Richard M Caprioli

List of Publications by Citations

376 papers	27,626 citations	88 h-index	155 g-index
414 ext. papers	30,335 ext. citations	6.6 avg, IF	7.28 L-index

#	Paper	IF	Citations
376	Molecular imaging of biological samples: localization of peptides and proteins using MALDI-TOF MS. *Analytical Chemistry*, **1997**, 69, 4751-60	7.8	1657
375	Imaging mass spectrometry: a new technology for the analysis of protein expression in mammalian tissues. *Nature Medicine*, **2001**, 7, 493-6	50.5	1009
374	MALDI imaging mass spectrometry: molecular snapshots of biochemical systems. *Nature Methods*, **2007**, 4, 828-33	21.6	670
373	Metal chelation and inhibition of bacterial growth in tissue abscesses. *Science*, **2008**, 319, 962-5	33.3	627
372	Proteomic patterns of tumour subsets in non-small-cell lung cancer. *Lancet, The*, **2003**, 362, 433-9	40	539
371	Direct tissue analysis using matrix-assisted laser desorption/ionization mass spectrometry: practical aspects of sample preparation. *Journal of Mass Spectrometry*, **2003**, 38, 699-708	2.2	538
370	Analysis of tissue specimens by matrix-assisted laser desorption/ionization imaging mass spectrometry in biological and clinical research. *Chemical Reviews*, **2013**, 113, 2309-42	68.1	468
369	Direct molecular analysis of whole-body animal tissue sections by imaging MALDI mass spectrometry. *Analytical Chemistry*, **2006**, 78, 6448-56	7.8	443
368	Micro-electrospray mass spectrometry: Ultra-high-sensitivity analysis of peptides and proteins. *Journal of the American Society for Mass Spectrometry*, **1994**, 5, 605-13	3.5	437
367	Proteome analysis of human colon cancer by two-dimensional difference gel electrophoresis and mass spectrometry. *Proteomics*, **2004**, 4, 793-811	4.8	325
366	Direct analysis of drug candidates in tissue by matrix-assisted laser desorption/ionization mass spectrometry. *Journal of Mass Spectrometry*, **2003**, 38, 1081-92	2.2	325
365	Identification of proteins directly from tissue: in situ tryptic digestions coupled with imaging mass spectrometry. *Journal of Mass Spectrometry*, **2007**, 42, 254-62	2.2	310
364	Integrating histology and imaging mass spectrometry. *Analytical Chemistry*, **2004**, 76, 1145-55	7.8	307
363	A sperm cytoskeletal protein that signals oocyte meiotic maturation and ovulation. *Science*, **2001**, 291, 2144-7	33.3	302
362	Automated acoustic matrix deposition for MALDI sample preparation. *Analytical Chemistry*, **2006**, 78, 827-34	7.8	296
361	MALDI-FTICR imaging mass spectrometry of drugs and metabolites in tissue. *Analytical Chemistry*, **2008**, 80, 5648-53	7.8	290
360	Organic ion imaging of biological tissue with secondary ion mass spectrometry and matrix-assisted laser desorption/ionization. *Journal of Mass Spectrometry*, **2001**, 36, 355-69	2.2	288

359	Matrix sublimation/recrystallization for imaging proteins by mass spectrometry at high spatial resolution. *Analytical Chemistry*, **2011**, 83, 5728-34	7.8	280
358	Molecular imaging by mass spectrometry--looking beyond classical histology. *Nature Reviews Cancer*, **2010**, 10, 639-46	31.3	273
357	Continuous-flow sample probe for fast atom bombardment mass spectrometry. *Analytical Chemistry*, **1986**, 58, 2949-54	7.8	261
356	MALDI imaging of lipid biochemistry in tissues by mass spectrometry. *Chemical Reviews*, **2011**, 111, 6491-512	46.8	258
355	Mass spectrometry to classify non-small-cell lung cancer patients for clinical outcome after treatment with epidermal growth factor receptor tyrosine kinase inhibitors: a multicohort cross-institutional study. *Journal of the National Cancer Institute*, **2007**, 99, 838-46	9.7	258
354	Direct profiling of proteins in biological tissue sections by MALDI mass spectrometry. *Analytical Chemistry*, **1999**, 71, 5263-70	7.8	253
353	High-throughput proteomic analysis of formalin-fixed paraffin-embedded tissue microarrays using MALDI imaging mass spectrometry. *Proteomics*, **2008**, 8, 3715-24	4.8	252
