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## Phosphorene as a Superior Gas Sensor: Selective Adsorption and Distinct I-V Response

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#	Paper	IF	Citations
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614	Al-Doped Black Phosphorus p-n Homojunction Diode for High Performance Photovoltaic. <b>2017</b> , 27, 1604638		120
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612	Solution processing of two-dimensional black phosphorus. <b>2017</b> , 53, 1445-1458		55
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610	Ballistic electronic and thermal conductance of monolayer and bilayer black phosphorus. <b>2017</b> , 17, 214-221		4
609	DFT coupled with NEGF study of ultra-sensitive HCN and HNC gases detection and distinct I-V response based on phosphorene. <b>2017</b> , 19, 30852-30860		19
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606	Strain-induced Weyl and Dirac states and direct-indirect gap transitions in group-V materials. <i>2D Materials</i> , <b>2017</b> , 4, 045018	5.9	16
605	Modulation of electronic transport properties in armchair phosphorene nanoribbons by doping and edge passivation. <b>2017</b> , 7, 12799		28
604	First-principles study of gas adsorption on Graphyne. <b>2017</b> , 689, 185-189		20
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597	Black P/graphene hybrid: A fast response humidity sensor with good reversibility and stability. <b>2017</b> , 7, 10561		34
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592	Tunable Chemical Sensing Performance of Black Phosphorus by Controlled Functionalization with Noble Metals. <b>2017</b> , 29, 7197-7205		95
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584	First-Principles Study of Nitric Oxide Sensor Based on Blue Phosphorus Monolayer. <b>2017</b> , 38, 1139-1142		18
583	Adsorption behavior of 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin on pristine and doped black phosphorene: A DFT study. <b>2017</b> , 185, 509-517		15

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552	Controlled Pore Sizes in Monolayer C <sub>2</sub> N Act as Ultrasensitive Probes for Detection of Gaseous Pollutants (HF, HCN, and H <sub>2</sub> S). <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 2248-2258	3.8	33
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541	High Selective Gas Detection for small molecules based on Germanium selenide monolayer. <i>Applied Surface Science</i> , <b>2018</b> , 433, 575-581	6.7	37
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441	First-principles investigation on detection of phosgene gas molecules using phosphorene nanosheet device. <b>2019</b> , 717, 99-106		44
440	Engineering the magnetic properties of PtSe monolayer through transition metal doping. <b>2019</b> , 31, 145502		28
439	A Janus MoSSe monolayer: a superior and strain-sensitive gas sensing material. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 1099-1106	13	106

