Stefan Howorka

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/5519356/publications.pdf

Version: 2024-02-01

114	7,716	57758	53230
papers	citations	44 h-index	85 g-index

124	124	124	7298
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Nanopore analytics: sensing of single molecules. Chemical Society Reviews, 2009, 38, 2360.	38.1	1,035
2	Sequence-specific detection of individual DNA strands using engineered nanopores. Nature Biotechnology, 2001, 19, 636-639.	17.5	689
3	Engineered voltage-responsive nanopores. Chemical Society Reviews, 2010, 39, 1115-1132.	38.1	436
4	Detecting protein analytes that modulate transmembrane movement of a polymer chain within a single protein pore. Nature Biotechnology, 2000, 18, 1091-1095.	17.5	337
5	A biomimetic DNA-based channel for the ligand-controlled transport of charged molecular cargo across a biological membrane. Nature Nanotechnology, 2016, 11, 152-156.	31.5	303
6	Self-Assembled DNA Nanopores That Span Lipid Bilayers. Nano Letters, 2013, 13, 2351-2356.	9.1	267
7	Structural and mechanistic insights into the bacterial amyloid secretion channel CsgG. Nature, 2014, 516, 250-253.	27.8	246
8	Building membrane nanopores. Nature Nanotechnology, 2017, 12, 619-630.	31.5	235
9	Lipidâ€Bilayerâ€Spanning DNA Nanopores with a Bifunctional Porphyrin Anchor. Angewandte Chemie - International Edition, 2013, 52, 12069-12072.	13.8	190
10	DNA-Modified Polymer Pores Allow pH- and Voltage-Gated Control of Channel Flux. Journal of the American Chemical Society, 2014, 136, 9902-9905.	13.7	160
11	SbsB structure and lattice reconstruction unveil Ca2+ triggered S-layer assembly. Nature, 2012, 487, 119-122.	27.8	125
12	Bilayer-Spanning DNA Nanopores with Voltage-Switching between Open and Closed State. ACS Nano, 2015, 9, 1117-1126.	14.6	118
13	Glass Surfaces Grafted with High-Density Poly(ethylene glycol) as Substrates for DNA Oligonucleotide Microarrays. Langmuir, 2006, 22, 277-285.	3.5	108
14	Stochastic Detection of Monovalent and Bivalent Proteinâ€“Ligand Interactions. Angewandte Chemie - International Edition, 2004, 43, 842-846.	13.8	105
15	A Protein Pore with a Single Polymer Chain Tethered within the Lumen. Journal of the American Chemical Society, 2000, 122, 2411-2416.	13.7	100
16	Protein components for nanodevices. Current Opinion in Chemical Biology, 2005, 9, 576-584.	6.1	99
17	Spatial Presentation of Cholesterol Units on a DNA Cube as a Determinant of Membrane Protein-Mimicking Functions. Journal of the American Chemical Society, 2019, 141, 1100-1108.	13.7	98
18	Biomimetic Hybrid Nanocontainers with Selective Permeability. Angewandte Chemie - International Edition, 2016, 55, 11106-11109.	13.8	92

#	Article	IF	Citations
19	Imaging Surface Charges of Individual Biomolecules. Nano Letters, 2009, 9, 2769-2773.	9.1	85
20	Probing Distance and Electrical Potential within a Protein Pore with Tethered DNA. Biophysical Journal, 2002, 83, 3202-3210.	0.5	84
21	Rationally engineering natural protein assemblies in nanobiotechnology. Current Opinion in Biotechnology, 2011, 22, 485-491.	6.6	80
22	Location of a Constriction in the Lumen of a Transmembrane Pore by Targeted Covalent Attachment of Polymer Molecules. Journal of General Physiology, 2001, 117, 239-252.	1.9	79
23	A DNA Nanostructure for the Functional Assembly of Chemical Groups with Tunable Stoichiometry and Defined Nanoscale Geometry. Angewandte Chemie - International Edition, 2009, 48, 525-527.	13.8	78
24	Synthetic protein-conductive membrane nanopores built with DNA. Nature Communications, 2019, 10, 5018.	12.8	76
25	Diene-modified nucleotides for the Dielsâ€“Alder-mediated functional tagging of DNA. Nucleic Acids Research, 2009, 37, 1477-1485.	14.5	74
26	Engineering and exploiting protein assemblies in synthetic biology. Molecular BioSystems, 2009, 5, 723.	2.9	65
27	Multi-functional DNA nanostructures that puncture and remodel lipid membranes into hybrid materials. Nature Communications, 2018, 9, 1521.	12.8	65
28	RNA expression profiling at the single molecule level. Genome Research, 2006, 16, 1041-1045.	5.5	62
29	Synthesis and enzymatic incorporation of modified deoxyuridine triphosphates. Organic and Biomolecular Chemistry, 2009, 7, 3826.	2.8	62
30	Stability and dynamics of membrane-spanning DNA nanopores. Nature Communications, 2017, 8, 14784.	12.8	61
31	DNA Nanoarchitectonics: Assembled DNA at Interfaces. Langmuir, 2013, 29, 7344-7353.	3.5	60
32	Membraneâ€Spanning DNA Nanopores with Cytotoxic Effect. Angewandte Chemie - International Edition, 2014, 53, 12466-12470.	13.8	60
33	A Temperature-Gated Nanovalve Self-Assembled from DNA to Control Molecular Transport across Membranes. ACS Nano, 2019, 13, 3334-3340.	14.6	60
34	Nanomechanical recognition measurements of individual DNA molecules reveal epigenetic methylation patterns. Nature Nanotechnology, 2010, 5, 788-791.	31.5	59
35	The Structure of Bacterial S-Layer Proteins. Progress in Molecular Biology and Translational Science, 2011, 103, 73-130.	1.7	58
36	Nanopores as protein sensors. Nature Biotechnology, 2012, 30, 506-507.	17.5	58

