

Fredrik Westerlund

List of Publications by Year in descending order

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120
papers

4,579
citations

101384

36
h-index

118652

62
g-index

122
all docs

122
docs citations

122
times ranked

6829
citing authors

#	ARTICLE	IF	CITATIONS
1	MEG3 long noncoding RNA regulates the TGF- β^2 pathway genes through formation of RNA-DNA triplex structures. <i>Nature Communications</i> , 2015, 6, 7743.	5.8	534
2	Single-molecule electronics: from chemical design to functional devices. <i>Chemical Society Reviews</i> , 2014, 43, 7378-7411.	18.7	433
3	DNA-Binding of Semirigid Binuclear Ruthenium Complex $[\text{Ru}^{\text{II}}_2\text{-}[\text{1}^{\text{1}}\text{-}(\text{11}\text{-}\text{bidppz})(\text{phen})_4\text{Ru}^{\text{II}}]_4\text{+}]$: Extremely Slow Intercalation Kinetics. <i>Journal of the American Chemical Society</i> , 2002, 124, 12092-12093.	6.6	172
4	Hydride formation thermodynamics and hysteresis in individual Pd nanocrystals with different size and shape. <i>Nature Materials</i> , 2015, 14, 1236-1244.	13.3	160
5	A hybrid G-quadruplex structure formed between RNA and DNA explains the extraordinary stability of the mitochondrial R-loop. <i>Nucleic Acids Research</i> , 2012, 40, 10334-10344.	6.5	133
6	Steady-state and time-resolved Thioflavin-T fluorescence can report on morphological differences in amyloid fibrils formed by A β^2 (1-40) and A β^2 (1-42). <i>Biochemical and Biophysical Research Communications</i> , 2015, 458, 418-423.	1.0	97
7	Hydrophobic catalysis and a potential biological role of DNA unstacking induced by environment effects. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 17169-17174.	3.3	92
8	Optical DNA mapping in nanofluidic devices: principles and applications. <i>Lab on A Chip</i> , 2017, 17, 579-590.	3.1	77
9	Lipid-Based Passivation in Nanofluidics. <i>Nano Letters</i> , 2012, 12, 2260-2265.	4.5	76
10	A Versatile Self-Assembly Strategy for the Synthesis of Shape-Selected Colloidal Noble Metal Nanoparticle Heterodimers. <i>Langmuir</i> , 2014, 30, 3041-3050.	1.6	73
11	Vertically Aligned Graphene Coating is Bactericidal and Prevents the Formation of Bacterial Biofilms. <i>Advanced Materials Interfaces</i> , 2018, 5, 1701331.	1.9	72
12	A single-step competitive binding assay for mapping of single DNA molecules. <i>Biochemical and Biophysical Research Communications</i> , 2012, 417, 404-408.	1.0	67
13	A nano flow cytometer for single lipid vesicle analysis. <i>Lab on A Chip</i> , 2017, 17, 830-841.	3.1	66
14	Low Concentrations of Vitamin C Reduce the Synthesis of Extracellular Polymers and Destabilize Bacterial Biofilms. <i>Frontiers in Microbiology</i> , 2017, 8, 2599.	1.5	66
15	Kinetic Recognition of AT-Rich DNA by Ruthenium Complexes. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 2203-2206.	7.2	65
16	Bacteriophage strain typing by rapid single molecule analysis. <i>Nucleic Acids Research</i> , 2015, 43, e117-e117.	6.5	61
17	Micelle-Sequestered Dissociation of Cationic DNA-Intercalated Drugs: Unexpected Surfactant-Induced Rate Enhancement. <i>Journal of the American Chemical Society</i> , 2003, 125, 3773-3779.	6.6	60
18	Directed assembly of gold nanoparticles. <i>Current Opinion in Colloid and Interface Science</i> , 2009, 14, 126-134.	3.4	60

