Assocâ€Prof Leyla Soleymani

List of Publications by Year
in descending order

85 papers	3,425 citations	172207 29 h-index	155451 55 g-index
93 all docs	93 docs citations	93 times ranked	3812 citing authors

#	Article	IF	Citations
1	Programming the detection limits of biosensors through controlled nanostructuring. Nature Nanotechnology, 2009, 4, 844-848.	15.6	370
2	Liquid-Infused Surfaces: A Review of Theory, Design, and Applications. ACS Nano, 2019, 13, 8517-8536.	7.3	272
3	Antimicrobial Nanomaterials and Coatings: Current Mechanisms and Future Perspectives to Control the Spread of Viruses Including SARS-CoV-2. ACS Nano, 2020, 14, 12341-12369.	7.3	268
4	Direct, Electronic MicroRNA Detection for the Rapid Determination of Differential Expression Profiles. Angewandte Chemie - International Edition, 2009, 48, 8461-8464.	7.2	135
5	Hierarchical Nanotextured Microelectrodes Overcome the Molecular Transport Barrier To Achieve Rapid, Direct Bacterial Detection. ACS Nano, 2011, 5, 3360-3366.	7.3	116
6	Mechanistic Challenges and Advantages of Biosensor Miniaturization into the Nanoscale. ACS Sensors, 2017, 2, 458-467.	4.0	110
7	16-Channel CMOS Impedance Spectroscopy DNA Analyzer With Dual-Slope Multiplying ADCs. IEEE Transactions on Biomedical Circuits and Systems, 2012, 6, 468-478.	2.7	107
8	In Situ Liquid Cell TEM Study of Morphological Evolution and Degradation of Ptâ€“Fe Nanocatalysts During Potential Cycling. Journal of Physical Chemistry C, 2014, 118, 22111-22119.	1.5	103
9	Highâ€Affinity Dimeric Aptamers Enable the Rapid Electrochemical Detection of Wildâ€Type and B.1.1.7 SARSâ€CoVâ€2 in Unprocessed Saliva. Angewandte Chemie - International Edition, 2021, 60, 24266-24274.	7.2	101
10	Nanostructuring of Patterned Microelectrodes To Enhance the Sensitivity of Electrochemical Nucleic Acids Detection. Angewandte Chemie - International Edition, 2009, 48, 8457-8460.	7.2	90
11	A Smartphone Operated Electrochemical Reader and Actuator that Streamlines the Operation of Electrochemical Biosensors. , 2022, 1, 014601.		88
12	Direct Profiling of Cancer Biomarkers in Tumor Tissue Using a Multiplexed Nanostructured Microelectrode Integrated Circuit. ACS Nano, 2009, 3, 3207-3213.	7.3	82
13	Diverse high-affinity DNA aptamers for wild-type and B.1.1.7 SARS-CoV-2 spike proteins from a pre-structured DNA library. Nucleic Acids Research, 2021, 49, 7267-7279.	6.5	77
14	Benchâ€Top Fabrication of Hierarchically Structured Highâ€Surfaceâ€Area Electrodes. Advanced Functional Materials, 2013, 23, 3030-3039.	7.8	70
15	Integrating programmable DNAzymes with electrical readout for rapid and culture-free bacterial detection using a handheld platform. Nature Chemistry, 2021, 13, 895-901.	6.6	69
16	Selfâ€Assembled Functional DNA Superstructures as Highâ€Density and Versatile Recognition Elements for Printed Paper Sensors. Angewandte Chemie - International Edition, 2018, 57, 12440-12443.	7.2	58
17	Functional Nucleic Acids for Pathogenic Bacteria Detection. Accounts of Chemical Research, 2021, 54, 3540-3549.	7.6	54
18	Programmable Wrinkling of Self-Assembled Nanoparticle Films on Shape Memory Polymers. ACS Nano, 2016, 10, 8829-8836.	7.3	49

