

# Vincent Croquette

## List of Publications by Year in descending order

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90  
papers

7,007  
citations

81743

39  
h-index

58464

82  
g-index

99  
all docs

99  
docs citations

99  
times ranked

5155  
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnetic Tweezers: Micromanipulation and Force Measurement at the Molecular Level. <i>Biophysical Journal</i> , 2002, 82, 3314-3329.	0.2	841
2	Behavior of Supercoiled DNA. <i>Biophysical Journal</i> , 1998, 74, 2016-2028.	0.2	466
3	Stretched and overwound DNA forms a Pauling-like structure with exposed bases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1998, 95, 14152-14157.	3.3	330
4	Single-molecule analysis of DNA uncoiling by a type II topoisomerase. <i>Nature</i> , 2000, 404, 901-904.	13.7	325
5	Twisting and stretching single DNA molecules. <i>Progress in Biophysics and Molecular Biology</i> , 2000, 74, 115-140.	1.4	317
6	pH-dependent specific binding and combing of DNA. <i>Biophysical Journal</i> , 1997, 73, 2064-2070.	0.2	289
7	Friction and torque govern the relaxation of DNA supercoils by eukaryotic topoisomerase IB. <i>Nature</i> , 2005, 434, 671-674.	13.7	287
8	Diaroyl(methanato)boron Difluoride Compounds as Medium-Sensitive Two-Photon Fluorescent Probes. <i>Chemistry - A European Journal</i> , 2004, 10, 1445-1455.	1.7	191
9	Single-molecule assay reveals strand switching and enhanced processivity of UvrD. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 6439-6444.	3.3	177
10	Preferential relaxation of positively supercoiled DNA by <i>E. coli</i> topoisomerase IV in single-molecule and ensemble measurements. <i>Genes and Development</i> , 2000, 14, 2881-2892.	2.7	175
11	Measurement of the Torque on a Single Stretched and Twisted DNA Using Magnetic Tweezers. <i>Physical Review Letters</i> , 2009, 102, 078301.	2.9	171
12	Structural plasticity of single chromatin fibers revealed by torsional manipulation. <i>Nature Structural and Molecular Biology</i> , 2006, 13, 444-450.	3.6	156
13	Direct Observation of DNA Distortion by the RSC Complex. <i>Molecular Cell</i> , 2006, 21, 417-425.	4.5	146
14	Wringing Out DNA. <i>Physical Review Letters</i> , 2006, 96, 178102.	2.9	144
15	Real-time observation of bacteriophage T4 gp41 helicase reveals an unwinding mechanism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 19790-19795.	3.3	139
16	The Eckhaus instability for traveling waves. <i>Physica D: Nonlinear Phenomena</i> , 1992, 55, 269-286.	1.3	130
17	Active and passive mechanisms of helicases. <i>Nucleic Acids Research</i> , 2010, 38, 5518-5526.	6.5	129
18	Cell-cell contacts confine public goods diffusion inside <i>Pseudomonas aeruginosa</i> clonal microcolonies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 12577-12582.	3.3	122

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19	Human Upf1 is a highly processive RNA helicase and translocase with RNP remodelling activities. <i>Nature Communications</i> , 2015, 6, 7581.	5.8	120
20	Supercoiling and denaturation in Gal repressor/heat unstable nucleoid protein (HU)-mediated DNA looping. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 11373-11377.	3.3	105
21	Convective pattern dynamics at low Prandtl number: Part I. <i>Contemporary Physics</i> , 1989, 30, 113-133.	0.8	101
22	Stress-Induced Structural Transitions in DNA and Proteins. <i>Annual Review of Biophysics and Biomolecular Structure</i> , 2000, 29, 523-543.	18.3	99
23	Nonadiabatic effects in convection. <i>Physical Review A</i> , 1988, 38, 5461-5464.	1.0	96
24	Stretching DNA and RNA to probe their interactions with proteins. <i>Current Opinion in Structural Biology</i> , 2003, 13, 266-274.	2.6	92
25	Structure and mechanics of single biomolecules: experiment and simulation. <i>Journal of Physics Condensed Matter</i> , 2002, 14, R383-R414.	0.7	88
26	Coupling DNA unwinding activity with primer synthesis in the bacteriophage T4 primosome. <i>Nature Chemical Biology</i> , 2009, 5, 904-912.	3.9	86
27	The Manipulation of Single Biomolecules. <i>Physics Today</i> , 2001, 54, 46-51.	0.3	81
28	Convective pattern dynamics at low Prandtl number: Part II. <i>Contemporary Physics</i> , 1989, 30, 153-171.	0.8	77
29	Direct Observation of Stalled Fork Restart via Fork Regression in the T4 Replication System. <i>Science</i> , 2012, 338, 1217-1220.	6.0	75
30	Asymmetric adhesion of rod-shaped bacteria controls microcolony morphogenesis. <i>Nature Communications</i> , 2018, 9, 1120.	5.8	69
31	Mechanism of strand displacement synthesis by DNA replicative polymerases. <i>Nucleic Acids Research</i> , 2012, 40, 6174-6186.	6.5	68
32	Twisting DNA: single molecule studies. <i>Contemporary Physics</i> , 2004, 45, 383-403.	0.8	66
33	RecG and UvsW catalyse robust DNA rewinding critical for stalled DNA replication fork rescue. <i>Nature Communications</i> , 2013, 4, 2368.	5.8	65
34	Collaborative coupling between polymerase and helicase for leading-strand synthesis. <i>Nucleic Acids Research</i> , 2012, 40, 6187-6198.	6.5	62
35	DNA mechanics as a tool to probe helicase and translocase activity. <i>Nucleic Acids Research</i> , 2006, 34, 4232-4244.	6.5	56
36	Soft magnetic tweezers: A proof of principle. <i>Review of Scientific Instruments</i> , 2011, 82, 034302.	0.6	51

