Arthur S Edison

List of Publications by Year
in descending order

128 papers	5,990 citations	81900 39 h-index	82547 72 g-index
140 all docs	140 docs citations	140 times ranked	7914 citing authors

#	Article	IF	Citations
1	The future of NMR-based metabolomics. Current Opinion in Biotechnology, 2017, 43, 34-40.	6.6	651
2	Metabolomics Workbench: An international repository for metabolomics data and metadata, metabolite standards, protocols, tutorials and training, and analysis tools. Nucleic Acids Research, 2016, 44, D463-D470.	14.5	568
3	A blend of small molecules regulates both mating and development in Caenorhabditis elegans. Nature, 2008, 454, 1115-1118.	27.8	335
4	Cancer progression by reprogrammed BCAA metabolism in myeloid leukaemia. Nature, 2017, 545, 500-504.	27.8	287
5	Facing and Overcoming Sensitivity Challenges in Biomolecular NMR Spectroscopy. Angewandte Chemie - International Edition, 2015, 54, 9162-9185.	13.8	258
6	A Modular Library of Small Molecule Signals Regulates Social Behaviors in Caenorhabditis elegans. PLoS Biology, 2012, 10, e1001237.	5.6	208
7	NMR in Metabolomics and Natural Products Research: Two Sides of the Same Coin. Accounts of Chemical Research, 2012, 45, 288-297.	15.6	151
8	Structure Elucidation at the Nanomole Scale. 1. Trisoxazole Macrolides and Thiazole-Containing Cyclic Peptides from the Nudibranch Hexabranchus sanguineus. Journal of Natural Products, 2009, 72, 732-738.	3.0	131
9	Design, construction, and validation of a 1-mm triple-resonance high-temperature-superconducting probe for NMR. Journal of Magnetic Resonance, 2006, 179, 290-293.	2.1	119
10	Inductive effects on the structure of proline residues. International Journal of Peptide and Protein Research, 1994, 44, 262-269.	0.1	115
11	Ascaroside Expression in Caenorhabditis elegans Is Strongly Dependent on Diet and Developmental Stage. PLoS ONE, 2011, 6, e17804.	2.5	87
12	A role for tetrahydrofolates in the metabolism of iron-sulfur clusters in all domains of life. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 10412-10417.	7.1	81
13	Interspecific Nematode Signals Regulate Dispersal Behavior. PLoS ONE, 2012, 7, e38735.	2.5	79
14	Resource partitioning of phytoplankton metabolites that support bacterial heterotrophy. ISME Journal, 2021, 15, 762-773.	9.8	77
15	¹³C NMR Metabolomics: Applications at Natural Abundance. Analytical Chemistry, 2014, 86, 9242-9250.	6.5	75
16	Microbial metabolites in the marine carbon cycle. Nature Microbiology, 2022, 7, 508-523.	13.3	71
17	Development of a 13C-optimized 1.5-mm high temperature superconducting NMR probe. Journal of Magnetic Resonance, 2013, 235, 58-65.	2.1	70
18	Hierarchical Alignment and Full Resolution Pattern Recognition of 2D NMR Spectra: Application to Nematode Chemical Ecology. Analytical Chemistry, 2011, 83, 1649-1657.	6.5	69

