Martin Gilar

List of Publications by Year
in descending order

76 papers	4,394 citations	147801 31 h-index	106344 65 g-index
77 all docs	77 docs citations	77 times ranked	3842 citing authors

#	Article	IF	Citations
1	Orthogonality of Separation in Two-Dimensional Liquid Chromatography. Analytical Chemistry, 2005, 77, 6426-6434.	6.5	726
2	Two-dimensional separation of peptides using RP-RP-HPLC system with different pH in first and second separation dimensions. Journal of Separation Science, 2005, 28, 1694-1703.	2.5	412
3	Enzyme-Friendly, Mass Spectrometry-Compatible Surfactant for In-Solution Enzymatic Digestion of Proteins. Analytical Chemistry, 2003, 75, 6023-6028.	6.5	296
4	Separation of 2-aminobenzamide labeled glycans using hydrophilic interaction chromatography columns packed with 1.7Î¼m sorbent. Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, 2010, 878, 403-408.	2.3	182
5	Ion-pair reversed-phase high-performance liquid chromatography analysis of oligonucleotides:. Journal of Chromatography A, 2002, 958, 167-182.	3.7	181
6	Implications of column peak capacity on the separation of complex peptide mixtures in single- and two-dimensional high-performance liquid chromatography. Journal of Chromatography A, 2004, 1061, 183-192.	3.7	157
7	Rapid comparison of a candidate biosimilar to an innovator monoclonal antibody with advanced liquid chromatography and mass spectrometry technologies. MAbs, 2010, 2, 379-394.	5.2	127
8	Advances in sample preparation in electromigration, chromatographic and mass spectrometric separation methods. Journal of Chromatography A, 2001, 909, 111-135.	3.7	113
9	Analysis of native and chemically modified oligonucleotides by tandem ion-pair reversed-phase high-performance liquid chromatography/electrospray ionization mass spectrometry. Rapid Communications in Mass Spectrometry, 2003, 17, 646-653.	1.5	111
10	Analysis and Purification of Synthetic Oligonucleotides by Reversed-Phase High-Performance Liquid Chromatography with Photodiode Array and Mass Spectrometry Detection. Analytical Biochemistry, 2001, 298, 196-206.	2.4	108
11	Characterization of Therapeutic Oligonucleotides Using Liquid Chromatography with On-line Mass Spectrometry Detection. Oligonucleotides, 2003, 13, 229-243.	2.7	93
12	Reversed-phase ion-pair liquid chromatography analysis and purification of small interfering RNA. Analytical Biochemistry, 2009, 390, 181-188.	2.4	91
13	A rapid sample preparation method for mass spectrometric characterization of N-linked glycans. Rapid Communications in Mass Spectrometry, 2005, 19, 2331-2336.	1.5	86
14	Peak capacity in gradient reversed-phase liquid chromatography of biopolymers. Journal of Chromatography A, 2007, 1169, 139-150.	3.7	78
15	Comparison of Orthogonality Estimation Methods for the Two-Dimensional Separations of Peptides. Analytical Chemistry, 2012, 84, 8722-8732.	6.5	77
16	Insight into Trypsin Miscleavage: Comparison of Kinetic Constants of Problematic Peptide Sequences. Analytical Chemistry, 2015, 87, 7636-7643.	6.5	77
17	High-throughput biopolymer desalting by solid-phase extraction prior to mass spectrometric analysis. Journal of Chromatography A, 2001, 921, 3-13.	3.7	67
18	Mixed-mode chromatography for fractionation of peptides, phosphopeptides, and sialylated glycopeptides. Journal of Chromatography A, 2008, 1191, 162-170.	3.7	65

