Stanislav S Rubakhin

List of Publications by Year
in descending order

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		53794	79698
131	6,281	45	73
papers	citations	h-index	g-index

132	132	132	5478
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Profiling metabolites and peptides in single cells. Nature Methods, 2011, 8, S20-S29.	19.0	311
2	MALDI-MS imaging of features smaller than the size of the laser beam. Journal of the American Society for Mass Spectrometry, 2005, 16, 1654-1659.	2.8	249
3	Imaging mass spectrometry: fundamentals and applications to drug discovery. Drug Discovery Today, 2005, 10, 823-837.	6.4	187
4	Capillary Electrophoresis with Electrospray Ionization Mass Spectrometric Detection for Single-Cell Metabolomics. Analytical Chemistry, 2009, 81, 5858-5864.	6.5	184
5	Mass spectrometry imaging and profiling of single cells. Journal of Proteomics, 2012, 75, 5036-5051.	2.4	168
6	Categorizing Cells on the Basis of their Chemical Profiles: Progress in Single-Cell Mass Spectrometry. Journal of the American Chemical Society, 2017, 139, 3920-3929.	13.7	168
7	Spatial Profiling with MALDI MS:Â Distribution of Neuropeptides within Single Neurons. Analytical Chemistry, 2003, 75, 5374-5380.	6.5	157
8	Measuring the peptides in individual organelles with mass spectrometry. Nature Biotechnology, 2000, 18, 172-175.	17.5	131
9	Three-dimensional mesostructures as high-temperature growth templates, electronic cellular scaffolds, and self-propelled microrobots. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9455-E9464.	7.1	129
10	Metabolic Differentiation of Neuronal Phenotypes by Single-cell Capillary Electrophoresisâ€“Electrospray Ionization-Mass Spectrometry. Analytical Chemistry, 2011, 83, 6810-6817.	6.5	128
11	Insulin Prohormone Processing, Distribution, and Relation to Metabolism inAplysia californica. Journal of Neuroscience, 1999, 19, 7732-7741.	3.6	126
12	Progress toward single cell metabolomics. Current Opinion in Biotechnology, 2013, 24, 95-104.	6.6	124
13	Vitamin E Imaging and Localization in the Neuronal Membrane. Journal of the American Chemical Society, 2005, 127, 12152-12153.	13.7	121
14	Qualitative and quantitative metabolomic investigation of single neurons by capillary electrophoresis electrospray ionization mass spectrometry. Nature Protocols, 2013, 8, 783-799.	12.0	116
15	Independent Optimization of Capillary Electrophoresis Separation and Native Fluorescence Detection Conditions for Indolamine and Catecholamine Measurements. Analytical Chemistry, 1999, 71, 4997-5002.	6.5	99
16	Profiling Signaling Peptides in Single Mammalian Cells Using Mass Spectrometry. Analytical Chemistry, 2006, 78, 7267-7272.	6.5	96
17	Quantitative Measurements of Cellâ^'Cell Signaling Peptides with Single-Cell MALDI MS. Analytical Chemistry, 2008, 80, 7128-7136.	6.5	94
18	On-Tissue Derivatization via Electrospray Deposition for Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry Imaging of Endogenous Fatty Acids in Rat Brain Tissues. Analytical Chemistry, 2016, 88, 5988-5995.	6.5	93

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19	SIMS and MALDI MS imaging of the spinal cord. Proteomics, 2008, 8, 3746-3754.	2.2	83
20	Lutein and Brain Function. Foods, 2015, 4, 547-564.	4.3	81
21	Single-Neuron Analysis Using CE Combined with MALDI MS and Radionuclide Detection. Analytical Chemistry, 2002, 74, 497-503.	6.5	79
22	Characterizing peptides in individual mammalian cells using mass spectrometry. Nature Protocols, 2007, 2, 1987-1997.	12.0	79
