of Fe(II) Sites Situated in the Nodes of a Metal-Organic Framework. *Journal of the American Chemical Society*, **2019**, 141, 18142-18151	16.4	49
150	Prototype Supported Metal Cluster Catalysts: Ir4 and Ir6. *ChemCatChem*, **2011**, 3, 95-107	5.2	49
149	Selective molecular recognition by nanoscale environments in a supported iridium cluster catalyst. *Nature Nanotechnology*, **2014**, 9, 459-65	28.7	48
148	Agglomerative Sintering of an Atomically Dispersed Ir1/Zeolite Y Catalyst: Compelling Evidence Against Ostwald Ripening but for Bimolecular and Autocatalytic Agglomeration Catalyst Sintering Steps. *ACS Catalysis*, **2015**, 5, 3514-3527	13.1	47
147	Silica accelerates the selective hydrogenation of CO to methanol on cobalt catalysts. *Nature Communications*, **2020**, 11, 1033	17.4	47
146	A site-isolated rhodium-diethylene complex supported on highly dealuminated Y zeolite: synthesis and characterization. *Journal of Physical Chemistry B*, **2005**, 109, 24236-43	3.4	47
145	Effects of adsorbates on supported platinum and iridium clusters: Characterization in reactive atmospheres and during alkene hydrogenation catalysis by X-ray absorption spectroscopy. *Journal of Physical Chemistry B*, **2005**, 109, 2338-49	3.4	47
144	Kinetics of CO Oxidation Catalyzed by Supported Gold: A Tabular Summary of the Literature. *Catalysis Letters*, **2009**, 130, 108-120	2.8	46
143	Tuning Catalytic Sites on ZrO Metal-Organic Framework Nodes via Ligand and Defect Chemistry Probed with -Butyl Alcohol Dehydration to Isobutylene. *Journal of the American Chemical Society*, **2020**, 142, 8044-8056	16.4	45
142	Controlling the hydrogenolysis of silica-supported tungsten pentamethyl leads to a class of highly electron deficient partially alkylated metal hydrides. *Chemical Science*, **2016**, 7, 1558-1568	9.4	45
141	A Single-Site Platinum CO Oxidation Catalyst in Zeolite KLTL: Microscopic and Spectroscopic Determination of the Locations of the Platinum Atoms. *Angewandte Chemie*, **2014**, 126, 9050-9053	3.6	45
140	Mononuclear Zeolite-Supported Iridium: Kinetic, Spectroscopic, Electron Microscopic, and Size-Selective Poisoning Evidence for an Atomically Dispersed True Catalyst at 22 °C. *ACS Catalysis*, **2012**, 2, 1947-1957	13.1	45
139	Tracking iridium atoms with electron microscopy: first steps of metal nanocluster formation in one-dimensional zeolite channels. *Nano Letters*, **2011**, 11, 5537-41	11.5	44
138	Tuning Zr12O22 Node Defects as Catalytic Sites in the Metal–Organic Framework hcp UiO-66. *ACS Catalysis*, **2020**, 10, 2906-2914	13.1	43

137	Tuning the Selectivity of Single-Site Supported Metal Catalysts with Ionic Liquids. *ACS Catalysis*, **2017**, 7, 6969-6972	13.1	42
136	MgO-Supported Rh6 and Ir6: Structural Characterization during the Catalysis of Ethene Hydrogenation. *Journal of Physical Chemistry B*, **2003**, 107, 5519-5528	3.4	42
135	Hydrogen activation and metal hydride formation trigger cluster formation from supported iridium complexes. *Journal of the American Chemical Society*, **2012**, 134, 5022-5	16.4	40
134	Cyclohexanone Conversion Catalyzed by Pt/Al2O3: Evidence of Oxygen Removal and Coupling Reactions. *Catalysis Letters*, **2011**, 141, 1072-1078	2.8	40
