

CITATION REPORT

List of articles citing

Isolation and characterization of few-layer black phosphorus

DOI: 10.1088/2053-1583/1/2/025001
2D Materials, 2014, 1, 025001.

Source: <https://exaly.com/paper-pdf/59544771/citation-report.pdf>

Version: 2024-04-29

This report has been generated based on the citations recorded by exaly.com for the above article. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

#	Paper	IF	Citations
1289	Temporal and Thermal Stability of Al ₂ O ₃ -Passivated Phosphorene MOSFETs. 2014 , 35, 1314-1316		68
1288	Lattice vibrational modes and Raman scattering spectra of strained phosphorene. <i>Applied Physics Letters</i> , 2014 , 105, 083120	3.4	140
1287	Few-layer black phosphorus field-effect transistors with reduced current fluctuation. 2014 , 8, 11753-62		245
1286	Effective passivation of exfoliated black phosphorus transistors against ambient degradation. 2014 , 14, 6964-70		1117
1285	Black phosphorus photodetector for multispectral, high-resolution imaging. 2014 , 14, 6414-7		495
1284	Tuning of the electronic and optical properties of single-layer black phosphorus by strain. <i>Physical Review B</i> , 2014 , 90,	3.3	235
1283	Origin of photoresponse in black phosphorus phototransistors. <i>Physical Review B</i> , 2014 , 90,	3.3	154
1282	Excitons in anisotropic two-dimensional semiconducting crystals. <i>Physical Review B</i> , 2014 , 90,	3.3	108
1281	Photovoltaic effect in few-layer black phosphorus PN junctions defined by local electrostatic gating. <i>Nature Communications</i> , 2014 , 5, 4651	17.4	555
1280	Access and in situ growth of phosphorene-precursor black phosphorus. 2014 , 405, 6-10		249
1279	Extraordinary photoluminescence and strong temperature/angle-dependent Raman responses in few-layer phosphorene. 2014 , 8, 9590-6		529
1278	Structure and stability of two dimensional phosphorene with O or NH functionalization. 2014 , 4, 48017-48021		63
1277	Plasmons and screening in monolayer and multilayer black phosphorus. 2014 , 113, 106802		405
1276	Phosphorene Nanoribbons, Phosphorus Nanotubes, and van der Waals Multilayers. 2014 , 118, 14051-14059		467
1275	Collective modes in anisotropic double-layer systems. <i>Physical Review B</i> , 2015 , 91,	3.3	23
1274	Effective-mass theory for the anisotropic exciton in two-dimensional crystals: Application to phosphorene. <i>Physical Review B</i> , 2015 , 91,	3.3	39
1273	Landau levels of single-layer and bilayer phosphorene. <i>Physical Review B</i> , 2015 , 92,	3.3	84

1272	Periodic arrays of intercalated atoms in twisted bilayer graphene: An ab initio investigation. <i>Physical Review B</i> , 2015 , 92,	3-3	4
1271	Significant effect of stacking on the electronic and optical properties of few-layer black phosphorus. <i>Physical Review B</i> , 2015 , 92,	3-3	135
1270	Anisotropic exciton Stark shift in black phosphorus. <i>Physical Review B</i> , 2015 , 91,	3-3	85
1269	Magnetoelectronic properties of multilayer black phosphorus. <i>Physical Review B</i> , 2015 , 92,	3-3	34
1268	Polarization and Thickness Dependent Absorption Properties of Black Phosphorus: New Saturable Absorber for Ultrafast Pulse Generation. 2015 , 5, 15899		225
1267	Strain induced piezoelectric effect in black phosphorus and MoS ₂ van der Waals heterostructure. 2015 , 5, 16448		73
1266	Mechanical properties of phosphorene nanoribbons and oxides. 2015 , 118, 234304		26
1265	Performance change of few layer black phosphorus transistors in ambient. <i>AIP Advances</i> , 2015 , 5, 107112.5		19
1264	Black phosphorus saturable absorber for ultrafast mode-locked pulse laser via evanescent field interaction. 2015 , 527, 770-776		93
1263	Black Phosphorus Terahertz Photodetectors. 2015 , 27, 5567-72		212
1262	Broadband Black Phosphorus Optical Modulator in the Spectral Range from Visible to Mid-Infrared. 2015 , 3, 1787-1792		91
1261	Black Phosphorus p-MOSFETs With 7-nm HfO ₂ Gate Dielectric and Low Contact Resistance. 2015 , 36, 411-413		68
1260	Electronic Properties of Phosphorene/Graphene and Phosphorene/Hexagonal Boron Nitride Heterostructures. 2015 , 119, 13929-13936		244
1259	Chemical modifications and stability of phosphorene with impurities: a first principles study. 2015 , 17, 15209-17		66
1258	Simulated scanning tunneling microscopy images of few-layer phosphorus capped by graphene and hexagonal boron nitride monolayers. <i>Physical Review B</i> , 2015 , 91,	3-3	27
1257	Group theory for structural analysis and lattice vibrations in phosphorene systems. <i>Physical Review B</i> , 2015 , 91,	3-3	71
1256	Photooxidation and quantum confinement effects in exfoliated black phosphorus. 2015 , 14, 826-32		949
1255	Remarkable anisotropic phonon response in uniaxially strained few-layer black phosphorus. 2015 , 8, 3944-3953		58

1254	Analysing black phosphorus transistors using an analytic Schottky barrier MOSFET model. <i>Nature Communications</i> , 2015 , 6, 8948	17.4	114
1253	Screening and plasmons in pure and disordered single- and bilayer black phosphorus. <i>Physical Review B</i> , 2015 , 92,	3.3	31
1252	Bandgap engineering in van der Waals heterostructures of blue phosphorene and MoS ₂ : A first principles calculation. 2015 , 231, 64-69		48
1251	Anomalous magneto-optical response of black phosphorus thin films. <i>Physical Review B</i> , 2015 , 92,	3.3	47
1250	Scaling laws of band gaps of phosphorene nanoribbons: A tight-binding calculation. <i>Physical Review B</i> , 2015 , 91,	3.3	93
1249	Phosphorene oxides: Bandgap engineering of phosphorene by oxidation. <i>Physical Review B</i> , 2015 , 91,	3.3	158
1248	Edge State and Intrinsic Hole Doping in Bilayer Phosphorene. 2015 , 84, 013703		8
1247	In Situ Thermal Decomposition of Exfoliated Two-Dimensional Black Phosphorus. 2015 , 6, 773-8		172
1246	Oxygen defects in phosphorene. 2015 , 114, 046801		432
1245	Thermoelectric power of bulk black-phosphorus. <i>Applied Physics Letters</i> , 2015 , 106, 022102	3.4	112
1244	High-quality black phosphorus atomic layers by liquid-phase exfoliation. 2015 , 27, 1887-92		603
1243	Arsenene: Two-dimensional buckled and puckered honeycomb arsenic systems. <i>Physical Review B</i> , 2015 , 91,	3.3	590
1242	Flexible black phosphorus ambipolar transistors, circuits and AM demodulator. 2015 , 15, 1883-90		341
1241	Temperature dependent phonon shifts in few-layer black phosphorus. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 5857-62	9.5	139
1240	Surface transfer doping induced effective modulation on ambipolar characteristics of few-layer black phosphorus. <i>Nature Communications</i> , 2015 , 6, 6485	17.4	285
1239	Al ₂ O ₃ on Black Phosphorus by Atomic Layer Deposition: An in Situ Interface Study. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 13038-43	9.5	71
1238	Electric-Field Tunable Band Offsets in Black Phosphorus and MoS ₂ van der Waals p-n Heterostructure. 2015 , 6, 2483-8		153
1237	Thin-layer black phosphorus/GaAs heterojunction p-n diodes. <i>Applied Physics Letters</i> , 2015 , 106, 233110	3.4	48

1236	Manipulation of Magnetic State in Armchair Black Phosphorene Nanoribbon by Charge Doping. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 14423-30	9.5	31
1235	Exfoliated layers of black phosphorus as saturable absorber for ultrafast solid-state laser. 2015 , 40, 3691-4		88
1234	Liquid-Phase Exfoliation of Phosphorene: Design Rules from Molecular Dynamics Simulations. 2015 , 9, 8255-68		137
1233	Colossal Ultraviolet Photoresponsivity of Few-Layer Black Phosphorus. 2015 , 9, 8070-7		175
1232	High-performance n-type black phosphorus transistors with type control via thickness and contact-metal engineering. <i>Nature Communications</i> , 2015 , 6, 7809	17.4	192
1231	Recent developments in black phosphorus transistors. 2015 , 3, 8760-8775		128
1230	Transport and optical properties of single- and bilayer black phosphorus with defects. <i>Physical Review B</i> , 2015 , 91,	3.3	90
1229	Quality Heterostructures from Two-Dimensional Crystals Unstable in Air by Their Assembly in Inert Atmosphere. 2015 , 15, 4914-21		289
1228	Two-dimensional magnetotransport in a black phosphorus naked quantum well. <i>Nature Communications</i> , 2015 , 6, 7702	17.4	135
1227	Two-Dimensional Pnictogen Honeycomb Lattice: Structure, On-Site Spin-Orbit Coupling and Spin Polarization. 2015 , 5, 11512		76
1226	Optical tuning of exciton and trion emissions in monolayer phosphorene. 2015 , 4, e312-e312		226
1225	Phosphorene: Fabrication, Properties, and Applications. 2015 , 6, 2794-805		545
1224	Toward air-stable multilayer phosphorene thin-films and transistors. 2015 , 5, 8989		308
1223	Creating a Stable Oxide at the Surface of Black Phosphorus. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 14557-62	9.5	258
1222	Photocurrent generation with two-dimensional van der Waals semiconductors. 2015 , 44, 3691-718		608
1221	Broadband nonlinear optical response in multi-layer black phosphorus: an emerging infrared and mid-infrared optical material. 2015 , 23, 11183-94		541
1220	Tunable Magnetism in Transition-Metal-Decorated Phosphorene. 2015 , 119, 10059-10063		96
1219	Quantum oscillations in a two-dimensional electron gas in black phosphorus thin films. 2015 , 10, 608-13		245

1218	Unusual angular dependence of the Raman response in black phosphorus. 2015 , 9, 4270-6		255
1217	Air-stable transport in graphene-contacted, fully encapsulated ultrathin black phosphorus-based field-effect transistors. 2015 , 9, 4138-45		393
1216	The renaissance of black phosphorus. 2015 , 112, 4523-30		900
1215	Low-Frequency Interlayer Breathing Modes in Few-Layer Black Phosphorus. 2015 , 15, 4080-8		154
1214	Phosphorene as an anode material for Na-ion batteries: a first-principles study. 2015 , 17, 13921-8		267
1213	Ambipolar insulator-to-metal transition in black phosphorus by ionic-liquid gating. 2015 , 9, 3192-8		155
1212	Transport properties of ultrathin black phosphorus on hexagonal boron nitride. <i>Applied Physics Letters</i> , 2015 , 106, 083505	3-4	77
1211	Effects of extrinsic point defects in phosphorene: B, C, N, O, and F adatoms. <i>Applied Physics Letters</i> , 2015 , 106, 173104	3-4	57
1210	First-Principles Study of Metal Adatom Adsorption on Black Phosphorene. 2015 , 119, 8199-8207		182
1209	Transport properties of pristine few-layer black phosphorus by van der Waals passivation in an inert atmosphere. <i>Nature Communications</i> , 2015 , 6, 6647	17.4	394
1208	Surface and interfacial study of half cycle atomic layer deposited Al ₂ O ₃ on black phosphorus. 2015 , 147, 1-4		13
1207	Preparation of Gallium Sulfide Nanosheets by Liquid Exfoliation and Their Application As Hydrogen Evolution Catalysts. 2015 , 27, 3483-3493		144
1206	Stable and Selective Humidity Sensing Using Stacked Black Phosphorus Flakes. 2015 , 9, 9898-905		176
1205	First-Principles Prediction of the Charge Mobility in Black Phosphorus Semiconductor Nanoribbons. 2015 , 6, 4141-7		46
1204	Single-Layer ReS ₂ Two-Dimensional Semiconductor with Tunable In-Plane Anisotropy. 2015 , 9, 11249-57		286
1203	Environmental, thermal, and electrical susceptibility of black phosphorus field effect transistors. 2015 , 33, 052202		18
1202	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. 2015 , 9, 11362-70		199
1201	Characterization of nonlinear properties of black phosphorus nanoplatelets with femtosecond pulsed Z-scan measurements. 2015 , 40, 3480-3		80

1200	Ultrathin Two-Dimensional Nanomaterials. 2015 , 9, 9451-69		1342
1199	Mechanically exfoliated black phosphorus as a new saturable absorber for both Q-switching and Mode-locking laser operation. 2015 , 23, 12823-33		734
1198	Microfiber-based few-layer black phosphorus saturable absorber for ultra-fast fiber laser. 2015 , 23, 20030-9		322
1197	The Nature of the Interlayer Interaction in Bulk and Few-Layer Phosphorus. 2015 , 15, 8170-5		205
1196	Electronic Structure and the Properties of Phosphorene and Few-Layer Black Phosphorus. 2015 , 84, 121004		49
1195	Air-Stable Black Phosphorus Devices for Ion Sensing. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 24396-402	9.5	125
1194	The atomic and electronic structure of nitrogen- and boron-doped phosphorene. 2015 , 17, 27210-6		29
1193	Anomalous polarization dependence of Raman scattering and crystallographic orientation of black phosphorus. <i>Nanoscale</i> , 2015 , 7, 18708-15	7.7	139
1192	Phosphorene: Synthesis, Scale-Up, and Quantitative Optical Spectroscopy. 2015 , 9, 8869-84		365
1191	Tunable photoluminescence from sheet-like black phosphorus crystal by electrochemical oxidation. <i>Applied Physics Letters</i> , 2015 , 107, 021901	3.4	28
1190	Atomic and electronic structure of exfoliated black phosphorus. 2015 , 33, 060604		60
1189	Intrinsic Defects, Fluctuations of the Local Shape, and the Photo-Oxidation of Black Phosphorus. 2015 , 1, 320-7		61
1188	Landau levels and magneto-transport property of monolayer phosphorene. 2015 , 5, 12295		114
1187	Electronic structure and magnetic properties of zigzag blue phosphorene nanoribbons. 2015 , 118, 054301		18
1186	Anisotropic in-plane thermal conductivity observed in few-layer black phosphorus. <i>Nature Communications</i> , 2015 , 6, 8572	17.4	426
1185	Electronic structure of phosphorene nanoribbons. 2015 , 223, 37-39		4
1184	Liquid exfoliation of solvent-stabilized few-layer black phosphorus for applications beyond electronics. <i>Nature Communications</i> , 2015 , 6, 8563	17.4	764
1183	Black Phosphorus: Narrow Gap, Wide Applications. 2015 , 6, 4280-91		515

1182	Plasma-Treated Thickness-Controlled Two-Dimensional Black Phosphorus and Its Electronic Transport Properties. 2015 , 9, 8729-36		135
1181	Two-dimensional octagon-structure monolayer of nitrogen group elements and the related nano-structures. 2015 , 110, 109-114		27
1180	Structural Transition in Layered As(1-x)P(x) Compounds: A Computational Study. 2015 , 15, 6042-6		63
1179	High-quality sandwiched black phosphorus heterostructure and its quantum oscillations. <i>Nature Communications</i> , 2015 , 6, 7315	17.4	369
1178	Carrier dynamics and transient photobleaching in thin layers of black phosphorus. <i>Applied Physics Letters</i> , 2015 , 107, 081103	3.4	60
1177	Dual Gate Black Phosphorus Field Effect Transistors on Glass for NOR Logic and Organic Light Emitting Diode Switching. 2015 , 15, 5778-83		76
1176	Probing the anisotropic behaviors of black phosphorus by transmission electron microscopy, angular-dependent Raman spectra, and electronic transport measurements. <i>Applied Physics Letters</i> , 2015 , 107, 021906	3.4	39
1175	Ultrafast thulium-doped fiber laser mode locked with black phosphorus. 2015 , 40, 3885-8		271
1174	Power Dissipation and Electrical Breakdown in Black Phosphorus. 2015 , 15, 6785-8		11
1173	Bandgap Engineering of Phosphorene by Laser Oxidation toward Functional 2D Materials. 2015 , 9, 10411-21		102
1172	Esaki Diodes in van der Waals Heterojunctions with Broken-Gap Energy Band Alignment. 2015 , 15, 5791-8		237
1171	Thickness-dependent Raman spectra, transport properties and infrared photoresponse of few-layer black phosphorus. 2015 , 3, 10974-10980		85
1170	Phosphorene FETs [Promising transistors based on a few layers of phosphorus atoms. 2015 ,		3
1169	Surface Charge Transfer Doping of Monolayer Phosphorene via Molecular Adsorption. 2015 , 6, 4701-10		61
1168	Black phosphorus nanoelectromechanical resonators vibrating at very high frequencies. <i>Nanoscale</i> , 2015 , 7, 877-84	7.7	105
1167	Adsorption of metal adatoms on single-layer phosphorene. 2015 , 17, 992-1000		246
1166	Phosphorene oxide: stability and electronic properties of a novel two-dimensional material. <i>Nanoscale</i> , 2015 , 7, 524-31	7.7	151
1165	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. 2016 , 5, 93		12

1164	Giant nonlinear absorption and excited carrier dynamics of black phosphorus few-layer nanosheets in broadband spectra. 2016 , 55, 10307-10312	21
1163	A Filmy Black-Phosphorus Polyimide Saturable Absorber for Q-Switched Operation in an Erbium-Doped Fiber Laser. 2016 , 9,	16
1162	Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. <i>Nanomaterials</i> , 2016 , 6,	5-4 60
1161	Optical properties of black phosphorus. 2016 , 8, 618	143
1160	Vector soliton fiber laser passively mode locked by few layer black phosphorus-based optical saturable absorber. 2016 , 24, 25933-25942	163
1159	Probing phonon and electrical anisotropy in black phosphorus for device alignment. 2016 , 6, 1751	9
1158	Size-dependent saturable absorption and mode-locking of dispersed black phosphorus nanosheets. 2016 , 6, 3159	33
1157	Multilayer black phosphorus as saturable absorber for an Er:Lu ₂ O ₃ laser at ~3 μ m. 2016 , 4, 181	38
1156	Ultrafast nonlinear absorption and nonlinear refraction in few-layer oxidized black phosphorus. 2016 , 4, 286	52
1155	Effect of SiBi Bonds in Silicon-Doped Phosphorene Bilayers: Two-Dimensional Layers and One-Dimensional Nanoribbons. 2016 , 120, 17106-17114	5
1154	Structural and Electrical Irregularities Caused by Selected Dopants in Black-Phosphorus. 2016 , 5, Q3026-Q3032	16
1153	Surface and Interface Engineering of Graphene Oxide Films by Controllable Photoreduction. 2016 , 16, 1244-55	21
1152	Mechanical Isolation of Highly Stable Antimonene under Ambient Conditions. 2016 , 28, 6332-6	374
1151	Layered Black Phosphorus: Strongly Anisotropic Magnetic, Electronic, and Electron-Transfer Properties. 2016 , 128, 3443-3447	24
1150	Doping behaviors of adatoms adsorbed on phosphorene. 2016 , 253, 1156-1166	16
1149	Electronic and Magnetic Properties of Encapsulated MoS ₂ Quantum Dots: The Case of Noble Metal Nanoparticle Dopants. 2016 , 17, 1180-94	2
1148	Group IVB transition metal trichalcogenides: a new class of 2D layered materials beyond graphene. 2016 , 6, 211-222	73
1147	Layered Black Phosphorus: Strongly Anisotropic Magnetic, Electronic, and Electron-Transfer Properties. 2016 , 55, 3382-6	111

1146	Anomalously enhanced thermal stability of phosphorene via metal adatom doping: An experimental and first-principles study. 2016 , 9, 2687-2695		25
1145	Scalable Clean Exfoliation of High-Quality Few-Layer Black Phosphorus for a Flexible Lithium Ion Battery. 2016 , 28, 510-7		289
1144	Dephasing in strongly anisotropic black phosphorus. <i>Physical Review B</i> , 2016 , 94,	3-3	13
1143	Achieving Ultrahigh Carrier Mobility in Two-Dimensional Hole Gas of Black Phosphorus. 2016 , 16, 7768-7773		185
1142	The Role of Air Adsorption in Inverted Ultrathin Black Phosphorus Field-Effect Transistors. 2016 , 11, 521		5
1141	Effective photoconductivity of exfoliated black phosphorus for optoelectronic switching under 1.55 μm optical excitation. 2016 , 119, 024506		7
1140	Observation of polarization and thickness dependent third-harmonic generation in multilayer black phosphorus. <i>Applied Physics Letters</i> , 2016 , 109, 261902	3-4	18
1139	Anisotropic Mechanical Properties of Black Phosphorus Nanoribbons. 2016 , 120, 29491-29497		46
1138	First-principles study of the defected phosphorene under tensile strain. 2016 , 120, 165104		16
1137	Air sensitivity of MoS ₂ , MoSe ₂ , MoTe ₂ , HfS ₂ , and HfSe ₂ . 2016 , 120, 125102		91
1136	Boundary conditions for phosphorene nanoribbons in the continuum approach. <i>Physical Review B</i> , 2016 , 94,	3-3	16
1135	An array of layers in silicon sulfides: Chainlike and monolayer. <i>Physical Review B</i> , 2016 , 94,	3-3	3
1134	Hexagonal boron-nitride nanomesh magnets. <i>Applied Physics Letters</i> , 2016 , 109, 133110	3-4	11
1133	Current crowding in two-dimensional black-phosphorus field-effect transistors. <i>Applied Physics Letters</i> , 2016 , 108, 103109	3-4	10
1132	Effect of front and back gates on EGa ₂ O ₃ nano-belt field-effect transistors. <i>Applied Physics Letters</i> , 2016 , 109, 062102	3-4	79
1131	Physics of electronic transport in two-dimensional materials for future FETs. 2016 ,		1
1130	Effects of Al ₂ O ₃ capping layers on the thermal properties of thin black phosphorus. <i>Applied Physics Letters</i> , 2016 , 109, 261901	3-4	18
1129	High-Performance p-Type Black Phosphorus Transistor with Scandium Contact. 2016 , 10, 4672-7		96

