

Andrew J Turberfield

List of Publications by Year in descending order

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119
papers

15,935
citations

36303

51
h-index

18647

119
g-index

130
all docs

130
docs citations

130
times ranked

9818
citing authors

#	ARTICLE	IF	CITATIONS
1	A DNA-fuelled molecular machine made of DNA. <i>Nature</i> , 2000, 406, 605-608.	27.8	2,247
2	Fabrication of photonic crystals for the visible spectrum by holographic lithography. <i>Nature</i> , 2000, 404, 53-56.	27.8	1,720
3	Engineering Entropy-Driven Reactions and Networks Catalyzed by DNA. <i>Science</i> , 2007, 318, 1121-1125.	12.6	1,022
4	Rapid Chiral Assembly of Rigid DNA Building Blocks for Molecular Nanofabrication. <i>Science</i> , 2005, 310, 1661-1665.	12.6	1,013
5	DNA nanomachines. <i>Nature Nanotechnology</i> , 2007, 2, 275-284.	31.5	934
6	DNA Cage Delivery to Mammalian Cells. <i>ACS Nano</i> , 2011, 5, 5427-5432.	14.6	506
7	A Unidirectional DNA Walker That Moves Autonomously along a Track. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 4906-4911.	13.8	441
8	The single-step synthesis of a DNA tetrahedron Electronic supplementary information (ESI) available: stoichiometry control. See http://www.rsc.org/suppdata/cc/b4/b402293a/ . <i>Chemical Communications</i> , 2004, , 1372.	4.1	397
9	Reconfigurable, braced, three-dimensional DNA nanostructures. <i>Nature Nanotechnology</i> , 2008, 3, 93-96.	31.5	356
10	Direct observation of stepwise movement of a synthetic molecular transporter. <i>Nature Nanotechnology</i> , 2011, 6, 166-169.	31.5	351
11	A DNA-based molecular motor that can navigate a network of tracks. <i>Nature Nanotechnology</i> , 2012, 7, 169-173.	31.5	340
12	DNA Fuel for Free-Running Nanomachines. <i>Physical Review Letters</i> , 2003, 90, 118102.	7.8	338
13	A Free-Running DNA Motor Powered by a Nicking Enzyme. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 4358-4361.	13.8	305
14	Remote Toehold: A Mechanism for Flexible Control of DNA Hybridization Kinetics. <i>Journal of the American Chemical Society</i> , 2011, 133, 2177-2182.	13.7	263
15	Time-Resolved Photoluminescence of Two-Dimensional Hot Carriers in GaAs-AlGaAs Heterostructures. <i>Physical Review Letters</i> , 1984, 53, 1841-1844.	7.8	262
16	Single-Molecule Protein Encapsulation in a Rigid DNA Cage. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 7414-7417.	13.8	252
17	Optical detection of the integer and fractional quantum Hall effects in GaAs. <i>Physical Review Letters</i> , 1990, 65, 637-640.	7.8	240
18	Self-Assembly of Chiral DNA Nanotubes. <i>Journal of the American Chemical Society</i> , 2004, 126, 16342-16343.	13.7	207

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19	Coordinated Chemomechanical Cycles: A Mechanism for Autonomous Molecular Motion. <i>Physical Review Letters</i> , 2008, 101, 238101.	7.8	185
20	DNA Hairpins: Fuel for Autonomous DNA Devices. <i>Biophysical Journal</i> , 2006, 91, 2966-2975.	0.5	183
21	Engineering a 2D Protein-DNA Crystal. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 3057-3061.	13.8	179
22	Programmable energy landscapes for kinetic control of DNA strand displacement. <i>Nature Communications</i> , 2014, 5, 5324.	12.8	172
23	Reversible Logic Circuits Made of DNA. <i>Journal of the American Chemical Society</i> , 2011, 133, 20080-20083.	13.7	160
24	A Programmable Molecular Robot. <i>Nano Letters</i> , 2011, 11, 982-987.	9.1	155
25	Guiding the folding pathway of DNA origami. <i>Nature</i> , 2015, 525, 82-86.	27.8	146
26	A Self-Assembled DNA Bipyramid. <i>Journal of the American Chemical Society</i> , 2007, 129, 6992-6993.	13.7	144
27	Multistep DNA-Templated Reactions for the Synthesis of Functional Sequence Controlled Oligomers. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 7948-7951.	13.8	144
28	An autonomous molecular assembler for programmable chemical synthesis. <i>Nature Chemistry</i> , 2016, 8, 542-548.	13.6	130
29	Quantitative Single-Molecule Surface-Enhanced Raman Scattering by Optothermal Tuning of DNA Origami-Assembled Plasmonic Nanoantennas. <i>ACS Nano</i> , 2016, 10, 9809-9815.	14.6	127
30	Mechanism for a Directional, Processive, and Reversible DNA Motor. <i>Small</i> , 2009, 5, 1513-1516.	10.0	110
31	DNA-Templated Protein Arrays for Single-Molecule Imaging. <i>Nano Letters</i> , 2011, 11, 657-660.	9.1	99
32	“Giant Surfactants” Created by the Fast and Efficient Functionalization of a DNA Tetrahedron with a Temperature-Responsive Polymer. <i>ACS Nano</i> , 2013, 7, 8561-8572.	14.6	93
33	Optimizing DNA Nanotechnology through Coarse-Grained Modeling: A Two-Footed DNA Walker. <i>ACS Nano</i> , 2013, 7, 2479-2490.	14.6	88
34	Infiltration and Inversion of Holographically Defined Polymer Photonic Crystal Templates by Atomic Layer Deposition. <i>Advanced Materials</i> , 2006, 18, 1561-1565.	21.0	87
35	Ordering Gold Nanoparticles with DNA Origami Nanoflowers. <i>ACS Nano</i> , 2016, 10, 7303-7306.	14.6	87
36	High-Resolution Structural Analysis of a DNA Nanostructure by cryoEM. <i>Nano Letters</i> , 2009, 9, 2747-2750.	9.1	82

