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Superior mechanical flexibility of phosphorene and few-layer black phosphorus

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#	Paper	IF	Citations
799	Chemical scissors cut phosphorene nanostructures. 2014 , 1, 045041		17
798	Two-dimensional flexible nanoelectronics. 2014 , 5, 5678		1201
797	Edge effects on the electronic properties of phosphorene nanoribbons. 2014 , 116, 144301		133
796	Lattice vibrational modes and Raman scattering spectra of strained phosphorene. <i>Applied Physics Letters</i> , 2014 , 105, 083120	3.4	140
795	The potential application of phosphorene as an anode material in Li-ion batteries. 2014 , 2, 19046-19052		254
794	Tuning of the electronic and optical properties of single-layer black phosphorus by strain. <i>Physical Review B</i> , 2014 , 90,	3.3	235
793	Mechanical and electronic properties of monolayer and bilayer phosphorene under uniaxial and isotropic strains. <i>Nanotechnology</i> , 2014 , 25, 455703	3.4	56
792	Strain Engineering for Phosphorene: The Potential Application as a Photocatalyst. 2014 , 118, 26560-26568		314
791	Strain-engineered direct-indirect band gap transition and its mechanism in two-dimensional phosphorene. <i>Physical Review B</i> , 2014 , 90,	3.3	675
790	Enhanced thermoelectric performance of phosphorene by strain-induced band convergence. <i>Physical Review B</i> , 2014 , 90,	3.3	213
789	Access and in situ growth of phosphorene-precursor black phosphorus. 2014 , 405, 6-10		249
788	Anisotropic elastic behaviour and one-dimensional metal in phosphorene. 2014 , 8, 939-942		24
787	Strain and orientation modulated bandgaps and effective masses of phosphorene nanoribbons. <i>Nano Letters</i> , 2014 , 14, 4607-14	11.5	275
786	Extraordinary photoluminescence and strong temperature/angle-dependent Raman responses in few-layer phosphorene. 2014 , 8, 9590-6		529
785	Topologically protected Dirac cones in compressed bulk black phosphorus. <i>Physical Review B</i> , 2015 , 91,	3.3	74
784	Structural phase transitions of phosphorene induced by applied strains. <i>Physical Review B</i> , 2015 , 92,	3.3	26
783	Phosphorene analogues: Isoelectronic two-dimensional group-IV monochalcogenides with orthorhombic structure. <i>Physical Review B</i> , 2015 , 92,	3.3	301

782	Enhanced piezoelectricity and modified dielectric screening of two-dimensional group-IV monochalcogenides. <i>Physical Review B</i> , 2015 , 92,	3-3	135
781	Analytic study of strain engineering of the electronic bandgap in single-layer black phosphorus. <i>Physical Review B</i> , 2015 , 91,	3-3	54
780	Decay and the double-decay properties of edge bands of phosphorene ribbons. 2015 , 102, 610-615		3
779	Ultrafast recovery time and broadband saturable absorption properties of black phosphorus suspension. <i>Applied Physics Letters</i> , 2015 , 107, 091905	3-4	138
778	Mechanical properties of phosphorene nanoribbons and oxides. 2015 , 118, 234304		26
777	Orientation and strain modulated electronic structures in puckered arsenene nanoribbons. 2015 , 5, 067117		17
776	Anisotropic Thermal Conductivity of Exfoliated Black Phosphorus. 2015 , 27, 8017-22		178
775	First-Principles Study on Electronic and Optical Properties of Graphene-Like Boron Phosphide Sheets. 2015 , 28, 588-594		36
774	Modulation of electronic and mechanical properties of phosphorene through strain. <i>Physical Review B</i> , 2015 , 91,	3-3	155
773	The structure and elastic properties of phosphorene edges. <i>Nanotechnology</i> , 2015 , 26, 235707	3-4	55
772	Unexpected buckled structures and tunable electronic properties in arsenic nanosheets: insights from first-principles calculations. <i>Journal of Physics Condensed Matter</i> , 2015 , 27, 225304	1.8	32
771	Atomically thin group v elemental films: theoretical investigations of antimonene allotropes. 2015 , 7, 11490-6		340
770	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
769	Raman spectra of few-layer phosphorene studied from first-principles calculations. <i>Journal of Physics Condensed Matter</i> , 2015 , 27, 185302	1.8	29
768	Flexible phosphorene devices and circuits. 2015 ,		
767	A first-principles study on the magnetic properties of nonmetal atom doped phosphorene monolayers. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 16341-50	3.6	75
766	Theoretical predictions on the electronic structure and charge carrier mobility in 2D phosphorus sheets. 2015 , 5, 9961		153
765	Size and edge roughness effects on thermal conductivity of pristine antimonene allotropes. 2015 , 641, 169-172		46

764	Remarkable anisotropic phonon response in uniaxially strained few-layer black phosphorus. 2015 , 8, 3944-3953		58
763	Phase transition for edge band emergence induced by the edge relaxation of phosphorene ribbons. 2015 , 102, 290-294		1
762	Synthesis of borophenes: Anisotropic, two-dimensional boron polymorphs. 2015 , 350, 1513-6		1479
761	Thin-Shell Thickness of Two-Dimensional Materials. 2015 , 82,		34
760	Elastic bending modulus for single-layer black phosphorus. 2015 , 48, 455305		21
759	Mechanical properties and fracture behavior of single-layer phosphorene at finite temperatures. 2015 , 48, 395303		86
758	Quasiparticle energies, excitons, and optical spectra of few-layer black phosphorus. <i>2D Materials</i> , 2015 , 2, 044014	5.9	55
757	Defect-induced faceted blue phosphorene nanotubes. <i>Physical Review B</i> , 2015 , 92,	3.3	20
756	Anisotropic intrinsic lattice thermal conductivity of phosphorene from first principles. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 4854-8	3.6	296
755	Strain effects in monolayer iron-chalcogenide superconductors. <i>2D Materials</i> , 2015 , 2, 015001	5.9	10
754	Scaling laws of band gaps of phosphorene nanoribbons: A tight-binding calculation. <i>Physical Review B</i> , 2015 , 91,	3.3	93
753	Small molecules make big differences: molecular doping effects on electronic and optical properties of phosphorene. <i>Nanotechnology</i> , 2015 , 26, 095201	3.4	136
752	Phosphorene oxides: Bandgap engineering of phosphorene by oxidation. <i>Physical Review B</i> , 2015 , 91,	3.3	158
751	Strain-induced semiconductor to metal transition in few-layer black phosphorus from first principles. 2015 , 622, 109-114		32
750	Compressive straining of bilayer phosphorene leads to extraordinary electron mobility at a new conduction band edge. <i>Nano Letters</i> , 2015 , 15, 2006-10	11.5	37
749	Arsenene: Two-dimensional buckled and puckered honeycomb arsenic systems. <i>Physical Review B</i> , 2015 , 91,	3.3	590
748	Temperature dependent phonon shifts in few-layer black phosphorus. 2015 , 7, 5857-62		139
747	Graphene-Based Platform for Infrared Near-Field Nanospectroscopy of Water and Biological Materials in an Aqueous Environment. 2015 , 9, 7968-75		60

746	Recent developments in black phosphorus transistors. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 8760-8775		128
745	Magnetic evolution and anomalous Wilson transition in diagonal phosphorene nanoribbons driven by strain. <i>Nanotechnology</i> , 2015 , 26, 295402	3.4	4
744	The deformation and failure behaviour of phosphorene nanoribbons under uniaxial tensile strain. <i>2D Materials</i> , 2015 , 2, 035007	5.9	35
743	Strain engineering in semiconducting two-dimensional crystals. <i>Journal of Physics Condensed Matter</i> , 2015 , 27, 313201	1.8	266
742	Hybrid functional studies on the electronic properties of ultrathin black phosphorus under normal strain. 2015 , 109, 20-24		21
741	Parametrization of Stillinger-Weber potential based on valence force field model: application to single-layer MoS2 and black phosphorus. <i>Nanotechnology</i> , 2015 , 26, 315706	3.4	154
740	Phosphorene: Fabrication, Properties, and Applications. 2015 , 6, 2794-805		545
739	Prediction of superconductivity in Li-intercalated bilayer phosphorene. <i>Applied Physics Letters</i> , 2015 , 106, 113107	3.4	50
738	Electro-mechanical anisotropy of phosphorene. <i>Nanoscale</i> , 2015 , 7, 9746-51	7.7	157
737	Structural, Electronic, and Magnetic Properties of Adatom Adsorptions on Black and Blue Phosphorene: A First-Principles Study. 2015 , 119, 10610-10622		167
736	Broadband nonlinear optical response in multi-layer black phosphorus: an emerging infrared and mid-infrared optical material. 2015 , 23, 11183-94		541
735	Design of black phosphorus 2D nanomechanical resonators by exploiting the intrinsic mechanical anisotropy. <i>2D Materials</i> , 2015 , 2, 021001	5.9	34
734	Anisotropic thermal transport in phosphorene: effects of crystal orientation. <i>Nanoscale</i> , 2015 , 7, 10648-54	7.7	90
733	Strain-induced gap transition and anisotropic Dirac-like cones in monolayer and bilayer phosphorene. 2015 , 117, 124302		61
732	Unexpected magnetic semiconductor behavior in zigzag phosphorene nanoribbons driven by half-filled one dimensional band. 2015 , 5, 8921		80
731	The renaissance of black phosphorus. 2015 , 112, 4523-30		900
730	The electronic origin of shear-induced direct to indirect gap transition and anisotropy diminution in phosphorene. <i>Nanotechnology</i> , 2015 , 26, 215205	3.4	21
729	Homostructured negative differential resistance device based on zigzag phosphorene nanoribbons. <i>RSC Advances</i> , 2015 , 5, 40358-40362	3.7	26

728	Band-gap tunability and dynamical instability in strained monolayer and bilayer phosphorenes. <i>Journal of Physics Condensed Matter</i> , 2015 , 27, 175006	1.8	7
727	First-Principles Study of Metal Adatom Adsorption on Black Phosphorene. 2015 , 119, 8199-8207		182
726	Anisotropic Ripple Deformation in Phosphorene. 2015 , 6, 1509-13		88
725	First-Principles Prediction of the Charge Mobility in Black Phosphorus Semiconductor Nanoribbons. 2015 , 6, 4141-7		46
724	Mechanical and Electrical Anisotropy of Few-Layer Black Phosphorus. 2015 , 9, 11362-70		199
723	The electronic structures of group-V-group-IV hetero-bilayer structures: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 27769-76	3.6	45
722	Magnetism in phosphorene: Interplay between vacancy and strain. <i>Applied Physics Letters</i> , 2015 , 107, 072401	3.4	38
721	Electronic Structure and the Properties of Phosphorene and Few-Layer Black Phosphorus. 2015 , 84, 121004		49
720	Anomalous polarization dependence of Raman scattering and crystallographic orientation of black phosphorus. <i>Nanoscale</i> , 2015 , 7, 18708-15	7.7	139
719	Remarkably low-energy one-dimensional fault line defects in single-layered phosphorene. <i>Nanoscale</i> , 2015 , 7, 19073-9	7.7	14
718	Exciton binding energies and luminescence of phosphorene under pressure. <i>Physical Review B</i> , 2015 , 91,	3.3	41
717	Noncovalent Molecular Doping of Two-Dimensional Materials. 2015 , 1, 542-557		35
716	Black Phosphorus: Narrow Gap, Wide Applications. 2015 , 6, 4280-91		515
715	Hydrogenated arsenenes as planar magnet and Dirac material. <i>Applied Physics Letters</i> , 2015 , 107, 022102	3.4	122
714	Dual Gate Black Phosphorus Field Effect Transistors on Glass for NOR Logic and Organic Light Emitting Diode Switching. <i>Nano Letters</i> , 2015 , 15, 5778-83	11.5	76
713	The third principal direction besides armchair and zigzag in single-layer black phosphorus. <i>Nanotechnology</i> , 2015 , 26, 365702	3.4	11
712	Spin filtering in a magnetized zigzag phosphorene nanoribbon. 2015 , 48, 485301		11
711	Black phosphorus nanoelectromechanical resonators vibrating at very high frequencies. <i>Nanoscale</i> , 2015 , 7, 877-84	7.7	105

710	Significant enhancement of the thermoelectric performance of phosphorene through the application of tensile strain. 2015 , 8, 015202		18
709	Elemental analogues of graphene: silicene, germanene, stanene, and phosphorene. 2015 , 11, 640-52		597
708	Phosphorene nanoribbons: Passivation effect on bandgap and effective mass. <i>Applied Surface Science</i> , 2015 , 324, 640-644	6.7	25
707	Adsorption of metal adatoms on single-layer phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 992-1000	3.6	246
706	Black Phosphorus: Critical Review and Potential for Water Splitting Photocatalyst. 2016 , 6,		60
705	Strain- and twist-engineered optical absorption of few-layer black phosphorus. 2016 , 59, 1		11
704	A comparative first-principles study of the lithiation, sodiation, and magnesiation of black phosphorus for Li-, Na-, and Mg-ion batteries. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 21391-7	3.6	57
703	Atomic vacancies significantly degrade the mechanical properties of phosphorene. <i>Nanotechnology</i> , 2016 , 27, 315704	3.4	44
702	An Air-Stable Densely Packed Phosphorene-Graphene Composite Toward Advanced Lithium Storage Properties. 2016 , 6, 1600453		131
701	Doping behaviors of adatoms adsorbed on phosphorene. <i>Physica Status Solidi (B): Basic Research</i> , 2016 , 253, 1156-1166	1.3	16
700	Effect of inplane strain on the electronic structure of mono- and bilayer black phosphorus. <i>Physica Status Solidi (B): Basic Research</i> , 2016 , 253, 1729-1733	1.3	2
699	Comment on 'Parametrization of Stillinger-Weber potential based on a valence force field model: application to single-layer MoS2 and black phosphorus'. <i>Nanotechnology</i> , 2016 , 27, 238001	3.4	5
698	Tuning the Schottky contacts in the phosphorene and graphene heterostructure by applying strain. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 19918-25	3.6	49
697	Superior Chemical Sensing Performance of Black Phosphorus: Comparison with MoS2 and Graphene. 2016 , 28, 7020-8		267
696	Acute mechano-electronic responses in twisted phosphorene nanoribbons. <i>Nanoscale</i> , 2016 , 8, 14778-847.7		6
695	Scalable Clean Exfoliation of High-Quality Few-Layer Black Phosphorus for a Flexible Lithium Ion Battery. 2016 , 28, 510-7		289
694	Two-dimensional silica: Structural, mechanical properties, and strain-induced band gap tuning. 2016 , 119, 014301		31
693	Spin-polarized quantum transport properties through flexible phosphorene. <i>Applied Physics Letters</i> , 2016 , 109, 142409	3.4	17

