Edward T Zellers

List of Publications by Year
in descending order

95 papers	3,622 citations	117625 34 h-index	149698 56 g-index
95 all docs	95 docs citations	95 times ranked	1835 citing authors

#	Article	IF	Citations
1	Room-temperature-ionic-liquid coated graphitized carbons for selective preconcentration of polar vapors. Journal of Chromatography A, 2020, 1609, 460486.	3.7	7
2	A micro passive preconcentrator for micro gas chromatography. Analyst, The, 2020, 145, 7582-7594.	3.5	6
3	Belt-Mounted Micro-Gas-Chromatograph Prototype for Determining Personal Exposures to Volatile-Organic-Compound Mixture Components. Analytical Chemistry, 2019, 91, 4747-4754.	6.5	35
4	Compact prototype microfabricated gas chromatographic analyzer for autonomous determinations of VOC mixtures at typical workplace concentrations. Microsystems and Nanoengineering, 2018, 4, .	7.0	27
5	A zone-heated gas chromatographic microcolumn: Energy efficiency. Sensors and Actuators B: Chemical, 2018, 254, 561-572.	7.8	16
6	Microscale Gas Chromatography with Microsensor Array Detection: Challenges and Prospects. Proceedings (mdpi), 2017, 1, 633.	0.2	3
7	A Wearable MEMS Gas Chromatograph for Multi-Vapor Determinations. Procedia Engineering, 2016, 168, 1398-1401.	1.2	12
8	Comprehensive two-dimensional gas chromatographic separations with a temperature programmed microfabricated thermal modulator. Journal of Chromatography A, 2016, 1444, 114-122.	3.7	19
9	Polymer-coated micro-optofluidic ring resonator detector for a comprehensive two-dimensional gas chromatographic microsystem: Î¼GC Ã— Î¼GCâ€“Î¼OFRR. Analyst, The, 2016, 141, 261-269.	3.5	15
10	Toward a microfabricated preconcentrator-focuser for a wearable micro-scale gas chromatograph. Journal of Chromatography A, 2015, 1422, 299-309.	3.7	20
11	Î¼GC Ã— Î¼GC: Comprehensive Two-Dimensional Gas Chromatographic Separations with Microfabricated Components. Analytical Chemistry, 2015, 87, 1630-1637.	6.5	40
12	Microfabricated Gas Chromatograph for Rapid, Trace-Level Determinations of Gas-Phase Explosive Marker Compounds. Analytical Chemistry, 2014, 86, 655-663.	6.5	74
13	A microfabricated optofluidic ring resonator for sensitive, high-speed detection of volatile organic compounds. Lab on A Chip, 2014, 14, 3873-3880.	6.0	39
14	Multivariate curve resolution of co-eluting vapors from a gas chromatograph with microsensor array detector. Sensors and Actuators B: Chemical, 2014, 202, 167-176.	7.8	9
15	Evaluating the dynamic retention capacities of microfabricated vapor preconcentrators as a function of flow rate. Sensors and Actuators B: Chemical, 2013, 183, 163-171.	7.8	13
16	A nanoparticle-coated chemiresistor array as a microscale gas chromatograph detector for explosive marker compounds: flow rate and temperature effects. Analyst, The, 2013, 138, 6860.	3.5	19
17	Vapor discrimination by dual-laser reflectance sensing of a single functionalized nanoparticle film. Analytical Methods, 2013, 5, 4268.	2.7	10
18	Vapor Discrimination With Single- and Multitransducer Arrays of Nanoparticle-Coated Chemiresistors and Resonators. IEEE Sensors Journal, 2013, 13, 2146-2154.	4.7	6

