David E Cliffel

List of Publications by Year
in descending order

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131	6,440	61857	69108
papers	citations	43 h-index	77 g-index

137	137	137	7852
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Trace Oxygen Affects Osmium Redox Polymer Synthesis for Wired Enzymatic Biosensors. Journal of the Electrochemical Society, 2022, 169, 016506.	1.3	0
2	(Digital Presentation) Simultaneous and Real-Time Electrochemical Detection of Multiple Biomarkers in a Microfluidic Chip. ECS Meeting Abstracts, 2022, MA2022-01, 2236-2236.	0.0	0
3	(Invited) Eight Channel Microphysiometry Using a Lab on a Chip Microclinical Analyzer. ECS Meeting Abstracts, 2021, MA2021-01, 1388-1388.	0.0	0
4	Layer-by-Layer Assembly of Photosystem I and PEDOT:PSS Biohybrid Films for Photocurrent Generation. Langmuir, 2021, 37, 10481-10489.	1.6	13
5	Chlorpyrifos Disrupts Acetylcholine Metabolism Across Model Blood-Brain Barrier. Frontiers in Bioengineering and Biotechnology, 2021, 9, 622175.	2.0	7
6	A bistable, multiport valve enables microformulators creating microclinical analyzers that reveal aberrant glutamate metabolism in astrocytes derived from a tuberous sclerosis patient. Sensors and Actuators B: Chemical, 2021, 341, 129972.	4.0	7
7	Improving the stability of photosystem Iâ€“based bioelectrodes for solar energy conversion. Current Opinion in Electrochemistry, 2020, 19, 27-34.	2.5	28
8	Photosystem I Multilayers within Porous Indium Tin Oxide Cathodes Enhance Mediated Electron Transfer. ChemElectroChem, 2020, 7, 596-603.	1.7	22
9	Reversing the Thermodynamics of Galvanic Replacement Reactions by Decreasing the Size of Gold Nanoparticles. Journal of the American Chemical Society, 2020, 142, 19268-19277.	6.6	20
10	Photosystem I Enhances the Efficiency of a Natural, Gel-Based Dye-Sensitized Solar Cell. ACS Applied Bio Materials, 2020, 3, 4465-4473.	2.3	13
11	A Low-Interference, High-Resolution Multianalyte Electrochemical Biosensor. Analytical Methods, 2020, 12, 3873-3882.	1.3	4
12	Optical and electrochemical tuning of hydrothermally synthesized nitrogen-doped carbon dots. Nanoscale Advances, 2020, 2, 3375-3383.	2.2	8
13	Photosystem I Multilayers within Porous Indium Tin Oxide Cathodes Enhance Mediated Electron Transfer. ChemElectroChem, 2020, 7, 585-585.	1.7	1
14	(Invited) Eight Channel Microphysiometry Using a Lab on a Chip Microclinical Analyzer. ECS Meeting Abstracts, 2020, MA2020-01, 1992-1992.	0.0	0
15	Electron Transfer at Photosystem I - Electrode Interfaces: Porous & Translucent Indium Tin Oxide Cathodes. ECS Meeting Abstracts, 2020, MA2020-01, 2526-2526.	0.0	0
16	Fibrotic Encapsulation Is the Dominant Source of Continuous Glucose Monitor Delays. Diabetes, 2019, 68, 1892-1901.	0.3	12
17	Prefaceâ€”Semiconductor Electrochemistry and Photoelectrochemistry in Honor of Krishnan Rajeshwar. Journal of the Electrochemical Society, 2019, 166, Y5-Y6.	1.3	4
18	Communicationâ€”Microfluidic Electrochemical Acetylcholine Detection in the Presence of Chlorpyrifos. Journal of the Electrochemical Society, 2019, 166, G178-G181.	1.3	2

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19	Photosystem I-Modified Multi-Walled Carbon Nanotube Anodes for Enhanced Solar Energy Conversion. ECS Meeting Abstracts, 2019, , .	0.0	0
20	High-Resolution Multianalyte Biosensor Array for Analysis of Model Organ Systems. ECS Meeting Abstracts, 2019, , .	0.0	0
