Andreas Barth

List of Publications by Year
in descending order

108	9,384	159585 30	38395 95
papers	citations	h-index	g-index

116	116	116	11960
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Infrared spectroscopy of proteins. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 1073-1101.	1.0	3,547
2	What vibrations tell about proteins. Quarterly Reviews of Biophysics, 2002, 35, 369-430.	5.7	1,753
3	The infrared absorption of amino acid side chains. Progress in Biophysics and Molecular Biology, 2000, 74, 141-173.	2.9	1,108
4	Abundance and composition of near surface microplastics and plastic debris in the Stockholm Archipelago, Baltic Sea. Marine Pollution Bulletin, 2017, 120, 292-302.	5.0	181
5	Photorelease of Carboxylic Acids from 1-Acyl-7-nitroindolines in Aqueous Solution:â€‰ Rapid and Efficient Photorelease of l-Glutamate1. Journal of the American Chemical Society, 1999, 121, 6503-6504.	13.7	134
6	Reaction-Induced Infrared Difference Spectroscopy for the Study of Protein Reaction Mechanisms. Biochemistry, 2001, 40, 1875-1883.	2.5	125
7	Photolytic Cleavage of 1-(2-Nitrophenyl)ethyl Ethers Involves Two Parallel Pathways and Product Release Is Rate-Limited by Decomposition of a Common Hemiacetal Intermediate. Journal of the American Chemical Society, 2003, 125, 8546-8554.	13.7	124
8	Time-Resolved Infrared Spectroscopy of Intermediates and Products from Photolysis of 1-(2-Nitrophenyl)ethyl Phosphates:Â Reaction of the 2-Nitrosoacetophenone Byproduct with Thiols. Journal of the American Chemical Society, 1997, 119, 4149-4159.	13.7	117
9	Rapid Physicochemical Changes in Microplastic Induced by Biofilm Formation. Frontiers in Bioengineering and Biotechnology, 2020, 8, 205.	4.1	92
10	Photochemical Release of ATP from "Caged ATP" Studied by Time-Resolved Infrared Spectroscopy. Journal of the American Chemical Society, 1995, 117, 10311-10316.	13.7	89
11	Ionic Strength Modulation of the Free Energy Landscape of Aî²₄₀ Peptide Fibril Formation. Journal of the American Chemical Society, 2016, 138, 6893-6902.	13.7	80
12	Molecular changes in the sarcoplasmic reticulum calcium ATPase during catalytic activity. FEBS Letters, 1990, 277, 147-150.	2.8	70
13	Time-resolved Infrared Spectroscopy of the Ca2+-ATPase. Journal of Biological Chemistry, 1996, 271, 30637-30646.	3.4	69
14	Infrared spectroscopic signals arising from ligand binding and conformational changes in the catalytic cycle of sarcoplasmic reticulum calcium ATPase. Biochimica Et Biophysica Acta - Bioenergetics, 1991, 1057, 115-123.	1.0	67
15	Characterization of a New Caged Proton Capable of Inducing Large pH Jumps. Biophysical Journal, 2002, 83, 2864-2871.	0.5	66
16	Simultaneous Fitting of Absorption Spectra and Their Second Derivatives for an Improved Analysis of Protein Infrared Spectra. Molecules, 2015, 20, 12599-12622.	3.8	65
17	ATP-Induced Phosphorylation of the Sarcoplasmic Reticulum Ca2+ ATPase: Molecular Interpretation of Infrared Difference Spectra. Biophysical Journal, 1998, 75, 538-544.	0.5	63
18	Time-Resolved Infrared Spectroscopy of pH-Induced Aggregation of the Alzheimer Aî²1â€“28 Peptide. Journal of Molecular Biology, 2008, 379, 589-596.	4.2	54

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19	Microplastic-mediated transport of PCBs? A depuration study with Daphnia magna. PLoS ONE, 2019, 14, e0205378.	2.5	48
20	Substrate binding and enzyme function investigated by infrared spectroscopy. FEBS Letters, 2000, 477, 151-156.	2.8	45
21	Following Enzyme Activity with Infrared Spectroscopy. Sensors, 2010, 10, 2626-2637.	3.8	45
22	Simulation of the Amide I Absorption of Stacked Î²-Sheets. Journal of Physical Chemistry B, 2011, 115, 749-757.	2.6	44
