David E Cliffel

List of Publications by Year in descending order

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131 papers

6,440 citations

43 h-index 77 g-index

137 all docs

137 docs citations

137 times ranked

7852 citing authors

#	Article	IF	CITATIONS
1	Electrochemical Sensors and Biosensors. Analytical Chemistry, 2012, 84, 685-707.	6.5	752
2	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.	2.6	351
3	Redox and Fluorophore Functionalization of Water-Soluble, Tiopronin-Protected Gold Clusters. Journal of the American Chemical Society, 1999, 121, 7081-7089.	13.7	289
4	Electronic Conductivity of Solid-State, Mixed-Valent, Monolayer-Protected Au Clusters. Journal of the American Chemical Society, 2000, 122, 11465-11472.	13.7	283
5	Functionalized Nanoporous Gold Leaf Electrode Films for the Immobilization of Photosystem I. ACS Nano, 2008, 2, 2465-2472.	14.6	173
6	Mercaptoammonium-Monolayer-Protected, Water-Soluble Gold, Silver, and Palladium Clusters. Langmuir, 2000, 16, 9699-9702.	3 . 5	169
7	In vivo toxicity, biodistribution, and clearance of glutathione-coated gold nanoparticles. Nanomedicine: Nanotechnology, Biology, and Medicine, 2013, 9, 257-263.	3 . 3	165
8	Electrochemistry of fullerene films. Thin Solid Films, 1995, 257, 166-184.	1.8	155
9	Engineering Challenges for Instrumenting and Controlling Integrated Organ-on-Chip Systems. IEEE Transactions on Biomedical Engineering, 2013, 60, 682-690.	4.2	155
10	Ag44(SR)304â^: a silver–thiolate superatom complex. Nanoscale, 2012, 4, 4269.	5 . 6	154
11	Enhanced Photocurrent Production by Photosystem I Multilayer Assemblies. Advanced Functional Materials, 2010, 20, 4048-4054.	14.9	126
12	Photosystem I – Based biohybrid photoelectrochemical cells. Bioresource Technology, 2010, 101, 3047-3053.	9.6	120
13	Synthesis and Catalytic Properties of Soluble Platinum Nanoparticles Protected by a Thiol Monolayer. Langmuir, 2004, 20, 6012-6018.	3.5	114
14	Short-Chain PEG Mixed Monolayer Protected Gold Clusters Increase Clearance and Red Blood Cell Counts. ACS Nano, 2011, 5, 3577-3584.	14.6	104
15	Enhanced Photocurrents of Photosystem I Films on pâ€Doped Silicon. Advanced Materials, 2012, 24, 5959-5962.	21.0	102
16	A Microphysiometer for Simultaneous Measurement of Changes in Extracellular Glucose, Lactate, Oxygen, and Acidification Rate. Analytical Chemistry, 2004, 76, 519-527.	6.5	99
17	Rapid Assembly of Photosystem I Monolayers on Gold Electrodes. Langmuir, 2008, 24, 8409-8412.	3.5	98
18	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.	6.5	91

