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## Recent Advances in Two-Dimensional Materials beyond Graphene

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1824	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. <b>2016</b> , 5, 93		12
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1816	Enabling Quality Interfaces with Mask-Free Approach to Selective Growth of MoS <sub>2</sub> /Graphene Stacked Structures. <b>2016</b> , 3, 1600098		8
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1808	Two-Dimensional Core-Shelled Porous Hybrids as Highly Efficient Catalysts for the Oxygen Reduction Reaction. <b>2016</b> , 128, 6972-6977		19

1807	Spatial Control of Photoluminescence at Room Temperature by Ferroelectric Domains in Monolayer WS/PZT Hybrid Structures. <b>2016</b> , 1, 1075-1080	21
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1803	A possible high-mobility signal in bulk MoTe <sub>2</sub> : Temperature independent weak phonon decay. <b>2016</b> , 6, 115207	6
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1801	Tunable electronic properties of GeSe/phosphorene heterostructure from first-principles study. <b>2016</b> , 109, 103104	71
1800	2D materials advances: from large scale synthesis and controlled heterostructures to improved characterization techniques, defects and applications. <b>2016</b> , 3, 042001	297
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1798	Optical study of local strain related disordering in CVD-grown MoSe <sub>2</sub> monolayers. <b>2016</b> , 109, 253106	16
1797	Thermoelectric properties of phosphorene at the nanoscale. <b>2016</b> , 31, 3179-3186	17
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1795	Ultrafast electron diffraction optimized for studying structural dynamics in thin films and monolayers. <b>2016</b> , 3, 034302	27
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1792	Thickness-Dependent and Magnetic-Field-Driven Suppression of Antiferromagnetic Order in Thin V <sub>5</sub> S <sub>8</sub> Single Crystals. <i>ACS Nano</i> , <b>2016</b> , 10, 5941-6	16.7 22
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1790	Width and Crystal Orientation Dependent Band Gap Renormalization in Substrate-Supported Graphene Nanoribbons. <b>2016</b> , 7, 1526-33	40

1789	Electric-Field-Assisted Directed Assembly of Transition Metal Dichalcogenide Monolayer Sheets. <i>ACS Nano</i> , <b>2016</b> , 10, 5006-14	16.7	7
1788	Tuning electronic transport in epitaxial graphene-based van der Waals heterostructures. <b>2016</b> , 8, 8947-54		19
1787	Thermal conductivity and mechanical properties of nitrogenated holey graphene. <b>2016</b> , 106, 1-8		101
1786	Excitonic quantum confinement modified optical conductivity of monolayer and few-layered MoS <sub>2</sub> . <b>2016</b> , 4, 8822-8828		35
1785	Atomically-thin layered films for device applications based upon 2D TMDC materials. <b>2016</b> , 616, 482-501		78
1784	Athermal Broadband Graphene Optical Modulator with 35 GHz Speed. <b>2016</b> , 3, 1564-1568		116
1783	Two-dimensional rectangular tantalum carbide halides TaCX (X = Cl, Br, I): novel large-gap quantum spin Hall insulators. <b>2016</b> , 3, 035018		16
1782	Epitaxial growth of two-dimensional SnSe <sub>2</sub> /MoS <sub>2</sub> misfit heterostructures. <b>2016</b> , 4, 10215-10222		25
