Richard G Finke

List of Publications by Citations

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

120 papers	11,358 citations	53 h-index	106 g-index
123 ext. papers	12,168 ext. citations	9.4 avg, IF	6.74 L-index

#	Paper	IF	Citations
120	A review of the problem of distinguishing true homogeneous catalysis from soluble or other metal-particle heterogeneous catalysis under reducing conditions. *Journal of Molecular Catalysis A*, **2003**, 198, 317-341		1007
119	A review of modern transition-metal nanoclusters: their synthesis, characterization, and applications in catalysis. *Journal of Molecular Catalysis A*, **1999**, 145, 1-44		761
118	Transition Metal Nanocluster Formation Kinetic and Mechanistic Studies. A New Mechanism When Hydrogen Is the Reductant: Slow, Continuous Nucleation and Fast Autocatalytic Surface Growth. *Journal of the American Chemical Society*, **1997**, 119, 10382-10400	16.4	724
117	Protein aggregation kinetics, mechanism, and curve-fitting: a review of the literature. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2009**, 1794, 375-97	4	492
116	Transition-metal nanocluster stabilization for catalysis: A critical review of ranking methods and putative stabilizers. *Coordination Chemistry Reviews*, **2007**, 251, 1075-1100	23.2	390
115	Electrocatalytic water oxidation beginning with the cobalt polyoxometalate [Co4(H2O)2(PW9O34)2]10-: identification of heterogeneous CoOx as the dominant catalyst. *Journal of the American Chemical Society*, **2011**, 133, 14872-5	16.4	355
114	Trivacant heteropolytungstate derivatives. 3. Rational syntheses, characterization, two-dimensional tungsten-183 NMR, and properties of tungstometallophosphates P2W18M4(H2O)2O6810- and P4W30M4(H2O)2O11216- (M = cobalt, copper, zinc). *Inorganic Chemistry*, **1987**, 26, 3886-3896	5.1	354
113	Nanocluster nucleation and growth kinetic and mechanistic studies: a review emphasizing transition-metal nanoclusters. *Journal of Colloid and Interface Science*, **2008**, 317, 351-74	9.3	295
112	Highly oxidation resistant inorganic-porphyrin analog polyoxometalate oxidation catalysts. 1. The synthesis and characterization of aqueous-soluble potassium salts of .alpha.2-P2W17O61(Mn+.cntdot.OH2)(n-10) and organic solvent soluble tetra-n-butylammonium salts of .alpha.2-P2W17O61(Mn+.cntdot.Br)(n-11) (M = Mn3+,Fe3+,Co2+,Ni2+,Cu2+). *Journal of the American Chemical Society*, **1991**, 113, 7209-7221	16.4	288
111	A More General Approach to Distinguishing "Homogeneous" from "Heterogeneous" Catalysis: Discovery of Polyoxoanion- and Bu4N+-Stabilized, Isolable and Redissolvable, High-Reactivity Ir.apprx.190-450 Nanocluster Catalysts. *Inorganic Chemistry*, **1994**, 33, 4891-4910	5.1	266
110	Nanocluster formation and stabilization fundamental studies: ranking commonly employed anionic stabilizers via the development, then application, of five comparative criteria. *Journal of the American Chemical Society*, **2002**, 124, 5796-810	16.4	265
109	Fitting neurological protein aggregation kinetic data via a 2-step, minimal/"Ockham's razor" model: the Finke-Watzky mechanism of nucleation followed by autocatalytic surface growth. *Biochemistry*, **2008**, 47, 2413-27	3.2	226