#	Article	IF	Citations
19	Enhancing the Sensitivity of Photoelectrochemical DNA Biosensing Using Plasmonic DNA Barcodes and Differential Signal Readout. Angewandte Chemie - International Edition, 2021, 60, 7316-7322.	7.2	49
20	Nanostructured CMOS Wireless Ultra-Wideband Label-Free PCR-Free DNA Analysis SoC. IEEE Journal of Solid-State Circuits, 2014, 49, 1223-1241.	3.5	46
21	Flexible Hierarchical Wraps Repel Drug-Resistant Gram-Negative and Positive Bacteria. ACS Nano, 2020, 14, 454-465.	7.3	42
22	Reviewâ€"Recent Advances in Electrochemical Detection of Prostate Specific Antigen (PSA) in Clinically-Relevant Samples. Journal of the Electrochemical Society, 2020, 167, 037551.	1.3	42
23	Affinity-Based Detection of Biomolecules Using Photo-Electrochemical Readout. Frontiers in Chemistry, 2019, 7, 617.	1.8	39
24	Prototyping of Wrinkled Nano-/Microstructured Electrodes for Electrochemical DNA Detection. Analytical Chemistry, 2014, 86, 12341-12347.	3.2	38
25	Conductive Electrochemically Active Lubricantâ€Infused Nanostructured Surfaces Attenuate Coagulation and Enable Frictionâ€Less Droplet Manipulation. Advanced Materials Interfaces, 2018, 5, 1800617.	1.9	38
26	Roadmap to the Bioanalytical Testing of COVID-19: From Sample Collection to Disease Surveillance. ACS Sensors, 2020, 5, 3328-3345.	4.0	37
27	Biomineralization of calcium phosphate revealed by in situ liquid-phase electron microscopy. Communications Chemistry, 2018, 1, .	2.0	36
28	Enhancing the Photoelectrochemical Response of DNA Biosensors Using Wrinkled Interfaces. ACS Applied Materials & Interfaces, 2018, 10, 31178-31185.	4.0	36
29	Biofunctionalization of Glassâ€•and Paperâ€Based Microfluidic Devices: A Review. Advanced Materials Interfaces, 2019, 6, 1900940.	1.9	33
30	A Universal DNA Aptamer that Recognizes Spike Proteins of Diverse SARSâ€CoVâ€2 Variants of Concern. Chemistry - A European Journal, 2022, 28, .	1.7	30
31	Method for Electrochemical Detection of Brain Derived Neurotrophic Factor (BDNF) in Plasma. Analytical Chemistry, 2018, 90, 8561-8566.	3.2	29
32	DNAzyme-Immobilizing Microgel Magnetic Beads Enable Rapid, Specific, Culture-Free, and Wash-Free Electrochemical Quantification of Bacteria in Untreated Urine. ACS Sensors, 2022, 7, 985-994.	4.0	29
33	Dynamic Bioâ€Barcode Assay Enables Electrochemical Detection of a Cancer Biomarker in Undiluted Human Plasma: A Sampleâ€Inâ€Answerâ€Out Approach. Angewandte Chemie - International Edition, 2020, 59, 22617-22622.	7.2	28
34	Rapid prototyping of all-solution-processed multi-lengthscale electrodes using polymer-induced thin film wrinkling. Scientific Reports, 2017, 7, 42543.	1.6	25
35	Solution-processed wrinkled electrodes enable the development of stretchable electrochemical biosensors. Analyst, The, 2019, 144, 172-179.	1.7	24
36	Rapidly prototyped multi-scale electrodes to minimize the voltage requirements for bacterial cell lysis. Analyst, The, 2015, 140, 1599-1608.	1.7	23

