Dongping Zhong

List of Publications by Year
in descending order

123 papers	6,880 citations	44069 48 h-index	62596 80 g-index
124 all docs	124 docs citations	124 times ranked	5178 citing authors

#	Article	IF	Citations
1	Mapping hydration dynamics around a protein surface. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18461-18466.	7.1	295
2	Biological water: A critique. Chemical Physics Letters, 2011, 503, 1-11.	2.6	259
3	Direct observation of thymine dimer repair in DNA by photolyase. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 16128-16132.	7.1	233
4	Hydration Dynamics and Time Scales of Coupled Waterâ^'Protein Fluctuations. Journal of the American Chemical Society, 2007, 129, 3376-3382.	13.7	232
5	Femtosecond dynamics of flavoproteins: Charge separation and recombination in riboflavine (vitamin) Tj ETQq1 1 0.784314 rgBT /Ov of the United States of America, 2001, 98, 11867-11872.	7.1	215
6	Ultrafast Dynamics of Flavins in Five Redox States. Journal of the American Chemical Society, 2008, 130, 13132-13139.	13.7	206
7	Femtosecond dynamics of rubredoxin: Tryptophan solvation and resonance energy transfer in the protein. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 13-18.	7.1	193
8	Dynamics and mechanism of repair of ultraviolet-induced (6â€“4) photoproduct by photolyase. Nature, 2010, 466, 887-890.	27.8	186
9	Protein Hydration Dynamics and Molecular Mechanism of Coupled Waterâ^'Protein Fluctuations. Journal of the American Chemical Society, 2009, 131, 10677-10691.	13.7	182
10	Femtosecond studies of protein-ligand hydrophobic binding and dynamics: Human serum albumin. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 14056-14061.	7.1	171
11	Ultrafast Solvation Dynamics of Human Serum Albumin:Â Correlations with Conformational Transitions and Site-Selected Recognition. Journal of Physical Chemistry B, 2006, 110, 10540-10549.	2.6	148
12	Protein surface hydration mapped by site-specific mutations. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 13979-13984.	7.1	144
13	Searching for a photocycle of the cryptochrome photoreceptors. Current Opinion in Plant Biology, 2010, 13, 578-586.	7.1	144
14	Dynamics and mechanism of cyclobutane pyrimidine dimer repair by DNA photolyase. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14831-14836.	7.1	144
15	Reaction mechanism of Drosophila cryptochrome. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 516-521.	7.1	144
16	Femtosecond Real-Time Probing of Reactions. 23. Studies of Temporal, Velocity, Angular, and State Dynamics from Transition States to Final Products by Femtosecond-Resolved Mass Spectrometry. Journal of Physical Chemistry A, 1998, 102, 4031-4058.	2.5	134
17	Ultrafast Dynamics and Anionic Active States of the Flavin Cofactor in Cryptochrome and Photolyase. Journal of the American Chemical Society, 2008, 130, 7695-7701.	13.7	132
18	Dynamics and mechanism of ultrafast waterâ€“protein interactions. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8424-8429.	7.1	118

