

# Matthew F Bush

## List of Publications by Year in descending order

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70  
papers

5,881  
citations

71061

41  
h-index

88593

70  
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71  
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71  
docs citations

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times ranked

4445  
citing authors

#	ARTICLE	IF	CITATIONS
1	Collision Cross Sections of Proteins and Their Complexes: A Calibration Framework and Database for Gas-Phase Structural Biology. <i>Analytical Chemistry</i> , 2010, 82, 9557-9565.	3.2	694
2	Structural Characterization of Drug-like Compounds by Ion Mobility Mass Spectrometry: Comparison of Theoretical and Experimentally Derived Nitrogen Collision Cross Sections. <i>Analytical Chemistry</i> , 2012, 84, 1026-1033.	3.2	340
3	Recommendations for reporting ion mobility Mass Spectrometry measurements. <i>Mass Spectrometry Reviews</i> , 2019, 38, 291-320.	2.8	315
4	Ion Mobility Mass Spectrometry of Peptide Ions: Effects of Drift Gas and Calibration Strategies. <i>Analytical Chemistry</i> , 2012, 84, 7124-7130.	3.2	281
5	Charge-State Dependent Compaction and Dissociation of Protein Complexes: Insights from Ion Mobility and Molecular Dynamics. <i>Journal of the American Chemical Society</i> , 2012, 134, 3429-3438.	6.6	223
6	Infrared Spectroscopy of Hydrated Amino Acids in the Gas Phase: A Protonated and Lithiated Valine. <i>Journal of the American Chemical Society</i> , 2006, 128, 905-916.	6.6	200
7	SCFFBXL3 ubiquitin ligase targets cryptochromes at their cofactor pocket. <i>Nature</i> , 2013, 496, 64-68.	13.7	191
8	Infrared Spectroscopy of Cationized Arginine in the Gas Phase: A Direct Evidence for the Transition from Nonzwitterionic to Zwitterionic Structure. <i>Journal of the American Chemical Society</i> , 2007, 129, 1612-1622.	6.6	189
9	Infrared Spectroscopy of Arginine Cation Complexes: A Direct Observation of Gas-Phase Zwitterions. <i>Journal of Physical Chemistry A</i> , 2007, 111, 11759-11770.	1.1	171
10	Effects of Alkaline Earth Metal Ion Complexation on Amino Acid Zwitterion Stability: Results from Infrared Action Spectroscopy. <i>Journal of the American Chemical Society</i> , 2008, 130, 6463-6471.	6.6	166
11	Traveling-wave ion mobility mass spectrometry of protein complexes: accurate calibrated collision cross sections of human insulin oligomers. <i>Rapid Communications in Mass Spectrometry</i> , 2012, 26, 1181-1193.	0.7	138
12	Defining the mechanism of polymerization in the serpinopathies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 17146-17151.	3.3	135
13	Sulfate Ion Patterns Water at Long Distance. <i>Journal of the American Chemical Society</i> , 2010, 132, 8248-8249.	6.6	131
14	Absolute Standard Hydrogen Electrode Potential Measured by Reduction of Aqueous Nanodrops in the Gas Phase. <i>Journal of the American Chemical Society</i> , 2008, 130, 3371-3381.	6.6	128
15	One Water Molecule Stabilizes the Cationized Arginine Zwitterion. <i>Journal of the American Chemical Society</i> , 2007, 129, 13544-13553.	6.6	109
16	Infrared Spectroscopy of Cationized Lysine and $\mu$ -N-methyllysine in the Gas Phase: Effects of Alkali-Metal Ion Size and Proton Affinity on Zwitterion Stability. <i>Journal of Physical Chemistry A</i> , 2007, 111, 7753-7760.	1.1	108
17	Large-Scale Structural Characterization of Drug and Drug-Like Compounds by High-Throughput Ion Mobility-Mass Spectrometry. <i>Analytical Chemistry</i> , 2017, 89, 9023-9030.	3.2	104
18	Ion mobility mass spectrometry of peptide, protein, and protein complex ions using a radio-frequency confining drift cell. <i>Analyst</i> , 2016, 141, 884-891.	1.7	98