23	Lipid Heterogeneity between Astrocytes and Neurons Revealed by Singleâ€Cell MALDIâ€MS Combined with Immunocytochemical Classification. Angewandte Chemie - International Edition, 2019, 58, 5910-5914.	13.8	79
24	Classification of Large Cellular Populations and Discovery of Rare Cells Using Single Cell Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry. Analytical Chemistry, 2015, 87, 7036-7042.	6.5	78
25	Detection of nitric oxide in single cells. Analyst, The, 2008, 133, 423.	3.5	77
26	Direct assay ofAplysia tissues and cells with laser desorption/ionization mass spectrometry on porous silicon. Journal of Mass Spectrometry, 2001, 36, 1317-1322.	1.6	73
27	Analysis of endogenous nucleotides by single cell capillary electrophoresis-mass spectrometry. Analyst, The, 2014, 139, 5835-5842.	3.5	73
28	Single Cell Peptide Heterogeneity of Rat Islets of Langerhans. ACS Chemical Biology, 2016, 11, 2588-2595.	3.4	73
29	Dopamine-modified TiO₂ monolith-assisted LDI MS imaging for simultaneous localization of small metabolites and lipids in mouse brain tissue with enhanced detection selectivity and sensitivity. Chemical Science, 2017, 8, 3926-3938.	7.4	72
30	A multichannel native fluorescence detection system for capillary electrophoretic analysis of neurotransmitters in single neurons. Analytical and Bioanalytical Chemistry, 2006, 387, 97-105.	3.7	69
31	Single-Cell Metabolomics: Changes in the Metabolome of Freshly Isolated and Cultured Neurons. ACS Chemical Neuroscience, 2012, 3, 782-792.	3.5	67
32	Subcellular Analysis ofd-Aspartate. Analytical Chemistry, 2005, 77, 7190-7194.	6.5	66
33	Biomolecular Imaging with a C60-SIMS/MALDI Dual Ion Source Hybrid Mass Spectrometer: Instrumentation, Matrix Enhancement, and Single Cell Analysis. Journal of the American Society for Mass Spectrometry, 2014, 25, 1897-1907.	2.8	61
34	Single Cell Profiling Using Ionic Liquid Matrix-Enhanced Secondary Ion Mass Spectrometry for Neuronal Cell Type Differentiation. Analytical Chemistry, 2017, 89, 3078-3086.	6.5	60
35	Neuropeptidomics of the Supraoptic Rat Nucleus. Journal of Proteome Research, 2008, 7, 4992-5003.	3.7	59
36	MALDI MS Guided Liquid Microjunction Extraction for Capillary Electrophoresisâ€“Electrospray Ionization MS Analysis of Single Pancreatic Islet Cells. Analytical Chemistry, 2017, 89, 7765-7772.	6.5	57

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37	Analysis of cellular release using capillary electrophoresis and matrix assisted laser desorption/ionization-time of flight-mass spectrometry. Electrophoresis, 2001, 22, 3752-3758.	2.4	56
38	Massively Parallel Sample Preparation for the MALDI MS Analyses of Tissues. Analytical Chemistry, 2006, 78, 6826-6832.	6.5	56
39	Multimodal Chemical Analysis of the Brain by High Mass Resolution Mass Spectrometry and Infrared Spectroscopic Imaging. Analytical Chemistry, 2018, 90, 11572-11580.	6.5	53
40	Formation of N-Pyroglutamyl Peptides from N-Glu and N-Gln Precursors in Aplysia Neurons. Journal of Neurochemistry, 1999, 72, 676-681.	3.9	52
41	Peptide Profiling of Cells with Multiple Gene Products:Â Combining Immunochemistry and MALDI Mass Spectrometry with On-Plate Microextraction. Analytical Chemistry, 2000, 72, 3867-3874.	6.5	52
42	Anatomical Correlates of Venom Production in Conus californicus. Biological Bulletin, 2002, 203, 27-41.	1.8	52
43	Single-Cell Classification Using Mass Spectrometry through Interpretable Machine Learning. Analytical Chemistry, 2020, 92, 9338-9347.	6.5	51
44	Image-guided MALDI mass spectrometry for high-throughput single-organelle characterization. Nature Methods, 2021, 18, 1233-1238.	19.0	51
