Xinran Wang

List of Publications by Year in Descending Order

187 papers	28,266 citations	68 h-index	167 g-index
205 ext. papers	31,838 ext. citations	12.4 avg, IF	7.05 L-index

#	Paper	IF	Citations
187	Retina-Inspired Self-Powered Artificial Optoelectronic Synapses with Selective Detection in Organic Asymmetric Heterojunctions.. *Advanced Science*, **2022**, e2103494	13.6	6
186	Aggregation-Dependent Dielectric Permittivity in 2D Molecular Crystals.. *Small Methods*, **2022**, e2101198	12.8	
185	Molecular-Layer-Defined Asymmetric Schottky Contacts in Organic Planar Diodes for Self-Powered Optoelectronic Synapses.. *Journal of Physical Chemistry Letters*, **2022**, 2338-2347	6.4	1
184	Non-invasive digital etching of van der Waals semiconductors.. *Nature Communications*, **2022**, 13, 1844	17.4	1
183	Uniform nucleation and epitaxy of bilayer molybdenum disulfide on sapphire.. *Nature*, **2022**, 605, 69-75	50.4	19
182	A compact model for transition metal dichalcogenide field effect transistors with effects of interface traps. *Science China Information Sciences*, **2021**, 64, 1	3.4	2
181	Sub-thermionic, ultra-high-gain organic transistors and circuits. *Nature Communications*, **2021**, 12, 1928	17.4	28
180	Photoresist as a choice of molecularly thin gate dielectrics in graphene-based devices. *APL Materials*, **2021**, 9, 031104	5.7	
179	Large-area uniform few-layer PtS2: Synthesis, structure and physical properties. *Materials Today Physics*, **2021**, 18, 100376	8	7
178	Ultra-Narrowband Photodetector with High Responsivity Enabled by Integrating Monolayer J-Aggregate Organic Crystal with Graphene. *Advanced Optical Materials*, **2021**, 9, 2100158	8.1	5
177	Controlling relaxation dynamics of excitonic states in monolayer transition metal dichalcogenides WS2 through interface engineering. *Applied Physics Letters*, **2021**, 118, 121104	3.4	3
176	Epitaxial growth of wafer-scale molybdenum disulfide semiconductor single crystals on sapphire. *Nature Nanotechnology*, **2021**, 16, 1201-1207	28.7	75
175	Three-dimensional monolithic micro-LED display driven by atomically thin transistor matrix. *Nature Nanotechnology*, **2021**, 16, 1231-1236	28.7	20
174	High-Performance CVD MoS2 Transistors with Self-Aligned Top-Gate and Bi Contact **2021**,		4
173	A Smarter Pavlovian Dog with Optically Modulated Associative Learning in an Organic Ferroelectric Neuromem.. *Research*, **2021**, 2021, 9820502	7.8	4
172	Few-Layer Organic Crystalline van der Waals Heterojunctions for Ultrafast UV Phototransistors. *Advanced Electronic Materials*, **2020**, 6, 2000062	6.4	15
171	Pressure Effect on Electronic and Excitonic Properties of Purely J-Aggregated Monolayer Organic Semiconductor. *Journal of Physical Chemistry Letters*, **2020**, 11, 5896-5901	6.4	

170	Gate-tunable van der Waals heterostructure for reconfigurable neural network vision sensor. *Science Advances*, **2020**, 6, eaba6173	14.3	66
169	MoTe p-n Homojunctions Defined by Ferroelectric Polarization. *Advanced Materials*, **2020**, 32, e1907937	24	60
168	Oxide Synaptic Transistors Coupled With Triboelectric Nanogenerators for Bio-Inspired Tactile Sensing Application. *IEEE Electron Device Letters*, **2020**, 41, 617-620	4.4	24
167	Programmable transition metal dichalcogenide homojunctions controlled by nonvolatile ferroelectric domains. *Nature Electronics*, **2020**, 3, 43-50	28.4	98
166	Ultrahigh Stability 3D TI Bi2Se3/MoO3 Thin Film Heterojunction Infrared Photodetector at Optical Communication Waveband. *Advanced Functional Materials*, **2020**, 30, 1909659	15.6	25