352	Molecular imaging of proteins in tissues by mass spectrometry. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 18126-31	11.5	237
351	New developments in profiling and imaging of proteins from tissue sections by MALDI mass spectrometry. *Journal of Proteome Research*, **2006**, 5, 2889-900	5.6	235
350	Proteomics in diagnostic pathology: profiling and imaging proteins directly in tissue sections. *American Journal of Pathology*, **2004**, 165, 1057-68	5.8	233
349	Enhancement of protein sensitivity for MALDI imaging mass spectrometry after chemical treatment of tissue sections. *Journal of the American Society for Mass Spectrometry*, **2008**, 19, 1069-77	3.5	223
348	Imaging mass spectrometry: a new tool to investigate the spatial organization of peptides and proteins in mammalian tissue sections. *Current Opinion in Chemical Biology*, **2002**, 6, 676-81	9.7	217
347	Mass spectrometric profiling of intact biological tissue by using desorption electrospray ionization. *Angewandte Chemie - International Edition*, **2005**, 44, 7094-7	16.4	209
346	Proteomic analysis of formalin-fixed paraffin-embedded tissue by MALDI imaging mass spectrometry. *Nature Protocols*, **2011**, 6, 1695-709	18.8	207
345	Tissue profiling by mass spectrometry: a review of methodology and applications. *Molecular and Cellular Proteomics*, **2005**, 4, 394-401	7.6	205
344	Imaging mass spectrometry of proteins and peptides: 3D volume reconstruction. *Nature Methods*, **2008**, 5, 101-8	21.6	201
343	Proteomic-based prognosis of brain tumor patients using direct-tissue matrix-assisted laser desorption ionization mass spectrometry. *Cancer Research*, **2005**, 65, 7674-81	10.1	200
342	MALDI imaging mass spectrometry: spatial molecular analysis to enable a new age of discovery. *Journal of Proteomics*, **2014**, 107, 71-82	3.9	198

341	Solvent-free matrix dry-coating for MALDI imaging of phospholipids. *Journal of the American Society for Mass Spectrometry*, **2008**, 19, 882-6	3.5	198
340	Direct profiling and imaging of peptides and proteins from mammalian cells and tissue sections by mass spectrometry. *Electrophoresis*, **2002**, 23, 3125-35	3.6	194
339	MALDI-MS-based imaging of small molecules and proteins in tissues. *Current Opinion in Chemical Biology*, **2007**, 11, 29-35	9.7	191
338	Profiling and imaging of tissues by imaging ion mobility-mass spectrometry. *Journal of Mass Spectrometry*, **2007**, 42, 1099-105	2.2	188
337	Identification of an Acinetobacter baumannii zinc acquisition system that facilitates resistance to calprotectin-mediated zinc sequestration. *PLoS Pathogens*, **2012**, 8, e1003068	7.6	184
336	Protein profiling in brain tumors using mass spectrometry: feasibility of a new technique for the analysis of protein expression. *Clinical Cancer Research*, **2004**, 10, 981-7	12.9	183
335	Processing MALDI Mass Spectra to Improve Mass Spectral Direct Tissue Analysis. *International Journal of Mass Spectrometry*, **2007**, 260, 212-221	1.9	172
334	Image fusion of mass spectrometry and microscopy: a multimodality paradigm for molecular tissue mapping. *Nature Methods*, **2015**, 12, 366-72	21.6	167
333	Enhanced sensitivity for high spatial resolution lipid analysis by negative ion mode matrix assisted laser desorption ionization imaging mass spectrometry. *Analytical Chemistry*, **2012**, 84, 1557-64	7.8	164
332	Automated mass spectrometry imaging with a matrix-assisted laser desorption ionization time-of-flight instrument. *Journal of the American Society for Mass Spectrometry*, **1999**, 10, 67-71	3.5	163
331	A novel histology-directed strategy for MALDI-MS tissue profiling that improves throughput and cellular specificity in human breast cancer. *Molecular and Cellular Proteomics*, **2006**, 5, 1975-83	7.6	162
330	Direct imaging of single cells and tissue at sub-cellular spatial resolution using transmission geometry MALDI MS. *Journal of Mass Spectrometry*, **2012**, 47, 1473-81	2.2	160