21	Graduate Electrochemistry Course Projects. ECS Meeting Abstracts, 2019, , .	0.0	0
22	Multilayer Photosystem I Films within Porous Indium Tin Oxide Cathodes for Enhanced Photocurrent Generation. ECS Meeting Abstracts, 2019, , .	0.0	0
23	Synthesis and Characterization of Osmium Redox Polymer Mediators for Type II Biosensors. ECS Meeting Abstracts, 2019, , .	0.0	0
24	Organotypic Neurovascular Unit and Electrochemical Platform for Predictive Toxicology. ECS Meeting Abstracts, 2019, MA2019-02, 2423-2423.	0.0	0
25	Effects of Chlorpyrifos Exposure on Acetylcholine Metabolism across a Model Blood-Brain Barrier. ECS Meeting Abstracts, 2019, MA2019-02, 2426-2426.	0.0	0
26	Photosystem I Multilayer Films for Photovoltage Enhancement in Natural Dye-Sensitized Solar Cells. ACS Applied Energy Materials, 2018, 1, 301-305.	2.5	15
27	An Electrochemical Reaction-Diffusion Model of the Photocatalytic Effect of Photosystem I Multilayer Films. Journal of Physical Chemistry B, 2018, 122, 117-125.	1.2	21
28	Polyviologen as Electron Transport Material in Photosystem I-Based Biophotovoltaic Cells. Langmuir, 2018, 34, 15658-15664.	1.6	20
29	Electrochemical Microphysiometry Detects Cellular Glutamate Uptake. Journal of the Electrochemical Society, 2018, 165, G3120-G3124.	1.3	10
30	Instrumenting a Fetal Membrane on a Chip as Emerging Technology for Preterm Birth Research. Current Pharmaceutical Design, 2018, 23, 6115-6124.	0.9	22
31	Multianalyte Physiological Microanalytical Devices. Annual Review of Analytical Chemistry, 2017, 10, 93-111.	2.8	3
32	Small gold nanoparticles presenting linear and looped Cilengitide analogues as radiosensitizers of cells expressing Î±Î½Î²3 integrin. Journal of Nanoparticle Research, 2017, 19, 1.	0.8	3
33	Mediated approaches to Photosystem I-based biophotovoltaics. Current Opinion in Electrochemistry, 2017, 5, 211-217.	2.5	29
34	Elucidation of the Role of Lectin-Like oxLDL Receptor-1 in the Metabolic Responses of Macrophages to Human oxLDL. Journal of Lipids, 2017, 2017, 1-9.	1.9	6
35	Scanning Electrochemical Microscopy of Individual Pancreatic Islets. Journal of the Electrochemical Society, 2016, 163, H3077-H3082.	1.3	6
36	Effect of Cross-linking on the Performance and Stability of Photocatalytic Photosystem I Films. Electrochimica Acta, 2016, 222, 926-932.	2.6	15

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37	Analysis of a Nitroreductase-Based Hypoxia Sensor in Primary Neuronal Cultures. ACS Chemical Neuroscience, 2016, 7, 1188-1191.	1.7	10
38	Organs-on-Chips as Bridges for Predictive Toxicology. Applied in Vitro Toxicology, 2016, 2, 97-102.	0.6	23
39	Prostaglandin E₂ Regulation of Macrophage Innate Immunity. Chemical Research in Toxicology, 2016, 29, 19-25.	1.7	5
40	Carbonâ€supported AuPt and AuPd bimetallic nanocomposites as formic acid electrooxidation catalysts. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2903-2909.	0.8	3
41	IL4 receptor Î± mediates enhanced glucose and glutamine metabolism to support breast cancer growth. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1219-1228.	1.9	38
42	Real-Time Monitoring of Cellular Bioenergetics with a Multianalyte Screen-Printed Electrode. Analytical Chemistry, 2015, 87, 7857-7864.	3.2	26
43	Electrochemical Preparation of Photosystem Iâ€“Polyaniline Composite Films for Biohybrid Solar Energy Conversion. ACS Applied Materials & Interfaces, 2015, 7, 9328-9335.	4.0	53