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19	Competitive binding-based optical DNA mapping for fast identification of bacteria - multi-ligand transfer matrix theory and experimental applications on Escherichia coli. <i>Nucleic Acids Research</i> , 2014, 42, e118-e118.	6.5	59
20	Direct identification of antibiotic resistance genes on single plasmid molecules using CRISPR/Cas9 in combination with optical DNA mapping. <i>Scientific Reports</i> , 2016, 6, 37938.	1.6	57
21	Self-Assembled Nanogaps via Seed-Mediated Growth of End-to-End Linked Gold Nanorods. <i>ACS Nano</i> , 2009, 3, 828-834.	7.3	54
22	Binding of Thioflavin-T to Amyloid Fibrils Leads to Fluorescence Self-Quenching and Fibril Compaction. <i>Biochemistry</i> , 2017, 56, 2170-2174.	1.2	53
23	Enantioselective Luminescence Quenching of DNA Light-Switch [Ru(phen)2dppz]2+ by Electron Transfer to Structural Homologue [Ru(phendione)2dppz]2+. <i>Journal of Physical Chemistry B</i> , 2005, 109, 17327-17332.	1.2	52
24	Solution-Based Fabrication of Single-Crystalline Arrays of Organic Nanowires. <i>Langmuir</i> , 2010, 26, 1130-1136.	1.6	50
25	Efficient surface modification of carbon nanotubes for fabricating high performance CNT based hybrid nanostructures. <i>Carbon</i> , 2017, 111, 402-410.	5.4	50
26	Super-Resolution Genome Mapping in Silicon Nanochannels. <i>ACS Nano</i> , 2016, 10, 9823-9830.	7.3	49
27	Identification of pathogenic bacteria in complex samples using a smartphone based fluorescence microscope. <i>RSC Advances</i> , 2018, 8, 36493-36502.	1.7	48
28	Meso Stereoisomer as a Probe of Enantioselective Threading Intercalation of Semirigid Ruthenium Complex [$\frac{1}{4}$ -(11,11'-bidppz)(phen)4Ru2]4+. <i>Journal of Physical Chemistry B</i> , 2003, 107, 11784-11793.	1.2	47
29	Vitamin C Pretreatment Enhances the Antibacterial Effect of Cold Atmospheric Plasma. <i>Frontiers in Cellular and Infection Microbiology</i> , 2017, 7, 43.	1.8	47
30	Heterogeneous staining: a tool for studies of how fluorescent dyes affect the physical properties of DNA. <i>Nucleic Acids Research</i> , 2013, 41, e184-e184.	6.5	45
31	Nanoconfined Circular and Linear DNA: Equilibrium Conformations and Unfolding Kinetics. <i>Macromolecules</i> , 2015, 48, 871-878.	2.2	44
32	Polymer-Templated Self-Assembly of a 2-Dimensional Gold Nanoparticle Network. <i>Langmuir</i> , 2008, 24, 3905-3910.	1.6	42
33	Mechanically Manipulating the DNA Threading Intercalation Rate. <i>Journal of the American Chemical Society</i> , 2008, 130, 3752-3753.	6.6	40
34	Trihydroxytrioxatriangulene - An Extended Fluorescein and a Ratiometric pH Sensor. <i>Chemistry - A European Journal</i> , 2010, 16, 2992-2996.	1.7	38
35	Rapid identification of intact bacterial resistance plasmids via optical mapping of single DNA molecules. <i>Scientific Reports</i> , 2016, 6, 30410.	1.6	38
36	Kinetic Characterization of an Extremely Slow DNA Binding Equilibrium. <i>Journal of Physical Chemistry B</i> , 2007, 111, 9132-9137.	1.2	37

