

# Robert M Rioux

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5276420/publications.pdf>

Version: 2024-02-01

67

papers

5,726

citations

186265

28

h-index

102487

66

g-index

71

all docs

71

docs citations

71

times ranked

9361

citing authors

#	ARTICLE	IF	CITATIONS
1	Atomic control of active-site ensembles in ordered alloys to enhance hydrogenation selectivity. <i>Nature Chemistry</i> , 2022, 14, 523-529.	13.6	51
2	Synthesis and Characterization of Magnesium/Boron Solid Solutions for Energetic Applications. <i>ACS Applied Energy Materials</i> , 2022, 5, 6716-6723.	5.1	11
3	Chemical Identity of Poly( <i>N</i> -vinylpyrrolidone) End Groups Impact Shape Evolution During the Synthesis of Ag Nanostructures. <i>Journal of the American Chemical Society</i> , 2021, 143, 184-195.	13.7	21
4	Surface-Functionalized Boron Nanoparticles with Reduced Oxide Content by Nonthermal Plasma Processing for Nanoenergetic Applications. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 6844-6853.	8.0	27
5	Kinetics of H <sub>2</sub> Adsorption at the Metal-Support Interface of Au/TiO <sub>2</sub> Catalysts Probed by Broad Background IR Absorbance. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 7735-7743.	13.8	16
6	Kinetics of H <sub>2</sub> Adsorption at the Metal-Support Interface of Au/TiO <sub>2</sub> Catalysts Probed by Broad Background IR Absorbance. <i>Angewandte Chemie</i> , 2021, 133, 7814-7822.	2.0	5
7	Understanding the Solution-Phase Growth of Cu and Ag Nanowires and Nanocubes from First Principles. <i>Langmuir</i> , 2021, 37, 4419-4431.	3.5	11
8	Solvent-Dependent Impact of Spectator Anions on the Thermodynamics of Cation Exchange in CdSe Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2021, 125, 12792-12801.	3.1	5
9	Continuous Injection Isothermal Titration Calorimetry for In Situ Evaluation of Thermodynamic Binding Properties of Ligand-Receptor Binding Models. <i>Journal of Physical Chemistry B</i> , 2021, 125, 8075-8087.	2.6	6
10	Catalyst Design for Selective Hydrogenation of Benzene to Cyclohexene through Density Functional Theory and Microkinetic Modeling. <i>ACS Catalysis</i> , 2021, 11, 11831-11842.	11.2	14
11	Factors controlling the molecular modification of one-dimensional zeolites. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 18610-18617.	2.8	5
12	Diffusion doping of cobalt in rod-shape anatase TiO <sub>2</sub> nanocrystals leads to antiferromagnetism. <i>Nanoscale Advances</i> , 2020, 2, 4853-4862.	4.6	2
13	Enhancement of Alkyne Semi-Hydrogenation Selectivity by Electronic Modification of Platinum. <i>ACS Catalysis</i> , 2020, 10, 6763-6770.	11.2	24
14	Supported Ni-Au Colloid Precursors for Active, Selective, and Stable Alkyne Partial Hydrogenation Catalysts. <i>ACS Catalysis</i> , 2020, 10, 2565-2580.	11.2	28
15	Enhanced Surface Activity of MWW Zeolite Nanosheets Prepared via a One-Step Synthesis. <i>Journal of the American Chemical Society</i> , 2020, 142, 8211-8222.	13.7	57
16	Intermetallics in catalysis: An exciting subset of multimetallic catalysts. <i>Catalysis Today</i> , 2019, 330, 2-15.	4.4	70
17	Polyethylene Glycol (PEG) Addition to Polyethylenimine (PEI)-Impregnated Silica Increases Amine Accessibility during CO <sub>2</sub> Sorption. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 14785-14795.	6.7	28
18	Impact of Transition Metal Carbide and Nitride Supports on the Electronic Structure of Thin Platinum Overlayers. <i>ACS Catalysis</i> , 2019, 9, 7090-7098.	11.2	30