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19	NanoLiterBioReactor: Long-Term Mammalian Cell Culture at Nanofabricated Scale. Biomedical Microdevices, 2004, 6, 325-339.	2.8	90
20	Characterization of thiolate-protected gold nanoparticles by mass spectrometry. Analyst, The, 2010, 135, 868.	3. 5	90
21	Glucose and Lactate Biosensors for Scanning Electrochemical Microscopy Imaging of Single Live Cells. Analytical Chemistry, 2008, 80, 2717-2727.	6.5	86
22	Photosystem I-polyaniline/TiO ₂ solid-state solar cells: simple devices for biohybrid solar energy conversion. Energy and Environmental Science, 2015, 8, 3572-3576.	30.8	85
23	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.	3.9	75
24	Electrochemical Studies of the Protonation of C60- and C602 The Journal of Physical Chemistry, 1994, 98, 8140-8143.	2.9	74
25	Nanoscale Phase Segregation of Mixed Thiolates on Gold Nanoparticles. Angewandte Chemie - International Edition, 2011, 50, 10554-10559.	13.8	74
26	Photosystem I on Graphene as a Highly Transparent, Photoactive Electrode. Langmuir, 2013, 29, 4177-4180.	3.5	74
27	Quartz Crystal Microbalance Detection of Glutathione-Protected Nanoclusters Using Antibody Recognition. Analytical Chemistry, 2005, 77, 304-310.	6.5	7 3
28	Electrochemistry and photoelectrochemistry of photosystem I adsorbed on hydroxyl-terminated monolayers. Journal of Electroanalytical Chemistry, 2007, 599, 72-78.	3.8	70
29	Electrospray Mass Spectrometry Study of Tiopronin Monolayer-Protected Gold Nanoclusters. Journal of the American Chemical Society, 2007, 129, 1095-1104.	13.7	69
30	Effect of Surface Composition on the Adsorption of Photosystem I onto Alkanethiolate Self-Assembled Monolayers on Gold. Langmuir, 2004, 20, 4033-4038.	3.5	65
31	Multianalyte microphysiometry as a tool in metabolomics and systems biology. Journal of Electroanalytical Chemistry, 2006, 587, 333-339.	3.8	63
32	The Role of Transforming Growth Factor-β–Mediated Tumor-Stroma Interactions in Prostate Cancer Progression: An Integrative Approach. Cancer Research, 2009, 69, 7111-7120.	0.9	61
33	Photosystem I Protein Films at Electrode Surfaces for Solar Energy Conversion. Langmuir, 2014, 30, 10990-11001.	3.5	59
34	Unexpected Toxicity of Monolayer Protected Gold Clusters Eliminated by PEG-Thiol Place Exchange Reactions. Chemical Research in Toxicology, 2010, 23, 1608-1616.	3.3	58
35	A multiwalled carbon nanotube/dihydropyran composite film electrode for insulin detection in a microphysiometer chamber. Analytica Chimica Acta, 2008, 609, 44-52.	5.4	57
36	Neurovascular unit on a chip: implications for translational applications. Stem Cell Research and Therapy, 2013, 4, S18.	5 . 5	56

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37	Surface Fragmentation of Complexes from Thiolate Protected Gold Nanoparticles by Ion Mobility-Mass Spectrometry. Analytical Chemistry, 2010, 82, 3061-3066.	6.5	53
38	Electrochemical Preparation of Photosystem l–Polyaniline Composite Films for Biohybrid Solar Energy Conversion. ACS Applied Materials & Samp; Interfaces, 2015, 7, 9328-9335.	8.0	53
39	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.	2.1	52
40	Modification of the Cytosensorâ,,¢ microphysiometer to simultaneously measure extracellular acidification and oxygen consumption rates. Analytica Chimica Acta, 2003, 496, 93-101.	5.4	50
41	Entrapment of Photosystem I within Self-Assembled Films. Langmuir, 2006, 22, 8114-8120.	3.5	48
42	Tiopronin Gold Nanoparticle Precursor Forms Aurophilic Ring Tetramer. Inorganic Chemistry, 2010, 49, 10858-10866.	4.0	46
43	Electrochemistry oftert-Butylcalix[8]areneâ^'C60Films Using a Scanning Electrochemical Microscopeâ^'Quartz Crystal Microbalance. Analytical Chemistry, 1998, 70, 4146-4151.	6.5	45
44	Metabolic Discrimination of Select List Agents by Monitoring Cellular Responses in a Multianalyte Microphysiometer. Sensors, 2009, 9, 2117-2133.	3.8	43
45	Photoactive Films of Photosystem I on Transparent Reduced Graphene Oxide Electrodes. Langmuir, 2014, 30, 8990-8994.	3.5	41
46	Photosystem I Patterning Imaged by Scanning Electrochemical Microscopy. Langmuir, 2005, 21, 692-698.	3.5	40
47	IL4 receptor α mediates enhanced glucose and glutamine metabolism to support breast cancer growth. Biochimica Et Biophysica Acta - Molecular Cell Research, 2015, 1853, 1219-1228.	4.1	38
48	Scanning Electrochemical Microscopy. 36. A Combined Scanning Electrochemical Microscopeâ^'Quartz Crystal Microbalance Instrument for Studying Thin Films. Analytical Chemistry, 1998, 70, 1993-1998.	6.5	37
49	A Structural Mass Spectrometry Strategy for the Relative Quantitation of Ligands on Mixed Monolayer-Protected Gold Nanoparticles. Analytical Chemistry, 2010, 82, 9268-9274.	6.5	37
50	Surface Adsorption and Electrochemical Reduction of 2,4,6-Trinitrotoluene on Vanadium Dioxide. Analytical Chemistry, 2015, 87, 334-337.	6.5	37
51	Integration of Photosystem I with Graphene Oxide for Photocurrent Enhancement. Advanced Energy Materials, 2014, 4, 1301953.	19.5	34
52	Neuron specific metabolic adaptations following multi-day exposures to oxygen glucose deprivation. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2010, 1802, 1095-1104.	3.8	30
53	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.	2.5	29
54	Mediated approaches to Photosystem I-based biophotovoltaics. Current Opinion in Electrochemistry, 2017, 5, 211-217.	4.8	29

