Kevin J Kubarych

List of Publications by Year
in descending order

87	2,925	126708	174990
papers	citations	33 h-index	52 g-index

91	91	91	2288
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Vibrational Spectroscopic Map, Vibrational Spectroscopy, and Intermolecular Interaction. Chemical Reviews, 2020, 120, 7152-7218.	23.0	205
2	Site-Specific Coupling of Hydration Water and Protein Flexibility Studied in Solution with Ultrafast 2D-IR Spectroscopy. Journal of the American Chemical Society, 2012, 134, 18705-18712.	6.6	152
3	Crowding Induced Collective Hydration of Biological Macromolecules over Extended Distances. Journal of the American Chemical Society, 2014, 136, 188-194.	6.6	122
4	Ultrabroadband detection of a mid-IR continuum by chirped-pulse upconversion. Optics Letters, 2011, 36, 187.	1.7	99
5	Two-Dimensional Infrared Spectroscopy of Metal Carbonyls. Accounts of Chemical Research, 2009, 42, 1395-1404.	7.6	98
6	Diffractive optics-based six-wave mixing: Heterodyne detection of the full Ï‡(5) tensor of liquid CS2. Journal of Chemical Physics, 2002, 116, 2016-2042.	1.2	96
7	Chapter 5 Multidimensional Electronic and Vibrational Spectroscopy. Advances in Atomic, Molecular and Optical Physics, 2009, 57, 249-321.	2.3	85
8	Two-dimensional infrared spectroscopy detected by chirped pulse upconversion. Optics Letters, 2007, 32, 713.	1.7	84
9	Dynamics of Rhenium Photocatalysts Revealed through Ultrafast Multidimensional Spectroscopy. Accounts of Chemical Research, 2015, 48, 1123-1130.	7.6	79
10	Site-Specific Hydration Dynamics of Globular Proteins and the Role of Constrained Water in Solvent Exchange with Amphiphilic Cosolvents. Journal of Physical Chemistry B, 2012, 116, 5604-5611.	1.2	75
11	Diffractive optics based two-color six-wave mixing: phase contrast heterodyne detection of the fifth order Raman response of liquids. Chemical Physics Letters, 2000, 327, 334-342.	1.2	67
12	Multilevel vibrational coherence transfer and wavepacket dynamics probed with multidimensional IR spectroscopy. Journal of Chemical Physics, 2008, 129, 084503.	1.2	67
13	Solvent-Dependent Spectral Diffusion in a Hydrogen Bonded â€œVibrational Aggregateâ€• Journal of Physical Chemistry A, 2010, 114, 10590-10604.	1.1	67
14	Water-Assisted Vibrational Relaxation of a Metal Carbonyl Complex Studied with Ultrafast 2D-IR. Journal of Physical Chemistry B, 2012, 116, 3754-3759.	1.2	66
15	Polarized XANES Monitors Femtosecond Structural Evolution of Photoexcited Vitamin B₁₂. Journal of the American Chemical Society, 2017, 139, 1894-1899.	6.6	64
16	Fifth-order two-dimensional Raman spectroscopy: A new direct probe of the liquid state. International Reviews in Physical Chemistry, 2003, 22, 497-532.	0.9	63
17	Fourier transform measurement of two-photon excitation spectra: applications to microscopy and optimal control. Optics Letters, 2005, 30, 911.	1.7	63
18	Diffractive optics implementation of six-wave mixing. Optics Letters, 2000, 25, 853.	1.7	59

