

Han-Bin Mao

List of Publications by Year in descending order

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87
papers

4,318
citations

116194

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all docs

97
docs citations

97
times ranked

5005
citing authors

#	ARTICLE	IF	CITATIONS
1	Dissection of nanoconfinement and proximity effects on the binding events in DNA origami nanocavity. <i>Nucleic Acids Research</i> , 2022, 50, 697-703.	6.5	9
2	Chirality transmission in macromolecular domains. <i>Nature Communications</i> , 2022, 13, 76.	5.8	14
3	Small Molecules Modulate Liquid-to-Solid Transitions in Phase-Separated Tau Condensates. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	16
4	Single-Molecule Mechanochemical Sensing. <i>Accounts of Chemical Research</i> , 2022, 55, 1214-1225.	7.6	8
5	Single-molecule displacement assay reveals strong binding of polyvalent dendrimer ligands to telomeric G-quadruplex. <i>Analytical Biochemistry</i> , 2022, 649, 114693.	1.1	4
6	Short LNA-modified oligonucleotide probes as efficient disruptors of DNA G-quadruplexes. <i>Nucleic Acids Research</i> , 2022, 50, 7247-7259.	6.5	11
7	Mechanochemical properties of DNA origami nanosprings revealed by force jumps in optical tweezers. <i>Nanoscale</i> , 2021, 13, 8425-8430.	2.8	6
8	Mechanical unfolding of ensemble biomolecular structures by shear force. <i>Chemical Science</i> , 2021, 12, 10159-10164.	3.7	7
9	DNA origami nano-mechanics. <i>Chemical Society Reviews</i> , 2021, 50, 11966-11978.	18.7	39
10	Measurement of Single-Molecule Forces in Cholesterol and Cyclodextrin Host-Guest Complexes. <i>Journal of Physical Chemistry B</i> , 2021, 125, 11112-11121.	1.2	13
11	Chemo-Mechanical Modulation of Cell Motions Using DNA Nanosprings. <i>Bioconjugate Chemistry</i> , 2021, 32, 311-317.	1.8	20
12	Direct Measurement of Intermolecular Mechanical Force for Nonspecific Interactions between Small Molecules. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 11316-11322.	2.1	0
13	A poly(thymine)-melamine duplex for the assembly of DNA nanomaterials. <i>Nature Materials</i> , 2020, 19, 1012-1018.	13.3	62
14	Ensemble Sensing Using Single-Molecule DNA Copolymers. <i>Analytical Chemistry</i> , 2020, 92, 13126-13133.	3.2	8
15	Cooperative Heteroligand Interaction with G-Quadruplexes Shows Evidence of Allosteric Binding. <i>Biochemistry</i> , 2020, 59, 3438-3446.	1.2	5
16	Duplex DNA Is Weakened in Nanoconfinement. <i>Journal of the American Chemical Society</i> , 2020, 142, 10042-10049.	6.6	24
17	Detecting the Coronavirus (COVID-19). <i>ACS Sensors</i> , 2020, 5, 2283-2296.	4.0	196
18	Chiral Interaction Is a Decisive Factor To Replace d-DNA with l-DNA Aptamers. <i>Analytical Chemistry</i> , 2020, 92, 6470-6477.	3.2	9