1781	2D Boron Nitride: Synthesis and Applications. <b>2016</b> , 95, 101-147		44
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1779	Impact of Covalent Functionalization on the Aqueous Processability, Catalytic Activity, and Biocompatibility of Chemically Exfoliated MoS Nanosheets. <b>2016</b> , 8, 27974-27986		56
1778	Photogeneration and Mobility of Charge Carriers in Atomically Thin Colloidal InSe Nanosheets Probed by Ultrafast Terahertz Spectroscopy. <b>2016</b> , 7, 4191-4196		31
1777	van der Waals Epitaxy of GaSe/Graphene Heterostructure: Electronic and Interfacial Properties. <i>ACS Nano</i> , <b>2016</b> , 10, 9679-9686	16.7	113
1776	Nano Day: Celebrating the Next Decade of Nanoscience and Nanotechnology. <i>ACS Nano</i> , <b>2016</b> , 10, 9093-9103		56
1775	Bottom-up synthesis of vertically oriented two-dimensional materials. <b>2016</b> , 3, 041003		33
1774	Lattice dynamics and electronic structures of Ti <sub>3</sub> C <sub>2</sub> O <sub>2</sub> and Mo <sub>2</sub> TiC <sub>2</sub> O <sub>2</sub> (MXenes): The effect of Mo substitution. <b>2016</b> , 124, 8-14		69
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1772	Synthesis and radiation response of BCON: a graphene oxide and hexagonal boron nitride hybrid. <b>2016</b> , 3, 025028		10

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1770	Energies and densities of electrons confined in elliptical and ellipsoidal quantum dots. <b>2016</b> , 28, 395302	2
1769	Growth and Tunable Surface Wettability of Vertical MoS <sub>2</sub> Layers for Improved Hydrogen Evolution Reactions. <b>2016</b> , 8, 22190-5	77
1768	Protocol for Ultralow-Temperature Ceramic Sintering: An Integration of Nanotechnology and the Cold Sintering Process. <i>ACS Nano</i> , <b>2016</b> , 10, 10606-10614	16.7 101
1767	Imaging spectroscopic ellipsometry of MoS <sub>2</sub> . <b>2016</b> , 28, 385301	59
1766	Distinctive in-Plane Cleavage Behaviors of Two-Dimensional Layered Materials. <i>ACS Nano</i> , <b>2016</b> , 10, 8980-8987	60
1765	From lattice Hamiltonians to tunable band structures by lithographic design. <b>2016</b> , 94,	15
1764	Enhanced Nickel-Catalyzed Methanation Confined under Hexagonal Boron Nitride Shells. <b>2016</b> , 6, 6814-6822	74
1763	Epitaxial 2D SnSe <sub>2</sub> / 2D WSe <sub>2</sub> van der Waals Heterostructures. <b>2016</b> , 8, 23222-9	75
1762	Booming Development of Group IV-VI Semiconductors: Fresh Blood of 2D Family. <b>2016</b> , 3, 1600177	140
1761	Surface-Area-Dependent Electron Transfer Between Isoenergetic 2D Quantum Wells and a Molecular Acceptor. <b>2016</b> , 138, 11109-12	32
1760	Temperature- and power-dependent phonon properties of suspended continuous WS <sub>2</sub> monolayer films. <b>2016</b> , 86, 270-276	11
1759	Electronic, vibrational, Raman, and scanning tunneling microscopy signatures of two-dimensional boron nanomaterials. <b>2016</b> , 94,	11
1758	Advances in 2D Materials for Electronic Devices. <b>2016</b> , 95, 221-277	5
1757	Synthesis, Properties, and Stacking of Two-Dimensional Transition Metal Dichalcogenides. <b>2016</b> , 95, 189-219	8
1756	Surface Analysis of WSe Crystals: Spatial and Electronic Variability. <b>2016</b> , 8, 26400-26406	59
1755	Bandgap inhomogeneity of MoS <sub>2</sub> monolayer on epitaxial graphene bilayer in van der Waals p-n junction. <b>2016</b> , 110, 396-403	22