133	Organometallic chemistry on the basic magnesium oxide surface: formation of [HIr4(CO)11]-, [Ir6(CO)15]2-, and [Ir8(CO)22]2-. *Inorganic Chemistry*, **1992**, 31, 2939-2947	5.1	39
132	Atomically Dispersed Supported Metal Catalysts: Seeing Is Believing. *Trends in Chemistry*, **2019**, 1, 99-110	14.8	38
131	Atomically Dispersed Reduced Graphene Aerogel-Supported Iridium Catalyst with an Iridium Loading of 14.8 wt %. *ACS Catalysis*, **2019**, 9, 9905-9913	13.1	37
130	Conversion of 4-Methylanisole Catalyzed by Pt/Al2O3 and by Pt/SiO2-Al2O3: Reaction Networks and Evidence of Oxygen Removal. *Catalysis Letters*, **2012**, 142, 7-15	2.8	37
129	Site-isolated iridium complexes on MgO powder: individual Ir atoms imaged by scanning transmission electron microscopy. *Chemical Communications*, **2009**, 4657-9	5.8	37
128	Formation of Gold Clusters on TiO2 from Adsorbed Au(CH3)2(C5H7O2): Characterization by X-ray Absorption Spectroscopy. *Catalysis Letters*, **2004**, 95, 77-86	2.8	37
127	Neopentane cracking catalyzed by iron- and manganese-promoted sulfated zirconia. *Catalysis Letters*, **1995**, 31, 153-163	2.8	37
126	Supported Metal Pair-Site Catalysts. *ACS Catalysis*, **2020**, 10, 9065-9085	13.1	37
125	Surface-mediated synthesis of dimeric rhodium catalysts on MgO: tracking changes in the nuclearity and ligand environment of the catalytically active sites by X-ray absorption and infrared spectroscopies. *Chemistry - A European Journal*, **2013**, 19, 1235-45	4.8	35
124	Oxide- and zeolite-supported isostructural Ir(C2H4)2 complexes: molecular-level observations of electronic effects of supports as ligands. *Langmuir*, **2012**, 28, 12806-15	4	35
123	Upgrading of Anisole in a Dielectric Barrier Discharge Plasma Reactor. *Energy & Fuels*, **2014**, 28, 4545-4553	4.4	33
122	Imaging Isolated Gold Atom Catalytic Sites in Zeolite NaY. *Angewandte Chemie*, **2012**, 124, 5944-5948	3.6	33
121	Molecular chemistry in a zeolite: genesis of a zeolite Y-supported ruthenium complex catalyst. *Journal of the American Chemical Society*, **2008**, 130, 13338-46	16.4	33
120	Structural changes of the gold-support interface during CO oxidation catalyzed by mononuclear gold complexes bonded to zeolite NaY: evidence from time-resolved X-ray absorption spectroscopy. *Langmuir*, **2005**, 21, 5693-5	4	33

119	Supported gold catalysts: new properties offered by nanometer and sub-nanometer structures. *Chemical Communications*, **2013**, 49, 7876-7	5.8	32
118	Upgrading of Lignin-Derived Bio-oil Components Catalyzed by Pt/γ-Al2O3: Kinetics and Reaction Pathways Characterizing Conversion of Cyclohexanone with H2. *Energy & Fuels*, **2015**, 29, 191-199	4.1	32
117	Genesis of a Cerium Oxide Supported Gold Catalyst for CO Oxidation: Transformation of Mononuclear Gold Complexes into Clusters as Characterized by X-Ray Absorption Spectroscopy. *Journal of Physical Chemistry C*, **2009**, 113, 3259-3269	3.8	32
116	Gold Nanoclusters Entrapped in the β-Cages of Y Zeolites: Structural Characterization by X-ray Absorption Spectroscopy. *Journal of Physical Chemistry C*, **2007**, 111, 6645-6651	3.8	32
115	Tracking Rh Atoms in Zeolite HY: First Steps of Metal Cluster Formation and Influence of Metal Nuclearity on Catalysis of Ethylene Hydrogenation and Ethylene Dimerization. *Journal of Physical Chemistry Letters*, **2016**, 7, 2537-43	6.4	31