692	Observation of polarization and thickness dependent third-harmonic generation in multilayer black phosphorus. <i>Applied Physics Letters</i> , 2016 , 109, 261902	3.4	18
691	Anisotropic Mechanical Properties of Black Phosphorus Nanoribbons. 2016 , 120, 29491-29497		46
690	Scaling Effect of Phosphorene Nanoribbon - Uncovering the Origin of Asymmetric Current Transport. 2016 , 6, 38009		10
689	Molecular Structure and Dynamics of Water on Pristine and Strained Phosphorene: Wetting and Diffusion at Nanoscale. 2016 , 6, 38327		24
688	Tinselenidene: a Two-dimensional Auxetic Material with Ultralow Lattice Thermal Conductivity and Ultrahigh Hole Mobility. 2016 , 6, 19830		119
687	First-principles study of the defected phosphorene under tensile strain. 2016 , 120, 165104		16
686	Heterostructures of phosphorene and transition metal dichalcogenides for excitonic solar cells: A first-principles study. <i>Applied Physics Letters</i> , 2016 , 108, 122105	3.4	69
685	Elastic properties of suspended black phosphorus nanosheets. <i>Applied Physics Letters</i> , 2016 , 108, 013104	3.4	52
684	Stable single-layer structure of group-V elements. <i>Physical Review B</i> , 2016 , 94,	3.3	88
683	Nanoelectromechanical systems based on low dimensional nanomaterials: Beyond carbon nanotube and graphene nanomechanical resonators—brief review. 2016 ,		0
682	Large anisotropic thermal transport properties observed in bulk single crystal black phosphorus. <i>Applied Physics Letters</i> , 2016 , 108, 092102	3.4	22
681	CsPbBr ₃ nanocrystal saturable absorber for mode-locking ytterbium fiber laser. <i>Applied Physics Letters</i> , 2016 , 108, 261108	3.4	33
680	Charge-transport anisotropy in black phosphorus: critical dependence on the number of layers. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 16345-52	3.6	14
679	Blue Phosphorene/MS ₂ (M = Nb, Ta) Heterostructures As Promising Flexible Anodes for Lithium-Ion Batteries. 2016 , 8, 13449-57		134
678	Electric field modulation of the band gap, dielectric constant and polarizability in SnS atomically thin layers. 2016 , 380, 2227-2232		13
677	Prediction of the electronic structure of single-walled black phosphorus nanotubes. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 15177-81	3.6	8
676	Strong Modulation of Optical Properties in Black Phosphorus through Strain-Engineered Rippling. <i>Nano Letters</i> , 2016 , 16, 2931-7	11.5	159
675	Critical length scales and strain localization govern the mechanical performance of multi-layer graphene assemblies. <i>Nanoscale</i> , 2016 , 8, 6456-62	7.7	49

674	Intrinsic Ferroelasticity and/or Multiferroicity in Two-Dimensional Phosphorene and Phosphorene Analogues. <i>Nano Letters</i> , 2016 , 16, 3236-41	11.5	350
673	First-principles study of thermal properties of borophene. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 14927-32	3.6	85
672	Black Phosphorus-Based Nanodevices. 2016 , 95, 279-303		1
671	Two-Dimensional Phosphorus Porous Polymorphs with Tunable Band Gaps. 2016 , 138, 7091-8		96
670	Spontaneous ripple formation in phosphorene: electronic properties and possible applications. <i>Nanoscale</i> , 2016 , 8, 11827-33	7.7	9
669	Nonorthogonal [Formula: see text]tight-binding parameterization of single-layer phosphorene under biaxial strain and application to FETs. <i>Nanotechnology</i> , 2016 , 27, 245202	3.4	2
668	Stabilization and strengthening effects of functional groups in two-dimensional titanium carbide. <i>Physical Review B</i> , 2016 , 94,	3.3	103
667	Directional-dependent thickness and bending rigidity of phosphorene. <i>Physical Review B</i> , 2016 , 94,	3.3	14
666	Inverse Funnel Effect of Excitons in Strained Black Phosphorus. 2016 , 6,		29
665	Environmental effects in mechanical properties of few-layer black phosphorus. <i>2D Materials</i> , 2016 , 3, 031007	5.9	34
664	Electric response of edge bands and their decay property of phosphorene ribbons. 2016 , 380, 3832-3835		2
663	Long-Term Stability and Reliability of Black Phosphorus Field-Effect Transistors. 2016 , 10, 9543-9549		120
662	Auxetic Black Phosphorus: A 2D Material with Negative Poisson's Ratio. <i>Nano Letters</i> , 2016 , 16, 6701-6708	11.5	135
661	Valence-force model and nanomechanics of single-layer phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 23312-9	3.6	7
660	Preparation of black phosphorus-PEDOT:PSS hybrid semiconductor composites with good film-forming properties and environmental stability in water containing oxygen. <i>RSC Advances</i> , 2016 , 6, 76174-76182	3.7	26
659	Resolving and Tuning Mechanical Anisotropy in Black Phosphorus via Nanomechanical Multimode Resonance Spectromicroscopy. <i>Nano Letters</i> , 2016 , 16, 5394-400	11.5	48
658	Tunable electronic structures of germanium monochalcogenide nanosheets via light non-metallic atom functionalization: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 23080-8	3.6	16
657	Phosphorene: what can we know from computations?. 2016 , 6, 5-19		112

656	Tunable electronic and magnetic properties of two-dimensional materials and their one-dimensional derivatives. 2016 , 6, 324-350		49
655	Tuning anisotropic electronic transport properties of phosphorene via substitutional doping. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 25869-78	3.6	33
654	Mechanical properties of phosphorene nanotubes: a density functional tight-binding study. <i>Nanotechnology</i> , 2016 , 27, 395701	3.4	33
653	Structural, electronic, mechanical, and transport properties of phosphorene nanoribbons: Negative differential resistance behavior. <i>Physical Review B</i> , 2016 , 94,	3.3	51
652	The tunable electronic structure and optic absorption properties of phosphorene by a normally applied electric field. 2016 , 91, 105801		3
651	Strain-induced topological phase transition in phosphorene and in phosphorene nanoribbons. <i>Physical Review B</i> , 2016 , 94,	3.3	66
650	Multiple unpinned Dirac points in group-Va single-layers with phosphorene structure. 2016 , 2,		38
649	Laser exfoliation of 2D black phosphorus nanosheets and their application as a field emitter. <i>RSC Advances</i> , 2016 , 6, 112103-112108	3.7	37
648	Phosphorene and Phosphorene-Based Materials - Prospects for Future Applications. 2016 , 28, 8586-8617		283
647	First-principles cluster expansion study of functionalization of black phosphorene via fluorination and oxidation. <i>Physical Review B</i> , 2016 , 93,	3.3	38
646	Thermomechanical analysis of two-dimensional boron monolayers. <i>Physical Review B</i> , 2016 , 93,	3.3	43
645	Strain effects on borophene: ideal strength, negative Poisson's ratio and phonon instability. 2016 , 18, 073016		141
644	Hydrogen separation by porous phosphorene: A periodical DFT study. 2016 , 41, 23067-23074		20
643	Resonant bonding driven giant phonon anharmonicity and low thermal conductivity of phosphorene. <i>Physical Review B</i> , 2016 , 94,	3.3	79
642	Two new phases of monolayer group-IV monochalcogenides and their piezoelectric properties. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 32514-32520	3.6	59
641	Comparative study of thermal properties of group-VA monolayers with buckled and puckered honeycomb structures. <i>Physical Review B</i> , 2016 , 94,	3.3	39
640	High anisotropy of fully hydrogenated borophene. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 31424-31430		79
639	Inconsistencies in the Electronic Properties of Phosphorene Nanotubes: New Insights from Large-Scale DFT Calculations. 2016 , 7, 4340-4345		42

638	Thermal stability of a free nanotube from single-layer black phosphorus. <i>Nanotechnology</i> , 2016 , 27, 235703	26
637	Polarized Raman spectra of phosphorene in edge and top view measuring configurations. <i>RSC Advances</i> , 2016 , 6, 58003-58009	3-7 2
636	In situ TEM visualization of superior nanomechanical flexibility of shear-exfoliated phosphorene. <i>Nanoscale</i> , 2016 , 8, 13603-10	7-7 20
635	SiTe monolayers: Si-based analogues of phosphorene. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 6353-6361	41 44
634	Electronic structure and optic absorption of phosphorene under strain. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016 , 81, 177-181	3 35
633	First-principles study of thermal expansion and thermomechanics of single-layer black and blue phosphorus. 2016 , 380, 2098-2104	47
632	Strength and stability analysis of a single-walled black phosphorus tube under axial compression. <i>Nanotechnology</i> , 2016 , 27, 275701	3-4 16
631	Black Phosphorus-Zinc Oxide Nanomaterial Heterojunction for p-n Diode and Junction Field-Effect Transistor. <i>Nano Letters</i> , 2016 , 16, 1293-8	11.5 125
630	Novel effects of strains in graphene and other two dimensional materials. 2016 , 617, 1-54	239
629	Charge trap memory based on few-layer black phosphorus. <i>Nanoscale</i> , 2016 , 8, 2686-92	7-7 72
628	Tuning the electronic and optical properties of phosphorene by transition-metal and nonmetallic atom co-doping. <i>RSC Advances</i> , 2016 , 6, 10919-10929	3-7 38
627	Mechanical strain effects on black phosphorus nanoresonators. <i>Nanoscale</i> , 2016 , 8, 901-5	7-7 24
626	Single- and few-layer WTe ₂ and their suspended nanostructures: Raman signatures and nanomechanical resonances. <i>Nanoscale</i> , 2016 , 8, 7854-60	7-7 37
625	One-pot solventless preparation of PEGylated black phosphorus nanoparticles for photoacoustic imaging and photothermal therapy of cancer. 2016 , 91, 81-89	324
624	Calcium decorated and doped phosphorene for gas adsorption. <i>Applied Surface Science</i> , 2016 , 377, 311-323	69
623	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
622	Carbon phosphide monolayers with superior carrier mobility. <i>Nanoscale</i> , 2016 , 8, 8819-25	7-7 97
621	Chemically Tailoring Semiconducting Two-Dimensional Transition Metal Dichalcogenides and Black Phosphorus. 2016 , 10, 3900-17	192

620	Electronic Structures and Carrier Mobilities of Blue Phosphorus Nanoribbons and Nanotubes: A First-Principles Study. 2016 , 120, 4638-4646		69
619	Manipulation of n and p type dope black phosphorene layer: A first principles study. 2016 , 16, 506-514		10
618	Superconductivity of bilayer phosphorene under interlayer compression. 2016 , 25, 027402		7
617	Low-frequency interlayer vibration modes in two-dimensional layered materials. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016 , 80, 130-141	3	15
616	The stacking dependent electronic structure and optical properties of bilayer black phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 6085-91	3.6	36
615	Strain-displacement relations for strain engineering in single-layer 2d materials. <i>2D Materials</i> , 2016 , 3, 011005	5.9	30
614	The electronic structure, mechanical flexibility and carrier mobility of black arsenic-phosphorus monolayers: a first principles study. <i>Physical Chemistry Chemical Physics</i> , 2016 , 18, 9779-87	3.6	33
613	Characterization and sonochemical synthesis of black phosphorus from red phosphorus. <i>2D Materials</i> , 2016 , 3, 014007	5.9	50
612	Thermal conductivity of armchair black phosphorus nanotubes: a molecular dynamics study. <i>Nanotechnology</i> , 2016 , 27, 155703	3.4	22
611	Phosphorene under electron beam: from monolayer to one-dimensional chains. <i>Nanoscale</i> , 2016 , 8, 7949-57	7.7	33
610	Half-oxidized phosphorene: band gap and elastic properties modulation. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 145501	1.8	8
609	Out-of-plane structural flexibility of phosphorene. <i>Nanotechnology</i> , 2016 , 27, 055701	3.4	34
608	Strain engineering of graphene: a review. <i>Nanoscale</i> , 2016 , 8, 3207-17	7.7	327
607	Indiène 2D monolayer: a new nanoelectronic material. <i>RSC Advances</i> , 2016 , 6, 8006-8014	3.7	30
606	Infrared fingerprints of few-layer black phosphorus. 2017 , 8, 14071		179
605	Emergent elemental two-dimensional materials beyond graphene. 2017 , 50, 053004		56
604	Elasticity, Flexibility, and Ideal Strength of Borophenes. 2017 , 27, 1605059		176
603	Ideal strength and elastic instability in single-layer 8-Pmmn borophene. <i>RSC Advances</i> , 2017 , 7, 8654-8669		40