44	Effect of Ligand Charge on Electron-Transfer Rates of Water-Soluble Gold Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 11296-11300.	1.5	4
45	Photosystem I-polyaniline/TiO₂solid-state solar cells: simple devices for biohybrid solar energy conversion. Energy and Environmental Science, 2015, 8, 3572-3576.	15.6	85
46	Construction of a Semiconductorâ€“Biological Interface for Solar Energy Conversion: p-Doped Silicon/Photosystem I/Zinc Oxide. Langmuir, 2015, 31, 10002-10007.	1.6	20
47	Surface Adsorption and Electrochemical Reduction of 2,4,6-Trinitrotoluene on Vanadium Dioxide. Analytical Chemistry, 2015, 87, 334-337.	3.2	37
48	Electrochemical Detection of 2,4,6-Trinitrotoluene at Colloidal Gold Nanoparticle Film Assemblies. NATO Science for Peace and Security Series A: Chemistry and Biology, 2015, , 147-160.	0.5	1
49	Integration of Photosystem I with Graphene Oxide for Photocurrent Enhancement. Advanced Energy Materials, 2014, 4, 1301953.	10.2	34
50	Multichamber multipotentiostat system for cellular microphysiometry. Sensors and Actuators B: Chemical, 2014, 204, 536-543.	4.0	15
51	Photoactive Films of Photosystem I on Transparent Reduced Graphene Oxide Electrodes. Langmuir, 2014, 30, 8990-8994.	1.6	41
52	Photosystem I Protein Films at Electrode Surfaces for Solar Energy Conversion. Langmuir, 2014, 30, 10990-11001.	1.6	59
53	Electrochemical Monitoring of Cellular Metabolism. , 2014, , 522-528.		2
54	Room-Temperature Reactions for Self-Cleaning Molecular Nanosensors. Nano Letters, 2013, 13, 798-802.	4.5	18

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55	Engineering Challenges for Instrumenting and Controlling Integrated Organ-on-Chip Systems. IEEE Transactions on Biomedical Engineering, 2013, 60, 682-690.	2.5	155
56	Pueraria lobata (Kudzu) Photosystem I Improves the Photoelectrochemical Performance of Silicon. Industrial Biotechnology, 2013, 9, 37-41.	0.5	4
57	Neurovascular unit on a chip: implications for translational applications. Stem Cell Research and Therapy, 2013, 4, S18.	2.4	56
58	Multianalyte Microphysiometry Reveals Changes in Cellular Bioenergetics Upon Exposure to Fluorescent Dyes. Analytical Chemistry, 2013, 85, 11677-11680.	3.2	12
59	Application of multianalyte microphysiometry to characterize macrophage metabolic responses to oxidized LDL and effects of an apoA-1 mimetic. Biochemical and Biophysical Research Communications, 2013, 431, 181-185.	1.0	10
60	Photosystem I on Graphene as a Highly Transparent, Photoactive Electrode. Langmuir, 2013, 29, 4177-4180.	1.6	74
61	In vivo toxicity, biodistribution, and clearance of glutathione-coated gold nanoparticles. Nanomedicine: Nanotechnology, Biology, and Medicine, 2013, 9, 257-263.	1.7	165
62	Multianalyte Microphysiometry of Macrophage Responses to Phorbol Myristate Acetate, Lipopolysaccharide, and Lipoarabinomannan. Electroanalysis, 2013, 25, 1706-1712.	1.5	10
63	Effect of Redox Mediator on the Photo-Induced Current of a Photosystem I Modified Electrode. Journal of the Electrochemical Society, 2013, 160, H315-H320.	1.3	28
64	In Vivo Testing for Gold Nanoparticle Toxicity. Methods in Molecular Biology, 2013, 1026, 175-186.	0.4	5
65	Real-time recognition of Mycobacterium tuberculosis and lipoarabinomannan using the quartz crystal microbalance. Sensors and Actuators B: Chemical, 2012, 174, 245-252.	4.0	23