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19	Single-Molecule Mechanochemical Sensing Using DNA Origami Nanostructures. <i>Methods in Molecular Biology</i> , 2019, 2027, 171-180.	0.4	1
20	Chaperone-Assisted Host-Guest Interactions Revealed by Single-Molecule Force Spectroscopy. <i>Journal of the American Chemical Society</i> , 2019, 141, 18385-18389.	6.6	24
21	Single-Molecule Investigations of G-Quadruplex. <i>Methods in Molecular Biology</i> , 2019, 2035, 275-298.	0.4	11
22	Single-Molecule Topochemical Analyses for Large-Scale Multiplexing Tasks. <i>Analytical Chemistry</i> , 2019, 91, 13485-13493.	3.2	6
23	Submolecular dissection reveals strong and specific binding of polyamide-pyridostatin conjugates to human telomere interface. <i>Nucleic Acids Research</i> , 2019, 47, 3295-3305.	6.5	16
24	Binding of a Telomestatin Derivative Changes the Mechanical Anisotropy of a Human Telomeric G-Quadruplex. <i>Angewandte Chemie</i> , 2019, 131, 887-891.	1.6	1
25	Binding of a Telomestatin Derivative Changes the Mechanical Anisotropy of a Human Telomeric G-Quadruplex. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 877-881.	7.2	12
26	A New Concentration Jump Strategy Reveals the Lifetime of i-Motif at Physiological pH without Force. <i>Analytical Chemistry</i> , 2018, 90, 3205-3210.	3.2	10
27	Single-Molecule Mechanochemical pH Sensing Revealing the Proximity Effect of Hydroniums Generated by an Alkaline Phosphatase. <i>Analytical Chemistry</i> , 2018, 90, 1718-1724.	3.2	7
28	Random Formation of G-Quadruplexes in the Full-Length Human Telomere Overhangs Leads to a Kinetic Folding Pattern with Targetable Vacant G-Tracts. <i>Biochemistry</i> , 2018, 57, 6946-6955.	1.2	32
29	Decreased water activity in nanoconfinement contributes to the folding of G-quadruplex and i-motif structures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 9539-9544.	3.3	46
30	Mechanical Cooperativity in DNA Cruciform Structures. <i>ChemPhysChem</i> , 2018, 19, 2627-2634.	1.0	6
31	Adaptive and Specific Recognition of Telomeric G-Quadruplexes via Polyvalency Induced Unstacking of Binding Units. <i>Journal of the American Chemical Society</i> , 2017, 139, 7476-7484.	6.6	46
32	Confined space facilitates G-quadruplex formation. <i>Nature Nanotechnology</i> , 2017, 12, 582-588.	15.6	76
33	Quantification of Chemical and Mechanical Effects on the Formation of the G-Quadruplex and i-Motif in Duplex DNA. <i>Biochemistry</i> , 2017, 56, 4616-4625.	1.2	21
34	Mutually Exclusive Formation of G-Quadruplex and i-Motif Is a General Phenomenon Governed by Steric Hindrance in Duplex DNA. <i>Biochemistry</i> , 2016, 55, 2291-2299.	1.2	87
35	Mechanochemical Sensing of Single and Few Hg(II) Ions Using Polyvalent Principles. <i>Analytical Chemistry</i> , 2016, 88, 9479-9485.	3.2	8
36	Mechanical properties of DNA origami nanoassemblies are determined by Holliday junction mechanophores. <i>Nucleic Acids Research</i> , 2016, 44, 6574-6582.	6.5	36

