

# Kathrin Breuker

## List of Publications by Year in descending order

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78  
papers

4,750  
citations

109264

35  
h-index

98753

67  
g-index

86  
all docs

86  
docs citations

86  
times ranked

3166  
citing authors

#	ARTICLE	IF	CITATIONS
1	Stepwise evolution of protein native structure with electrospray into the gas phase, 10 <sup>12</sup> to 10 <sup>2</sup> s. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 18145-18152.	3.3	374
2	Extending Top-Down Mass Spectrometry to Proteins with Masses Greater Than 200 Kilodaltons. Science, 2006, 314, 109-112.	6.0	309
3	Detailed Unfolding and Folding of Gaseous Ubiquitin Ions Characterized by Electron Capture Dissociation. Journal of the American Chemical Society, 2002, 124, 6407-6420.	6.6	296
4	Electron capture dissociation of gaseous multiply charged ions by Fourier-transform ion cyclotron resonance. Journal of the American Society for Mass Spectrometry, 2001, 12, 245-249.	1.2	226
5	Secondary and tertiary structures of gaseous protein ions characterized by electron capture dissociation mass spectrometry and photofragment spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 15863-15868.	3.3	226
6	Kinetic Intermediates in the Folding of Gaseous Protein Ions Characterized by Electron Capture Dissociation Mass Spectrometry. Journal of the American Chemical Society, 2001, 123, 9792-9799.	6.6	170
7	Breakdown of chlorophyll: A nonenzymatic reaction accounts for the formation of the colorless "nonfluorescent" chlorophyll catabolites. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 6910-6915.	3.3	163
8	Secondary ion-molecule reactions in matrix-assisted laser desorption/ionization. Journal of Mass Spectrometry, 2000, 35, 1237-1245.	0.7	161
9	Nonergodic and conformational control of the electron capture dissociation of protein cations. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 14011-14016.	3.3	158
10	Top-down MS, a powerful complement to the high capabilities of proteolysis proteomics. FEBS Journal, 2007, 274, 6256-6268.	2.2	157
11	Infrared Photodissociation Spectroscopy of Electrosprayed Ions in a Fourier Transform Mass Spectrometer. Journal of the American Chemical Society, 2005, 127, 4076-4083.	6.6	155
12	Nucleotide modifications within bacterial messenger RNAs regulate their translation and are able to rewire the genetic code. Nucleic Acids Research, 2016, 44, 852-862.	6.5	120
13	Electrostatic Stabilization of a Native Protein Structure in the Gas Phase. Angewandte Chemie - International Edition, 2011, 50, 873-877.	7.2	111
14	Top-down identification and characterization of biomolecules by mass spectrometry. Journal of the American Society for Mass Spectrometry, 2008, 19, 1045-1053.	1.2	109
15	Stem cell-specific activation of an ancestral <i>myc</i> protooncogene with conserved basic functions in the early metazoan <i>Hydra</i> . Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 4051-4056.	3.3	93
16	How Ubiquitin Unfolds after Transfer into the Gas Phase. Journal of the American Society for Mass Spectrometry, 2012, 23, 1011-1014.	1.2	93
17	The matrix suppression effect in matrix-assisted laser desorption/ionization: application to negative ions and further characteristics. , 1998, 12, 529-534.		88
18	Native Electron Capture Dissociation for the Structural Characterization of Noncovalent Interactions in Native Cytochrome c. Angewandte Chemie - International Edition, 2003, 42, 4900-4904.	7.2	84