602	Linear and nonlinear magneto-optical properties of monolayer phosphorene. 2017 , 121, 045107		33
601	A density-functional-theory-based finite element model to study the mechanical properties of zigzag phosphorene nanotubes. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2017 , 88, 272-278		17
600	Mechanical properties and failure behavior of phosphorene with grain boundaries. <i>Nanotechnology</i> , 2017 , 28, 075704	3.4	16
599	Novel Two-Dimensional Silicon Dioxide with in-Plane Negative Poisson's Ratio. <i>Nano Letters</i> , 2017 , 17, 772-777	11.5	131
598	Phosphorus quantum dots as visible-light photocatalyst for water splitting. 2017 , 130, 56-63		47
597	A Review of Thermal Transport in Low-Dimensional Materials Under External Perturbation: Effect of Strain, Substrate, and Clustering. 2017 , 21, 201-236		27
596	On the stability characteristics of zigzag phosphorene nanotubes: A finite element investigation. 2017 , 702, 388-398		11
595	A review on mechanics and mechanical properties of 2D materials Graphene and beyond. 2017 , 13, 42-77		581
594	Tuning Electronic Properties and Band Alignments of Phosphorene Combined With MoSe ₂ and WSe ₂ . 2017 , 121, 3862-3869		42
593	Is the Metallic Phosphorus Carbide (EPC) Monolayer Stable? An Answer from a Theoretical Perspective. 2017 , 8, 747-754		35
592	Temperature-Dependent Raman Responses of the Vapor-Deposited Tin Selenide Ultrathin Flakes. 2017 , 121, 4674-4679		68
591	Theoretical Investigation of 2D Layered Materials as Protective Films for Lithium and Sodium Metal Anodes. 2017 , 7, 1602528		145
590	A free-standing platinum monolayer as an efficient and selective catalyst for the oxygen reduction reaction. 2017 , 5, 5303-5313		25
589	Emerging Trends in Phosphorene Fabrication towards Next Generation Devices. 2017 , 4, 1600305		224
588	Reactivity of phosphorene with a 3d element trioxide (CrO) considering van der Waals molecular interactions: a DFT-D2 study. <i>Journal of Molecular Modeling</i> , 2017 , 23, 49	2	4
587	Winding a nanotube from black phosphorus nanoribbon onto a CNT at low temperature: A molecular dynamics study. 2017 , 121, 406-413		25
586	Tensile and compressive behaviors of prestrained single-layer black phosphorus: a molecular dynamics study. <i>Nanoscale</i> , 2017 , 9, 3609-3619	7.7	15
585	Recent advances in synthesis, properties, and applications of phosphorene. 2017 , 1,		183

584	An empirical description for the hinge-like mechanism in single-layer black phosphorus: The angle-angle cross interaction. 2017 , 30, 227-233		
583	Photothermal Effect Induced Negative Photoconductivity and High Responsivity in Flexible Black Phosphorus Transistors. 2017 , 11, 6048-6056		71
582	Resolving the In-Plane Anisotropic Properties of Black Phosphorus. 2017 , 1, 1700143		56
581	Fluorescent black phosphorus quantum dots as label-free sensing probes for evaluation of acetylcholinesterase activity. 2017 , 250, 601-607		74
580	Two-band k.p Hamiltonian of phosphorene based on the infinitesimal basis transformations approach. 2017 , 109, 330-336		5
579	Flexible Device Applications of 2D Semiconductors. 2017 , 13, 1603994		113
578	Adsorption of NO molecules on armchair phosphorene nanosheet for nano sensor applications - A first-principles study. 2017 , 75, 365-374		43
577	Computational characterization of monolayer C3N: A two-dimensional nitrogen-graphene crystal. 2017 , 32, 2993-3001		82
576	Properties, preparation and application of black phosphorus/phosphorene for energy storage: a review. <i>Journal of Materials Science</i> , 2017 , 52, 10364-10386	4-3	83
575	Effect of lattice strain on nanomaterials in energy applications: A perspective on experiment and theory. 2017 , 42, 16064-16107		10
574	Thermal stability and thermal conductivity of phosphorene in phosphorene/graphene van der Waals heterostructures. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 17180-17186	3-6	26
573	Exotic Physics and Chemistry of Two-Dimensional Phosphorus: Phosphorene. 2017 , 8, 2909-2916		57
572	Quantum confinement in black phosphorus-based nanostructures. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 283001	1-8	15
571	Prediction of mechanical properties of 2D solids with related bonding configuration. <i>RSC Advances</i> , 2017 , 7, 29786-29793	3-7	9
570	Unexpected elastic isotropy in a black phosphorene/TiC ₂ van der Waals heterostructure with flexible Li-ion battery anode applications. 2017 , 10, 3136-3150		55
569	Phosphorene □The two-dimensional black phosphorous: Properties, synthesis and applications. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2017 , 221, 17-34	3-1	133
568	Buckling behaviour of composites with double walled nanotubes from carbon and phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 10922-10930	3-6	13
567	Hybrid phosphorene/graphene nanocomposite as an anode material for Na-ion batteries: a first-principles study. 2017 , 50, 165501		25

566	Structural deformations of two-dimensional planar structures under uniaxial strain: the case of graphene. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 175401	1.8	2
565	Acidic gases (CO ₂ , NO ₂ and SO ₂) capture and dissociation on metal decorated phosphorene. <i>Applied Surface Science</i> , 2017 , 410, 505-512	6.7	36
564	Continuum thin-shell model of the anisotropic two-dimensional materials: Single-layer black phosphorus. 2017 , 15, 1-9		9
563	Multi-scale approach for strain-engineering of phosphorene. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 185702	1.8	9
562	Aharonov-Bohm effect in monolayer phosphorene nanorings. <i>Physical Review B</i> , 2017 , 95,	3.3	18
561	Phosphorene: An emerging 2D material. 2017 , 32, 2839-2847		26
560	Mechanical property assessment of black phosphorene nanotube using molecular dynamics simulation. 2017 , 133, 35-44		10
559	A density functional theory-based finite element method to study the vibrational characteristics of zigzag phosphorene nanotubes. 2017 , 123, 1		6
558	Elemental two-dimensional nanosheets beyond graphene. 2017 , 46, 2127-2157		220
557	Influence of structural defect on thermal-mechanical properties of phosphorene sheets. <i>Journal of Materials Science</i> , 2017 , 52, 3225-3232	4.3	11
556	Phosphorene: a new allotrope of phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 2402-2408	3.6	53
555	Dynamic behavior of a black phosphorus and carbon nanotube composite system. 2017 , 50, 025304		16
554	Electric- and magnetic-field dependence of the electronic and optical properties of phosphorene quantum dots. <i>Nanotechnology</i> , 2017 , 28, 085702	3.4	22
553	Mechanical properties of monocrystalline and polycrystalline monolayer black phosphorus. <i>Nanotechnology</i> , 2017 , 28, 045702	3.4	16
552	Phosphorene: a two dimensional material with a highly negative Poisson's ratio. <i>Nanoscale</i> , 2017 , 9, 850-855	7.7	105
551	Structural and Optical Properties of Single- and Few-Layer Magnetic Semiconductor CrPS. 2017 , 11, 10935-10944		44
550	Two-dimensional boron: structures, properties and applications. 2017 , 46, 6746-6763		209
549	Anisotropic RKKY interaction and modulation with mechanical strain in phosphorene. 2017 , 19, 103010		14

548	Anisotropic ultrahigh hole mobility in two-dimensional penta-SiC ₂ by strain-engineering: electronic structure and chemical bonding analysis. <i>RSC Advances</i> , 2017 , 7, 45705-45713	3.7	17
547	Cleavage tendency of anisotropic two-dimensional materials: ReX ₂ (X=S,Se) and WTe ₂ . <i>Physical Review B</i> , 2017 , 96,	3.3	26
546	Enhanced piezoelectricity of monolayer phosphorene oxides: a theoretical study. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 27508-27515	3.6	23
545	Strain-induced Weyl and Dirac states and direct-indirect gap transitions in group-V materials. <i>2D Materials</i> , 2017 , 4, 045018	5.9	16
544	Atomic-Scale Friction of Black Phosphorus: Effect of Thickness and Anisotropic Behavior. 2017 , 4, 1700998		26
543	Proximity Effect Induced Spin Injection in Phosphorene on Magnetic Insulator. 2017 , 9, 38999-39010		13
542	Strain controlled switching effects in phosphorene and GeS. <i>Nanotechnology</i> , 2017 , 28, 435202	3.4	6
541	Effects of various defects on the mechanical properties of black phosphorene. 2017 , 112, 186-199		17
540	Improvements in the GW and Bethe-Salpeter-equation calculations on phosphorene. <i>Physical Review B</i> , 2017 , 96,	3.3	23
539	Regulate the polarity of phosphorene's mechanical properties by oxidation. 2017 , 139, 341-346		5
538	Strain engineering on transmission carriers of monolayer phosphorene. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 465501	1.8	2
537	Phosphorene for energy and catalytic application: filling the gap between graphene and 2D metal chalcogenides. <i>2D Materials</i> , 2017 , 4, 042006	5.9	38
536	Circular torsion induced fan-blade shaped wrinkling in two-dimensional nano-rings. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 25360-25368	3.6	5
535	Development of a Transferable Reactive Force Field of P/H Systems: Application to the Chemical and Mechanical Properties of Phosphorene. 2017 , 121, 6135-6149		27
534	Interfacial Thermal Conductance between Mechanically Exfoliated Black Phosphorus and SiO _x : Effect of Thickness and Temperature. 2017 , 4, 1700233		13
533	Structure and elastic properties of black phosphorus nanotubes: A first-principles study. <i>Physica Status Solidi (B): Basic Research</i> , 2017 , 254, 1700276	1.3	5
532	MnB _x monolayers with quasi-planar hypercoordinate Mn atoms and unique magnetic and mechanical properties. 2017 , 4, 42-47		8
531	Chemically Functionalized Phosphorene: Two-Dimensional Multiferroics with Vertical Polarization and Mobile Magnetism. 2017 , 139, 11506-11512		92

530	Strain modification on electronic transport of the phosphorene nanoribbon. 2017 , 7, 075310		7
529	Strain induced new phase and indirect-direct band gap transition of monolayer InSe. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 21722-21728	3.6	56
528	Electric field effects on electronic characteristics of arsenene nanoribbons. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2017 , 94, 64-69	3	15
527	Theoretical Overview of Black Phosphorus. 381-412		5
526	Strain Modulation of Electronic Properties of Monolayer Black Phosphorus. 2017 , 121, 19296-19304		29
525	Electronic structure of charged bilayer and trilayer phosphorene. <i>Physical Review B</i> , 2017 , 96,	3.3	13
524	A first principles study of hydrogen storage in lithium decorated defective phosphorene. 2017 , 42, 23018-23027		41
523	Mechanical properties of prestrained single-layer black phosphorus: effect of thermal environment. <i>Nanotechnology</i> , 2017 , 28, 475701	3.4	8
522	AELAS: Automatic ELAStic property derivations via high-throughput first-principles computation. 2017 , 220, 403-416		51
521	Identifying the Crystalline Orientation of Black Phosphorus by Using Optothermal Raman Spectroscopy. 2017 , 18, 2828-2834		10
520	Advancements in 2D flexible nanoelectronics: from material perspectives to RF applications. 2017 , 2, 043001		26
519	Anisotropic Properties of Black Phosphorus. 413-434		3
518	Highly-stable black phosphorus field-effect transistors with low density of oxide traps. 2017 , 1,		37
517	Designing flexible 2D transition metal carbides with strain-controllable lithium storage. 2017 , 114, E11082-E11091		9
516	Superconducting states for semi-Dirac fermions at zero and finite magnetic fields. <i>Physical Review B</i> , 2017 , 96,	3.3	8
515	Controlled growth of six-point stars MoS by chemical vapor deposition and its shape evolution mechanism. <i>Nanotechnology</i> , 2017 , 28, 395601	3.4	14
514	Optical Waveplates Based on Birefringence of Anisotropic Two-Dimensional Layered Materials. 2017 , 4, 3023-3030		110
513	Bose-Einstein condensation and superfluidity of dipolar excitons in a phosphorene double layer. <i>Physical Review B</i> , 2017 , 96,	3.3	24

512	Monolithically Integrated Flexible Black Phosphorus Complementary Inverter Circuits. 2017 , 11, 7416-7423	43
511	Characterization of Thin Film Materials using SCAN meta-GGA, an Accurate Nonempirical Density Functional. 2017 , 7, 44766	41
510	Effect of edge passivation on the mechanical properties of phosphorene nanoribbons. 2017 , 14, 2-9	10
509	Recent Advances in the Study of Phosphorene and its Nanostructures. 2017 , 42, 1-82	113
508	Electronic structures, mechanical properties and carrier mobilities of π -conjugated X(X = Ni, Pd, Pt) bis(dithiolene) nanosheets: Theoretical predictions. 2017 , 126, 170-175	8
507	Temperature and Thickness Dependences of the Anisotropic In-Plane Thermal Conductivity of Black Phosphorus. 2017 , 29, 1603756	75
506	Review of two-dimensional materials for photocatalytic water splitting from a theoretical perspective. 2017 , 7, 545-559	251
505	The Effects of Heteroatom Adsorption on the Electronic Properties of Phosphorene. 2017 , 2017, 1-13	
504	Parameterization of Stillinger-Weber Potential for Two- Dimensional Atomic Crystals. 2017 ,	22
503	Strength and buckling behavior of defective phosphorene nanotubes under axial compression. <i>Journal of Materials Science</i> , 2018 , 53, 8355-8363	4.3 6
502	2D Black Phosphorus: from Preparation to Applications for Electrochemical Energy Storage. 2018 , 5, 1700491	109
501	On mechanical behaviors of few-layer black phosphorus. 2018 , 8, 3227	12
500	Effects of Temperature and Strain Rate on Mechanical Behaviors of StoneWales Defective Monolayer Black Phosphorene. 2018 , 122, 6368-6378	12
499	Unconventional strain-dependent conductance oscillations in pristine phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 13508-13516	3.6 16
498	Layer-Dependent Ultrafast Carrier and Coherent Phonon Dynamics in Black Phosphorus. <i>Nano Letters</i> , 2018 , 18, 3053-3059	11.5 53
497	Modulating electronic and optical properties of black phosphorous carbide monolayers by molecular doping. <i>Applied Surface Science</i> , 2018 , 448, 270-280	6.7 9
496	On the Generalized Thermal Conductance Characterizations of Mixed One-Dimensional-Two-Dimensional van der Waals Heterostructures and Their Implication for Pressure Sensors. 2018 , 10, 14221-14229	13
495	Review of thermal transport and electronic properties of borophene. 2018 , 27, 036303	18