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37	A Mechanosensor Mechanism Controls the G-Quadruplex/i-Motif Molecular Switch in the <i>MYC</i> Promoter NHE III ₁ . <i>Journal of the American Chemical Society</i> , 2016, 138, 14138-14151.	6.6	96
38	A Pharmacological Chaperone Molecule Induces Cancer Cell Death by Restoring Tertiary DNA Structures in Mutant hTERT Promoters. <i>Journal of the American Chemical Society</i> , 2016, 138, 13673-13692.	6.6	91
39	Exploded view of higher order G-quadruplex structures through click-chemistry assisted single-molecule mechanical unfolding. <i>Nucleic Acids Research</i> , 2016, 44, 45-55.	6.5	67
40	Dual Binding of an Antibody and a Small Molecule Increases the Stability of TERRA G-Quadruplex. <i>Angewandte Chemie</i> , 2015, 127, 924-927.	1.6	16
41	Mechanochemical Sensing: A Biomimetic Sensing Strategy. <i>ChemPhysChem</i> , 2015, 16, 1829-1837.	1.0	6
42	A Molecular Tuning Fork in Single-Molecule Mechanochemical Sensing. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 7607-7611.	7.2	16
43	Dual Binding of an Antibody and a Small Molecule Increases the Stability of TERRA G-Quadruplex. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 910-913.	7.2	28
44	Divalent cations and molecular crowding buffers stabilize G-triplex at physiologically relevant temperatures. <i>Scientific Reports</i> , 2015, 5, 9255.	1.6	51
45	Dissecting Cooperative Communications in a Protein with a High-Throughput Single-Molecule Scalpel. <i>ChemPhysChem</i> , 2015, 16, 223-232.	1.0	5
46	Mechanochemical Sensing. <i>RNA Technologies</i> , 2015, , 241-258.	0.2	2
47	Interaction of G-Quadruplexes in the Full-Length 3' Human Telomeric Overhang. <i>Journal of the American Chemical Society</i> , 2014, 136, 18062-18069.	6.6	59
48	Single-Molecule Mechanochemical Sensing Using DNA Origami Nanostructures. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 8137-8141.	7.2	74
49	Molecular population dynamics of DNA structures in a bcl-2 promoter sequence is regulated by small molecules and the transcription factor hnRNP LL. <i>Nucleic Acids Research</i> , 2014, 42, 5755-5764.	6.5	33
50	Nascent RNA transcripts facilitate the formation of G-quadruplexes. <i>Nucleic Acids Research</i> , 2014, 42, 7236-7246.	6.5	19
51	Direct Quantification of Loop Interaction and π - π Stacking for G-Quadruplex Stability at the Submolecular Level. <i>Journal of the American Chemical Society</i> , 2014, 136, 15537-15544.	6.6	41
52	Intermediates Stabilized by Tryptophan Pairs Exist in Trpzip Beta-Hairpins. <i>Biochemistry</i> , 2014, 53, 5978-5986.	1.2	4
53	Controlled Particle Collision Leads to Direct Observation of Docking and Fusion of Lipid Droplets in an Optical Trap. <i>Langmuir</i> , 2014, 30, 1370-1375.	1.6	12
54	Quantification of Topological Coupling between DNA Superhelicity and G-quadruplex Formation. <i>Journal of the American Chemical Society</i> , 2014, 136, 13967-13970.	6.6	48

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55	Yoctoliter Thermometry for Single-Molecule Investigations: A Generic Bead-on-a-Tip Temperature-Control Module. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 3470-3474.	7.2	13
56	Yoctoliter Thermometry for Single-Molecule Investigations: A Generic Bead-on-a-Tip Temperature-Control Module (<i>Angew. Chem.</i> 13/2014). <i>Angewandte Chemie</i> , 2014, 126, 3590-3590.	1.6	0
57	Non-B DNA Structures Show Diverse Conformations and Complex Transition Kinetics Comparable to RNA or Proteins: A Perspective from Mechanical Unfolding and Refolding Experiments. <i>Chemical Record</i> , 2013, 13, 102-116.	2.9	36
58	Long-Loop G-Quadruplexes Are Misfolded Population Minorities with Fast Transition Kinetics in Human Telomeric Sequences. <i>Journal of the American Chemical Society</i> , 2013, 135, 2235-2241.	6.6	59
59	Mechanical affinity as a new metrics to evaluate binding events. <i>Reviews in Analytical Chemistry</i> , 2013, 32, .	1.5	10
60	Mechanochemical Properties of Individual Human Telomeric RNA (TERRA) G-Quadruplexes. <i>ChemBioChem</i> , 2013, 14, 1931-1935.	1.3	29
61	Structural and mechanical properties of individual human telomeric G-quadruplexes in molecularly crowded solutions. <i>Nucleic Acids Research</i> , 2013, 41, 3915-3923.	6.5	79
62	Single-Molecule Measurements of the Binding between Small Molecules and DNA Aptamers. <i>Analytical Chemistry</i> , 2012, 84, 5298-5303.	3.2	47
63	Tertiary DNA Structure in the Single-Stranded hTERT Promoter Fragment Unfolds and Refolds by Parallel Pathways via Cooperative or Sequential Events. <i>Journal of the American Chemical Society</i> , 2012, 134, 5157-5164.	6.6	71
64	Intramolecular folding in three tandem guanine repeats of human telomeric DNA. <i>Chemical Communications</i> , 2012, 48, 2006.	2.2	105
65	G-Quadruplex and i-Motif Are Mutually Exclusive in ILPR Double-Stranded DNA. <i>Biophysical Journal</i> , 2012, 102, 2575-2584.	0.2	90
66	Intramolecular Folding in Human ILPR Fragment with Three C-Rich Repeats. <i>PLoS ONE</i> , 2012, 7, e39271.	1.1	26
67	Click Chemistry Assisted Single-Molecule Fingerprinting Reveals a 3D Biomolecular Folding Funnel. <i>Journal of the American Chemical Society</i> , 2012, 134, 12338-12341.	6.6	38
68	Detection of Single Nucleotide Polymorphism Using Tension-Dependent Stochastic Behavior of a Single-Molecule Template. <i>Journal of the American Chemical Society</i> , 2011, 133, 9988-9991.	6.6	42
69	A single-molecule platform for investigation of interactions between G-quadruplexes and small-molecule ligands. <i>Nature Chemistry</i> , 2011, 3, 782-787.	6.6	189
70	ILPR repeats adopt diverse G-quadruplex conformations that determine insulin binding. <i>Biopolymers</i> , 2010, 93, 21-31.	1.2	26
71	Coexistence of an ILPR i-Motif and a Partially Folded Structure with Comparable Mechanical Stability Revealed at the Single-Molecule Level. <i>Journal of the American Chemical Society</i> , 2010, 132, 8991-8997.	6.6	101
72	Direct experimental evidence for quadruplex-quadruplex interaction within the human ILPR. <i>Nucleic Acids Research</i> , 2009, 37, 3310-3320.	6.5	51