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37	Single-molecule mechanical identification and sequencing. <i>Nature Methods</i> , 2012, 9, 367-372.	9.0	51
38	Nonlinear waves of the oscillatory instability on finite convective rolls. <i>Physica D: Nonlinear Phenomena</i> , 1989, 37, 300-314.	1.3	44
39	Resonant out-of-phase fluorescence microscopy and remote imaging overcome spectral limitations. <i>Nature Communications</i> , 2017, 8, 969.	5.8	41
40	Nonlinear competition between waves on convective rolls. <i>Physical Review A</i> , 1989, 39, 2765-2768.	1.0	40
41	Twisting and Untwisting a Single DNA Molecule Covered by RecA Protein. <i>Biophysical Journal</i> , 2004, 87, 2552-2563.	0.2	40
42	Dda Helicase Tightly Couples Translocation on Single-Stranded DNA to Unwinding of Duplex DNA: Dda Is an Optimally Active Helicase. <i>Journal of Molecular Biology</i> , 2012, 420, 141-154.	2.0	40
43	Single-Molecule Studies Using Magnetic Traps. <i>Cold Spring Harbor Protocols</i> , 2012, 2012, pdb.top067488.	0.2	39
44	Single molecule high-throughput footprinting of small and large DNA ligands. <i>Nature Communications</i> , 2017, 8, 304.	5.8	38
45	UPF1-like helicase grip on nucleic acids dictates processivity. <i>Nature Communications</i> , 2018, 9, 3752.	5.8	37
46	Photoswitching Kinetics and Phase-Sensitive Detection Add Discriminative Dimensions for Selective Fluorescence Imaging. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 2633-2637.	7.2	36
47	Photoswitching Kinetics and Phase-Sensitive Detection Add Discriminative Dimensions for Selective Fluorescence Imaging. <i>Angewandte Chemie</i> , 2015, 127, 2671-2675.	1.6	35
48	Magnetic Tweezers for the Study of DNA Tracking Motors. <i>Methods in Enzymology</i> , 2010, 475, 297-320.	0.4	34
49	A conserved structural element in the RNA helicase UPF1 regulates its catalytic activity in an isoform-specific manner. <i>Nucleic Acids Research</i> , 2018, 46, 2648-2659.	6.5	34
50	Single molecule kinetics uncover roles for E. coli RecQ DNA helicase domains and interaction with SSB. <i>Nucleic Acids Research</i> , 2018, 46, 8500-8515.	6.5	30
51	Statistical determination of the step size of molecular motors. <i>Journal of Physics Condensed Matter</i> , 2005, 17, S3811-S3820.	0.7	28
52	Molecular sorting by stochastic resonance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 8276-8280.	3.3	27
53	Single DNA/protein studies with magnetic traps. <i>Current Opinion in Structural Biology</i> , 2009, 19, 615-622.	2.6	27
54	Period doubling of a torus in a chain of oscillators. <i>Physical Review Letters</i> , 1994, 72, 2871-2874.	2.9	26

