

# Semiconducting black phosphorus: synthesis, transport applications

Chemical Society Reviews

44, 2732-2743

DOI: [10.1039/c4cs00257a](https://doi.org/10.1039/c4cs00257a)

Citation Report

#	ARTICLE	IF	CITATIONS
2	Tuning of the electronic and optical properties of single-layer black phosphorus by strain. Physical Review B, 2014, 90, .	1.1	279
3	Electronic structure and anisotropic Rashba spin-orbit coupling in monolayer black phosphorus. Physical Review B, 2015, 92, .	1.1	78
4	Toward a realistic description of multilayer black phosphorus: From $G$ to large-scale tight-binding simulations. Physical Review B, 2015, 92, .	1.1	187
5	Significant effect of stacking on the electronic and optical properties of few-layer black phosphorus. Physical Review B, 2015, 92, .	1.1	152
6	Aspects of anisotropic fractional quantum Hall effect in phosphorene. Physical Review B, 2015, 92, .	1.1	20
7	Anisotropic exciton Stark shift in black phosphorus. Physical Review B, 2015, 91, .	1.1	92
8	Polarization and Thickness Dependent Absorption Properties of Black Phosphorus: New Saturable Absorber for Ultrafast Pulse Generation. Scientific Reports, 2015, 5, 15899.	1.6	268
9	(Invited) Microscopic Studies of Black Phosphorus and Its Field-Effect Transistors. ECS Transactions, 2015, 69, 93-104.	0.3	0
10	Field-Effect Transistors Based on Amorphous Black Phosphorus Ultrathin Films by Pulsed Laser Deposition. Advanced Materials, 2015, 27, 3748-3754.	11.1	274
11	Ultrasmall Black Phosphorus Quantum Dots: Synthesis and Use as Photothermal Agents. Angewandte Chemie - International Edition, 2015, 54, 11526-11530.	7.2	906
12	The Cytotoxicity of Layered Black Phosphorus. Chemistry - A European Journal, 2015, 21, 13991-13995.	1.7	173
13	Electrochemically Exfoliated Black Phosphorus Nanosheets as Prospective Field Emitters. European Journal of Inorganic Chemistry, 2015, 2015, 3102-3107.	1.0	87
15	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
17	Scalable Fabrication of 2D Semiconducting Crystals for Future Electronics. Electronics (Switzerland), 2015, 4, 1033-1061.	1.8	21
18	Electronic Properties of Phosphorene/Graphene and Phosphorene/Hexagonal Boron Nitride Heterostructures. Journal of Physical Chemistry C, 2015, 119, 13929-13936.	1.5	295
19	Chemical modifications and stability of phosphorene with impurities: a first principles study. Physical Chemistry Chemical Physics, 2015, 17, 15209-15217.	1.3	78
20	Photooxidation and quantum confinement effects in exfoliated black phosphorus. Nature Materials, 2015, 14, 826-832.	13.3	1,149
21	Functionalized graphene and other two-dimensional materials for photovoltaic devices: device design and processing. Chemical Society Reviews, 2015, 44, 5638-5679.	18.7	283

#	ARTICLE	IF	CITATIONS
22	Magnetic response at visible and near-infrared frequencies from black phosphorus sheet arrays. <i>Optics Express</i> , 2015, 23, 30667.	1.7	4
23	In Situ Thermal Decomposition of Exfoliated Two-Dimensional Black Phosphorus. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 773-778.	2.1	209
24	Thermoelectric power of bulk black-phosphorus. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	135
25	Thin-layer black phosphorus/GaAs heterojunction p-n diodes. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	55
26	Synthesis of thin-film black phosphorus on a flexible substrate. <i>2D Materials</i> , 2015, 2, 031002.	2.0	124
27	Colossal Ultraviolet Photoresponsivity of Few-Layer Black Phosphorus. <i>ACS Nano</i> , 2015, 9, 8070-8077.	7.3	204
28	Recent developments in black phosphorus transistors. <i>Journal of Materials Chemistry C</i> , 2015, 3, 8760-8775.	2.7	146
29	Two-dimensional magnetotransport in a black phosphorus naked quantum well. <i>Nature Communications</i> , 2015, 6, 7702.	5.8	163
30	Phosphorene: Fabrication, Properties, and Applications. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 2794-2805.	2.1	680
31	Toward air-stable multilayer phosphorene thin-films and transistors. <i>Scientific Reports</i> , 2015, 5, 8989.	1.6	344
32	Structural, Electronic, and Magnetic Properties of Adatom Adsorptions on Black and Blue Phosphorene: A First-Principles Study. <i>Journal of Physical Chemistry C</i> , 2015, 119, 10610-10622.	1.5	196
33	Low-Frequency Interlayer Breathing Modes in Few-Layer Black Phosphorus. <i>Nano Letters</i> , 2015, 15, 4080-4088.	4.5	182
34	Ultrathin Single-Crystalline Boron Nanosheets for Enhanced Electro-Optical Performances. <i>Advanced Science</i> , 2015, 2, 1500023.	5.6	78
35	Phosphorene as an anode material for Na-ion batteries: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 13921-13928.	1.3	336
36	First-Principles Study of Metal Adatom Adsorption on Black Phosphorene. <i>Journal of Physical Chemistry C</i> , 2015, 119, 8199-8207.	1.5	207
37	Stable and Selective Humidity Sensing Using Stacked Black Phosphorus Flakes. <i>ACS Nano</i> , 2015, 9, 9898-9905.	7.3	207
38	Environmental, thermal, and electrical susceptibility of black phosphorus field effect transistors. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2015, 33, 052202.	0.6	19
39	Black phosphorus as saturable absorber for the Q-switched Er:ZBLAN fiber laser at 28 $\mu$ m. <i>Optics Express</i> , 2015, 23, 24713.	1.7	259

#	ARTICLE	IF	CITATIONS
40	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. ACS Nano, 2015, 9, 11362-11370.	7.3	247
41	The electronic structures of group-V&#x2014;group-IV hetero-bilayer structures: a first-principles study. Physical Chemistry Chemical Physics, 2015, 17, 27769-27776.	1.3	54
42	Hydrogen-induced stabilization and tunable electronic structures of penta-silicene: a computational study. Journal of Materials Chemistry C, 2015, 3, 11341-11348.	2.7	85
43	Ultrathin Two-Dimensional Nanomaterials. ACS Nano, 2015, 9, 9451-9469.	7.3	1,726
44	Microfiber-based few-layer black phosphorus saturable absorber for ultra-fast fiber laser. Optics Express, 2015, 23, 20030.	1.7	399
45	Emerging energy applications of two-dimensional&#x2014;layered transition metal dichalcogenides. Nano Energy, 2015, 18, 293-305.	8.2	236
46	The atomic and electronic structure of nitrogen- and boron-doped phosphorene. Physical Chemistry Chemical Physics, 2015, 17, 27210-27216.	1.3	38
47	Anisotropic in-plane thermal conductivity observed in few-layer black phosphorus. Nature Communications, 2015, 6, 8572.	5.8	520
48	Scaling Limit of Bilayer Phosphorene FETs. IEEE Electron Device Letters, 2015, 36, 978-980.	2.2	17
49	Plasma-Treated Thickness-Controlled Two-Dimensional Black Phosphorus and Its Electronic Transport Properties. ACS Nano, 2015, 9, 8729-8736.	7.3	166
50	Ultrathin Black Phosphorus Nanosheets for Efficient Singlet Oxygen Generation. Journal of the American Chemical Society, 2015, 137, 11376-11382.	6.6	891
51	Probing the anisotropic behaviors of black phosphorus by transmission electron microscopy, angular-dependent Raman spectra, and electronic transport measurements. Applied Physics Letters, 2015, 107, .	1.5	44
52	Power Dissipation and Electrical Breakdown in Black Phosphorus. Nano Letters, 2015, 15, 6785-6788.	4.5	14
53	Tin(II) Sulfide (SnS) Nanosheets by Liquid-Phase Exfoliation of Herzenbergite: IV&#x2014;VI Main Group Two-Dimensional Atomic Crystals. Journal of the American Chemical Society, 2015, 137, 12689-12696.	6.6	220
54	Functional inks of graphene, metal dichalcogenides and black phosphorus for photonics and (opto)electronics. Proceedings of SPIE, 2015, , .	0.8	27
55	Thickness-dependent Raman spectra, transport properties and infrared photoresponse of few-layer black phosphorus. Journal of Materials Chemistry C, 2015, 3, 10974-10980.	2.7	98
56	Role of Interlayer Coupling on the Evolution of Band Edges in Few-Layer Phosphorene. Journal of Physical Chemistry Letters, 2015, 6, 4876-4883.	2.1	38
57	Adsorption of metal adatoms on single-layer phosphorene. Physical Chemistry Chemical Physics, 2015, 17, 992-1000.	1.3	280

#	ARTICLE	IF	CITATIONS
58	Black phosphorus-based one-dimensional photonic crystals and microcavities. <i>Applied Optics</i> , 2016, 55, 9288.	2.1	8
59	A Filmy Black-Phosphorus Polyimide Saturable Absorber for Q-Switched Operation in an Erbium-Doped Fiber Laser. <i>Materials</i> , 2016, 9, 917.	1.3	20
60	Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. <i>Nanomaterials</i> , 2016, 6, 194.	1.9	79
61	Optical properties of black phosphorus. <i>Advances in Optics and Photonics</i> , 2016, 8, 618.	12.1	203
62	Visualizing Light Scattering in Silicon Waveguides with Black Phosphorus Photodetectors. <i>Advanced Materials</i> , 2016, 28, 7162-7166.	11.1	29
63	An Air- $\epsilon$ -Stable Densely Packed Phosphorene- $\epsilon$ -Graphene Composite Toward Advanced Lithium Storage Properties. <i>Advanced Energy Materials</i> , 2016, 6, 1600453.	10.2	167
64	Layered Black Phosphorus: Strongly Anisotropic Magnetic, Electronic, and Electron-Transfer Properties. <i>Angewandte Chemie</i> , 2016, 128, 3443-3447.	1.6	27
65	Birefringence- $\epsilon$ -Directed Raman Selection Rules in 2D Black Phosphorus Crystals. <i>Small</i> , 2016, 12, 2627-2633.	5.2	57
66	Biomedical Uses for 2D Materials Beyond Graphene: Current Advances and Challenges Ahead. <i>Advanced Materials</i> , 2016, 28, 6052-6074.	11.1	335
67	Layered Black Phosphorus: Strongly Anisotropic Magnetic, Electronic, and Electron-Transfer Properties. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 3382-3386.	7.2	139
68	Photoactivity and electronic properties of graphene-like materials and $\text{TiO}_2$ composites using first-principles calculations. <i>RSC Advances</i> , 2016, 6, 65315-65321.	1.7	13
69	Superior Chemical Sensing Performance of Black Phosphorus: Comparison with $\text{MoS}_2$ and Graphene. <i>Advanced Materials</i> , 2016, 28, 7020-7028.	11.1	355
70	Wet- $\epsilon$ -Chemical Processing of Phosphorus Composite Nanosheets for High-Rate and High-Capacity Lithium-Ion Batteries. <i>Advanced Energy Materials</i> , 2016, 6, 1502409.	10.2	211
71	Black phosphorus: a two-dimension saturable absorption material for mid-infrared Q-switched and mode-locked fiber lasers. <i>Scientific Reports</i> , 2016, 6, 30361.	1.6	242
72	Highly anisotropic electronic transport properties of monolayer and bilayer phosphorene from first principles. <i>Applied Physics Letters</i> , 2016, 109, .	1.5	31
73	Exfoliated 2D black phosphorus nanosheets: Field emission studies. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2016, 34, 041803.	0.6	22
74	Molecular Structure and Dynamics of Water on Pristine and Strained Phosphorene: Wetting and Diffusion at Nanoscale. <i>Scientific Reports</i> , 2016, 6, 38327.	1.6	30
75	Absorption edges of black phosphorus: A comparative analysis. <i>Physica Status Solidi (B): Basic Research</i> , 2016, 253, 2509-2514.	0.7	24

#	ARTICLE	IF	CITATIONS
76	Design strategy of two-dimensional material field-effect transistors: Engineering the number of layers in phosphorene FETs. <i>Journal of Applied Physics</i> , 2016, 119, .	1.1	31
77	Evolution of electronic structure of few-layer phosphorene from angle-resolved photoemission spectroscopy of black phosphorus. <i>Physical Review B</i> , 2016, 94, .	1.1	44
78	Basal-plane thermal conductivity of nanocrystalline and amorphized thin germanane. <i>Applied Physics Letters</i> , 2016, 109, 131907.	1.5	11
79	Hybrid nanostructures of metal/two-dimensional nanomaterials for plasmon-enhanced applications. <i>Chemical Society Reviews</i> , 2016, 45, 3145-3187.	18.7	341
80	Q-Switched Ytterbium-Doped Fiber Laser Using Black Phosphorus as Saturable Absorber. <i>Chinese Physics Letters</i> , 2016, 33, 054206.	1.3	41
81	Transport studies in 2D transition metal dichalcogenides and black phosphorus. <i>Journal of Physics Condensed Matter</i> , 2016, 28, 263002.	0.7	12
82	Strong Modulation of Optical Properties in Black Phosphorus through Strain-Engineered Rippling. <i>Nano Letters</i> , 2016, 16, 2931-2937.	4.5	199
83	Performance Enhancement of Black Phosphorus Field-Effect Transistors by Chemical Doping. <i>IEEE Electron Device Letters</i> , 2016, 37, 429-432.	2.2	55
84	Dynamics and Mechanisms of Exfoliated Black Phosphorus Sublimation. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 1667-1674.	2.1	36
85	Earth-abundant stable elemental semiconductor red phosphorus-based hybrids for environmental remediation and energy storage applications. <i>RSC Advances</i> , 2016, 6, 44616-44629.	1.7	56
86	Light-Matter Interactions in Phosphorene. <i>Accounts of Chemical Research</i> , 2016, 49, 1806-1815.	7.6	97
87	Structure and properties of phosphorene-like IV-VI 2D materials. <i>Nanotechnology</i> , 2016, 27, 415203.	1.3	51
88	The study of adsorption behavior of small molecules on stanene: A search of superior gas sensors. , 2016, , .		3
89	Molecular level distribution of black phosphorus quantum dots on nitrogen-doped graphene nanosheets for superior lithium storage. <i>Nano Energy</i> , 2016, 30, 347-354.	8.2	107
90	Surface chemistry of black phosphorus under a controlled oxidative environment. <i>Nanotechnology</i> , 2016, 27, 434002.	1.3	112
91	Electronic and optical properties of beryllium carbide monolayer: First principles calculations. <i>Optik</i> , 2016, 127, 12063-12068.	1.4	3
92	One-pot synthesis of visible-light-driven Ag/Ag <sub>3</sub> PO <sub>4</sub> photocatalyst immobilized on exfoliated montmorillonite by clay-mediated in situ reduction. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	1.1	12
93	Long-Term Stability and Reliability of Black Phosphorus Field-Effect Transistors. <i>ACS Nano</i> , 2016, 10, 9543-9549.	7.3	158

#	ARTICLE	IF	CITATIONS
94	Auxetic Black Phosphorus: A 2D Material with Negative Poisson's Ratio. Nano Letters, 2016, 16, 6701-6708.	4.5	184
95	Unveiling the atomic structure and electronic properties of atomically thin boron sheets on an Ag(111) surface. Nanoscale, 2016, 8, 16284-16291.	2.8	59
96	Preparation of black phosphorus-PEDOT:PSS hybrid semiconductor composites with good film-forming properties and environmental stability in water containing oxygen. RSC Advances, 2016, 6, 76174-76182.	1.7	35
97	Tunable electronic structures of germanium monochalcogenide nanosheets via light non-metallic atom functionalization: a first-principles study. Physical Chemistry Chemical Physics, 2016, 18, 23080-23088.	1.3	18
98	The Role of Water in the Preparation and Stabilization of High-Quality Phosphorene Flakes. Advanced Materials Interfaces, 2016, 3, 1500441.	1.9	62
99	Phosphorene: what can we know from computations?. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2016, 6, 5-19.	6.2	128
100	Nanotubes based on monolayer blue phosphorus. Physical Review B, 2016, 94, .	1.1	28
101	Progress in pulsed laser deposited two-dimensional layered materials for device applications. Journal of Materials Chemistry C, 2016, 4, 8859-8878.	2.7	124
102	Black Phosphorus Based Photocathodes in Wideband Bifacial Dye-Sensitized Solar Cells. Advanced Materials, 2016, 28, 8937-8944.	11.1	116
103	Light-Induced Ambient Degradation of Few-Layer Black Phosphorus: Mechanism and Protection. Angewandte Chemie - International Edition, 2016, 55, 11437-11441.	7.2	514
104	Differential Permeability of Proton Isotopes through Graphene and Graphene Analogue Monolayer. Journal of Physical Chemistry Letters, 2016, 7, 3395-3400.	2.1	40
105	Light-Induced Ambient Degradation of Few-Layer Black Phosphorus: Mechanism and Protection. Angewandte Chemie, 2016, 128, 11609-11613.	1.6	78
106	Lattice vibrations and Raman scattering in two-dimensional layered materials beyond graphene. Nano Research, 2016, 9, 3559-3597.	5.8	93
107	Phosphorene and Phosphorene-Based Materials – Prospects for Future Applications. Advanced Materials, 2016, 28, 8586-8617.	11.1	378
108	Layered-material WS <sub>2</sub> /topological insulator Bi <sub>2</sub> Te <sub>3</sub> heterostructure photodetector with ultrahigh responsivity in the range from 370 to 1550 nm. Journal of Materials Chemistry C, 2016, 4, 7831-7840.	2.7	135
109	Dynamical polarization and plasmons in a two-dimensional system with merging Dirac points. Physical Review B, 2016, 93, .	1.1	27
110	Missing fractional quantum Hall states in ZnO. Physical Review B, 2016, 93, .	1.1	21
111	Mobility anisotropy in monolayer black phosphorus due to scattering by charged impurities. Physical Review B, 2016, 93, .	1.1	85

#	ARTICLE	IF	CITATIONS
112	First-principles cluster expansion study of functionalization of black phosphorene via fluorination and oxidation. <i>Physical Review B</i> , 2016, 93, .	1.1	42
113	2D Metals by Repeated Size Reduction. <i>Advanced Materials</i> , 2016, 28, 8170-8176.	11.1	68
114	In Situ Synthesis of Metal Sulfide Nanoparticles Based on 2D Metal-Organic Framework Nanosheets. <i>Small</i> , 2016, 12, 4669-4674.	5.2	101
115	Tuning Surface Properties of Low Dimensional Materials via Strain Engineering. <i>Small</i> , 2016, 12, 4028-4047.	5.2	56
116	Interface Engineering for the Enhancement of Carrier Transport in Black Phosphorus Transistor with Ultra-Thin High-k Gate Dielectric. <i>Scientific Reports</i> , 2016, 6, 26609.	1.6	26
117	Graphene plasmonics: physics and potential applications. <i>Nanophotonics</i> , 2016, 6, 1191-1204.	2.9	100
118	Biodegradable black phosphorus-based nanospheres for in vivo photothermal cancer therapy. <i>Nature Communications</i> , 2016, 7, 12967.	5.8	835
119	Bandgap- and Local Field-Dependent Photoactivity of Ag/Black Phosphorus Nanohybrids. <i>ACS Catalysis</i> , 2016, 6, 8009-8020.	5.5	132
120	Submonolayered Ru Deposited on Ultrathin Pd Nanosheets used for Enhanced Catalytic Applications. <i>Advanced Materials</i> , 2016, 28, 10282-10286.	11.1	148
121	Phosphorene: from theory to applications. <i>Nature Reviews Materials</i> , 2016, 1, .	23.3	815
122	Interfacial thermal conductance in multilayer graphene/phosphorene heterostructure. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 465301.	1.3	18
123	Phosphorene as a promising anode material for lithium-ion batteries: A first-principle study. , 2016, , .		3
124	Production of Two-Dimensional Nanomaterials via Liquid-Based Direct Exfoliation. <i>Small</i> , 2016, 12, 272-293.	5.2	407
125	Black Phosphorus Nanosheets: Synthesis, Characterization and Applications. <i>Small</i> , 2016, 12, 3480-3502.	5.2	337
126	Radiatively Dominated Charge Carrier Recombination in Black Phosphorus. <i>Journal of Physical Chemistry C</i> , 2016, 120, 13836-13842.	1.5	19
127	A Honeycomb BeN <sub>2</sub> Sheet with a Desirable Direct Band Gap and High Carrier Mobility. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2664-2670.	2.1	100
128	Ab Initio Study of the Adsorption of Small Molecules on Stanene. <i>Journal of Physical Chemistry C</i> , 2016, 120, 13987-13994.	1.5	149
129	Novel polystyrene-based nanocomposites by phosphorene dispersion. <i>RSC Advances</i> , 2016, 6, 53777-53783.	1.7	22



#	ARTICLE	IF	CITATIONS
130	Black Phosphorus (BP) Nanodots for Potential Biomedical Applications. <i>Small</i> , 2016, 12, 214-219.	5.2	252
131	Spatial conductivity mapping of unprotected and capped black phosphorus using microwave microscopy. <i>2D Materials</i> , 2016, 3, 021002.	2.0	31
132	Epitaxial Growth of Single Layer Blue Phosphorus: A New Phase of Two-Dimensional Phosphorus. <i>Nano Letters</i> , 2016, 16, 4903-4908.	4.5	609
133	Black phosphorus-based saturable absorber for Q-switched Tm:YAG ceramic laser. <i>Optical Engineering</i> , 2016, 55, 081307.	0.5	41
134	Advanced phosphorus recovery using a novel SBR system with granular sludge in simultaneous nitrification, denitrification and phosphorus removal process. <i>Applied Microbiology and Biotechnology</i> , 2016, 100, 4367-4374.	1.7	28
135	Supercritical carbon dioxide-assisted rapid synthesis of few-layer black phosphorus for hydrogen peroxide sensing. <i>Biosensors and Bioelectronics</i> , 2016, 80, 34-38.	5.3	96
136	Band Gap Engineering in a 2D Material for Solar-to-Chemical Energy Conversion. <i>Nano Letters</i> , 2016, 16, 74-79.	4.5	126
137	Physical vapor deposition synthesis of two-dimensional orthorhombic SnS flakes with strong angle/temperature-dependent Raman responses. <i>Nanoscale</i> , 2016, 8, 2063-2070.	2.8	206
138	Monolayer hexagonal arsenene with tunable electronic structures and magnetic properties via impurity doping. <i>Journal of Materials Chemistry C</i> , 2016, 4, 362-370.	2.7	64
139	The influence of chemical reactivity of surface defects on ambient-stable InSe-based nanodevices. <i>Nanoscale</i> , 2016, 8, 8474-8479.	2.8	92
140	Polytypism and unexpected strong interlayer coupling in two-dimensional layered ReS <sub>2</sub> . <i>Nanoscale</i> , 2016, 8, 8324-8332.	2.8	120
141	Chemically Tailoring Semiconducting Two-Dimensional Transition Metal Dichalcogenides and Black Phosphorus. <i>ACS Nano</i> , 2016, 10, 3900-3917.	7.3	232
142	Review on the Raman spectroscopy of different types of layered materials. <i>Nanoscale</i> , 2016, 8, 6435-6450.	2.8	300
143	Temperature Evolution of Phonon Properties in Few-Layer Black Phosphorus. <i>Journal of Physical Chemistry C</i> , 2016, 120, 5265-5270.	1.5	60
144	Black phosphorene/monolayer transition-metal dichalcogenides as two dimensional van der Waals heterostructures: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 7381-7388.	1.3	101
145	Mid-infrared mode-locked pulse generation with multilayer black phosphorus as saturable absorber. <i>Optics Letters</i> , 2016, 41, 56.	1.7	171
146	Thickness-Dependent Thermal Conductivity of Suspended Two-Dimensional Single-Crystal In <sub>2</sub> Se <sub>3</sub> Layers Grown by Chemical Vapor Deposition. <i>Journal of Physical Chemistry C</i> , 2016, 120, 4753-4758.	1.5	56
147	Characterization and sonochemical synthesis of black phosphorus from red phosphorus. <i>2D Materials</i> , 2016, 3, 014007.	2.0	57

