Ryan T Kelly

List of Publications by Year
in descending order

100 papers	5,998 citations	61945 43 h-index	82499 72 g-index
110 all docs	110 docs citations	110 times ranked	5756 citing authors

#	Article	IF	Citations
1	Nanodroplet processing platform for deep and quantitative proteome profiling of 10â€“100 mammalian cells. Nature Communications, 2018, 9, 882.	5.8	384
2	Mass spectrometry-based proteomics: existing capabilities and future directions. Chemical Society Reviews, 2012, 41, 3912.	18.7	351
3	Chemically Etched Open Tubular and Monolithic Emitters for Nanoelectrospray Ionization Mass Spectrometry. Analytical Chemistry, 2006, 78, 7796-7801.	3.2	233
4	Single-cell Proteomics: Progress and Prospects. Molecular and Cellular Proteomics, 2020, 19, 1739-1748.	2.5	220
5	The ion funnel: Theory, implementations, and applications. Mass Spectrometry Reviews, 2010, 29, 294-312.	2.8	217
6	Ionization and transmission efficiency in an electrospray ionizationâ€"mass spectrometry interface. Journal of the American Society for Mass Spectrometry, 2007, 18, 1582-1590.	1.2	210
7	The emerging landscape of single-molecule protein sequencing technologies. Nature Methods, 2021, 18, 604-617.	9.0	198
8	Proteomic Analysis of Single Mammalian Cells Enabled by Microfluidic Nanodroplet Sample Preparation and Ultrasensitive NanoLCâ€MS. Angewandte Chemie - International Edition, 2018, 57, 12370-12374.	7.2	186
9	Automated mass spectrometry imaging of over 2000 proteins from tissue sections at 100-Î¼m spatial resolution. Nature Communications, 2020, 11, 8.	5.8	178
10	Ultrasensitive single-cell proteomics workflow identifies >1000 protein groups per mammalian cell. Chemical Science, 2021, 12, 1001-1006.	3.7	165
11	High-Throughput Single Cell Proteomics Enabled by Multiplex Isobaric Labeling in a Nanodroplet Sample Preparation Platform. Analytical Chemistry, 2019, 91, 13119-13127.	3.2	156
12	Improved Single-Cell Proteome Coverage Using Narrow-Bore Packed NanoLC Columns and Ultrasensitive Mass Spectrometry. Analytical Chemistry, 2020, 92, 2665-2671.	3.2	141
13	Fully Automated Four-Column Capillary LCâˆ'MS System for Maximizing Throughput in Proteomic Analyses. Analytical Chemistry, 2008, 80, 294-302.	3.2	130
14	Thermal Bonding of Polymeric Capillary Electrophoresis Microdevices in Water. Analytical Chemistry, 2003, 75, 1941-1945.	3.2	127
15	Dilutionâ€Free Analysis from Picoliter Droplets by Nanoâ€Electrospray Ionization Mass Spectrometry. Angewandte Chemie - International Edition, 2009, 48, 6832-6835.	7.2	108
16	Spatially Resolved Proteome Mapping of Laser Capture Microdissected Tissue with Automated Sample Transfer to Nanodroplets. Molecular and Cellular Proteomics, 2018, 17, 1864-1874.	2.5	105
17	Automated Coupling of Nanodroplet Sample Preparation with Liquid Chromatographyâ€“Mass Spectrometry for High-Throughput Single-Cell Proteomics. Analytical Chemistry, 2020, 92, 10588-10596.	3.2	105
18	Phase-Changing Sacrificial Materials for Solvent Bonding of High-Performance Polymeric Capillary Electrophoresis Microchips. Analytical Chemistry, 2005, 77, 3536-3541.	3.2	90

