James K Mccusker

List of Publications by Year
in descending order

53 papers	7,215 citations	94269 37 h-index	174990 52 g-index
57 all docs	57 docs citations	57 times ranked	6572 citing authors

#	Article	IF	Citations
1	Femtosecond Dynamics of Excited-State Evolution in [Ru(bpy)3]2+. Science, 1997, 275, 54-57.	6.0	673
2	The photophysics of photoredox catalysis: a roadmap for catalyst design. Chemical Society Reviews, 2016, 45, 5803-5820.	18.7	636
3	Using coherence to enhance function in chemical and biophysical systems. Nature, 2017, 543, 647-656.	13.7	477
4	Photosensitized, energy transfer-mediated organometallic catalysis through electronically excited nickel(II). Science, 2017, 355, 380-385.	6.0	398
5	Femtosecond Absorption Spectroscopy of Transition Metal Charge-Transfer Complexes. Accounts of Chemical Research, 2003, 36, 876-887.	7.6	386
6	Ultrafast Electron Localization Dynamics Following Photo-Induced Charge Transfer. Science, 2000, 289, 935-938.	6.0	365
7	Femtosecond Excited-State Dynamics of an Iron(II) Polypyridyl Solar Cell Sensitizer Model. Journal of the American Chemical Society, 2000, 122, 4092-4097.	6.6	281
8	Effects of Intraligand Electron Delocalization, Steric Tuning, and Excited-State Vibronic Coupling on the Photophysics of Aryl-Substituted Bipyridyl Complexes of Ru(II). Journal of the American Chemical Society, 1997, 119, 8253-8268.	6.6	271
9	Exploiting chemistry and molecular systems for quantum information science. Nature Reviews Chemistry, 2020, 4, 490-504.	13.8	247
10	Ultrafast Dynamics in the Metal-to-Ligand Charge Transfer Excited-State Evolution of [Ru(4,4â€˜-diphenyl-2,2â€˜-bipyridine)3]2+. Journal of Physical Chemistry A, 1999, 103, 8440-8446.	1.1	212
11	Ground- and Excited-State Electronic Structures of the Solar Cell Sensitizer Bis(4,4â€˜-dicarboxylato-2,2â€˜-bipyridine)bis(isothiocyanato)ruthenium(II). Journal of Physical Chemistry A, 2002, 106, 7399-7406.	1.1	207
12	Variable-Temperature Studies of Laser-Initiated5T2â†'1A1Intersystem Crossing in Spin-Crossover Complexes:Â Empirical Correlations between Activation Parameters and Ligand Structure in a Series of Polypyridyl Ferrous Complexes. Inorganic Chemistry, 1996, 35, 2100-2112.	1.9	205
13	Electronic structure in the transition metal block and its implications for light harvesting. Science, 2019, 363, 484-488.	6.0	204
14	Transient Absorption Spectroscopy of Ruthenium and Osmium Polypyridyl Complexes Adsorbed onto Nanocrystalline TiO2 Photoelectrodes. Journal of Physical Chemistry B, 2002, 106, 9347-9358.	1.2	191
15	Ultrafast dynamics of ligand-field excited states. Coordination Chemistry Reviews, 2006, 250, 1783-1791.	9.5	184
16	Picosecond X-ray Absorption Spectroscopy of a Photoinduced Iron(II) Spin Crossover Reaction in Solution. Journal of Physical Chemistry A, 2006, 110, 38-44.	1.1	171
17	Femtosecond Soft X-ray Spectroscopy of Solvated Transition-Metal Complexes: Deciphering the Interplay of Electronic and Structural Dynamics. Journal of Physical Chemistry Letters, 2011, 2, 880-884.	2.1	169
18	Subpicosecond 1MLCT .fwdarw. 5T2 intersystem crossing of low-spin polypyridyl ferrous complexes. Journal of the American Chemical Society, 1993, 115, 298-307.	6.6	165

