Hadley D Sikes

List of Publications by Year
in descending order

83 papers	2,482 citations	201674 27 h-index	223800 46 g-index
88 all docs	88 docs citations	88 times ranked	2932 citing authors

#	Article	IF	Citations
1	Rapid Electron Tunneling Through Oligophenylenevinylene Bridges. Science, 2001, 291, 1519-1523.	12.6	330
2	Interfacial Electron-Transfer Kinetics of Ferrocene through Oligophenyleneethynylene Bridges Attached to Gold Electrodes as Constituents of Self-Assembled Monolayers:Â Observation of a Nonmonotonic Distance Dependence. Journal of the American Chemical Society, 2004, 126, 14620-14630.	13.7	119
3	Quantifying intracellular hydrogen peroxide perturbations in terms of concentration. Redox Biology, 2014, 2, 955-962.	9.0	114
4	Using polymeric materials to generate an amplified response to molecular recognition events. Nature Materials, 2008, 7, 52-56.	27.5	99
5	Polymerization-based signal amplification for paper-based immunoassays. Lab on A Chip, 2015, 15, 655-659.	6.0	98
6	Synthesis of Ferrocenethiols Containing Oligo(phenylenevinylene) Bridges and Their Characterization on Gold Electrodes. Journal of the American Chemical Society, 2001, 123, 8033-8038.	13.7	78
7	Assessment of colorimetric amplification methods in a paper-based immunoassay for diagnosis of malaria. Lab on A Chip, 2016, 16, 1374-1382.	6.0	76
8	Analysis of the lifetime and spatial localization of hydrogen peroxide generated in the cytosol using a reduced kinetic model. Free Radical Biology and Medicine, 2015, 89, 47-53.	2.9	62
9	Kinetics of Self-Assembled Monolayer Growth Explored via Submonolayer Coverage of Incomplete Films. Journal of Physical Chemistry B, 1997, 101, 7535-7541.	2.6	60
10	Visual Detection of Labeled Oligonucleotides Using Visible-Light-Polymerization-Based Amplification. Biomacromolecules, 2008, 9, 355-362.	5.4	58
11	Two-Dimensional Melting of an Anisotropic Crystal Observed at the Molecular Level. Science, 1997, 278, 1604-1607.	12.6	54
12	Using photo-initiated polymerization reactions to detect molecular recognition. Chemical Society Reviews, 2016, 45, 532-545.	38.1	49
13	Addressing Barriers to the Development and Adoption of Rapid Diagnostic Tests in Global Health. Nanobiomedicine, 2015, 2, 6.	5.7	48
14	A reaction-diffusion model of cytosolic hydrogen peroxide. Free Radical Biology and Medicine, 2016, 90, 85-90.	2.9	48
15	Radical polymerization reactions for amplified biodetection signals. Polymer Chemistry, 2020, 11, 1424-1444.	3.9	47
16	A Temperature-Dependent Two-Dimensional Condensation Transition during Langmuirâ^'Blodgett Deposition. Langmuir, 1997, 13, 4704-4709.	3.5	45
17	Pattern Formation in a Substrate-Induced Phase Transition during Langmuirâ^'Blodgett Transfer. The Journal of Physical Chemistry, 1996, 100, 9093-9097.	2.9	44
18	Antigen detection using polymerization-based amplification. Lab on A Chip, 2009, 9, 653-656.	6.0	43