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19	Structure and Function of Animal Cryptochromes. Cold Spring Harbor Symposia on Quantitative Biology, 2007, 72, 119-131.	1.1	96
20	Kinetic-energy, femtosecond resolved reaction dynamics. Modes of dissociation (in iodobenzene) from time-velocity correlations. Chemical Physics Letters, 1995, 237, 399-405.	2.6	95
21	Arabidopsis cryptochrome 2 (CRY2) functions by the photoactivation mechanism distinct from the tryptophan (trp) triad-dependent photoreduction. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20844-20849.	7.1	94
22	Femtosecond realâ€time probing of reactions. XXI. Direct observation of transitionâ€state dynamics and structure in chargeâ€transfer reactions. Journal of Chemical Physics, 1996, 105, 6216-6248.	3.0	93
23	Femtosecond studies of tryptophan solvation: correlation function and water dynamics at lipid surfaces. Chemical Physics Letters, 2004, 388, 120-126.	2.6	91
24	Femtosecond Studies of Tryptophan Fluorescence Dynamics in Proteins:Â Local Solvation and Electronic Quenching. Journal of Physical Chemistry B, 2006, 110, 18097-18103.	2.6	89
25	Femtosecond Studies of Protein-DNA Binding and Dynamics: Histone I. ChemPhysChem, 2001, 2, 219-227.	2.1	84
26	Determining complete electron flow in the cofactor photoreduction of oxidized photolyase. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12966-12971.	7.1	83
27	Formation and Function of Flavin Anion Radical in Cryptochrome 1 Blue-Light Photoreceptor of Monarch Butterfly. Journal of Biological Chemistry, 2007, 282, 17608-17612.	3.4	81
28	Electron Transfer Mechanisms of DNA Repair by Photolyase. Annual Review of Physical Chemistry, 2015, 66, 691-715.	10.8	80
29	The anticancer drug-DNA complex: Femtosecond primary dynamics for anthracycline antibiotics function. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 14212-14217.	7.1	78
30	Femtosecond Dynamics of DNA Photolyase:Â Energy Transfer of Antenna Initiation and Electron Transfer of Cofactor Reduction. Journal of Physical Chemistry B, 2004, 108, 18026-18033.	2.6	76
31	Ultrafast quenching of tryptophan fluorescence in proteins: Interresidue and intrahelical electron transfer. Chemical Physics, 2008, 350, 154-164.	1.9	76
32	Ultrafast Hydration Dynamics in the Lipidic Cubic Phase:Â Discrete Water Structures in Nanochannels. Journal of Physical Chemistry B, 2006, 110, 21994-22000.	2.6	75
33	Dynamics and mechanisms of DNA repair by photolyase. Physical Chemistry Chemical Physics, 2015, 17, 11933-11949.	2.8	75
34	Photolyase: Dynamics and electron-transfer mechanisms of DNA repair. Archives of Biochemistry and Biophysics, 2017, 632, 158-174.	3.0	75
35	Ultrafast Hydration Dynamics in Melittin Folding and Aggregation:â€‰ Helix Formation and Tetramer Self-Assembly. Journal of Physical Chemistry B, 2005, 109, 16901-16910.	2.6	70
36	Ultrafast solvation dynamics at binding and active sites of photolyases. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 2914-2919.	7.1	70

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37	Bimolecular reactions observed by femtosecond detachment to aligned transition states: Inelastic and reactive dynamics. Journal of Chemical Physics, 1996, 105, 7864-7867.	3.0	66
38	Femtosecond dynamics of valence-bond isomers of azines: transition states and conical intersections. Chemical Physics Letters, 1998, 298, 129-140.	2.6	64
39	Comparative Photochemistry of Animal Type 1 and Type 4 Cryptochromes. Biochemistry, 2009, 48, 8585-8593.	2.5	62
40	Electron Tunneling Pathways and Role of Adenine in Repair of Cyclobutane Pyrimidine Dimer by DNA Photolyase. Journal of the American Chemical Society, 2012, 134, 8104-8114.	13.7	59
41	The molecular origin of high DNA-repair efficiency by photolyase. Nature Communications, 2015, 6, 7302.	12.8	59
42	Trp triad-dependent rapid photoreduction is not required for the function of Arabidopsis CRY1. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9135-9140.	7.1	57
43	Ultrafast catalytic processes in enzymes. Current Opinion in Chemical Biology, 2007, 11, 174-181.	6.1	55
44	Mechanism of Photosignaling by Drosophila Cryptochrome. Journal of Biological Chemistry, 2014, 289, 4634-4642.	3.4	54
45	Ultrafast Proteinquake Dynamics in Cytochromec. Journal of the American Chemical Society, 2009, 131, 2846-2852.	13.7	53
46	Photolyase: Dynamics and Mechanisms of Repair of Sunâ€Induced DNA Damage. Photochemistry and Photobiology, 2017, 93, 78-92.	2.5	52
47	Dissection of complex protein dynamics in human thioredoxin. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5366-5371.	7.1	50
48	Mapping Solvation Dynamics at the Function Site of Flavodoxin in Three Redox States. Journal of the American Chemical Society, 2010, 132, 12741-12747.	13.7	49
49	Bifurcating electron-transfer pathways in DNA photolyases determine the repair quantum yield. Science, 2016, 354, 209-213.	12.6	47
50	A Molecular Dynamics Study of Lys-Trp-Lys:Â Structure and Dynamics in Solution Following Photoexcitation. Journal of Physical Chemistry B, 2006, 110, 10497-10508.	2.6	46
51	Dynamic determination of the functional state in photolyase and the implication for cryptochrome. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12972-12977.	7.1	46
52	Ultrafast Dynamics of Resonance Energy Transfer in Cryptochrome. Journal of the American Chemical Society, 2005, 127, 7984-7985.	13.7	44
53	Purification and Characterization of a Type III Photolyase from Caulobacter crescentus. Biochemistry, 2008, 47, 10255-10261.	2.5	44
54	Mapping Hydration Dynamics around a Î²-Barrel Protein. Journal of the American Chemical Society, 2017, 139, 4399-4408.	13.7	44