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37	Holographic photonic crystals with diamond symmetry. <i>Physical Review B</i> , 2003, 68, .	3.2	79
38	Programmable One-Pot Multistep Organic Synthesis Using DNA Junctions. <i>Journal of the American Chemical Society</i> , 2012, 134, 1446-1449.	13.7	78
39	Transport and self-organization across different length scales powered by motor proteins and programmed by DNA. <i>Nature Nanotechnology</i> , 2014, 9, 44-47.	31.5	75
40	Sequence-specific synthesis of macromolecules using DNA-templated chemistry. <i>Chemical Communications</i> , 2012, 48, 5614.	4.1	74
41	Three-Dimensional Optical Lithography for Photonic Microstructures. <i>Advanced Materials</i> , 2006, 18, 1557-1560.	21.0	71
42	The Evolution of DNA-Templated Synthesis as a Tool for Materials Discovery. <i>Accounts of Chemical Research</i> , 2017, 50, 2496-2509.	15.6	69
43	A Facile Method for Reversibly Linking a Recombinant Protein to DNA. <i>ChemBioChem</i> , 2009, 10, 1551-1557.	2.6	68
44	Spin and Charge Density Excitations and the Collapse of the Fractional Quantum Hall State at $\nu=1/3$. <i>Physical Review Letters</i> , 1997, 78, 4095-4098.	7.8	67
45	Combinatorial Displacement of DNA Strands: Application to Matrix Multiplication and Weighted Sums. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 1189-1192.	13.8	67
46	Design of hidden thermodynamic driving for non-equilibrium systems via mismatch elimination during DNA strand displacement. <i>Nature Communications</i> , 2020, 11, 2562.	12.8	66
47	Non-covalent Single Transcription Factor Encapsulation Inside a DNA Cage. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 2284-2288.	13.8	63
48	Time-resolved photoluminescence from hot two-dimensional carriers in GaAs/GaAlAs MQWS. <i>Surface Science</i> , 1986, 170, 511-519.	1.9	55
49	Variable sample temperature scanning superconducting quantum interference device microscope. <i>Applied Physics Letters</i> , 1999, 74, 4011-4013.	3.3	52
50	Sol-Gel Organic-Inorganic Composites for 3-D Holographic Lithography of Photonic Crystals with Submicron Periodicity. <i>Chemistry of Materials</i> , 2003, 15, 2301-2304.	6.7	52
51	Kinetically Controlled Self-Assembly of DNA Oligomers. <i>Journal of the American Chemical Society</i> , 2009, 131, 2422-2423.	13.7	51
52	Domain-swap polymerization drives the self-assembly of the bacterial flagellar motor. <i>Nature Structural and Molecular Biology</i> , 2016, 23, 197-203.	8.2	48
53	Photonic crystals for the visible spectrum by holographic lithography. <i>Optical and Quantum Electronics</i> , 2002, 34, 3-12.	3.3	45
54	Peptide Assembly Directed and Quantified Using Megadalton DNA Nanostructures. <i>ACS Nano</i> , 2019, 13, 9927-9935.	14.6	45