#	ARTICLE	IF	CITATIONS
19	Ag@TiO <sub>2</sub> Hybrid Nanocrystal Photocatalyst: Hydrogen Evolution under UV Irradiation but Not under Visible-Light Irradiation. ACS Applied Energy Materials, 2019, 2, 8274-8282.	5.1	24
20	Revisiting the Polyol Synthesis of Silver Nanostructures: Role of Chloride in Nanocube Formation. ACS Nano, 2019, 13, 1849-1860.	14.6	69
21	Effects of chloride ions in acid-catalyzed biomass dehydration reactions in polar aprotic solvents. Nature Communications, 2019, 10, 1132.	12.8	117
22	Competitive Hydrogenation between Linear Alkenes and Aromatics on Close-Packed Late Transition Metal Surfaces. Journal of Physical Chemistry C, 2019, 123, 8370-8378.	3.1	5
23	Anisotropic Growth of Silver Nanoparticles Is Kinetically Controlled by Polyvinylpyrrolidone Binding. Journal of the American Chemical Society, 2019, 141, 4328-4337.	13.7	77
24	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.	4.4	9
25	On the Limited Role of Electronic Support Effects in Selective Alkyne Hydrogenation: A Kinetic Study of Au/MO <sub>x</sub> Catalysts Prepared from Oleylamine-Capped Colloidal Nanoparticles. ChemCatChem, 2019, 11, 1650-1664.	3.7	9
26	Evaluating differences in the active-site electronics of supported Au nanoparticle catalysts using Hammett and DFT studies. Nature Chemistry, 2018, 10, 268-274.	13.6	78
27	Quantitative Attachment of Bimetal Combinations of Transition-Metal Ions to the Surface of TiO <sub>2</sub> Nanorods. Langmuir, 2018, 34, 5422-5434.	3.5	5
28	Molecular Surface Science, Nanomaterials & Catalysis: Symposium in Honor of Gabor Somorjai at 80. Topics in Catalysis, 2018, 61, 711-713.	2.8	0
29	CO <sub>2</sub> 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.	3.1	6
30	Thermochemical Measurements of Cation Exchange in CdSe Nanocrystals Using Isothermal Titration Calorimetry. Nano Letters, 2018, 18, 6795-6803.	9.1	30
31	Structural elucidation of supported Rh complexes derived from RhCl(PPh <sub>3</sub> ) <sub>3</sub> immobilized on surface-functionalized SBA-15 and their catalytic performance for C-heteroatom (S, O) bond formation. Journal of Catalysis, 2018, 365, 43-54.	6.2	20
32	Investigation of CO <sub>2</sub> Sorption Mechanisms in Isothermal Columns via Transient Material and Energy Balance PDE Models. Industrial & Engineering Chemistry Research, 2018, 57, 10303-10314.	3.7	1
33	Importance of Dimer Quantification for Accurate Catalytic Evaluation of Lactic Acid Dehydration to Acrylic Acid. Industrial & Engineering Chemistry Research, 2017, 56, 5843-5851.	3.7	7
34	Kirkendall Growth of Hollow Mn <sub>3</sub> O <sub>4</sub> Nanoparticles upon Galvanic Reaction of MnO with Cu <sup>2+</sup> and Evaluation as Anode for Lithium-Ion Batteries. Journal of Physical Chemistry C, 2017, 121, 11089-11099.	3.1	34
35	Operando Solid-State NMR Observation of Solvent-Mediated Adsorption-Reaction of Carbohydrates in Zeolites. ACS Catalysis, 2017, 7, 3489-3500.	11.2	70
36	Determination of Bulk and Surface Atomic Arrangement in Ni-Zn <sup>13</sup> -Brass Phase at Different Ni to Zn Ratios. Chemistry of Materials, 2017, 29, 504-512.	6.7	17