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55	Microscopic solvation and femtochemistry of charge-transfer reactions: the problem of benzene(s)-iodine binary complexes and their solvent structures. Chemical Physics Letters, 1995, 242, 369-379.	2.6	43
56	Femtosecond Dynamics of Flavin Cofactor in DNA Photolyase:Â Radical Reduction, Local Solvation, and Charge Recombination. Journal of Physical Chemistry B, 2005, 109, 1329-1333.	2.6	43
57	Femtosecond dynamics of a drug-protein complex: Daunomycin with Apo riboflavin-binding protein. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 11873-11878.	7.1	41
58	Femtosecond Elimination Reaction Dynamics. Journal of the American Chemical Society, 1997, 119, 5978-5979.	13.7	38
59	Femtochemistry in enzyme catalysis: DNA photolyase. Cell Biochemistry and Biophysics, 2007, 48, 32-44.	1.8	38
60	Transition states of chargeâ€transfer reactions: Femtosecond dynamics and the concept of harpooning in the bimolecular reaction of benzene with iodine. Journal of Chemical Physics, 1995, 103, 5153-5156.	3.0	37
61	Femtosecond Conical Intersection Dynamics of Tryptophan in Proteins and Validation of Slowdown of Hydration Layer Dynamics. Journal of the American Chemical Society, 2012, 134, 16460-16463.	13.7	35
62	Excited State Decay Pathways of 2â€²-Deoxy-5-methylcytidine and Deoxycytidine Revisited in Solution: A Comprehensive Kinetic Study by Femtosecond Transient Absorption. Journal of Physical Chemistry B, 2018, 122, 7027-7037.	2.6	35
63	Femtosecond dynamics of dative bonding: Concepts of reversible and dissociative electron transfer reactions. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 2602-2607.	7.1	33
64	Ultrafast Dynamics of Resonance Energy Transfer in Myoglobin: Probing Local Conformation Fluctuations. Journal of Physical Chemistry B, 2010, 114, 1498-1505.	2.6	33
65	Femtosecond Dynamics of Short-Range Protein Electron Transfer in Flavodoxin. Biochemistry, 2013, 52, 9120-9128.	2.5	33
66	Femtosecond Real-Time Probing of Reactions. 24. Time, Velocity, and Orientation Mapping of the Dynamics of Dative Bonding in Bimolecular Electron Transfer Reactionsâ€. Journal of Physical Chemistry A, 1999, 103, 10093-10117.	2.5	32
67	An AIMD Study of the CPD Repair Mechanism in Water: Reaction Free Energy Surface and Mechanistic Implications. Journal of Physical Chemistry B, 2011, 115, 3848-3859.	2.6	32
68	Ultrafast Water Dynamics at the Interface of the Polymeraseâ€“DNA Binding Complex. Biochemistry, 2014, 53, 5405-5413.	2.5	32
69	Ultrafast Dynamics of Nonequilibrium Electron Transfer in Photoinduced Redox Cycle: Solvent Mediation and Conformation Flexibility. Journal of Physical Chemistry B, 2012, 116, 9130-9140.	2.6	31
70	Short-Range Electron Transfer in Reduced Flavodoxin: Ultrafast Nonequilibrium Dynamics Coupled with Protein Fluctuations. Journal of Physical Chemistry Letters, 2018, 9, 2782-2790.	4.6	31
71	An AIMD Study of CPD Repair Mechanism in Water: Role of Solvent in Ring Splitting. Journal of Physical Chemistry B, 2011, 115, 3860-3871.	2.6	30
72	Molecular Origin of Ultrafast Waterâ€“Protein Coupled Interactions. Journal of Physical Chemistry Letters, 2016, 7, 4171-4177.	4.6	29

