Vincent Croquette

List of Publications by Year
in descending order

90 papers	7,007 citations	81900 39 h-index	58581 82 g-index
99 all docs	99 docs citations	99 times ranked	5155 citing authors

#	Article	IF	Citations
1	Nucleosome Positioning on Large Tandem DNA Repeats of the â€˜601â€™ Sequence Engineered in Saccharomyces cerevisiae. Journal of Molecular Biology, 2022, 434, 167497.	4.2	4
2	Novel approaches to study helicases using magnetic tweezers. Methods in Enzymology, 2022, , 359-403.	1.0	5
3	Parallel, linear, and subnanometric 3D tracking of microparticles with Stereo Darkfield Interferometry. Science Advances, 2021, 7, .	10.3	14
4	Folding and persistence times of intramolecular G-quadruplexes transiently embedded in a DNA duplex. Nucleic Acids Research, 2021, 49, 5189-5201.	14.5	16
5	Single-molecule kinetic locking allows fluorescence-free quantification of protein/nucleic-acid binding. Communications Biology, 2021, 4, 1083.	4.4	7
6	Magnetic Tweezers-Based Single-Molecule Assays to Study Interaction of E. coli SSB with DNA and. Methods in Molecular Biology, 2021, 2281, 93-115.	0.9	2
7	Detection of genetic variation and base modifications at base-pair resolution on both DNA and RNA. Communications Biology, 2021, 4, 128.	4.4	1
8	Dynamic Contrast for Plant Phenotyping. ACS Omega, 2020, 5, 15105-15114.	3.5	2
9	Tunable and switchable soft adsorption of polymer-coated microparticles on a flat substrate. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2019, 575, 199-204.	4.7	2
10	Mechanistic characterization of the DEAD-box RNA helicase Ded1 from yeast as revealed by a novel technique using single-molecule magnetic tweezers. Nucleic Acids Research, 2019, 47, 3699-3710.	14.5	12
11	HTLV-1 Tax plugs and freezes UPF1 helicase leading to nonsense-mediated mRNA decay inhibition. Nature Communications, 2018, 9, 431.	12.8	26
12	A conserved structural element in the RNA helicase UPF1 regulates its catalytic activity in an isoform-specific manner. Nucleic Acids Research, 2018, 46, 2648-2659.	14.5	34
13	Rolling and aging in temperature-ramp soft adhesion. Physical Review E, 2018, 97, 012609.	2.1	4
14	Asymmetric adhesion of rod-shaped bacteria controls microcolony morphogenesis. Nature Communications, 2018, 9, 1120.	12.8	69
15	Macroscale fluorescence imaging against autofluorescence under ambient light. Light: Science and Applications, 2018, 7, 97.	16.6	14
16	UPF1-like helicase grip on nucleic acids dictates processivity. Nature Communications, 2018, 9, 3752.	12.8	37
17	Single molecule kinetics uncover roles for E. coli RecQ DNA helicase domains and interaction with SSB. Nucleic Acids Research, 2018, 46, 8500-8515.	14.5	30
18	A mechanistic study of helicases with magnetic traps. Protein Science, 2017, 26, 1314-1336.	7.6	12

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19	Resonant out-of-phase fluorescence microscopy and remote imaging overcome spectral limitations. Nature Communications, 2017, 8, 969.	12.8	41
20	Single molecule high-throughput footprinting of small and large DNA ligands. Nature Communications, 2017, 8, 304.	12.8	38
21	Single molecule studies of helicases with magnetic tweezers. Methods, 2016, 105, 3-15.	3.8	23
22	Kinetics of Reactive Modules Adds Discriminative Dimensions for Selective Cell Imaging. ChemPhysChem, 2016, 17, 1396-1413.	2.1	12
23	Photoswitching Kinetics and Phaseâ€Sensitive Detection Add Discriminative Dimensions for Selective Fluorescence Imaging. Angewandte Chemie, 2015, 127, 2671-2675.	2.0	35
24	Photoswitching Kinetics and Phaseâ€Sensitive Detection Add Discriminative Dimensions for Selective Fluorescence Imaging. Angewandte Chemie - International Edition, 2015, 54, 2633-2637.	13.8	36
25	Human Upf1 is a highly processive RNA helicase and translocase with RNP remodelling activities. Nature Communications, 2015, 6, 7581.	12.8	120
26	Mechanical studies on single molecules: general considerations. , 2014, , 49-69.		0
27	RecG and UvsW catalyse robust DNA rewinding critical for stalled DNA replication fork rescue. Nature Communications, 2013, 4, 2368.	12.8	65
28	Cellâ€“cell contacts confine public goods diffusion inside Pseudomonas aeruginosa clonal microcolonies. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12577-12582.	7.1	122
29	Mechanism of strand displacement synthesis by DNA replicative polymerases. Nucleic Acids Research, 2012, 40, 6174-6186.	14.5	68
30	Collaborative coupling between polymerase and helicase for leading-strand synthesis. Nucleic Acids Research, 2012, 40, 6187-6198.	14.5	62
31	Direct Observation of Stalled Fork Restart via Fork Regression in the T4 Replication System. Science, 2012, 338, 1217-1220.	12.6	75
32	Dda Helicase Tightly Couples Translocation on Single-Stranded DNA to Unwinding of Duplex DNA: Dda Is an Optimally Active Helicase. Journal of Molecular Biology, 2012, 420, 141-154.	4.2	40
33	Single-Molecule Studies Using Magnetic Traps. Cold Spring Harbor Protocols, 2012, 2012, pdb.top067488.	0.3	39
34	Monitoring microbial population dynamics at low densities. Review of Scientific Instruments, 2012, 83, 074301.	1.3	8
35	Single-molecule mechanical identification and sequencing. Nature Methods, 2012, 9, 367-372.	19.0	51
36	Magnetic Trap Construction: Figure 1.. Cold Spring Harbor Protocols, 2012, 2012, pdb.prot067496.	0.3	26