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19	Binding Energies of Water to Sodiated Valine and Structural Isomers in the Gas Phase: The Effect of Proton Affinity on Zwitterion Stability. <i>Journal of the American Chemical Society</i> , 2003, 125, 13576-13584.	6.6	91
20	Evidence for Water Rings in the Hexahydrated Sulfate Dianion from IR Spectroscopy. <i>Journal of the American Chemical Society</i> , 2007, 129, 2220-2221.	6.6	89
21	FBXL5 Regulates IRP2 Stability in Iron Homeostasis via an Oxygen-Responsive [2Fe2S] Cluster. <i>Molecular Cell</i> , 2020, 78, 31-41.e5.	4.5	87
22	Collision cross section calibrants for negative ion mode traveling wave ion mobility-mass spectrometry. <i>Analyst</i> , 2015, 140, 6853-6861.	1.7	86
23	Hydration of the Calcium Dication: Direct Evidence for Second Shell Formation from Infrared Spectroscopy. <i>ChemPhysChem</i> , 2007, 8, 2245-2253.	1.0	85
24	Effects of Polarity on the Structures and Charge States of Native-Like Proteins and Protein Complexes in the Gas Phase. <i>Analytical Chemistry</i> , 2013, 85, 12055-12061.	3.2	81
25	Infrared Action Spectra of Ca <sup>2+</sup> (H <sub>2</sub> O) <sub>11</sub> Exhibit Spectral Signatures for Condensed-Phase Structures with Increasing Cluster Size. <i>Journal of the American Chemical Society</i> , 2008, 130, 15482-15489.	6.6	79
26	Structures of Cationized Proline Analogues: Evidence for the Zwitterionic Form. <i>Journal of Physical Chemistry A</i> , 2005, 109, 1903-1910.	1.1	77
27	Folding of Protein Ions in the Gas Phase after Cation-to-Anion Proton-Transfer Reactions. <i>Journal of the American Chemical Society</i> , 2016, 138, 9581-9588.	6.6	73
28	Hydration of Alkaline Earth Metal Dications: Effects of Metal Ion Size Determined Using Infrared Action Spectroscopy. <i>Journal of the American Chemical Society</i> , 2009, 131, 13270-13277.	6.6	72
29	Dissecting Heterogeneous Molecular Chaperone Complexes Using a Mass Spectrum Deconvolution Approach. <i>Chemistry and Biology</i> , 2012, 19, 599-607.	6.2	70
30	Reactivity and Infrared Spectroscopy of Gaseous Hydrated Trivalent Metal Ions. <i>Journal of the American Chemical Society</i> , 2008, 130, 9122-9128.	6.6	61
31	Alkali Metal Ion Binding to Glutamine and Glutamine Derivatives Investigated by Infrared Action Spectroscopy and Theory. <i>Journal of Physical Chemistry A</i> , 2008, 112, 8578-8584.	1.1	60
32	Hexamers of the Type II Secretion ATPase GspE from <i>Vibrio cholerae</i> with Increased ATPase Activity. <i>Structure</i> , 2013, 21, 1707-1717.	1.6	60
33	Proton Affinity and Zwitterion Stability: New Results from Infrared Spectroscopy and Theory of Cationized Lysine and Analogues in the Gas Phase. <i>Journal of Physical Chemistry A</i> , 2009, 113, 431-438.	1.1	58
34	Recognition of the Diglycine C-End Degron by CRL2KLHDC2 Ubiquitin Ligase. <i>Molecular Cell</i> , 2018, 72, 813-822.e4.	4.5	58
35	Structures and Hydration Enthalpies of Cationized Glutamine and Structural Analogues in the Gas Phase. <i>Journal of the American Chemical Society</i> , 2005, 127, 10276-10286.	6.6	56
36	Formation of hydrated triply charged metal ions from aqueous solutions using nanodrop mass spectrometry. <i>International Journal of Mass Spectrometry</i> , 2006, 253, 256-262.	0.7	55

