Robert M Rioux

List of Publications by Year
in descending order

67	5,726	185998 28	102304 66
papers	citations	h-index	g-index

71	71	71	9361
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Formation of Hollow Nanocrystals Through the Nanoscale Kirkendall Effect. Science, 2004, 304, 711-714.	6.0	3,255
2	Phenomena Affecting Catalytic Reactions at Solidâ€“Liquid Interfaces. ACS Catalysis, 2016, 6, 8286-8307.	5.5	189
3	Controlling activity and selectivity using water in the Au-catalysed preferential oxidation of CO in H2. Nature Chemistry, 2016, 8, 584-589.	6.6	165
4	Intermolecular Nâ€“H Oxidative Addition of Ammonia, Alkylamines, and Arylamines to a Planar Ïƒ³-Phosphorus Compound via an Entropy-Controlled Electrophilic Mechanism. Journal of the American Chemical Society, 2014, 136, 4640-4650.	6.6	130
5	Effects of chloride ions in acid-catalyzed biomass dehydration reactions in polar aprotic solvents. Nature Communications, 2019, 10, 1132.	5.8	117
6	Highly regio- and stereoselective hydrothiolation of acetylenes with thiols catalyzed by a well-defined supported Rh complex. Chemical Communications, 2011, 47, 6557.	2.2	106
7	Synthesis and Modeling of Hollow Intermetallic Niâ€“Zn Nanoparticles Formed by the Kirkendall Effect. Nano Letters, 2013, 13, 3618-3625.	4.5	82
8	Zinc inclusion to heterogeneous nickel catalysts reduces oligomerization during the semi-hydrogenation of acetylene. Journal of Catalysis, 2014, 316, 164-173.	3.1	82
9	Modifying structure-sensitive reactions by addition of Zn to Pd. Journal of Catalysis, 2014, 318, 75-84.	3.1	80
10	Evaluating differences in the active-site electronics of supported Au nanoparticle catalysts using Hammett and DFT studies. Nature Chemistry, 2018, 10, 268-274.	6.6	78
11	Anisotropic Growth of Silver Nanoparticles Is Kinetically Controlled by Polyvinylpyrrolidone Binding. Journal of the American Chemical Society, 2019, 141, 4328-4337.	6.6	77
12	Operando Solid-State NMR Observation of Solvent-Mediated Adsorption-Reaction of Carbohydrates in Zeolites. ACS Catalysis, 2017, 7, 3489-3500.	5.5	70
13	Intermetallics in catalysis: An exciting subset of multimetallic catalysts. Catalysis Today, 2019, 330, 2-15.	2.2	70
14	Revisiting the Polyol Synthesis of Silver Nanostructures: Role of Chloride in Nanocube Formation. ACS Nano, 2019, 13, 1849-1860.	7.3	69
15	Cu(i)-catalyzed aerobic cross-dehydrogenative coupling of terminal alkynes with thiols for the construction of alkynyl sulfides. Green Chemistry, 2013, 15, 3170.	4.6	68
16	Highly stereoselective anti-Markovnikov hydrothiolation of alkynes and electron-deficient alkenes by a supported Cu-NHC complex. Green Chemistry, 2014, 16, 3916-3925.	4.6	68
17	Charge Transfer Stabilization of Late Transition Metal Oxide Nanoparticles on a Layered Niobate Support. Journal of the American Chemical Society, 2015, 137, 16216-16224.	6.6	60
18	Enhanced Surface Activity of MWW Zeolite Nanosheets Prepared via a One-Step Synthesis. Journal of the American Chemical Society, 2020, 142, 8211-8222.	6.6	57