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37	Probing Physical Properties of a DNA-Protein Complex Using Nanofluidic Channels. <i>Small</i> , 2014, 10, 884-887.	5.2	36
38	Binding Geometry and Photophysical Properties of DNA-Threading Binuclear Ruthenium Complexes. <i>Journal of Physical Chemistry B</i> , 2007, 111, 310-317.	1.2	35
39	Single Particle Nanoplasmonic Sensing in Individual Nanofluidic Channels. <i>Nano Letters</i> , 2016, 16, 7857-7864.	4.5	35
40	DNA Polymorphism as an Origin of Adenine-Thymine Tract Length-Dependent Threading Intercalation Rate. <i>Journal of the American Chemical Society</i> , 2008, 130, 14651-14658.	6.6	34
41	Rapid Tracing of Resistance Plasmids in a Nosocomial Outbreak Using Optical DNA Mapping. <i>ACS Infectious Diseases</i> , 2016, 2, 322-328.	1.8	34
42	The conquest of middle-earth: combining top-down and bottom-up nanofabrication for constructing nanoparticle based devices. <i>Nanoscale</i> , 2014, 6, 14605-14616.	2.8	33
43	PrgB promotes aggregation, biofilm formation, and conjugation through DNA binding and compaction. <i>Molecular Microbiology</i> , 2018, 109, 291-305.	1.2	31
44	Strong DNA deformation required for extremely slow DNA threading intercalation by a binuclear ruthenium complex. <i>Nucleic Acids Research</i> , 2014, 42, 11634-11641.	6.5	30
45	A nanofluidic device for parallel single nanoparticle catalysis in solution. <i>Nature Communications</i> , 2019, 10, 4426.	5.8	30
46	Label-free nanofluidic scattering microscopy of size and mass of single diffusing molecules and nanoparticles. <i>Nature Methods</i> , 2022, 19, 751-758.	9.0	30
47	Alpha-Synuclein Modulates the Physical Properties of DNA. <i>Chemistry - A European Journal</i> , 2018, 24, 15685-15690.	1.7	29
48	Monitoring the DNA Binding Kinetics of a Binuclear Ruthenium Complex by Energy Transfer: Evidence for Slow Shuffling. <i>Journal of Physical Chemistry B</i> , 2005, 109, 21140-21144.	1.2	28
49	Complex DNA Binding Kinetics Resolved by Combined Circular Dichroism and Luminescence Analysis. <i>Journal of Physical Chemistry B</i> , 2008, 112, 6688-6694.	1.2	28
50	DNA strand exchange catalyzed by molecular crowding in PEG solutions. <i>Chemical Communications</i> , 2010, 46, 8231.	2.2	28
51	Orientational correlations in confined DNA. <i>Physical Review E</i> , 2012, 86, 041802.	0.8	27
52	Turn-On, Fluorescent Nuclear Stains with Live Cell Compatibility. <i>Organic Letters</i> , 2013, 15, 1330-1333.	2.4	27
53	Molecular Epidemiology of OXA-48 and NDM-1 Producing Enterobacterales Species at a University Hospital in Tehran, Iran, Between 2015 and 2016. <i>Frontiers in Microbiology</i> , 2020, 11, 936.	1.5	27
54	Direct probing of ion pair formation using a symmetric triangulenium dye. <i>Photochemical and Photobiological Sciences</i> , 2011, 10, 1963-1973.	1.6	26