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37	Internal Energy Deposition in Electron Capture Dissociation Measured Using Hydrated Divalent Metal Ions as Nanocalorimeters. <i>Journal of the American Chemical Society</i> , 2007, 129, 4894-4895.	6.6	54
38	Nonspecific aggregation in native electrokinetic nanoelectrospray ionization. <i>International Journal of Mass Spectrometry</i> , 2017, 420, 35-42.	0.7	52
39	Structures of Lithiated Lysine and Structural Analogues in the Gas Phase: Effects of Water and Proton Affinity on Zwitterionic Stability. <i>Journal of Physical Chemistry A</i> , 2006, 110, 8433-8442.	1.1	51
40	Gas-phase protein assemblies: Unfolding landscapes and preserving native-like structures using noncovalent adducts. <i>Chemical Physics Letters</i> , 2012, 524, 1-9.	1.2	48
41	Assigning Structures to Gas-Phase Peptide Cations and Cation-Radicals. An Infrared Multiphoton Dissociation, Ion Mobility, Electron Transfer, and Computational Study of a Histidine Peptide Ion. <i>Journal of Physical Chemistry B</i> , 2012, 116, 3445-3456.	1.2	47
42	Nonergodicity in electron capture dissociation investigated using hydrated ion nanocalorimetry. <i>Journal of the American Society for Mass Spectrometry</i> , 2007, 18, 1217-1231.	1.2	42
43	Structural Dynamics of Native-Like Ions in the Gas Phase: Results from Tandem Ion Mobility of Cytochrome <i>c</i> . <i>Analytical Chemistry</i> , 2017, 89, 7527-7534.	3.2	41
44	Analysis of Native-Like Proteins and Protein Complexes Using Cation to Anion Proton Transfer Reactions (CAPTR). <i>Journal of the American Society for Mass Spectrometry</i> , 2015, 26, 2152-2161.	1.2	40
45	Collision cross sections and ion structures: development of a general calculation method via high-quality ion mobility measurements and theoretical modeling. <i>Analyst</i> , 2017, 142, 4289-4298.	1.7	39
46	Radio-Frequency (rf) Confinement in Ion Mobility Spectrometry: Apparent Mobilities and Effective Temperatures. <i>Journal of the American Society for Mass Spectrometry</i> , 2016, 27, 2054-2063.	1.2	35
47	Structural characterization of small molecular ions by ion mobility mass spectrometry in nitrogen drift gas: improving the accuracy of trajectory method calculations. <i>Analyst</i> , 2018, 143, 1786-1796.	1.7	35
48	Effects of Drift Gas Selection on the Ambient-Temperature, Ion Mobility Mass Spectrometry Analysis of Amino Acids. <i>Analytical Chemistry</i> , 2017, 89, 2017-2023.	3.2	34
49	Binding Energies of Water to Doubly Hydrated Cationized Glutamine and Structural Analogues in the Gas Phase. <i>Journal of Physical Chemistry A</i> , 2006, 110, 3662-3669.	1.1	28
50	Infrared Laser Activation of Soluble and Membrane Protein Assemblies in the Gas Phase. <i>Analytical Chemistry</i> , 2016, 88, 7060-7067.	3.2	28
51	Reduction Energy of 1 M Aqueous Ruthenium(III) Hexaammine in the Gas Phase: A Route toward Establishing an Absolute Electrochemical Scale. <i>Journal of the American Chemical Society</i> , 2007, 129, 7716-7717.	6.6	26
52	Comprehensive Analysis of Gly-Leu-Gly-Gly-Lys Peptide Dication Structures and Cation-Radical Dissociations Following Electron Transfer: From Electron Attachment to Backbone Cleavage, Ion-Molecule Complexes, and Fragment Separation. <i>Journal of Physical Chemistry A</i> , 2014, 118, 308-324.	1.1	26
53	Analysis of Native-Like Ions Using Structures for Lossless Ion Manipulations. <i>Analytical Chemistry</i> , 2016, 88, 9118-9126.	3.2	25
54	Gas-phase structures of phosphopeptide ions: A difficult case. <i>International Journal of Mass Spectrometry</i> , 2013, 354-355, 249-256.	0.7	24