494	Tunable ferroelectricity and anisotropic electric transport in monolayer EGeSe. <i>Physical Review B</i> , 2018 , 97,	3.3	49
493	Absorption and temperature effects on the tensile strength of a black phosphorus ribbon in argon environment. 2018 , 150, 15-23		5
492	Characterization of anisotropic thermal conductivity of suspended nm-thick black phosphorus with frequency-resolved Raman spectroscopy. 2018 , 123, 145104		15
491	Predictive modeling of intrinsic strengths for several groups of chemically related monolayers by a reference model. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 7604-7611	3.6	7
490	Thermal transport properties of monolayer phosphorene: a mini-review of theoretical studies. 2018 , 12, 87-96		2
489	Indentation response of two-dimensional materials mounted on different substrates. 2018 , 137, 96-104		12
488	Black phosphorene modified glassy carbon electrode for the sensitive voltammetric detection of rutin. 2018 , 811, 78-83		24
487	Stability, elastic and electronic properties of a novel BN sheet with extended hexagons with N-N bonds. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 135002	1.8	3
486	Interface engineering of CsPbI ₃ -black phosphorus van der Waals heterostructure. <i>Applied Physics Letters</i> , 2018 , 112, 043901	3.4	56
485	Exploring Two-Dimensional Materials toward the Next-Generation Circuits: From Monomer Design to Assembly Control. <i>Chemical Reviews</i> , 2018 , 118, 6236-6296	68.1	261
484	Efficient selection methods for black phosphorene nanoribbons. <i>Nanoscale</i> , 2018 , 10, 4385-4390	7.7	3
483	Reactive molecular dynamics simulations of the mechanical properties of various phosphorene allotropes. <i>Nanotechnology</i> , 2018 , 29, 195701	3.4	13
482	Thermal Transport in Phosphorene. 2018 , 14, e1702465		24
481	Closed-edged bilayer phosphorene nanoribbons producing from collapsing armchair phosphorene nanotubes. <i>Nanotechnology</i> , 2018 , 29, 085707	3.4	7
480	Ultrafast Laser-Shock-Induced Confined Metaphase Transformation for Direct Writing of Black Phosphorus Thin Films. 2018 , 30, 1704405		12
479	Engineering the Kondo state in two-dimensional semiconducting phosphorene. <i>Physical Review B</i> , 2018 , 97,	3.3	3
478	All-phosphorus flexible devices with non-collinear electrodes: a first principles study. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 7167-7172	3.6	7
477	Brittle-to-ductile transition in fracture of few-layered black phosphorus ribbons under uniaxial stretching. 2018 , 144, 210-215		2

476	Recent progress in 2D group-VA semiconductors: from theory to experiment. 2018 , 47, 982-1021		549
475	Mechanical Properties of 2D Materials Studied by In Situ Microscopy Techniques. 2018 , 5, 1701246		50
474	Optimal water adsorption on phosphorene. 2018 , 737, 365-371		13
473	Mechanical twinning in phosphorene. 2018 , 19, 15-19		7
472	Black Phosphorus and Polymeric Carbon Nitride Heterostructure for Photoinduced Molecular Oxygen Activation. 2018 , 28, 1705407		277
471	Optical Anisotropy of Few-Layer Black Phosphorus Visualized by Scanning Polarization Modulation Microscopy. 2018 , 5, 2509-2515		29
470	Prediction of two-dimensional nodal-line semimetals in a carbon nitride covalent network. 2018 , 6, 11252-11259		1
469	Compressive buckling of black phosphorene nanotubes: an atomistic study. 2018 , 5, 045024		1
468	Intriguing electronic insensitivity and high carrier mobility in monolayer hexagonal YN. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 4943-4951	7.1	20
467	Thermal Stability and Flexibility of Hydrogen Terminated Phosphorene Nanoflakes. 2018 , 122, 8535-8542		4
466	Nonlinear Optics with 2D Layered Materials. 2018 , 30, e1705963		309
465	Robust ferroelectricity in two-dimensional SbN and BiP. <i>Nanoscale</i> , 2018 , 10, 7984-7990	7.7	52
464	Thermal transport in phosphorene and phosphorene-based materials: A review on numerical studies. 2018 , 27, 036501		12
463	Strain-tunable charge carrier mobility of atomically thin phosphorus allotropes. <i>Physical Review B</i> , 2018 , 97,	3.3	17
462	Spotting the differences in two-dimensional materials - the Raman scattering perspective. 2018 , 47, 3217-3240		51
461	A new strategy for air-stable black phosphorus reinforced PVA nanocomposites. 2018 , 6, 7142-7147		28
460	Mechanical response of bilayer silicene nanoribbons under uniaxial tension.. <i>RSC Advances</i> , 2018 , 8, 10785-10793		93
459	Photocatalytic Activity of Phosphorene Derivatives: Coverage, Electronic, Optical, and Excitonic Properties. 2018 , 122, 7194-7202		7

458	Abnormal linear elasticity in polycrystalline phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 8668-8675	3.6	6
457	Density functional theory calculations of biomolecules adsorption on phosphorene for biomedical applications. <i>Applied Surface Science</i> , 2018 , 427, 1227-1234	6.7	25
456	The rising star of 2D black phosphorus beyond graphene: synthesis, properties and electronic applications. <i>2D Materials</i> , 2018 , 5, 014002	5.9	152
455	Tuning the electronic properties of bilayer group-IV monochalcogenides by stacking order, strain and an electric field: a computational study. <i>Physical Chemistry Chemical Physics</i> , 2017 , 20, 214-220	3.6	24
454	Co-doped phosphorene: Enhanced sensitivity of CO gas sensing. 2018 , 32, 1850068		9
453	Two-dimensional stoichiometric boron carbides with unexpected chemical bonding and promising electronic properties. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 1651-1658	7.1	23
452	Applications of Phosphorene and Black Phosphorus in Energy Conversion and Storage Devices. 2018 , 8, 1702093		272
451	Stability and electronic structure of two-dimensional arsenic phosphide monolayer. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2018 , 228, 206-212	3.1	14
450	Two-dimensional silicon crystals with sizable band gaps and ultrahigh carrier mobility. <i>Nanoscale</i> , 2018 , 10, 1265-1271	7.7	18
449	Thermal expansion producing easier formation of a black phosphorus nanotube from nanoribbon on carbon nanotube. <i>Nanotechnology</i> , 2018 , 29, 055603	3.4	4
448	Multifunctional Cellular Materials Based on 2D Nanomaterials: Prospects and Challenges. 2018 , 30, 1704850		30
447	Vibrational analysis of armchair phosphorene nanotubes by a DFT-based finite element model. 2018 , 18, 611-621		7
446	Tuning the electronic and optical properties of XP(X = Al,Ga) monolayer semiconductors using biaxial strain effect: Modified Becke-Johnson calculations. 2018 , 691, 181-189		13
445	Fraunhofer response and supercurrent spin switching in black phosphorus with strain and disorder. <i>Physical Review B</i> , 2018 , 98,	3.3	20
444	Strain-engineering the electronic properties and anisotropy of GeSe monolayers.. <i>RSC Advances</i> , 2018 , 8, 33445-33450	3.7	6
443	Black phosphorus: A novel nanoplatform with potential in the field of bio-photonic nanomedicine. 2018 , 11, 1830003		63
442	Quantifying the Exfoliation Ease Level of 2D Materials via Mechanical Anisotropy. 2018 , 30, 8732-8738		30
441	Electronic, optical property and carrier mobility of graphene, black phosphorus, and molybdenum disulfide based on the first principles. 2018 , 27, 118106		5

440	Enhanced Stability of Single-Layer w-Gallenene through Hydrogenation. 2018 , 122, 28302-28309		14
439	Initial Relative Position Influencing Self-Assembly of a Black Phosphorus Ribbon on a CNT. 2018 , 19,		6
438	Size and strain effects on mechanical and electronic properties of green phosphorene nanoribbons. 2018 , 8, 115124		3
437	Anisotropic Electron-Phonon Interactions in Angle-Resolved Raman Study of Strained Black Phosphorus. 2018 , 12, 12512-12522		25
436	Phosphorene as a nanoelectromechanical material. <i>Physical Review B</i> , 2018 , 98,	3-3	11
435	Stretching and Breaking of Ultrathin 2D Hybrid Organic-Inorganic Perovskites. 2018 , 12, 10347-10354		41
434	Electronic transport in a two-dimensional superlattice engineered via self-assembled nanostructures. 2018 , 2,		17
433	Application of black phosphorus nanodots to live cell imaging. 2018 , 22, 31		16
432	Probing the Physical Origin of Anisotropic Thermal Transport in Black Phosphorus Nanoribbons. 2018 , 30, e1804928		31
431	Beyond Graphene Anode Materials for Emerging Metal Ion Batteries and Supercapacitors. 2018 , 10, 70		78
430	Promise and Challenge of Phosphorus in Science, Technology, and Application. 2018 , 28, 1803471		49
429	Anisotropic Thermal Conductivity of Suspended Black Phosphorus Probed by Opto-Thermomechanical Resonance Spectromicroscopy. <i>Nano Letters</i> , 2018 , 18, 7683-7691	11.5	20
428	Adsorption of Transition Metals on Black Phosphorene: a First-Principles Study. 2018 , 13, 282		56
427	Phosphorus: The Allotropes, Stability, Synthesis, and Selected Applications. 2018 , 1-18		3
426	Tunable rectifying performance of in-plane metal-semiconductor junctions based on passivated zigzag phosphorene nanoribbons.. <i>RSC Advances</i> , 2018 , 8, 31255-31260	3-7	1
425	Mechanical and Chemical Stability of Monolayer Black Phosphorous Studied by Density Functional Theory Simulations. 2018 , 122, 22366-22373		11
424	Recent Progress on Black Phosphorus-Based Materials for Photocatalytic Water Splitting. 2018 , 2, 1800212		37
423	Structural evolution and photoluminescence properties of a 2D hybrid perovskite under pressure. 2018 , 6, 114201		21

422	Tailoring the mechanical properties of 2D materials and heterostructures. <i>2D Materials</i> , 2018 , 5, 032005	5.9	76
421	Double band-inversions of bilayer phosphorene under strain and their effects on optical absorption. 2018 , 27, 047303		1
420	Synthesis and Characterization of Phosphorene: A Novel 2D Material. 2018 , 61-92		0
419	Tunable optical and excitonic properties of phosphorene via oxidation. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 255703	1.8	11
418	Versatile mechanical properties of novel g-SiC monolayers from graphene to silicene: a first-principles study. <i>Nanotechnology</i> , 2018 , 29, 315701	3.4	16
417	Tuning the optical properties of phosphorene by adsorption of alkali metals and halogens. 2018 , 50, 1		7
416	Oxidation-induced negative Poisson's ratio of phosphorene. <i>Journal of Physics Condensed Matter</i> , 2018 , 30, 315302	1.8	3
415	First-principles study on electronic and magnetic and optical properties of rare-earth metals (RE = La, Ce, Nd) doped phosphorene. 2018 , 529, 80-89		3
414	Recent Progress and Future Prospects of 2D-Based Photodetectors. 2018 , 30, e1801164		221
413	Strain engineering of antimonene by a first-principles study: Mechanical and electronic properties. <i>Physical Review B</i> , 2018 , 98,	3.3	50
412	Penta-PtN: an ideal two-dimensional material for nanoelectronics. <i>Nanoscale</i> , 2018 , 10, 16169-16177	7.7	30
411	Electronic and mechanical properties of few-layer borophene. <i>Physical Review B</i> , 2018 , 98,	3.3	55
410	Energy-loss function for monolayer phosphorene. <i>Journal of Materials Science</i> , 2018 , 53, 15541-15548	4.3	3
409	Synthesis of hexagonal boron nitride heterostructures for 2D van der Waals electronics. 2018 , 47, 6342-6369		80
408	Exploiting Inherent Instability of 2D Black Phosphorus for Controlled Phosphate Release from Blow-Spun Poly(lactide-co-glycolide) Nanofibers. <i>ACS Applied Nano Materials</i> , 2018 , 1, 4190-4197	5.6	10
407	Black phosphorus quantum dots: synthesis, properties, functionalized modification and applications. 2018 , 47, 6795-6823		168
406	Modulating the electronic and magnetic properties of bilayer borophene via transition metal atoms intercalation: from metal to half metal and semiconductor. <i>Nanotechnology</i> , 2018 , 29, 305706	3.4	11
405	Drastic Improvement in Gas-Sensing Characteristics of Phosphorene Nanosheets under Vacancy Defects and Elemental Functionalization. 2018 , 122, 20186-20193		41