#	Article	IF	Citations
37	Liquid Cell Transmission Electron Microscopy Sheds Light on The Mechanism of Palladium Electrodeposition. Langmuir, 2019, 35, 862-869.	1.6	23
38	Nanoporous and wrinkled electrodes enhance the sensitivity of glucose biosensors. Electrochimica Acta, 2017, 242, 1-9.	2.6	22
39	Fabrication of Superamphiphobic Surfaces via Spray Coating; a Review. Advanced Materials Technologies, 2022, 7, .	3.0	22
40	Highâ€Affinity Dimeric Aptamers Enable the Rapid Electrochemical Detection of Wildâ€Type and B.1.1.7 SARSâ€CoVâ€2 in Unprocessed Saliva. Angewandte Chemie, 2021, 133, 24468-24476.	1.6	21
41	Selfâ€Assembled Functional DNA Superstructures as Highâ€Density and Versatile Recognition Elements for Printed Paper Sensors. Angewandte Chemie, 2018, 130, 12620-12623.	1.6	19
42	Integrated nanostructures for direct detection of DNA at attomolar concentrations. Applied Physics Letters, 2009, 95, .	1.5	18
43	Integrating TiO₂ Nanoparticles within a Catecholic Polymeric Network Enhances the Photoelectrochemical Response of Biosensors. Journal of Physical Chemistry C, 2019, 123, 16186-16193.	1.5	18
44	Surface modification of TiO₂ for photoelectrochemical DNA biosensors. Medical Devices & Sensors, 2020, 3, e10066.	2.7	17
45	In Liquid Observation and Quantification of Nucleation and Growth of Gold Nanostructures Using in Situ Transmission Electron Microscopy. Journal of Physical Chemistry C, 2017, 121, 7435-7441.	1.5	16
46	Surface Functionalization of Metal Oxide Semiconductors with Catechol Ligands for Enhancing Their Photoactivity. Solar Rrl, 2021, 5, 2100512.	3.1	16
47	Deposition, patterning, and utility of conductive materials for the rapid prototyping of chemical and bioanalytical devices. Analyst, The, 2016, 141, 3511-3525.	1.7	15
48	Hierarchical Structures, with Submillimeter Patterns, Micrometer Wrinkles, and Nanoscale Decorations, Suppress Biofouling and Enable Rapid Droplet Digitization. Small, 2020, 16, e2004886.	5.2	15
49	Hot hole direct photoelectrochemistry of Au NPs: Interband versus Intraband hot carriers. Electrochimica Acta, 2022, 404, 139746.	2.6	14
50	A DNA Barcodeâ€Based Aptasensor Enables Rapid Testing of Porcine Epidemic Diarrhea Viruses in Swine Saliva Using Electrochemical Readout. Angewandte Chemie - International Edition, 2022, 61, .	7.2	14
51	Rapid prototyping of microfluidic devices with integrated wrinkled gold micro-/nano textured electrodes for electrochemical analysis. Analyst, The, 2015, 140, 5781-5788.	1.7	13
52	Modulating the photoelectrochemical response of titanium dioxide (TiO2) photoelectrodes using gold (Au) nanoparticles excited at different wavelengths. Electrochimica Acta, 2021, 380, 138154.	2.6	13
53	Differential Photoelectrochemical Biosensing Using DNA Nanospacers to Modulate Electron Transfer between Metal and Semiconductor Nanoparticles. ACS Applied Materials & Interfaces, 2020, 12, 36895-36905.	4.0	12
54	Relating Redox Properties of Polyvinylamine-g-TEMPO/Laccase Hydrogel Complexes to Cellulose Oxidation. Langmuir, 2017, 33, 7854-7861.	1.6	11

#	Article	IF	Citations
55	Dynamic Bioâ€Barcode Assay Enables Electrochemical Detection of a Cancer Biomarker in Undiluted Human Plasma: A Sampleâ€Inâ€Answerâ€Out Approach. Angewandte Chemie, 2020, 132, 22806-22811.	1.6	11
56	Bottom-Up Top-Down Fabrication of Structurally and Functionally Tunable Hierarchical Palladium Materials. Journal of the Electrochemical Society, 2014, 161, D3078-D3086.	1.3	10
57	Benchtop fabrication of multi-scale micro-electromagnets for capturing magnetic particles. Applied Physics Letters, 2014, 105, 074102.	1.5	9
58	Photoelectrochemical IL-6 Immunoassay Manufactured on Multifunctional Catecholate-Modified TiO₂ Scaffolds. ACS Applied Materials & Interfaces, 2021, 13, 50851-50861.	4.0	9
59	A Universal DNA Aptamer that Recognizes Spike Proteins of Diverse SARSâ€CoVâ€2 Variants of Concern. Chemistry - A European Journal, 2022, 28, e202200524.	1.7	9
60	A New Wrinkle in Biosensors: Wrinkled electrodes could be a breakthrough for lab-on-a-chip devices. IEEE Nanotechnology Magazine, 2016, 10, 6-18.	0.9	8
61	Enhancing the Sensitivity of Photoelectrochemical DNA Biosensing Using Plasmonic DNA Barcodes and Differential Signal Readout. Angewandte Chemie, 2021, 133, 7392-7398.	1.6	8
62	Two-Step Competitive Hybridization Assay: A Method for Analyzing Cancer-Related microRNA Embedded in Extracellular Vesicles. Analytical Chemistry, 2021, 93, 15913-15921.	3.2	8
63	Producing Fluorine- and Lubricant-Free Flexible Pathogen- and Blood-Repellent Surfaces Using Polysiloxane-Based Hierarchical Structures. ACS Applied Materials & Interfaces, 2022, 14, 3864-3874.	4.0	8
64	A portable and smartphone-operated photoelectrochemical reader for point-of-care biosensing. Electrochimica Acta, 2022, 419, 140347.	2.6	8
65	Redox Properties of Polyvinylamine-g-TEMPO in Multilayer Films with Sodium Poly(styrenesulfonate). ACS Applied Materials & Interfaces, 2017, 9, 5622-5628.	4.0	7
66	The Use of Motion Analysis as Particle Biomarkers in Lensless Optofluidic Projection Imaging for Point of Care Urine Analysis. Scientific Reports, 2019, 9, 17255.	1.6	7
67	Electron energy-loss spectroscopy of surface plasmon activity in wrinkled gold structures. Journal of Chemical Physics, 2020, 153, 224703.	1.2	7
68	Electron Microscopy Imaging Applications of Room Temperature Ionic Liquids in the Biological Field: A Review. ChemBioChem, 2021, 22, 2488-2506.	1.3	7
69	Deposition and morphological evolution of nanostructured palladium during potential cycling: a liquid-cell TEM study. Chemical Communications, 2019, 55, 9204-9207.	2.2	6
70	Pathogen-Repellent Plastic Wrap with Built-In Hierarchical Structuring Prevents the Contamination of Surfaces with Coronaviruses. ACS Applied Materials & Interfaces, 2022, 14, 11068-11077.	4.0	5
71	A DNA Barcodeâ€Based Aptasensor Enables Rapid Testing of Porcine Epidemic Diarrhea Viruses in Swine Saliva Using Electrochemical Readout. Angewandte Chemie, 2022, 134, .	1.6	5
72	Rapid prototyping of a miniaturized Electrospinning setup for the production of polymer nanofibers. Journal of Applied Polymer Science, 2014, 131, .	1.3	4