#	ARTICLE	IF	CITATIONS
148	Two-step heating synthesis of sub-3 millimeter-sized orthorhombic black phosphorus single crystal by chemical vapor transport reaction method. <i>Science China Materials</i> , 2016, 59, 122-134.	3.5	69
149	Two-Dimensional SiS Layers with Promising Electronic and Optoelectronic Properties: Theoretical Prediction. <i>Nano Letters</i> , 2016, 16, 1110-1117.	4.5	149
150	Schwarzer Phosphor neu entdeckt: vom Volumenmaterial zu Monoschichten. <i>Angewandte Chemie</i> , 2017, 129, 8164-8185.	1.6	59
151	Black Phosphorus Rediscovered: From Bulk Material to Monolayers. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 8052-8072.	7.2	407
152	Electronic band structure of surface-doped black phosphorus. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2017, 219, 86-91.	0.8	9
153	Toward Sensitive Room-Temperature Broadband Detection from Infrared to Terahertz with Antenna-Integrated Black Phosphorus Photoconductor. <i>Advanced Functional Materials</i> , 2017, 27, 1604414.	7.8	88
154	Tetragonal-structured anisotropic 2D metal nitride monolayers and their halides with versatile promises in energy storage and conversion. <i>Journal of Materials Chemistry A</i> , 2017, 5, 2870-2875.	5.2	42
155	Oxygen induced strong mobility modulation in few-layer black phosphorus. <i>2D Materials</i> , 2017, 4, 021007.	2.0	45
156	Ultraviolet saturable absorption and ultrafast carrier dynamics in ultrasmall black phosphorus quantum dots. <i>Nanoscale</i> , 2017, 9, 4683-4690.	2.8	98
157	Au/La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> Nanostructures Sensitized with Black Phosphorus for Plasmon-Enhanced Photocatalytic Hydrogen Production in Visible and Near-Infrared Light. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 2064-2068.	7.2	284
158	Au/La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> Nanostructures Sensitized with Black Phosphorus for Plasmon-Enhanced Photocatalytic Hydrogen Production in Visible and Near-Infrared Light. <i>Angewandte Chemie</i> , 2017, 129, 2096-2100.	1.6	51
159	High-Pressure Synthesis and Characterization of $\beta$ -GeSe: A Six-Membered-Ring Semiconductor in an Uncommon Boat Conformation. <i>Journal of the American Chemical Society</i> , 2017, 139, 2771-2777.	6.6	90
160	Thermal Transport Properties of Black Phosphorus: A Topical Review. <i>Nanoscale and Microscale Thermophysical Engineering</i> , 2017, 21, 45-57.	1.4	20
161	Rapid and Large-Area Characterization of Exfoliated Black Phosphorus Using Third-Harmonic Generation Microscopy. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 1343-1350.	2.1	68
162	Toward high-performance two-dimensional black phosphorus electronic and optoelectronic devices. <i>Chinese Physics B</i> , 2017, 26, 037307.	0.7	11
163	Optical properties of phosphorene. <i>Chinese Physics B</i> , 2017, 26, 034201.	0.7	16
164	Two-Dimensional (2D) Nanomaterials towards Electrochemical Nanoarchitectonics in Energy-Related Applications. <i>Bulletin of the Chemical Society of Japan</i> , 2017, 90, 627-648.	2.0	369
165	Black Phosphorus: Properties, Synthesis, and Applications in Energy Conversion and Storage. <i>ChemNanoMat</i> , 2017, 3, 352-361.	1.5	34

#	ARTICLE	IF	CITATIONS
166	Phonon-limited carrier mobility in monolayer black phosphorus. <i>Physical Review B</i> , 2017, 95, .	1.1	30
167	Recent progress in van der Waals heterojunctions. <i>Nanoscale</i> , 2017, 9, 4324-4365.	2.8	155
168	Rendering $Ti_3C_2Tx$ (MXene) monolayers visible. <i>Materials Research Letters</i> , 2017, 5, 322-328.	4.1	41
169	Hittorf's phosphorus: the missing link during transformation of red phosphorus to black phosphorus. <i>CrystEngComm</i> , 2017, 19, 905-909.	1.3	36
170	Quantum-sized nanomaterials for solar cell applications. <i>Renewable and Sustainable Energy Reviews</i> , 2017, 73, 821-839.	8.2	78
171	Thermoelectric transport in monolayer phosphorene. <i>Physical Review B</i> , 2017, 95, .	1.1	56
172	New Method to Determine the Schottky Barrier in Few-Layer Black Phosphorus Metal Contacts. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 7873-7877.	4.0	15
173	Tensile and compressive behaviors of prestrained single-layer black phosphorus: a molecular dynamics study. <i>Nanoscale</i> , 2017, 9, 3609-3619.	2.8	16
174	Gate-Tunable Giant Stark Effect in Few-Layer Black Phosphorus. <i>Nano Letters</i> , 2017, 17, 1970-1977.	4.5	144
175	Two-Dimensional Metal Oxide Nanomaterials for Next-Generation Rechargeable Batteries. <i>Advanced Materials</i> , 2017, 29, 1700176.	11.1	317
176	Liquid-phase exfoliation of black phosphorus and its applications. <i>FlatChem</i> , 2017, 2, 15-37.	2.8	129
177	Graphene oxide/black phosphorus nanoflake aerogels with robust thermo-stability and significantly enhanced photothermal properties in air. <i>Nanoscale</i> , 2017, 9, 8096-8101.	2.8	207
178	Black phosphorus nanostructures: recent advances in hybridization, doping and functionalization. <i>Chemical Society Reviews</i> , 2017, 46, 3492-3509.	18.7	309
179	Investigation of electronic properties and spin-orbit coupling effects on passivated stanene nanosheet: A first-principles study. <i>Superlattices and Microstructures</i> , 2017, 107, 118-126.	1.4	18
180	Size and strain tunable band alignment of black-blue phosphorene lateral heterostructures. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 12466-12472.	1.3	25
181	Black Phosphorus Based All-Optical-Signal-Processing: Toward High Performances and Enhanced Stability. <i>ACS Photonics</i> , 2017, 4, 1466-1476.	3.2	173
182	Ultrafast response of dielectric properties of monolayer phosphorene to femtosecond laser. <i>Journal of Applied Physics</i> , 2017, 121, 173105.	1.1	7
183	Probing Single Vacancies in Black Phosphorus at the Atomic Level. <i>Nano Letters</i> , 2017, 17, 3607-3612.	4.5	109

#	ARTICLE	IF	CITATIONS
184	Energy spectrums of bilayer triangular phosphorene quantum dots and antidots. AIP Advances, 2017, 7, .	0.6	13
185	Lattice Defects and the Mechanical Anisotropy of Borophene. Journal of Physical Chemistry C, 2017, 121, 10224-10232.	1.5	112
186	Highly polarization sensitive infrared photodetector based on black phosphorus-on-WSe <sub>2</sub> photogate vertical heterostructure. Nano Energy, 2017, 37, 53-60.	8.2	252
187	Carrier thermoelectric transport model for black phosphorus field-effect transistors. Chemical Physics Letters, 2017, 678, 271-274.	1.2	2
188	Ground-State Structure of YN <sub>2</sub> Monolayer Identified by Global Search. Journal of Physical Chemistry C, 2017, 121, 10258-10264.	1.5	38
189	Electronic and optical properties of pentagonal-B <sub>2</sub> C monolayer: A first-principles calculation. International Journal of Modern Physics B, 2017, 31, 1750044.	1.0	32
190	Adsorption of NO <sub>2</sub> molecules on armchair phosphorene nanosheet for nano sensor applications – A first-principles study. Journal of Molecular Graphics and Modelling, 2017, 75, 365-374.	1.3	46
191	Water-Catalyzed Oxidation of Few-Layer Black Phosphorous in a Dark Environment. Angewandte Chemie - International Edition, 2017, 56, 9131-9135.	7.2	141
192	The Covalent Functionalization of Layered Black Phosphorus by Nucleophilic Reagents. Angewandte Chemie - International Edition, 2017, 56, 9891-9896.	7.2	159
193	Surface Functionalization of Black Phosphorus via Potassium toward High-Performance Complementary Devices. Nano Letters, 2017, 17, 4122-4129.	4.5	117
194	Properties, preparation and application of black phosphorus/phosphorene for energy storage: a review. Journal of Materials Science, 2017, 52, 10364-10386.	1.7	109
195	Ti <sub>2</sub> CO <sub>2</sub> MXene: a highly active and selective photocatalyst for CO <sub>2</sub> reduction. Journal of Materials Chemistry A, 2017, 5, 12899-12903.	5.2	221
196	Study of Alcohol and Aldehydes Interaction on the Surface of Silicane Nanosheet: Application of Density Functional Theory. Journal of Inorganic and Organometallic Polymers and Materials, 2017, 27, 1307-1316.	1.9	16
197	Ultrafast nonlinear optical response in solution dispersions of black phosphorus. Scientific Reports, 2017, 7, 3352.	1.6	24
198	Two-dimensional black phosphorus nanosheets for theranostic nanomedicine. Materials Horizons, 2017, 4, 800-816.	6.4	155
199	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
200	Monolayer Bismuthene-Metal Contacts: A Theoretical Study. ACS Applied Materials & Interfaces, 2017, 9, 23128-23140.	4.0	73
201	Thermal stability and thermal conductivity of phosphorene in phosphorene/graphene van der Waals heterostructures. Physical Chemistry Chemical Physics, 2017, 19, 17180-17186.	1.3	37

#	ARTICLE	IF	CITATIONS
202	(Invited) Solution Exfoliated Black Phosphorus and Its Applications. ECS Transactions, 2017, 77, 27-33.	0.3	0
203	Strain- and Fluorination-Induced Quantum Spin Hall Insulators in Blue Phosphorene: A First-Principles Study. Journal of Physical Chemistry C, 2017, 121, 12945-12952.	1.5	36
204	Black Phosphorus Quantum Dot Induced Oxidative Stress and Toxicity in Living Cells and Mice. ACS Applied Materials & Interfaces, 2017, 9, 20399-20409.	4.0	128
205	Imidazolium Ionic Liquid Mediates Black Phosphorus Exfoliation while Preventing Phosphorene Decomposition. ACS Nano, 2017, 11, 6459-6466.	7.3	43
206	Recovery of the Pristine Surface of Black Phosphorus by Water Rinsing and Its Device Application. ACS Applied Materials & Interfaces, 2017, 9, 21382-21389.	4.0	12
207	Exotic Physics and Chemistry of Two-Dimensional Phosphorus: Phosphorene. Journal of Physical Chemistry Letters, 2017, 8, 2909-2916.	2.1	71
208	Quantum confinement in black phosphorus-based nanostructures. Journal of Physics Condensed Matter, 2017, 29, 283001.	0.7	22
209	Mid-infrared ultrafast carrier dynamics in thin film black phosphorus. 2D Materials, 2017, 4, 021032.	2.0	35
210	Few-layer Black Phosphorus Nanosheets as Electrocatalysts for Highly Efficient Oxygen Evolution Reaction. Advanced Energy Materials, 2017, 7, 1700396.	10.2	301
211	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
212	Deriving phosphorus atomic chains from few-layer black phosphorus. Nano Research, 2017, 10, 2519-2526.	5.8	26
213	Coulomb interactions and screening effects in few-layer black phosphorus: a tight-binding consideration beyond the long-wavelength limit. 2D Materials, 2017, 4, 025064.	2.0	28
214	Schottky Barriers in Bilayer Phosphorene Transistors. ACS Applied Materials & Interfaces, 2017, 9, 12694-12705.	4.0	94
215	From bidirectional rectifier to polarity-controllable transistor in black phosphorus by dual gate modulation. 2D Materials, 2017, 4, 025056.	2.0	7
216	Layered Metal Thiophosphite Materials: Magnetic, Electrochemical, and Electronic Properties. ACS Applied Materials & Interfaces, 2017, 9, 12563-12573.	4.0	179
217	Assembly of Au Plasmonic Photothermal Agent and Iron Oxide Nanoparticles on Ultrathin Black Phosphorus for Targeted Photothermal and Photodynamic Cancer Therapy. Advanced Functional Materials, 2017, 27, 1700371.	7.8	254
218	Aharonov-Bohm effect in monolayer phosphorene nanorings. Physical Review B, 2017, 95, .	1.1	23
219	Recent Advances in Ultrathin Two-Dimensional Nanomaterials. Chemical Reviews, 2017, 117, 6225-6331.	23.0	3,940

#	ARTICLE	IF	CITATIONS
220	Environmentally Robust Black Phosphorus Nanosheets in Solution: Application for Self-Powered Photodetector. <i>Advanced Functional Materials</i> , 2017, 27, 1606834.	7.8	342
221	Elemental two-dimensional nanosheets beyond graphene. <i>Chemical Society Reviews</i> , 2017, 46, 2127-2157.	18.7	285
222	The role of surface chemical reactivity in the stability of electronic nanodevices based on two-dimensional materials –beyond graphene– and topological insulators. <i>FlatChem</i> , 2017, 1, 60-64.	2.8	32
223	A comparative study on the edge states in phosphorene quantum dots and rings. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2017, 381, 373-378.	0.9	20
224	Frustrated Lewis Pair Catalysts in Two Dimensions: B/Al-Doped Phosphorenes as Promising Catalysts for Hydrogenation of Small Unsaturated Molecules. <i>ACS Catalysis</i> , 2017, 7, 766-771.	5.5	45
225	Field Effect Optoelectronic Modulation of Quantum-Confined Carriers in Black Phosphorus. <i>Nano Letters</i> , 2017, 17, 78-84.	4.5	89
226	Recent advance in black phosphorus: Properties and applications. <i>Materials Chemistry and Physics</i> , 2017, 189, 215-229.	2.0	67
227	Strain-mediated type-I/type-II transition in MXene/Blue phosphorene van der Waals heterostructures for flexible optical/electronic devices. <i>Journal of Materials Chemistry C</i> , 2017, 5, 978-984.	2.7	155
228	Monolayer group IVA monochalcogenides as potential and efficient catalysts for the oxygen reduction reaction from first-principles calculations. <i>Journal of Materials Chemistry A</i> , 2017, 5, 1734-1741.	5.2	53
229	Passivation of Black Phosphorus via Self-Assembled Organic Monolayers by van der Waals Epitaxy. <i>Advanced Materials</i> , 2017, 29, 1603990.	11.1	113
230	Photoabsorption Tolerance of Intrinsic Point Defects and Oxidation in Black Phosphorus Quantum Dots. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 161-166.	2.1	21
231	Efficiency Enhancement of Single-Walled Carbon Nanotube-Silicon Heterojunction Solar Cells Using Microwave-Exfoliated Few-Layer Black Phosphorus. <i>Advanced Functional Materials</i> , 2017, 27, 1704488.	7.8	42
232	Recent advance in MXenes: A promising 2D material for catalysis, sensor and chemical adsorption. <i>Coordination Chemistry Reviews</i> , 2017, 352, 306-327.	9.5	484
233	Use of a passivation layer to improve thermal stability and quality of a phosphorene/AZO heterojunction diode. <i>RSC Advances</i> , 2017, 7, 46201-46207.	1.7	5
234	Controlled Growth of a Large-Size 2D Selenium Nanosheet and Its Electronic and Optoelectronic Applications. <i>ACS Nano</i> , 2017, 11, 10222-10229.	7.3	189
235	Metal-Ion-Modified Black Phosphorus with Enhanced Stability and Transistor Performance. <i>Advanced Materials</i> , 2017, 29, 1703811.	11.1	431
236	Strain-induced Weyl and Dirac states and direct-indirect gap transitions in group-V materials. <i>2D Materials</i> , 2017, 4, 045018.	2.0	22
237	Transparent, Flexible Cellulose Nanofibril-Phosphorene Hybrid Paper as Triboelectric Nanogenerator. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700651.	1.9	97

#	ARTICLE	IF	CITATIONS
238	Band-edge engineering via molecule intercalation: a new strategy to improve stability of few-layer black phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 29232-29236.	1.3	10
239	Atomically thin non-layered nanomaterials for energy storage and conversion. <i>Chemical Society Reviews</i> , 2017, 46, 7338-7373.	18.7	162
240	Phosphorene-directed self-assembly of asymmetric PS-b-PMMA block copolymer for perpendicularly-oriented sub-10 nm PS nanopore arrays. <i>Nanotechnology</i> , 2017, 28, 424001.	1.3	5
241	Few-layer antimonene decorated microfiber: ultra-short pulse generation and all-optical thresholding with enhanced long term stability. <i>2D Materials</i> , 2017, 4, 045010.	2.0	260
242	First-principles study of SO <sub>2</sub> sensors based on phosphorene and its isoelectronic counterparts: GeS, GeSe, SnS, SnSe. <i>Chemical Physics Letters</i> , 2017, 686, 83-87.	1.2	51
243	Two-dimensional nanomaterials for photocatalytic CO <sub>2</sub> reduction to solar fuels. <i>Sustainable Energy and Fuels</i> , 2017, 1, 1875-1898.	2.5	156
244	Metal-Free Photocatalyst for H <sub>2</sub> Evolution in Visible to Near-Infrared Region: Black Phosphorus/Graphitic Carbon Nitride. <i>Journal of the American Chemical Society</i> , 2017, 139, 13234-13242.	6.6	907
245	Short-Wave Near-Infrared Linear Dichroism of Two-Dimensional Germanium Selenide. <i>Journal of the American Chemical Society</i> , 2017, 139, 14976-14982.	6.6	286
246	BP <sub>5</sub> monolayer with multiferroicity and negative Poisson's ratio: a prediction by global optimization method. <i>2D Materials</i> , 2017, 4, 045020.	2.0	83
247	Magnetic polaritons enhanced absorption of phosphorene in the near-infrared and visible region. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2017, 226, 24-28.	1.7	4
248	Two-dimensional black phosphorus: Synthesis, modification, properties, and applications. <i>Materials Science and Engineering Reports</i> , 2017, 120, 1-33.	14.8	130
249	Raman anomalies as signatures of pressure induced electronic topological and structural transitions in black phosphorus: Experiments and theory. <i>Physical Review B</i> , 2017, 96, .	1.1	32
250	Realizing Negative Differential Resistance/Switching Phenomena in Zigzag GaN Nanoribbons by Edge Fluorination: A DFT Investigation. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700400.	1.9	29
251	Water-Catalyzed Oxidation of Few-Layer Black Phosphorous in a Dark Environment. <i>Angewandte Chemie</i> , 2017, 129, 9259-9263.	1.6	16
252	Environmental impact and potential health risks of 2D nanomaterials. <i>Environmental Science: Nano</i> , 2017, 4, 1617-1633.	2.2	68
253	Application of semiconductor quantum dots in bioimaging and biosensing. <i>Journal of Materials Chemistry B</i> , 2017, 5, 6701-6727.	2.9	265
254	First-principles study on electronic structures and magnetic properties of Eu-doped phosphorene. <i>Superlattices and Microstructures</i> , 2017, 111, 816-823.	1.4	8
255	Structure and elastic properties of black phosphorus nanotubes: A first-principles study. <i>Physica Status Solidi (B): Basic Research</i> , 2017, 254, 1700276.	0.7	6

#	ARTICLE	IF	CITATIONS
256	Recent Progress in the Preparation, Assembly, Transformation, and Applications of Layer-Structured Nanodisks beyond Graphene. <i>Advanced Materials</i> , 2017, 29, 1701704.	11.1	65
257	MnB <sub>x</sub> monolayers with quasi-planar hypercoordinate Mn atoms and unique magnetic and mechanical properties. <i>FlatChem</i> , 2017, 4, 42-47.	2.8	14
258	Layer-Tunable Phosphorene Modulated by the Cation Insertion Rate as a Sodium Storage Anode. <i>Advanced Materials</i> , 2017, 29, 1702372.	11.1	162
259	Black Phosphorus: Optical Characterization, Properties and Applications. <i>Small</i> , 2017, 13, 1700823.	5.2	63
260	Gate induced monolayer behavior in twisted bilayer black phosphorus. <i>2D Materials</i> , 2017, 4, 035025.	2.0	18
261	Tunable Chemical Sensing Performance of Black Phosphorus by Controlled Functionalization with Noble Metals. <i>Chemistry of Materials</i> , 2017, 29, 7197-7205.	3.2	117
262	Theoretical Overview of Black Phosphorus. , 2017, , 381-412.		9
263	Stable and Multifunctional Dye-Modified Black Phosphorus Nanosheets for Near-Infrared Imaging-Guided Photothermal Therapy. <i>Chemistry of Materials</i> , 2017, 29, 7131-7139.	3.2	158
264	Current progress in black phosphorus materials and their applications in electrochemical energy storage. <i>Nanoscale</i> , 2017, 9, 13384-13403.	2.8	209
265	Two-Dimensional Nanostructured Materials for Gas Sensing. <i>Advanced Functional Materials</i> , 2017, 27, 1702168.	7.8	588
266	Black Phosphorus Nanoparticles Potentiate the Anticancer Effect of Oxaliplatin in Ovarian Cancer Cell Line. <i>Advanced Functional Materials</i> , 2017, 27, 1701955.	7.8	51
267	Electronic structure and thermoelectric transport of black phosphorus. <i>Physical Review B</i> , 2017, 96, .	1.1	14
268	Large-Scale Synthesis of Freestanding Layer-Structured PbI <sub>2</sub> and MAPbI <sub>3</sub> Nanosheets for High-Performance Photodetection. <i>Advanced Materials</i> , 2017, 29, 1702759.	11.1	111
269	Single-Layer TI <sub>2</sub> O: A Metal-Shrouded 2D Semiconductor with High Electronic Mobility. <i>Journal of the American Chemical Society</i> , 2017, 139, 11694-11697.	6.6	72
270	Anisotropic Properties of Black Phosphorus. , 0, , 413-434.		3
271	Optical Properties and Optoelectronic Applications of Black Phosphorus. , 0, , 435-457.		0
272	Highly-stable black phosphorus field-effect transistors with low density of oxide traps. <i>Npj 2D Materials and Applications</i> , 2017, 1, .	3.9	57
273	van der Waals Layered Materials: Opportunities and Challenges. <i>ACS Nano</i> , 2017, 11, 11803-11830.	7.3	394



#	ARTICLE	IF	CITATIONS
274	Observation of A1g Raman mode splitting in few layer black phosphorus encapsulated with hexagonal boron nitride. <i>Nanoscale</i> , 2017, 9, 19298-19303.	2.8	9
275	Understanding the high-electrocatalytic performance of two-dimensional MoS <sub>2</sub> nanosheets and their composite materials. <i>Journal of Materials Chemistry A</i> , 2017, 5, 24540-24563.	5.2	183
276	Carbon aerogel evolution: Allotrope, graphene-inspired, and 3D-printed aerogels. <i>Journal of Materials Research</i> , 2017, 32, 4166-4185.	1.2	71
277	Nanocarbon materials fabricated using plasmas. <i>Reviews of Modern Plasma Physics</i> , 2017, 1, 1.	2.2	28
278	Ambipolar quantum transport in few-layer black phosphorus. <i>Physical Review B</i> , 2017, 96, .	1.1	26
279	The Covalent Functionalization of Layered Black Phosphorus by Nucleophilic Reagents. <i>Angewandte Chemie</i> , 2017, 129, 10023-10028.	1.6	26
280	Synthesis of Ultrathin PdCu Alloy Nanosheets Used as a Highly Efficient Electrocatalyst for Formic Acid Oxidation. <i>Advanced Materials</i> , 2017, 29, 1700769.	11.1	207
281	Ultrathin Two-dimensional Nanostructured Materials for Highly Efficient Water Oxidation. <i>Small</i> , 2017, 13, 1700806.	5.2	116
282	Black phosphorus: a two-dimensional reductant for in situ nanofabrication. <i>Npj 2D Materials and Applications</i> , 2017, 1, .	3.9	63
283	Giant magnetoresistance and anomalous transport in phosphorene-based multilayers with noncollinear magnetization. <i>Physical Review B</i> , 2017, 95, .	1.1	18
284	Interference of the Bloch phase in layered materials with stacking shifts. <i>Physical Review B</i> , 2017, 95, .	1.1	16
285	Ultrathin nickel boron oxide nanosheets assembled vertically on graphene: a new hybrid 2D material for enhanced photo/electro-catalysis. <i>Materials Horizons</i> , 2017, 4, 885-894.	6.4	108
286	An ab initio investigation of phosphorene/hexagonal boron nitride heterostructures with defects for high performance photovoltaic applications. <i>Applied Surface Science</i> , 2017, 423, 1003-1011.	3.1	9
287	Solution-processed black phosphorus/PCBM hybrid heterojunctions for solar cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 8280-8286.	5.2	60
288	Strain tuning of magnetism in transition-metal atom doped phosphorene. <i>Superlattices and Microstructures</i> , 2017, 101, 49-56.	1.4	29
289	Photodetectors Based on Two-dimensional Layered Materials Beyond Graphene. <i>Advanced Functional Materials</i> , 2017, 27, 1603886.	7.8	534
290	Recent Advances in the Study of Phosphorene and its Nanostructures. <i>Critical Reviews in Solid State and Materials Sciences</i> , 2017, 42, 1-82.	6.8	130
291	Hydrogenated and halogenated blue phosphorene as Dirac materials: A first principles study. <i>Applied Surface Science</i> , 2017, 392, 46-50.	3.1	64