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19	Interfacial Bonding Stabilizes Rhodium and Rhodium Oxide Nanoparticles on Layered Nb Oxide and Ta Oxide Supports. Journal of the American Chemical Society, 2014, 136, 5687-5696.	6.6	56
20	In Situ Spectroscopic Characterization of Ni_{1â€“x}Zn_x/ZnO Catalysts and Their Selectivity for Acetylene Semihydrogenation in Excess Ethylene. ACS Catalysis, 2015, 5, 3304-3315.	5.5	54
21	Nerve growth factor stimulates axon outgrowth through negative regulation of growth cone actomyosin restraint of microtubule advance. Molecular Biology of the Cell, 2016, 27, 500-517.	0.9	51
22	Atomic control of active-site ensembles in ordered alloys to enhance hydrogenation selectivity. Nature Chemistry, 2022, 14, 523-529.	6.6	51
23	Thermodynamic Profiles at the Solvated Inorganicâ€“Organic Interface: The Case of Goldâ€“Thiolate Monolayers. Nano Letters, 2013, 13, 4442-4448.	4.5	42
24	Kirkendall Growth of Hollow Mn₃O₄ Nanoparticles upon Galvanic Reaction of MnO with Cu²⁺ and Evaluation as Anode for Lithium-Ion Batteries. Journal of Physical Chemistry C, 2017, 121, 11089-11099.	1.5	34
25	Correlating Heat of Adsorption of CO to Reaction Selectivity: Geometric Effects vs Electronic Effects in Neopentane Isomerization over Pt and Pd Catalysts. ACS Catalysis, 2013, 3, 2487-2496.	5.5	32
26	Thermochemical Measurements of Cation Exchange in CdSe Nanocrystals Using Isothermal Titration Calorimetry. Nano Letters, 2018, 18, 6795-6803.	4.5	30
27	Impact of Transition Metal Carbide and Nitride Supports on the Electronic Structure of Thin Platinum Overlayers. ACS Catalysis, 2019, 9, 7090-7098.	5.5	30
28	Synthesis of cyclic organic carbonates via catalytic oxidative carboxylation of olefins in flow reactors. Catalysis Science and Technology, 2017, 7, 84-89.	2.1	29
29	Titaniumâ€“Germoxy Precursor Route to Germanium-Modified Epoxidation Catalysts with Enhanced Activity. ACS Catalysis, 2013, 3, 2269-2279.	5.5	28
30	Polyethylene Glycol (PEG) Addition to Polyethylenimine (PEI)-Impregnated Silica Increases Amine Accessibility during CO₂ Sorption. ACS Sustainable Chemistry and Engineering, 2019, 7, 14785-14795.	3.2	28
31	Supported Niâ€“Au Colloid Precursors for Active, Selective, and Stable Alkyne Partial Hydrogenation Catalysts. ACS Catalysis, 2020, 10, 2565-2580.	5.5	28
32	Synthesis of brookite TiO2 nanorods with isolated Co(ii) surface sites and photocatalytic degradation of 5,8-dihydroxy-1,4-naphthoquinone dye. Journal of Materials Chemistry A, 2013, 1, 7717.	5.2	27
33	Surface-Functionalized Boron Nanoparticles with Reduced Oxide Content by Nonthermal Plasma Processing for Nanoenergetic Applications. ACS Applied Materials & Interfaces, 2021, 13, 6844-6853.	4.0	27
34	Agâ€“TiO₂ Hybrid Nanocrystal Photocatalyst: Hydrogen Evolution under UV Irradiation but Not under Visible-Light Irradiation. ACS Applied Energy Materials, 2019, 2, 8274-8282.	2.5	24
35	Enhancement of Alkyne Semi-Hydrogenation Selectivity by Electronic Modification of Platinum. ACS Catalysis, 2020, 10, 6763-6770.	5.5	24
36	Addition of Sulfonic Acids to Terminal Alkynes Catalyzed by a Rhodium Complex: Ligand Concentrationâ€Controlled Reaction Selectivity. ChemCatChem, 2013, 5, 3005-3013.	1.8	22