108	Is it homogeneous or heterogeneous catalysis? Identification of bulk ruthenium metal as the true catalyst in benzene hydrogenations starting with the monometallic precursor, Ru(II)(eta 6-C6Me6)(OAc)2, plus kinetic characterization of the heterogeneous nucleation, then autocatalytic surface-growth mechanism of metal film formation. *Journal of the American Chemical Society*, **2003**, 125, 10301-10	16.4	214
107	Thermolysis of the cobalt-carbon bond of adenosylcobalamin. 2. Products, kinetics, and cobalt-carbon bond dissociation energy in aqueous solution. *Journal of the American Chemical Society*, **1986**, 108, 4820-4829	16.4	210
106	Novel Polyoxoanion- and Bu4N+-Stabilized, Isolable, and Redissolvable, 20-30-.ANG. Ir300-900 Nanoclusters: The Kinetically Controlled Synthesis, Characterization, and Mechanism of Formation of Organic Solvent-Soluble, Reproducible Size, and Reproducible Catalytic Activity Metal Nanoclusters. *Journal of the American Chemical Society*, **1994**, 116, 8335-8353	16.4	203
105	Nanocluster Size-Control and Magic Number Investigations. Experimental Tests of the Living-Metal Polymer Concept and of Mechanism-Based Size-Control Predictions Leading to the Syntheses of Iridium(0) Nanoclusters Centering about Four Sequential Magic Numbers *Chemistry of Materials*, **1997**, 9, 3083-3095	9.6	193
104	A mechanism for transition-metal nanoparticle self-assembly. *Journal of the American Chemical Society*, **2005**, 127, 8179-84	16.4	184

103	Distinguishing Homogeneous from Heterogeneous Water Oxidation Catalysis when Beginning with Polyoxometalates. *ACS Catalysis*, **2014**, 4, 909-933	13.1	173
102	Rh(0) Nanoclusters in Benzene Hydrogenation Catalysis: Kinetic and Mechanistic Evidence that a Putative [(C8H17)3NCH3]+[RhCl4]- Ion-Pair Catalyst Is Actually a Distribution of Cl- and [(C8H17)3NCH3]+ Stabilized Rh(0) Nanoclusters. *Journal of the American Chemical Society*, **1998**, 120, 5653-5666	16.4	166
101	Nanocluster Nucleation, Growth, and Then Agglomeration Kinetic and Mechanistic Studies: A More General, Four-Step Mechanism Involving Double Autocatalysis. *Chemistry of Materials*, **2005**, 17, 4925-4938	9.6	140
100	Transition-metal nanocluster size vs formation time and the catalytically effective nucleus number: a mechanism-based treatment. *Journal of the American Chemical Society*, **2008**, 130, 11959-69	16.4	134
99	A perspective on nanocluster catalysis: polyoxoanion and (n-C4H9)4N+ stabilized Ir(0)~300 nanocluster ?soluble heterogeneous catalysts?*Journal of Molecular Catalysis A*, **1996**, 114, 29-51		133
98	Additional Investigations of a New Kinetic Method To Follow Transition-Metal Nanocluster Formation, Including the Discovery of Heterolytic Hydrogen Activation in Nanocluster Nucleation Reactions. *Chemistry of Materials*, **2001**, 13, 312-324	9.6	132
97	A review of the kinetics and mechanisms of formation of supported-nanoparticle heterogeneous catalysts. *Journal of Molecular Catalysis A*, **2012**, 355, 1-38		126
96	Is it homogeneous or heterogeneous catalysis derived from [RhCp*Cl2]2? In operando XAFS, kinetic, and crucial kinetic poisoning evidence for subnanometer Rh4 cluster-based benzene hydrogenation catalysis. *Journal of the American Chemical Society*, **2011**, 133, 18889-902	16.4	126
95	Trivacant heteropolytungstate derivatives: the rational synthesis, characterization, and tungsten-183 NMR spectra of P2W18M4(H2O)2O6810- (M = cobalt,copper,zinc). *Journal of the American Chemical Society*, **1981**, 103, 1587-1589	16.4	122