#	Article	IF	Citations
19	Mid-infrared electric field characterization using a visible charge-coupled-device-based spectrometer. Optics Letters, 2005, 30, 1228.	1.7	58
20	Multiple Structures and Dynamics of [CpRu(CO)2]2and [CpFe(CO)2]2in Solution Revealed with Two-Dimensional Infrared Spectroscopy. Inorganic Chemistry, 2011, 50, 9273-9283.	1.9	57
21	Ultrafast nonequilibrium Fourier-transform two-dimensional infrared spectroscopy. Optics Letters, 2008, 33, 2533.	1.7	50
22	Watching solvent friction impede ultrafast barrier crossings: A direct test of Kramers theory. Journal of Chemical Physics, 2010, 133, 174506.	1.2	47
23	Dissecting Enthalpic and Entropic Barriers to Ultrafast Equilibrium Isomerization of a Flexible Molecule Using 2DIR Chemical Exchange Spectroscopy. Journal of Physical Chemistry A, 2009, 113, 6544-6547.	1.1	45
24	Solvent-hindered intramolecular vibrational redistribution. Physical Chemistry Chemical Physics, 2011, 13, 5579.	1.3	43
25	Solvent-Dependent Dynamics of a Series of Rhenium Photoactivated Catalysts Measured with Ultrafast 2DIR. Journal of Physical Chemistry A, 2015, 119, 959-965.	1.1	39
26	Molecular Theory and Simulation of Coherence Transfer in Metal Carbonyls and Its Signature on Multidimensional Infrared Spectra. Journal of Physical Chemistry B, 2011, 115, 5322-5339.	1.2	38
27	Equilibrium Excited State Dynamics of a Photoactivated Catalyst Measured with Ultrafast Transient 2DIR. Journal of Physical Chemistry A, 2014, 118, 9853-9860.	1.1	38
28	Heterodyne detected fifth-order Raman response of liquid CS2: â€˜Dutch Crossâ€™ polarization. Chemical Physics Letters, 2003, 369, 635-642.	1.2	36
29	Direct observation of ligand transfer and bond formation in cytochrome c oxidase by using mid-infrared chirped-pulse upconversion. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15705-15710.	3.3	36
30	Accelerated 2D-IR Using Compressed Sensing. Journal of Physical Chemistry Letters, 2013, 4, 2489-2492.	2.1	36
31	Measuring absorptive two-dimensional infrared spectra using chirped-pulse upconversion detection. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 382.	0.9	35
32	Histidine Orientation Modulates the Structure and Dynamics of a de Novo Metalloenzyme Active Site. Journal of the American Chemical Society, 2015, 137, 10164-10176.	6.6	35
33	Ultrafast equilibrium and non-equilibrium chemical reaction dynamics probed with multidimensional infrared spectroscopy. International Reviews in Physical Chemistry, 2012, 31, 367-419.	0.9	34
34	Ultrafast X-ray Absorption Near Edge Structure Reveals Ballistic Excited State Structural Dynamics. Journal of Physical Chemistry A, 2018, 122, 4963-4971.	1.1	34
35	Site-Specific Measurements of Lipid Membrane Interfacial Water Dynamics with Multidimensional Infrared Spectroscopy. Journal of Physical Chemistry B, 2013, 117, 15407-15414.	1.2	33
36	Multispectral multidimensional spectrometer spanning the ultraviolet to the mid-infrared. Review of Scientific Instruments, 2019, 90, 013108.	0.6	33