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37	Chemical Identity of Poly(N-vinylpyrrolidone) End Groups Impact Shape Evolution During the Synthesis of Ag Nanostructures. Journal of the American Chemical Society, 2021, 143, 184-195.	6.6	21
38	Structural elucidation of supported Rh complexes derived from RhCl(PPh3)3 immobilized on surface-functionalized SBA-15 and their catalytic performance for C-heteroatom (S, O) bond formation. Journal of Catalysis, 2018, 365, 43-54.	3.1	20
39	X-ray photoelectron spectroscopy of transition metal ions attached to the surface of rod-shape anatase TiO2 nanocrystals. Inorganica Chimica Acta, 2014, 422, 8-13.	1.2	19
40	Determination of Bulk and Surface Atomic Arrangement in Niâ€“Zn Î³-Brass Phase at Different Ni to Zn Ratios. Chemistry of Materials, 2017, 29, 504-512.	3.2	17
41	Kinetics of H₂ Adsorption at the Metalâ€“Support Interface of Au/TiO₂ Catalysts Probed by Broad Background IR Absorbance. Angewandte Chemie - International Edition, 2021, 60, 7735-7743.	7.2	16
42	Evidence for geometric effects in neopentane conversion on PdAu catalysts. Catalysis Science and Technology, 2014, 4, 4366-4377.	2.1	15
43	Development of a robust sulfur quantification and speciation method for SBA-15-supported sulfonic acid catalysts. Catalysis Science and Technology, 2016, 6, 5961-5971.	2.1	15
44	Catalyst Design for Selective Hydrogenation of Benzene to Cyclohexene through Density Functional Theory and Microkinetic Modeling. ACS Catalysis, 2021, 11, 11831-11842.	5.5	14
45	Characterization of sites of different thermodynamic affinities on the same metal center via isothermal titration calorimetry. Journal of Catalysis, 2013, 302, 1-9.	3.1	13
46	Understanding the Solution-Phase Growth of Cu and Ag Nanowires and Nanocubes from First Principles. Langmuir, 2021, 37, 4419-4431.	1.6	11
47	Synthesis and Characterization of Magnesium/Boron Solid Solutions for Energetic Applications. ACS Applied Energy Materials, 2022, 5, 6716-6723.	2.5	11
48	Illuminating surface atoms in nanoclusters by differential X-ray absorption spectroscopy. Physical Chemistry Chemical Physics, 2014, 16, 26528-26538.	1.3	10
49	Elucidating the roles of enthalpy, entropy, and donor atom in the chelate effect for binding different bidentate ligands on the same metal center. Journal of Catalysis, 2014, 309, 11-20.	3.1	9
50	Generalized approach for the synthesis of silica supported Pd-Zn, Cu-Zn and Ni-Zn gamma brass phase nanoparticles. Catalysis Today, 2019, 334, 231-242.	2.2	9
51	On the Limited Role of Electronic Support Effects in Selective Alkyne Hydrogenation: A Kinetic Study of Au/MO_x Catalysts Prepared from Oleylamineâ€Capped Colloidal Nanoparticles. ChemCatChem, 2019, 11, 1650-1664.	1.8	9
52	Importance of Dimer Quantification for Accurate Catalytic Evaluation of Lactic Acid Dehydration to Acrylic Acid. Industrial & Engineering Chemistry Research, 2017, 56, 5843-5851.	1.8	7
53	Identification of Second Shell Coordination in Transition Metal Species Using Theoretical XANES: Example of Tiâ€“Oâ€“(C, Si, Ge) Complexes. Journal of Physical Chemistry A, 2017, 121, 162-167.	1.1	7
54	CO₂ Capacity and Heat of Sorption on a Polyethylenimine-Impregnated Silica under Equilibrium and Transient Sorption Conditions. Journal of Physical Chemistry C, 2018, 122, 11442-11449.	1.5	6

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55	Continuous Injection Isothermal Titration Calorimetry for In Situ Evaluation of Thermodynamic Binding Properties of Ligandâ€“Receptor Binding Models. Journal of Physical Chemistry B, 2021, 125, 8075-8087.	1.2	6
56	Quantitative Attachment of Bimetal Combinations of Transition-Metal Ions to the Surface of TiO₂ Nanorods. Langmuir, 2018, 34, 5422-5434.	1.6	5
57	Competitive Hydrogenation between Linear Alkenes and Aromatics on Close-Packed Late Transition Metal Surfaces. Journal of Physical Chemistry C, 2019, 123, 8370-8378.	1.5	5
58	Kinetics of H₂ Adsorption at the Metalâ€“Support Interface of Au/TiO₂ Catalysts Probed by Broad Background IR Absorbance. Angewandte Chemie, 2021, 133, 7814-7822.	1.6	5
59	Solvent-Dependent Impact of Spectator Anions on the Thermodynamics of Cation Exchange in CdSe Nanocrystals. Journal of Physical Chemistry C, 2021, 125, 12792-12801.	1.5	5
60	Factors controlling the molecular modification of one-dimensional zeolites. Physical Chemistry Chemical Physics, 2021, 23, 18610-18617.	1.3	5
61	Spatiotemporal Modeling and Parametric Estimation of Isothermal CO2 Adsorption Columns. Industrial & Engineering Chemistry Research, 2016, 55, 6443-6453.	1.8	4
62	Single Site Metal Ions on the Surface of TiO2 Nanorods - A Platform for Theoretical and Experimental Investigation. ACS Symposium Series, 2015, , 103-116.	0.5	3
63	Diffusion doping of cobalt in rod-shape anatase TiO₂ nanocrystals leads to antiferromagnetism. Nanoscale Advances, 2020, 2, 4853-4862.	2.2	2
64	Investigation of CO₂ Sorption Mechanisms in Isothermal Columns via Transient Material and Energy Balance PDE Models. Industrial & Engineering Chemistry Research, 2018, 57, 10303-10314.	1.8	1
65	Platinum nanoparticle encapsulation during hydrothermal growth of mesoporous oxides: Synthesis, characterization and catalytic properties. Materials Research Society Symposia Proceedings, 2005, 900, 1.	0.1	0
66	Catalysis Science & Technology: Catalysis in the USA. Catalysis Science and Technology, 2015, 5, 1357-1359.	2.1	0
67	Molecular Surface Science, Nanomaterials & Catalysis: Symposium in Honor of Gabor Somorjai at 80. Topics in Catalysis, 2018, 61, 711-713.	1.3	0