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19	The Thermal Unfolding of Native Cytochrome c in the Transition from Solution to Gas Phase Probed by Native Electron Capture Dissociation. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 4911-4914.	7.2	71
20	Early Structural Evolution of Native Cytochrome c after Solvent Removal. <i>ChemBioChem</i> , 2008, 9, 2417-2423.	1.3	66
21	Chlorophyll breakdown in spinach: on the structure of five nonfluorescent chlorophyll catabolites. <i>Photosynthesis Research</i> , 2002, 74, 109-119.	1.6	65
22	Top-down mass spectrometry for sequencing of larger (up to 61 nt) RNA by CAD and EDD. <i>Journal of the American Society for Mass Spectrometry</i> , 2010, 21, 918-929.	1.2	65
23	Characterization of Modified RNA by Top-Down Mass Spectrometry. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 11289-11292.	7.2	64
24	Sequencing of Specific Copolymer Oligomers by Electron-Capture-Dissociation Mass Spectrometry. <i>Journal of the American Chemical Society</i> , 2002, 124, 9287-9291.	6.6	60
25	The dynamics of water evaporation from partially solvated cytochrome c in the gas phase. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 4690.	1.3	60
26	Internal energies of analyte ions generated from different matrix-assisted laser desorption/ionization matrices. <i>Journal of Mass Spectrometry</i> , 2000, 35, 1035-1041.	0.7	58
27	Electron capture dissociation of multiply-charged oxygenated cations. A nonergodic process. <i>European Journal of Mass Spectrometry</i> , 1999, 5, 335.	0.7	51
28	Hydrogen Atom Loss in Electron-Capture Dissociation: A Fourier Transform-Ion Cyclotron Resonance Study with Single Isotopomeric Ubiquitin Ions. <i>European Journal of Mass Spectrometry</i> , 2002, 8, 177-180.	0.5	51
29	A Mini-Twister Variant and Impact of Residues/Cations on the Phosphodiester Cleavage of this Ribozyme Class. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 15128-15133.	7.2	51
30	Consecutive Ion Activation for Top Down Mass Spectrometry: Improved Protein Sequencing by Nozzle-Skimmer Dissociation. <i>Analytical Chemistry</i> , 2005, 77, 5777-5784.	3.2	50
31	Charge/radical site initiation versus coulombic repulsion for cleavage of multiply charged ions. Charge solvation in poly(alkene glycol) ions. <i>Journal of the American Society for Mass Spectrometry</i> , 2001, 12, 565-570.	1.2	48
32	Biochemical and Structural Characterization of the Interaction between the Siderocalin NGAL/LCN2 (Neutrophil Gelatinase-associated Lipocalin/Lipocalin 2) and the N-terminal Domain of Its Endocytic Receptor SLC22A17. <i>Journal of Biological Chemistry</i> , 2016, 291, 2917-2930.	1.6	45
33	Minimizing base loss and internal fragmentation in collisionally activated dissociation of multiply deprotonated RNA. <i>Journal of the American Society for Mass Spectrometry</i> , 2010, 21, 278-285.	1.2	43
34	Triggering of RNA Secondary Structures by a Functionalized Nucleobase. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 3922-3925.	7.2	42
35	Does Electron Capture Dissociation Cleave Protein Disulfide Bonds?. <i>ChemistryOpen</i> , 2012, 1, 260-268.	0.9	39
36	Label-free, direct localization and relative quantitation of the RNA nucleobase methylations m6A, m5C, m3U, and m5U by top-down mass spectrometry. <i>Nucleic Acids Research</i> , 2017, 45, 8014-8025.	6.5	38

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37	Numerous Isomers of Serine Octamer Ions Characterized by Infrared Photodissociation Spectroscopy. <i>ChemPhysChem</i> , 2009, 10, 2603-2606.	1.0	37
38	Transcriptional control of DNA replication licensing by Myc. <i>Scientific Reports</i> , 2013, 3, 3444.	1.6	37
39	Proteins with Highly Similar Native Folds Can Show Vastly Dissimilar Folding Behavior When Desolvated. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 164-168.	7.2	33
40	Native Topâ€œDown Mass Spectrometry of TAR RNA in Complexes with a Wildâ€œType tat Peptide for Binding Site Mapping. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 1254-1258.	7.2	33
41	Dissimilarity in the Reductive Unfolding Pathways of Two Ribonuclease Homologues. <i>Journal of Molecular Biology</i> , 2004, 338, 795-809.	2.0	31
42	Electron Detachment Dissociation for Topâ€œDown Mass Spectrometry of Acidic Proteins. <i>Chemistry - A European Journal</i> , 2011, 17, 4460-4469.	1.7	29
43	New Mass Spectrometric Methods for the Quantification of Proteinâ€œLigand Binding in Solution. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 22-25.	7.2	27
44	Charge as You Like! Efficient Manipulation of Negative Ion Net Charge in Electrospray Ionization of Proteins and Nucleic Acids. <i>European Journal of Mass Spectrometry</i> , 2011, 17, 333-343.	0.5	27
45	Identification, localization, and relative quantitation of pseudouridine in RNA by tandem mass spectrometry of hydrolysis products. <i>International Journal of Mass Spectrometry</i> , 2011, 304, 91-97.	0.7	25
46	A natural riboswitch scaffold with self-methylation activity. <i>Nature Communications</i> , 2021, 12, 3877.	5.8	24
47	<i>Hydra myc2</i> , a unique pre-bilaterian member of the <i>myc</i> gene family, is activated in cell proliferation and gametogenesis. <i>Biology Open</i> , 2014, 3, 397-407.	0.6	23
48	On the mechanism of RNA phosphodiester backbone cleavage in the absence of solvent. <i>Nucleic Acids Research</i> , 2015, 43, 5171-5181.	6.5	23
49	Probing Protein Structure and Folding in the Gas Phase by Electron Capture Dissociation. <i>Journal of the American Society for Mass Spectrometry</i> , 2015, 26, 1059-1067.	1.2	22
50	Charge Site Mass Spectra: Conformation-Sensitive Components of the Electron Capture Dissociation Spectrum of a Protein. <i>Journal of the American Society for Mass Spectrometry</i> , 2013, 24, 807-810.	1.2	21
51	Unfolding and Folding of the Three-Helix Bundle Protein KIX in the Absence of Solvent. <i>Journal of the American Society for Mass Spectrometry</i> , 2016, 27, 1079-1088.	1.2	17
52	Protein Structure and Folding in the Gas Phase: Ubiquitin and Cytochrome c. , 2006, , 177-212.		16
53	The effect of adenine protonation on RNA phosphodiester backbone bond cleavage elucidated by deaza-nucleobase modifications and mass spectrometry. <i>Nucleic Acids Research</i> , 2019, 47, 7223-7234.	6.5	16
54	Radical Transfer Dissociation for Deâ€œNovo Characterization of Modified Ribonucleic Acids by Mass Spectrometry. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 4309-4313.	7.2	16

