Andreas Barth

List of Publications by Year
in descending order

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108	9,384	182225	43601
papers	citations	30 h-index	95 g-index

116	116	116	13293
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Engineered Spider Silk Proteins for Biomimetic Spinning of Fibers with Toughness Equal to Dragline Silks. Advanced Functional Materials, 2022, 32, .	7.8	31
2	Cyclic Expansion/Compression of the Airâ€“Liquid Interface as a Simple Method to Produce Silk Fibers. Macromolecular Bioscience, 2021, 21, 2000227.	2.1	5
3	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.	1.7	27
4	Tyrosine residues mediate supercontraction in biomimetic spider silk. Communications Materials, 2021, 2, .	2.9	26
5	Lithium ions display weak interaction with amyloid-beta (AÎ²) peptides and have minor effects on their aggregation. Acta Biochimica Polonica, 2021, 68, 169-179.	0.3	4
6	High-yield production of a super-soluble miniature spidroin for biomimetic high-performance materials. Materials Today, 2021, 50, 16-23.	8.3	42
7	The amyloid-inhibiting NCAM-PrP peptide targets AÎ² peptide aggregation in membrane-mimetic environments. IScience, 2021, 24, 102852.	1.9	15
8	Direct Quantification of Drug Loading Content in Polymeric Nanoparticles by Infrared Spectroscopy. Pharmaceutics, 2020, 12, 912.	2.0	13
9	Properties of Biomimetic Artificial Spider Silk Fibers Tuned by PostSpin Bath Incubation. Molecules, 2020, 25, 3248.	1.7	21
10	Tracking Ca ²⁺ ATPase intermediates in real time by x-ray solution scattering. Science Advances, 2020, 6, eaaz0981.	4.7	29
11	On the Secondary Structure of Silk Fibroin Nanoparticles Obtained Using Ionic Liquids: An Infrared Spectroscopy Study. Polymers, 2020, 12, 1294.	2.0	36
12	Structureâ€“Function Relationship of Artificial Spider Silk Fibers Produced by Straining Flow Spinning. Biomacromolecules, 2020, 21, 2116-2124.	2.6	32
13	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.	1.2	9
14	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.	1.7	0
15	Rapid Physicochemical Changes in Microplastic Induced by Biofilm Formation. Frontiers in Bioengineering and Biotechnology, 2020, 8, 205.	2.0	92
16	Microplastic Intake, Its Biotic Drivers, and Hydrophobic Organic Contaminant Levels in the Baltic Herring. Frontiers in Environmental Science, 2019, 7, .	1.5	15
17	Insight into the internal structure of amyloid-Î² oligomers by isotope-edited Fourier transform infrared spectroscopy. Physical Chemistry Chemical Physics, 2019, 21, 8587-8597.	1.3	22
18	Microplastic-mediated transport of PCBs? A depuration study with Daphnia magna. PLoS ONE, 2019, 14, e0205378.	1.1	48

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19	Capital regulation with heterogeneous banks â€“ Unintended consequences of a too strict leverage ratio. Journal of Banking and Finance, 2018, 88, 455-465.	1.4	17
20	Reaction-Induced Infrared Difference Spectroscopy. , 2018, , 1-8.		0
21	Abundance and composition of near surface microplastics and plastic debris in the Stockholm Archipelago, Baltic Sea. Marine Pollution Bulletin, 2017, 120, 292-302.	2.3	181
22	Amyloid Î²-peptides 1â€“40 and 1â€“42 form oligomers with mixed Î²-sheets. Chemical Science, 2017, 8, 8247-8254.	3.7	32
23	Inhibition of Protein Synthesis with Highly Soluble Caged Compounds. ChemistrySelect, 2017, 2, 6212-6217.	0.7	1
24	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
25	Membrane-induced folding of the plant-stress protein Lti30.. Plant Physiology, 2016, 171, pp.01531.2015.	2.3	35
26	Ionic Strength Modulation of the Free Energy Landscape of AÎ²₄₀ Peptide Fibril Formation. Journal of the American Chemical Society, 2016, 138, 6893-6902.	6.6	80
27	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.	1.7	7
28	Simultaneous Fitting of Absorption Spectra and Their Second Derivatives for an Improved Analysis of Protein Infrared Spectra. Molecules, 2015, 20, 12599-12622.	1.7	65
29	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.	0.5	2
30	Effect of lipid bilayer properties on the photocycle of green proteorhodopsin. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 698-708.	0.5	17
31	Computational De Novo Design of a Self-Assembling Peptide with Predefined Structure. Journal of Molecular Biology, 2015, 427, 550-562.	2.0	20
32	Heterologous overexpression of a monotopic glucosyltransferase (MGS) induces fatty acid remodeling in Escherichia coli membranes. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 1862-1870.	1.4	10
33	The carbonate/bicarbonate system as a pH indicator for infrared spectroscopy. Analyst, The, 2014, 139, 2167.	1.7	16
34	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.	1.7	14
35	Pushing the detection limit of infrared spectroscopy for structural analysis of dilute protein samples. Analyst, The, 2014, 139, 5393-5399.	1.7	18
36	Characterization of recombinant antibodies for cancer therapy by infrared spectroscopy. Biologicals, 2013, 41, 104-110.	0.5	8