1128	The Critical Role of Substrate in Stabilizing Phosphorene Nanoflake: A Theoretical Exploration. 2016 , 138, 4763-71	59
1127	Why all the fuss about 2D semiconductors?. 2016 , 10, 202-204	205
1126	Black phosphorus nonvolatile transistor memory. <i>Nanoscale</i> , 2016 , 8, 9107-12	7-7 34
1125	Passivated ambipolar black phosphorus transistors. <i>Nanoscale</i> , 2016 , 8, 12773-9	7-7 70
1124	Black phosphorus polycarbonate polymer composite for pulsed fibre lasers. 2016 , 4, 17-23	74
1123	Lateral black phosphorene P π junctions formed via chemical doping for high performance near-infrared photodetector. 2016 , 25, 34-41	126
1122	Dopants induced structural and optical anomalies of anisotropic edges of black phosphorous thin films and crystals. 2016 , 42, 13113-13127	14
1121	Controlled Sculpture of Black Phosphorus Nanoribbons. 2016 , 10, 5687-95	84
1120	Exfoliated EGa_2O_3 nano-belt field-effect transistors for air-stable high power and high temperature electronics. 2016 , 18, 15760-4	111
1119	Strong Modulation of Optical Properties in Black Phosphorus through Strain-Engineered Rippling. 2016 , 16, 2931-7	159
1118	Fundamental Limits on the Subthreshold Slope in Schottky Source/Drain Black Phosphorus Field-Effect Transistors. 2016 , 10, 3791-800	55
1117	Performance Enhancement of Black Phosphorus Field-Effect Transistors by Chemical Doping. 2016 , 37, 429-432	49
1116	Peierls distortion and electronic bands in phosphorus allotropes. 2016 , 103, 106-111	3
1115	Stable aqueous dispersions of optically and electronically active phosphorene. 2016 , 113, 11688-11693	179
1114	Stability, electronic structure and magnetic properties of vacancy and nonmetallic atom-doped buckled arsenene: first-principles study. 2016 , 6, 43794-43801	25
1113	Femtosecond solid-state laser based on a few-layered black phosphorus saturable absorber. 2016 , 41, 1945-8	47
1112	Exploring the promising properties of 2D exfoliated black phosphorus for optoelectronic applications under 1.55 μm optical excitation. 2016 ,	2
1111	Experimental study and modeling of atomic-scale friction in zigzag and armchair lattice orientations of MoS. 2016 , 17, 189-199	25

1110	Black Phosphorus-Based Nanodevices. 2016 , 95, 279-303			1
1109	Te-Doped Black Phosphorus Field-Effect Transistors. 2016 , 28, 9408-9415			195
1108	Onset of exciton-exciton annihilation in single-layer black phosphorus. <i>Physical Review B</i> , 2016 , 94,	3-3		32
1107	Two-dimensional van der Waals nanosheet devices for future electronics and photonics. 2016 , 11, 626-643			64
1106	Inverse Funnel Effect of Excitons in Strained Black Phosphorus. 2016 , 6,			29
1105	First-Principles Prediction of the Electronic Structure and Carrier Mobility in Hexagonal Boron Phosphide Sheet and Nanoribbons. 2016 , 120, 25037-25042			66
1104	Auxetic Black Phosphorus: A 2D Material with Negative Poisson's Ratio. 2016 , 16, 6701-6708			135
1103	Valence-force model and nanomechanics of single-layer phosphorene. 2016 , 18, 23312-9			7
1102	Nanostructured Aptamer-Functionalized Black Phosphorus Sensing Platform for Label-Free Detection of Myoglobin, a Cardiovascular Disease Biomarker. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 22860-8		9.5	164
1101	Tuning the thickness of black phosphorus via ion bombardment-free plasma etching for device performance improvement. 2016 , 4, 6234-6239			34
1100	Ultrathin and Flat Layer Black Phosphorus Fabricated by Reactive Oxygen and Water Rinse. 2016 , 10, 8723-31			53
1099	Structural, electronic, mechanical, and transport properties of phosphorene nanoribbons: Negative differential resistance behavior. <i>Physical Review B</i> , 2016 , 94,	3-3		51
1098	Room-temperature magnetism on the zigzag edges of phosphorene nanoribbons. <i>Physical Review B</i> , 2016 , 94,	3-3		39
1097	In situ thickness control of black phosphorus field-effect transistors via ozone treatment. 2016 , 9, 3056-3065			17
1096	Light-Induced Ambient Degradation of Few-Layer Black Phosphorus: Mechanism and Protection. 2016 , 55, 11437-41			387
1095	Light-Induced Ambient Degradation of Few-Layer Black Phosphorus: Mechanism and Protection. 2016 , 128, 11609-11613			70
1094	Strain-induced topological phase transition in phosphorene and in phosphorene nanoribbons. <i>Physical Review B</i> , 2016 , 94,	3-3		66
1093	Sensing Characteristics of Phosphorene Monolayers toward PH ₃ and AsH ₃ Gases upon the Introduction of Vacancy Defects. 2016 , 120, 20428-20436			52

1092	High-Performance MoS/CuO Nanosheet-on-One-Dimensional Heterojunction Photodetectors. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 33955-33962	9.5	49
1091	Electric-field tunable Dirac semimetal state in phosphorene thin films. <i>Physical Review B</i> , 2016 , 94,	3.3	27
1090	Two-dimensional exciton properties in monolayer semiconducting phosphorus allotropes. 2016 , 18, 27829-27836		36
1089	Thermal damage suppression of a black phosphorus saturable absorber for high-power operation of pulsed fiber lasers. <i>Nanotechnology</i> , 2016 , 27, 365203	3.4	23
1088	Lattice vibrations and Raman scattering in two-dimensional layered materials beyond graphene. 2016 , 9, 3559-3597		71
1087	Black phosphorus crystal as a saturable absorber for both a Q-switched and mode-locked erbium-doped fiber laser. 2016 , 6, 72692-72697		56
1086	Phosphorene and Phosphorene-Based Materials - Prospects for Future Applications. 2016 , 28, 8586-8617		283
1085	Dual-Gate Velocity-Modulated Transistor Based on Black Phosphorus. <i>Physical Review Applied</i> , 2016 , 5,	4.3	14
1084	Theoretical investigation of electron-hole complexes in anisotropic two-dimensional materials. <i>Physical Review B</i> , 2016 , 93,	3.3	31
1083	Excitons in atomically thin black phosphorus. <i>Physical Review B</i> , 2016 , 93,	3.3	57
1082	Direct band gaps in group IV-VI monolayer materials: Binary counterparts of phosphorene. <i>Physical Review B</i> , 2016 , 93,	3.3	111
1081	Mermin-Wagner theorem, flexural modes, and degraded carrier mobility in two-dimensional crystals with broken horizontal mirror symmetry. <i>Physical Review B</i> , 2016 , 93,	3.3	55
1080	Mobility anisotropy in monolayer black phosphorus due to scattering by charged impurities. <i>Physical Review B</i> , 2016 , 93,	3.3	62
1079	The fracture behaviors of monolayer phosphorene with grain boundaries under tension: a molecular dynamics study. 2016 , 18, 20562-70		10
1078	Excitons and optical spectra of phosphorene nanoribbons. <i>Physical Review B</i> , 2016 , 94,	3.3	30
1077	Two-Dimensional Phosphorus Oxides as Energy and Information Materials. 2016 , 55, 8575-80		24
1076	Tunable skewed edges in puckered structures. <i>Physical Review B</i> , 2016 , 93,	3.3	26
1075	Effect of the edge states on the conductance and thermopower in zigzag phosphorene nanoribbons. <i>Physical Review B</i> , 2016 , 94,	3.3	25

1074	Two-dimensional semiconductors for transistors. 2016 , 1,		670
1073	Tunable electronic and dielectric properties of Phosphorene nanoflakes for optoelectronic applications. 2016 , 6, 101835-101845		4
1072	Two-dimensional antimonene single crystals grown by van der Waals epitaxy. <i>Nature Communications</i> , 2016 , 7, 13352	17.4	633
1071	Black phosphorus as a saturable absorber for generating mode-locked fiber laser in normal dispersion regime. 2016 ,		2
1070	Polarization-Resolved Raman Study of Bulk-like and Davydov-Induced Vibrational Modes of Exfoliated Black Phosphorus. 2016 , 16, 7761-7767		48
1069	Low-symmetry two-dimensional materials for electronic and photonic applications. 2016 , 11, 763-777		85
1068	Interaction of Black Phosphorus with Oxygen and Water. 2016 , 28, 8330-8339		345
1067	Biodegradable black phosphorus-based nanospheres for in vivo photothermal cancer therapy. <i>Nature Communications</i> , 2016 , 7, 12967	17.4	659
1066	Two-Dimensional Phosphorus Oxides as Energy and Information Materials. 2016 , 128, 8717-8722		9
1065	Noncovalent Functionalization of Black Phosphorus. 2016 , 128, 14777-14782		59
1064	Resonantly Increased Optical Frequency Conversion in Atomically Thin Black Phosphorus. 2016 , 28, 10693-10700		47
1063	Phosphorene: from theory to applications. 2016 , 1,		571
1062	TiO ₂ -based photoanodes modified with GO and MoS ₂ layered materials. 2016 , 6, 102886-102898		7
1061	Spin-orbit coupling and spin relaxation in phosphorene: Intrinsic versus extrinsic effects. <i>Physical Review B</i> , 2016 , 94,	3.3	33
1060	Strongly bound Mott-Wannier excitons in GeS and GeSe monolayers. <i>Physical Review B</i> , 2016 , 94,	3.3	59
1059	Large Area Fabrication of Semiconducting Phosphorene by Langmuir-Blodgett Assembly. 2016 , 6, 34095		58
1058	Noncovalent Functionalization of Black Phosphorus. 2016 , 55, 14557-14562		172
1057	Covalent Functionalization of Black Phosphorus from First-Principles. 2016 , 7, 4540-4546		63

1056	Ferromagnetism controlled by electric field in tilted phosphorene nanoribbon. 2016 , 6, 26300		15
1055	Investigation and analysis of single layer phosphorene properties based on tight-binding and green's function formalism. 2016 ,		1
1054	Phosphorene as a promising anode material for lithium-ion batteries: A first-principle study. 2016 ,		2
1053	Production of Two-Dimensional Nanomaterials via Liquid-Based Direct Exfoliation. 2016 , 12, 272-93		339
1052	Black Phosphorus Nanosheets: Synthesis, Characterization and Applications. 2016 , 12, 3480-502		267
1051	Solution-Processable Ultrathin Black Phosphorus as an Effective Electron Transport Layer in Organic Photovoltaics. 2016 , 26, 864-871		157
1050	Investigation of black phosphorus field-effect transistors and its stability. 2016 , 48, 1		7
1049	Radiatively Dominated Charge Carrier Recombination in Black Phosphorus. 2016 , 120, 13836-13842		9
1048	In situ TEM visualization of superior nanomechanical flexibility of shear-exfoliated phosphorene. <i>Nanoscale</i> , 2016 , 8, 13603-10	7-7	20
1047	Emerging opportunities in the two-dimensional chalcogenide systems and architecture. 2016 , 20, 374-387		23
1046	Black Phosphorus Mid-Infrared Photodetectors with High Gain. 2016 , 16, 4648-55		476
1045	Novel polystyrene-based nanocomposites by phosphorene dispersion. 2016 , 6, 53777-53783		18
1044	First-principles study of thermal expansion and thermomechanics of single-layer black and blue phosphorus. 2016 , 380, 2098-2104		47
1043	Tunable Photoinduced Carrier Transport of a Black Phosphorus Transistor with Extended Stability Using a Light-Sensitized Encapsulated Layer. 2016 , 3, 1102-1108		16
1042	Liquid-Exfoliated Black Phosphorous Nanosheet Thin Films for Flexible Resistive Random Access Memory Applications. 2016 , 26, 2016-2024		137
1041	Solvothermal Synthesis and Ultrafast Photonics of Black Phosphorus Quantum Dots. 2016 , 4, 1223-1229		267
1040	Surface Coordination of Black Phosphorus for Robust Air and Water Stability. 2016 , 128, 5087-5091		92
1039	Surface Coordination of Black Phosphorus for Robust Air and Water Stability. 2016 , 55, 5003-7		406

1038	Producing air-stable monolayers of phosphorene and their defect engineering. <i>Nature Communications</i> , 2016 , 7, 10450	17.4	358
1037	Black Phosphorus-Zinc Oxide Nanomaterial Heterojunction for p-n Diode and Junction Field-Effect Transistor. 2016 , 16, 1293-8		125
1036	Liquid exfoliation of black phosphorus nanosheets and its application as humidity sensor. 2016 , 225, 494-503		150
1035	2D phosphorene as a water splitting photocatalyst: fundamentals to applications. 2016 , 9, 709-728		420
1034	Band Gap Engineering in a 2D Material for Solar-to-Chemical Energy Conversion. 2016 , 16, 74-9		111
1033	In situ observation of electrical property of thin-layer black phosphorus based on dry transfer method. 2016 , 9, 045202		3
1032	Black Phosphorus Flexible Thin Film Transistors at Gighertz Frequencies. 2016 , 16, 2301-6		112
1031	Large Electronic Anisotropy and Enhanced Chemical Activity of Highly Rippled Phosphorene. 2016 , 120, 6876-6884		61
1030	Pseudo-Jahn-Teller Distortion in Two-Dimensional Phosphorus: Origin of Black and Blue Phases of Phosphorene and Band Gap Modulation by Molecular Charge Transfer. 2016 , 7, 1288-97		67
1029	Selective Ionic Transport Pathways in Phosphorene. 2016 , 16, 2240-7		68
1028	Chemically Tailoring Semiconducting Two-Dimensional Transition Metal Dichalcogenides and Black Phosphorus. 2016 , 10, 3900-17		192
1027	Quantum Hall effect in black phosphorus two-dimensional electron system. 2016 , 11, 593-7		289
1026	Fracture patterns and the energy release rate of phosphorene. <i>Nanoscale</i> , 2016 , 8, 5728-36	7.7	36
1025	Temperature Evolution of Phonon Properties in Few-Layer Black Phosphorus. 2016 , 120, 5265-5270		49
1024	Passively Q-switched ytterbium-doped ScBO ₃ laser with black phosphorus saturable absorber. 2016 , 55, 081312		15
1023	Present perspectives of broadband photodetectors based on nanobelts, nanoribbons, nanosheets and the emerging 2D materials. <i>Nanoscale</i> , 2016 , 8, 6410-34	7.7	196
1022	Two-Dimensional Disorder in Black Phosphorus and Monochalcogenide Monolayers. 2016 , 16, 1704-12		82
1021	Multilayer Black Phosphorus as a Versatile Mid-Infrared Electro-optic Material. 2016 , 16, 1683-9		117

1020	Polaronic effects in monolayer black phosphorus on polar substrates. <i>Physical Review B</i> , 2016 , 93,	3-3	37
1019	Two-step heating synthesis of sub-3 millimeter-sized orthorhombic black phosphorus single crystal by chemical vapor transport reaction method. 2016 , 59, 122-134		48
1018	Phosphorene under electron beam: from monolayer to one-dimensional chains. <i>Nanoscale</i> , 2016 , 8, 7949-57		33
1017	Electron Doping of Ultrathin Black Phosphorus with Cu Adatoms. 2016 , 16, 2145-51		165
1016	Optically driven black phosphorus as a saturable absorber for mode-locked laser pulse generation. 2016 , 55, 081317		21
1015	Growth Mechanism and Enhanced Yield of Black Phosphorus Microribbons. 2016 , 16, 1096-1103		63
1014	Few-layer black phosphorus nanoparticles. 2016 , 52, 1563-6		103
1013	Interlayer electronic hybridization leads to exceptional thickness-dependent vibrational properties in few-layer black phosphorus. <i>Nanoscale</i> , 2016 , 8, 2740-50	7-7	111
1012	Anomalous Raman scattering and lattice dynamics in mono- and few-layer WTe ₂ . <i>Nanoscale</i> , 2016 , 8, 2309-16	7-7	77
1011	Indiene 2D monolayer: a new nanoelectronic material. 2016 , 6, 8006-8014		30
1010	Ambipolar Black Phosphorus MOSFETs With Record n-Channel Transconductance. 2016 , 37, 103-106		28
1009	Long-term stability study of graphene-passivated black phosphorus under air exposure. 2016 , 16, 165-169		66
1008	Generation of Mode-Locked Ytterbium Doped Fiber Ring Laser Using Few-Layer Black Phosphorus as a Saturable Absorber. 2017 , 23, 39-43		89
1007	First-principle calculations of optical properties of monolayer arsenene and antimonene allotropes. 2017 , 529, 1600152		101
1006	Schwarzer Phosphor neu entdeckt: vom Volumenmaterial zu Monoschichten. 2017 , 129, 8164-8185		56
1005	Black Phosphorus Rediscovered: From Bulk Material to Monolayers. 2017 , 56, 8052-8072		315
1004	Thermal Properties of Two Dimensional Layered Materials. 2017 , 27, 1604134		96
1003	Electronic band structure of surface-doped black phosphorus. 2017 , 219, 86-91		9

1002	Effective g factor in black phosphorus thin films. <i>Physical Review B</i> , 2017 , 95,	3.3	19
1001	Unintentional doping effects in black phosphorus by native vacancies in h-BN supporting layer. 2017 , 402, 175-181		10
1000	Assembly of Ring-Shaped Phosphorus within Carbon Nanotube Nanoreactors. 2017 , 129, 1876-1880		19
999	Assembly of Ring-Shaped Phosphorus within Carbon Nanotube Nanoreactors. 2017 , 56, 1850-1854		47
998	Density functional study of metal-phosphorene interfaces. 2017 , 31, 1750077		4
997	Widely tunable and anisotropic charge carrier mobility in monolayer tin(II) selenide using biaxial strain: a first-principles study. 2017 , 5, 1247-1254		78
996	Ultra-narrow blue phosphorene nanoribbons for tunable optoelectronics. 2017 , 7, 2992-3002		25
995	Exfoliation of black phosphorus in ionic liquids. <i>Nanotechnology</i> , 2017 , 28, 125603	3.4	39
994	Control of Surface and Edge Oxidation on Phosphorene. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 9126-9135	9.5	102
993	Atomic Defects and Doping of Monolayer NbSe. 2017 , 11, 2894-2904		46
992	Franckeite as a naturally occurring van der Waals heterostructure. <i>Nature Communications</i> , 2017 , 8, 14409	7.4	68
991	Rapid and Large-Area Characterization of Exfoliated Black Phosphorus Using Third-Harmonic Generation Microscopy. 2017 , 8, 1343-1350		50
990	Optical Identification of Few-Layer Antimonene Crystals. 2017 , 4, 600-605		48
989	Two-Dimensional (2D) Nanomaterials towards Electrochemical Nanoarchitectonics in Energy-Related Applications. 2017 , 90, 627-648		321
988	Nonlinear Black Phosphorus for Ultrafast Optical Switching. 2017 , 7, 43371		37
987	Emerging Trends in Phosphorene Fabrication towards Next Generation Devices. 2017 , 4, 1600305		224
986	Large edge magnetism in oxidized few-layer black phosphorus nanomeshes. 2017 , 10, 718-728		24
985	Reactivity of phosphorene with a 3d element trioxide (CrO) considering van der Waals molecular interactions: a DFT-D2 study. 2017 , 23, 49		4

984	Hypothetical planar and nanotubular crystalline structures with five interatomic bonds of Kepler nets type. <i>AIP Advances</i> , 2017 , 7, 025202	1.5	8
983	High Current Density Electrical Breakdown of TiS ₃ Nanoribbon-Based Field-Effect Transistors. 2017 , 27, 1605647		35
982	Gate-Tunable Giant Stark Effect in Few-Layer Black Phosphorus. 2017 , 17, 1970-1977		106
981	Few-Layer Phosphorene-Decorated Microfiber for All-Optical Thresholding and Optical Modulation. 2017 , 5, 1700026		106
980	Hierarchical self-assembly of black phosphorus quantum dots with quantum confinement effects to a centimeter-scale membrane. 2017 , 254, 1700011		6
979	Efficient electrical control of thin-film black phosphorus bandgap. <i>Nature Communications</i> , 2017 , 8, 14474-14474	17.4	183
978	Degradation pattern of black phosphorus multilayer field-effect transistors in ambient conditions: Strategy for contact resistance engineering in BP transistors. 2017 , 419, 637-641		9
977	Recent advances in synthesis, properties, and applications of phosphorene. 2017 , 1,		183
976	Antimonene Oxides: Emerging Tunable Direct Bandgap Semiconductor and Novel Topological Insulator. 2017 , 17, 3434-3440		217
975	Growth of Quasi-Free-Standing Single-Layer Blue Phosphorus on Tellurium Monolayer Functionalized Au(111). 2017 , 11, 4943-4949		92
974	Atomistic quantum transport simulation of multilayer phosphorene nanoribbon field effect transistors. 2017 , 91, 161-168		5
973	Suspended black phosphorus nanosheet gas sensors. 2017 , 250, 569-573		80
972	Prediction on the light-assisted exfoliation of multilayered arsenene by the photo-isomerization of azobenzene. <i>Nanoscale</i> , 2017 , 9, 7006-7011	7.7	30
971	Analysis of multilayer black phosphorus for photodetector applications. 2017 ,		
970	Ordering and Dynamics for the Formation of Two-Dimensional Molecular Crystals on Black Phosphorene. 2017 , 121, 10210-10223		36
969	Low-Temperature Associated Interface Influence on the Black Phosphorus Nanoflakes. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 15219-15224	9.5	7
968	Optical properties calculations of the phosphorene-CrO ₃ system within the G ₀ W ₀ and BSE approximations. 2017 , 416, 266-272		3
967	Direct Growth of AlO on Black Phosphorus by Plasma-Enhanced Atomic Layer Deposition. 2017 , 12, 282		11