94	Nanocluster Formation Synthetic, Kinetic, and Mechanistic Studies.?The Detection of, and Then Methods To Avoid, Hydrogen Mass-Transfer Limitations in the Synthesis of Polyoxoanion- and Tetrabutylammonium-Stabilized, Near-Monodisperse 40 ? 6 ?Rh(0) Nanoclusters. *Journal of the American Chemical Society*, **1998**, 120, 9545-9554	16.4	117
93	Is it homogeneous or heterogeneous catalysis? Compelling evidence for both types of catalysts derived from [Rh(eta5-C5Me5)Cl2]2 as a function of temperature and hydrogen pressure. *Journal of the American Chemical Society*, **2005**, 127, 4423-32	16.4	113
92	Water Oxidation Catalysis Beginning with 2.5 ?M [Co4(H2O)2(PW9O34)2]10?Investigation of the True Electrochemically Driven Catalyst at ?600 mV Overpotential at a Glassy Carbon Electrode. *ACS Catalysis*, **2013**, 3, 1209-1219	13.1	108
91	Supramolecular Triruthenium Cluster-Based Benzene Hydrogenation Catalysis:?Fact or Fiction?. *Organometallics*, **2005**, 24, 1819-1831	3.8	107
90	Is There a Minimal Chemical Mechanism Underlying Classical Avrami-Erofe?ev Treatments of Phase-Transformation Kinetic Data?. *Chemistry of Materials*, **2009**, 21, 4692-4705	9.6	104
89	An All-Inorganic, Polyoxometalate-Based Catechol Dioxygenase That Exhibits >100 000 Catalytic Turnovers. *Journal of the American Chemical Society*, **1999**, 121, 9831-9842	16.4	102
88	Trisubstituted heteropolytungstates as soluble metal oxide analogues. 4. The synthesis and characterization of organic solvent-soluble (Bu4N)12H4P4W30Nb6O123 and (Bu4N)9P2W15Nb3O62 and solution spectroscopic and other evidence for the supported organometallic derivatives (Bu4N)7[(C5Me5)Rh.cntdot.P2W15Nb3O62] and (Bu4N)7[(C6H6)Ru.cntdot.P2W15Nb3O62]. *Organometallics*, **1988**, 7, 1692-1704	3.8	99
87	Nanoclusters in catalysis: a comparison of CS(2) catalyst poisoning of polyoxoanion- and tetrabutylammonium-stabilized 40 +/- 6 A Rh(0) nanoclusters to 5 Rh/Al(2)O(3), including an analysis of the literature related to the CS(2) to metal stoichiometry issue. *Inorganic Chemistry*, **2002**, 41, 1625-38	5.1	97
86	Effects of paramagnetic and diamagnetic transition-metal monosubstitutions on tungsten-183 and phosphorus-31 NMR spectra for Keggin and Wells-Dawson heteropolytungstate derivatives. Correlations and corrections. Tungsten-183 NMR two-dimensional INADEQUATE studies of .alpha.-[(D2O)ZnO4Xn+W11O34](10-n)- wherein Xn+ = Si4+ and P5+. *Journal of the American Chemical Society*, **1987**, 109, 7402-7408	16.4	94

85	Visible-light-assisted photoelectrochemical water oxidation by thin films of a phosphonate-functionalized perylene diimide plus CoOx cocatalyst. *ACS Applied Materials & Interfaces*, **2014**, 6, 13367-77	9.5	91
84	Synthetic and mechanistic studies of the reduction of .alpha.,.beta.-unsaturated carbonyl compounds by the binuclear cluster, sodium hydrogen octacarbonyldiferrate. *Journal of the American Chemical Society*, **1978**, 100, 1119-1140	16.4	87
83	Polyoxoanion-Supported Catalyst Precursors. Synthesis and Characterization of the Iridium(I) and Rhodium(I) Precatalysts [(n-C4H9)4N]5Na3[(1,5-COD)M.cntdot.P2W15Nb3O62] (M = Ir, Rh). *Inorganic Chemistry*, **1995**, 34, 1413-1429	5.1	86