165	Graphene Hybrid Structures for Integrated and Flexible Optoelectronics. *Advanced Materials*, **2020**, 32, e1902039	24	53
164	Precise Extraction of Charge Carrier Mobility for Organic Transistors. *Advanced Functional Materials* , **2020**, 30, 1904508	15.6	20
163	Intercalation and hybrid heterostructure integration of two-dimensional atomic crystals with functional organic semiconductor molecules. *Nano Research*, **2020**, 13, 2917-2924	10	7
162	Light-modulated vertical heterojunction phototransistors with distinct logical photocurrents. *Light: Science and Applications*, **2020**, 9, 167	16.7	18
161	Bandgap engineering of two-dimensional semiconductor materials. *Npj 2D Materials and Applications*, **2020**, 4,	8.8	152
160	Observation of Strong -Aggregate Light Emission in Monolayer Molecular Crystal on Hexagonal Boron Nitride. *Journal of Physical Chemistry A*, **2020**, 124, 7340-7345	2.8	4
159	Low-Power Complementary Inverter with Negative Capacitance 2D Semiconductor Transistors. *Advanced Functional Materials*, **2020**, 30, 2003859	15.6	31
158	Probing Coulomb Interactions on Charge Transport in Few-Layer Organic Crystalline Semiconductors by the Gated van der Pauw Method. *Advanced Electronic Materials*, **2020**, 6, 2000136	6.4	3
157	Tailoring exciton dynamics of monolayer transition metal dichalcogenides by interfacial electron-phonon coupling. *Communications Physics*, **2019**, 2,	5.4	19
156	Polarimetric Three-Dimensional Topological Insulators/Organics Thin Film Heterojunction Photodetectors. *ACS Nano*, **2019**, 13, 10810-10817	16.7	10
155	Thickness-Dependent Asymmetric Potential Landscape and Polarization Relaxation in Ferroelectric HfxZr1−xO2 Thin Films through Interfacial Bound Charges. *Advanced Electronic Materials*, **2019**, 5, 1900554	6.4	8
154	pJ-Level Energy-Consuming, Low-Voltage Ferroelectric Organic Field-Effect Transistor Memories. *Journal of Physical Chemistry Letters*, **2019**, 10, 2335-2340	6.4	20
153	Band Structure Engineering of Interfacial Semiconductors Based on Atomically Thin Lead Iodide Crystals. *Advanced Materials*, **2019**, 31, e1806562	24	49

152	Design strategies for two-dimensional material photodetectors to enhance device performance. *InformaMaterly*, **2019**, 1, 33-53	23.1	85
151	Layer-Defining Strategy to Grow Two-Dimensional Molecular Crystals on a Liquid Surface down to the Monolayer Limit. *Angewandte Chemie - International Edition*, **2019**, 58, 16082-16086	16.4	31
150	Tailored Plasmons in Pentacene/Graphene Heterostructures with Interlayer Electron Transfer. *Nano Letters*, **2019**, 19, 6058-6064	11.5	9
149	ZrO2 Ferroelectric FET for Non-volatile Memory Application. *IEEE Electron Device Letters*, **2019**, 40, 1419-1422	4.4	24
148	Reducing the power consumption of two-dimensional logic transistors. *Journal of Semiconductors*, **2019**, 40, 091002	2.3	4
147	Stretchable elastic synaptic transistors for neurologically integrated soft engineering systems. *Science Advances*, **2019**, 5, eaax4961	14.3	107
146	Sensitive and Ultrabroadband Phototransistor Based on Two-Dimensional Bi2O2Se Nanosheets. *Advanced Functional Materials*, **2019**, 29, 1905806	15.6	53
145	Layer-Defining Strategy to Grow Two-Dimensional Molecular Crystals on a Liquid Surface down to the Monolayer Limit. *Angewandte Chemie*, **2019**, 131, 16228-16232	3.6	2
144	Nanocrystal-Embedded-Insulator (NEI) Ferroelectric Field-Effect Transistor Featuring Low Operating Voltages and Improved Synaptic Behavior. *IEEE Electron Device Letters*, **2019**, 40, 1933-1936	4.4	14