329	Imaging mass spectrometry: principles and potentials. *Toxicologic Pathology*, **2005**, 33, 92-101	2.1	154
328	Molecular profiling of experimental Parkinson's disease: direct analysis of peptides and proteins on brain tissue sections by MALDI mass spectrometry. *Journal of Proteome Research*, **2004**, 3, 289-95	5.6	152
327	MALDI imaging mass spectrometry of human tissue: method challenges and clinical perspectives. *Trends in Biotechnology*, **2011**, 29, 136-43	15.1	150
326	MntABC and MntH contribute to systemic Staphylococcus aureus infection by competing with calprotectin for nutrient manganese. *Infection and Immunity*, **2013**, 81, 3395-405	3.7	143
325	Identification of markers of taxane sensitivity using proteomic and genomic analyses of breast tumors from patients receiving neoadjuvant paclitaxel and radiation. *Clinical Cancer Research*, **2010**, 16, 681-90	12.9	143
324	Assessing protein patterns in disease using imaging mass spectrometry. *Journal of Proteome Research*, **2004**, 3, 245-52	5.6	142

323	Direct analysis of laser capture microdissected cells by MALDI mass spectrometry. *Journal of the American Society for Mass Spectrometry*, **2002**, 13, 1292-7	3.5	140
322	Three-dimensional visualization of protein expression in mouse brain structures using imaging mass spectrometry. *Journal of the American Society for Mass Spectrometry*, **2005**, 16, 1093-9	3.5	136
321	Dietary zinc alters the microbiota and decreases resistance to Clostridium difficile infection. *Nature Medicine*, **2016**, 22, 1330-1334	50.5	136
320	Molecular analysis of tumor margins by MALDI mass spectrometry in renal carcinoma. *Journal of Proteome Research*, **2010**, 9, 2182-90	5.6	133
319	Integrating spatially resolved three-dimensional MALDI IMS with in vivo magnetic resonance imaging. *Nature Methods*, **2008**, 5, 57-9	21.6	132
318	Early changes in protein expression detected by mass spectrometry predict tumor response to molecular therapeutics. *Cancer Research*, **2004**, 64, 9093-100	10.1	132
317	Perspective: a program to improve protein biomarker discovery for cancer. *Journal of Proteome Research*, **2005**, 4, 1104-9	5.6	125
316	Spatial and temporal alterations of phospholipids determined by mass spectrometry during mouse embryo implantation. *Journal of Lipid Research*, **2009**, 50, 2290-8	6.3	124
315	Profiling and imaging proteins in the mouse epididymis by imaging mass spectrometry. *Proteomics*, **2003**, 3, 2221-39	4.8	124
314	Micro-Electrospray: Zeptomole/attomole per microliter sensitivity for peptides. *Journal of the American Society for Mass Spectrometry*, **1994**, 5, 867-9	3.5	121
313	3D imaging by mass spectrometry: a new frontier. *Analytical Chemistry*, **2012**, 84, 2105-10	7.8	118
312	High-speed MALDI-TOF imaging mass spectrometry: rapid ion image acquisition and considerations for next generation instrumentation. *Journal of the American Society for Mass Spectrometry*, **2011**, 22, 1022-31	3.5	117
311	Determination of protein-protein interactions by matrix-assisted laser desorption/ionization mass spectrometry. *Journal of Mass Spectrometry*, **1998**, 33, 697-704	2.2	117
310	Biomarker discovery by imaging mass spectrometry: transthyretin is a biomarker for gentamicin-induced nephrotoxicity in rat. *Molecular and Cellular Proteomics*, **2006**, 5, 1876-86	7.6	117
309	Non-small cell lung cancer is characterized by dramatic changes in phospholipid profiles. *International Journal of Cancer*, **2015**, 137, 1539-48	7.5	116
308	Tissue protein imaging at 1 μm laser spot diameter for high spatial resolution and high imaging speed using transmission geometry MALDI TOF MS. *Analytical and Bioanalytical Chemistry*, **2015**, 407, 2337-42	4.4	115
307	Absolute Quantitative MALDI Imaging Mass Spectrometry: A Case of Rifampicin in Liver Tissues. *Analytical Chemistry*, **2016**, 88, 2392-8	7.8	115
