Feng Gai

List of Publications by Year
in descending order

		147801	138484
77	3,449	31	58
papers	citations	h-index	g-index

79	79	79	2703
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Site-Specific Interrogation of Protein Structure and Stability. Methods in Molecular Biology, 2022, 2376, 65-87.	0.9	0
2	Synthesis and characterization of the fluorescence utility of two Visible-Light-Absorbing tryptophan derivatives. Chemical Physics Letters, 2022, 795, 139553.	2.6	10
3	Tuning the electronic transition energy of indole via substitution: application to identify tryptophan-based chromophores that absorb and emit visible light. Physical Chemistry Chemical Physics, 2021, 23, 6433-6437.	2.8	11
4	A Scalable Synthesis of the Blue Fluorescent Amino Acid 4-Cyanotryptophan and the Fmoc Derivative: Utility Demonstrated with the Influenza M2 Peptide Tetramer. Organic Letters, 2021, 23, 1247-1250.	4.6	7
5	Tryptophan as a Template for Development of Visible Fluorescent Amino Acids. Journal of Physical Chemistry B, 2021, 125, 5458-5465.	2.6	11
6	Visualization of Platelet Integrins via Two-Photon Microscopy Using Anti-transmembrane Domain Peptides Containing a Blue Fluorescent Amino Acid. Biochemistry, 2021, 60, 1722-1730.	2.5	2
7	Can glycine betaine denature proteins?. Physical Chemistry Chemical Physics, 2020, 22, 7794-7802.	2.8	9
8	4-Cyanoindole-based fluorophores for biological spectroscopy and microscopy. Methods in Enzymology, 2020, 639, 191-215.	1.0	6
9	Assessing the Effect of Hofmeister Anions on the Hydrogen-Bonding Strength of Water via Nitrile Stretching Frequency Shift. Journal of Physical Chemistry B, 2020, 124, 11783-11792.	2.6	7
10	Exposing the Nucleation Site in Î±-Helix Folding: A Joint Experimental and Simulation Study. Journal of Physical Chemistry B, 2019, 123, 1797-1807.	2.6	13
11	PET and FRET utility of an amino acid pair: tryptophan and 4-cyanotryptophan. Physical Chemistry Chemical Physics, 2019, 21, 12843-12849.	2.8	19
12	4-Oxoproline as a Site-Specific Infrared Probe: Application To Assess Proline Isomerization and Dimer Formation. Journal of Physical Chemistry B, 2019, 123, 5079-5085.	2.6	1
13	4-Cyanoindole-2â€²-deoxyribonucleoside as a Dual
Fluorescence and Infrared Probe of DNA Structure
and Dynamics. Molecules, 2019, 24, 602.	3.8	7
14	Synthesis and application of the blue fluorescent amino acid l-4-cyanotryptophan to assess peptideâ€“membrane interactions. Chemical Communications, 2019, 55, 5095-5098.	4.1	20
15	Direct Visualization of Platelet Integrins Using ANTI-Transmembrane Domain Peptides Containing a BLUE Fluorescent Amino Acid. Blood, 2019, 134, 2344-2344.	1.4	0
16	Design of a Short Thermally Stable Î±â€Helix Embedded in a Macrocycle. ChemBioChem, 2018, 19, 902-906.	2.6	14
17	7-Cyanoindole fluorescence as a local hydration reporter: application to probe the microheterogeneity of nine water-organic binary mixtures. Physical Chemistry Chemical Physics, 2018, 20, 2527-2535.	2.8	16
18	Possible Existence of Î±-Sheets in the Amyloid Fibrils Formed by a TTR_{105â€“115} Mutant. Journal of the American Chemical Society, 2018, 140, 629-635.	13.7	14