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55	Large area, soft crystalline thin films of N,N,N',N'-tetraalkyltriazatriangulenium salts with homeotropic alignment of the discotic cores in a lamellar lattice. <i>Journal of Materials Chemistry</i> , 2012, 22, 4797.	6.7	26
56	Amyloid fibrils as dispersing agents for oligothiophenes: control of photophysical properties through nanoscale templating and flow induced fibril alignment. <i>Journal of Materials Chemistry C</i> , 2014, 2, 7811.	2.7	26
57	Exploring DNA-protein interactions on the single DNA molecule level using nanofluidic tools. <i>Integrative Biology (United Kingdom)</i> , 2017, 9, 650-661.	0.6	26
58	Columnar Self-Assembly and Alignment of Planar Carbenium Ions in Langmuir-Blodgett Films. <i>Langmuir</i> , 2011, 27, 792-799.	1.6	25
59	Local Conformation of Confined DNA Studied Using Emission Polarization Anisotropy. <i>Small</i> , 2009, 5, 190-193.	5.2	23
60	Optical DNA Mapping Combined with Cas9-Targeted Resistance Gene Identification for Rapid Tracking of Resistance Plasmids in a Neonatal Intensive Care Unit Outbreak. <i>MBio</i> , 2019, 10, .	1.8	23
61	Dynamics of Ku and bacterial non-homologous end-joining characterized using single DNA molecule analysis. <i>Nucleic Acids Research</i> , 2021, 49, 2629-2641.	6.5	22
62	A ruthenium dimer complex with a flexible linker slowly threads between DNA bases in two distinct steps. <i>Nucleic Acids Research</i> , 2015, 43, 8856-8867.	6.5	21
63	A nanofluidic device for real-time visualization of DNA-protein interactions on the single DNA molecule level. <i>Nanoscale</i> , 2019, 11, 2071-2078.	2.8	21
64	Phosphorylated CtIP bridges DNA to promote annealing of broken ends. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 21403-21412.	3.3	21
65	Sensing Conformational Changes in DNA upon Ligand Binding Using QCM-D. Polyamine Condensation and Rad51 Extension of DNA Layers. <i>Journal of Physical Chemistry B</i> , 2014, 118, 11895-11904.	1.2	20
66	Fast size-determination of intact bacterial plasmids using nanofluidic channels. <i>Lab on A Chip</i> , 2015, 15, 2739-2743.	3.1	20
67	DNA compaction by the bacteriophage protein Cox studied on the single DNA molecule level using nanofluidic channels. <i>Nucleic Acids Research</i> , 2016, 44, gkw352.	6.5	19
68	Applications of optical DNA mapping in microbiology. <i>BioTechniques</i> , 2017, 62, 255-267.	0.8	19
69	Bacterial response to graphene oxide and reduced graphene oxide integrated in agar plates. <i>Royal Society Open Science</i> , 2018, 5, 181083.	1.1	19
70	Interactions between a luminescent conjugated polyelectrolyte and amyloid fibrils investigated with flow linear dichroism spectroscopy. <i>Biochemical and Biophysical Research Communications</i> , 2011, 408, 115-119.	1.0	18
71	Monomer Distributions and Intrachain Collisions of a Polymer Confined to a Channel. <i>Macromolecules</i> , 2013, 46, 6644-6650.	2.2	18
72	Base Pair Sensitivity and Enhanced ON/OFF Ratios of DNA-Binding: Donor-Acceptor-Donor Fluorophores. <i>Journal of Physical Chemistry B</i> , 2013, 117, 12000-12006.	1.2	18