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73	ILPR G-Quadruplexes Formed in Seconds Demonstrate High Mechanical Stabilities. <i>Journal of the American Chemical Society</i> , 2009, 131, 1876-1882.	6.6	102
74	An integrated laser-tweezers instrument for microanalysis of individual protein aggregates. <i>Sensors and Actuators B: Chemical</i> , 2008, 129, 764-771.	4.0	52
75	Thermal Probing of <i>E. coli</i> RNA Polymerase Off-Pathway Mechanisms. <i>Journal of Molecular Biology</i> , 2008, 382, 628-637.	2.0	66
76	Microanalysis of clouding process at the single droplet level. <i>Sensors and Actuators B: Chemical</i> , 2007, 128, 154-160.	4.0	32
77	Temperature Control Methods in a Laser Tweezers System. <i>Biophysical Journal</i> , 2005, 89, 1308-1316.	0.2	170
78	High-Throughput Studies of the Effects of Polymer Structure and Solution Components on the Phase Separation of Thermoresponsive Polymers. <i>Macromolecules</i> , 2004, 37, 1031-1036.	2.2	82
79	Investigations of Bivalent Antibody Binding on Fluid-Supported Phospholipid Membranes: The Effect of Hapten Density. <i>Journal of the American Chemical Society</i> , 2003, 125, 4779-4784.	6.6	125
80	Probing the Mechanism of Aqueous Two-Phase System Formation for Î±-Elastin On-Chip. <i>Journal of the American Chemical Society</i> , 2003, 125, 15630-15635.	6.6	22
81	Measuring LCSTs by Novel Temperature Gradient Methods: Evidence for Intermolecular Interactions in Mixed Polymer Solutions. <i>Journal of the American Chemical Society</i> , 2003, 125, 2850-2851.	6.6	65
82	A sensitive, versatile microfluidic assay for bacterial chemotaxis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 5449-5454.	3.3	277
83	Reusable Platforms for High-Throughput On-Chip Temperature Gradient Assays. <i>Analytical Chemistry</i> , 2002, 74, 5071-5075.	3.2	67
84	A Microfluidic Device with a Linear Temperature Gradient for Parallel and Combinatorial Measurements. <i>Journal of the American Chemical Society</i> , 2002, 124, 4432-4435.	6.6	173
85	Design and Characterization of Immobilized Enzymes in Microfluidic Systems. <i>Analytical Chemistry</i> , 2002, 74, 379-385.	3.2	231
86	Fabrication of Phospholipid Bilayer-Coated Microchannels for On-Chip Immunoassays. <i>Analytical Chemistry</i> , 2001, 73, 165-169.	3.2	239
87	Small Molecules Modulate Liquid-Solid Transitions in Phase-Separated Tau Condensates. <i>Angewandte Chemie</i> , 0, , .	1.6	3