#	ARTICLE	IF	CITATIONS
292	Dopamine adsorption precursor enables N-doped carbon sheathing of MoS <sub>2</sub> nanoflowers for all-around enhancement of supercapacitor performance. <i>Journal of Alloys and Compounds</i> , 2017, 693, 955-963.	2.8	34
293	Biocompatibility and Nanotoxicity of Layered Two-Dimensional Nanomaterials. <i>ChemNanoMat</i> , 2017, 3, 5-16.	1.5	69
294	Two-dimensional As <sub>1-x</sub> P <sub>x</sub> binary compounds: Highly tunable electronic structure and optical properties. <i>Current Applied Physics</i> , 2017, 17, 186-191.	1.1	14
295	Electron-hole balance and the anomalous pressure-dependent superconductivity in black phosphorus. <i>Physical Review B</i> , 2017, 96, .	1.1	37
296	Transport Properties and Device Prospects of Ultrathin Black Phosphorus on Hexagonal Boron Nitride. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 5163-5171.	1.6	16
297	Temperature-dependent anisotropic charge-carrier mobility limited by ionized impurity scattering in thin-layer black phosphorus. <i>Physical Review B</i> , 2017, 95, .	1.1	29
298	Infrared absorber based on sandwiched two-dimensional black phosphorus metamaterials. <i>Optics Express</i> , 2017, 25, 5206.	1.7	113
299	The Effects of Heteroatom Adsorption on the Electronic Properties of Phosphorene. <i>Journal of Nanomaterials</i> , 2017, 2017, 1-13.	1.5	0
300	High-peak-power mode-locking pulse generation in a dual-loss-modulated laser with BP-SA and EOM. <i>Optics Letters</i> , 2017, 42, 4820.	1.7	7
302	Electronic Transport in Two-Dimensional Materials. <i>Annual Review of Physical Chemistry</i> , 2018, 69, 299-325.	4.8	217
303	Conceptually Novel Black Phosphorus/Cellulose Hydrogels as Promising Photothermal Agents for Effective Cancer Therapy. <i>Advanced Healthcare Materials</i> , 2018, 7, e1701510.	3.9	188
304	Controlled p-doping of black phosphorus by integration of MoS <sub>2</sub> nanoparticles. <i>Applied Surface Science</i> , 2018, 440, 282-287.	3.1	15
305	Nano-black phosphorus for combined cancer phototherapy: recent advances and prospects. <i>Nanotechnology</i> , 2018, 29, 222001.	1.3	57
306	Quantum transport in new two-dimensional heterostructures: Thin films of topological insulators, phosphorene. <i>Physica C: Superconductivity and Its Applications</i> , 2018, 549, 77-80.	0.6	5
307	2D Black Phosphorus: from Preparation to Applications for Electrochemical Energy Storage. <i>Advanced Science</i> , 2018, 5, 1700491.	5.6	174
308	Strongly anisotropic RKKY interaction in monolayer black phosphorus. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 456, 307-315.	1.0	31
309	Black phosphorus as a new lubricant. <i>Friction</i> , 2018, 6, 116-142.	3.4	136
310	The Electronic and Optical Properties of Au Doped Single-Layer Phosphorene. <i>Russian Journal of Physical Chemistry A</i> , 2018, 92, 132-139.	0.1	8

#	ARTICLE	IF	CITATIONS
311	Recent Advances in Blackâ€Phosphorusâ€Based Photonics and Optoelectronics Devices. <i>Small Methods</i> , 2018, 2, 1700315.	4.6	36
312	On mechanical behaviors of few-layer black phosphorus. <i>Scientific Reports</i> , 2018, 8, 3227.	1.6	17
313	Tunable Band Gaps of In <sub>x</sub> Ga <sub>1-x</sub> N Alloys: From Bulk to Two-Dimensional Limit. <i>Journal of Physical Chemistry C</i> , 2018, 122, 6930-6942.	1.5	35
314	Black phosphorus quantum dots as dual-functional electron-selective materials for efficient plastic perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2018, 6, 8886-8894.	5.2	80
315	Role of the puckered anisotropic surface in the surface and adsorption properties of black phosphorus. <i>Nanoscale</i> , 2018, 10, 8979-8988.	2.8	27
316	Lattice Vibration and Raman Scattering in Anisotropic Black Phosphorus Crystals. <i>Small Methods</i> , 2018, 2, 1700409.	4.6	37
317	Stable black phosphorus/Bi <sub>2</sub> O <sub>3</sub> heterostructures for synergistic cancer radiotherapy. <i>Biomaterials</i> , 2018, 171, 12-22.	5.7	94
318	Ultrafast Electrochemical Expansion of Black Phosphorus toward High-Yield Synthesis of Few-Layer Phosphorene. <i>Chemistry of Materials</i> , 2018, 30, 2742-2749.	3.2	132
319	Electronic properties and optical absorption of a phosphorene quantum dot. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	7
320	Dynamical properties of magnetized two-dimensional one-component plasma. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2018, 382, 1374-1377.	0.9	1
322	Effect of stacking order and in-plane strain on the electronic properties of bilayer GeSe. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 6929-6935.	1.3	31
323	Exploration of sensing of nitrogen dioxide and ozone molecules using novel TiO <sub>2</sub> /Stanene heterostructures employing DFT calculations. <i>Applied Surface Science</i> , 2018, 442, 368-381.	3.1	49
324	Experimental analysis of the Schottky barrier height of metal contacts in black phosphorus field-effect transistors. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 135306.	1.3	11
325	Quantum transport in defective phosphorene nanoribbons: Effects of atomic vacancies. <i>Physical Review B</i> , 2018, 97, .	1.1	31
326	Adsorption behavior of NH <sub>3</sub> and NO <sub>2</sub> molecules on stanene and stanane nanosheets â€ A density functional theory study. <i>Chemical Physics Letters</i> , 2018, 695, 162-169.	1.2	50
327	Impact of vacancies on electronic properties of black phosphorus probed by STM. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	31
328	Interface engineering of CsPbI <sub>3</sub> -black phosphorus van der Waals heterostructure. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	67
329	Advanced Phosphorusâ€Based Materials for Lithium/Sodiumâ€Ion Batteries: Recent Developments and Future Perspectives. <i>Advanced Energy Materials</i> , 2018, 8, 1703058.	10.2	197

#	ARTICLE	IF	CITATIONS
330	Efficient selection methods for black phosphorene nanoribbons. <i>Nanoscale</i> , 2018, 10, 4385-4390.	2.8	11
331	Carrier Transport Dynamics in High Speed Black Phosphorus Photodetectors. <i>ACS Photonics</i> , 2018, 5, 1412-1417.	3.2	15
332	Exploration of two-dimensional bio-functionalized phosphorene nanosheets (black phosphorous) for label free haptoglobin electro-immunosensing applications. <i>Nanotechnology</i> , 2018, 29, 135101.	1.3	33
333	Electron Pair Repulsion Responsible for the Peculiar Edge Effects and Surface Chemistry of Black Phosphorus. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 947-953.	2.1	15
334	Manipulating the Architecture of Atomically Thin Transition Metal (Hydr)oxides for Enhanced Oxygen Evolution Catalysis. <i>ACS Nano</i> , 2018, 12, 1878-1886.	7.3	57
335	In-plane Black Phosphorus/Dicobalt Phosphide Heterostructure for Efficient Electrocatalysis. <i>Angewandte Chemie</i> , 2018, 130, 2630-2634.	1.6	55
336	Rediscovering the $MP_{15}$ Family (M = Li, Na, and K) as an Anisotropic Layered Semiconducting Material. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 732-738.	2.1	15
337	Carbon, nitrogen and phosphorus containing metal-free photocatalysts for hydrogen production: progress and challenges. <i>Journal of Materials Chemistry A</i> , 2018, 6, 1305-1322.	5.2	144
338	Density functional theory investigation of the interactions between the buckled stanene nanosheet and $XO_2$ gases ( $X = N, S, C$ ). <i>Computational and Theoretical Chemistry</i> , 2018, 1125, 15-28.	1.1	27
339	Recent progress in 2D group-VA semiconductors: from theory to experiment. <i>Chemical Society Reviews</i> , 2018, 47, 982-1021.	18.7	697
340	In-plane Black Phosphorus/Dicobalt Phosphide Heterostructure for Efficient Electrocatalysis. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 2600-2604.	7.2	209
341	Dual-Gate Black Phosphorus Field-Effect Transistors with Hexagonal Boron Nitride as Dielectric and Passivation Layers. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 925-932.	4.0	35
342	Generalized Scheme for High Performing Photodetectors with a p-type 2D Channel Layer and n-type Nanoparticles. <i>Small</i> , 2018, 14, 1703065.	5.2	18
343	Bandgap-tunable black phosphorus quantum dots: visible-light-active photocatalysts. <i>Chemical Communications</i> , 2018, 54, 960-963.	2.2	68
344	Few-layer p-type phosphorene sheet: An efficient transparent conducting electrode in silicon heterojunction solar cell. <i>Computational Materials Science</i> , 2018, 151, 65-72.	1.4	21
345	Interaction of volatile organic compounds (VOCs) emitted from banana on stanene nanosheet—a first-principles studies. <i>Structural Chemistry</i> , 2018, 29, 1321-1332.	1.0	20
346	Doping-stabilized two-dimensional black phosphorus. <i>Nanoscale</i> , 2018, 10, 7898-7904.	2.8	20
347	An Innovative Method for the Removal of Toxic $SO_x$ Molecules from Environment by $TiO_2$ /Stanene Nanocomposites: A First-Principles Study. <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 2018, 28, 1901-1913.	1.9	8

#	ARTICLE	IF	CITATIONS
348	First-Principles Investigation of Black Phosphorus Synthesis. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 1759-1764.	2.1	25
349	Uniform Tellurium Doping in Black Phosphorus Single Crystals by Chemical Vapor Transport. <i>Inorganic Chemistry</i> , 2018, 57, 4098-4103.	1.9	50
350	Facile bottom-up synthesis of partially oxidized black phosphorus nanosheets as metal-free photocatalyst for hydrogen evolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 4345-4350.	3.3	207
351	Black phosphorus with near-superhydrophobic properties and long-term stability in aqueous media. <i>Chemical Communications</i> , 2018, 54, 3831-3834.	2.2	28
352	Black phosphorus: ambient degradation and strategies for protection. <i>2D Materials</i> , 2018, 5, 032001.	2.0	119
353	Material Chemistry of Two-Dimensional Inorganic Nanosheets in Cancer Theranostics. <i>CheM</i> , 2018, 4, 1284-1313.	5.8	132
354	SiP monolayers: New 2D structures of group IV-V compounds for visible-light photohydrolytic catalysts. <i>Frontiers of Physics</i> , 2018, 13, 1.	2.4	30
355	Ultrafast Charge Separation for Full Solar Spectrum-Activated Photocatalytic H <sub>2</sub> Generation in a Black Phosphorus-Au-CdS Heterostructure. <i>ACS Energy Letters</i> , 2018, 3, 932-939.	8.8	122
356	A new strategy for air-stable black phosphorus reinforced PVA nanocomposites. <i>Journal of Materials Chemistry A</i> , 2018, 6, 7142-7147.	5.2	47
357	The electrothermal conductance and heat capacity of black phosphorus. <i>Journal of Chemical Physics</i> , 2018, 148, 104701.	1.2	1
358	Anisotropic Acoustic Plasmons in Black Phosphorus. <i>ACS Photonics</i> , 2018, 5, 2208-2216.	3.2	54
359	Stacking sequences of black phosphorous allotropes and the corresponding few-layer phosphorenes. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 10185-10192.	1.3	8
360	Epitaxial Growth of Two-Dimensional Layered Transition-Metal Dichalcogenides: Growth Mechanism, Controllability, and Scalability. <i>Chemical Reviews</i> , 2018, 118, 6134-6150.	23.0	285
361	Strategies for improving the lithium-storage performance of 2D nanomaterials. <i>National Science Review</i> , 2018, 5, 389-416.	4.6	108
362	Three-layer phosphorene-metal interfaces. <i>Nano Research</i> , 2018, 11, 707-721.	5.8	72
363	Noble metal-free near-infrared-driven photocatalyst for hydrogen production based on 2D hybrid of black Phosphorus/WS <sub>2</sub> . <i>Applied Catalysis B: Environmental</i> , 2018, 221, 645-651.	10.8	171
364	Palladium Nanoparticles Anchored on Anatase Titanium Dioxide-Black Phosphorus Hybrids with Heterointerfaces: Highly Electroactive and Durable Catalysts for Ethanol Electrooxidation. <i>Advanced Energy Materials</i> , 2018, 8, 1701799.	10.2	158
365	Zweidimensionale Chemie jenseits von Graphen: das aufstrebende Gebiet der Funktionalisierung von MolybdÄndisulfid und schwarzem Phosphor. <i>Angewandte Chemie</i> , 2018, 130, 4421-4437.	1.6	24

#	ARTICLE	IF	CITATIONS
366	Postâ€Graphene 2D Chemistry: The Emerging Field of Molybdenum Disulfide and Black Phosphorus Functionalization. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 4338-4354.	7.2	193
367	Highly efficient and continuous production of few-layer black phosphorus nanosheets and quantum dots via acoustic-microfluidic process. <i>Chemical Engineering Journal</i> , 2018, 333, 336-342.	6.6	21
368	Tunable Rashba spin splitting in two-dimensional graphene/As-I heterostructures. <i>Applied Surface Science</i> , 2018, 427, 10-14.	3.1	7
369	Two-dimensional polymer-based nanosheets for electrochemical energy storage and conversion. <i>Journal of Energy Chemistry</i> , 2018, 27, 99-116.	7.1	35
370	Electronic and optical properties of black phosphorus doped with Au, Sn and I atoms. <i>Philosophical Magazine</i> , 2018, 98, 155-164.	0.7	20
371	Growth of Black Phosphorus Nanobelts and Microbelts. <i>Small</i> , 2018, 14, 1702501.	5.2	18
372	Direct Investigation of the Birefringent Optical Properties of Black Phosphorus with Picosecond Interferometry. <i>Advanced Optical Materials</i> , 2018, 6, 1700831.	3.6	9
373	Role of surface adsorption in tuning the properties of black phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 112-117.	1.3	17
374	Applications of Phosphorene and Black Phosphorus in Energy Conversion and Storage Devices. <i>Advanced Energy Materials</i> , 2018, 8, 1702093.	10.2	385
375	Bandgap engineering and charge separation in two-dimensional GaS-based van der Waals heterostructures for photocatalytic water splitting. <i>Applied Surface Science</i> , 2018, 439, 374-379.	3.1	36
376	Covalent functionalized black phosphorus quantum dots. <i>Optical Materials</i> , 2018, 75, 521-524.	1.7	11
377	Anomalous Temperature Dependence in Metalâ€Black Phosphorus Contact. <i>Nano Letters</i> , 2018, 18, 26-31.	4.5	25
378	Band gap modulation of mono and bi-layer hexagonal ZnS under transverse electric field and bi-axial strain: A first principles study. <i>Physica B: Condensed Matter</i> , 2018, 531, 90-94.	1.3	26
379	Metal-assisted exfoliation of few-layer black phosphorus with high yield. <i>Chemical Communications</i> , 2018, 54, 595-598.	2.2	66
380	Two dimensional materials based photodetectors. <i>Infrared Physics and Technology</i> , 2018, 88, 149-173.	1.3	79
381	MXene-based materials for electrochemical energy storage. <i>Journal of Energy Chemistry</i> , 2018, 27, 73-85.	7.1	548
382	Facile Solution Synthesis of Red Phosphorus Nanoparticles for Lithium Ion Battery Anodes. <i>Nanoscale Research Letters</i> , 2018, 13, 356.	3.1	13
383	Anisotropic ultraviolet-plasmon dispersion in black phosphorus. <i>Nanoscale</i> , 2018, 10, 21918-21927.	2.8	18

#	ARTICLE	IF	CITATIONS
384	Structure and properties of intrinsic and extrinsic defects in black phosphorus. <i>Nanoscale</i> , 2018, 10, 19536-19546.	2.8	38
385	Anti-inflammatory fusicoccane-type diterpenoids from the phytopathogenic fungus <i>Alternaria brassicicola</i> . <i>Organic and Biomolecular Chemistry</i> , 2018, 16, 8751-8760.	1.5	18
386	Hexagonal $M_2C_3$ ( $M = As, Sb, \text{ and } Bi$ ) monolayers: new functional materials with desirable band gaps and ultrahigh carrier mobility. <i>Journal of Materials Chemistry C</i> , 2018, 6, 12689-12697.	2.7	42
387	Two-dimensional black phosphorus: its fabrication, functionalization and applications. <i>Nanoscale</i> , 2018, 10, 21575-21603.	2.8	73
388	High-yield production of stable antimonene quantum sheets for highly efficient organic photovoltaics. <i>Journal of Materials Chemistry A</i> , 2018, 6, 23773-23779.	5.2	26
389	Recent developments of phosphorus-based anodes for sodium ion batteries. <i>Journal of Materials Chemistry A</i> , 2018, 6, 24013-24030.	5.2	69
390	Extremely High Mobilities in Two-Dimensional Group-VA Binary Compounds with Large Conversion Efficiency for Solar Cells. <i>Journal of Physical Chemistry C</i> , 2018, 122, 27590-27596.	1.5	17
391	Highly Promoted Carrier Mobility and Intrinsic Stability by Rolling Up Monolayer Black Phosphorus into Nanoscrolls. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6847-6852.	2.1	20
392	Interlayer-Decoupled Sc-Based Mxene with High Carrier Mobility and Strong Light-Harvesting Ability. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6915-6920.	2.1	49
393	Recent advances in emerging 2D nanomaterials for biosensing and bioimaging applications. <i>Materials Today</i> , 2018, 21, 164-177.	8.3	145
394	Design guidelines for thermopower generators with multi-layered black phosphorus. , 2018, , .		0
395	Ambient Degradation-Induced Spin Paramagnetism in Phosphorene. <i>Small</i> , 2019, 15, e1804386.	5.2	14
396	A quantum kinetic approach for calculating low-field mobility in black phosphorus crystals and multilayer phosphorene. <i>Journal of Computational Electronics</i> , 2018, 17, 1549-1556.	1.3	2
397	Thermally stimulated nonlinear vibration of rectangular single-layered black phosphorus. <i>Journal of Applied Physics</i> , 2018, 124, 135101.	1.1	5
398	Tunable optical and electronic properties of gallium telluride monolayer for photovoltaic absorbers and ultraviolet detectors. <i>Chemical Physics Letters</i> , 2018, 713, 46-51.	1.2	52
399	n-Type Ohmic contact and p-type Schottky contact of monolayer InSe transistors. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 24641-24651.	1.3	33
400	Two-dimensional nanomaterial based sensors for heavy metal ions. <i>Mikrochimica Acta</i> , 2018, 185, 478.	2.5	48
401	Water-Based Black Phosphorus Hybrid Nanosheets as a Moldable Platform for Wound Healing Applications. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 35495-35502.	4.0	63

#	ARTICLE	IF	CITATIONS
402	Stabilizing black phosphorus nanosheets via edge-selective bonding of sacrificial C60 molecules. <i>Nature Communications</i> , 2018, 9, 4177.	5.8	171
403	Exceptional catalytic effects of black phosphorus quantum dots in shuttling-free lithium sulfur batteries. <i>Nature Communications</i> , 2018, 9, 4164.	5.8	304
404	Promise and Challenge of Phosphorus in Science, Technology, and Application. <i>Advanced Functional Materials</i> , 2018, 28, 1803471.	7.8	65
405	Exchange interaction of magnetic impurities in a biased bilayer phosphorene nanoribbon. <i>Physical Review B</i> , 2018, 98, .	1.1	11
406	Mechanical Behaviors of Angle-Ply Black Phosphorus by Molecular Dynamics Simulations. <i>Nanomaterials</i> , 2018, 8, 758.	1.9	2
407	Skin-touch-actuated textile-based triboelectric nanogenerator with black phosphorus for durable biomechanical energy harvesting. <i>Nature Communications</i> , 2018, 9, 4280.	5.8	433
408	Electronic Properties of Air-Sensitive Nanomaterials Probed with Microwave Impedance Measurements. <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1800250.	0.7	2
409	Complementary Logic with Voltage Zero-Loss and Nano-Watt Power via Configurable MoS <sub>2</sub> /WSe <sub>2</sub> Gate. <i>Advanced Functional Materials</i> , 2018, 28, 1805171.	7.8	32
410	p-Type BP nanosheet photocatalyst with AQE of 3.9% in the absence of a noble metal cocatalyst: investigation and elucidation of photophysical properties. <i>Journal of Materials Chemistry A</i> , 2018, 6, 18403-18408.	5.2	28
411	Recent Progress on Black Phosphorus-Based Materials for Photocatalytic Water Splitting. <i>Small Methods</i> , 2018, 2, 1800212.	4.6	50
412	Effects of stacking method and strain on the electronic properties of the few-layer group-IVA monochalcogenide heterojunctions. <i>RSC Advances</i> , 2018, 8, 29862-29870.	1.7	7
413	Insights into the mechanism of the enhanced visible-light photocatalytic activity of black phosphorus/BiVO <sub>4</sub> heterostructure: a first-principles study. <i>Journal of Materials Chemistry A</i> , 2018, 6, 19167-19175.	5.2	86
414	Black Phosphorus/Platinum Heterostructure: A Highly Efficient Photocatalyst for Solar-Driven Chemical Reactions. <i>Advanced Materials</i> , 2018, 30, e1803641.	11.1	105
415	2D-Pnictogens: alloy-based anode battery materials with ultrahigh cycling stability. <i>Chemical Society Reviews</i> , 2018, 47, 6964-6989.	18.7	100
416	Charge transport in germanium doped phosphorene nanoribbons. <i>RSC Advances</i> , 2018, 8, 19479-19485.	1.7	8
417	High-κ Gate Dielectrics for Emerging Flexible and Stretchable Electronics. <i>Chemical Reviews</i> , 2018, 118, 5690-5754.	23.0	530
418	2D Ternary Chalcogenides. <i>Advanced Optical Materials</i> , 2018, 6, 1800058.	3.6	114
419	Tuning the electronic property of two dimensional SiSe monolayer by in-plane strain. <i>Chemical Physics Letters</i> , 2018, 705, 12-18.	1.2	13



#	ARTICLE	IF	CITATIONS
420	Two-dimensional GeAsSe with high and unidirectional conductivity. <i>Nanoscale</i> , 2018, 10, 15998-16004.	2.8	7
421	Effect of TCNQ Layer Cover on Oxidation Dynamics of Black Phosphorus. <i>Physica Status Solidi - Rapid Research Letters</i> , 2018, 12, 1800179.	1.2	4
422	Adsorption of NO <sub>x</sub> (x = 1, 2) gas molecule on pristine and B atom embedded $\beta$ -graphyne based on first-principles study. <i>Applied Surface Science</i> , 2018, 455, 484-491.	3.1	35
423	Organosilicon modification to enhance the stability of black phosphorus nanosheets under ambient conditions. <i>Journal of Materials Chemistry B</i> , 2018, 6, 4065-4070.	2.9	36
424	Solvent mediated hybrid 2D materials: black phosphorus $\alpha$ -graphene heterostructured building blocks assembled for sodium ion batteries. <i>Nanoscale</i> , 2018, 10, 10443-10449.	2.8	40
425	Recent Advances on Black Phosphorus for Energy Storage, Catalysis, and Sensor Applications. <i>Advanced Materials</i> , 2018, 30, e1800295.	11.1	215
426	Strategy to Enhance the Luminescence of Lanthanide Ions Doped MgWO <sub>4</sub> Nanosheets through Incorporation of Carbon Dots. <i>Inorganic Chemistry</i> , 2018, 57, 8662-8672.	1.9	44
427	Efficient Carrier Separation and Band Structure Tuning of Two-Dimensional C <sub>2</sub> N/GaTe van der Waals Heterostructure. <i>Journal of Physical Chemistry C</i> , 2018, 122, 15892-15902.	1.5	55
428	Theoretical study of strained black phosphorus photodetector integrated with silicon waveguide. <i>Superlattices and Microstructures</i> , 2018, 122, 501-509.	1.4	6
429	Electronic structure tuning of stanene monolayers from DFT calculations: Effects of substitutional elemental doping. <i>Applied Surface Science</i> , 2018, 456, 290-301.	3.1	38
430	Two-Dimensional Metal Nanomaterials: Synthesis, Properties, and Applications. <i>Chemical Reviews</i> , 2018, 118, 6409-6455.	23.0	711
431	First-principles study on electronic and magnetic and optical properties of rare-earth metals (RE = La, Tj ETQq1 1 0.784314 rgBT /Ove	0.3	4
432	Black phosphorus quantum dots doped ZnO nanoparticles as efficient electrode materials for sensitive hydrogen peroxide detection. <i>Journal of Electroanalytical Chemistry</i> , 2018, 824, 161-168.	1.9	26
433	Tunable optical forces exerted on a black phosphorus coated dielectric particle by a Gaussian beam. <i>Optical Materials Express</i> , 2018, 8, 211.	1.6	5
434	Insights into 2D MXenes for Versatile Biomedical Applications: Current Advances and Challenges Ahead. <i>Advanced Science</i> , 2018, 5, 1800518.	5.6	397
435	Scalable Patterning of Encapsulated Black Phosphorus. <i>Nano Letters</i> , 2018, 18, 5373-5381.	4.5	43
436	Black Phosphorus: Degradation Favors Lubrication. <i>Nano Letters</i> , 2018, 18, 5618-5627.	4.5	107
437	Two-dimensional zigzag-shaped Cd <sub>2</sub> C monolayer with a desirable bandgap and high carrier mobility. <i>Journal of Materials Chemistry C</i> , 2018, 6, 9175-9180.	2.7	19