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55	Incompressible electron liquid states studied by optical spectroscopy. <i>Physical Review B</i> , 1993, 47, 4794-4797.	3.2	44
56	DNA origami signposts for identifying proteins on cell membranes by electron cryotomography. <i>Cell</i> , 2021, 184, 1110-1121.e16.	28.9	43
57	Modifying Membrane Morphology and Interactions with DNA Origami Clathrin-Mimic Networks. <i>ACS Nano</i> , 2019, 13, 9973-9979.	14.6	42
58	Dimensions and Global Twist of Single-Layer DNA Origami Measured by Small-Angle X-ray Scattering. <i>ACS Nano</i> , 2018, 12, 5791-5799.	14.6	35
59	Photonic Crystals Made by Holographic Lithography. <i>MRS Bulletin</i> , 2001, 26, 632-636.	3.5	34
60	Peptidomimetic bond formation by DNA-templated acyl transfer. <i>Organic and Biomolecular Chemistry</i> , 2011, 9, 1661.	2.8	33
61	Registration of single quantum dots using cryogenic laser photolithography. <i>Applied Physics Letters</i> , 2006, 88, 193106.	3.3	32
62	Chiral DNA Origami Nanotubes with Well-Defined and Addressable Inside and Outside Surfaces. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 7687-7690.	13.8	29
63	Modelling DNA origami self-assembly at the domain level. <i>Journal of Chemical Physics</i> , 2015, 143, 165102.	3.0	28
64	Small Molecule Signals that Direct the Route of a Molecular Cargo. <i>Small</i> , 2012, 8, 3593-3597.	10.0	26
65	A clocked finite state machine built from DNA. <i>Chemical Communications</i> , 2013, 49, 237-239.	4.1	26
66	DNA walker circuits: computational potential, design, and verification. <i>Natural Computing</i> , 2015, 14, 195-211.	3.0	26
67	The Control of Shrinkage and Thermal Instability in SU-8 Photoresists for Holographic Lithography. <i>Advanced Functional Materials</i> , 2011, 21, 1593-1601.	14.9	25
68	DNA Walker Circuits: Computational Potential, Design, and Verification. <i>Lecture Notes in Computer Science</i> , 2013, , 31-45.	1.3	25
69	DNA as an engineering material. <i>Physics World</i> , 2003, 16, 43-46.	0.0	24
70	Design of an Autonomous DNA Nanomechanical Device Capable of Universal Computation and Universal Translational Motion. <i>Lecture Notes in Computer Science</i> , 2005, , 426-444.	1.3	24
71	DNA Monofunctionalization of Quantum Dots. <i>ChemBioChem</i> , 2009, 10, 1781-1783.	2.6	23
72	The Formal Language and Design Principles of Autonomous DNA Walker Circuits. <i>ACS Synthetic Biology</i> , 2016, 5, 878-884.	3.8	23

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73	Practical aspects of structural and dynamic DNA nanotechnology. MRS Bulletin, 2017, 42, 889-896.	3.5	23
74	A Two-Dimensional DNA Array: The Three-Layer Logpile. Journal of the American Chemical Society, 2009, 131, 13574-13575.	13.7	21
75	Optical spectroscopy of correlated phases of degenerate two-dimensional electrons. Surface Science, 1992, 263, 1-8.	1.9	20
76	Designs of Autonomous Unidirectional Walking DNA Devices. Lecture Notes in Computer Science, 2005, , 410-425.	1.3	17
77	Photonic crystals with a chiral basis by holographic lithography. Photonics and Nanostructures - Fundamentals and Applications, 2005, 3, 79-83.	2.0	16
78	Electron Diffraction from a 2D Electron Wigner Crystal. Europhysics Letters, 1995, 29, 333-338.	2.0	15
79	Experimental aspects of DNA neural network computation. Soft Computing, 2001, 5, 10-18.	3.6	15
80	Self-propulsion of catalytic nanomotors synthesised by seeded growth of asymmetric platinum-gold nanoparticles. Chemical Communications, 2018, 54, 1901-1904.	4.1	15
81	Design and assembly of double-crossover linear arrays of micrometre length using rolling circle replication. Nanotechnology, 2005, 16, 1574-1577.	2.6	13
82	Replicated photonic crystals by atomic layer deposition within holographically defined polymer templates. Applied Physics Letters, 2009, 94, 263109.	3.3	13
83	Geometrical self-assembly. Nature Chemistry, 2011, 3, 580-581.	13.6	12
84	A DNA Network as an Information Processing System. International Journal of Molecular Sciences, 2012, 13, 5125-5137.	4.1	12
85	Photoluminescence study of two-dimensional carriers in the presence of in-plane magnetic fields. Surface Science, 1986, 170, 624-628.	1.9	11
86	Optically detected nuclear magnetic resonance from a single heterojunction in the fractional quantum Hall regime. Physica B: Condensed Matter, 1998, 256-258, 104-112.	2.7	11
87	Templated self-assembly of wedge-shaped DNA arrays. Tetrahedron, 2008, 64, 8530-8534.	1.9	11
88	Controlling the Bioreceptor Spatial Distribution at the Nanoscale for Single Molecule Counting in Microwell Arrays. ACS Sensors, 2019, 4, 2327-2335.	7.8	11
89	Strategies for Constructing and Operating DNA Origami Linear Actuators. Small, 2021, 17, e2007704.	10.0	11
90	Skyrmion-hole excitations at $\nu=1$ studied by photoluminescence spectroscopy. Physica B: Condensed Matter, 1998, 249-251, 544-548.	2.7	10