66	Metabolic Impact of 4-Hydroxynonenal on Macrophage-Like RAW 264.7 Function and Activation. Chemical Research in Toxicology, 2012, 25, 1643-1651.	1.7	23
67	Enhanced Photocurrents of Photosystem I Films on pâ€Doped Silicon. Advanced Materials, 2012, 24, 5959-5962.	11.1	102
68	Photosystem I in Langmuirâ€“Blodgett and Langmuirâ€“Schaefer Monolayers. Langmuir, 2012, 28, 15080-15086.	1.6	26
69	Ag44(SR)304â^': a silverâ€“thiolate superatom complex. Nanoscale, 2012, 4, 4269.	2.8	154
70	Metabolic Multianalyte Microphysiometry Reveals Extracellular Acidosis is an Essential Mediator of Neuronal Preconditioning. ACS Chemical Neuroscience, 2012, 3, 510-518.	1.7	18
71	Electrochemical Sensors and Biosensors. Analytical Chemistry, 2012, 84, 685-707.	3.2	752
72	Photoreduction of Catalytic Platinum Particles Using Immobilized Multilayers of Photosystem I. Langmuir, 2012, 28, 7952-7956.	1.6	27

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73	Biomimetic monolayer-protected gold nanoparticles for immunorecognition. Nanoscale, 2012, 4, 3843.	2.8	22
74	A printed superoxide dismutase coated electrode for the study of macrophage oxidative burst. Biosensors and Bioelectronics, 2012, 33, 128-133.	5.3	15
75	Kinetic Model of the Photocatalytic Effect of a Photosystem I Monolayer on a Planar Electrode Surface. Journal of Physical Chemistry A, 2011, 115, 3326-3334.	1.1	29
76	Short-Chain PEG Mixed Monolayer Protected Gold Clusters Increase Clearance and Red Blood Cell Counts. ACS Nano, 2011, 5, 3577-3584.	7.3	104
77	Ionization-Enhanced Decomposition of 2,4,6-Trinitrotoluene (TNT) Molecules. Journal of Physical Chemistry A, 2011, 115, 8142-8146.	1.1	12
78	Modeling the measurements of cellular fluxes in microbioreactor devices using thin enzyme electrodes. Journal of Mathematical Chemistry, 2011, 49, 251-275.	0.7	17
79	Multifunctional nanoparticles as simulants for a gravimetric immunoassay. Analytical and Bioanalytical Chemistry, 2011, 399, 1021-1029.	1.9	15
80	Nanoscale Phase Segregation of Mixed Thiolates on Gold Nanoparticles. Angewandte Chemie - International Edition, 2011, 50, 10554-10559.	7.2	74
81	Enhanced Photocurrent Production by Photosystem I Multilayer Assemblies. Advanced Functional Materials, 2010, 20, 4048-4054.	7.8	126
82	Photosystem I â€“ Based biohybrid photoelectrochemical cells. Bioresource Technology, 2010, 101, 3047-3053.	4.8	120
83	The Effects of Cholera Toxin on Cellular Energy Metabolism. Toxins, 2010, 2, 632-648.	1.5	21
84	Characterization of thiolate-protected gold nanoparticles by mass spectrometry. Analyst, The, 2010, 135, 868.	1.7	90
85	Tiopronin Gold Nanoparticle Precursor Forms Aurophilic Ring Tetramer. Inorganic Chemistry, 2010, 49, 10858-10866.	1.9	46
86	Surface Fragmentation of Complexes from Thiolate Protected Gold Nanoparticles by Ion Mobility-Mass Spectrometry. Analytical Chemistry, 2010, 82, 3061-3066.	3.2	53
87	Neuron specific metabolic adaptations following multi-day exposures to oxygen glucose deprivation. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2010, 1802, 1095-1104.	1.8	30
88	Unexpected Toxicity of Monolayer Protected Gold Clusters Eliminated by PEG-Thiol Place Exchange Reactions. Chemical Research in Toxicology, 2010, 23, 1608-1616.	1.7	58
89	A Structural Mass Spectrometry Strategy for the Relative Quantitation of Ligands on Mixed Monolayer-Protected Gold Nanoparticles. Analytical Chemistry, 2010, 82, 9268-9274.	3.2	37