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436	Tuning electronic properties of boron phosphide nanoribbons by edge passivation and deformation. <b>2019</b> , 21, 15392-15399		7
435	Structural and electronic anisotropy, negative Poisson's ratio, strain-sensitive Dirac-like cone in monolayer HgSe: Tailoring electronic properties. <b>2019</b> , 168, 87-95		5
434	Hydrogenated Si <sub>12</sub> Au <sub>20</sub> cluster as a molecular sensor with high performance for NH <sub>3</sub> and NO detection: A first-principle study. <i>Journal of Molecular Liquids</i> , <b>2019</b> , 289, 111153	6	6
433	Enhanced gas sensing performance of polyaniline incorporated with graphene: A first-principles study. <b>2019</b> , 383, 2751-2754		11
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431	Tuning the structural and electronic properties and chemical activities of stanene monolayers by embedding 4d Pd: a DFT study.. <i>RSC Advances</i> , <b>2019</b> , 9, 16069-16082	3.7	15
430	Advanced Non-metallic Catalysts for Electrochemical Nitrogen Reduction under Ambient Conditions. <i>Chemistry - A European Journal</i> , <b>2019</b> , 25, 12464-12485	4.8	40
429	C <sub>2</sub> N monolayer as NH <sub>3</sub> and NO sensors: A DFT study. <i>Applied Surface Science</i> , <b>2019</b> , 487, 488-495	6.7	61
428	Surface Coordination of Black Phosphorus with Modified Cisplatin. <b>2019</b> , 30, 1658-1664		14
427	New Paradigm for Gas Sensing by Two-Dimensional Materials. <i>Journal of Physical Chemistry C</i> , <b>2019</b> ,	3.8	13
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425	A novel two-dimensional InP <sub>3</sub> monolayer with high stability, tunable bandgap, high carrier mobility, and gas sensing of NO <sub>2</sub> . <b>2019</b> , 7, 7352-7359		27
424	Chemical and structural stability of 2D layered materials. <i>2D Materials</i> , <b>2019</b> , 6, 042001	5.9	43
423	Black phosphorus electronic and optoelectronic devices. <i>2D Materials</i> , <b>2019</b> , 6, 032003	5.9	48
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419	Preparations, properties and applications of low-dimensional black phosphorus. <b>2019</b> , 370, 120-135		46
418	SnO <sub>2</sub> nanoparticles/TiO <sub>2</sub> nanofibers heterostructures: In situ fabrication and enhanced gas sensing performance. <b>2019</b> , 157, 42-47		21
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414	Simultaneous Passivation and Encapsulation of Black Phosphorus Nanosheets (Phosphorene) by Optically Active Polypeptide Micelles for Biosensors. <b>2019</b> , 2, 2397-2404		15
413	Proximity-Induced Colossal Conductivity Modulation in Phosphorene. <b>2019</b> , 11,		17
412	A first-principles study of doped black phosphorus carbide monolayers as NO <sub>2</sub> and NH <sub>3</sub> sensors. <b>2019</b> , 125, 074501		11
411	Dissolved gas analysis in transformer oil using Pd catalyst decorated MoSe <sub>2</sub> monolayer: A first-principles theory. <b>2019</b> , 20, e00094		76
410	Hydrogen sulfide interaction with pristine, defected and M-decorated black phosphorous (M= B, Co, V, Ti, Ni & Cu): A DFT study. <b>2019</b> , 110, 81-87		11
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408	Role of Structural Distortion in Stabilizing Electrosynthesized Blue-Emitting Phosphorene Quantum Dots. <i>Journal of Physical Chemistry Letters</i> , <b>2019</b> , 10, 973-980	6.4	8
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389	Real-Time Detection of Thiols Using CoPc Modified Black-Phosphorus Based Sensors. <b>2019</b> , 166, B1-B8		7
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380	A Perspective on Recent Advances in Phosphorene Functionalization and Its Applications in Devices. <b>2019</b> , 2019, 1476-1494		26
379	Adsorption of phenol, hydrazine and thiophene on stanene monolayers: A computational investigation. <b>2019</b> , 247, 26-36		30
378	Recent progress on graphene-analogous 2D nanomaterials: Properties, modeling and applications. <b>2019</b> , 100, 99-169		160
377	Adsorption of ozone gas molecule on armchair phosphorene nanoribbons with different edge passivation types. <b>2019</b> , 105, 146-150		4
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359	Semiconductor-metal transition in multi-layer sandwiched BAs/BP heterostructures induced by BP intercalation. <i>Applied Surface Science</i> , <b>2020</b> , 507, 144923	6.7	7
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349	Room-Temperature and Humidity-Resistant Trace Nitrogen Dioxide Sensing of Few-Layer Black Phosphorus Nanosheet by Incorporating Zinc Oxide Nanowire. <b>2020</b> , 92, 11007-11017		36

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344	Improved gas adsorption on functionalized aluminene surface: A first-principles study. <i>Applied Surface Science</i> , <b>2020</b> , 531, 147364	6.7	6
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332	Smart Acid-Activatable Self-Assembly of Black Phosphorous as Photosensitizer to Overcome Poor Tumor Retention in Photothermal Therapy. <b>2020</b> , 30, 2003338		14
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- 2 Adsorption Behaviors of Small Molecules on Two-Dimensional Penta-NiN<sub>2</sub> Layers: Implications for NO and NO<sub>2</sub> Gas Sensors. **2023**, 6, 6151-6160 0
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