23	High-yield production of a super-soluble miniature spidroin for biomimetic high-performance materials. Materials Today, 2021, 50, 16-23.	14.2	42
24	Changes of protein structure, nucleotide microenvironment, and Ca2+-binding states in the catalytic cycle of sarcoplasmic reticulum Ca2+-ATPase: investigation of nucleotide binding, phosphorylation and phosphoenzyme conversion by FTIR difference spectroscopy. Biochimica Et Biophysica Acta - Biomembranes, 1994, 1194, 75-91.	2.6	41
25	P3-[2-(4-hydroxyphenyl)-2-oxo]ethyl ATP for the Rapid Activation of the Na+,K+-ATPase. Biophysical Journal, 2000, 79, 1346-1357.	0.5	41
26	Structural Changes of the Sarcoplasmic Reticulum Ca2+-ATPase upon Nucleotide Binding Studied by Fourier Transform Infrared Spectroscopy. Biophysical Journal, 2000, 78, 1531-1540.	0.5	39
27	On the Secondary Structure of Silk Fibroin Nanoparticles Obtained Using Ionic Liquids: An Infrared Spectroscopy Study. Polymers, 2020, 12, 1294.	4.5	36
28	Membrane-induced folding of the plant-stress protein Lti30.. Plant Physiology, 2016, 171, pp.01531.2015.	4.8	35
29	Specificity and Symmetry in the Interaction of Calmodulin Domains with the Skeletal Muscle Myosin Light Chain Kinase Target Sequence. Journal of Biological Chemistry, 1998, 273, 2174-2183.	3.4	33
30	Amyloid Î²-peptides 1â€“40 and 1â€“42 form oligomers with mixed Î²-sheets. Chemical Science, 2017, 8, 8247-8254.	7.4	32
31	Structureâ€“Function Relationship of Artificial Spider Silk Fibers Produced by Straining Flow Spinning. Biomacromolecules, 2020, 21, 2116-2124.	5.4	32
32	Flash photolytic release of alcohols from photolabile carbamates or carbonates is rate-limited by decarboxylation of the photoproduct. Photochemical and Photobiological Sciences, 2005, 4, 216.	2.9	31
33	Influence of Residue 22 on the Folding, Aggregation Profile, and Toxicity of the Alzheimer's Amyloid Î² Peptide. Biophysical Journal, 2009, 97, 277-285.	0.5	31
34	Engineered Spider Silk Proteins for Biomimetic Spinning of Fibers with Toughness Equal to Dragline Silks. Advanced Functional Materials, 2022, 32, .	14.9	31
35	Pâ€“O Bond Destabilization Accelerates Phosphoenzyme Hydrolysis of Sarcoplasmic Reticulum Ca2+-ATPase. Journal of Biological Chemistry, 2004, 279, 51888-51896.	3.4	30
36	Phosphoenzyme Conversion of the Sarcoplasmic Reticulum Ca2+-ATPase. Journal of Biological Chemistry, 1999, 274, 22170-22175.	3.4	29

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37	Tracking Ca ²⁺ ATPase intermediates in real time by x-ray solution scattering. Science Advances, 2020, 6, eaaz0981.	10.3	29
38	Direct Measurement of Enzyme Activity with Infrared Spectroscopy. Journal of Biomolecular Screening, 2002, 7, 353-357.	2.6	28
39	Optimization of Model Parameters for Describing the Amide I Spectrum of a Large Set of Proteins. Journal of Physical Chemistry B, 2012, 116, 4831-4842.	2.6	28
40	Characterization of Homogeneous and Heterogeneous Amyloid-Î²42 Oligomer Preparations with Biochemical Methods and Infrared Spectroscopy Reveals a Correlation between Infrared Spectrum and Oligomer Size. ACS Chemical Neuroscience, 2021, 12, 473-488.	3.5	27
41	Structural changes of sarcoplasmic reticulum Ca2+-ATPase upon Ca2+ binding studied by simultaneous measurement of infrared absorbance changes and changes of intrinsic protein fluorescence. Biochimica Et Biophysica Acta - Bioenergetics, 1994, 1188, 139-150.	1.0	26
42	Fine-structure enhancement â€" assessment of a simple method to resolve overlapping bands in spectra. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2000, 56, 1223-1232.	3.9	26