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37	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.	1.2	15
38	Use of Creatine Kinase To Induce Multistep Reactions in Infrared Spectroscopic Experiments. Journal of Physical Chemistry B, 2013, 117, 14967-14972.	1.2	3
39	Hydrolysis of the E2P Phosphoenzyme of the Ca²⁺-ATPase: A Theoretical Study. Journal of Physical Chemistry B, 2013, 117, 9224-9232.	1.2	4
40	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.	2.2	9
41	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.	1.2	23
42	Detection of Ligand Binding to Proteins through Observation of Hydration Water. Journal of Physical Chemistry B, 2012, 116, 13968-13974.	1.2	4
43	Influence of the Molecular Environment on Phosphorylated Amino Acid Models: A Density Functional Theory Study. Journal of Physical Chemistry B, 2012, 116, 2751-2757.	1.2	12
44	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.	1.2	7
45	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.	1.2	28
46	Coumarinâ€Based Octopamine Phototriggers and their Effects on an Insect Octopamine Receptor. ChemBioChem, 2012, 13, 1458-1464.	1.3	7
47	Simulation of the Amide I Absorption of Stacked Î²-Sheets. Journal of Physical Chemistry B, 2011, 115, 749-757.	1.2	44
48	The Allosteric Effect of Fructose Bisphosphate on Muscle Pyruvate Kinase Studied by Infrared Spectroscopy. Journal of Physical Chemistry B, 2011, 115, 11501-11505.	1.2	9
49	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.	1.2	12
50	Following Enzyme Activity with Infrared Spectroscopy. Sensors, 2010, 10, 2626-2637.	2.1	45
51	Phosphoenolpyruvate and Mg2+ Binding to Pyruvate Kinase Monitored by Infrared Spectroscopy. Biophysical Journal, 2010, 98, 1931-1940.	0.2	22
52	Photochemistry and Thermal Decarboxylation of Î±â€Phosphoryloxyâ€pâ€nitrophenylacetates. Photochemistry and Photobiology, 2009, 85, 1089-1096.	1.3	1
53	Infrared Spectrum of Phosphoenol Pyruvate: Computational and Experimental Studies. Journal of Physical Chemistry A, 2009, 113, 2935-2942.	1.1	20
54	Structural Changes in the Catalytic Cycle of the Na+,K+-ATPase Studied by Infrared Spectroscopy. Biophysical Journal, 2009, 96, 3433-3442.	0.2	5

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55	Influence of Residue 22 on the Folding, Aggregation Profile, and Toxicity of the Alzheimer's Amyloid Î² Peptide. Biophysical Journal, 2009, 97, 277-285.	0.2	31
56	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.	0.2	19
57	Time-Resolved Infrared Spectroscopy of pH-Induced Aggregation of the Alzheimer AÎ²1â€“28 Peptide. Journal of Molecular Biology, 2008, 379, 589-596.	2.0	54
58	Secondary structure transitions and aggregation induced in dynorphin neuropeptides by the detergent sodium dodecyl sulfate. Biochimica Et Biophysica Acta - Biomembranes, 2008, 1778, 2580-2587.	1.4	20
59	Studies of decarboxylation in photolysis of Î±-carboxy-2-nitrobenzyl (CNB) caged compounds. Photochemical and Photobiological Sciences, 2008, 7, 84-97.	1.6	23
60	Structural dynamics of the Ca2+-ATPase studied by time-resolved infrared spectroscopy. Spectroscopy, 2008, 22, 63-82.	0.8	7
61	Infrared spectroscopy of proteins. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 1073-1101.	0.5	3,547
62	Structures of the Ca2+â€“ATPase complexes with ATP, AMPPCP and AMPPNP. An FTIR study. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 114-123.	0.5	13
63	Proton paths in the sarcoplasmic reticulum Ca2+-ATPase. Biochimica Et Biophysica Acta - Bioenergetics, 2007, 1767, 1310-1318.	0.5	15
64	Decarboxylation is a significant reaction pathway for photolabile calcium chelators and related compounds. Photochemical and Photobiological Sciences, 2006, 5, 107-115.	1.6	15
65	Toward a General Method to Observe the Phosphate Groups of Phosphoenzymes with Infrared Spectroscopy. Biophysical Journal, 2006, 91, 2282-2289.	0.2	5
66	A dialysis accessory for attenuated total reflection infrared spectroscopy. Spectroscopy, 2006, 20, 89-94.	0.8	9
67	Inhibition and partial reactions of Na,K-ATPase studied by fourier transform infrared difference spectroscopy. Biopolymers, 2006, 82, 368-372.	1.2	8
68	FTIR studies on the bond properties of the aspartyl phosphate moiety of the Ca2+â€“ATPase. Biopolymers, 2006, 82, 353-357.	1.2	10
69	Analytical Time-Resolved Studies Using Photochemical Triggering Methods. , 2005, , 369-434.		6
70	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.	1.6	31
71	Use of Helper Enzymes for ADP Removal in Infrared Spectroscopic Experiments: Application to Ca2+-ATPase. Biophysical Journal, 2005, 88, 3615-3624.	0.2	7
72	Interactions of Phosphate Groups of ATP and Aspartyl Phosphate with the Sarcoplasmic Reticulum Ca2+-ATPase: An FTIR Study. Biophysical Journal, 2005, 89, 4352-4363.	0.2	22

