Fast and Broadband Photoresponse of Few-Layer Black

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Citation Report

#	Article	IF	CITATIONS
8	Chemical scissors cut phosphorene nanostructures. Materials Research Express, 2014, 1, 045041.	0.8	20
9	Temporal and Thermal Stability of Al2O3-Passivated Phosphorene MOSFETs. IEEE Electron Device Letters, 2014, 35, 1314-1316.	2.2	76
10	Towards high-performance two-dimensional black phosphorus optoelectronic devices: the role of metal contacts. , 2014, , .		13
11	Edge effects on the electronic properties of phosphorene nanoribbons. Journal of Applied Physics, 2014, 116, .	1.1	157
12	Two-dimensional material nanophotonics. Nature Photonics, 2014, 8, 899-907.	15.6	2,362
13	Coexistence of size-dependent and size-independent thermal conductivities in phosphorene. Physical Review B, 2014, 90, .	1.1	203
14	Magnetism of zigzag edge phosphorene nanoribbons. Applied Physics Letters, 2014, 105, .	1.5	97
15	Low temperature photoresponse of monolayer tungsten disulphide. APL Materials, 2014, 2, .	2.2	10
16	Effective Passivation of Exfoliated Black Phosphorus Transistors against Ambient Degradation. Nano Letters, 2014, 14, 6964-6970.	4.5	1,294
17	Black Phosphorus Photodetector for Multispectral, High-Resolution Imaging. Nano Letters, 2014, 14, 6414-6417.	4.5	564
18	Strong Thermal Transport Anisotropy and Strain Modulation in Single-Layer Phosphorene. Journal of Physical Chemistry C, 2014, 118, 25272-25277.	1.5	250
19	Tuning of the electronic and optical properties of single-layer black phosphorus by strain. Physical Review B, 2014, 90, .	1.1	279
20	Strain Engineering for Phosphorene: The Potential Application as a Photocatalyst. Journal of Physical Chemistry C, 2014, 118, 26560-26568.	1.5	383
21	Origin of photoresponse in black phosphorus phototransistors. Physical Review B, 2014, 90, .	1.1	178
22	Excitons in anisotropic two-dimensional semiconducting crystals. Physical Review B, 2014, 90, .	1.1	136
23	Electrons and holes in phosphorene. Physical Review B, 2014, 90, .	1.1	148
24	Black Phosphorus–Monolayer MoS ₂ van der Waals Heterojunction p–n Diode. ACS Nano, 2014, 8, 8292-8299.	7.3	1,125
25	Photovoltaic effect in few-layer black phosphorus PN junctions defined by local electrostatic gating. Nature Communications, 2014, 5, 4651.	5.8	643

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ARTICLE IF CITATIONS # Access and in situ growth of phosphorene-precursor black phosphorus. Journal of Crystal Growth, 0.7 311 26 2014, 405, 6-10. Negative poisson's ratio in single-layer black phosphorus. Nature Communications, 2014, 5, 4727. 5.8 Two-Dimensional Mono-Elemental Semiconductor with Electronically Inactive Defects: The Case of 28 4.5 186 Phosphorus. Nano Letters, 2014, 14, 6782-6786. Photodetectors based on graphene, other two-dimensional materials and hybrid systems. Nature 29 Nanotechnology, 2014, 9, 780-793. Electrical contacts to monolayer black phosphorus: A first-principles investigation. Physical Review 30 1.1 122 B, 2014, 90, . Isolation and characterization of few-layer black phosphorus. 2D Materials, 2014, 1, 025001. 1,411 Extraordinary Photoluminescence and Strong Temperature/Angle-Dependent Raman Responses in 32 7.3 604 Few-Layer Phosphorene. ACS Nano, 2014, 8, 9590-9596. Phosphorene Nanoribbons, Phosphorus Nanotubes, and van der Waals Multilayers. Journal of 1.5 544 Physical Chemistry C, 2014, 118, 14051-14059. Quasiparticle band structure and tight-binding model for single- and bilayer black phosphorus. 34 1.1 577 Physical Review B, 2014, 89, . STEM and EELS Investigation on Black Phosphorus at Atomic Resolution. Microscopy and 0.2 Microanalysis, 2015, 21, 427-428. Layered Black Phosphorus as a Selective Vapor Sensor. Angewandte Chemie - International Edition, 7.2 187 36 2015, 54, 14317-14320. Simulation Evidence of Hexagonalâ€toâ€Tetragonal ZnSe Structure Transition: A Monolayer Material with 44 a Wideâ€Range Tunable Direct Bandgap. Advanced Science, 2015, 2, 1500290. Magneto-optical transport properties of monolayer phosphorene. Physical Review B, 2015, 92, . 38 1.1 63 Toward a realistic description of multilayer black phosphorus: From<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>G</mml:mi><mml:mi>W</mml:mi></mml:mi></mm to large-scale tight-binding simulations. Physical Review B, 2015, 92, . Van Hove singularity and ferromagnetic instability in phosphorene. Physical Review B, 2015, 92, . 40 1.1 41 Significant effect of stacking on the electronic and optical properties of few-layer black phosphorus. Physical Review B, 2015, 92,. Enhanced stability of black phosphorus field-effect transistors with SiO₂ passivation. 42 1.3102 Nanotechnology, 2015, 26, 435702. Anisotropic exciton Stark shift in black phosphorus. Physical Review B, 2015, 91, . 1.1

	Сітатіо	n Report	
#	Article	IF	CITATIONS
44	Magnetoelectronic properties of multilayer black phosphorus. Physical Review B, 2015, 92, .	1.1	45
45	Anisotropic bias dependent transport property of defective phosphorene layer. Scientific Reports, 2015, 5, 12482.	1.6	45
46	Ternary SnS2–xSex Alloys Nanosheets and Nanosheet Assemblies with Tunable Chemical Compositions and Band Gaps for Photodetector Applications. Scientific Reports, 2015, 5, 17109.	1.6	54
47	Polarization and Thickness Dependent Absorption Properties of Black Phosphorus: New Saturable Absorber for Ultrafast Pulse Generation. Scientific Reports, 2015, 5, 15899.	1.6	268
48	Temperature coefficients of phonon frequencies and thermal conductivity in thin black phosphorus layers. Applied Physics Letters, 2015, 107, .	1.5	49
49	Performance change of few layer black phosphorus transistors in ambient. AIP Advances, 2015, 5, 107112.	0.6	20
50	Black phosphorus saturable absorber for ultrafast modeâ€locked pulse laser via evanescent field interaction. Annalen Der Physik, 2015, 527, 770-776.	0.9	115
51	Ultrasmall Black Phosphorus Quantum Dots: Synthesis and Use as Photothermal Agents. Angewandte Chemie - International Edition, 2015, 54, 11526-11530.	7.2	906
52	Electrochemically Exfoliated Black Phosphorus Nanosheets – Prospective Field Emitters. European Journal of Inorganic Chemistry, 2015, 2015, 3102-3107.	1.0	87
53	Nonvolatile Floatingâ€Gate Memories Based on Stacked Black Phosphorus–Boron Nitride–MoS ₂ Heterostructures. Advanced Functional Materials, 2015, 25, 7360-7365.	7.8	129
55	From Black Phosphorus to Phosphorene: Basic Solvent Exfoliation, Evolution of Raman Scattering, and Applications to Ultrafast Photonics. Advanced Functional Materials, 2015, 25, 6996-7002.	7.8	862
56	Black Phosphorus Terahertz Photodetectors. Advanced Materials, 2015, 27, 5567-5572.	11.1	269
57	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Light–Matter Interactions. Advanced Materials, 2015, 27, 7800-7808.	11.1	109
58	Broadband Black Phosphorus Optical Modulator in the Spectral Range from Visible to Midâ€Infrared. Advanced Optical Materials, 2015, 3, 1787-1792.	3.6	115
59	Black Phosphorus–Polymer Composites for Pulsed Lasers. Advanced Optical Materials, 2015, 3, 1447-1453.	3.6	228
60	Two-Dimensional Materials for Sensing: Graphene and Beyond. Electronics (Switzerland), 2015, 4, 651-687.	1.8	310
61	Modulation of electronic and mechanical properties of phosphorene through strain. Physical Review B, 2015, 91, .	1.1	172
62	Exceptional and Anisotropic Transport Properties of Photocarriers in Black Phosphorus. ACS Nano, 2015, 9, 6436-6442.	7.3	172

#	Article	IF	CITATIONS
63	Unexpected buckled structures and tunable electronic properties in arsenic nanosheets: insights from first-principles calculations. Journal of Physics Condensed Matter, 2015, 27, 225304.	0.7	33
64	Dynamical Evolution of Anisotropic Response in Black Phosphorus under Ultrafast Photoexcitation. Nano Letters, 2015, 15, 4650-4656.	4.5	142
65	Simulated scanning tunneling microscopy images of few-layer phosphorus capped by graphene and hexagonal boron nitride monolayers. Physical Review B, 2015, 91, .	1.1	27
66	Group theory for structural analysis and lattice vibrations in phosphorene systems. Physical Review B, 2015, 91, .	1.1	82
67	Polarization-sensitive broadband photodetector using a black phosphorus vertical p–n junction. Nature Nanotechnology, 2015, 10, 707-713.	15.6	1,007
69	Anomalous doping effect in black phosphorene using first-principles calculations. Physical Chemistry Chemical Physics, 2015, 17, 16351-16358.	1.3	109
70	Theoretical predictions on the electronic structure and charge carrier mobility in 2D Phosphorus sheets. Scientific Reports, 2015, 5, 9961.	1.6	181
71	Structures, stabilities and electronic properties of defects in monolayer black phosphorus. Scientific Reports, 2015, 5, 10848.	1.6	90
73	Probing 2D black phosphorus by quantum capacitance measurements. Nanotechnology, 2015, 26, 485704.	1.3	11
74	Two-dimensional materials for nanophotonics application. Nanophotonics, 2015, 4, 128-142.	2.9	97
75	Anomalous magneto-optical response of black phosphorus thin films. Physical Review B, 2015, 92, .	1.1	52
76	Photogalvanic effect in monolayer black phosphorus. Nanotechnology, 2015, 26, 455202.	1.3	118
77	Small molecules make big differences: molecular doping effects on electronic and optical properties of phosphorene. Nanotechnology, 2015, 26, 095201.	1.3	159
78	Phosphorene oxides: Bandgap engineering of phosphorene by oxidation. Physical Review B, 2015, 91, .	1.1	181
79	van der Waals Heterostructure of Phosphorene and Graphene: Tuning the Schottky Barrier and Doping by Electrostatic Gating. Physical Review Letters, 2015, 114, 066803.	2.9	445
80	Solid-State Reaction Synthesis of a InSe/CuInSe ₂ Lateral p–n Heterojunction and Application in High Performance Optoelectronic Devices. Chemistry of Materials, 2015, 27, 983-989.	3.2	56
81	In Situ Thermal Decomposition of Exfoliated Two-Dimensional Black Phosphorus. Journal of Physical Chemistry Letters, 2015, 6, 773-778.	2.1	209
82	Environmental instability of few-layer black phosphorus. 2D Materials, 2015, 2, 011002.	2.0	818

#	Article	IF	CITATIONS
83	Low Schottky Barrier Black Phosphorus Fieldâ€Effect Devices with Ferromagnetic Tunnel Contacts. Small, 2015, 11, 2209-2216.	5.2	111
84	Identifying the Crystalline Orientation of Black Phosphorus Using Angleâ€Resolved Polarized Raman Spectroscopy. Angewandte Chemie, 2015, 127, 2396-2399.	1.6	97
85	Oxygen Defects in Phosphorene. Physical Review Letters, 2015, 114, 046801.	2.9	511
86	Chemical Vapor Deposition of Thin Crystals of Layered Semiconductor SnS ₂ for Fast Photodetection Application. Nano Letters, 2015, 15, 506-513.	4.5	430
87	Thermoelectric power of bulk black-phosphorus. Applied Physics Letters, 2015, 106, .	1.5	135
88	Identifying the Crystalline Orientation of Black Phosphorus Using Angleâ€Resolved Polarized Raman Spectroscopy. Angewandte Chemie - International Edition, 2015, 54, 2366-2369.	7.2	284
89	Black Phosphorus Quantum Dots. Angewandte Chemie - International Edition, 2015, 54, 3653-3657.	7.2	594
90	Fabrication of Ultrathin Bi ₂ S ₃ Nanosheets for Highâ€Performance, Flexible, Visible–NIR Photodetectors. Small, 2015, 11, 2848-2855.	5.2	205
91	Thermal conduction in single-layer black phosphorus: highly anisotropic?. Nanotechnology, 2015, 26, 055701.	1.3	62
92	Flexible Black Phosphorus Ambipolar Transistors, Circuits and AM Demodulator. Nano Letters, 2015, 15, 1883-1890.	4.5	394
93	Waveguide-integrated black phosphorus photodetector with high responsivity and low dark current. Nature Photonics, 2015, 9, 247-252.	15.6	778
94	Temperature Dependent Phonon Shifts in Few-Layer Black Phosphorus. ACS Applied Materials & Interfaces, 2015, 7, 5857-5862.	4.0	153
95	Surface transfer doping induced effective modulation on ambipolar characteristics of few-layer black phosphorus. Nature Communications, 2015, 6, 6485.	5.8	335
96	Electric-Field Tunable Band Offsets in Black Phosphorus and MoS ₂ van der Waals p-n Heterostructure. Journal of Physical Chemistry Letters, 2015, 6, 2483-2488.	2.1	193
97	Manipulation of Magnetic State in Armchair Black Phosphorene Nanoribbon by Charge Doping. ACS Applied Materials & Interfaces, 2015, 7, 14423-14430.	4.0	34
98	Revealing the importance of surface morphology of nanomaterials to biological responses: Adsorption of the villin headpiece onto graphene and phosphorene. Carbon, 2015, 94, 895-902.	5.4	65
99	Synthesis of thin-film black phosphorus on a flexible substrate. 2D Materials, 2015, 2, 031002.	2.0	124
100	Liquid-Phase Exfoliation of Phosphorene: Design Rules from Molecular Dynamics Simulations. ACS Nano, 2015, 9, 8255-8268.	7.3	160

	Сітатіо	n Report	
#	Article	IF	CITATIONS
101	Colossal Ultraviolet Photoresponsivity of Few-Layer Black Phosphorus. ACS Nano, 2015, 9, 8070-8077.	7.3	204
102	Highly sensitive and fast phototransistor based on large size CVD-grown SnS ₂ nanosheets. Nanoscale, 2015, 7, 14093-14099.	2.8	126
103	Recent developments in black phosphorus transistors. Journal of Materials Chemistry C, 2015, 3, 8760-8775.	2.7	146
104	The deformation and failure behaviour of phosphorene nanoribbons under uniaxial tensile strain. 2D Materials, 2015, 2, 035007.	2.0	39
105	Optical tuning of exciton and trion emissions in monolayer phosphorene. Light: Science and Applications, 2015, 4, e312-e312.	7.7	276
106	Gate tunable MoS ₂ –black phosphorus heterojunction devices. 2D Materials, 2015, 2, 034009.	2.0	61
107	Remarkably enhanced red–NIR broad spectral absorption via gold nanoparticles: applications for organic photosensitive diodes. Nanoscale, 2015, 7, 14422-14433.	2.8	16
108	Toward air-stable multilayer phosphorene thin-films and transistors. Scientific Reports, 2015, 5, 8989.	1.6	344
109	Synthesis, properties and applications of 2D non-graphene materials. Nanotechnology, 2015, 26, 292001.	1.3	101
110	Creating a Stable Oxide at the Surface of Black Phosphorus. ACS Applied Materials & Interfaces, 2015, 7, 14557-14562.	4.0	318
111	Photocurrent generation with two-dimensional van der Waals semiconductors. Chemical Society Reviews, 2015, 44, 3691-3718.	18.7	802
112	Broadband nonlinear optical response in multi-layer black phosphorus: an emerging infrared and mid-infrared optical material. Optics Express, 2015, 23, 11183.	1.7	628
113	Transition Metal Doped Phosphorene: First-Principles Study. Journal of Physical Chemistry C, 2015, 119, 9198-9204.	1.5	227
114	A self-powered graphene–MoS2 hybrid phototransistor with fast response rate and high on–off ratio. Carbon, 2015, 92, 126-132.	5.4	80
115	First-principle study on the optical response of phosphorene. Frontiers of Physics, 2015, 10, 1-9.	2.4	28
116	Grain boundary in phosphorene and its unique roles on C and O doping. Europhysics Letters, 2015, 109, 47003.	0.7	12
117	Design of black phosphorus 2D nanomechanical resonators by exploiting the intrinsic mechanical anisotropy. 2D Materials, 2015, 2, 021001.	2.0	46
118	Anisotropic thermal transport in phosphorene: effects of crystal orientation. Nanoscale, 2015, 7, 10648-10654.	2.8	100

#	Article	IF	CITATIONS
119	Electron-Transport Properties of Few-Layer Black Phosphorus. Journal of Physical Chemistry Letters, 2015, 6, 1996-2002.	2.1	76
120	Strain-induced gap transition and anisotropic Dirac-like cones in monolayer and bilayer phosphorene. Journal of Applied Physics, 2015, 117, .	1.1	70
121	Solvent Exfoliation of Electronic-Grade, Two-Dimensional Black Phosphorus. ACS Nano, 2015, 9, 3596-3604.	7.3	655
122	Stable semiconductor black phosphorus (BP)@titanium dioxide (TiO2) hybrid photocatalysts. Scientific Reports, 2015, 5, 8691.	1.6	227
123	Unusual Angular Dependence of the Raman Response in Black Phosphorus. ACS Nano, 2015, 9, 4270-4276.	7.3	301
124	Air-Stable Transport in Graphene-Contacted, Fully Encapsulated Ultrathin Black Phosphorus-Based Field-Effect Transistors. ACS Nano, 2015, 9, 4138-4145.	7.3	455
125	The renaissance of black phosphorus. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4523-4530.	3.3	1,143
126	The electronic origin of shear-induced direct to indirect gap transition and anisotropy diminution in phosphorene. Nanotechnology, 2015, 26, 215205.	1.3	29
127	Low-Frequency Interlayer Breathing Modes in Few-Layer Black Phosphorus. Nano Letters, 2015, 15, 4080-4088.	4.5	182
128	Black Phosphorus Gas Sensors. ACS Nano, 2015, 9, 5618-5624.	79	599
		7.0	
129	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>n</i> -Type SnS ₂ and Orthorhombic <i>p</i> -Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708.	4.5	289
129 130	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>n</i> -Type SnS ₂ and Orthorhombic <i>p</i> -Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708. Phosphorene as an anode material for Na-ion batteries: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 13921-13928.	4.5 1.3	289 336
129 130 131	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>n</i> i>n Type SnS and Orthorhombic <i>p</i> for Na-ion batteries: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 13921-13928. Transport properties of ultrathin black phosphorus on hexagonal boron nitride. Applied Physics Letters, 2015, 106, .	4.5 1.3 1.5	289 336 89
129 130 131 132	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>>n</i> > Type SnS ₂ and Orthorhombic <i>>p</i> > Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708. Phosphorene as an anode material for Na-ion batteries: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 13921-13928. Transport properties of ultrathin black phosphorus on hexagonal boron nitride. Applied Physics Letters, 2015, 106, . Effects of extrinsic point defects in phosphorene: B, C, N, O, and F adatoms. Applied Physics Letters, 2015, 106, .	4.5 1.3 1.5	289 336 89 72
129 130 131 132 133	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>>n</i> >Type SnS ₂ and Orthorhombic <i>>p</i> >Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708. Phosphorene as an anode material for Na-ion batteries: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 13921-13928. Transport properties of ultrathin black phosphorus on hexagonal boron nitride. Applied Physics Letters, 2015, 106, . Effects of extrinsic point defects in phosphorene: B, C, N, O, and F adatoms. Applied Physics Letters, 2015, 106, . Transport properties of pristine few-layer black phosphorus by van der Waals passivation in an inert atmosphere. Nature Communications, 2015, 6, 6647.	4.5 1.3 1.5 1.5 5.8	289 336 89 72 460
129 130 131 132 133 133	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>>n</i> > Type SnS ₂ and Orthorhombic <i>>p</i> > Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708. Phosphorene as an anode material for Na-ion batteries: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 13921-13928. Transport properties of ultrathin black phosphorus on hexagonal boron nitride. Applied Physics Letters, 2015, 106, . Effects of extrinsic point defects in phosphorene: B, C, N, O, and F adatoms. Applied Physics Letters, 2015, 106, . Transport properties of pristine few-layer black phosphorus by van der Waals passivation in an inert atmosphere. Nature Communications, 2015, 6, 6647. First-Principles Prediction of the Charge Mobility in Black Phosphorus Semiconductor Nanoribbons. Journal of Physical Chemistry Letters, 2015, 6, 4141-4147.	4.5 1.3 1.5 1.5 5.8 2.1	289 336 89 72 460
129 130 131 132 133 133	Deterministic Two-Dimensional Polymorphism Growth of Hexagonal <i>> n and Orthorhombic <i>> p </i>> Type SnS Crystals. Nano Letters, 2015, 15, 3703-3708. Phosphorene as an anode material for Na-ion batteries: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 13921-13928. Transport properties of ultrathin black phosphorus on hexagonal boron nitride. Applied Physics Letters, 2015, 106, . Effects of extrinsic point defects in phosphorene: B, C, N, O, and F adatoms. Applied Physics Letters, 2015, 106, . Transport properties of pristine few-layer black phosphorus by van der Waals passivation in an inert atmosphere. Nature Communications, 2015, 6, 6647. First-Principles Prediction of the Charge Mobility in Black Phosphorus Semiconductor Nanoribbons. Journal of Physical Chemistry Letters, 2015, 6, 4141-4147. Graphene nanophotonic sensors. 2D Materials, 2015, 2, 032005.</i>	4.5 1.3 1.5 1.5 5.8 2.1 2.0	289 336 89 72 460 51 21

	CHATION	LEPUKI	
#	Article	IF	CITATIONS
137	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. ACS Nano, 2015, 9, 11362-11370.	7.3	247
138	Nonvolatile Ferroelectric Memory Circuit Using Black Phosphorus Nanosheet-Based Field-Effect Transistors with P(VDF-TrFE) Polymer. ACS Nano, 2015, 9, 10394-10401.	7.3	130
139	Designing the shape evolution of SnSe ₂ nanosheets and their optoelectronic properties. Nanoscale, 2015, 7, 17375-17380.	2.8	121
140	Modulation of the electronic property of phosphorene by wrinkle and vertical electric field. Applied Physics Letters, 2015, 107, .	1.5	12
141	Charge-transport interfacial modification enhanced ultraviolet (UV)/near-UV phototransistor with high sensitivity and fast response speed. Synthetic Metals, 2015, 210, 230-235.	2.1	22
142	Interlayer interactions in anisotropic atomically thin rhenium diselenide. Nano Research, 2015, 8, 3651-3661.	5.8	159
143	Electronic Structure and the Properties of Phosphorene and Few-Layer Black Phosphorus. Journal of the Physical Society of Japan, 2015, 84, 121004.	0.7	67
144	Ultrahigh sensitivity and layer-dependent sensing performance of phosphorene-based gas sensors. Nature Communications, 2015, 6, 8632.	5.8	598
145	Recent Advances in Two-Dimensional Materials beyond Graphene. ACS Nano, 2015, 9, 11509-11539.	7.3	2,069
146	Remarkably low-energy one-dimensional fault line defects in single-layered phosphorene. Nanoscale, 2015, 7, 19073-19079.	2.8	19
147	Phosphorene: Synthesis, Scale-Up, and Quantitative Optical Spectroscopy. ACS Nano, 2015, 9, 8869-8884.	7.3	428
148	Landau levels and magneto-transport property of monolayer phosphorene. Scientific Reports, 2015, 5, 12295.	1.6	136
149	Electronic structure and magnetic properties of zigzag blue phosphorene nanoribbons. Journal of Applied Physics, 2015, 118, 054301.	1.1	19
150	Anisotropic in-plane thermal conductivity observed in few-layer black phosphorus. Nature Communications, 2015, 6, 8572.	5.8	520
151	Liquid exfoliation of solvent-stabilized few-layer black phosphorus for applications beyond electronics. Nature Communications, 2015, 6, 8563.	5.8	921
152	Noncovalent Molecular Doping of Twoâ€Dimensional Materials. ChemNanoMat, 2015, 1, 542-557.	1.5	41
153	Black Phosphorus: Narrow Gap, Wide Applications. Journal of Physical Chemistry Letters, 2015, 6, 4280-4291.	2.1	631
154	Anisotropic photocurrent response at black phosphorus–MoS ₂ p–n heterojunctions. Nanoscale, 2015, 7, 18537-18541.	2.8	118

		Citation Report		
#	Article		IF	Citations
155	Ultrashort Channel Length Black Phosphorus Field-Effect Transistors. ACS Nano, 2015	, 9, 9236-9243.	7.3	138
156	High-quality sandwiched black phosphorus heterostructure and its quantum oscillation Communications, 2015, 6, 7315.	ns. Nature	5.8	423
157	Carrier dynamics and transient photobleaching in thin layers of black phosphorus. App Letters, 2015, 107, .	lied Physics	1.5	77
158	Tunable electronic structures in the two-dimension SnX 2 (X = S and Se) nanosheets b effects. Applied Surface Science, 2015, 356, 1200-1206.	y stacking	3.1	17
159	Temperature-dependent mechanical properties of monolayer black phosphorus by mol simulations. Applied Physics Letters, 2015, 107, .	ecular dynamics	1.5	73
160	Unique electron transport in ultrathin black phosphorene: Ab-initio study. Applied Surf 2015, 356, 881-887.	ace Science,	3.1	33
161	Dual Gate Black Phosphorus Field Effect Transistors on Glass for NOR Logic and Organ Emitting Diode Switching. Nano Letters, 2015, 15, 5778-5783.	ic Light	4.5	83
162	3D Band Diagram and Photoexcitation of 2D–3D Semiconductor Heterojunctions. № 15, 5919-5925.	ano Letters, 2015,	4.5	33
163	Probing the anisotropic behaviors of black phosphorus by transmission electron micro angular-dependent Raman spectra, and electronic transport measurements. Applied Pl 2015, 107, .	scopy, nysics Letters,	1.5	44
164	Few-layer black phosphorus based saturable absorber mirror for pulsed solid-state lase Express, 2015, 23, 22643.	rs. Optics	1.7	220
165	Power Dissipation and Electrical Breakdown in Black Phosphorus. Nano Letters, 2015,	15, 6785-6788.	4.5	14
166	Bandgap Engineering of Phosphorene by Laser Oxidation toward Functional 2D Materi 2015, 9, 10411-10421.	als. ACS Nano,	7.3	126
167	Thickness-dependent Raman spectra, transport properties and infrared photoresponse black phosphorus. Journal of Materials Chemistry C, 2015, 3, 10974-10980.	of few-layer	2.7	98
168	Geometry, electronic structures and optical properties of phosphorus nanotubes. Nan 2015, 26, 415702.	otechnology,	1.3	41
169	A Facile Way to Fabricate High-Performance Solution-Processed n-MoS2/p-MoS2 Bilaye Photodetectors. Nanoscale Research Letters, 2015, 10, 454.	er	3.1	17
170	Phosphorene FETs — Promising transistors based on a few layers of phosp 2015, , .	phorus atoms. ,		5
171	Gate Modulation of Threshold Voltage Instability in Multilayer InSe Field Effect Transist Applied Materials & Interfaces, 2015, 7, 26691-26695.	cors. ACS	4.0	41
172	Spin filtering in a magnetized zigzag phosphorene nanoribbon. Journal Physics D: Appl 48, 485301.	ied Physics, 2015,	1.3	18

#	Article	IF	CITATIONS
173	Black phosphorus nanoelectromechanical resonators vibrating at very high frequencies. Nanoscale, 2015, 7, 877-884.	2.8	128
174	Voltammetry of Layered Black Phosphorus: Electrochemistry of Multilayer Phosphorene. ChemElectroChem, 2015, 2, 324-327.	1.7	97
175	Band Engineering for Novel Twoâ€Đimensional Atomic Layers. Small, 2015, 11, 1868-1884.	5.2	96
176	Layer-dependent Band Alignment and Work Function of Few-Layer Phosphorene. Scientific Reports, 2014, 4, 6677.	1.6	731
177	Elemental Analogues of Graphene: Silicene, Germanene, Stanene, and Phosphorene. Small, 2015, 11, 640-652.	5.2	725
178	Phosphorene nanoribbons: Passivation effect on bandgap and effective mass. Applied Surface Science, 2015, 324, 640-644.	3.1	30
179	Adsorption of metal adatoms on single-layer phosphorene. Physical Chemistry Chemical Physics, 2015, 17, 992-1000.	1.3	280
180	Phosphorene oxide: stability and electronic properties of a novel two-dimensional material. Nanoscale, 2015, 7, 524-531.	2.8	169
181	Semiconducting black phosphorus: synthesis, transport properties and electronic applications. Chemical Society Reviews, 2015, 44, 2732-2743.	18.7	1,260
182	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93.	1.8	19
182 183	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288.	1.8 2.1	19 8
182 183 184	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288. Zigzag phosphorene nanoribbons: one-dimensional resonant channels in two-dimensional atomic crystals. Beilstein Journal of Nanotechnology, 2016, 7, 1983-1990.	1.8 2.1 1.5	19 8 4
182 183 184 185	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288. Zigzag phosphorene nanoribbons: one-dimensional resonant channels in two-dimensional atomic crystals. Beilstein Journal of Nanotechnology, 2016, 7, 1983-1990. Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. Applied Sciences (Switzerland), 2016, 6, 78.	1.8 2.1 1.5 1.3	19 8 4 96
182 183 184 185 186	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288. Zigzag phosphorene nanoribbons: one-dimensional resonant channels in two-dimensional atomic crystals. Beilstein Journal of Nanotechnology, 2016, 7, 1983-1990. Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. Applied Sciences (Switzerland), 2016, 6, 78. Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. Nanomaterials, 2016, 6, 194.	1.8 2.1 1.5 1.3 1.9	19 8 4 96 79
182 183 184 185 185 186	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288. Zigzag phosphorene nanoribbons: one-dimensional resonant channels in two-dimensional atomic crystals. Beilstein Journal of Nanotechnology, 2016, 7, 1983-1990. Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. Applied Sciences (Switzerland), 2016, 6, 78. Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. Nanomaterials, 2016, 6, 194. Towards a Graphene-Based Low Intensity Photon Counting Photodetector. Sensors, 2016, 16, 1351.	1.8 2.1 1.5 1.3 1.9 2.1	19 8 4 96 79 3
182 183 184 185 185 186 187	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288. Zigzag phosphorene nanoribbons: one-dimensional resonant channels in two-dimensional atomic crystals. Beilstein Journal of Nanotechnology, 2016, 7, 1983-1990. Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. Applied Sciences (Switzerland), 2016, 6, 78. Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. Nanomaterials, 2016, 6, 194. Towards a Graphene-Based Low Intensity Photon Counting Photodetector. Sensors, 2016, 16, 1351. Optical properties of black phosphorus. Advances in Optics and Photonics, 2016, 8, 618.	1.8 2.1 1.5 1.3 1.9 2.1 12.1	19 8 4 96 79 3 203
 182 183 184 185 186 187 188 189 	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. Electronics (Switzerland), 2016, 5, 93. Black phosphorus-based one-dimensional photonic crystals and microcavities. Applied Optics, 2016, 55, 9288. Zigzag phosphorene nanoribbons: one-dimensional resonant channels in two-dimensional atomic crystals. Beilstein Journal of Nanotechnology, 2016, 7, 1983-1990. Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. Applied Sciences (Switzerland), 2016, 6, 78. Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. Nanomaterials, 2016, 6, 194. Towards a Graphene-Based Low Intensity Photon Counting Photodetector. Sensors, 2016, 16, 1351. Optical properties of black phosphorus. Advances in Optics and Photonics, 2016, 8, 618. Probing phonon and electrical anisotropy in black phosphorus for device alignment. Optical Materials Express, 2016, 6, 1751.	1.8 2.1 1.5 1.3 1.9 2.1 12.1 1.6	19 8 4 96 79 3 3 203 11