43	Tyrosine residues mediate supercontraction in biomimetic spider silk. Communications Materials, 2021, 2, .	6.9	26
44	Mapping Interactions between the Ca2+-ATPase and Its Substrate ATP with Infrared Spectroscopy. Journal of Biological Chemistry, 2003, 278, 10112-10118.	3.4	23
45	Studies of decarboxylation in photolysis of Î±-carboxy-2-nitrobenzyl (CNB) caged compounds. Photochemical and Photobiological Sciences, 2008, 7, 84-97.	2.9	23
46	Vibrational Coupling between Helices Influences the Amide I Infrared Absorption of Proteins: Application to Bacteriorhodopsin and Rhodopsin. Journal of Physical Chemistry B, 2012, 116, 4448-4456.	2.6	23
47	Fourier transform infrared (FTIR) spectroscopic investigation of the nicotinic acetylcholine receptor (nAChR) Investigation of agonist binding and receptor conformational changes by flash-induced release of â€˜cagedâ€™ carbamoylcholine. FEBS Letters, 1992, 309, 213-217.	2.8	22
48	Interactions of Phosphate Groups of ATP and Aspartyl Phosphate with the Sarcoplasmic Reticulum Ca2+-ATPase: An FTIR Study. Biophysical Journal, 2005, 89, 4352-4363.	0.5	22
49	Phosphoenolpyruvate and Mg2+ Binding to Pyruvate Kinase Monitored by Infrared Spectroscopy. Biophysical Journal, 2010, 98, 1931-1940.	0.5	22
50	Insight into the internal structure of amyloid-Î² oligomers by isotope-edited Fourier transform infrared spectroscopy. Physical Chemistry Chemical Physics, 2019, 21, 8587-8597.	2.8	22
51	Properties of Biomimetic Artificial Spider Silk Fibers Tuned by PostSpin Bath Incubation. Molecules, 2020, 25, 3248.	3.8	21
52	Secondary structure transitions and aggregation induced in dynorphin neuropeptides by the detergent sodium dodecyl sulfate. Biochimica Et Biophysica Acta - Biomembranes, 2008, 1778, 2580-2587.	2.6	20
53	Infrared Spectrum of Phosphoenol Pyruvate: Computational and Experimental Studies. Journal of Physical Chemistry A, 2009, 113, 2935-2942.	2.5	20
54	Computational De Novo Design of a Self-Assembling Peptide with Predefined Structure. Journal of Molecular Biology, 2015, 427, 550-562.	4.2	20

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55	Protonation and Hydrogen Bonding of Ca2+ Site Residues in the E2P Phosphoenzyme Intermediate of Sarcoplasmic Reticulum Ca2+-ATPase Studied by a Combination of Infrared Spectroscopy and Electrostatic Calculations. Biophysical Journal, 2008, 94, 600-611.	0.5	19
56	Ca2+ Release from the Phosphorylated and the Unphosphorylated Sarcoplasmic Reticulum Ca2+ ATPase Results in Parallel Structural Changes. Journal of Biological Chemistry, 1997, 272, 25507-25510.	3.4	18
57	Selective monitoring of 3 out of 50,000 protein vibrations. Biopolymers, 2002, 67, 237-241.	2.4	18
58	Pushing the detection limit of infrared spectroscopy for structural analysis of dilute protein samples. Analyst, The, 2014, 139, 5393-5399.	3.5	18
59	TNP-AMP Binding to the Sarcoplasmic Reticulum Ca2+-ATPase Studied by Infrared Spectroscopy. Biophysical Journal, 2003, 85, 3262-3270.	0.5	17
60	Effect of lipid bilayer properties on the photocycle of green proteorhodopsin. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 698-708.	1.0	17
61	Capital regulation with heterogeneous banks â€“ Unintended consequences of a too strict leverage ratio. Journal of Banking and Finance, 2018, 88, 455-465.	2.9	17
62	Phosphorylation of the Sarcoplasmic Reticulum Ca2+-ATPase from ATP and ATP Analogs Studied by Infrared Spectroscopy. Journal of Biological Chemistry, 2004, 279, 49902-49909.	3.4	16
63	The carbonate/bicarbonate system as a pH indicator for infrared spectroscopy. Analyst, The, 2014, 139, 2167.	3.5	16
