

John B Asbury

List of Publications by Year in descending order

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9,006
citations

61984

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43889

91
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102
all docs

102
docs citations

102
times ranked

8800
citing authors

#	ARTICLE	IF	CITATIONS
1	Colloidal-quantum-dot photovoltaics using atomic-ligand passivation. <i>Nature Materials</i> , 2011, 10, 765-771.	27.5	1,375
2	Ultrafast Electron Transfer Dynamics from Molecular Adsorbates to Semiconductor Nanocrystalline Thin Films. <i>Journal of Physical Chemistry B</i> , 2001, 105, 4545-4557.	2.6	594
3	Water Dynamics: Vibrational Echo Correlation Spectroscopy and Comparison to Molecular Dynamics Simulations. <i>Journal of Physical Chemistry A</i> , 2004, 108, 1107-1119.	2.5	436
4	Ultrafast Dynamics of Solute-Solvent Complexation Observed at Thermal Equilibrium in Real Time. <i>Science</i> , 2005, 309, 1338-1343.	12.6	416
5	Femtosecond IR Study of Excited-State Relaxation and Electron-Injection Dynamics of Ru(dcbpy) ₂ (NCS) ₂ in Solution and on Nanocrystalline TiO ₂ and Al ₂ O ₃ Thin Films. <i>Journal of Physical Chemistry B</i> , 1999, 103, 3110-3119.	2.6	385
6	Dynamics of water probed with vibrational echo correlation spectroscopy. <i>Journal of Chemical Physics</i> , 2004, 121, 12431.	3.0	337
7	Dynamics of Electron Injection in Nanocrystalline Titanium Dioxide Films Sensitized with [Ru(4,4'-dicarboxy-2,2'-bipyridine) ₂ (NCS) ₂] by Infrared Transient Absorption. <i>Journal of Physical Chemistry B</i> , 1998, 102, 6455-6458.	2.6	292
8	Evidences of hot excited state electron injection from sensitizer molecules to TiO ₂ nanocrystalline thin films. <i>Research on Chemical Intermediates</i> , 2001, 27, 393-406.	2.7	284
9	Watching Hydrogen Bonds Break: A Transient Absorption Study of Water. <i>Journal of Physical Chemistry A</i> , 2004, 108, 10957-10964.	2.5	264
10	Enhanced Mobility-Lifetime Products in PbS Colloidal Quantum Dot Photovoltaics. <i>ACS Nano</i> , 2012, 6, 89-99.	14.6	244
11	Parameters Affecting Electron Injection Dynamics from Ruthenium Dyes to Titanium Dioxide Nanocrystalline Thin Film. <i>Journal of Physical Chemistry B</i> , 2003, 107, 7376-7386.	2.6	226
12	Bridge Length-Dependent Ultrafast Electron Transfer from Re Polypyridyl Complexes to Nanocrystalline TiO ₂ Thin Films Studied by Femtosecond Infrared Spectroscopy. <i>Journal of Physical Chemistry B</i> , 2000, 104, 11957-11964.	2.6	207
13	Direct Observation of Ultrafast Electron Injection from Coumarin 343 to TiO ₂ Nanoparticles by Femtosecond Infrared Spectroscopy. <i>Journal of Physical Chemistry B</i> , 1998, 102, 6482-6486.	2.6	196
14	Observation of Two Triplet-Pair Intermediates in Singlet Exciton Fission. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2370-2375.	4.6	186
15	Interfacial Electron Transfer between Fe(II)(CN) ₆ and TiO ₂ Nanoparticles: Direct Electron Injection and Nonexponential Recombination. <i>Journal of Physical Chemistry B</i> , 1998, 102, 10208-10215.	2.6	181
16	Back Electron Transfer from TiO ₂ Nanoparticles to Fe(III)(CN) ₆ : Origin of Non-Single-Exponential and Particle Size Independent Dynamics. <i>Journal of Physical Chemistry B</i> , 2000, 104, 93-104.	2.6	168
17	Water dynamics: dependence on local structure probed with vibrational echo correlation spectroscopy. <i>Chemical Physics Letters</i> , 2004, 386, 295-300.	2.6	131
18	Hydrogen Bond Dynamics Probed with Ultrafast Infrared Heterodyne-Detected Multidimensional Vibrational Stimulated Echoes. <i>Physical Review Letters</i> , 2003, 91, 237402.	7.8	122