45	Distinct Mechanisms Produce Functionally Complementary Actions of Neuropeptides That Are Structurally Related But Derived from Different Precursors. Journal of Neuroscience, 2010, 30, 131-147.	3.6	50
46	MALDI Mass Spectrometry Imaging of Neuronal Cell Cultures. Journal of the American Society for Mass Spectrometry, 2011, 22, 828-36.	2.8	47
47	Mechanical Tension Modulates Local and Global Vesicle Dynamics in Neurons. Cellular and Molecular Bioengineering, 2012, 5, 155-164.	2.1	47
48	Simultaneous nitric oxide and dehydroascorbic acid imaging by combining diaminofluoresceins and diaminorhodamines. Journal of Neuroscience Methods, 2008, 168, 373-382.	2.5	46
49	Lipid Analysis of 30â€¯000 Individual Rodent Cerebellar Cells Using High-Resolution Mass Spectrometry. Analytical Chemistry, 2019, 91, 7871-7878.	6.5	46
50	Cerebrin prohormone processing, distribution and action in Aplysia californica. Journal of Neurochemistry, 2001, 77, 1569-1580.	3.9	45
51	Analysis of serotonin release from single neuron soma using capillary electrophoresis and laser-induced fluorescence with a pulsed deep-UV NeCu laser. Analytical and Bioanalytical Chemistry, 2003, 377, 1007-1013.	3.7	45
52	Measuring Nitric Oxide in Single Neurons by Capillary Electrophoresis with Laser-Induced Fluorescence:Â Use of Ascorbate Oxidase in Diaminofluorescein Measurements. Analytical Chemistry, 2006, 78, 1859-1865.	6.5	45
53	Chiral Measurement of Aspartate and Glutamate in Single Neurons by Large-Volume Sample Stacking Capillary Electrophoresis. Analytical Chemistry, 2017, 89, 12375-12382.	6.5	45
54	Monitoring Activity-Dependent Peptide Release from the CNS Using Single-Bead Solid-Phase Extraction and MALDI TOF MS Detection. Analytical Chemistry, 2005, 77, 1580-1587.	6.5	44

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55	Engineering the morphology and electrophysiological parameters of cultured neurons by microfluidic surface patterning. FASEB Journal, 2004, 18, 1267-1269.	0.5	42
56	Measuring d-amino acid-containing neuropeptides with capillary electrophoresis. Analyst, The, 2005, 130, 1198.	3.5	42
57	Targeted Single-Cell Microchemical Analysis: MS-Based Peptidomics of Individual Paraformaldehyde-Fixed and Immunolabeled Neurons. Chemistry and Biology, 2012, 19, 1010-1019.	6.0	41
58	A Mass Spectrometry Primer for Mass Spectrometry Imaging. Methods in Molecular Biology, 2010, 656, 21-49.	0.9	41
59	Characterization of the Aplysia californicaCerebral Ganglion F Cluster. Journal of Neurophysiology, 1999, 81, 1251-1260.	1.8	38
60	3D Particleâ€Free Printing of Biocompatible Conductive Hydrogel Platforms for Neuron Growth and Electrophysiological Recording. Advanced Functional Materials, 2021, 31, 2010246.	14.9	38
61	Self-assembled monolayers of alkanethiols on gold modulate electrophysiological parameters and cellular morphology of cultured neurons. Biomaterials, 2006, 27, 1665-1669.	11.4	37
62	MALDI Mass Spectrometric Imaging Using the Stretched Sample Method to Reveal Neuropeptide Distributions in Aplysia Nervous Tissue. Analytical Chemistry, 2009, 81, 9402-9409.	6.5	37
63	Optically Guided Single Cell Mass Spectrometry of Rat Dorsal Root Ganglia to Profile Lipids, Peptides and Proteins. ChemPhysChem, 2018, 19, 1180-1191.	2.1	37
64	Chapter 13 Imaging of Cells and Tissues with Mass Spectrometry. Methods in Cell Biology, 2008, 89, 361-390.	1.1	35
65	Secondary Ion Mass Spectrometry Imaging of Molecular Distributions in Cultured Neurons and Their Processes: Comparative Analysis of Sample Preparation. Journal of the American Society for Mass Spectrometry, 2012, 23, 1931-1938.	2.8	34