143	Planar graphene-C60-graphene heterostructures for sensitive UV-Visible photodetection. *Carbon*, **2019**, 146, 486-490	10.4	16
142	Strong optical response and light emission from a monolayer molecular crystal. *Nature Communications*, **2019**, 10, 5589	17.4	36
141	Uniform and ultrathin high-gate dielectrics for two-dimensional electronic devices. *Nature Electronics*, **2019**, 2, 563-571	28.4	93
140	Three-Dimensional Topological Insulator BiTe/Organic Thin Film Heterojunction Photodetector with Fast and Wideband Response from 450 to 3500 Nanometers. *ACS Nano*, **2019**, 13, 755-763	16.7	42
139	A MoS /PTCDA Hybrid Heterojunction Synapse with Efficient Photoelectric Dual Modulation and Versatility. *Advanced Materials*, **2019**, 31, e1806227	24	203
138	Negative transconductance in multi-layer organic thin-film transistors. *Nanotechnology*, **2019**, 30, 02LT01	3.4	5
137	Solution-Processed 2D Molecular Crystals: Fabrication Techniques, Transistor Applications, and Physics. *Advanced Materials Technologies*, **2019**, 4, 1800182	6.8	36
136	Soft hydrogen plasma induced phase transition in monolayer and few-layer MoTe. *Nanotechnology*, **2019**, 30, 034004	3.4	15
135	High-Performance Black Phosphorus Field-Effect Transistors with Long-Term Air Stability. *Nano Letters*, **2019**, 19, 331-337	11.5	46

134	Organic charge-transfer interface enhanced graphene hybrid phototransistors. *Organic Electronics*, **2019**, 64, 22-26	3.5	16
133	Spin-Coated Crystalline Molecular Monolayers for Performance Enhancement in Organic Field-Effect Transistors. *Journal of Physical Chemistry Letters*, **2018**, 9, 1318-1323	6.4	31
132	Unveiling the piezoelectric nature of polar □phase P(VDF-TrFE) at quasi-two-dimensional limit. *Scientific Reports*, **2018**, 8, 532	4.9	11
131	Room-temperature photoconduction assisted by hot-carriers in graphene for sub-terahertz detection. *Carbon*, **2018**, 130, 233-240	10.4	17
130	Topological Phase Transition-Induced Triaxial Vector Magnetoresistance in (BiIn)Se Nanodevices. *ACS Nano*, **2018**, 12, 1537-1543	16.7	11
129	Soft and transient magnesium plasmonics for environmental and biomedical sensing. *Nano Research*, **2018**, 11, 4390-4400	10	13
128	The effect of growth sequence on magnetization damping in Ta/CoFeB/MgO structures. *Journal of Magnetism and Magnetic Materials*, **2018**, 450, 65-69	2.8	7
127	Spin valley and giant quantum spin Hall gap of hydrofluorinated bismuth nanosheet. *Scientific Reports*, **2018**, 8, 7436	4.9	4
126	Photoresponsivity of an all-semimetal heterostructure based on graphene and WTe. *Scientific Reports*, **2018**, 8, 12840	4.9	10
125	Interfacial Flat-Lying Molecular Monolayers for Performance Enhancement in Organic Field-Effect Transistors. *ACS Applied Materials & Interfaces*, **2018**, 10, 22513-22519	9.5	14
124	2 step of conductance fluctuations due to the broken time-reversal symmetry in bulk-insulating BiSbTeSe2 devices. *Applied Physics Letters*, **2018**, 112, 243106	3.4	3
123	A Self-Healable, Highly Stretchable, and Solution Processable Conductive Polymer Composite for Ultrasensitive Strain and Pressure Sensing. *Advanced Functional Materials*, **2018**, 28, 1705551	15.6	285
122	Gate-tunable strong-weak localization transition in few-layer black phosphorus. *Nanotechnology*, **2018**, 29, 035204	3.4	8
121	Toward High-mobility and Low-power 2D MoS2 Field-effect Transistors **2018**,		6
