Stefan Howorka

List of Publications by Year
in descending order

114 papers	7,716 citations	57758 44 h-index	53230 85 g-index
124 all docs	124 docs citations	124 times ranked	7298 citing authors

#	Article	IF	Citations
1	Triggered Assembly of a DNA-Based Membrane Channel. Journal of the American Chemical Society, 2022, 144, 4333-4344.	13.7	8
2	Rebuilding research. Nature Reviews Chemistry, 2022, 6, 81-82.	30.2	3
3	Highly shape- and size-tunable membrane nanopores made with DNA. Nature Nanotechnology, 2022, 17, 708-713.	31.5	38
4	A reversibly gated protein-transporting membrane channel made of DNA. Nature Communications, 2022, 13, 2271.	12.8	30
5	Sizing up DNA nanostructure assembly with native mass spectrometry and ion mobility. Nature Communications, 2022, 13, .	12.8	6
6	A Biomimetic DNAâ€Based Membrane Gate for Proteinâ€Controlled Transport of Cytotoxic Drugs. Angewandte Chemie - International Edition, 2021, 60, 1903-1908.	13.8	30
7	A Biomimetic DNAâ€Based Membrane Gate for Proteinâ€Controlled Transport of Cytotoxic Drugs. Angewandte Chemie, 2021, 133, 1931-1936.	2.0	6
8	Design, assembly, and characterization of membrane-spanning DNA nanopores. Nature Protocols, 2021, 16, 86-130.	12.0	40
9	Hydrophobic Interactions between DNA Duplexes and Synthetic and Biological Membranes. Journal of the American Chemical Society, 2021, 143, 8305-8313.	13.7	26
10	Protein Transport through Nanopores Illuminated by Long-Time-Scale Simulations. ACS Nano, 2021, 15, 9900-9912.	14.6	11
11	Principles of Small-Molecule Transport through Synthetic Nanopores. ACS Nano, 2021, 15, 16194-16206.	14.6	14
12	DNA Nanodevices with Selective Immune Cell Interaction and Function. ACS Nano, 2021, 15, 4394-4404.	14.6	19
13	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
14	Reading amino acids in a nanopore. Nature Biotechnology, 2020, 38, 159-160.	17.5	35
15	Synthetic protein-conductive membrane nanopores built with DNA. Nature Communications, 2019, 10, 5018.	12.8	76
16	Solvent-dependent photophysics of a red-shifted, biocompatible coumarin photocage. Organic and Biomolecular Chemistry, 2019, 17, 6178-6183.	2.8	6
17	Structural and Functional Stability of DNA Nanopores in Biological Media. Nanomaterials, 2019, 9, 490.	4.1	19
18	A Temperature-Gated Nanovalve Self-Assembled from DNA to Control Molecular Transport across Membranes. ACS Nano, 2019, 13, 3334-3340.	14.6	60