#	ARTICLE	IF	CITATIONS
438	Interlayer coupling in two-dimensional semiconductor materials. <i>Semiconductor Science and Technology</i> , 2018, 33, 093001.	1.0	29
439	Linear scanning tunneling spectroscopy over a large energy range in black phosphorus. <i>Journal of Applied Physics</i> , 2018, 124, .	1.1	4
440	Progress on Black Phosphorus Photonics. <i>Advanced Optical Materials</i> , 2018, 6, 1800365.	3.6	44
441	Synthesis of hexagonal boron nitride heterostructures for 2D van der Waals electronics. <i>Chemical Society Reviews</i> , 2018, 47, 6342-6369.	18.7	114
442	Black Phosphorus Quantum Dot/Ti <sub>3</sub> C <sub>2</sub> MXene Nanosheet Composites for Efficient Electrochemical Lithium/Sodium Ion Storage. <i>Advanced Energy Materials</i> , 2018, 8, 1801514.	10.2	251
443	Tunable Bandgap and Optical Properties of Black Phosphorene Nanotubes. <i>Materials</i> , 2018, 11, 304.	1.3	30
444	A Perspective on the Application of Spatially Resolved ARPES for 2D Materials. <i>Nanomaterials</i> , 2018, 8, 284.	1.9	47
445	Properties, Preparation and Applications of Low Dimensional Transition Metal Dichalcogenides. <i>Nanomaterials</i> , 2018, 8, 463.	1.9	38
446	Interface Electronic Structure between Au and Black Phosphorus. <i>Journal of Physical Chemistry C</i> , 2018, 122, 18405-18411.	1.5	7
447	Black phosphorus quantum dots: synthesis, properties, functionalized modification and applications. <i>Chemical Society Reviews</i> , 2018, 47, 6795-6823.	18.7	250
448	Giant conductance anisotropy in black phosphorene tuned by external electric field. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 33LT01.	0.7	3
449	Conductive two-dimensional metal-organic frameworks as multifunctional materials. <i>Chemical Communications</i> , 2018, 54, 7873-7891.	2.2	373
450	Kondo-semimetal to Fermi-liquid phase crossover in black phosphorus to pressure-induced orbital-nematic gray phosphorus. <i>Physical Review B</i> , 2018, 98, .	1.1	7
451	Engineering graphene and TMDs based van der Waals heterostructures for photovoltaic and photoelectrochemical solar energy conversion. <i>Chemical Society Reviews</i> , 2018, 47, 4981-5037.	18.7	344
452	Engineering few-layer MoTe <sub>2</sub> devices by Co/hBN tunnel contacts. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	14
453	Recent Progress on Stability and Passivation of Black Phosphorus. <i>Advanced Materials</i> , 2018, 30, e1704749.	11.1	248
454	Monolayer tellurene-metal contacts. <i>Journal of Materials Chemistry C</i> , 2018, 6, 6153-6163.	2.7	81
455	Low-Cost Black Phosphorus Nanofillers for Improved Thermoelectric Performance in PEDOT:PSS Composite Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 17957-17962.	4.0	42

#	ARTICLE	IF	CITATIONS
456	Polydopamine-Modified Black Phosphorous Nanocapsule with Enhanced Stability and Photothermal Performance for Tumor Multimodal Treatments. <i>Advanced Science</i> , 2018, 5, 1800510.	5.6	460
457	2D Phosphorene: Epitaxial Growth and Interface Engineering for Electronic Devices. <i>Advanced Materials</i> , 2018, 30, e1802207.	11.1	58
458	Abnormal Near-Infrared Absorption in 2D Black Phosphorus Induced by Ag Nanoclusters Surface Functionalization. <i>Advanced Materials</i> , 2018, 30, e1801931.	11.1	43
459	Wafer-Scale Black Arsenic-Phosphorus Thin-Film Synthesis Validated with Density Functional Perturbation Theory Predictions. <i>ACS Applied Nano Materials</i> , 2018, 1, 4737-4745.	2.4	42
460	Impact ionization by hot carriers in a black phosphorus field effect transistor. <i>Nature Communications</i> , 2018, 9, 3414.	5.8	41
461	Energy Level Evolution and Oxygen Exposure of Fullerene/Black Phosphorus Interface. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 5254-5261.	2.1	13
462	Black Phosphorus Nanosheets Passivation Using a Tripeptide. <i>Small</i> , 2018, 14, e1801701.	5.2	36
463	Photo-oxidative Degradation and Protection Mechanism of Black Phosphorus: Insights from Ultrafast Dynamics. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 5034-5039.	2.1	45
464	Hierarchical phosphorus hybrids with carbon nanotube veins and black phosphorus skins: Structure and lithium storage properties. <i>Carbon</i> , 2018, 139, 1057-1062.	5.4	31
465	Hybrid 0D-2D black phosphorus quantum dots-graphitic carbon nitride nanosheets for efficient hydrogen evolution. <i>Nano Energy</i> , 2018, 50, 552-561.	8.2	148
466	Finite temperature stability of single-layer black and blue phosphorus adsorbed on Au(111): a first-principles study. <i>2D Materials</i> , 2018, 5, 035044.	2.0	14
467	Ferroelectric and Piezoelectric Effects on the Optical Process in Advanced Materials and Devices. <i>Advanced Materials</i> , 2018, 30, e1707007.	11.1	159
468	Omnipotent phosphorene: a next-generation, two-dimensional nanoplatform for multidisciplinary biomedical applications. <i>Chemical Society Reviews</i> , 2018, 47, 5588-5601.	18.7	352
469	Single-Shot Optical Anisotropy Imaging with Quantitative Polarization Interference Microscopy. <i>Laser and Photonics Reviews</i> , 2018, 12, 1800070.	4.4	12
470	Adsorption Induced Indirect-to-Direct Band Gap Transition in Monolayer Blue Phosphorus. <i>Journal of Physical Chemistry C</i> , 2018, 122, 15792-15798.	1.5	10
471	Layer-dependent band alignment of few layers of blue phosphorus and their van der Waals heterostructures with graphene. <i>Physical Review B</i> , 2018, 97, .	1.1	45
472	Dependence of the optical conductivity on the uniaxial and biaxial strains in black phosphorene. <i>Physical Review B</i> , 2018, 97, .	1.1	27
473	Solution Processed Metal Oxide High- $\epsilon_r$ Dielectrics for Emerging Transistors and Circuits. <i>Advanced Materials</i> , 2018, 30, e1706364.	11.1	158

#	ARTICLE	IF	CITATIONS
474	Novel Nanomaterials for Solar Cell Devices. , 2018, , 227-277.		7
475	Luminescence in 2D Materials and van der Waals Heterostructures. Advanced Optical Materials, 2018, 6, 1701296.	3.6	58
476	Ultrathin two-dimensional metallic nanocrystals for renewable energy electrocatalysis. Materials Today, 2019, 23, 45-56.	8.3	64
477	2D material as anode for sodium ion batteries: Recent progress and perspectives. Energy Storage Materials, 2019, 16, 323-343.	9.5	222
478	Electronic and magnetic properties of 5d transition metal atoms doped blue phosphorene: First-principles study. Journal of Magnetism and Magnetic Materials, 2019, 469, 236-244.	1.0	24
479	Hollow Nanostructures for Photocatalysis: Advantages and Challenges. Advanced Materials, 2019, 31, e1801369.	11.1	506
480	The adsorption of sulfur trioxide and ozone molecules on stanene nanosheets investigated by DFT: Applications to gas sensor devices. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 108, 382-390.	1.3	66
481	Avalanche Carrier Multiplication in Multilayer Black Phosphorus and Avalanche Photodetector. Small, 2019, 15, e1805352.	5.2	25
482	The charge carrier dynamics, efficiency and stability of two-dimensional material-based perovskite solar cells. Chemical Society Reviews, 2019, 48, 4854-4891.	18.7	139
483	Partially-oxidized phosphorene sensor for the detection of sub-nano molar concentrations of nitric oxide: a first-principles study. Physical Chemistry Chemical Physics, 2019, 21, 19083-19091.	1.3	6
484	A Comprehensive Study of Black Phosphorus-Graphite Composite Anodes and HEMM Synthesis Conditions for Improved Cycle Stability. Journal of the Electrochemical Society, 2019, 166, A2673-A2682.	1.3	4
485	Strong-field nonlinear optical properties of monolayer black phosphorus. Nanoscale, 2019, 11, 16377-16383.	2.8	18
486	Facile Exfoliation of 3D Pillared Metal-Organic Frameworks (MOFs) to Produce MOF Nanosheets with Functionalized Surfaces. Inorganic Chemistry, 2019, 58, 11020-11027.	1.9	51
487	Recent Developments in Stability and Passivation Techniques of Phosphorene toward Next-Generation Device Applications. Advanced Functional Materials, 2019, 29, 1903419.	7.8	113
488	Self-Assembly of Atomically Thin Chiral Copper Heterostructures Templated by Black Phosphorus. Advanced Functional Materials, 2019, 29, 1903120.	7.8	9
489	Continuously Tuning Electronic Properties of Few-Layer Molybdenum Ditelluride with <i>In Situ</i> Aluminum Modification toward Ultrahigh Gain Complementary Inverters. ACS Nano, 2019, 13, 9464-9472.	7.3	36
490	Polyphosphide Precursor for Low-Temperature Solution-Processed Fibrous Phosphorus Thin Films. Chemistry of Materials, 2019, 31, 5909-5918.	3.2	18
491	Anisotropy transport in monolayer black phosphorus under period magnetic modulation. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 114, 113631.	1.3	5

#	ARTICLE	IF	CITATIONS
492	2D Van Der Waals Binary Materials: Status and Challenges. <i>Advanced Materials</i> , 2019, 31, e1902352.	11.1	303
493	Improved Dreiding force field for single layer black phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 16804-16817.	1.3	15
494	Information theoretic analysis of Landau levels in monolayer phosphorene under magnetic and electric fields. <i>Materials Research Express</i> , 2019, 6, 106316.	0.8	4
495	Effects of defects on the electronic and optical properties of TiO <sub>2</sub> nanosheet. <i>Electronic Structure</i> , 2019, 1, 044002.	1.0	6
496	Direct Growth of Two Dimensional Molybdenum Disulfide on Flexible Ceramic Substrate. <i>Nanomaterials</i> , 2019, 9, 1456.	1.9	7
497	Nanomaterials-based UV photodetectors. , 2019, , 123-149.		12
498	One-step co-precipitation method to construct black phosphorus nanosheets/ZnO nanohybrid for enhanced visible light photocatalytic activity. <i>Applied Surface Science</i> , 2019, 497, 143682.	3.1	40
499	Thermoelectric Performance of Two-Dimensional AX (X = S, Se, Te): A First-Principles-Based Transport Study. <i>ACS Omega</i> , 2019, 4, 17773-17781.	1.6	38
500	Two-dimensional nanomaterials: fascinating materials in biomedical field. <i>Science Bulletin</i> , 2019, 64, 1707-1727.	4.3	171
501	Phase-field crystal model for heterostructures. <i>Physical Review B</i> , 2019, 100, .	1.1	10
502	Black Phosphorous Quantum Dots Sandwiched Organic Solar Cells. <i>Small</i> , 2019, 15, e1903977.	5.2	41
503	Spectral Responsivity and Photoconductive Gain in Thin Film Black Phosphorus Photodetectors. <i>ACS Photonics</i> , 2019, 6, 3092-3099.	3.2	21
504	Anomalous Broadband Spectrum Photodetection in 2D Rhenium Disulfide Transistor. <i>Advanced Optical Materials</i> , 2019, 7, 1901115.	3.6	37
505	Ultrathin Two-Dimensional Semiconductors for Photocatalysis in Energy and Environment Applications. <i>ChemCatChem</i> , 2019, 11, 6147-6165.	1.8	55
506	Forest Height Mapping Using Complex-Valued Convolutional Neural Network. <i>IEEE Access</i> , 2019, 7, 126334-126343.	2.6	5
507	Self-Healable Black Phosphorus Photodetectors. <i>Advanced Functional Materials</i> , 2019, 29, 1906610.	7.8	48
508	Black Phosphorus-Graphene Oxide Hybrid Nanomaterials toward Advanced Lubricating Properties under Water. <i>Advanced Materials Interfaces</i> , 2019, 6, 1901174.	1.9	30
509	A Novel Synthesis of triangular Pt Nanosheets on Pd surface with a Strong Electrocatalytic Activity for Oxidation of Methanol. <i>International Journal of Electrochemical Science</i> , 2019, , 6986-6998.	0.5	1

#	ARTICLE	IF	CITATIONS
510	The Promise and Challenge of Phosphorus-Based Composites as Anode Materials for Potassium-Ion Batteries. <i>Advanced Materials</i> , 2019, 31, e1901414.	11.1	155
511	Liquefaction of water on the surface of anisotropic two-dimensional atomic layered black phosphorus. <i>Nature Communications</i> , 2019, 10, 4062.	5.8	37
512	Fermi-Level Depinning in Germanium Using Black Phosphorus as an Interfacial Layer. <i>IEEE Electron Device Letters</i> , 2019, 40, 1678-1681.	2.2	4
513	Compression Behavior of Copper Hydroxyfluoride CuOHF as a Case Study of the High-Pressure Responses of the Hydrogen-Bonded Two-Dimensional Layered Materials. <i>Journal of Physical Chemistry C</i> , 2019, 123, 25492-25500.	1.5	6
514	Two-Dimensional Hybrid Perovskite-Type Ferroelectric for Highly Polarization-Sensitive Shortwave Photodetection. <i>Journal of the American Chemical Society</i> , 2019, 141, 2623-2629.	6.6	237
515	2D planar penta-MN <sub>2</sub> (M = Pd, Pt) sheets identified through structure search. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 246-251.	1.3	32
516	Recent advances in oxidation and degradation mechanisms of ultrathin 2D materials under ambient conditions and their passivation strategies. <i>Journal of Materials Chemistry A</i> , 2019, 7, 4291-4312.	5.2	158
517	Nonvolatile Memories Based on Graphene and Related 2D Materials. <i>Advanced Materials</i> , 2019, 31, e1806663.	11.1	230
518	Photothermal cancer immunotherapy by erythrocyte membrane-coated black phosphorus formulation. <i>Journal of Controlled Release</i> , 2019, 296, 150-161.	4.8	303
519	Revisiting the Growth of Black Phosphorus in Sn-I Assisted Reactions. <i>Frontiers in Chemistry</i> , 2019, 7, 21.	1.8	41
520	Air-Stable Polyphosphazene-Functionalized Few-Layer Black Phosphorene for Flame Retardancy of Epoxy Resins. <i>Small</i> , 2019, 15, e1805175.	5.2	209
521	Black phosphorus nanoflakes as morphology modifier for efficient fullerene-free organic solar cells with high fill-factor and better morphological stability. <i>Nano Research</i> , 2019, 12, 777-783.	5.8	31
522	Rapid synthesis of ultrathin 2D materials through liquid-nitrogen and microwave treatments. <i>Journal of Materials Chemistry A</i> , 2019, 7, 5209-5213.	5.2	89
523	Tunable ultra-broadband anisotropic absorbers based on multi-layer black phosphorus ribbons. <i>Applied Physics Express</i> , 2019, 12, 032009.	1.1	59
524	Natural organic matter inhibits aggregation of few-layered black phosphorus in mono- and divalent electrolyte solutions. <i>Environmental Science: Nano</i> , 2019, 6, 599-609.	2.2	22
525	Wrinkling of two-dimensional materials: methods, properties and applications. <i>Nanoscale Horizons</i> , 2019, 4, 291-320.	4.1	118
526	Tuning electronic structure of monolayer InP <sub>3</sub> in contact with graphene or Ni: effect of a buffer layer and intrinsic In and P-vacancy. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 1285-1293.	1.3	7
527	Monolayer SiP nanosheets for near and mid-infrared optoelectronic device applications - A DFT approach. <i>Superlattices and Microstructures</i> , 2019, 130, 332-338.	1.4	0

#	ARTICLE	IF	CITATIONS
528	Electrically tunable physical properties of two-dimensional materials. <i>Nano Today</i> , 2019, 27, 99-119.	6.2	35
529	The mechanism of structural changes and crystallization kinetics of amorphous red phosphorus to black phosphorus under high pressure. <i>Chemical Communications</i> , 2019, 55, 8094-8097.	2.2	9
530	Review of mid-infrared mode-locked laser sources in the 2.0 $\mu\text{m}$ –3.5 $\mu\text{m}$ spectral region. <i>Applied Physics Reviews</i> , 2019, 6, .	5.5	153
531	New Family of Two-Dimensional Group-(II <sub>3</sub> –V <sub>2</sub> ) Photoelectric Materials. <i>Journal of Physical Chemistry C</i> , 2019, 123, 16851-16856.	1.5	3
532	Few-Layer Antimonene Nanosheet: A Metal-Free Bifunctional Electrocatalyst for Effective Water Splitting. <i>ACS Applied Energy Materials</i> , 2019, 2, 4774-4781.	2.5	46
533	Strain engineering of optical activity in phosphorene. <i>RSC Advances</i> , 2019, 9, 19006-19015.	1.7	23
534	A virtual-source emission-diffusion I-V model for ultra-thin black phosphorus field-effect transistors. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	6
535	Identification of Non-Carbonaceous Cathodes in Al Batteries: Potential Applicability of Black and Blue Phosphorene Monolayers. <i>Chemistry - an Asian Journal</i> , 2019, 14, 2831-2837.	1.7	6
536	Anisotropic Transport on Monolayer and Multilayer Phosphorene in the Presence of an Electric Field. <i>Chinese Physics Letters</i> , 2019, 36, 057302.	1.3	0
537	Nickel Nitride Particles Supported on 2D Activated Graphene-Black Phosphorus Heterostructure: An Efficient Electrocatalyst for the Oxygen Evolution Reaction. <i>Small</i> , 2019, 15, e1901530.	5.2	61
538	Application of lasers in the synthesis and processing of two-dimensional quantum materials. <i>Journal of Laser Applications</i> , 2019, 31, 031202.	0.8	9
539	Optical interband transitions in strained phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 15133-15141.	1.3	17
540	Accurate Threshold Voltage Reliability Evaluation of Thin Al <sub>2</sub> O <sub>3</sub> Top-Gated Dielectric Black Phosphorous FETs Using Ultrafast Measurement Pulses. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 23673-23680.	4.0	12
541	Memristive devices based on emerging two-dimensional materials beyond graphene. <i>Nanoscale</i> , 2019, 11, 12413-12435.	2.8	87
542	Bilayer tellurene-metal interfaces. <i>Journal of Semiconductors</i> , 2019, 40, 062003.	2.0	9
543	General Interfacial Self-Assembly Engineering for Patterning Two-Dimensional Polymers with Cylindrical Mesopores on Graphene. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 10173-10178.	7.2	85
544	Interstitial copper-doped edge contact for n-type carrier transport in black phosphorus. <i>Informa Mater</i> , 2019, 1, 242-250.	8.5	18
545	Highly efficient electrocatalytic hydrogen evolution over edge-modified phosphorene quantum dot/prussian blue skeleton structure. <i>Journal of Catalysis</i> , 2019, 374, 401-408.	3.1	29

#	ARTICLE	IF	CITATIONS
546	General Interfacial Self-Assembly Engineering for Patterning Two-Dimensional Polymers with Cylindrical Mesopores on Graphene. <i>Angewandte Chemie</i> , 2019, 131, 10279-10284.	1.6	25
547	Anisotropic buckling of few-layer black phosphorus. <i>Nanoscale</i> , 2019, 11, 12080-12086.	2.8	29
548	Recent Advances in 2D Lateral Heterostructures. <i>Nano-Micro Letters</i> , 2019, 11, 48.	14.4	109
549	Dual function of graphene oxide for assisted exfoliation of black phosphorus and electron shuttle in promoting visible and near-infrared photocatalytic H <sub>2</sub> evolution. <i>Applied Catalysis B: Environmental</i> , 2019, 256, 117864.	10.8	41
550	Photosensitizers for Photodynamic Therapy. <i>Advanced Healthcare Materials</i> , 2019, 8, e1900132.	3.9	637
551	Ice-Assisted Synthesis of Black Phosphorus Nanosheets as a Metal-Free Photocatalyst: 2D/2D Heterostructure for Broadband H <sub>2</sub> Evolution. <i>Advanced Functional Materials</i> , 2019, 29, 1902486.	7.8	116
552	Surface Coordination of Black Phosphorus with Modified Cisplatin. <i>Bioconjugate Chemistry</i> , 2019, 30, 1658-1664.	1.8	25
553	A Uranyl-Organic Framework Featuring Two-Dimensional Graphene-like Layered Topology for Efficient Iodine and Dyes Capture. <i>Inorganic Chemistry</i> , 2019, 58, 6866-6876.	1.9	55
554	Microwave-assisted synthesis of black phosphorus quantum dots: efficient electrocatalyst for oxygen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2019, 7, 12974-12978.	5.2	56
555	Recent Advances on Black Phosphorus for Biomedicine and Biosensing. <i>Advanced Functional Materials</i> , 2019, 29, 1900318.	7.8	171
556	Red phosphorus filled biomass carbon as high-capacity and long-life anode for sodium-ion batteries. <i>Journal of Power Sources</i> , 2019, 430, 60-66.	4.0	47
557	Two dimensional InSe/C <sub>2</sub> N van der Waals heterojunction as enhanced visible-light-responsive photocatalyst for water splitting. <i>Applied Surface Science</i> , 2019, 485, 375-380.	3.1	61
558	Utilization of a phosphorene-graphene/TMDC heterostructure in a surface plasmon resonance-based fiber optic biosensor. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2019, 35, 100711.	1.0	35
559	Interfacial Interactions and Enhanced Optoelectronic Properties in CsSnI <sub>3</sub> "Black Phosphorus van der Waals Heterostructures. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1800540.	0.7	34
560	<i>In situ</i> synthesis of BiOCl nanosheets on three-dimensional hierarchical structures for efficient photocatalysis under visible light. <i>Nanoscale</i> , 2019, 11, 10203-10208.	2.8	32
561	Theoretical Investigation of The interaction Between Noble Metals (Ag, Au, Pd, Pt) and Stanene Nanosheets: A DFT Study. <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , 2019, 29, 1895-1915.	1.9	20
562	Black Phosphorus-Modified Co <sub>3</sub> O <sub>4</sub> through Tuning the Electronic Structure for Enhanced Oxygen Evolution Reaction. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 17459-17466.	4.0	87
563	Synthetic strategies of two-dimensional porous materials towards highly effective catalysts. <i>FlatChem</i> , 2019, 15, 100109.	2.8	21



#	ARTICLE	IF	CITATIONS
564	High-Performance Field-Effect Transistors Based on $\hat{1}\pm\text{P}$ and $\hat{1}^2\text{P}$ . <i>Advanced Materials</i> , 2019, 31, 1807810.	11.1	9
565	Material structure and chemical bond effect on the electrochemical performance of black phosphorus-graphite composite anodes. <i>Electrochimica Acta</i> , 2019, 309, 264-273.	2.6	20
566	Two-dimensional amorphous nanomaterials: synthesis and applications. <i>2D Materials</i> , 2019, 6, 032002.	2.0	69
567	Crystallized phosphorus/carbon composites with tunable P C bonds by high pressure and high temperature. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 130, 250-255.	1.9	6
568	Tunable 2D-gallium arsenide and graphene bandgaps in a graphene/GaAs heterostructure: an <i>ab initio</i> study. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 265502.	0.7	6
569	Magnetic and electronic properties of $\text{Cr}_2\text{Ge}_2\text{Te}_6$ monolayer by strain and electric-field engineering. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	69
570	Black Phosphorus-New Nanostructured Material for Humidity Sensors: Achievements and Limitations. <i>Sensors</i> , 2019, 19, 1010.	2.1	26
571	Highly-efficient heterojunction solar cells based on two-dimensional tellurene and transition metal dichalcogenides. <i>Journal of Materials Chemistry A</i> , 2019, 7, 7430-7436.	5.2	90
572	Recent advances in black phosphorus-based optical sensors. <i>Applied Spectroscopy Reviews</i> , 2019, 54, 275-284.	3.4	12
573	High Electron Mobility of Amorphous Red Phosphorus Thin Films. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 6766-6771.	7.2	29
574	Direct and single-step sensing of primary ovarian cancers related glycosidases. <i>Chinese Chemical Letters</i> , 2019, 30, 1013-1016.	4.8	9
575	Interface Energy-Level Alignment between Black Phosphorus and $\text{F}_{16}\text{CuPc}$ Molecular Films. <i>Journal of Physical Chemistry C</i> , 2019, 123, 10443-10450.	1.5	12
576	Electronic Structural and Optical Properties of Multilayer Blue Phosphorus: A First-Principle Study. <i>Journal of Nanomaterials</i> , 2019, 2019, 1-8.	1.5	8
577	Sulfur-Doped Phosphorene as a Promising Anode for Na and $\text{K}^+$ Ion Batteries. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1800418.	0.7	13
578	Unusual Fermi-Level Pinning and Ohmic Contact at Monolayer $\text{Bi}_2\text{O}_2\text{Se}$ Metal Interface. <i>Advanced Theory and Simulations</i> , 2019, 2, 1800178.	1.3	20
579	Black phosphorus and its isoelectronic materials. <i>Nature Reviews Physics</i> , 2019, 1, 306-317.	11.9	196
580	Strain-dependent electronic structure and optical properties of monolayer indium selenide: A density functional tight-binding model many-body perturbation theory study. <i>FlatChem</i> , 2019, 15, 100092.	2.8	3
581	Reactive Oxygen Species (ROS)-Based Nanomedicine. <i>Chemical Reviews</i> , 2019, 119, 4881-4985.	23.0	1,519