120	Electrical contacts to two-dimensional transition-metal dichalcogenides. *Journal of Semiconductors*, **2018**, 39, 124001	2.3	7
119	Graphene/Organic Semiconductor Heterojunction Phototransistors with Broadband and Bi-directional Photoresponse. *Advanced Materials*, **2018**, 30, e1804020	24	68
118	Sensitive and Robust Ultraviolet Photodetector Array Based on Self-Assembled Graphene/C Hybrid Films. *ACS Applied Materials & Interfaces*, **2018**, 10, 38326-38333	9.5	33
117	Efficient and Layer-Dependent Exciton Pumping across Atomically Thin Organic-Inorganic Type-I Heterostructures. *Advanced Materials*, **2018**, 30, e1803986	24	46

116	Defect Engineering for Modulating the Trap States in 2D Photoconductors. *Advanced Materials*, **2018**, 30, e1804332	24	90
115	Ultra-Low-Power Smart Electronic Nose System Based on Three-Dimensional Tin Oxide Nanotube Arrays. *ACS Nano*, **2018**, 12, 6079-6088	16.7	57
114	Realization of vertical and lateral van der Waals heterojunctions using two-dimensional layered organic semiconductors. *Nano Research*, **2017**, 10, 1336-1344	10	23
113	A self-powered high-performance graphene/silicon ultraviolet photodetector with ultra-shallow junction: breaking the limit of silicon?. *Npj 2D Materials and Applications*, **2017**, 1,	8.8	144
112	Speed up Ferroelectric Organic Transistor Memories by Using Two-Dimensional Molecular Crystalline Semiconductors. *ACS Applied Materials & Interfaces*, **2017**, 9, 18127-18133	9.5	42
111	Graphene and related two-dimensional materials: Structure-property relationships for electronics and optoelectronics. *Applied Physics Reviews*, **2017**, 4, 021306	17.3	368
110	Graphene integrated photodetectors and opto-electronic devices a review. *Chinese Physics B*, **2017**, 26, 034203	1.2	19
109	Solvent-Based Soft-Patterning of Graphene Lateral Heterostructures for Broadband High-Speed MetalSemiconductorMetal Photodetectors. *Advanced Materials Technologies*, **2017**, 2, 1600241	6.8	43
108	Analyzing the Carrier Mobility in Transition-Metal Dichalcogenide MoS2 Field-Effect Transistors. *Advanced Functional Materials*, **2017**, 27, 1604093	15.6	178
107	Embedded Ag quantum dots into interconnected Co3O4 nanosheets grown on 3D graphene networks for high stable and flexible supercapacitors. *Electrochimica Acta*, **2017**, 224, 260-268	6.7	74
106	Low-voltage, High-performance Organic Field-Effect Transistors Based on 2D Crystalline Molecular Semiconductors. *Scientific Reports*, **2017**, 7, 7830	4.9	29
105	Ultrahigh mobility and efficient charge injection in monolayer organic thin-film transistors on boron nitride. *Science Advances*, **2017**, 3, e1701186	14.3	115
104	Improving the Performance of Graphene Phototransistors Using a Heterostructure as the Light-Absorbing Layer. *Nano Letters*, **2017**, 17, 6391-6396	11.5	61
103	Tuning the transport behavior of centimeter-scale WTe2 ultrathin films fabricated by pulsed laser deposition. *Applied Physics Letters*, **2017**, 111, 031906	3.4	29
102	High-Performance Flexible All-Solid-State Supercapacitors Based on Ultralarge Graphene Nanosheets and Solvent-Exfoliated Tungsten Disulfide Nanoflakes. *Advanced Materials Interfaces*, **2017**, 4, 1700419	4.6	12
101	Intrinsic p-type W-based transition metal dichalcogenide by substitutional Ta-doping. *Applied Physics Letters*, **2017**, 111, 043502	3.4	16
100	Repairing atomic vacancies in single-layer MoSe2 field-effect transistor and its defect dynamics. *Npj Quantum Materials*, **2017**, 2,	5	27