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19	A Photoâ€responsive Smallâ€Molecule Approach for the Optoâ€epigenetic Modulation of DNA Methylation. Angewandte Chemie, 2019, 131, 6692-6696.	2.0	6
20	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
21	Cholesterol Anchors Enable Efficient Binding and Intracellular Uptake of DNA Nanostructures. Bioconjugate Chemistry, 2019, 30, 1836-1844.	3.6	25
22	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
23	Defined Bilayer Interactions of DNA Nanopores Revealed with a Nuclease-Based Nanoprobe Strategy. ACS Nano, 2018, 12, 3263-3271.	14.6	42
24	Multi-functional DNA nanostructures that puncture and remodel lipid membranes into hybrid materials. Nature Communications, 2018, 9, 1521.	12.8	65
25	Nucleic Acids Nanoscience at Interfaces Special Issue. Langmuir, 2018, 34, 14691-14691.	3.5	1
26	Dynamic Interactions between Lipid-Tethered DNA and Phospholipid Membranes. Langmuir, 2018, 34, 15084-15092.	3.5	30
27	Tunable DNA Hybridization Enables Spatially and Temporally Controlled Surface-Anchoring of Biomolecular Cargo. Langmuir, 2018, 34, 15021-15027.	3.5	7
28	Comparing proteins and nucleic acidsÂfor next-generation biomolecularÂengineering. Nature Reviews Chemistry, 2018, 2, 113-130.	30.2	44
29	Arrays of Individual DNA Molecules on Nanopatterned Substrates. Scientific Reports, 2017, 7, 42075.	3.3	6
30	Bringing lipid bilayers into shape. Nature Chemistry, 2017, 9, 611-613.	13.6	4
31	Stability and dynamics of membrane-spanning DNA nanopores. Nature Communications, 2017, 8, 14784.	12.8	61
32	Building membrane nanopores. Nature Nanotechnology, 2017, 12, 619-630.	31.5	235
33	Co-Immobilization of Proteins and DNA Origami Nanoplates to Produce High-Contrast Biomolecular Nanoarrays. Small, 2016, 12, 2877-2884.	10.0	7
34	Changing of the guard. Science, 2016, 352, 890-891.	12.6	48
35	Biomimetic Hybrid Nanocontainers with Selective Permeability. Angewandte Chemie, 2016, 128, 11272-11275.	2.0	14
36	Biomimetic Hybrid Nanocontainers with Selective Permeability. Angewandte Chemie - International Edition, 2016, 55, 11106-11109.	13.8	92

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37	Nanopores and Nanochannels: From Gene Sequencing to Genome Mapping. ACS Nano, 2016, 10, 9768-9771.	14.6	43
38	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
39	Dendrimers in Nanoscale Confinement: The Interplay between Conformational Change and Nanopore Entrance. Nano Letters, 2015, 15, 4822-4828.	9.1	17
40	Gating-like Motions and Wall Porosity in a DNA Nanopore Scaffold Revealed by Molecular Simulations. ACS Nano, 2015, 9, 11209-11217.	14.6	51
41	Broadening students' minds. Nature Nanotechnology, 2015, 10, 992-992.	31.5	1
42	Molecular and Thermodynamic Factors Explain the Passivation Properties of Poly(ethylene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 547 Td 31, 11491-11501.	3.5	15
43	Nanopore-Based Electrical and Label-Free Sensing of Enzyme Activity in Blood Serum. Analytical Chemistry, 2015, 87, 9149-9154.	6.5	49
44	Bilayer-Spanning DNA Nanopores with Voltage-Switching between Open and Closed State. ACS Nano, 2015, 9, 1117-1126.	14.6	118
45	Membraneâ€Spanning DNA Nanopores with Cytotoxic Effect. Angewandte Chemie - International Edition, 2014, 53, 12466-12470.	13.8	60
46	S-layer Structure in Bacteria and Archaea. , 2014, , 11-37.		4
47	RÃ¼ckTitelbild: Membrane-Spanning DNA Nanopores with Cytotoxic Effect (Angew. Chem. 46/2014). Angewandte Chemie, 2014, 126, 12854-12854.	2.0	2
48	Structural and mechanistic insights into the bacterial amyloid secretion channel CsgG. Nature, 2014, 516, 250-253.	27.8	246
49	Microarrays and single molecules: an exciting combination. Soft Matter, 2014, 10, 931.	2.7	20
50	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
51	Lipidâ€Bilayerâ€Spanning DNA Nanopores with a Bifunctional Porphyrin Anchor. Angewandte Chemie - International Edition, 2013, 52, 12069-12072.	13.8	190
52	DNA Nanoarchitectonics: Assembled DNA at Interfaces. Langmuir, 2013, 29, 7344-7353.	3.5	60
53	Self-Assembled DNA Nanopores That Span Lipid Bilayers. Nano Letters, 2013, 13, 2351-2356.	9.1	267
54	Disentangling Steric and Electrostatic Factors in Nanoscale Transport Through Confined Space. Nano Letters, 2013, 13, 3890-3896.	9.1	19