1754	Strain-Robust and Electric Field Tunable Band Alignments in van der Waals WSe <sub>2</sub> /Graphene Heterojunctions. <b>2016</b> , 120, 22702-22709	27

1753	Surface Charge Transfer Doping of Low-Dimensional Nanostructures toward High-Performance Nanodevices. <b>2016</b> , 28, 10409-10442	105
1752	Diffusion-Mediated Synthesis of MoS <sub>2</sub> /WS <sub>2</sub> Lateral Heterostructures. <b>2016</b> , 16, 5129-34	106
1751	Stability and geometry of silica nano-ribbons (SNRs): a first-principles study. <b>2016</b> , 18, 21825-32	1
1750	Topotactic synthesis of the overlooked multilayer silicene intercalation compound SrSi <sub>2</sub> . <b>2016</b> , 8, 16229-35	19
1749	Valence and conduction band structure of the quasi-two-dimensional semiconductor SnS <sub>2</sub> . <b>2016</b> , 93,	10
1748	Physical properties of low-dimensional sp <sup>2</sup> -based carbon nanostructures. <b>2016</b> , 88,	127
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1746	Two-dimensional lateral heterojunction through bandgap engineering of MoS <sub>2</sub> via oxygen plasma. <b>2016</b> , 28, 364002	40
1745	Tailoring Vacancies Far Beyond Intrinsic Levels Changes the Carrier Type and Optical Response in Monolayer MoSe <sub>2-x</sub> Crystals. <b>2016</b> , 16, 5213-20	85
1744	Magnetic structure and phase stability of the van der Waals bonded ferromagnet Fe <sub>3</sub> GeTe <sub>2</sub> . <b>2016</b> , 93,	125
1743	Evolution of Moiré Profiles from van der Waals Superstructures of Boron Nitride Nanosheets. <b>2016</b> , 6, 26084	14
1742	Surface charge transfer doping of monolayer molybdenum disulfide by black phosphorus quantum dots. <b>2016</b> , 27, 505204	22
1741	Unusual lattice vibration characteristics in whiskers of the pseudo-one-dimensional titanium trisulfide TiS <sub>3</sub> . <b>2016</b> , 7, 12952	54
1740	Thin Film Transistors Using Wafer-Scale Low-Temperature MOCVD WSe <sub>2</sub> . <b>2016</b> , 45, 6280-6284	18
1739	Centimeter Scale Patterned Growth of Vertically Stacked Few Layer Only 2D MoS <sub>2</sub> /WS <sub>2</sub> van der Waals Heterostructure. <b>2016</b> , 6, 25456	99
1738	Bandgap- and Local Field-Dependent Photoactivity of Ag/Black Phosphorus Nanohybrids. <b>2016</b> , 6, 8009-8020	112
1737	Multimodal Photodiode and Phototransistor Device Based on Two-Dimensional Materials. <i>ACS Nano</i> , <b>2016</b> , 10, 10500-10506	16.7 9
1736	Unveiling Three-Dimensional Stacking Sequences of 1T Phase MoS Monolayers by Electron Diffraction. <i>ACS Nano</i> , <b>2016</b> , 10, 10308-10316	16.7 17

1735	Chemical vapour deposition and characterization of uniform bilayer and trilayer MoS <sub>2</sub> crystals. <b>2016</b> , 4, 11081-11087		32
1734	Hexagons to Ribbons: Flipping Cyanide on Au{111}. <b>2016</b> , 138, 15580-15586		7
1733	High Antibacterial Activity of Functionalized Chemically Exfoliated MoS. <b>2016</b> , 8, 31567-31573		111
1732	Nanoforging Single Layer MoSe <sub>2</sub> Through Defect Engineering with Focused Helium Ion Beams. <b>2016</b> , 6, 30481		55
1731	Effects of the Interlayer Interaction and Electric Field on the Band Gap of Polar Bilayers: A Case Study of Sc <sub>2</sub> CO <sub>2</sub> . <b>2016</b> , 120, 24857-24865		29
1730	Spatially Resolved Electronic Properties of Single-Layer WS on Transition Metal Oxides. <i>ACS Nano</i> , <b>2016</b> , 10, 10058-10067	16.7	25