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19	Deposition and Characterization of Extended Single-Stranded DNA Molecules on Surfaces. Nano Letters, 2001, 1, 345-348.	4.5	87
20	Electric Field Gradient Focusing of Proteins Based on Shaped Ionically Conductive Acrylic Polymer. Analytical Chemistry, 2004, 76, 5641-5648.	3.2	82
21	Single-cell proteomics reveals changes in expression during hair-cell development. ELife, 2019, 8, .	2.8	80
22	Analytical Characterization of the Electrospray Ion Source in the Nanoflow Regime. Analytical Chemistry, 2008, 80, 6573-6579.	3.2	74
23	Electric field gradient focusing. Journal of Separation Science, 2005, 28, 1985-1993.	1.3	72
24	Subambient Pressure Ionization with Nanoelectrospray Source and Interface for Improved Sensitivity in Mass Spectrometry. Analytical Chemistry, 2008, 80, 1800-1805.	3.2	72
25	Fully Automated Sample Processing and Analysis Workflow for Low-Input Proteome Profiling. Analytical Chemistry, 2021, 93, 1658-1666.	3.2	72
26	Capillary-Based Multi Nanoelectrospray Emitters:â€‰ Improvements in Ion Transmission Efficiency and Implementation with Capillary Reversed-Phase LC-ESI-MS. Analytical Chemistry, 2008, 80, 143-149.	3.2	70
27	Subnanogram proteomics: Impact of LC column selection, MS instrumentation and data analysis strategy on proteome coverage for trace samples. International Journal of Mass Spectrometry, 2018, 427, 4-10.	0.7	67
28	New mass spectrometry technologies contributing towards comprehensive and high throughput omics analyses of single cells. Analyst, The, 2019, 144, 794-807.	1.7	67
29	Synthesis of 1 nm Pd Nanoparticles in a Microfluidic Reactor: Insights from in Situ X-ray Absorption Fine Structure Spectroscopy and Small-Angle X-ray Scattering. Journal of Physical Chemistry C, 2015, 119, 13257-13267.	1.5	61
30	Proteome Profiling of 1 to 5 Spiked Circulating Tumor Cells Isolated from Whole Blood Using Immunodensity Enrichment, Laser Capture Microdissection, Nanodroplet Sample Processing, and Ultrasensitive nanoLCâ€“MS. Analytical Chemistry, 2018, 90, 11756-11759.	3.2	60
31	Phase-Changing Sacrificial Materials for Interfacing Microfluidics with Ion-Permeable Membranes To Create On-Chip Preconcentrators and Electric Field Gradient Focusing Microchips. Analytical Chemistry, 2006, 78, 2565-2570.	3.2	59
32	Picoelectrospray Ionization Mass Spectrometry Using Narrow-Bore Chemically Etched Emitters. Journal of the American Society for Mass Spectrometry, 2014, 25, 30-36.	1.2	57
33	Array of Chemically Etched Fused-Silica Emitters for Improving the Sensitivity and Quantitation of Electrospray Ionization Mass Spectrometry. Analytical Chemistry, 2007, 79, 4192-4198.	3.2	56
34	Picoflow Liquid Chromatographyâ€“Mass Spectrometry for Ultrasensitive Bottom-Up Proteomics Using 2-Î¼m-i.d. Open Tubular Columns. Analytical Chemistry, 2020, 92, 4711-4715.	3.2	55
35	Electrospray Characteristic Curves:â€‰ In Pursuit of Improved Performance in the Nanoflow Regime. Analytical Chemistry, 2007, 79, 8030-8036.	3.2	54
36	Enhancing bottomâ€up and topâ€down proteomic measurements with ion mobility separations. Proteomics, 2015, 15, 2766-2776.	1.3	54

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37	Biases in ion transmission through an electrospray ionization-mass spectrometry capillary inlet. Journal of the American Society for Mass Spectrometry, 2009, 20, 2265-2272.	1.2	52
38	Alexa Fluor-Labeled Fluorescent Cellulose Nanocrystals for Bioimaging Solid Cellulose in Spatially Structured Microenvironments. Bioconjugate Chemistry, 2015, 26, 593-601.	1.8	52
39	Enhanced Sensitivity for Selected Reaction Monitoring Mass Spectrometry-based Targeted Proteomics Using a Dual Stage Electrodynamic Ion Funnel Interface. Molecular and Cellular Proteomics, 2011, 10, S1-S9.	2.5	49
40	Three-dimensional feature matching improves coverage for single-cell proteomics based on ion mobility filtering. Cell Systems, 2022, 13, 426-434.e4.	2.9	49
41	Ultrasensitive nanoelectrospray ionization-mass spectrometry using poly(dimethylsiloxane) microchips with monolithically integrated emitters. Analyst, The, 2010, 135, 2296.	1.7	48
42	Fabrication of calcium fluoride capillary electrophoresis microdevices for on-chip infrared detection. Journal of Chromatography A, 2004, 1027, 231-235.	1.8	47
43	The role of electron irradiation history in liquid cell transmission electron microscopy. Science Advances, 2018, 4, eaaq1202.	4.7	47
44	Benchtop-compatible sample processing workflow for proteome profiling of <â€‰100 mammalian cells. Analytical and Bioanalytical Chemistry, 2019, 411, 4587-4596.	1.9	46
45	Continuous, One-pot Synthesis and Post-Synthetic Modification of NanoMOFs Using Droplet Nanoreactors. Scientific Reports, 2016, 6, 36657.	1.6	45
46	Electrically actuated, pressure-driven microfluidic pumps. Lab on A Chip, 2003, 3, 217.	3.1	44
47	Nanoelectrospray Emitter Arrays Providing Interemitter Electric Field Uniformity. Analytical Chemistry, 2008, 80, 5660-5665.	3.2	44
48	Controlled dispensing and mixing of pico- to nanoliter volumes using on-demand droplet-based microfluidics. Microfluidics and Nanofluidics, 2013, 15, 117-126.	1.0	42
49	Nanoproteomics comes of age. Expert Review of Proteomics, 2018, 15, 865-871.	1.3	42
50	Membrane-Based Emitter for Coupling Microfluidics with Ultrasensitive Nanoelectrospray Ionization-Mass Spectrometry. Analytical Chemistry, 2011, 83, 5797-5803.	3.2	40
51	Reagent-free and portable detection of Bacillus anthracis spores using a microfluidic incubator and smartphone microscope. Analyst, The, 2015, 140, 6269-6276.	1.7	40
52	Label-Free Profiling of up to 200 Single-Cell Proteomes per Day Using a Dual-Column Nanoflow Liquid Chromatography Platform. Analytical Chemistry, 2022, 94, 6017-6025.	3.2	39
53	Elastomeric Microchip Electrospray Emitter for Stable Cone-Jet Mode Operation in the Nanoflow Regime. Analytical Chemistry, 2008, 80, 3824-3831.	3.2	36
54	Automated Nanoflow Two-Dimensional Reversed-Phase Liquid Chromatography System Enables In-Depth Proteome and Phosphoproteome Profiling of Nanoscale Samples. Analytical Chemistry, 2019, 91, 9707-9715.	3.2	36