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19	Effect of Trap States on Interfacial Electron Transfer between Molecular Absorbates and Semiconductor Nanoparticles. <i>Journal of Physical Chemistry B</i> , 2002, 106, 10191-10198.	2.6	119
20	Dynamic Disorder Dominates Delocalization, Transport, and Recombination in Halide Perovskites. <i>Chem</i> , 2018, 4, 2826-2843.	11.7	104
21	Multiple-Exponential Electron Injection in Ru(dcbpy) ₂ (SCN) ₂ Sensitized ZnO Nanocrystalline Thin Films. <i>Journal of Physical Chemistry B</i> , 1999, 103, 6643-6647.	2.6	103
22	Beyond the Adiabatic Limit: Charge Photogeneration in Organic Photovoltaic Materials. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2255-2263.	4.6	101
23	Striking the right balance of intermolecular coupling for high-efficiency singlet fission. <i>Chemical Science</i> , 2018, 9, 6240-6259.	7.4	97
24	Hydrogen Bond Networks: Structure and Evolution after Hydrogen Bond Breaking. <i>Journal of Physical Chemistry B</i> , 2004, 108, 6544-6554.	2.6	94
25	Barrierless Free Carrier Formation in an Organic Photovoltaic Material Measured with Ultrafast Vibrational Spectroscopy. <i>Journal of the American Chemical Society</i> , 2009, 131, 15986-15987.	13.7	93
26	Watching Electrons Move in Real Time: Ultrafast Infrared Spectroscopy of a Polymer Blend Photovoltaic Material. <i>Journal of the American Chemical Society</i> , 2007, 129, 15884-15894.	13.7	89
27	Molecular Origins of Defects in Organohalide Perovskites and Their Influence on Charge Carrier Dynamics. <i>Journal of Physical Chemistry C</i> , 2016, 120, 12392-12402.	3.1	89
28	Influence of Acceptor Structure on Barriers to Charge Separation in Organic Photovoltaic Materials. <i>Journal of Physical Chemistry C</i> , 2012, 116, 4824-4831.	3.1	86
29	Probing the Electrostatics of Active Site Microenvironments along the Catalytic Cycle for <i>Escherichia coli</i> Dihydrofolate Reductase. <i>Journal of the American Chemical Society</i> , 2014, 136, 10349-10360.	13.7	85
30	Dynamic Exchange During Triplet Transport in Nanocrystalline TIPS-Pentacene Films. <i>Journal of the American Chemical Society</i> , 2016, 138, 16069-16080.	13.7	84
31	Approaching Bulk Carrier Dynamics in Organo-Halide Perovskite Nanocrystalline Films by Surface Passivation. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 1148-1153.	4.6	83
32	Ultrafast Excited-State Dynamics of Re(CO) ₃ Cl(dcbpy) in Solution and on Nanocrystalline TiO ₂ and ZrO ₂ Thin Films. <i>Journal of Physical Chemistry A</i> , 2000, 104, 4291-4299.	2.5	81
33	Vibrational echo correlation spectroscopy probes of hydrogen bond dynamics in water and methanol. <i>Journal of Luminescence</i> , 2004, 107, 271-286.	3.1	80
34	Domain Compositions and Fullerene Aggregation Govern Charge Photogeneration in Polymer/Fullerene Solar Cells. <i>Advanced Energy Materials</i> , 2014, 4, 1400116.	19.5	77
35	Ultrafast heterodyne detected infrared multidimensional vibrational stimulated echo studies of hydrogen bond dynamics. <i>Chemical Physics Letters</i> , 2003, 374, 362-371.	2.6	75
36	Formation and Dissociation of Intra-Intermolecular Hydrogen-Bonded Solute-Solvent Complexes: Chemical Exchange Two-Dimensional Infrared Vibrational Echo Spectroscopy. <i>Journal of the American Chemical Society</i> , 2006, 128, 2977-2987.	13.7	75