ARTICLE IF CITATIONS # Recent advances in optoelectronic properties and applications of two-dimensional metal 191 2.0 75 chalcogenides. Journal of Semiconductors, 2016, 37, 051001. Visualizing Light Scattering in Silicon Waveguides with Black Phosphorus Photodetectors. Advanced 11.1 29 Materials, 2016, 28, 7162-7166. Heterostructured hBNâ€BPâ€hBN Nanodetectors at Terahertz Frequencies. Advanced Materials, 2016, 28, 193 11.1 85 7390-7396. An Airâ€&table Densely Packed Phosphorene–Graphene Composite Toward Advanced Lithium Storage 194 Properties. Advanced Énergy Materials, 2016, 6, 1600453. Layered Black Phosphorus: Strongly Anisotropic Magnetic, Electronic, and Electronâ€Transfer 195 1.6 27 Properties. Angewandte Chemie, 2016, 128, 3443-3447. Revealing the Origins of 3D Anisotropic Thermal Conductivities of Black Phosphorus. Advanced 2.6 Electronic Materials, 2016, 2, 1600040. Doping behaviors of adatoms adsorbed on phosphorene. Physica Status Solidi (B): Basic Research, 2016, 197 0.7 18 253, 1156-1166. Visualizing Optical Phase Anisotropy in Black Phosphorus. ACS Photonics, 2016, 3, 1176-1181. 3.2 84 199 Seleniumâ€Doped Black Phosphorus for Highâ€Responsivity 2D Photodetectors. Small, 2016, 12, 5000-5007. 5.2 156 Recent Progress in Materials and Devices toward Printable and Flexible Sensors. Advanced Materials, 11.1 643 2016, 28, 4415-4440. Flexible Allâ€Solidâ€State Supercapacitors based on Liquidâ€Exfoliated Blackâ€Phosphorus Nanoflakes. 201 11.1 290 Advanced Materials, 2016, 28, 3194-3201. Layered Black Phosphorus: Strongly Anisotropic Magnetic, Electronic, and Electronâ€Transfer 139 Properties. Angewandte Chemie - International Edition, 2016, 55, 3382-3386. Tuning the Schottky contacts in the phosphorene and graphene heterostructure by applying strain. 203 1.3 62 Physical Chemistry Chemical Physics, 2016, 18, 19918-19925. Anomalously enhanced thermal stability of phosphorene via metal adatom doping: An experimental and 204 5.8 first-principles study. Nano Research, 2016, 9, 2687-2695. Superior Chemical Sensing Performance of Black Phosphorus: Comparison with MoS₂ and 205 11.1 355 Graphene. Advanced Materials, 2016, 28, 7020-7028. Black Phosphorus Schottky Diodes: Channel Length Scaling and Application as Photodetectors. 206 Advanced Électronic Materials, 2016, 2, 1500346. Nonvolatile Charge Injection Memory Based on Black Phosphorous 2D Nanosheets for Charge 207 7.8 49 Trapping and Active Channel Layers. Advanced Functional Materials, 2016, 26, 5701-5707. Scalable Clean Exfoliation of Highâ€Quality Fewâ€Layer Black Phosphorus for a Flexible Lithium Ion 11.1 Battery. Advanced Materials, 2016, 28, 510-517.

#	Article	IF	CITATIONS
209	Enhanced Photoresponse from Phosphorene–Phosphoreneâ€&uboxide Junction Fashioned by Focused Laser Micromachining. Advanced Materials, 2016, 28, 4090-4096.	11.1	38
210	The Role of Air Adsorption in Inverted Ultrathin Black Phosphorus Field-Effect Transistors. Nanoscale Research Letters, 2016, 11, 521.	3.1	5
211	High applicability of two-dimensional phosphorous in Kagome lattice predicted from first-principles calculations. Scientific Reports, 2016, 6, 23151.	1.6	18
212	Highly sensitive photodetectors based on hybrid 2D-0D SnS2-copper indium sulfide quantum dots. Applied Physics Letters, 2016, 108, .	1.5	28
213	Tuned polarity and enhanced optoelectronic performances of few-layer Nb0.125Re0.875Se2 flakes. Applied Physics Letters, 2016, 109, 112102.	1.5	7
214	Theoretical Study of Carrier Mobility in Two-Dimensional Tetragonal Carbon Allotrope from Porous Graphene. Chinese Physics Letters, 2016, 33, 083101.	1.3	6
215	Enhanced hydrogen storage by using lithium decoration on phosphorene. Journal of Applied Physics, 2016, 120, .	1.1	44
216	Auxetic nanomaterials: Recent progress and future development. Applied Physics Reviews, 2016, 3, .	5.5	93
217	Elastic properties of suspended black phosphorus nanosheets. Applied Physics Letters, 2016, 108, .	1.5	65
218	Large anisotropic thermal transport properties observed in bulk single crystal black phosphorus. Applied Physics Letters, 2016, 108, .	1.5	27
219	Solution-processed high-k magnesium oxide dielectrics for low-voltage oxide thin-film transistors. Applied Physics Letters, 2016, 109, .	1.5	53
220	Integration of 2D materials on a silicon photonics platform for optoelectronics applications. Nanophotonics, 2016, 6, 1205-1218.	2.9	87
221	Variability of structural and electronic properties of bulk and monolayer Si2Te3. Applied Physics Letters, 2016, 109, .	1.5	24
222	Multipurpose Black-Phosphorus/hBN Heterostructures. Nano Letters, 2016, 16, 2586-2594.	4.5	127
223	Black phosphorus nonvolatile transistor memory. Nanoscale, 2016, 8, 9107-9112.	2.8	39
224	Probing the electronic states and impurity effects in black phosphorus vertical heterostructures. 2D Materials, 2016, 3, 015012.	2.0	16
225	Electrical and Thermoelectric Transport by Variable Range Hopping in Thin Black Phosphorus Devices. Nano Letters, 2016, 16, 3969-3975.	4.5	65
226	Passivated ambipolar black phosphorus transistors. Nanoscale, 2016, 8, 12773-12779.	2.8	77

#	Article	IF	CITATIONS
227	Charge-transport anisotropy in black phosphorus: critical dependence on the number of layers. Physical Chemistry Chemical Physics, 2016, 18, 16345-16352.	1.3	17
228	Black phosphorus polycarbonate polymer composite for pulsed fibre lasers. Applied Materials Today, 2016, 4, 17-23.	2.3	87
229	Transport studies in 2D transition metal dichalcogenides and black phosphorus. Journal of Physics Condensed Matter, 2016, 28, 263002.	0.7	12
230	Lateral black phosphorene P–N junctions formed via chemical doping for high performance near-infrared photodetector. Nano Energy, 2016, 25, 34-41.	8.2	162
231	Van der Waals stacked 2D layered materials for optoelectronics. 2D Materials, 2016, 3, 022001.	2.0	213
232	Dopants induced structural and optical anomalies of anisotropic edges of black phosphorous thin films and crystals. Ceramics International, 2016, 42, 13113-13127.	2.3	17
233	Boosting Responsivity of Organic–Metal Oxynitride Hybrid Heterointerface Phototransistor. ACS Applied Materials & Interfaces, 2016, 8, 14665-14670.	4.0	25
234	Performance Enhancement of Black Phosphorus Field-Effect Transistors by Chemical Doping. IEEE Electron Device Letters, 2016, 37, 429-432.	2.2	55
235	Degradation of phosphorene in air: understanding at atomic level. 2D Materials, 2016, 3, 025011.	2.0	228
236	Humidity Sensing and Photodetection Behavior of Electrochemically Exfoliated Atomically Thin-Layered Black Phosphorus Nanosheets. ACS Applied Materials & Interfaces, 2016, 8, 11548-11556.	4.0	274
237	Development of two-dimensional materials for electronic applications. Science China Information Sciences, 2016, 59, 1.	2.7	9
238	Localized Surface Plasmons in Nanostructured Monolayer Black Phosphorus. Nano Letters, 2016, 16, 3457-3462.	4.5	252
239	Covalent functionalization and passivation of exfoliated black phosphorus via aryl diazonium chemistry. Nature Chemistry, 2016, 8, 597-602.	6.6	687
240	Black Phosphorus-Based Nanodevices. Semiconductors and Semimetals, 2016, 95, 279-303.	0.4	5
241	Monolayer black phosphorus as potential anode materials for Mg-ion batteries. Journal of Materials Science, 2016, 51, 7355-7360.	1.7	51
242	Light–Matter Interactions in Phosphorene. Accounts of Chemical Research, 2016, 49, 1806-1815.	7.6	97
243	Anisotropic Ballistic Transport through a Potential Barrier on Monolayer Phosphorene. Chinese Physics Letters, 2016, 33, 057301.	1.3	13
244	Teâ€Doped Black Phosphorus Fieldâ€Effect Transistors. Advanced Materials, 2016, 28, 9408-9415.	11.1	241

#	Article	IF	CITATIONS
245	Luminescent transition metal dichalcogenide nanosheets through one-step liquid phase exfoliation. 2D Materials, 2016, 3, 035014.	2.0	42
246	Onset of exciton-exciton annihilation in single-layer black phosphorus. Physical Review B, 2016, 94, .	1.1	45
247	Temperature Dependent Raman Spectroscopy and Sensing Behavior of Few Layer SnSe ₂ Nanosheets. ChemistrySelect, 2016, 1, 5380-5387.	0.7	35
248	Radiation effects on two-dimensional materials. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 3065-3077.	0.8	48
249	Spatially branched CdS–Bi ₂ S ₃ heteroarchitecture: single step hydrothermal synthesis approach with enhanced field emission performance and highly responsive broadband photodetection. RSC Advances, 2016, 6, 95092-95100.	1.7	13
250	Environmental effects in mechanical properties of few-layer black phosphorus. 2D Materials, 2016, 3, 031007.	2.0	39
251	Electric response of edge bands and their decay property of phosphorene ribbons. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 3832-3835.	0.9	2
252	NaSn ₂ As ₂ : An Exfoliatable Layered van der Waals Zintl Phase. ACS Nano, 2016, 10, 9500-9508.	7.3	39
253	2D Black Phosphorus/SrTiO ₃ â€Based Programmable Photoconductive Switch. Advanced Materials, 2016, 28, 7768-7773.	11.1	57
254	Strain engineering of magnetic state in vacancy-doped phosphorene. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 3270-3277.	0.9	26
255	2D materials and van der Waals heterostructures. Science, 2016, 353, aac9439.	6.0	4,958
256	Promising thermoelectric properties of phosphorenes. Nanotechnology, 2016, 27, 355705.	1.3	43
257	MnPSe ₃ Monolayer: A Promising 2D Visible‣ight Photohydrolytic Catalyst with High Carrier Mobility. Advanced Science, 2016, 3, 1600062.	5.6	291
258	Ultrathin and Flat Layer Black Phosphorus Fabricated by Reactive Oxygen and Water Rinse. ACS Nano, 2016, 10, 8723-8731.	7.3	68
259	Mechanical properties of phosphorene nanotubes: a density functional tight-binding study. Nanotechnology, 2016, 27, 395701.	1.3	40
260	Structural, electronic, mechanical, and transport properties of phosphorene nanoribbons: Negative differential resistance behavior. Physical Review B, 2016, 94, .	1.1	57
261	Tunable Electrical Performance of Few-Layered Black Phosphorus by Strain. Small, 2016, 12, 5276-5280.	5.2	19
262	Black Phosphorus Based Photocathodes in Wideband Bifacial Dyeâ€&ensitized Solar Cells. Advanced Materials, 2016, 28, 8937-8944.	11.1	116

#	Article	IF	CITATIONS
263	The tunable electronic structure and optic absorption properties of phosphorene by a normally applied electric field. Physica Scripta, 2016, 91, 105801.	1.2	8
264	Simple fabrication of air-stable black phosphorus heterostructures with large-area hBN sheets grown by chemical vapor deposition method. 2D Materials, 2016, 3, 035010.	2.0	57
265	Melting–Freezing Transition of Monolayer Water Confined by Phosphorene Plates. Journal of Physical Chemistry B, 2016, 120, 9011-9018.	1.2	15
266	Sensing Characteristics of Phosphorene Monolayers toward PH ₃ and AsH ₃ Gases upon the Introduction of Vacancy Defects. Journal of Physical Chemistry C, 2016, 120, 20428-20436.	1.5	71
267	Temperature dependent Raman spectroscopy of electrochemically exfoliated few layer black phosphorus nanosheets. RSC Advances, 2016, 6, 76551-76555.	1.7	40
268	Self-Powered Ultrabroadband Photodetector Monolithically Integrated on a PMN–PT Ferroelectric Single Crystal. ACS Applied Materials & Interfaces, 2016, 8, 32934-32939.	4.0	45
269	Large and Anisotropic Linear Magnetoresistance in Single Crystals of Black Phosphorus Arising From Mobility Fluctuations. Scientific Reports, 2016, 6, 23807.	1.6	26
270	InGaAs Nanomembrane/Si van der Waals Heterojunction Photodiodes with Broadband and High Photoresponsivity. ACS Applied Materials & Interfaces, 2016, 8, 26105-26111.	4.0	32
271	Theoretical Study of Transition Metal Dichalcogenides. , 2016, , 157-178.		1
272	Electronic and optical properties of bilayer blue phosphorus. Computational Materials Science, 2016, 124, 23-29.	1.4	51
273	Phosphorene and Phosphoreneâ€Based Materials – Prospects for Future Applications. Advanced Materials, 2016, 28, 8586-8617.	11.1	378
274	Excitons in atomically thin black phosphorus. Physical Review B, 2016, 93, .	1.1	83
275	Ultralow-Frequency Collective Compression Mode and Strong Interlayer Coupling in Multilayer Black Phosphorus. Physical Review Letters, 2016, 116, 087401.	2.9	51
276	Intrinsic Charge Carrier Mobility in Single-Layer Black Phosphorus. Physical Review Letters, 2016, 116, 246401.	2.9	132
277	Excitons and optical spectra of phosphorene nanoribbons. Physical Review B, 2016, 94, .	1.1	37
278	Two-dimensional semiconductors for transistors. Nature Reviews Materials, 2016, 1, .	23.3	1,020
279	High-performance black phosphorus top-gate ferroelectric transistor for nonvolatile memory applications. Journal of the Korean Physical Society, 2016, 69, 1347-1351.	0.3	6
280	Hydrogen separation by porous phosphorene: A periodical DFT study. International Journal of Hydrogen Energy, 2016, 41, 23067-23074.	3.8	23

		CITATION RE	PORT	
#	Article		IF	CITATIONS
281	Optical properties of single-layer and bilayer arsenene phases. Physical Review B, 2016, 94, .		1.1	67
282	Low-symmetry two-dimensional materials for electronic and photonic applications. Nano Today, 2 11, 763-777.	2016,	6.2	113
283	Surface charge transfer doping of monolayer molybdenum disulfide by black phosphorus quantur dots. Nanotechnology, 2016, 27, 505204.	n	1.3	26
284	High performance humidity sensor and photodetector based on SnSe nanorods. Materials Resear Express, 2016, 3, 105038.	ch	0.8	62
285	Introduction of Interfacial Charges to Black Phosphorus for a Family of Planar Devices. Nano Lette 2016, 16, 6870-6878.	ers,	4.5	69
286	Engineering the optoelectronic properties of MoS ₂ photodetectors through reversit noncovalent functionalization. Chemical Communications, 2016, 52, 14365-14368.	le	2.2	37
287	Resonantly Increased Optical Frequency Conversion in Atomically Thin Black Phosphorus. Advanc Materials, 2016, 28, 10693-10700.	ed	11.1	64
288	Phosphorene: from theory to applications. Nature Reviews Materials, 2016, 1, .		23.3	815
289	Large Area Fabrication of Semiconducting Phosphorene by Langmuir-Blodgett Assembly. Scientifi Reports, 2016, 6, 34095.	с	1.6	67
290	Mid-infrared time-resolved photoconduction in black phosphorus. 2D Materials, 2016, 3, 041006		2.0	52
291	Two-dimensional hexagonal semiconductors beyond graphene. Advances in Natural Sciences: Nanoscience and Nanotechnology, 2016, 7, 043001.		0.7	19
292	Photo-FETs: Phototransistors Enabled by 2D and 0D Nanomaterials. ACS Photonics, 2016, 3, 219	7-2210.	3.2	217
293	Phosphorene as a promising anode material for lithium-ion batteries: A first-principle study. , 2016	5, , .		3
294	Black Phosphorus Nanosheets: Synthesis, Characterization and Applications. Small, 2016, 12, 34	80-3502.	5.2	337
295	Solutionâ€Processable Ultrathin Black Phosphorus as an Effective Electron Transport Layer in Org Photovoltaics. Advanced Functional Materials, 2016, 26, 864-871.	;anic	7.8	187
296	High Responsivity Phototransistors Based on Fewâ€Layer ReS ₂ for Weak Signal Det Advanced Functional Materials, 2016, 26, 1938-1944.	ection.	7.8	270
297	Nanostructured Photodetectors: From Ultraviolet to Terahertz. Advanced Materials, 2016, 28, 40	3-433.	11,1	492
298	Effect of multilayer structure, stacking order and external electric field on the electrical properties of few-layer boron-phosphide. Physical Chemistry Chemical Physics, 2016, 18, 16229-16236.		1.3	68

#	Article	IF	CITATIONS
299	Wedge energy bands of monolayer black phosphorus: a first-principles study. Journal of Physics Condensed Matter, 2016, 28, 305301.	0.7	1
300	A highly sensitive, highly transparent, gel-gated MoS ₂ phototransistor on biodegradable nanopaper. Nanoscale, 2016, 8, 14237-14242.	2.8	38
301	Black Phosphorus Mid-Infrared Photodetectors with High Gain. Nano Letters, 2016, 16, 4648-4655.	4.5	616
302	First-principles study of thermal expansion and thermomechanics of single-layer black and blue phosphorus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 2098-2104.	0.9	60
303	Tunable Photoinduced Carrier Transport of a Black Phosphorus Transistor with Extended Stability Using a Light-Sensitized Encapsulated Layer. ACS Photonics, 2016, 3, 1102-1108.	3.2	20
304	Dilute Magnetic Semiconductor and Half-Metal Behaviors in 3d Transition-Metal Doped Black and Blue Phosphorenes: A First-Principles Study. Nanoscale Research Letters, 2016, 11, 77.	3.1	99
305	Electronic structure engineering of various structural phases of phosphorene. Physical Chemistry Chemical Physics, 2016, 18, 18312-18322.	1.3	36
306	Epitaxial Growth of Single Layer Blue Phosphorus: A New Phase of Two-Dimensional Phosphorus. Nano Letters, 2016, 16, 4903-4908.	4.5	609
307	Liquidâ€Exfoliated Black Phosphorous Nanosheet Thin Films for Flexible Resistive Random Access Memory Applications. Advanced Functional Materials, 2016, 26, 2016-2024.	7.8	161
308	Inhibition of Ion Migration for Reliable Operation of Organolead Halide Perovskiteâ€Based Metal/Semiconductor/Metal Broadband Photodetectors. Advanced Functional Materials, 2016, 26, 4213-4222.	7.8	112
309	Exciton Brightening in Monolayer Phosphorene via Dimensionality Modification. Advanced Materials, 2016, 28, 3493-3498.	11.1	49
310	Broadband Blackâ€Phosphorus Photodetectors with High Responsivity. Advanced Materials, 2016, 28, 3481-3485.	11.1	364
311	Solvothermal Synthesis and Ultrafast Photonics of Black Phosphorus Quantum Dots. Advanced Optical Materials, 2016, 4, 1223-1229.	3.6	326
312	Surface Coordination of Black Phosphorus for Robust Air and Water Stability. Angewandte Chemie, 2016, 128, 5087-5091.	1.6	116
313	Surface Coordination of Black Phosphorus for Robust Air and Water Stability. Angewandte Chemie - International Edition, 2016, 55, 5003-5007.	7.2	479
314	Producing air-stable monolayers of phosphorene and their defect engineering. Nature Communications, 2016, 7, 10450.	5.8	443
315	Enhanced Photoresponse of SnSe-Nanocrystals-Decorated WS ₂ Monolayer Phototransistor. ACS Applied Materials & Interfaces, 2016, 8, 4781-4788.	4.0	91
316	Black Phosphorus–Zinc Oxide Nanomaterial Heterojunction for p–n Diode and Junction Field-Effect Transistor. Nano Letters, 2016, 16, 1293-1298.	4.5	141

ARTICLE IF CITATIONS Liquid exfoliation of black phosphorus nanosheets and its application as humidity sensor. 317 2.2 177 Microporous and Mesoporous Materials, 2016, 225, 494-503. Charge trap memory based on few-layer black phosphorus. Nanoscale, 2016, 8, 2686-2692. 2.8 Highly Transparent Wafer-Scale Synthesis of Crystalline WS₂ Nanoparticle Thin Film for Photodetector and Humidity-Sensing Applications. ACS Applied Materials & amp; Interfaces, 2016, 8, 319 4.0 226 3359-3365. Tuning the electronic and optical properties of phosphorene by transition-metal and nonmetallic atom co-doping. RSC Advances, 2016, 6, 10919-10929. Optical Anisotropy of Black Phosphorus in the Visible Regime. Journal of the American Chemical 321 273 6.6 Society, 2016, 138, 300-305. One-pot solventless preparation of PEGylated black phosphorus nanoparticles for photoacoustic 5.7 imaging and photothermal therapy of Acancer. Biomaterials, 2016, 91, 81-89. Optical reflection, transmission and absorption properties of single-layer black phosphorus from a 323 1.0 13 model calculation. Journal of Optics (United Kingdom), 2016, 18, 055102. Scalable shear-exfoliation of high-quality phosphorene nanoflakes with reliable electrochemical 324 2.0 66 cycleability in nano batteries. 2D Materials, 2016, 3, 025005. Chemically Tailoring Semiconducting Two-Dimensional Transition Metal Dichalcogenides and Black 325 7.3 232 Phosphorús. ACS Nano, 2016, 10, 3900-3917. Electronic Structures and Carrier Mobilities of Blue Phosphorus Nanoribbons and Nanotubes: A 1.5 First-Principles Study. Journal of Physical Chemistry C, 2016, 120, 4638-4646. Optoelectronic properties of atomically thin ReSSe with weak interlayer coupling. Nanoscale, 2016, 8, 327 32 2.8 5826-5834. Passively Q-switched ytterbium-doped ScBO₃laser with black phosphorus saturable absorber. Optical Engineering, 2016, 55, 081312. Manipulation of n and p type dope black phosphorene layer: A first principles study. Current Applied 329 1.1 12 Physics, 2016, 16, 506-514. Strong optical limiting behavior discovered in black phosphorus. RSC Advances, 2016, 6, 20027-20033. 1.7 44 Present perspectives of broadband photodetectors based on nanobelts, nanoribbons, nanosheets and 331 2.8 233 the emerging 2D materials. Nanoscale, 2016, 8, 6410-6434. Low-frequency interlayer vibration modes in two-dimensional layered materials. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 80, 130-141. Nonradiative Electronâ€"Hole Recombination Rate Is Greatly Reduced by Defects in Monolayer Black 333 2.1 99 Phosphorus: Ab Initio Time Domain Study. Journal of Physical Chemistry Letters, 2016, 7, 653-659. Long-Range Magnetic Ordering and Switching of Magnetic State by Electric Field in Porous 334 2.1 Phosphorene. Journal of Physical Chemistry Letters, 2016, 7, 647-652.