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19	Microscopic Insight into the Protein Denaturation Action of Urea and Its Methyl Derivatives. Journal of Physical Chemistry Letters, 2018, 9, 2933-2940.	4.6	11
20	Newfound effect of N-acetylaspartate in preventing and reversing aggregation of amyloid-beta in vitro. Neurobiology of Disease, 2018, 117, 161-169.	4.4	6
21	Ultrafast Hydrogen-Bonding Dynamics in Amyloid Fibrils. Journal of Physical Chemistry B, 2018, 122, 11023-11029.	2.6	12
22	Do guanidinium and tetrapropylammonium ions specifically interact with aromatic amino acid side chains?. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1003-1008.	7.1	22
23	Microscopic nucleation and propagation rates of an alanine-based Î±-helix. Physical Chemistry Chemical Physics, 2017, 19, 5028-5036.	2.8	4
24	Activation pH and Gating Dynamics of Influenza A M2 Proton Channel Revealed by Singleâ€Molecule Spectroscopy. Angewandte Chemie, 2017, 129, 5367-5371.	2.0	0
25	Fermi resonance as a means to determine the hydrogen-bonding status of two infrared probes. Physical Chemistry Chemical Physics, 2017, 19, 16144-16150.	2.8	37
26	Blue fluorescent amino acid for biological spectroscopy and microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6005-6009.	7.1	100
27	Isotope-labeled aspartate sidechain as a non-perturbing infrared probe: Application to investigate the dynamics of a carboxylate buried inside a protein. Chemical Physics Letters, 2017, 683, 193-198.	2.6	11
28	A 31-residue peptide induces aggregation of tau's microtubule-binding region in cells. Nature Chemistry, 2017, 9, 874-881.	13.6	67
29	Activation pH and Gating Dynamics of Influenza A M2 Proton Channel Revealed by Singleâ€Molecule Spectroscopy. Angewandte Chemie - International Edition, 2017, 56, 5283-5287.	13.8	7
30	Solvent dependence of cyanoindole fluorescence lifetime. Chemical Physics Letters, 2017, 685, 133-138.	2.6	42
31	Simple method to introduce an ester infrared probe into proteins. Protein Science, 2017, 26, 375-381.	7.6	8
32	Infrared and Fluorescence Assessment of Protein Dynamics: From Folding to Function. Journal of Physical Chemistry B, 2016, 120, 5103-5113.	2.6	25
33	Meandering Down the Energy Landscape of Protein Folding: Are We There Yet?. Biophysical Journal, 2016, 110, 1924-1932.	0.5	16
34	Infrared and fluorescence assessment of the hydration status of the tryptophan gate in the influenza A M2 proton channel. Physical Chemistry Chemical Physics, 2016, 18, 28939-28950.	2.8	19
35	Exciton circular dichroism couplet arising from nitrile-derivatized aromatic residues as a structural probe of proteins. Analytical Biochemistry, 2016, 507, 74-78.	2.4	15
36	Utility of 5-Cyanotryptophan Fluorescence as a Sensitive Probe of Protein Hydration. Journal of Physical Chemistry B, 2016, 120, 936-944.	2.6	45

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37	Cî€,N stretching vibration of 5-cyanotryptophan as an infrared probe of protein local environment: what determines its frequency?. Physical Chemistry Chemical Physics, 2016, 18, 7027-7034.	2.8	57
38	How Sensitive is the Amideâ€…I Vibration of the Polypeptide Backbone to Electric Fields?. ChemPhysChem, 2015, 16, 3595-3598.	2.1	16
39	p-Cyanophenylalanine and selenomethionine constitute a useful fluorophoreâ€“quencher pair for short distance measurements: application to polyproline peptides. Physical Chemistry Chemical Physics, 2015, 17, 7881-7887.	2.8	16
40	Site-Specific Infrared Probes of Proteins. Annual Review of Physical Chemistry, 2015, 66, 357-377.	10.8	151
41	Sensing pH via p-cyanophenylalanine fluorescence: Application to determine peptide pKa and membrane penetration kinetics. Analytical Biochemistry, 2015, 483, 21-26.	2.4	10
42	Biomolecular Crowding Arising from Small Molecules, Molecular Constraints, Surface Packing, and Nano-Confinement. Journal of Physical Chemistry Letters, 2015, 6, 2546-2553.	4.6	25
43	Kinetics of Exchange between Zero-, One-, and Two-Hydrogen-Bonded States of Methyl and Ethyl Acetate in Methanol. Journal of Physical Chemistry B, 2015, 119, 4512-4520.	2.6	22
44	Kinetics of peptide folding in lipid membranes. Biopolymers, 2015, 104, 281-290.	2.4	5
45	2D IR spectroscopy reveals the role of water in the binding of channel-blocking drugs to the influenza M2 channel. Journal of Chemical Physics, 2014, 140, 235105.	3.0	23
46	Ester Carbonyl Vibration as a Sensitive Probe of Protein Local Electric Field. Angewandte Chemie - International Edition, 2014, 53, 6080-6084.	13.8	60
47	Tightening up the structure, lighting up the pathway: application of molecular constraints and light to manipulate protein folding, self-assembly and function. Science China Chemistry, 2014, 57, 1615-1624.	8.2	8
48	Microscopic insights into the protein-stabilizing effect of trimethylamine N-oxide (TMAO). Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8476-8481.	7.1	209
49	Using D-amino acids to delineate the mechanism of protein folding: Application to Trp-cage. Chemical Physics, 2013, 422, 131-134.	1.9	14
50	Using VIPT-Jump to Distinguish Between Different Folding Mechanisms: Application to BBL and a Trpzip. Journal of the American Chemical Society, 2013, 135, 7668-7673.	13.7	22
51	Native State Conformational Heterogeneity of HP35 Revealed by Time-Resolved FRET. Journal of Physical Chemistry B, 2012, 116, 10631-10638.	2.6	26
52	Soluteâ€™s Perspective on How Trimethylamine Oxide, Urea, and Guanidine Hydrochloride Affect Waterâ€™s Hydrogen Bonding Ability. Journal of Physical Chemistry B, 2012, 116, 12473-12478.	2.6	45
53	Light-Triggered Disassembly of Amyloid Fibrils. Langmuir, 2012, 28, 12588-12592.	3.5	28
54	Spectroscopic studies of protein folding: Linear and nonlinear methods. Protein Science, 2012, 21, 157-170.	7.6	69