99	A light-stimulated synaptic device based on graphene hybrid phototransistor. *2D Materials*, **2017**, 4, 035022	7.7	132

98	Directly writing 2D organic semiconducting crystals for high-performance field-effect transistors. *Journal of Materials Chemistry C*, **2017**, 5, 11246-11251	7.1	21
97	A ternary composite with manganese dioxide nanorods and graphene nanoribbons embedded in a polyaniline matrix for high-performance supercapacitors. *RSC Advances*, **2017**, 7, 33591-33599	3.7	12
96	Room temperature high-detectivity mid-infrared photodetectors based on black arsenic phosphorus. *Science Advances*, **2017**, 3, e1700589	14.3	269
95	High-Electron-Mobility and Air-Stable 2D Layered PtSe FETs. *Advanced Materials*, **2017**, 29, 1604230	24	368
94	**2017**,		17
93	Interfacial amplification for graphene-based position-sensitive-detectors. *Light: Science and Applications*, **2017**, 6, e17113	16.7	36
92	Transition-metal dichalcogenides: Group-10 expands the spectrum. *Science China: Physics, Mechanics and Astronomy*, **2016**, 59, 1	3.6	3
91	Probing Carrier Transport and Structure-Property Relationship of Highly Ordered Organic Semiconductors at the Two-Dimensional Limit. *Physical Review Letters*, **2016**, 116, 016602	7.4	180
90	Electron transport and device physics in monolayer transition-metal dichalcogenides **2016**,		2
89	Evidence of weak localization in quantum interference effects observed in epitaxial La0.7Sr0.3MnO3 ultrathin films. *Scientific Reports*, **2016**, 6, 26081	4.9	53
88	ZnO-nanorods/graphene heterostructure: a direct electron transfer glucose biosensor. *Scientific Reports*, **2016**, 6, 32327	4.9	63
87	Epitaxial Ultrathin Organic Crystals on Graphene for High-Efficiency Phototransistors. *Advanced Materials*, **2016**, 28, 5200-5	24	109
86	Realization of Room-Temperature Phonon-Limited Carrier Transport in Monolayer MoS2 by Dielectric and Carrier Screening. *Advanced Materials*, **2016**, 28, 547-52	24	161
85	A scalable sulfuration of WS2 to improve cyclability and capability of lithium-ion batteries. *Nano Research*, **2016**, 9, 857-865	10	57
84	Peculiar Magnetotransport Features of Ultranarrow Graphene Nanoribbons under High Magnetic Field. *ACS Nano*, **2016**, 10, 1853-8	16.7	9
83	2D Single-Crystalline Molecular Semiconductors with Precise Layer Definition Achieved by Floating-Coffee-Ring-Driven Assembly. *Advanced Functional Materials*, **2016**, 26, 3191-3198	15.6	113
82	Unique Current-Direction-Dependent ON□OFF Switching in BiSbTeSe2 Topological Insulator-Based Spin Valve Transistors. *IEEE Electron Device Letters*, **2016**, 1-1	4.4	7
81	Sizeable Kane□Mele-like spin orbit coupling in graphene decorated with iridium clusters. *Applied Physics Letters*, **2016**, 108, 203106	3.4	6

80	Two dimensional WS2 lateral heterojunctions by strain modulation. *Applied Physics Letters*, **2016**, 108, 263104	3.4	22
79	Precise, Self-Limited Epitaxy of Ultrathin Organic Semiconductors and Heterojunctions Tailored by van der Waals Interactions. *Nano Letters*, **2016**, 16, 3754-9	11.5	81
78	Angle-selective perfect absorption with two-dimensional materials. *Light: Science and Applications*, **2016**, 5, e16052	16.7	70
77	200 GHz Maximum Oscillation Frequency in CVD Graphene Radio Frequency Transistors. *ACS Applied Materials & Interfaces*, **2016**, 8, 25645-25649	9.5	80
76	Defects as a factor limiting carrier mobility in WSe2: A spectroscopic investigation. *Nano Research*, **2016**, 9, 3622-3631	10	89
75	Nonlinear resonant frequency of graphene/elastic/piezoelectric laminated films under active electric loading. *International Journal of Mechanical Sciences*, **2016**, 115-116, 624-633	5.5	6