- 966 Platinum-functionalized black phosphorus hydrogen sensors. *Applied Physics Letters*, **2017**, 110, 242103 3,4 38
- 965 Water-Catalyzed Oxidation of Few-Layer Black Phosphorous in a Dark Environment. **2017**, 56, 9131-9135 115
- 964 The Covalent Functionalization of Layered Black Phosphorus by Nucleophilic Reagents. **2017**, 56, 9891-9896 124
- 963 Encapsulation and Polymerization of White Phosphorus Inside Single-Wall Carbon Nanotubes. **2017**, 129, 8256-8260 20
- 962 Encapsulation and Polymerization of White Phosphorus Inside Single-Wall Carbon Nanotubes. **2017**, 56, 8144-8148 52
- 961 First-principles predictions on charge mobility and half-metallicity in two dimensional metal coordination polyporphyrin sheets. **2017**, 49, 45-52 22
- 960 Theory of 2D crystals: graphene and beyond. **2017**, 46, 4387-4399 91
- 959 Compressed few-layer black phosphorus nanosheets from semiconducting to metallic transition with the highest symmetry. *Nanoscale*, **2017**, 9, 10741-10749 7-7 13
- 958 Two-dimensional black phosphorus nanosheets for theranostic nanomedicine. **2017**, 4, 800-816 127
- 957 2D Black Phosphorus for Energy Storage and Thermoelectric Applications. **2017**, 13, 1700661 113
- 956 Effect of external strain on the charge transfer: Adsorption of gas molecules on monolayer GaSe. **2017**, 198, 49-56 9
- 955 In-Plane Uniaxial Strain in Black Phosphorus Enables the Identification of Crystalline Orientation. **2017**, 13, 1700466 22
- 954 Black phosphorous optoelectronic devices. **2017**, 1
- 953 Spatial-Temporal Imaging of Anisotropic Photocarrier Dynamics in Black Phosphorus. **2017**, 17, 3675-3680 40
- 952 From two-dimensional materials to their heterostructures: An electrochemist's perspective. **2017**, 8, 68-103 153
- 951 Mechanically exfoliated 2D nanomaterials as saturable absorber for Q-switched erbium doped fiber laser. **2017**, 91, 1259-1264 17
- 950 Recovery of the Pristine Surface of Black Phosphorus by Water Rinsing and Its Device Application. *ACS Applied Materials & Interfaces*, **2017**, 9, 21382-21389 9-5 9
- 949 Exotic Physics and Chemistry of Two-Dimensional Phosphorus: Phosphorene. **2017**, 8, 2909-2916 57

948	Graphene/Group 5 Transition Metal Dichalcogenide Composites for Electrochemical Applications. 2017 , 23, 10430-10437		8
947	Deriving phosphorus atomic chains from few-layer black phosphorus. 2017 , 10, 2519-2526		19
946	Recent progress in high-mobility thin-film transistors based on multilayer 2D materials. 2017 , 50, 164001		16
945	Acidic gases (CO ₂ , NO ₂ and SO ₂) capture and dissociation on metal decorated phosphorene. 2017 , 410, 505-512		36
944	Oxidation Resistance of Monolayer Group-IV Monochalcogenides. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 12013-12020	9.5	88
943	Aharonov-Bohm effect in monolayer phosphorene nanorings. <i>Physical Review B</i> , 2017 , 95,	3.3	18
942	Recent Advances in Ultrathin Two-Dimensional Nanomaterials. 2017 , 117, 6225-6331		2919
941	Raman Sensitive Degradation and Etching Dynamics of Exfoliated Black Phosphorus. 2017 , 7, 44540		35
940	Environmentally Robust Black Phosphorus Nanosheets in Solution: Application for Self-Powered Photodetector. 2017 , 27, 1606834		244
939	Cyclical Thinning of Black Phosphorus with High Spatial Resolution for Heterostructure Devices. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 12654-12662	9.5	10
938	Elemental two-dimensional nanosheets beyond graphene. 2017 , 46, 2127-2157		220
937	Directive Surface Plasmons on Tunable Two-Dimensional Hyperbolic Metasurfaces and Black Phosphorus: Green's Function and Complex Plane Analysis. 2017 , 65, 1174-1186		25
936	Frustrated Lewis Pair Catalysts in Two Dimensions: B/Al-Doped Phosphorenes as Promising Catalysts for Hydrogenation of Small Unsaturated Molecules. 2017 , 7, 766-771		32
935	Field Effect Optoelectronic Modulation of Quantum-Confined Carriers in Black Phosphorus. 2017 , 17, 78-84		72
934	Recent advance in black phosphorus: Properties and applications. 2017 , 189, 215-229		52
933	Femtosecond photo-switching of interface polaritons in black phosphorus heterostructures. 2017 , 12, 207-211		125
932	Black Phosphorus p- and n-MOSFETs With Electrostatically Doped Contacts. 2017 , 38, 285-288		21
931	Layer-Number Dependent Optical Properties of 2D Materials and Their Application for Thickness Determination. 2017 , 27, 1604468		130

930	Solution processing of two-dimensional black phosphorus. 2017 , 53, 1445-1458		55
929	Passivation of Black Phosphorus via Self-Assembled Organic Monolayers by van der Waals Epitaxy. 2017 , 29, 1603990		101
928	Photoabsorption Tolerance of Intrinsic Point Defects and Oxidation in Black Phosphorus Quantum Dots. 2017 , 8, 161-166		20
927	All-Optical Switching of Two Continuous Waves in Few Layer Bismuthene Based on Spatial Cross-Phase Modulation. 2017 , 4, 2852-2861		128
926	Highly Efficient Visible Blue-Emitting Black Phosphorus Quantum Dot: Mussel-Inspired Surface Functionalization for Bioapplications. 2017 , 2, 7096-7105		27
925	Exploring the Formation of Black Phosphorus Intercalation Compounds with Alkali Metals. 2017 , 129, 15469-15475		12
924	Exploring the Formation of Black Phosphorus Intercalation Compounds with Alkali Metals. 2017 , 56, 15267-15273		53
923	Chemically Exfoliated Layered Materials for Practical Gas Sensing Applications. 2017 , 163-173		
922	Fluorinated Phosphorene: Electrochemical Synthesis, Atomistic Fluorination, and Enhanced Stability. 2017 , 13, 1702739		123
921	Anisotropic atomic-structure related anomalous Hall resistance in few-layer black phosphorus. 2017 , 7, 23427-23431		6
920	Multilayered black phosphorus: From a tight-binding to a continuum description. <i>Physical Review B</i> , 2017 , 96,	3.3	28
919	Band-edge engineering via molecule intercalation: a new strategy to improve stability of few-layer black phosphorus. 2017 , 19, 29232-29236		8
918	Atomic-Scale Friction of Black Phosphorus: Effect of Thickness and Anisotropic Behavior. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1700998	4.6	26
917	Electro-optical properties of phosphorene quantum dots. <i>Physical Review B</i> , 2017 , 96,	3.3	27
916	Optical Gating of Black Phosphorus for Terahertz Detection. 2017 , 17, 5811-5816		16
915	Polarization-Independent Black-Phosphorus Polarizer in Visible Regime. 2017 , 29, 1923-1926		10
914	Strain-Modulated Bandgap and Piezo-Resistive Effect in Black Phosphorus Field-Effect Transistors. 2017 , 17, 6097-6103		88
913	Spin-dependent transport properties of zigzag phosphorene nanoribbons with oxygen-saturated edges. 2017 , 19, 25319-25323		16

912	Lithium and sodium adsorption properties of monolayer antimonene. 2017 , 5, 347-354		50
911	Rapid thermal thinning of black phosphorus. 2017 , 5, 10638-10644		15
910	Defects and oxidation of group-III monochalcogenide monolayers. 2017 , 147, 104709		22
909	Point defects in buckled and asymmetric washboard phases of arsenic phosphorus: A first principles study. 2017 , 140, 290-298		15
908	Two-dimensional nanomaterial-based field-effect transistors for chemical and biological sensing. 2017 , 46, 6872-6904		210
907	Black phosphorus ink formulation for inkjet printing of optoelectronics and photonics. <i>Nature Communications</i> , 2017 , 8, 278	17.4	225
906	Two-dimensional black phosphorus: Synthesis, modification, properties, and applications. 2017 , 120, 1-33		102
905	PdSe: Pentagonal Two-Dimensional Layers with High Air Stability for Electronics. 2017 , 139, 14090-14097		318
904	Black Phosphorus Nanoflakes/Polyaniline Hybrid Material for High-Performance Pseudocapacitors. 2017 , 121, 20532-20538		66
903	Variable range hopping electric and thermoelectric transport in anisotropic black phosphorus. <i>Applied Physics Letters</i> , 2017 , 111, 102101	3.4	28
902	Water-Catalyzed Oxidation of Few-Layer Black Phosphorous in a Dark Environment. 2017 , 129, 9259-9263		13
901	Interfacial Thermal Conductance between Mechanically Exfoliated Black Phosphorus and SiO _x : Effect of Thickness and Temperature. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1700233	4.6	13
900	Stabilization of Black Phosphorous Quantum Dots in PMMA Nanofiber Film and Broadband Nonlinear Optics and Ultrafast Photonics Application. 2017 , 27, 1702437		93
899	Pressure-Dependent Light Emission of Charged and Neutral Excitons in Monolayer MoSe. 2017 , 8, 3556-3563		28
898	Low-voltage complementary inverters based on ion gel-gated ReS ₂ and BP transistors. 2017 , 5, 33-39		6
897	Black Phosphorus: Optical Characterization, Properties and Applications. 2017 , 13, 1700823		46
896	Nonlinear Absorption Induced Transparency and Optical Limiting of Black Phosphorus Nanosheets. 2017 , 4, 3063-3070		61
895	Electric field tunable band-gap crossover in black(blue) phosphorus/g-ZnO van der Waals heterostructures. 2017 , 7, 34584-34590		32

894	Strain modification on electronic transport of the phosphorene nanoribbon. <i>AIP Advances</i> , 2017 , 7, 075310		7
893	Single-layer group IV-V and group V-IV-III-VI semiconductors: Structural stability, electronic structures, optical properties, and photocatalysis. <i>Physical Review B</i> , 2017 , 96,	3-3	34
892	Theoretical Overview of Black Phosphorus. 381-412		5
891	Intricate Resonant Raman Response in Anisotropic ReS. 2017 , 17, 5897-5907		49
890	Field-Induced n-Doping of Black Phosphorus for CMOS Compatible 2D Logic Electronics with High Electron Mobility. 2017 , 27, 1702211		80
889	Identifying the Crystalline Orientation of Black Phosphorus by Using Optothermal Raman Spectroscopy. 2017 , 18, 2828-2834		10
888	Electronic and Magnetic Properties of Black Phosphorus. 2017 , 254, 1700232		14
887	Anisotropic Properties of Black Phosphorus. 413-434		3
886	Optical Properties and Optoelectronic Applications of Black Phosphorus. 435-457		
885	Germanium-doped Metallic Ohmic Contacts in Black Phosphorus Field-Effect Transistors with Ultra-low Contact Resistance. 2017 , 7, 16857		12
884	Stabilizing ultra-thin black phosphorus with in-situ-grown 1 nm-Al ₂ O ₃ barrier. <i>Applied Physics Letters</i> , 2017 , 111, 243101	3-4	26
883	Widely tunable black phosphorus mid-infrared photodetector. <i>Nature Communications</i> , 2017 , 8, 1672	17.4	191
882	Supramolecular networks stabilise and functionalise black phosphorus. <i>Nature Communications</i> , 2017 , 8, 1385	17.4	57
881	Observation of A Raman mode splitting in few layer black phosphorus encapsulated with hexagonal boron nitride. <i>Nanoscale</i> , 2017 , 9, 19298-19303	7-7	8
880	Strain/stress engineering on the mechanical and electronic properties of phosphorene nanosheets and nanotubes. 2017 , 7, 51466-51474		22
879	Ambipolar quantum transport in few-layer black phosphorus. <i>Physical Review B</i> , 2017 , 96,	3-3	17
878	Electrochemical Exfoliation of Layered Black Phosphorus into Phosphorene. 2017 , 129, 10579-10581		39
877	The Covalent Functionalization of Layered Black Phosphorus by Nucleophilic Reagents. 2017 , 129, 10023-10028	5	

876	Electrochemical Exfoliation of Layered Black Phosphorus into Phosphorene. 2017 , 56, 10443-10445		159
875	Fundamental Insights into the Degradation and Stabilization of Thin Layer Black Phosphorus. 2017 , 139, 10432-10440		181
874	Environmental Screening Effects in 2D Materials: Renormalization of the Bandgap, Electronic Structure, and Optical Spectra of Few-Layer Black Phosphorus. 2017 , 17, 4706-4712		105
873	Exfoliation of Stable 2D Black Phosphorus for Device Fabrication. 2017 , 29, 6445-6456		54
872	Optical Waveplates Based on Birefringence of Anisotropic Two-Dimensional Layered Materials. 2017 , 4, 3023-3030		110
871	Phosphorus allotropes: Stability of black versus red phosphorus re-examined by means of the van der Waals inclusive density functional method. <i>Physical Review B</i> , 2017 , 95,	3-3	19
870	Periodic Arrays of Phosphorene Nanopores as Antidot Lattices with Tunable Properties. 2017 , 11, 7494-7507		29
869	Unusual quantum confined Stark effect and Aharonov-Bohm oscillations in semiconductor quantum rings with anisotropic effective masses. <i>Physical Review B</i> , 2017 , 95,	3-3	23
868	Effect of edge passivation on the mechanical properties of phosphorene nanoribbons. 2017 , 14, 2-9		10
867	Layer Identification of Colorful Black Phosphorus. 2017 , 13, 1602336		20
866	Recent Advances in the Study of Phosphorene and its Nanostructures. 2017 , 42, 1-82		113
865	Physics and chemistry of oxidation of two-dimensional nanomaterials by molecular oxygen. 2017 , 7, e1280		34
864	Polaritons in layered two-dimensional materials. 2017 , 16, 182-194		665
863	Direct observation of the layer-dependent electronic structure in phosphorene. 2017 , 12, 21-25		473
862	Electronic properties of phosphorene nanoribbons. 2017 , 139, 207-210		2
861	Temperature-dependent anisotropic charge-carrier mobility limited by ionized impurity scattering in thin-layer black phosphorus. <i>Physical Review B</i> , 2017 , 95,	3-3	25
860	Complementary black phosphorous FETs by workfunction engineering of pre-patterned Au and Ag embedded electrodes. 2017 ,		3
859	Reflectance calculations of anisotropic dielectric constants of graphene-like two-dimensional materials. 2017 , 56, 7832-7840		5

858	Fundamental and harmonic mode-locking at 2.1 μm with black phosphorus saturable absorber. 2017 , 25, 16916-16921		84
857	Tunable Broadband Nonlinear Optical Properties of Black Phosphorus Quantum Dots for Femtosecond Laser Pulses. 2017 , 10,		51
856	Magnetoresistance Effect in NiFe/BP/NiFe Vertical Spin Valve Devices. 2017 , 2017, 1-6		8
855	High-peak-power mode-locking pulse generation in a dual-loss-modulated laser with BP-SA and EOM. 2017 , 42, 4820-4823		2
854	Black phosphorus flakes covered microfiber for Q-switched ytterbium-doped fiber laser. 2017 , 56, 6427-6431	27	
853	Investigation on the effect of output mirror transmission in WS-based red-light passively Q-switched Pr:ZBLAN all-fiber lasers. 2017 , 56, 7749-7755		2
852	Contribution of many-body effects into thermoelectricity and heat transport in graphene. 2018 , 341-418		
851	Comprehensive analysis of sub-20 nm black phosphorus based junctionless-recessed channel MOSFET for analog/RF applications. 2018 , 116, 171-180		18
850	Covalent functionalization of black phosphorus nanoflakes by carbon free radicals for durable air and water stability. <i>Nanoscale</i> , 2018 , 10, 5834-5839	7-7	68
849	2D Black Phosphorus: from Preparation to Applications for Electrochemical Energy Storage. 2018 , 5, 1700491		109
848	A Delamination Strategy for Thinly Layered Defect-Free High-Mobility Black Phosphorus Flakes. 2018 , 57, 4677-4681		68
847	A carbon science perspective in 2018: Current achievements and future challenges. 2018 , 132, 785-801		59
846	Tuning Infrared Plasmon Resonance of Black Phosphorene Nanoribbon with a Dielectric Interface. 2018 , 8, 3224		22
845	A New Effective Approach to Prevent the Degradation of Black Phosphorus: The Scandium Transition Metal Doping. 2018 , 122, 9654-9662		16
844	A Delamination Strategy for Thinly Layered Defect-Free High-Mobility Black Phosphorus Flakes. 2018 , 130, 4767-4771		36
843	Antimonene nanoribbon band-gap expansion: Bond contraction and edge quantum entrapment. 2018 , 211, 414-419		6
842	Black phosphorus as a new lubricant. 2018 , 6, 116-142		102
841	Sulfur-Doped Black Phosphorus Field-Effect Transistors with Enhanced Stability. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 9663-9668	9-5	75

840	Two-Dimensionally Layered p-Black Phosphorus/n-MoS/p-Black Phosphorus Heterojunctions. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 10347-10352	9.5	32
839	Recent Advances in Black-Phosphorus-Based Photonics and Optoelectronics Devices. 2018 , 2, 1700315		22
838	Polymer-Based Black Phosphorus (bP) Hybrid Materials by in Situ Radical Polymerization: An Effective Tool To Exfoliate bP and Stabilize bP Nanoflakes. 2018 , 30, 2036-2048		46
837	Air-Stable In-Plane Anisotropic GeSe for Highly Polarization-Sensitive Photodetection in Short Wave Region. 2018 , 140, 4150-4156		125
836	Coupling-Assisted Renormalization of Excitons and Vibrations in Compressed MoSe ₂ /WSe ₂ Heterostructure. 2018 , 122, 5820-5828		13
835	Contact engineering for 2D materials and devices. 2018 , 47, 3037-3058		337
834	Black-Phosphorus-Incorporated Hydrogel as a Sprayable and Biodegradable Photothermal Platform for Postsurgical Treatment of Cancer. 2018 , 5, 1700848		199
833	Tuning the electronic properties of gated multilayer phosphorene: A self-consistent tight-binding study. <i>Physical Review B</i> , 2018 , 97,	3.3	24
832	Effects of Al ₂ O ₃ Capping and Post-Annealing on the Conduction Behavior in Few-Layer Black Phosphorus Field-Effect Transistors. 2018 , 6, 320-324		5
831	Atomically thin p-n junctions based on two-dimensional materials. 2018 , 47, 3339-3358		158
830	New two-dimensional allotrope of single layer IV-V semiconductor XBi (X = Si, Ge, Sn). 2018 , 150, 314-320		7
829	Lattice Vibration and Raman Scattering in Anisotropic Black Phosphorus Crystals. 2018 , 2, 1700409		24
828	Structural and magneto-electronic properties of transition metal doped phosphorus nanotubes. 2018 , 20, 13574-13579		10
827	All-Optical Phosphorene Phase Modulator with Enhanced Stability Under Ambient Conditions. <i>Laser and Photonics Reviews</i> , 2018 , 12, 1800016	8.3	118
826	Ultrafast Electrochemical Expansion of Black Phosphorus toward High-Yield Synthesis of Few-Layer Phosphorene. 2018 , 30, 2742-2749		89
825	Electronic properties and optical absorption of a phosphorene quantum dot. 2018 , 123, 125109		4
824	Chemical Doping Effects of Gas Molecules on Black Phosphorus Field-Effect Transistors. 2018 , 7, Q3065-Q3069		
823	Ultrathin 2D Transition Metal Carbides for Ultrafast Pulsed Fiber Lasers. 2018 , 5, 1808-1816		96