#	Article	IF	Citations
37	Structurally Selective Geminate Rebinding Dynamics of Solvent-Caged Radicals Studied with Nonequilibrium Infrared Echo Spectroscopy. Journal of the American Chemical Society, 2009, 131, 13590-13591.	6.6	32
38	Interfacial Hydration Dynamics in Cationic Micelles Using 2D-IR and NMR. Journal of Physical Chemistry B, 2017, 121, 9621-9630.	1.2	31
39	Orientational Dynamics of Transient Molecules Measured by Nonequilibrium Two-Dimensional Infrared Spectroscopy. Journal of Physical Chemistry A, 2009, 113, 8907-8916.	1.1	29
40	Ultrafast Vibrational Stark-Effect Spectroscopy: Exploring Charge-Transfer Reactions by Directly Monitoring the Solvation Shell Response. Journal of the American Chemical Society, 2010, 132, 12784-12785.	6.6	27
41	Ultrafast 2D-IR and Simulation Investigations of Preferential Solvation and Cosolvent Exchange Dynamics. Journal of Physical Chemistry B, 2015, 119, 6271-6279.	1.2	27
42	An â€œIcebergâ€•Coating Preserves Bulk Hydration Dynamics in Aqueous PEG Solutions. Journal of Physical Chemistry B, 2017, 121, 10574-10582.	1.2	27
43	Two-dimensional infrared spectroscopy of coordination complexes: From solvent dynamics to photocatalysis. Coordination Chemistry Reviews, 2018, 372, 153-178.	9.5	26
44	Ultrafast<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>-Like Relaxation of a Fragile Glass-Forming Liquid Measured Using Two-Dimensional Infrared Spectroscopy. Physical Review Letters, 2012, 108, 157401.	2.9	25
45	The Photoactive Excited State of the B₁₂-Based Photoreceptor CarH. Journal of Physical Chemistry B, 2020, 124, 10732-10738.	1.2	25
46	Local-Mode Approach to Modeling Multidimensional Infrared Spectra of Metal Carbonyls. Journal of Physical Chemistry A, 2011, 115, 5354-5363.	1.1	24
47	Characterization of mid-infrared femtosecond pulses [Invited]. Journal of the Optical Society of America B: Optical Physics, 2008, 25, A54.	0.9	22
48	Two-Dimensional Infrared Spectroscopy of Dimanganese Decacarbonyl and Its Photoproducts: An Ab Initio Study. Journal of Physical Chemistry A, 2009, 113, 9617-9623.	1.1	21
49	Rapid and Accurate Measurement of the Frequencyâ€“Frequency Correlation Function. Journal of Physical Chemistry A, 2013, 117, 5891-5898.	1.1	21
50	Solvent exchange in preformed photocatalyst-donor precursor complexes determines efficiency. Chemical Science, 2018, 9, 1527-1533.	3.7	19
51	Isolating Polaritonic 2D-IR Transmission Spectra. Journal of Physical Chemistry Letters, 2021, 12, 11406-11414.	2.1	19
52	Dynamic Flexibility of Hydrogenase Active Site Models Studied with 2D-IR Spectroscopy. Journal of Physical Chemistry A, 2017, 121, 608-615.	1.1	18
53	Ultrafast XANES Monitors Femtosecond Sequential Structural Evolution in Photoexcited Coenzyme B₁₂. Journal of Physical Chemistry B, 2020, 124, 199-209.	1.2	17
54	Beyond 7-Azaindole: Conjugation Effects on Intermolecular Double Hydrogen-Atom Transfer Reactions. Journal of Physical Chemistry A, 2009, 113, 4862-4867.	1.1	16

#	Article	IF	Citations
55	Monitoring equilibrium reaction dynamics of a nearly barrierless molecular rotor using ultrafast vibrational echoes. Journal of Chemical Physics, 2014, 141, 134313.	1.2	16
56	Heterogeneous Preferential Solvation of Water and Trifluoroethanol in Homologous Lysozymes. Journal of Physical Chemistry B, 2014, 118, 8118-8127.	1.2	14
57	NOESY-Like 2D-IR Spectroscopy Reveals Non-Gaussian Dynamics. Journal of Physical Chemistry Letters, 2016, 7, 3819-3824.	2.1	14
58	Ultrafast 2DIR probe of a host-guest inclusion complex: Structural and dynamical constraints of nanoconfinement. Journal of Chemical Physics, 2013, 138, 144501.	1.2	13
59	Probing the Excited State of Methylcobalamin Using Polarized Time-Resolved X-ray Absorption Spectroscopy. Journal of Physical Chemistry B, 2019, 123, 6042-6048.	1.2	12
60	Oxidation-State-Dependent Vibrational Dynamics Probed with 2D-IR. Journal of Physical Chemistry A, 2017, 121, 2896-2902.	1.1	11
61	Mechanistic Study of Charge Separation in a Nonfullerene Organic Donorâ€“Acceptor Blend Using Multispectral Multidimensional Spectroscopy. Journal of Physical Chemistry Letters, 2021, 12, 3410-3416.	2.1	11
62	Vibrational coherence transfer illuminates dark modes in models of the FeFe hydrogenase active site. Journal of Chemical Physics, 2019, 151, .	1.2	10
63	Antivitamins B₁₂ in a Microdrop: The Excited-State Structure of a Precious Sample Using Transient Polarized X-ray Absorption Near-Edge Structure. Journal of Physical Chemistry Letters, 2019, 10, 5484-5489.	2.1	10
64	Diffractive optics implementation of time- and frequency-domain heterodyne-detected six-wave mixing. Applied Physics B: Lasers and Optics, 2002, 74, s107-s112.	1.1	9
65	Transmission Mode 2D-IR Spectroelectrochemistry of In Situ Electrocatalytic Intermediates. Journal of Physical Chemistry Letters, 2021, 12, 3712-3717.	2.1	9
66	Direct comparison of amplitude and geometric measures of spectral inhomogeneity using phase-cycled 2D-IR spectroscopy. Journal of Chemical Physics, 2021, 154, 174202.	1.2	8
67	Biomolecular hydration dynamics probed with 2D-IR spectroscopy: From dilute solution to a macromolecular crowd. Chinese Chemical Letters, 2015, 26, 435-438.	4.8	7
68	Transient Vibrational Echo versus Transient Absorption Spectroscopy: A Direct Experimental and Theoretical Comparison. Applied Spectroscopy, 2010, 64, 1037-1044.	1.2	5
69	Solvent Quality Controls Macromolecular Structural Dynamics of a Dendrimeric Hydrogenase Model. Journal of Physical Chemistry B, 2018, 122, 12154-12163.	1.2	4
70	Ultrafast vibrational dynamics of a solute correlates with dynamics of the solvent. Journal of Chemical Physics, 2021, 155, 134502.	1.2	4
71	Tracking Ultrafast Chemical Reaction Dynamics Using Transient 2DIR Spectroscopy. , 2010, , .		1
72	Fourier Transform Measurement of Two-Photon Excitation Spectra: Applications to Microscopy and Quantum Control. Springer Series in Chemical Physics, 2005, , 575-577.	0.2	1