		CITATION REF	PORT	
#	Article		IF	CITATIONS
335	Monolayer Phosphorene–Metal Contacts. Chemistry of Materials, 2016, 28, 2100-210	09.	3.2	199
336	The electronic structure, mechanical flexibility and carrier mobility of black arsenic–ph monolayers: a first principles study. Physical Chemistry Chemical Physics, 2016, 18, 977	iosphorus 9-9787.	1.3	50
337	Multilayer Black Phosphorus as a Versatile Mid-Infrared Electro-optic Material. Nano Lett 1683-1689.	ers, 2016, 16,	4.5	151
338	Interaction between phosphorene and the surface of a substrate. Materials Research Ex 025013.	press, 2016, 3,	0.8	10
339	Tailoring the electrical and photo-electrical properties of a WS ₂ field effect by selective n-type chemical doping. RSC Advances, 2016, 6, 24675-24682.	: transistor	1.7	40
340	Thickness-Dependent Thermal Conductivity of Suspended Two-Dimensional Single-Cryst In ₂ Se ₃ Layers Grown by Chemical Vapor Deposition. Journal o Chemistry C, 2016, 120, 4753-4758.	:al f Physical	1.5	56
341	Characterization and sonochemical synthesis of black phosphorus from red phosphorus Materials, 2016, 3, 014007.	. 2D	2.0	57
342	Near-Infrared Photodetector Based on MoS ₂ /Black Phosphorus Heterojunc Photonics, 2016, 3, 692-699.	tion. ACS	3.2	446
343	Probing Out-of-Plane Charge Transport in Black Phosphorus with Graphene-Contacted V Field-Effect Transistors. Nano Letters, 2016, 16, 2580-2585.	/ertical	4.5	119
344	Ultrathin SnS2 nanosheets of ultrasonic synthesis and their photoresponses from ultrav near-infrared. Sensors and Actuators B: Chemical, 2016, 231, 211-217.	iolet to	4.0	39
345	Phosphorene-based nanogenerator powered by cyclic molecular doping. Nano Energy, 2	:016, 23, 34-39.	8.2	19
346	Extraordinarily Bound Quasi-One-Dimensional Trions in Two-Dimensional Phosphorene A Semiconductors. ACS Nano, 2016, 10, 2046-2053.	Atomic	7.3	92
347	Out-of-plane structural flexibility of phosphorene. Nanotechnology, 2016, 27, 055701.		1.3	38
348	Anomalous Size Dependence of Optical Properties in Black Phosphorus Quantum Dots. Physical Chemistry Letters, 2016, 7, 370-375.	Journal of	2.1	99
349	Large area chemical vapor deposition of monolayer transition metal dichalcogenides and temperature dependent Raman spectroscopy studies. Nanoscale, 2016, 8, 3008-3018.	d their	2.8	186
350	Graphene/phosphorene bilayer: High electron speed, optical property and semiconductor transition with electric field. Current Applied Physics, 2016, 16, 318-323.	pr-metal	1.1	27
351	Structure and magnetism of Mn, Fe, or Co adatoms on monolayer and bilayer black pho Journal of Magnetism and Magnetic Materials, 2016, 401, 706-710.	sphorus.	1.0	16
352	Thermal conductivities of single- and multi-layer phosphorene: a molecular dynamics stu Nanoscale, 2016, 8, 483-491.	ıdy.	2.8	159

#	Article	IF	CITATIONS
353	Layer-dependent surface potential of phosphorene and anisotropic/layer-dependent charge transfer in phosphorene–gold hybrid systems. Nanoscale, 2016, 8, 129-135.	2.8	65
354	Toward facile broadband high photoresponse of fullerene based phototransistor from the ultraviolet to the near-infrared region. Carbon, 2016, 96, 685-694.	5.4	56
355	Elastic and Inelastic Light–Matter Interactions in 2D Materials. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 206-213.	1.9	6
356	Plasmonic hollow gold nanoparticles induced high-performance Bi2S3 nanoribbon photodetector. Nanophotonics, 2017, 6, 494-501.	2.9	36
357	Field-effect transistor biosensors with two-dimensional black phosphorus nanosheets. Biosensors and Bioelectronics, 2017, 89, 505-510.	5.3	206
358	Can a Black Phosphorus Schottky Barrier Transistor Be Good Enough?. ACS Applied Materials & Interfaces, 2017, 9, 3959-3966.	4.0	70
359	Schwarzer Phosphor neu entdeckt: vom Volumenmaterial zu Monoschichten. Angewandte Chemie, 2017, 129, 8164-8185.	1.6	59
360	Black Phosphorus Rediscovered: From Bulk Material to Monolayers. Angewandte Chemie - International Edition, 2017, 56, 8052-8072.	7.2	407
361	Sensitive Detection of Carcinoembryonic Antigen Using Stabilityâ€Limited Fewâ€Layer Black Phosphorus as an Electron Donor and a Reservoir. Small, 2017, 13, 1603589.	5.2	120
362	Ultrasensitive Near-Infrared Photodetectors Based on a Graphene–MoTe ₂ –Graphene Vertical van der Waals Heterostructure. ACS Applied Materials & Interfaces, 2017, 9, 5392-5398.	4.0	161
363	Toward Sensitive Roomâ€Temperature Broadband Detection from Infrared to Terahertz with Antennaâ€Integrated Black Phosphorus Photoconductor. Advanced Functional Materials, 2017, 27, 1604414.	7.8	88
364	Emergent elemental two-dimensional materials beyond graphene. Journal Physics D: Applied Physics, 2017, 50, 053004.	1.3	74
365	Effective <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi>factor in black phosphorus thin films. Physical Review B, 2017, 95, .</mml:math 	1.1	29
366	Three-Dimensional Integration of Black Phosphorus Photodetector with Silicon Photonics and Nanoplasmonics. Nano Letters, 2017, 17, 985-991.	4.5	111
367	Linear and nonlinear magneto-optical properties of monolayer phosphorene. Journal of Applied Physics, 2017, 121, .	1.1	47
368	The prospects of phosphorene as an anode material for high-performance lithium-ion batteries: a fundamental study. Nanotechnology, 2017, 28, 075401.	1.3	48
369	Density functional study of metal–phosphorene interfaces. International Journal of Modern Physics B, 2017, 31, 1750077.	1.0	5
370	<i>In situ</i> observation of the thermal stability of black phosphorus. 2D Materials, 2017, 4, 025001.	2.0	42

#	Article	IF	CITATIONS
371	Au/La ₂ Ti ₂ O ₇ Nanostructures Sensitized with Black Phosphorus for Plasmonâ€Enhanced Photocatalytic Hydrogen Production in Visible and Nearâ€Infrared Light. Angewandte Chemie - International Edition, 2017, 56, 2064-2068.	7.2	284
372	Au/La ₂ Ti ₂ O ₇ Nanostructures Sensitized with Black Phosphorus for Plasmonâ€Enhanced Photocatalytic Hydrogen Production in Visible and Nearâ€Infrared Light. Angewandte Chemie, 2017, 129, 2096-2100.	1.6	51
373	Universal edge bands induced by linearly polarized irradiation on phosphorene. New Journal of Physics, 2017, 19, 013004.	1.2	4
374	Control of Surface and Edge Oxidation on Phosphorene. ACS Applied Materials & Interfaces, 2017, 9, 9126-9135.	4.0	135
375	Franckeite as a naturally occurring van der Waals heterostructure. Nature Communications, 2017, 8, 14409.	5.8	103
376	Size-dependent nonlinear optical properties of black phosphorus nanosheets and their applications in ultrafast photonics. Journal of Materials Chemistry C, 2017, 5, 3007-3013.	2.7	150
377	Rapid and Large-Area Characterization of Exfoliated Black Phosphorus Using Third-Harmonic Generation Microscopy. Journal of Physical Chemistry Letters, 2017, 8, 1343-1350.	2.1	68
378	Different-sized black phosphorus nanosheets with good cytocompatibility and high photothermal performance. RSC Advances, 2017, 7, 14618-14624.	1.7	58
379	Toward high-performance two-dimensional black phosphorus electronic and optoelectronic devices. Chinese Physics B, 2017, 26, 037307.	0.7	11
380	Optical properties of phosphorene. Chinese Physics B, 2017, 26, 034201.	0.7	16
381	Phonon-limited carrier mobility in monolayer black phosphorus. Physical Review B, 2017, 95, .	1.1	30
382	Nonlinear Black Phosphorus for Ultrafast Optical Switching. Scientific Reports, 2017, 7, 43371.	1.6	45
383	Recent progress in van der Waals heterojunctions. Nanoscale, 2017, 9, 4324-4365.	2.8	155
384	Puckered-layer-structured germanium monosulfide for superior rechargeable Li-ion battery anodes. Journal of Materials Chemistry A, 2017, 5, 5685-5689.	5.2	34
385	Emerging Trends in Phosphorene Fabrication towards Next Generation Devices. Advanced Science, 2017, 4, 1600305.	5.6	285
386	Wafer-scaled monolayer WO3 windows ultra-sensitive, extremely-fast and stable UV-A photodetection. Applied Surface Science, 2017, 405, 169-177.	3.1	54
387	New Method to Determine the Schottky Barrier in Few-Layer Black Phosphorus Metal Contacts. ACS	4.0	15
	Applied Materials & amp; Interfaces, 2017, 9, 7873-7877.	1.0	10

CITATION	Report
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#	Article	IF	CITATIONS
389	High Current Density Electrical Breakdown of TiS ₃ Nanoribbonâ€Based Fieldâ€Effect Transistors. Advanced Functional Materials, 2017, 27, 1605647.	7.8	52
390	Position-dependent and millimetre-range photodetection in phototransistors with micrometre-scale graphene on SiC. Nature Nanotechnology, 2017, 12, 668-674.	15.6	55
391	Enhanced Performance of a Selfâ€Powered Organic/Inorganic Photodetector by Pyroâ€Phototronic and Piezoâ€Phototronic Effects. Advanced Materials, 2017, 29, 1606698.	11.1	157
392	Near-Infrared Photodetectors Based on MoTe ₂ /Graphene Heterostructure with High Responsivity and Flexibility. Small, 2017, 13, 1700268.	5.2	200
393	Liquid-phase exfoliation of black phosphorus and its applications. FlatChem, 2017, 2, 15-37.	2.8	129
394	Black phosphorus mid-infrared photodetectors. Applied Physics B: Lasers and Optics, 2017, 123, 1.	1.1	36
395	Electromechanical field effect transistors based on multilayer phosphorene nanoribbons. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 1962-1966.	0.9	8
396	Degradation pattern of black phosphorus multilayer fieldâ^'effect transistors in ambient conditions: Strategy for contact resistance engineering in BP transistors. Applied Surface Science, 2017, 419, 637-641.	3.1	12
397	Ambient Protection of Few‣ayer Black Phosphorus via Sequestration of Reactive Oxygen Species. Advanced Materials, 2017, 29, 1700152.	11.1	141
398	Photothermal Effect Induced Negative Photoconductivity and High Responsivity in Flexible Black Phosphorus Transistors. ACS Nano, 2017, 11, 6048-6056.	7.3	104
399	Few‣ayered PtS ₂ Phototransistor on hâ€BN with High Gain. Advanced Functional Materials, 2017, 27, 1701011.	7.8	176
400	Resolving the Inâ€Plane Anisotropic Properties of Black Phosphorus. Small Methods, 2017, 1, 1700143.	4.6	73
401	Two-band k.p Hamiltonian of phosphorene based on the infinitesimal basis transformations approach. Superlattices and Microstructures, 2017, 109, 330-336.	1.4	7
402	Suspended black phosphorus nanosheet gas sensors. Sensors and Actuators B: Chemical, 2017, 250, 569-573.	4.0	109
403	High field transport of high performance black phosphorus transistors. Applied Physics Letters, 2017, 110, .	1.5	27
404	Analysis of multilayer black phosphorus for photodetector applications. , 2017, , .		0
405	Highly polarization sensitive infrared photodetector based on black phosphorus-on-WSe 2 photogate vertical heterostructure. Nano Energy, 2017, 37, 53-60.	8.2	252
406	A study of bilayer phosphorene stability under MoS ₂ -passivation. 2D Materials, 2017, 4, 025091.	2.0	42

#	Article	IF	CITATIONS
407	Phosphorus Nanostripe Arrays on Cu(110): A Case Study to Understand the Substrate Effect on the Phosphorus thin Film Growth. Advanced Materials Interfaces, 2017, 4, 1601167.	1.9	18
408	Effect of metal adatoms on hydrogen adsorption properties of phosphorene. Materials Research Express, 2017, 4, 045503.	0.8	6
409	Low-Temperature Associated Interface Influence on the Black Phosphorus Nanoflakes. ACS Applied Materials & Interfaces, 2017, 9, 15219-15224.	4.0	7
410	Nonlinear optical response and applications of tin disulfide in the near- and mid-infrared. Applied Physics Letters, 2017, 110, .	1.5	47
411	Low-Voltage 2D Material Field-Effect Transistors Enabled by Ion Gel Capacitive Coupling. Chemistry of Materials, 2017, 29, 4008-4013.	3.2	14
412	Black Phosphorus/TiO ₂ Composite Photoanode with Enhanced Photoelectrical Performance. ChemElectroChem, 2017, 4, 2373-2377.	1.7	24
413	Thermal Conductivity and Tensile Response of Phosphorene Nanosheets with Vacancy Defects. Journal of Physical Chemistry C, 2017, 121, 13876-13887.	1.5	50
414	Protective molecular passivation of black phosphorus. Npj 2D Materials and Applications, 2017, 1, .	3.9	52
415	High-Performance Sensing Behavior Using Electronic Ink of 2D SnSe ₂ Nanosheets. ChemistrySelect, 2017, 2, 4068-4075.	0.7	56
416	Frequency stabilization of a dual-frequency Yb3+:GdAl3(BO3)4 laser via nonlinear loss modulation in black phosphorus. Laser Physics Letters, 2017, 14, 065802.	0.6	5
417	Self-Assembled Layer (SAL)-Based Doping on Black Phosphorus (BP) Transistor and Photodetector. ACS Photonics, 2017, 4, 1822-1830.	3.2	39
418	Ultrafast nonlinear optical response in solution dispersions of black phosphorus. Scientific Reports, 2017, 7, 3352.	1.6	24
419	Compressed few-layer black phosphorus nanosheets from semiconducting to metallic transition with the highest symmetry. Nanoscale, 2017, 9, 10741-10749.	2.8	16
420	2D Black Phosphorus for Energy Storage and Thermoelectric Applications. Small, 2017, 13, 1700661.	5.2	139
421	Black phosphorus: A promising two dimensional visible and near-infrared-activated photocatalyst for hydrogen evolution. Applied Catalysis B: Environmental, 2017, 217, 285-292.	10.8	164
422	Effect of external strain on the charge transfer: Adsorption of gas molecules on monolayer GaSe. Materials Chemistry and Physics, 2017, 198, 49-56.	2.0	15
423	High-performance near-infrared photodetector based on nano-layered MoSe ₂ . Semiconductor Science and Technology, 2017, 32, 065015.	1.0	46
424	Black phosphorous optoelectronic devices. , 2017, , .		1

#	Article	IF	CITATIONS
425	Nanostructured Materials and Architectures for Advanced Infrared Photodetection. Advanced Materials Technologies, 2017, 2, 1700005.	3.0	87
426	Ultrafast Carrier Dynamics and Efficient Triplet Generation in Black Phosphorus Quantum Dots. Journal of Physical Chemistry C, 2017, 121, 12972-12978.	1.5	26
427	Optical properties and Raman-active phonon modes of two-dimensional honeycomb Zintl phases. Journal of Materials Chemistry C, 2017, 5, 11259-11266.	2.7	23
428	Phosphorene – The two-dimensional black phosphorous: Properties, synthesis and applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2017, 221, 17-34.	1.7	195
429	Deriving phosphorus atomic chains from few-layer black phosphorus. Nano Research, 2017, 10, 2519-2526.	5.8	26
430	Towards high performance broad spectral response fullerene based photosensitive organic field-effect transistors with tricomponent bulk heterojunctions. Carbon, 2017, 118, 666-674.	5.4	36
431	A first principles study of the interaction between two-dimensional black phosphorus and Al ₂ O ₃ dielectric. RSC Advances, 2017, 7, 13777-13783.	1.7	5
432	Electrically Tunable Energy Bandgap in Dual-Gated Ultra-Thin Black Phosphorus Field Effect Transistors. Chinese Physics Letters, 2017, 34, 047304.	1.3	13
433	Electronic and transport properties of n -type monolayer black phosphorus at low temperatures. Physical Review B, 2017, 95, .	1.1	13
434	Continuum thin-shell model of the anisotropic two-dimensional materials: Single-layer black phosphorus. Extreme Mechanics Letters, 2017, 15, 1-9.	2.0	15
435	First-Principles-Based Quantum Transport Simulations of Monolayer Indium Selenide FETs in the Ballistic Limit. IEEE Transactions on Electron Devices, 2017, 64, 2129-2134.	1.6	11
436	High-Performance Broadband Floating-Base Bipolar Phototransistor Based on WSe ₂ /BP/MoS ₂ Heterostructure. ACS Photonics, 2017, 4, 823-829.	3.2	89
437	Oxidation Resistance of Monolayer Group-IV Monochalcogenides. ACS Applied Materials & Interfaces, 2017, 9, 12013-12020.	4.0	118
438	Aharonov-Bohm effect in monolayer phosphorene nanorings. Physical Review B, 2017, 95, .	1.1	23
439	Phosphorene: An emerging 2D material. Journal of Materials Research, 2017, 32, 2839-2847.	1.2	33
440	Recent Advances in Ultrathin Two-Dimensional Nanomaterials. Chemical Reviews, 2017, 117, 6225-6331.	23.0	3,940
441	Mechanical property assessment of black phosphorene nanotube using molecular dynamics simulation. Computational Materials Science, 2017, 133, 35-44.	1.4	12
442	Environmentally Robust Black Phosphorus Nanosheets in Solution: Application for Selfâ€Powered Photodetector. Advanced Functional Materials, 2017, 27, 1606834.	7.8	342

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#	ARTICLE	IF	CITATIONS
443	Ultrasensitivity broadband photodetectors based on perovskite: Research on film crystallization and electrode optimization. Organic Electronics, 2017, 46, 35-43.	1.4	23
444	Cyclical Thinning of Black Phosphorus with High Spatial Resolution for Heterostructure Devices. ACS Applied Materials & Interfaces, 2017, 9, 12654-12662.	4.0	17
445	Elemental two-dimensional nanosheets beyond graphene. Chemical Society Reviews, 2017, 46, 2127-2157.	18.7	285
446	Solution assembly MoS ₂ nanopetals/GaAs n–n homotype heterojunction with ultrafast and low noise photoresponse using graphene as carrier collector. Journal of Materials Chemistry C, 2017, 5, 140-148.	2.7	36
447	Directive Surface Plasmons on Tunable Two-Dimensional Hyperbolic Metasurfaces and Black Phosphorus: Green's Function and Complex Plane Analysis. IEEE Transactions on Antennas and Propagation, 2017, 65, 1174-1186.	3.1	39
448	Field Effect Optoelectronic Modulation of Quantum-Confined Carriers in Black Phosphorus. Nano Letters, 2017, 17, 78-84.	4.5	89
449	Air-stable few-layer black phosphorus phototransistor for near-infrared detection. Nanotechnology, 2017, 28, 085201.	1.3	26
450	Topological origin of edge states in two-dimensional inversion-symmetric insulators and semimetals. 2D Materials, 2017, 4, 015023.	2.0	39
451	Recent advance in black phosphorus: Properties and applications. Materials Chemistry and Physics, 2017, 189, 215-229.	2.0	67
452	Alâ€Ðoped Black Phosphorus p–n Homojunction Diode for High Performance Photovoltaic. Advanced Functional Materials, 2017, 27, 1604638.	7.8	145
453	Broadband photovoltaic effect of n-type topological insulator Bi2Te3 films on p-type Si substrates. Nano Research, 2017, 10, 1872-1879.	5.8	31
454	Tuning of the electronic and transport properties of phosphorene nanoribbons by edge types and edge defects. Organic Electronics, 2017, 42, 21-27.	1.4	54
455	CO2 adsorption and separation from natural gason phosphorene surface: Combining DFT and GCMC calculations. Applied Surface Science, 2017, 397, 206-212.	3.1	23
456	Enhanced Graphene Photodetector with Fractal Metasurface. Nano Letters, 2017, 17, 57-62.	4.5	106
457	Exceptional Optical Response of Archimedean Boron and Group-V Ultrathin Nanosheets. Journal of Physical Chemistry C, 2017, 121, 24489-24494.	1.5	1
458	New Strategy for Black Phosphorus Crystal Growth through Ternary Clathrate. Crystal Growth and Design, 2017, 17, 6579-6585.	1.4	38
459	Electrical transport properties of black phosphorus based field-effect transistor with Au/Co/MgO tunneling contacts. Journal of Applied Physics, 2017, 122, 164301.	1.1	7
460	Photodetectors based on sensitized two-dimensional transition metal dichalcogenides—A review. Journal of Materials Research, 2017, 32, 4115-4131.	1.2	46

#	Article	IF	CITATIONS
461	Controllable seeded flux growth and optoelectronic properties of bulk o-SiP crystals. CrystEngComm, 2017, 19, 6986-6991.	1.3	35
462	Charge carrier transfer in tungsten disulfide—black phosphorus heterostructures. Nanotechnology, 2017, 28, 475705.	1.3	2
463	Infrared Black Phosphorus Phototransistor with Tunable Responsivity and Low Noise Equivalent Power. ACS Applied Materials & Interfaces, 2017, 9, 36130-36136.	4.0	73
464	Multifunctional high-performance van der Waals heterostructures. Nature Nanotechnology, 2017, 12, 1148-1154.	15.6	278
465	Highly Efficient and Air-Stable Infrared Photodetector Based on 2D Layered Graphene–Black Phosphorus Heterostructure. ACS Applied Materials & Interfaces, 2017, 9, 36137-36145.	4.0	185
466	Exploring interacting Floquet states in black phosphorus: Anisotropy and bandgap laser tuning. Journal of Applied Physics, 2017, 122, .	1.1	23
467	Metalâ€ionâ€Modified Black Phosphorus with Enhanced Stability and Transistor Performance. Advanced Materials, 2017, 29, 1703811.	11.1	431
468	Inversion Domain Boundary Induced Stacking and Bandstructure Diversity in Bilayer MoSe ₂ . Nano Letters, 2017, 17, 6653-6660.	4.5	51
469	Magnetics and spintronics on two-dimensional composite materials of graphene/hexagonal boron nitride. Materials Today Physics, 2017, 3, 93-117.	2.9	56
470	Atomic cale Friction of Black Phosphorus: Effect of Thickness and Anisotropic Behavior. Advanced Materials Interfaces, 2017, 4, 1700998.	1.9	39
471	Ultrasensitive flexible broadband photodetectors achieving pA scale dark current. Npj Flexible Electronics, 2017, 1, .	5.1	41
472	Gate-Tunable Electronic Structure of Black Phosphorus/HfS ₂ P–N van der Waals Heterostructure with Uniformly Anisotropic Band Dispersion. Journal of Physical Chemistry C, 2017, 121, 24845-24852.	1.5	15
473	Robust theoretical modelling of core ionisation edges for quantitative electron energy loss spectroscopy of B- and N-doped graphene. Journal of Physics Condensed Matter, 2017, 29, 225303.	0.7	8
474	Spin-dependent transport properties of zigzag phosphorene nanoribbons with oxygen-saturated edges. Physical Chemistry Chemical Physics, 2017, 19, 25319-25323.	1.3	18
475	Rapid thermal thinning of black phosphorus. Journal of Materials Chemistry C, 2017, 5, 10638-10644.	2.7	17
476	Graphene and black phosphorus for infrared optoelectronics. , 2017, , .		0
477	Vertically Stacked and Self-Encapsulated van der Waals Heterojunction Diodes Using Two-Dimensional Layered Semiconductors. ACS Nano, 2017, 11, 10472-10479.	7.3	55
478	Recent advances in black phosphorus-based photonics, electronics, sensors and energy devices. Materials Horizons, 2017, 4, 997-1019.	6.4	296

#	Article	IF	CITATIONS
479	Two-dimensional materials for improved resolution in total internal reflection fluorescence microscopy. Materials Research Express, 2017, 4, 096203.	0.8	4
480	Two-dimensional nanomaterial-based field-effect transistors for chemical and biological sensing. Chemical Society Reviews, 2017, 46, 6872-6904.	18.7	316
481	Two-dimensional black phosphorus: Synthesis, modification, properties, and applications. Materials Science and Engineering Reports, 2017, 120, 1-33.	14.8	130
482	Functionalized few-layer black phosphorus with super-wettability towards enhanced reaction kinetics for rechargeable batteries. Nano Energy, 2017, 40, 576-586.	8.2	95
483	Defects Slow Down Nonradiative Electron–Hole Recombination in TiS ₃ Nanoribbons: A Time-Domain Ab Initio Study. Journal of Physical Chemistry Letters, 2017, 8, 4522-4529.	2.1	16
484	Phosphorene quantum dot-fullerene nanocomposites for solar energy conversion: An unexplored inorganic-organic nanohybrid with novel photovoltaic properties. Chemical Physics Letters, 2017, 685, 16-22.	1.2	25
485	Interfacial Thermal Conductance between Mechanically Exfoliated Black Phosphorus and SiO <i>_x</i> : Effect of Thickness and Temperature. Advanced Materials Interfaces, 2017, 4, 1700233.	1.9	16
486	Tunable bandgap in few-layer black phosphorus by electrical field. 2D Materials, 2017, 4, 031009.	2.0	30
487	First-principles study on electronic structures and magnetic properties of Eu-doped phosphorene. Superlattices and Microstructures, 2017, 111, 816-823.	1.4	8
488	Graphene ontacted Ultrashort Channel Monolayer MoS ₂ Transistors. Advanced Materials, 2017, 29, 1702522.	11.1	218
489	Synthesis of layered platelets by self-assembly of rhenium-based clusters directed by long-chain amines. Npj 2D Materials and Applications, 2017, 1, .	3.9	3
490	Assembling phosphorene flexagons for 2D electron-density-guided nanopatterning and nanofabrication. Nanoscale, 2017, 9, 10465-10474.	2.8	1
491	Black Phosphorus: Optical Characterization, Properties and Applications. Small, 2017, 13, 1700823.	5.2	63
492	Polarization-sensitive and broadband germanium sulfide photodetectors with excellent high-temperature performance. Nanoscale, 2017, 9, 12425-12431.	2.8	60
493	Theoretical Overview of Black Phosphorus. , 2017, , 381-412.		9
494	Regulation of transport properties by polytypism: a computational study on bilayer MoS2. Physical Chemistry Chemical Physics, 2017, 19, 21282-21286.	1.3	3
495	Ultrathin ternary semiconductor TlGaSe ₂ phototransistors with broad-spectral response. 2D Materials, 2017, 4, 035021.	2.0	22
496	Tunable electronic properties of multilayer phosphorene and its nanoribbons. Journal of Computational Electronics, 2017, 16, 568-575.	1.3	16

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#	Article	IF	CITATIONS
497	Anisotropic carrier mobility in buckled two-dimensional GaN. Physical Chemistry Chemical Physics, 2017, 19, 23492-23496.	1.3	24
498	Identifying the Crystalline Orientation of Black Phosphorus by Using Optothermal Raman Spectroscopy. ChemPhysChem, 2017, 18, 2828-2834.	1.0	12
499	Electronic and Magnetic Properties of Black Phosphorus. Physica Status Solidi (B): Basic Research, 2017, 254, 1700232.	0.7	17
500	TMDs – Optoelectronic Devices. , 0, , 329-343.		Ο
501	Optical Properties and Optoelectronic Applications of Black Phosphorus. , 0, , 435-457.		0
502	The prediction of a family group of two-dimensional node-line semimetals. Nanoscale, 2017, 9, 13112-13118.	2.8	58
503	Widely tunable black phosphorus mid-infrared photodetector. Nature Communications, 2017, 8, 1672.	5.8	283
504	Ultrahigh-Gain and Fast Photodetectors Built on Atomically Thin Bilayer Tungsten Disulfide Grown by Chemical Vapor Deposition. ACS Applied Materials & Interfaces, 2017, 9, 42001-42010.	4.0	26
505	Influence of black phosphorous on performance of surface plasmon resonance biosensor. Optical and Quantum Electronics, 2017, 49, 1.	1.5	67
506	Negative Inâ€Plane Poisson's Ratio for Single Layer Black Phosphorus: An Atomistic Simulation Study. Physica Status Solidi (B): Basic Research, 2017, 254, 1700285.	0.7	16
507	Enhanced broadband photoresponse of a self-powered photodetector based on vertically grown SnS layers <i>via</i> the pyro-phototronic effect. Nanoscale, 2017, 9, 19201-19208.	2.8	70
508	Ambipolar quantum transport in few-layer black phosphorus. Physical Review B, 2017, 96, .	1.1	26
509	Relativistic space-charge-limited current for massive Dirac fermions. Physical Review B, 2017, 95, .	1.1	17
510	Improved photoresponse and stable photoswitching of tungsten disulfide single-layer phototransistor decorated with black phosphorus nanosheets. Journal of Materials Science, 2017, 52, 11506-11512.	1.7	15
511	Black phosphorus: a two-dimensional reductant for in situ nanofabrication. Npj 2D Materials and Applications, 2017, 1, .	3.9	63
512	Phosphorene as a Polysulfide Immobilizer and Catalyst in Highâ€Performance Lithium–Sulfur Batteries. Advanced Materials, 2017, 29, 1602734.	11.1	289
513	Scanning Probe Nanopatterning and Layerâ€by‣ayer Thinning of Black Phosphorus. Advanced Materials, 2017, 29, 1604121.	11.1	62
514	Effect of edge passivation on the mechanical properties of phosphorene nanoribbons. Extreme Mechanics Letters, 2017, 14, 2-9.	2.0	10

#	Article	IF	CITATIONS
515	Thickness Engineered Tunnel Field-Effect Transistors Based on Phosphorene. IEEE Electron Device Letters, 2017, 38, 130-133.	2.2	56
516	Photodetectors Based on Twoâ€Dimensional Layered Materials Beyond Graphene. Advanced Functional Materials, 2017, 27, 1603886.	7.8	534
517	Recent Advances in the Study of Phosphorene and its Nanostructures. Critical Reviews in Solid State and Materials Sciences, 2017, 42, 1-82.	6.8	130
518	Broadband omnidirectional light detection in flexible and hierarchical ZnO/Si heterojunction photodiodes. Nano Research, 2017, 10, 22-36.	5.8	66
519	Ultraviolet light inducedphotocurrent response of graphene based field effect transistors. , 2017, , .		0
520	Coherent nonlinear optical response of single-layer black phosphorus: third-harmonic generation. European Physical Journal B, 2017, 90, 1.	0.6	7
521	Complementary black phosphorous FETs by workfunction engineering of pre-patterned Au and Ag embedded electrodes. , 2017, , .		3
522	Surface plasmons in a nanostructured black phosphorus flake. Optics Letters, 2017, 42, 2659.	1.7	49
523	Material and Device Architecture Engineering Toward High Performance Two-Dimensional (2D) Photodetectors. Crystals, 2017, 7, 149.	1.0	21
524	Terahertz photoresponse of black phosphorus. Optics Express, 2017, 25, 12666.	1.7	29
525	Simulation investigation of strained black phosphorus photodetector for middle infrared range. Optics Express, 2017, 25, 24705.	1.7	6
526	Inorganic analogues of graphene. , 2017, , 75-101.		3
528	Highly polarization sensitive photodetectors based on quasi-1D titanium trisulfide (TiS ₃). Nanotechnology, 2018, 29, 184002.	1.3	67
529	All-Electrical Determination of Crystal Orientation in Anisotropic Two-Dimensional Materials. Physical Review Letters, 2018, 120, 086801.	2.9	17
530	Controlled p-doping of black phosphorus by integration of MoS2 nanoparticles. Applied Surface Science, 2018, 440, 282-287.	3.1	15
531	Monolayer atomic crystal molecular superlattices. Nature, 2018, 555, 231-236.	13.7	323
532	Strength and buckling behavior of defective phosphorene nanotubes under axial compression. Journal of Materials Science, 2018, 53, 8355-8363.	1.7	6
533	Fano resonances in bilayer phosphorene nanoring. Nanotechnology, 2018, 29, 215202.	1.3	6

#	Article	IF	CITATIONS
534	2D Black Phosphorus: from Preparation to Applications for Electrochemical Energy Storage. Advanced Science, 2018, 5, 1700491.	5.6	174
535	Tuning Infrared Plasmon Resonance of Black Phosphorene Nanoribbon with a Dielectric Interface. Scientific Reports, 2018, 8, 3224.	1.6	36
536	A New Effective Approach to Prevent the Degradation of Black Phosphorus: The Scandium Transition Metal Doping. Journal of Physical Chemistry C, 2018, 122, 9654-9662.	1.5	20
537	Thickness-dependent and anisotropic thermal conductivity of black phosphorus nanosheets. Nanoscale, 2018, 10, 5985-5989.	2.8	34
538	2D GeP: An Unexploited Lowâ€Symmetry Semiconductor with Strong Inâ€Plane Anisotropy. Advanced Materials, 2018, 30, e1706771.	11.1	219
539	Sulfur-Doped Black Phosphorus Field-Effect Transistors with Enhanced Stability. ACS Applied Materials & Interfaces, 2018, 10, 9663-9668.	4.0	93
540	The Electronic and Optical Properties of Au Doped Single-Layer Phosphorene. Russian Journal of Physical Chemistry A, 2018, 92, 132-139.	0.1	8
541	Recent Developments in 2D Nanomaterials for Chemiresistive-Type Gas Sensors. Electronic Materials Letters, 2018, 14, 221-260.	1.0	197
542	Recent Advances in Blackâ€Phosphorusâ€Based Photonics and Optoelectronics Devices. Small Methods, 2018, 2, 1700315.	4.6	36
543	Chalcogenide glass waveguide-integrated black phosphorus mid-infrared photodetectors. Journal of Optics (United Kingdom), 2018, 20, 044004.	1.0	40
544	Electronic and optical responses of quasi-one-dimensional phosphorene nanoribbons to strain and electric field. Scientific Reports, 2018, 8, 6089.	1.6	11
545	Tuning the Electronic, Optical, and Magnetic Properties of Monolayer GaSe with a Vertical Electric Field. Physical Review Applied, 2018, 9, .	1.5	38
546	Black phosphorus quantum dot-based field-effect transistors with ambipolar characteristics. Applied Surface Science, 2018, 448, 576-582.	3.1	15
547	Effects of Al ₂ O ₃ Capping and Post-Annealing on the Conduction Behavior in Few-Layer Black Phosphorus Field-Effect Transistors. IEEE Journal of the Electron Devices Society, 2018, 6, 320-324.	1.2	6
548	Plasmonic Resonance Enhanced Polarization-Sensitive Photodetection by Black Phosphorus in Near Infrared. ACS Nano, 2018, 12, 4861-4867.	7.3	158
549	Metal-nonmetal oscillations in doped blue phosphorene: a first-principles study. Materials Research Express, 2018, 5, 055007.	0.8	6
550	Impurity-induced anisotropic semiconductor-semimetal transition in monolayer biased black phosphorus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 1885-1889.	0.9	23
551	Extrinsic polarization-controlled optical anisotropy in plasmon-black phosphorus coupled system. Nanotechnology, 2018, 29, 285202.	1.3	14