822	Modulation of electronic and magnetic properties of edge hydrogenated armchair phosphorene nanoribbons by transition metal adsorption. 2018 , 20, 12916-12922		9
821	Characterization of anisotropic thermal conductivity of suspended nm-thick black phosphorus with frequency-resolved Raman spectroscopy. 2018 , 123, 145104		15
820	Autonomous robotic searching and assembly of two-dimensional crystals to build van der Waals superlattices. <i>Nature Communications</i> , 2018 , 9, 1413	17.4	129
819	Stacking change in MoS bilayers induced by interstitial Mo impurities. 2018 , 8, 2143		10
818	Electronic structure of graphene and BN supported phosphorene. 2018 , 534, 63-67		31
817	Absorption Enhancement for Black Phosphorus Active Layer Based on Plasmonic Nanocavity. 2018 , 10, 1-10		7
816	Half metal phase in the zigzag phosphorene nanoribbon. 2018 , 8, 2932		23
815	Excellent nonlinear absorption properties of Antimonene nanosheets. 2018 , 6, 2848-2853		33
814	Quantum transport in defective phosphorene nanoribbons: Effects of atomic vacancies. <i>Physical Review B</i> , 2018 , 97,	3.3	21
813	High Performance Black Phosphorus Electronic and Photonic Devices with HfLaO Dielectric. 2018 , 39, 127-130		25
812	Liquid phase mass production of air-stable black phosphorus/phospholipids nanocomposite with ultralow tunneling barrier. <i>2D Materials</i> , 2018 , 5, 025012	5.9	4
811	Advanced Phosphorus-Based Materials for Lithium/Sodium-Ion Batteries: Recent Developments and Future Perspectives. 2018 , 8, 1703058		119
810	Electronic Structure and Band Gap Engineering of Two-Dimensional Octagon-Nitrogen. 2018 , 8, 1674		18
809	Enhancement of tunneling current in phosphorene tunnel field effect transistors by surface defects. 2018 , 20, 5699-5707		8
808	On-surface synthesis: a promising strategy toward the encapsulation of air unstable ultra-thin 2D materials. <i>Nanoscale</i> , 2018 , 10, 3799-3804	7.7	16
807	Magnetothermoelectric transport properties in phosphorene. <i>Physical Review B</i> , 2018 , 97,	3.3	4
806	Interlayer coupling effects on electronic properties of the phosphorene/h-BN van der Waals heterostructure: A first principles investigation. 2018 , 534, 51-55		7
805	Recent Advances in Two-Dimensional Nanomaterials for Supercapacitor Electrode Applications. 2018 , 3, 482-495		413

804	Recent progress in 2D group-VA semiconductors: from theory to experiment. 2018 , 47, 982-1021		549
803	Dual-Gate Black Phosphorus Field-Effect Transistors with Hexagonal Boron Nitride as Dielectric and Passivation Layers. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 925-932	9.5	24
802	Generalized Scheme for High Performing Photodetectors with a p-Type 2D Channel Layer and n-Type Nanoparticles. 2018 , 14, 1703065		14
801	2D-Black-Phosphorus-Reinforced 3D-Printed Scaffolds:A Stepwise Countermeasure for Osteosarcoma. 2018 , 30, 1705611		205
800	Polarization Photoelectric Conversion in Layered GeS. 2018 , 6, 1701194		25
799	Novel concept of the smart NIR-light-controlled drug release of black phosphorus nanostructure for cancer therapy. 2018 , 115, 501-506		518
798	Synthesis of Crystalline Black Phosphorus Thin Film on Sapphire. 2018 , 30, 1703748		67
797	Quasi-Monolayer Black Phosphorus with High Mobility and Air Stability. 2018 , 30, 1704619		62
796	Enhanced Stability of Black Phosphorus Field-Effect Transistors via Hydrogen Treatment. 2018 , 4, 1700455		15
795	Tailoring electronic properties of multilayer phosphorene by siliconization. 2018 , 20, 2075-2083		18
794	Pressure quenching: a new route for the synthesis of black phosphorus. 2018 , 5, 669-674		10
793	Phosphorene in ultrafast laser field. <i>Physical Review B</i> , 2018 , 97,	3.3	11
792	M-shape nanoscale friction anisotropy of phosphorene. 2018 , 150, 364-368		10
791	Large-Velocity Saturation in Thin-Film Black Phosphorus Transistors. 2018 , 12, 5003-5010		32
790	Promising Photocatalysts for Water Splitting in BeN ₂ and MgN ₂ Monolayers. 2018 , 122, 8102-8108		20
789	Fast MoTe ₂ Waveguide Photodetector with High Sensitivity at Telecommunication Wavelengths. 2018 , 5, 1846-1852		49
788	Resolving the optical anisotropy of low-symmetry 2D materials. <i>Nanoscale</i> , 2018 , 10, 8329-8337	7.7	43
787	First-Principles Investigation of Black Phosphorus Synthesis. 2018 , 9, 1759-1764		13

786	Uniform Tellurium Doping in Black Phosphorus Single Crystals by Chemical Vapor Transport. 2018 , 57, 4098-4103	39
785	CaP: A New Two-Dimensional Functional Material with Desirable Band Gap and Ultrahigh Carrier Mobility. 2018 , 9, 1728-1733	71
784	Polarity Control of Top Gated Black Phosphorous FETs by Workfunction Engineering of Pre-Patterned Au and Ag Embedded Electrodes. 2018 , 6, 1041-1047	5
783	Mechanical exfoliation of two-dimensional materials. 2018 , 115, 248-262	78
782	Material Chemistry of Two-Dimensional Inorganic Nanosheets in Cancer Theranostics. 2018 , 4, 1284-1313	111
781	Determination of layer-dependent exciton binding energies in few-layer black phosphorus. 2018 , 4, eaap9977	80
780	A new strategy for air-stable black phosphorus reinforced PVA nanocomposites. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 7142-7147	13 28
779	Pulse duration dependent nonlinear optical response in black phosphorus dispersions. 2018 , 406, 244-248	20
778	High-performance mode-locked and Q-switched fiber lasers based on novel 2D materials of topological insulators, transition metal dichalcogenides and black phosphorus: review and perspective (invited). 2018 , 406, 214-229	106
777	Phosphorene as a promising anode material for (Li/Na/Mg)-ion batteries: A first-principle study. 2018 , 180, 253-257	65
776	Tunable High-Power Q-Switched Fiber Laser Based on BP-PVA Saturable Absorber. 2018 , 24, 1-5	9
775	Recent Progress on Antimonene: A New Bidimensional Material. 2018 , 30, 1703771	189
774	Raman spectroscopy in black phosphorus. 2018 , 49, 76-90	83
773	Zweidimensionale Chemie jenseits von Graphen: das aufstrebende Gebiet der Funktionalisierung von Molybdädisulfid und schwarzem Phosphor. 2018 , 130, 4421-4437	20
772	Post-Graphene 2D Chemistry: The Emerging Field of Molybdenum Disulfide and Black Phosphorus Functionalization. 2018 , 57, 4338-4354	156
771	Black Phosphorus: Synthesis and Application for Solar Cells. 2018 , 8, 1701832	94
770	Density functional theory calculations of biomolecules adsorption on phosphorene for biomedical applications. 2018 , 427, 1227-1234	25
769	Direct Investigation of the Birefringent Optical Properties of Black Phosphorus with Picosecond Interferometry. 2018 , 6, 1700831	7

768	Role of surface adsorption in tuning the properties of black phosphorus. 2017 , 20, 112-117		14
767	Applications of Phosphorene and Black Phosphorus in Energy Conversion and Storage Devices. 2018 , 8, 1702093		272
766	Theoretical study of phosphorene multilayers: optical properties and small organic molecule physisorption. 2018 , 53, 5103-5113		14
765	Atomic-scale mechanisms of defect- and light-induced oxidation and degradation of InSe. 2018 , 6, 518-525		34
764	TiS sheet based van der Waals heterostructures with a tunable Schottky barrier. <i>Nanoscale</i> , 2018 , 10, 807-815	7-7	18
763	Contacts to solution-synthesized SnS nanoribbons: dependence of barrier height on metal work function. <i>Nanoscale</i> , 2017 , 10, 319-327	7-7	18
762	Few-Layered Black Phosphorus: From Fabrication and Customization to Biomedical Applications. 2018 , 14, 1702830		56
761	Black phosphorus saturable absorber for Q-switched Er:YAG laser at 1645 nm. 2018 , 100, 225-229		12
760	Metal-assisted exfoliation of few-layer black phosphorus with high yield. 2018 , 54, 595-598		45
759	Electronic and Magnetic Properties of Monolayer and Bilayer Phosphorene Doped with Transition-Metal Atoms. 2018 , 255, 1700370		7
758	Chemical intuition for high thermoelectric performance in monolayer black phosphorus, Arsenene and aW-antimonene. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 2018-2033	13	56
757	One-Dimensional Arsenic Allotropes: Polymerization of Yellow Arsenic Inside Single-Wall Carbon Nanotubes. 2018 , 130, 11823-11827		0
756	Negative/zero thermal expansion in black phosphorus nanotubes. 2018 , 20, 28726-28731		8
755	Interface engineering for a stable chemical structure of oxidized-black phosphorus via self-reduction in AlO atomic layer deposition. <i>Nanoscale</i> , 2018 , 10, 22896-22907	7-7	2
754	Synthesis of a one-dimensional atomic crystal of vanadium selenide (VSe).. 2018 , 8, 33980-33984		19
753	Mechanical exfoliation and electrical characterization of a one-dimensional NbSe atomic crystal.. 2018 , 8, 37724-37728		16
752	Modelling strategies for the covalent functionalization of 2D phosphorene. 2018 , 47, 17243-17256		23
751	Two-dimensional black phosphorus: its fabrication, functionalization and applications. <i>Nanoscale</i> , 2018 , 10, 21575-21603	7-7	54

750	Highly Promoted Carrier Mobility and Intrinsic Stability by Rolling Up Monolayer Black Phosphorus into Nanoscrolls. 2018 , 9, 6847-6852		15
749	Electrically and Optically Tunable Responses in Graphene/Transition-Metal-Dichalcogenide Heterostructures. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 44102-44108	9.5	14
748	Graphene, related two-dimensional crystals and hybrid systems for printed and wearable electronics. 2018 , 23, 73-96		71
747	Colloquium: Phononic thermal properties of two-dimensional materials. 2018 , 90,		141
746	Performance Improvement in Hydrogenated Few-Layer Black Phosphorus Field-Effect Transistors. 2018 , 35, 127302		2
745	Stark shift of excitons and trions in two-dimensional materials. <i>Physical Review B</i> , 2018 , 98,	3.3	14
744	Vertical WS/SnS van der Waals Heterostructure for Tunneling Transistors. 2018 , 8, 17755		16
743	Ambient Degradation-Induced Spin Paramagnetism in Phosphorene. 2019 , 15, e1804386		4
742	Anisotropic Electron-Phonon Interactions in Angle-Resolved Raman Study of Strained Black Phosphorus. 2018 , 12, 12512-12522		25
741	Double carrier transport in electron-doped region in black phosphorus FET. <i>Applied Physics Letters</i> , 2018 , 113, 193101	3.4	6
740	Excitonic complexes in anisotropic atomically thin two-dimensional materials: Black phosphorus and TiS ₃ . <i>Physical Review B</i> , 2018 , 98,	3.3	9
739	Toward Air Stability of Thin GaSe Devices: Avoiding Environmental and Laser-Induced Degradation by Encapsulation. 2018 , 28, 1805304		31
738	Photoluminescence quantum yields for atomically thin-layered ReS ₂ : Identification of indirect-bandgap semiconductors. <i>Applied Physics Letters</i> , 2018 , 113, 121112	3.4	20
737	Conditions for the occurrence of Coulomb blockade in phosphorene quantum dots at room temperature. <i>Physical Review B</i> , 2018 , 98,	3.3	
736	Water Splits To Degrade Two-Dimensional Group-IV Monochalcogenides in Nanoseconds. 2018 , 4, 1436-1446		48
735	Quantitative Tracking of the Oxidation of Black Phosphorus in the Few-Layer Regime. 2018 , 3, 12482-12488		20
734	Multilayer phosphorene quantum dots in an electric field: Energy levels and optical absorption. 2018 , 124, 124303		10
733	Printing 2D Materials. 2018 , 131-205		4

732	Functionalized Phosphorene Quantum Dots as Efficient Electrocatalyst for Oxygen Evolution Reaction. 2018 , 12, 11511-11519		54
731	2D Materials for Gas Sensing Applications: A Review on Graphene Oxide, MoS ₂ and Phosphorene. 2018 , 18,		230
730	Inorganic Molecular Chain Nb ₂ Se ₉ : Synthesis of Bulk Crystal and One-Atom-Thick Level Exfoliation. 2018 , 12, 1800451		20
729	Promise and Challenge of Phosphorus in Science, Technology, and Application. 2018 , 28, 1803471		49
728	Stable GaSe-Like Phosphorus Carbide Monolayer with Tunable Electronic and Optical Properties from Ab Initio Calculations. 2018 , 11,		8
727	Epitaxial Synthesis of Blue Phosphorene. 2018 , 14, e1804066		70
726	Physically Transient Field-Effect Transistors Based on Black Phosphorus. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 42630-42636	9.5	15
725	Black phosphorus with a unique rectangular shape and its anisotropic properties. <i>AIP Advances</i> , 2018 , 8, 105216	1.5	3
724	Mechanical and Chemical Stability of Monolayer Black Phosphorous Studied by Density Functional Theory Simulations. 2018 , 122, 22366-22373		11
723	Theoretical studies of electronic transport in monolayer and bilayer phosphorene: A critical overview. <i>Physical Review B</i> , 2018 , 98,	3.3	43
722	Photoluminescence Lifetime of Black Phosphorus Nanoparticles and Their Applications in Live Cell Imaging. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 31136-31145	9.5	19
721	Epitaxial Growth of Few-Layer Black Phosphorene Quantum Dots on Si Substrates. <i>Advanced Materials Interfaces</i> , 2018 , 5, 1801048	4.6	14
720	Atomic Scale Simulation on the Fracture Mechanism of Black Phosphorus Monolayer under Indentation. <i>Nanomaterials</i> , 2018 , 8,	5.4	1
719	Quantum Hall Effect in Electron-Doped Black Phosphorus Field-Effect Transistors. 2018 , 18, 6611-6616		31
718	Contacting and Gating 2-D Nanomaterials. 2018 , 65, 4073-4083		21
717	The dimensional and hydrogenating effect on the electronic properties of ZnSe nanomaterials: a computational investigation. 2018 , 20, 24453-24464		4
716	Visualizing Degradation of Black Phosphorus Using Liquid Crystals. 2018 , 8, 12966		4
715	Enhanced doping effect on tuning structural phases of monolayer antimony. <i>Applied Physics Letters</i> , 2018 , 112, 213104	3.4	11

714	Suppression of spin and optical gaps in phosphorene quantum dots. <i>Physical Review B</i> , 2018 , 97,	3-3	5
713	Realizing Long-Term Stability and Thickness Control of Black Phosphorus by Ambient Thermal Treatment. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 19069-19075	9-5	25
712	Charge Transfer Doping Modulated Raman Scattering and Enhanced Stability of Black Phosphorus Quantum Dots on a ZnO Nanorod. 2018 , 6, 1800440		27
711	Zinc oxide-black phosphorus composites for ultrasensitive nitrogen dioxide sensing. 2018 , 3, 525-531		34
710	Enhanced stability and performance of few-layer black phosphorus transistors by electron beam irradiation. <i>Nanoscale</i> , 2018 , 10, 11616-11623	7-7	18
709	Synthesis and Characterization of Phosphorene: A Novel 2D Material. 2018 , 61-92		0
708	Effect of TCNQ Layer Cover on Oxidation Dynamics of Black Phosphorus. 2018 , 12, 1800179		2
707	2D Tunnel Field Effect Transistors (FETs) with a Stable Charge-Transfer-Type p+-WSe ₂ Source. 2018 , 4, 1800207		23
706	Solvent mediated hybrid 2D materials: black phosphorus - graphene heterostructured building blocks assembled for sodium ion batteries. <i>Nanoscale</i> , 2018 , 10, 10443-10449	7-7	32
705	Enhanced Performance of Field-Effect Transistors Based on Black Phosphorus Channels Reduced by Galvanic Corrosion of Al Overlayers. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 18895-18901	9-5	6
704	Thermal annealing of black phosphorus for etching and protection. 2018 , 457, 773-779		13
703	Encapsulation-Free Stabilization of Few-Layer Black Phosphorus. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 24327-24331	9-5	13
702	Chemical sensing with 2D materials. 2018 , 47, 4860-4908		317
701	Hot Carriers in CVD-Grown Graphene Device with a Top h-BN Layer. 2018 , 2018, 1-7		3
700	First-principles study of adsorption of 3d and 4d transition metal atoms on aluminene. 2018 , 16, e00319		4
699	Black Phosphorus Radio Frequency Electronics at Cryogenic Temperatures. 2018 , 4, 1800138		9
698	Passively Q-switched all-fiber lasers generating cylindrical vector beams with 2-dimensional material saturable absorbers. 2018 , 45, 71-76		2
697	Direction-dependent electronic phase transition in magnetic field-induced gated phosphorene. 2018 , 465, 646-650		20

696	Bulk Phosphorus-Doped Graphitic Carbon. 2018 , 30, 4580-4589		10
695	Covalent Functionalization of Few-Layer Black Phosphorus Using Iodonium Salts and Comparison to Diazonium Modified Black Phosphorus. 2018 , 30, 4667-4674		63
694	Two-dimensional light-emitting materials: preparation, properties and applications. 2018 , 47, 6128-6174		118
693	Passively Q-switched Nd solid-state lasers with antimonene as saturable absorber. 2018 , 26, 4085-4095		28
692	Scalable Patterning of Encapsulated Black Phosphorus. 2018 , 18, 5373-5381		30
691	Black Phosphorus: Degradation Favors Lubrication. 2018 , 18, 5618-5627		71
690	Penta-PtN: an ideal two-dimensional material for nanoelectronics. <i>Nanoscale</i> , 2018 , 10, 16169-16177	7.7	30
689	Effects of substrate and environmental adsorbates on the electronic properties and structural stability of antimonene. 2018 , 53, 15559-15568		9
688	A Novel Application of Phosphorene as a Flame Retardant. 2018 , 10,		30
687	Progress on Black Phosphorus Photonics. 2018 , 6, 1800365		29
686	Synthesis of hexagonal boron nitride heterostructures for 2D van der Waals electronics. 2018 , 47, 6342-6369		80
685	Discerning Black Phosphorus Crystal Orientation and Anisotropy by Polarized Reflectance Measurement. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 25629-25637	9.5	14
684	Dielectric-induced interface states in black phosphorus and tungsten diselenide capacitors. <i>Applied Physics Letters</i> , 2018 , 113, 013103	3.4	7
683	Tunable Bandgap and Optical Properties of Black Phosphorene Nanotubes. 2018 , 11,		19
682	Interface Electronic Structure between Au and Black Phosphorus. 2018 , 122, 18405-18411		5
681	One-Dimensional Arsenic Allotropes: Polymerization of Yellow Arsenic Inside Single-Wall Carbon Nanotubes. 2018 , 57, 11649-11653		18
680	2D library beyond graphene and transition metal dichalcogenides: a focus on photodetection. 2018 , 47, 6296-6341		145
679	Spin-dependent k.p Hamiltonian of black phosphorene based on Löwdin partitioning method. 2018 , 124, 035702		2

678	Probing the free-carrier absorption in multi-layer black phosphorus. <i>Applied Physics Letters</i> , 2018 , 113, 031108	3-4	3
677	Recent Progress on Stability and Passivation of Black Phosphorus. 2018 , 30, e1704749		160
676	Drastic Improvement in Gas-Sensing Characteristics of Phosphorene Nanosheets under Vacancy Defects and Elemental Functionalization. 2018 , 122, 20186-20193		41
675	Theoretical discovery of novel two-dimensional V-N binary compounds with auxiticity. 2018 , 20, 22027-22037		35
674	2D Phosphorene: Epitaxial Growth and Interface Engineering for Electronic Devices. 2018 , 30, e1802207		42
673	Quantum Monte Carlo calculations of energy gaps from first principles. <i>Physical Review B</i> , 2018 , 98,	3-3	25
672	Sub-200 fs soliton mode-locked fiber laser based on bismuthene saturable absorber. 2018 , 26, 22750-22760		229
671	Impact ionization by hot carriers in a black phosphorus field effect transistor. <i>Nature Communications</i> , 2018 , 9, 3414	17-4	23
670	Products of Degradation of Black Phosphorus in Protic Solvents. 2018 , 12, 8390-8396		45
669	Photo-oxidative Degradation and Protection Mechanism of Black Phosphorus: Insights from Ultrafast Dynamics. 2018 , 9, 5034-5039		35
668	Semimetal-Semiconductor Transitions for Monolayer Antimonene Nanosheets and Their Application in Perovskite Solar Cells. 2018 , 30, e1803244		39
667	Black phosphorus analogue tin sulfide nanosheets: synthesis and application as near-infrared photothermal agents and drug delivery platforms for cancer therapy. 2018 , 6, 4747-4755		116
666	Effects of plasma-treatment on the electrical and optoelectronic properties of layered black phosphorus. 2018 , 12, 244-249		30
665	Two-dimensional materials for gas sensors: from first discovery to future possibilities. 2018 , 6, 205-230		14
664	Omnipotent phosphorene: a next-generation, two-dimensional nanoplatfrom for multidisciplinary biomedical applications. 2018 , 47, 5588-5601		274
663	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,	3-3	34
662	Phosphorene/ZnO Nano-Heterojunctions for Broadband Photonic Nonvolatile Memory Applications. 2018 , 30, e1801232		68
661	Acetone improves the topographical homogeneity of liquid phase exfoliated few-layer black phosphorus flakes. <i>Nanotechnology</i> , 2018 , 29, 365303	3-4	14