306	Profiling proteins from azoxymethane-induced colon tumors at the molecular level by matrix-assisted laser desorption/ionization mass spectrometry. *Proteomics*, **2001**, 1, 1320-6	4.8	115

305	Instrument design and characterization for high resolution MALDI-MS imaging of tissue sections. *Journal of Mass Spectrometry*, **2007**, 42, 476-89	2.2	114
304	Signal Transducer and Activator of Transcription 3, Mediated Remodeling of the Tumor Microenvironment Results in Enhanced Tumor Drug Delivery in a Mouse Model of Pancreatic Cancer. *Gastroenterology*, **2015**, 149, 1932-1943.e9	13.3	107
303	The pros and cons of peptide-centric proteomics. *Nature Biotechnology*, **2010**, 28, 659-64	44.5	105
302	Decreased striatal levels of PEP-19 following MPTP lesion in the mouse. *Journal of Proteome Research*, **2006**, 5, 262-9	5.6	104
301	Matrix-assisted laser desorption ionization imaging mass spectrometry: in situ molecular mapping. *Biochemistry*, **2013**, 52, 3818-28	3.2	101
300	Diagnostic accuracy of MALDI mass spectrometric analysis of unfractionated serum in lung cancer. *Journal of Thoracic Oncology*, **2007**, 2, 893-901	8.9	101
299	From whole-body sections down to cellular level, multiscale imaging of phospholipids by MALDI mass spectrometry. *Molecular and Cellular Proteomics*, **2011**, 10, O110.004259	7.6	100
298	MALDI imaging mass spectrometry--painting molecular pictures. *Molecular Oncology*, **2010**, 4, 529-38	7.9	98
297	Alterations in the diabetic myocardial proteome coupled with increased myocardial oxidative stress underlies diabetic cardiomyopathy. *Journal of Molecular and Cellular Cardiology*, **2007**, 42, 884-95	5.8	98
296	Next-generation technologies for spatial proteomics: Integrating ultra-high speed MALDI-TOF and high mass resolution MALDI FTICR imaging mass spectrometry for protein analysis. *Proteomics*, **2016**, 16, 1678-89	4.8	97
295	Molecular imaging of thin mammalian tissue sections by mass spectrometry. *Current Opinion in Biotechnology*, **2006**, 17, 431-6	11.4	95
294	Human tissue distribution of platinum after cis-diamminedichloroplatinum. *Cancer Chemotherapy and Pharmacology*, **1982**, 10, 51-4	3.5	95
293	Protein signatures for survival and recurrence in metastatic melanoma. *Journal of Proteomics*, **2011**, 74, 1002-14	3.9	94
292	MALDI mass spectrometry for direct tissue analysis: a new tool for biomarker discovery. *Journal of Proteome Research*, **2005**, 4, 1138-42	5.6	94
291	Imaging of intact tissue sections: moving beyond the microscope. *Journal of Biological Chemistry*, **2011**, 286, 25459-66	5.4	93
290	MALDI imaging mass spectrometry of integral membrane proteins from ocular lens and retinal tissue. *Journal of Proteome Research*, **2009**, 8, 3278-83	5.6	91
289	Imaging mass spectrometry--a new and promising method to differentiate Spitz nevi from Spitzoid malignant melanomas. *American Journal of Dermatopathology*, **2012**, 34, 82-90	0.9	91
288	Capillary electrophoresis combined with matrix-assisted laser desorption/ionization mass spectrometry; continuous sample deposition on a matrix-precoated membrane target. *Journal of Mass Spectrometry*, **1996**, 31, 1039-46	2.2	87

287	Specific molecular mass detection of endogenously released neuropeptides using in vivo microdialysis/mass spectrometry. *Journal of Neuroscience Methods*, **1995**, 62, 141-7	3	86
286	Detection of pre-neoplastic and neoplastic prostate disease by MALDI profiling of urine. *Biochemical and Biophysical Research Communications*, **2007**, 353, 829-34	3.4	85
285	High spatial resolution imaging mass spectrometry and classical histology on a single tissue section. *Journal of Mass Spectrometry*, **2011**, 46, 568-71	2.2	84
284	Mass spectrometric characterization of full-length rat selenoprotein P and three isoforms shortened at the C terminus. Evidence that three UGA codons in the mRNA open reading frame have alternative functions of specifying selenocysteine insertion or translation termination. *Journal of Biological Chemistry*, **2002**, 277, 12749-54	5.4	83