#	ARTICLE	IF	CITATIONS
582	pH-Responsive Dual Drug-Loaded Nanocarriers Based on Poly (2-Ethyl-2-Oxazoline) Modified Black Phosphorus Nanosheets for Cancer Chemo/Photothermal Therapy. <i>Frontiers in Pharmacology</i> , 2019, 10, 270.	1.6	50
583	High Electron Mobility of Amorphous Red Phosphorus Thin Films. <i>Angewandte Chemie</i> , 2019, 131, 6838-6843.	1.6	4
584	Schottky Contact in Monolayer $WS_2$ Field-Effect Transistors. <i>Advanced Theory and Simulations</i> , 2019, 2, 1900001.	1.3	42
585	Optical Refractive Index Sensors with Plasmonic and Photonic Structures: Promising and Inconvenient Truth. <i>Advanced Optical Materials</i> , 2019, 7, 1801433.	3.6	303
586	Efficient Plasmonic Au/CdSe Nanodumbbell for Photoelectrochemical Hydrogen Generation beyond Visible Region. <i>Advanced Energy Materials</i> , 2019, 9, 1803889.	10.2	85
587	Black phosphorus electronics. <i>Science Bulletin</i> , 2019, 64, 1067-1079.	4.3	37
588	Efficient Production of Phosphorene Nanosheets via Shear Stress Mediated Exfoliation for Low-Temperature Perovskite Solar Cells. <i>Small Methods</i> , 2019, 3, 1800521.	4.6	58
589	Anisotropic nanoscale and sub-nanoscale friction behaviors between phosphorene and silicon tip. <i>Applied Surface Science</i> , 2019, 481, 1573-1584.	3.1	16
590	Wet Chemical Method for Black Phosphorus Thinning and Passivation. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 9213-9222.	4.0	23
591	Study of a saturation point to establish the doping density limit of silicon with graphene oxide. <i>Materials Science in Semiconductor Processing</i> , 2019, 96, 116-121.	1.9	4
592	Surgical Tumor-Derived Personalized Photothermal Vaccine Formulation for Cancer Immunotherapy. <i>ACS Nano</i> , 2019, 13, 2956-2968.	7.3	230
593	Enhanced photocatalytic properties of $TiO_2$ nanosheets@2D layered black phosphorus composite with high stability under hydro-oxygen environment. <i>Nanoscale</i> , 2019, 11, 5674-5683.	2.8	45
594	Spectroscopic photoemission and low-energy electron microscopy studies of the surface and electronic structure of two-dimensional materials. <i>Advances in Physics: X</i> , 2019, 4, 1688187.	1.5	5
595	Single-molecule detection of biomarker and localized cellular photothermal therapy using an optical microfiber with nanointerface. <i>Science Advances</i> , 2019, 5, eaax4659.	4.7	53
596	Raman and electrical transport properties of few-layered arsenic-doped black phosphorus. <i>Nanoscale</i> , 2019, 11, 18449-18463.	2.8	27
597	Two-dimensional group-VA nanomaterials beyond black phosphorus: synthetic methods, properties, functional nanostructures and applications. <i>Journal of Materials Chemistry A</i> , 2019, 7, 25712-25771.	5.2	49
598	Modeling chemical reactions on surfaces: The roles of chemical bonding and van der Waals interactions. <i>Progress in Surface Science</i> , 2019, 94, 100561.	3.8	39
599	Tuning 2D Black Phosphorus: Defect Tailoring and Surface Functionalization. <i>Chemistry of Materials</i> , 2019, 31, 9917-9938.	3.2	24

#	ARTICLE	IF	CITATIONS
600	Carbon Dot-Passivated Black Phosphorus Nanosheet Hybrids for Synergistic Cancer Therapy in the NIR-II Window. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 44949-44960.	4.0	73
601	Introduction and Characterization of Phosphorus Nanomaterials. <i>ACS Symposium Series</i> , 2019, , 27-45.	0.5	2
602	Electronic Applications of Black Phosphorus Thin Films. <i>ACS Symposium Series</i> , 2019, , 179-194.	0.5	2
603	Control of spintronic and electronic properties of bimetallic and vacancy-ordered vanadium carbide MXenes via surface functionalization. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 25802-25808.	1.3	22
604	Enhanced catalytic hydrogen evolution reaction in phosphorene nanosheet via cobalt intercalation. <i>Chinese Journal of Chemical Physics</i> , 2019, 32, 572-578.	0.6	4
605	Atomic-level insight into the mechanism of OD/2D black phosphorus quantum dot/graphitic carbon nitride (BPQD/GCN) metal-free heterojunction for photocatalysis. <i>Applied Surface Science</i> , 2019, 463, 1148-1153.	3.1	64
606	DFT study of the effects of Al P pair doping on the structural and electronic properties of stanene nanosheets. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2019, 108, 34-43.	1.3	46
607	2D/2D Graphitic Carbon Nitride/Antimonene Heterostructure: Structural Characterization and Application in Photocatalysis. <i>Advanced Sustainable Systems</i> , 2019, 3, 1800138.	2.7	30
608	ZnS Scheme 2D/2D Heterojunction of Black Phosphorus/Monolayer Bi <sub>2</sub> WO <sub>6</sub> Nanosheets with Enhanced Photocatalytic Activities. <i>Angewandte Chemie</i> , 2019, 131, 2095-2099.	1.6	58
609	ZnS Scheme 2D/2D Heterojunction of Black Phosphorus/Monolayer Bi <sub>2</sub> WO <sub>6</sub> Nanosheets with Enhanced Photocatalytic Activities. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 2073-2077.	7.2	445
610	Emerging opportunities for black phosphorus in energy applications. <i>Materials Today Energy</i> , 2019, 12, 1-25.	2.5	88
611	A Low-Cost Metal-Free Photocatalyst Based on Black Phosphorus. <i>Advanced Science</i> , 2019, 6, 1801321.	5.6	79
612	Sonochemistry-assisted black/red phosphorus hybrid quantum dots for dye-sensitized solar cells. <i>Journal of Power Sources</i> , 2019, 410-411, 53-58.	4.0	33
613	Black phosphorus inverter devices enabled by in-situ aluminum surface modification. <i>Nano Research</i> , 2019, 12, 531-536.	5.8	33
614	Evaluating the Surface Chemistry of Black Phosphorus during Ambient Degradation. <i>Langmuir</i> , 2019, 35, 2172-2178.	1.6	41
615	Superior Sensing Properties of Black Phosphorus as Gas Sensors: A Case Study on the Volatile Organic Compounds. <i>Advanced Theory and Simulations</i> , 2019, 2, 1800103.	1.3	53
616	The lithium and sodium storage performances of phosphorus and its hierarchical structure. <i>Nano Research</i> , 2019, 12, 1-17.	5.8	63
617	Generating strong room-temperature photoluminescence in black phosphorus using organic molecules. <i>2D Materials</i> , 2019, 6, 015009.	2.0	15

#	ARTICLE	IF	CITATIONS
618	Tunable optical and electronic properties of Janus monolayers Ga <sub>2</sub> SSe, Ga <sub>2</sub> STe, and Ga <sub>2</sub> SeTe as promising candidates for ultraviolet photodetectors applications. Superlattices and Microstructures, 2019, 125, 1-7.	1.4	77
619	Electronic, photocatalytic, and optical properties of two-dimensional boron pnictides. Journal of Materials Science, 2019, 54, 2278-2288.	1.7	37
620	3D reticulated carbon nitride materials high-uniformly capture OD black phosphorus as 3D/OD composites for stable and efficient photocatalytic hydrogen evolution. Journal of Materials Chemistry A, 2019, 7, 503-512.	5.2	75
621	Nanoindentation of circular multilayer graphene allotropes. Science China Technological Sciences, 2019, 62, 269-275.	2.0	5
622	Two-dimensional pnictogens, their chemistry and applications. FlatChem, 2019, 13, 8-24.	2.8	33
623	Black Phosphorus Cytotoxicity Assessments Pitfalls: Advantages and Disadvantages of Metabolic and Morphological Assays. Chemistry - A European Journal, 2019, 25, 349-360.	1.7	18
624	Synthesis of graphene/black phosphorus hybrid with highly stable P-C bond towards the enhancement of photocatalytic activity. Environmental Pollution, 2019, 245, 950-956.	3.7	33
625	Temperature-Dependent Transport in Ultrathin Black Phosphorus Field-Effect Transistors. Nano Letters, 2019, 19, 482-487.	4.5	17
626	High-Performance Black Phosphorus Field-Effect Transistors with Long-Term Air Stability. Nano Letters, 2019, 19, 331-337.	4.5	62
627	Two-dimensional materials in perovskite solar cells. Materials Today Energy, 2019, 11, 128-158.	2.5	93
628	Recent Advances in Black Phosphorus-Based Electronic Devices. Advanced Electronic Materials, 2019, 5, 1800666.	2.6	31
629	Tuning thermoelectric transport in phosphorene through a perpendicular magnetic field. Chemical Physics, 2019, 519, 1-5.	0.9	32
630	Adsorption of phenol, hydrazine and thiophene on stanene monolayers: A computational investigation. Synthetic Metals, 2019, 247, 26-36.	2.1	52
631	Pristine and Cu decorated hexagonal InN monolayer, a promising candidate to detect and scavenge SF <sub>6</sub> decompositions based on first-principle study. Journal of Hazardous Materials, 2019, 363, 346-357.	6.5	146
632	Black phosphorus-CdS-La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> ternary composite: Effective noble metal-free photocatalyst for full solar spectrum activated H <sub>2</sub> production. Applied Catalysis B: Environmental, 2019, 242, 441-448.	10.8	105
633	An easy route to synthesize high-quality black phosphorus from amorphous red phosphorus. Materials Letters, 2019, 236, 56-59.	1.3	36
634	Recent progress on graphene-analogous 2D nanomaterials: Properties, modeling and applications. Progress in Materials Science, 2019, 100, 99-169.	16.0	235
635	Confined Synthesis of 2D Nanostructured Materials toward Electrocatalysis. Advanced Energy Materials, 2020, 10, 1900486.	10.2	123

#	ARTICLE	IF	CITATIONS
636	Surface functionalization of few-layer black phosphorene and its flame retardancy in epoxy resin. <i>Chemical Engineering Journal</i> , 2020, 382, 122991.	6.6	100
637	An intelligent nanoplatform for imaging-guided photodynamic/photothermal/chemo-therapy based on upconversion nanoparticles and CuS integrated black phosphorus. <i>Chemical Engineering Journal</i> , 2020, 382, 122822.	6.6	47
638	Black phosphorus/graphitic carbon nitride: A metal-free photocatalyst for "green" photocatalytic bacterial inactivation under visible light. <i>Chemical Engineering Journal</i> , 2020, 384, 123258.	6.6	82
639	The electric-field and strain inducing electronic and optical properties of the blue phosphorene/ZnO heterostructures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 115, 113650.	1.3	6
640	Two-dimensional conjugated polymers synthesized via on-surface chemistry. <i>Science China Materials</i> , 2020, 63, 172-176.	3.5	9
641	Exfoliating two-dimensional materials into few layers via optimized environmentally-friendly ternary solvents. <i>Nanotechnology</i> , 2020, 31, 045602.	1.3	1
642	Emerging Applications of Elemental 2D Materials. <i>Advanced Materials</i> , 2020, 32, e1904302.	11.1	336
643	Black Phosphorus-Based Semiconductor Heterojunctions for Photocatalytic Water Splitting. <i>Chemistry - A European Journal</i> , 2020, 26, 4449-4460.	1.7	33
644	Effect of tensile and compression deformation on the electronic structure and optical properties of single-layer black phosphorus. <i>Physica B: Condensed Matter</i> , 2020, 578, 411755.	1.3	13
645	Two-Dimensional Ge-Based Broad-Band Optical Switches and Photodetectors. <i>Advanced Optical Materials</i> , 2020, 8, 1901490.	3.6	45
646	Black phosphorous-based nanostructures in environmental remediation: Current status and future perspectives. <i>Chemical Engineering Journal</i> , 2020, 389, 123460.	6.6	14
647	Planar Direction-Dependent Interfacial Properties in Monolayer $\text{In}_2\text{Se}_3$ "Metal Contacts. <i>Physica Status Solidi (B): Basic Research</i> , 2020, 257, 1900198.	0.7	19
648	2D Materials in Light: Excited-State Dynamics and Applications. <i>Chemical Record</i> , 2020, 20, 413-428.	2.9	10
649	Tunable electric properties of bilayer $\text{MX}_2$ ( $\text{M} = \text{Ge, Sn}$ ; $\text{X} = \text{S, Se}$ ) with different strain and external electric field. <i>Physica B: Condensed Matter</i> , 2020, 581, 411673.	1.3	5
650	Recent Advances on Black Phosphorus Based Electrocatalysts for Water Splitting. <i>ChemCatChem</i> , 2020, 12, 1913-1921.	1.8	17
651	Fibrous Phosphorus Quantum Dots for Cell Imaging. <i>ACS Applied Nano Materials</i> , 2020, 3, 752-759.	2.4	22
652	Advances of 2D bismuth in energy sciences. <i>Chemical Society Reviews</i> , 2020, 49, 263-285.	18.7	138
653	Atomic scale study of black phosphorus degradation. <i>RSC Advances</i> , 2020, 10, 350-355.	1.7	25

#	ARTICLE	IF	CITATIONS
654	Superconductivity in predicted two dimensional XB <sub>6</sub> (X = Ga, In). Journal of Materials Chemistry C, 2020, 8, 1704-1714.	2.7	30
655	Engineering the energy gap of black phosphorene quantum dots by surface modification for efficient chemiluminescence. Chemical Communications, 2020, 56, 1891-1894.	2.2	21
656	Magnetic anisotropy of iridium dimers on two-dimensional materials. Physical Chemistry Chemical Physics, 2020, 22, 238-244.	1.3	11
657	Preparation of stable black phosphorus nanosheets and their electrochemical catalytic study. Journal of Electroanalytical Chemistry, 2020, 856, 113595.	1.9	16
658	Progress toward Safe Tumor Diagnosis and Therapy via Degradable Inorganic Nanomaterials Constructed with Metabolically Safe Elements. ACS Applied Nano Materials, 2020, 3, 1028-1042.	2.4	5
659	Tellurene Photodetector with High Gain and Wide Bandwidth. ACS Nano, 2020, 14, 303-310.	7.3	101
660	Black phosphorus photocatalysts for photocatalytic H <sub>2</sub> generation: A review. Chemical Engineering Journal, 2020, 386, 123997.	6.6	87
661	Strain-tunable electronic and optical properties in two dimensional GaSe/g-C <sub>3</sub> N <sub>4</sub> van der Waals heterojunction as photocatalyst for water splitting. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 118, 113896.	1.3	22
662	Charge injection in vertically stacked multi-layer black phosphorus. Applied Materials Today, 2020, 18, 100481.	2.3	1
663	Spin dependent electronic transport properties of zigzag black phosphorene nanojunctions induced by H, Li, O, Co asymmetric edge saturations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126123.	0.9	17
664	Orderly layer-by-layered TiO <sub>2</sub> /carbon superstructures based on MXene's defect engineering for efficient hydrogen evolution. Applied Catalysis A: General, 2020, 590, 117341.	2.2	46
665	Recent progress of MXenes as the support of catalysts for the CO oxidation and oxygen reduction reaction. Chinese Chemical Letters, 2020, 31, 931-936.	4.8	32
666	Modular Design via Multiple Anion Chemistry of the High Mobility van der Waals Semiconductor Bi <sub>4</sub> O <sub>4</sub> SeCl <sub>2</sub> . Journal of the American Chemical Society, 2020, 142, 847-856.	6.6	29
667	Recent Advances in Chemical Functionalization of 2D Black Phosphorous Nanosheets. Advanced Science, 2020, 7, 1902359.	5.6	76
668	Fabrication of chemiluminescence resonance energy transfer platform based on nanomaterial and its application in optical sensing, biological imaging and photodynamic therapy. TrAC - Trends in Analytical Chemistry, 2020, 122, 115747.	5.8	44
669	Black Phosphorus. Engineering Materials, 2020, , .	0.3	4
670	Recent advances in black phosphorus and transition metal dichalcogenide-based electronic and optoelectronics devices. , 2020, , 251-312.		3
671	Self-assembly followed by radical polymerization of ionic liquid for interfacial engineering of black phosphorus nanosheets: Enhancing flame retardancy, toxic gas suppression and mechanical performance of polyurethane. Journal of Colloid and Interface Science, 2020, 561, 32-45.	5.0	91

#	ARTICLE	IF	CITATIONS
672	Recent Progress in Two-Dimensional Ferroelectric Materials. <i>Advanced Electronic Materials</i> , 2020, 6, 1900818.	2.6	236
673	2D Materials for Large-Area Flexible Thermoelectric Devices. <i>Advanced Energy Materials</i> , 2020, 10, 1902842.	10.2	143
674	Contact engineering high-performance ambipolar multilayer tellurium transistors. <i>Nanotechnology</i> , 2020, 31, 115204.	1.3	13
675	Surface modification of black phosphorus-based nanomaterials in biomedical applications: Strategies and recent advances. <i>Acta Biomaterialia</i> , 2020, 118, 1-17.	4.1	27
676	Recent Advancements and Future Prospects in Ultrathin 2D Semiconductor-Based Photocatalysts for Water Splitting. <i>Catalysts</i> , 2020, 10, 1111.	1.6	35
677	Electrochemical exfoliation and functionalization of black phosphorene to enhance mechanical properties and flame retardancy of waterborne polyurethane. <i>Composites Part B: Engineering</i> , 2020, 202, 108446.	5.9	39
678	Tuning the electronic properties and band gap engineering in stanene monolayers via codoping of Mn and Al/P/Ga/As atoms: A DFT study. <i>Computational and Theoretical Chemistry</i> , 2020, 1188, 112939.	1.1	4
679	Degradation of Black Phosphorus and Strategies to Enhance Its Ambient Lifetime. <i>Advanced Materials Interfaces</i> , 2020, 7, 2001102.	1.9	28
680	Stabilization of Black Phosphorus by Sonication-Assisted Simultaneous Exfoliation and Functionalization. <i>Chemistry - A European Journal</i> , 2020, 26, 17581-17587.	1.7	3
681	Recent development and advances in Photodetectors based on two-dimensional topological insulators. <i>Journal of Materials Chemistry C</i> , 2020, 8, 15526-15574.	2.7	35
682	Recent advances in long-term stable black phosphorus transistors. <i>Nanoscale</i> , 2020, 12, 20089-20099.	2.8	10
683	Interface electronic structure between aluminum and black phosphorus. <i>Results in Physics</i> , 2020, 18, 103222.	2.0	3
684	Black phosphorus-based 2D materials for bone therapy. <i>Bioactive Materials</i> , 2020, 5, 1026-1043.	8.6	60
685	Surface Functionalization of Black Phosphorus by Cu: Effective Electron Doping and Enhanced Photoresponse. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000701.	1.9	6
686	Anisotropic interfacial properties of monolayer C <sub>2</sub> N field effect transistors. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 28074-28085.	1.3	9
687	Two-Dimensional Nanomaterials for Photoinduced Antibacterial Applications. <i>ACS Applied Bio Materials</i> , 2020, 3, 8188-8210.	2.3	46
688	Kinetics-Limited Two-Step Growth of van der Waals Puckered Honeycomb Sb Monolayer. <i>ACS Nano</i> , 2020, 14, 16755-16760.	7.3	20
689	Advancements in Therapeutics via 3D Printed Multifunctional Architectures from Dispersed 2D Nanomaterial Inks. <i>Small</i> , 2020, 16, e2004900.	5.2	17

#	ARTICLE	IF	CITATIONS
691	2D black arsenic phosphorus and its application for anodes of lithium ion batteries. CrystEngComm, 2020, 22, 8228-8235.	1.3	7
692	Multi-dimensional materials with layered structures for supercapacitors: Advanced synthesis, supercapacitor performance and functional mechanism. Nano Energy, 2020, 78, 105193.	8.2	58
693	Anisotropic basic electronic properties of strained black phosphorene. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 124, 114323.	1.3	15
694	Recent Advances of Spatial Self-Phase Modulation in 2D Materials and Passive Photonic Device Applications. Small, 2020, 16, e2002252.	5.2	35
695	Mitigation of Polysulfide Shuttling by Interlayer/Permselective Separators in Lithium-Sulfur Batteries. ACS Applied Energy Materials, 2020, 3, 8095-8129.	2.5	60
696	Degradation-by-design: how chemical functionalization enhances the biodegradability and safety of 2D materials. Chemical Society Reviews, 2020, 49, 6224-6247.	18.7	61
697	Recent developments in mid-infrared fiber lasers: Status and challenges. Optics and Laser Technology, 2020, 132, 106497.	2.2	57
698	Geometries and Electronic Properties of Black Phosphorus/MoS <sub>2</sub> Heterostructure with P Atom Vacancies: First Principles Calculations. Journal of Electronic Materials, 2020, 49, 5730-5738.	1.0	2
699	Unzipping of black phosphorus to form zigzag-phosphorene nanobelts. Nature Communications, 2020, 11, 3917.	5.8	55
700	Promising functional two-dimensional lamellar metal thiophosphates: synthesis strategies, properties and applications. Materials Horizons, 2020, 7, 3131-3160.	6.4	26
701	Strain and electric field tunable electronic transport in armchair phosphorene nanodevice with normal-metal electrodes. AIP Advances, 2020, 10, 105012.	0.6	5
702	Two-Dimensional Black Phosphorus Nanomaterials: Emerging Advances in Electrochemical Energy Storage Science. Nano-Micro Letters, 2020, 12, 179.	14.4	82
703	Advances in Functional Nanomaterials Science. Annalen Der Physik, 2020, 532, 2000015.	0.9	12
704	Bandgap Engineering of Hydroxy-Functionalized Borophene for Superior Photo-Electrochemical Performance. Angewandte Chemie, 2020, 132, 23765-23769.	1.6	3
705	Two-dimensional nonlayered materials for electrocatalysis. Energy and Environmental Science, 2020, 13, 3993-4016.	15.6	76
706	State of the art recent progress in two dimensional MXenes based gas sensors and biosensors: A comprehensive review. Coordination Chemistry Reviews, 2020, 424, 213514.	9.5	169
707	Black Phosphorus Quantum Dot-Sensitized TiO <sub>2</sub> Nanotube Arrays with Enriched Oxygen Vacancies for Efficient Photoelectrochemical Water Splitting. ACS Sustainable Chemistry and Engineering, 2020, 8, 15906-15914.	3.2	52
708	Regular Arrangement of Two-Dimensional Clusters of Blue Phosphorene on Ag(111). Chinese Physics Letters, 2020, 37, 096803.	1.3	17



#	ARTICLE	IF	CITATIONS
709	Tuning Interface Barrier in 2D BP/ReSe <sub>2</sub> Heterojunctions in Control of Optoelectronic Performances and Energy Conversion Efficiencies. ACS Photonics, 2020, 7, 2886-2895.	3.2	20
710	Smart Acid-Activatable Self-Assembly of Black Phosphorous as Photosensitizer to Overcome Poor Tumor Retention in Photothermal Therapy. Advanced Functional Materials, 2020, 30, 2003338.	7.8	25
711	Ag <sup>+</sup> -Coupled Black Phosphorus Vesicles with Emerging NIR-II Photoacoustic Imaging Performance for Cancer Immune-Dynamic Therapy and Fast Wound Healing. Angewandte Chemie - International Edition, 2020, 59, 22202-22209.	7.2	63
712	Synthesis of Two-dimensional Metallic Nanosheets: From Elemental Metals to Chemically Complex Alloys. ChemNanoMat, 2020, 6, 1683-1711.	1.5	18
713	Bandgap Engineering of Hydroxy-Functionalized Borophene for Superior Photo-Electrochemical Performance. Angewandte Chemie - International Edition, 2020, 59, 23559-23563.	7.2	41
714	Ag + -Coupled Black Phosphorus Vesicles with Emerging NIR-II Photoacoustic Imaging Performance for Cancer Immune-Dynamic Therapy and Fast Wound Healing. Angewandte Chemie, 2020, 132, 22386-22393.	1.6	3
715	Progress Report on Property, Preparation, and Application of Bi <sub>2</sub> O <sub>2</sub> Se. Advanced Functional Materials, 2020, 30, 2004480.	7.8	72
716	A review of molybdenum disulfide (MoS <sub>2</sub> ) based photodetectors: from ultra-broadband, self-powered to flexible devices. RSC Advances, 2020, 10, 30529-30602.	1.7	211
717	The Role of the Height Fluctuation Effect in the Tunable Interfacial Electronic Structure of the Vertically Stacked BP/MoS <sub>2</sub> Heterojunction. Journal of Physical Chemistry C, 2020, 124, 20256-20261.	1.5	4
718	Growing tool-kit of photosensitizers for clinical and non-clinical applications. Journal of Materials Chemistry B, 2020, 8, 10897-10940.	2.9	14
719	Tailoring two-dimensional nanomaterials by structural engineering for chemical and biological sensing. Sensors and Actuators Reports, 2020, 2, 100024.	2.3	8
720	2D Materials and Heterostructures at Extreme Pressure. Advanced Science, 2020, 7, 2002697.	5.6	68
721	Recent Progress in 2D Metal-Organic Frameworks for Optical Applications. Advanced Optical Materials, 2020, 8, 2000110.	3.6	85
722	First-principle study on monolayer and bilayer SnP <sub>3</sub> sheets as the potential sensors for NO <sub>2</sub> , NO, and NH <sub>3</sub> detection. Nanotechnology, 2020, 31, 325504.	1.3	23
723	Photothermal Antibacterial and Antibiofilm Activity of Black Phosphorus/Gold Nanocomposites against Pathogenic Bacteria. ACS Applied Materials & Interfaces, 2020, 12, 26822-26831.	4.0	104
724	The Art of Integrated Functionalization: Super Stable Black Phosphorus Achieved through Metal-Organic Framework Coating. Advanced Functional Materials, 2020, 30, 2002232.	7.8	51
725	Twistronics in tensile strained bilayer black phosphorus. Nanoscale, 2020, 12, 12909-12916.	2.8	13
726	Universal mechanical exfoliation of large-area 2D crystals. Nature Communications, 2020, 11, 2453.	5.8	394