660	Bacterial toxicity of exfoliated black phosphorus nanosheets. 2018 , 161, 507-514		49
659	New solvent-stabilized few-layer black phosphorus for antibacterial applications. <i>Nanoscale</i> , 2018 , 10, 12543-12553	7-7	56
658	Superior mechanical flexibility and strained-engineered direct-indirect band gap transition of green phosphorene. <i>Applied Physics Letters</i> , 2018 , 112, 241904	3-4	19
657	Structures, Properties and Applications of 2D Materials. 2019 , 19-51		2
656	2D Material Production Methods. 2019 , 53-101		2
655	Electrochemical prepared phosphorene as a cathode for supercapacitors. 2019 , 770, 26-34		28
654	Adsorption of toxic mercury, lead, cadmium, and arsenic ions on black phosphorous nanosheet: first-principles calculations. 2019 , 30, 85-96		27
653	Avalanche Carrier Multiplication in Multilayer Black Phosphorus and Avalanche Photodetector. 2019 , 15, e1805352		10
652	Structural versatility and electronic structures of copper(I) thiocyanate (CuSCN) ligand complexes. 2019 , 7, 12907-12917		5
651	Highly Anisotropic Mechanical and Optical Properties of 2D Layered AsS Membranes. 2019 , 13, 10845-10851		34
650	Electrochemical Stability of Few-Layered Phosphorene Flakes on Boron-Doped Diamond: A Wide Potential Range of Studies in Aqueous Solutions. 2019 , 123, 20233-20240		4
649	Recent Developments in Stability and Passivation Techniques of Phosphorene toward Next-Generation Device Applications. 2019 , 29, 1903419		69
648	Self-Assembly of Atomically Thin Chiral Copper Heterostructures Templated by Black Phosphorus. 2019 , 29, 1903120		7
647	In Situ Doping of Black Phosphorus by High-Pressure Synthesis. 2019 , 58, 10227-10238		12
646	Superior Photo-thermionic electron Emission from Illuminated Phosphorene Surface. 2019 , 9, 10307		6
645	Unveiling chemical reactivity and oxidation of 1T-phased group VI disulfides. 2019 , 21, 17010-17017		5
644	Chiral and hyperbolic plasmons in novel 2-D materials. 2019 , 119-138		1
643	Recent progress in black phosphorus and black-phosphorus-analogue materials: properties, synthesis and applications. <i>Nanoscale</i> , 2019 , 11, 14491-14527	7-7	149

642	Multifunctional Optoelectronics via Harnessing Defects in Layered Black Phosphorus. 2019 , 29, 1901991		50
641	Carbon Nanomaterials and Two-Dimensional Transition Metal Dichalcogenides (2D TMDCs). 2019 , 165-245		2
640	Nonlinear Optical Signatures of the Transition from Semiconductor to Semimetal in PtSe ₂ . <i>Laser and Photonics Reviews</i> , 2019 , 13, 1900052	8.3	46
639	Reversible Oxidation of Blue Phosphorus Monolayer on Au(111). 2019 , 19, 5340-5346		21
638	Transmission and conductance for a driven vector barrier in phosphorene. 2019 , 133, 106175		4
637	Black Phosphorus-Film with Drop-Casting Method for High-Energy Pulse Generation From Q-Switched Er-Doped Fiber Laser. 2019 , 9, 239-245		7
636	Tuning Two-Dimensional Hyperbolic Plasmons in Black Phosphorus. <i>Physical Review Applied</i> , 2019 , 12,	4.3	23
635	Perpendicular electric field effects on the propagation of electromagnetic waves through the monolayer phosphorene. 2019 , 491, 165629		6
634	Insights on Si doping on PNRs for NDR with high PVR and diode behaviour with a high rectification ratio. 2019 , 114, 113630		2
633	Engineering Optical Absorption in Graphene and Other 2D Materials: Advances and Applications. 2019 , 7, 1900595		62
632	Switchable and tunable multi-wavelength emissions in pulsed ytterbium fiber lasers with black phosphorus saturable absorbers and polarization-maintaining fiber Bragg gratings. 2019 , 452, 373-379		14
631	Nonvolatile Photoelectric Memory Induced by Interfacial Charge at a Ferroelectric PZT-Gated Black Phosphorus Transistor. 2019 , 5, 1900458		19
630	Improved Dreyding force field for single layer black phosphorus. 2019 , 21, 16804-16817		7
629	Large-scale synthesis of van der Waals 1-dimensional material Mo ₆ S ₃ I ₆ by using a MoI ₂ precursor. 2019 , 803, 499-504		5
628	Liquid Exfoliation of Ni ₂ P ₂ S ₆ : Structural Characterization, Size-Dependent Properties, and Degradation. 2019 , 31, 9127-9139		5
627	Light-Enhanced Ion Migration in Two-Dimensional Perovskite Single Crystals Revealed in Carbon Nanotubes/Two-Dimensional Perovskite Heterostructure and Its Photomemory Application. 2019 , 5, 1857-1865		23
626	Spin Polarization and Spin-Flip Through Phosphorene Superlattice. 2019 , 531, 1900202		7
625	Spontaneous Decomposition of Fluorinated Phosphorene and Its Stable Structure. 2019 , 10, 7086-7092		3

624	Surface-State Assisted Carrier Recombination and Optical Nonlinearities in Bulk to 2D Nonlayered Pts. 2019 , 13, 13390-13402		22
623	Black Phosphorus Saturable Absorber for Passive Mode-Locking Pulses Generation. 2019 , 401-430		
622	Massless Dirac fermions in stable two-dimensional carbon-arsenic monolayer. <i>Physical Review B</i> , 2019 , 100,	3-3	6
621	Optical properties of anisotropic excitons in phosphorene. <i>Physical Review B</i> , 2019 , 100,	3-3	7
620	Spectral Responsivity and Photoconductive Gain in Thin Film Black Phosphorus Photodetectors. 2019 , 6, 3092-3099		12
619	One-Dimensional Pnictogen Allotropes inside Single-Wall Carbon Nanotubes. 2019 , 58, 15216-15224		7
618	Emerging mono-elemental 2D nanomaterials for electrochemical sensing applications: From borophene to bismuthene. 2019 , 121, 115696		21
617	Reliable Nonvolatile Memory Black Phosphorus Ferroelectric Field-Effect Transistors with van der Waals Buffer. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 42358-42364	9-5	5
616	Anisotropic interfacial properties between monolayered black phosphorus and water. 2019 , 475, 857-862		6
615	Spin transport in proximity-induced ferromagnetic phosphorene nanoribbons. 2019 , 136, 106324		3
614	NbSiTe: A Stable Narrow-Gap Two-Dimensional Material with Ambipolar Transport and Mid-Infrared Response. 2019 , 13, 10705-10710		24
613	Two-dimensional VDW crystal SnP3 with high carrier mobility and extraordinary sunlight absorbance. 2019 , 32, 327-332		1
612	First-Principles Mapping of the Electronic Properties of Two-Dimensional Materials for Strain-Tunable Nanoelectronics. 2019 , 2, 5614-5624		11
611	Edge phonons in layered orthorhombic GeS and GeSe monochalcogenides. <i>Physical Review B</i> , 2019 , 100,	3-3	10
610	Recent progress and remaining challenges of 2D material-based terahertz detectors. 2019 , 102, 103024		9
609	An emerging Janus MoSeTe material for potential applications in optoelectronic devices. 2019 , 7, 12312-12320		45
608	Emerging 2D material-based nanocarrier for cancer therapy beyond graphene. 2019 , 400, 213041		54
607	k_p theory for phosphorene: Effective g-factors, Landau levels, and excitons. <i>Physical Review B</i> , 2019 , 100,	3-3	12

606	Odd-Even Layer Effect of Bismuth Oxychalcogenide Nanosurfaces: A First-Principles Study. 2019 , 123, 24024-24030		4
605	Liquid phase exfoliation of antimonene: systematic optimization, characterization and electrocatalytic properties. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 22475-22486	13	30
604	Isotropic charge screening of anisotropic black phosphorus revealed by potassium adatoms. <i>Physical Review B</i> , 2019 , 100,	3-3	3
603	Spin-orbit coupling in elemental two-dimensional materials. <i>Physical Review B</i> , 2019 , 100,	3-3	23
602	Photoluminescence mechanism of phosphorene quantum dots (PQDs) produced by pulsed laser ablation in liquids. <i>Applied Physics Letters</i> , 2019 , 115, 092107	3-4	11
601	Waterproof molecular monolayers stabilize 2D materials. 2019 , 116, 20844-20849		24
600	Anisotropic thermal conductivity in direction-specific black phosphorus nanoflakes. 2019 , 9, 1311-1316		4
599	Synthesis of high-quality black phosphorus sponges for all-solid-state supercapacitors. 2019 , 6, 176-181		39
598	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	13	100
597	Van der Waals Broken-Gap p-n Heterojunction Tunnel Diode Based on Black Phosphorus and Rhenium Disulfide. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 8266-8275	9-5	29
596	Black Phosphorus, a Rising Star 2D Nanomaterial in the Post-Graphene Era: Synthesis, Properties, Modifications, and Photocatalysis Applications. 2019 , 15, e1804565		168
595	Exciton in phosphorene: Strain, impurity, thickness, and heterostructure. <i>Physical Review B</i> , 2019 , 99,	3-3	12
594	Öffnung durch reduktive kovalente Volumen-Funktionalisierung von schwarzem Phosphor. 2019 , 131, 5820-5826		10
593	Lattice Opening upon Bulk Reductive Covalent Functionalization of Black Phosphorus. 2019 , 58, 5763-5768		42
592	Black Phosphorus-Based Drug Nanocarrier for Targeted and Synergetic Chemophotothermal Therapy of Acute Lymphoblastic Leukemia. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 5896-5902	9-5	33
591	Stabilities and novel electronic structures of three carbon nitride bilayers. 2019 , 9, 1025		8
590	Vibrational properties and Raman spectra of pristine and fluorinated blue phosphorene. 2019 , 21, 1059-1066		16
589	Microscale Spectroscopic Mapping of 2D Optical Materials. 2019 , 7, 1900324		15

588	Electronic and magnetic properties of the transition-metal absorbed blue-phosphorus/MoS2 heterostructure: A first-principles investigation. <i>AIP Advances</i> , 2019 , 9, 065207	1.5	3
587	Few-Layer Antimonene Nanosheet: A Metal-Free Bifunctional Electrocatalyst for Effective Water Splitting. 2019 , 2, 4774-4781		33
586	Gate-Tunable and Programmable n-InGaAs/Black Phosphorus Heterojunction Diodes. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 23382-23391	9.5	5
585	Strain engineering of optical activity in phosphorene.. 2019 , 9, 19006-19015		17
584	Dimensionality and anisotropy dependence of radiative recombination in nanostructured phosphorene. 2019 , 7, 12891-12897		9
583	Wave-packet dynamics in multilayer phosphorene. <i>Physical Review B</i> , 2019 , 99,	3.3	7
582	Black phosphorus nanosheets-based stable drug delivery system via drug-self-stabilization for combined photothermal and chemo cancer therapy. 2019 , 375, 121917		66
581	Accurate Threshold Voltage Reliability Evaluation of Thin AlO Top-Gated Dielectric Black Phosphorous FETs Using Ultrafast Measurement Pulses. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 23673-23680	9.5	12
580	Perturbation-induced magnetic phase transition in bilayer phosphorene. 2019 , 125, 213903		8
579	2D Nanomaterials for Photocatalytic Hydrogen Production. 2019 , 4, 1687-1709		212
578	Molecular Dynamics Study on the Tribological Properties of Phosphorene/Polyethylene Composites. 2019 , 9, 342		5
577	Thin-Film Deposition of Surface Passivated Black Phosphorus. 2019 , 13, 7091-7099		7
576	Anisotropy Engineering Edge Magnetism in Zigzag Honeycomb Nanoribbons. 2019 , 36, 067503		
575	Anisotropic buckling of few-layer black phosphorus. <i>Nanoscale</i> , 2019 , 11, 12080-12086	7.7	18
574	Dynamics of surface graphene ripplocations on a flat graphite substrate. <i>Physical Review B</i> , 2019 , 99,	3.3	29
573	Energy loss spectrum and surface modes of two-dimensional black phosphorus. 2019 , 2, 045001		1
572	Intercalation of transition metals in aluminene bi-layers: An ab initio study. 2019 , 150, 194702		2
571	Single- and Dual-Wavelength Passively Mode-Locked Erbium-Doped Fiber Laser Based on Antimonene Saturable Absorber. 2019 , 11, 1-11		13

570	Optical and Optoelectronic Properties of Black Phosphorus and Recent Photonic and Optoelectronic Applications. 2019 , 3, 1900165		43
569	Recent Advances on Black Phosphorus for Biomedicine and Biosensing. 2019 , 29, 1900318		106
568	2D Elemental Nanomaterials Beyond Graphene. 2019 , 5, 1062-1091		37
567	Combined temperature- and magnetic field-induced optical responses of phosphorene. 2019 , 524, 113-117		1
566	Two-dimensional pnictogens: A review of recent progresses and future research directions. 2019 , 6, 021308		97
565	Boundary Lubricating Properties of Black Phosphorus Nanosheets in Polyalphaolefin Oil. 2019 , 141,		11
564	Type-Switchable Inverter and Amplifier Based on High-Performance Ambipolar Black-Phosphorus Transistors. 2019 , 5, 1900133		6
563	Effective passivation of black phosphorus transistor against ambient degradation by an ultra-thin tin oxide film. 2019 , 64, 570-574		6
562	Black Phosphorus-Modified CoO through Tuning the Electronic Structure for Enhanced Oxygen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 17459-17466	9.5	59
561	Fabrication and the Interlayer Coupling Effect of Twisted Stacked Black Phosphorus for Optical Applications. 2019 , 2, 3138-3145		10
560	Interface engineering for two-dimensional semiconductor transistors. 2019 , 25, 122-134		20
559	. 2019 , 7, 322-328		1
558	Black Phosphorus-New Nanostructured Material for Humidity Sensors: Achievements and Limitations. 2019 , 19,		17
557	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	13	54
556	Preparations, properties and applications of low-dimensional black phosphorus. 2019 , 370, 120-135		46
555	Strain-induced electronic phase transition in phosphorene: A Green's function study. 2019 , 522, 249-255		12
554	Beta-lead oxide quantum dot (EPbO QD)/polystyrene (PS) composite films and their applications in ultrafast photonics. <i>Nanoscale</i> , 2019 , 11, 6828-6837	7.7	20
553	Black Phosphorous/Indium Selenide Photoconductive Detector for Visible and Near-Infrared Light with High Sensitivity. 2019 , 7, 1900020		64

552	Fabrication and Application of Black Phosphorene/Graphene Composite Material as a Flame Retardant. 2019 , 11,	23
551	Two-dimensional black phosphorus: physical properties and applications. 2019 , 8, 92-111	42
550	Bilayer phosphorene under high pressure: in situ Raman spectroscopy. 2019 , 21, 7298-7304	16
549	Black phosphorus and its isoelectronic materials. 2019 , 1, 306-317	107
548	Characterization Techniques of Two-Dimensional Nanomaterials. 2019 , 27-41	2
547	New Phosphorene by Phase Combination with Tunable Electronic and Mechanical Properties. 2019 , 123, 10788-10794	9
546	Versatile Doping Control of Black Phosphorus and Functional Junction Structures. 2019 , 123, 10682-10688	6
545	Improvements in the Performance of a Visible-NIR Photodetector Using Horizontally Aligned TiS Nanoribbons. 2019 , 4, 6180-6191	20
544	Anisotropic imaging for the highly efficient crystal orientation determination of two-dimensional materials. 2019 , 7, 5945-5953	3
543	Silicon-Compatible Photodetectors: Trends to Monolithically Integrate Photosensors with Chip Technology. 2019 , 29, 1808182	149
542	Multifunctional van der Waals Broken-Gap Heterojunction. 2019 , 15, e1804885	42
541	Phosphorene: Current status, challenges and opportunities. 2019 , 13, 296-309	10
540	A first-principles study: Adsorption of small gas molecules on GeP3 monolayer. 2019 , 684, 37-43	9
539	Role of Structural Distortion in Stabilizing Electrosynthesized Blue-Emitting Phosphorene Quantum Dots. 2019 , 10, 973-980	8
538	Mono-Elemental Properties of 2D Black Phosphorus Ensure Extended Charge Carrier Lifetimes under Oxidation: Time-Domain Ab Initio Analysis. 2019 , 10, 1083-1091	55
537	Electronic structures of air-exposed few-layer black phosphorus by optical spectroscopy. <i>Physical Review B</i> , 2019 , 99,	3-3 12
536	P-N Junction Diode Using Plasma Boron-Doped Black Phosphorus for High-Performance Photovoltaic Devices. 2019 , 13, 1683-1693	15
535	Modulation of quantum transport properties in single-layer phosphorene nanoribbons using planar elastic strains. 2019 , 54, 7728-7744	7

534	Two-dimensional Dirac fermions on oxidized black phosphorus. 2019 , 21, 24206-24211		4
533	Single-step exfoliation of black phosphorus and deposition of phosphorene via bipolar electrochemistry for capacitive energy storage application. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 25548-25556	13	26
532	Indirect-To-Direct Band Gap Transition of One-Dimensional VSe: Theoretical Study with Dispersion Energy Correction. 2019 , 4, 18392-18397		10
531	Black/red phosphorus quantum dots for photocatalytic water splitting: from a type I heterostructure to a Z-scheme system. 2019 , 55, 12531-12534		48
530	Emerging two-dimensional noncarbon nanomaterials for flexible lithium-ion batteries: opportunities and challenges. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 25227-25246	13	30
529	Janus electrochemical exfoliation of two-dimensional materials. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 25691-25711	13	23
528	A New Metallic In ₃ O ₄ Sheet as an Anode Material for Sodium-Ion Batteries. 2019 , 123, 30213-30220		8
527	Synthesis of Red and Black Phosphorus Nanomaterials. 2019 , 1-25		1
526	Degradation of Black Phosphorus upon Environmental Exposure and Encapsulation Strategies To Prevent It. 2019 , 47-59		3
525	Extrinsic spin-orbit coupling and spin relaxation in phosphorene. <i>Physical Review B</i> , 2019 , 100,	33	1
524	Monte Carlo Study of Electronic Transport in Monolayer InSe. 2019 , 12,		9
523	Density functional study of Li/Na adsorption properties of single-layer and double-layer antimonenes.. 2019 , 9, 32608-32619		7
522	Raman Spectra Shift of Few-Layer IV-VI 2D Materials. 2019 , 9, 19826		18
521	Recent Advances in Optoelectronic Devices Based on 2D Materials and Their Heterostructures. 2019 , 7, 1800441		132
520	Low-Dimensional Saturable Absorbers in the Visible Spectral Region. 2019 , 7, 1800886		36
519	Copper(i) sulfide: a two-dimensional semiconductor with superior oxidation resistance and high carrier mobility. 2019 , 4, 223-230		32
518	2D Black Phosphorus Saturable Absorbers for Ultrafast Photonics. 2019 , 7, 1800224		172
517	Enhanced photocatalytic performance of Ag/TiO ₂ nanohybrid sensitized by black phosphorus nanosheets in visible and near-infrared light. 2019 , 534, 1-11		34

516	Weak Interlayer Interaction in 2D Anisotropic GeSe. 2019 , 6, 1801810	23
515	Adsorption and decomposition of metal decorated phosphorene toward H ₂ S, HCN and NH ₃ molecules. 2019 , 473, 242-250	22
514	A First-Principles Study on the Adsorption of Small Molecules on Arsenene: Comparison of Oxidation Kinetics in Arsenene, Antimonene, Phosphorene, and InSe. 2019 , 20, 575-580	31
513	Emerging opportunities for black phosphorus in energy applications. 2019 , 12, 1-25	63
512	Raman Characterization on Two-Dimensional Materials-Based Thermoelectricity. 2018 , 24,	10
511	Phosphorene quantum dot electronic properties and gas sensing. 2019 , 107, 105-109	13
510	Raman Spectroscopy Study of Two-Dimensional Materials Under Strain. 2019 , 111-129	1
509	Recent Progress in Two-Dimensional Nanomaterials for Laser Protection. 2019 , 1, 17-43	14
508	Evaluating the Surface Chemistry of Black Phosphorus during Ambient Degradation. 2019 , 35, 2172-2178	28
507	RF noise modeling of Black Phosphorus Junctionless Trench MOSFET in strong inversion region. 2019 , 125, 72-79	3
506	Optical studies of the thermal stability of InSe nanosheets. 2019 , 467-468, 860-867	2
505	Superbound Excitons in 2D Phosphorene Oxides. 2019 , 123, 21-25	2
504	Synthesis of graphene/black phosphorus hybrid with highly stable P-C bond towards the enhancement of photocatalytic activity. 2019 , 245, 950-956	22
503	Recent Advances in Black Phosphorus-Based Electronic Devices. 2019 , 5, 1800666	20
502	A Perspective on Recent Advances in Phosphorene Functionalization and Its Applications in Devices. 2019 , 2019, 1476-1494	26
501	Analysis of Single- and Multi-layer Phosphorene Nanoribbons Behavior Under Modulated Electric Fields Using Tight-Binding and Green's Function Formalism. 2019 , 43, 607-617	0
500	The role of traps in the photocurrent generation mechanism in thin InSe photodetectors. 2020 , 7, 252-262	88
499	Two-dimensional nanostructure colloids in novel nano drug delivery systems. 2020 , 585, 124077	9