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19	Sex-specific mating pheromones in the nematode Panagrellus redivivus. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20949-20954.	7.1	66
20	Cold adaptation shapes the robustness of metabolic networks inDrosophila melanogaster. Evolution; International Journal of Organic Evolution, 2014, 68, 3505-3523.	2.3	65
21	Actin Filament Cross-linking by MARCKS. Journal of Biological Chemistry, 2001, 276, 22351-22358.	3.4	63
22	The Time Is Right to Focus on Model Organism Metabolomes. Metabolites, 2016, 6, 8.	2.9	63
23	Strategy for Automated Analysis of Dynamic Metabolic Mixtures by NMR. Application to an Insect Venom. Analytical Chemistry, 2007, 79, 7748-7752.	6.5	60
24	Caenorhabditis elegans pheromones regulate multiple complex behaviors. Current Opinion in Neurobiology, 2009, 19, 378-388.	4.2	60
25	An overview of methods using 13C for improved compound identification in metabolomics and natural products. Frontiers in Plant Science, 2015, 6, 611.	3.6	57
26	NMR: Unique Strengths That Enhance Modern Metabolomics Research. Analytical Chemistry, 2021, 93, 478-499.	6.5	56
27	Kinetics of Folding and Binding of an Intrinsically Disordered Protein: The Inhibitor of Yeast Aspartic Proteinase YPrA. Journal of the American Chemical Society, 2008, 130, 11477-11485.	13.7	55
28	Challenges in Identifying the Dark Molecules of Life. Annual Review of Analytical Chemistry, 2019, 12, 177-199.	5.4	55
29	Formation of thebSubunit Dimer Is Necessary for Interaction with F1-ATPaseâ€. Biochemistry, 1998, 37, 923-932.	2.5	54
30	Quality assurance and quality control processes: summary of a metabolomics community questionnaire. Metabolomics, 2017, 13, 1.	3.0	53
31	Deep evolutionary analysis reveals the design principles of fold A glycosyltransferases. ELife, 2020, 9, .	6.0	53
32	Single-Insect NMR: A New Tool To Probe Chemical Biodiversity. ACS Chemical Biology, 2006, 1, 511-514.	3.4	52
33	Isotopic Ratio Outlier Analysis Global Metabolomics of Caenorhabditis elegans. Analytical Chemistry, 2013, 85, 11858-11865.	6.5	51
34	Global Metabolomics of the Placenta Reveals Distinct Metabolic Profiles between Maternal and Fetal Placental Tissues Following Delivery in Non-Labored Women. Metabolites, 2018, 8, 10.	2.9	51
35	¹³C NMR Metabolomics: INADEQUATE Network Analysis. Analytical Chemistry, 2015, 87, 5698-5706.	6.5	49
36	Structure and Dynamics of the Lantibiotic Mutacin 1140. Biochemistry, 2003, 42, 10372-10384.	2.5	48

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37	Quantum Chemistry Calculations for Metabolomics. Chemical Reviews, 2021, 121, 5633-5670.	47.7	47
38	Alternatives to Nuclear Overhauser Enhancement Spectroscopy Presat and Carrâ€“Purcellâ€“Meiboomâ€“Gill Presat for NMR-Based Metabolomics. Analytical Chemistry, 2017, 89, 8582-8588.	6.5	46
39	Calculations of one-, two- and three-bond nuclear spin-spin couplings in a model peptide and correlations with experimental data. Journal of Biomolecular NMR, 1994, 4, 519-542.	2.8	43
40	A Statistical View of FMRFamide Neuropeptide Diversity. Molecular Neurobiology, 2000, 21, 035-056.	4.0	43
41	Linus Pauling and the planar peptide bond. , 2001, 8, 201-202.		41
42	Continuous in vivo Metabolism by NMR. Frontiers in Molecular Biosciences, 2019, 6, 26.	3.5	41
43	Phosphorylation-dependent Conformational Changes Induce a Switch in the Actin-binding Function of MARCKS. Journal of Biological Chemistry, 1999, 274, 36472-36478.	3.4	40
44	Chemical Detoxification of Small Molecules by Caenorhabditis elegans. ACS Chemical Biology, 2013, 8, 309-313.	3.4	40
45	Covalent structure of mutacin 1140 and a novel method for the rapid identification of lantibiotics. FEBS Journal, 2000, 267, 6810-6816.	0.2	39
46	Adaptation to Low Temperature Exposure Increases Metabolic Rates Independently of Growth Rates. Integrative and Comparative Biology, 2016, 56, 62-72.	2.0	39
47	IA3, an Aspartic Proteinase Inhibitor from Saccharomyces cerevisiae, Is Intrinsically Unstructured in Solution. Biochemistry, 2004, 43, 4071-4081.	2.5	38
48	Relative Configuration of Natural Products Using NMR Chemical Shifts. Journal of Natural Products, 2009, 72, 709-713.	3.0	38
49	A directed-overflow and damage-control N-glycosidase in riboflavin biosynthesis. Biochemical Journal, 2015, 466, 137-145.	3.7	38
50	The solution structure of the pH-induced monomer of dynein light-chain LC8 from Drosophila. Protein Science, 2004, 13, 727-734.	7.6	34
51	Design of small volume HX and triple-resonance probes for improved limits of detection in protein NMR experiments. Journal of Magnetic Resonance, 2003, 164, 128-135.	2.1	33
52	Bacterial Attraction and Quorum Sensing Inhibition in Caenorhabditis elegans Exudates. Journal of Chemical Ecology, 2009, 35, 878-892.	1.8	33
53	Novel Agouti-Related-Protein-Based Melanocortin-1 Receptor Antagonist. Journal of Medicinal Chemistry, 2001, 44, 4114-4124.	6.4	31
54	Developmental and Geographical Variation in the Chemical Defense of the Walkingstick Insect Anisomorpha buprestoides. Journal of Chemical Ecology, 2008, 34, 584-590.	1.8	31