74	Experimental evidence and control of the bulk-mediated intersurface coupling in topological insulator Bi2Te2Se nanoribbons. *Physical Review B*, **2015**, 91,	3.3	31
73	Tunable Plasmon□Phonon Polaritons in Layered Graphene□Hexagonal Boron Nitride Heterostructures. *ACS Photonics*, **2015**, 2, 907-912	6.3	57
72	Enhanced opto-electrical properties of graphene electrode InGaN/GaN LEDs with a NiOx inter-layer. *Solid-State Electronics*, **2015**, 109, 47-51	1.7	6
71	A spectrally tunable all-graphene-based flexible field-effect light-emitting device. *Nature Communications*, **2015**, 6, 7767	17.4	97
70	Highly anisotropic and robust excitons in monolayer black phosphorus. *Nature Nanotechnology*, **2015**, 10, 517-21	28.7	999
69	Integrated digital inverters based on two-dimensional anisotropic ReS2 field-effect transistors. *Nature Communications*, **2015**, 6, 6991	17.4	417
68	Patterning of self-assembled monolayers by phase-shifting mask and its applications in large-scale assembly of nanowires. *Applied Physics Letters*, **2015**, 106, 041605	3.4	4
67	Planar carbon nanotube-graphene hybrid films for high-performance broadband photodetectors. *Nature Communications*, **2015**, 6, 8589	17.4	197
66	Solvothermal Synthesis of Lateral Heterojunction Sb2Te3/Bi2Te3 Nanoplates. *Nano Letters*, **2015**, 15, 5905-11	11.5	48
65	Synthesis, charge transport and device applications of graphene nanoribbons. *Synthetic Metals*, **2015**, 210, 109-122	3.6	25
64	The positive piezoconductive effect in graphene. *Nature Communications*, **2015**, 6, 8119	17.4	32
63	Coherent and Tunable Terahertz Radiation from Graphene Surface Plasmon Polarirons Excited by Cyclotron Electron Beam. *Scientific Reports*, **2015**, 5, 16059	4.9	24

62	A van der Waals pn heterojunction with organic/inorganic semiconductors. *Applied Physics Letters*, **2015**, 107, 183103	3.4	62
61	High-Performance Monolayer WS2 Field-Effect Transistors on High-Dielectrics. *Advanced Materials*, **2015**, 27, 5230-4	24	177
60	Novel field-effect Schottky barrier transistors based on graphene-MoS2 heterojunctions. *Scientific Reports*, **2014**, 4, 5951	4.9	115
59	Tunable, ultralow-power switching in memristive devices enabled by a heterogeneous graphene-oxide interface. *Advanced Materials*, **2014**, 26, 3275-81	24	62
58	Black phosphorus radio-frequency transistors. *Nano Letters*, **2014**, 14, 6424-9	11.5	270
57	Graphene nanoribbons: chemical stitching. *Nature Nanotechnology*, **2014**, 9, 875-6	28.7	9
56	Topological transport and atomic tunnelling-clustering dynamics for aged Cu-doped Bi2Te3 crystals. *Nature Communications*, **2014**, 5, 5022	17.4	50
55	Mo-O bond doping and related-defect assisted enhancement of photoluminescence in monolayer MoS2. *AIP Advances*, **2014**, 4, 123004	1.5	52
54	Towards intrinsic charge transport in monolayer molybdenum disulfide by defect and interface engineering. *Nature Communications*, **2014**, 5, 5290	17.4	448
53	Strong photoluminescence enhancement of MoS(2) through defect engineering and oxygen bonding. *ACS Nano*, **2014**, 8, 5738-45	16.7	774
52	Unveiling the structural origin of the high carrier mobility of a molecular monolayer on boron nitride. *Physical Review B*, **2014**, 90,	3.3	12
51	Fluorinated graphene and hexagonal boron nitride as ALD seed layers for graphene-based van der Waals heterostructures. *Nanotechnology*, **2014**, 25, 355202	3.4	5