#	Article	IF	CITATIONS
552	Lattice Vibration and Raman Scattering in Anisotropic Black Phosphorus Crystals. Small Methods, 2018, 2, 1700409.	4.6	37
553	Recent advances in phosphorene as a sensing material. Nano Today, 2018, 20, 13-32.	6.2	134
554	Ultrafast and sensitive photodetector based on a PtSe2/silicon nanowire array heterojunction with a multiband spectral response from 200 to 1550 nm. NPG Asia Materials, 2018, 10, 352-362.	3.8	187
555	Structural and magneto-electronic properties of transition metal doped phosphorus nanotubes. Physical Chemistry Chemical Physics, 2018, 20, 13574-13579.	1.3	14
556	Anisotropic Broadband Photoresponse of Layered Typeâ€l Weyl Semimetal MoTe ₂ . Advanced Materials, 2018, 30, e1707152.	11.1	139
557	AtomicallyÂthin noble metal dichalcogenide: a broadband mid-infrared semiconductor. Nature Communications, 2018, 9, 1545.	5.8	367
558	Wrinkle-induced high sorption makes few-layered black phosphorus a superior adsorbent for ionic organic compounds. Environmental Science: Nano, 2018, 5, 1454-1465.	2.2	30
559	<i>Ab initio</i> effective deformation potentials of phosphorene and consistency checks. Journal of Physics Condensed Matter, 2018, 30, 225701.	0.7	5
560	Tuning electronic, magnetic, and transport properties of blue phosphorene by substitutional doping: a first-principles study. Journal of Computational Electronics, 2018, 17, 499-513.	1.3	37
561	Broadband Anisotropic Photoresponse of the "Hydrogen Atom―Version Type-II Weyl Semimetal Candidate TalrTe ₄ . ACS Nano, 2018, 12, 4055-4061.	7.3	94
562	CO Adsorption on Metal-Decorated Phosphorene. ACS Omega, 2018, 3, 3957-3965.	1.6	32
563	Ultrathin 2D Transition Metal Carbides for Ultrafast Pulsed Fiber Lasers. ACS Photonics, 2018, 5, 1808-1816.	3.2	148
564	Band Structure of the IV-VI Black Phosphorus Analog and Thermoelectric SnSe. Physical Review Letters, 2018, 120, 156403.	2.9	49
565	Hybrid Black Phosphorus/Zero-Dimensional Quantum Dot Phototransistors: Tunable Photodoping and Enhanced Photoresponsivity. ACS Applied Materials & Interfaces, 2018, 10, 16033-16040.	4.0	28
566	Homogeneity and tolerance to heat of monolayer MoS2 on SiO2 and h-BN. RSC Advances, 2018, 8, 12900-12906.	1.7	8
567	Self-powered photogalvanic phosphorene photodetectors with high polarization sensitivity and suppressed dark current. Nanoscale, 2018, 10, 7694-7701.	2.8	49
568	Fast, Selfâ€Driven, Airâ€Stable, and Broadband Photodetector Based on Vertically Aligned PtSe ₂ /GaAs Heterojunction. Advanced Functional Materials, 2018, 28, 1705970.	7.8	314
569	Optically Switchable Photocatalysis in Ultrathin Black Phosphorus Nanosheets. Journal of the American Chemical Society, 2018, 140, 3474-3480.	6.6	210

#	Article	IF	CITATIONS
570	Solvothermal-assisted liquid-phase exfoliation of large size and high quality black phosphorus. Journal of Materiomics, 2018, 4, 129-134.	2.8	31
571	Theoretical prediction of sandwiched two-dimensional phosphide binary compound sheets with tunable bandgaps and anisotropic physical properties. Nanotechnology, 2018, 29, 095703.	1.3	6
572	Dynamical anisotropic response of black phosphorus under magnetic field. 2D Materials, 2018, 5, 025010.	2.0	10
573	Impact of vacancies on electronic properties of black phosphorus probed by STM. Journal of Applied Physics, 2018, 123, .	1.1	31
574	High Performance Black Phosphorus Electronic and Photonic Devices with HfLaO Dielectric. IEEE Electron Device Letters, 2018, 39, 127-130.	2.2	31
575	Advanced Phosphorusâ€Based Materials for Lithium/Sodiumâ€Ion Batteries: Recent Developments and Future Perspectives. Advanced Energy Materials, 2018, 8, 1703058.	10.2	197
576	Scalable Production of Few-Layer Boron Sheets by Liquid-Phase Exfoliation and Their Superior Supercapacitive Performance. ACS Nano, 2018, 12, 1262-1272.	7.3	177
577	Carrier Transport Dynamics in High Speed Black Phosphorus Photodetectors. ACS Photonics, 2018, 5, 1412-1417.	3.2	15
578	Novel two-dimensional ferromagnetic semiconductors: Ga-based transition-metal trichalcogenide monolayers. Physical Chemistry Chemical Physics, 2018, 20, 6374-6382.	1.3	39
579	Enhancement of tunneling current in phosphorene tunnel field effect transistors by surface defects. Physical Chemistry Chemical Physics, 2018, 20, 5699-5707.	1.3	13
580	Exploration of two-dimensional bio-functionalized phosphorene nanosheets (black phosphorous) for label free haptoglobin electro-immunosensing applications. Nanotechnology, 2018, 29, 135101.	1.3	33
581	Ultrafast Laserâ€5hockâ€Induced Confined Metaphase Transformation for Direct Writing of Black Phosphorus Thin Films. Advanced Materials, 2018, 30, 1704405.	11.1	17
582	Highly Efficient Infrared Photodetection in a Gateâ€Controllable Van der Waals Heterojunction with Staggered Bandgap Alignment. Advanced Science, 2018, 5, 1700423.	5.6	66
583	Synthesis of a Poly- <scp>l</scp> -Lysine/Black Phosphorus Hybrid for Biosensors. Analytical Chemistry, 2018, 90, 3149-3155.	3.2	81
584	Optical third harmonic generation in black phosphorus. Physical Review B, 2018, 97, .	1.1	15
585	Broadband Nonlinear Photoresponse of 2D TiS ₂ for Ultrashort Pulse Generation and Allâ€Optical Thresholding Devices. Advanced Optical Materials, 2018, 6, 1701166.	3.6	248
586	Recent progress in 2D group-VA semiconductors: from theory to experiment. Chemical Society Reviews, 2018, 47, 982-1021.	18.7	697
587	Assembly and Selfâ€Assembly of Nanomembrane Materials—From 2D to 3D. Small, 2018, 14, e1703665.	5.2	56

#	Article	IF	CITATIONS
588	Anisotropic optical absorption induced by Rashba spin-orbit coupling in monolayer phosphorene. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 98, 33-38.	1.3	6
589	Dual-Gate Black Phosphorus Field-Effect Transistors with Hexagonal Boron Nitride as Dielectric and Passivation Layers. ACS Applied Materials & Interfaces, 2018, 10, 925-932.	4.0	35
590	Generalized Scheme for High Performing Photodetectors with a pâ€Type 2D Channel Layer and nâ€Type Nanoparticles. Small, 2018, 14, 1703065.	5.2	18
591	Antimonene: A Novel 2D Nanomaterial for Supercapacitor Applications. Advanced Energy Materials, 2018, 8, 1702606.	10.2	153
592	Facile fabrication and characterization of two-dimensional bismuth(<scp>iii</scp>) sulfide nanosheets for high-performance photodetector applications under ambient conditions. Nanoscale, 2018, 10, 2404-2412.	2.8	166
593	Reducing the contact and channel resistances of black phosphorus via low-temperature vacuum annealing. Journal of Materials Chemistry C, 2018, 6, 1567-1572.	2.7	20
594	A fast and zero-biased photodetector based on GaTe–InSe vertical 2D p–n heterojunction. 2D Materials, 2018, 5, 025008.	2.0	81
596	Black Phosphorus and Polymeric Carbon Nitride Heterostructure for Photoinduced Molecular Oxygen Activation. Advanced Functional Materials, 2018, 28, 1705407.	7.8	371
597	THz photonics in two dimensional materials and metamaterials: properties, devices and prospects. Journal of Materials Chemistry C, 2018, 6, 1291-1306.	2.7	124
598	A novel electrically controllable volatile memory device based on few-layer black phosphorus. Journal of Materials Chemistry C, 2018, 6, 2460-2466.	2.7	15
599	Synthesis of Crystalline Black Phosphorus Thin Film on Sapphire. Advanced Materials, 2018, 30, 1703748.	11.1	86
600	Enhanced Stability of Black Phosphorus Fieldâ€Effect Transistors via Hydrogen Treatment. Advanced Electronic Materials, 2018, 4, 1700455.	2.6	19
601	Novel Optoelectronic Devices: Transitionâ€Metalâ€Dichalcogenideâ€Based 2D Heterostructures. Advanced Electronic Materials, 2018, 4, 1700335.	2.6	91
602	Light Sources and Photodetectors Enabled by 2D Semiconductors. Small Methods, 2018, 2, 1800019.	4.6	35
603	Study of local currents in low dimension materials using complex injecting potentials. Journal of Applied Physics, 2018, 123, 165102.	1.1	5
604	Two-step vapor deposition of self-catalyzed large-size PbI ₂ nanobelts for high-performance photodetectors. Journal of Materials Chemistry C, 2018, 6, 5746-5753.	2.7	33
605	"M-shape―nanoscale friction anisotropy of phosphorene. Computational Materials Science, 2018, 150, 364-368.	1.4	15
606	Large-Velocity Saturation in Thin-Film Black Phosphorus Transistors. ACS Nano, 2018, 12, 5003-5010.	7.3	44

ARTICLE IF CITATIONS Defect Engineering in Few‣ayer Phosphorene. Small, 2018, 14, e1704556. 607 5.2 27 Toward Highâ€Performance Photodetectors Based on 2D Materials: Strategy on Methods. Small 608 4.6 118 Methods, 2018, 2, 1700349. Temperature-Dependent and Gate-Tunable Rectification in a Black Phosphorus/WS₂ van der 609 4.0 61 Waals Heterojunction Diode. ACS Applied Materials & amp; Interfaces, 2018, 10, 13150-13157. Air-Stable Room-Temperature Mid-Infrared Photodetectors Based on hBN/Black Arsenic 145 Phosphorus/hBN Heterostructures. Nano Letters, 2018, 18, 3172-3179. Resolving the optical anisotropy of low-symmetry 2D materials. Nanoscale, 2018, 10, 8329-8337. 611 2.8 58 Optical Kerr effect and two-photon absorption in monolayer black phosphorus. Journal of Optics 1.0 (United Kingdom), 2018, 20, 055503. High-Performance Lossy-Mode Resonance Sensor Based on Few-Layer Black Phosphorus. Journal of 613 1.5 47 Physical Chemistry C, 2018, 122, 7368-7373. CaP₃: A New Two-Dimensional Functional Material with Desirable Band Gap and Ultrahigh 614 2.1 Carrier Mobility. Journal of Physical Chemistry Letters, 2018, 9, 1728-1733. Facile bottom-up synthesis of partially oxidized black phosphorus nanosheets as metal-free 615 photocatalyst for hydrogen evolution. Proceedings of the National Academy of Sciences of the 3.3 207 United States of America, 2018, 115, 4345-4350. Superior microwave absorption properties of ultralight reduced graphene oxide/black phosphorus 1.3 aerogel. Nanotechnology, 2018, 29, 235604. Black phosphorus with near-superhydrophobic properties and long-term stability in aqueous media. 617 2.2 28 Chemical Communications, 2018, 54, 3831-3834. First-principles studies on the superconductivity of aluminene. Applied Surface Science, 2018, 445, 3.1 28 161-166. Ultrafast Charge Separation for Full Solar Spectrum-Activated Photocatalytic H₂ Generation in a Black Phosphorus–Au–CdS Heterostructure. ACS Energy Letters, 2018, 3, 932-939. 619 8.8 122 A new strategy for air-stable black phosphorus reinforced PVA nanocomposites. Journal of Materials Chemistry A, 2018, 6, 7142-7147. 5.2 Top-gated black phosphorus phototransistor for sensitive broadband detection. Nanoscale, 2018, 10, 621 19 2.8 5852-5858. Chemical synthesis of two-dimensional atomic crystals, heterostructures and superlattices. Chemical 132 Society Reviews, 2018, 47, 3129-3151. Stable high-power saturable absorber based on polymer-black-phosphorus films. Optics 623 1.0 45 Communications, 2018, 406, 254-259. Optical contrast for identifying the thickness of two-dimensional materials. Optics Communications, 624 2018, 406, 128-138.

#	Article	IF	CITATIONS		
625	Three-layer phosphorene-metal interfaces. Nano Research, 2018, 11, 707-721.	5.8	72		
626	Ultraviolet-light-driven enhanced photoresponse of chemical-vapor-deposition grown graphene-WS2 heterojunction based FETs. Sensors and Actuators B: Chemical, 2018, 257, 263-269.	4.0	16		
627	Noble metal-free near-infrared-driven photocatalyst for hydrogen production based on 2D hybrid of black Phosphorus/WS2. Applied Catalysis B: Environmental, 2018, 221, 645-651.	10.8	171		
628	Uncooled EuSbTe ₃ photodetector highly sensitive from ultraviolet to terahertz frequencies. 2D Materials, 2018, 5, 011008.	2.0	16		
629	Electrical contacts in monolayer blue phosphorene devices. Nano Research, 2018, 11, 1834-1849.	5.8	55		
630	Black Phosphorus Quantum Dots with Renal Clearance Property for Efficient Photodynamic Therapy. Small, 2018, 14, 1702815.	5.2	168		
631	Direct Investigation of the Birefringent Optical Properties of Black Phosphorus with Picosecond Interferometry. Advanced Optical Materials, 2018, 6, 1700831.	3.6	9		
632	Toward High Uniformity of Photoresponse Broadband Hybrid Organic–Inorganic Photodiode Based on PVPâ€Modified Perovskite. Advanced Optical Materials, 2018, 6, 1700509.	3.6	19		
633	Pronounced Photovoltaic Effect in Electrically Tunable Lateral Blackâ€Phosphorus Heterojunction Diode. Advanced Electronic Materials, 2018, 4, 1700442.	2.6	27		
634	Preparation and enhanced infrared response properties of ordered W-doped VO2 nanowire array. Applied Surface Science, 2018, 436, 1061-1066.	3.1	19		
635	Nanocrystalline Perovskite Hybrid Photodetectors with High Performance in Almost Every Figure of Merit. Advanced Functional Materials, 2018, 28, 1705589.	7.8	42		
636	Covalent functionalized black phosphorus quantum dots. Optical Materials, 2018, 75, 521-524.	1.7	11		
637	Anomalous Temperature Dependence in Metal–Black Phosphorus Contact. Nano Letters, 2018, 18, 26-31.	4.5	25		
638	Recovery Mechanism of Degraded Black Phosphorus Fieldâ€Effect Transistors by 1,2â€Ethanedithiol Chemistry and Extended Device Stability. Small, 2018, 14, 1703194.	5.2	23		
639	Excitonic effects in the K and L2,3 edges spectra of bulk and monolayer black phosphorus from first-principles. Journal of Electron Spectroscopy and Related Phenomena, 2018, 223, 1-10.	0.8	4		
640	Electrogenerated chemiluminescence of Ru(bpy) ₃ ²⁺ at a black phosphorus quantum dot modified electrode and its sensing application. Analyst, The, 2018, 143, 304-310.	1.7	38		
641	Electronic and Magnetic Properties of Monolayer and Bilayer Phosphorene Doped with Transitionâ€Metal Atoms. Physica Status Solidi (B): Basic Research, 2018, 255, 1700370.	0.7	9		
642	Single Pixel Black Phosphorus Photodetector for Nearâ€Infrared Imaging. Small, 2018, 14, 1702082	5.2	56		
		CITATION	CITATION REPORT		
-----	---	--	------------------------	-----------	--
#	Article		IF	CITATIONS	
643	Two dimensional materials based photodetectors. Infrared Physics and Technology, 2018, 8	38, 149-173.	1.3	79	
644	Robust electronic and mechanical properties to layer number in 2D wide-gap X(OH) _{2 (X  =  Mg, Ca). Journal Physics D: Applied Physics, 2018, 51, 015107.}		1.3	7	
645	New Directions in Science Technology—Atomically-Thin Metal Dichalcogenides. , 2018, , 1	.81-250.		1	
646	Photovoltaic effects in reconfigurable heterostructured black phosphorus transistors. Chine Physics B, 2018, 27, 128502.	ese	0.7	10	
647	Interface engineering for a stable chemical structure of oxidized-black phosphorus <i>viax atomic layer deposition. Nanoscale, 2018, 10, 22896-22</i>	> 2907.	2.8	6	
648	Two-dimensional black phosphorus: its fabrication, functionalization and applications. Nand 2018, 10, 21575-21603.	oscale,	2.8	73	
649	Interlayer coupling and the phase transition mechanism of stacked MoS ₂ /TaS heterostructures discovered using temperature dependent Raman and photoluminescence spectroscopy. RSC Advances, 2018, 8, 21968-21974.	₂	1.7	9	
650	Optical absorption properties of few-layer phosphorene. Physical Review B, 2018, 98, .		1.1	23	
651	Single Zn2GeO4 nanowire high-performance broadband photodetector. Journal of Applied 2018, 124, Construction of Broken-gap Phosphorene/ combinat	Physics,	1.1	8	
652	xmins:mmi= nttp://www.w3.org/1998/Math/Math/Math/Math/Math/Math/Math/Math	/mml:mn> <td>sub><td>math></td></td>	sub> <td>math></td>	math>	

	Сітатіої	N REPORT	
#	Article	IF	Citations
661	Multilayer ReS ₂ Photodetectors with Gate Tunability for High Responsivity and High-Speed Applications. ACS Applied Materials & Interfaces, 2018, 10, 36512-36522.	4.0	86
662	Water-Based Black Phosphorus Hybrid Nanosheets as a Moldable Platform for Wound Healing Applications. ACS Applied Materials & Interfaces, 2018, 10, 35495-35502.	4.0	63
663	Combined effect of the perpendicular magnetic field and dilute charged impurity on the electronic phase of bilayer AA-stacked hydrogenated graphene. Physics Letters, Section A: General, Atomic and Solid State Physics, 2018, 382, 3298-3305.	0.9	32
664	Theory for surface polaritons supported by a black-phosphorus monolayer. Physical Review B, 2018, 98,	1.1	15
665	Promise and Challenge of Phosphorus in Science, Technology, and Application. Advanced Functional Materials, 2018, 28, 1803471.	7.8	65
666	Narrow bandgap oxide nanoparticles coupled with graphene for high performance mid-infrared photodetection. Nature Communications, 2018, 9, 4299.	5.8	151
667	Wideband wavelength-tunable ultrafast fiber laser based on black phosphorus saturable absorber. Laser Physics Letters, 2018, 15, 125102.	0.6	13
668	P3Cl2: A Unique Post-Phosphorene 2D Material with Superior Properties against Oxidation. Journal of Physical Chemistry Letters, 2018, 9, 6568-6575.	2.1	16
669	Black phosphorus with a unique rectangular shape and its anisotropic properties. AIP Advances, 2018, 8, .	0.6	5
670	Electrical modulation of terahertz radiation using graphene-phosphorene heterostructures. Semiconductor Science and Technology, 2018, 33, 124010.	1.0	19
671	Black phosphorus-based field effect transistor devices for Ag ions detection. Chinese Physics B, 2018, 27, 087308.	0.7	37
672	Real-space-transfer mechanism of negative differential conductivity in gated graphene-phosphorene hybrid structures: Phenomenological heating model. Journal of Applied Physics, 2018, 124, 114501.	1.1	15
673	Two-Dimensional Photogalvanic Spin-Battery. Physical Review Applied, 2018, 10, .	1.5	64
674	Pulling apart photoexcited electrons by photoinducing an in-plane surface electric field. Science Advances, 2018, 4, eaat9722.	4.7	29
675	Polarizationâ€Dependent Photocurrent of Black Phosphorus/Rhenium Disulfide Heterojunctions. Advanced Materials Interfaces, 2018, 5, 1800960.	1.9	22
676	Black Phosphorus Infrared Photodetectors with Fast Response and High Photoresponsivity. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800310.	1.2	28
677	Photocarrier dynamics in monolayer phosphorene and bulk black phosphorus. Nanoscale, 2018, 10, 11307-11313.	2.8	29
678	Enhancement of photoluminescence and hole mobility in 1- to 5-layer InSe due to the top valence-band inversion: strain effect. Nanoscale, 2018, 10, 11441-11451.	2.8	58

		CITATION R	EPORT	
#	Article		IF	CITATIONS
679	Suppression of spin and optical gaps in phosphorene quantum dots. Physical Review B	, 2018, 97, .	1.1	10
680	Thickness-Dependently Enhanced Photodetection Performance of Vertically Grown Sn Nanoflakes with Large Size and High Production. ACS Applied Materials & Samp; Interfac 18073-18081.	S ₂ tes, 2018, 10,	4.0	56
681	Low-bias negative differential resistance in junction of a benzene between zigzag-edge nanoribbons. Journal of Physics Condensed Matter, 2018, 30, 265301.	d phosphorene?	0.7	11
682	Double band-inversions of bilayer phosphorene under strain and their effects on optice Chinese Physics B, 2018, 27, 047303.	l absorption.	0.7	4
683	High Mobility Anisotropic Black Phosphorus Nanoribbon Fieldâ€Effect Transistor. Adva Materials, 2018, 28, 1801524.	nced Functional	7.8	77
684	Ultrasensitive Roomâ€Temperature Terahertz Direct Detection Based on a Bismuth Se Insulator. Advanced Functional Materials, 2018, 28, 1801786.	lenide Topological	7.8	73
685	Direction-dependent electronic thermal conductivity and thermopower of single-layer phosphorus in the presence of bias voltage and dilute charged impurity. Physica E: Low Systems and Nanostructures, 2018, 103, 76-80.	black y-Dimensional	1.3	30
686	Tuning the electronic property of two dimensional SiSe monolayer by in-plane strain. C Letters, 2018, 705, 12-18.	hemical Physics	1.2	13
687	Organosilicon modification to enhance the stability of black phosphorus nanosheets u conditions. Journal of Materials Chemistry B, 2018, 6, 4065-4070.	nder ambient	2.9	36
688	Anisotropic Plasmonic Response of Black Phosphorus Nanostrips in Terahertz Metama Photonics Journal, 2018, 10, 1-9.	terials. IEEE	1.0	24
689	Enhanced Performance of Field-Effect Transistors Based on Black Phosphorus Channels Galvanic Corrosion of Al Overlayers. ACS Applied Materials & Interfaces, 2018, 10	s Reduced by , 18895-18901.	4.0	9
690	Recent Advances on Black Phosphorus for Energy Storage, Catalysis, and Sensor Appli Advanced Materials, 2018, 30, e1800295.	cations.	11.1	215
691	Highly Polarized and Fast Photoresponse of Black Phosphorusâ€InSe Vertical p–n He Advanced Functional Materials, 2018, 28, 1802011.	eterojunctions.	7.8	142
692	Highâ€Performance Photovoltaic Effect with Electrically Balanced Charge Carriers in Bl Phosphorus and WS ₂ Heterojunction. Advanced Materials Interfaces, 20.	ack 18, 5, 1800671.	1.9	28
693	Semiconductor Nanomembrane Materials for High-Performance Soft Electronic Device the American Chemical Society, 2018, 140, 9001-9019.	s. Journal of	6.6	34
694	Structural, electronic and mechanical properties of two-dimensional Janus transition m and nitrides. Physica E: Low-Dimensional Systems and Nanostructures, 2018, 103, 307	etal carbides 7-313.	1.3	32
695	Tunable black phosphorus heterojunction transistors for multifunctional optoelectroni Nanoscale, 2018, 10, 14359-14367.	cs.	2.8	24
696	Lithography-free fabrication of field effect transistor channels with randomly contact-p phosphorus flakes. Materials Science in Semiconductor Processing, 2018, 86, 58-62.	rinted black	1.9	2

#	Article	IF	CITATIONS
697	Observation of ferromagnetism in black phosphorus nanosheets with high magnetization by liquid exfoliation. Solid State Communications, 2018, 281, 1-5.	0.9	15
698	Covalent Functionalization of Few-Layer Black Phosphorus Using Iodonium Salts and Comparison to Diazonium Modified Black Phosphorus. Chemistry of Materials, 2018, 30, 4667-4674.	3.2	79
699	Opto-electric property relationship in phosphorus embedded nanocarbon. Results in Physics, 2018, 10, 633-639.	2.0	9
700	Strong coherent coupling between graphene surface plasmons and anisotropic black phosphorus localized surface plasmons. Optics Express, 2018, 26, 1633.	1.7	102
701	Passively Q-switched Nd ³⁺ solid-state lasers with antimonene as saturable absorber. Optics Express, 2018, 26, 4085.	1.7	38
702	Scalable Patterning of Encapsulated Black Phosphorus. Nano Letters, 2018, 18, 5373-5381.	4.5	43
703	Soft computing techniques in prediction gas sensor based 2D material. Organic Electronics, 2018, 62, 181-188.	1.4	12
704	Broadband organic phototransistor with high photoresponse from ultraviolet to near-infrared realized <i>via</i> synergistic effect of trilayer heterostructure. Journal of Materials Chemistry C, 2018, 6, 8804-8811.	2.7	32
705	Extracting the Energy Sensitivity of Charge Carrier Transport and Scattering. Scientific Reports, 2018, 8, 10597.	1.6	2
706	Progress on Black Phosphorus Photonics. Advanced Optical Materials, 2018, 6, 1800365.	3.6	44
707	New Frontiers on van der Waals Layered Metal Phosphorous Trichalcogenides. Advanced Functional Materials, 2018, 28, 1802151.	7.8	223
708	The effect of strain and functionalization on the optical properties of borophene. Physical Chemistry Chemical Physics, 2018, 20, 21043-21050.	1.3	45
709	Progress on Crystal Growth of Two-Dimensional Semiconductors for Optoelectronic Applications. Crystals, 2018, 8, 252.	1.0	7
710	Synthesis of Large-Scale Single-Crystalline Monolayer WS2 Using a Semi-Sealed Method. Nanomaterials, 2018, 8, 100.	1.9	29
711	Multilayer Black Phosphorus Near-Infrared Photodetectors. Sensors, 2018, 18, 1668.	2.1	26
712	2D library beyond graphene and transition metal dichalcogenides: a focus on photodetection. Chemical Society Reviews, 2018, 47, 6296-6341.	18.7	207
713	Black Phosphorus and its Biomedical Applications. Theranostics, 2018, 8, 1005-1026.	4.6	253
714	Acoustically enhanced photodetection by a black phosphorus–MoS ₂ van der Waals heterojunction p–n diode. Nanoscale, 2018, 10, 10148-10153.	2.8	31

		CITATION RE	PORT	
#	Article		IF	CITATIONS
715	Nanowires of KP15 produced by liquid exfoliation. Materials Letters, 2018, 228, 89-91		1.3	6
716	Ultrafast and highly sensitive infrared photodetectors based on two-dimensional oxyse crystals. Nature Communications, 2018, 9, 3311.	elenide	5.8	213
717	Blood Circulation, Biodistribution, and Pharmacokinetics of Dextran-Modified Black Ph Nanoparticles. ACS Applied Bio Materials, 2018, 1, 673-682.	osphorus	2.3	29
718	Towards high performance hybrid two-dimensional material plasmonic devices: strong anisotropic plasmonic resonances in nanostructured graphene-black phosphorus bilay Express, 2018, 26, 22528.	and highly er. Optics	1.7	52
719	Atomically thin semiconducting penta-PdP ₂ and PdAs ₂ with mobility. Journal of Materials Chemistry C, 2018, 6, 9055-9059.	ultrahigh carrier	2.7	39
720	2D Phosphorene: Epitaxial Growth and Interface Engineering for Electronic Devices. Ac Materials, 2018, 30, e1802207.	lvanced	11.1	58
721	Abnormal Nearâ€Infrared Absorption in 2D Black Phosphorus Induced by Ag Nanoclus Functionalization. Advanced Materials, 2018, 30, e1801931.	ters Surface	11.1	43
722	Strong optical force and its confinement applications based on heterogeneous phosph Optics Express, 2018, 26, 23221.	iorene pairs.	1.7	10
723	Polarization-resolved black phosphorus/molybdenum disulfide mid-wave infrared photo high detectivity at room temperature. Nature Photonics, 2018, 12, 601-607.	odiodes with	15.6	366
724	Strain-induced effects in zigzag-edged blue phosphorene nanoribbons with edge sulfu Journal of Physics Condensed Matter, 2018, 30, 395303.	r passivation.	0.7	7
725	Stimuliâ€Responsive 2D Materials Beyond Graphene. Advanced Functional Materials, 2	2018, 28, 1802500.	7.8	54
726	Black Phosphorus Nanosheets Passivation Using a Tripeptide. Small, 2018, 14, e18017	701.	5.2	36
727	Ultraâ€Broadband Flexible Photodetector Based on Topological Crystalline Insulator S Responsivity. Small, 2018, 14, e1802598.	nTe with High	5.2	65
728	Charge transport in doped zigzag phosphorene nanoribbons. Physical Review B, 2018,	97, .	1.1	25
729	Effects of plasma-treatment on the electrical and optoelectronic properties of layered phosphorus. Applied Materials Today, 2018, 12, 244-249.	black	2.3	38
730	Enhanced photoresponsivity and hole mobility of MoTe2 phototransistors by using an gate dielectric. Science Bulletin, 2018, 63, 997-1005.	Al2O3 high-κ	4.3	21
731	Anisotropic electronic heat capacity and electrical conductivity of monolayer biased impurity-infected black phosphorus. Solid State Communications, 2018, 280, 39-44.		0.9	26
732	Enhancing electronic and optoelectronic performances of tungsten diselenide by plasr Nanoscale, 2018, 10, 12436-12444.	na treatment.	2.8	30