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55	Native Electron Capture Dissociation Maps to Iron-Binding Channels in Horse Spleen Ferritin. <i>Analytical Chemistry</i> , 2017, 89, 10711-10716.	3.2	14
56	Interactions of Protonated Guanidine and Guanidine Derivatives with Multiply Deprotonated RNA Probed by Electrospray Ionization and Collisionally Activated Dissociation. <i>ChemistryOpen</i> , 2017, 6, 739-750.	0.9	13
57	Differential regulation of myomimetics by Wnt/ $\beta$ -Catenin signaling in the early metazoan Hydra. <i>FEBS Journal</i> , 2019, 286, 2295-2310.	2.2	13
58	Multi-Step Evolution of Protein Conformation on Electrospray into the Gas Phase. <i>European Journal of Mass Spectrometry</i> , 2010, 16, 437-442.	0.5	12
59	Relative Strength of Noncovalent Interactions and Covalent Backbone Bonds in Gaseous RNA-Peptide Complexes. <i>Analytical Chemistry</i> , 2019, 91, 1659-1664.	3.2	12
60	Native mass spectrometry reveals the initial binding events of HIV-1 rev to RRE stem II RNA. <i>Nature Communications</i> , 2020, 11, 5750.	5.8	12
61	Impact of 3-deazapurine nucleobases on RNA properties. <i>Nucleic Acids Research</i> , 2021, 49, 4281-4293.	6.5	11
62	A personal perspective on chemistry-driven RNA research. <i>Biopolymers</i> , 2013, 99, n/a-n/a.	1.2	10
63	Narrowband Modulation Two-Dimensional Mass Spectrometry and Label-Free Relative Quantification of Histone Peptides. <i>Analytical Chemistry</i> , 2020, 92, 13945-13952.	3.2	9
64	Femtosecond laser vaporization that preserves protein-folded structure: An unproven idea. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, E206; author reply E207.	3.3	8
65	Replacing H <sup>+</sup> by Na <sup>+</sup> or K <sup>+</sup> in phosphopeptide anions and cations prevents electron capture dissociation. <i>Chemical Science</i> , 2018, 9, 7338-7353.	3.7	8
66	Native Top-Down Mass Spectrometry of TAR RNA in Complexes with a Wild-type tat Peptide for Binding Site Mapping. <i>Angewandte Chemie</i> , 2017, 129, 1274-1278.	1.6	7
67	Raw protein from the top down. <i>Nature Chemistry</i> , 2018, 10, 114-116.	6.6	7
68	1-Deazaguanosine-Modified RNA: The Missing Piece for Functional RNA Atomic Mutagenesis. <i>Journal of the American Chemical Society</i> , 2022, 144, 10344-10352.	6.6	7
69	NMR resonance assignments of the pathogenesis-related peach allergen Pru p 1.0101. <i>Biomolecular NMR Assignments</i> , 2019, 13, 127-130.	0.4	5
70	N-Lauroylation during the Expression of Recombinant N-Myristoylated Proteins: Implications and Solutions. <i>ChemBioChem</i> , 2016, 17, 82-89.	1.3	4
71	Phase Correction for Absorption Mode Two-Dimensional Mass Spectrometry. <i>Molecules</i> , 2021, 26, 3388.	1.7	3
72	Radical Transfer Dissociation for De Novo Characterization of Modified Ribonucleic Acids by Mass Spectrometry. <i>Angewandte Chemie</i> , 2020, 132, 4339-4343.	1.6	2

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73	Characterization of Ribonucleic Acids and Their Modifications by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. <i>Physical Chemistry in Action</i> , 2014, , 185-202.	0.1	1
74	New Mass Spectrometric Methods for the Quantification of Protein-Ligand Binding in Solution.. <i>ChemInform</i> , 2004, 35, no.	0.1	0
75	In ungewohnter Umgebung. <i>Nachrichten Aus Der Chemie</i> , 2007, 55, 1079-1082.	0.0	0
76	Innentitelbild: Electrostatic Stabilization of a Native Protein Structure in the Gas Phase ( <i>Angew.</i> ) <i>Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 6</i>	1.6	0
77	Inside Cover: Electrostatic Stabilization of a Native Protein Structure in the Gas Phase ( <i>Angew. Chem.</i> ) <i>Tj ETQq1 1 0,784314 rgBT /Overl</i>	7.2	0
78	Virtual Issue: Structure Characterization of Biomolecules. <i>ChemistryOpen</i> , 2014, 3, 137-137.	0.9	0