

# Carlos R Baiz

## List of Publications by Year in descending order

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66  
papers

1,872  
citations

257101

24  
h-index

276539

41  
g-index

69  
all docs

69  
docs citations

69  
times ranked

1696  
citing authors

#	ARTICLE	IF	CITATIONS
1	Vibrational Spectroscopic Map, Vibrational Spectroscopy, and Intermolecular Interaction. <i>Chemical Reviews</i> , 2020, 120, 7152-7218.	23.0	205
2	Ultrabroadband detection of a mid-IR continuum by chirped-pulse upconversion. <i>Optics Letters</i> , 2011, 36, 187.	1.7	99
3	Two-Dimensional Infrared Spectroscopy of Metal Carbonyls. <i>Accounts of Chemical Research</i> , 2009, 42, 1395-1404.	7.6	98
4	Quantifying Hydrogenâ€Bond Populations in Dimethyl Sulfoxide/Water Mixtures. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 11375-11379.	7.2	94
5	Coordination to lanthanide ions distorts binding site conformation in calmodulin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E3126-E3134.	3.3	90
6	Ultrafast 2D IR microscopy. <i>Optics Express</i> , 2014, 22, 18724.	1.7	69
7	Multilevel vibrational coherence transfer and wavepacket dynamics probed with multidimensional IR spectroscopy. <i>Journal of Chemical Physics</i> , 2008, 129, 084503.	1.2	67
8	Solvent-Dependent Spectral Diffusion in a Hydrogen Bonded â€Vibrational Aggregateâ€. <i>Journal of Physical Chemistry A</i> , 2010, 114, 10590-10604.	1.1	67
9	Coherent two-dimensional infrared spectroscopy: Quantitative analysis of protein secondary structure in solution. <i>Analyst</i> , 2012, 137, 1793.	1.7	65
10	An Empirical IR Frequency Map for Ester Câ€O Stretching Vibrations. <i>Journal of Physical Chemistry A</i> , 2016, 120, 3888-3896.	1.1	54
11	Ultrafast nonequilibrium Fourier-transform two-dimensional infrared spectroscopy. <i>Optics Letters</i> , 2008, 33, 2533.	1.7	50
12	Direct observation of ground-state lactamâ€lactim tautomerization using temperature-jump transient 2D IR spectroscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 9243-9248.	3.3	50
13	A Molecular Interpretation of 2D IR Protein Folding Experiments with Markov State Models. <i>Biophysical Journal</i> , 2014, 106, 1359-1370.	0.2	48
14	Studying Proteinâ€Protein Binding through T-Jump Induced Dissociation: Transient 2D IR Spectroscopy of Insulin Dimer. <i>Journal of Physical Chemistry B</i> , 2016, 120, 5134-5145.	1.2	42
15	Molecular Theory and Simulation of Coherence Transfer in Metal Carbonyls and Its Signature on Multidimensional Infrared Spectra. <i>Journal of Physical Chemistry B</i> , 2011, 115, 5322-5339.	1.2	38
16	Crowding Stabilizes DMSOâ€Water Hydrogen-Bonding Interactions. <i>Journal of Physical Chemistry B</i> , 2018, 122, 5984-5990.	1.2	37
17	Ultrafast equilibrium and non-equilibrium chemical reaction dynamics probed with multidimensional infrared spectroscopy. <i>International Reviews in Physical Chemistry</i> , 2012, 31, 367-419.	0.9	34
18	Structurally Selective Geminate Rebinding Dynamics of Solvent-Caged Radicals Studied with Nonequilibrium Infrared Echo Spectroscopy. <i>Journal of the American Chemical Society</i> , 2009, 131, 13590-13591.	6.6	32