#	Article	IF	CITATIONS
733	Photoinduced Nonequilibrium Topological States in Strained Black Phosphorus. Physical Review Letters, 2018, 120, 237403.	2.9	80
734	Assessing and Mitigating the Hazard Potential of Two-Dimensional Materials. ACS Nano, 2018, 12, 6360-6377.	7.3	78
735	Growth of Centimeterâ€Scale Monolayer and Few‣ayer WSe ₂ Thin Films on SiO ₂ /Si Substrate via Pulsed Laser Deposition. Advanced Materials Interfaces, 2018, 5, 1800524.	1.9	23
736	Adsorption Induced Indirect-to-Direct Band Gap Transition in Monolayer Blue Phosphorus. Journal of Physical Chemistry C, 2018, 122, 15792-15798.	1.5	10
737	Layer-dependent band alignment of few layers of blue phosphorus and their van der Waals heterostructures with graphene. Physical Review B, 2018, 97, .	1.1	45
738	Single-atom vacancy in monolayer phosphorene: A comprehensive study of stability and magnetism under applied strain. Journal of Magnetism and Magnetic Materials, 2018, 465, 546-553.	1.0	2
739	Theoretical understanding of SnS monolayer as Li ion battery anode material. Journal of Physics and Chemistry of Solids, 2018, 121, 261-265.	1.9	22
740	Bacterial toxicity of exfoliated black phosphorus nanosheets. Ecotoxicology and Environmental Safety, 2018, 161, 507-514.	2.9	81
741	Analytical investigation of superior gas sensor based on phosphorene. Microsystem Technologies, 2019, 25, 897-903.	1.2	3
742	Avalanche Carrier Multiplication in Multilayer Black Phosphorus and Avalanche Photodetector. Small, 2019, 15, e1805352.	5.2	25
743	Enhancing photo-detection properties of Sb _{0.15} Sn _{0.85} S ₂ alloy. Materials Research Express, 2019, 6, 096303.	0.8	2
744	PbSe Quantum Dots Sensitized High-Mobility Bi ₂ O ₂ Se Nanosheets for High-Performance and Broadband Photodetection Beyond 2 μm. ACS Nano, 2019, 13, 9028-9037.	7.3	149
745	Hubbard excitons in two-dimensional nanomaterials. Journal of Physics Condensed Matter, 2019, 31, 275302.	0.7	1
746	Electronics from solution-processed 2D semiconductors. Journal of Materials Chemistry C, 2019, 7, 12835-12861.	2.7	24
747	Selfâ€Assembly of Atomically Thin Chiral Copper Heterostructures Templated by Black Phosphorus. Advanced Functional Materials, 2019, 29, 1903120.	7.8	9
748	Recent progress in black phosphorus and black-phosphorus-analogue materials: properties, synthesis and applications. Nanoscale, 2019, 11, 14491-14527.	2.8	239
749	Multifunctional Optoelectronics via Harnessing Defects in Layered Black Phosphorus. Advanced Functional Materials, 2019, 29, 1901991.	7.8	97
750	Enhancing the interaction between CO and single layer black phosphorous via transition metals impurities and external electric field: a theoretical study. Research on Chemical Intermediates, 2019, 45, 5577-5593.	1.3	4

ARTICLE IF CITATIONS # Ultra-broadband self-powered reduced graphene oxide photodetectors with annealing 751 5.4 30 temperature-dependent responsivity. Carbon, 2019, 153, 274-284. Reversible Oxidation of Blue Phosphorus Monolayer on Au(111). Nano Letters, 2019, 19, 5340-5346. 4.5 Dye-sensitized black phosphorus nanosheets decorated with Pt cocatalyst for highly efficient 753 photocatalytic hydrogen evolution under visible light. International Journal of Hydrogen Energy, 3.8 20 2019, 44, 21873-21881. Manipulating electronic and magnetic properties of black phosphorene with 4d series transition metal adsorption. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 754 0.9 2765-2771. Anisotropic Charge Carrier and Coherent Acoustic Phonon Dynamics of Black Phosphorus Studied by 755 1.5 16 Transient Absorption Microscopy. Journal of Physical Chemistry C, 2019, 123, 20051-20058. Greenâ€Sensitive Phototransistor Based on Solutionâ€Processed 2D nâ€Type Organic Single Crystal. 2.6 Advanced Electronic Materials, 2019, 5, 1900478. Recent Advances in Ambipolar Transistors for Functional Applications. Advanced Functional 757 7.8 154 Materials, 2019, 29, 1902105. Perpendicular electric field effects on the propagation of electromagnetic waves through the 1.0 monolayer phosphorene. Journal of Magnetism and Magnetic Materials, 2019, 491, 165629. Anisotropy transport in monolayer black phosphorus under period magnetic modulation. Physica E: 759 1.3 5 Low-Dimensional Systems and Nanostructures, 2019, 114, 113631. Two-dimensional nanomaterials for biosensing applications. TrAC - Trends in Analytical Chemistry, 5.8 2019, 119, 115610. Seamless MoTe₂ Homojunction PIN Diode toward 1300 nm Shortâ€Wave Infrared Detection. 761 3.6 20 Advanced Optical Materials, 2019, 7, 1900768. A two-dimensional MoS₂/C₃N broken-gap heterostructure, a first principles study. RSC Advances, 2019, 9, 19837-19843. Synthesis, Characterization, and Properties of Graphene Analogs of 2D Material., 2019, , 91-143. 763 18 Enhancing electronic and optical properties of monolayer MoSe₂<i>via</i> a MoSe₂/blue phosphorene heterobilayer. Physical Chemistry Chemical Physics, 2019, 21, 764 1.3 15760-15766. Improved Dreiding force field for single layer black phosphorus. Physical Chemistry Chemical Physics, 765 1.3 15 2019, 21, 16804-16817. Zinc-oxide nanoparticle-based saturable absorber deposited by simple evaporation technique for Q-switched fiber laser*. Chinese Physics B, 2019, 28, 084207. Spin Polarization and Spinâ€Flip Through Phosphorene Superlattice. Annalen Der Physik, 2019, 531, 767 0.9 12 1900202. Electronic and structural properties of black phosphorene doped with Si, B and N. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 125945.

#	Article	IF	CITATIONS
769	Enhanced photoresponse and surface charge transfer mechanism of graphene-tungsten disulfide heterojunction. Optical Materials, 2019, 98, 109426.	1.7	1
770	High efficiency and fast van der Waals hetero-photodiodes with a unilateral depletion region. Nature Communications, 2019, 10, 4663.	5.8	213
771	Wide-Spectrum-Responsive Paper-Supported Photoelectrochemical Sensing Platform Based on Black Phosphorus-Sensitized TiO ₂ . ACS Applied Materials & Interfaces, 2019, 11, 41062-41068.	4.0	25
772	405 nm ultraviolet photodetector based on tungsten disulphide thin film grown by drop casting method. Journal of Modern Optics, 2019, 66, 1836-1840.	0.6	7
773	Epitaxial Growth of Topological Insulators on Semiconductors (Bi ₂ Se ₃ /Te@Se) toward Highâ€Performance Photodetectors. Small Methods, 2019, 3, 1900349.	4.6	45
774	Nanostructured tungsten oxide thin film devices: from optoelectronics and ionics to iontronics. Journal of Materials Chemistry C, 2019, 7, 12968-12990.	2.7	52
775	Optical properties of anisotropic excitons in phosphorene. Physical Review B, 2019, 100, .	1.1	17
776	Spectral Responsivity and Photoconductive Gain in Thin Film Black Phosphorus Photodetectors. ACS Photonics, 2019, 6, 3092-3099.	3.2	21
777	Interaction properties of benzyl chloride and chlorobenzene on violet phosphorene sheets – A first-principles perception. Computational and Theoretical Chemistry, 2019, 1165, 112563.	1.1	20
778	Tuning the Optical and Electrical Properties of Fewâ€Layer Black Phosphorus via Physisorption of Small Solvent Molecules. Small, 2019, 15, e1903432.	5.2	21
779	Experimental Demonstration of Spintronic Broadband Microwave Detectors and Their Capability for Powering Nanodevices. Physical Review Applied, 2019, 11, .	1.5	49
780	Photodetectors based on two dimensional materials for biomedical application. Biosensors and Bioelectronics, 2019, 143, 111617.	5.3	34
781	Broadband photodetection of 2D Bi2O2Se–MoSe2 heterostructure. Journal of Materials Science, 2019, 54, 14742-14751.	1.7	46
782	Liquefaction of water on the surface of anisotropic two-dimensional atomic layered black phosphorus. Nature Communications, 2019, 10, 4062.	5.8	37
783	Scaling-up Atomically Thin Coplanar Semiconductor–Metal Circuitry via Phase Engineered Chemical Assembly. Nano Letters, 2019, 19, 6845-6852.	4.5	46
784	Fast and Broadband Photoresponse of a Few-Layer GeSe Field-Effect Transistor with Direct Band Gaps. ACS Applied Materials & Interfaces, 2019, 11, 38031-38038.	4.0	29
785	Ultranarrow heterojunctions of armchair-graphene nanoribbons as resonant-tunnelling devices. Physical Chemistry Chemical Physics, 2019, 21, 24867-24875.	1.3	2
786	Lattice-Mismatched PbTe/ZnTe Heterostructure with High-Speed Midinfrared Photoresponses. ACS Applied Materials & amp; Interfaces, 2019, 11, 39342-39350.	4.0	16

		CITATION RE	PORT	
#	Article		IF	CITATIONS
787	Broadband Optical Detection Using the Spin Seebeck Effect. Physical Review Applied, 2	2019, 12, .	1.5	5
788	Cascade-type energy band design of a black phosphorus photodetector with high perfo of Materials Chemistry C, 2019, 7, 2232-2239.	ormance. Journal	2.7	17
789	Emerging 2D materials beyond graphene for ultrashort pulse generation in fiber lasers. 2019, 11, 2577-2593.	Nanoscale,	2.8	236
790	Electrogenerated chemiluminescence of black phosphorus nanosheets and its applicat detection of H ₂ O ₂ . Analyst, The, 2019, 144, 1326-1333.	ion in the	1.7	26
791	Black phosphorus frequency mixer for infrared optoelectronic signal processing. APL Pl 2019, 4, 034502.	notonics,	3.0	5
792	Black Phosphorus, a Rising Star 2D Nanomaterial in the Postâ€Graphene Era: Synthesis Modifications, and Photocatalysis Applications. Small, 2019, 15, e1804565.	s, Properties,	5.2	244
793	Liquid bismuth initiated growth of phosphorus microbelts with efficient charge polariza photocatalysis. Applied Catalysis B: Environmental, 2019, 247, 100-106.	ation for	10.8	38
794	Black Phosphorus Nano-Polarizer with High Extinction Ratio in Visible and Near-Infrared Nanomaterials, 2019, 9, 168.	l Regime.	1.9	11
795	Investigating the interlayer electron transport and its influence on the whole electric public plack phosphorus. Science Bulletin, 2019, 64, 254-260.	roperties of	4.3	16
796	Microscale Spectroscopic Mapping of 2D Optical Materials. Advanced Optical Material 1900324.	s, 2019, 7,	3.6	18
797	Electrically tunable physical properties of two-dimensional materials. Nano Today, 2019	9, 27, 99-119.	6.2	35
798	Highly in-plane anisotropic 2D semiconductors $\langle i \rangle^2 \langle i \rangle$ -AuSe with multiple superior pr first-principles investigation. Journal of Physics Condensed Matter, 2019, 31, 395501.	roperties: a	0.7	10
799	Anisotropic Transport on Monolayer and Multilayer Phosphorene in the Presence of an Chinese Physics Letters, 2019, 36, 057302.	Electric Field.	1.3	0
800	High-speed black phosphorus field-effect transistors approaching ballistic limit. Science 2019, 5, eaau3194.	e Advances,	4.7	66
801	Synthesis and Processing of Emerging Two-Dimensional Nanomaterials. , 2019, , 1-25.			18
802	Gate-tunable large spin polarization in a few-layer black phosphorus-based spintronic d Nanoscale, 2019, 11, 11872-11878.	evice.	2.8	19
803	Anisotropy Engineering Edge Magnetism in Zigzag Honeycomb Nanoribbons. Chinese 2019, 36, 067503.	Physics Letters,	1.3	0
804	Largeâ€area high quality PtSe ₂ thin film with versatile polarity. InformaÄn 260-267.	Ā-MateriĀiļy, 2019, 1,	8.5	54

#	Article	IF	CITATIONS
805	Hydrothermal growth of MoSe2 nanoflowers for photo- and humidity sensor applications. Sensors and Actuators A: Physical, 2019, 295, 160-168.	2.0	76
806	Blue shift in the interband optical transitions of gated monolayer black phosphorus. Journal of Applied Physics, 2019, 125, 193101.	1.1	5
807	Production of large-area 2D materials for high-performance photodetectors by pulsed-laser deposition. Progress in Materials Science, 2019, 106, 100573.	16.0	160
808	Anisotropic buckling of few-layer black phosphorus. Nanoscale, 2019, 11, 12080-12086.	2.8	29
809	Effect of graphene on improved photosensitivity of MoS2-graphene composite based Schottky diode. Materials Research Bulletin, 2019, 118, 110507.	2.7	25
810	UV-SWIR broad range photodetectors made from few-layer α-ln ₂ Se ₃ nanosheets. Nanoscale, 2019, 11, 12817-12828.	2.8	47
811	Iceâ€Assisted Synthesis of Black Phosphorus Nanosheets as a Metalâ€Free Photocatalyst: 2D/2D Heterostructure for Broadband H ₂ Evolution. Advanced Functional Materials, 2019, 29, 1902486.	7.8	116
812	Optical and Optoelectronic Properties of Black Phosphorus and Recent Photonic and Optoelectronic Applications. Small Methods, 2019, 3, 1900165.	4.6	68
813	First principles calculations of opto-electronic properties of doped blue phosphorene nanoribbons. Superlattices and Microstructures, 2019, 130, 401-408.	1.4	4
814	A flexible InGaAs nanomembrane PhotoFET with tunable responsivities in near- and short-wave IR region for lightweight imaging applications. APL Materials, 2019, 7, .	2.2	13
815	Overall conclusion for 2D hexagonal materials. Advances in Imaging and Electron Physics, 2019, , 291-297.	0.1	0
816	High-Performance Low-Voltage Flexible Photodetector Arrays Based on All-Solid-State Organic Electrochemical Transistors for Photosensing and Imaging. ACS Applied Materials & Interfaces, 2019, 11, 20214-20224.	4.0	44
817	Recent Progress in 2D Layered III–VI Semiconductors and their Heterostructures for Optoelectronic Device Applications. Advanced Materials Technologies, 2019, 4, 1900108.	3.0	104
818	First-principles investigation of structural and electronic properties of oxygen adsorbing phosphorene. Progress in Natural Science: Materials International, 2019, 29, 316-321.	1.8	12
819	Etching Techniques in 2D Materials. Advanced Materials Technologies, 2019, 4, 1900064.	3.0	50
820	Optically Stimulated Artificial Synapse Based on Layered Black Phosphorus. Small, 2019, 15, e1900966.	5.2	201
821	Two-dimensional pnictogens: A review of recent progresses and future research directions. Applied Physics Reviews, 2019, 6, .	5.5	143
822	Mechanical and liquid phase exfoliation of cylindrite: a natural van der Waals superlattice with intrinsic magnetic interactions. 2D Materials, 2019, 6, 035023.	2.0	38

	CITATION RE	PORT	
#	Article	IF	CITATIONS
823	Raman investigation of layered ZrGeTe4 semiconductor. Applied Physics Letters, 2019, 114, .	1.5	17
824	2D semiconductors towards high-performance ultraviolet photodetection. Journal Physics D: Applied Physics, 2019, 52, 303002.	1.3	22
825	Black phosphorus electronic and optoelectronic devices. 2D Materials, 2019, 6, 032003.	2.0	76
826	Boundary Lubricating Properties of Black Phosphorus Nanosheets in Polyalphaolefin Oil. Journal of Tribology, 2019, 141, .	1.0	23
827	Intrinsic transport properties of nanoporous graphene highly suitable for complementary field-effect transistors. 2D Materials, 2019, 6, 035026.	2.0	3
828	Highâ€Performance, Room Temperature, Ultraâ€Broadband Photodetectors Based on Airâ€Stable PdSe ₂ . Advanced Materials, 2019, 31, e1807609.	11.1	223
829	First-principles prediction of a new ground state for surface-oxidized phosphorene with remarkable piezoelectricity. Journal Physics D: Applied Physics, 2019, 52, 295301.	1.3	1
830	A self-powered phosphorene photodetector with excellent spin-filtering and spin-valve effects. Physical Chemistry Chemical Physics, 2019, 21, 7613-7617.	1.3	19
831	Photocarrier-induced band-gap renormalization and ultrafast charge dynamics in black phosphorus. 2D Materials, 2019, 6, 031001.	2.0	28
832	Interface engineering for two-dimensional semiconductor transistors. Nano Today, 2019, 25, 122-134.	6.2	35
833	Characteristics of vertically stacked graphene-layer infrared photodetectors. Solid-State Electronics, 2019, 155, 123-128.	0.8	1
834	Preparations, properties and applications of low-dimensional black phosphorus. Chemical Engineering Journal, 2019, 370, 120-135.	6.6	71
835	Picosecond Time Resolution with Avalanche Amorphous Selenium. ACS Photonics, 2019, 6, 1338-1344.	3.2	14
836	Black Phosphorous/Indium Selenide Photoconductive Detector for Visible and Nearâ€Infrared Light with High Sensitivity. Advanced Optical Materials, 2019, 7, 1900020.	3.6	89
837	2D Atomic Crystals: A Promising Solution for Nextâ€Generation Data Storage. Advanced Electronic Materials, 2019, 5, 1800944.	2.6	28
838	Two-dimensional black phosphorus: physical properties and applications. Materials Today Physics, 2019, 8, 92-111.	2.9	68
839	Surface treatment of Parylene-C gate dielectric for highly stable organic field-effect transistors. Organic Electronics, 2019, 69, 128-134.	1.4	5
840	Induced Ising spin-orbit interaction in metallic thin films on monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>WS</mml:mi><mml:msub><mml:r mathvariant="normal">e<mml:mn>2</mml:mn></mml:r </mml:msub></mml:mrow>. Physical Review B. 2019. 99</mml:math 	ni 1.1	8

#	Article	IF	CITATIONS
841	Electrogenerated chemiluminescence aptasensor for lysozyme based on copolymer nanospheres encapsulated black phosphorus quantum dots. Talanta, 2019, 199, 507-512.	2.9	34
842	Near-infrared photodetector based on few-layer MoS2 with sensitivity enhanced by localized surface plasmon resonance. Applied Surface Science, 2019, 483, 1037-1043.	3.1	80
843	Toward Ultrahigh Sensitivity and UV–Vis–NIR Broadband Response of Organolead Halide Perovskite/Tin–Phthalocyanine Heterostructured Photodetectors. Journal of Physical Chemistry C, 2019, 123, 11073-11080.	1.5	18
844	Negative photoconductivity and hot-carrier bolometric detection of terahertz radiation in graphene-phosphorene hybrid structures. Journal of Applied Physics, 2019, 125, 151608.	1.1	12
845	A pulsed Nd:GdYNbO4 laser based on transition metal dichalcogenides WS2 and MoS2. Optics and Laser Technology, 2019, 117, 1-5.	2.2	9
846	Photoinduced Doping To Enable Tunable and High-Performance Anti-Ambipolar MoTe ₂ /MoS ₂ Heterotransistors. ACS Nano, 2019, 13, 5430-5438.	7.3	73
847	Van der Waals 2D layered-material bipolar transistor. 2D Materials, 2019, 6, 035005.	2.0	19
848	Perovskite/Black Phosphorus/MoS ₂ Photogate Reversed Photodiodes with Ultrahigh Light On/Off Ratio and Fast Response. ACS Nano, 2019, 13, 4804-4813.	7.3	81
849	Ultrasensitive flexible near-infrared photodetectors based on Van der Waals Bi2Te3 nanoplates. Applied Surface Science, 2019, 484, 542-550.	3.1	50
850	Half-metal to magnetic semiconductor transition in Mn-doped monolayer Bi2O2Se tuned by strain. Journal of Magnetism and Magnetic Materials, 2019, 480, 73-78.	1.0	11
851	Optical Refractive Index Sensors with Plasmonic and Photonic Structures: Promising and Inconvenient Truth. Advanced Optical Materials, 2019, 7, 1801433.	3.6	303
852	Bright Mid-Infrared Photoluminescence from Thin-Film Black Phosphorus. Nano Letters, 2019, 19, 1488-1493.	4.5	90
853	Emerging Theory, Materials, and Screening Methods: New Opportunities for Promoting Thermoelectric Performance. Annalen Der Physik, 2019, 531, 1800437.	0.9	83
854	Black Phosphorus-IGZO van der Waals Diode with Low-Resistivity Metal Contacts. ACS Applied Materials & Interfaces, 2019, 11, 10959-10966.	4.0	31
855	Penta-MX ₂ (M = Ni, Pd and Pt; X = P and As) monolayers: direct band-gap semiconductors with high carrier mobility. Journal of Materials Chemistry C, 2019, 7, 3569-3575.	2.7	34
856	P–N Junction Diode Using Plasma Boron-Doped Black Phosphorus for High-Performance Photovoltaic Devices. ACS Nano, 2019, 13, 1683-1693.	7.3	23
857	Optoelectronic Characteristics of Tungsten Disulphide Based Visible Range Photodetector. , 2019, , .		2
858	All-Perovskite Photodetector with Fast Response. Nanoscale Research Letters, 2019, 14, 291.	3.1	48

#	Article	IF	CITATIONS
859	A Visible and Near-IR Tunnel Photosensor with a Nanoscale Metal Emitter: The Effect of Matching of Hot Electrons Localization Zones and a Strong Electrostatic Field. Applied Sciences (Switzerland), 2019, 9, 5356.	1.3	5
860	PtTe ₂ â€Based Typeâ€I Dirac Semimetal and Its van der Waals Heterostructure for Sensitive Room Temperature Terahertz Photodetection. Small, 2019, 15, e1903362.	5.2	98
861	Single-molecule detection of biomarker and localized cellular photothermal therapy using an optical microfiber with nanointerface. Science Advances, 2019, 5, eaax4659.	4.7	53
862	Improvement in the quality of black phosphorus by selecting a mineralizer. Nanoscale, 2019, 11, 20081-20089.	2.8	15
863	Raman Activity of Multilayer Phosphorene under Strain. ACS Omega, 2019, 4, 22418-22425.	1.6	8
864	Large-yield exfoliation of few-layer black phosphorus nanosheets in liquid. New Journal of Chemistry, 2019, 43, 19365-19371.	1.4	14
865	Janus electrochemical exfoliation of two-dimensional materials. Journal of Materials Chemistry A, 2019, 7, 25691-25711.	5.2	41
866	First-Principles Study of Gas Molecule Adsorption on C-doped Zigzag Phosphorene Nanoribbons. Coatings, 2019, 9, 763.	1.2	11
867	Tuning 2D Black Phosphorus: Defect Tailoring and Surface Functionalization. Chemistry of Materials, 2019, 31, 9917-9938.	3.2	24
868	Degradation of Black Phosphorus upon Environmental Exposure and Encapsulation Strategies To Prevent It. ACS Symposium Series, 2019, , 47-59.	0.5	3
869	Extrinsic spin-orbit coupling and spin relaxation in phosphorene. Physical Review B, 2019, 100, .	1.1	10
870	Black Phosphorus Based Photodetectors. ACS Symposium Series, 2019, , 135-153.	0.5	3
871	Crystallographic Characterization of Black Phosphorene and its Application in Nanostructures. Physical Review Applied, 2019, 12, .	1.5	20
872	Evolution of inter-layer coupling in artificially stacked bilayer MoS ₂ . Nanoscale Advances, 2019, 1, 4398-4405.	2.2	8
873	Embedding epitaxial (blue) phosphorene in between device-compatible functional layers. Nanoscale, 2019, 11, 18232-18237.	2.8	15
874	Recent Advances in Optoelectronic Devices Based on 2D Materials and Their Heterostructures. Advanced Optical Materials, 2019, 7, 1800441.	3.6	229
875	2D Black Phosphorus Saturable Absorbers for Ultrafast Photonics. Advanced Optical Materials, 2019, 7, 1800224.	3.6	235
876	Adsorption of the NH3, NO, NO2, CO2, and CO gas molecules on blue phosphorene: A first-principles study. Applied Surface Science, 2019, 464, 153-161.	3.1	93

#	Article	IF	CITATIONS
877	Progress, Challenges, and Opportunities for 2D Material Based Photodetectors. Advanced Functional Materials, 2019, 29, 1803807.	7.8	884
878	Gateâ€Tunable Photoresponse Time in Black Phosphorus–MoS ₂ Heterojunctions. Advanced Optical Materials, 2019, 7, 1800832.	3.6	23
879	Intrinsic Correlation between Electronic Structure and Degradation: From Few‣ayer to Bulk Black Phosphorus. Angewandte Chemie, 2019, 131, 3794-3798.	1.6	6
880	Anisotropic magneto-thermoelectric properties of single-layer dilute charged impurity-infected black phosphorus. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 107, 11-17.	1.3	16
881	Emerging opportunities for black phosphorus in energy applications. Materials Today Energy, 2019, 12, 1-25.	2.5	88
882	Waveguide-Integrated Black Phosphorus Photodetector for Mid-Infrared Applications. ACS Nano, 2019, 13, 913-921.	7.3	164
883	Raman Characterization on Two-Dimensional Materials-Based Thermoelectricity. Molecules, 2019, 24, 88.	1.7	19
884	Near-field radiative heat transfer between black phosphorus and graphene sheet. Materials Research Express, 2019, 6, 025906.	0.8	7
885	Two-dimensional black phosphorus: A new star in energy applications and the barrier to stability. Applied Materials Today, 2019, 14, 51-58.	2.3	48
886	Electronic, transport, and optical properties of atomically thin silicon phosphide: first-principles calculations. Materials Research Express, 2019, 6, 026428.	0.8	7
887	The effect of adatom concentration on the oxidation reaction of phosphorene. Materials Research Express, 2019, 6, 025905.	0.8	2
888	Van der Waals Heterostructure Devices with Dynamically Controlled Conduction Polarity and Multifunctionality. Advanced Functional Materials, 2019, 29, 1804897.	7.8	23
889	Tunable rectification and negative differential resistance induced by asymmetric doping in phosphorene nanoribbon. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 369-375.	0.9	17
890	Controlled Synthesis of 2D Palladium Diselenide for Sensitive Photodetector Applications. Advanced Functional Materials, 2019, 29, 1806878.	7.8	286
891	High performance photodetector based on graphene/MoS2/graphene lateral heterostrurcture with Schottky junctions. Journal of Alloys and Compounds, 2019, 779, 140-146.	2.8	68
892	Toward a Fast and Highly Responsive SnSe ₂ -Based Photodiode by Exploiting the Mobility of the Counter Semiconductor. ACS Applied Materials & amp; Interfaces, 2019, 11, 6184-6194.	4.0	39
893	Two-dimensional heterostructures based on graphene and transition metal dichalcogenides: Synthesis, transfer and applications. Carbon, 2019, 145, 240-250.	5.4	53
894	Black phosphorus, a prospective graphene substitute for biomedical applications. Materials Science and Engineering C, 2019, 97, 978-993.	3.8	127