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37	ATP-Independent Cooperative Binding of Yeast Isw1a to Bare and Nucleosomal DNA. PLoS ONE, 2012, 7, e31845.	2.5	8
38	Nucleosomeâ€remodelling machines and other molecular motors observed at the singleâ€molecule level. FEBS Journal, 2011, 278, 3596-3607.	4.7	12
39	Soft magnetic tweezers: A proof of principle. Review of Scientific Instruments, 2011, 82, 034302.	1.3	51
40	Active and passive mechanisms of helicases. Nucleic Acids Research, 2010, 38, 5518-5526.	14.5	129
41	Magnetic Tweezers for the Study of DNA Tracking Motors. Methods in Enzymology, 2010, 475, 297-320.	1.0	34
42	Measurement of the Torque on a Single Stretched and Twisted DNA Using Magnetic Tweezers. Physical Review Letters, 2009, 102, 078301.	7.8	171
43	Single DNA/protein studies with magnetic traps. Current Opinion in Structural Biology, 2009, 19, 615-622.	5.7	27
44	Coupling DNA unwinding activity with primer synthesis in the bacteriophage T4 primosome. Nature Chemical Biology, 2009, 5, 904-912.	8.0	86
45	Single-molecule Visualization of Binding Modes of Helicase to DNA on PEGylated Surfaces. Chemistry Letters, 2009, 38, 308-309.	1.3	20
46	Some nonlinear challenges in biology. Nonlinearity, 2008, 21, T131-T147.	1.4	26
47	Sensing Single Base Incorporation with Nanopore Micromanipulation. ACS Chemical Biology, 2008, 3, 92-94.	3.4	2
48	Microfluidic Cell Heating Characterized by 3-Ï‰ Measurements. , 2008, , .		0
49	Real-time observation of bacteriophage T4 gp41 helicase reveals an unwinding mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 19790-19795.	7.1	139
50	The manipulation of single biomolecules. Interdisciplinary Science Reviews, 2007, 32, 149-161.	1.4	2
51	Fourier Analysis To Measure Diffusion Coefficients and Resolve Mixtures on a Continuous Electrophoresis Chip. Analytical Chemistry, 2007, 79, 8222-8231.	6.5	16
52	Direct Observation of DNA Distortion by the RSC Complex. Molecular Cell, 2006, 21, 417-425.	9.7	146
53	Structural plasticity of single chromatin fibers revealed by torsional manipulation. Nature Structural and Molecular Biology, 2006, 13, 444-450.	8.2	156
54	DNA mechanics as a tool to probe helicase and translocase activity. Nucleic Acids Research, 2006, 34, 4232-4244.	14.5	56