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73	The resistomes of six carbapenem-resistant pathogens – a critical genotype–phenotype analysis. <i>Microbial Genomics</i> , 2018, 4, .	1.0	18
74	Fluorescence enhancement of single DNA molecules confined in Si/SiO ₂ nanochannels. <i>Lab on A Chip</i> , 2010, 10, 2049.	3.1	17
75	Enzyme-free optical DNA mapping of the human genome using competitive binding. <i>Nucleic Acids Research</i> , 2019, 47, e89-e89.	6.5	17
76	Interspecies plasmid transfer appears rare in sequential infections with extended-spectrum β -lactamase (ESBL)-producing Enterobacteriaceae. <i>Diagnostic Microbiology and Infectious Disease</i> , 2019, 93, 380-385.	0.8	17
77	Stabilization of G-quadruplex DNA structures in <i>Schizosaccharomyces pombe</i> causes single-strand DNA lesions and impedes DNA replication. <i>Nucleic Acids Research</i> , 2020, 48, 10998-11015.	6.5	17
78	Quantifying DNA damage induced by ionizing radiation and hyperthermia using single DNA molecule imaging. <i>Translational Oncology</i> , 2020, 13, 100822.	1.7	17
79	DNA intercalation optimized by two-step molecular lock mechanism. <i>Scientific Reports</i> , 2016, 6, 37993.	1.6	15
80	Dissecting the Dynamic Pathways of Stereoselective DNA Threading Intercalation. <i>Biophysical Journal</i> , 2016, 110, 1255-1263.	0.2	15
81	Facilitated sequence assembly using densely labeled optical DNA barcodes: A combinatorial auction approach. <i>PLoS ONE</i> , 2018, 13, e0193900.	1.1	15
82	Optical maps of plasmids as a proxy for clonal spread of MDR bacteria: a case study of an outbreak in a rural Ethiopian hospital. <i>Journal of Antimicrobial Chemotherapy</i> , 2020, 75, 2804-2811.	1.3	15
83	Self-Assembly and Near Perfect Macroscopic Alignment of Fluorescent Triangulenium Salt in Spin-Cast Thin Films on PTFE. <i>Langmuir</i> , 2013, 29, 6728-6736.	1.6	14
84	Lipid vesicle composition influences the incorporation and fluorescence properties of the lipophilic sulphonated carbocyanine dye SP-DiO. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 8781-8790.	1.3	14
85	Cultivation-Free Typing of Bacteria Using Optical DNA Mapping. <i>ACS Infectious Diseases</i> , 2020, 6, 1076-1084.	1.8	14
86	Mechanism of DNA Strand Exchange at Liposome Surfaces Investigated Using Mismatched DNA. <i>Langmuir</i> , 2009, 25, 1606-1611.	1.6	13
87	The HIV-1 nucleocapsid chaperone protein forms locally compacted globules on long double-stranded DNA. <i>Nucleic Acids Research</i> , 2021, 49, 4550-4563.	6.5	13
88	Visualizing the Nonhomogeneous Structure of RAD51 Filaments Using Nanofluidic Channels. <i>Langmuir</i> , 2016, 32, 8403-8412.	1.6	11
89	AT-dependent luminescence of DNA-threading ruthenium complexes. <i>Biophysical Chemistry</i> , 2007, 129, 11-17.	1.5	10
90	Reshaping the Energy Landscape Transforms the Mechanism and Binding Kinetics of DNA Threading Intercalation. <i>Biochemistry</i> , 2018, 57, 614-619.	1.2	10

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91	Stochastic unfolding of nanoconfined DNA: Experiments, model and Bayesian analysis. <i>Journal of Chemical Physics</i> , 2018, 149, 215101.	1.2	9
92	Click and Cut: a click chemistry approach to developing oxidative DNA damaging agents. <i>Nucleic Acids Research</i> , 2021, 49, 10289-10308.	6.5	9
93	Comparing mono- and divalent DNA groove binding cyanine dyes—Binding geometries, dissociation rates, and fluorescence properties. <i>Biophysical Chemistry</i> , 2006, 122, 195-205.	1.5	8
94	Genetic variation in the conjugative plasmidome of a hospital effluent multidrug resistant <i>Escherichia coli</i> strain. <i>Chemosphere</i> , 2019, 220, 748-759.	4.2	8
95	Real-time compaction of nanoconfined DNA by an intrinsically disordered macromolecular counterion. <i>Biochemical and Biophysical Research Communications</i> , 2020, 533, 175-180.	1.0	8
96	High prevalence of <i>bla</i> CTX-M-15 and nosocomial transmission of hypervirulent epidemic clones of <i>Klebsiella pneumoniae</i> at a tertiary hospital in Ethiopia. <i>JAC-Antimicrobial Resistance</i> , 2021, 3, dlab001.	0.9	8
97	Shining light on single-strand lesions caused by the chemotherapy drug bleomycin. <i>DNA Repair</i> , 2021, 105, 103153.	1.3	8
98	Organic Anisotropic Excitonic Optical Nanoantennas. <i>Advanced Science</i> , 2022, 9, .	5.6	8
99	Annealing of ssDNA and compaction of dsDNA by the HIV-1 nucleocapsid and Gag proteins visualized using nanofluidic channels. <i>Quarterly Reviews of Biophysics</i> , 2019, 52, e2.	2.4	7
100	Identity of <i>bla</i> CTX-M Carrying Plasmids in Sequential ESBL-E. coli Isolates from Patients with Recurrent Urinary Tract Infections. <i>Microorganisms</i> , 2021, 9, 1138.	1.6	7
101	C-terminal truncation of \pm -synuclein alters DNA structure from extension to compaction. <i>Biochemical and Biophysical Research Communications</i> , 2021, 568, 43-47.	1.0	6
102	High diversity of <i>bla</i> NDM-1-encoding plasmids in <i>Klebsiella pneumoniae</i> isolated from neonates in a Vietnamese hospital. <i>International Journal of Antimicrobial Agents</i> , 2022, 59, 106496.	1.1	6
103	Enhanced DNA strand exchange on positively charged liposomes. <i>Soft Matter</i> , 2008, 4, 2500.	1.2	5
104	Microwave-assisted McMurry polymerization utilizing low-valent titanium for the synthesis of poly 2,6-[1,5-bis(dodecyloxy)naphthylene vinylene] (PNV). <i>Tetrahedron Letters</i> , 2009, 50, 7374-7378.	0.7	5
105	Optical DNA Mapping of Plasmids Reveals Clonal Spread of Carbapenem-Resistant <i>Klebsiella pneumoniae</i> in a Large Thai Hospital. <i>Antibiotics</i> , 2021, 10, 1029.	1.5	5
106	Quantification of single-strand DNA lesions caused by the topoisomerase II poison etoposide using single DNA molecule imaging. <i>Biochemical and Biophysical Research Communications</i> , 2022, 594, 57-62.	1.0	4
107	A simple cut and stretch assay to detect antimicrobial resistance genes on bacterial plasmids by single-molecule fluorescence microscopy. <i>Scientific Reports</i> , 2022, 12, .	1.6	4
108	Noise reduction in single time frame optical DNA maps. <i>PLoS ONE</i> , 2017, 12, e0179041.	1.1	3