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37	Time-Dependent Vibration Stokes Shift during Solvation: Experiment and Theory. Bulletin of the Chemical Society of Japan, 2002, 75, 973-983.	3.2	72
38	Hydrogen bond breaking probed with multidimensional stimulated vibrational echo correlation spectroscopy. Journal of Chemical Physics, 2003, 119, 12981-12997.	3.0	67
39	Reproducibility of cavity-enhanced chemical reaction rates in the vibrational strong coupling regime. Journal of Chemical Physics, 2021, 154, 191103.	3.0	63
40	Ultrafast vibrational spectroscopy of charge-carrier dynamics in organic photovoltaic materials. Physical Chemistry Chemical Physics, 2009, 11, 2575.	2.8	62
41	Direct Observation of Correlated Triplet Pair Dynamics during Singlet Fission Using Ultrafast Mid-IR Spectroscopy. Journal of Physical Chemistry C, 2018, 122, 2012-2022.	3.1	62
42	Sub-Picosecond IR Study of the Reactive Intermediate in an Alkane C-H Bond Activation Reaction by CpRh(CO) ₂ . Organometallics, 1998, 17, 3417-3419.	2.3	57
43	Solution-processable, crystalline material for quantitative singlet fission. Materials Horizons, 2017, 4, 915-923.	12.2	56
44	Time-Resolved Infrared Spectroscopy Directly Probes Free and Trapped Carriers in Organo-Halide Perovskites. ACS Energy Letters, 2017, 2, 651-658.	17.4	43
45	Triplet Transfer Mediates Triplet Pair Separation during Singlet Fission in 6,13-Bis(triisopropylsilylethynyl)Pentacene. Advanced Functional Materials, 2017, 27, 1703929.	14.9	40
46	Harnessing Molecular Vibrations to Probe Triplet Dynamics During Singlet Fission. Journal of Physical Chemistry Letters, 2017, 8, 5700-5706.	4.6	39
47	Direct Observation of a Picosecond Alkane C-H Bond Activation Reaction at Iridium. Journal of the American Chemical Society, 2000, 122, 12870-12871.	13.7	37
48	Using ultrafast infrared multidimensional correlation spectroscopy to aid in vibrational spectral peak assignments. Chemical Physics Letters, 2003, 381, 139-146.	2.6	36
49	Using molecular vibrations to probe exciton delocalization in films of perylene diimides with ultrafast mid-IR spectroscopy. Physical Chemistry Chemical Physics, 2017, 19, 24829-24839.	2.8	35
50	Lattice Anharmonicity: A Double-Edged Sword for 3D Perovskite-Based Optoelectronics. ACS Energy Letters, 2019, 4, 1888-1897.	17.4	34
51	A General Strategy to Enhance Donor-Acceptor Molecules Using Solvent-Excluding Substituents. Angewandte Chemie - International Edition, 2020, 59, 4785-4792.	13.8	34
52	Microscopic Inhomogeneity and Ultrafast Orientational Motion in an Organic Photovoltaic Bulk Heterojunction Thin Film Studied with 2D IR Vibrational Spectroscopy. Journal of Physical Chemistry B, 2006, 110, 24281-24286.	2.6	32
53	Excitation Transport and Charge Separation in an Organic Photovoltaic Material: Watching Excitations Diffuse to Interfaces. Journal of Physical Chemistry C, 2008, 112, 3926-3934.	3.1	32
54	Molecular Rectification in Conjugated Block Copolymer Photovoltaics. Journal of Physical Chemistry C, 2016, 120, 6978-6988.	3.1	32