1729	Radiatively Dominated Charge Carrier Recombination in Black Phosphorus. <b>2016</b> , 120, 13836-13842		9
1728	Ultrafast Nonlinear Excitation Dynamics of Black Phosphorus Nanosheets from Visible to Mid-Infrared. <i>ACS Nano</i> , <b>2016</b> , 10, 6923-32	16.7	178
1727	Designing rGO/MoS <sub>2</sub> hybrid nanostructures for photocatalytic applications. <b>2016</b> , 6, 59001-59008		26
1726	A first-principles study of stable few-layer penta-silicene. <b>2016</b> , 18, 18486-92		38
1725	Atomically thin binary VV compound semiconductor: a first-principles study. <b>2016</b> , 4, 6581-6587		98
1724	Large-Area Deposition of MoS <sub>2</sub> by Pulsed Laser Deposition with In Situ Thickness Control. <i>ACS Nano</i> , <b>2016</b> , 10, 6054-61	16.7	156
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1722	Electrostatically tunable lateral MoTe <sub>2</sub> p-n junction for use in high-performance optoelectronics. <b>2016</b> , 8, 13245-50		34
1721	Low-Frequency Interlayer Raman Modes to Probe Interface of Twisted Bilayer MoS <sub>2</sub> . <b>2016</b> , 16, 1435-44		130
1720	Growing Vertical in the Flatland. <i>ACS Nano</i> , <b>2016</b> , 10, 42-5	16.7	33
1719	Twisted MoSe <sub>2</sub> Bilayers with Variable Local Stacking and Interlayer Coupling Revealed by Low-Frequency Raman Spectroscopy. <i>ACS Nano</i> , <b>2016</b> , 10, 2736-44	16.7	95
1718	A density functional theory study of electronic properties of substitutional alloying of monolayer MoS <sub>2</sub> and CeS <sub>2</sub> surface models. <b>2016</b> , 1084, 98-102		4

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1715	H <sub>2</sub> O <sub>2</sub> assisted room temperature oxidation of Ti <sub>2</sub> C MXene for Li-ion battery anodes. <b>2016</b> , 8, 7580-7	287
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1713	Effects of Contact Placement and Intra/Interlayer Interaction in Current Distribution of Black Phosphorus Sub-10-nm FET. <b>2017</b> , 64, 579-586	5
1712	Spectroscopic ellipsometric investigation of graphene and thin carbon films from the point of view of depolarization effects. <b>2017</b> , 421, 714-721	5
1711	Selectivity of MoS <sub>2</sub> gas sensors based on a time constant spectrum method. <b>2017</b> , 255, 28-33	14
1710	The role of the alkali and chalcogen atoms on the stability of the layered chalcogenide [Formula: see text] (A = alkali-metal; M = metal-cations; Q = chalcogen) compounds: a density functional theory investigation within van der Waals corrections. <b>2017</b> , 29, 035402	5
1709	Recent development of two-dimensional transition metal dichalcogenides and their applications. <b>2017</b> , 20, 116-130	1250
1708	Single-photon emitters in GaSe. <b>2017</b> , 4, 021010	52
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1706	Structural and electronic properties of arsenic nitrogen monolayer. <b>2017</b> , 381, 1102-1106	24
1705	2D Heterostructures Derived from MoS <sub>2</sub> -Templated, Cobalt-Containing Conjugated Microporous Polymer Sandwiches for the Oxygen Reduction Reaction and Electrochemical Energy Storage. <b>2017</b> , 4, 709-715	26
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1703	Layered ternary Mn <sub>1</sub> AX <sub>n</sub> phases and their 2D derivative MXene: an overview from a thin-film perspective. <b>2017</b> , 50, 113001	157