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19	Hybrid preconcentrator/focuser module for determinations of explosive marker compounds with a micro-scale gas chromatograph. Journal of Chromatography A, 2013, 1279, 76-85.	3.7	38
20	CMOS Monolithic Nanoparticle-Coated Chemiresistor Array for Micro-Scale Gas Chromatography. IEEE Sensors Journal, 2012, 12, 2444-2452.	4.7	15
21	Microfabricated Gas Chromatograph for On-Site Determination of Trichloroethylene in Indoor Air Arising from Vapor Intrusion. 1. Field Evaluation. Environmental Science & Technology, 2012, 46, 6065-6072.	10.0	22
22	Comprehensive Two-Dimensional Gas Chromatographic Separations with a Microfabricated Thermal Modulator. Analytical Chemistry, 2012, 84, 6973-6980.	6.5	38
23	Adaptable chip-level microfluidic packaging for a micro-scale gas chromatograph. , 2012, , .		2
24	Microfabricated passive vapor preconcentrator/injector designed for microscale gas chromatography. Lab on A Chip, 2012, 12, 717.	6.0	28
25	Microfabricated Gas Chromatograph for On-Site Determinations of TCE in Indoor Air Arising from Vapor Intrusion. 2. Spatial/Temporal Monitoring. Environmental Science & Technology, 2012, 46, 6073-6080.	10.0	21
26	Evaluation of a Microfabricated Thermal Modulator for Comprehensive Two-Dimensional Microscale Gas Chromatography. Analytical Chemistry, 2011, 83, 5556-5562.	6.5	34
27	Multi-stage preconcentrator/focuser module designed to enable trace level determinations of trichloroethylene in indoor air with a microfabricated gas chromatograph. Analyst, The, 2011, 136, 1664.	3.5	35
28	Electron-Beam Patterned Monolayer-Protected Gold Nanoparticle Interface Layers on a Chemiresistor Vapor Sensor Array. IEEE Sensors Journal, 2011, 11, 469-480.	4.7	11
29	Characterization of Dense Arrays of Chemiresistor Vapor Sensors with Submicrometer Features and Patterned Nanoparticle Interface Layers. Analytical Chemistry, 2011, 83, 3687-3695.	6.5	24
30	Microfabricated Gas Chromatograph for the Selective Determination of Trichloroethylene Vapor at Sub-Parts-Per-Billion Concentrations in Complex Mixtures. Analytical Chemistry, 2011, 83, 7198-7206.	6.5	94
31	Microfabricated optofluidic ring resonator structures. Applied Physics Letters, 2011, 99, 141108-1411083.	3.3	29
32	Microfabricated gas chromatograph for Sub-ppb determinations of TCE in vapor intrusion investigations. Procedia Engineering, 2010, 5, 973-976.	1.2	12
33	A low power, high-speed miniaturized thermal modulator for comprehensive 2D gas chromatography. , 2010, , .		2
34	Microfabricated thermal modulator for comprehensive two-dimensional micro gas chromatography: design, thermal modeling, and preliminary testing. Lab on A Chip, 2010, 10, 1647.	6.0	46
35	Application-Specific Micro Gas Chromatographs. ECS Transactions, 2009, 19, 315-325.	0.5	1
36	Chemometric analysis of gas chromatographic peaks measured with a microsensor array: Methodology and performance assessment. Sensors and Actuators B: Chemical, 2009, 139, 548-556.	7.8	20

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37	Assessing the reliability of wall-coated microfabricated gas chromatographic separation columns. Sensors and Actuators B: Chemical, 2009, 141, 217-226.	7.8	60
38	Characterization of a high-performance portable GC with a chemiresistor array detector. Analyst, The, 2009, 134, 283-293.	3.5	80
39	CMOS Baseline Tracking and Cancellation Instrumentation for Nanoparticle-Coated Chemiresistors. IEEE Transactions on Biomedical Circuits and Systems, 2009, 3, 267-276.	4.0	13
40	Evaluation of Multitransducer Arrays for the Determination of Organic Vapor Mixtures. Analytical Chemistry, 2008, 80, 227-236.	6.5	55
41	Limits of Recognition for Binary and Ternary Vapor Mixtures Determined with Multitransducer Arrays. Analytical Chemistry, 2008, 80, 7283-7293.	6.5	35
42	A Comparison of Multi-Transducer Arrays and Single-Transducer Arrays for the Determination of Multi-Vapor Mixtures. , 2007, , .		0
43	Rapid determination of ETS markers with a prototype field-portable GC employing a microsensor array detector. Journal of Environmental Monitoring, 2007, 9, 440.	2.1	20
44	Model of Vapor-Induced Resistivity Changes in Goldâ˜Thiolate Monolayer-Protected Nanoparticle Sensor Films. Analytical Chemistry, 2007, 79, 4977-4986.	6.5	102
45	Exploiting Charge-Transfer Complexation for Selective Measurement of Gas-Phase Olefins with Nanoparticle-Coated Chemiresistors. Analytical Chemistry, 2007, 79, 1164-1172.	6.5	21
46	Chamber evaluation of a portable GC with tunable retention and microsensor-array detection for indoor air quality monitoring. Journal of Environmental Monitoring, 2006, 8, 270.	2.1	19
47	First-generation hybrid MEMS gas chromatograph. Lab on A Chip, 2005, 5, 1123.	6.0	205
48	Single-Phase Synthesis of Functionalized Gold Nanoparticles. Chemistry of Materials, 2004, 16, 3513-3517.	6.7	108
49	Limits of Recognition for Simple Vapor Mixtures Determined with a Microsensor Array. Analytical Chemistry, 2004, 76, 1885-1895.	6.5	74
50	Portable Gas Chromatograph with Tunable Retention and Sensor Array Detection for Determination of Complex Vapor Mixtures. Analytical Chemistry, 2003, 75, 1400-1409.	6.5	110
51	Dual-Chemiresistor GC Detector Employing Monolayer-Protected Metal Nanocluster Interfaces. Analytical Chemistry, 2002, 74, 3533-3539.	6.5	133
52	Multi-adsorbent preconcentration/focusing module for portable-GC/microsensor-array analysis of complex vapor mixtures. Analyst, The, 2002, 127, 1061-1068.	3.5	64
53	In situ UV-photopolymerization of gas-phase monomers for microanalytical system applications. Sensors and Actuators B: Chemical, 2002, 82, 287-296.	7.8	17
54	A Dual-Adsorbent Preconcentrator for a Portable Indoor-VOC Microsensor System. Analytical Chemistry, 2001, 73, 3449-3457.	6.5	113