404	Theoretical discovery of novel two-dimensional V-N binary compounds with auxiticity. <i>Physical Chemistry Chemical Physics</i> , 2018 , 20, 22027-22037	3.6	35
403	Mechanical properties of pristine and defective carbon-phosphide monolayers: a density functional tight-binding study. <i>Nanotechnology</i> , 2018 , 29, 435707	3.4	6
402	Strain-engineered Majorana zero energy modes and $\bar{0}$ Josephson state in black phosphorus. <i>Physical Review B</i> , 2018 , 98,	3.3	32
401	Half-metallicity in two-dimensional Co ₂ Se ₃ monolayer with superior mechanical flexibility. <i>2D Materials</i> , 2018 , 5, 045026	5.9	22
400	Bandgap modulation of partially chlorinated graphene (C ₄ Cl) nanosheets via biaxial strain and external electric field: a computational study. 2018 , 124, 1		11
399	Adsorption Induced Indirect-to-Direct Band Gap Transition in Monolayer Blue Phosphorus. 2018 , 122, 15792-15798		9
398	Phosphorene/ZnO Nano-Heterojunctions for Broadband Photonic Nonvolatile Memory Applications. 2018 , 30, e1801232		68
397	Single-atom vacancy in monolayer phosphorene: A comprehensive study of stability and magnetism under applied strain. 2018 , 465, 546-553		2
396	Flexible integrated black phosphorus sensor arrays for high performance ion sensing. 2018 , 273, 358-364		30
395	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
394	Structures, Properties and Applications of 2D Materials. 2019 , 19-51		2
393	Rational design of graphitic-inorganic Bi-layer artificial SEI for stable lithium metal anode. 2019 , 16, 426-433		64
392	Strain-tunable CO storage by black phosphorene and $\bar{0}$ PC from combined first principles and molecular dynamics studies. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 20107-20117	3.6	7
391	Highly Anisotropic Mechanical and Optical Properties of 2D Layered AsS Membranes. 2019 , 13, 10845-10851		34
390	Auxetic BN Monolayer: A Promising 2D Material with in-Plane Negative Poisson's Ratio and Large Anisotropic Mechanics. 2019 , 11, 33231-33237		19
389	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
388	On the elasticity and piezoelectricity of black(blue) phosphorus/ZnO van der Waals heterostructures. 2019 , 169, 109134		10
387	Recent progress in black phosphorus and black-phosphorus-analogue materials: properties, synthesis and applications. <i>Nanoscale</i> , 2019 , 11, 14491-14527	7.7	149

386	Black phosphorus-based polyvinylidene fluoride nanocomposites: Synthesis, processing and characterization. 2019 , 175, 107165		20
385	Two-dimensional layered materials: from mechanical and coupling properties towards applications in electronics. <i>Nanoscale</i> , 2019 , 11, 13181-13212	7-7	47
384	Puckered arsenene single-walled nanotubes: Stability, geometry, and electronic properties. 2019 , 169, 109108		4
383	Tuning Two-Dimensional Hyperbolic Plasmons in Black Phosphorus. 2019 , 12,		23
382	Effective thickness and mechanical properties of ϵ phases of two-dimensional pnictogen nanosheets. 2019 , 21, 1		4
381	Synthesis, Characterization, and Properties of Graphene Analogs of 2D Material. 2019 , 91-143		7
380	Improved Dreiding force field for single layer black phosphorus. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 16804-16817	3.6	7
379	Tungsten disulfide-chitosan film as optical pulse and amplitude modulator in C-band region. 2019 , 29, 105102		4
378	Temperature-dependent mechanical properties of black and blue phosphorene by molecular dynamics simulations. 2019 , 6, 115043		3
377	Superior Mechanical and Electronic Properties of Novel 2D Allotropes of As and Sb Monolayers. 2019 , 123, 27214-27221		5
376	Electronic and structural properties of black phosphorene doped with Si, B and N. 2019 , 383, 125945		4
375	Design of Phosphorene for Hydrogen Evolution Performance Comparable to Platinum. 2019 , 31, 8948-8956		37
374	A coarse-grained model for mechanical behavior of phosphorene sheets. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 1884-1894	3.6	7
373	High capacity, power density and cycling stability of silicon Li-ion battery anodes with a few layer black phosphorus additive. 2019 , 3, 245-250		16
372	First-principles study on the mechanical properties of M ₂ CT ₂ (M = Ti, Zr, Hf; T = O, F, OH) MXenes. 2019 , 30, 1		2
371	Optical properties of anisotropic excitons in phosphorene. <i>Physical Review B</i> , 2019 , 100,	3-3	7
370	Spectral Responsivity and Photoconductive Gain in Thin Film Black Phosphorus Photodetectors. 2019 , 6, 3092-3099		12
369	First-Principles Mapping of the Electronic Properties of Two-Dimensional Materials for Strain-Tunable Nanoelectronics. <i>ACS Applied Nano Materials</i> , 2019 , 2, 5614-5624	5.6	11

368	Tuning the electronic structure of 2D materials by strain and external electric field: Case of Ge12 monolayer. 2019 , 527, 110499		40
367	Triaxial strain engineering of magnetic phase in phosphorene. 2019 , 126, 063902		3
366	Synthesis of high-quality black phosphorus sponges for all-solid-state supercapacitors. 2019 , 6, 176-181		39
365	Atomically thin NiB monolayer: a robust Dirac material. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 617-622	3.6	17
364	Negative Poisson's ratio in monolayer PdSe2. 2019 , 160, 309-314		16
363	Prospects for experimental realization of two-dimensional aluminium allotropes. <i>Journal of Materials Chemistry C</i> , 2019 , 7, 2666-2675	7.1	15
362	Monitoring the crystal orientation of black-arsenic via vibrational spectra. <i>Journal of Materials Chemistry C</i> , 2019 , 7, 1228-1236	7.1	9
361	A novel hydrogenated boron-carbon monolayer with high stability and promising carrier mobility. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 2572-2577	3.6	6
360	Strain engineering of optical activity in phosphorene.. <i>RSC Advances</i> , 2019 , 9, 19006-19015	3.7	17
359	Stable, one-dimensional suspended and supported monatomic chains of pnictogens: a metal-insulator framework. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 14832-14845	3.6	4
358	Strain engineered linear dichroism and Faraday rotation in few-layer phosphorene. <i>Applied Physics Letters</i> , 2019 , 114, 243102	3.4	11
357	Optical interband transitions in strained phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 15133-15141	3.6	11
356	Optoelectronic properties of new direct bandgap polymorphs of single-layered Germanium sulfide. 2019 , 45, 18073-18078		17
355	Production of large-area 2D materials for high-performance photodetectors by pulsed-laser deposition. 2019 , 106, 100573		94
354	Anisotropic buckling of few-layer black phosphorus. <i>Nanoscale</i> , 2019 , 11, 12080-12086	7.7	18
353	Perfect planar tetra-coordinated MC monolayer: superior anode material for Li-ion battery. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 15187-15194	3.6	9
352	Anisotropic thermal expansion and thermodynamic properties of monolayer BiTe . <i>Physical Review B</i> , 2019 , 99,	3.3	17
351	2D Elemental Nanomaterials Beyond Graphene. 2019 , 5, 1062-1091		37

350	Interfacial Interactions and Enhanced Optoelectronic Properties in CsSnI ₃ /Black Phosphorus van der Waals Heterostructures. <i>Physica Status Solidi (B): Basic Research</i> , 2019 , 256, 1800540	1.3	30
349	Two-dimensional pnictogens: A review of recent progresses and future research directions. 2019 , 6, 021308		97
348	Elastic properties and intrinsic strength of two-dimensional InSe flakes. <i>Nanotechnology</i> , 2019 , 30, 3357034		16
347	First-principles prediction of a new ground state for surface-oxidized phosphorene with remarkable piezoelectricity. 2019 , 52, 295301		
346	Black Phosphorus-New Nanostructured Material for Humidity Sensors: Achievements and Limitations. 2019 , 19,		17
345	Flexible, auxetic and strain-tunable two dimensional penta-X ₂ C family as water splitting photocatalysts with high carrier mobility. 2019 , 7, 7791-7799		32
344	Preparations, properties and applications of low-dimensional black phosphorus. 2019 , 370, 120-135		46
343	Highly anisotropic thermoelectric properties of carbon sulfide monolayers. <i>Journal of Physics Condensed Matter</i> , 2019 , 31, 125501	1.8	2
342	Methane adsorption on strained 1T'-MoS ₂ monolayer: insights from density functional theory calculations. 2019 , 6, 065512		5
341	Structural and Electronic Properties of Double-Walled Black Phosphorene Nanotubes: A Density Functional Theory Study. 2019 , 123, 7217-7224		10
340	Two-dimensional black phosphorus: physical properties and applications. <i>Materials Today Physics</i> , 2019 , 8, 92-111	8	42
339	Control of superconducting pairing symmetries in monolayer black phosphorus. <i>Physical Review B</i> , 2019 , 99,	3.3	14
338	Mechanical properties characterization of two-dimensional materials via nanoindentation experiments. 2019 , 103, 558-595		37
337	Review of borophene and its potential applications. 2019 , 14, 1		115
336	New Phosphorene by Phase Combination with Tunable Electronic and Mechanical Properties. 2019 , 123, 10788-10794		9
335	Dominant in-plane cleavage direction of CrPS ₄ . 2019 , 162, 277-280		3
334	Strain effects on the mechanical properties of Group-V monolayers with buckled honeycomb structures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2019 , 112, 59-65	3	15
333	Proximity-Induced Colossal Conductivity Modulation in Phosphorene. 2019 , 11,		17

332	Tensile strain effects on C4N3H monolayer: Large Poisson's ratio and robust Dirac cone. <i>Applied Physics Letters</i> , 2019 , 114, 073106	3-4	5
331	Elastic Anisotropy and Optic Isotropy in Black Phosphorene/Transition-Metal Trisulfide van der Waals Heterostructures. 2019 , 4, 4101-4108		10
330	The impact of hexagonal boron nitride encapsulation on the structural and vibrational properties of few layer black phosphorus. <i>Nanotechnology</i> , 2019 , 30, 195201	3-4	13
329	Phosphorene: A promising metal free cathode material for proton exchange membrane fuel cell. <i>Applied Surface Science</i> , 2019 , 479, 590-594	6-7	21
328	Study on the strain-induced mechanical property modulations in monolayer Tellurene. 2019 , 125, 064304		29
327	Control of highly anisotropic electrical conductance of tellurene by strain-engineering. <i>Nanoscale</i> , 2019 , 11, 21775-21781	7-7	8
326	Single-step exfoliation of black phosphorus and deposition of phosphorene via bipolar electrochemistry for capacitive energy storage application. 2019 , 7, 25548-25556		26
325	Emerging two-dimensional noncarbon nanomaterials for flexible lithium-ion batteries: opportunities and challenges. 2019 , 7, 25227-25246		30
324	Two-dimensional group-VA nanomaterials beyond black phosphorus: synthetic methods, properties, functional nanostructures and applications. 2019 , 7, 25712-25771		34
323	Oxidized Silicon Sulfide: Stability and Electronic Properties of a Novel Two-Dimensional Material. 2019 , 123, 29986-29993		2
322	Introduction and Characterization of Phosphorus Nanomaterials. 2019 , 27-45		2
321	Strain-driven superplasticity of ultrathin tin (II) oxide films and the modulation of their electronic properties: A first-principles study. <i>Physical Review B</i> , 2019 , 100,	3-3	8
320	Prediction of a flexible anode material for Li/Na ion batteries: Phosphorous carbide monolayer (P ₂ C). 2019 , 141, 444-450		40
319	Mechanically-Controllable Strong 2D Ferroelectricity and Optical Properties of Semiconducting BiN Monolayer. <i>ACS Applied Nano Materials</i> , 2019 , 2, 58-63	5-6	9
318	Adsorption and decomposition of metal decorated phosphorene toward H ₂ S, HCN and NH ₃ molecules. <i>Applied Surface Science</i> , 2019 , 473, 242-250	6-7	22
317	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
316	Impacts of in-plane strain on commensurate graphene/hexagonal boron nitride superlattices. 2019 , 565, 33-39		3
315	Electronic, transport, and optical properties of atomically thin silicon phosphide: first-principles calculations. 2019 , 6, 026428		4

314	Tunable rectification and negative differential resistance induced by asymmetric doping in phosphorene nanoribbon. 2019 , 383, 369-375	6
313	Raman Spectroscopy of Anisotropic Two-Dimensional Materials. 2019 , 53-80	3
312	Two-Dimensional Anode Materials for Non-lithium Metal-Ion Batteries. 2019 , 2, 932-955	49
311	Black phosphorus, a prospective graphene substitute for biomedical applications. 2019 , 97, 978-993	83
310	Strain-engineering the anisotropic electrical properties of low-symmetry bilayer GeSe. 2019 , 125, 082524	4
309	Unique mechanical responses of layered phosphorus-like group-IV monochalcogenides. 2019 , 125, 082519	5
308	Superior Sensing Properties of Black Phosphorus as Gas Sensors: A Case Study on the Volatile Organic Compounds. 2019 , 2, 1800103	38
307	Size-dependent interface thermal conductance in black phosphorus/SiO ₂ heterojunctions. 2019 , 52, 025302	2
306	Atomistic insights into mechanical and thermal properties of stanene with defects. 2019 , 553, 127-136	13
305	Oxidation effect on elastic behavior of phosphorene. 2019 , 130, 13-18	2
304	Anisotropic Quantum Well Electro-Optics in Few-Layer Black Phosphorus. <i>Nano Letters</i> , 2019 , 19, 269-276	30
303	Mechanical properties of two-dimensional materials and their applications. 2019 , 52, 083001	53
302	Tensile mechanical properties and fracture behavior of monolayer InSe under axial tension. 2019 , 158, 340-345	10
301	Recent progress on graphene-analogous 2D nanomaterials: Properties, modeling and applications. 2019 , 100, 99-169	160
300	Finite element modeling of the indentation behavior of two-dimensional materials. 2019 , 230, 1367-1376	6
299	Mechanical flexibility and strain engineered-band structures of monolayer Bi ₂ O ₂ Se. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020 , 116, 113728	3 6
298	Thermal Transport in 2D Semiconductors—Considerations for Device Applications. 2020 , 30, 1903929	41
297	The Optical Properties and Plasmonics of Anisotropic 2D Materials. 2020 , 8, 1900996	39