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19	Paper-based diagnostics in the antigen-depletion regime: High-density immobilization of rcSso7d-cellulose-binding domain fusion proteins for efficient target capture. Biosensors and Bioelectronics, 2018, 102, 456-463.	10.1	41
20	Monitoring the action of redox-directed cancer therapeutics using a human peroxiredoxin-2-based probe. Nature Communications, 2018, 9, 3145.	12.8	41
21	Excitation of Metastable Intermediates in Organic Photoredox Catalysis: Z-Scheme Approach Decreases Catalyst Inactivation. ACS Catalysis, 2018, 8, 6394-6400.	11.2	40
22	Vertical Flow Cellulose-Based Assays for SARS-CoV-2 Antibody Detection in Human Serum. ACS Sensors, 2021, 6, 1891-1898.	7.8	38
23	Detection of Biomarkers of Periodontal Disease in Human Saliva Using Stabilized, Vertical Flow Immunoassays. ACS Sensors, 2017, 2, 1589-1593.	7.8	37
24	Emulsion Agglutination Assay for the Detection of Proteinâ€“Protein Interactions: An Optical Sensor for Zika Virus. ACS Sensors, 2019, 4, 180-184.	7.8	36
25	Oxidative pentose phosphate pathway and glucose anaplerosis support maintenance of mitochondrial <scp>NADPH</scp> pool under mitochondrial oxidative stress. Bioengineering and Translational Medicine, 2020, 5, e10184.	7.1	35
26	Systematic Study of Fluorescein-Functionalized Macrophotoinitiators for Colorimetric Bioassays. Biomacromolecules, 2012, 13, 1136-1143.	5.4	34
27	Polymerization-based signal amplification under ambient conditions with thirty-five second reaction times. Lab on A Chip, 2012, 12, 4055.	6.0	31
28	UV-Vis/FT-NIR in situ monitoring of visible-light induced polymerization of PEGDA hydrogels initiated by eosin/triethanolamine/O₂. Polymer Chemistry, 2016, 7, 592-602.	3.9	28
29	Activity-based assessment of an engineered hyperthermophilic protein as a capture agent in paper-based diagnostic tests. Molecular Systems Design and Engineering, 2016, 1, 377-381.	3.4	27
30	Modulating and Measuring Intracellular H₂O₂ Using Genetically Encoded Tools to Study Its Toxicity to Human Cells. ACS Synthetic Biology, 2016, 5, 1389-1395.	3.8	26
31	On the role of N-vinylpyrrolidone in the aqueous radical-initiated copolymerization with PEGDA mediated by eosin Y in the presence of O₂. Polymer Chemistry, 2019, 10, 926-937.	3.9	24
32	Evaluating the sensitivity of hybridization-based epigenotyping using a methyl binding domain protein. Analyst, The, 2014, 139, 3695-3701.	3.5	23
33	A rapid simple point-of-care assay for the detection of SARS-CoV-2 neutralizing antibodies. Communications Medicine, 2021, 1, .	4.2	23
34	Polymerization-Based Amplification for Target-Specific Colorimetric Detection of Amplified Mycobacterium tuberculosis DNA on Cellulose. ACS Sensors, 2020, 5, 308-312.	7.8	22
35	Investigation of dendrimers functionalized with eosin as macrophotoinitiators for polymerization-based signal amplification reactions. RSC Advances, 2015, 5, 15652-15659.	3.6	21
36	Kinetic modeling of H2O2 dynamics in the mitochondria of HeLa cells. PLoS Computational Biology, 2020, 16, e1008202.	3.2	21