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55	MARCKS Is a Natively Unfolded Protein with an Inaccessible Actin-binding Site. Journal of Biological Chemistry, 2005, 280, 9946-9956.	3.4	30
56	Preoperative Metabolic Signatures of Prostate Cancer Recurrence Following Radical Prostatectomy. Journal of Proteome Research, 2019, 18, 1316-1327.	3.7	30
57	Conformational Ensembles: The Role of Neuropeptide Structures in Receptor Binding. Journal of Neuroscience, 1999, 19, 6318-6326.	3.6	29
58	Parectadial, a Monoterpenoid from the Defensive Spray ofParectatosomamocquerysi. Journal of Natural Products, 2007, 70, 1335-1338.	3.0	26
59	Alkyldimethylpyrazines in the Defensive Spray of Phyllium westwoodii: A First for Order Phasmatodea. Journal of Chemical Ecology, 2009, 35, 861-870.	1.8	26
60	Structureâ^'Activity Relationships of the Unique and Potent Agouti-Related Protein (AGRP)â^'Melanocortin Chimeric Tyr-c[Î²-Asp-His-DPhe-Arg-Trp-Asn-Ala-Phe-Dpr]-Tyr-NH2Peptide Template. Journal of Medicinal Chemistry, 2005, 48, 3060-3075.	6.4	24
61	NMR-based metabolomics reveals urinary metabolome modifications in female Sprague€“Dawley rats by cranberry procyanidins. Journal of Nutritional Biochemistry, 2016, 34, 136-145.	4.2	22
62	Machine Learning-Enabled Renal Cell Carcinoma Status Prediction Using Multiplatform Urine-Based Metabolomics. Journal of Proteome Research, 2021, 20, 3629-3641.	3.7	22
63	Considerations when choosing a genetic model organism for metabolomics studies. Current Opinion in Chemical Biology, 2017, 36, 7-14.	6.1	21
64	Chronic maternal cortisol excess during late gestation leads to metabolic alterations in the newborn heart. American Journal of Physiology - Endocrinology and Metabolism, 2019, 316, E546-E556.	3.5	21
65	Comparison of the performance of round and rectangular wire in small solenoids for high-field NMR. Magnetic Resonance in Chemistry, 2006, 44, 255-262.	1.9	19
66	Diabetes Leads to Alterations in Normal Metabolic Transitions of Pregnancy as Revealed by Time-Course Metabolomics. Metabolites, 2020, 10, 350.	2.9	19
67	Multiomics approach reveals metabolic changes in the heart at birth. American Journal of Physiology - Endocrinology and Metabolism, 2018, 315, E1212-E1223.	3.5	18
68	Metabolite Structure Assignment Using In Silico NMR Techniques. Analytical Chemistry, 2020, 92, 10412-10419.	6.5	18
69	NMR Analysis of Caenorhabditis elegans FLP-18 Neuropeptides:â€‰ Implications for NPR-1 Activation. Biochemistry, 2006, 45, 7586-7597.	2.5	16
70	Digestive activity and organic compounds of Nezara viridula watery saliva induce defensive soybean seed responses. Scientific Reports, 2020, 10, 15468.	3.3	16
71	13C Metabolomics: NMR and IROA for Unknown Identification. Current Metabolomics, 2016, 4, 116-120.	0.5	15
72	Metabolomics and cytokine profiling of mesenchymal stromal cells identify markers predictive of T-cell suppression. Cytotherapy, 2022, 24, 137-148.	0.7	15