66	Direct cellular assays using off-line capillary electrophoresis with matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. Analyst, The, 2000, 125, 555-562.	3.5	33
67	Measurement of nitric oxide by 4,5-diaminofluorescein without interferences. Analyst, The, 2004, 129, 1200.	3.5	33
68	One-Step Sampling, Extraction, and Storage Protocol for Peptidomics Using Dihydroxybenzoic Acid. Analytical Chemistry, 2008, 80, 3379-3386.	6.5	33
69	Enhanced single-cell metabolomics by capillary electrophoresis electrospray ionization-mass spectrometry with field amplified sample injection. Analytica Chimica Acta, 2020, 1118, 36-43.	5.4	33
70	3D-Printed pHEMA Materials for Topographical and Biochemical Modulation of Dorsal Root Ganglion Cell Response. ACS Applied Materials & Interfaces, 2017, 9, 30318-30328.	8.0	32
71	d-Aspartate as a putative cell-cell signaling molecule in theAplysia californicacentral nervous system. Journal of Neurochemistry, 2006, 97, 595-606.	3.9	30
72	PACAP and Other Neuropeptide Targets Link Chronic Migraine and Opioid-induced Hyperalgesia in Mouse Models*. Molecular and Cellular Proteomics, 2019, 18, 2447-2458.	3.8	30

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73	Serotonin Catabolism and the Formation and Fate of 5-Hydroxyindole Thiazolidine Carboxylic Acid. Journal of Biological Chemistry, 2006, 281, 13463-13470.	3.4	29
74	The modified-bead stretched sample method: Development and application to MALDI-MS imaging of protein localization in the spinal cord. Chemical Science, 2011, 2, 785.	7.4	27
75	d-Alanine in the islets of Langerhans of rat pancreas. Biochemical and Biophysical Research Communications, 2014, 447, 328-333.	2.1	27
76	Top-Down Proteomics Enables Comparative Analysis of Brain Proteoforms Between Mouse Strains. Analytical Chemistry, 2018, 90, 3802-3810.	6.5	27
77	Gene Network Dysregulation in the Trigeminal Ganglia and Nucleus Accumbens of a Model of Chronic Migraine-Associated Hyperalgesia. Frontiers in Systems Neuroscience, 2018, 12, 63.	2.5	27
78	Confirmation of peak assignments in capillary electrophoresis using immunoprecipitation. Journal of Chromatography A, 2006, 1106, 56-60.	3.7	26
79	Identification and characterization of homologues of vertebrate Î²-thymosin in the marine molluskAplysia californica. Journal of Mass Spectrometry, 2006, 41, 1030-1040.	1.6	25
80	Mass Spectrometric Imaging of the Nervous System. Current Pharmaceutical Design, 2007, 13, 3325-3334.	1.9	24
81	Automated method for analysis of tryptophan and tyrosine metabolites using capillary electrophoresis with native fluorescence detection. Analytical and Bioanalytical Chemistry, 2013, 405, 2451-2459.	3.7	24
82	Lipid Heterogeneity between Astrocytes and Neurons Revealed by Singleâ€Cell MALDIâ€MS Combined with Immunocytochemical Classification. Angewandte Chemie, 2019, 131, 5971-5975.	2.0	23
83	Synthesis, accumulation, and release of <scp>d</scp>â€aspartate in the Aplysia californica CNS. Journal of Neurochemistry, 2010, 115, 1234-1244.	3.9	20
84	Mass spectrometry-based characterization of endogenous peptides and metabolites in small volume samples. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2015, 1854, 732-740.	2.3	20
85	Neuropeptidomics of the Rat Habenular Nuclei. Journal of Proteome Research, 2018, 17, 1463-1473.	3.7	20
86	Serotonin catabolism in the central and enteric nervous systems of rats upon induction of serotonin syndrome. Journal of Neurochemistry, 2007, 103, 070630082917006-???.	3.9	19
87	Production of Nitric Oxide within the Aplysia californica Nervous System. ACS Chemical Neuroscience, 2010, 1, 182-193.	3.5	19