283	Proteomic patterns and prediction of glomerulosclerosis and its mechanisms. *Journal of the American Society of Nephrology: JASN*, **2005**, 16, 2967-75	12.7	82
282	Coupling capillary zone electrophoresis and continuous-flow fast atom bombardment mass spectrometry for the analysis of peptide mixtures. *Journal of Chromatography A*, **1989**, 480, 247-57	4.5	81
281	Loss of selenium from selenoproteins: conversion of selenocysteine to dehydroalanine in vitro. *Journal of the American Society for Mass Spectrometry*, **2003**, 14, 593-600	3.5	79
280	Structural characterization of phospholipids and peptides directly from tissue sections by MALDI traveling-wave ion mobility-mass spectrometry. *Analytical Chemistry*, **2010**, 82, 1881-9	7.8	78
279	Matrix-assisted laser desorption/ionization imaging mass spectrometry for the investigation of proteins and peptides. *Annual Review of Analytical Chemistry*, **2008**, 1, 689-705	12.5	78
278	Proteomic patterns of preinvasive bronchial lesions. *American Journal of Respiratory and Critical Care Medicine*, **2005**, 172, 1556-62	10.2	78
277	MALDI FTICR IMS of Intact Proteins: Using Mass Accuracy to Link Protein Images with Proteomics Data. *Journal of the American Society for Mass Spectrometry*, **2015**, 26, 974-85	3.5	75
276	High resolution MALDI imaging mass spectrometry of retinal tissue lipids. *Journal of the American Society for Mass Spectrometry*, **2014**, 25, 1394-403	3.5	74
275	Peer Reviewed: Profiling and Imaging Proteins in Tissue Sections by MS. *Analytical Chemistry*, **2004**, 76, 86 A-93 A	7.8	72
274	Protein identification strategies in MALDI imaging mass spectrometry: a brief review. *Current Opinion in Chemical Biology*, **2019**, 48, 64-72	9.7	71
273	The innate immune protein calprotectin promotes Pseudomonas aeruginosa and Staphylococcus aureus interaction. *Nature Communications*, **2016**, 7, 11951	17.4	70
272	Variations in the expressed antimicrobial peptide repertoire of northern leopard frog (Rana pipiens) populations suggest intraspecies differences in resistance to pathogens. *Developmental and Comparative Immunology*, **2009**, 33, 1247-57	3.2	70
271	Gastric cancer-specific protein profile identified using endoscopic biopsy samples via MALDI mass spectrometry. *Journal of Proteome Research*, **2010**, 9, 4123-30	5.6	68
270	High-Performance Molecular Imaging with MALDI Trapped Ion-Mobility Time-of-Flight (timsTOF) Mass Spectrometry. *Analytical Chemistry*, **2019**, 91, 14552-14560	7.8	67

269	Diabetic nephropathy induces alterations in the glomerular and tubule lipid profiles. *Journal of Lipid Research*, **2014**, 55, 1375-85	6.3	67
268	The anti-tumorigenic properties of peroxisomal proliferator-activated receptor alpha are arachidonic acid epoxygenase-mediated. *Journal of Biological Chemistry*, **2010**, 285, 12840-50	5.4	66
267	A derivatization and validation strategy for determining the spatial localization of endogenous amine metabolites in tissues using MALDI imaging mass spectrometry. *Journal of Mass Spectrometry*, **2014**, 49, 665-73	2.2	65
266	Mass spectrometry of intracellular and membrane proteins using cleavable detergents. *Analytical Chemistry*, **2003**, 75, 6642-7	7.8	65
265	Carboxy-terminal proteolytic processing of Helicobacter pylori vacuolating toxin. *Infection and Immunity*, **2001**, 69, 543-6	3.7	65
264	Monitoring mouse prostate development by profiling and imaging mass spectrometry. *Molecular and Cellular Proteomics*, **2008**, 7, 411-23	7.6	64
263	Unsupervised machine learning for exploratory data analysis in imaging mass spectrometry. *Mass Spectrometry Reviews*, **2020**, 39, 245-291	11	64
262	Laser beam filtration for high spatial resolution MALDI imaging mass spectrometry. *Journal of the American Society for Mass Spectrometry*, **2013**, 24, 1153-6	3.5	63