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19	Physiological Calcium Concentrations Slow Dynamics at the Lipid-Water Interface. <i>Biophysical Journal</i> , 2018, 115, 1541-1551.	0.2	30
20	Ultrafast Dynamics at Lipid-Water Interfaces. <i>Accounts of Chemical Research</i> , 2020, 53, 1860-1868.	7.6	30
21	Oriental Dynamics of Transient Molecules Measured by Nonequilibrium Two-Dimensional Infrared Spectroscopy. <i>Journal of Physical Chemistry A</i> , 2009, 113, 8907-8916.	1.1	29
22	Amide I Two-Dimensional Infrared Spectroscopy: Methods for Visualizing the Vibrational Structure of Large Proteins. <i>Journal of Physical Chemistry A</i> , 2013, 117, 5955-5961.	1.1	29
23	Liquid-Liquid Phase Separation Produces Fast H-Bond Dynamics in DMSO-Water Mixtures. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 1903-1908.	2.1	28
24	Ultrafast Vibrational Stark-Effect Spectroscopy: Exploring Charge-Transfer Reactions by Directly Monitoring the Solvation Shell Response. <i>Journal of the American Chemical Society</i> , 2010, 132, 12784-12785.	6.6	27
25	Ultrafast Dynamics at the Lipid-Water Interface: DMSO Modulates H-Bond Lifetimes. <i>Langmuir</i> , 2020, 36, 6502-6511.	1.6	27
26	Visualizing KcsA Conformational Changes upon Ion Binding by Infrared Spectroscopy and Atomistic Modeling. <i>Journal of Physical Chemistry B</i> , 2015, 119, 5824-5831.	1.2	25
27	Quantifying Hydrogen-Bond Populations in Dimethyl Sulfoxide/Water Mixtures. <i>Angewandte Chemie</i> , 2017, 129, 11533-11537.	1.6	25
28	Local-Mode Approach to Modeling Multidimensional Infrared Spectra of Metal Carbonyls. <i>Journal of Physical Chemistry A</i> , 2011, 115, 5354-5363.	1.1	24
29	Structural Disorder of Folded Proteins: Isotope-Edited 2D IR Spectroscopy and Markov State Modeling. <i>Biophysical Journal</i> , 2015, 108, 1747-1757.	0.2	23
30	Interfacial H-Bond Dynamics in Reverse Micelles: The Role of Surfactant Heterogeneity. <i>Langmuir</i> , 2019, 35, 11463-11470.	1.6	23
31	Interfacial Dynamics in Lipid Membranes: The Effects of Headgroup Structures. <i>Journal of Physical Chemistry B</i> , 2021, 125, 1343-1350.	1.2	23
32	Ultrafast Spectroscopy of Lipid-Water Interfaces: Transmembrane Crowding Drives H-Bond Dynamics. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 4093-4098.	2.1	22
33	Two-Dimensional Infrared Spectroscopy of Dimanganese Decacarbonyl and Its Photoproducts: An Ab Initio Study. <i>Journal of Physical Chemistry A</i> , 2009, 113, 9617-9623.	1.1	21
34	Slow Oil, Slow Water: Long-Range Dynamic Coupling across a Liquid-Liquid Interface. <i>Journal of the American Chemical Society</i> , 2020, 142, 8063-8067.	6.6	18
35	Molecular heterogeneity in aqueous cosolvent systems. <i>Journal of Chemical Physics</i> , 2020, 152, 190901.	1.2	17
36	Molecular Mechanism of Cell Membrane Protection by Sugars: A Study of Interfacial H-Bond Networks. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 9602-9607.	2.1	17