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37	Impact of Dissociation Constant on the Detection Sensitivity of Polymerization-Based Signal Amplification Reactions. Analytical Chemistry, 2013, 85, 8055-8060.	6.5	20
38	A Method for Designing Instrument-Free Quantitative Immunoassays. Analytical Chemistry, 2016, 88, 3194-3202.	6.5	20
39	Using Sensors and Generators of H₂O₂to Elucidate the Toxicity Mechanism of Piperlongumine and Phenethyl Isothiocyanate. Antioxidants and Redox Signaling, 2016, 24, 924-938.	5.4	20
40	Staged inertial microfluidic focusing for complex fluid enrichment. RSC Advances, 2015, 5, 53857-53864.	3.6	19
41	Liposome-Enhanced Polymerization-Based Signal Amplification for Highly Sensitive Naked-Eye Biodetection in Paper-Based Sensors. ACS Applied Materials & Interfaces, 2019, 11, 28469-28477.	8.0	19
42	Sensitivity and binding kinetics of an ultra-sensitive chemiluminescent enzyme-linked immunosorbent assay at arrays of antibodies. Journal of Immunological Methods, 2019, 474, 112643.	1.4	18
43	Mitochondrial H2O2 Generation Using a Tunable Chemogenetic Tool To Perturb Redox Homeostasis in Human Cells and Induce Cell Death. ACS Synthetic Biology, 2018, 7, 2037-2044.	3.8	17
44	Improved Ordering in Low Molecular Weight Proteinâ€“Polymer Conjugates Through Oligomerization of the Protein Block. Biomacromolecules, 2018, 19, 3814-3824.	5.4	17
45	Balancing the Initiation and Molecular Recognition Capabilities of Eosin Macroinitiators of Polymerizationâ€Based Signal Amplification Reactions. Macromolecular Rapid Communications, 2014, 35, 981-986.	3.9	16
46	Cellular lensing and near infrared fluorescent nanosensor arrays to enable chemical efflux cytometry. Nature Communications, 2021, 12, 3079.	12.8	16
47	A xenograft and cell line model of SDH-deficient pheochromocytoma derived from Sdhb+/â^' rats. Endocrine-Related Cancer, 2020, 27, 337-354.	3.1	16
48	Photoelectron Spectroscopy to Probe the Mechanism of Electron Transfer through Oligo(phenylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	2.6	15
49	Portable, Constrictionâ€“Expansion Blood Plasma Separation and Polymerization-Based Malaria Detection. Analytical Chemistry, 2016, 88, 7627-7632.	6.5	15
50	Beyond Epitope Binning: Directed in Vitro Selection of Complementary Pairs of Binding Proteins. ACS Combinatorial Science, 2020, 22, 49-60.	3.8	15
51	Use of a genetically encoded hydrogen peroxide sensor for whole cell screening of enzyme activity. Protein Engineering, Design and Selection, 2015, 28, 79-83.	2.1	14
52	Engineering hyperthermostable rcSso7d as reporter molecule forin vitrodiagnostic tests. Molecular Systems Design and Engineering, 2018, 3, 877-882.	3.4	14
53	A quantitative analysis of peroxy-mediated cyclic regeneration ofÂeosin under oxygen-rich photopolymerization conditions. Polymer, 2015, 69, 169-177.	3.8	13
54	Interpreting Heterogeneity in Response of Cells Expressing a Fluorescent Hydrogen Peroxide Biosensor. Biophysical Journal, 2015, 109, 2148-2158.	0.5	12

