

# Alexis Vallée-Bélisle

## List of Publications by Year in descending order

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Version: 2024-02-01

50  
papers

4,217  
citations

101384

36  
h-index

182168

51  
g-index

54  
all docs

54  
docs citations

54  
times ranked

4746  
citing authors

#	ARTICLE	IF	CITATIONS
1	Colorimetric detection of DNA, small molecules, proteins, and ions using unmodified gold nanoparticles and conjugated polyelectrolytes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 10837-10841.	3.3	505
2	Programmable pH-Triggered DNA Nanoswitches. <i>Journal of the American Chemical Society</i> , 2014, 136, 5836-5839.	6.6	296
3	Protein folding: Defining a "standard" set of experimental conditions and a preliminary kinetic data set of two-state proteins. <i>Protein Science</i> , 2005, 14, 602-616.	3.1	207
4	Structure-switching biosensors: inspired by Nature. <i>Current Opinion in Structural Biology</i> , 2010, 20, 518-526.	2.6	163
5	A Highly Selective Electrochemical DNA-Based Sensor That Employs Steric Hindrance Effects to Detect Proteins Directly in Whole Blood. <i>Journal of the American Chemical Society</i> , 2015, 137, 15596-15599.	6.6	162
6	Thermodynamic basis for the optimization of binding-induced biomolecular switches and structure-switching biosensors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 13802-13807.	3.3	146
7	DNA biomolecular-electronic encoder and decoder devices constructed by multiplex biosensors. <i>NPG Asia Materials</i> , 2012, 4, e1-e1.	3.8	138
8	Engineering Biosensors with Extended, Narrowed, or Arbitrarily Edited Dynamic Range. <i>Journal of the American Chemical Society</i> , 2012, 134, 2876-2879.	6.6	135
9	Using Distal-Site Mutations and Allosteric Inhibition To Tune, Extend, and Narrow the Useful Dynamic Range of Aptamer-Based Sensors. <i>Journal of the American Chemical Society</i> , 2012, 134, 20601-20604.	6.6	132
10	Using Nature's "Tricks" To Rationally Tune the Binding Properties of Biomolecular Receptors. <i>Accounts of Chemical Research</i> , 2016, 49, 1884-1892.	7.6	123
11	[14] Detection of protein-protein interactions by protein fragment complementation strategies. <i>Methods in Enzymology</i> , 2000, 328, 208-230.	0.4	117
12	Label-Free, Dual-Analyte Electrochemical Biosensors: A New Class of Molecular-Electronic Logic Gates. <i>Journal of the American Chemical Society</i> , 2010, 132, 8557-8559.	6.6	117
13	Antibody-powered nucleic acid release using a DNA-based nanomachine. <i>Nature Communications</i> , 2017, 8, 15150.	5.8	108
14	Bioelectrochemical Switches for the Quantitative Detection of Antibodies Directly in Whole Blood. <i>Journal of the American Chemical Society</i> , 2012, 134, 15197-15200.	6.6	103
15	Programmable DNA switches and their applications. <i>Nanoscale</i> , 2018, 10, 4607-4641.	2.8	101
16	Allosterically Tunable, DNA-Based Switches Triggered by Heavy Metals. <i>Journal of the American Chemical Society</i> , 2013, 135, 13238-13241.	6.6	99
17	A Modular, DNA-Based Beacon for Single-Step Fluorescence Detection of Antibodies and Other Proteins. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 13214-13218.	7.2	93
18	General Strategy to Introduce pH-Induced Allostery in DNA-Based Receptors to Achieve Controlled Release of Ligands. <i>Nano Letters</i> , 2015, 15, 4467-4471.	4.5	91