498	Engineering Field Effect Transistors with 2D Semiconducting Channels: Status and Prospects. 2020 , 30, 1901971		36
497	Analysis of structural parameters on sensitivity of black phosphorus junctionless recessed channel MOSFET for biosensing application. 2020 , 26, 2227-2233		6
496	Inorganic 2D Luminescent Materials: Structure, Luminescence Modulation, and Applications. 2020 , 8, 1900978		29
495	Combination of black phosphorus nanosheets and MCNTs via phosphorus-carbon bonds for reducing the flammability of air stable epoxy resin nanocomposites. 2020 , 383, 121069		59
494	Atomic scale study of black phosphorus degradation.. 2019 , 10, 350-355		18
493	Toxicants in cigarette smoke adsorbed on red phosphorene nanosheet: A first-principles insight. 2020 , 530, 110604		18
492	Bright/dark switchable mode-locked fiber laser based on black phosphorus. 2020 , 123, 105948		11
491	Numerical study of thermal conductivity based on phosphorene anisotropy: Including [110] direction and related phosphorus nanotubes. 2020 , 22, 100814		2
490	Free-standing and supported phosphorene nanoflakes: Shape- and size-dependent properties. 2020 , 506, 144756		5
489	Band structure and Schottky barrier modulation in multilayer black phosphorene and black phosphorene/graphene heterostructure through out-of-plane strain. 2020 , 580, 411923		10
488	Black phosphorus: Light-matter interactions and potential applications. 2020 , 159-173		1
487	Response of soil enzyme activity and bacterial community to black phosphorus nanosheets. <i>Environmental Science: Nano</i> , 2020 , 7, 404-413	7.1	2
486	Pnictogens Allotropy and Phase Transformation during van der Waals Growth. 2020 , 20, 8258-8266		2
485	Beyond Graphene: Low-Symmetry and Anisotropic 2D Materials. 2020 , 128, 140401		5
484	Recent Advancements and Future Prospects in Ultrathin 2D Semiconductor-Based Photocatalysts for Water Splitting. 2020 , 10, 1111		18
483	Black phosphorus-based smart electrorheological fluid with tailored phase transition and exfoliation. 2020 , 90, 333-340		3
482	Thickness Identification of Thin InSe by Optical Microscopy Methods. 2020 , 1, 2000025		6
481	Black Phosphorus: Degradation Mechanism, Passivation Method, and Application for In Situ Tissue Regeneration. <i>Advanced Materials Interfaces</i> , 2020 , 7, 2001538	4.6	12

480	Efficient production of few-layer black phosphorus by liquid-phase exfoliation. 2020 , 7, 201210		8
479	Noncovalent Functionalization and Passivation of Black Phosphorus with Optimized Perylene Diimides for Hybrid Field Effect Transistors. <i>Advanced Materials Interfaces</i> , 2020 , 7, 2001290	4.6	10
478	Degradation of Black Phosphorus and Strategies to Enhance Its Ambient Lifetime. <i>Advanced Materials Interfaces</i> , 2020 , 7, 2001102	4.6	10
477	Molecular adsorption studies of diethyl sulfide and ethyl methyl sulfide vapors on phosphorene nanoribbon: A first-principles insight. 2020 , 534, 147597		22
476	Recent advances in long-term stable black phosphorus transistors. <i>Nanoscale</i> , 2020 , 12, 20089-20099	7.7	2
475	High-Performance Phosphorene-Based Transistors Using a Novel Exfoliation-Free Direct Crystallization on Silicon Substrates. <i>Advanced Materials Interfaces</i> , 2020 , 7, 2000774	4.6	8
474	Room-Temperature and Humidity-Resistant Trace Nitrogen Dioxide Sensing of Few-Layer Black Phosphorus Nanosheet by Incorporating Zinc Oxide Nanowire. 2020 , 92, 11007-11017		36
473	Synthesis of Highly Stable One-Dimensional Black Phosphorus/h-BN Heterostructures: A Novel Flexible Electronic Platform. 2020 , 37, 076203		3
472	Strain and electronic properties at the van der Waals interface of phosphorus/boron nitride heterobilayers. <i>Physical Review B</i> , 2020 , 102,	3.3	0
471	Surface Functionalization of Black Phosphorus by Cu: Effective Electron Doping and Enhanced Photoresponse. <i>Advanced Materials Interfaces</i> , 2020 , 7, 2000701	4.6	4
470	Advancements in Therapeutics via 3D Printed Multifunctional Architectures from Dispersed 2D Nanomaterial Inks. 2020 , 16, e2004900		12
469	Evolutions of morphology and electronic properties of few-layered MoS ₂ exposed to UVO. 2020 , 19, 103634		3
468	Phosphorene: A 2D New Derivative of Black Phosphorous. 2020 , 1-26		
467	2D black arsenic phosphorus and its application for anodes of lithium ion batteries. 2020 , 22, 8228-8235		3
466	Two-Dimensional Silicon Carbide: Emerging Direct Band Gap Semiconductor. <i>Nanomaterials</i> , 2020 , 10,	5.4	20
465	Advances on Emerging Materials for Flexible Supercapacitors: Current Trends and Beyond. 2020 , 30, 2002993		39
464	Fast and Anomalous Exciton Diffusion in Two-Dimensional Hybrid Perovskites. 2020 , 20, 6674-6681		21
463	Nanosheets-incorporated bio-composites containing natural and synthetic polymers/ceramics for bone tissue engineering. 2020 , 164, 1960-1972		17

462	Anisotropic basic electronic properties of strained black phosphorene. 2020 , 124, 114323		5
461	Nitrogen doped TiO ₂ /Graphene nanofibers as DSSCs photoanode. 2020 , 255, 123542		15
460	Optimized Parameters for Identifying the Layer Number of Few Layer Chromium Tri-iodide from a Theoretical Perspective: Implications for Two-Dimensional Spintronics. 2020 , 3, 8382-8388		3
459	Black phosphorus photonics toward on-chip applications. 2020 , 7, 031302		8
458	Electronic and transport properties of anisotropic semiconductor quantum wires. <i>Physical Review B</i> , 2020 , 102,	3-3	3
457	Quantifying the Covalent Functionalization of Black Phosphorus. 2020 , 59, 20230-20234		12
456	Intercalation of Two-dimensional Layered Materials. 2020 , 36, 584-596		10
455	Quantifizierung der kovalenten Funktionalisierung von schwarzem Phosphor. 2020 , 132, 20406-20411		2
454	Wireless Hand-Held Device Based on Polylactic Acid-Protected, Highly Stable, CTAB-Functionalized Phosphorene for CO Gas Sensing. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 38365-38375	9-5	7
453	Influence of NiO decoration on adsorption capabilities of black phosphorus monolayer toward nitrogen dioxide: periodic DFT calculations. 2020 , 46, 1062-1072		17
452	Black Phosphorus Nanosheet with High Thermal Conversion Efficiency for Photodynamic/Photothermal/Immunotherapy. 2020 , 6, 4940-4948		28
451	Pressure-driven significant phonon mode softening and robust superconductivity in layered germanium phosphide. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 20054-20061	13	9
450	Naturally occurring van der Waals materials. 2020 , 4,		26
449	Strain and electric field tunable electronic transport in armchair phosphorene nanodevice with normal-metal electrodes. <i>AIP Advances</i> , 2020 , 10, 105012	1-5	2
448	Phosphorus Pentamers: Floating Nanoflowers form a 2D Network. 2020 , 30, 2004531		5
447	Design, characterization, and application of elemental 2D materials for electrochemical energy storage, sensing, and catalysis. 2020 , 1, 2562-2591		6
446	Anisotropic Stark shift, field-induced dissociation, and electroabsorption of excitons in phosphorene. <i>Physical Review B</i> , 2020 , 102,	3-3	3
445	Anisotropic interlayer exciton in black phosphorus van der Waals heterostructures. 2020 , 52, 1		0

444	Gap-Plasmon Induced One-Order Enhancement of Optical Anisotropy of 2D Black Phosphorus. 2020 , 1, 2000010		3
443	Recent Advances in 2D Metal Monochalcogenides. 2020 , 7, 2001655		17
442	A colloquium on the variational method applied to excitons in 2D materials. 2020 , 93, 1		8
441	Multifunctional layered black phosphorene-based nanoplatform for disease diagnosis and treatment: a review. <i>Frontiers of Optoelectronics</i> , 2020 , 13, 327-351	2.8	2
440	First-principles calculation of hot carriers in black phosphorus. 2020 , 1558, 012002		
439	Dangling-to-Interstitial Oxygen Transition and Its Modifications of the Electronic Structure in Few-Layer Phosphorene. 2020 , 124, 24066-24072		2
438	A first-principles description of the stability of transition-metal doped phosphorene nanosheets. 2020 , 21, 100786		3
437	Comparative Study on the Adsorption Capacities of the Three Black Phosphorus-Based Materials for Methylene Blue in Water. 2020 , 12, 8335		4
436	InSe Schottky Diodes Based on Van Der Waals Contacts. 2020 , 30, 2001307		27
435	Calcium-cation-doped polydopamine-modified 2D black phosphorus nanosheets as a robust platform for sensitive and specific biomolecule sensing. 2020 , 1121, 1-10		10
434	Layer Dependence of Dielectric Response and Water-Enhanced Ambient Degradation of Highly Anisotropic Black As. 2020 , 14, 5988-5997		5
433	Determining bandgap of black phosphorus using capacitance. <i>Applied Physics Letters</i> , 2020 , 116, 183103 _{3,4}		1
432	Highly improved carbon dioxide sensitivity and selectivity of black phosphorene sensor by vacancy doping: A quantum chemical perspective. 2020 , 120, e26265		17
431	Bismuthene quantum dots based optical modulator for MIR lasers at 2 μm . 2020 , 102, 109830		8
430	Photo-induced degradation of norfloxacin by nanosilver modified two-dimensional black phosphorus. 2020 , 103, 106188		5
429	Large-area ultrathin Te films with substrate-tunable orientation. <i>Nanoscale</i> , 2020 , 12, 12613-12622	7.7	8
428	Twistronics in tensile strained bilayer black phosphorus. <i>Nanoscale</i> , 2020 , 12, 12909-12916	7.7	5
427	Role of quantum confinement and interlayer coupling in CrI ₃ -graphene magnetic tunnel junctions. <i>Physical Review B</i> , 2020 , 101,	3.3	15

426	Defect Engineering of 2D Materials for Electrochemical Energy Storage. <i>Advanced Materials Interfaces</i> , 2020 , 7, 2000494	4.6	10
425	Hydrogen detection on black phosphorene doped with Ni, Pd, and Pt: Periodic density functional calculations. 2020 , 45, 16298-16309		23
424	Polymeric carbon nitrides and related metal-free materials for energy and environmental applications. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 11075-11116	13	82
423	Enhanced Thermoelectric Performance in Black Phosphorus Nanotubes by Band Modulation through Tailoring Nanotube Chirality. 2020 , 16, e2001820		10
422	Uptake of formaldehyde onto doped phosphorene nanosheets: A cluster DFT study of single and co-adsorption states. 2020 , 831, 154885		17
421	Long Radiation Lifetime and Quasi-Isotropic Excitons in Antioxidant VV Binary Phosphorene Allotropes with Intrinsic Dipole. 2020 , 124, 14787-14796		2
420	Boosting Lithium Storage in Free-Standing Black Phosphorus Anode via Multifunction of Nanocellulose. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 31628-31636	9.5	28
419	Nitrogen Dioxide Gas Sensor Based on Liquid-Phase-Exfoliated Black Phosphorus Nanosheets. 2020 , 3, 6440-6447		12
418	Prospects for Functionalizing Elemental 2D Pnictogens: A Study of Molecular Models. 2020 , 14, 7722-7733		10
417	Two-dimensional nanoparticles for the delivery of anticancer drugs and cancer therapy. 2020 , 16, 151-199		4
416	Theoretical insights into hydrogen sensing capabilities of black phosphorene modified through ZnO doping and decoration. 2020 , 45, 16918-16928		19
415	Electrostatic quantum dot confinement in phosphorene. <i>Physical Review B</i> , 2020 , 101,	3.3	0
414	Surface assimilation studies of ethyl methyl sulfide on gamma phosphorene sheets by DFT outlook. 2020 , 118, e1774089		12
413	Black phosphorus synthesized by solvothermal reaction from red phosphorus and its catalytic activity for water splitting. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 7368-7376	13	19
412	A Scalable Method for Thickness and Lateral Engineering of 2D Materials. 2020 , 14, 4861-4870		8
411	Visualizing Oxidation Mechanisms in Few-Layered Black Phosphorus via Transmission Electron Microscopy. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 15844-15854	9.5	7
410	Ultrafast Pulse Generation for Er- and Tm- Doped Fiber Lasers With Sb Thin Film Saturable Absorber. 2020 , 38, 3710-3716		6
409	Functionalization of a Few-Layer Antimonene with Oligonucleotides for DNA Sensing. 2020 , 3, 3625-3633		13

408	Remarkable improvement in phosgene detection with a defect-engineered phosphorene sensor: first-principles calculations. 2020 , 22, 9677-9684		24
407	Epitaxial nucleation and lateral growth of high-crystalline black phosphorus films on silicon. <i>Nature Communications</i> , 2020 , 11, 1330	17.4	56
406	Two-dimensional Xenes and their device concepts for future micro- and nanoelectronics and energy applications. 2020 , 181-219		0
405	Laser-Assisted Ultrafast Exfoliation of Black Phosphorus in Liquid with Tunable Thickness for Li-Ion Batteries. 2020 , 10, 1903490		22
404	Mn-Doped black phosphorene for ultrasensitive hydrogen sulfide detection: periodic DFT calculations. 2020 , 22, 15549-15558		16
403	Black phosphorus-based van der Waals heterostructures for mid-infrared light-emission applications. 2020 , 9, 114		51
402	Electronic Transport in Few-Layer Black Phosphorus. 2020 ,		
401	Xenes as an Emerging 2D Monoelemental Family: Fundamental Electrochemistry and Energy Applications. 2020 , 30, 2002885		29
400	Harnessing biological applications of quantum materials: opportunities and precautions. 2020 , 8, 10498-10525		2
399	Chemical vapor transport growth of bulk black phosphorus single crystals. 2020 , 7, 2867-2879		12
398	Epitaxial Growth of Flat, Metallic Monolayer Phosphorene on Metal Oxide. 2020 , 14, 2385-2394		12
397	Phosphorene-assisted silicon photonic modulator with fast response time. 2020 , 9, 1973-1979		10
396	Controlled Covalent Functionalization of 2 H-MoS with Molecular or Polymeric Adlayers. 2020 , 26, 6629-6634		13
395	Unveiling the oxidation behavior of liquid-phase exfoliated antimony nanosheets. <i>2D Materials</i> , 2020 , 7, 025039	5.9	18
394	Stability, electronic and mechanical properties of chalcogen (Se and Te) monolayers. 2020 , 22, 5749-5755		11
393	Electronic, quantum transport and optical properties analysis of doped phosphorene sheet. 2020 , 1-19		0
392	A Fluorescence Probe for Metal Ions Based on Black Phosphorus Quantum Dots. <i>Advanced Materials Interfaces</i> , 2020 , 7, 1902075	4.6	9
391	First-principles study of structural and electronic properties of substitutionally doped arsenene. 2020 , 119, 114018		2

390	Widely tunable mid-infrared light emission in thin-film black phosphorus. 2020 , 6, eaay6134		42
389	Black Phosphorus High-Frequency Transistors with Local Contact Bias. 2020 , 14, 2118-2125		14
388	Two-dimensional Bi ₂ Se ₃ nanosheet based flexible infrared photodetector with pencil-drawn graphite electrodes on paper. 2020 , 2, 906-912		17
387	Property-Activity Relationship of Black Phosphorus at the Nano-Bio Interface: From Molecules to Organisms. 2020 , 120, 2288-2346		73
386	Excitons in phosphorene: A semi-analytical perturbative approach. <i>Physical Review B</i> , 2020 , 101,	3.3	9
385	Large-Scale Production of Nanocrystalline Black Phosphorus Ceramics. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 7381-7391	9.5	13
384	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 & Interfaces</i> , 2020 , 12, 8130-8139	9.5	27
383	Phosphorene Degradation: Visualization and Quantification of Nanoscale Phase Evolution by Scanning Transmission X-ray Microscopy. 2020 , 32, 1272-1280		8
382	Native Oxide Seeded Spontaneous Integration of Dielectrics on Exfoliated Black Phosphorus. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 24411-24418	9.5	2
381	A black Phosphorus/BiVO ₄ (010) heterostructure for promising photocatalytic performance: First-principles study. 2020 , 143, 109466		10
380	The Use of Phosphorus in Sodium-Ion Batteries (A Review). 2020 , 56, 1-17		6
379	Black Phosphorus/Hollow Porous Carbon for High Rate Performance Lithium-Ion Battery. 2020 , 7, 2184-2189		7
378	First-Principles Study of Strain Modulation in S ₃ P ₂ /Black Phosphorene vdW Heterostructured Nanosheets for Flexible Electronics. 2020 , 3, 4407-4417		7
377	Emerging pnictogen-based 2D semiconductors: sensing and electronic devices. <i>Nanoscale</i> , 2020 , 12, 10439-10446	7.7	15
376	Mid-infrared Polarized Emission from Black Phosphorus Light-Emitting Diodes. 2020 , 20, 3651-3655		38
375	Black phosphorus as a versatile nanoplatform: From unique properties to biomedical applications. 2020 , 13, 2030008		8
374	Recent insights into the robustness of two-dimensional black phosphorous in optoelectronic applications. 2020 , 43, 100354		14
373	The optical conductivity of few-layer black phosphorus by infrared spectroscopy. <i>Nature Communications</i> , 2020 , 11, 1847	17.4	17

372	Substitutional doping of black phosphorene with boron, nitrogen, and arsenic for sulfur trioxide detection: a theoretical perspective. 2020 , 41, 399-420	20
371	Advanced Black Phosphorus Nanomaterials for Bone Regeneration. 2020 , 15, 2045-2058	16
370	Limitations of ab initio methods to predict the electronic-transport properties of two-dimensional semiconductors: the computational example of 2H-phase transition metal dichalcogenides. 2021 , 20, 49-59	9
369	Epitaxial Growth of Main Group Monoelemental 2D Materials. 2021 , 31, 2006997	7
368	Phonon dispersions and electronic structures of two-dimensional IV-V compounds. 2021 , 172, 345-352	1
367	Effect of silicon doping on the electronic and optical properties of phosphorous nanotubes. 2021 , 225, 165808	5
366	Electromechanical properties of Nafion/carbon nanotube composites enhanced by black phosphorus. 2021 , 28, 671-681	0
365	DFT study of gas adsorption and sensing based on noble metal (Ag, Au and Pt) functionalized boron selenide nanosheets. 2021 , 125, 114409	6
364	Electrically-tunable spin polarization in boron-doped armchair black phosphorene nanoribbon. 2021 , 521, 167525	1
363	A new sensing material design based on chemically passivated phosphorene/porous two-dimensional polymer: Highly sensitive and selective detection of NO ₂ . 2021 , 329, 129233	8
362	Synthesis of two-dimensional transition metal dichalcogenides for electronics and optoelectronics. 2021 , 3, 362-396	25
361	Interfacial electronic coupling and band alignment of P3HT and exfoliated black phosphorous van der Waals heterojunctions. 2021 , 541, 148455	2
360	Covalent Cross-Linking of 2H-MoS Nanosheets. 2021 , 27, 2993-2996	0
359	Superlubricity of black phosphorus as lubricant additive. 2021 , 439-460	
358	Low ligand field strength ion (I ⁺) mediated 1D inorganic material MoI ₃ : Synthesis and application to photo-detectors. 2021 , 853, 157375	3
357	Highly anisotropic electronic and mechanical properties of monolayer and bilayer As ₂ S ₃ . 2021 , 542, 148665	4
356	Long-term can-sealing protection: a stable black phosphorus nanoassembly achieved through heterogeneous hydrophobic functionalization. <i>Nanoscale</i> , 2021 , 13, 763-775	7·7 4
355	Even-odd-dependent optical transitions of zigzag monolayer black phosphorus nanoribbons. 2021 , 64, 1	3

354	Recent Advances in Electrochemical Water Splitting and Reduction of CO ₂ into Green Fuels on 2D Phosphorene-Based Catalyst. 2021 , 9, 2000741	4
353	State-of-the-Art Progress in Diverse Black Phosphorus-Based Structures: Basic Properties, Synthesis, Stability, Photo- and Electrocatalysis-Driven Energy Conversion. 2021 , 31, 2005197	18
352	Scandium doping of black phosphorene for enhanced sensitivity to hydrogen sulfide: Periodic DFT calculations. 2021 , 148, 109765	9
351	Detection of CNX cyanogen halides (X = F, Cl) on metal-free defective phosphorene sensor: periodic DFT calculations. 2021 , 119, e1819577	9
350	Two-Dimensional Material-Based Heterostructures for Rechargeable Batteries. 2021 , 2, 100286	12
349	Recent advances in 2D black phosphorus based materials for gas sensing applications. 2021 , 9, 3773-3794	20
348	Photoluminescence and magnetism integrated multifunctional black phosphorus probes through controllable P?O bond orbital hybridization. 2021 , 23, 22476-22482	0
347	Exploring a layered iodide perovskite crystal with centimetered dimension for extended spectral polarization-sensitive photodetection. 2021 , 9, 9499-9504	1
346	Current Advances in Black Phosphorus-Based Drug Delivery Systems for Cancer Therapy. 2021 , 8, 2003033	30
345	Mid-infrared light-emitting properties and devices based on thin-film black phosphorus. 2021 , 9, 4418-4424	2
344	Alkali metal doping of black phosphorus monolayer for ultrasensitive capture and detection of nitrogen dioxide. 2021 , 11, 842	4
343	2D materials in nonlinear optics. 2021 , 347-385	
342	Non-equilibrium band broadening, gap renormalization and band inversion in black phosphorus. <i>2D Materials</i> , 2021 , 8, 025020	5.9 5
341	Liquid-Based Exfoliation of Black Phosphorus into Phosphorene and Its Application for Energy Storage Devices. 2021 , 2, 2000148	7
340	Review and comparison of layer transfer methods for two-dimensional materials for emerging applications. 2021 , 50, 11032-11054	14
339	Novel synthesis, properties and applications of emerging group VA two-dimensional mono-elemental materials (2D-Xenes). 2021 , 5, 6333-6391	7
338	Layer contribution to optical signals of van der Waals heterostructures. 2021 , 3, 3114-3123	
337	2D phosphorene nanosheets, quantum dots, nanoribbons: synthesis and biomedical applications. 2021 , 9, 2768-2803	8