82	Nanocluster formation and stabilization fundamental studies: investigating "solvent-only" stabilization en route to discovering stabilization by the traditionally weakly coordinating anion BF4- plus high dielectric constant solvents. *Inorganic Chemistry*, **2006**, 45, 8382-93	5.1	85
81	Molecular insights for how preferred oxoanions bind to and stabilize transition-metal nanoclusters: a tridentate, C3 symmetry, lattice size-matching binding model. *Coordination Chemistry Reviews*, **2004**, 248, 135-146	23.2	79
80	Polyoxometalate Catalyst Precursors. Improved Synthesis, H+-Titration Procedure, and Evidence for 31P NMR as a Highly Sensitive Support-Site Indicator for the Prototype Polyoxoanion�Organometallic-Support System [(n-C4H9)4N]9P2W15Nb3O62. *Inorganic Chemistry*, **1996**, 35, 7905-7913	5.1	76
79	Water-oxidation photoanodes using organic light-harvesting materials: a review. *Journal of Materials Chemistry A*, **2017**, 5, 19560-19592	13	74
78	Transition-Metal Nanocluster Kinetic and Mechanistic Studies Emphasizing Nanocluster Agglomeration: Demonstration of a Kinetic Method That Allows Monitoring of All Three Phases of Nanocluster Formation and Aging. *Chemistry of Materials*, **2004**, 16, 139-150	9.6	73
77	Polyoxoanion- and Tetrabutylammonium-Stabilized, Near-Monodisperse, 40 � 6 �Rh(0)~1500 to Rh(0)~3700 Nanoclusters: Synthesis, Characterization, and Hydrogenation Catalysis. *Chemistry of Materials*, **1999**, 11, 1035-1047	9.6	73
76	The Four-Step, Double-Autocatalytic Mechanism for Transition-Metal Nanocluster Nucleation, Growth, and Then Agglomeration: Metal, Ligand, Concentration, Temperature, and Solvent Dependency Studies. *Chemistry of Materials*, **2008**, 20, 1956-1970	9.6	72
75	Water Oxidation Catalysis Beginning with Co4(H2O)2(PW9O34)210�When Driven by the Chemical Oxidant Ruthenium(III)tris(2,2?-bipyridine): Stoichiometry, Kinetic, and Mechanistic Studies en Route to Identifying the True Catalyst. *ACS Catalysis*, **2014**, 4, 79-89	13.1	69
74	Fitting yeast and mammalian prion aggregation kinetic data with the Finke-Watzky two-step model of nucleation and autocatalytic growth. *Biochemistry*, **2008**, 47, 10790-800	3.2	68
73	Iridium(0) nanocluster, acid-assisted catalysis of neat acetone hydrogenation at room temperature: exceptional activity, catalyst lifetime, and selectivity at complete conversion. *Journal of the American Chemical Society*, **2005**, 127, 4800-8	16.4	68
72	Transition-Metal Nanocluster Stabilization Fundamental Studies: Hydrogen Phosphate as a Simple, Effective, Readily Available, Robust, and Previously Unappreciated Stabilizer for Well-Formed, Isolable, and Redissolvable Ir(0) and Other Transition-Metal Nanoclusters. *Langmuir*, **2003**, 19, 6247-6260	4	65
71	Sigmoidal Nucleation and Growth Curves Across Nature Fit by the Finke�Watzky Model of Slow Continuous Nucleation and Autocatalytic Growth: Explicit Formulas for the Lag and Growth Times Plus Other Key Insights. *Journal of Physical Chemistry C*, **2017**, 121, 5302-5312	3.8	64
70	LaMer� 1950 Model for Particle Formation of Instantaneous Nucleation and Diffusion-Controlled Growth: A Historical Look at the Model� Origins, Assumptions, Equations, and Underlying Sulfur Sol Formation Kinetics Data. *Chemistry of Materials*, **2019**, 31, 7116-7132	9.6	60