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55	Charge Trapping in Organic Photovoltaic Materials Examined with Time-Resolved Vibrational Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2010, 114, 5344-5350.	3.1	31
56	Tuning the Dielectric Properties of Organic Semiconductors via Salt Doping. <i>Journal of Physical Chemistry B</i> , 2013, 117, 15866-15874.	2.6	30
57	Vibrational Probe of the Structural Origins of Slow Recombination in Halide Perovskites. <i>Journal of Physical Chemistry C</i> , 2019, 123, 7061-7073.	3.1	29
58	Vibrational Spectroscopy of Electronic Processes in Emerging Photovoltaic Materials. <i>Accounts of Chemical Research</i> , 2013, 46, 1538-1547.	15.6	25
59	Vibrational solvatochromism in organic photovoltaic materials: method to distinguish molecules at donor/acceptor interfaces. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 14144.	2.8	24
60	Sub-picosecond Injection of Electrons from Excited [Ru(2,2'-bipy-4,4'-dicarboxy) ₂ (SCN) ₂] into TiO ₂ Using Transient Mid-Infrared Spectroscopy*. <i>Zeitschrift Fur Physikalische Chemie</i> , 1999, 212, 77-84.	2.8	23
61	Ultrafast mid-IR detection of the direct precursor to the presolvated electron following electron ejection from ferrocyanide. <i>Chemical Physics Letters</i> , 2000, 329, 386-392.	2.6	22
62	Electron-Phonon Coupling and Resonant Relaxation from 1D and 1P States in PbS Quantum Dots. <i>ACS Nano</i> , 2018, 12, 6263-6272.	14.6	22
63	Structural origins of the electronic properties of materials <i>via</i> time-resolved infrared spectroscopy. <i>Journal of Materials Chemistry C</i> , 2019, 7, 5889-5909.	5.5	22
64	Dynamic Ligand Surface Chemistry of Excited PbS Quantum Dots. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 2291-2297.	4.6	22
65	Charged Polaron Polaritons in an Organic Semiconductor Microcavity. <i>Physical Review Letters</i> , 2018, 120, 017402.	7.8	21
66	Controlling Polymorphism in Poly(3-Hexylthiophene) through Addition of Ferrocene for Enhanced Charge Mobilities in Thin-Film Transistors. <i>Advanced Functional Materials</i> , 2015, 25, 542-551.	14.9	20
67	Temperature-Independent Vibrational Dynamics in an Organic Photovoltaic Material. <i>Journal of Physical Chemistry B</i> , 2010, 114, 12242-12251.	2.6	19
68	Ultrafast probes of charge transfer states in organic photovoltaic materials. <i>Chemical Physics Letters</i> , 2011, 515, 197-205.	2.6	19
69	Vibrational probe of the origin of singlet exciton fission in TIPS-pentacene solutions. <i>Journal of Chemical Physics</i> , 2019, 151, 154701.	3.0	18
70	Conjugated Block Copolymers as Model Systems to Examine Mechanisms of Charge Generation in Donor-Acceptor Materials. <i>Advanced Functional Materials</i> , 2019, 29, 1804858.	14.9	17
71	Influence of Ligand Structure on Excited State Surface Chemistry of Lead Sulfide Quantum Dots. <i>Journal of the American Chemical Society</i> , 2021, 143, 13824-13834.	13.7	17
72	Does Dipolar Motion of Organic Cations Affect Polaron Dynamics and Bimolecular Recombination in Halide Perovskites?. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 3166-3172.	4.6	16