88	The detection of nitrated tyrosine in neuropeptides: a MALDI matrix-dependent response. Analytical and Bioanalytical Chemistry, 2005, 382, 22-27.	3.7	18
89	A hyphenated optical trap capillary electrophoresis laser induced native fluorescence system for single-cell chemical analysis. Analyst, The, 2012, 137, 2965.	3.5	18
90	Improved identification and quantitation of mature endogenous peptides in the rodent hypothalamus using a rapid conductive sample heating system. Analyst, The, 2017, 142, 4476-4485.	3.5	18

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91	Deterministic Integration of Biological and Soft Materials onto 3D Microscale Cellular Frameworks. Advanced Biology, 2017, 1, 1700068.	3.0	18
92	Collection of Peptides Released from Single Neurons with Particle-Embedded Monolithic Capillaries Followed by Detection with Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry. Analytical Chemistry, 2011, 83, 9557-9563.	6.5	17
93	Effects of exercise and dietary epigallocatechin gallate and Î²-alanine on skeletal muscle in aged mice. Applied Physiology, Nutrition and Metabolism, 2016, 41, 181-190.	1.9	17
94	Quantitative Imprint Mass Spectrometry Imaging of Endogenous Ceramides in Rat Brain Tissue with Kinetic Calibration. Analytical Chemistry, 2020, 92, 6613-6621.	6.5	17
95	Opposite effects of interleukin-2 and interleukin-4 on GABA-induced inward currents of dialysed Lymnaea neurons. General Pharmacology, 1997, 29, 73-77.	0.7	16
96	Droplet Microfluidics with MALDI-MS Detection: The Effects of Oil Phases in GABA Analysis. ACS Measurement Science Au, 2021, 1, 147-156.	4.4	16
97	Behavioral changes induced by GABA-receptor agonists in Lymnaea stagnalis L.. General Pharmacology, 1996, 27, 1067-1071.	0.7	15
98	Stretched Tissue Mounting for MALDI Mass Spectrometry Imaging. Analytical Chemistry, 2011, 83, 9181-9185.	6.5	15
99	Differential peptidomics assessment of strain and age differences in mice in response to acute cocaine administration. Journal of Neurochemistry, 2015, 135, 1038-1048.	3.9	15
100	A neuron-in-capillary platform for facile collection and mass spectrometric characterization of a secreted neuropeptide. Scientific Reports, 2016, 6, 26940.	3.3	15
101	Characterization of the GABA response on identified dialysed Lymnaea neurons. General Pharmacology, 1996, 27, 731-739.	0.7	14
102	Peptidomics and Secretomics of the Mammalian Peripheral Sensory-Motor System. Journal of the American Society for Mass Spectrometry, 2015, 26, 2051-2061.	2.8	14
103	Stimulation and release from neurons via a dual capillary collection device interfaced to mass spectrometry. Analyst, The, 2013, 138, 6337.	3.5	12
104	A unique combination of micronutrients rejuvenates cognitive performance in aged mice. Behavioural Brain Research, 2017, 320, 97-112.	2.2	12
105	Multidimensional Top-Down Proteomics of Brain-Region-Specific Mouse Brain Proteoforms Responsive to Cocaine and Estradiol. Journal of Proteome Research, 2019, 18, 3999-4012.	3.7	12
106	Single-Neuron RNA Modification Analysis by Mass Spectrometry: Characterizing RNA Modification Patterns and Dynamics with Single-Cell Resolution. Analytical Chemistry, 2021, 93, 14537-14544.	6.5	12
107	Enhancing the Throughput of FT Mass Spectrometry Imaging Using Joint Compressed Sensing and Subspace Modeling. Analytical Chemistry, 2022, 94, 5335-5343.	6.5	12
108	Profiling 26,000 Aplysia californica neurons by single cell mass spectrometry reveals neuronal populations with distinct neuropeptide profiles. Journal of Biological Chemistry, 2022, 298, 102254.	3.4	12