#	Article	IF	Citations
19	Femtosecond Time-Resolved Optical and Raman Spectroscopy of Photoinduced Spin Crossover: Temporal Resolution of Low-to-High Spin Optical Switching. Journal of the American Chemical Society, 2008, 130, 14105-14107.	6.6	149
20	Photo-Induced Spin-State Conversion in Solvated Transition Metal Complexes Probed via Time-Resolved Soft X-ray Spectroscopy. Journal of the American Chemical Society, 2010, 132, 6809-6816.	6.6	135
21	Ultrafast Dynamics of2E State Formation in Cr(acac)3. Journal of the American Chemical Society, 2005, 127, 6857-6865.	6.6	111
22	Blue-Fluorescent Antibodies. Science, 2000, 290, 307-313.	6.0	110
23	Synthesis and Characterization of a High-Symmetry Ferrous Polypyridyl Complex: Approaching the ⁵T₂/³T₁ Crossing Point for Fe^{II}. Inorganic Chemistry, 2014, 53, 15-17.	1.9	105
24	Vibrational coherence in the excited state dynamics of Cr(acac)3: probing the reaction coordinate for ultrafast intersystem crossing. Chemical Science, 2010, 1, 405.	3.7	90
25	Theoretical Studies of Steric Effects on Intraligand Electron Delocalization: Implications for the Temporal Evolution of MLCT Excited States. Journal of Physical Chemistry A, 1998, 102, 3382-3397.	1.1	86
26	Leveraging excited-state coherence for synthetic control of ultrafast dynamics. Nature, 2020, 582, 214-218.	13.7	76
27	Spectroelectrochemical identification of charge-transfer excited states in transition metal-based polypyridyl complexes. Dalton Transactions, 2014, 43, 17635-17646.	1.6	75
28	Sub-picosecond .DELTA.S = 2 intersystem crossing in low-spin ferrous complexes. Journal of the American Chemical Society, 1992, 114, 6919-6920.	6.6	72
29	Spin Exchange Effects on the Physicochemical Properties of Tetraoxolene-Bridged Bimetallic Complexes. Inorganic Chemistry, 2007, 46, 3257-3274.	1.9	60
30	Density functional theory of spin-coupled models for diiron-oxo proteins: Effects of oxo and hydroxo bridging on geometry, electronic structure, and magnetism. Journal of Chemical Physics, 2002, 116, 6253-6270.	1.2	56
31	Static and Time-Resolved Spectroscopic Studies of Low-Symmetry Ru(II) Polypyridyl Complexes. Journal of Physical Chemistry A, 1999, 103, 7032-7041.	1.1	55
32	Density Functional Theory Analysis of Electronic Structure Variations across the Orthoquinone/Semiquinone/Catechol Redox Series. Journal of Physical Chemistry A, 1999, 103, 4101-4112.	1.1	54
33	Insights into the excited state dynamics of Fe(<scp>ii</scp>) polypyridyl complexes from variable-temperature ultrafast spectroscopy. Chemical Science, 2019, 10, 134-144.	3.7	53
34	Mechanistic Origin of Photoredox Catalysis Involving Iron(II) Polypyridyl Chromophores. Journal of the American Chemical Society, 2020, 142, 16229-16233.	6.6	52
35	Synthesis and Spectroscopic Characterization of CN-Substituted Bipyridyl Complexes of Ru(II). Inorganic Chemistry, 2011, 50, 1656-1669.	1.9	49
36	Ligand-field symmetry effects in Fe(ii) polypyridyl compounds probed by transient X-ray absorption spectroscopy. Faraday Discussions, 2012, 157, 463.	1.6	49

#	Article	IF	Citations
37	Angular Momentum Conservation in Dipolar Energy Transfer. Science, 2011, 334, 1684-1687.	6.0	38
38	Variable-Temperature Emission Studies of Solvation Dynamics:â€‰ Evidence for Coupling of Solvation to Chromophore Structural Dynamics in the Evolution of Charge-Transfer Excited States. Inorganic Chemistry, 1999, 38, 4268-4277.	1.9	36
39	Using Ultrafast X-ray Spectroscopy To Address Questions in Ligand-Field Theory: The Excited State Spin and Structure of [Fe(dcpp)₂]²⁺. Inorganic Chemistry, 2019, 58, 9341-9350.	1.9	29
40	Ion-pair reorganization regulates reactivity in photoredox catalysts. Nature Chemistry, 2022, 14, 746-753.	6.6	28
41	Bimolecular Electron and Energy Transfer Reactivity of Exchange-Coupled Dinuclear Iron(III) Complexes. Inorganic Chemistry, 2001, 40, 6802-6812.	1.9	27
42	A Modular Approach to Light Capture and Synthetic Tuning of the Excited-State Properties of Fe(II)-Based Chromophores. Journal of the American Chemical Society, 2021, 143, 8086-8098.	6.6	25
43	Ligand-Field Spectroscopy of Co(III) Complexes and the Development of a Spectrochemical Series for Low-Spin d⁶Charge-Transfer Chromophores. Journal of the American Chemical Society, 2022, 144, 12488-12500.	6.6	22
44	Vibrational Relaxation and Redistribution Dynamics in Ruthenium(II) Polypyridyl-Based Charge-Transfer Excited States: AÂCombined Ultrafast Electronic and Infrared Absorption Study. Journal of Physical Chemistry A, 2018, 122, 7941-7953.	1.1	20
45	PHOTOCATALYSIS: Enhanced: Fuel from Photons. Science, 2001, 293, 1599-1601.	6.0	19
46	Influence of Electrolyte Composition on Ultrafast Interfacial Electron Transfer in Fe-Sensitized TiO₂-Based Solar Cells. Journal of Physical Chemistry C, 2020, 124, 1794-1811.	1.5	19
47	Energy Transfer Dynamics in Re^Iâ˜Based Polynuclear Assemblies: A Quantitative Application of FÃ¶rster Theory. Inorganic Chemistry, 2008, 47, 7249-7261.	1.9	18
48	Attenuated Total Reflection Design for in Situ FT-IR Spectroelectrochemical Studies. Analytical Chemistry, 2001, 73, 4374-4378.	3.2	14
49	Outer-sphere effects on ligand-field excited-state dynamics: solvent dependence of high-spin to low-spin conversion in [Fe(bpy)3]2+. Chemical Science, 2020, 11, 5191-5204.	3.7	11
50	Enlightened state. Nature Physics, 2014, 10, 476-477.	6.5	10
51	Electronic structure of [Ga2(tren)2(CAsq,cat)](BPh4)2(BF4): An EPR, ENDOR, and density functional study. Inorganica Chimica Acta, 2008, 361, 3539-3547.	1.2	6
52	On the use of vibronic coherence to identify reaction coordinates for ultrafast excited-state dynamics of transition metal-based chromophores. Faraday Discussions, 0, 237, 274-299.	1.6	5
53	Optical and Infrared Spectroelectrochemical Studies of CN-Substituted Bipyridyl Complexes of Ruthenium(II). Inorganic Chemistry, 2021, 60, 3514-3523.	1.9	4