296	2 D MXene-based Energy Storage Materials: Interfacial Structure Design and Functionalization. 2020 , 13, 1409-1419		43
295	Black Phosphorus-Based Semiconductor Heterojunctions for Photocatalytic Water Splitting. 2020 , 26, 4449-4460		20
294	Electronic structure of bulk and multilayer black phosphorus under strain: a minimal model study. 2020 , 95, 035805		
293	Adjustable electronic, optical and photocatalytic properties of black phosphorene by nonmetal doping. <i>Applied Surface Science</i> , 2020 , 505, 144488	6.7	7
292	Evolution of Phosphorene Sheets through Direct Crystallization of Thin-Film Red Phosphorus. 2020 , 14, 1900432		3
291	Strain-engineered BlueP-MoS van der Waals heterostructure with improved lithiation/sodiation for LIBs and SIBs. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 1701-1714	3.6	9
290	Tuning electronic and optical properties of free-standing Sn ₂ Bi monolayer stabilized by hydrogenation. 2020 , 127, 014302		18
289	Antimonene/bismuthene vertical Van-der Waals heterostructure: A computational study. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020 , 118, 113914	3	13
288	Numerical study of thermal conductivity based on phosphorene anisotropy: Including [110] direction and related phosphorus nanotubes. <i>Materials Today Communications</i> , 2020 , 22, 100814	2.5	2
287	Recent Advances in Chemical Functionalization of 2D Black Phosphorous Nanosheets. 2020 , 7, 1902359		44
286	Black phosphorus: Light-matter interactions and potential applications. 2020 , 159-173		1
285	Mechanically Tunable Near-Field Radiative Heat Transfer between Monolayer Black Phosphorus Sheets. 2020 , 36, 12038-12044		8
284	RETRACTED: Tailoring the electronic and optical properties of SnSe ₂ /InS van der Waals heterostructures by the biaxial strains. 2020 , 384, 126909		19
283	Versatile two-dimensional boron monosulfide polymorphs with tunable bandgaps and superconducting properties. <i>Applied Physics Letters</i> , 2020 , 117, 013103	3.4	11
282	2D BeP monolayer: investigation of electronic and optical properties by driven modulated strain.. <i>RSC Advances</i> , 2020 , 10, 26804-26812	3.7	5
281	Borophene: New Sensation in Flatland. 2020 , 32, e2000531		41
280	Tuning the mechanical and electronic properties and carrier mobility of phosphorene via family atom doping: a first-principles study. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 14902-14909	7.1	6
279	Advancements in Therapeutics via 3D Printed Multifunctional Architectures from Dispersed 2D Nanomaterial Inks. 2020 , 16, e2004900		12

278	Anisotropic basic electronic properties of strained black phosphorene. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020 , 124, 114323	3	5
277	Janus two-dimensional materials based on group IV monochalcogenides. 2020 , 128, 045115		14
276	Prediction of Intrinsic Ferroelectricity and Large Piezoelectricity in Monolayer Arsenic Chalcogenides. <i>Nano Letters</i> , 2020 , 20, 8346-8352	11.5	9
275	Two-Dimensional Black Phosphorus Nanomaterials: Emerging Advances in Electrochemical Energy Storage Science. 2020 , 12, 179		34
274	Anisotropic Stark shift, field-induced dissociation, and electroabsorption of excitons in phosphorene. <i>Physical Review B</i> , 2020 , 102,	3.3	3
273	Gap-Plasmon Induced One-Order Enhancement of Optical Anisotropy of 2D Black Phosphorus. 2020 , 1, 2000010		3
272	Two-Dimensional Boron Phosphorus Monolayer for Reversible NO ₂ Gas Sensing. <i>ACS Applied Nano Materials</i> , 2020 , 3, 10073-10081	5.6	17
271	High elastic moduli, controllable bandgap and extraordinary carrier mobility in single-layer diamond. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 13819-13826	7.1	10
270	First-principles study of two dimensional CN and its derivatives.. <i>RSC Advances</i> , 2020 , 10, 33469-33474	3.7	2
269	Anisotropic properties of monolayer 2D materials: An overview from the C2DB database. 2020 , 128, 105101		6
268	Two-Dimensional Direct Semiconductor Boron Monochalcogenide BTe: Room-Temperature Single-Bound Exciton and Novel Donor Material in Excitonic Solar Cells. 2020 , 12, 58349-58359		2
267	Largely Enhanced Photogalvanic Effects in a Phosphorene Photodetector by Strain-Increased Device Asymmetry. 2020 , 14,		8
266	Study on the transport properties of borophene/phosphorene heterojunctions. 2020 , 9, 985-990		1
265	2D Materials and Heterostructures at Extreme Pressure. 2020 , 7, 2002697		23
264	Layer Dependence of Dielectric Response and Water-Enhanced Ambient Degradation of Highly Anisotropic Black As. 2020 , 14, 5988-5997		5
263	Theoretical anchoring effect of new phosphorus allotropes for lithium-sulfur batteries. <i>Nanoscale</i> , 2020 , 12, 11095-11111	7.7	7
262	Assessment of the vibrational resonant frequency of anisotropic black phosphorus nanoribbon. 2020 , 53, 325307		1
261	Why is Single-Layer MoS ₂ a More Energy Efficient Membrane for Water Desalination?. 2020 , 5, 2217-2222		26

260	Synthesis Techniques, Optoelectronic Properties, and Broadband Photodetection of Thin-Film Black Phosphorus. 2020 , 8, 2000045		18
259	Identifying the Crystalline Orientation of Mechanically Exfoliated Anisotropic Layered Materials through Their Morphologies. 2020 , 7, 2000612		4
258	Two-Dimensional Black Phosphorus: An Emerging Anode Material for Lithium-Ion Batteries. 2020 , 12, 120		26
257	Band gap engineering of monolayer ZrGeTe ₄ via strain: A first-principles study. 2020 , 253, 123308		4
256	Large positive and negative magnetoresistance in armchair phosphorene nanoribbons. 2020 , 384, 126641		0
255	Strain-engineered p-type to n-type transition in mono-, bi-, and tri-layer black phosphorene. 2020 , 127, 225703		4
254	Thermodynamic, Structural, and Piezoelectric Properties of Adatom-Doped Phosphorene and Its Applications in Smart Surfaces. 2020 , 13,		4
253	Emerging 2D pnictogens for catalytic applications: status and challenges. 2020 , 8, 12887-12927		17
252	Stable halogen 2D materials: the case of iodine and astatine. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 335301	1.8	1
251	Synthesis, properties, and applications of 2D amorphous inorganic materials. 2020 , 127, 220901		6
250	Surface assimilation studies of ethyl methyl sulfide on gamma phosphorene sheets ▯ DFT outlook. 2020 , 118, e1774089		12
249	Analytical study on strain tunable electronic structure and optical transitions in armchair black phosphorene nanoribbons. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 285301	1.8	3
248	Mechanical, electronic and optical properties of bulk and monolayer GeSe ₂ . 2020 , 34, 2050034		2
247	Review of graphene modulators from the low to the high figure of merits. 2020 , 53, 233002		12
246	High-performance phosphorene electromechanical actuators. 2020 , 6,		8
245	Twisted monolayer black phosphorus nanoribbons: Tunable electronic and optical properties. 2020 , 127, 094303		6
244	Elasticity, piezoelectricity, and mobility in two-dimensional BiTeI from a first-principles study. 2020 , 53, 245301		8
243	Auxetic Tetrahex Carbon with Ultrahigh Strength and a Direct Band Gap. 2020 , 13,		13

242	Optical and mechanical properties and electron-phonon interaction in graphene doped with metal atoms. 2020 , 52, 1		
241	2D tetragonal transition-metal phosphides: an ideal platform to screen metal shrouded crystals for multifunctional applications. <i>Nanoscale</i> , 2020 , 12, 6776-6784	7.7	11
240	High-performance III-VI monolayer transistors for flexible devices. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 7039-7047	3.6	3
239	Large thermoelectric figure of merit in hexagonal phase of 2D selenium and tellurium. 2020 , 120, e26267		8
238	Hydrogen Sensors Using 2-Dimensional Materials: A Review. 2020 , 5, 7277-7297		12
237	Comparative investigation of the thermal transport properties of Janus SnSSe and SnS monolayers. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 16796-16803	3.6	10
236	Mechanical response of β -layered borophene: impact of strain, temperature, vacancies and intercalation. 2020 , 90, 30401		0
235	Stability, electronic and mechanical properties of chalcogen (Se and Te) monolayers. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 5749-5755	3.6	11
234	Electronic, quantum transport and optical properties analysis of doped phosphorene sheet. 2020 , 1-19		0
233	Highly Selective Adsorption on SiSe Monolayer and Effect of Strain Engineering: A DFT Study. 2020 , 20,		2
232	Superior stiffness and vibrational spectroscopic signature of two-dimensional diamond-like carbon nitrides. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020 , 119, 114007	3	2
231	Identifying the Molecular Edge Termination of Exfoliated Hexagonal Boron Nitride Nanosheets with Solid-State NMR Spectroscopy and Plane-Wave DFT Calculations. 2020 , 32, 3109-3121		22
230	Abnormally low thermal conductivity of 2D selenene: An ab initio study. 2020 , 127, 065103		11
229	Property-Activity Relationship of Black Phosphorus at the Nano-Bio Interface: From Molecules to Organisms. <i>Chemical Reviews</i> , 2020 , 120, 2288-2346	68.1	73
228	Strain-tunable band alignment of blue phosphorus WX_2 (X = S/Se/Te) vertical heterostructures: from first-principles study. 2020 , 126, 1		3
227	Studies of band structures and electrical properties of uniaxially strained phosphorene by a simplified two-band $k\cdot p$ method. 2020 , 35, 045002		
226	Controlled nanostructures and simultaneous passivation of black phosphorus (phosphorene) with Nafion. 2020 , 35, 141-152		5
225	Binding patterns and dynamics of double-stranded DNA on the phosphorene surface. <i>Nanoscale</i> , 2020 , 12, 9430-9439	7.7	11

224	Emerging pnictogen-based 2D semiconductors: sensing and electronic devices. <i>Nanoscale</i> , 2020 , 12, 10430-10445		
223	Mid-infrared Polarized Emission from Black Phosphorus Light-Emitting Diodes. <i>Nano Letters</i> , 2020 , 20, 3651-3655	11.5	38
222	Enhanced carrier mobility in anisotropic two-dimensional tetrahex-carbon through strain engineering. 2020 , 165, 37-44		10
221	Black phosphorus as a versatile nanoplatform: From unique properties to biomedical applications. 2020 , 13, 2030008		8
220	Novel green phosphorene as a superior chemical gas sensing material. 2021 , 401, 123340		32
219	Borophene-based biomedical applications: Status and future challenges. 2021 , 427, 213549		21
218	A review on the 2D black phosphorus materials for energy applications. 2021 , 124, 108242		8
217	Investigating elastic and plastic characteristics of monolayer phosphorene under atomic adsorption by the density functional theory. 2021 , 600, 412603		10
216	Highly anisotropic electronic and mechanical properties of monolayer and bilayer As ₂ S ₃ . <i>Applied Surface Science</i> , 2021 , 542, 148665	6.7	4
215	Two dimensional honeycomb-kagome BePb: a mechanically flexible topological insulator with high intrinsic carrier mobilities. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 1292-1297	3.6	1
214	Thermo-mechanical correlation in two-dimensional materials. <i>Nanoscale</i> , 2021 , 13, 1425-1442	7.7	27
213	Numerical investigation of excitonic resonances of few-layer black phosphorus based on field enhancement. <i>Journal of Materials Science</i> , 2021 , 56, 6227-6234	4.3	
212	Ab initio design of a new family of 2D materials: transition metal carbon nitrogen compounds (MCNs). <i>Journal of Materials Chemistry C</i> , 2021 , 9, 4748-4756	7.1	2
211	Bonding, structure, and mechanical stability of 2D materials: the predictive power of the periodic table. 2021 , 6, 856-892		4
210	Emerging beyond-graphene elemental 2D materials for energy and catalysis applications. 2021 , 50, 10983-11031		31
209	A new 2D auxetic CN nanostructure with high energy density and mechanical strength. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 4353-4364	3.6	3
208	Flexible ferroelasticity in monolayer PdS: a DFT study. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 10551-10559		39
207	Critical role of the bending stiffness of the monolayer black phosphorus in its mechanical behaviors: molecular dynamics simulation. <i>Nanotechnology</i> , 2021 , 32, 145701	3.4	0

206	Non-equilibrium band broadening, gap renormalization and band inversion in black phosphorus. <i>2D Materials</i> , 2021 , 8, 025020	5.9	5
205	AgS monolayer: an ultrasoft inorganic Lieb lattice. <i>Nanoscale</i> , 2021 , 13, 14008-14015	7.7	1
204	Load-dependent energy dissipation induced by the tip-membrane friction on suspended 2D materials. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 19819-19826	3.6	0
203	Phase diagram and superlattice structures of monolayer phosphorus carbide (PxC1 $\sqrt{3}$). <i>Physical Review Materials</i> , 2021 , 5,	3.2	1
202	Unique Omnidirectional Negative Poisson's Ratio in $\sqrt{3}$ Phase Carbon Monochalcogenides. 2021 , 125, 4133-4138		21
201	INTRODUCTION TO TWO-DIMENSIONAL MATERIALS. 2021 , 28, 2140005		6
200	Exploring the transport and optoelectronic properties of silicon diselenide monolayer. 2021 , 150, 106813		3
199	Systematic competition between strain and electric field stimuli in tuning EELS of phosphorene. 2021 , 11, 3716		1
198	First-principles study of two-dimensional puckered and buckled honeycomb-like carbon sulfur systems. 2021 , 20, 759-774		
197	Identification of DNA bases using nanopores created in finite-size nanoribbons from graphene, phosphorene, and silicene. 2021 , 11, 035324		4
196	Structural Defects, Mechanical Behaviors, and Properties of Two-Dimensional Materials. <i>Materials</i> , 2021 , 14,	3.5	7
195	Anisotropic phonon thermal transport in nitrophosphorene monolayer. <i>Physical Review Materials</i> , 2021 , 5,	3.2	3
194	First-principles study of strain effect on elastic and optical properties and lattice thermal conductivity of Janus ZrBrCl monolayer. <i>Materials Today Communications</i> , 2021 , 26, 101995	2.5	2
193	Dirac Semimetals in Homogeneous Holey Carbon Nitride Monolayers. 2021 , 125, 6082-6089		3
192	Electronic Structure Modification of Rectangular Phosphorene Quantum Dots Via Edge Passivation. 2021 , 125, 5029-5036		3
191	Materials and technologies for multifunctional, flexible or integrated supercapacitors and batteries. 2021 , 48, 176-176		17
190	In-plane anisotropic optical and mechanical properties of two-dimensional MoO ₃ . 2021 , 5,		9
189	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