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55	Native-Like and Denatured Cytochrome <i>c</i> Ions Yield Cation-to-Anion Proton Transfer Reaction Products with Similar Collision Cross-Sections. <i>Journal of the American Society for Mass Spectrometry</i> , 2017, 28, 1382-1391.	1.2	22
56	Electron Transfer Dissociation of Photolabeled Peptides. Backbone Cleavages Compete with Diazirine Ring Rearrangements. <i>Journal of the American Society for Mass Spectrometry</i> , 2013, 24, 1641-1653.	1.2	19
57	Interpreting the Collision Cross Sections of Native-like Protein Ions: Insights from Cation-to-Anion Proton-Transfer Reactions. <i>Analytical Chemistry</i> , 2017, 89, 7607-7614.	3.2	19
58	Does Thermal Breathing Affect Collision Cross Sections of Gas-Phase Peptide Ions? An Ab Initio Molecular Dynamics Study. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2765-2771.	2.1	16
59	Ion Mobility of Proteins in Nitrogen Gas: Effects of Charge State, Charge Distribution, and Structure. <i>Journal of Physical Chemistry A</i> , 2018, 122, 5625-5634.	1.1	15
60	Effects of Charge State on the Structures of Serum Albumin Ions in the Gas Phase: Insights from Cation-to-Anion Proton-Transfer Reactions, Ion Mobility, and Mass Spectrometry. <i>Journal of Physical Chemistry B</i> , 2018, 122, 9947-9955.	1.2	14
61	Effects of Solution Structure on the Folding of Lysozyme Ions in the Gas Phase. <i>Journal of Physical Chemistry B</i> , 2017, 121, 2759-2766.	1.2	13
62	Toward a Rational Design of Highly Folded Peptide Cation Conformations. 3D Gas-Phase Ion Structures and Ion Mobility Characterization. <i>Journal of the American Society for Mass Spectrometry</i> , 2016, 27, 1647-1660.	1.2	11
63	Collision-Induced Unfolding Is Sensitive to the Polarity of Proteins and Protein Complexes. <i>Journal of the American Society for Mass Spectrometry</i> , 2019, 30, 2430-2437.	1.2	11
64	Effects of Charge State, Charge Distribution, and Structure on the Ion Mobility of Protein Ions in Helium Gas: Results from Trajectory Method Calculations. <i>Journal of Physical Chemistry A</i> , 2017, 121, 7768-7777.	1.1	10
65	Electron Transfer Reduction of the Diazirine Ring in Gas-Phase Peptide Ions. On the Peculiar Loss of [NH <sub>4</sub> O] from Photoleucine. <i>Journal of the American Society for Mass Spectrometry</i> , 2015, 26, 415-431.	1.2	9
66	Principles of Ion Selection, Alignment, and Focusing in Tandem Ion Mobility Implemented Using Structures for Lossless Ion Manipulations (SLIM). <i>Journal of the American Society for Mass Spectrometry</i> , 2019, 30, 1115-1125.	1.2	8
67	Degronomics: Mapping the Interacting Peptidome of a Ubiquitin Ligase Using an Integrative Mass Spectrometry Strategy. <i>Analytical Chemistry</i> , 2019, 91, 12775-12783.	3.2	7
68	High-Precision, Gas-Phase Hydrogen/Deuterium-Exchange Kinetics by Mass Spectrometry Enabled by Exchange Standards. <i>Analytical Chemistry</i> , 2020, 92, 7725-7732.	3.2	6
69	Determining Collision Cross-Sections of Aromatic Compounds in Crude Oil by Using Aromatic Compound Mixture as Calibration Standard. <i>Bulletin of the Korean Chemical Society</i> , 2019, 40, 122-127.	1.0	5
70	2014 ASMS Fall Workshop: Ion Mobility Mass Spectrometry. <i>Journal of the American Society for Mass Spectrometry</i> , 2015, 26, 1051-1054.	1.2	2