69	In situ formed "weakly ligated/labile ligand" iridium(0) nanoparticles and aggregates as catalysts for the complete hydrogenation of neat benzene at room temperature and mild pressures. *Langmuir*, **2010**, 26, 12455-64	4	59
68	Monitoring supported-nanocluster heterogeneous catalyst formation: product and kinetic evidence for a 2-step, nucleation and autocatalytic growth mechanism of Pt(0)n formation from H2PtCl6 on Al2O3 or TiO2. *Journal of the American Chemical Society*, **2009**, 131, 6389-96	16.4	57

67	Alpha-synuclein aggregation variable temperature and variable pH kinetic data: a re-analysis using the Finke-Watzky 2-step model of nucleation and autocatalytic growth. *Biophysical Chemistry*, **2009**, 140, 9-15	3.5	52
66	Fitting and Interpreting Transition-Metal Nanocluster Formation and Other Sigmoidal-Appearing Kinetic Data: A More Thorough Testing of Dispersive Kinetic vs Chemical-Mechanism-Based Equations and Treatments for 4-Step Type Kinetic Data. *Chemistry of Materials*, **2009**, 21, 4468-4479	9.6	51
65	Nanocluster Formation and Stabilization Fundamental Studies. 2. Proton Sponge as an Effective H+Scavenger and Expansion of the Anion Stabilization Ability Series. *Langmuir*, **2002**, 18, 7653-7662	4	51
64	Nucleation is second order: an apparent kinetically effective nucleus of two for Ir(0)n nanoparticle formation from [(1,5-COD)Ir(I)□P2W15Nb3O62]8- plus hydrogen. *Journal of the American Chemical Society*, **2014**, 136, 17601-15	16.4	50
63	Development plus kinetic and mechanistic studies of a prototype supported-nanoparticle heterogeneous catalyst formation system in contact with solution: Ir(1,5-COD)Cl/gamma-Al2O3 and its reduction by H2 to Ir(0)n/gamma-Al2O3. *Journal of the American Chemical Society*, **2010**, 132, 9701-14	16.4	50
62	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
61	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
60	Quantitative 1,10-Phenanthroline Catalyst-Poisoning Kinetic Studies of Rh(0) Nanoparticle and Rh4 Cluster Benzene Hydrogenation Catalysts: Estimates of the Poison Kassociation Binding Constants, of the Equivalents of Poison Bound and of the Number of Catalytically Active Sites for Each Catalyst. *ACS Catalysis*, **2012**, 2, 1967-1975	13.1	44
59	Electrochemical Water Oxidation Catalysis Beginning with Co(II) Polyoxometalates: The Case of the Precatalyst Co4V2W18O6810□*ACS Catalysis*, **2017**, 7, 7-16	13.1	42
58	Oxygenation Catalysis by All-Inorganic, Oxidation-Resistant, Dawson-Type Polyoxoanion-Supported Transition Metal Precatalysts, [(CH3CN)xM]n+ Plus P2W15Nb3O629- (M = MnII, FeII, CoII, NiII, CuI, CuII, ZnII). *Inorganic Chemistry*, **1999**, 38, 2579-2591	5.1	41
57	Electrochemically Driven Water-Oxidation Catalysis Beginning with Six Exemplary Cobalt Polyoxometalates: Is It Molecular, Homogeneous Catalysis or Electrode-Bound, Heterogeneous CoO Catalysis?. *Journal of the American Chemical Society*, **2018**, 140, 12040-12055	16.4	41
56	A test of the transition-metal nanocluster formation and stabilization ability of the most common polymeric stabilizer, poly(vinylpyrrolidone), as well as four other polymeric protectants. *Langmuir*, **2006**, 22, 9357-67	4	39