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1696	Low dimensional $\text{Bi}_2\text{Te}_3$ -graphene oxide hybrid film-modified electrodes for ultra-sensitive stripping voltammetric detection of $\text{Pb(II)}$ and $\text{Cd(II)}$ . <b>2017</b> , 231, 230-237	26
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1688	Inorganic $\text{SnP}$ -Type Double Helices in Main-Group Chemistry. <b>2017</b> , 23, 6452-6457	9
1687	Recent progress in van der Waals heterojunctions. <b>2017</b> , 9, 4324-4365	114
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1685	Tailoring thermal transport properties of graphene by nitrogen doping. <b>2017</b> , 19, 1	6
1684	Two-dimensional transition metal dichalcogenide nanomaterials for combination cancer therapy. <b>2017</b> , 5, 1873-1895	87
1683	Data Mining for New Two- and One-Dimensional Weakly Bonded Solids and Lattice-Commensurate Heterostructures. <b>2017</b> , 17, 1915-1923	113
1682	p-Type transition-metal doping of large-area MoS thin films grown by chemical vapor deposition. <b>2017</b> , 9, 3576-3584	53

1681	Electronic properties and applications of MXenes: a theoretical review. <b>2017</b> , 5, 2488-2503	498
1680	Design lithium storage materials by lithium adatoms adsorption at the edges of zigzag silicene nanoribbon: A first principle study. <b>2017</b> , 406, 161-169	18
1679	Tuning Electronic Properties of Monolayer Hexagonal Boron Phosphide with Group IIIIV Dopants. <b>2017</b> , 121, 4583-4592	38
1678	Two-Dimensional Metal Oxide Nanomaterials for Next-Generation Rechargeable Batteries. <b>2017</b> , 29, 1700176	251
1677	Quantifying Plasmon-Enhanced Light Absorption in Monolayer WS Films. <b>2017</b> , 9, 15044-15051	33
1676	Electronics and optoelectronics of quasi-1D layered transition metal trichalcogenides. <b>2017</b> , 4, 022003	92
1675	Prospects of spintronics based on 2D materials. <b>2017</b> , 7, e1313	105
1674	Activating the molecular spinterface. <b>2017</b> , 16, 507-515	217
1673	Single-layer nanosheets with exceptionally high and anisotropic hydroxyl ion conductivity. <b>2017</b> , 3, e1602629	105
1672	Growth-Induced Strain in Chemical Vapor Deposited Monolayer MoS <sub>2</sub> : Experimental and Theoretical Investigation. <b>2017</b> , 4, 1700031	35
1671	Recent advances in synthesis, properties, and applications of phosphorene. <b>2017</b> , 1,	183
1670	The advent of graphene and other two-dimensional materials in membrane science and technology. <b>2017</b> , 16, 78-85	70
1669	Review Article: Progress in fabrication of transition metal dichalcogenides heterostructure systems. <b>2017</b> , 35, 030803	67
1668	Two-dimensional large-scale bandgap-tunable monolayer MoS <sub>2</sub> (1-x)Se <sub>2x</sub> /graphene heterostructures for phototransistors. <b>2017</b> , 5, 5887-5896	24
1667	Band gap modification in doped MXene: Sc <sub>2</sub> CF <sub>2</sub> . <b>2017</b> , 5, 5956-5961	45
1666	Two-dimensional MXenes for energy storage and conversion applications. <b>2017</b> , 5, 22-36	75
1665	Two-Photon Fluorescent Molybdenum Disulfide Dots for Targeted Prostate Cancer Imaging in the Biological II Window. <b>2017</b> , 2, 1826-1835	36
1664	Benzyl viologen-assisted simultaneous exfoliation and n-doping of MoS <sub>2</sub> nanosheets via a solution process. <b>2017</b> , 5, 5395-5401	9

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1661	A Single-Step Electrochemical Synthesis of Luminescent WS Quantum Dots. <b>2017</b> , 23, 9144-9148	39