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55	Nanowell-mediated two-dimensional liquid chromatography enables deep proteome profiling of <1000 mammalian cells. Chemical Science, 2018, 9, 6944-6951.	3.7	33
56	Electrokinetic sample preconcentration and hydrodynamic sample injection for microchip electrophoresis using a pneumatic microvalve. Electrophoresis, 2016, 37, 455-462.	1.3	31
57	Direct Surface and Droplet Microsampling for Electrospray Ionization Mass Spectrometry Analysis with an Integrated Dual-Probe Microfluidic Chip. Analytical Chemistry, 2017, 89, 9009-9016.	3.2	31
58	Spatially Resolved Proteome Profiling of <200 Cells from Tomato Fruit Pericarp by Integrating Laser-Capture Microdissection with Nanodroplet Sample Preparation. Analytical Chemistry, 2018, 90, 11106-11114.	3.2	31
59	Proteomic Analysis of Single Mammalian Cells Enabled by Microfluidic Nanodroplet Sample Preparation and Ultrasensitive NanoLCâ€MS. Angewandte Chemie, 2018, 130, 12550-12554.	1.6	31
60	Compartmentalized microchannel array for high-throughput analysis of single cell polarized growth and dynamics. Scientific Reports, 2015, 5, 16111.	1.6	28
61	Planar thin film device for capillary electrophoresis. Lab on A Chip, 2005, 5, 501.	3.1	26
62	Microfluidic Systems for Integrated, High-Throughput DNA Analysis. Analytical Chemistry, 2005, 77, 96 A-102 A.	3.2	26
63	Identification of a novel mitotic phosphorylation motif associated with protein localization to the mitotic apparatus. Journal of Cell Science, 2007, 120, 4060-4070.	1.2	26
64	Effect of pressure on electrospray characteristics. Applied Physics Letters, 2009, 95, 184103.	1.5	26
65	Improving FAIMS sensitivity using a planar geometry with slit interfaces. Journal of the American Society for Mass Spectrometry, 2009, 20, 1768-1774.	1.2	25
66	Features of Peptide Fragmentation Spectra in Single-Cell Proteomics. Journal of Proteome Research, 2022, 21, 182-188.	1.8	25
67	Silicon-on-glass pore network micromodels with oxygen-sensing fluorophore films for chemical imaging and defined spatial structure. Lab on A Chip, 2012, 12, 4796.	3.1	24
68	Improving Liquid Chromatography-Mass Spectrometry Sensitivity Using a Subambient Pressure Ionization with Nanoelectrospray (SPIN) Interface. Journal of the American Society for Mass Spectrometry, 2011, 22, 1318-1325.	1.2	22
69	Solvent immersion imprint lithography. Lab on A Chip, 2014, 14, 2072.	3.1	21
70	Selection of the optimum electrospray voltage for gradient elution LC-MS measurements. Journal of the American Society for Mass Spectrometry, 2009, 20, 682-688.	1.2	19
71	Hydrodynamic injection with pneumatic valving for microchip electrophoresis with total analyte utilization. Electrophoresis, 2011, 32, 1610-1618.	1.3	19
72	Field gradient electrophoresis. Electrophoresis, 2005, 26, 405-414.	1.3	18