55	A four-step mechanism for the formation of supported-nanoparticle heterogenous catalysts in contact with solution: the conversion of Ir(1,5-COD)Cl/□Al2O3 to Ir(0)(~170)/□Al2O3. *Journal of the American Chemical Society*, **2014**, 136, 1930-41	16.4	38
54	Kinetic and mechanistic studies of vanadium-based, extended catalytic lifetime catechol dioxygenases. *Journal of the American Chemical Society*, **2005**, 127, 13988-96	16.4	38
53	Gold Nanocluster Agglomeration Kinetic Studies: Evidence for Parallel Bimolecular Plus Autocatalytic Agglomeration Pathways as a Mechanism-Based Alternative to an Avrami-Based Analysis. *Chemistry of Materials*, **2012**, 24, 1718-1725	9.6	37
52	The solid-state rearrangement of the Wells-Dawson K6P2W18O62□10H2O to a stable Keggin-type heteropolyanion phase: a catalyst for the selective oxidation of isobutane to isobutene. *Catalysis Letters*, **1996**, 36, 75-79	2.8	36
51	Nanoparticle Nucleation Is Termolecular in Metal and Involves Hydrogen: Evidence for a Kinetically Effective Nucleus of Three {IrH□PWNbO} in Ir(0) Nanoparticle Formation From [(1,5-COD)Ir□PWNbO] Plus Dihydrogen. *Journal of the American Chemical Society*, **2017**, 139, 5444-5457	16.4	35
50	Sensitization of Nanocrystalline Metal Oxides with a Phosphonate-Functionalized Perylene Diimide for Photoelectrochemical Water Oxidation with a CoO Catalyst. *ACS Applied Materials & Interfaces*, **2017**, 9, 27625-27637	9.5	30

49	Mechanism-Enabled Population Balance Modeling of Particle Formation en Route to Particle Average Size and Size Distribution Understanding and Control. *Journal of the American Chemical Society*, **2019**, 141, 15827-15839	16.4	29
48	Transition-Metal Nanocluster Stabilization versus Agglomeration Fundamental Studies: Measurement of the Two Types of Rate Constants for Agglomeration Plus Their Activation Parameters under Catalytic Conditions. *Chemistry of Materials*, **2008**, 20, 2592-2601	9.6	29
47	Transition-Metal Nanocluster Catalysts: Scaled-up Synthesis, Characterization, Storage Conditions, Stability, and Catalytic Activity before and after Storage of Polyoxoanion- and Tetrabutylammonium-Stabilized Ir(0) Nanoclusters. *Chemistry of Materials*, **2003**, 15, 899-909	9.6	29
46	Supported-nanoparticle heterogeneous catalyst formation in contact with solution: kinetics and proposed mechanism for the conversion of Ir(1,5-COD)Cl/□Al2O3 to Ir(0)(~900)/□Al2O3. *Journal of the American Chemical Society*, **2011**, 133, 7744-56	16.4	28
45	Platinum-catalyzed phenyl and methyl group transfer from tin to iridium: evidence for an autocatalytic reaction pathway with an unusual preference for methyl transfer. *Journal of the American Chemical Society*, **2008**, 130, 1839-41	16.4	27
44	Autoxidation-product-initiated dioxygenases: vanadium-based, record catalytic lifetime catechol dioxygenase catalysis. *Inorganic Chemistry*, **2005**, 44, 8521-30	5.1	25
43	Palladium(0) Nanoparticle Formation, Stabilization, and Mechanistic Studies: Pd(acac)□as a Preferred Precursor, [Bu□N]□HPO□Stabilizer, plus the Stoichiometry, Kinetics, and Minimal, Four-Step Mechanism of the Palladium Nanoparticle Formation and Subsequent Agglomeration Reactions. *Langmuir*, **2016**, 32, 3699-716	4	23
42	Determination of the Dominant Catalyst Derived from the Classic [RhCp*Cl2]2 Precatalyst System: Is it Single-Metal Rh1Cp*-Based, Subnanometer Rh4 Cluster-Based, or Rh(0)n Nanoparticle-Based Cyclohexene Hydrogenation Catalysis at Room Temperature and Mild Pressures?. *ACS Catalysis*, **2015**, 5, 3876-3886	13.1	22