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55	Effect of Redox Mediator on the Photo-Induced Current of a Photosystem I Modified Electrode. Journal of the Electrochemical Society, 2013, 160, H315-H320.	2.9	28
56	Improving the stability of photosystem l–based bioelectrodes for solar energy conversion. Current Opinion in Electrochemistry, 2020, 19, 27-34.	4.8	28
57	Continuous Free-Flow Electrophoresis of Water-Soluble Monolayer-Protected Clusters. Analytical Chemistry, 2005, 77, 4348-4353.	6. 5	27
58	Photoreduction of Catalytic Platinum Particles Using Immobilized Multilayers of Photosystem I. Langmuir, 2012, 28, 7952-7956.	3 . 5	27
59	Photosystem I in Langmuir–Blodgett and Langmuir–Schaefer Monolayers. Langmuir, 2012, 28, 15080-15086.	3 . 5	26
60	Real-Time Monitoring of Cellular Bioenergetics with a Multianalyte Screen-Printed Electrode. Analytical Chemistry, 2015, 87, 7857-7864.	6.5	26
61	Hemagglutinin Linear Epitope Presentation on Monolayer-Protected Clusters Elicits Strong Antibody Binding. Biomacromolecules, 2005, 6, 3419-3424.	5.4	25
62	Scanning Electrochemical Microscopy Determination of Organic Soluble MPC Electron-Transfer Rates. Langmuir, 2006, 22, 10307-10314.	3 . 5	25
63	Chemical and Electrochemical Oxidation of C8-Arylamine Adducts of 2â€~-Deoxyguanosine. Journal of the American Chemical Society, 2007, 129, 2074-2081.	13.7	23
64	Real-time recognition of Mycobacterium tuberculosis and lipoarabinomannan using the quartz crystal microbalance. Sensors and Actuators B: Chemical, 2012, 174, 245-252.	7.8	23
65	Metabolic Impact of 4-Hydroxynonenal on Macrophage-Like RAW 264.7 Function and Activation. Chemical Research in Toxicology, 2012, 25, 1643-1651.	3.3	23
66	Organs-on-Chips as Bridges for Predictive Toxicology. Applied in Vitro Toxicology, 2016, 2, 97-102.	1.1	23
67	Imaging of voltage-gated alamethicin pores in a reconstituted bilayer lipid membrane via scanning electrochemical microscopy. Analyst, The, 2006, 131, 311-316.	3.5	22
68	Epitope Mapping of the Protective Antigen of B. Anthracis by Using Nanoclusters Presenting Conformational Peptide Epitopes. Angewandte Chemie - International Edition, 2006, 45, 594-598.	13.8	22
69	Biomimetic monolayer-protected gold nanoparticles for immunorecognition. Nanoscale, 2012, 4, 3843.	5.6	22
70	Photosystem I Multilayers within Porous Indium Tin Oxide Cathodes Enhance Mediated Electron Transfer. ChemElectroChem, 2020, 7, 596-603.	3.4	22
71	Instrumenting a Fetal Membrane on a Chip as Emerging Technology for Preterm Birth Research. Current Pharmaceutical Design, 2018, 23, 6115-6124.	1.9	22
72	Nanoparticleâ€based biologic mimetics. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2009, 1, 47-59.	6.1	21