- 336 Tunable intraband optical conductivity and polarization-dependent epsilon-near-zero behavior in black phosphorus. **2021**, 7, 16
- 335 Black phosphorus-based photocatalysts for energy and environmental applications. **2021**, 421-449
- 334 Tailored negative/positive photoresponse of BP via doping. *Nanotechnology*, **2021**, 32, 185201 3-4
- 333 Chemical functionalization of 2D black phosphorus. **2021**, 3, 231-251 12
- 332 Li interaction-induced phase transition from black to blue phosphorene. **2021**, 5, 3
- 331 Bildungsmechanismen für Phosphorene und SnIP. **2021**, 133, 6892-6899
- 330 Systematic competition between strain and electric field stimuli in tuning EELS of phosphorene. **2021**, 11, 3716 1
- 329 Formation Mechanisms for Phosphorene and SnIP. **2021**, 60, 6816-6823 5
- 328 Ultra-broad spectral photo-response in FePS₃ air-stable devices. **2021**, 5, 12
- 327 A first-principles study on zigzag phosphorene nanoribbons terminated by transition metal atoms*. **2021**, 30, 027305
- 326 Polymorphism in Post-Dichalcogenide Two-Dimensional Materials. **2021**, 121, 2713-2775 20
- 325 Spin-resolved transport properties in monolayer phosphorene superlattice. **2021**, 151, 106779 2
- 324 Controlling the Formation of Sodium/Black Phosphorus Intercalation Compounds Towards High Sodium Content. **2021**, 4, 1304-1309 1
- 323 Colloquium: Physical properties of group-IV monochalcogenide monolayers. **2021**, 93, 18
- 322 Revealing Dopant Local Structure of Se-Doped Black Phosphorus. **2021**, 33, 2029-2036 4
- 321 Quantum geometric exciton drift velocity. *Physical Review B*, **2021**, 103, 3-3 1
- 320 Insights into the Mechanical and Electrical Properties of a Metal-Phosphorene Interface: An Ab Initio Study with a Wide Range of Metals. **2021**, 6, 7795-7803
- 319 Signatures of subband excitons in few-layer black phosphorus. *Physical Review B*, **2021**, 103, 3-3 1

318	Anomalous magneto-thermoelectric transport in biased bilayer phosphorene. 2021 , 94, 1		1
317	Continuous-Flow Synthesis of High-Quality Few-Layer Antimonene Hexagons. 2021 , 31, 2101616		1
316	Developments in stability and passivation strategies for black phosphorus. 1		5
315	Plasma Treatment of Ultrathin Layered Semiconductors for Electronic Device Applications. 2021 , 3, 1505-1529		0
314	Effects of temperature on strain engineering and transition-metal adatom magnetization in phosphorene: Ab initio molecular dynamics studies. <i>Physical Review B</i> , 2021 , 103,	3-3	1
313	Heterostructures of 2D materials-quantum dots (QDs) for optoelectronic devices: challenges and opportunities. 2021 , 4, 901-922		3
312	Probing the Laser Ablation of Black Phosphorus by Raman Spectroscopy. 2021 , 125, 8704-8711		0
311	Two-dimensional nanomaterials with engineered bandgap: Synthesis, properties, applications. 2021 , 37, 101059		24
310	First-principles studies of the strain-induced band-gap tuning in black phosphorene. 2021 , 33,		1
309	Layer-Dependent Electronic and Optical Properties of 2D Black Phosphorus: Fundamentals and Engineering. <i>Laser and Photonics Reviews</i> , 2021 , 15, 2000399	8,3	8
308	Enhancing the Surface Reactivity of Black Phosphorus on Hydrogen Evolution by Covalent Chemistry. 2021 , 125, 7581-7589		4
307	Charge Plasma-Based Phosphorene Tunnel FET Using a Hybrid Computational Method. 2021 , 50, 3624-3633		1
306	Recent research and advances of material-based saturable absorber in mode-locked fiber laser. 2021 , 137, 106826		8
305	Ultrafast Fiber Lasers with Low-Dimensional Saturable Absorbers: Status and Prospects. 2021 , 21,		2
304	Single-Crystalline Metallic Films Induced by van der Waals Epitaxy on Black Phosphorus. 2021 , 33, 3593-3601		3
303	Large-scale growth of few-layer two-dimensional black phosphorus. 2021 , 20, 1203-1209		43
302	Tunable Optical Rotation in Twisted Black Phosphorus. 2021 , 12, 4755-4761		4
301	Black Phosphorus-Molybdenum Disulfide Hetero-Junctions Formed with Ink-Jet Printing for Potential Solar Cell Applications with Indium-Tin-Oxide. 2021 , 11, 560		3

300	Bandgap Modulation in BP Field Effect Transistor and Its Applications. 2021 , 7, 2100228		0
299	Expanding the Scope of 2D Black Phosphorus Catalysis to the Near-Infrared Light Initiated Free Radical Photopolymerization.. 2021 , 10, 679-683		5
298	Investigating the Photodetectors and pH Sensors of Two-Dimensional MoS ₂ with Different Substrates. 2021 , 10, 055015		
297	Analysis and application of zigzag phosphorene nanotube as gas nanosensor. 2021 , 127, 1		
296	Surface architected black phosphorous nanoconstructs based smart and versatile platform for cancer theranostics. 2021 , 435, 213826		10
295	Stabilizing Black Phosphorus via Covalent Functionalization of Solvent Formamide. <i>Advanced Materials Interfaces</i> , 2021 , 8, 2002247	4.6	3
294	. 2021 ,		
293	Two-dimensional black phosphorus: Properties, fabrication and application for flexible supercapacitors. 2021 , 412, 128744		10
292	Magnetic phase transitions of phosphorene-like nano-structure: Monte Carlo study. 1-13		1
291	Self-Powered Broadband Photodetector and Sensor Based on Novel Few-Layered Pd(PS) Nanosheets. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 30806-30817	9.5	2
290	Structural, electrical and optical properties of bilayer SiX (X = N, P, As and Sb). 2021 , 33,		0
289	Behaviour of induced states of substitutional and adatom impurity doping on electronic transport properties of single-layer black phosphorus. 2021 , 130, 114701		1
288	Emerging two-dimensional bismuth oxychalcogenides for electronics and optoelectronics. 2021 , 3, 1251		16
287	Engineering of the electronic structure of Fe-adsorbed black phosphorus monolayer by strain. 2021 , 130, 114684		
286	Double-layer honeycomb ALP as a promising catalyst for Li-O ₂ and Na-O ₂ batteries. 2021 , 550, 149392		1
285	Black Phosphorus n-Type Doping by Cu: A Microscopic Surface Investigation. 2021 , 125, 13477-13484		1
284	A review of optics-based methods for thickness and surface characterization of two-dimensional materials. 2021 , 54, 393001		2
283	Hall and bend resistance of a phosphorene Hall bar. <i>Physical Review B</i> , 2021 , 104,	3.3	0

282	Presence of s-Wave Pairing in Josephson Junctions Made of Twisted Ultrathin Bi ₂ Sr ₂ CaCu ₂ O _{8+x} Flakes. 2021 , 11,			5
281	Variational calculation of the lowest exciton states in phosphorene and transition metal dichalcogenides. 2021 , 34,			2
280	Nonradiative Energy Transfer and Selective Charge Transfer in a WS ₂ /(PEA)PbI Heterostructure. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 33677-33684	9-5		0
279	Accessing the Anisotropic Nonthermal Phonon Populations in Black Phosphorus. 2021 , 21, 6171-6178			7
278	Narrow-bandgap materials for optoelectronics applications. 2022 , 17, 1			5
277	Recent Progress of Two-Dimensional Materials for Ultrafast Photonics. <i>Nanomaterials</i> , 2021 , 11,	5-4		11
276	Phosphorus-containing g-C ₃ N ₄ photocatalysts for hydrogen evolution: A review. 2021 ,			4
275	Recent progress of black phosphorus and its emerging multifunction applications in biomedicine. 2021 , 4, 042004			1
274	A Critical Review on Black Phosphorus-Based Photocatalytic CO Reduction Application. 2021 , 17, e2102155			12
273	A facile and mild route for the preparation of holey phosphorene by low-temperature electrochemical exfoliation. 2021 , 128, 107074			2
272	Highly sensitive gas sensing platforms based on field effect Transistor-A review. 2021 , 1172, 338575			9
271	Recent progress in epitaxial growth of two-dimensional phosphorus. 2021 , 2, 286-298			3
270	Black phosphorus junctions and their electrical and optoelectronic applications. 2021 , 42, 081001			5
269	Electronic and Optical Properties of van der Waals Heterostructures Based on Two-Dimensional Perovskite (PEA)PbI and Black Phosphorus. 2021 , 6, 20877-20886			1
268	Coordination chemistry of elemental phosphorus. 2021 , 441, 213927			14
267	MXene Core-Shell Nanosheets: Facile Synthesis, Optical Properties, and Versatile Photonics Applications. <i>Nanomaterials</i> , 2021 , 11,	5-4		0
266	Recent applications of black phosphorus and its related composites in electrochemistry and bioelectrochemistry: A mini review. 2021 , 129, 107095			2
265	Emergence of Topological Edge States in Oxidized Hn ₂ Se ₃ Nanosheets: Implications for Field-Effect Transistors. 2021 , 4, 8154-8161			

264	Vertical Josephson field-effect transistors based on black phosphorus. <i>Applied Physics Letters</i> , 2021 , 119, 072601	3.4	0
263	Dispersion of Few-Layer Black Phosphorus in Binary Polymer Blend and Block Copolymer Matrices. <i>Nanomaterials</i> , 2021 , 11,	5.4	1
262	Direct Growth of van der Waals Tin Dioxide Monolayers. 2021 , 8, e2100009		1
261	Photocurrent Generation Mechanisms in Molybdenum-Contacted Semiconducting Black Phosphorus and Contributions from the Photovoltaic Effect. 2021 , 218, 2100196		
260	QM/MD study on the ability of phosphorene for selective detection of amino acids. 2021 , 336, 116865		3
259	Flat epitaxial quasi-1D phosphorene chains. <i>Nature Communications</i> , 2021 , 12, 5160	17.4	4
258	Multiorbital edge and corner states in black phosphorene. <i>Physical Review B</i> , 2021 , 104,	3.3	1
257	Black phosphorus for near-infrared ultrafast lasers in the spatial/temporal domain. 2021 , 33,		2
256	High performance photoresponsivity and high frequency of phosphorene/metal heterojunction as Schottky photodiode rectifier. 2021 , 24, 101092		2
255	Navigating recent advances in monoelemental materials (Xenes)-fundamental to biomedical applications. 2021 , 63, 100326		6
254	Visible to Mid-infrared Waveband Photodetector Based on Insulator Capped Asymmetry Black Phosphorus. 9,		0
253	Synthesis and stabilization of black phosphorus and phosphorene: recent progress and perspectives. 2021 , 24, 103116		3
252	Metal-free tellurene cocatalyst with tunable bandgap for enhanced photocatalytic hydrogen production. 2021 , 21, 100720		8
251	Photoluminescence as a probe of phosphorene properties. 2021 , 5,		1
250	Environmental stability and cytotoxicity of layered black phosphorus modified with Polyvinylpyrrolidone and Zeolitic Imidazolate Framework-67. 2021 , 790, 148105		0
249	New perspectives 2Ds to 3Ds MXenes and graphene functionalized systems as high performance energy storage materials. 2021 , 42, 102993		3
248	Long-term environmental stability of nitrogen-healed black phosphorus. 2021 , 564, 150450		1
247	Recent applications of quantum dots in optical and electrochemical aptasensing detection of Lysozyme. 2021 , 630, 114334		3

246	From phosphorus to phosphorene: Applications in disease theranostics. 2021 , 446, 214110	19
245	Highly stable branched cationic polymer-functionalized black phosphorus electrochemical sensor for fast and direct ultratrace detection of copper ion. 2021 , 603, 131-140	7
244	Two-dimensional quantum dots for highly efficient heterojunction solar cells. 2021 , 603, 48-57	7
243	Tuning the electronic properties of two dimensional InSe/In ₂ Se ₃ heterostructure via ferroelectric polarization and strain. 2021 , 200, 110819	1
242	Black phosphorus thin film integrated long-period fiber grating for highly refractive index and biomolecules detection. 2022 , 502, 127416	1
241	Tuning electronic and optical properties of two-dimensional vertical van der waals arsenene/SnS ₂ heterostructure by strain and electric field. 2022 , 572, 151209	1
240	Covalent and non-covalent chemistry of 2D black phosphorus. 2021 , 11, 26093-26101	0
239	Thickness-dependent ultrafast charge-carrier dynamics and coherent acoustic phonon oscillations in mechanically exfoliated PdSe flakes. 2021 , 23, 20666-20674	2
238	New materials for water-splitting. 2021 , 32, 791-870	2
237	Two-Dimensional (2D) Materials for Next-Generation Nanoelectronics and Optoelectronics: Advances and Trends. 2021 , 65-96	
236	Stability and superconductivity of Ca-intercalated bilayer blue phosphorene. 2021 , 23, 2846-2852	1
235	Excitons in bulk black phosphorus evidenced by photoluminescence at low temperature. <i>2D Materials</i> , 2021 , 8, 021001	5.9 3
234	Broadband Nonlinear Optical Response in Few-Layer Antimonene and Antimonene Quantum Dots: A Promising Optical Kerr Media with Enhanced Stability. 2017 , 5, 1700301	207
233	Chemistry of Black Phosphorus. 2020 , 59-72	8
232	Biomedical Applications of Black Phosphorus. 2020 , 117-138	2
231	Van der Waals epitaxy of ultrathin crystalline PbTe nanosheets with high near-infrared photoelectric response. 2021 , 14, 1955-1960	5
230	A simple electrochemical pH sensor based on black phosphorus nanosheets. 2020 , 118, 106796	5
229	Electromechanical and magnetic response in zigzag phosphorene nanoribbons. 2020 , 123, 114200	2

228	Efficient Heteronuclear Diatom Electrocatalyst for Nitrogen Reduction Reaction: Pd-Nb Diatom Supported on Black Phosphorus. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 56987-56994	9.5	19
227	Palladium Diselenide Long-Wavelength Infrared Photodetector with High Sensitivity and Stability. 2019 , 13, 2511-2519		144
226	Safe and Fast Synthesis of Black Phosphorus and Its Purification. 2020 , 5, 11389-11393		1
225	Edge phonons in black phosphorus. <i>Nature Communications</i> , 2016 , 7, 12191	17.4	54
224	Triangular Black Phosphorus Atomic Layers by Liquid Exfoliation. 2016 , 6, 23736		24
223	Few-layer Phosphorene: An Ideal 2D Material For Tunnel Transistors. 2016 , 6, 28515		78
222	On the comparison of oxygen and sulfur transfer reactivities in phosphine and phosphorene: the case of RSb(X) carriers (X = O or S). 2020 , 49, 15072-15080		4
221	Langmuir-Blodgett fabrication of large-area black phosphorus-C thin films and heterojunction photodetectors. <i>Nanoscale</i> , 2020 , 12, 19814-19823	7.7	11
220	Rotating exchange field effect on the electron energy loss spectrum of black phosphorene: anisotropic blue and red shift phenomena. 2021 , 54, 045105		1
219	Strong anisotropy and layer-dependent carrier mobility of two-dimensional semiconductor ZrGeTe. 2020 , 32, 325502		3
218	Interfaces between MoO _x and MoX ₂ (X = S, Se, and Te). 2020 , 29, 116802		4
217	Spectroscopic thickness and quality metrics for PtSe ₂ layers produced by top-down and bottom-up techniques. <i>2D Materials</i> , 2020 , 7, 045027	5.9	9
216	Fiber-based all-optical modulation based on two-dimensional materials. <i>2D Materials</i> , 2021 , 8, 012003	5.9	3
215	Phonon properties and photo-thermal oxidation of micromechanically exfoliated antimonene nanosheets. <i>2D Materials</i> , 2021 , 8, 015018	5.9	6
214	Autoionization and Dressing of Excited Excitons by Free Carriers in Monolayer WSe ₂ . 2020 , 125, 267401		8
213	Stable carbon monosulfide nanostructures: Chain arrays and monolayers. 2017 , 1,		4
212	Optically inactive defects in monolayer and bilayer phosphorene: A first-principles study. 2018 , 2,		15
211	Protective layer enhanced the stability and superconductivity of tailored antimonene bilayer. 2018 , 2,		4

210	Mechanistic insights in phosphorene degradation. 2019 , 3,		2
209	Native point defects in mono and bilayer phosphorene. 2020 , 4,		2
208	Spatially indirect excitons in black and blue phosphorene double layers. 2020 , 4,		4
207	Identification of graphene layers by dielectric grating: giant enhancement of visibility. 2018 , 35, 3039		1
206	Revealing of the ultrafast third-order nonlinear optical response and enabled photonic application in two-dimensional tin sulfide. 2019 , 7, 494		112
205	Ultrafast fiber lasers mode-locked by two-dimensional materials: review and prospect. 2020 , 8, 78		173
204	Novel layered 2D materials for ultrafast photonics. 2020 , 9, 1743-1786		12
203	Room temperature wideband tunable photoluminescence of pulsed thermally annealed layered black phosphorus. 2020 , 9, 4253-4264		4
202	High-Quality Black Phosphorus Quantum Dots Fabricated via Microwave-Tailored Technology. <i>Nanomaterials</i> , 2020 , 10,	5-4	7
201	Black Phosphorus as Multifaceted Advanced Material Nanoplatfoms for Potential Biomedical Applications. <i>Nanomaterials</i> , 2020 , 11,	5-4	13
200	Polarized Raman spectroscopy in low-symmetry 2D materials: angle-resolved experiments and complex number tensor elements. 2021 ,		2
199	Gas Sensing with Two-Dimensional Materials Beyond Graphene. 2021 ,		0
198	Prediction of hyperbolic exciton-polaritons in monolayer black phosphorus. <i>Nature Communications</i> , 2021 , 12, 5628	17.4	6
197	Excitonic effect in black phosphorus oxides. <i>2D Materials</i> ,	5.9	1
196	Local nonlinearity engineering of evanescent-field-interaction fiber devices embedding in black phosphorus quantum dots. 2021 ,		2
195	Surface Functionalization of Black Phosphorus via Amine Compounds and Its Impacts on the Flame Retardancy and Thermal Decomposition Behaviors of Epoxy Resin. 2021 , 13,		1
194	A review of perfect absorbers based on the two dimensional materials in the visible and near-infrared regimes. 2022 , 55, 093002		4
193	Impurity-Induced Robust Trionic Effect in Layered Violet Phosphorus. 2101538		3

192	Amphiphilicity of Intricate Layered Graphene/g-CN Nanosheets. 2021 , 125, 11697-11708	2
191	Theoretical Study of Anisotropic Carrier Mobility for Two-Dimensional NbSe Material. 2021 , 6, 26782-26790	1
190	End Group Modification for Black Phosphorus: Simultaneous Improvement of Chemical Stability and Gas Sensing Performance. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 50270-50280	9.5 3
189	Time Resolved Spectroscopy on Thin Layers of Black Phosphorus. 2015 ,	
188	Nonlinear Optical Responses of Protected Atomically Thin Black Phosphorus. 2016 ,	
187	Low-Dimensional Saturable Absorbers for Watt-Level Q-Switching of Er:Lu ₂ O ₃ at 3 μm. 2016 ,	
186	Terahertz detection mechanisms in black phosphorus. 2017 ,	
185	Innovative patterning method for modifying few-layer MoS ₂ device geometries. 2017 ,	
184	Materials and Methods. 2018 , 37-44	
183	Localized surface plasmons on periodic monolayer black phosphorene nanoribbons tuned in the infrared region with a dielectric substrate. 2018 ,	1
182	New Materials. 2019 , 79-99	
181	Recent progress in polarization-sensitive photodetectors based on low-dimensional semiconductors. 2019 , 68, 163201	5
180	Structure and Fundamental Properties of Black Phosphorus. 2020 , 139-156	
179	Black Phosphorous Based Nanodevices. 2020 , 31-58	1
178	2D Black Phosphorus. 2020 , 21-45	
177	Theoretical study of electronic transport in monolayer SnSe. 2020 ,	
176	Chemical Functionalization of 2D Black Phosphorus toward Its Applications in Energy Devices and Catalysis: A Review. 2100581	2
175	From amorphous red phosphorus to black phosphorus crystal: An optimization, controllable and highest yield synthesis process. 2021 , 577, 126408	0

174	All-optical micro-ring modulator with phosphorene film. 2020 ,		
173	Tuning the Electronic, Optical, and Transport Properties of Phosphorene. 2020 , 3-42		0
172	Tailored nano-electronics and photonics with two-dimensional materials at terahertz frequencies. 2021 , 130, 170903		3
171	Design of a broadband infrared absorber based on multiple layers of black phosphorus nanoribbons.		0
170	The electrical conductivity of solution-processed nanosheet networks.		21
169	Density Functional Theory Half-Electron Self-Energy Correction for Fast and Accurate Nonadiabatic Molecular Dynamics. 2021 , 12, 10886-10892		5
168	Strain-controlled thermoelectric properties of phosphorene-carbon monosulfide hetero-bilayers. 2021 , 34,		
167	Ab initio simulations of black and blue phosphorene functionalised with chemical groups for biomolecule anchoring. 2021 , 27, 349		
166	Low Power Strategies for beyond Moore's Law Era. 27-47		
165	Design strategies of phosphorus-containing catalysts for photocatalytic, photoelectrochemical and electrocatalytic water splitting.		10
164	Chemistry, Functionalization, and Applications of Recent Monoelemental Two-Dimensional Materials and Their Heterostructures. 2021 ,		23
163	TaCo ₂ Te ₂ : An Air-Stable, High Mobility Van der Waals Material with Probable Magnetic Order. 2108920		1
162	Multiphonon diffuse scattering in solids from first principles: Application to layered crystals and two-dimensional materials. <i>Physical Review B</i> , 2021 , 104,	3-3	5
161	Anisotropic thermal conductivity and corrugated patterns in single-layer black phosphorus nanoribbon subjected to shear loading: a molecular dynamics study. 2021 , 34,		0
160	Incorporation of 2D black phosphorus (2D-bP) in P3HT/PMMA mixtures for novel materials with tuned spectroscopic, morphological and electric features. 2021 , 30, 100314		2
159	A Comprehensive Review on Recent Advances in Two-Dimensional (2D) Hexagonal Boron Nitride.		3
158	Recent development in emerging phosphorene based novel materials: Progress, challenges, prospects and their fascinating sensing applications. 2021 , 100336		3
157	High Photoresponse Black Phosphorus TFTs Capping with Transparent Hexagonal Boron Nitride.. 2021 , 11,		2