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109	Characterization of the Physicochemical Parameters of Dense Core Atrial Gland and Lucent Red Hemiduct Vesicles inAplysiacalifornica. Analytical Chemistry, 2004, 76, 2331-2335.	6.5	11
110	Ubiquitous presence of argininosuccinate at millimolar levels in the central nervous system of Aplysia californica. Journal of Neurochemistry, 2006, 101, 632-640.	3.9	10
111	Serotonin and its metabolism in basal deuterostomes: insights fromStrongylocentrotus purpuratusandXenoturbella bocki. Journal of Experimental Biology, 2010, 213, 2647-2654.	1.7	10
112	Quantitative Reflection Imaging of Fixed Aplysia californica Pedal Ganglion Neurons on Nanostructured Plasmonic Crystals. Journal of Physical Chemistry B, 2013, 117, 13069-13081.	2.6	10
113	Mass Spectrometry Imaging and GC-MS Profiling of the Mammalian Peripheral Sensory-Motor Circuit. Journal of the American Society for Mass Spectrometry, 2015, 26, 958-966.	2.8	10
114	Met-enkephalin and morphiceptin modulate a GABA-induced inward current in the CNS of Lymnaea stagnalis L. General Pharmacology, 1996, 27, 1337-1345.	0.7	8
115	Removing Formaldehydeâ€Induced Peptidyl Crosslinks Enables Mass Spectrometry Imaging of Peptide Hormone Distributions from Formalinâ€Fixed Paraffinâ€Embedded Tissues. Angewandte Chemie - International Edition, 2020, 59, 22584-22590.	13.8	8
116	Mass Spectrometry Imaging Using the Stretched Sample Approach. Methods in Molecular Biology, 2010, 656, 465-479.	0.9	8
117	Characterizing intercellular signaling peptides in drug addiction. Neuropharmacology, 2009, 56, 196-204.	4.1	7
118	Single-Cell Measurements with Mass Spectrometry. , 0, , 269-293.		6
119	Carrot solution culture bioproduction of uniformly labeled ¹³C-lutein and inÂvivo dosing in non-human primates. Experimental Biology and Medicine, 2017, 242, 305-315.	2.4	4
120	Expired Epinephrine Maintains Chemical Concentration and Sterility. Prehospital Emergency Care, 2018, 22, 414-418.	1.8	4
121	13C-lutein is differentially distributed in tissues of an adult female rhesus macaque following a single oral administration: a pilot study. Nutrition Research, 2019, 61, 102-108.	2.9	4
122	Visualizing the proteome: mapping protein changes in disease states with mass spectrometry imaging. Journal of Neurochemistry, 2013, 124, 581-583.	3.9	3
123	Quantitative Reflection Imaging for the Morphology and Dynamics of LiveAplysia californicaPedal Ganglion Neurons Cultured on Nanostructured Plasmonic Crystals. Langmuir, 2017, 33, 8640-8650.	3.5	3
124	Single Cell Mass Spectrometry. , 0, , 109-133.		2
125	Mass Spectrometryâ€“Based Methodologies for Single-Cell Metabolite Detection and Identification. , 2013, , 119-139.		2
126	Characterizing RNA Modifications in Single Neurons Using Mass Spectrometry. Journal of Visualized Experiments, 2022, , .	0.3	1

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127	Atomic Force Microscopy as a Tool for the Investigation of Cellular Cytoplasmic Membrane Dynamics. Microscopy and Microanalysis, 2002, 8, 764-765.	0.4	0
128	Transparent triethylamineâ€containing MALDI matrices. Israel Journal of Chemistry, 2007, 47, 185-193.	2.3	0
129	Removing Formaldehydeâ€Induced Peptidyl Crosslinks Enables Mass Spectrometry Imaging of Peptide Hormone Distributions from Formalinâ€Fixed Paraffinâ€Embedded Tissues. Angewandte Chemie, 2020, 132, 22773-22779.	2.0	0
130	Spatiotemporal biodistribution of Î±-tocopherol is impacted by the source of 13C-labeled Î±-tocopherol in mice following a single oral dose. Nutrition Research, 2021, 93, 79-86.	2.9	0
131	Free d-Aspartate in Nonmammalian Animals: Detection, Localization, Metabolism, and Function. , 2016, , 173-197.		0