#	Article	IF	CITATIONS
895	Near-Unity Anisotropic Infrared Absorption in Monolayer Black Phosphorus With/Without Subwavelength Patterning Design. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-7.	1.9	13
896	Ultrabroadband, Sensitive, and Fast Photodetection with Needle-Like EuBiSe ₃ Single Crystal. ACS Photonics, 2019, 6, 895-903.	3.2	40
897	Tunable Schottky barriers in ultrathin black phosphorus field effect transistors via polymer capping. 2D Materials, 2019, 6, 024001.	2.0	13
898	Ultrathin GeSe Nanosheets: From Systematic Synthesis to Studies of Carrier Dynamics and Applications for a High-Performance UV–Vis Photodetector. ACS Applied Materials & Interfaces, 2019, 11, 4278-4287.	4.0	105
899	Nonlinear optical response of a two-dimensional semi-Dirac system in the terahertz regime. Journal of Physics Condensed Matter, 2019, 31, 135703.	0.7	5
900	Generating strong room-temperature photoluminescence in black phosphorus using organic molecules. 2D Materials, 2019, 6, 015009.	2.0	15
901	Liquid-exfoliation of S-doped black phosphorus nanosheets for enhanced oxygen evolution catalysis. Nanotechnology, 2019, 30, 035701.	1.3	32
902	Alloy engineering to promote photodetection in InxSn1â^'xS2 and SbxSn1â^'xS2 ternary alloys. Materials Letters, 2019, 236, 187-189.	1.3	17
903	Electrochemically Exfoliated Phosphorene–Graphene Hybrid for Sodiumâ€ion Batteries. Small Methods, 2019, 3, 1800328.	4.6	66
904	Band Gap Renormalization, Carrier Multiplication, and Stark Broadening in Photoexcited Black Phosphorus. Nano Letters, 2019, 19, 488-493.	4.5	26
905	Intrinsic Correlation between Electronic Structure and Degradation: From Few‣ayer to Bulk Black Phosphorus. Angewandte Chemie - International Edition, 2019, 58, 3754-3758.	7.2	26
906	Performance and Reliability Improvement under High Current Densities in Black Phosphorus Transistors by Interface Engineering. ACS Applied Materials & Interfaces, 2019, 11, 1587-1594.	4.0	13
907	Two-dimensional pnictogens, their chemistry and applications. FlatChem, 2019, 13, 8-24.	2.8	33
908	Functionalized Black Phosphorus Nanocomposite for Biosensing. ChemElectroChem, 2019, 6, 1129-1133.	1.7	25
909	Mechanical properties of two-dimensional materials and their applications. Journal Physics D: Applied Physics, 2019, 52, 083001.	1.3	97
910	A Perspective on Recent Advances in Phosphorene Functionalization and Its Applications in Devices. European Journal of Inorganic Chemistry, 2019, 2019, 1476-1494.	1.0	49
911	Hydrogen adsorption on alkali metal decorated blue phosphorene nanosheets. Applied Surface Science, 2019, 465, 440-449.	3.1	28
912	Carbon nitride, metal nitrides, phosphides, chalcogenides, perovskites and carbides nanophotocatalysts for environmental applications. Environmental Chemistry Letters, 2019, 17, 655-682.	8.3	51

#	Article	IF	CITATIONS
913	Inward growth of monolayer MoS2 single crystals from molten Na2MoO4 droplets. Materials Chemistry and Physics, 2020, 240, 122203.	2.0	10
914	Electronic transport and optoelectronic applications of a new layered semiconductor CuTaS3. Applied Surface Science, 2020, 499, 143932.	3.1	9
915	Thermal Transport in 2D Semiconductors—Considerations for Device Applications. Advanced Functional Materials, 2020, 30, 1903929.	7.8	71
916	The Optical Properties and Plasmonics of Anisotropic 2D Materials. Advanced Optical Materials, 2020, 8, 1900996.	3.6	70
917	Engineering Field Effect Transistors with 2D Semiconducting Channels: Status and Prospects. Advanced Functional Materials, 2020, 30, 1901971.	7.8	58
918	Intelligent library knowledge innovation service system based on multimedia technology. Personal and Ubiquitous Computing, 2020, 24, 333-345.	1.9	5
919	Emerging Applications of Elemental 2D Materials. Advanced Materials, 2020, 32, e1904302.	11.1	336
920	Structure and Properties of Violet Phosphorus and Its Phosphorene Exfoliation. Angewandte Chemie - International Edition, 2020, 59, 1074-1080.	7.2	139
921	Electronic structure of bulk and multilayer black phosphorus under strain: a minimal model study. Physica Scripta, 2020, 95, 035805.	1.2	1
922	Twoâ€Dimensional GePâ€Based Broadâ€Band Optical Switches and Photodetectors. Advanced Optical Materials, 2020, 8, 1901490.	3.6	45
923	A Noble Metal Dichalcogenide for Highâ€Performance Fieldâ€Effect Transistors and Broadband Photodetectors. Advanced Functional Materials, 2020, 30, 1907945.	7.8	72
924	Structure and Properties of Violet Phosphorus and Its Phosphorene Exfoliation. Angewandte Chemie, 2020, 132, 1090-1096.	1.6	35
925	Selfâ€₽owered Photodetectors Based on 2D Materials. Advanced Optical Materials, 2020, 8, 1900765.	3.6	245
927	Surface Functionalization of Black Phosphorus with a Highly Reducing Organoruthenium Complex: Interface Properties and Enhanced Photoresponsivity of Photodetectors. Chemistry - A European Journal, 2020, 26, 6576-6582.	1.7	4
928	CN/rGO@BPQDs high-low junctions with stretching spatial charge separation ability for photocatalytic degradation and H2O2 production. Applied Catalysis B: Environmental, 2020, 266, 118602.	10.8	324
929	Introduction to Carbon-Based Nanostructures. , 2020, , 1-10.		0
930	The New Family of Two-Dimensional Materials and van der Waals Heterostructures. , 2020, , 70-91.		0
931	Quantum Transport: General Concepts. , 2020, , 92-119.		0

	Сітатіс	on Report	
#	Article	IF	Citations
932	Klein Tunneling and Ballistic Transport in Graphene and Related Materials. , 2020, , 120-144.		0
933	Quantum Transport in Disordered Graphene-Based Materials. , 2020, , 145-209.		0
934	Black Phosphorous Nanosheets: A Novel Solar Vapor Generator. Solar Rrl, 2020, 4, 1900537.	3.1	18
935	Recent advances in two-dimensional-material-based sensing technology toward health and environmental monitoring applications. Nanoscale, 2020, 12, 3535-3559.	2.8	318
938	Electronic Properties of Carbon-Based Nanostructures. , 2020, , 11-69.		0
939	Quantum Hall Effects in Graphene. , 2020, , 210-236.		0
940	Spin-Related Phenomena. , 2020, , 237-277.		0
941	Ab Initio and Multiscale Quantum Transport in Graphene-Based Materials. , 2020, , 293-353.		0
945	Rapid and scalable production of high-quality phosphorene by plasma–liquid technology. Chemical Communications, 2020, 56, 221-224.	2.2	24
946	An overview of the optical properties and applications of black phosphorus. Nanoscale, 2020, 12, 3513-3534.	2.8	69
947	Fabrication and characteristics of back-gate black phosphorus effect field transistors based on PET flexible substrate. Applied Nanoscience (Switzerland), 2020, 10, 1433-1440.	1.6	5
948	Tellurene Photodetector with High Gain and Wide Bandwidth. ACS Nano, 2020, 14, 303-310.	7.3	101
949	Two-dimensional metal–organic frameworks and their derivatives for electrochemical energy storage and electrocatalysis. Nanoscale Advances, 2020, 2, 536-562.	2.2	109
950	Tunneling-based rectification and photoresponsivity in black phosphorus/hexagonal boron nitride/rhenium diselenide van der Waals heterojunction diode. Nanoscale, 2020, 12, 3455-3468.	2.8	40
951	Intriguing field-effect-transistor performance of two-dimensional layered and crystalline CrI3. Materials Today Physics, 2020, 12, 100174.	2.9	13
952	Ultrasensitive Multiple Guided-Mode Biosensor With Few-Layer Black Phosphorus. Journal of Lightwave Technology, 2020, 38, 1564-1571.	2.7	11
953	Ultra-Broadband, High Speed, and High-Quantum-Efficiency Photodetectors Based on Black Phosphorus. ACS Applied Materials & Interfaces, 2020, 12, 1201-1209.	4.0	49
954	Recent Advances in Chemical Functionalization of 2D Black Phosphorous Nanosheets. Advanced Science, 2020, 7, 1902359.	5.6	76

#	Article	IF	CITATIONS
955	Black Phosphorus. Engineering Materials, 2020, , .	0.3	4
956	Ultraviolet-light-driven current modulation of Au/WS2/Gr Schottky barrier. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 117, 113837.	1.3	6
957	Contact engineering high-performance ambipolar multilayer tellurium transistors. Nanotechnology, 2020, 31, 115204.	1.3	13
959	Black phosphorus: Light-matter interactions and potential applications. , 2020, , 159-173.		1
960	Realization of a Buckled Antimonene Monolayer on Ag(111) via Surface Engineering. Journal of Physical Chemistry Letters, 2020, 11, 8976-8982.	2.1	23
961	Recent Advancements and Future Prospects in Ultrathin 2D Semiconductor-Based Photocatalysts for Water Splitting. Catalysts, 2020, 10, 1111.	1.6	35
962	Airâ€Stable Lowâ€Symmetry Narrowâ€Bandgap 2D Sulfide Niobium for Polarization Photodetection. Advanced Materials, 2020, 32, e2005037.	11.1	68
963	Mechanically Tunable Near-Field Radiative Heat Transfer between Monolayer Black Phosphorus Sheets. Langmuir, 2020, 36, 12038-12044.	1.6	16
964	All MoS ₂ based 2D/0D localized unipolar heterojunctions as flexible broadband (UV-vis-NIR) photodetectors. Journal of Materials Chemistry C, 2020, 8, 11593-11602.	2.7	42
965	Remarkable Role of Grain Boundaries in the Thermal Transport Properties of Phosphorene. ACS Omega, 2020, 5, 17416-17422.	1.6	11
966	Electrically Stimulated Band Alignment Transit in Black Phosphorus/β-Ga2O3 Heterostructure Dual-band Photodetector. Chemical Research in Chinese Universities, 2020, 36, 703-708.	1.3	3
967	Surface Functionalization of Black Phosphorus by Cu: Effective Electron Doping and Enhanced Photoresponse. Advanced Materials Interfaces, 2020, 7, 2000701.	1.9	6
969	Layered Sulfur Nanosheets Prepared by Assembly of Sulfur Quantum Dots: Implications for Wide Optical Absorption and Multiwavelength Photoluminescence. ACS Applied Nano Materials, 2020, 3, 10749-10756.	2.4	22
970	Hybrid/Integrated Silicon Photonics Based on 2D Materials in Optical Communication Nanosystems. Laser and Photonics Reviews, 2020, 14, 2000239.	4.4	63
971	Tuning structural, electronic, and magnetic properties of black-AsP monolayer by adatom adsorptions: A first principles study. Chinese Journal of Chemical Physics, 2020, 33, 311-318.	0.6	9
972	Quantum charge and spin pumping in monolayer phosphorene. Physical Review B, 2020, 102, .	1.1	10
973	Black phosphorus photonics toward on-chip applications. Applied Physics Reviews, 2020, 7, 031302.	5.5	21
974	Recent development of two-dimensional metal–organic framework derived electrocatalysts for hydrogen and oxygen electrocatalysis. Nanoscale, 2020, 12, 18497-18522.	2.8	69

#	Article	IF	CITATIONS
975	The first-principles study of <i>n</i> H–V _{Sn} complex: impurity effects on p-type SnO monolayer. Physical Chemistry Chemical Physics, 2020, 22, 19275-19281.	1.3	3
976	Multilayer InSe–Te van der Waals Heterostructures with an Ultrahigh Rectification Ratio and Ultrasensitive Photoresponse. ACS Applied Materials & Interfaces, 2020, 12, 37313-37319.	4.0	47
977	Promising functional two-dimensional lamellar metal thiophosphates: synthesis strategies, properties and applications. Materials Horizons, 2020, 7, 3131-3160.	6.4	26
978	Recent progress in 2D group-V elemental monolayers: fabrications and properties. Journal of Semiconductors, 2020, 41, 081003.	2.0	11
979	Strain and electric field tunable electronic transport in armchair phosphorene nanodevice with normal-metal electrodes. AIP Advances, 2020, 10, 105012.	0.6	5
980	Two-Dimensional Platinum Diselenide: Synthesis, Emerging Applications, and Future Challenges. Nano-Micro Letters, 2020, 12, 174.	14.4	50
981	Integration of multi-layer black phosphorus into photoconductive antennas for THz emission. Journal of Applied Physics, 2020, 128, 063104.	1.1	10
982	Two-Dimensional Black Phosphorus Nanomaterials: Emerging Advances in Electrochemical Energy Storage Science. Nano-Micro Letters, 2020, 12, 179.	14.4	82
983	Design, characterization, and application of elemental 2D materials for electrochemical energy storage, sensing, and catalysis. Materials Advances, 2020, 1, 2562-2591.	2.6	21
984	Spectrally Selective Mid-Wave Infrared Detection Using Fabry-Pérot Cavity Enhanced Black Phosphorus 2D Photodiodes. ACS Nano, 2020, 14, 13645-13651.	7.3	41
985	Gapâ€Plasmon Induced Oneâ€Order Enhancement of Optical Anisotropy of 2D Black Phosphorus. Advanced Photonics Research, 2020, 1, 2000010.	1.7	6
986	Recent Advances in Spatial Selfâ€Phase Modulation with 2D Materials and its Applications. Annalen Der Physik, 2020, 532, 2000322.	0.9	32
987	WSe ₂ Homojunction p–n Diode Formed by Photoinduced Activation of Mid-Gap Defect States in Boron Nitride. ACS Applied Materials & Interfaces, 2020, 12, 42007-42015.	4.0	34
988	Recent advance in near-infrared/ultrasound-sensitive 2D-nanomaterials for cancer therapeutics. Science China Materials, 2020, 63, 2397-2428.	3.5	56
989	Nanolayered Black Arsenic–Silicon Lateral Heterojunction Photodetector for Visible to Mid-Infrared Wavelengths. ACS Applied Nano Materials, 2020, 3, 9401-9409.	2.4	14
990	Significant enhancement of near-field radiative heat transfer between black phosphorus-covered hyperbolic metamaterial. Journal of Applied Physics, 2020, 128, 065109.	1.1	4
991	Ferroelectric-Gated InSe Photodetectors with High On/Off Ratios and Photoresponsivity. Nano Letters, 2020, 20, 6666-6673.	4.5	53
992	Dangling-to-Interstitial Oxygen Transition and Its Modifications of the Electronic Structure in Few-Layer Phosphorene. Journal of Physical Chemistry C, 2020, 124, 24066-24072.	1.5	8

#	Article	IF	CITATIONS
993	Orientation and edge passivation modulated magnetism in phosphorene nanoribbons. Europhysics Letters, 2020, 130, 17002.	0.7	1
994	Lattice vibration characteristics in layered InSe films and the electronic behavior of field-effect transistors. Nanotechnology, 2020, 31, 335702.	1.3	3
995	Ultrasensitive ambient-stable SnSe ₂ -based broadband photodetectors for room-temperature IR/THz energy conversion and imaging. 2D Materials, 2020, 7, 035026.	2.0	34
996	<i>Ab Initio</i> Prediction of Catalytic Elemental Metals for Black Phosphorus Synthesis from Investigations of Interactions among the Elemental Metals, Iodine, and Phosphorus Clusters. Journal of Physical Chemistry C, 2020, 124, 11050-11056.	1.5	4
997	2D materials beyond graphene toward Si integrated infrared optoelectronic devices. Nanoscale, 2020, 12, 11784-11807.	2.8	59
998	Synthesis and electrical properties of single crystalline black phosphorus nanoribbons. CrystEngComm, 2020, 22, 3824-3830.	1.3	19
999	N-type doping of black phosphorus single crystal by tellurium. Nanotechnology, 2020, 31, 315605.	1.3	8
1000	High yield production of ultrathin fibroid semiconducting nanowire of Ta2Pd3Se8. Nano Research, 2020, 13, 1627-1635.	5.8	16
1001	High-Performance Devices Based on InSe–In _{1–<i>x</i>} Ga <i>_x</i> Se Van der Waals Heterojunctions. ACS Applied Materials & Interfaces, 2020, 12, 24978-24983.	4.0	11
1002	Anisotropic Optical Properties of 2D Silicon Telluride. MRS Advances, 2020, 5, 1881-1889.	0.5	5
1003	Synthesis Techniques, Optoelectronic Properties, and Broadband Photodetection of Thinâ€Film Black Phosphorus. Advanced Optical Materials, 2020, 8, 2000045.	3.6	39
1004	High stability and visible-light photocatalysis in novel two-dimensional monolayer silicon and germanium mononitride semiconductors: first-principles study. RSC Advances, 2020, 10, 14225-14234.	1.7	9
1005	Nitrogen-doped phosphorene for electrocatalytic ammonia synthesis. Journal of Materials Chemistry A, 2020, 8, 15875-15883.	5.2	88
1007	Two-dimensional MoS2 passively Q-switched Nd:GdNbO4 laser under direct pumping. Infrared Physics and Technology, 2020, 107, 103331.	1.3	5
1008	Charge transport in nnn and npn phosphorene junctions: The use of phosphorene pn junctions as rectifiers. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 124, 114239.	1.3	11
1009	State of the art two-dimensional materials-based photodetectors: Prospects, challenges and future outlook. Journal of Industrial and Engineering Chemistry, 2020, 89, 28-46.	2.9	11
1010	2D layered noble metal dichalcogenides (Pt, Pd, Se, S) for electronics and energy applications. Materials Today Advances, 2020, 7, 100076.	2.5	55
1011	Carrier polarity modulation of molybdenum ditelluride (MoTe ₂) for phototransistor and switching photodiode applications. Nanoscale, 2020, 12, 15687-15696.	2.8	26

щ		15	CITATIONS
#	ARTICLE	IF	CHATIONS
1012	Chemistry C, 2020, 8, 9464-9475.	2.7	16
1013	Phosphorus Containing Coatings: Technologies and Applications. ChemistrySelect, 2020, 5, 6570-6584.	0.7	2
1014	2D MoWSe2Material Photoluminescence Characterization based on MOS Device. , 2020, , .		0
1015	Modal Analysis of 2-D Material-Based Plasmonic Waveguides by Mixed Spectral Element Method With Equivalent Boundary Condition. Journal of Lightwave Technology, 2020, 38, 3677-3686.	2.7	8
1016	Multifunctional black phosphorus/MoS ₂ van der Waals heterojunction. Nanophotonics, 2020, 9, 2487-2493.	2.9	17
1017	Electrochemical exfoliation of two-dimensional layered black phosphorus and applications. Journal of Energy Chemistry, 2020, 49, 365-374.	7.1	35
1018	Analytical study on strain tunable electronic structure and optical transitions in armchair black phosphorene nanoribbons. Journal of Physics Condensed Matter, 2020, 32, 285301.	0.7	4
1019	Thinâ€Layered Photocatalysts. Advanced Functional Materials, 2020, 30, 1910005.	7.8	117
1020	Electronic structures and strain responses of group VA/VA two-dimensional van der waals heterostructures. Vacuum, 2020, 176, 109296.	1.6	12
1021	Fabrication, optical properties, and applications of twisted two-dimensional materials. Nanophotonics, 2020, 9, 1717-1742.	2.9	27
1022	Semiconductor Quantum Dots for Memories and Neuromorphic Computing Systems. Chemical Reviews, 2020, 120, 3941-4006.	23.0	203
1023	Present advances and perspectives of broadband photo-detectors based on emerging 2D-Xenes beyond graphene. Nano Research, 2020, 13, 891-918.	5.8	36
1024	High-Performance p-BP/n-PdSe ₂ Near-Infrared Photodiodes with a Fast and Gate-Tunable Photoresponse. ACS Applied Materials & Interfaces, 2020, 12, 19625-19634.	4.0	67
1025	Enhanced photoresponse of highly air-stable palladium diselenide by thickness engineering. Nanophotonics, 2020, 9, 2467-2474.	2.9	10
1026	Thermal Localization Enhanced Fast Photothermoelectric Response in a Quasi-One-Dimensional Flexible NbS ₃ Photodetector. ACS Applied Materials & Interfaces, 2020, 12, 14165-14173.	4.0	35
1027	Probing the anisotropy of Landau levels in phosphorene by magneto-capacitance with a parabolic potential confinement. Journal of Physics Condensed Matter, 2020, 32, 425702.	0.7	0
1028	Harnessing biological applications of quantum materials: opportunities and precautions. Journal of Materials Chemistry C, 2020, 8, 10498-10525.	2.7	4
1029	Ultra-high mechanical flexibility of 2D silicon telluride. Applied Physics Letters, 2020, 116, .	1.5	13

#	Article	IF	CITATIONS
1030	Orbital localization induced magnetization in nonmetal-doped phosphorene. Journal Physics D: Applied Physics, 2020, 53, 155001.	1.3	4
1031	Recent advances in black phosphorus/carbon hybrid composites: from improved stability to applications. Journal of Materials Chemistry A, 2020, 8, 4647-4676.	5.2	39
1032	Multifunctional and high-performance GeSe/PdSe ₂ heterostructure device with a fast photoresponse. Journal of Materials Chemistry C, 2020, 8, 4743-4753.	2.7	47
1033	Abnormal scaling of excitons in phosphorene quantum dots. Physical Chemistry Chemical Physics, 2020, 22, 5723-5728.	1.3	2
1034	Superb photocatalytic performance of single/few layer phosphorene prepared via sonication method. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 119, 114009.	1.3	6
1035	Gas adsorption and light interaction mechanism in phosphorene-based field-effect transistors. Physical Chemistry Chemical Physics, 2020, 22, 5949-5958.	1.3	14
1036	Investigation of recommended good practices to reduce exposure to nanomaterials in nanotechnology laboratories in Tehran, Iran. Journal of Nanoparticle Research, 2020, 22, 1.	0.8	11
1037	Widely tunable mid-infrared light emission in thin-film black phosphorus. Science Advances, 2020, 6, eaay6134.	4.7	80
1038	Liquid Phase Exfoliated Indium Selenide Based Highly Sensitive Photodetectors. Advanced Functional Materials, 2020, 30, 1908427.	7.8	42
1039	Black Phosphorus High-Frequency Transistors with Local Contact Bias. ACS Nano, 2020, 14, 2118-2125.	7.3	21
1040	Emerging black phosphorus analogue nanomaterials for high-performance device applications. Journal of Materials Chemistry C, 2020, 8, 1172-1197.	2.7	54
1041	dc and ac transport in few-layer black phosphorus. Journal of Applied Physics, 2020, 127, 044302.	1.1	2
1042	High performance near infrared photodetector based on in-plane black phosphorus p-n homojunction. Nano Energy, 2020, 70, 104518.	8.2	58
1043	The Rise of 2D Photothermal Materials beyond Graphene for Clean Water Production. Advanced Science, 2020, 7, 1902236.	5.6	206
1044	Lateral 2D WSe ₂ p–n Homojunction Formed by Efficient Chargeâ€Carrierâ€Type Modulation for Highâ€Performance Optoelectronics. Advanced Materials, 2020, 32, e1906499.	11.1	103
1045	Visibleâ€NIR Photodetectors Based on Lowâ€Dimensional GeSe Microâ€Crystals: Designed Morphology and Improved Photoresponsivity. ChemPhysChem, 2020, 21, 397-405.	1.0	7
1046	Demonstration of a Broadband Photodetector Based on a Twoâ€Đimensional Metal–Organic Framework. Advanced Materials, 2020, 32, e1907063.	11.1	103
1047	Quantum Transport beyond DC. , 2020, , 278-292.		0

#	Article	IF	CITATIONS
1049	Defect engineering on the electronic and transport properties of one-dimensional armchair phosphorene nanoribbons*. Chinese Physics B, 2020, 29, 037302.	0.7	7
1050	Effects of substrates on the optical properties of monolayer WS2. Journal of Crystal Growth, 2020, 540, 125645.	0.7	6
1051	Gas sensing investigation on anthraquinone nanowire decorated phosphorene: Enhanced stability in conjunction with superior sensitivity. Chemical Engineering Journal, 2020, 394, 124933.	6.6	14
1052	A black Phosphorus/BiVO4(010) heterostructure for promising photocatalytic performance: First-principles study. Journal of Physics and Chemistry of Solids, 2020, 143, 109466.	1.9	18
1053	Electrical transport properties in group-V elemental ultrathin 2D layers. Npj 2D Materials and Applications, 2020, 4, .	3.9	35
1054	Surface charge transfer doping and effective passivation of black phosphorus field effect transistors. Journal of Materials Chemistry C, 2020, 8, 6595-6604.	2.7	15
1055	Facile deterministic cutting of 2D materials for twistronics using a tapered fibre scalpel. Nanotechnology, 2020, 31, 32LT02.	1.3	5
1056	Atomicâ€Precision Repair of a Fewâ€Layer 2Hâ€MoTe ₂ Thin Film by Phase Transition and Recrystallization Induced by a Heterophase Interface. Advanced Materials, 2020, 32, e2000236.	11.1	16
1057	Emerging pnictogen-based 2D semiconductors: sensing and electronic devices. Nanoscale, 2020, 12, 10430-10446.	2.8	22
1058	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154.	0.9	4
1058 1059	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154. Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417.	0.9 3.6	4
1058 1059 1060	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154. Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417. Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99.	0.9 3.6 14.4	4 16 139
1058 1059 1060 1061	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154. Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417. Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99. Recent insights into the robustness of two-dimensional black phosphorous in optoelectronic applications. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2020, 43, 100354.	0.9 3.6 14.4 5.6	4 16 139 25
1058 1059 1060 1061	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154. Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417. Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99. Recent insights into the robustness of two-dimensional black phosphorous in optoelectronic applications. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2020, 43, 100354. Photoelectric properties of quasi one-dimensional layered KP15. Materials Letters, 2020, 272, 127826.	0.9 3.6 14.4 5.6	4 16 139 25 1
1058 1059 1060 1061 1062	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154.Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417.Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99.Recent insights into the robustness of two-dimensional black phosphorous in optoelectronic applications. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2020, 43, 100354.Photoelectric properties of quasi one-dimensional layered KP15. Materials Letters, 2020, 272, 127826.Tunable transport characteristics of armchair phosphorene nanoribbon-based three-terminal devices by the channel length and gate dielectrics. Journal Physics D: Applied Physics, 2020, 53, 305107.	0.9 3.6 14.4 5.6 1.3	4 16 139 25 1
1058 1059 1060 1061 1063 1064	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154. Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417. Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99. Recent insights into the robustness of two-dimensional black phosphorous in optoelectronic applications. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2020, 43, 100354. Photoelectric properties of quasi one-dimensional layered KP15. Materials Letters, 2020, 272, 127826. Tunable transport characteristics of armchair phosphorene nanoribbon-based three-terminal devices by the channel length and gate dielectrics. Journal Physics D: Applied Physics, 2020, 53, 305107. Magnetic modification of transition-metal-atomãe ^{ce} adsorbed blue phosphorus monolayer: A first-principles study. Europhysics Letters, 2020, 129, 47003.	0.9 3.6 14.4 5.6 1.3 1.3	4 16 139 25 25 1 0
1058 1059 1060 1061 1063 1064	Strain-tunable photogalvanic effect in phosphorene. Materials Today Communications, 2020, 24, 101154. Nonvolatile Programmable WSe ₂ Photodetector. Advanced Optical Materials, 2020, 8, 2000417. Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99. Recent insights into the robustness of two-dimensional black phosphorous in optoelectronic applications. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2020, 43, 100354. Photoelectric properties of quasi one-dimensional layered KP15. Materials Letters, 2020, 272, 127826. Tunable transport characteristics of armchair phosphorene nanoribbon-based three-terminal devices by the channel length and gate dielectrics. Journal Physics D: Applied Physics, 2020, 53, 305107. Magnetic modification of transition-metal-atom〓adsorbed blue phosphorus monolayer: A first-principles study. Europhysics Letters, 2020, 129, 47003. Giant Thicknessâ€Tunable Bandgap and Robust Air Stability of 2D Palladium Diselenide. Small, 2020, 16, e2000754.	 0.9 3.6 14.4 5.6 1.3 0.7 5.2 	4 16 139 25 25 1 25 20 20 20 20 20 20 20 20 20 20 20 20 20

		CITATION RE	PORT	
#	Article		IF	CITATIONS
1067	Position-sensitive detectors based on two-dimensional materials. Nano Research, 2021	., 14, 1889-1900.	5.8	14
1068	Epitaxial Growth of Main Group Monoelemental 2D Materials. Advanced Functional Ma 2006997.	aterials, 2021, 31,	7.8	37
1069	Two-dimensional materials for light emitting applications: Achievement, challenge and perspectives. Nano Research, 2021, 14, 1912-1936.	future	5.8	34
1070	Hole-dominated Fowler–Nordheim tunneling in 2D heterojunctions for infrared imag Bulletin, 2021, 66, 139-146.	ing. Science	4.3	17
1071	Fabrication and applications of 2D black phosphorus in catalyst, sensing and electroch storage. Journal of Alloys and Compounds, 2021, 850, 156580.	emical energy	2.8	35
1072	Avalanche photodetectors based on two-dimensional layered materials. Nano Research 1878-1888.	n, 2021, 14,	5.8	44
1073	Effect of silicon doping on the electronic and optical properties of phosphorous nanot 2021, 225, 165808.	ubes. Optik,	1.4	8
1074	DFT study of gas adsorption and sensing based on noble metal (Ag, Au and Pt) functio selenide nanosheets. Physica E: Low-Dimensional Systems and Nanostructures, 2021,	nalized boron 125, 114409.	1.3	22
1075	Protecting black phosphorus with selectively adsorbed graphene quantum dot layers. Science, 2021, 538, 148089.	Applied Surface	3.1	6
1076	Electronic properties of multilayer armchair phosphorene nanoribbons under strain. Ph Low-Dimensional Systems and Nanostructures, 2021, 126, 114495.	ysica E:	1.3	3
1077	Electrically-tunable spin polarization in boron-doped armchair black phosphorene nano Journal of Magnetism and Magnetic Materials, 2021, 521, 167525.	ribbon.	1.0	4
1078	Electrode material and modification dependent performances of lateral photodetector MAPb13 single crystal. Optical Materials, 2021, 111, 110684.	s based on	1.7	7
1079	Emerging Lightâ€Emitting Materials for Photonic Integration. Advanced Materials, 202	1, 33, e2003733.	11.1	25
1080	Tunable Electronic and Optical Properties of 2D Monoelemental Materials Beyond Grap Promising Applications. Energy and Environmental Materials, 2021, 4, 522-543.	bhene for	7.3	48
1081	Recent progress about 2D metal dichalcogenides: Synthesis and application in photod Research, 2021, 14, 1819-1839.	etectors. Nano	5.8	14
1082	Electrochemical Delamination of Ultralarge Few‣ayer Black Phosphorus with a Hydro Intercalation Mechanism. Advanced Materials, 2021, 33, e2005815.	ogenâ€Free	11.1	22
1083	Ambipolar 2D Semiconductors and Emerging Device Applications. Small Methods, 202	1, 5, e2000837.	4.6	39
1084	Application of two-dimensional materials as anodes for rechargeable metal-ion batterie comprehensive perspective from density functional theory simulations. Energy Storage 2021, 35, 203-282.	s: A Materials,	9.5	84