64	Decarboxylation is a significant reaction pathway for photolabile calcium chelators and related compounds. Photochemical and Photobiological Sciences, 2006, 5, 107-115.	2.9	15
65	Proton paths in the sarcoplasmic reticulum Ca2+-ATPase. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 1310-1318.	1.0	15
66	Anionic Lipid Binding to the Foreign Protein MGS Provides a Tight Coupling between Phospholipid Synthesis and Protein Overexpression in Escherichia coli. Biochemistry, 2013, 52, 5533-5544.	2.5	15
67	Microplastic Intake, Its Biotic Drivers, and Hydrophobic Organic Contaminant Levels in the Baltic Herring. Frontiers in Environmental Science, 2019, 7, .	3.3	15
68	The amyloid-inhibiting NCAM-PrP peptide targets AÎ² peptide aggregation in membrane-mimetic environments. IScience, 2021, 24, 102852.	4.1	15
69	Quality assessment of recombinant proteins by infrared spectroscopy. Characterisation of a protein aggregation related band of the Ca²⁺-ATPase. Analyst, The, 2014, 139, 4231-4240.	3.5	14
70	Mapping nucleotide binding site of calcium ATPase with IR spectroscopy: Effects of ATP ?-phosphate binding. Biopolymers, 2002, 67, 267-270.	2.4	13
71	Structures of the Ca2+â€“ATPase complexes with ATP, AMPPCP and AMPPNP. An FTIR study. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 114-123.	1.0	13
72	Direct Quantification of Drug Loading Content in Polymeric Nanoparticles by Infrared Spectroscopy. Pharmaceutics, 2020, 12, 912.	4.5	13

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73	Effects of Ions on Ligand Binding to Pyruvate Kinase: Mapping the Binding Site with Infrared Spectroscopy. Journal of Physical Chemistry B, 2011, 115, 6784-6789.	2.6	12
74	Influence of the Molecular Environment on Phosphorylated Amino Acid Models: A Density Functional Theory Study. Journal of Physical Chemistry B, 2012, 116, 2751-2757.	2.6	12
75	FTIR studies on the bond properties of the aspartyl phosphate moiety of the Ca2+â€“ATPase. Biopolymers, 2006, 82, 353-357.	2.4	10
76	Heterologous overexpression of a monotopic glucosyltransferase (MGS) induces fatty acid remodeling in Escherichia coli membranes. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 1862-1870.	2.6	10
77	A dialysis accessory for attenuated total reflection infrared spectroscopy. Spectroscopy, 2006, 20, 89-94.	0.8	9
78	The Allosteric Effect of Fructose Bisphosphate on Muscle Pyruvate Kinase Studied by Infrared Spectroscopy. Journal of Physical Chemistry B, 2011, 115, 11501-11505.	2.6	9
79	Conformational changes of recombinant <scp>C</scp>a²⁺â€“<scp>ATP</scp>ase studied by reactionâ€induced infrared difference spectroscopy. FEBS Journal, 2013, 280, 5398-5407.	4.7	9
80	The Amide I Spectrum of Proteinsâ€”Optimization of Transition Dipole Coupling Parameters Using Density Functional Theory Calculations. Journal of Physical Chemistry B, 2020, 124, 1703-1714.	2.6	9
81	Inhibition and partial reactions of Na,K-ATPase studied by fourier transform infrared difference spectroscopy. Biopolymers, 2006, 82, 368-372.	2.4	8
82	Characterization of recombinant antibodies for cancer therapy by infrared spectroscopy. Biologicals, 2013, 41, 104-110.	1.4	8
83	Light-Induced Changes in the Chemical Bond Structure of Light-Harvesting Complex II Probed by FTIR Spectroscopyâ€. Biochemistry, 2003, 42, 10223-10228.	2.5	7
84	Use of Helper Enzymes for ADP Removal in Infrared Spectroscopic Experiments: Application to Ca2+-ATPase. Biophysical Journal, 2005, 88, 3615-3624.	0.5	7
85	Formation of Two Different Types of Oligomers in the Early Phase of pH-Induced Aggregation of the Alzheimer AÎ²(12-28) Peptide. Journal of Physical Chemistry B, 2012, 116, 12389-12397.	2.6	7