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73	Improving the Sensitivity of Mass Spectrometry by Using a New Sheath Flow Electrospray Emitter Array at Subambient Pressures. Journal of the American Society for Mass Spectrometry, 2014, 25, 2028-2037.	1.2	18
74	Pneumatic Microvalve-Based Hydrodynamic Sample Injection for High-Throughput, Quantitative Zone Electrophoresis in Capillaries. Analytical Chemistry, 2014, 86, 6723-6729.	3.2	17
75	Use of Single-Cell -Omic Technologies to Study the Gastrointestinal Tract and Diseases, From Single Cell Identities to Patient Features. Gastroenterology, 2020, 159, 453-466.e1.	0.6	17
76	Adapting a Low-Cost and Open-Source Commercial Pipetting Robot for Nanoliter Liquid Handling. SLAS Technology, 2021, 26, 311-319.	1.0	17
77	Cellâ€Typeâ€Specific Proteomics Analysis of a Small Number of Plant Cells by Integrating Laser Capture Microdissection with a Nanodroplet Sample Processing Platform. Current Protocols, 2021, 1, e153.	1.3	17
78	New Views of Old Proteins: Clarifying the Enigmatic Proteome. Molecular and Cellular Proteomics, 2022, 21, 100254.	2.5	16
79	Mass spectrometry-based monitoring of millisecond proteinâ€"ligand binding dynamics using an automated microfluidic platform. Lab on A Chip, 2016, 16, 1544-1548.	3.1	14
80	Nanowell-mediated multidimensional separations combining nanoLC with SLIM IM-MS for rapid, high-peak-capacity proteomic analyses. Analytical and Bioanalytical Chemistry, 2019, 411, 5363-5372.	1.9	13
81	MicroPOTS Analysis of Barrettâ€™s Esophageal Cell Line Models Identifies Proteomic Changes after Physiologic and Radiation Stress. Journal of Proteome Research, 2021, 20, 2195-2205.	1.8	12
82	Hanging drop sample preparation improves sensitivity of spatial proteomics. Lab on A Chip, 2022, 22, 2869-2877.	3.1	12
83	A Customizable Flow Injection System for Automated, High Throughput, and Time Sensitive Ion Mobility Spectrometry and Mass Spectrometry Measurements. Analytical Chemistry, 2018, 90, 737-744.	3.2	11
84	Bayesian Integration and Classification of Composition C-4 Plastic Explosives Based on Time-of-Flight-Secondary Ion Mass Spectrometry and Laser Ablation-Inductively Coupled Plasma Mass Spectrometry. Analytical Chemistry, 2016, 88, 3598-3607.	3.2	8
85	Multimodal Mass Spectrometry Imaging of Rat Brain Using IR-MALDESI and NanoPOTS-LC-MS/MS. Journal of Proteome Research, 2021, , .	1.8	8
86	Calculating Sample Size Requirements for Temporal Dynamics in Single-Cell Proteomics. Molecular and Cellular Proteomics, 2021, 20, 100085.	2.5	7
87	Multilayer microfluidic devices created from a single photomask. RSC Advances, 2013, 3, 20138.	1.7	6
88	In-Depth Mass Spectrometry-Based Single-Cell and Nanoscale Proteomics. Methods in Molecular Biology, 2021, 2185, 159-179.	0.4	6
89	Microfluidic Sensors with Impregnated Fluorophores for Simultaneous Imaging of Spatial Structure and Chemical Oxygen Gradients. ACS Sensors, 2019, 4, 317-325.	4.0	5
90	Multimodal microfluidic platform for controlled culture and analysis of unicellular organisms. Biomicrofluidics, 2017, 11, 054104.	1.2	4

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91	ELEMENTAL ANALYSIS OF LICHENS FROM THE WESTERN UNITED STATES: DISTRIBUTION OF PHOSPHORUS AND CALCIUM FROM A LARGE DATA SET. International Journal of PIXE, 2002, 12, 167-173.	0.4	3
92	Jin-Ming Lin (Ed.): Cell analysis on microfluidics. Analytical and Bioanalytical Chemistry, 2018, 410, 7825-7826.	1.9	3
93	On Modeling Ensemble Transport of Metal Reducing Motile Bacteria. Scientific Reports, 2019, 9, 14638.	1.6	2
94	Ultrasmall sample biochemical analysis. Analytical and Bioanalytical Chemistry, 2019, 411, 5349-5350.	1.9	2
95	Electrospray Ionization in Mass Spectrometry. , 2010, , 467-474.		1
96	Electrospray Ionization in Mass Spectrometry. , 2017, , 476-481.		1
97	Microchip Capillary Electrophoresis Systems for DNA Analysis. , 2006, , 349-362.		1
98	Chemical sensing and imaging in microfluidic pore network structures relevant to natural carbon cycling and industrial carbon sequestration. , 2013, , .		0
99	Multimodal microchannel and nanowell-based microfluidic platforms for bioimaging. , 2016, , .		0
100	Droplet-Based Microfluidics for Biological Sample Preparation and Analysis. , 2017, , 201-220.		0