90	Metabolic Discrimination of Select List Agents by Monitoring Cellular Responses in a Multianalyte Microphysiometer. Sensors, 2009, 9, 2117-2133.	2.1	43

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91	The Role of Transforming Growth Factor-Î²â€“Mediated Tumor-Stroma Interactions in Prostate Cancer Progression: An Integrative Approach. Cancer Research, 2009, 69, 7111-7120.	0.4	61
92	Nanoparticleâ€based biologic mimetics. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2009, 1, 47-59.	3.3	21
93	A multiwalled carbon nanotube/dihydropyran composite film electrode for insulin detection in a microphysiometer chamber. Analytica Chimica Acta, 2008, 609, 44-52.	2.6	57
94	Glucose and Lactate Biosensors for Scanning Electrochemical Microscopy Imaging of Single Live Cells. Analytical Chemistry, 2008, 80, 2717-2727.	3.2	86
95	Functionalized Nanoporous Gold Leaf Electrode Films for the Immobilization of Photosystem I. ACS Nano, 2008, 2, 2465-2472.	7.3	173
96	Rapid Assembly of Photosystem I Monolayers on Gold Electrodes. Langmuir, 2008, 24, 8409-8412.	1.6	98
97	Electrochemical Impedance Spectroscopy of Synthetic Pyrite Doped with As, Co, and Ni. Journal of the Electrochemical Society, 2008, 155, P61.	1.3	20
98	Design and synthesis of an antigenic mimic of the Ebola glycoprotein. Journal of Materials Research, 2008, 23, 3161-3168.	1.2	5
99	Output analysis of materials inkjet printer. Applied Physics Letters, 2007, 91, 113114.	1.5	13
100	The effect of As, Co, and Ni impurities on pyrite oxidation kinetics: An electrochemical study of synthetic pyrite. Geochimica Et Cosmochimica Acta, 2007, 71, 2491-2509.	1.6	75
101	Chemical and Electrochemical Oxidation of C8-Arylamine Adducts of 2â€˜-Deoxyguanosine. Journal of the American Chemical Society, 2007, 129, 2074-2081.	6.6	23
102	Electrospray Mass Spectrometry Study of Tiopronin Monolayer-Protected Gold Nanoclusters. Journal of the American Chemical Society, 2007, 129, 1095-1104.	6.6	69
103	Mercury-Free Analysis of Lead in Drinking Water by Anodic Stripping Square Wave Voltammetry. Journal of Chemical Education, 2007, 84, 312.	1.1	4
104	Electrochemistry and photoelectrochemistry of photosystem I adsorbed on hydroxyl-terminated monolayers. Journal of Electroanalytical Chemistry, 2007, 599, 72-78.	1.9	70
105	Imaging of voltage-gated alamethicin pores in a reconstituted bilayer lipid membrane via scanning electrochemical microscopy. Analyst, The, 2006, 131, 311-316.	1.7	22
106	Scanning Electrochemical Microscopy Determination of Organic Soluble MPC Electron-Transfer Rates. Langmuir, 2006, 22, 10307-10314.	1.6	25
107	Entrapment of Photosystem I within Self-Assembled Films. Langmuir, 2006, 22, 8114-8120.	1.6	48
108	Multianalyte microphysiometry as a tool in metabolomics and systems biology. Journal of Electroanalytical Chemistry, 2006, 587, 333-339.	1.9	63

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109	Detection of Ebola virus envelope using monoclonal and polyclonal antibodies in ELISA, surface plasmon resonance and a quartz crystal microbalance immunosensor. Journal of Virological Methods, 2006, 137, 219-228.	1.0	52
110	Epitope Mapping of the Protective Antigen ofB. Anthracis by Using Nanoclusters Presenting Conformational Peptide Epitopes. Angewandte Chemie - International Edition, 2006, 45, 594-598.	7.2	22