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19	Characterization of glycoprotein digests with hydrophilic interaction chromatography and mass spectrometry. Analytical Biochemistry, 2011, 417, 80-88.	2.4	65
20	Purification of crude DNA oligonucleotides by solid-phase extraction and reversed-phase high-performance liquid chromatography. Journal of Chromatography A, 2000, 890, 167-177.	3.7	62
21	Utility of Retention Prediction Model for Investigation of Peptide Separation Selectivity in Reversed-Phase Liquid Chromatography: Impact of Concentration of Trifluoroacetic Acid, Column Temperature, Gradient Slope and Type of Stationary Phase. Analytical Chemistry, 2010, 82, 265-275.	6.5	60
22	Retention behavior of peptides in hydrophilic-interaction chromatography. Journal of Chromatography A, 2011, 1218, 8890-8896.	3.7	54
23	A complete peptide mapping of membrane proteins: a novel surfactant aiding the enzymatic digestion of bacteriorhodopsin. Rapid Communications in Mass Spectrometry, 2004, 18, 711-715.	1.5	52
24	Identification of N-Linked Glycosylation Sites Using Glycoprotein Digestion with Pronase Prior to MALDI Tandem Time-of-Flight Mass Spectrometry. Analytical Chemistry, 2007, 79, 1731-1738.	6.5	49
25	Comparison of 1â€Ð and 2â€Ð LC MS/MS methods for proteomic analysis of human serum. Electrophoresis, 2009, 30, 1157-1167.	2.4	48
26	Using Hybrid Organicâ€“Inorganic Surface Technology to Mitigate Analyte Interactions with Metal Surfaces in UHPLC. Analytical Chemistry, 2021, 93, 5773-5781.	6.5	41
27	Characterization of Protein Impurities and Site-Specific Modifications Using Peptide Mapping with Liquid Chromatography and Data Independent Acquisition Mass Spectrometry. Analytical Chemistry, 2009, 81, 5699-5708.	6.5	38
28	Peptide retention prediction applied to proteomic data analysis. Rapid Communications in Mass Spectrometry, 2007, 21, 2813-2821.	1.5	37
29	Reduction of metal adducts in oligonucleotide mass spectra in ionâ€pair reversedâ€phase chromatography/mass spectrometry analysis. Rapid Communications in Mass Spectrometry, 2016, 30, 1667-1679.	1.5	37
30	Impact of 3â€²-Exonuclease Stereoselectivity on the Kinetics of Phosphorothioate Oligonucleotide Metabolism. Oligonucleotides, 1998, 8, 35-42.	4.3	36
31	Study of phosphorothioate-modified oligonucleotide resistance to 3â€²-exonuclease using capillary electrophoresis. Biomedical Applications, 1998, 714, 13-20.	1.7	34
32	Ultraâ€performance liquid chromatography/tandem mass spectrometry (UPLC/MS/MS) and UPLC/MS^E analysis of RNA oligonucleotides. Rapid Communications in Mass Spectrometry, 2010, 24, 2631-2640.	1.5	33
33	Design of a fraction collector for capillary array electrophoresis. Electrophoresis, 2002, 23, 35.	2.4	31
34	Measurement and Modeling of Extra-Column Effects Due to Injection and Connections in Capillary Liquid Chromatography. Chromatography (Basel), 2015, 2, 669-690.	1.2	30
35	Effect of ion-pairing reagent hydrophobicity on liquid chromatography and mass spectrometry analysis of oligonucleotides. Journal of Chromatography A, 2022, 1666, 462860.	3.7	29
36	Properties of two amideâ€based hydrophilic interaction liquid chromatography columns. Journal of Separation Science, 2013, 36, 2421-2429.	2.5	27

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37	Quasi-adiabatic vacuum-based column housing for very high-pressure liquid chromatography. Journal of Chromatography A, 2016, 1456, 226-234.	3.7	26
38	Phosphopeptide enrichment using microscale titanium dioxide solid phase extraction. Journal of Separation Science, 2009, 32, 1189-1199.	2.5	25
39	Accurate measurement of dispersion data through short and narrow tubes used in very high-pressure liquid chromatography. Journal of Chromatography A, 2015, 1410, 118-128.	3.7	25
40	Impact of the column hardware volume on resolution in very high pressure liquid chromatography non-invasive investigations. Journal of Chromatography A, 2015, 1420, 54-65.	3.7	25
41	Mitigation of analyte loss on metal surfaces in liquid chromatography. Journal of Chromatography A, 2021, 1650, 462247.	3.7	25
42	Polymer solutions as a pseudostationary phase for capillary electrochromatographic separation of DNA diastereomers. Electrophoresis, 2000, 21, 2999-3009.	2.4	24
43	Electrospray ionization mass spectrometric analysis of nucleic acids using high-throughput on-line desalting. Rapid Communications in Mass Spectrometry, 2004, 18, 1295-1302.	1.5	24
44	Purification of dye-labeled oligonucleotides by ion-pair reversed-phase high-performance liquid chromatography. Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, 2003, 783, 61-72.	2.3	22
45	Achieving quasi-adiabatic thermal environment to maximize resolution power in very high-pressure liquid chromatography: Theory, models, and experiments. Journal of Chromatography A, 2016, 1444, 86-98.	3.7	22
46	Wide injection zone compression in gradient reversed-phase liquid chromatography. Journal of Chromatography A, 2015, 1390, 86-94.	3.7	20
47	Performance comparison of three trypsin columns used in liquid chromatography. Journal of Chromatography A, 2017, 1490, 126-132.	3.7	20
48	Applications of high-resolution recycling liquid chromatography: From small to large molecules. Journal of Chromatography A, 2017, 1524, 108-120.	3.7	20
49	Impact of frit dispersion on gradient performance in high-throughput liquid chromatography. Journal of Chromatography A, 2019, 1591, 110-119.	3.7	20
50	Kinetic mechanism of water dewetting from hydrophobic stationary phases utilized in liquid chromatography. Journal of Chromatography A, 2019, 1596, 41-53.	3.7	19
51	Method for evaluation of ionic interactions in liquid chromatography. Journal of Chromatography A, 2020, 1625, 461301.	3.7	18
52	Impact of Nonspecific Adsorption to Metal Surfaces in Ion Pair-RP LC-MS Impurity Analysis of Oligonucleotides. Journal of Pharmaceutical and Biomedical Analysis, 2022, 208, 114439.	2.8	18
53	Repetitive injection method: A tool for investigation of injection zone formation and its compression in microfluidic liquid chromatography. Journal of Chromatography A, 2015, 1381, 110-117.	3.7	16
54	Ideal versus real automated twin column recycling chromatography process. Journal of Chromatography A, 2017, 1508, 81-94.	3.7	16