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55	Some nonlinear challenges in biology. <i>Nonlinearity</i> , 2008, 21, T131-T147.	0.6	26
56	Magnetic Trap Construction: Figure 1.. <i>Cold Spring Harbor Protocols</i> , 2012, 2012, pdb.prot067496.	0.2	26
57	HTLV-1 Tax plugs and freezes UPF1 helicase leading to nonsense-mediated mRNA decay inhibition. <i>Nature Communications</i> , 2018, 9, 431.	5.8	26
58	Single-Molecule DNA Nanomanipulation: Detection of Promoter-Unwinding Events by RNA Polymerase. <i>Methods in Enzymology</i> , 2003, 370, 577-598.	0.4	23
59	Single molecule studies of helicases with magnetic tweezers. <i>Methods</i> , 2016, 105, 3-15.	1.9	23
60	Single-molecule Visualization of Binding Modes of Helicase to DNA on PEGylated Surfaces. <i>Chemistry Letters</i> , 2009, 38, 308-309.	0.7	20
61	Fourier Analysis To Measure Diffusion Coefficients and Resolve Mixtures on a Continuous Electrophoresis Chip. <i>Analytical Chemistry</i> , 2007, 79, 8222-8231.	3.2	16
62	Folding and persistence times of intramolecular G-quadruplexes transiently embedded in a DNA duplex. <i>Nucleic Acids Research</i> , 2021, 49, 5189-5201.	6.5	16
63	Single-Molecule Manipulation Measurements of DNA Transport Proteins. <i>ChemPhysChem</i> , 2005, 6, 813-818.	1.0	15
64	Tracking enzymatic steps of DNA topoisomerases using single-molecule micromanipulation. <i>Comptes Rendus Physique</i> , 2002, 3, 595-618.	0.3	14
65	Macroscale fluorescence imaging against autofluorescence under ambient light. <i>Light: Science and Applications</i> , 2018, 7, 97.	7.7	14
66	Parallel, linear, and subnanometric 3D tracking of microparticles with Stereo Darkfield Interferometry. <i>Science Advances</i> , 2021, 7, .	4.7	14
67	Mechanically Controlled DNA Extrusion from a Palindromic Sequence by Single Molecule Micromanipulation. <i>Physical Review Letters</i> , 2006, 96, 188102.	2.9	13
68	Stochastic Resonance to Control Diffusive Motion in Chemistry. <i>Journal of Physical Chemistry B</i> , 2005, 109, 1318-1328.	1.2	12
69	Nucleosome remodelling machines and other molecular motors observed at the single molecule level. <i>FEBS Journal</i> , 2011, 278, 3596-3607.	2.2	12
70	Kinetics of Reactive Modules Adds Discriminative Dimensions for Selective Cell Imaging. <i>ChemPhysChem</i> , 2016, 17, 1396-1413.	1.0	12
71	A mechanistic study of helicases with magnetic traps. <i>Protein Science</i> , 2017, 26, 1314-1336.	3.1	12
72	Mechanistic characterization of the DEAD-box RNA helicase Ded1 from yeast as revealed by a novel technique using single-molecule magnetic tweezers. <i>Nucleic Acids Research</i> , 2019, 47, 3699-3710.	6.5	12

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73	Monitoring microbial population dynamics at low densities. <i>Review of Scientific Instruments</i> , 2012, 83, 074301.	0.6	8
74	ATP-Independent Cooperative Binding of Yeast Isw1a to Bare and Nucleosomal DNA. <i>PLoS ONE</i> , 2012, 7, e31845.	1.1	8
75	Study of DNA Motors by Single Molecule Micromanipulation. <i>Single Molecules</i> , 2000, 1, 145-151.	1.7	7
76	Single-molecule kinetic locking allows fluorescence-free quantification of protein/nucleic-acid binding. <i>Communications Biology</i> , 2021, 4, 1083.	2.0	7
77	Novel approaches to study helicases using magnetic tweezers. <i>Methods in Enzymology</i> , 2022, , 359-403.	0.4	5
78	Rolling and aging in temperature-ramp soft adhesion. <i>Physical Review E</i> , 2018, 97, 012609.	0.8	4
79	Nucleosome Positioning on Large Tandem DNA Repeats of the 601™ Sequence Engineered in <i>Saccharomyces cerevisiae</i> . <i>Journal of Molecular Biology</i> , 2022, 434, 167497.	2.0	4
80	The manipulation of single biomolecules. <i>Interdisciplinary Science Reviews</i> , 2007, 32, 149-161.	1.0	2
81	Sensing Single Base Incorporation with Nanopore Micromanipulation. <i>ACS Chemical Biology</i> , 2008, 3, 92-94.	1.6	2
82	Tunable and switchable soft adsorption of polymer-coated microparticles on a flat substrate. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2019, 575, 199-204.	2.3	2
83	Dynamic Contrast for Plant Phenotyping. <i>ACS Omega</i> , 2020, 5, 15105-15114.	1.6	2
84	Magnetic Tweezers-Based Single-Molecule Assays to Study Interaction of <i>E. coli</i> SSB with DNA and. <i>Methods in Molecular Biology</i> , 2021, 2281, 93-115.	0.4	2
85	Le jokari moléculaire. <i>Biofutur</i> , 1999, 1999, 26-27.	0.0	1
86	Detection of genetic variation and base modifications at base-pair resolution on both DNA and RNA. <i>Communications Biology</i> , 2021, 4, 128.	2.0	1
87	Twisting and stretching single DNA molecules. , 2001, , 115-140.		1
88	Controlled assembly of covalent and supramolecular chemical modules: from engineering of complex structures to high-performance chromatography. <i>Russian Chemical Bulletin</i> , 2004, 53, 1379-1384.	0.4	0
89	Mechanical studies on single molecules: general considerations. , 2014, , 49-69.		0
90	Microfluidic Cell Heating Characterized by 3- $\sigma$ Measurements. , 2008, , .		0