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55	Analysis of Solvent Vapors in Breath and Ambient Air with a Surface Acoustic Wave Sensor Array. Annals of Occupational Hygiene, 2001, , .	1.9	17
56	High-Speed Analysis of Complex Indoor VOC Mixtures by Vacuum-Outlet GC with Air Carrier Gas and Programmable Retention. Environmental Science & Technology, 2001, 35, 163-169.	10.0	41
57	Use of Linear Solvation Energy Relationships for Modeling Responses from Polymer-Coated Acoustic-Wave Vapor Sensors. Analytical Chemistry, 2001, 73, 3458-3466.	6.5	93
58	A Portable, High-Speed, Vacuum-Outlet GC Vapor Analyzer Employing Air as Carrier Gas and Surface Acoustic Wave Detection. Analytical Chemistry, 2001, 73, 4668-4675.	6.5	54
59	Personal Monitoring Instrument for the Selective Measurement of Multiple Organic Vapors. AIHAJ: A Journal for the Science of Occupational and Environmental Health and Safety, 2000, 61, 192-204.	0.4	7
60	Evaluating porous-layer open-tubular capillaries as vapor preconcentrators in a microanalytical system. Sensors and Actuators B: Chemical, 2000, 67, 244-253.	7.8	20
61	Vapor recognition with an integrated array of polymer-coated flexural plate wave sensors. Sensors and Actuators B: Chemical, 2000, 62, 121-130.	7.8	66
62	Temperature and humidity compensation in the determination of solvent vapors with a microsensor system. Analyst, The, 2000, 125, 1775-1782.	3.5	11
63	Determination of solvents permeating through chemical protective clothing with a microsensor array. Journal of Environmental Monitoring, 2000, 2, 300-306.	2.1	8
64	The Fractional Free Volume of the Sorbed Vapor in Modeling the Viscoelastic Contribution to Polymer-Coated Surface Acoustic Wave Vapor Sensor Responses. Analytical Chemistry, 2000, 72, 2861-2868.	6.5	53
65	Personal Monitoring Instrument for the Selective Measurement of Multiple Organic Vapors. AIHA Journal, 2000, 61, 192-204.	0.4	22
66	Vapor Recognition with Small Arrays of Polymer-Coated Microsensors. A Comprehensive Analysis. Analytical Chemistry, 1999, 71, 3877-3886.	6.5	114
67	High-Speed, Vacuum-Outlet GC Using Atmospheric-Pressure Air as Carrier Gas. Analytical Chemistry, 1999, 71, 1610-1616.	6.5	29
68	Analyzing organic vapors in exhaled breath using a surface acoustic wave sensor array with preconcentration: Selection and characterization of the preconcentrator adsorbent. Analytica Chimica Acta, 1998, 371, 131-143.	5.4	132
69	Establishing a Limit of Recognition for a Vapor Sensor Array. Analytical Chemistry, 1998, 70, 4191-4201.	6.5	48
70	ASTM F739 Method for Testing the Permeation Resistance of Protective Clothing Materials: Critical Analysis with Proposed Changes in Procedure and Test-Cell Design. AIHA Journal, 1998, 59, 547-556.	0.4	21
71	ASTM F739 Method for Testing the Permeation Resistance of Protective Clothing Materials: Critical Analysis with Proposed Changes in Procedure and Test-Cell Design. AIHA Journal, 1998, 59, 547-556.	0.4	1
72	Effects of Temperature and Humidity on the Performance of Polymer-Coated Surface Acoustic Wave Vapor Sensor Arrays. Analytical Chemistry, 1996, 68, 2409-2418.	6.5	88