156	Vapor-Phase Intercalation of Cesium into Black Phosphorous.		2
155	Bioengineering applications of black phosphorus and their toxicity assessment. <i>Environmental Science: Nano</i> , 2021 , 8, 3452-3477	7.1	6
154	Sandwiching Phosphorene with Iron Porphyrin Monolayer for High Stability and Its Biomimetic Sensor to Sensitively Detect Living Cell Released NO ₂ . 2022 , e2104066		4
153	Facile Ball-Milling Strategy for Constructing Covalently Connected Black Phosphorus/MoO ₃ Heterostructures for Enhanced Photocatalytic Hydrogen Evolution.		2
152	First-principles investigations of electronic, optical, and photocatalytic properties of Au-adsorbed MoSi ₂ N ₄ monolayer. 2022 , 162, 110494		2
151	Novel nanomaterials based saturable absorbers for passive mode locked fiber laser at 1.5 μ m. <i>Nanotechnology</i> , 2022 ,	3.4	4
150	Complex Raman Tensor in Helicity-Changing Raman Spectra of Black Phosphorus under Circularly Polarized Light. 2022 , 1241-1248		0
149	Quantum confinement and effective masses dependence in black phosphorus quantum dots and phosphorene. 2022 ,		
148	Phosphorene quantum dots: synthesis, properties and catalytic applications. <i>Nanoscale</i> , 2022 ,	7.7	3
147	Analysis of band structures of phosphorene and bismuthene based on the double group theory.		
146	Synthesis of layered nanomaterials. 2022 ,		
145	Synthesis of Hexagonal Structured GaS Nanosheets for Robust Femtosecond Pulse Generation. <i>Nanomaterials</i> , 2022 , 12,	5.4	1
144	Study on Black Phosphorus Characteristics Using a Two-Step Thinning Method. 2022 , 15,		2
143	Flexible 2D Materials beyond Graphene: Synthesis, Properties, and Applications. 2022 , e2105383		13
142	Temperature dependence of Fano resonances in CrPS. 2022 , 156, 054707		0
141	Toxicity of BPNSs against <i>Chlorella vulgaris</i> : Oxidative damage, physical damage and self-protection mechanism. 2022 , 174, 63-72		0
140	Preparation of high-quality few-layers bismuthene hexagons. 2022 , 26, 101360		1
139	Phosphorene, antimonene, silicene and siloxene based novel 2D electrode materials for supercapacitors-A brief review. 2022 , 48, 104027		5

138	Defects Investigation of Bipolar Exfoliated Phosphorene Nanosheets. 2022 , 122052		2
137	Unveiling the Degradation Chemistry of Fibrous Red Phosphorus under Ambient Conditions.. <i>ACS Applied Materials & Interfaces</i> , 2022 ,	9.5	2
136	Temperature Modulating Fermi Level Pinning in 2D GeSe for High-Performance Transistor. 2101112		0
135	Ultrafast and selective gas transport through highly ordered black phosphorene nanochannels. 2022 , 288, 120629		0
134	Non-metallic Atom doped GaN Nanotubes: Electronic Structure, Transport Properties and Gate Voltage Regulating Effects. 2022 ,		0
133	Room-Temperature Non-Local Spin Transport in Few-Layer Black Phosphorus Passivated with MgO. 2101048		1
132	Magnetoexcitons in phosphorene monolayers, bilayers, and van der Waals heterostructures. <i>Physical Review Research</i> , 2022 , 4,	3.9	0
131	Tunable metal contacts at layered black-arsenic/metal interface forming during metal deposition for device fabrication. 2022 , 3,		1
130	Surface modification of ZnIn ₂ S ₄ layers to realise energy transfer-mediated photocatalysis.		1
129	Spin-orbit coupling in buckled monolayer nitrogene.. 2022 , 12, 3201		0
128	Electron recoil effect in electrically tunable MoSe ₂ monolayers. <i>Physical Review B</i> , 2022 , 105,	3.3	2
127	The applications of two-dimensional materials and the derivative quantum dots in photodynamic therapy. 2022 , 10, 021104		
126	Black phosphorous aptamer based platform for biomarker detection.. 2022 ,		1
125	Amorphous black phosphorus: wet-chemical synthesis and atomic disordering-dependent electrocatalytic performance. <i>2D Materials</i> , 2022 , 9, 025019	5.9	
124	Stability and Passivation of 2D Group VA Elemental Materials: Black Phosphorus and Beyond.. 2022 ,		0
123	2D Materials for Wearable Energy Harvesting. 2101623		1
122	Electronic cloaking of confined states in phosphorene junctions.. 2022 ,		0
121	2D Materials-based Nanomedicine: From Discovery to Applications.. 2022 , 114268		4

120	Effects of Mechanical Strain on Electronic Properties of Phosphorene Structure in the Presence of Spin-Orbit Coupling.		
119	Theoretical methods for excitonic physics in two-dimensional materials.		0
118	Electronic properties and optical absorption of multi-layer phosphorene quantum rings. <i>AIP Advances</i> , 2022 , 12, 045303	1.5	
117	Mono-elemental saturable absorber in near-infrared mode-locked fiber laser: A review. 2022 , 122, 104103		0
116	Single-Walled Black Phosphorus Nanotube as a NO ₂ Gas Sensor. 2022 , 31, 103434		
115	Exfoliation of black phosphorus in isopropanol-water cosolvents. 2022 , 1260, 132862		1
114	Memory effects in black phosphorus field effect transistors. <i>2D Materials</i> , 2022 , 9, 015028	5.9	3
113	Breaking the Cut-Off Wavelength Limit of GaTe through Self-Driven Oxygen Intercalation in Air.. 2021 , e2103429		2
112	Two Dimensional Perovskites/Transition Metal Dichalcogenides Heterostructures: Puzzles and Challenges.		1
111	Temperature-Dependent CAT-Like RGD-BPNS@SMFN Nanoplatform for PTT-PDT Self-Synergetic Tumor Phototherapy.. 2021 , e2102298		7
110	2D layered black arsenic-phosphorus materials: Synthesis, properties, and device applications. 2022 , 15, 3737-3752		3
109	Scope of 2D materials for immune response-a review. 2022 , 14, 100413		0
108	Investigating the high field transport properties of Janus WSSe and MoSSe by DFT analysis and Monte Carlo simulations. 2022 , 131, 144303		1
107	Tetrahydrofuran and 2-Methyltetrahydrofuran adsorption studies on violet phosphorene nanosheets based on first-principles studies. 2022 , 119062		3
106	Crossed Andreev reflection in zigzag phosphorene nanoribbon based ferromagnet/superconductor/ferromagnet junctions.. 2022 , 12, 6079		1
105	Stabilization of Black Phosphorene by Edge-Selective Adsorption of C ₆₀ Molecules. 2022 , 126, 6874-6879		0
104	A first-principles study on the adsorption properties of phosphorene oxide for pollutant removal from water. 2022 , 357, 119103		0
103	Liquid-phase Exfoliation of Nonlayered non-van der Waals Crystals into Nanoplatelets.. 2022 , e2202164		6

102	Interlayer Exciton in MoSe ₂ /2D Perovskite Hybrid Heterostructures - Interplay Between Charge and Energy Transfer. <i>Nanoscale</i> ,	7.7	2
101	Research Progress in Biomedical Fields of 2D Nanomaterials from Group VA Single-element. 2022 , 89		
100	Two-Dimensional Material-Based Electrochemical Sensors/Biosensors for Food Safety and Biomolecular Detection. 2022 , 12, 314		12
99	Benchmarking Noise and Dephasing in Emerging Electrical Materials for Quantum Technologies.. 2022 , e2109671		1
98	Phosphorene - an emerging two-dimensional material: recent advances in synthesis, functionalization, and applications. <i>2D Materials</i> ,	5.9	2
97	Energy band gaps and novel thermoelectric properties of two-dimensional functionalized Yttrium carbides (MXenes). 2022 , 413922		0
96	Recent development of two-dimensional magnetic materials. 2022 ,		1
95	Integrated Optoelectronics with Two-Dimensional Materials. 2022 ,		0
94	Recent Advances in Two-dimensional Material/Conducting Polymer Composites for Thermoelectric Energy Conversion. 2200107		0
93	Low-Temperature Synthesis of Boron Nitride as a Large-Scale Passivation and Protection Layer for Two-Dimensional Materials and High-Performance Devices. <i>ACS Applied Materials & Interfaces</i> ,	9.5	1
92	Synthesis, Modification, and Application of Black Phosphorus, Few-Layer Black Phosphorus (FLBP), and Phosphorene: A Detailed Review.		0
91	First-Principles Study of 2d Ring-Te and its Electrical Contact with Topological Dirac Semimetal.		
90	2D BP/InSe Heterostructures as a Nonlinear Optical Material for Ultrafast Photonics. <i>Nanomaterials</i> , 2022 , 12, 1809	5.4	1
89	Tungsten disulfide coated side-polished fibre as polarisation state modulator in all-optical system. <i>IET Optoelectronics</i> ,	1.5	
88	Chemical degradation kinetics for two-dimensional materials in natural and biological environments  data-driven review. <i>Environmental Science: Nano</i> ,	7.1	
87	Two-Dimensional (2D) Nanostructures for Hazardous Gas Sensing Applications. 2022 , 1-21		
86	Improving the reducibility of CeO ₂ /TiO ₂ by high-temperature redox treatment: the key role of atomically thin CeO ₂ surface layers. <i>Journal of Materials Chemistry A</i> , 2022 , 10, 13074-13087	13	0
85	Enhanced Thermal Transportation of Flexible Composite Films Across Electrostatic Self-assembly of Black Phosphorene and Boron Nitride Nanosheets. <i>Nanoscale</i> ,	7.7	0

84	Enhanced electronic and optical properties of multi-layer Arsenic via strain engineering. <i>Nanotechnology</i> ,	3.4	
83	Mode-locked ytterbium-doped fiber laser with zinc phthalocyanine thin film saturable absorber. <i>Frontiers of Optoelectronics</i> , 2022 , 15,	2.8	1
82	40 GHz waveguide-integrated two-dimensional palladium diselenide photodetectors. <i>Applied Physics Letters</i> , 2022 , 120, 231102	3.4	0
81	Transport and performance study of double-walled black phosphorus nanotube transistors. <i>Semiconductor Science and Technology</i> , 2022 , 37, 085003	1.8	0
80	Moiré band structures of twisted phosphorene bilayers. <i>Physical Review B</i> , 2022 , 105,	3.3	
79	Light-Controlled Reconfigurable Optical Synapse Based on Carbon Nanotubes/2D Perovskite Heterostructure for Image Recognition. <i>ACS Applied Materials & Interfaces</i> , 2022 , 14, 28221-28229	9.5	1
78	Probing the Edges between Stability and Degradation of a Series of ZnSe-Based Layered Hybrid Semiconductors. <i>Advanced Materials Interfaces</i> , 2200347	4.6	
77	Phosphorene. 2022 , 121-148		
76	Single-Element 2D Materials beyond Graphene: Methods of Epitaxial Synthesis. <i>Nanomaterials</i> , 2022 , 12, 2221	5.4	2
75	Regulation of electronic and optical properties of monolayer black phosphorus by co-doping B and Si. <i>AIP Advances</i> , 2022 , 12, 065031	1.5	
74	Probing interlayer shear thermal deformation in atomically-thin van der Waals layered materials. <i>Nature Communications</i> , 2022 , 13,	17.4	
73	Anisotropic magnetoexcitons in two-dimensional transition metal trichalcogenide semiconductors. <i>Physical Review Research</i> , 2022 , 4,	3.9	0
72	Acetophenone and Benzophenone adsorption studies on phosphorene nanosheets by DFT investigation. <i>Computational and Theoretical Chemistry</i> , 2022 , 113808	2	0
71	Hydrodynamic signatures in thermal transport in devices based on two-dimensional materials: An ab initio study. <i>Physical Review B</i> , 2022 , 106,	3.3	
70	Enhanced Spin Thermopower in Phosphorene Nanoribbons via Edge-State Modifications. <i>Nanomaterials</i> , 2022 , 12, 2350	5.4	1
69	MXene Saturable Absorbers in Mode-Locked Fiber Laser. <i>Laser and Photonics Reviews</i> , 2100709	8.3	0
68	Ultrafast Tunable Broadband Optical Anisotropy in Two-Dimensional ReS ₂ . <i>Physical Review Applied</i> , 2022 , 18,	4.3	1
67	Black Phosphorus: Fundamental Properties and Influence of Impurities Induced by Its Synthesis. 2022 , 14, 34867-34874		1

- 66 Phosphorus-Based Materials for High-Performance Alkaline Metal Ion Batteries: Progress and Prospect. 2201808 0
- 65 Zeolite-like molecules: Promising dielectrics for two-dimensional semiconductors.
- 64 BTE-Barna: An extension of almaBTE for thermal simulation of devices based on 2D materials. **2022**, 108504
- 63 Exciton localization on p-n junctions in two-dimensional crystals. **2022**, 106,
- 62 Alkene-Catalyzed Rapid Layer-by-Layer Thinning of Black Phosphorus for Precise Nanomanufacturing. **2022**, 16, 13111-13122 0
- 61 Tunable spectral manifestation of Tamm plasmon-polaritons in a hybrid structure with 2d black phosphorus in the terahertz range. 1-9
- 60 Advances in Two-Dimensional Materials for Optoelectronics Applications. **2022**, 12, 1087 3
- 59 Thickness-dependent optical response and ultrafast carrier dynamics of PtSe₂ films. **2022**, 42, 106012 1
- 58 Synergism between few-layer black phosphorus and graphitic carbon nitride enhances the photoredox C-H arylation under visible light irradiation. **2022**, 12, 5379-5389 0
- 57 High hole mobilities in two dimensional monolayer MSi₂Z₄ (M = Mo/W; Z = P, As, Sb) for solar cells. 0
- 56 Atomically thin 2D photocatalysts for boosted H₂ production from the perspective of transient absorption spectroscopy. **2022**, 24, 19121-19143 0
- 55 2D Xenos: Optical and Optoelectronic Properties and Applications in Photonic Devices. 2206507 0
- 54 One-Pot Covalent Functionalization of 2D Black Phosphorus by Anionic Ring Opening Polymerization. 2201245 1
- 53 Electric-Field Control in Phosphorene-Based Heterostructures. **2022**, 12, 3650 0
- 52 Application of Two-Dimensional Materials towards CMOS-Integrated Gas Sensors. **2022**, 12, 3651 1
- 51 Biological Effects of Black Phosphorus Nanomaterials on Mammalian Cells and Animals. 0
- 50 Biological Effects of Black Phosphorus Nanomaterials on Mammalian Cells and Animals. 0
- 49 Advanced Two-Dimensional Materials for Green Hydrogen Generation: Strategies toward Corrosion Resistance Seawater Electrolysis-Review and Future Perspectives. 1

48	Fully Encapsulated and Stable Black Phosphorus Field-Effect Transistors. 2200546	1
47	Design of InAs nanosheet arrays for high-performance polarization-sensitive infrared photodetection.	0
46	Intrinsic and engineered properties of black phosphorus. 2022 , 28, 100895	0
45	Progress in the preparation, application, and recycling of black phosphorus. 2023 , 311, 137161	0
44	Anisotropic magneto-optical transport properties in black phosphorus induced by in-plane magnetic field.	0
43	Multiple plasmon-induced transparency based on black phosphorus and graphene for high-sensitivity refractive index sensing. 2022 , 30, 44004	0
42	Black-phosphorus-based junctions and their optoelectronic device applications.	0
41	2D Hetero-Nanoconstructs of Black Phosphorus for Breast Cancer Theragnosis: Technological Advancements. 2022 , 12, 1009	1
40	Evolution of Low-Dimensional Phosphorus Allotropes on Ag(111).	0
39	Emerging Trends in Van der Waals 2D TMDs Heterojunction Bipolar Transistors.	0
38	A novel black-P/blue-P heterostructure for the photovoltaic applications. 2023 , 812, 140242	0
37	Photoresponsivity of ultrathin 2D WS ₂ /graphene heterostructures. 2023 , 147, 115603	0
36	Mode-Locked Fiber Laser Based on One-Dimensional Photonic Crystal with a Defect Layer. 2022 ,	0
35	Anisotropy of the Optical Properties of Pentacene:Black Phosphorus Interfaces. 2022 , 126, 20694-20701	0
34	Field-Effect Transistors Based on Two-dimensional Materials (Invited).	0
33	2D Few-Layered PdPS: Toward High-Efficient Self-Powered Broadband Photodetector and Sensors.	0
32	Progress in the synthesis of 2D black phosphorus beyond exfoliation. 2022 , 9, 041318	1
31	Controllable Synthesis of 2D Materials by Electrochemical Exfoliation for Energy Storage and Conversion Application. 2206702	0

- 30 Two-Dimensional Nanomaterials: Synthesis and Applications in Photothermal Catalysis. ○
- 29 Disorder effects on the ballistic transport of gated phosphorene superlattices. **2023**, 107, ○
- 28 Band gap anomaly in single-layer Nb₂SiTe₄-based compounds. **2023**, 0 ○
- 27 Ionic liquid passivated black phosphorus for stabilized compliant electronics. ○
- 26 Phosphorene polymeric nanocomposites for biomedical applications: a review. 1-18 ○
- 25 Exploring the oxidation mechanisms of black phosphorus: a review. **2023**, 58, 2068-2086 ○
- 24 Exact Relationship between Black Phosphorus Thickness and Behaviors of Field-Effect Transistors. **2023**, 13, 1736 1
- 23 Visible to mid-infrared photodetector based on black phosphorous-MoS₂ Van Der Waals heterojunction. **2023**, 1-6 ○
- 22 First Principles Study of 2D Ring-Te and its Electrical Contact with Topological Dirac Semimetal. ○
- 21 Optical properties and polaritons of low symmetry 2D materials. **2023**, 2, R03 ○
- 20 Injectable thermosensitive black phosphorus nanosheet- and doxorubicin-loaded hydrogel for synergistic bone tumor photothermal-chemotherapy and osteogenesis enhancement. **2023**, 239, 124209 ○
- 19 TiO₂/black phosphorus heterojunction modified by Ag nanoparticles for efficient photoelectrochemical water splitting. **2023**, 301, 127624 ○
- 18 Protection mechanism of N,N-dimethylformamide on stability of few-layer black phosphorus. 11, ○
- 17 Role of oxygen vacancies in the structural phase transformations of granular TiO₂ thin films. **2023**, 37, 102698 ○
- 16 Progress in 2D materials based Nanolubricants: A review. **2023**, 38, 100485 1
- 15 Towards the Future of Polymeric Hybrids of Two-Dimensional Black Phosphorus or Phosphorene: From Energy to Biological Applications. **2023**, 15, 947 ○
- 14 Coherent coupling between surface plasmons and localized surface plasmons in black phosphorus metamaterials. **2023**, 464, 128708 ○
- 13 Trends in the Preparation and Passivation Techniques of Black Phosphorus Nanostructures for Optoelectronics Applications: A Review. **2023**, 6, 3159-3183 ○

- 12 Lab-on-Fiber Based on Optimized Gallium Selenide for Femtosecond Mode-Locked Lasers and Fiber-Compatible Photodetectors. **2023**, 4,
- 11 Anomalous thickness dependence of photoluminescence quantum yield in black phosphorous.
- 10 Degradation Studies of Air-Exposed Black Phosphorous and Black Arsenic Phosphorous. **2023**, 7, 18
- 9 From highly oriented bulk black arsenic phosphorus to well-crystallized exfoliated flakes with enhanced anti-oxidation: precise control upon chemical vapor transport. **2023**, 11, 4683-4693
- 8 Efficient Multiple Exciton Generation in Monolayer MoS₂. **2023**, 14, 2965-2972
- 7 Chloride-assisted synthesis of tellurene directly on SiO₂/Si substrates: growth mechanism, thermal properties, and device applications.
- 6 Sensitive Detection of BVDV Using Gold Nanoparticle-Modified Few-Layer Black Phosphorus with Affinity Peptide-Based Electrochemical Sensor. **2023**, 6, 1621-1628
- 5 Ultrathin 2D Violet Phosphorus Nanosheets: Facile Liquid-Phase Exfoliation, Characterization, and Photoelectrochemical Application.
- 4 Emerging metallenes: synthesis strategies, biological effects and biomedical applications.
- 3 Chemistry of two-dimensional pnictogens: emerging post-graphene materials for advanced applications.
- 2 Two-Dimensional ZnS Quantum Dots for Gas Sensors: Electronic and Adsorption Properties.
- 1 Hydrogen-Terminated Two-Dimensional Germanane/Silicane Alloys as Self-Powered Photodetectors and Sensors.