50	Two-dimensional quasi-freestanding molecular crystals for high-performance organic field-effect transistors. *Nature Communications*, **2014**, 5, 5162	17.4	270
49	Large [6,6]-phenyl C61 butyric acid methyl (PCBM) hexagonal crystals grown by solvent-vapor annealing. *Materials Chemistry and Physics*, **2014**, 145, 327-333	4.4	13
48	CHAPTER 1:Fabrication Techniques of Graphene Nanostructures. *RSC Nanoscience and Nanotechnology*, **2014**, 1-30		7
47	Uniform wurtzite MnSe nanocrystals with surface-dependent magnetic behavior. *Nano Research*, **2013**, 6, 275-285	10	19
46	Hopping transport through defect-induced localized states in molybdenum disulphide. *Nature Communications*, **2013**, 4, 2642	17.4	740
45	Field-effect transistors based on two-dimensional materials for logic applications. *Chinese Physics B*, **2013**, 22, 098505	1.2	20

44	High-responsivity graphene/silicon-heterostructure waveguide photodetectors. *Nature Photonics*, **2013**, 7, 888-891	33.9	584
43	Mesoporous iron oxide directly anchored on a graphene matrix for lithium-ion battery anodes with enhanced strain accommodation. *RSC Advances*, **2013**, 3, 699-703	3.7	68
42	Doubling the Power Output of Bifacial Thin-Film GaAs Solar Cells by Embedding Them in Luminescent Waveguides. *Advanced Energy Materials*, **2013**, 3, 991-996	21.8	44
41	Layer-by-layer thinning of MoS2 by plasma. *ACS Nano*, **2013**, 7, 4202-9	16.7	317
40	Top-down fabrication of sub-nanometre semiconducting nanoribbons derived from molybdenum disulfide sheets. *Nature Communications*, **2013**, 4, 1776	17.4	185
39	Coulomb blockade effect of molecularly suspended graphene nanoribbons investigated with scanning tunneling microscopy. *Physical Review B*, **2013**, 88,	3.3	2
38	Room-temperature observations of the weak localization in low-mobility graphene films. *Journal of Applied Physics*, **2013**, 114, 214502	2.5	13
37	Width dependent edge distribution of graphene nanoribbons unzipped from multiwall carbon nanotubes. *Journal of Applied Physics*, **2013**, 113, 174307	2.5	4
36	Flexible field-effect transistor arrays with patterned solution-processed organic crystals. *AIP Advances*, **2013**, 3, 052123	1.5	18
35	Biaxial compressive strain engineering in graphene/boron nitride heterostructures. *Scientific Reports*, **2012**, 2, 893	4.9	101
34	Electronic Properties of Graphene Altered by Substrate Surface Chemistry and Externally Applied Electric Field. *Journal of Physical Chemistry C*, **2012**, 116, 6259-6267	3.8	26
33	Electrical characterization of back-gated bi-layer MoS2 field-effect transistors and the effect of ambient on their performances. *Applied Physics Letters*, **2012**, 100, 123104	3.4	420
32	A molecular understanding of the gas-phase reduction and doping of graphene oxide. *Nano Research*, **2012**, 5, 361-368	10	15
31	Graphene nanoribbons with smooth edges behave as quantum wires. *Nature Nanotechnology*, **2011**, 6, 563-7	28.7	173
30	Graphene nanoribbons from unzipped carbon nanotubes: atomic structures, Raman spectroscopy, and electrical properties. *Journal of the American Chemical Society*, **2011**, 133, 10394-7	16.4	149
29	Room-temperature edge functionalization and doping of graphene by mild plasma. *Small*, **2011**, 7, 574-711		50
28	High-performance graphene devices on SiO2/Si substrate modified by highly ordered self-assembled monolayers. *Advanced Materials*, **2011**, 23, 2464-8	24	93
27	Thermally limited current carrying ability of graphene nanoribbons. *Physical Review Letters*, **2011**, 106, 256801	7.4	161