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55	Lipidâ€Bilayerâ€Spanning DNA Nanopores with a Bifunctional Porphyrin Anchor. Angewandte Chemie, 2013, 125, 12291-12294.	2.0	28
56	Painting with Biomolecules at the Nanoscale: Biofunctionalization with Tunable Surface Densities. Nano Letters, 2012, 12, 1983-1989.	9.1	38
57	Nanoscale DNA Tetrahedra Improve Biomolecular Recognition on Patterned Surfaces. Small, 2012, 8, 89-97.	10.0	50
58	Nanopores as protein sensors. Nature Biotechnology, 2012, 30, 506-507.	17.5	58
59	SbsB structure and lattice reconstruction unveil Ca2+ triggered S-layer assembly. Nature, 2012, 487, 119-122.	27.8	125
60	The Structure of Bacterial S-Layer Proteins. Progress in Molecular Biology and Translational Science, 2011, 103, 73-130.	1.7	58
61	Single-Molecule AFM Characterization of Individual Chemically Tagged DNA Tetrahedra. ACS Nano, 2011, 5, 7048-7054.	14.6	33
62	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
63	Rationally engineering natural protein assemblies in nanobiotechnology. Current Opinion in Biotechnology, 2011, 22, 485-491.	6.6	80
64	Nanoimaging, Molecular Interaction, and Nanotemplating of Human Rhinovirus. Nanoscience and Technology, 2011, , 589-643.	1.5	0
65	Chemical Tags Mediate the Orthogonal Selfâ€Assembly of DNA Duplexes into Supramolecular Structures. Small, 2010, 6, 1732-1735.	10.0	12
66	Nanomechanical recognition measurements of individual DNA molecules reveal epigenetic methylation patterns. Nature Nanotechnology, 2010, 5, 788-791.	31.5	59
67	Interfacial dipole dynamics of light-emitting diodes incorporating a poly(amidoamine) dendrimer monolayer. Applied Physics Letters, 2010, 97, 043304.	3.3	9
68	Improved Kelvin probe force microscopy for imaging individual DNA molecules on insulating surfaces. Applied Physics Letters, 2010, 97, .	3.3	36
69	Electrically sensing protease activity with nanopores. Journal of Physics Condensed Matter, 2010, 22, 454103.	1.8	18
70	Biosensors and biofuel cells with engineered proteins. Molecular BioSystems, 2010, 6, 1548.	2.9	27
71	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
72	Engineered voltage-responsive nanopores. Chemical Society Reviews, 2010, 39, 1115-1132.	38.1	436

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73	Diene-modified nucleotides for the Dielsâ€“Alder-mediated functional tagging of DNA. Nucleic Acids Research, 2009, 37, 1477-1485.	14.5	74
74	Topography and Recognition Imaging of Proteinâ€Patterned Surfaces Generated by AFM Nanolithography. ChemPhysChem, 2009, 10, 1478-1481.	2.1	11
75	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
76	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
77	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
78	Imaging Surface Charges of Individual Biomolecules. Nano Letters, 2009, 9, 2769-2773.	9.1	85
79	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
80	Receptor Arrays for the Selective and Efficient Capturing of Viral Particles. Bioconjugate Chemistry, 2009, 20, 466-475.	3.6	8
81	Selective protein and DNA adsorption on PLL-PEG films modulated by ionic strength. Soft Matter, 2009, 5, 613-621.	2.7	29
82	Nanopore analytics: sensing of single molecules. Chemical Society Reviews, 2009, 38, 2360.	38.1	1,035
83	Chemically Labeled Nucleotides and Oligonucleotides Encode DNA for Sensing with Nanopores. Journal of the American Chemical Society, 2009, 131, 7530-7531.	13.7	22
84	Semipermeable poly(ethylene glycol) films: the relationship between permeability and molecular structure of polymer chains. Soft Matter, 2009, 5, 4104.	2.7	19
85	Engineering and exploiting protein assemblies in synthetic biology. Molecular BioSystems, 2009, 5, 723.	2.9	65
86	Synthesis and enzymatic incorporation of modified deoxyuridine triphosphates. Organic and Biomolecular Chemistry, 2009, 7, 3826.	2.8	62
87	Nanopores: Generation, Engineering, and Single-Molecule Applications. , 2009, , 293-339.		11
88	Atomic Force Microscopyâ€Derived Nanoscale Chip for the Detection of Human Pathogenic Viruses. Small, 2008, 4, 847-854.	10.0	17
89	Chemical Tags Facilitate the Sensing of Individual DNA Strands with Nanopores. Angewandte Chemie - International Edition, 2008, 47, 5565-5568.	13.8	55
90	Inside Cover: Chemical Tags Facilitate the Sensing of Individual DNA Strands with Nanopores (Angew.) Tj ETQq0 0 0 rgBT /Overlock 10 T	13.8	8