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73	Ultrafast Triplet Pair Separation and Triplet Trapping following Singlet Fission in Amorphous Pentacene Films. <i>Journal of Physical Chemistry C</i> , 2020, 124, 23567-23578.	3.1	15
74	Accidental vibrational degeneracy in vibrational excited states observed with ultrafast two-dimensional IR vibrational echo spectroscopy. <i>Journal of Chemical Physics</i> , 2005, 123, 164301.	3.0	13
75	Revealing the Importance of Energetic and Entropic Contributions to the Driving Force for Charge Photogeneration. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 39933-39941.	8.0	12
76	Vibrational Energy Mediates Charge Separation in Organic Photovoltaic Materials. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2010, 16, 1776-1783.	2.9	11
77	Influence of Dynamic Disorder and Charge-Lattice Interactions on Optoelectronic Properties of Halide Perovskites. <i>Journal of Physical Chemistry C</i> , 2021, 125, 5427-5435.	3.1	9
78	Excited-State Dynamics of 5,14- vs 6,13-Bis(trialkylsilylethynyl)-Substituted Pentacenes: Implications for Singlet Fission. <i>Journal of Physical Chemistry C</i> , 2022, 126, 9784-9793.	3.1	9
79	Tuning Triplet-Pair Separation versus Relaxation Using a Diamond Anvil Cell. <i>Cell Reports Physical Science</i> , 2020, 1, 100005.	5.6	7
80	Mechanisms of Energy Transfer and Enhanced Stability of Carbide Nitride Phosphors for Solid-State Lighting. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 12547-12555.	8.0	6
81	Twisted A-D-A Type Acceptors with Thermally-Activated Delayed Crystallization Behavior for Efficient Nonfullerene Organic Solar Cells. <i>Advanced Energy Materials</i> , 0, , 2103957.	19.5	6
82	High Sensitivity Nanosecond Mid-Infrared Transient Absorption Spectrometer Enabling Low Excitation Density Measurements of Electronic Materials. <i>Applied Spectroscopy</i> , 2016, 70, 1726-1732.	2.2	4
83	Femtosecond IR Study of Ru(II)(SCN) ₂ (dcbpy) ₂ Sensitized Nanocrystalline TiO ₂ Thin Films: Ultrafast Electron Injection and Relaxation Dynamics. <i>Springer Series in Chemical Physics</i> , 1998, , 639-641.	0.2	4
84	A General Strategy to Enhance Donor-Acceptor Molecules Using Solvent-Excluding Substituents. <i>Angewandte Chemie</i> , 2020, 132, 4815-4822.	2.0	3
85	Ultrafast Solute Vibrational Spectral Evolution During the Solvation Process. <i>Springer Series in Chemical Physics</i> , 2001, , 554-556.	0.2	3
86	Exciton-Phonon Coupling and Carrier Relaxation in PbS Quantum Dots: The Case of Carboxylate Ligands. <i>Journal of Physical Chemistry C</i> , 2021, 125, 22622-22629.	3.1	3
87	Synthesis and Photoinduced Electron Transfer Studies of Ligand Exchanged Mn-Doped ZnSe Nanocrystals in Water. <i>Journal of Physical Chemistry C</i> , 2022, 126, 4995-5003.	3.1	3
88	Solar Cells: Domain Compositions and Fullerene Aggregation Govern Charge Photogeneration in Polymer/Fullerene Solar Cells (<i>Adv. Energy Mater.</i> 11/2014). <i>Advanced Energy Materials</i> , 2014, 4, .	19.5	2
89	Dynamic Disorder Dominates Delocalization, Transport, and Recombination in Halide Perovskites. <i>Chem</i> , 2019, 5, 2495.	11.7	2
90	Electron Transfer Going the Distance: Mn-Doped ZnSe as a Model Photocatalytic System. <i>Journal of Physical Chemistry C</i> , 2021, 125, 25749-25756.	3.1	2

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91	<title>Ultrafast electron transfer dynamics from molecular adsorbate to semiconductor nanoparticles</title> . , 2003, , .		1
92	Femtosecond IR Study of Ultrafast Electron Injection in Nanocrystalline Thin Film Electrodes. Springer Series in Chemical Physics, 2001, , 450-452.	0.2	1
93	Vibrational Echo Correlation Spectroscopy. , 2005, , 167-196.		0
94	Interfacial charge separation and trapping in a photovoltaic polymer blend observed with ultrafast vibrational spectroscopy. Proceedings of SPIE, 2008, , .	0.8	0
95	Ultrafast IR Spectroscopic Study of Free Carrier Formation in OPV Polymer Blends. ACS Symposium Series, 2010, , 53-69.	0.5	0
96	Characterization of triplet separation and diffusion in amorphous pentacene films via ultrafast infrared spectroscopy. , 2021, , .		0
97	Observation of competition between ultrafast electron injection and vibrational energy relaxation. , 2000, , .		0
98	Mid-IR detection of a precursor to the presolvated electron. , 2000, , .		0
99	Mid-IR Detection of a Precursor to the Prehydrated Electron. Springer Series in Chemical Physics, 2001, , 470-472.	0.2	0
100	Correction to "Electron Transfer Going the Distance: Mn-Doped ZnSe as Model Photocatalytic Systems" Journal of Physical Chemistry C, 2022, 126, 2299-2299.	3.1	0