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55	Direct Assessment of the Î±-Helix Nucleation Time. Journal of Physical Chemistry B, 2011, 115, 7472-7478.	2.6	31
56	Site-Specific Spectroscopic Reporters of the Local Electric Field, Hydration, Structure, and Dynamics of Biomolecules. Journal of Physical Chemistry Letters, 2011, 2, 2598-2609.	4.6	145
57	Computational Modeling of the Nitrile Stretching Vibration of 5-Cyanoindole in Water. Journal of Physical Chemistry Letters, 2010, 1, 781-786.	4.6	36
58	The Two-Dimensional Vibrational Echo of a Nitrile Probe of the Villin HP35 Protein. Journal of Physical Chemistry Letters, 2010, 1, 3311-3315.	4.6	83
59	5-Cyanotryptophan as an infrared probe of local hydration status of proteins. Chemical Physics Letters, 2009, 478, 249-253.	2.6	94
60	Probing the Folding Transition State Structure of the Villin Headpiece Subdomain via Side Chain and Backbone Mutagenesis. Journal of the American Chemical Society, 2009, 131, 7470-7476.	13.7	64
61	Infrared Temperature-Jump Study of the Folding Dynamics of Î±-Helices and Î²-Hairpins. , 2007, 350, 1-20.		6
62	The Effect of Charge-Charge Interactions on the Kinetics of Î±-Helix Formation. Biophysical Journal, 2007, 93, 4076-4082.	0.5	16
63	Understanding the Mechanism of Î²-Hairpin Folding via Ï†-Value Analysis. Biochemistry, 2006, 45, 2668-2678.	2.5	95
64	Understanding the Folding Mechanism of an Î±-Helical Hairpinâ€. Biochemistry, 2006, 45, 13131-13139.	2.5	32
65	A novel fluorescent probe for protein binding and folding studies:p-cyano-phenylalanine. Biopolymers, 2006, 83, 571-576.	2.4	63
66	New Challenges. , 2005, , 461-538.		2
67	Guiding the search for a protein's maximum rate of folding. Chemical Physics, 2004, 307, 99-109.	1.9	52
68	Folding of A Three-Helix Bundle at the Folding Speed Limit. Journal of Physical Chemistry B, 2004, 108, 3694-3697.	2.6	54
69	Length Dependent Helixâ˘Coil Transition Kinetics of Nine Alanine-Based Peptides. Journal of Physical Chemistry B, 2004, 108, 15301-15310.	2.6	66
70	A New Method for Determining the Local Environment and Orientation of Individual Side Chains of Membrane-Binding Peptides. Journal of the American Chemical Society, 2004, 126, 5078-5079.	13.7	101
71	Helixâ€“coil kinetics of two 14-residue peptides. Chemical Physics Letters, 2003, 370, 842-848.	2.6	36
72	Temperature dependence of the CN stretching vibration of a nitrile-derivatized phenylalanine in water. Chemical Physics Letters, 2003, 371, 731-738.	2.6	69

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73	Using Nitrile-Derivatized Amino Acids as Infrared Probes of Local Environment. Journal of the American Chemical Society, 2003, 125, 405-411.	13.7	318
74	Helix formation via conformation diffusion search. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 2788-2793.	7.1	212
75	Temperature-Dependent Helixâˆ'Coil Transition of an Alanine Based Peptide. Journal of the American Chemical Society, 2001, 123, 9235-9238.	13.7	138
76	Time-Resolved Infrared Study of the Helixâˆ'Coil Transition Using13C-Labeled Helical Peptides. Journal of the American Chemical Society, 2001, 123, 12111-12112.	13.7	106
77	Infrared Studies of Fast Events in Protein Folding. Accounts of Chemical Research, 1998, 31, 709-716.	15.6	194