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73	Structural Characterization and Pharmacology of a Potent (Cys101â^'Cys119, Cys110â^'Cys117) Bicyclic Agouti-Related Protein (AGRP) Melanocortin Receptor Antagonist. Journal of Medicinal Chemistry, 2004, 47, 5662-5673.	6.4	14
74	Characterizing the Residue Level Folding of the Intrinsically Unstructured IA3. Biochemistry, 2006, 45, 13585-13596.	2.5	14
75	Incorporation of a Bioactive Reverse-Turn Heterocycle into a Peptide Template Using Solid-Phase Synthesis To Probe Melanocortin Receptor Selectivity and Ligand Conformations by 2D ¹H NMR. Journal of Medicinal Chemistry, 2011, 54, 1379-1390.	6.4	14
76	The New Data Quality Task Group (DQTG): ensuring high quality data today and in the future. Metabolomics, 2014, 10, 539-540.	3.0	13
77	Metabolomics and Natural-Products Strategies to Study Chemical Ecology in Nematodes. Integrative and Comparative Biology, 2015, 55, 478-485.	2.0	13
78	Nickel chelation therapy as an approach to combat multi-drug resistant enteric pathogens. Scientific Reports, 2019, 9, 13851.	3.3	13
79	Diel investments in metabolite production and consumption in a model microbial system. ISME Journal, 2022, 16, 1306-1317.	9.8	13
80	Identification of single and double sites of phosphorylation by ECD FT-ICR/MS in peptides related to the phosphorylation site domain of the myristoylated alanine-rich c kinase protein. Journal of the American Society for Mass Spectrometry, 2007, 18, 2137-2145.	2.8	12
81	NMR â€“ Small Molecules and Analysis of Complex Mixtures. , 2010, , 169-196.		12
82	Synthesis, Biophysical, and Pharmacological Evaluation of the Melanocortin Agonist AST3-88: Modifications of Peptide Backbone at Trp 7 Position Lead to a Potent, Selective, and Stable Ligand of the Melanocortin 4 Receptor (MC4R). ACS Chemical Neuroscience, 2014, 5, 1020-1031.	3.5	12
83	Transferring Fungi to a Deuterium-Enriched Medium Results in Assorted, Conditional Changes in Secondary Metabolite Production. Journal of Natural Products, 2015, 78, 1415-1421.	3.0	12
84	An Empirical Expression to Predict the Resonant Frequencies of Archimedean Spirals. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 2107-2114.	4.6	12
85	Ageâ€dependent changes in metabolite profile and lipid saturation in dystrophic mice. NMR in Biomedicine, 2019, 32, e4075.	2.8	12
86	A redox-active switch in fructosamine-3-kinases expands the regulatory repertoire of the protein kinase superfamily. Science Signaling, 2020, 13, .	3.6	12
87	Metabolomic Evaluation of the Consequences of Plasma Cystathionine Elevation in Adults with Stable Angina Pectoris. Journal of Nutrition, 2017, 147, 1658-1668.	2.9	11
88	Dereplication of plant phenolics using a massâ€spectrometry database independent method. Phytochemical Analysis, 2018, 29, 601-612.	2.4	11
89	Integrated Metabolomics and Transcriptomics Suggest the Global Metabolic Response to 2-Aminoacrylate Stress in Salmonella enterica. Metabolites, 2020, 10, 12.	2.9	11
90	Long-Term Metabolomics Reference Material. Analytical Chemistry, 2021, 93, 9193-9199.	6.5	11

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91	In Silico Collision Cross Section Calculations to Aid Metabolite Annotation. Journal of the American Society for Mass Spectrometry, 2022, 33, 750-759.	2.8	11
92	Maternal hypercortisolemia alters placental metabolism: a multiomics view. American Journal of Physiology - Endocrinology and Metabolism, 2020, 319, E950-E960.	3.5	10
93	Practical Guidelines for 13C-Based NMR Metabolomics. Methods in Molecular Biology, 2019, 2037, 69-95.	0.9	10
94	Urine-Based Metabolomics and Machine Learning Reveals Metabolites Associated with Renal Cell Carcinoma Stage. Cancers, 2021, 13, 6253.	3.7	10
95	Structureâ€“Activity Relationships of Peptides Incorporating a Bioactive Reverse-Turn Heterocycle at the Melanocortin Receptors: Identification of a 5800-fold Mouse Melanocortin-3 Receptor (mMC3R) Selective Antagonist/Partial Agonist versus the Mouse Melanocortin-4 Receptor (mMC4R). Journal of Medicinal Chemistry, 2013, 56, 2747-2763.	6.4	9
96	Predicting Tâ€cell quality during manufacturing through an artificial intelligenceâ€based integrative multiomics analytical platform. Bioengineering and Translational Medicine, 2022, 7, e10282.	7.1	9
97	Correlations Between LC-MS/MS-Detected Glycomics and NMR-Detected Metabolomics in Caenorhabditis elegans Development. Frontiers in Molecular Biosciences, 2019, 6, 49.	3.5	8
98	Inductively-Coupled Frequency Tuning and Impedance Matching in HTS-Based NMR Probes. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.7	7
99	Cold adaptation does not alter ATP homeostasis during cold exposure in Drosophila melanogaster. Integrative Zoology, 2018, 13, 471-481.	2.6	7
100	RTExtract: time-series NMR spectra quantification based on 3D surface ridge tracking. Bioinformatics, 2020, 36, 5068-5075.	4.1	7
101	Culture and Assay of Large-Scale Mixed-Stage Caenorhabditis elegans Populations. Journal of Visualized Experiments, 2021, , .	0.3	7
102	Comparison of High-Resolution Fourier Transform Mass Spectrometry Platforms for Putative Metabolite Annotation. Analytical Chemistry, 2021, 93, 12374-12382.	6.5	7
103	Progress Towards a Higher Sensitivity ¹³C-Optimized 1.5 mm HTS NMR Probe. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-4.	1.7	7
104	Development of a ¹H-¹³C Dual-Optimized NMR Probe Based on Double-Tuned High Temperature Superconducting Resonators. IEEE Transactions on Applied Superconductivity, 2016, , 1-1.	1.7	6
105	Proton Nuclear Magnetic Resonance Metabolomics Corroborates Serine Hydroxymethyltransferase as the Primary Target of 2-Aminoacrylate in a ridA Mutant of Salmonella enterica. MSystems, 2020, 5, .	3.8	6
106	Growth-stage-related shifts in diatom endometabolome composition set the stage for bacterial heterotrophy. ISME Communications, 2022, 2, .	4.2	6
107	The magic of solenoids. Nature, 2007, 447, 646-647.	27.8	5
108	Time and Frequency Domain Response of HTS Resonators for Use as NMR Transmit Coils. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.7	5