41	Unintuitive Inverse Dependence of the Apparent Turnover Frequency on Precatalyst Concentration: A Quantitative Explanation in the Case of Ziegler-Type Nanoparticle Catalysts Made from [(1,5-COD)Ir(□O2C8H15)]2 and AlEt3. *ACS Catalysis*, **2015**, 5, 3342-3353	13.1	21
40	Stereospecific Polymerization of Chiral Oxazolidinone-Functionalized Alkenes. *Macromolecules*, **2010**, 43, 7504-7514	5.5	20
39	LaMer's 1950 model of particle formation: a review and critical analysis of its classical nucleation and fluctuation theory basis, of competing models and mechanisms for phase-changes and particle formation, and then of its application to silver halide, semiconductor, metal, and metal-oxide nanoparticles. *Materials Advances*, **2021**, 2, 186-235	3.3	20
38	Particle Size Distributions via Mechanism-Enabled Population Balance Modeling. *Journal of Physical Chemistry C*, **2020**, 124, 4852-4880	3.8	19
37	Silver Nanoparticles Synthesized by Microwave Heating: A Kinetic and Mechanistic Re-Analysis and Re-Interpretation. *Journal of Physical Chemistry C*, **2017**, 121, 27643-27654	3.8	19
36	The Second Isolable B12-Thiolate Complex, (Pentafluorophenylthiolato)cobalamin:□Synthesis and Characterization. *Inorganic Chemistry*, **1998**, 37, 5109-5116	5.1	19
35	Dust Effects on Nucleation Kinetics and Nanoparticle Product Size Distributions: Illustrative Case Study of a Prototype Ir(0) Transition-Metal Nanoparticle Formation System. *Langmuir*, **2017**, 33, 6550-6562	4	18
34	Gold Nanoparticle Formation Kinetics and Mechanism: A Critical Analysis of the "Redox Crystallization" Mechanism. *ACS Omega*, **2018**, 3, 1555-1563	3.9	17
33	Polyoxoanion-Supported, Atomically Dispersed Iridium(I) and Rhodium(I): Na3[(C4H9)4N]5[Ir[□-Nb3P2W15O62]{□4-C8H12}] and Na3[(C4H9)4N]5[Rh[□-Nb3P2W15O62]{□4-C8H12}]. *Inorganic Syntheses*, **2007**, 186-201		17
32	Synthesis and characterization of [Ir(1,5-cyclooctadiene)(□-H)]4: a tetrametallic Ir4H4-core, coordinatively unsaturated cluster. *Inorganic Chemistry*, **2012**, 51, 3186-93	5.1	16

31	Metal Complexes of the Lacunary Heteropolytungstates [B-□-PW9O34]9- and [□-P2W15O56]12-. *Inorganic Syntheses*, **2007**, 167-185		16
30	Triniobium, Wells-Dawson-type polyoxoanion, [(n-C4H9)4N]9P2W15Nb3O62: improvements in the synthesis, its reliability, the purity of the product, and the detailed synthetic procedure. *Inorganic Chemistry*, **2014**, 53, 2666-76	5.1	15
29	Supersensitivity of transition-metal nanoparticle formation to initial precursor concentration and reaction temperature: understanding its origins. *Journal of Nanoscience and Nanotechnology*, **2008**, 8, 1551-6	1.3	15
28	Cobalt Polyoxometalate Co4V2W18O68(10-): A Critical Investigation of Its Synthesis, Purity, and Observed (51)V Quadrupolar NMR. *Inorganic Chemistry*, **2016**, 55, 5343-55	5.1	15
27	Kinetic Evidence for Bimolecular Nucleation in Supported-Transition-Metal-Nanoparticle Catalyst Formation in Contact with Solution: The Prototype Ir(1,5-COD)Cl/□Al2O3 to Ir(0)~900/□Al2O3 System. *ACS Catalysis*, **2012**, 2, 298-305	13.1	14
26	Nucleation Kinetics and Molecular Mechanism in Transition-Metal Nanoparticle Formation: The Intriguing, Informative Case of a Bimetallic Precursor, {[(1,5-COD)IrI□HPO4]2}2□*Chemistry of Materials*, **2019**, 31, 2848-2862	9.6	13