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19	Using Triplex-Forming Oligonucleotide Probes for the Reagentless, Electrochemical Detection of Double-Stranded DNA. <i>Analytical Chemistry</i> , 2010, 82, 9109-9115.	3.2	87
20	On the Binding of Cationic, Water-Soluble Conjugated Polymers to DNA: Electrostatic and Hydrophobic Interactions. <i>Journal of the American Chemical Society</i> , 2010, 132, 1252-1254.	6.6	82
21	Quantification of Transcription Factor Binding in Cell Extracts Using an Electrochemical, Structure-Switching Biosensor. <i>Journal of the American Chemical Society</i> , 2012, 134, 3346-3348.	6.6	81
22	Rational Design of Allosteric Inhibitors and Activators Using the Population-Shift Model: In Vitro Validation and Application to an Artificial Biosensor. <i>Journal of the American Chemical Society</i> , 2012, 134, 15177-15180.	6.6	80
23	Re-engineering Electrochemical Biosensors To Narrow or Extend Their Useful Dynamic Range. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 6717-6721.	7.2	80
24	Transcription Factor Beacons for the Quantitative Detection of DNA Binding Activity. <i>Journal of the American Chemical Society</i> , 2011, 133, 13836-13839.	6.6	79
25	Intrinsic disorder as a generalizable strategy for the rational design of highly responsive, allosterically cooperative receptors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 15048-15053.	3.3	69
26	Programmable Quantitative DNA Nanothermometers. <i>Nano Letters</i> , 2016, 16, 3976-3981.	4.5	67
27	Thermodynamic Basis for Engineering High-Affinity, High-Specificity Binding-Induced DNA Clamp Nanoswitches. <i>ACS Nano</i> , 2013, 7, 10863-10869.	7.3	58
28	Controlling Hybridization Chain Reactions with pH. <i>Nano Letters</i> , 2015, 15, 5539-5544.	4.5	49
29	Visualizing transient protein-folding intermediates by tryptophan-scanning mutagenesis. <i>Nature Structural and Molecular Biology</i> , 2012, 19, 731-736.	3.6	48
30	Entropic and Electrostatic Effects on the Folding Free Energy of a Surface-Attached Biomolecule: An Experimental and Theoretical Study. <i>Journal of the American Chemical Society</i> , 2012, 134, 2120-2126.	6.6	47
31	Enzyme-Operated DNA-Based Nanodevices. <i>Nano Letters</i> , 2015, 15, 8407-8411.	4.5	46
32	Aptamer-based liposomes improve specific drug loading and release. <i>Journal of Controlled Release</i> , 2017, 251, 82-91.	4.8	46
33	Electrochemical DNA-Based Immunoassay That Employs Steric Hindrance To Detect Small Molecules Directly in Whole Blood. <i>ACS Sensors</i> , 2017, 2, 718-723.	4.0	45
34	High-Precision, In Vitro Validation of the Sequestration Mechanism for Generating Ultrasensitive Dose-Response Curves in Regulatory Networks. <i>PLoS Computational Biology</i> , 2011, 7, e1002171.	1.5	44
35	Employing the Metabolic "Branch Point Effect" to Generate an All-or-None, Digital-like Response in Enzymatic Outputs and Enzyme-Based Sensors. <i>Analytical Chemistry</i> , 2012, 84, 1076-1082.	3.2	41
36	Using the Population-Shift Mechanism to Rationally Introduce "Hill-type" Cooperativity into a Normally Non-cooperative Receptor. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 9471-9475.	7.2	41

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37	Biomolecular Steric Hindrance Effects Are Enhanced on Nanostructured Microelectrodes. <i>Analytical Chemistry</i> , 2017, 89, 9751-9757.	3.2	39
38	Peptide-Mediated Electrochemical Steric Hindrance Assay for One-Step Detection of HIV Antibodies. <i>Analytical Chemistry</i> , 2019, 91, 4943-4947.	3.2	35
39	Multiple Tryptophan Probes Reveal that Ubiquitin Folds via a Late Misfolded Intermediate. <i>Journal of Molecular Biology</i> , 2007, 374, 791-805.	2.0	28
40	Electrochemical plasmonic sensing system for highly selective multiplexed detection of biomolecules based on redox nanoswitches. <i>Biosensors and Bioelectronics</i> , 2015, 71, 75-81.	5.3	26
41	Determining the folding and binding free energy of DNA-based nanodevices and nanoswitches using urea titration curves. <i>Nucleic Acids Research</i> , 2017, 45, 7571-7580.	6.5	26
42	A DNA Nanodevice That Loads and Releases a Cargo with Hemoglobin-Like Allosteric Control and Cooperativity. <i>Nano Letters</i> , 2017, 17, 3225-3230.	4.5	25
43	Engineering Biosensors with Dual Programmable Dynamic Ranges. <i>Analytical Chemistry</i> , 2018, 90, 1506-1510.	3.2	19
44	Monitoring protein conformational changes using fluorescent nanoantennas. <i>Nature Methods</i> , 2022, 19, 71-80.	9.0	17
45	Steric Hindrance Assay for Secreted Factors in Stem Cell Culture. <i>ACS Sensors</i> , 2017, 2, 495-500.	4.0	14
46	Optimizing the Specificity Window of Biomolecular Receptors Using Structure-Switching and Allostery. <i>ACS Sensors</i> , 2020, 5, 1937-1942.	4.0	14
47	A comparison of the folding kinetics of a small, artificially selected DNA aptamer with those of equivalently simple naturally occurring proteins. <i>Protein Science</i> , 2014, 23, 56-66.	3.1	12
48	Electrochemical structure-switching sensing using nanoplasmonic devices. <i>Annalen Der Physik</i> , 2015, 527, 806-813.	0.9	4
49	Silver oxide model surface improves computational simulation of surface-enhanced Raman spectroscopy on silver nanoparticles. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 15480-15484.	1.3	1
50	Principles for the Rational Design of Allosterically Cooperative Biomolecular Receptors. <i>Biophysical Journal</i> , 2014, 106, 614a.	0.2	0