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55	Impact of instrument and column parameters on high-throughput liquid chromatography performance. Journal of Chromatography A, 2017, 1523, 215-223.	3.7	16
56	Retention loss of reversed-phase chromatographic columns using 100% aqueous mobile phases from fundamental insights to best practice. Journal of Chromatography A, 2020, 1612, 460662.	3.7	16
57	Utility of linear and nonlinear models for retention prediction in liquid chromatography. Journal of Chromatography A, 2020, 1613, 460690.	3.7	14
58	Assessing the impact of nonspecific binding on oligonucleotide bioanalysis. Bioanalysis, 2021, 13, 1233-1244.	1.5	14
59	Solvent selectivity and strength in reversed-phase liquid chromatography separation of peptides. Journal of Chromatography A, 2014, 1337, 140-146.	3.7	13
60	Semi-preparative high-resolution recycling liquid chromatography. Journal of Chromatography A, 2018, 1566, 64-78.	3.7	13
61	Characterization and comparison of mixed-mode and reversed-phase columns; interaction abilities and applicability for peptide separation. Journal of Chromatography A, 2021, 1648, 462182.	3.7	13
62	Intrinsic advantages of packed capillaries over narrow-bore columns in very high-pressure gradient liquid chromatography. Journal of Chromatography A, 2016, 1451, 107-119.	3.7	12
63	Maximizing performance in supercritical fluid chromatography using low-density mobile phases. Journal of Chromatography A, 2016, 1468, 217-227.	3.7	11
64	Contribution of ionic interactions to stationary phase selectivity in hydrophilic interaction chromatography. Journal of Separation Science, 2022, 45, 3264-3275.	2.5	11
65	Phosphorothioate oligonucleotides separation in ion-pairing reversed-phase liquid chromatography: Effect of ion-pairing system. Journal of Chromatography A, 2022, 1676, 463201.	3.7	11
66	Systematic evaluation of selected supercritical fluid chromatography diolâ€•and diethylamineâ€based columns for application in hydrophilic interaction liquid chromatography. Separation Science Plus, 2019, 2, 81-88.	0.6	9
67	Experimental evaluation of chromatographic performance of capillary and microfluidic columns with linear or curved channels. Journal of Chromatography A, 2016, 1470, 76-83.	3.7	8
68	Mismatch between sample diluent and eluent: Maintaining integrity of gradient peaks using in silico approaches. Journal of Chromatography A, 2019, 1608, 460414.	3.7	8
69	Evaluating MISER chromatography as a tool for characterizing HILIC column equilibration. Journal of Chromatography A, 2020, 1619, 460931.	3.7	8
70	The effect of particle and ligand types on retention and peak shape in liquid chromatography. Microchemical Journal, 2020, 159, 105466.	4.5	6
71	Structural study of flobufen II. An unexpected role of packing effects on the dihedral angle of phenyl rings in crystal structures of 2,4-difluorobiphenyls. Journal of Fluorine Chemistry, 1997, 83, 111-116.	1.7	5
72	Chromatographic performance of microfluidic liquid chromatography devices: Experimental evaluation of straight versus serpentine packed channels. Journal of Chromatography A, 2018, 1533, 127-135.	3.7	5

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73	Bridging the gap between gas and liquid chromatography. Journal of Chromatography A, 2016, 1472, 107-116.	3.7	3
74	Development of Orthogonal 2DLC Methods for Separation of Peptides. , 0, , 261-289.		2
75	Nucleic Acids and Their Constituents. Journal of Chromatography Library, 1998, 60, 575-607.	0.1	1
76	A comparison of sample preparation methods for the study of the human serum proteome. FASEB Journal, 2006, 20, .	0.5	0