26	Quantitative Analysis of Graphene Doping by Organic Molecular Charge Transfer. *Journal of Physical Chemistry C*, **2011**, 115, 7596-7602	3.8	81
25	Etching and narrowing of graphene from the edges. *Nature Chemistry*, **2010**, 2, 661-5	17.6	384
24	Facile synthesis of high-quality graphene nanoribbons. *Nature Nanotechnology*, **2010**, 5, 321-5	28.7	671
23	Edge magnetotransport fingerprints in disordered graphene nanoribbons. *Physical Review B*, **2010**, 82,	3.3	48
22	Band gap opening of bilayer graphene by F4-TCNQ molecular doping and externally applied electric field. *Journal of Physical Chemistry B*, **2010**, 114, 11377-81	3.4	93
21	Metal-enhanced fluorescence of carbon nanotubes. *Journal of the American Chemical Society*, **2010**, 132, 15920-3	16.4	100
20	Chemical self-assembly of graphene sheets. *Nano Research*, **2009**, 2, 336-342	10	78
19	Narrow graphene nanoribbons from carbon nanotubes. *Nature*, **2009**, 458, 877-80	50.4	2078
18	Optical characterizations and electronic devices of nearly pure (10,5) single-walled carbon nanotubes. *Journal of the American Chemical Society*, **2009**, 131, 2454-5	16.4	56
17	N-doping of graphene through electrothermal reactions with ammonia. *Science*, **2009**, 324, 768-71	33.3	1842
16	Protein microarrays with carbon nanotubes as multicolor Raman labels. *Nature Biotechnology*, **2008**, 26, 1285-92	44.5	297
15	Highly conducting graphene sheets and Langmuir-Blodgett films. *Nature Nanotechnology*, **2008**, 3, 538-42	28.7	1750
14	Assessment of chemically separated carbon nanotubes for nanoelectronics. *Journal of the American Chemical Society*, **2008**, 130, 2686-91	16.4	99
13	Room-temperature all-semiconducting sub-10-nm graphene nanoribbon field-effect transistors. *Physical Review Letters*, **2008**, 100, 206803	7.4	1209
12	Atomic layer deposition of metal oxides on pristine and functionalized graphene. *Journal of the American Chemical Society*, **2008**, 130, 8152-3	16.4	562
11	Carrier scattering in graphene nanoribbon field-effect transistors. *Applied Physics Letters*, **2008**, 92, 243124	3.4	35
10	Chemically derived, ultrasmooth graphene nanoribbon semiconductors. *Science*, **2008**, 319, 1229-32	33.3	4081
9	Langmuir-blodgett assembly of densely aligned single-walled carbon nanotubes from bulk materials. *Journal of the American Chemical Society*, **2007**, 129, 4890-1	16.4	331

8	Electrically driven thermal light emission from individual single-walled carbon nanotubes. *Nature Nanotechnology*, **2007**, 2, 33-8	28.7	145
7	Electrically driven light emission from hot single-walled carbon nanotubes at various temperatures and ambient pressures. *Applied Physics Letters*, **2007**, 91, 261102	3.4	17
6	Silicon CMOS devices beyond scaling. *IBM Journal of Research and Development*, **2006**, 50, 339-361	2.5	282
5	Selective etching of metallic carbon nanotubes by gas-phase reaction. *Science*, **2006**, 314, 974-7	33.3	448
4	Carbon Nanotubes: From Growth, Placement and Assembly Control to 60mV/decade and Sub-60 mV/decade Tunnel Transistors **2006**,		10
3	Hydrogenation and hydrocarbonation and etching of single-walled carbon nanotubes. *Journal of the American Chemical Society*, **2006**, 128, 6026-7	16.4	147
2	DNA functionalization of carbon nanotubes for ultrathin atomic layer deposition of high kappa dielectrics for nanotube transistors with 60 mV/decade switching. *Journal of the American Chemical Society*, **2006**, 128, 3518-9	16.4	174
1	Graphene nanoribbons for quantum electronics. *Nature Reviews Physics*,	23.6	18