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73	Dynamics and Mechanism of DNA Repair in a Biomimetic System: Flavinâ€“Thymine Dimer Adduct. Journal of the American Chemical Society, 2012, 134, 1501-1503.	13.7	27
74	Quenching Dynamics of Ultraviolet-Light Perception by UVR8 Photoreceptor. Journal of Physical Chemistry Letters, 2014, 5, 69-72.	4.6	24
75	Determination of Protein Surface Hydration by Systematic Charge Mutations. Journal of Physical Chemistry Letters, 2015, 6, 5100-5105.	4.6	23
76	Direct Probing of Solvent Accessibility and Mobility at the Binding Interface of Polymerase (Dpo4)-DNA Complex. Journal of Physical Chemistry A, 2013, 117, 13926-13934.	2.5	22
77	Validation of Response Function Construction and Probing Heterogeneous Protein Hydration by Intrinsic Tryptophan. Journal of Physical Chemistry B, 2012, 116, 13320-13330.	2.6	21
78	Direct Determination of Resonance Energy Transfer in Photolyase: Structural Alignment for the Functional State. Journal of Physical Chemistry A, 2014, 118, 10522-10530.	2.5	21
79	Characterization of the Intermediate in and Identification of the Repair Mechanism of (6â€4) Photolesions by Photolyases. Angewandte Chemie - International Edition, 2016, 55, 5175-5178.	13.8	20
80	A leap in quantum efficiency through light harvesting in photoreceptor UVR8. Nature Communications, 2020, 11, 4316.	12.8	20
81	Effects of nonequilibrium fluctuations on ultrafast short-range electron transfer dynamics. Nature Communications, 2020, 11, 2822.	12.8	19
82	Dynamic Determination of Active-Site Reactivity in Semiquinone Photolyase by the Cofactor Photoreduction. Journal of Physical Chemistry Letters, 2014, 5, 820-825.	4.6	18
83	A Compass at Weak Magnetic Fields Using Thymine Dimer Repair. ACS Central Science, 2018, 4, 405-412.	11.3	18
84	The Origin of Ultrafast Multiphasic Dynamics in Photoisomerization of Bacteriophytochrome. Journal of Physical Chemistry Letters, 2020, 11, 5913-5919.	4.6	17
85	Observation of the Global Dynamic Collectivity of a Hydration Shell around Apomyoglobin. Journal of Physical Chemistry Letters, 2017, 8, 1124-1131.	4.6	16
86	Elucidating the Molecular Mechanism of Ultrafast Pfr-State Photoisomerization in Bathy Bacteriophytochrome PaBphP. Journal of Physical Chemistry Letters, 2019, 10, 6197-6201.	4.6	16
87	Femtosecond studies of crown ethers: supramolecular solvation, local solvent structure and cationâ€“Ï€ interaction. Chemical Physics Letters, 2004, 394, 415-422.	2.6	15
88	Ultrafast Dynamics of Waterâ€“Protein Coupled Motions around the Surface of Eye Crystallin. Journal of the American Chemical Society, 2020, 142, 3997-4007.	13.7	15
89	Conservation of the Kr+(2P1/2) state in the reactive quenching of Kr(5sâ€²[1/2]0) atoms by halogenâ€containing molecules. Journal of Chemical Physics, 1996, 105, 5020-5036.	3.0	14
90	Understanding Short-Range Electron-Transfer Dynamics in Proteins. Journal of Physical Chemistry Letters, 2019, 10, 346-351.	4.6	14