#	Article	IF	Citations
1085	Gate tunable self-powered few-layer black phosphorus broadband photodetector. Physical Chemistry Chemical Physics, 2021, 23, 399-404.	1.3	2
1086	Electronic properties of black phosphorus using monochromated low-loss EELS. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2021, 265, 115002.	1.7	3
1087	Long-term can-sealing protection: a stable black phosphorus nanoassembly achieved through heterogeneous hydrophobic functionalization. Nanoscale, 2021, 13, 763-775.	2.8	7
1088	Even-odd-dependent optical transitions of zigzag monolayer black phosphorus nanoribbons. Science China: Physics, Mechanics and Astronomy, 2021, 64, 1.	2.0	7
1089	Effect of the surface oxide layer on the stability of black phosphorus. Applied Surface Science, 2021, 537, 147850.	3.1	21
1090	Two-dimensional MgSiP2 with anisotropic electronic properties and good performances for Na-ion batteries. Chinese Chemical Letters, 2021, 32, 1081-1085.	4.8	26
1091	Recent advances on TMDCs for medical diagnosis. Biomaterials, 2021, 269, 120471.	5.7	30
1092	Investigations of the stability and electronic properties of two-dimensional Ga2O3 nanosheet in air from first-principles calculations. Applied Surface Science, 2021, 537, 147883.	3.1	14
1093	Surfaceâ€enhanced Raman Scattering on <scp>2D</scp> Nanomaterials: Recent Developments and Applicationsâ€. Chinese Journal of Chemistry, 2021, 39, 745-756.	2.6	27
1094	Mechanical modulation of spontaneous emission of nearby nanostructured black phosphorus. Optics Express, 2021, 29, 1037.	1.7	4
1095	Plasmon-Enhanced Photovoltaic Characteristics of Black Phosphorus-MoS ₂ Heterojunction. IEEE Open Journal of Nanotechnology, 2021, 2, 41-51.	0.9	4
1096	MoS ₂ and CdMoS ₄ nanostructure-based UV light photodetectors. Nanoscale Advances, 2021, 3, 4799-4803.	2.2	3
1097	Bioactive engineered photothermal nanomaterials: from theoretical understanding to cutting-edge application strategies in anti-cancer therapy. Materials Chemistry Frontiers, 2021, 5, 5257-5297.	3.2	18
1098	Recent advances in 2D black phosphorus based materials for gas sensing applications. Journal of Materials Chemistry C, 2021, 9, 3773-3794.	2.7	51
1099	Quasiparticle energies and significant exciton effects of monolayered blue arsenic phosphorus conformers. Physical Chemistry Chemical Physics, 2021, 23, 23808-23817.	1.3	11
1100	Synthesis and characterization of 2D materials. , 2021, , 77-104.		2
1101	Electronic and photochemical properties of hybrid binary silicon and germanium derived Janus monolayers. Physical Chemistry Chemical Physics, 2021, 23, 17502-17511.	1.3	8
1102	Blue-AsP monolayer as a promising anode material for lithium- and sodium-ion batteries: a DFT study. Physical Chemistry Chemical Physics, 2021, 23, 5143-5151.	1.3	28

#	Article	IF	CITATIONS
1103	Ultraâ€Small 2D PbS Nanoplatelets: Liquidâ€Phase Exfoliation and Emerging Applications for Photoâ€Electrochemical Photodetectors. Small, 2021, 17, e2005913.	5.2	50
1104	Recent progress and challenges based on two-dimensional material photodetectors. Nano Express, 2021, 2, 012001.	1.2	31
1105	Chemical vapor deposition growth of large-areas two dimensional materials: Approaches and mechanisms. Wuli Xuebao/Acta Physica Sinica, 2021, 70, 026802.	0.2	9
1106	Performance Enhancement of a Novel Surface Plasmon Resonance Biosensor Using Thallium Bromide. IEEE Transactions on Nanobioscience, 2022, 21, 206-215.	2.2	17
1107	Molecular engineering for high-performance fullerene broadband photodetectors. Nanoscale Advances, 2021, 3, 1096-1105.	2.2	6
1108	Fast and high photoresponsivity gallium telluride/hafnium selenide van der Waals heterostructure photodiode. Journal of Materials Chemistry C, 2021, 9, 7110-7118.	2.7	10
1109	Laser-assisted two dimensional material electronic and optoelectronic devices. Journal of Materials Chemistry C, 2021, 9, 2599-2619.	2.7	18
1110	Liquidâ€Based Exfoliation of Black Phosphorus into Phosphorene and Its Application for Energy Storage Devices. Small Structures, 2021, 2, 2000148.	6.9	36
1111	Molybdenum Disulfide and Tungsten Disulfide as Novel Two-Dimensional Nanomaterials in Separation Science. Springer Series on Polymer and Composite Materials, 2021, , 193-217.	0.5	1
1112	Novel synthesis, properties and applications of emerging group VA two-dimensional monoelemental materials (2D-Xenes). Materials Chemistry Frontiers, 2021, 5, 6333-6391.	3.2	18
1113	Edge and sublayer degrees of freedom for phosphorene nanoribbons with twofold-degenerate edge bands via electric field. Physical Review B, 2021, 103, .	1.1	8
1114	Destructive Extraction and Enhanced Diffusion of Phospholipids on Lipid Membranes by Phosphorene Oxide Nanosheets. Journal of Physical Chemistry B, 2021, 125, 2636-2643.	1.2	6
1115	2D phosphorene nanosheets, quantum dots, nanoribbons: synthesis and biomedical applications. Biomaterials Science, 2021, 9, 2768-2803.	2.6	29
1116	Graphdiyne Visibleâ€Light Photodetector with Ultrafast Detectivity. Advanced Optical Materials, 2021, 9, 2001916.	3.6	25
1117	Tuning of the Optical Properties of Monolayer Blue Phosphorene. Plasmonics, 2021, 16, 1213-1221.	1.8	4
1118	Electrochemically Exfoliated Platinum Dichalcogenide Atomic Layers for High-Performance Air-Stable Infrared Photodetectors. ACS Applied Materials & Interfaces, 2021, 13, 8518-8527.	4.0	23
1119	Tailored negative/positive photoresponse of BP via doping. Nanotechnology, 2021, 32, 185201.	1.3	1
1120	Chemical functionalization of <scp>2D</scp> black phosphorus. InformaÄnÃ-Materiály, 2021, 3, 231-251.	8.5	41

#	Article	IF	CITATIONS
1121	Flux Method Growth of Large Size Group IV–V 2D GeP Single Crystals and Photoresponse Application. Crystals, 2021, 11, 235.	1.0	3
1122	The Highly Uniform Photoresponsivity from Visible to Near IR Light in Sb2Te3 Flakes. Sensors, 2021, 21, 1535.	2.1	6
1123	First-principles study of two-dimensional puckered and buckled honeycomb-like carbon sulfur systems. Journal of Computational Electronics, 2021, 20, 759-774.	1.3	3
1124	Black phosphorus doped Poly(triarylamine) as hole transport layer for highly efficient perovskite solar cells. Organic Electronics, 2021, 89, 106052.	1.4	15
1125	Tunneling Effects in Crossed Ta ₂ Pt ₃ Se ₈ –Ta ₂ Pd ₃ Se ₈ Nanowire Junctions: Implications for Anisotropic Photodetectors. ACS Applied Nano Materials, 2021, 4, 1817-1824.	2.4	9
1126	A first-principles study on zigzag phosphorene nanoribbons terminated by transition metal atoms*. Chinese Physics B, 2021, 30, 027305.	0.7	Ο
1127	Spin-resolved transport properties in monolayer phosphorene superlattice. Superlattices and Microstructures, 2021, 151, 106779.	1.4	6
1128	Spin Transport and Spin Thermoelectric Transport in 2D Mn-Doped Blue Phosphorene with High Curie Temperature and Half-Metallicity. Journal of Physical Chemistry C, 2021, 125, 6341-6350.	1.5	15
1129	Tunable Linearity of Highâ€Performance Vertical Dualâ€Gate vdW Phototransistors. Advanced Materials, 2021, 33, e2008080.	11.1	36
1130	Lowâ€Symmetry and Nontoxic 2D SiP with Strong Polarizationâ€Sensitivity and Fast Photodetection. Advanced Optical Materials, 2021, 9, 2100198.	3.6	29
1131	Modify Cd3As2 nanowires with sulfur to fabricate self-powered NIR photodetectors with enhanced performance. Nano Research, 2021, 14, 3379-3385.	5.8	8
1132	Optoelectronic characteristics and application of black phosphorus and its analogs. Frontiers of Physics, 2021, 16, 1.	2.4	17
1133	2D Layered Materials for Ultraviolet Photodetection: A Review. Advanced Optical Materials, 2021, 9, 2002214.	3.6	54
1134	2D Materials Enabled Nextâ€Generation Integrated Optoelectronics: from Fabrication to Applications. Advanced Science, 2021, 8, e2003834.	5.6	70
1135	Plasmonically enhanced photoluminescence of monolayer MoS ₂ via nanosphere lithography-templated gold metasurfaces. Nanophotonics, 2021, 10, 1733-1740.	2.9	14
1136	2D Siliconâ€Based Semiconductor Si ₂ Te ₃ toward Broadband Photodetection. Small, 2021, 17, e2006496.	5.2	19
1137	Bi2O2Se/BP van der Waals heterojunction for high performance broadband photodetector. Science China Information Sciences, 2021, 64, 1.	2.7	31
1138	Properties and photodetector applications of two-dimensional black arsenic phosphorus and black phosphorus. Science China Information Sciences, 2021, 64, 1.	2.7	35

#	Article	IF	CITATIONS
1139	Advancing Graphitic Carbon Nitride-Based Photocatalysts toward Broadband Solar Energy Harvesting. , 2021, 3, 663-697.		63
1140	Heterostructures of 2D materials-quantum dots (QDs) for optoelectronic devices: challenges and opportunities. Emergent Materials, 2021, 4, 901-922.	3.2	15
1141	Probing the Laser Ablation of Black Phosphorus by Raman Spectroscopy. Journal of Physical Chemistry C, 2021, 125, 8704-8711.	1.5	4
1142	Recent Progress on Electrical and Optical Manipulations of Perovskite Photodetectors. Advanced Science, 2021, 8, e2100569.	5.6	118
1143	Photo-Detectors Based on Two Dimensional Materials. , 0, , .		0
1144	Bandgap Modulation in BP Field Effect Transistor and Its Applications. Advanced Electronic Materials, 2021, 7, 2100228.	2.6	2
1145	Unipolar barrier photodetectors based on van der Waals heterostructures. Nature Electronics, 2021, 4, 357-363.	13.1	292
1146	Modulation of Negative Differential Resistance in Black Phosphorus Transistors. Advanced Materials, 2021, 33, e2008329.	11.1	18
1147	Repression of Interlayer Recombination by Graphene Generates a Sensitive Nanostructured 2D vdW Heterostructure Based Photodetector. Advanced Science, 2021, 8, e2100503.	5.6	28
1148	Unusual anisotropic behaviour of free-carrier-induced third-harmonic generation in phosphorene at microwave frequencies. Journal Physics D: Applied Physics, 0, , .	1.3	1
1149	Charge carrier modulation in dual-gated graphene field effect transistor using honey as polar organic gate dielectric. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	1.1	3
1150	Stabilizing Black Phosphorus via Covalent Functionalization of Solvent Formamide. Advanced Materials Interfaces, 2021, 8, 2002247.	1.9	6
1151	Large-area uniform few-layer PtS2: Synthesis, structure and physical properties. Materials Today Physics, 2021, 18, 100376.	2.9	20
1152	2D Materials for Nonlinear Photonics and Electroâ€Optical Applications. Advanced Materials Interfaces, 2021, 8, 2100367.	1.9	30
1153	Negative quasiparticle shifts in phosphorene quantum dots. Physical Review B, 2021, 103, .	1.1	5
1154	Tunable Schottky barrier in planar two-dimensional metal/black phosphorus heterojunctions. Physica E: Low-Dimensional Systems and Nanostructures, 2021, 130, 114702.	1.3	5
1155	Low Threshold and Longâ€Range Propagation Plasmonic Nanolaser Enhanced by Black Phosphorus Nanosheets. Advanced Theory and Simulations, 2021, 4, 2100087.	1.3	0
1156	Applications of 2D-Layered Palladium Diselenide and Its van der Waals Heterostructures in Electronics and Optoelectronics. Nano-Micro Letters, 2021, 13, 143.	14.4	61

#	Article	IF	CITATIONS
1157	Behaviour of induced states of substitutional and adatom impurity doping on electronic transport properties of single-layer black phosphorus. Physica E: Low-Dimensional Systems and Nanostructures, 2021, 130, 114701.	1.3	1
1158	A self-powered photoelectrochemical ultraviolet photodetector based on Ti ₃ C ₂ T _x /TiO ₂ in situ formed heterojunctions. Nanotechnology, 2022, 33, 075502.	1.3	18
1159	First-Principle Calculation of Spin Current in Arsenic Nitride Nanoribbons. Journal of Superconductivity and Novel Magnetism, 2021, 34, 2167-2170.	0.8	0
1160	The gate length effect of high-performance monolayer SiAs2 FETs. Semiconductor Science and Technology, 2021, 36, 085006.	1.0	1
1161	Refractive index sensor with alternative high performance using black phosphorus in the all-dielectric configuration. Optics Express, 2021, 29, 23810.	1.7	7
1162	Tuning photoresponse of graphene-black phosphorus heterostructure by electrostatic gating and photo-induced doping. Chinese Chemical Letters, 2022, 33, 368-373.	4.8	5
1163	Black Phosphorus/Polymers: Status and Challenges. Advanced Materials, 2021, 33, e2100113.	11.1	53
1164	High polarization sensitivity in tungsten telluride photodetector under zero source-drain bias voltage. Journal Physics D: Applied Physics, 2021, 54, 385302.	1.3	7
1165	Accessing the Anisotropic Nonthermal Phonon Populations in Black Phosphorus. Nano Letters, 2021, 21, 6171-6178.	4.5	25
1166	Narrow-bandgap materials for optoelectronics applications. Frontiers of Physics, 2022, 17, 1.	2.4	28
1167	Recent progress of black phosphorus and its emerging multifunction applications in biomedicine. JPhys Materials, 2021, 4, 042004.	1.8	3
1168	Aqueous Affinity and Interfacial Dynamics of Anisotropic Buckled Black Phosphorous. Journal of Physical Chemistry B, 2021, 125, 7527-7536.	1.2	6
1169	Force-constant model for the vibrational modes in black-phosphorene and phosphorene nanoribbons (PNRs). Physica E: Low-Dimensional Systems and Nanostructures, 2021, 132, 114757.	1.3	5
1170	Optimizing GaAs nanowire-based visible-light photodetectors. Applied Physics Letters, 2021, 119, .	1.5	5
1171	Anisotropic to Isotropic Transition in Monolayer Group-IV Tellurides. Materials, 2021, 14, 4495.	1.3	4
1172	Highly sensitive gas sensing platforms based on field effect Transistor-A review. Analytica Chimica Acta, 2021, 1172, 338575.	2.6	26
1173	Recent progress in epitaxial growth of twoâ€dimensional phosphorus. SmartMat, 2021, 2, 286-298.	6.4	18
1174	Black phosphorus junctions and their electrical and optoelectronic applications. Journal of Semiconductors, 2021, 42, 081001.	2.0	22

#	Article	IF	CITATIONS
1175	Electronic and Optical Properties of van der Waals Heterostructures Based on Two-Dimensional Perovskite (PEA) ₂ PbI ₄ and Black Phosphorus. ACS Omega, 2021, 6, 20877-20886.	1.6	9
1176	Ferroelectric semiconductor junctions based on graphene/In ₂ Se ₃ /graphene van der Waals heterostructures. 2D Materials, 2021, 8, 045020.	2.0	16
1177	Recent developments of infrared photodetectors with low-dimensional inorganic nanostructures. Nano Research, 2022, 15, 805-817.	5.8	13
1178	Patterning of type-II Dirac semimetal PtTe2 for optimized interface of tellurene optoelectronic device. Nano Energy, 2021, 86, 106049.	8.2	22
1179	Flexible Selfâ€Powered Electrochemical Photodetector Functionalized by Multilayered Tantalum Diselenide Nanocrystals. Advanced Optical Materials, 2021, 9, 2100993.	3.6	21
1180	Electronic structure of 2D quaternary materials and of their van der Waals heterostructures. Journal of Applied Physics, 2021, 130, 064304.	1.1	0
1181	Band Alignment in Monolayer Boron Phosphide with Janus <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mrow><mml:mi>Mo</mml:mi><mml:mi mathvariant="normal">SSe<mml:mi></mml:mi></mml:mi </mml:mrow> Heterobilayers under Strain and Electric Field, Physical Paview Applied, 2021, 16</mml:math 	1.5	31
1182	Copper Tetracyanoquinodimethane (CuTCNQ): A Metal–Organic Semiconductor for Room-Temperature Visible to Long-Wave Infrared Photodetection. ACS Applied Materials & Interfaces, 2021, 13, 38544-38552.	4.0	10
1183	Photocurrent Generation Mechanisms in Molybdenumâ€Contacted Semiconducting Black Phosphorus and Contributions from the Photobolometric Effect. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100196.	0.8	0
1184	Black Phosphorus—Diketopyrrolopyrrole Polymer Semiconductor Hybrid for Enhanced Charge Transfer and Photodetection. Advanced Photonics Research, 2021, 2, 2100150.	1.7	3
1185	Performance analysis of photo-electrochemical photodetector based on liquid-phase exfoliation few-layered graphdiyne nanosheets. Nanophotonics, 2021, 10, 2833-2845.	2.9	8
1186	Development of non-enzymatic and photothermal immuno-sensing assay for detecting the enrofloxacin in animal derived food by utilizing black phosphorus-platinum two-dimensional nanomaterials. Food Chemistry, 2021, 357, 129766.	4.2	16
1187	High performance photoresponsivity and high frequency of phosphorene/metal heterojunction as Schottky photodiode rectifier. Applied Materials Today, 2021, 24, 101092.	2.3	4
1188	Controllable Doping in 2D Layered Materials. Advanced Materials, 2021, 33, e2104942.	11.1	59
1189	Synthesis and stabilization of black phosphorus and phosphorene: Recent progress and perspectives. IScience, 2021, 24, 103116.	1.9	30
1190	Black Phosphorus Photodetector Enhanced by a Planar Photonic Crystal Cavity. ACS Photonics, 2021, 8, 3104-3110.	3.2	19
1191	Electrodeâ€Induced Selfâ€Healed Monolayer MoS ₂ for High Performance Transistors and Phototransistors. Advanced Materials, 2021, 33, e2102091.	11.1	26
1192	Recent Developments in Black Phosphorous Transistors: A Review. Journal of Electronic Materials, 2021, 50, 6020-6036.	1.0	9

#	Article	IF	CITATIONS
1193	Lowâ€Ðimensional Black Phosphorus in Sensor Applications: Advances and Challenges. Advanced Functional Materials, 2021, 31, 2106484.	7.8	19
1194	Wet Chemistry Vitrification and Metalâ€toâ€6emiconductor Transition of 2D Gray Arsenene Nanoflakes. Advanced Functional Materials, 2021, 31, 2106529.	7.8	11
1195	Electrical contacts in monolayer Ga2O3 field-effect tansistors. Applied Surface Science, 2021, 564, 150386.	3.1	11
1196	Excited state dynamics in monolayer black phosphorus revisited: Accounting for many-body effects. Journal of Chemical Physics, 2021, 155, 134106.	1.2	13
1197	MXene-based mixed-dimensional Schottky heterojunction towards self-powered flexible high-performance photodetector. Materials Today Physics, 2021, 21, 100479.	2.9	13
1198	Engineering the electronic and magnetic properties of nitrogene monolayer and bilayer by doping: A first-principles study. Applied Surface Science, 2021, 566, 150711.	3.1	10
1199	Effective removal of water-soluble methylated arsenic contaminants with phosphorene oxide nanoflakes: A DFT study. Journal of Molecular Liquids, 2021, 341, 117423.	2.3	3
1200	Two-dimensional MgP3 monolayer with remarkably tunable bandgap and enhanced visible-light and UV optical absorptions. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 135, 114960.	1.3	26
1201	Fast colloidal synthesis of SnSe ₂ nanosheets for flexible broad-band photodetection. CrystEngComm, 2021, 23, 2034-2038.	1.3	11
1202	Covalent and non-covalent chemistry of 2D black phosphorus. RSC Advances, 2021, 11, 26093-26101.	1.7	8
1203	Enhanced nonlinear optical response of graphene-based nanoflake van der Waals heterostructures. RSC Advances, 2021, 11, 5590-5600.	1.7	7
1204	Nanomaterials: a review of synthesis methods, properties, recent progress, and challenges. Materials Advances, 2021, 2, 1821-1871.	2.6	1,049
1205	New materials for water-splitting. Interface Science and Technology, 2021, 32, 791-870.	1.6	5
1206	Magnetic and electronic properties of Fe3O4/PtSe2/Fe3O4 junctions. Materials Today: Proceedings, 2022, 49, 2469-2473.	0.9	3
1207	Black phosphorus: device and application. , 2021, , 139-163.		1
1209	Inâ€Plane Isotropic/Anisotropic 2D van der Waals Heterostructures for Future Devices. Small, 2019, 15, e1804733.	5.2	46
1210	Recent Progress in Blackâ€Phosphorusâ€Based Heterostructures for Device Applications. Small Methods, 2018, 2, 1700296.	4.6	51
1211	Vacancy defected blue and black phosphorene nanoribbons as gas sensor of NOx and SOx molecules. Applied Surface Science, 2020, 526, 146692.	3.1	22

#	Article	IF	CITATIONS
1212	Enhanced photoresponse behavior of Au@Bi2Te3 based photoelectrochemical-type photodetector at solid-solid-liquid joint interface. Materials Today Energy, 2020, 16, 100401.	2.5	17
1213	Stable black phosphorus quantum dots for alkali PH sensor. Optics Communications, 2018, 406, 91-94.	1.0	22
1214	Electromechanical and magnetic response in zigzag phosphorene nanoribbons. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 123, 114200.	1.3	7
1216	Triangular Black Phosphorus Atomic Layers by Liquid Exfoliation. Scientific Reports, 2016, 6, 23736.	1.6	28
1217	Introduction and Fundamental Principles of Ambipolar Materials. RSC Smart Materials, 2020, , 1-13.	0.1	2
1218	The electronic transport properties of zigzag phosphorene-like MX (M = Ge/Sn, X = S/Se) nanostructures. Physical Chemistry Chemical Physics, 2017, 19, 17210-17215.	1.3	25
1219	Current status and prospects of memristors based on novel 2D materials. Materials Horizons, 2020, 7, 1495-1518.	6.4	101
1220	2D van der Waals heterostructures: processing, optical properties and applications in ultrafast photonics. Materials Horizons, 2020, 7, 2903-2921.	6.4	44
1221	Langmuir–Blodgett fabrication of large-area black phosphorus-C ₆₀ thin films and heterojunction photodetectors. Nanoscale, 2020, 12, 19814-19823.	2.8	17
1222	Magnetism of zigzag edge phosphorene nanoribbons. , 0, .		1
1223	Mechanical properties and fracture behaviour of defective phosphorene nanotubes under uniaxial tension. Journal Physics D: Applied Physics, 2017, 50, 485303.	1.3	6
1224	Enhancement of photodetection by PbSe quantum dots on atomic-layered GeS devices. Journal Physics D: Applied Physics, 2020, 53, 505102.	1.3	4
1225	Nonmonotonic band gap evolution in bent phosphorene nanosheets. Physical Review Materials, 2019, 3,	0.9	5
1226	Dielectric-loaded black phosphorus surface plasmon polariton waveguides. Optics Express, 2019, 27, 18005.	1.7	12
1227	Rashba spin-orbit coupling enhanced two-photon absorption and its polarization dependence in monolayer black phosphorus. Optics Express, 2020, 28, 9089.	1.7	8
1228	Active tuning of the hybridization effects of mid-infrared surface plasmon resonance in a black phosphorus sheet array and a metal grating slit. Optical Materials Express, 2020, 10, 14.	1.6	14
1229	Rabi splitting obtained in a monolayer BP-plasmonic heterostructure at room temperature. Optical Materials Express, 2020, 10, 2159.	1.6	2
1230	Nanostructured multiple-layer black phosphorus photodetector based on localized surface plasmon resonance. Optical Materials Express, 2019, 9, 739.	1.6	15

#	Article	IF	CITATIONS
1231	Revealing of the ultrafast third-order nonlinear optical response and enabled photonic application in two-dimensional tin sulfide. Photonics Research, 2019, 7, 494.	3.4	159
1232	Ultra-high-resolution detection of Pb ²⁺ ions using a black phosphorus functionalized microfiber coil resonator. Photonics Research, 2019, 7, 622.	3.4	21
1233	Ultrafast fiber lasers mode-locked by two-dimensional materials: review and prospect. Photonics Research, 2020, 8, 78.	3.4	242
1234	MXene saturable absorber enabled hybrid mode-locking technology: a new routine of advancing femtosecond fiber lasers performance. Nanophotonics, 2020, 9, 2451-2458.	2.9	50
1235	Nonlinear optical properties of anisotropic two-dimensional layered materials for ultrafast photonics. Nanophotonics, 2020, 9, 1651-1673.	2.9	26
1236	Novel layered 2D materials for ultrafast photonics. Nanophotonics, 2020, 9, 1743-1786.	2.9	27
1237	Hybrid silicon photonic devices with two-dimensional materials. Nanophotonics, 2020, 9, 2295-2314.	2.9	20
1238	Carbon nanotube mode-locked fiber lasers: recent progress and perspectives. Nanophotonics, 2020, 10, 749-775.	2.9	30
1239	Research progress of high-quality monolayer MoS2 films. Wuli Xuebao/Acta Physica Sinica, 2018, 67, 128103.	0.2	7
1240	Topological insulator bismuth selenide grown on black phosphorus for sensitive broadband photodetection. Journal of Materials Chemistry C, 2021, 9, 15150-15157.	2.7	6
1241	One-dimensional van der Waals stacked p-type crystal Ta ₂ Pt ₃ Se ₈ for nanoscale electronics. Nanoscale, 2021, 13, 17945-17952.	2.8	9
1242	New Materials and Structures for Efficient Terahertz (THz) Spectroscopy. Journal of Communications Technology and Electronics, 2021, 66, 1045-1052.	0.2	0
1243	Tip-Enhanced Raman Spectroscopy of 2D Semiconductors. , 0, , .		2
1244	Emerging Singleâ€Photon Detectors Based on Lowâ€Dimensional Materials. Small, 2022, 18, e2103963.	5.2	23
1245	pâ€GeSe/nâ€ReS ₂ Heterojunction Rectifier Exhibiting A Fast Photoresponse with Ultraâ€High Frequencyâ€Switching Applications. Advanced Materials Interfaces, 2021, 8, 2100705.	1.9	29
1246	<scp>Polarizationâ€sensitive</scp> and <scp>wideâ€spectrum</scp> photovoltaic detector based on <scp>quasiâ€1D ZrGeTe₄</scp> nanoribbon. InformaÄnÃ-Materiály, 2022, 4, .	8.5	17
1247	Amphiphilicity of Intricate Layered Graphene/g-C ₃ N ₄ Nanosheets. Journal of Physical Chemistry B, 2021, 125, 11697-11708.	1.2	5
1248	Large-scale preparation of black phosphorus by molten salt method for energy storage. ChemPhysMater, 2022, 1, 1-5.	1.4	5

		CITATION REPORT		
#	Article		IF	CITATIONS
1249	2D Materialâ€Based Photodetectors for Infrared Imaging. Small Science, 2022, 2, 210)051.	5.8	45
1250	Ternary Transition Metal Chalcogenide Nb ₂ Pd ₃ Se _{8Candidate of 1D Van der Waals Materials for Fieldâ€Effect Transistors. Advanced Func 2022, 32, 2108104.}	ub>: A New tional Materials,	7.8	19
1251	Time Resolved Spectroscopy on Thin Layers of Black Phosphorus. , 2015, , .			0
1252	THz Photoresponse of Thin Layers of Black Phosphorus. , 2016, , .			0
1253	Intrinsic Speed of a Black Phosphorus Photoconductive Detector. , 2016, , .			0
1254	Field effect photoconductivity in graphene on undoped semiconductor substrates. , 20)18, , .		0
1255	Localized surface plasmons on periodic monolayer black phosphorene nanoribbons tu infrared region with a dielectric substrate. , 2018, , .	ied in the		1
1256	Black Phosphorous Based Nanodevices. Engineering Materials, 2020, , 31-58.		0.3	1
1257	Towards cavity-enhanced photodetection in Al-doped BP integrated with 2D photonic waveguide for mid-IR wavelengths. , 2020, , .	crystal and		0
1258	Polistren kapı yalıtkanı ile pentasen fototransistör imalatı. Bitlis Eren Ünive Dergisi, 0, , .	rsitesi Fen Bilimleri	0.1	0
1259	Gold-black phosphorus nanostructured absorbers for efficient light trapping in the mic Optics Express, 2020, 28, 19562.	-infrared.	1.7	10
1260	Topological transition in monolayer blue phosphorene with transition-metal adatom un Chinese Journal of Chemical Physics, 2020, 33, 443-449.	nder strain.	0.6	1
1261	Recent advances in UV photodetectors based on 2D materials: a review. Journal Physic Physics, 2022, 55, 133002.	s D: Applied	1.3	26
1262	Optical pulse modulators based on layered vanadium diselenide nanosheets. Nanotech .	nology, 2021, 33,	1.3	0
1263	Temperature-stable black phosphorus field-effect transistors through effective phonor suppression on atomic layer deposited aluminum nitride. Nanophotonics, 2020, 9, 205	scattering 3-2062.	2.9	3
1264	Scalably Nanomanufactured Atomically Thin Materialsâ€Based Wearable Health Senso Structures, 2022, 3, 2100120.	rs. Small	6.9	16
1265	Robust Visible-Blind Wearable Infrared Sensor Based on IrP2 Nanoparticle-Embedded F Graphene and the Effect of Photogating. ACS Applied Materials & Interfaces, 202	ew-Layer 1, 13, 54258-54265.	4.0	0
1266	Half-metallic of non-metal-adsorbed AsP and multifunctional two-dimensional spintron impure AsP from first-principles calculations. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 137, 115016.	ic device of	1.3	11