1660	Flexible Device Applications of 2D Semiconductors. <b>2017</b> , 13, 1603994	113
1659	Surface-Induced Frustration in Solid State Polymorphic Transition of Native Cellulose Nanocrystals. <b>2017</b> , 18, 1975-1982	14
1658	In Situ Atomic-Scale Observation of the Two-Dimensional Co(OH) <sub>2</sub> Transition at Atmospheric Pressure. <b>2017</b> , 29, 4572-4579	17
1657	2D-MTJs: introducing 2D materials in magnetic tunnel junctions. <b>2017</b> , 50, 203002	57
1656	A study of bilayer phosphorene stability under MoS <sub>2</sub> -passivation. <b>2017</b> , 4, 025091	33
1655	Low-dimensional half-metallic materials: theoretical simulations and design. <b>2017</b> , 7, e1314	33
1654	Green synthesis of luminescent and defect-free bio-nanosheets of MoS <sub>2</sub> : interfacing two-dimensional crystals with hydrophobins. <b>2017</b> , 7, 22400-22408	22
1653	Catalytic Directional Cutting of Hexagonal Boron Nitride: The Roles of Interface and Etching Agents. <b>2017</b> , 17, 3208-3214	17
1652	Stability of semiconducting transition metal dichalcogenides irradiated by soft X-rays and low energy electrons. <b>2017</b> , 110, 173102	3
1651	Effects of hole doping and strain on magnetism in buckled phosphorene and arsenene. <b>2017</b> , 4, 025107	24
1650	Optical properties calculations of the phosphorene-CrO <sub>3</sub> system within the G <sub>0</sub> W <sub>0</sub> and BSE approximations. <b>2017</b> , 416, 266-272	3
1649	Hexagonal Boron Nitride Self-Launches Hyperbolic Phonon Polaritons. <b>2017</b> , 8, 2158-2162	18
1648	Graphene-Al <sub>2</sub> O <sub>3</sub> -silicon heterojunction solar cells on flexible silicon substrates. <b>2017</b> , 121, 163105	26
1647	A flexible transparent colorimetric wrist strap sensor. <b>2017</b> , 9, 869-874	81
1646	High intrinsic catalytic activity of two-dimensional boron monolayers for the hydrogen evolution reaction. <b>2017</b> , 9, 533-537	81

- 1645 Tuning magnetic properties in quasi-two-dimensional ferromagnetic  $\text{Fe}_3\text{VGe}_2\text{As}_x\text{Te}_2$  ( $0 \leq x \leq 0.85$ ). **2017**, 4, 036103 7
- 1644 Electron and phonon transport in twisted graphene nanoribbons. **2017**, 50, 234005 11
- 1643 Universal Method for Large-Scale Synthesis of Layered Transition Metal Dichalcogenides. **2017**, 23, 10177-10186 66
- 1642 Indium selenide: an insight into electronic band structure and surface excitations. **2017**, 7, 3445 42
- 1641 Effect of oxygen atom on electronic and optical properties of 2D monolayer of  $\text{PtS}_2$ . **2017**, 3, 065005 3
- 1640 Two-dimensional transition metal dichalcogenide/conducting polymer composites: synthesis and applications. **2017**, 9, 8052-8065 66
- 1639 Local strain-induced band gap fluctuations and exciton localization in aged  $\text{WS}_2$  monolayers. **2017**, 7, 065005 19
- 1638 Electric field effect in multilayer  $\text{Cr}_2\text{Ge}_2\text{Te}_6$ : a ferromagnetic 2D material. **2017**, 4, 024009 126
- 1637 First principles study of electronic and thermoelectric performance of Li intercalated  $\text{MoSe}_2$  nanotubes. **2017**, 3, 065005 3
- 1636 Recent advances of supercapacitors based on two-dimensional materials. **2017**, 8, 104-115 97
- 1635 Enhanced Superhydrophobic Performance of  $\text{BN-MoS}_2$  Heterostructure Prepared via a Rapid, One-Pot Supercritical Fluid Processing. **2017**, 33, 6159-6166 17