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91	The Surface Location of Individual Residues in a Bacterial S-Layer Protein. Journal of Molecular Biology, 2008, 377, 589-604.	4.2	19
92	Self-assembled monolayers of protonated poly(amidoamine) dendrimers on indium tin oxide. Applied Physics Letters, 2008, 92, 013511.	3.3	17
93	Single molecule fluorescence microscopy for ultra-sensitive RNA expression profiling. , 2007, , .		1
94	Single-molecule microscopy reveals heterogeneous dynamics of lipid raft components upon TCR engagement. International Immunology, 2007, 19, 675-684.	4.0	46
95	Preparation and Characterization of Dense Films of Poly(amidoamine) Dendrimers on Indium Tin Oxide. Langmuir, 2007, 23, 8916-8924.	3.5	50
96	Creating regular arrays of nanoparticles with self-assembling protein building blocks. Journal of Materials Chemistry, 2007, 17, 2049.	6.7	30
97	Dense Passivating Poly(ethylene glycol) Films on Indium Tin Oxide Substrates. Langmuir, 2007, 23, 10244-10253.	3.5	34
98	Nanoscale Protein Pores Modified with PAMAM Dendrimers. Journal of the American Chemical Society, 2007, 129, 9640-9649.	13.7	38
99	Sizing Trinucleotide Repeat Sequences by Singleâ€Molecule Analysis of Fluorescence Brightness. ChemPhysChem, 2007, 8, 1618-1621.	2.1	11
100	Stochastic Detection of Motor Proteinâ€“RNA Complexes by Singleâ€Channel Current Recording. ChemPhysChem, 2007, 8, 2189-2194.	2.1	34
101	Glass Surfaces Grafted with High-Density Poly(ethylene glycol) as Substrates for DNA Oligonucleotide Microarrays. Langmuir, 2006, 22, 277-285.	3.5	108
102	RNA expression profiling at the single molecule level. Genome Research, 2006, 16, 1041-1045.	5.5	62
103	Protein components for nanodevices. Current Opinion in Chemical Biology, 2005, 9, 576-584.	6.1	99
104	Nanopatterning of Biomolecules with Microscale Beads. ChemPhysChem, 2005, 6, 900-903.	2.1	19
105	Stochastic Detection of Monovalent and Bivalent Proteinâ€“Ligand Interactions. Angewandte Chemie - International Edition, 2004, 43, 842-846.	13.8	105
106	High-Throughput Scanning Mutagenesis by Recombination Polymerase Chain Reaction. , 2002, 182, 139-147.		5
107	Probing Distance and Electrical Potential within a Protein Pore with Tethered DNA. Biophysical Journal, 2002, 83, 3202-3210.	0.5	84
108	Sequence-specific detection of individual DNA strands using engineered nanopores. Nature Biotechnology, 2001, 19, 636-639.	17.5	689

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109	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
110	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
111	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
112	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
113	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
114	Improved Protocol for High-Throughput Cysteine Scanning Mutagenesis. BioTechniques, 1998, 25, 764-772.	1.8	36