#	Article	IF	CITATIONS
1268	Study on graphene-like monolayer ZnS1â^'xOx: structural and optoelectronic properties. Theoretical Chemistry Accounts, 2021, 140, 1.	0.5	3
1269	Multiple mechanisms of the low temperature photoresponse in niobium diselenide. Applied Physics Letters, 2021, 119, .	1.5	5
1270	Quantitative Determination of Contradictory Bandgap Values of Bulk PdSe ₂ from Electrical Transport Properties. Advanced Functional Materials, 2022, 32, 2108061.	7.8	11
1271	Recent development in emerging phosphorene based novel materials: Progress, challenges, prospects and their fascinating sensing applications. Progress in Solid State Chemistry, 2022, 65, 100336.	3.9	18
1272	Tuning electronic properties of MSb (M = C, Si, Ge and Sn) monolayers by strain engineering. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 138, 115065.	1.3	7
1273	Anisotropic black phosphorene nanotube anodes afford ultrafast kinetic rate or extra capacities for Li-ion batteries. Chinese Chemical Letters, 2022, 33, 3842-3848.	4.8	4
1274	High Photoresponse Black Phosphorus TFTs Capping with Transparent Hexagonal Boron Nitride. Membranes, 2021, 11, 952.	1.4	4
1275	Blue and black phosphorene on metal substrates: a density functional theory study. Journal of Physics Condensed Matter, 2022, 34, 084001.	0.7	1
1276	2D Violet phosphorene with highly anisotropic mobility and its vdW heterojunction design for device applications. Physical Chemistry Chemical Physics, 2022, 24, 3379-3385.	1.3	16
1277	Site dependent catalytic water dissociation on anisotropic buckled black phosphorous surface. Physical Chemistry Chemical Physics, 2022, 24, 2582-2591.	1.3	2
1278	All-optical Ti3C2Tx Modulator Based on Sandwich Structure. Applied Optics, 2022, 61, 925-930.	0.9	2
1279	Apparent Colors of 2D Materials. Advanced Photonics Research, 2022, 3, 2100221.	1.7	8
1280	Adsorption of toxic H2S, CO and NO molecules on pristine and transition metal doped α-AsP monolayer by first-principles calculations. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 138, 115109.	1.3	8
1281	High-Performance Photodetectors Based on the 2D SiAs/SnS2 Heterojunction. Nanomaterials, 2022, 12, 371.	1.9	8
1282	Interface and surface engineering of black phosphorus: a review for optoelectronic and photonic applications. Materials Futures, 2022, 1, 012301.	3.1	53
1283	Strong coupling in two-dimensional materials-based nanostructures: a review. Journal of Optics (United Kingdom), 2022, 24, 024009.	1.0	23
1284	Complex Raman Tensor in Helicity-Changing Raman Spectra of Black Phosphorus under Circularly Polarized Light. Journal of Physical Chemistry Letters, 2022, 13, 1241-1248.	2.1	4
1285	Highly-Responsive Broadband Photodetector Based on Graphene-PTAA-SnS2 Hybrid. Nanomaterials, 2022, 12, 475.	1.9	4

#	Article	IF	CITATIONS
1286	Commensurate Assembly of C ₆₀ on Black Phosphorus for Mixedâ€Ðimensional van der Waals Transistors. Small, 2022, 18, e2105916.	5.2	6
1287	Engineering sensitivity and spectral range of photodetection in van der Waals materials and hybrids. Nano Express, 2022, 3, 014001.	1.2	10
1288	Free-standing 2D ironene with magnetic vortex structure at room temperature. Matter, 2022, 5, 291-301.	5.0	13
1289	Bias-tunable persistent photoconductivity for photoelectric memory in van der Waals heterojunctions of black phosphorus/2D electron gas on SrTiO3. Applied Physics Letters, 2022, 120, 061107.	1.5	1
1290	Homogeneous Palladium Diselenide pnâ€Junction Diodes for Reconfigurable Circuit Applications. Advanced Electronic Materials, 2022, 8, .	2.6	6
1291	Graded Strain-Enhanced Pyro-Phototronic Photodetector with Extreme Broad Band. SSRN Electronic Journal, 0, , .	0.4	Ο
1293	Gas Sensing Properties of Alkali Metal Decorated Pristine and Defect Α-Asp Monolayer Toward Acid So2 and Alkaline Nh3 Molecules. SSRN Electronic Journal, 0, , .	0.4	0
1294	Defects in two-dimensional elemental materials beyond graphene. , 2022, , 43-88.		1
1295	Construction and physical properties of low-dimensional structures for nanoscale electronic devices. Physical Chemistry Chemical Physics, 2022, 24, 9082-9117.	1.3	3
1296	2D Cairo Pentagonal PdPS: Airâ€Stable Anisotropic Ternary Semiconductor with High Optoelectronic Performance. Advanced Functional Materials, 2022, 32, .	7.8	25
1297	The structural and electronic properties of Stone–Wales defective zigzag/armchair antimonene nanotubes: first-principles calculations. Canadian Journal of Physics, 2022, 100, 255-261.	0.4	1
1298	N-doped MoS2 via assembly transfer on an elastomeric substrate for high-photoresponsivity, air-stable and stretchable photodetector. Nano Research, 2022, 15, 9866-9874.	5.8	8
1299	Selfâ€Driven High Performance Broadband Photodetector Based on SnSe/InSe van der Waals Heterojunction. Advanced Materials Interfaces, 2022, 9, .	1.9	16
1300	High performance multifunction-in-one optoelectronic device by integrating graphene/MoS ₂ heterostructures on side-polished fiber. Nanophotonics, 2022, 11, 1137-1147.	2.9	13
1301	Black Phosphorous Aptamer-based Platform for Biomarker Detection. Current Medicinal Chemistry, 2023, 30, 935-952.	1.2	1
1302	2D Heterostructures for Highly Efficient Photodetectors: From Advanced Synthesis to Characterizations, Mechanisms, and Device Applications. Advanced Photonics Research, 2022, 3, .	1.7	13
1303	Optical Properties and Dynamic Extrinsic Chirality of Structured Monolayer Black Phosphorus. Frontiers in Materials, 2022, 9, .	1.2	3
1304	2D Materials for Wearable Energy Harvesting. Advanced Materials Technologies, 2022, 7, .	3.0	16
#	Article	IF	CITATIONS
------	---	------	-----------
1305	Visible Out-of-plane Polarized Luminescence and Electronic Resonance in Black Phosphorus. Nano Letters, 2022, , .	4.5	5
1306	Sub-ppb-Level Detection of Nitrogen Dioxide Based on High-Quality Black Phosphorus. ACS Applied Materials & Interfaces, 2022, 14, 13942-13951.	4.0	17
1307	Two-Dimensional Platinum Diselenide Waveguide-Integrated Infrared Photodetectors. ACS Photonics, 2022, 9, 859-867.	3.2	14
1308	Infrared photodetector based on 2D monoclinic gold phosphide nanosheets yielded from one-step chemical vapor transport deposition. Applied Physics Letters, 2022, 120, 131104.	1.5	1
1309	Electronic structure of monolayer and bilayer black phosphorus with charged defects. Physical Review Materials, 2022, 6, .	0.9	0
1310	Overall High-Performance Near-Infrared Photodetector Based on CVD-Grown MoTe2 and Graphene Vertical vdWs Heterostructure. Applied Sciences (Switzerland), 2022, 12, 3622.	1.3	3
1311	Broadband photoresponse arising from photo-bolometric effect in quasi-one-dimensional Ta ₂ Ni ₃ Se ₈ . Journal of Physics Condensed Matter, 2022, 34, 255303.	0.7	3
1312	Graded strain-enhanced pyro-phototronic photodetector with a broad and plateau band. Nano Energy, 2022, 97, 107163.	8.2	14
1313	Memory effects in black phosphorus field effect transistors. 2D Materials, 2022, 9, 015028.	2.0	17
1314	Efficient Suppression of Charge Recombination in Self-Powered Photodetectors with Band-Aligned Transferred van der Waals Metal Electrodes. ACS Applied Materials & Interfaces, 2021, 13, 61799-61808.	4.0	13
1315	Charged vacancy defects in monolayer phosphorene. Physical Review Materials, 2021, 5, .	0.9	5
1316	Perspectives of 2D Materials for Optoelectronic Integration. Advanced Functional Materials, 2022, 32,	7.8	62
1317	Plasmonic Silver Nanoparticle-Mediated Enhanced Broadband Photoresponse of Few-Layer Phosphorene/Si Vertical Heterojunctions. ACS Applied Materials & Interfaces, 2022, 14, 1699-1709.	4.0	8
1318	Infrared Photodetectors Based on 2D Materials and Nanophotonics. Advanced Functional Materials, 2022, 32, .	7.8	86
1319	2D layered black arsenic-phosphorus materials: Synthesis, properties, and device applications. Nano Research, 2022, 15, 3737-3752.	5.8	36
1320	Precise and Prompt Analyte Detection via Ordered Orientation of Receptor in WSe2-Based Field Effect Transistor. Nanomaterials, 2022, 12, 1305.	1.9	11
1321	1.15 W Passively Q-Switched Operation Of Tm:YAlO3 Laser with MoS2-Based Saturable Absorber. Journal of Russian Laser Research, 2022, 43, 209-214.	0.3	1
1322	Two-Dimensional Field-Effect Transistor Sensors: The Road toward Commercialization. Chemical Reviews, 2022, 122, 10319-10392.	23.0	89

#	Article	IF	CITATIONS
1323	Electric metal contacts to monolayer blue phosphorus: electronic and chemical properties. Applied Surface Science, 2022, 593, 153450.	3.1	1
1324	Review of recent progress, challenges, and prospects of 2D materials-based short wavelength infrared photodetectors. Journal Physics D: Applied Physics, 2022, 55, 313001.	1.3	12
1325	Optothermal Raman Spectroscopy of Black Phosphorus on a Gold Substrate. Nanomaterials, 2022, 12, 1410.	1.9	3
1326	Symmetry Engineering Induced Inâ€Plane Polarization in MoS ₂ through Van der Waals Interlayer Coupling. Advanced Functional Materials, 2022, 32, .	7.8	31
1327	2D materials-enabled optical modulators: From visible to terahertz spectral range. Applied Physics Reviews, 2022, 9, .	5.5	32
1328	Electronic structure calculations: the density functional theory (DFT). , 0, , 314-331.		0
1329	Development of polarization modulator using MXene thin film. Scientific Reports, 2022, 12, 6766.	1.6	4
1330	Recent Advances in SnSe Nanostructures beyond Thermoelectricity. Advanced Functional Materials, 2022, 32, .	7.8	28
1331	Electronic Self-Passivation of Single Vacancy in Black Phosphorus via Ionization. Physical Review Letters, 2022, 128, 176801.	2.9	4
1332	A Submicrosecond-Response Ultraviolet–Visible–Near-Infrared Broadband Photodetector Based on 2D Tellurosilicate InSiTe ₃ . ACS Nano, 2022, 16, 7745-7754.	7.3	32
1333	Twisted black phosphorus–based van der Waals stacks for fiber-integrated polarimeters. Science Advances, 2022, 8, eabo0375.	4.7	30
1334	Effect of non-magnetic doping on magnetic state and Li/Na adsorption and diffusion of black phosphorene. Journal of Physics Condensed Matter, 2022, 34, 285704.	0.7	3
1335	Phosphorene—an emerging two-dimensional material: recent advances in synthesis, functionalization, and applications. 2D Materials, 2022, 9, 032001.	2.0	25
1336	Highly Efficient Full van der Waals 1D pâ€īe/2D nâ€Bi ₂ O ₂ Se Heterodiodes with Nanoscale Ultraâ€Photosensitive Channels. Advanced Functional Materials, 2022, 32, .	7.8	32
1337	Scalable production of p-MoTe ₂ /n-MoS ₂ heterostructure array and its application for self-powered photodetectors and CMOS inverters. 2D Materials, 2022, 9, 035015.	2.0	4
1338	2D Materials for Efficient Photodetection: Overview, Mechanisms, Performance and UV-IR Range Applications. Frontiers in Chemistry, 0, 10, .	1.8	32
1339	Synthesis, modification, and application of black phosphorus, few-layer black phosphorus (FLBP), and phosphorene: a detailed review. Materials Advances, 2022, 3, 5557-5574.	2.6	23
1340	Effects of substrate on cavity plasmon polaritons in monolayer MoS ₂ embedded in an asymmetric cavity. Journal of the Optical Society of America B: Optical Physics, 2022, 39, 1711.	0.9	2

#	Article	IF	CITATIONS
1341	Engineered 2D materials for optical bioimaging and path toward therapy and tissue engineering. Journal of Materials Research, 2022, 37, 1689-1713.	1.2	12
1342	New 2D Material: Two-Dimensional Black Phosphorus (2D BP). International Journal of Nanoscience, 2022, 21, .	0.4	1
1343	Impact of the Channel Thickness on the Photoresponse of Black Arsenic Mid-Infrared Photodetectors. ACS Applied Materials & Interfaces, 2022, 14, 27444-27455.	4.0	4
1345	High-performance broadband photodetector based on PdSe2/black phosphorus heterodiode. Applied Physics Letters, 2022, 120, .	1.5	6
1346	Highâ€Performance Broadband Visibleâ^'Near Infrared Photodetector Enabled by Atomic Capping Layer. Advanced Optical Materials, 2022, 10, .	3.6	6
1347	First-principles study of the contact resistance and optoelectronic properties of PdSe2/MoTe2 van der Waals heterostructure optoelectronic devices. Chinese Journal of Physics, 2022, 78, 57-71.	2.0	2
1348	Phosphorene. , 2022, , 121-148.		1
1349	Integration paths for Xenes. , 2022, , 405-438.		1
1350	Robust and intrinsic type-III nodal points in a diamond-like lattice. Chinese Physics B, O, , .	0.7	0
1351	One-dimensional excitons in long phosphorene atomic chains. Physical Review B, 2022, 105, .	1.1	3
1352	Two-dimensional diamonds from sp2-to-sp3 phase transitions. Nature Reviews Materials, 2022, 7, 814-832.	23.3	28
1353	Optimizing Photodetectors in Two-Dimensional Metal-Metalloporphyrinic Framework Thin Films. ACS Applied Materials & Interfaces, 2022, 14, 33548-33554.	4.0	13
1354	Mid-Infrared Optoelectronic Devices Based on Two-Dimensional Materials beyond Graphene: Status and Trends. Nanomaterials, 2022, 12, 2260.	1.9	16
1355	Three-terminal photodetectors based on chemical vapor deposition-grown triangular MoSe2 flakes. FlatChem, 2022, 34, 100399.	2.8	8
1356	Novel 3D Printing Encapsulation Strategies for Perovskite Photodetectors. Advanced Materials Technologies, 2022, 7, .	3.0	4
1357	Momentum-matching and band-alignment van der Waals heterostructures for high-efficiency infrared photodetection. Science Advances, 2022, 8, .	4.7	32
1358	Progress and challenges on 3D tubular structures and devices of 2D materials. Applied Physics Letters, 2022, 121, .	1.5	1
1359	Improved rectification characteristics of the GR/Blue P/GR selector by doping: First-principles study. Journal of Applied Physics, 2022, 132, 085702.	1.1	0

#	Article	IF	CITATIONS
1360	Revealing the Heterogeneity of Largeâ€Area MoS ₂ Layers in the Electrocatalytic Hydrogen Evolution Reaction. ChemElectroChem, 2022, 9, .	1.7	5
1361	First-principles study on the electronic properties of layered Ga2O3/TeO2 heterolayers for high-performance electronic devices. Applied Surface Science, 2022, 602, 154382.	3.1	4
1362	Electric field- and polarisation-dependent two-photon absorption in bilayer black phosphorus. Optical Materials, 2022, 133, 112996.	1.7	0
1363	Large-area hierarchical Bi2O2S flowers composed of 2D ultrathin nanosheets for high performance self-powered IR photodetector. Journal of Alloys and Compounds, 2022, 928, 167128.	2.8	15
1364	Performance enhancement of a self-biased n-ZnO microwire/p-GaN heterojunction ultraviolet photodetector incorporating Ag nanowires. CrystEngComm, 2022, 24, 7727-7738.	1.3	5
1365	Local strain and tunneling current modulate excitonic luminescence in MoS ₂ monolayers. RSC Advances, 2022, 12, 24922-24929.	1.7	3
1366	Defect Engineering in Layered Black Phosphorus for Multi-Functional Optoelectronics. RSC Nanoscience and Nanotechnology, 2022, , 33-52.	0.2	0
1367	Infrared Light Emission Devices Based on Two-Dimensional Materials. Nanomaterials, 2022, 12, 2996.	1.9	6
1368	Highâ€Performance Visible to Nearâ€Infrared Broadband Bi ₂ O ₂ Se Nanoribbon Photodetectors. Advanced Optical Materials, 2022, 10, .	3.6	52
1369	2D Material-Based Photo- and Nanoelectronics. Part III. Photosensors Based on Graphene, Graphene-Like, and Related 2D Nanomaterials. Journal of Communications Technology and Electronics, 2022, 67, 1152-1174.	0.2	2
1370	2D Xenes: Optical and Optoelectronic Properties and Applications in Photonic Devices. Advanced Functional Materials, 2022, 32, .	7.8	12
1371	Towards Improved Detectivity and Responsivity Using Graphene Nanoribbons with Width of 10–15 nm for Photodetection Applications. Journal of Electronic Materials, 2022, 51, 6815-6826.	1.0	1
1372	High-Performance van der Waals Photodetectors Based on 2D Ruddlesden–Popper Perovskite/MoS ₂ Heterojunctions. Journal of Physical Chemistry C, 2022, 126, 16349-16356.	1.5	10
1373	Charge Sampling Photodetector Based on van der Waals Heterostructures. Advanced Optical Materials, 0, , 2201442.	3.6	0
1374	An ultra-sensitive photothermal lateral flow immunoassay for 17β-estradiol in food samples. Food Chemistry, 2023, 404, 134482.	4.2	9
1375	Gas sensing properties of alkali metal decorated pristine and defect α-AsP monolayer toward acid SO2 and alkaline NH3 molecules. Solid State Communications, 2022, 356, 114962.	0.9	1
1376	Ultraâ€High Speed, Highâ€5ensitivity Spinâ€Cast MXeneâ€5emiconductorâ€MXene Photodetectors. Advanced Functional Materials, 2022, 32, .	7.8	6
1377	Pâ€₹ype 2D Semiconductors for Future Electronics. Advanced Materials, 2023, 35, .	11.1	15

#	Article	IF	CITATIONS
1378	Fully Encapsulated and Stable Black Phosphorus Fieldâ€Effect Transistors. Advanced Materials Technologies, 0, , 2200546.	3.0	4
1379	Recent advances in wide-spectrum photodetectors based on low-dimensional semiconductors. , 2022, 2, 100013.		5
1380	Graphene/Quantum Dot Heterostructure Photodetectors: From Material to Performance. Advanced Optical Materials, 2022, 10, .	3.6	12
1381	Electronic and optical properties of lateral heterostructures within monolayer black phosphorene and group-IV monochalcogenides. Physics Letters, Section A: General, Atomic and Solid State Physics, 2022, 454, 128495.	0.9	3
1382	Progress in the preparation, application, and recycling of black phosphorus. Chemosphere, 2023, 311, 137161.	4.2	3
1383	Ultrasensitive and broad-spectrum polarization sensitive photodetector based on individual Bi2Te0.6S2.4 nanobelt. Applied Physics Letters, 2022, 121, .	1.5	4
1384	Emerging low-dimensional black phosphorus: from physical-optical properties to biomedical applications. Science China Chemistry, 0, , .	4.2	2
1385	Electrochemically exfoliated phosphorene nanosheet thin films for wafer-scale near-infrared phototransistor array. Npj 2D Materials and Applications, 2022, 6, .	3.9	7
1386	Black Arsenic–Phosphorus Nanosheets for Highly Responsive Photodetection and Dual-Wavelength Ultrafast Pulse Generation at Telecommunication Bands. ACS Applied Materials & Interfaces, 2022, 14, 52270-52278.	4.0	2
1387	Electrical Transport Properties of Layered Black Phosphorus grown by Chemical Vapor Transport. Crystal Research and Technology, 2023, 58, .	0.6	1
1388	Emerging trends in van der Waals 2D TMD heterojunction bipolar transistors. Journal of Materials Chemistry C, 2023, 11, 1648-1667.	2.7	3
1389	Self-powered, ultra-fast and high photoresponsivity of MoTe2/HfSe2 heterostructure broadband photovoltaic device. Materials Science in Semiconductor Processing, 2023, 155, 107204.	1.9	4
1390	Junctionâ€Enhanced Polarization Sensitivity in Selfâ€Powered Nearâ€Infrared Photodetectors Based on Sb ₂ Se ₃ Microbelt/nâ€GaN Heterojunction. Advanced Optical Materials, 2023, 11, .	3.6	14
1391	Width and split effects on effective spin flip through armchair phosphorene nanoribbons. European Physical Journal Plus, 2022, 137, .	1.2	1
1392	High performance photodetector of MoS ₂ homojunction based on laser etching engineering. Applied Physics Express, 0, , .	1.1	0
1393	Zero to Three Dimension Structure Evolution from Carbon Allotropes to Phosphorus Allotropes. Advanced Materials Interfaces, 2023, 10, .	1.9	7
1394	Van der Waals Black Phosphorus/Bi ₁₀ O ₆ S ₉ Heterojunction Harvesting Ambient Electric Field Energy for Enhanced Photoelectrochemical Sense. Journal of Physical Chemistry C, 2023, 127, 1229-1243.	1.5	2
1395	Disorder effects on the ballistic transport of gated phosphorene superlattices. Physical Review B, 2023, 107, .	1.1	7

#	Article	IF	CITATIONS
1396	Spin Polarization in Ferromagnetic Barrier Phosphorene Superlattice Under an Exterior Magnetic Field. Journal of Superconductivity and Novel Magnetism, 2023, 36, 529-536.	0.8	1
1397	Two-dimensional H– and F–BX (X = O, S, Se, and Te) photocatalysts with ultrawide bandgap and enhanced photocatalytic performance for water splitting. RSC Advances, 2023, 13, 2301-2310.	1.7	0
1398	Research Process on Photodetectors based on Groupâ€10 Transition Metal Dichalcogenides. Small, 2023, 19, .	5.2	10
1399	Black phosphorus unipolar transistor, memory, and photodetector. Journal of Materials Science, 2023, 58, 2689-2699.	1.7	16
1400	Recent Progress in Metal Phosphorous Chalcogenides: Potential Highâ€Performance Electrocatalysts. Small, 2023, 19, .	5.2	39
1401	Exact Relationship between Black Phosphorus Thickness and Behaviors of Field-Effect Transistors. Applied Sciences (Switzerland), 2023, 13, 1736.	1.3	4
1402	Emerging Trends in 2D TMDs Photodetectors and Piezoâ€Phototronic Devices. Small, 2023, 19, .	5.2	29
1403	Kubo conductivity in phosphorene. Journal of Physics and Chemistry of Solids, 2023, 176, 111257.	1.9	1
1404	Advances in the understanding of the structure–performance relationships of 2D material catalysts based on electron microscopy. Materials Chemistry Frontiers, 2023, 7, 2764-2778.	3.2	6
1405	Subâ€5 nm 2D Semiconductorâ€Based Monolayer Fieldâ€Effect Transistor: Status and Prospects. Physica Status Solidi (A) Applications and Materials Science, 2023, 220, .	0.8	1
1406	The effects of electric field and strain on the BP/GeTe van der Waals heterojunction. Journal Physics D: Applied Physics, 2023, 56, 315102.	1.3	1
1407	Designing high sensitivity and high figure of merit SPR biosensor using copper and 2D material on CaF2 prism. Results in Optics, 2023, 11, 100407.	0.9	Ο
1408	Insight into the growth mechanism of black phosphorus. Frontiers of Physics, 2023, 18, .	2.4	6
1409	Tuning the magnetoresistance properties of phosphorene with periodic magnetic modulation. Journal of Physics Condensed Matter, 2023, 35, 265301.	0.7	2
1410	Junctionless Electricâ€Double‣ayer Thinâ€Film Transistors with Logic Functions. Physica Status Solidi - Rapid Research Letters, 2023, 17, .	1.2	4
1411	Strain insensitive flexible photodetector based on molybdenum ditelluride/molybdenum disulfide heterostructure. Nanotechnology, 2023, 34, 155502.	1.3	2
1412	Recent progress in three-terminal artificial synapses based on 2D materials: from mechanisms to applications. Microsystems and Nanoengineering, 2023, 9, .	3.4	19
1413	Tunable bandgap of black phosphorus by arsenic substitution toward high-performance photodetector. Science China Materials, 2023, 66, 2364-2371.	3.5	2

#	Article	IF	CITATIONS
1414	Broadband Q-switched pulse modulation of the zeolite based single wall carbon nanotube. Optics and Laser Technology, 2023, 162, 109292.	2.2	2
1415	Nonlinear Hall effect in monolayer phosphorene with broken inversion symmetry. Journal of Physics Condensed Matter, 2023, 35, 165701.	0.7	3
1416	2D MoS ₂ and BN Nanosheets Damage Mitochondria through Membrane Penetration. ACS Nano, 2023, 17, 4716-4728.	7.3	7
1417	An infrared photothermoelectric detector enabled by MXene and PEDOT:PSS composite for noncontact fingertip tracking. Microsystems and Nanoengineering, 2023, 9, .	3.4	6
1418	Trends in the Preparation and Passivation Techniques of Black Phosphorus Nanostructures for Optoelectronics Applications: A Review. ACS Applied Nano Materials, 2023, 6, 3159-3183.	2.4	2
1419	Semimetal–Monolayer Transition Metal Dichalcogenides Photodetectors for Wafer cale Broadband Photonics. Advanced Photonics Research, 2023, 4, .	1.7	0
1420	Plasmonic Metasurface Integrated Black Phosphorusâ€Based Midâ€Infrared Photodetector with High Responsivity and Speed. Advanced Materials Interfaces, 2023, 10, .	1.9	6
1421	Freestanding laser-induced two dimensional heterostructures for self-contained paper-based sensors. Nanoscale, 2023, 15, 7164-7175.	2.8	2
1422	Diverse modes regulated photoresponse and high-resolution imaging based on van der Waals semimetal PtTe ₂ /semiconductor MoTe ₂ junctions. Journal of Materials Chemistry C, 2023, 11, 5045-5055.	2.7	5
1423	Growth of single-crystal black phosphorus and its alloy films through sustained feedstock release. Nature Materials, 2023, 22, 717-724.	13.3	24
1424	Graphene-black phosphorus printed photodetectors. 2D Materials, 2023, 10, 035015.	2.0	3
1425	Chemical Dopant-Free Controlled MoTe ₂ /MoSe ₂ Heterostructure toward a Self-Driven Photodetector and Complementary Logic Circuits. ACS Applied Materials & Interfaces, 2023, 15, 18182-18190.	4.0	3
1426	Polarization-Sensitive Photodetection of Anisotropic 2D Black Arsenic. Journal of Physical Chemistry C, 2023, 127, 9076-9082.	1.5	7
1427	Fully Transparent Ultraviolet Photodetector with Ultrahigh Responsivity Enhanced by MXeneâ€Induced Photogating Effect. Advanced Optical Materials, 2023, 11, .	3.6	4
1428	Recent advances, properties, fabrication and opportunities in two-dimensional materials for their potential sustainable applications. Energy Storage Materials, 2023, 59, 102780.	9.5	12
1429	Epitaxial growth of 2D gallium selenide flakes for strong nonlinear optical response and visible-light photodetection. Frontiers of Physics, 2023, 18, .	2.4	3
1430	Advances in the Field of Two-Dimensional Crystal-Based Photodetectors. Nanomaterials, 2023, 13, 1379.	1.9	6
1445	Transition metal dichalcogenides and hybrids for electrochemical sensing. , 2023, , 199-224.		0

#	Article	IF	CITATIONS
1446	Renaissance of elemental phosphorus materials: properties, synthesis, and applications in sustainable energy and environment. Chemical Society Reviews, 2023, 52, 5388-5484.	18.7	9
1453	Infrared avalanche photodiodes from bulk to 2D materials. Light: Science and Applications, 2023, 12, .	7.7	4
1471	Tantalum disulfide (TaS ₂) Based Novel Surface Plasmon Resonance Sensor with Enhanced Sensitivity using Aluminium Arsenide(AlAs)and Thallium Bromide(TlBr). , 2023, , .		0
1481	Contemporary innovations in two-dimensional transition metal dichalcogenide-based P–N junctions for optoelectronics. Nanoscale, 2023, 16, 14-43.	2.8	1
1487	Progress in Photodetector Devices Utilizing Transition Metal Dichalcogenides. Journal of Materials Chemistry C, 0, , .	2.7	0
1491	Recent advances in 2D transition metal dichalcogenide-based photodetectors: a review. Nanoscale, 2024, 16, 2097-2120.	2.8	1
1496	On-chip two-dimensional material-based waveguide-integrated photodetectors. Journal of Materials Chemistry C, 2024, 12, 2279-2316.	2.7	0