111	Quartz Crystal Microbalance Detection of Glutathione-Protected Nanoclusters Using Antibody Recognition. Analytical Chemistry, 2005, 77, 304-310.	3.2	73
112	Photosystem I Patterning Imaged by Scanning Electrochemical Microscopy. Langmuir, 2005, 21, 692-698.	1.6	40
113	Real-Time Cell Dynamics With a Multianalyte Physiometer. , 2005, 303, 209-223.		11
114	Continuous Free-Flow Electrophoresis of Water-Soluble Monolayer-Protected Clusters. Analytical Chemistry, 2005, 77, 4348-4353.	3.2	27
115	Hemagglutinin Linear Epitope Presentation on Monolayer-Protected Clusters Elicits Strong Antibody Binding. Biomacromolecules, 2005, 6, 3419-3424.	2.6	25
116	NanoLiterBioReactor: Monitoring of Long-Term Mammalian Cell Physiology at Nanofabricated Scale. Materials Research Society Symposia Proceedings, 2004, 823, W9.5.1/O5.5.1.	0.1	0
117	NanoLiterBioReactor: Monitoring of Long-Term Mammalian Cell Physiology at Nanofabricated Scale. Materials Research Society Symposia Proceedings, 2004, 820, 126.	0.1	0
118	NanoLiterBioReactor: Long-Term Mammalian Cell Culture at Nanofabricated Scale. Biomedical Microdevices, 2004, 6, 325-339.	1.4	90
119	Synthesis and Catalytic Properties of Soluble Platinum Nanoparticles Protected by a Thiol Monolayer. Langmuir, 2004, 20, 6012-6018.	1.6	114
120	Effect of Surface Composition on the Adsorption of Photosystem I onto Alkanethiolate Self-Assembled Monolayers on Gold. Langmuir, 2004, 20, 4033-4038.	1.6	65
121	A Microphysiometer for Simultaneous Measurement of Changes in Extracellular Glucose, Lactate, Oxygen, and Acidification Rate. Analytical Chemistry, 2004, 76, 519-527.	3.2	99
122	Modification of the Cytosensorâ„¢ microphysiometer to simultaneously measure extracellular acidification and oxygen consumption rates. Analytica Chimica Acta, 2003, 496, 93-101.	2.6	50
123	A Ptâ^'Ru/Graphitic Carbon Nanofiber Nanocomposite Exhibiting High Relative Performance as a Direct-Methanol Fuel Cell Anode Catalyst. Journal of Physical Chemistry B, 2001, 105, 8097-8101.	1.2	351
124	Mercaptoammonium-Monolayer-Protected, Water-Soluble Gold, Silver, and Palladium Clusters. Langmuir, 2000, 16, 9699-9702.	1.6	169
125	Electronic Conductivity of Solid-State, Mixed-Valent, Monolayer-Protected Au Clusters. Journal of the American Chemical Society, 2000, 122, 11465-11472.	6.6	283
126	Redox and Fluorophore Functionalization of Water-Soluble, Tiopronin-Protected Gold Clusters. Journal of the American Chemical Society, 1999, 121, 7081-7089.	6.6	289

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127	Electrochemistry oftert-Butylcalix[8]areneâ^'C60Films Using a Scanning Electrochemical Microscopeâ^'Quartz Crystal Microbalance. Analytical Chemistry, 1998, 70, 4146-4151.	3.2	45
128	Scanning Electrochemical Microscopy. 36. A Combined Scanning Electrochemical Microscopeâ^'Quartz Crystal Microbalance Instrument for Studying Thin Films. Analytical Chemistry, 1998, 70, 1993-1998.	3.2	37
129	Scanning Electrochemical Microscopy. 37. Light Emission by Electrogenerated Chemiluminescence at SECM Tips and Their Application to Scanning Optical Microscopy. Analytical Chemistry, 1998, 70, 2941-2948.	3.2	91
130	Electrochemistry of fullerene films. Thin Solid Films, 1995, 257, 166-184.	0.8	155
131	Electrochemical Studies of the Protonation of C60- and C602-. The Journal of Physical Chemistry, 1994, 98, 8140-8143.	2.9	74