#	Article	IF	Citations
73	Ultrafast Spectroscopy of Hydrogenase Enzyme Models. Springer Series in Optical Sciences, 2019, , 237-258.	0.5	1
74	Charge generation mediated by bound polaron pairs and delocalized charge transfer states in non-fullerene organic solar cells. , 2020, , .		1
75	Ultrafast slaving dynamics at the protein-water interface studied with 2D-IR spectroscopy. EPJ Web of Conferences, 2013, 41, 05030.	0.1	0
76	Hydrophobic hydration of globular proteins studied with 2D-IR spectroscopy. EPJ Web of Conferences, 2013, 41, 06008.	0.1	0
77	A simple lattice Monte Carlo simulation to model interfacial and crowded water rearrangements. Chemical Physics, 2020, 531, 110653.	0.9	0
78	Detection of Ultrafast Infrared Electric Fields by Chirped-Pulse Upconversion. , 2006, , .		0
79	Detection of Ultrafast Infrared Electric Fields by Chirped-Pulse Upconversion. Springer Series in Chemical Physics, 2007, , 178-180.	0.2	0
80	Vibrational Coherence Decay in Metal Carbonyls: Solvent Dependence of Coherence Lifetimes Studied with MDIR. Springer Series in Chemical Physics, 2009, , 322-324.	0.2	0
81	Direct observation of ligand transfer and bond formation in cytochrome c oxidase using mid-infrared chirped-pulse upconversion. Springer Series in Chemical Physics, 2009, , 541-543.	0.2	0
82	Watching Chemical Reactions and Dynamics with Ultrafast Multidimensional Infrared Spectroscopy. , 2010, , .		0
83	Structurally-Sensitive Rebinding Dynamics of Solvent-Caged Radical Pairs: Exploring the Viscosity Dependence. , 2010, , .		0
84	Detecting the Influence of Ions on Protein Hydration Dynamics with Site-Specific 2D-IR. , 2014, , .		0
85	Electronic Ground and Excited State Spectral Diffusion of a Photocatalyst. , 2014, , .		0
86	Preferential Solvation of a Rhenium Photocatalyst Facilitates Ultrafast Intermolecular Electron Transfer. , 2016, , .		0
87	Relaxation and Coherence Transfer in Dual-Mode Vibrational Polaritons Tracked with 2DIR. , 2020, , .		0