86	Coumarinâ€Based Octopamine Phototriggers and their Effects on an Insect Octopamine Receptor. ChemBioChem, 2012, 13, 1458-1464.	2.6	7
87	Simultaneous acquisition of infrared, fluorescence and light scattering spectra of proteins: direct evidence for pre-fibrillar species in amyloid fibril formation. Analyst, The, 2016, 141, 963-973.	3.5	7
88	Structural dynamics of the Ca2+-ATPase studied by time-resolved infrared spectroscopy. Spectroscopy, 2008, 22, 63-82.	0.8	7
89	Analytical Time-Resolved Studies Using Photochemical Triggering Methods. , 2005, , 369-434.		6
90	Toward a General Method to Observe the Phosphate Groups of Phosphoenzymes with Infrared Spectroscopy. Biophysical Journal, 2006, 91, 2282-2289.	0.5	5

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91	Structural Changes in the Catalytic Cycle of the Na+,K+-ATPase Studied by Infrared Spectroscopy. Biophysical Journal, 2009, 96, 3433-3442.	0.5	5
92	Cyclic Expansion/Compression of the Airâ€“Liquid Interface as a Simple Method to Produce Silk Fibers. Macromolecular Bioscience, 2021, 21, 2000227.	4.1	5
93	Detection of Ligand Binding to Proteins through Observation of Hydration Water. Journal of Physical Chemistry B, 2012, 116, 13968-13974.	2.6	4
94	Hydrolysis of the E2P Phosphoenzyme of the Ca²⁺-ATPase: A Theoretical Study. Journal of Physical Chemistry B, 2013, 117, 9224-9232.	2.6	4
95	Two sides of the same coin: How enzymes distort substrates and vice versa. AnÂinfraredÂspectroscopicÂviewÂon pyruvateÂkinaseÂand Ca2+-ATPase. Biomedical Spectroscopy and Imaging, 2016, 5, 101-114.	1.2	4
96	Lithium ions display weak interaction with amyloid-beta (AÎ²) peptides and have minor effects on their aggregation. Acta Biochimica Polonica, 2021, 68, 169-179.	0.5	4
97	Synthesis and characterisation of13C and15N isotopomers of a 1-acyl-7-nitroindoline. Journal of Labelled Compounds and Radiopharmaceuticals, 2001, 44, 619-626.	1.0	3
98	Preparation of active enzyme samples for IR studies of Na+/K+-ATPase. Biopolymers, 2002, 67, 271-274.	2.4	3
99	Use of Creatine Kinase To Induce Multistep Reactions in Infrared Spectroscopic Experiments. Journal of Physical Chemistry B, 2013, 117, 14967-14972.	2.6	3
100	Quantifying bond distortions in transient enzyme species by a combination of density functional theory calculations and time-resolved infrared difference spectroscopy. Implications for the mechanism of dephosphorylation of the sarcoplasmic reticulum Ca2+-ATPase (SERCA1a). Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 1036-1043.	1.0	2
101	Photochemistry and Thermal Decarboxylation of Î±â€Phosphoryloxyâ€pâ€nitrophenylacetates. Photochemistry and Photobiology, 2009, 85, 1089-1096.	2.5	1
102	Inhibition of Protein Synthesis with Highly Soluble Caged Compounds. ChemistrySelect, 2017, 2, 6212-6217.	1.5	1
103	Correlations between the structure and the vibrational spectrum of the phosphate group. Implications for the analysis of an important functional group in phosphoproteins. RSC Advances, 2020, 10, 4715-4724.	3.6	0
104	Simultaneous Monitoring of Infrared Absorbance Changes and Related Changes in Intrinsic Fluorescence Due to Ca2+-Binding to Sarcoplasmic Reticulum (SR) Ca2+- ATPase. , 1993, , 383-384.		0
105	Titration of Protonable Residues in Proteins by Flash Induced H+-Release from â€œCaged Protonâ€•â€” UV/VIS and IR Studies. , 1993, , 113-114.		0
106	Infrared absorbance changes of sarcoplasmic reticulum (SR) Ca2+-ATPase in its catalytic cycle. , 1993, , 321-322.		0
107	Changes of molecular structure and interaction in the catalytic cycle of sarcoplasmic reticulum Ca2+- ATPase. , 1994, , 135-138.		0
108	Reaction-Induced Infrared Difference Spectroscopy. , 2018, , 1-8.		0