#	Article	IF	Citations
73	Transparent and Highly Flexible Hierarchically Structured Polydimethylsiloxane Surfaces Suppress Bacterial Attachment and Thrombosis Under Static and Dynamic Conditions. Small, 2022, 18, e2108112.	5.2	4
74	TiO₂ Nanoparticles Co-Sensitized with Graphene Quantum Dots and Pyrocatechol Violet for Photoelectrochemical Detection of Cr(VI). Journal of the Electrochemical Society, 0, , .	1.3	4
75	Fabrication of Hemispherical and Gradient-Index ZnO Nanostructures and Their Integration into Microsystems. Journal of the Electrochemical Society, 2015, 162, D503-D508.	1.3	3
76	Enrichment of magnetic particles using temperature and magnetic field gradients induced by benchtop fabricated micro-electromagnets. Lab on A Chip, 2017, 17, 4097-4104.	3.1	3
77	Biomineralization of Hydroxyapatite Revealed by in situ Electron Microscopy. Microscopy and Microanalysis, 2016, 22, 746-747.	0.2	2
78	Inside Back Cover: A DNA Barcodeâ€Based Aptasensor Enables Rapid Testing of Porcine Epidemic Diarrhea Viruses in Swine Saliva Using Electrochemical Readout (Angew. Chem. Int. Ed. 31/2022). Angewandte Chemie - International Edition, 2022, 61, .	7.2	1
79	Parallel detection of nucleic acids using an electronic chip. , 2008, , .		0
80	A new electronic assay enables ultrasensitive detection of diverse biological analytesâ€”nucleic acids, proteins and small moleculesâ€”on a single integrated circuit. MRS Communications, 2012, 2, 151-153.	0.8	0
81	In-situ Transmission Electron Microscopy to Probe the Electrochemical Deposition of Nanostructured Materials. Microscopy and Microanalysis, 2015, 21, 797-798.	0.2	0
82	Investigating Catechol Surface Modification of TiO2 for the Development of High Performance Photoelectrochemical Biosensors. ECS Meeting Abstracts, 2020, MA2020-01, 2184-2184.	0.0	0
83	Wrinkled Film Optics: From Infrared Electromagnetic Hotspots to Plasmon- Enhanced Electrochemistry. , 2021, , .		0
84	Ionic Liquid Treatment for Efficient Sample Preparation of Hydrated Bone for Scanning Electron Microscopy. Micron, 2021, 153, 103192.	1.1	0
85	InnenrÃ¼cktitelbild: A DNA Barcodeâ€Based Aptasensor Enables Rapid Testing of Porcine Epidemic Diarrhea Viruses in Swine Saliva Using Electrochemical Readout (Angew. Chem. 31/2022). Angewandte Chemie, 2022, 134, .	1.6	0