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91	Activation mechanism of Drosophila cryptochrome through an allosteric switch. Science Advances, 2021, 7, .	10.3	14
92	Ultrafast Dynamics of Nonequilibrium Resonance Energy Transfer and Probing Globular Protein Flexibility of Myoglobin. Journal of Physical Chemistry A, 2012, 116, 2610-2619.	2.5	13
93	Elucidating Ultrafast Multiphasic Dynamics in the Photoisomerization of Cyanobacteriochrome. Journal of Physical Chemistry Letters, 2020, 11, 8819-8824.	4.6	12
94	The nature of proton-coupled electron transfer in a blue light using flavin domain. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	12
95	Femtosecond Nucleophilic Substitution Reaction Dynamics. Journal of the American Chemical Society, 1997, 119, 2305-2306.	13.7	11
96	Reply to Brettel and Byrdin: On the efficiency of DNA repair by photolyase. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, .	7.1	11
97	Excitation transfer from Kr(5sâ€™,3P0) and Kr(5s,3P2) atoms to 12CO and 13CO. Journal of Chemical Physics, 1995, 102, 2744-2759.	3.0	10
98	Revealing the origin of multiphasic dynamic behaviors in cyanobacteriochrome. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19731-19736.	7.1	10
99	Slowdown of Water Dynamics from the Top to the Bottom of the GroEL Cavity. Journal of Physical Chemistry Letters, 2021, 12, 5723-5730.	4.6	10
100	Dynamics and mechanism of dimer dissociation of photoreceptor UVR8. Nature Communications, 2022, 13, 93.	12.8	9
101	Generation of Xe(6sâ€²3P0) atoms by optical pumping in a flow reactor. Reactions with N2 and halogen-containing molecules. Chemical Physics Letters, 1993, 207, 555-562.	2.6	8
102	Visualizing the Redox Reaction Dynamics of Perovskite Nanocrystals in Real and Reciprocal Space. Journal of Physical Chemistry Letters, 2020, 11, 2550-2558.	4.6	7
103	Dynamics and Mechanism of UV-Damaged DNA Repair in Indoleâ€“Thymine Dimer Adduct: Molecular Origin of Low Repair Quantum Efficiency. Journal of Physical Chemistry B, 2015, 119, 3446-3455.	2.6	6
104	Dynamics of hydration water and coupled protein sidechains around a polymerase protein surface. Chemical Physics Letters, 2017, 683, 658-665.	2.6	5
105	Nonequilibrium dynamics of photoinduced forward and backward electron transfer reactions. Journal of Chemical Physics, 2020, 152, 065102.	3.0	5
106	Ultrafast Dynamics of Nonequilibrium Short-Range Electron Transfer in Semiquinone Flavodoxin. Journal of Physical Chemistry Letters, 2022, 13, 3202-3208.	4.6	5
107	Picosecond time-resolved fluorescent spectroscopy of 1-anilino-8-naphthalene sulfonate binding with staphylococcal nuclease in the native and molten globule states. Journal of Photochemistry and Photobiology B: Biology, 2015, 145, 60-65.	3.8	4
108	NMR Structures and Dynamics in a Prohead RNA Loop that Binds Metal Ions. Journal of Physical Chemistry Letters, 2016, 7, 3841-3846.	4.6	4

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109	Probing Intermolecular Interactions of Amyloidogenic Fragments of SOD1 by Site-Specific Tryptophan and Its Noncanonical Derivative. Journal of Physical Chemistry B, 2021, 125, 13088-13098.	2.6	4
110	Ultrafast nonequilibrium dynamics of short-range protein electron transfer in flavodoxin. Physical Chemistry Chemical Physics, 2021, 24, 382-391.	2.8	4
111	Dynamics and mechanism of light harvesting in UV photoreceptor UVR8. Chemical Science, 2020, 11, 12553-12569.	7.4	3
112	Mapping the structural dynamics of water dissociation. Science, 2021, 374, 34-35.	12.6	3
113	From Femtochemistry to 4D Microscopy. Science China: Physics, Mechanics and Astronomy, 2010, 53, 977-986.	5.1	2
114	Characterization of the Intermediate in and Identification of the Repair Mechanism of (6â€4) Photolesions by Photolyases. Angewandte Chemie, 2016, 128, 5261-5264.	2.0	2
115	Introduction. Photochemistry and Photobiology, 2017, 93, 5-6.	2.5	1
116	Exact eigenenergies of a model of vibronically coupled electron transfer reactions. Chemical Physics, 2021, 548, 111224.	1.9	1
117	Direct observation of DNA repair by photolyase. , 2006, , 407-410.		1
118	Study of solvation dynamics in the interior of staphylococcal nuclease (SNase) using picosecond-resolved emission spectra of tryptophan. , 2014, , .		0
119	Ultrafast hydration dynamics in protein conformational transitions. , 2006, , 411-414.		0
120	Ultrafast protein dynamics. , 2006, , 346-356.		0
121	Chapter 3 Dynamics and Mechanisms of Ultraviolet-Damaged DNA Repair by Photolyases. , 2017, , 91-216.		0
122	Direct Observation of Ultrafast Proton Rocking in the BLUF Domain. Angewandte Chemie, 0, , .	2.0	0
123	Frontispiz: Direct Observation of Ultrafast Proton Rocking in the BLUF Domain. Angewandte Chemie, 2022, 134, .	2.0	0