#	Article	IF	Citations
37	Chemical Tags Facilitate the Sensing of Individual DNA Strands with Nanopores. Angewandte Chemie - International Edition, 2008, 47, 5565-5568.	13.8	55
38	Surface-accessible Residues in the Monomeric and Assembled Forms of a Bacterial Surface Layer Protein. Journal of Biological Chemistry, 2000, 275, 37876-37886.	3.4	53
39	Gating-like Motions and Wall Porosity in a DNA Nanopore Scaffold Revealed by Molecular Simulations. ACS Nano, 2015, 9, 11209-11217.	14.6	51
40	Preparation and Characterization of Dense Films of Poly(amidoamine) Dendrimers on Indium Tin Oxide. Langmuir, 2007, 23, 8916-8924.	3.5	50
41	Nanoscale DNA Tetrahedra Improve Biomolecular Recognition on Patterned Surfaces. Small, 2012, 8, 89-97.	10.0	50
42	Nanopore-Based Electrical and Label-Free Sensing of Enzyme Activity in Blood Serum. Analytical Chemistry, 2015, 87, 9149-9154.	6.5	49
43	Changing of the guard. Science, 2016, 352, 890-891.	12.6	48
44	Single-molecule microscopy reveals heterogeneous dynamics of lipid raft components upon TCR engagement. International Immunology, 2007, 19, 675-684.	4.0	46
45	Comparing proteins and nucleic acidsÂfor next-generation biomolecularÂengineering. Nature Reviews Chemistry, 2018, 2, 113-130.	30.2	44
46	Nanopores and Nanochannels: From Gene Sequencing to Genome Mapping. ACS Nano, 2016, 10, 9768-9771.	14.6	43
47	Defined Bilayer Interactions of DNA Nanopores Revealed with a Nuclease-Based Nanoprobe Strategy. ACS Nano, 2018, 12, 3263-3271.	14.6	42
48	Design, assembly, and characterization of membrane-spanning DNA nanopores. Nature Protocols, 2021, 16, 86-130.	12.0	40
49	Nanoscale Protein Pores Modified with PAMAM Dendrimers. Journal of the American Chemical Society, 2007, 129, 9640-9649.	13.7	38
50	Painting with Biomolecules at the Nanoscale: Biofunctionalization with Tunable Surface Densities. Nano Letters, 2012, 12, 1983-1989.	9.1	38
51	Highly shape- and size-tunable membrane nanopores made with DNA. Nature Nanotechnology, 2022, 17, 708-713.	31.5	38
52	Improved Protocol for High-Throughput Cysteine Scanning Mutagenesis. BioTechniques, 1998, 25, 764-772.	1.8	36
53	Improved Kelvin probe force microscopy for imaging individual DNA molecules on insulating surfaces. Applied Physics Letters, 2010, 97, .	3.3	36
54	Reading amino acids in a nanopore. Nature Biotechnology, 2020, 38, 159-160.	17.5	35