188	First-principles studies of the strain-induced band-gap tuning in black phosphorene. <i>Journal of Physics Condensed Matter</i> , 2021 , 33,	1.8	1
187	Layer-Dependent Electronic and Optical Properties of 2D Black Phosphorus: Fundamentals and Engineering. 2021 , 15, 2000399		8
186	Mechanical strength and flexibility in [Formula: see text]-4H borophene. 2021 , 11, 7547		4
185	Silica optical fiber integrated with two-dimensional materials: towards opto-electro-mechanical technology. 2021 , 10, 78		17
184	The Emergence and Evolution of Borophene. 2021 , 8, 2001801		19
183	2D Materials for Skin-Mountable Electronic Devices. 2021 , 33, e2005858		17
182	Defects and Strain Engineering of Structural, Elastic, and Electronic Properties of Boron-Phosphide Monolayer: A Hybrid Density Functional Theory Study. 2021 , 11,		3
181	Black Phosphorus Nanostructure Based Highly Sensitive and Selective Surface Plasmon Resonance Sensor for Biological and Chemical Sensing: A Review. 2021 , 1-26		4
180	Surface architected black phosphorous nanoconstructs based smart and versatile platform for cancer theranostics. 2021 , 435, 213826		10
179	Computational study of HS adsorption on the pristine and transitional metal-doped phosphorene. <i>Journal of Molecular Modeling</i> , 2021 , 27, 181	2	2
178	Strain-engineering on mechanical and electronic properties of group IV-V two-dimensional semiconductors.		0
177	Tuning optical and electronic properties of 2D ZnI ₂ /CdS heterostructure by biaxial strains for optical nanodevices: A first-principles study. 2021 , 129, 225104		17
176	Temperature-Dependent Phonon Shifts in van der Waals Crystals. 2021 , 12, 5261-5270		10
175	Two-dimensional phosphorus-based binary nanosheets for photocatalyzing water splitting: A first-principles study. 2021 , 772, 138594		2
174	In-Plane Mechanical Properties of Two-Dimensional Hybrid Organic-Inorganic Perovskite Nanosheets: Structure-Property Relationships. 2021 , 13, 31642-31649		4
173	Mechanical and electrical properties of borophene and its band structure modulation via strain and electric fields: a first-principles study. 2021 , 8, 065003		4
172	New stable two dimensional silicon carbide nanosheets. 2021 , 868, 159201		3
171	Controllable phosphorene filter for water desalination by tuning the in-plane strain. 2021 , 346, 117081		1

170	Structure Dependent Water Transport in Membranes Based on Two-Dimensional Materials. 2021 , 60, 10917-10959		3
169	A novel topological crystalline insulator in planar pentacoordinate OsS ₂ monolayer. 2021 , 547, 111199		0
168	Strain effects on monolayer MoSi ₂ N ₄ : Ideal strength and failure mechanism. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021 , 131, 114753	3	7
167	Engineering Anisotropic Klein Tunneling in Black Phosphorene through Elemental Substitution. <i>Physica Status Solidi (B): Basic Research</i> , 2021 , 258, 2100071	1.3	1
166	Anisotropy of two-dimensional ReS ₂ and advances in its device application. 2021 , 40, 3357-3374		10
165	Recent progress of black phosphorus and its emerging multifunction applications in biomedicine. 2021 , 4, 042004		1
164	Two-Dimensional Protective Layers of MX ₃ to Stabilize Lithium and Sodium Metal Anodes. 2021 , 4, 8653-8659		0
163	Experimental and molecular dynamics studies of an ultra-fast sequential hydrogen plasma process for fabricating phosphorene-based sensors. 2021 , 11, 16076		1
162	Highly sensitive gas sensing platforms based on field effect Transistor-A review. 2021 , 1172, 338575		9
161	Single-Layer Zirconium Dihalides ZrX (X = Cl, Br, and I) with Abnormal Ferroelastic Behavior and Strong Anisotropic Light Absorption Ability. 2021 , 12, 7726-7732		3
160	A stable nanosilver decorated phosphorene nanozyme with phosphorus-doped porous carbon microsphere for intelligent sensing of 8-hydroxy-2'-deoxyguanosine. 2021 , 895, 115522		3
159	Remarkable-cycling-performance anode for Li-ion battery: The bilayer bismuthene. 2021 , 388, 138641		0
158	A first principles investigation on the structural, mechanical, electronic, and catalytic properties of biphenylene. 2021 , 11, 19008		24
157	Multiorbital edge and corner states in black phosphorene. <i>Physical Review B</i> , 2021 , 104,	3.3	1
156	Ultrasensitive and label-free electrochemical aptasensor based on carbon dots-black phosphorus nanohybrid for the detection of Ochratoxins A. 2021 , 168, 106378		4
155	Interaction studies of dichlobenil and isoproturon on square-octagon phosphorene nanotube based on DFT frame work. 2021 , 778, 138773		17
154	Two-Dimensional Auxetic GeSe ₂ Material with Ferroelasticity and Flexoelectricity. 2021 , 125, 19666-19672		2
153	Adjustable electro-optical properties of novel graphene-like SiC ₂ via strain engineering. <i>Applied Surface Science</i> , 2021 , 559, 149956	6.7	16

152	Atomic-Scale Friction of Black and Violet Phosphorus Crystals: Implications for Phosphorus-Based Devices and Lubricants. <i>ACS Applied Nano Materials</i> , 2021 , 4, 9932-9937	5.6	3
151	Low thermal conductivity: fundamentals and theoretical aspects in thermoelectric applications. 2021 , 21, 100744		13
150	Rational design of black phosphorene/g-C3B heterostructures as high-performance electrodes for Li and Na-ion batteries. <i>Applied Surface Science</i> , 2021 , 561, 150093	6.7	1
149	Theoretical study on two dimensional group IV-VI ternary compounds with large in-plane spontaneous polarization. 2021 , 198, 110688		0
148	Line-Edge Roughness Effects on the Electronic Properties of Armchair Black Phosphorene Nanoribbons. 2021 , 68, 5114-5119		0
147	Semiconductor-metal transition induced by combined electric field and external strain in bilayer phosphorene. 2021 , 337, 114434		0
146	IZrP: Two-dimensional narrow band gap semiconductor with high Stability, anisotropic electronic properties and high carrier mobility. 2021 , 1205, 113458		0
145	Strain engineering on the electronic, phonon, and optical properties of monolayer boron antimonide. 2021 , 551, 111334		0
144	First-principles study of pristine and metal decorated blue phosphorene for sensing toxic H ₂ S, SO ₂ and NO ₂ molecules. 2021 , 127, 1		0
143	Multiscale numerical simulation of in-plane mechanical properties of two-dimensional monolayers.. <i>RSC Advances</i> , 2021 , 11, 20232-20247	3.7	3
142	Temperature-responsive emission and elastic properties of a new 2D lead halide perovskite. 2021 , 50, 2648-2653		9
141	New materials for water-splitting. 2021 , 32, 791-870		2
140	Two-Dimensional (2D) Materials for Next-Generation Nanoelectronics and Optoelectronics: Advances and Trends. 2021 , 65-96		
139	Anisotropic crack propagation and self-healing mechanism of freestanding black phosphorus nanosheets. <i>Nanotechnology</i> , 2021 , 32, 165704	3.4	4
138	Optical properties of two-dimensional black phosphorus. 2021 , 70, 027802-027802		3
137	Stability and superconductivity of Ca-intercalated bilayer blue phosphorene. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 2846-2852	3.6	1
136	Black phosphorus: device and application. 2021 , 139-163		0
135	Prediction of unexpected BnPn structures: promising materials for non-linear optical devices and photocatalytic activities. 2021 , 3, 2846-2861		3

134	Modifying Electronic and Elastic Properties of 2-Dimensional [110] Diamond by Nitrogen Substitution. 2021 , 7, 8			3
133	Outstanding spin-transport properties of a flexible phosphorene photodetector driven by the photogalvanic effect under mechanical strains. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 11961-11967		3.6	21
132	Transport Properties of Two-Dimensional Materials. 2020 , 55-78			1
131	Biomedical Applications of Black Phosphorus. 2020 , 117-138			2
130	The electronic transport properties of zigzag phosphorene-like MX (M = Ge/Sn, X = S/Se) nanostructures. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 17210-17215		3.6	21
129	Mechanical properties and applications of 2D black phosphorus. 2020 , 128, 230903			7
128	Charge-induced high-performance actuation of borophene. 2021 , 54, 105504			4
127	Tunable electronic properties and electric-field-induced phase transition in phosphorene/graphene heterostructures. 2021 , 54, 095108			3
126	Widely tunable direct bandgap of two-dimensional GeSe. <i>Journal of Physics Condensed Matter</i> , 2020 , 33, 115301		1.8	1
125	Two ultra-stable novel allotropes of tellurium few-layers. 2020 , 29, 097103			2
124	Electronic structures of iMAX phases and their two-dimensional derivatives: A family of piezoelectric materials. <i>Physical Review Materials</i> , 2018 , 2,		3.2	21
123	Nonmonotonic band gap evolution in bent phosphorene nanosheets. <i>Physical Review Materials</i> , 2019 , 3,		3.2	3
122	Mechanistic insights in phosphorene degradation. <i>Physical Review Materials</i> , 2019 , 3,		3.2	2
121	Activating Carbon Nitride by BP@Ni for the Enhanced Photocatalytic Hydrogen Evolution and Selective Benzyl Alcohol Oxidation. 2021 , 13, 50988-50995			1
120	Photonic Platforms Using In-Plane Optical Anisotropy of Tin (II) Selenide and Black Phosphorus. 2021 , 2, 2100176			0
119	A novel universal tunable method for the NDR engineering of nanoribbon devices; the defect engineering of PNR devices. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2021 , 274, 115465		3.1	0
118	Ideal Strength in Low-Dimensional Nanostructures. 2017 , 35-66			
117	Reliability of black phosphorus field-effect transistors with respect to bias-temperature and hot-carrier stress. 2017 ,			

116	Structure and Fundamental Properties of Black Phosphorus. 2020 , 139-156		
115	Simulation Studies for Black Phosphorus: From Theory to Experiment. 2020 , 101-115		
114	Linear interband optical refraction and absorption in strained black phosphorene. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 465301	1.8	3
113	Large exciton binding energy, superior mechanical flexibility, and ultra-low lattice thermal conductivity in Bilmonolayer. <i>Journal of Physics Condensed Matter</i> , 2021 , 34,	1.8	
112	In-Plane Phonon Anisotropy and Anharmonicity in Exfoliated Natural Black Arsenic. 2021 , 12, 10753-10760		4
111	2D Nanosheets-A New Class of Therapeutic Formulations against Cancer. 2021 , 13,		5
110	Tuning the Electronic, Optical, and Transport Properties of Phosphorene. 2020 , 3-42		0
109	Investigation of atomically thin films: state of the art. 2021 , 191, 30-51		0
108	Two-dimensional materials toward Terahertz optoelectronic device applications. 2021 , 51, 100473		5
107	Effect of electric field on two-dimensional honeycomb structures from group (III \bar{V}). 2021 , 162, 110507		1
106	Tuning the electronic and magnetic properties of defect blue phosphorene by the adsorption of nonmetal atoms. 2021 , 2083, 022065		
105	Charge compensation co-doping enhances the photocatalytic activity of black phosphorus. 2021 , 516, 112008		0
104	Strong Edge Stress in Molecularly Thin Organic-Inorganic Hybrid Ruddlesden-Popper Perovskites and Modulations of Their Edge Electronic Properties.. 2022 ,		1
103	Binary pentagonal auxetic materials for photocatalysis and energy storage with outstanding performances.. <i>Nanoscale</i> , 2022 ,	7.7	5
102	Anchoring black phosphorus quantum dots over carboxylated multiwalled carbon nanotubes: a stable 0D/1D nanohybrid with high sensing performance to Ochratoxin A. <i>Applied Surface Science</i> , 2022 , 152429	6.7	0
101	Two-dimensional ferroelasticity and negative Poisson's ratios in monolayer YbX (X = S, Se, Te).. <i>Physical Chemistry Chemical Physics</i> , 2022 ,	3.6	0
100	Borophene as a rising star in materials chemistry: Synthesis, properties and applications in analytical science and energy devices.		2
99	A BN monolayer: a direct band gap semiconductor with high and highly anisotropic carrier mobility.. <i>Nanoscale</i> , 2022 ,	7.7	0