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109	Complex Conformational Dynamics of the Heart Failure-Associated Pre-miRNA-377 Hairpin Revealed by Single-Molecule Optical Tweezers. <i>International Journal of Molecular Sciences</i> , 2021, 22, 9008.	1.8	3
110	A Parallelized Nanofluidic Device for High-Throughput Optical DNA Mapping of Bacterial Plasmids. <i>Micromachines</i> , 2021, 12, 1234.	1.4	3
111	Combining dense and sparse labeling in optical DNA mapping. <i>PLoS ONE</i> , 2021, 16, e0260489.	1.1	3
112	Identification and DNA annotation of a plasmid isolated from <i>Chromobacterium violaceum</i> . <i>Scientific Reports</i> , 2018, 8, 5327.	1.6	2
113	Fluorescence Microscopy of Nanochannel-Confined DNA. <i>Methods in Molecular Biology</i> , 2018, 1665, 173-198.	0.4	2
114	Polyphasic characterization of carbapenem-resistant <i>Klebsiella pneumoniae</i> clinical isolates suggests vertical transmission of the blaKPC-3 gene. <i>PLoS ONE</i> , 2021, 16, e0247058.	1.1	2
115	Mechanical characterization of base analogue modified nucleic acids by force spectroscopy. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 14151-14155.	1.3	2
116	Polyclonal spread of blaCTX-M-15 through high-risk clones of <i>Escherichia coli</i> at a tertiary hospital in Ethiopia. <i>Journal of Global Antimicrobial Resistance</i> , 2022, 29, 405-412.	0.9	2
117	Left versus right: Exploring the effects of chiral threading intercalators using optical tweezers. <i>Biophysical Journal</i> , 2022, 121, 3745-3752.	0.2	2
118	Fluorescence Microscopy of Nanochannel-Confined DNA. <i>Methods in Molecular Biology</i> , 2011, 783, 159-179.	0.4	1
119	Detection of structural variations in densely-labelled optical DNA barcodes: A hidden Markov model approach. <i>PLoS ONE</i> , 2021, 16, e0259670.	1.1	1
120	Role of Threading Moiety Size and Chirality in Determining the DNA Binding Characteristics of Threading Intercalators. <i>Biophysical Journal</i> , 2017, 112, 517a.	0.2	0