#	ARTICLE	IF	CITATIONS
37	Identification of Second Shell Coordination in Transition Metal Species Using Theoretical XANES: Example of Ti <sup>IV</sup> (C, Si, Ge) Complexes. Journal of Physical Chemistry A, 2017, 121, 162-167.	2.5	7
38	Synthesis of cyclic organic carbonates via catalytic oxidative carboxylation of olefins in flow reactors. Catalysis Science and Technology, 2017, 7, 84-89.	4.1	29
39	Development of a robust sulfur quantification and speciation method for SBA-15-supported sulfonic acid catalysts. Catalysis Science and Technology, 2016, 6, 5961-5971.	4.1	15
40	Controlling activity and selectivity using water in the Au-catalysed preferential oxidation of CO in H <sub>2</sub> . Nature Chemistry, 2016, 8, 584-589.	13.6	165
41	Spatiotemporal Modeling and Parametric Estimation of Isothermal CO <sub>2</sub> Adsorption Columns. Industrial & Engineering Chemistry Research, 2016, 55, 6443-6453.	3.7	4
42	Phenomena Affecting Catalytic Reactions at Solid-Liquid Interfaces. ACS Catalysis, 2016, 6, 8286-8307.	11.2	189
43	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.	2.1	51
44	Charge Transfer Stabilization of Late Transition Metal Oxide Nanoparticles on a Layered Niobate Support. Journal of the American Chemical Society, 2015, 137, 16216-16224.	13.7	60
45	Catalysis Science & Technology: Catalysis in the USA. Catalysis Science and Technology, 2015, 5, 1357-1359.	4.1	0
46	In Situ Spectroscopic Characterization of Ni <sub>x</sub> Zn <sub>x</sub> /ZnO Catalysts and Their Selectivity for Acetylene Semihydrogenation in Excess Ethylene. ACS Catalysis, 2015, 5, 3304-3315.	11.2	54
47	Single Site Metal Ions on the Surface of TiO <sub>2</sub> Nanorods - A Platform for Theoretical and Experimental Investigation. ACS Symposium Series, 2015, , 103-116.	0.5	3
48	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.	6.2	9
49	Evidence for geometric effects in neopentane conversion on PdAu catalysts. Catalysis Science and Technology, 2014, 4, 4366-4377.	4.1	15
50	Intermolecular N-H Oxidative Addition of Ammonia, Alkylamines, and Arylamines to a Planar If <sup>3+</sup> -Phosphorus Compound via an Entropy-Controlled Electrophilic Mechanism. Journal of the American Chemical Society, 2014, 136, 4640-4650.	13.7	130
51	X-ray photoelectron spectroscopy of transition metal ions attached to the surface of rod-shape anatase TiO <sub>2</sub> nanocrystals. Inorganica Chimica Acta, 2014, 422, 8-13.	2.4	19
52	Modifying structure-sensitive reactions by addition of Zn to Pd. Journal of Catalysis, 2014, 318, 75-84.	6.2	80
53	Illuminating surface atoms in nanoclusters by differential X-ray absorption spectroscopy. Physical Chemistry Chemical Physics, 2014, 16, 26528-26538.	2.8	10
54	Highly stereoselective anti-Markovnikov hydrothiolation of alkynes and electron-deficient alkenes by a supported Cu-NHC complex. Green Chemistry, 2014, 16, 3916-3925.	9.0	68

#	ARTICLE	IF	CITATIONS
55	Interfacial Bonding Stabilizes Rhodium and Rhodium Oxide Nanoparticles on Layered Nb Oxide and Ta Oxide Supports. <i>Journal of the American Chemical Society</i> , 2014, 136, 5687-5696.	13.7	56
56	Zinc inclusion to heterogeneous nickel catalysts reduces oligomerization during the semi-hydrogenation of acetylene. <i>Journal of Catalysis</i> , 2014, 316, 164-173.	6.2	82
57	Addition of Sulfonic Acids to Terminal Alkynes Catalyzed by a Rhodium Complex: Ligand Concentrationâ€Controlled Reaction Selectivity. <i>ChemCatChem</i> , 2013, 5, 3005-3013.	3.7	22
58	Cu(i)-catalyzed aerobic cross-dehydrogenative coupling of terminal alkynes with thiols for the construction of alkynyl sulfides. <i>Green Chemistry</i> , 2013, 15, 3170.	9.0	68
59	Titaniumâ€Germoxo Precursor Route to Germanium-Modified Epoxidation Catalysts with Enhanced Activity. <i>ACS Catalysis</i> , 2013, 3, 2269-2279.	11.2	28
60	Synthesis and Modeling of Hollow Intermetallic Niâ€Zn Nanoparticles Formed by the Kirkendall Effect. <i>Nano Letters</i> , 2013, 13, 3618-3625.	9.1	82
61	Correlating Heat of Adsorption of CO to Reaction Selectivity: Geometric Effects vs Electronic Effects in Neopentane Isomerization over Pt and Pd Catalysts. <i>ACS Catalysis</i> , 2013, 3, 2487-2496.	11.2	32
62	Characterization of sites of different thermodynamic affinities on the same metal center via isothermal titration calorimetry. <i>Journal of Catalysis</i> , 2013, 302, 1-9.	6.2	13
63	Synthesis of brookite TiO <sub>2</sub> nanorods with isolated Co(ii) surface sites and photocatalytic degradation of 5,8-dihydroxy-1,4-naphthoquinone dye. <i>Journal of Materials Chemistry A</i> , 2013, 1, 7717.	10.3	27
64	Thermodynamic Profiles at the Solvated Inorganicâ€Organic Interface: The Case of Goldâ€Thiolate Monolayers. <i>Nano Letters</i> , 2013, 13, 4442-4448.	9.1	42
65	Highly regio- and stereoselective hydrothiolation of acetylenes with thiols catalyzed by a well-defined supported Rh complex. <i>Chemical Communications</i> , 2011, 47, 6557.	4.1	106
66	Platinum nanoparticle encapsulation during hydrothermal growth of mesoporous oxides: Synthesis, characterization and catalytic properties. <i>Materials Research Society Symposia Proceedings</i> , 2005, 900, 1.	0.1	0
67	Formation of Hollow Nanocrystals Through the Nanoscale Kirkendall Effect. <i>Science</i> , 2004, 304, 711-714.	12.6	3,255