#	ARTICLE	IF	CITATIONS
727	Surface coordination of black phosphorene for excellent stability, flame retardancy and thermal conductivity in epoxy resin. <i>Chemical Engineering Journal</i> , 2020, 397, 125416.	6.6	66
728	Charge transport in nnn and npn phosphorene junctions: The use of phosphorene pn junctions as rectifiers. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 124, 114239.	1.3	11
729	Engineering Mono-Chalcogen Nanomaterials for Omnipotent Anticancer Applications: Progress and Challenges. <i>Advanced Healthcare Materials</i> , 2020, 9, 2000273.	3.9	11
730	Photocatalytic H <sub>2</sub> evolution and CO <sub>2</sub> reduction over phosphorus-doped g-C <sub>3</sub> N <sub>4</sub> nanostructures: Electronic, Optical, and Surface properties. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 130, 109957.	8.2	59
731	Nitrogen Dioxide Gas Sensor Based on Liquid-Phase-Exfoliated Black Phosphorus Nanosheets. <i>ACS Applied Nano Materials</i> , 2020, 3, 6440-6447.	2.4	28
732	Applications of Raman spectroscopy in two-dimensional materials. <i>Journal of Innovative Optical Health Sciences</i> , 2020, 13, .	0.5	10
733	Phosphorus Containing Coatings: Technologies and Applications. <i>ChemistrySelect</i> , 2020, 5, 6570-6584.	0.7	2
734	Synthesis, properties, and applications of 2D amorphous inorganic materials. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	22
735	Chemically modified phosphorene as efficient catalyst for hydrogen evolution reaction. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 025202.	0.7	13
736	First-principles simulation of monolayer hydrogen passivated Bi <sub>2</sub> O <sub>2</sub> S <sub>2</sub> metal interfaces. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 7853-7863.	1.3	9
737	Anisotropy diffusion of water nanodroplets on phosphorene: Effects of pre-compressive deformation and temperature. <i>Computational Materials Science</i> , 2020, 178, 109623.	1.4	2
738	Low-Temperature Solution Synthesis of Black Phosphorus from Red Phosphorus: Crystallization Mechanism and Lithium Ion Battery Applications. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 2708-2716.	2.1	52
739	Review of 2D group VA material-based heterostructures. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 293002.	1.3	29
740	Few-Layer Black Phosphorus Nanosheets: A Metal-Free Cocatalyst for Photocatalytic Nitrogen Fixation. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 17343-17352.	4.0	74
741	Surface Adsorption and Vacancy in Tuning the Properties of Tellurene. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 19110-19115.	4.0	20
742	Black phosphorus for fighting antibiotic-resistant bacteria: What is known and what is missing. <i>Science of the Total Environment</i> , 2020, 721, 137740.	3.9	21
743	Epitaxial nucleation and lateral growth of high-crystalline black phosphorus films on silicon. <i>Nature Communications</i> , 2020, 11, 1330.	5.8	102
744	Tuning the electronic, optical and structural properties of GaS/C <sub>2</sub> N van der Waals heterostructure for photovoltaic application: first-principle calculations. <i>SN Applied Sciences</i> , 2020, 2, 1.	1.5	16

#	ARTICLE	IF	CITATIONS
745	MAX phase based saturable absorber for mode-locked erbium-doped fiber laser. Optics and Laser Technology, 2020, 127, 106186.	2.2	53
746	Two-dimensional Xenes and their device concepts for future micro- and nanoelectronics and energy applications. , 2020, , 181-219.		1
747	Emerging opportunities for 2D-black phosphorus as a carrier transporting material in perovskite solar cells. Materials Letters, 2020, 276, 128234.	1.3	6
748	Black phosphorus-based van der Waals heterostructures for mid-infrared light-emission applications. Light: Science and Applications, 2020, 9, 114.	7.7	100
749	Hydrogen Sensors Using 2D-Dimensional Materials: A Review. ChemistrySelect, 2020, 5, 7277-7297.	0.7	23
750	Harnessing biological applications of quantum materials: opportunities and precautions. Journal of Materials Chemistry C, 2020, 8, 10498-10525.	2.7	4
751	Hybrid heterostructures and devices based on two-dimensional layers and wide bandgap materials. Materials Today Nano, 2020, 12, 100092.	2.3	28
752	Pervasive Ohmic contacts of monolayer 4-hT2 graphdiyne transistors. Nanotechnology, 2020, 31, 225705.	1.3	10
753	Ultrahigh Capacity of Monolayer Dumbbell C <sub>4</sub> N as a Promising Anode Material for Lithium-Ion Battery. Journal of the Electrochemical Society, 2020, 167, 020538.	1.3	11
754	Effects of the Van der Waals Force on the Vibration of Typical Multi-layered Two-dimensional Nanostructures. Scientific Reports, 2020, 10, 644.	1.6	6
755	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
756	Facile Solvothermal Synthesis of Black Phosphorus Nanosheets from Red Phosphorus for Efficient Photocatalytic Hydrogen Evolution. European Journal of Inorganic Chemistry, 2020, 2020, 773-779.	1.0	31
757	In-situ hydroxyl modification of monolayer black phosphorus for stable photocatalytic carbon dioxide conversion. Applied Catalysis B: Environmental, 2020, 269, 118760.	10.8	147
758	Two-dimensional M <sub>2</sub> CO <sub>2</sub> /MoS <sub>2</sub> (M = Ti, Zr and Hf) van der Waals heterostructures for overall water splitting: A density functional theory study. Ceramics International, 2020, 46, 13377-13384.	2.3	22
759	Effect of surface oxidation on the electronic transport properties of phosphorene gas sensors: a computational study. RSC Advances, 2020, 10, 6893-6899.	1.7	8
760	Electronic, quantum transport and optical properties analysis of doped phosphorene sheet. International Journal of Environmental Analytical Chemistry, 2020, , 1-19.	1.8	2
761	Fundamental band gap and alignment of two-dimensional semiconductors explored by machine learning*. Chinese Physics B, 2020, 29, 046101.	0.7	17
762	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

#	ARTICLE	IF	CITATIONS
763	Recent advances in doping engineering of black phosphorus. <i>Journal of Materials Chemistry A</i> , 2020, 8, 5421-5441.	5.2	93
764	Fluidic Flow Assisted Deterministic Folding of Van der Waals Materials. <i>Advanced Functional Materials</i> , 2020, 30, 1908691.	7.8	5
765	State of the Art in Alcohol Sensing with 2D Materials. <i>Nano-Micro Letters</i> , 2020, 12, 33.	14.4	41
766	Mesoporous Graphitic Carbon Nitride/Black Phosphorus/AgPd Alloy Nanoparticles Ternary Nanocomposite: A Highly Efficient Catalyst for the Methanolysis of Ammonia Borane. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 8130-8139.	4.0	44
767	Be <sub>3</sub> N <sub>3</sub> monolayer with ultrawide band gap and promising stability for deep ultraviolet applications. <i>Computational Materials Science</i> , 2020, 177, 109552.	1.4	1
768	A review of phosphorus and phosphides as anode materials for advanced sodium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2020, 8, 4996-5048.	5.2	108
769	Symmetric, Asymmetric, and Battery-Type Supercapacitors Using Two-Dimensional Nanomaterials and Composites. <i>Batteries and Supercaps</i> , 2020, 3, 860-875.	2.4	72
770	Graphene/tellurene van der Waals heterobilayers: Interlayer coupling and gate-tunable carrier type and Schottky barriers. <i>Applied Surface Science</i> , 2020, 525, 146476.	3.1	8
771	Construction of PDDA functionalized black phosphorus nanosheets/BiOI Z-scheme photocatalyst with enhanced visible light photocatalytic activity. <i>Journal of Colloid and Interface Science</i> , 2020, 576, 34-46.	5.0	37
772	Free-Standing Black Phosphorus Foils for Energy Storage and Catalysis. <i>Chemistry - A European Journal</i> , 2020, 26, 8162-8169.	1.7	15
773	2D Material Optoelectronics for Information Functional Device Applications: Status and Challenges. <i>Advanced Science</i> , 2020, 7, 2000058.	5.6	215
774	Electrical transport properties in group-V elemental ultrathin 2D layers. <i>Npj 2D Materials and Applications</i> , 2020, 4, .	3.9	35
775	Multifunctional VI-VI binary heterostructure-based self-powered pH-sensitive photo-detector. <i>Journal of Materials Chemistry C</i> , 2020, 8, 5991-6000.	2.7	8
776	Two-dimensional few-layered PC <sub>3</sub> as a promising photocatalyst for overall water splitting. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 9477-9486.	1.3	12
777	The Use of Phosphorus in Sodium-Ion Batteries (A Review). <i>Russian Journal of Electrochemistry</i> , 2020, 56, 1-17.	0.3	13
778	Unraveling the single-atom electrocatalytic activity of transition metal-doped phosphorene. <i>Nanoscale Advances</i> , 2020, 2, 2410-2421.	2.2	23
779	Emerging pnictogen-based 2D semiconductors: sensing and electronic devices. <i>Nanoscale</i> , 2020, 12, 10430-10446.	2.8	22
780	Mid-infrared Polarized Emission from Black Phosphorus Light-Emitting Diodes. <i>Nano Letters</i> , 2020, 20, 3651-3655.	4.5	69

#	ARTICLE	IF	CITATIONS
781	Noncovalent Functionalization of Few-Layered Antimonene with Fullerene Clusters and Photoinduced Charge Separation in the Composite. <i>Chemistry - A European Journal</i> , 2020, 26, 6726-6735.	1.7	7
782	Negative Thermal Quenching and Size-Dependent Optical Characteristics of Highly Luminescent Phosphorene Nanocrystals. <i>Advanced Optical Materials</i> , 2020, 8, 2000180.	3.6	19
783	Magnetic modification of transition-metal-atom-adsorbed blue phosphorus monolayer: A first-principles study. <i>Europhysics Letters</i> , 2020, 129, 47003.	0.7	0
784	Construction of few-layered black phosphorus/graphite-like carbon nitride binary hybrid nanostructure for reducing the fire hazards of epoxy resin. <i>Journal of Colloid and Interface Science</i> , 2021, 586, 692-707.	5.0	39
785	Two-dimensional ZnI <sub>2</sub> monolayer as a photocatalyst for water splitting and improvement its electronic and optical properties by strains. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 126, 114487.	1.3	44
786	A targeting black phosphorus nanoparticle based immune cells nano-regulator for photodynamic/photothermal and photo-immunotherapy. <i>Bioactive Materials</i> , 2021, 6, 472-489.	8.6	137
787	Direct observation of dynamic interfacial bonding and charge transfer in metal-free photocatalysts for efficient hydrogen evolution. <i>Applied Catalysis B: Environmental</i> , 2021, 283, 119633.	10.8	35
788	Recent progress, challenges, and prospects in emerging group-VIA Xenes: synthesis, properties and novel applications. <i>Nanoscale</i> , 2021, 13, 510-552.	2.8	23
789	Interfacial electronic coupling and band alignment of P3HT and exfoliated black phosphorous van der Waals heterojunctions. <i>Applied Surface Science</i> , 2021, 541, 148455.	3.1	5
790	The Art of Constructing Black Phosphorus Nanosheet Based Heterostructures: From 2D to 3D. <i>Advanced Materials</i> , 2021, 33, e2005254.	11.1	33
791	Design of Black Phosphorous Derivatives with Excellent Stability and Ion-Kinetics for Alkali Metal-Ion Battery. <i>Energy Storage Materials</i> , 2021, 35, 283-309.	9.5	8
792	Superlubricity of black phosphorus as lubricant additive. , 2021, , 439-460.		0
793	Black phosphorus nanosheets-based platform for targeted chemo-photothermal synergistic cancer therapy. <i>Colloids and Surfaces B: Biointerfaces</i> , 2021, 198, 111467.	2.5	32
794	Advanced Functional Electroactive and Photoactive Materials for Monitoring the Environmental Pollutants. <i>Advanced Functional Materials</i> , 2021, 31, 2008227.	7.8	39
795	Phosphorene Supported Single-Atom Catalysts for CO Oxidation: A Computational Study. <i>ChemPhysChem</i> , 2021, 22, 378-385.	1.0	12
796	Comparative study of elastic, thermodynamic properties and carrier mobility of InX (X = O, S, Se, Te) monolayers via first-principles. <i>Solid State Communications</i> , 2021, 326, 114163.	0.9	6
797	Recent Advances in Electrochemical Water Splitting and Reduction of CO <sub>2</sub> into Green Fuels on 2D Phosphorene-Based Catalyst. <i>Energy Technology</i> , 2021, 9, .	1.8	14
798	Effect of the surface oxide layer on the stability of black phosphorus. <i>Applied Surface Science</i> , 2021, 537, 147850.	3.1	21

#	ARTICLE	IF	CITATIONS
799	Two-dimensional MgSiP <sub>2</sub> with anisotropic electronic properties and good performances for Na-ion batteries. Chinese Chemical Letters, 2021, 32, 1081-1085.	4.8	26
800	Ultrahigh carrier mobility of penta-graphene: A first-principle study. Physica E: Low-Dimensional Systems and Nanostructures, 2021, 127, 114507.	1.3	50
801	Recent advances in anisotropic two-dimensional materials and device applications. Nano Research, 2021, 14, 897-919.	5.8	69
802	Two-dimensional semiconducting antimonene in nanophotonic applications – A review. Chemical Engineering Journal, 2021, 406, 126876.	6.6	38
803	Analogies between the topological insulator phase of 2D Dirac materials and the superradiant phase of atom-field systems. International Journal of Quantum Chemistry, 2021, 121, e26464.	1.0	3
804	Electronic Structure Tuning of 2D Metal (Hydr)oxides Nanosheets for Electrocatalysis. Small, 2021, 17, e2002240.	5.2	90
805	Structural dependence of electrosynthesized cobalt phosphide/black phosphorus pre-catalyst for oxygen evolution in alkaline media. Nanoscale, 2021, 13, 7381-7388.	2.8	21
806	Designing C <sub>6</sub> N <sub>6</sub> /C <sub>2</sub> N van der Waals heterostructures for photogenerated charge carrier separation. Physical Chemistry Chemical Physics, 2021, 23, 3925-3933.	1.3	25
807	Ohmic Contact Engineering for Two-Dimensional Materials. Cell Reports Physical Science, 2021, 2, 100298.	2.8	81
808	A structure map for AB <sub>2</sub> type 2D materials using high-throughput DFT calculations. Materials Advances, 2021, 2, 4392-4413.	2.6	21
809	Magneto-optical properties of bilayer phosphorene quantum dots. Physical Chemistry Chemical Physics, 2021, 23, 17645-17655.	1.3	3
810	Coordination-Driven Enhancement of Radiosensitization by Black Phosphorus <i>via</i> Regulating Tumor Metabolism. ACS Nano, 2021, 15, 3047-3060.	7.3	51
811	Structure and properties of 2D materials in general and their importance to energy storage. , 2021, , 11-75.		0
812	Phosphorus nitride nano-dots as a versatile and metal-free support for efficient photoelectrochemical water oxidation. Chemical Communications, 2021, 57, 6157-6160.	2.2	3
813	Emerging beyond-graphene elemental 2D materials for energy and catalysis applications. Chemical Society Reviews, 2021, 50, 10983-11031.	18.7	170
814	Bismuth-based Z-scheme photocatalytic systems for solar energy conversion. Materials Chemistry Frontiers, 2021, 5, 2484-2505.	3.2	33
815	Recent progress and challenges based on two-dimensional material photodetectors. Nano Express, 2021, 2, 012001.	1.2	31
817	Two-dimensional Ti <sub>3</sub> C <sub>2</sub> MXene-based nanostructures for emerging optoelectronic applications. Materials Horizons, 2021, 8, 2929-2963.	6.4	37

#	ARTICLE	IF	CITATIONS
818	Research progress of puckered honeycomb monolayers. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2021, 70, 148101.	0.2	7
819	Functional two-dimensional black phosphorus nanostructures towards next-generation devices. <i>Journal of Materials Chemistry A</i> , 2021, 9, 12433-12473.	5.2	73
820	Enhanced photocatalytic activity of phosphorene under different pH values using density functional theory (DFT). <i>RSC Advances</i> , 2021, 11, 16004-16014.	1.7	9
821	First-principles study of electronic structure, magnetic and optical properties of Ti, V, Co and Ni doped two-dimensional CrSi <sub>2</sub> materials. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2021, 70, 227301.	0.2	2
822	MXene and black phosphorus based 2D nanomaterials in bioimaging and biosensing: progress and perspectives. <i>Journal of Materials Chemistry B</i> , 2021, 9, 5195-5220.	2.9	38
823	Recent Progress in 2D Nanomaterial-Based Triboelectric Nanogenerators. <i>Advanced Functional Materials</i> , 2021, 31, 2009994.	7.8	60
824	Chemical functionalization of 2D black phosphorus. <i>Informa-Materially</i> , 2021, 3, 231-251.	8.5	41
825	Flux Method Growth of Large Size Group IV-V 2D GeP Single Crystals and Photoresponse Application. <i>Crystals</i> , 2021, 11, 235.	1.0	3
826	Prospects of Two-dimensional Material-based Field-Effect Transistors for Analog/RF Applications. , 2021, , .		0
827	Interface dark excitons at sharp lateral two-dimensional heterostructures. <i>Physica Scripta</i> , 2021, 96, 045815.	1.2	0
828	2D materials for conducting holes from grain boundaries in perovskite solar cells. <i>Light: Science and Applications</i> , 2021, 10, 68.	7.7	59
829	Controlling the Formation of Sodium/Black Phosphorus Intercalation Compounds Towards High Sodium Content. <i>Batteries and Supercaps</i> , 2021, 4, 1304-1309.	2.4	3
830	Fabrication of black phosphorus nanosheets/BiOBr visible light photocatalysts via the co-precipitation method. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2021, 612, 125967.	2.3	20
831	Photoinduced Enhancement of Uranium Extraction from Seawater by MOF/Black Phosphorus Quantum Dots Heterojunction Anchored on Cellulose Nanofiber Aerogel. <i>Advanced Functional Materials</i> , 2021, 31, 2100106.	7.8	139
832	Light-Matter Interaction Enhancement in Anisotropic 2D Black Phosphorus via Polarization-Tailoring Nano-Optics. <i>ACS Photonics</i> , 2021, 8, 1120-1128.	3.2	20
833	High performance mid-wave infrared photodetector based on graphene/black phosphorus heterojunction. <i>Materials Research Express</i> , 2021, 8, 035602.	0.8	10
834	Optoelectronic characteristics and application of black phosphorus and its analogs. <i>Frontiers of Physics</i> , 2021, 16, 1.	2.4	17
835	Polymer nanocomposites with aligned two-dimensional materials. <i>Progress in Polymer Science</i> , 2021, 114, 101360.	11.8	39

#	ARTICLE	IF	CITATIONS
836	Prediction of two-dimensional $Cu_2$ with polyacetylene-like motifs and Dirac nodal line. <i>Physical Review Materials</i> , 2021, 5, .	0.9	8
837	Tribological Properties of 2D Materials and Composites—A Review of Recent Advances. <i>Materials</i> , 2021, 14, 1630.	1.3	40
838	Continuous-Flow Synthesis of High-Quality Few-Layer Antimonene Hexagons. <i>Advanced Functional Materials</i> , 2021, 31, 2101616.	7.8	8
839	Gas-sensing mechanism of Cr doped SnP3 monolayer to SF6 partial discharge decomposition components. <i>Applied Surface Science</i> , 2021, 546, 149084.	3.1	35
840	Two-Dimensional Metal-Organic Frameworks and Covalent-Organic Frameworks for Electrocatalysis: Distinct Merits by the Reduced Dimension. <i>Advanced Energy Materials</i> , 2022, 12, 2003990.	10.2	78
841	Violet phosphorus surface chemical degradation in comparison to black phosphorus. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	26
842	Advancing Graphitic Carbon Nitride-Based Photocatalysts toward Broadband Solar Energy Harvesting. , 2021, 3, 663-697.		63
843	Photocatalysis Driven by Near-Infrared Light: Materials Design and Engineering for Environmentally Friendly Photoreactions. <i>ACS ES&amp;T Engineering</i> , 2021, 1, 947-964.	3.7	66
844	Ratiometric Antifouling Electrochemical Biosensors Based on Multifunctional Peptides and MXene Loaded with Au Nanoparticles and Methylene Blue. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 20388-20396.	4.0	86
845	Two-dimensional nanomaterials with engineered bandgap: Synthesis, properties, applications. <i>Nano Today</i> , 2021, 37, 101059.	6.2	82
846	Black/red phosphorus Z-scheme hybrid with novel photosynthesis-inspired electrolyte additives for enhanced photoelectrochemical activity. <i>Optical Materials</i> , 2021, 114, 110934.	1.7	10
847	Enhancing the Surface Reactivity of Black Phosphorus on Hydrogen Evolution by Covalent Chemistry. <i>Journal of Physical Chemistry C</i> , 2021, 125, 7581-7589.	1.5	14
848	Large-scale growth of few-layer two-dimensional black phosphorus. <i>Nature Materials</i> , 2021, 20, 1203-1209.	13.3	133
849	Landau-Fermi liquidness and $s$ -wave superconducting properties of pressurized gray phosphorus. <i>European Physical Journal B</i> , 2021, 94, 1.	0.6	1
850	Black Phosphorus-Molybdenum Disulfide Hetero-Junctions Formed with Ink-Jet Printing for Potential Solar Cell Applications with Indium-Tin-Oxide. <i>Crystals</i> , 2021, 11, 560.	1.0	9
851	Synthesis of lateral heterostructure of 2D materials for optoelectronic devices: challenges and opportunities. <i>Emergent Materials</i> , 2021, 4, 923-949.	3.2	14
852	Arsenic carbide allotropes prediction: An efficient platform for hole-conductions, optical and photocatalysis applications. <i>Applied Surface Science</i> , 2021, 562, 150109.	3.1	2
853	Glass fiber reinforced $PET$ modified by few-layer black phosphorus. <i>Polymers for Advanced Technologies</i> , 2021, 32, 3515-3522.	1.6	9



#	ARTICLE	IF	CITATIONS
854	Black Phosphorus Nanostructure Based Highly Sensitive and Selective Surface Plasmon Resonance Sensor for Biological and Chemical Sensing: A Review. <i>Critical Reviews in Analytical Chemistry</i> , 2023, 53, 1-26.	1.8	21
855	Photocatalytic Degradation of Diazinon with a 2D/3D Nanocomposite of Black Phosphorus/Metal Organic Framework. <i>Catalysts</i> , 2021, 11, 679.	1.6	14
856	Recent Advances on Sodium-Ion Batteries and Sodium Dual-Ion Batteries: State-of-the-Art Na <sup>+</sup> Host Anode Materials. <i>Small Science</i> , 2021, 1, 2100014.	5.8	65
857	Ice-Templated Large-Scale Preparation of Two-Dimensional Sheets of Conjugated Polymers: Thickness-Independent Flexible Supercapacitance. <i>ACS Nano</i> , 2021, 15, 8870-8882.	7.3	39
858	Electron Matters: Recent Advances in Passivation and Applications of Black Phosphorus. <i>Advanced Materials</i> , 2021, 33, e2005924.	11.1	29
859	Magnetic phase transitions of phosphorene-like nano-structure: Monte Carlo study. <i>Philosophical Magazine</i> , 0, , 1-13.	0.7	3
860	PdPSe: Component-Fusion-Based Topology Designer of Two-Dimensional Semiconductor. <i>Advanced Functional Materials</i> , 2021, 31, 2102943.	7.8	15
861	Anisotropic strain effect on structural and electronic properties in WSe <sub>2</sub> /ZnO mixed-dimensional heterostructure. <i>Applied Surface Science</i> , 2021, 551, 149378.	3.1	5
862	Modulation of electronic structure properties in bilayer phosphorene nanoribbons by transition metal atoms. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 130, 114530.	1.3	5
863	Theoretical Insights on Bandgap Engineering for Nanoribbons of the 2D Materials Family with Co-Adatoms. <i>Journal of Electronic Materials</i> , 2021, 50, 5244.	1.0	4
865	Engineering of the electronic structure of Fe-adsorbed black phosphorus monolayer by strain. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 130, 114684.	1.3	1
866	Access to Ultrafast Surface and Interface Carrier Dynamics Simultaneously in Space and Time. <i>Journal of Physical Chemistry C</i> , 2021, 125, 14495-14516.	1.5	6
867	A Colossal Enhancement of Thermoelectric Performance of Monolayer SbAs Using Strain Engineering. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100175.	1.2	1
868	Controllable synthesis of ultrathin monolayer titanate nanosheet via osmotic swelling to exfoliation of layered titanate. <i>Ceramics International</i> , 2021, 47, 19169-19179.	2.3	3
869	Strain-tunable electronic structure of two-dimensional monolayer SiP. <i>Modern Physics Letters B</i> , 2021, 35, 2150404.	1.0	0
870	Black Phosphorus/Polymers: Status and Challenges. <i>Advanced Materials</i> , 2021, 33, e2100113.	11.1	53
871	Carrier engineering of carbon nitride boosts visible-light photocatalytic hydrogen evolution. <i>Carbon</i> , 2021, 179, 80-88.	5.4	52
872	Dimensionality-Inhibited Chemical Doping in Two-Dimensional Semiconductors: The Phosphorene and MoS <sub>2</sub> from Charge-Correction Method. <i>Nano Letters</i> , 2021, 21, 6711-6717.	4.5	14