- 1634 Wafer-Scale Synthesized  $\text{MoS}_2$ /Porous Silicon Nanostructures for Efficient and Selective Ethanol Sensing at Room Temperature. **2017**, 9, 21017-21024 41
- 1633 Two-Dimensional  $\text{MoS}_2$ -Graphene-Based Multilayer van der Waals Heterostructures: Enhanced Charge Transfer and Optical Absorption, and Electric-Field Tunable Dirac Point and Band Gap. **2017**, 29, 5504-5512 99
- 1632 Coupling effects of strain on structural transformation and bandgap engineering in  $\text{SnS}$  monolayer. **2017**, 7, 30327-30333 21
- 1631 Angle-resolved photoemission spectroscopy for the study of two-dimensional materials. **2017**, 4, 024009 126
- 1630 Hybrid triazine-based graphitic carbon nitride and molybdenum disulfide bilayer with and without  $\text{Li/Mg}$  intercalation: Structural, electronic and optical properties. **2017**, 134, 84-92 8
- 1629 Enhanced Photocatalytic Water Splitting in a  $\text{C}_3\text{N}_4$  Monolayer by C-Site Isoelectronic Substitution. **2017**, 18, 1526-1532 38
- 1628 Surface science using radioactive ions at ISOLDE: from metal surfaces to two-dimensional materials. **2017**, 44, 064001 5

1627	Light-matter interaction in transition metal dichalcogenides and their heterostructures. <b>2017</b> , 50, 173001	66
1626	Temperature-dependent morphology of chemical vapor grown molybdenum disulfide. <b>2017</b> , 50, 164002	6
1625	Structural deformations of two-dimensional planar structures under uniaxial strain: the case of graphene. <b>2017</b> , 29, 175401	2
1624	Calculating excitons, plasmons, and quasiparticles in 2D materials and van der Waals heterostructures. <b>2017</b> , 4, 022004	131
1623	Band structure engineering in van der Waals heterostructures via dielectric screening: the GW method. <b>2017</b> , 4, 025059	55
1622	Amorphous two-dimensional black phosphorus with exceptional photocarrier transport properties. <b>2017</b> , 4, 025063	16
1621	In situ thermal oxidation kinetics in few layer MoS <sub>2</sub> . <b>2017</b> , 4, 025058	36
1620	Kinetically controlled synthesis of two-dimensional Zr/Hf metal-organic framework nanosheets via a modulated hydrothermal approach. <b>2017</b> , 5, 8954-8963	85
1619	Recent progress in synthesis of two-dimensional hexagonal boron nitride. <b>2017</b> , 38, 031003	25
1618	The Prospect of Two-Dimensional Heterostructures: A Review of Recent Breakthroughs. <b>2017</b> , 11, 6-17	20
1617	Edge dominated electronic properties of MoS <sub>2</sub> /graphene hybrid 2D materials: edge state, electron coupling and work function. <b>2017</b> , 5, 4845-4851	24
1616	Transparent Electrodes for Efficient Optoelectronics. <b>2017</b> , 3, 1600529	224
1615	Intracellular DNA and microRNA sensing based on metal-organic framework nanosheets with enzyme-free signal amplification. <b>2017</b> , 170, 74-80	65
1614	Two-dimensional nanosheets for electrocatalysis in energy generation and conversion. <b>2017</b> , 5, 7257-7284	186
1613	How the Structures and Properties of Two-Dimensional Layered Perovskites MAPbI <sub>3</sub> and CsPbI <sub>3</sub> Vary with the Number of Layers. <b>2017</b> , 8, 1517-1523	68
1612	Transparent, conductive solution processed spincoated 2D Ti <sub>2</sub> CT <sub>x</sub> (MXene) films. <b>2017</b> , 5, 391-398	96