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91	Design of Autonomous DNA Cellular Automata. Lecture Notes in Computer Science, 2006, , 399-416.	1.3	10
92	A DNA molecular printer capable of programmable positioning and patterning in two dimensions. Science Robotics, 2022, 7, eabn5459.	17.6	9
93	Quasi-particle recombination and spatial ordering of 2D electrons in the extreme quantum limit. Surface Science, 1994, 305, 61-66.	1.9	7
94	Cryogenic two-photon laser photolithography with SU-8. Applied Physics Letters, 2006, 88, 143123.	3.3	7
95	Chiral DNA Origami Nanotubes with Well-Defined and Addressable Inside and Outside Surfaces. Angewandte Chemie, 2018, 130, 7813-7816.	2.0	7
96	Investigation of inter-valley scattering and hot phonon dynamics in GaAs quantum wells using femtosecond luminescence intensity correlation. Superlattices and Microstructures, 1989, 6, 199-202.	3.1	6
97	Optical spectroscopy of GaAs in the extreme quantum limit: integer and fractional quantum Hall effect, and onset of the electron solid. Physica B: Condensed Matter, 1991, 169, 336-354.	2.7	6
98	Low-energy electronic spin excitations between filling factors $\nu=1$ and studied by optically detected nuclear magnetic resonance. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 56-59.	2.7	6
99	Magnetic field-dependent hot carrier relaxation in GaAs quantum wells. Solid-State Electronics, 1988, 31, 387-390.	1.4	5
100	Luminescence from degenerate two-dimensional electrons at an ultrahigh mobility heterojunction. Surface Science, 1992, 263, 614-617.	1.9	5
101	Optical studies of tunneling in double barrier diodes. Superlattices and Microstructures, 1991, 9, 357-361.	3.1	4
102	Optical investigation of tunneling in AlAs/GaAs/AlAs double-barrier diodes. Physical Review B, 1993, 47, 15705-15716.	3.2	4
103	Towards registered single quantum dot photonic devices. Nanotechnology, 2008, 19, 455307.	2.6	4
104	Picosecond photoluminescence measurements of Landau level lifetimes and time dependent Landau level linebroadening in modulation-doped GaAs-GaAlAs multiple quantum wells. Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics, 1985, 134, 318-322.	0.9	3
105	Picosecond photoluminescence intensity correlation measurements of hot carriers in GaAs/AlxGa1-xAs quantum wells. Journal of Luminescence, 1994, 59, 303-313.	3.1	3
106	Automated Design and Verification of Localized DNA Computation Circuits. Lecture Notes in Computer Science, 2015, , 168-180.	1.3	3
107	Molecular machinery built from DNA. , 2013, , .		2
108	DNA nanomachines. , 2009, , 124-133.		2

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109	Optical Measurements of Correlated States of Two Dimensional Electrons in GaAs at Low Temperatures and High Magnetic Fields. Physica Scripta, 1991, T39, 223-229.	2.5	1
110	Correlated states of degenerate 2D electrons studied by optical spectroscopy. Physica Scripta, 1992, T45, 164-167.	2.5	1
111	Role of spin excitations in the fractional quantum Hall effect at. Physica B: Condensed Matter, 1998, 249-251, 44-48.	2.7	1
112	Holographic fabrication of photonic crystals. , 2005, 5720, 1.		1
113	Reconfigurable π -junction DNA Origami. Angewandte Chemie - International Edition, 2020, 59, 15942-15946.	13.8	1
114	Algorithmic Control: The Assembly and Operation of DNA Nanostructures and Molecular Machinery. Natural Computing Series, 2009, , 215-225.	2.2	1
115	1P127 Smallest structure revealed by cryo-EM(Nucleic acid,Poster Presentations). Seibutsu Butsuri, 2007, 47, S55.	0.1	0
116	2P-118 Structural analysis of a DNA nanomachine with a piston motion(The 46th Annual Meeting of the Tj ETQq0 0.0 rgBT /Qverlock 10)	0.1	0
117	Reconfigurable π -junction DNA Origami. Angewandte Chemie, 2020, 132, 16076-16080.	2.0	0
118	A Geometrical Allosteric DNA Switch. Lecture Notes in Computer Science, 2010, , 189-189.	1.3	0
119	Template-directed conjugation of heterogeneous oligonucleotides to a homobifunctional molecule for programmable supramolecular assembly. Nanoscale, 2022, 14, 4463-4468.	5.6	0