#	Article	IF	Citations
55	Dense Passivating Poly(ethylene glycol) Films on Indium Tin Oxide Substrates. Langmuir, 2007, 23, 10244-10253.	3.5	34
56	Stochastic Detection of Motor Proteinâ€“RNA Complexes by Singleâ€Channel Current Recording. ChemPhysChem, 2007, 8, 2189-2194.	2.1	34
57	Determination of Free Energy Profiles for the Translocation of Polynucleotides through Î±-Hemolysin Nanopores using Non-Equilibrium Molecular Dynamics Simulations. Journal of Chemical Theory and Computation, 2009, 5, 2135-2148.	5.3	33
58	Single-Molecule AFM Characterization of Individual Chemically Tagged DNA Tetrahedra. ACS Nano, 2011, 5, 7048-7054.	14.6	33
59	Creating regular arrays of nanoparticles with self-assembling protein building blocks. Journal of Materials Chemistry, 2007, 17, 2049.	6.7	30
60	Dynamic Interactions between Lipid-Tethered DNA and Phospholipid Membranes. Langmuir, 2018, 34, 15084-15092.	3.5	30
61	A Biomimetic DNAâ€Based Membrane Gate for Proteinâ€Controlled Transport of Cytotoxic Drugs. Angewandte Chemie - International Edition, 2021, 60, 1903-1908.	13.8	30
62	A reversibly gated protein-transporting membrane channel made of DNA. Nature Communications, 2022, 13, 2271.	12.8	30
63	Selective protein and DNA adsorption on PLL-PEG films modulated by ionic strength. Soft Matter, 2009, 5, 613-621.	2.7	29
64	Lipidâ€Bilayerâ€Spanning DNA Nanopores with a Bifunctional Porphyrin Anchor. Angewandte Chemie, 2013, 125, 12291-12294.	2.0	28
65	Biosensors and biofuel cells with engineered proteins. Molecular BioSystems, 2010, 6, 1548.	2.9	27
66	DNA Strands Attached Inside Single Conical Nanopores: Ionic Pore Characteristics and Insight into DNA Biophysics. Journal of Membrane Biology, 2011, 239, 105-113.	2.1	26
67	Hydrophobic Interactions between DNA Duplexes and Synthetic and Biological Membranes. Journal of the American Chemical Society, 2021, 143, 8305-8313.	13.7	26
68	Cholesterol Anchors Enable Efficient Binding and Intracellular Uptake of DNA Nanostructures. Bioconjugate Chemistry, 2019, 30, 1836-1844.	3.6	25
69	Chemically Labeled Nucleotides and Oligonucleotides Encode DNA for Sensing with Nanopores. Journal of the American Chemical Society, 2009, 131, 7530-7531.	13.7	22
70	Exploring the Relationship between BODIPY Structure and Spectroscopic Properties to Design Fluorophores for Bioimaging. Chemistry - A European Journal, 2020, 26, 863-872.	3.3	21
71	Microarrays and single molecules: an exciting combination. Soft Matter, 2014, 10, 931.	2.7	20
72	Nanopatterning of Biomolecules with Microscale Beads. ChemPhysChem, 2005, 6, 900-903.	2.1	19

#	Article	IF	Citations
73	The Surface Location of Individual Residues in a Bacterial S-Layer Protein. Journal of Molecular Biology, 2008, 377, 589-604.	4.2	19
74	Semipermeable poly(ethylene glycol) films: the relationship between permeability and molecular structure of polymer chains. Soft Matter, 2009, 5, 4104.	2.7	19
75	Disentangling Steric and Electrostatic Factors in Nanoscale Transport Through Confined Space. Nano Letters, 2013, 13, 3890-3896.	9.1	19
76	Structural and Functional Stability of DNA Nanopores in Biological Media. Nanomaterials, 2019, 9, 490.	4.1	19
77	DNA Nanodevices with Selective Immune Cell Interaction and Function. ACS Nano, 2021, 15, 4394-4404.	14.6	19
78	Electrically sensing protease activity with nanopores. Journal of Physics Condensed Matter, 2010, 22, 454103.	1.8	18
79	Atomic Force Microscopyâ€Derived Nanoscale Chip for the Detection of Human Pathogenic Viruses. Small, 2008, 4, 847-854.	10.0	17
80	Self-assembled monolayers of protonated poly(amidoamine) dendrimers on indium tin oxide. Applied Physics Letters, 2008, 92, 013511.	3.3	17
81	Dendrimers in Nanoscale Confinement: The Interplay between Conformational Change and Nanopore Entrance. Nano Letters, 2015, 15, 4822-4828.	9.1	17
82	Molecular and Thermodynamic Factors Explain the Passivation Properties of Poly(ethylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 387 Td 31, 11491-11501.	3.5	15
83	Identifying Assembly-Inhibiting and Assembly-Tolerant Sites in the SbsB S-Layer Protein from Geobacillus stearothermophilus. Journal of Molecular Biology, 2010, 395, 742-753.	4.2	14
84	Biomimetic Hybrid Nanocontainers with Selective Permeability. Angewandte Chemie, 2016, 128, 11272-11275.	2.0	14
85	Principles of Small-Molecule Transport through Synthetic Nanopores. ACS Nano, 2021, 15, 16194-16206.	14.6	14
86	A Photoâ€responsive Smallâ€Molecule Approach for the Optoâ€epigenetic Modulation of DNA Methylation. Angewandte Chemie - International Edition, 2019, 58, 6620-6624.	13.8	13
87	Chemical Tags Mediate the Orthogonal Selfâ€Assembly of DNA Duplexes into Supramolecular Structures. Small, 2010, 6, 1732-1735.	10.0	12
88	Sizing Trinucleotide Repeat Sequences by Singleâ€Molecule Analysis of Fluorescence Brightness. ChemPhysChem, 2007, 8, 1618-1621.	2.1	11
89	Topography and Recognition Imaging of Proteinâ€Patterned Surfaces Generated by AFM Nanolithography. ChemPhysChem, 2009, 10, 1478-1481.	2.1	11
90	Protein Transport through Nanopores Illuminated by Long-Time-Scale Simulations. ACS Nano, 2021, 15, 9900-9912.	14.6	11