114	Time-Resolved Structural Characterization of Formation and Break-up of Rhodium Clusters Supported in Highly Dealuminated Y Zeolite. *Journal of Physical Chemistry C*, **2008**, 112, 18039-18049	3.8	31
113	Zeolite NaY-supported gold complexes prepared from Au(CH3)2(C5H7O2): reactivity with carbon monoxide. *Catalysis Letters*, **2005**, 101, 265-274	2.8	31
112	Zeolite- and MgO-supported rhodium complexes and rhodium clusters: Tuning catalytic properties to control carbon–carbon vs. carbon–hydrogen bond formation reactions of ethene in the presence of H2. *Journal of Catalysis*, **2013**, 308, 201-212	7.3	30
111	Extending the Metal Cluster–Metal Surface Analogy. *Angewandte Chemie International Edition in English*, **1993**, 32, 228-229		30
110	Rhodium complex with ethylene ligands supported on highly dehydroxylated MgO: synthesis, characterization, and reactivity. *Langmuir*, **2006**, 22, 490-6	4	29
109	High-Energy-Resolution X-ray Absorption Spectroscopy for Identification of Reactive Surface Species on Supported Single-Site Iridium Catalysts. *Chemistry - A European Journal*, **2017**, 23, 14760-14768	4.8	28
108	Controlling catalytic activity and selectivity for partial hydrogenation by tuning the environment around active sites in iridium complexes bonded to supports. *Chemical Science*, **2019**, 10, 2623-2632	9.4	28
107	Experimental Investigation on Upgrading of Lignin-Derived Bio-Oils: Kinetic Analysis of Anisole Conversion on Sulfided CoMo/Al2O3 Catalyst. *International Journal of Chemical Kinetics*, **2016**, 48, 702-713	1.4	28
106	Experimental investigation of upgrading of lignin-derived bio-oil component anisole catalyzed by carbon nanotube-supported molybdenum. *RSC Advances*, **2017**, 7, 10545-10556	3.7	27
105	Bulky Calixarene Ligands Stabilize Supported Iridium Pair-Site Catalysts. *Journal of the American Chemical Society*, **2019**, 141, 4010-4015	16.4	26
104	A Silica-Supported Monoalkylated Tungsten Dioxo Complex Catalyst for Olefin Metathesis. *ACS Catalysis*, **2018**, 8, 2715-2729	13.1	26
103	Intact and fragmented triosmium clusters on MgO: characterization by X-ray absorption spectroscopy and high-resolution transmission electron microscopy. *Journal of Physical Chemistry B*, **2005**, 109, 12738-41	3.4	26
102	Structure and Reactivity of a Mononuclear Gold-Complex Catalyst Supported on Magnesium Oxide. *Angewandte Chemie*, **2003**, 115, 714-717	3.6	25

101	Tuning the properties of metal-organic framework nodes as supports of single-site iridium catalysts: node modification by atomic layer deposition of aluminium. *Faraday Discussions*, **2017**, 201, 195-206	3.6	24
100	Imaging Gold Atoms in Site-Isolated MgO-Supported Mononuclear Gold Complexes. *Journal of Physical Chemistry C*, **2009**, 113, 16847-16849	3.8	24
99	Atomic resolution of the structure of a metal-support interface: triosmium clusters on MgO(110). *Angewandte Chemie - International Edition*, **2010**, 49, 10089-92	16.4	24
98	Atomically Dispersed Ru on Manganese Oxide Catalyst Boosts Oxidative Cyanation. *ACS Catalysis*, **2020**, 10, 6299-6308	13.1	23
97	Hydroprocessing of 4-methylanisole as a representative of lignin-derived bio-oils catalyzed by sulphided CoMo/□Al2O3: A semi-quantitative reaction network. *Canadian Journal of Chemical Engineering*, **2016**, 94, 1524-1532	2.3	23