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109	MALDI Mass Spectrometric Imaging of the Nematode Caenorhabditis elegans. Current Metabolomics, 2015, 3, 130-137.	0.5	5
110	Computational analysis of two similar neuropeptides yields distinct conformational ensembles. Proteins: Structure, Function and Bioinformatics, 2000, 40, 367-377.	2.6	4
111	Structural Studies of a Neuropeptide Precursor Protein with an RGD Proteolytic Site. Biochemistry, 2001, 40, 8790-8799.	2.5	4
112	Effects of Dielectric Substrates and Ground Planes on Resonance Frequency of Archimedean Spirals. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-4.	1.7	4
113	¹³C-Optimized HTS NMR RF Coil Design at 21.1 T. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-5.	1.7	3
114	Uncovering in vivo biochemical patterns from time-series metabolic dynamics. PLoS ONE, 2022, 17, e0268394.	2.5	3
115	IA3, A Yeast Proteinase A Inhibitor, Is Intrinsically Unstructured in Solution. Scientific World Journal, The, 2002, 2, 99-101.	2.1	2
116	Incorporation of Isotopically Enriched Amino Acids. Current Protocols in Protein Science, 2007, 47, Unit 26.3.	2.8	2
117	605: Metabolomic alterations in pregestational diabetic placentas at term. American Journal of Obstetrics and Gynecology, 2017, 216, S356.	1.3	2
118	Advanced spectroscopic detectors for identification and quantification: Nuclear magnetic resonance. , 2017, , 479-514.		2
119	Sodium dichloroacetate stimulates cardiac mitochondrial metabolism and improves cardiac conduction in the ovine fetus during labor. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2021, , .	1.8	2
120	So, You Want to Do Research in the Rainforest?. Signaling and Communication in Plants, 2011, , 97-111.	0.7	1
121	Application of Counter-Wound Multi-Arm Spirals in HTS Resonator Design. IEEE Transactions on Applied Superconductivity, 2022, 32, 1-4.	1.7	1
122	Mo1232 Employing High-Resolution Magic Angle Spinning (HR-MAS) MRS As Non-Invasive Diagnostic Approach in Non-Alcoholic Steatohepatitis (NASH). Gastroenterology, 2013, 144, S-612-S-613.	1.3	0
123	604: Intrapartum vs postpartum metabolomics in serum and urine of diabetic mothers. American Journal of Obstetrics and Gynecology, 2017, 216, S355-S356.	1.3	0
124	997: A longitudinal study of metabolomic alterations in urine across pregnancy in diabetic mothers. American Journal of Obstetrics and Gynecology, 2019, 220, S642.	1.3	0
125	PD38-07 MULTIPLATFORM METABOLOMICS REVEALS PREDICTIVE PROSTATE CANCER RECURRENCE PHENOTYPES FOLLOWING RADICAL PROSTATECTOMY. Journal of Urology, 2018, 199, .	0.4	0
126	A Plate Based Assay for Determination of the Median Lethal Dose of 1-Hydroxyphenazine in. MicroPublication Biology, 2021, 2021, .	0.1	0

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127	TAMI-09. ENERGY METABOLISM AND THERAPEUTIC T CELL EFFICACY IN THE GLIOBLASTOMA MICROENVIRONMENT. Neuro-Oncology, 2020, 22, ii214-ii215.	1.2	0
128	Abstract 5270: A potential role of branched chain amino acid metabolism in breast cancer cell invasiveness. , 2019, , .		0