261	Determination of extracellular release of neurotensin in discrete rat brain regions utilizing in vivo microdialysis/electrospray mass spectrometry. *Brain Research*, **1999**, 845, 123-9	3.7	63
260	Monitoring the inflammatory response to infection through the integration of MALDI IMS and MRI. *Cell Host and Microbe*, **2012**, 11, 664-73	23.4	62
259	Reagent precoated targets for rapid in-tissue derivatization of the anti-tuberculosis drug isoniazid followed by MALDI imaging mass spectrometry. *Journal of the American Society for Mass Spectrometry*, **2011**, 22, 1409-19	3.5	62
258	Imaging mass spectrometry of intact proteins from alcohol-preserved tissue specimens: bypassing formalin fixation. *Journal of Proteome Research*, **2008**, 7, 3543-55	5.6	61
257	Dual analysis for mycobacteria and propionibacteria in sarcoidosis BAL. *Journal of Clinical Immunology*, **2012**, 32, 1129-40	5.7	60
256	In vivo metabolism of substance P in rat striatum utilizing microdialysis/liquid chromatography/micro-electrospray mass spectrometry. *Journal of Mass Spectrometry*, **1995**, 30, 817-824	2.2	60
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254	High-speed MALDI MS/MS imaging mass spectrometry using continuous raster sampling. *Journal of Mass Spectrometry*, **2015**, 50, 703-10	2.2	59
253	Imaging mass spectrometry reveals unique protein profiles during embryo implantation. *Endocrinology*, **2008**, 149, 3274-8	4.8	58
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250	Heparin-binding histidine and lysine residues of rat selenoprotein P. *Journal of Biological Chemistry*, **2001**, 276, 15823-31	5.4	58
249	Brain delivery and activity of a lysosomal enzyme using a blood-brain barrier transport vehicle in mice. *Science Translational Medicine*, **2020**, 12,	17.5	57
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247	Lung cancer diagnosis from proteomic analysis of preinvasive lesions. *Cancer Research*, **2011**, 71, 3009-17	10.1	55
246	Uterine FK506-binding protein 52 (FKBP52)-peroxiredoxin-6 (PRDX6) signaling protects pregnancy from overt oxidative stress. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 15577-82	11.5	53
245	Differentiating proteomic biomarkers in breast cancer by laser capture microdissection and MALDI MS. *Journal of Proteome Research*, **2008**, 7, 1500-7	5.6	53
244	Adhesive fiber stratification in uropathogenic Escherichia coli biofilms unveils oxygen-mediated control of type 1 pili. *PLoS Pathogens*, **2015**, 11, e1004697	7.6	52
243	Proteomic profiling of mucosal and submucosal colonic tissues yields protein signatures that differentiate the inflammatory colitides. *Inflammatory Bowel Diseases*, **2011**, 17, 875-83	4.5	52
242	Combining solid-phase preconcentration, capillary electrophoresis and off-line matrix-assisted laser desorption/ionization mass spectrometry: intracerebral metabolic processing of peptide E in vivo. *Journal of Mass Spectrometry*, **1999**, 34, 377-83	2.2	52
241	Design of a coaxial continuous flow fast atom bombardment probe. *Rapid Communications in Mass Spectrometry*, **1988**, 2, 100-104	2.2	52
240	Matrix pre-coated MALDI MS targets for small molecule imaging in tissues. *Journal of the American Society for Mass Spectrometry*, **2011**, 22, 192-5	3.5	51
239	Prostaglandin H2 (PGH2) accelerates formation of amyloid beta1-42 oligomers. *Journal of Neurochemistry*, **2002**, 82, 1003-6	6	51
238	Assessing the multimeric states of proteins: studies using laser desorption mass spectrometry. *Biological Mass Spectrometry*, **1991**, 20, 796-800		50
237	On-tissue chemical derivatization of 3-methoxysalicylamine for MALDI-imaging mass spectrometry. *Journal of Mass Spectrometry*, **2011**, 46, 840-6	2.2	49
236	Detection of tumor epidermal growth factor receptor pathway dependence by serum mass spectrometry in cancer patients. *Cancer Epidemiology Biomarkers and Prevention*, **2010**, 19, 358-65	4	48