#	ARTICLE	IF	CITATIONS
873	The Rise of the Xenos: From the Synthesis to the Integration Processes for Electronics and Photonics. <i>Materials</i> , 2021, 14, 4170.	1.3	13
874	Black Phosphorus Nanoflakes Vertically Stacked on MoS <sub>2</sub> Nanoflakes as Heterostructures for Photodetection. <i>ACS Applied Nano Materials</i> , 2021, 4, 6928-6935.	2.4	14
875	Bimetal single-molecule magnets supported on benzene with large magnetic anisotropy and unquenched orbital moment. <i>Physical Review Research</i> , 2021, 3, .	1.3	3
876	Effects of MXene on Nonisothermal Crystallization Kinetics of Isotactic Polypropylene. <i>ACS Omega</i> , 2021, 6, 19973-19982.	1.6	7
877	Recent progress of black phosphorus and its emerging multifunction applications in biomedicine. <i>JPhys Materials</i> , 2021, 4, 042004.	1.8	3
878	Borophene via Micromechanical Exfoliation. <i>Advanced Materials</i> , 2021, 33, e2102039.	11.1	56
879	Facile Production of Phosphorene Nanoribbons towards Application in Lithium Metal Battery. <i>Advanced Materials</i> , 2021, 33, e2102083.	11.1	43
880	Pressure Engineering for Extending Spectral Response Range and Enhancing Photoelectric Properties of Iodine. <i>Advanced Optical Materials</i> , 2021, 9, 2101163.	3.6	16
881	Structural, electronic and optical properties of GeX (X = N, P and As) monolayer: under stress and strain conditions. <i>Optical and Quantum Electronics</i> , 2021, 53, 1.	1.5	8
882	Chemical Vapor Transport Route toward Black Phosphorus Nanobelts and Nanoribbons. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 8347-8354.	2.1	10
883	Recent progress in epitaxial growth of two-dimensional phosphorus. <i>SmartMat</i> , 2021, 2, 286-298.	6.4	18
884	Conceptually Novel Few-Layer Black Phosphorus/Supramolecular Coalition: Noncovalent Functionalization Toward Fire Safety Enhancement. <i>Industrial &amp; Engineering Chemistry Research</i> , 2021, 60, 12579-12591.	1.8	10
885	Controllable epitaxial growth of GeSe <sub>2</sub> nanostructures and nonlinear optical properties. <i>Nanotechnology</i> , 2021, 32, 465704.	1.3	9
886	Black phosphorus junctions and their electrical and optoelectronic applications. <i>Journal of Semiconductors</i> , 2021, 42, 081001.	2.0	22
887	A stable nanosilver decorated phosphorene nanozyme with phosphorus-doped porous carbon microsphere for intelligent sensing of 8-hydroxy-2-deoxyguanosine. <i>Journal of Electroanalytical Chemistry</i> , 2021, 895, 115522.	1.9	8
888	Tuning the electronic and optical properties of Ga <sub>2</sub> SSe janus monolayer by adsorption of metals. <i>Optical and Quantum Electronics</i> , 2021, 53, 1.	1.5	4
889	Strategies and Applications for Improving the Stability of Black Phosphorus in Physical Environment. <i>Advanced Engineering Materials</i> , 2021, 23, 2100450.	1.6	6
890	Review on engineering two-dimensional nanomaterials for promoting efficiency and stability of perovskite solar cells. <i>Journal of Energy Chemistry</i> , 2022, 68, 154-175.	7.1	11

#	ARTICLE	IF	CITATIONS
891	Fluorinated Black Phosphorene Nanosheets with Robust Ambient Stability for Efficient and Stable Perovskite Solar Cells. <i>Advanced Functional Materials</i> , 2022, 32, 2106779.	7.8	20
892	High performance photoresponsivity and high frequency of phosphorene/metal heterojunction as Schottky photodiode rectifier. <i>Applied Materials Today</i> , 2021, 24, 101092.	2.3	4
893	Recent Progress on Metal-Based Nanomaterials: Fabrications, Optical Properties, and Applications in Ultrafast Photonics. <i>Advanced Functional Materials</i> , 2021, 31, 2107363.	7.8	23
894	Synthesis and stabilization of black phosphorus and phosphorene: Recent progress and perspectives. <i>IScience</i> , 2021, 24, 103116.	1.9	30
895	In-situ Templating Growth of Homeostatic GeP Nano-Bar Corals with Fast Electron Transportation Pathways for High Performance Li-ion Batteries. <i>Angewandte Chemie</i> , 0, , .	1.6	1
896	Theoretical study of Au <sub>20</sub> /WS <sub>2</sub> composite material as a potential candidate for the capture of XO (X=C, N, S) gases. <i>Computational Condensed Matter</i> , 2021, 28, e00580.	0.9	4
897	The potential of stanene with transition metal adsorbed as a promising gas sensor: A first-principles study. <i>Results in Physics</i> , 2021, 28, 104617.	2.0	11
898	Converging 2D Nanomaterials and 3D Bioprinting Technology: State-of-the-Art, Challenges, and Potential Outlook in Biomedical Applications. <i>Advanced Healthcare Materials</i> , 2021, 10, e2101439.	3.9	9
899	In-situ Templating Growth of Homeostatic GeP Nano-Bar Corals with Fast Electron Transportation Pathways for High Performance Li-ion Batteries. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 26218-26225.	7.2	13
900	A comparative DFT study of the effect of doping atoms of groups III, IV, and V on the electronic properties of phosphorene. <i>Structural Chemistry</i> , 2022, 33, 131-145.	1.0	0
901	Low-Dimensional Black Phosphorus in Sensor Applications: Advances and Challenges. <i>Advanced Functional Materials</i> , 2021, 31, 2106484.	7.8	19
902	Bottom-up approach to quasi-monolayer black phosphorus advancing photocatalytic H <sub>2</sub> evolution. <i>Chemical Engineering Journal</i> , 2021, 421, 127841.	6.6	21
903	Recent advances of atomically thin 2D heterostructures in sensing applications. <i>Nano Today</i> , 2021, 40, 101287.	6.2	41
904	Semiconductor-metal transition induced by combined electric field and external strain in bilayer phosphorene. <i>Solid State Communications</i> , 2021, 337, 114434.	0.9	3
905	Red phosphorus: A rising star of anode materials for advanced K-ion batteries. <i>Energy Storage Materials</i> , 2021, 42, 193-208.	9.5	22
906	Black phosphorus-TiF <sub>3</sub> photocatalyst for hydrogen production with an excellent capacity. <i>Journal of Alloys and Compounds</i> , 2021, 883, 160775.	2.8	11
907	Two-dimensional materials and their derivatives for high performance phase change materials: emerging trends and challenges. <i>Energy Storage Materials</i> , 2021, 42, 845-870.	9.5	47
908	2D materials for bone therapy. <i>Advanced Drug Delivery Reviews</i> , 2021, 178, 113970.	6.6	23

#	ARTICLE	IF	CITATIONS
909	Fusing semiconductor and nonmetal into a high conductive wide-range solid solution alloy for Li-ion batteries. <i>Energy Storage Materials</i> , 2021, 42, 502-512.	9.5	12
910	Black P@MO (M=Al, or Ti) composites as superior Li-ion battery anodes. <i>Chemical Engineering Journal</i> , 2021, 424, 130366.	6.6	2
911	Development of a metal-free black phosphorus/graphitic carbon nitride heterostructure for visible-light-driven degradation of indomethacin. <i>Science of the Total Environment</i> , 2022, 804, 150062.	3.9	15
912	Strain modulation of electronic and optical properties of monolayer MoSi <sub>2</sub> N <sub>4</sub> . <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022, 135, 114964.	1.3	20
913	Monte Carlo analysis of phosphorene nanotransistors. <i>Journal of Computational Electronics</i> , 2021, 20, 60-69.	1.3	9
914	Metal Halide Perovskite/2D Material Heterostructures: Syntheses and Applications. <i>Small Methods</i> , 2021, 5, e2000937.	4.6	24
915	Air Stable Polyphosphazene Functionalized Few-Layer Black Phosphorene for Flame Retardancy of Epoxy Resins. <i>Springer Theses</i> , 2021, , 33-57.	0.0	8
916	Covalent and non-covalent chemistry of 2D black phosphorus. <i>RSC Advances</i> , 2021, 11, 26093-26101.	1.7	8
917	Accelerating the redox kinetics by catalytic activation of "dead sulfur" in lithium-sulfur batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 13442-13458.	5.2	30
918	Dispersant-assisted liquid-phase exfoliation of 2D materials beyond graphene. <i>Nanoscale</i> , 2021, 13, 460-484.	2.8	69
919	New materials for water-splitting. <i>Interface Science and Technology</i> , 2021, 32, 791-870.	1.6	5
920	Two-Dimensional (2D) Materials for Next-Generation Nanoelectronics and Optoelectronics: Advances and Trends. <i>Advances in Material Research and Technology</i> , 2021, , 65-96.	0.3	1
921	Topological insulators and applications. , 2021, , 81-138.		1
922	Quantum dots in cell imaging and their safety issues. <i>Journal of Materials Chemistry B</i> , 2021, 9, 5765-5779.	2.9	57
923	MXene derivatives: synthesis and applications in energy conversion and storage. <i>RSC Advances</i> , 2021, 11, 16065-16082.	1.7	25
924	Recent Progress in Black Phosphorus-Based Heterostructures for Device Applications. <i>Small Methods</i> , 2018, 2, 1700296.	4.6	51
925	Functionalization and Doping of Black Phosphorus. <i>Engineering Materials</i> , 2020, , 1-30.	0.3	11
926	Chemistry of Black Phosphorus. <i>Engineering Materials</i> , 2020, , 59-72.	0.3	12

#	ARTICLE	IF	CITATIONS
927	Future Prospects and Challenges of Black Phosphorous Materials. Engineering Materials, 2020, , 157-169.	0.3	10
928	2D MXene-Based Materials for Electrocatalysis. Transactions of Tianjin University, 2020, 26, 149-171.	3.3	65
929	Phosphorus and phosphide nanomaterials for sodium-ion batteries. Nano Research, 2017, 10, 4055-4081.	5.8	111
930	(CF <sub>3</sub> SO <sub>3</sub> ) <sub>3</sub> Er-decorated black phosphorene for robust ambient stability and excellent flame retardancy in epoxy resin. Composites Part B: Engineering, 2020, 202, 108440.	5.9	23
931	A simple electrochemical pH sensor based on black phosphorus nanosheets. Electrochemistry Communications, 2020, 118, 106796.	2.3	17
932	Catalytic Effects in the Cathode of Li-S Batteries: Accelerating polysulfides redox conversion. EnergyChem, 2020, 2, 100036.	10.1	35
933	Flame retardant polymeric nanocomposites through the combination of nanomaterials and conventional flame retardants. Progress in Materials Science, 2020, 114, 100687.	16.0	415
934	Edge phonons in black phosphorus. Nature Communications, 2016, 7, 12191.	5.8	70
935	Atomic-scale analysis of the physical strength and phonon transport mechanisms of monolayer $\beta$ -bismuthene. Physical Chemistry Chemical Physics, 2020, 22, 28238-28255.	1.3	18
936	Langmuir-Blodgett fabrication of large-area black phosphorus-C <sub>60</sub> thin films and heterojunction photodetectors. Nanoscale, 2020, 12, 19814-19823.	2.8	17
937	Interfaces between MoO <sub>x</sub> and MoX <sub>2</sub> (X = S, Se, and Te)*. Chinese Physics B, 2020, 29, 116802.	0.7	7
938	Optical Properties of Monolayer MoSi <sub>2</sub> N <sub>4</sub> WSi <sub>2</sub> N <sub>4</sub> and MoSi <sub>2</sub> N <sub>4</sub> WSi <sub>2</sub> N <sub>4</sub> Nanoribbons		
939	Modeling of a fiber-optic surface plasmon resonance biosensor employing phosphorene for sensing applications. Optical Engineering, 2019, 58, 1.	0.5	8
940	Optical Properties of Tin Monoxide Nanoshells Prepared via Self-Assembly. Nanoscience and Nanotechnology Letters, 2017, 9, 1947-1952.	0.4	1
942	Tunable terahertz metamaterial absorber based on Dirac semimetal films. Applied Optics, 2018, 57, 9555.	0.9	25
943	Black Phosphorus Optoelectronics. , 2016, , .		1
944	Far-infrared photodetectors based on graphene/black-AsP heterostructures. Optics Express, 2020, 28, 2480.	1.7	27
945	Advances in photonics of recently developed Xenes. Nanophotonics, 2020, 9, 1621-1649.	2.9	11

#	ARTICLE	IF	CITATIONS
946	The pump fluence and wavelength-dependent ultrafast carrier dynamics and optical nonlinear absorption in black phosphorus nanosheets. <i>Nanophotonics</i> , 2020, 9, 2033-2043.	2.9	24
947	Low-temperature separation of helium-helion mixture. <i>Reviews on Advanced Materials Science</i> , 2020, 59, 361-370.	1.4	2
949	Two-Dimensional Pnictogen for Field-Effect Transistors. <i>Research</i> , 2019, 2019, 1046329.	2.8	34
950	Polarization-Dependent Optical Properties and Optoelectronic Devices of 2D Materials. <i>Research</i> , 2020, 2020, 5464258.	2.8	21
952	Adsorption-Release Characteristics of Phosphorus and the Community of Phosphorus Accumulating Organisms of Sediments in a Shallow Lake. <i>Sustainability</i> , 2021, 13, 11501.	1.6	4
953	Preparation of NIR-responsive, ROS-generating and antibacterial black phosphorus quantum dots for promoting the MRSA-infected wound healing in diabetic rats. <i>Acta Biomaterialia</i> , 2022, 137, 199-217.	4.1	58
954	Large-scale preparation of black phosphorus by molten salt method for energy storage. <i>ChemPhysMater</i> , 2022, 1, 1-5.	1.4	5
955	Ternary Transition Metal Chalcogenide Nb <sub>2</sub> Pd <sub>3</sub> Se <sub>8</sub> : A New Candidate of 1D Van der Waals Materials for Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2022, 32, 2108104.	7.8	19
956	Robust Solid Electrolyte Interphases in Localized High Concentration Electrolytes Boosting Black Phosphorus Anode for Potassium-Ion Batteries. <i>ACS Nano</i> , 2021, 15, 16851-16860.	7.3	41
957	Nanostructure and functional group engineering of black phosphorus via plasma treatment for CO <sub>2</sub> photoreduction. <i>Journal of CO<sub>2</sub> Utilization</i> , 2021, 54, 101745.	3.3	13
958	Black phosphorus-coated tilted fiber Bragg grating for ultrasensitive ion sensing. , 2017, , .		0
959	Reliability of black phosphorus field-effect transistors with respect to bias-temperature and hot-carrier stress. , 2017, , .		1
960	Progress in Fabrication of Nanosheet Membranes with Two-Dimensional Materials. <i>Material Sciences</i> , 2018, 08, 736-741.	0.0	0
961	Theoretical study of strained black phosphorus photodetector integrated with silicon waveguide. , 2019, , .		1
962	Self-assembly of Pd@Au core/shell nanosheets used as a highly sensitive SERS substrate based on the determination of trace fluorescent dye. <i>International Journal of Materials Research</i> , 2019, 110, 563-569.	0.1	0
963	Structure and Fundamental Properties of Black Phosphorus. <i>Engineering Materials</i> , 2020, , 139-156.	0.3	0
964	From amorphous red phosphorus to black phosphorus crystal: An optimization, controllable and highest yield synthesis process. <i>Journal of Crystal Growth</i> , 2022, 577, 126408.	0.7	5
965	Dual-Functional Phosphorene Nanocomposite Membranes for the Treatment of Perfluorinated Water: An Investigation of Perfluorooctanoic Acid Removal via Filtration Combined with Ultraviolet Irradiation or Oxygenation. <i>Membranes</i> , 2021, 11, 18.	1.4	9

#	ARTICLE	IF	CITATIONS
966	Preparation of Black Phosphorus Nanosheets Layer and Its Application in Biomedical Field. <i>Material Sciences</i> , 2020, 10, 655-667.	0.0	0
967	A study on the multiferroic properties of semi-hydrogenated $X_2H$ ( $X = C, Si, \text{ and } Ge$ ) monolayer films. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 25817-25823.	1.3	5
968	Two-dimensional magnetic atomic crystals. <i>Materials Horizons</i> , 2022, 9, 559-576.	6.4	16
970	Janus $Al_2S_2Te$ monolayer: A prospective thermoelectric material. <i>Solid State Communications</i> , 2022, 341, 114579.	0.9	6
971	Controllable Dual-Band Filter Based on Black Phosphorus. , 2021, , .		0
972	Two-dimensional materials toward Terahertz optoelectronic device applications. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2022, 51, 100473.	5.6	36
973	Tunable spin polarization and electronic structure of bottom-up synthesized $MoSi_2N_4$ materials. <i>Physical Review B</i> , 2021, 104, .	1.1	37
974	Recent Progress of Sub-Nanometric Materials in Photothermal Energy Conversion. <i>Advanced Science</i> , 2022, 9, e2104225.	5.6	23
975	Incorporation of 2D black phosphorus (2D-bP) in P3HT/PMMA mixtures for novel materials with tuned spectroscopic, morphological and electric features. <i>FlatChem</i> , 2021, 30, 100314.	2.8	4
976	Charge compensation co-doping enhances the photocatalytic activity of black phosphorus. <i>Molecular Catalysis</i> , 2021, 516, 112008.	1.0	1
977	Black phosphorus-based heterostructures for photocatalysis and photoelectrochemical water splitting. <i>Journal of Energy Chemistry</i> , 2022, 67, 745-779.	7.1	51
978	Anchoring black phosphorus quantum dots over carboxylated multiwalled carbon nanotubes: A stable 0D/1D nanohybrid with high sensing performance to Ochratoxin a. <i>Applied Surface Science</i> , 2022, 583, 152429.	3.1	5
979	Dual-mode detection of dopamine based on 0D/2D/2D $CuInS_2/ZnS$ quantum dot/black phosphorous nanosheet/TiO <sub>2</sub> nanosheet nanocomposites. <i>Analytical and Bioanalytical Chemistry</i> , 2022, 414, 1829.	1.9	1
980	Effect of doping and vacancy defect on the sensitivity of stanene toward HCN. <i>Molecular Physics</i> , 2022, 120, .	0.8	5
981	Preparation of metal-free BP/CN photocatalyst with enhanced ability for photocatalytic tetracycline degradation. <i>Chemosphere</i> , 2022, 290, 133317.	4.2	18
982	Phosphorene quantum dots: synthesis, properties and catalytic applications. <i>Nanoscale</i> , 2022, 14, 1037-1053.	2.8	9
983	Permeability of boron- and nitrogen-doped graphene nanoflakes for protium/deuterium ions. <i>RSC Advances</i> , 2022, 12, 3883-3891.	1.7	0
984	Zero Poisson's ratio in single-layer arsenic. <i>Nanoscale</i> , 2022, 14, 969-975.	2.8	1

#	ARTICLE	IF	CITATIONS
985	Dual spin filtering and negative differential resistance effects in vanadium doped zigzag phosphorene nanoribbons with different edge passivations. <i>AIP Advances</i> , 2022, 12, .	0.6	6
986	Perspective on Micro-Supercapacitors. <i>Frontiers in Chemistry</i> , 2021, 9, 807500.	1.8	14
987	Recent Progress in Improving the Performance of Infrared Photodetectors via Optical Field Manipulations. <i>Sensors</i> , 2022, 22, 677.	2.1	13
988	Synthesis and electrocatalytic performance of ultrathin noble metal nanosheets. <i>CrystEngComm</i> , 2022, 24, 1319-1333.	1.3	5
990	First-Principles Molecular Dynamics Insight into the Atomic Level Degradation Pathway of Phosphorene. <i>ACS Omega</i> , 2022, 7, 696-704.	1.6	5
991	All-optical logic devices based on black arsenic phosphorus with strong nonlinear optical response and high stability. <i>Opto-Electronic Advances</i> , 2022, 5, 200046-200046.	6.4	25
992	Enhancing the optical absorption of Ga <sub>2</sub> SeTe Janus monolayer by adsorption of transition metals. <i>European Physical Journal D</i> , 2022, 76, .	0.6	2
993	Ab-initio study of structural stability, electronic and optical properties of X <sub>2</sub> GeSe (X = P and Sb) monolayers. <i>Solid State Communications</i> , 2022, 343, 114673.	0.9	4
994	A review of defect engineering in two-dimensional materials for electrocatalytic hydrogen evolution reaction. <i>Chinese Journal of Catalysis</i> , 2022, 43, 636-678.	6.9	92
995	Preparation of high-quality few-layers bismuthene hexagons. <i>Applied Materials Today</i> , 2022, 26, 101360.	2.3	9
996	2D materials for organic and perovskite photovoltaics. <i>Nano Energy</i> , 2022, 94, 106833.	8.2	20
997	Chapter 1. Recent Developments and Perspectives on Solar-driven Fine Chemicals Synthesis: From the Reaction System to 2D Photocatalysts. <i>Inorganic Materials Series</i> , 2022, , 1-64.	0.5	1
998	A NIR-Light-Driven Black Phosphorus Based Nanocomposite for Combating Bacteria. <i>ChemistrySelect</i> , 2022, 7, .	0.7	4
999	Temperature Modulating Fermi Level Pinning in 2D GeSe for High-Performance Transistor. <i>Advanced Electronic Materials</i> , 2022, 8, .	2.6	12
1001	Interlayer Quasi-Bonding Interactions in 2D Layered Materials: A Classification According to the Occupancy of Involved Energy Bands. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 11998-12004.	2.1	10
1002	Layered 2D Nanomaterials to Tailor Friction and Wear in Machine Elements—A Review. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	80
1003	Europium functionalized black phosphorus quantum dots as a CRET platform for synergistically enhanced chemiluminescence. <i>Chemical Communications</i> , 2022, 58, 5168-5171.	2.2	5
1004	Plasmonic-Metal/2d-Semiconductor Hybrids for Photodetection and Photocatalysis in Energy-Related and Environmental Processes. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0



#	ARTICLE	IF	CITATIONS
1005	Nonlinear optical properties of PtTe <sub>2</sub> based saturable absorbers for ultrafast photonics. Journal of Materials Chemistry C, 2022, 10, 5124-5133.	2.7	20
1006	2D material based heterostructures for solar light driven photocatalytic H <sub>2</sub> production. Materials Advances, 2022, 3, 3389-3417.	2.6	20
1007	Classification of nanomaterials and their physical and chemical nature. , 2022, , 7-34.		1
1008	A Strong Two-Dimensional Semiconductor <i>h</i> -B <sub>4</sub> C with High Carrier Mobility. Journal of Physical Chemistry C, 2022, 126, 6036-6046.	1.5	2
1009	Stability and passivation of 2D group VA elemental materials: black phosphorus and beyond. Journal of Physics Condensed Matter, 2022, 34, 224004.	0.7	4
1010	Synthesis of transition metal dichalcogenide van der Waals heterostructures through chemical vapor deposition. Journal of Physics Condensed Matter, 2022, 34, 254002.	0.7	4
1011	Recent advances in <i>MXene</i> as electrocatalysts for sustainable energy generation: A review on surface engineering and compositing of <i>MXene</i> . International Journal of Energy Research, 2022, 46, 8625-8656.	2.2	26
1012	Elucidating the Ambient Stability and Gas Sensing Mechanism of Nickel-Decorated Phosphorene for NO <sub>2</sub> Detection: A First-Principles Study. ACS Omega, 2022, 7, 9808-9817.	1.6	8
1013	Study on AuNPs size regulation and AuNPs/BP photocatalytic performance. Optical Materials, 2022, 125, 112133.	1.7	3
1014	Electronic and magnetic properties of honeycomb arsenic-phosphorus nanoribbons via a first-principles study. Canadian Journal of Physics, 2022, 100, 277-283.	0.4	2
1015	The marriage of two-dimensional materials and phase change materials for energy storage, conversion and applications. EnergyChem, 2022, 4, 100071.	10.1	42
1016	S-scheme heterojunction BP/WO <sub>3</sub> with tight interface firstly prepared in magnetic stirring reactor for enhanced photocatalytic degradation of hazardous contaminants under visible light. Separation and Purification Technology, 2022, 292, 120986.	3.9	10
1017	Black phosphorus incorporated cobalt oxide: Biomimetic channels for electrocatalytic water oxidation. Chinese Journal of Catalysis, 2022, 43, 1123-1130.	6.9	5
1018	Renal-clearable and biodegradable black phosphorus quantum dots for photoacoustic imaging of kidney dysfunction. Analytica Chimica Acta, 2022, 1204, 339737.	2.6	16
1019	An effective Fenton reaction by using waste ferric iron and red phosphorus. Chemical Engineering Journal, 2022, 437, 135265.	6.6	18
1020	Superconductivity in the two-dimensional nonbenzenoid biphenylene sheet with Dirac cone. 2D Materials, 2022, 9, 015035.	2.0	10
1021	Plasmonic 2D Materials: Overview, Advancements, Future Prospects and Functional Applications. , 0, , .		4
1022	Designing Direct Z-Scheme Heterojunctions Enabled by Edge-Modified Phosphorene Nanoribbons for Photocatalytic Overall Water Splitting. Journal of Physical Chemistry Letters, 2022, 13, 1-11.	2.1	21