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37	Beyond 7-Azaindole: Conjugation Effects on Intermolecular Double Hydrogen-Atom Transfer Reactions. <i>Journal of Physical Chemistry A</i> , 2009, 113, 4862-4867.	1.1	16
38	Empirical S=O stretch vibrational frequency map. <i>Journal of Chemical Physics</i> , 2019, 151, 234107.	1.2	16
39	Short- and long-range crowding effects on water's hydrogen bond networks. <i>Cell Reports Physical Science</i> , 2021, 2, 100419.	2.8	15
40	Pump Slice Amplitudes: A Simple and Robust Method for Connecting Two-Dimensional Infrared and Fourier Transform Infrared Spectra. <i>Journal of Physical Chemistry A</i> , 2021, 125, 6498-6504.	1.1	15
41	Site-Specific Peptide Probes Detect Buried Water in a Lipid Membrane. <i>Biophysical Journal</i> , 2019, 116, 1692-1700.	0.2	13
42	Theoretical Studies of Conjugation Effects on Excited State Intramolecular Hydrogen-Atom Transfer Reactions in Model Systems. <i>Journal of Physical Chemistry A</i> , 2007, 111, 10139-10143.	1.1	11
43	Vibrational Relaxation in EDTA Is Ion-Dependent. <i>Journal of Physical Chemistry A</i> , 2018, 122, 6585-6592.	1.1	11
44	Non-Additive Effects of Binding Site Mutations in Calmodulin. <i>Biochemistry</i> , 2019, 58, 2730-2739.	1.2	10
45	Calcium-Lipid Interactions Observed with Isotope-Edited Infrared Spectroscopy. <i>Biophysical Journal</i> , 2020, 118, 2694-2702.	0.2	9
46	Ions Slow Water Dynamics at Nonionic Surfactant Interfaces. <i>Journal of Physical Chemistry B</i> , 2020, 124, 11895-11900.	1.2	8
47	Lanthanide-dependent coordination interactions in lanmodulin: a 2D IR and molecular dynamics simulations study. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 21690-21700.	1.3	8
48	Generative Adversarial Neural Networks for Denoising Coherent Multidimensional Spectra. <i>Journal of Physical Chemistry A</i> , 2022, 126, 3816-3825.	1.1	8
49	Spatial Control of the Self-assembled Block Copolymer Domain Orientation and Alignment on Photopatterned Surfaces. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 23399-23409.	4.0	7
50	Bursting the bubble: A molecular understanding of surfactant-water interfaces. <i>Journal of Chemical Physics</i> , 2021, 154, 170901.	1.2	7
51	Origin of thiocyanate spectral shifts in water and organic solvents. <i>Journal of Chemical Physics</i> , 2022, 156, 104106.	1.2	6
52	Transient Vibrational Echo versus Transient Absorption Spectroscopy: A Direct Experimental and Theoretical Comparison. <i>Applied Spectroscopy</i> , 2010, 64, 1037-1044.	1.2	5
53	Phase Transition in a Heterogeneous Membrane: Atomically Detailed Picture. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 5263-5267.	2.1	5
54	Infrared spectroscopy probes ion binding geometries. <i>Methods in Enzymology</i> , 2021, 651, 157-191.	0.4	5

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55	Ultrafast pH-jump two-dimensional infrared spectroscopy. <i>Optics Letters</i> , 2019, 44, 4937.	1.7	5
56	Dynamic effect of polymers at the surfactant-water interface: an ultrafast study. <i>Soft Matter</i> , 2022, 18, 1793-1800.	1.2	4
57	Rapid and Sequential Dual Oxime Ligation Enables De Novo Formation of Functional Synthetic Membranes from Water-Soluble Precursors. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	4
58	Interfacial Dynamics in Inverted-Headgroup Lipid Membranes. <i>Journal of Chemical Physics</i> , 2022, 156, 075102.	1.2	3
59	Proton-modulated interactions of ions with transport sites of prokaryotic and eukaryotic NCX prototypes. <i>Cell Calcium</i> , 2021, 99, 102476.	1.1	2
60	Interactive Tools for Teaching Fourier Transforms. <i>The Biophysicist</i> , 2020, 1, .	0.1	2
61	Titelbild: Quantifying Hydrogen-Bond Populations in Dimethyl Sulfoxide/Water Mixtures (Angew.) Tj ETQq1 1 0.784314 rgBT /Overlo	1.6	0
62	Fast Dynamics of Lipid Mixtures Investigated with Vibrational Spectroscopy. <i>Biophysical Journal</i> , 2020, 118, 85a.	0.2	0
63	Viewpoint on ACS PHYS Division Sponsored Virtual Seminars. <i>Journal of Physical Chemistry C</i> , 2021, 125, 4342-4342.	1.5	0
64	Viewpoint on ACS PHYS Division Sponsored Virtual Seminars. <i>Journal of Physical Chemistry A</i> , 2021, 125, 1680-1680.	1.1	0
65	Viewpoint on ACS PHYS Division Sponsored Virtual Seminars. <i>Journal of Physical Chemistry B</i> , 2021, 125, 1973-1973.	1.2	0
66	Rapid and Sequential Dual Oxime Ligation Enables De Novo Formation of Functional Synthetic Membranes from Water-Soluble Precursors. <i>Angewandte Chemie</i> , 0, , .	1.6	0