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73	Phosphorylation of the Sarcoplasmic Reticulum Ca2+-ATPase from ATP and ATP Analogs Studied by Infrared Spectroscopy. Journal of Biological Chemistry, 2004, 279, 49902-49909.	1.6	16
74	Pâ€“O Bond Destabilization Accelerates Phosphoenzyme Hydrolysis of Sarcoplasmic Reticulum Ca2+-ATPase. Journal of Biological Chemistry, 2004, 279, 51888-51896.	1.6	30
75	Light-Induced Changes in the Chemical Bond Structure of Light-Harvesting Complex II Probed by FTIR Spectroscopyâ€. Biochemistry, 2003, 42, 10223-10228.	1.2	7
76	TNP-AMP Binding to the Sarcoplasmic Reticulum Ca2+-ATPase Studied by Infrared Spectroscopy. Biophysical Journal, 2003, 85, 3262-3270.	0.2	17
77	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.	6.6	124
78	Mapping Interactions between the Ca2+-ATPase and Its Substrate ATP with Infrared Spectroscopy. Journal of Biological Chemistry, 2003, 278, 10112-10118.	1.6	23
79	Direct Measurement of Enzyme Activity with Infrared Spectroscopy. Journal of Biomolecular Screening, 2002, 7, 353-357.	2.6	28
80	What vibrations tell about proteins. Quarterly Reviews of Biophysics, 2002, 35, 369-430.	2.4	1,753
81	Characterization of a New Caged Proton Capable of Inducing Large pH Jumps. Biophysical Journal, 2002, 83, 2864-2871.	0.2	66
82	Selective monitoring of 3 out of 50,000 protein vibrations. Biopolymers, 2002, 67, 237-241.	1.2	18
83	Preparation of active enzyme samples for IR studies of Na+/K+-ATPase. Biopolymers, 2002, 67, 271-274.	1.2	3
84	Mapping nucleotide binding site of calcium ATPase with IR spectroscopy: Effects of ATP ?-phosphate binding. Biopolymers, 2002, 67, 267-270.	1.2	13
85	Reaction-Induced Infrared Difference Spectroscopy for the Study of Protein Reaction Mechanisms. Biochemistry, 2001, 40, 1875-1883.	1.2	125
86	Synthesis and characterisation of13C and15N isotopomers of a 1-acyl-7-nitroindoline. Journal of Labelled Compounds and Radiopharmaceuticals, 2001, 44, 619-626.	0.5	3
87	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.	2.0	26
88	The infrared absorption of amino acid side chains. Progress in Biophysics and Molecular Biology, 2000, 74, 141-173.	1.4	1,108
89	P3-[2-(4-hydroxyphenyl)-2-oxo]ethyl ATP for the Rapid Activation of the Na+,K+-ATPase. Biophysical Journal, 2000, 79, 1346-1357.	0.2	41
90	Structural Changes of the Sarcoplasmic Reticulum Ca2+-ATPase upon Nucleotide Binding Studied by Fourier Transform Infrared Spectroscopy. Biophysical Journal, 2000, 78, 1531-1540.	0.2	39

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91	Substrate binding and enzyme function investigated by infrared spectroscopy. FEBS Letters, 2000, 477, 151-156.	1.3	45
92	Phosphoenzyme Conversion of the Sarcoplasmic Reticulum Ca2+-ATPase. Journal of Biological Chemistry, 1999, 274, 22170-22175.	1.6	29
93	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.	6.6	134
94	ATP-Induced Phosphorylation of the Sarcoplasmic Reticulum Ca2+ ATPase: Molecular Interpretation of Infrared Difference Spectra. Biophysical Journal, 1998, 75, 538-544.	0.2	63
95	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.	1.6	33
96	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.	1.6	18
97	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.	6.6	117
98	Time-resolved Infrared Spectroscopy of the Ca2+-ATPase. Journal of Biological Chemistry, 1996, 271, 30637-30646.	1.6	69
99	Photochemical Release of ATP from "Caged ATP" Studied by Time-Resolved Infrared Spectroscopy. Journal of the American Chemical Society, 1995, 117, 10311-10316.	6.6	89
100	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.	0.5	26
101	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.	1.4	41
102	Changes of molecular structure and interaction in the catalytic cycle of sarcoplasmic reticulum Ca2+- ATPase. , 1994, , 135-138.		0
103	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
104	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
105	Infrared absorbance changes of sarcoplasmic reticulum (SR) Ca2+-ATPase in its catalytic cycle. , 1993, , 321-322.		0
106	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.	1.3	22
107	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.	0.5	67
108	Molecular changes in the sarcoplasmic reticulum calcium ATPase during catalytic activity. FEBS Letters, 1990, 277, 147-150.	1.3	70