#	ARTICLE	IF	CITATIONS
1023	Red Phosphorus: An Up-and-Coming Photocatalyst on the Horizon for Sustainable Energy Development and Environmental Remediation. <i>Chemical Reviews</i> , 2022, 122, 3879-3965.	23.0	58
1024	<i>In situ</i> integration of Te/Si 2D/3D heterojunction photodetectors toward UV-vis-IR ultra-broadband photoelectric technologies. <i>Nanoscale</i> , 2022, 14, 6228-6238.	2.8	9
1025	Theoretical prediction of novel two-dimensional auxetic material SiGeS and study of its electronic and optical properties. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2022, .	0.2	0
1026	Tunable dual-band filter based on monolayer black phosphorus. <i>Microwave and Optical Technology Letters</i> , 2022, 64, 1170-1175.	0.9	3
1027	Bandgap Engineering of Ternary $\text{In}_x\text{Sn}_y\text{S}_{1-x-y}$ and $\text{In}_x\text{Sn}_y\text{Te}_{1-x-y}$ Single Crystals for High-Performance Electronics and Optoelectronics. <i>Advanced Optical Materials</i> , 2022, 10, .	3.6	3
1028	Two-Dimensional Quantum Dot-Based Electrochemical Biosensors. <i>Biosensors</i> , 2022, 12, 254.	2.3	11
1031	Role of Channel Inversion in Ambient Degradation of Phosphorene FETs. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 3353-3358.	1.6	0
1032	Double-dome superconductivity in germanium phosphides. <i>Journal of Materials Chemistry C</i> , 2022, 10, 8617-8624.	2.7	2
1033	New Generation of Photosensitizers Based on Inorganic Nanomaterials. <i>Methods in Molecular Biology</i> , 2022, 2451, 213-244.	0.4	2
1034	CHAPTER 9. Quantum Dots in Biological Imaging. <i>Monographs in Supramolecular Chemistry</i> , 2022, , 278-321.	0.2	1
1035	Room-Temperature Infrared Photodetectors with Zero-Dimensional and New Two-Dimensional Materials. <i>Coatings</i> , 2022, 12, 609.	1.2	4
1036	Organic Ion Template-Guided Solution Growth of Ultrathin Bismuth Oxyselenide with Tunable Electronic Properties for Optoelectronic Applications. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	18
1037	Recent Advances and Challenges in Ultrafast Photonics Enabled by Metal Nanomaterials. <i>Advanced Optical Materials</i> , 2022, 10, .	3.6	7
1038	Broadband self-powered photoelectrochemical photodetector based on Te/Se heterostructure nanocomposites. <i>Composites Communications</i> , 2022, 32, 101175.	3.3	13
1039	Fabrication of Z-scheme $\text{TiO}_2/\text{BP}/\text{g-C}_3\text{N}_4$ nanocomposite via pulsed laser ablation in liquid for photocatalytic overall water splitting. <i>Optical Materials</i> , 2022, 128, 112428.	1.7	19
1040	First-principles calculations to investigate strain-tunable electronic bandgap of black phosphorus-structured nitrogen with desirable optical and elastic properties. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2022, 281, 115745.	1.7	3
1041	A study of 2H and 1T phases of Janus monolayers and their van der Waals heterostructure with black phosphorene for optoelectronic and thermoelectric applications. <i>Journal of Solid State Chemistry</i> , 2022, 311, 123159.	1.4	3
1042	Recent advances of amorphous-phase-engineered metal-based catalysts for boosted electrocatalysis. <i>Journal of Materials Science and Technology</i> , 2022, 127, 1-18.	5.6	18

#	ARTICLE	IF	CITATIONS
1043	Progress on two-dimensional binary oxide materials. <i>Nanoscale</i> , 2022, 14, 9576-9608.	2.8	7
1044	Synthesis, modification, and application of black phosphorus, few-layer black phosphorus (FLBP), and phosphorene: a detailed review. <i>Materials Advances</i> , 2022, 3, 5557-5574.	2.6	23
1045	Enhanced DFT insights of doped phosphorene: Structural and electronic considerations. <i>Computational and Theoretical Chemistry</i> , 2022, 1214, 113754.	1.1	0
1046	Direct $d$ hybridization mechanism for strong anisotropic carrier transport in layered $Mo_2$ <i>Physical Review B</i> , 2022, 105, .	1.1	3
1047	Janus transition-metal dichalcogenides heterostructures for highly efficient excitonic solar cells. <i>Applied Surface Science</i> , 2022, 598, 153835.	3.1	11
1048	Gram-Scale Preparation of Black Phosphorus Nanosheets via Shock-Induced Phase Transformation. <i>Journal of Materials Chemistry C</i> , 0, , .	2.7	1
1049	A review on synthesis, modification method, and challenges of light-driven H <sub>2</sub> evolution using g-C <sub>3</sub> N <sub>4</sub> -based photocatalyst. <i>Advances in Colloid and Interface Science</i> , 2022, 307, 102722.	7.0	22
1050	1D van der Waals Nb <sub>2</sub> Pd <sub>3</sub> Se <sub>8</sub> Based n-Type Field-Effect Transistors Prepared by Liquid Phase Exfoliation. <i>Advanced Materials Interfaces</i> , 0, , 2200620.	1.9	1
1051	Simultaneous exfoliation and functionalization of black phosphorus by sucrose-assisted ball milling with NMP intercalating and preparation of flame retardant polyvinyl alcohol film. <i>Polymer</i> , 2022, 255, 125036.	1.8	5
1052	MXenes for electrocatalysis applications: Modification and hybridization. <i>Chinese Journal of Catalysis</i> , 2022, 43, 2057-2090.	6.9	76
1053	Plasmonic-metal/2D-semiconductor hybrids for photodetection and photocatalysis in energy-related and environmental processes. <i>Coordination Chemistry Reviews</i> , 2022, 469, 214665.	9.5	21
1054	Single Zn Atom Catalyst on Ti <sub>2</sub> Cn <sub>2</sub> Mxenes for Efficient Co. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1055	Phosphorene. , 2022, , 121-148.		1
1056	MBenes: progress, challenges and future. <i>Journal of Materials Chemistry A</i> , 2022, 10, 15865-15880.	5.2	44
1057	Modulating the photoelectrocatalytic conversion of CO <sub>2</sub> to methanol and/or H <sub>2</sub> O to hydrogen at a phosphorene modified Ti/TiO <sub>2</sub> electrode. <i>Journal of Materials Chemistry C</i> , 2022, 10, 11276-11285.	2.7	1
1058	High-Performance and Low-Power Transistors Based on Anisotropic Monolayer $T^2/I$ - $TeO_2$ <i>Physical Review Applied</i> , 2022, 17, .	1.5	15
1059	Flexible Graphene Sheet Loaded Curved Patch Applicator for Superficial Hyperthermia Treatment Planning Utilizing Ripple Effect of Armchair and Zigzag Bending. <i>Current Nanoscience</i> , 2023, 19, 589-600.	0.7	0
1060	Chemical insights into two-dimensional quantum materials. <i>Matter</i> , 2022, 5, 2168-2189.	5.0	2

#	ARTICLE	IF	CITATIONS
1061	Understanding the bidirectional interactions between two-dimensional materials, microorganisms, and the immune system. <i>Advanced Drug Delivery Reviews</i> , 2022, 188, 114422.	6.6	21
1062	Tri-MX: New group-IV monochalcogenide monolayers with excellent piezoelectricity and special optical properties. <i>Applied Surface Science</i> , 2022, 602, 154391.	3.1	4
1063	Effect of stacking order on the vibration properties of bilayer black phosphorus. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2022, 478, .	1.0	1
1064	Black phosphorous nanomaterials as a new paradigm for postoperative tumor treatment regimens. <i>Journal of Nanobiotechnology</i> , 2022, 20, .	4.2	5
1065	Effect of PbPc on electron structure and carrier dynamics of black phosphorus. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 424008.	1.3	0
1066	Photothermal Responsivity of van der Waals Material-Based Nanomechanical Resonators. <i>Nanomaterials</i> , 2022, 12, 2675.	1.9	0
1067	Inkjet-printed graphene and molybdenum disulfide based gas sensors for toxic, flammable, and atmospheric gases. , 2022, , .		1
1068	Two-Dimensional Black Phosphorus: Preparation, Passivation and Lithium-Ion Battery Applications. <i>Molecules</i> , 2022, 27, 5845.	1.7	4
1069	Printable Inorganic Materials for Printed Electronics. , 2022, , 103-192.		0
1070	High-Performance Self-Powered Photodetector with Broadened Spectrum Absorption Based on Black Phosphorus/Cs <sub>2</sub> SnI <sub>4</sub> Heterostructure. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1071	A Density Functional Theory Study of the Co Oxidation on Pt <sub>1</sub> Supported on Pt <sub>x</sub> 2 (X = S, Se, Te). <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1072	It takes two: advances in employing the interactions between black phosphorous and metals in various applications. <i>Journal of Materials Chemistry A</i> , 2022, 10, 18490-18508.	5.2	2
1073	Excellent flame retardancy and air stability through surface coordination of few-layer black phosphorus with TiL <sub>4</sub> in epoxy resin. <i>Polymers for Advanced Technologies</i> , 2023, 34, 238-251.	1.6	2
1074	Scanning tunneling microscopy study of natural black arsenic. <i>Physical Review B</i> , 2022, 106, .	1.1	0
1075	Epitaxy of III-nitrides on two-dimensional materials and its applications. <i>Chinese Physics B</i> , 2022, 31, 117702.	0.7	3
1076	A Critical Review on New and Efficient 2D Materials for Catalysis. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	7
1077	Effects of Lateral Size, Thickness, and Stabilizer Concentration on the Cytotoxicity of Defect-Free Graphene Nanosheets: Implications for Biological Applications. <i>ACS Applied Nano Materials</i> , 2022, 5, 12626-12636.	2.4	3
1078	Quantum capacitance of vacancy-defected and co-doped stanene for supercapacitor electrodes: A theoretical study. <i>Electrochimica Acta</i> , 2022, 433, 141261.	2.6	10

#	ARTICLE	IF	CITATIONS
1079	Two-dimensional materials for photoelectrochemical water splitting. <i>Energy Advances</i> , 2023, 2, 34-53.	1.4	9
1080	Be <sub>2</sub> C monolayer as an efficient adsorbent of toxic volatile organic compounds: theoretical investigation. <i>Molecular Physics</i> , 0, .	0.8	0
1081	Two-dimensional photonic MXene nanomedicine. <i>Nanophotonics</i> , 2022, 11, 4995-5017.	2.9	5
1082	Ï€-type 2D Semiconductors for Future Electronics. <i>Advanced Materials</i> , 2023, 35, .	11.1	15
1083	Highly efficient photocatalytic overall water splitting in two-dimensional van der Waals MoS <sub>2</sub> /Hf <sub>2</sub> CO <sub>2</sub> heterostructure. <i>Journal Physics D: Applied Physics</i> , 2023, 56, 035501.	1.3	5
1084	Challenges for Nanoscale CMOS Logic Based on Two-Dimensional Materials. <i>Nanomaterials</i> , 2022, 12, 3548.	1.9	13
1085	The Advanced Applications of 2D Materials in SERS. <i>Chemosensors</i> , 2022, 10, 455.	1.8	3
1086	Ultrasound-assisted synthesis of graphene@MXene hybrid: A novel and promising material for electrochemical sensing. <i>Ultrasonics Sonochemistry</i> , 2022, 90, 106208.	3.8	15
1087	Adsorption, sensing, electronic and magnetic properties of phosgene (COCl <sub>2</sub> ) molecule adsorbed on Nb-doped arsenene: First-principles study. <i>Solid State Communications</i> , 2022, 357, 114975.	0.9	3
1088	First-principles prediction of the missed Pmmn phase for a GaTe monolayer as a new two-dimensional semiconductor. <i>Scripta Materialia</i> , 2023, 223, 115073.	2.6	10
1089	Compressive solitary waves in black phosphorene. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2023, 146, 115519.	1.3	1
1090	High-performance self-powered photodetector with broadened spectrum absorption based on black phosphorus/Cs <sub>2</sub> SnI <sub>4</sub> heterostructure. <i>Applied Surface Science</i> , 2023, 609, 155032.	3.1	3
1091	A density functional theory study of the CO oxidation on Pt <sub>1</sub> supported on PtX <sub>2</sub> (X=As, Se, Te). <i>Applied Surface Science</i> , 2023, 609, 155341.	3.1	0
1092	Constructing FePSe <sub>3</sub> â€“FeSe <sub>2</sub> heterojunctions uniformly in a Ketjen black carbon matrix for superior potassium ion batteries. <i>Journal of Materials Chemistry A</i> , 2022, 10, 25671-25682.	5.2	6
1093	Progress in the preparation, application, and recycling of black phosphorus. <i>Chemosphere</i> , 2023, 311, 137161.	4.2	3
1094	Controlled p-type Doping of Black Phosphorus Using AuCl <sub>3</sub> Molecules and Its Diode Applications. <i>Electronic Materials Letters</i> , 0, , .	1.0	0
1095	Photodetectors Based on Emerging Materials. <i>Springer Handbooks</i> , 2023, , 777-805.	0.3	0
1096	Black-phosphorus-based junctions and their optoelectronic device applications. <i>Nano Research</i> , 2023, 16, 1651-1669.	5.8	6

#	ARTICLE	IF	CITATIONS
1097	Progress, challenges, and opportunities of two-dimensional layered materials based electrochemical sensors and biosensors. <i>Materials Today Chemistry</i> , 2022, 26, 101235.	1.7	5
1098	Phosphorus nanoclusters and insight into the formation of phosphorus allotropes. <i>Nanoscale</i> , 2023, 15, 1338-1346.	2.8	4
1099	Development of functional nanomedicines for tumor associated macrophages-focused cancer immunotherapy. <i>Theranostics</i> , 2022, 12, 7821-7852.	4.6	12
1100	Self-driven and ultrasensitive room-temperature terahertz photodetector based on graphene-Ta <sub>2</sub> NiSe <sub>5</sub> van der Waals heterojunction. <i>Infrared Physics and Technology</i> , 2023, 128, 104474.	1.3	1
1101	Effect of alkali metal adsorption over pristine Ga <sub>2</sub> Te janus monolayer in enhancing the visible region absorption. , 2023, 173, 207463.		0
1102	Ni-based ultrathin nanostructures for overall electrochemical water splitting. <i>Materials Chemistry Frontiers</i> , 2023, 7, 194-215.	3.2	10
1103	A review on black-phosphorus-based composite heterojunction photocatalysts for energy and environmental applications. <i>Separation and Purification Technology</i> , 2023, 307, 122833.	3.9	7
1104	Next generation 2D materials for anodes in battery applications. <i>Journal of Power Sources</i> , 2023, 556, 232256.	4.0	15
1105	Single Zn atom catalyst on Ti <sub>2</sub> CN <sub>2</sub> MXenes for efficient CO oxidation. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2023, 147, 115595.	1.3	3
1106	Recent advances in two-dimensional ultrathin Bi-based photocatalysts. <i>Progress in Materials Science</i> , 2023, 133, 101047.	16.0	14
1107	The Application of Black Phosphorus Nanomaterials in Bone Tissue Engineering. <i>Pharmaceutics</i> , 2022, 14, 2634.	2.0	6
1108	Breathing Mode's Temperature Coefficient Estimation and Interlayer Phonon Scattering Model of Few-Layer Phosphorene. <i>ACS Omega</i> , 2022, 7, 43462-43467.	1.6	1
1109	Double-layer stretching broadens the absorption range of the solar spectrum in XSi <sub>2</sub> N <sub>4</sub> . <i>Physica B: Condensed Matter</i> , 2023, 651, 414583.	1.3	1
1110	Gate-Controlled Metal to Insulator Transition in Black Phosphorus Nanosheet-Based Field Effect Transistors. <i>ACS Applied Nano Materials</i> , 2022, 5, 18376-18384.	2.4	1
1111	Interlayer Doping of Cu on Bilayer Black Phosphorus for Enhanced Charge Transfer and Transport Properties. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 11489-11495.	2.1	0
1112	High-Throughput Computational Screening of Two-Dimensional Semiconductors. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 11581-11594.	2.1	51
1113	Solvent-stabilized few-layer violet phosphorus and its ultrafast nonlinear optics. <i>Nano Research</i> , 2023, 16, 5843-5849.	5.8	8
1114	2D Zinc Oxide " Synthesis, Methodologies, Reaction Mechanism, and Applications. <i>Small</i> , 2023, 19, .	5.2	22

#	ARTICLE	IF	CITATIONS
1115	Reversible doping polarity and ultrahigh carrier density in two-dimensional van der Waals ferroelectric heterostructures. <i>Frontiers of Physics</i> , 2023, 18, .	2.4	4
1116	Computational Studies of Auto-Active van der Waals Interaction Molecules on Ultra-Thin Black-Phosphorus Film. <i>Molecules</i> , 2023, 28, 681.	1.7	2
1117	Surface charge-directed borophene-phosphorous nitride nanodot heterojunction supports for enhanced photoelectrochemical performance. <i>Chemical Communications</i> , 2023, 59, 1955-1958.	2.2	3
1118	Tunable magnetic and electronic properties of armchair BeN <sub>4</sub> nanoribbons. <i>Physical Chemistry Chemical Physics</i> , 2023, 25, 5029-5036.	1.3	2
1119	O-doping effects on the adsorption and detection of acetaldehyde and ethylene oxide on phosphorene monolayer: A DFT investigation. <i>Chemical Physics Letters</i> , 2023, 813, 140315.	1.2	1
1120	Ionic liquid passivated black phosphorus for stabilized compliant electronics. <i>Nano Research</i> , 0, , .	5.8	1
1121	MXenes Functionalized with Macrocyclic Hosts: From Molecular Design to Applications. <i>ChemPlusChem</i> , 2023, 88, .	1.3	7
1122	A New, Thorough Look on Unusual and Neglected Group III-VI Compounds Toward Novel Perusals. <i>Small</i> , 2023, 19, .	5.2	1
1123	1D and 2D Field Effect Transistors in Gas Sensing: A Comprehensive Review. <i>Small</i> , 2023, 19, .	5.2	21
1124	Antimonene: a tuneable post-graphene material for advanced applications in optoelectronics, catalysis, energy and biomedicine. <i>Chemical Society Reviews</i> , 2023, 52, 1288-1330.	18.7	18
1125	3D printing of 2D nano-inks for multifarious applications. , 2023, , 91-124.		2
1126	2D supramolecular organic framework with tunable luminescence via cucurbit[ <i>n</i> ]uril-based hydrogen bonds, outer-surface interactions and host-guest interactions. <i>Materials Chemistry Frontiers</i> , 2023, 7, 1354-1364.	3.2	6
1127	First-principles study on electronic states of In <sub>2</sub> Se <sub>3</sub> /Au heterostructure controlled by strain engineering. <i>RSC Advances</i> , 2023, 13, 11385-11392.	1.7	1
1128	Tuning the magnetoresistance properties of phosphorene with periodic magnetic modulation. <i>Journal of Physics Condensed Matter</i> , 2023, 35, 265301.	0.7	2
1129	An antifouling electrochemical sensor based on multiwalled carbon nanotubes functionalized black phosphorus for highly sensitive detection of carbendazim and corresponding response mechanisms analyses. <i>Microchemical Journal</i> , 2023, 190, 108671.	2.3	5
1130	Recent advances of two-dimensional material additives in hybrid perovskite solar cells. <i>Nanotechnology</i> , 2023, 34, 172001.	1.3	5
1131	Prediction of superconductivity in Li, K, Ca, and Sr-intercalated blue phosphorene bilayer using first-principle calculations. <i>Journal of Physics Condensed Matter</i> , 2023, 35, 135601.	0.7	1
1132	Research progress on black phosphorus hybrids hydrogel platforms for biomedical applications. <i>Journal of Biological Engineering</i> , 2023, 17, .	2.0	3

#	ARTICLE	IF	CITATIONS
1133	Electrochemical production of two-dimensional atomic layer materials and their application for energy storage devices. <i>Chemical Physics Reviews</i> , 2023, 4, .	2.6	0
1134	Graphene-Like Monoelemental 2D Materials for Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2023, 13, .	10.2	13
1135	A Dual-Signaling Electrochemical Aptasensor Based on an In-Plane Gold Nanoparticles-Black Phosphorus Heterostructure for the Sensitive Detection of Patulin. <i>Foods</i> , 2023, 12, 846.	1.9	5
1136	Modeling of Planar 2D/3D Semiconductor Heterostructures Based on MoS <sub>2</sub> /GaN Junction. , 2022, , .		0
1137	Effective Passivation of Anisotropic 2D GeAs via Graphene Encapsulation for Highly Stable Near-Infrared Photodetectors. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 13281-13289.	4.0	5
1138	Percolation-Based Metal-Insulator Transition in Black Phosphorus Field Effect Transistors. <i>ACS Applied Materials &amp; Interfaces</i> , 2023, 15, 13299-13306.	4.0	0
1139	Modelling of disclinated phosphorene crystals. <i>Letters on Materials</i> , 2023, 13, 45-49.	0.2	0
1140	An "on-off" type electrochemiluminescent immunosensor based on resonance energy transfer and a liposome-assisted strategy for signal amplification. <i>New Journal of Chemistry</i> , 2023, 47, 7198-7204.	1.4	0
1141	Graphene-black phosphorus printed photodetectors. <i>2D Materials</i> , 2023, 10, 035015.	2.0	3
1142	Flame Retardancy of Epoxy Resins Modified with Few-Layer Black Phosphorus. <i>Polymers</i> , 2023, 15, 1655.	2.0	1
1143	Unconventional conductivity increase in multilayer black phosphorus. <i>Npj 2D Materials and Applications</i> , 2023, 7, .	3.9	6
1144	Atomic-thick metastable phase RhMo nanosheets for hydrogen oxidation catalysis. <i>Nature Communications</i> , 2023, 14, .	5.8	18
1145	Recent advances in two-dimensional nanomaterials for bone tissue engineering. <i>Journal of Materiomics</i> , 2023, 9, 930-958.	2.8	3
1146	A laboratory X-ray emission spectrometer for phosphorus K <sub>1</sub> and K <sub>2</sub> study of air-sensitive samples. <i>Journal of Analytical Atomic Spectrometry</i> , 2023, 38, 1125-1134.	1.6	2
1147	High-mobility transport symmetry and effect of strain on electronic and optical properties in few-layer blue phosphorus. <i>Computational Materials Science</i> , 2023, 224, 112177.	1.4	2
1148	Violet phosphorus transmission and photoconductance spectroscopy. <i>Nanotechnology</i> , 2023, 34, 285206.	1.3	6
1149	Boron-Pnictogen Monolayers with Negative Poisson's ratio and Excellent Band Edge Positions for Photocatalytic Water Splitting. <i>Physical Chemistry Chemical Physics</i> , 0, , .	1.3	0
1150	Fermi velocity and effective mass of quasiparticles in bilayer phosphorene nanoribbons. <i>Canadian Journal of Physics</i> , 0, , .	0.4	0



#	ARTICLE	IF	CITATIONS
1151	Recent advances, properties, fabrication and opportunities in two-dimensional materials for their potential sustainable applications. <i>Energy Storage Materials</i> , 2023, 59, 102780.	9.5	12
1152	Polarization-sensitive Detector of Two-Dimensional Multilayer Hybrid Perovskite Crystals Showing High Polarization Ratio to Weak Light. <i>Chemistry - A European Journal</i> , 0, , .	1.7	0
1153	Synergy of Small Antiviral Molecules on a Black-Phosphorus Nanocarrier: Machine Learning and Quantum Chemical Simulation Insights. <i>Molecules</i> , 2023, 28, 3521.	1.7	0
1154	Advances in the Field of Two-Dimensional Crystal-Based Photodetectors. <i>Nanomaterials</i> , 2023, 13, 1379.	1.9	6
1155	Interaction of Water and Oxygen Molecules with Phosphorene: An Ab Initio Study. <i>Molecules</i> , 2023, 28, 3570.	1.7	0
1173	Unveiling Additional Ambient Degradation Issues of Phosphorene FETs Under Laser Exposure and Positive Gate Bias. , 2022, , .		0
1178	Renaissance of elemental phosphorus materials: properties, synthesis, and applications in sustainable energy and environment. <i>Chemical Society Reviews</i> , 2023, 52, 5388-5484.	18.7	9
1180	Shining light on layered metal phosphosulphide catalysts for efficient water electrolysis: preparation, promotion strategies, and perspectives. <i>Green Chemistry</i> , 2023, 25, 6170-6187.	4.6	2
1182	Guest Editorial: Dimensional Scaling of Material Functional Properties to Meet Back-End-of-Line (BEOL) Challenges. <i>Applied Physics Letters</i> , 2023, 123, , .	1.5	1
1197	The Elemental Layered Solids: Group IV and V Materials. <i>Engineering Materials</i> , 2023, , 69-101.	0.3	0
1207	Mid-Infrared light emitters based on black phosphorus and its alloys. <i>Semiconductors and Semimetals</i> , 2023, , .	0.4	0
1210	Characteristics, Strategies and Applications of Layered Materials: An Introduction. <i>Engineering Materials</i> , 2023, , 1-16.	0.3	0
1231	Recent progress of MXene as an energy storage material. <i>Nanoscale Horizons</i> , 2024, 9, 215-232.	4.1	2
1239	On-chip two-dimensional material-based waveguide-integrated photodetectors. <i>Journal of Materials Chemistry C</i> , 2024, 12, 2279-2316.	2.7	0
1245	Heterostructures of graphene and related two-dimensional nanomaterials for photodetection. , 2024, , 421-446.		0
1248	A critical review on black phosphorus mediated Z-scheme heterojunctions: properties, synthesis, and mechanistic insights towards solar H <sub>2</sub> evolution. <i>Catalysis Science and Technology</i> , 2024, 14, 1428-1461.	2.1	0
1251	Electrochemical exfoliation of 2D materials beyond graphene. <i>Chemical Society Reviews</i> , 2024, 53, 3036-3064.	18.7	0