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234	Microbore high-performance liquid chromatography-mass spectrometry for the analysis of proteolytic digests by continuous-flow fast-atom bombardment mass spectrometry. *Journal of Chromatography A*, **1988**, 443, 355-62	4.5	47

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232	Phospholipid profiling identifies acyl chain elongation as a ubiquitous trait and potential target for the treatment of lung squamous cell carcinoma. *Oncotarget*, **2016**, 7, 12582-97	3.3	45
231	Advanced Registration and Analysis of MALDI Imaging Mass Spectrometry Measurements through Autofluorescence Microscopy. *Analytical Chemistry*, **2018**, 90, 12395-12403	7.8	45
230	Absolute Quantification of Rifampicin by MALDI Imaging Mass Spectrometry Using Multiple TOF/TOF Events in a Single Laser Shot. *Journal of the American Society for Mass Spectrometry*, **2017**, 28, 136-144	3.5	44
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225	Differential intrahepatic phospholipid zonation in simple steatosis and nonalcoholic steatohepatitis. *PLoS ONE*, **2013**, 8, e57165	3.7	43
224	Proteomic patterns of colonic mucosal tissues delineate Crohn's colitis and ulcerative colitis. *Proteomics - Clinical Applications*, **2013**, 7, 541-9	3.1	42
223	Micro-preparation procedure for high-sensitivity matrix-assisted laser desorption ionization mass spectrometry. *Journal of Mass Spectrometry*, **1995**, 30, 1768-1771	2.2	42
222	Integrated molecular imaging reveals tissue heterogeneity driving host-pathogen interactions. *Science Translational Medicine*, **2018**, 10,	17.5	39
221	Imaging mass spectrometry for assessing temporal proteomics: analysis of calprotectin in Acinetobacter baumannii pulmonary infection. *Proteomics*, **2014**, 14, 820-828	4.8	39
220	Localized in situ hydrogel-mediated protein digestion and extraction technique for on-tissue analysis. *Analytical Chemistry*, **2013**, 85, 2717-23	7.8	39
219	Matrix precoated targets for direct lipid analysis and imaging of tissue. *Analytical Chemistry*, **2013**, 85, 2907-12	7.8	39
218	Enzymes and mass spectrometry: A dynamic combination. *Mass Spectrometry Reviews*, **1987**, 6, 237-287	11	39
217	Targeted multiplex imaging mass spectrometry in transmission geometry for subcellular spatial resolution. *Journal of the American Society for Mass Spectrometry*, **2013**, 24, 609-14	3.5	38
216	Continuous-flow fast atom bombardment mass spectrometry. *Methods in Enzymology*, **1990**, 193, 214-37	1.7	38

215	Dietary Manganese Promotes Staphylococcal Infection of the Heart. *Cell Host and Microbe*, **2017**, 22, 531-542.e8	23.4	37
214	MALDI imaging and in situ identification of integral membrane proteins from rat brain tissue sections. *Analytical Chemistry*, **2013**, 85, 7191-6	7.8	37
213	Direct molecular analysis of whole-body animal tissue sections by MALDI imaging mass spectrometry. *Methods in Molecular Biology*, **2010**, 656, 285-301	1.4	37
212	Accumulation of long-chain fatty acids in the tumor microenvironment drives dysfunction in intrapancreatic CD8+ T cells. *Journal of Experimental Medicine*, **2020**, 217,	16.6	37
211	Imaging mass spectrometry assists in the classification of diagnostically challenging atypical Spitzoid neoplasms. *Journal of the American Academy of Dermatology*, **2016**, 75, 1176-1186.e4	4.5	36
210	exhibits heterogeneous siderophore production within the vertebrate host. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 21980-21982	11.5	36
209	Imaging the clear cell renal cell carcinoma proteome. *Journal of Urology*, **2013**, 189, 1097-103	2.5	36
208	Peptide sequence analysis using exopeptidases with molecular analysis of the truncated polypeptides by mass spectrometry. *Analytical Biochemistry*, **1986**, 154, 596-603	3.1	36
207	Implementation of a Gaussian beam laser and aspheric optics for high spatial resolution MALDI imaging MS. *Journal of the American Society for Mass Spectrometry*, **2014**, 25, 1079-82	3.5	35
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