96	An active and selective alkane isomerization catalyst: iron- and platinum-promoted tungstated zirconia. *Chemical Communications*, **2001**, 321-322	5.8	23
95	Dispersed Nickel Boosts Catalysis by Copper in CO2 Hydrogenation. *ACS Catalysis*, **2020**, 10, 9261-9270	13.1	23
94	Stable Rhodium Pair Sites on MgO: Influence of Ligands and Rhodium Nuclearity on Catalysis of Ethylene Hydrogenation and HD Exchange in the Reaction of H2 with D2. *ACS Catalysis*, **2018**, 8, 482-487	13.1	22
93	Formation of supported rhodium clusters from mononuclear rhodium complexes controlled by the support and ligands on rhodium. *Physical Chemistry Chemical Physics*, **2014**, 16, 1262-70	3.6	21
92	Ir6 Clusters Compartmentalized in the Supercages of Zeolite NaY: Direct Imaging of a Catalyst with Aberration-Corrected Scanning Transmission Electron Microscopy. *ACS Catalysis*, **2011**, 1, 1613-1620	13.1	21
91	Determination of Nanocluster Sizes from Dark-Field Scanning Transmission Electron Microscopy Images. *Journal of Physical Chemistry C*, **2008**, 112, 1759-1763	3.8	21
90	Synthesis and Characterization of Site-Isolated Hexarhodium Clusters on Titania Powder. *Journal of Physical Chemistry B*, **2001**, 105, 3269-3281	3.4	21
89	Reversible Metal Aggregation and Redispersion Driven by the Catalytic Water Gas Shift Half-Reactions: Interconversion of Single-Site Rhodium Complexes and Tetrarhodium Clusters in Zeolite HY. *ACS Catalysis*, **2019**, 9, 3311-3321	13.1	21
88	Rhodium pair-sites on magnesium oxide: Synthesis, characterization, and catalysis of ethylene hydrogenation. *Journal of Catalysis*, **2016**, 338, 12-20	7.3	20
87	Single-Site Zeolite-Anchored Organoiridium Carbonyl Complexes: Characterization of Structure and Reactivity by Spectroscopy and Computational Chemistry. *Chemistry - A European Journal*, **2015**, 21, 11825-35	4.8	20
86	Atomically Resolved Site-Isolated Catalyst on MgO: Mononuclear Osmium Dicarbonyls formed from Os3(CO)12. *Journal of Physical Chemistry Letters*, **2012**, 3, 1865-71	6.4	19
85	Synthesis and Structural Characterization of Iridium Clusters Formed Inside and Outside the Pores of Zeolite NaY. *Journal of Physical Chemistry B*, **2003**, 107, 11589-11596	3.4	19
84	Propene Hydrogenation Catalyzed by □Al2O3-Supported Ir4 Clusters: Inhibition by Dehydrogenated Propene Derivatives on Ir4. *Langmuir*, **2002**, 18, 2152-2157	4	19

83	Propane Dehydrogenation Catalyzed by Isolated Pt Atoms in ?SiOZn-OH Nests in Dealuminated Zeolite Beta. *Journal of the American Chemical Society*, **2021**,	16.4	19
82	Site-Isolated Molecular Iridium Complex Catalyst Supported in the 1-Dimensional Channels of Zeolite HSSZ-53: Characterization by Spectroscopy and Aberration-Corrected Scanning Transmission Electron Microscopy. *ACS Catalysis*, **2012**, 2, 1002-1012	13.1	18
81	Synthesis and Structure of Tetrairidium Clusters on TiO2 Powder: Characterization by Infrared and Extended X-ray Absorption Fine Structure Spectroscopies. *Journal of Physical Chemistry B*, **2002**, 106, 1229-1238	3.4	18
80	Synthesis and characterization of tetrairidium clusters in the metal organic framework UiO-67: Catalyst for ethylene hydrogenation. *Journal of Catalysis*, **2020**, 382, 165-172	7.3	18