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73	The Effects of Cholera Toxin on Cellular Energy Metabolism. Toxins, 2010, 2, 632-648.	3.4	21
74	An Electrochemical Reaction-Diffusion Model of the Photocatalytic Effect of Photosystem I Multilayer Films. Journal of Physical Chemistry B, 2018, 122, 117-125.	2.6	21
75	Electrochemical Impedance Spectroscopy of Synthetic Pyrite Doped with As, Co, and Ni. Journal of the Electrochemical Society, 2008, 155, P61.	2.9	20
76	Construction of a Semiconductor–Biological Interface for Solar Energy Conversion: p-Doped Silicon/Photosystem I/Zinc Oxide. Langmuir, 2015, 31, 10002-10007.	3.5	20
77	Polyviologen as Electron Transport Material in Photosystem I-Based Biophotovoltaic Cells. Langmuir, 2018, 34, 15658-15664.	3.5	20
78	Reversing the Thermodynamics of Galvanic Replacement Reactions by Decreasing the Size of Gold Nanoparticles. Journal of the American Chemical Society, 2020, 142, 19268-19277.	13.7	20
79	Metabolic Multianalyte Microphysiometry Reveals Extracellular Acidosis is an Essential Mediator of Neuronal Preconditioning. ACS Chemical Neuroscience, 2012, 3, 510-518.	3.5	18
80	Room-Temperature Reactions for Self-Cleaning Molecular Nanosensors. Nano Letters, 2013, 13, 798-802.	9.1	18
81	Modeling the measurements of cellular fluxes in microbioreactor devices using thin enzyme electrodes. Journal of Mathematical Chemistry, 2011, 49, 251-275.	1.5	17
82	Multifunctional nanoparticles as simulants for a gravimetric immunoassay. Analytical and Bioanalytical Chemistry, 2011, 399, 1021-1029.	3.7	15
83	A printed superoxide dismutase coated electrode for the study of macrophage oxidative burst. Biosensors and Bioelectronics, 2012, 33, 128-133.	10.1	15
84	Multichamber multipotentiostat system for cellular microphysiometry. Sensors and Actuators B: Chemical, 2014, 204, 536-543.	7.8	15
85	Effect of Cross-linking on the Performance and Stability of Photocatalytic Photosystem I Films. Electrochimica Acta, 2016, 222, 926-932.	5.2	15
86	Photosystem I Multilayer Films for Photovoltage Enhancement in Natural Dye-Sensitized Solar Cells. ACS Applied Energy Materials, 2018, 1, 301-305.	5.1	15
87	Output analysis of materials inkjet printer. Applied Physics Letters, 2007, 91, 113114.	3.3	13
88	Photosystem I Enhances the Efficiency of a Natural, Gel-Based Dye-Sensitized Solar Cell. ACS Applied Bio Materials, 2020, 3, 4465-4473.	4.6	13
89	Layer-by-Layer Assembly of Photosystem I and PEDOT:PSS Biohybrid Films for Photocurrent Generation. Langmuir, 2021, 37, 10481-10489.	3.5	13
90	lonization-Enhanced Decomposition of 2,4,6-Trinitrotoluene (TNT) Molecules. Journal of Physical Chemistry A, 2011, 115, 8142-8146.	2.5	12

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91	Multianalyte Microphysiometry Reveals Changes in Cellular Bioenergetics Upon Exposure to Fluorescent Dyes. Analytical Chemistry, 2013, 85, 11677-11680.	6.5	12
92	Fibrotic Encapsulation Is the Dominant Source of Continuous Glucose Monitor Delays. Diabetes, 2019, 68, 1892-1901.	0.6	12
93	Real-Time Cell Dynamics With a Multianalyte Physiometer. , 2005, 303, 209-223.		11
94	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.	2.1	10
95	Multianalyte Microphysiometry of Macrophage Responses to Phorbol Myristate Acetate, Lipopolysaccharide, and Lipoarabinomannan. Electroanalysis, 2013, 25, 1706-1712.	2.9	10
96	Analysis of a Nitroreductase-Based Hypoxia Sensor in Primary Neuronal Cultures. ACS Chemical Neuroscience, 2016, 7, 1188-1191.	3.5	10
97	Electrochemical Microphysiometry Detects Cellular Glutamate Uptake. Journal of the Electrochemical Society, 2018, 165, G3120-G3124.	2.9	10
98	Optical and electrochemical tuning of hydrothermally synthesized nitrogen-doped carbon dots. Nanoscale Advances, 2020, 2, 3375-3383.	4.6	8
99	Chlorpyrifos Disrupts Acetylcholine Metabolism Across Model Blood-Brain Barrier. Frontiers in Bioengineering and Biotechnology, 2021, 9, 622175.	4.1	7
100	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.	7.8	7
101	Scanning Electrochemical Microscopy of Individual Pancreatic Islets. Journal of the Electrochemical Society, 2016, 163, H3077-H3082.	2.9	6
102	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.	4.8	6
103	Design and synthesis of an antigenic mimic of the Ebola glycoprotein. Journal of Materials Research, 2008, 23, 3161-3168.	2.6	5
104	In Vivo Testing for Gold Nanoparticle Toxicity. Methods in Molecular Biology, 2013, 1026, 175-186.	0.9	5
105	Prostaglandin E ₂ Regulation of Macrophage Innate Immunity. Chemical Research in Toxicology, 2016, 29, 19-25.	3.3	5
106	Mercury-Free Analysis of Lead in Drinking Water by Anodic Stripping Square Wave Voltammetry. Journal of Chemical Education, 2007, 84, 312.	2.3	4
107	Pueraria lobata (Kudzu) Photosystem I Improves the Photoelectrochemical Performance of Silicon. Industrial Biotechnology, 2013, 9, 37-41.	0.8	4
108	Effect of Ligand Charge on Electron-Transfer Rates of Water-Soluble Gold Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 11296-11300.	3.1	4