98	Penta-CN2 revisited: Superior stability, synthesis condition exploration, negative Poisson's ratio and quasi-flat bands. <i>Applied Surface Science</i> , 2022 , 585, 152536	6.7	1
97	From fundamental to CO and COCl gas sensing properties of pristine and defective SiBN monolayers.. <i>Physical Chemistry Chemical Physics</i> , 2022 ,	3.6	1
96	Monolayer NbNSe with High Fermi Velocity and Anisotropic Properties. <i>Physica Status Solidi (B): Basic Research</i> ,	1.3	0
95	Electronic properties of MoS2/Be2C van der Waals heterostructure: Effect of Bi-axial strain and vertical electric field. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022 , 139, 115172	3	
94	Effects of strain and electric field on electronic and optical properties of monolayer EGeX (X = S, Se and Te). <i>Applied Surface Science</i> , 2022 , 582, 152321	6.7	3
93	Spin transport properties of phosphorene multiple quantum barrier structure under strain and Rashba spin-orbit interaction. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2022 , 278, 115625	3.1	0
92	Bias-tunable persistent photoconductivity for photoelectric memory in van der Waals heterojunctions of black phosphorus/2D electron gas on SrTiO3. <i>Applied Physics Letters</i> , 2022 , 120, 061107	3.4	0
91	Topological edge and corner states and fractional corner charges in blue phosphorene. <i>Physical Review B</i> , 2022 , 105,	3.3	1
90	Intrinsic Multiferroic in VNI Monolayer. <i>ACS Applied Electronic Materials</i> ,	4	1
89	Modulation of the electronic properties of blue phosphorene/stanene heterostructures by electric field and interlayer distance. <i>Results in Physics</i> , 2022 , 34, 105252	3.7	0
88	Metal doped black phosphorene for gas sensing and catalysis: A first-principles perspective. <i>Applied Surface Science</i> , 2022 , 586, 152743	6.7	2
87	A perspective on optimizing photoelectric conversion process in 2D transition-metal dichalcogenides and related heterostructures. <i>Applied Physics Letters</i> , 2022 , 120, 080501	3.4	2
86	Strain-tuned mechanical, electronic, and optoelectronic properties of two-dimensional transition metal sulfides ZrS: a first-principles study.. <i>Journal of Molecular Modeling</i> , 2022 , 28, 63	2	0
85	In-plane elastic properties of raw and doped graphene-like BSi: a first principle study. <i>Journal of Materials Science</i> , 2022 , 57, 5050-5060	4.3	0
84	2D Materials for Wearable Energy Harvesting. <i>Advanced Materials Technologies</i> , 2101623	6.8	1
83	Emergent Continuous Symmetry in Anisotropic Flexible Two-Dimensional Materials.. <i>Physical Review Letters</i> , 2022 , 128, 096101	7.4	0
82	Engineering 2D Materials for Photocatalytic Water-Splitting from a Theoretical Perspective.. <i>Materials</i> , 2022 , 15,	3.5	4
81	Mechanical strength and band alignment of BAs/GaN heterojunction polar interfaces: A first-principles calculation study. <i>Physical Review Materials</i> , 2022 , 6,	3.2	0

80	Visible Out-of-plane Polarized Luminescence and Electronic Resonance in Black Phosphorus.. <i>Nano Letters</i> , 2022 ,	11.5	0
79	Stability, optoelectronic and thermal properties of two-dimensional janus PTeS .. <i>Nanotechnology</i> , 2022 ,	3.4	4
78	Effects of Mechanical Strain on Electronic Properties of Phosphorene Structure in the Presence of Spin-Orbit Coupling. <i>ECS Journal of Solid State Science and Technology</i> ,	2	
77	Single-Walled Black Phosphorus Nanotube as a NO ₂ Gas Sensor. <i>Materials Today Communications</i> , 2022 , 31, 103434	2.5	
76	Recent advances in membrane-enabled water desalination by 2D frameworks: Graphene and beyond. <i>Desalination</i> , 2022 , 531, 115684	10.3	9
75	2D Janus and non-Janus diamanes with an in-plane negative Poisson's ratio for energy applications. <i>Materials Today Advances</i> , 2022 , 14, 100225	7.4	1
74	Optical absorption of phosphorene structure in the presence of spin-orbit coupling: mechanical strain effects. <i>European Physical Journal Plus</i> , 2022 , 137, 1	3.1	0
73	Two-dimensional auxetic pentagonal materials as water splitting photocatalysts with excellent performances. <i>Journal of Materials Science</i> , 2022 , 57, 7667-7679	4.3	0
72	Recent progress in 2D material van der Waals heterostructure-based luminescence devices towards the infrared wavelength range. <i>Journal of Materials Chemistry C</i> ,	7.1	1
71	Exploring the emerging applications of the advanced 2-dimensional material borophene with its unique properties.. <i>RSC Advances</i> , 2022 , 12, 12166-12192	3.7	0
70	Research Progress in Biomedical Fields of 2D Nanomaterials from Group VA Single-element. <i>Wuji Cailiao Xuebao/Journal of Inorganic Materials</i> , 2022 , 89	1	
69	Computational Study of the C2P4 Monolayer as a Stable Two-Dimensional Material with High Carrier Mobility: Implications for Nanoelectronic Devices. <i>ACS Applied Nano Materials</i> ,	5.6	1
68	Strategic Orientation and Sustainable Competitive Performance of Family Firms: Evidence of an Emerging Economy. 2022 , 32,		
67	The quest for a bidirectional auxetic, elastic, and enhanced fracture toughness material: Revisiting the mechanical properties of the BeH monolayers.. <i>Journal of Computational Chemistry</i> , 2022 ,	3.5	
66	Near-zero Poisson's ratio and suppressed mechanical anisotropy in strained black phosphorene/SnSe van der Waals heterostructure: a first-principles study. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2022 , 43, 627-636	3.2	
65	A DFT investigation on the therapeutic potential of alkaline earth metal doped phosphorenes for ifosfamide anti-cancer drug. <i>Applied Surface Science</i> , 2022 , 153618	6.7	0
64	Two-Dimensional Multiferroic PbO Monolayer with a Large In-Plane Negative Poisson's Ratio. <i>ACS Applied Electronic Materials</i> ,	4	
63	Effect of non-magnetic doping on magnetic state and Li/Na adsorption and diffusion of black phosphorene.. <i>Journal of Physics Condensed Matter</i> , 2022 ,	1.8	0

62	Phosphorene - an emerging two-dimensional material: recent advances in synthesis, functionalization, and applications. <i>2D Materials</i> ,	5.9	2
61	First-principles calculations to investigate strain-tunable electronic bandgap of black phosphorus-structured nitrogen with desirable optical and elastic properties. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2022 , 281, 115745	3.1	0
60	Prediction of two-dimensional AlBrSe monolayer as a highly efficient photocatalytic for water splitting. <i>Surfaces and Interfaces</i> , 2022 , 31, 102020	4.1	1
59	Electromechanical Actuators Based on Monolayer Borophene with $\sqrt{3} \times \sqrt{3}$ and $\sqrt{3} \times \sqrt{3}$ Structures. <i>Lecture Notes in Mechanical Engineering</i> , 2022 , 710-718	0.4	
58	Synthesis, Modification, and Application of Black Phosphorus, Few-Layer Black Phosphorus (FLBP), and Phosphorene: A Detailed Review. <i>Materials Advances</i> ,	3.3	0
57	Two-Dimensional Multifunctional Metal-Organic Framework with Intrinsic Bipolar Magnetic Semiconductivity and Negative Poisson's Ratio. <i>ACS Applied Electronic Materials</i> ,	4	1
56	Engineering van der Waals Materials for Advanced Metaphotonics. <i>Chemical Reviews</i> ,	68.1	2
55	Tension-Induced Phase Transformation and Anomalous Poisson Effect in Violet Phosphorene. <i>Materials Today Physics</i> , 2022 , 100755	8	0
54	Two-dimensional nanomaterial-based chemosensors for the detection of contaminants in air and water. 2022 , 217-235		
53	Two-dimensional Si ₂ S with a negative Poisson's ratio and promising optoelectronic properties. <i>Nanoscale</i> ,	7.7	
52	Two-dimensional diamonds from sp ² -to-sp ³ phase transitions. <i>Nature Reviews Materials</i> ,	73.3	7
51	Lifting on-state currents for GeS-based tunneling field-effect transistors with electrode optimization. <i>Applied Surface Science</i> , 2022 , 602, 154297	6.7	0
50	Synergy of heterojunction and interfacial strain for boosting photocatalytic H ₂ evolution of black phosphorus nanosheets. <i>Journal of Colloid and Interface Science</i> , 2022 , 627, 969-977	9.3	0
49	Elastic response of monolayer Si _{1-x} Ge _x . 2022 , 106,		
48	Effect of stacking order on the vibration properties of bilayer black phosphorus. 2022 , 478,		
47	Strain Modulation of Optoelectronic Properties in Nanolayered Black Phosphorus: Implications for Strain-Engineered 2D Material Systems.		2
46	Concurrence of auxetic effect and topological phase transition in a 2D phosphorous nitride. 2022 , 121, 063101		
45	Atomic-Scale Finite-Element Modeling of Elastic Mechanical Anisotropy in Finite-Sized Strained Phosphorene Nanoribbons. 2022 , 126, 14219-14228		

- 44 Ultratough Hydrogen-Bond-Bridged Phosphorene Films. 2203332 1
- 43 Photothermal Responsivity of van der Waals Material-Based Nanomechanical Resonators. **2022**, 12, 2675
- 42 First principles study of biaxially deformed hexagonal buckled XS (X=Ge and Si) monolayers with light absorption in the visible region. **2022**, 139457
- 41 Half-metallicity in strained phosphorene nanoribbons. **2022**, 449, 128363 0
- 40 Commensurate stacking-induced ultrahigh yet discontinuous bending stiffness of the double-layer black phosphorus. **2022**, 605, 154729 0
- 39 Non-equilibrium spin-transport properties of Co/phosphorene/Co MTJ with non-collinear electrodes under mechanical bending. 0
- 38 Emerging low-dimensional materials for nanoelectromechanical systems resonators. **2023**, 11, 21-52 0
- 37 2D Xenex: Optical and Optoelectronic Properties and Applications in Photonic Devices. 2206507 0
- 36 Phonon anharmonicity in exfoliated black arsenic flakes. **2022**, 121, 122106 0
- 35 Mechanical Fracture of Bilayer MoS₂ with Grain Boundaries. 0
- 34 Phosphorus based hybrid materials for green fuel generation. 0
- 33 Tunable, strain-controlled nanoporous phosphorene membrane for highly efficient and selective H₂/CH₄ and H₂/CO₂ sieving: A combined molecular dynamics simulation and density functional theory study. **2022**, 132, 145303 0
- 32 Ballistic graphene arrays for ultra-high pressure sensing. **2022**, 132, 154501 0
- 31 Mechanical properties of two-dimensional sheets of TiO₂: a DFT study. **2022**, 137, 0
- 30 Planar MN₄ (M = Zn, Cd) Monolayers: Two-Dimensional Anisotropic Dirac Semimetals of Ultrahigh Fermi Velocities. 1
- 29 Tunable Electronic Property and Robust Type-II Feature in Blue Phosphorene/MoSi₂N₄ Bilayer Heterostructure. **2022**, 12, 1407 0
- 28 Achieving metal-like malleability and ductility in Ag₂Te_{1-x}S_x inorganic thermoelectric semiconductors with high mobility. **2022**, 3, 100341 2
- 27 Structural, electronic and mechanical properties of Mo₂GeC under strain engineering. **2022**, 33, 104721 0

- 26 Compressive solitary waves in black phosphorene. **2023**, 146, 115519 ○
- 25 High-performance self-powered photodetector with broadened spectrum absorption based on black phosphorus/Cs₂SnI₄ heterostructure. **2023**, 609, 155032 ○
- 24 The electronic, mechanical properties and in-plane negative Poisson's ratio in novel pentagonal NiX₂ (X = S, Se, Te) monolayers with strong anisotropy: A first-principles prediction. **2023**, 216, 111873 ○
- 23 Mechanical Properties of a New Hybrid Inorganic-Organic Framework: A Nanoindentation, High-Pressure X-ray Diffraction, and Computational Study. ○
- 22 Multidirectional strain-induced thermoelectric figure of merit enhancement of zigzag bilayer phosphorene nanoribbons. ○
- 21 Density Functional Theory: An Investigative and Predictive Tool for the Study of 2D Materials. **2022**, 1-22 ○
- 20 Atomistic insights into the mechanical anisotropy and fragility of monolayer fullerene networks using quantum mechanical calculations and machine-learning molecular dynamics simulations. **2023**, 58, 101929 1
- 19 The structural, mechanical and electrical properties of 2D SiC with C-related point defects and substitution of C by foreign atoms. **2023**, 208, 111700 ○
- 18 Disorder-driven transition to tubular phase in anisotropic two-dimensional materials. **2022**, 106, ○
- 17 On the bending of rectangular atomic monolayers along different directions: an ab initio study. **2023**, 34, 085701 ○
- 16 Janus Te₂X (X = S, Se) monolayers for efficient excitonic solar cells and photocatalytic water splitting. ○
- 15 Janus GeSSe Monolayer as a High-Performance Material for Photocatalysis and Thermoelectricity. ○
- 14 Flexible temperature sensors based on two-dimensional materials for wearable devices. ○
- 13 Recent advances in single crystal narrow band-gap semiconductor nanomembranes and their flexible optoelectronic device applications: Ge, GeSn, InGaAs, and 2D materials. ○
- 12 Black phosphorus unipolar transistor, memory, and photodetector. **2023**, 58, 2689-2699 2
- 11 2D materials for flexible electronics. **2023**, 169-206 ○
- 10 3D printing of 2D nano-inks for multifarious applications. **2023**, 91-124 ○
- 9 First Principles Study of 2D Ring-Te and its Electrical Contact with Topological Dirac Semimetal. ○

- 8 Sub-5 nm 2D Semiconductor-Based Monolayer Field-Effect Transistor: Status and Prospects. ○
- 7 An antifouling electrochemical sensor based on multiwalled carbon nanotubes functionalized black phosphorus for highly sensitive detection of carbendazim and corresponding response mechanisms analyses. **2023**, 190, 108671 ○
- 6 Thickness Determination of Ultrathin 2D Materials Empowered by Machine Learning Algorithms. **2023**, 17, ○
- 5 Two-dimensional borocarbonitrides for photocatalysis and photovoltaics. **2023**, 11, 3875-3884 ○
- 4 Strain and magnetic field effects on the electronic and transport properties of Egraphyne. **2023**, 13, 7988-7999 ○
- 3 Sequential hydrogen storage in phosphorene nanotubes: A molecular dynamics study. **2023**, ○
- 2 Emerging Versatile Two-Dimensional MoSi₂N₄ Family. ○
- 1 DNA Detection Using a Single-Layer Phosphorene Nanopore. **2023**, 6, 7814-7820 ○