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73	Investigation of Organic Vapor Losses to Condensed Water Vapor in TedlarÂ® Bags Used for Exhaled-Breath Sampling. AIHA Journal, 1996, 57, 257-263.	0.4	42
74	Respiratory health in asbestos-exposed ironworkers. , 1996, 29, 459-466.		1
75	Critical analysis of the graphical determination of Hansen's solubility parameters for lightly crosslinked polymers. Journal of Applied Polymer Science, 1996, 62, 2069-2080.	2.6	27
76	Improved methods for the determination of Hansen's solubility parameters and the estimation of solvent uptake for lightly crosslinked polymers. Journal of Applied Polymer Science, 1996, 62, 2081-2096.	2.6	31
77	Prototype Instrument Employing a Microsensor Array for the Analysis of Organic Vapors in Exhaled Breath. AIHA Journal, 1996, 57, 1103-1108.	0.4	27
78	Portable instrument employing a surface acoustic wave sensor with a regenerable reagent coating for direct measurement of 1,3â€butadiene and styrene. Review of Scientific Instruments, 1995, 66, 239-246.	1.3	5
79	Optimal Coating Selection for the Analysis of Organic Vapor Mixtures with Polymer-Coated Surface Acoustic Wave Sensor Arrays. Analytical Chemistry, 1995, 67, 1092-1106.	6.5	139
80	Investigation of nematic liquid crystals as surface acoustic wave sensor coatings for discrimination between isomeric aromatic organic vapors. Analytica Chimica Acta, 1994, 288, 167-177.	5.4	26
81	Influence of substituent and ligand electronic factors on the measurement of gas phase olefins using a surface acoustic wave oscillator coated with trans-PtCl2(olefin)(amine) complexes. Analytica Chimica Acta, 1993, 280, 1-13.	5.4	9
82	Three-dimensional solubility parameters and chemical protective clothing permeation. I. Modeling the solubility of organic solvents in VitonÂ® golves. Journal of Applied Polymer Science, 1993, 50, 513-530.	2.6	48
83	Three-dimensional solubility parameters and chemical protective clothing permeation. II. Modeling diffusion coefficients, breakthrough times, and steady-state permeation rates of organic solvents in VitonÂ® gloves. Journal of Applied Polymer Science, 1993, 50, 531-540.	2.6	30
84	Extended disjoint principal-components regression analysis of SAW vapor sensor-array responses. Sensors and Actuators B: Chemical, 1993, 12, 123-133.	7.8	33
85	Coated surface acoustic wave sensor employing a reversible mass-amplifying ligand substitution reaction for real-time measurement of 1,3-butadiene at low- and sub-ppm concentrations. Analytical Chemistry, 1993, 65, 1340-1349.	6.5	10
86	Characterization of polymeric surface acoustic wave sensor coatings and semiempirical models of sensor responses to organic vapors. Analytical Chemistry, 1993, 65, 2055-2066.	6.5	119
87	MODELING THE TEMPERATURE DEPENDENCE OF N-METHYLPYRROLIDONE PERMEATION THROUGH BUTYL- AND NATURAL-RUBBER GLOVES. AIHA Journal, 1993, 54, 465-479.	0.4	33
88	Steric factors affecting the discrimination of isomeric and structurally related olefin gases and vapors with a reagent-coated surface acoustic wave sensor. Analytical Chemistry, 1992, 64, 1277-1284.	6.5	17
89	Glove Permeation by Propylene Glycol Monomethyl Ether Acetate â€" A Photoresist Solvent Used in Semiconductor Device Processing. Journal of Occupational and Environmental Hygiene, 1992, 7, 392-397.	0.4	3
90	GLOVE PERMEATION BY SEMICONDUCTOR PROCESSING MIXTURES CONTAINING GLYCOL-ETHER DERIVATIVES. AIHA Journal, 1992, 53, 105-116.	0.4	17

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91	Estimation of Cumulative Exposures for the National Study of Coal Workers' Pneumoconiosis. Journal of Occupational and Environmental Hygiene, 1991, 6, 1032-1041.	0.4	26
92	DEVELOPMENT OF A FIELD METHOD FOR EVALUATING THE SERVICE LIVES OF ORGANIC VAPOR CARTRIDGES: RESULTS OF LABORATORY TESTING USING CARBON TETRACHLORIDE. PART II: HUMIDITY EFFECTS. AIHA Journal, 1990, 51, 575-580.	0.4	8
93	Selective real-time measurement of styrene vapor using a surface-acoustic-wave sensor with a regenerable organoplatinum coating. Analytical Chemistry, 1990, 62, 1227-1232.	6.5	24
94	Use of a surface-acoustic-wave sensor to characterize the reaction of styrene vapor with a square-planar organoplatinum complex. Analytical Chemistry, 1990, 62, 1222-1227.	6.5	16
95	Computer modelling of polymer-coated ZnO/Si surface-acoustic-wave and lamb-wave chemical sensors. Sensors and Actuators, 1988, 14, 35-45.	1.7	35