25	Response to □Particle Size Is a Primary Determinant for Sigmoidal Kinetics of Nanoparticle Formation: A □Disproof□of the Finke□Watzky (F-W) Nanoparticle Nucleation and Growth Mechanism□*Chemistry of Materials*, **2020**, 32, 3657-3672	9.6	13
24	Hydrocarbon-Soluble, Isolable Ziegler-Type Ir(0)n Nanoparticle Catalysts Made from [(1,5-COD)Ir(□O2C8H15)]2 and 2□5 Equivalents of AlEt3: Their High Catalytic Activity, Long Lifetime, and AlEt3-Dependent, Exceptional, 200 □C Thermal Stability. *ACS Catalysis*, **2012**, 2, 632-641	13.1	13
23	Transition-Metal Nanocluster Kinetic and Mechanistic Studies Emphasizing Nanocluster Agglomeration: Demonstration of a Kinetic Method That Allows Monitoring of All Three Phases of Nanocluster Formation and Aging. *Chemistry of Materials*, **2004**, 16, 3972-3972	9.6	13
22	Nanoparticle Formation Kinetics and Mechanistic Studies Important to Mechanism-Based Particle-Size Control: Evidence for Ligand-Based Slowing of the Autocatalytic Surface Growth Step Plus Postulated Mechanisms. *Journal of Physical Chemistry C*, **2019**, 123, 14047-14057	3.8	12
21	Synthesis of gamma-phosphate-linked nucleoside affinity chromatography resins for protein purification, including ribonucleoside triphosphate reductase. *Nucleosides & Nucleotides*, **1998**, 17, 1453-71		12
20	Copper ion vs copper metal-organic framework catalyzed NO release from bioavailable S-Nitrosoglutathione en route to biomedical applications: Direct H NMR monitoring in water allowing identification of the distinct, true reaction stoichiometries and thiol dependencies. *Journal of Inorganic Biochemistry*, **2019**, 198, 110760	4.2	11
19	Catalyst Sintering Kinetics Data: Is There a Minimal Chemical Mechanism Underlying Kinetics Previously Fit by Empirical Power-Law Expressions□and if So, What Are Its Implications?. *Industrial & Engineering Chemistry Research*, **2017**, 56, 10271-10286	3.9	10
18	The hydrogenphosphate complex of (1,5-cyclooctadiene)iridium(I), {[Bu4N][(1,5-COD)Ir □HPO4]}n: synthesis, spectroscopic characterization, and ES-MS of a new, preferred precursor to HPO42□and Bu4N+ stabilized Ir(0)n nanoclusters. *Journal of Organometallic Chemistry*, **2004**, 689, 493-501	2.3	10
17	Synthesis of Heterogeneous Ir0~600□900/□Al2O3 in One Pot From the Precatalyst Ir(1,5-COD)Cl/□Al2O3: Discovery of Two Competing Trace □Ethyl Acetate Effects□on the Nucleation Step and Resultant Product. *ACS Catalysis*, **2016**, 6, 5449-5461	13.1	9
16	Dust Effects on Ir(0) Nanoparticle Formation Nucleation and Growth Kinetics and Particle Size-Distributions: Analysis by and Insights from Mechanism-Enabled Population Balance Modeling. *Langmuir*, **2020**, 36, 1496-1506	4	8
15	Copper Metal-Organic Framework Surface Catalysis: Catalyst Poisoning, IR Spectroscopic, and Kinetic Evidence Addressing the Nature and Number of the Catalytically Active Sites En Route to Improved Applications. *ACS Applied Materials & Interfaces*, **2020**, 12, 39043-39055	9.5	8
14	□Burst Nucleation□vs Autocatalytic, □Burst□Growth in Near-Monodisperse Particle-Formation Reactions. *Journal of Physical Chemistry C*, **2020**, 124, 24543-24554	3.8	8

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