#	Article	IF	Citations
91	Nanopores: Generation, Engineering, and Single-Molecule Applications. , 2009, , 293-339.		11
92	Interfacial dipole dynamics of light-emitting diodes incorporating a poly(amidoamine) dendrimer monolayer. Applied Physics Letters, 2010, 97, 043304.	3.3	9
93	Inside Cover: Chemical Tags Facilitate the Sensing of Individual DNA Strands with Nanopores (Angew.) Tj ETQq1 1 0.784314 rgBT /Ov	13.8	8
94	Receptor Arrays for the Selective and Efficient Capturing of Viral Particles. Bioconjugate Chemistry, 2009, 20, 466-475.	3.6	8
95	Triggered Assembly of a DNA-Based Membrane Channel. Journal of the American Chemical Society, 2022, 144, 4333-4344.	13.7	8
96	Self-assembly product formation of theBacillus stearothermophilusPV72/p6 S-layer protein SbsA in the course of autolysis ofBacillus subtilis. FEMS Microbiology Letters, 1999, 172, 187-196.	1.8	7
97	Co-Immobilization of Proteins and DNA Origami Nanoplates to Produce High-Contrast Biomolecular Nanoarrays. Small, 2016, 12, 2877-2884.	10.0	7
98	Tunable DNA Hybridization Enables Spatially and Temporally Controlled Surface-Anchoring of Biomolecular Cargo. Langmuir, 2018, 34, 15021-15027.	3.5	7
99	Arrays of Individual DNA Molecules on Nanopatterned Substrates. Scientific Reports, 2017, 7, 42075.	3.3	6
100	Solvent-dependent photophysics of a red-shifted, biocompatible coumarin photocage. Organic and Biomolecular Chemistry, 2019, 17, 6178-6183.	2.8	6
101	A Photoâ€responsive Smallâ€Molecule Approach for the Optoâ€epigenetic Modulation of DNA Methylation. Angewandte Chemie, 2019, 131, 6692-6696.	2.0	6
102	A Biomimetic DNAâ€Based Membrane Gate for Proteinâ€Controlled Transport of Cytotoxic Drugs. Angewandte Chemie, 2021, 133, 1931-1936.	2.0	6
103	Sizing up DNA nanostructure assembly with native mass spectrometry and ion mobility. Nature Communications, 2022, 13, .	12.8	6
104	High-Throughput Scanning Mutagenesis by Recombination Polymerase Chain Reaction. , 2002, 182, 139-147.		5
105	S-layer Structure in Bacteria and Archaea. , 2014, , 11-37.		4
106	Bringing lipid bilayers into shape. Nature Chemistry, 2017, 9, 611-613.	13.6	4
107	Rebuilding research. Nature Reviews Chemistry, 2022, 6, 81-82.	30.2	3
108	RÃ¼cktitelbild: Membrane-Spanning DNA Nanopores with Cytotoxic Effect (Angew. Chem. 46/2014). Angewandte Chemie, 2014, 126, 12854-12854.	2.0	2

#	Article	IF	Citations
109	Single molecule fluorescence microscopy for ultra-sensitive RNA expression profiling. , 2007, , .		1
110	Broadening students' minds. Nature Nanotechnology, 2015, 10, 992-992.	31.5	1
111	Nucleic Acids Nanoscience at Interfaces Special Issue. Langmuir, 2018, 34, 14691-14691.	3.5	1
112	A DNA Nanostructure for the Functional Assembly of Chemical Groups with Tunable Stoichiometry and Defined Nanoscale Geometry. Angewandte Chemie, 2009, 121, 9178-9178.	2.0	0
113	A DNA Nanostructure for the Functional Assembly of Chemical Groups with Tunable Stoichiometry and Defined Nanoscale Geometry. Angewandte Chemie - International Edition, 2009, 48, 9016-9016.	13.8	0
114	Nanoimaging, Molecular Interaction, and Nanotemplating of Human Rhinovirus. Nanoscience and Technology, 2011, , 589-643.	1.5	0