79	Sinter-Resistant Catalysts: Supported Iridium Nanoclusters with Intrinsically Limited Sizes. *Catalysis Letters*, **2012**, 142, 1445-1451	2.8	17
78	Mononuclear, trinuclear, and metallic rhenium catalysts supported on magnesia: effects of structure on catalyst performance. *The Journal of Physical Chemistry*, **1990**, 94, 8451-8456		17
77	Rhenium complexes and clusters supported on Al2O3: Effects of rhenium oxidation state and rhenium cluster size on catalytic activity for n-butane hydrogenolysis. *Journal of Catalysis*, **2009**, 268, 89-99	7.3	16
76	129Xe NMR Spectroscopy of Metal Carbonyl Clusters and Metal Clusters in Zeolite NaY. *Journal of the American Chemical Society*, **1999**, 121, 7674-7681	16.4	16
75	Dialing in single-site reactivity of a supported calixarene-protected tetrairidium cluster catalyst. *Chemical Science*, **2017**, 8, 4951-4960	9.4	15
74	A Smart Catalyst: Sinter-Resistant Supported Iridium Clusters Visualized with Electron Microscopy. *Angewandte Chemie*, **2012**, 124, 6031-6036	3.6	15
73	Catalytic Conversion of Furan to Gasoline-Range Aliphatic Hydrocarbons via Ring Opening and Decarbonylation Reactions Catalyzed by Pt/Al2O3. *Catalysis Letters*, **2012**, 142, 664-666	2.8	15
72	Spectroscopic elucidation of first steps of supported bimetallic cluster formation. *Angewandte Chemie - International Edition*, **2009**, 48, 9697-700	16.4	15
71	Catalytic Hydroprocessing of Aromatic Compounds: Effects of Nickel and Vanadium Sulfide Deposits on Reactivities and Reaction Networks. *Industrial & Engineering Chemistry Research*, **1996**, 35, 3203-3209	3.9	15
70	Single-Site Osmium Catalysts on MgO: Reactivity and Catalysis of CO Oxidation. *Chemistry - A European Journal*, **2017**, 23, 2532-2536	4.8	14
69	Clusters in Cages299-372		14
68	Alumina-Supported Trirhenium Clusters: Stable High-Temperature Catalysts for Methylcyclohexane Conversion. *Journal of Physical Chemistry C*, **2008**, 112, 3383-3391	3.8	13
67	Propane conversion in the presence of iron- and manganese-promoted sulfated zirconia: evidence of Olah carbocation chemistry. *Catalysis Letters*, **1995**, 34, 351-358	2.8	13
66	Iridium Complexes and Clusters in Dealuminated Zeolite HY: Distribution between Crystalline and Impurity Amorphous Regions. *ACS Catalysis*, **2014**, 4, 2662-2666	13.1	12

65	Three-dimensional structural analysis of MgO-supported osmium clusters by electron microscopy with single-atom sensitivity. *Angewandte Chemie - International Edition*, **2013**, 52, 5262-5	16.4	12
64	Imine Metathesis Catalyzed by a Silica-Supported Hafnium Imido Complex. *ACS Catalysis*, **2018**, 8, 9440-9446	13.1	12
63	Molecular models of site-isolated cobalt, rhodium, and iridium catalysts supported on zeolites: Ligand bond dissociation energies. *Computational and Theoretical Chemistry*, **2015**, 1074, 58-72	2	11
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61	Essentially Molecular Metal Complexes Anchored to Zeolite: Synthesis and Characterization of Rhodium Complexes and Ruthenium Complexes Prepared from Rh(acac)(η2-C2H4)2 and cis-Ru(acac)2(η2-C2H4)2. *Journal of Physical Chemistry C*, **2010**, 114, 2685-2693	3.8	11
60	The Surface Chemistry of Metal Oxide Clusters: From Metal-Organic Frameworks to Minerals. *ACS Central Science*, **2020**, 6, 1523-1533	16.8	11
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