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55	Mechanically Controlled DNA Extrusion from a Palindromic Sequence by Single Molecule Micromanipulation. Physical Review Letters, 2006, 96, 188102.	7.8	13
56	Wringing Out DNA. Physical Review Letters, 2006, 96, 178102.	7.8	144
57	Friction and torque govern the relaxation of DNA supercoils by eukaryotic topoisomerase IB. Nature, 2005, 434, 671-674.	27.8	287
58	Single-Molecule Manipulation Measurements of DNA Transport Proteins. ChemPhysChem, 2005, 6, 813-818.	2.1	15
59	Stochastic Resonance to Control Diffusive Motion in Chemistry. Journal of Physical Chemistry B, 2005, 109, 1318-1328.	2.6	12
60	Statistical determination of the step size of molecular motors. Journal of Physics Condensed Matter, 2005, 17, S3811-S3820.	1.8	28
61	Molecular sorting by stochastic resonance. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 8276-8280.	7.1	27
62	Single-molecule assay reveals strand switching and enhanced processivity of UvrD. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 6439-6444.	7.1	177
63	Controlled assembly of covalent and supramolecular chemical modules: from engineering of complex structures to high-performance chromatography. Russian Chemical Bulletin, 2004, 53, 1379-1384.	1.5	0
64	Diaroyl(methanato)boron Difluoride Compounds as Medium-Sensitive Two-Photon Fluorescent Probes. Chemistry - A European Journal, 2004, 10, 1445-1455.	3.3	191
65	Twisting and Untwisting a Single DNA Molecule Covered by RecA Protein. Biophysical Journal, 2004, 87, 2552-2563.	0.5	40
66	Twisting DNA: single molecule studies. Contemporary Physics, 2004, 45, 383-403.	1.8	66
67	Stretching DNA and RNA to probe their interactions with proteins. Current Opinion in Structural Biology, 2003, 13, 266-274.	5.7	92
68	Supercoiling and denaturation in Gal repressor/heat unstable nucleoid protein (HU)-mediated DNA looping. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 11373-11377.	7.1	105
69	Single-Molecule DNA Nanomanipulation: Detection of Promoter-Unwinding Events by RNA Polymerase. Methods in Enzymology, 2003, 370, 577-598.	1.0	23
70	Structure and mechanics of single biomolecules: experiment and simulation. Journal of Physics Condensed Matter, 2002, 14, R383-R414.	1.8	88
71	Magnetic Tweezers: Micromanipulation and Force Measurement at the Molecular Level. Biophysical Journal, 2002, 82, 3314-3329.	0.5	841
72	Tracking enzymatic steps of DNA topoisomerases using single-molecule micromanipulation. Comptes Rendus Physique, 2002, 3, 595-618.	0.9	14

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73	The Manipulation of Single Biomolecules. Physics Today, 2001, 54, 46-51.	0.3	81
74	Twisting and stretching single DNA molecules. , 2001, , 115-140.		1
75	Study of DNA Motors by Single Molecule Micromanipulation. Single Molecules, 2000, 1, 145-151.	0.9	7
76	Single-molecule analysis of DNA uncoiling by a type II topoisomerase. Nature, 2000, 404, 901-904.	27.8	325
77	Twisting and stretching single DNA molecules. Progress in Biophysics and Molecular Biology, 2000, 74, 115-140.	2.9	317
78	Preferential relaxation of positively supercoiled DNA by E. coli topoisomerase IV in single-molecule and ensemble measurements. Genes and Development, 2000, 14, 2881-2892.	5.9	175
79	Stress-Induced Structural Transitions in DNA and Proteins. Annual Review of Biophysics and Biomolecular Structure, 2000, 29, 523-543.	18.3	99
80	Le jokari molÃ©culaire. Biofutur, 1999, 1999, 26-27.	0.0	1
81	Behavior of Supercoiled DNA. Biophysical Journal, 1998, 74, 2016-2028.	0.5	466
82	Stretched and overwound DNA forms a Pauling-like structure with exposed bases. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 14152-14157.	7.1	330
83	pH-dependent specific binding and combing of DNA. Biophysical Journal, 1997, 73, 2064-2070.	0.5	289
84	Period doubling of a torus in a chain of oscillators. Physical Review Letters, 1994, 72, 2871-2874.	7.8	26
85	The Eckhaus instability for traveling waves. Physica D: Nonlinear Phenomena, 1992, 55, 269-286.	2.8	130
86	Convective pattern dynamics at low Prandtl number: Part II. Contemporary Physics, 1989, 30, 153-171.	1.8	77
87	Nonlinear waves of the oscillatory instability on finite convective rolls. Physica D: Nonlinear Phenomena, 1989, 37, 300-314.	2.8	44
88	Convective pattern dynamics at low Prandtl number: Part I. Contemporary Physics, 1989, 30, 113-133.	1.8	101
89	Nonlinear competition between waves on convective rolls. Physical Review A, 1989, 39, 2765-2768.	2.5	40
90	Nonadiabatic effects in convection. Physical Review A, 1988, 38, 5461-5464.	2.5	96