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55	Design Principles for Enhancing Sensitivity in Paper-Based Diagnostics via Large-Volume Processing. Analytical Chemistry, 2018, 90, 9472-9479.	6.5	12
56	Developing a SARS-CoV-2 Antigen Test Using Engineered Affinity Proteins. ACS Applied Materials & Interfaces, 2021, 13, 38990-39002.	8.0	12
57	In-depth characterization of the fluorescent signal of HyPer, a probe for hydrogen peroxide, in bacteria exposed to external oxidative stress. Journal of Microbiological Methods, 2014, 106, 33-39.	1.6	11
58	Insights into electron leakage in the reaction cycle of cytochrome P450 BM3 revealed by kinetic modeling and mutagenesis. Protein Science, 2015, 24, 1874-1883.	7.6	11
59	Characterization and directed evolution of a methyl-binding domain protein for high-sensitivity DNA methylation analysis. Protein Engineering, Design and Selection, 2015, 28, 543-551.	2.1	11
60	A unique model for SDH-deficient GIST: an endocrine-related cancer. Endocrine-Related Cancer, 2018, 25, 943-954.	3.1	11
61	Phenolphthalein-Conjugated Hydrogel Formation under Visible-Light Irradiation for Reducing Variability of Colorimetric Biodetection. ACS Applied Bio Materials, 2018, 1, 216-220.	4.6	11
62	Exponential Amplification Using Photoredox Autocatalysis. Journal of the American Chemical Society, 2021, 143, 11544-11553.	13.7	11
63	A mathematical analysis of Prx2-STAT3 disulfide exchange rate constants for a bimolecular reaction mechanism. Free Radical Biology and Medicine, 2018, 120, 239-245.	2.9	9
64	Engineering affinity agents for the detection of hemi-methylated CpG sites in DNA. Molecular Systems Design and Engineering, 2016, 1, 273-277.	3.4	8
65	Low-cost plug and play photochemistry reactor. HardwareX, 2018, 3, 1-9.	2.2	8
66	Functional comparison of paper-based immunoassays based on antibodies and engineered binding proteins. Analyst, The, 2020, 145, 2515-2519.	3.5	7
67	Finger stick blood test to assess postvaccination <scp>SARSâ€CoV</scp>â€2 neutralizing antibody response against variants. Bioengineering and Translational Medicine, 2022, 7, .	7.1	7
68	Development and translation of a paper-based top readout vertical flow assay for SARS-CoV-2 surveillance. Lab on A Chip, 2022, 22, 1321-1332.	6.0	7
69	Functional heterologous expression and purification of a mammalian methyl-CpG binding domain in suitable yield for DNA methylation profiling assays. Protein Expression and Purification, 2012, 82, 332-338.	1.3	4
70	Scaffolding H2O2 signaling. Nature Chemical Biology, 2017, 13, 818-819.	8.0	4
71	Functional Comparison of Bioactive Cellulose Materials Incorporating Engineered Binding Proteins. ACS Applied Bio Materials, 2021, 4, 392-398.	4.6	4
72	Screening compound libraries for H2O2-mediated cancer therapeutics using a peroxiredoxin-based sensor. Cell Chemical Biology, 2022, 29, 625-635.e3.	5.2	4

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73	The Impact of Continuous Oxygen Flux in a Thin Film Photopolymerization Reaction with Peroxyâ€Mediated Regeneration of Initiator. Macromolecular Theory and Simulations, 2016, 25, 229-237.	1.4	3
74	Using nanobiotechnology to increase the prevalence of epigenotyping assays in precision medicine. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2017, 9, e1407.	6.1	3
75	Can Fish and Cell Phones Teach Us about Our Health?. ACS Sensors, 2019, 4, 2566-2570.	7.8	2
76	Experimental validation of eosin-mediated photo-redox polymerization mechanism and implications for signal amplification applications. Polymer Chemistry, 2021, 12, 2881-2890.	3.9	2
77	An examination of critical parameters in hybridizationâ€based epigenotyping using magnetic microparticles. Biotechnology Progress, 2018, 34, 1589-1595.	2.6	1
78	Developing a cell-bound detection system for the screening of oxidase activity using the fluorescent peroxide sensor roGFP2-Orp1. Protein Engineering, Design and Selection, 2020, 33, .	2.1	1
79	Editorial overview: Analytical biotechnology. Current Opinion in Biotechnology, 2015, 31, iv-vi.	6.6	0
80	Quantification of intracellular H2O2: Methods and significance. , 2020, , 113-124.		0
81	Dual Photoredox Catalysis Strategy for Enhanced Photopolymerization-Based Colorimetric Biodetection. ACS Applied Materials & Interfaces, 2021, 13, 57962-57970.	8.0	0
82	A xenograft and cell line model of SDH-deficient pheochromocytoma derived from Sdhb+/â^' rats. Endocrine-Related Cancer, 2020, 27, X9-X10.	3.1	0
83	Generation of Thermally Stable Affinity Pairs for Sensitive, Specific Immunoassays. Methods in Molecular Biology, 2022, 2491, 417-469.	0.9	0