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109	Prefaceâ€"Semiconductor Electrochemistry and Photoelectrochemistry in Honor of Krishnan Rajeshwar. Journal of the Electrochemical Society, 2019, 166, Y5-Y6.	2.9	4
110	A Low-Interference, High-Resolution Multianalyte Electrochemical Biosensor. Analytical Methods, 2020, 12, 3873-3882.	2.7	4
111	Carbonâ€supported AuPt and AuPd bimetallic nanocomposites as formic acid electrooxidation catalysts. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2903-2909.	1.8	3
112	Multianalyte Physiological Microanalytical Devices. Annual Review of Analytical Chemistry, 2017, 10, 93-111.	5.4	3
113	Small gold nanoparticles presenting linear and looped Cilengitide analogues as radiosensitizers of cells expressing $\hat{l}\pm\hat{l}^4\!/2\hat{l}^2$ 3 integrin. Journal of Nanoparticle Research, 2017, 19, 1.	1.9	3
114	Electrochemical Monitoring of Cellular Metabolism. , 2014, , 522-528.		2
115	Communicationâ€"Microfluidic Electrochemical Acetylcholine Detection in the Presence of Chlorpyrifos. Journal of the Electrochemical Society, 2019, 166, G178-G181.	2.9	2
116	Photosystem I Multilayers within Porous Indium Tin Oxide Cathodes Enhance Mediated Electron Transfer. ChemElectroChem, 2020, 7, 585-585.	3.4	1
117	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
118	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
119	NanoLiterBioReactor: Monitoring of Long-Term Mammalian Cell Physiology at Nanofabricated Scale. Materials Research Society Symposia Proceedings, 2004, 820, 126.	0.1	0
120	(Invited) Eight Channel Microphysiometry Using a Lab on a Chip Microclinical Analyzer. ECS Meeting Abstracts, 2021, MA2021-01, 1388-1388.	0.0	0
121	Photosystem I-Modified Multi-Walled Carbon Nanotube Anodes for Enhanced Solar Energy Conversion. ECS Meeting Abstracts, 2019, , .	0.0	0
122	High-Resolution Multianalyte Biosensor Array for Analysis of Model Organ Systems. ECS Meeting Abstracts, 2019, , .	0.0	0
123	Graduate Electrochemistry Course Projects. ECS Meeting Abstracts, 2019, , .	0.0	0
124	Multilayer Photosystem I Films within Porous Indium Tin Oxide Cathodes for Enhanced Photocurrent Generation. ECS Meeting Abstracts, 2019, , .	0.0	0
125	Synthesis and Characterization of Osmium Redox Polymer Mediators for Type II Biosensors. ECS Meeting Abstracts, 2019, , .	0.0	0
126	(Invited) Eight Channel Microphysiometry Using a Lab on a Chip Microclinical Analyzer. ECS Meeting Abstracts, 2020, MA2020-01, 1992-1992.	0.0	0

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127	Electron Transfer at Photosystem I - Electrode Interfaces: Porous & Translucent Indium Tin Oxide Cathodes. ECS Meeting Abstracts, 2020, MA2020-01, 2526-2526.	0.0	o
128	Organotypic Neurovascular Unit and Electrochemical Platform for Predictive Toxicology. ECS Meeting Abstracts, 2019, MA2019-02, 2423-2423.	0.0	0
129	Effects of Chlorpyrifos Exposure on Acetylcholine Metabolism across a Model Blood-Brain Barrier. ECS Meeting Abstracts, 2019, MA2019-02, 2426-2426.	0.0	0
130	Trace Oxygen Affects Osmium Redox Polymer Synthesis for Wired Enzymatic Biosensors. Journal of the Electrochemical Society, 2022, 169, 016506.	2.9	0
131	(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