1611	Excitons in van der Waals materials: From monolayer to bulk hexagonal boron nitride. <b>2017</b> , 95,	31
1610	Engineering of Magnetically Intercalated Silicene Compound: An Overlooked Polymorph of EuSi <sub>2</sub> . <b>2017</b> , 27, 1606603	28

1609	Thin film transistors based on two dimensional graphene and graphene/semiconductor heterojunctions. <b>2017</b> , 7, 17387-17397	19
1608	Elemental two-dimensional nanosheets beyond graphene. <b>2017</b> , 46, 2127-2157	220
1607	Safety profile of two-dimensional Pd nanosheets for photothermal therapy and photoacoustic imaging. <b>2017</b> , 10, 1234-1248	50
1606	The role of surface chemical reactivity in the stability of electronic nanodevices based on two-dimensional materials Beyond graphene and topological insulators. <b>2017</b> , 1, 60-64	29
1605	Tunable electrical properties of multilayer HfSe field effect transistors by oxygen plasma treatment. <b>2017</b> , 9, 1645-1652	26
1604	Fluorescent Block Copolymer-MoS <sub>2</sub> Nanocomposites for Real-Time Photothermal Heating and Imaging. <b>2017</b> , 27, 1604403	33
1603	Aqueous Exfoliation of Transition Metal Dichalcogenides Assisted by DNA/RNA Nucleotides: Catalytically Active and Biocompatible Nanosheets Stabilized by Acid-Base Interactions. <b>2017</b> , 9, 2835-2845	27
1602	Ultrafast Transient Absorption and Terahertz Spectroscopy as Tools to Probe Photoexcited States and Dynamics in Colloidal 2D Nanostructures. <b>2017</b> , 231, 107-119	13
1601	Doping two-dimensional materials: ultra-sensitive sensors, band gap tuning and ferromagnetic monolayers. <b>2017</b> , 2, 72-80	60
1600	Solution processing of two-dimensional black phosphorus. <b>2017</b> , 53, 1445-1458	55
1599	Two-Dimensional Single-Layer Organic-Inorganic Hybrid Perovskite Semiconductors. <b>2017</b> , 7, 1601731	70
1598	Evolution of Surface and Interface Structures in Molecular-Beam Epitaxy of MoSe <sub>2</sub> on GaAs(111)A and (111)B. <b>2017</b> , 17, 363-367	7
1597	Two-dimensional crystal CuS <sub>2</sub> Electronic and structural properties. <b>2017</b> , 4, 015041	13
1596	Electric Field Effect in Two-Dimensional Transition Metal Dichalcogenides. <b>2017</b> , 27, 1602404	36
1595	Molecular beam epitaxy of large-area SnSe <sub>2</sub> with monolayer thickness fluctuation. <b>2017</b> , 4, 014006	21
1594	Ultrafast Laser Spectroscopy of Two-Dimensional Materials Beyond Graphene. <b>2017</b> , 27, 1604509	97
1593	Ultrafast charge transfer between MoTe <sub>2</sub> and MoS <sub>2</sub> monolayers. <b>2017</b> , 4, 015033	32
1592	High Electric Field Carrier Transport and Power Dissipation in Multilayer Black Phosphorus Field Effect Transistor with Dielectric Engineering. <b>2017</b> , 27, 1604025	37

1591	Solution-Mediated Growth of Two-Dimensional [email protected] Nanosheet Heterostructures. <b>2017</b> , 29, 817-822	14
1590	Giant Piezoelectric Effects in Monolayer Group-V Binary Compounds with Honeycomb Phases: A First-Principles Prediction. <b>2017</b> , 121, 25576-25584	50
1589	Phonon-mediated superconductivity in Mg intercalated bilayer borophenes. <b>2017</b> , 19, 29237-29243	24
1588	Effect of adding Te to layered GaSe crystals to increase the van der Waals bonding force. <b>2017</b> , 122, 165105	16
1587	Engineering two-dimensional electronics by semiconductor defects. <b>2017</b> , 16, 30-45	48
1586	Charge carrier transfer in tungsten disulfide-black phosphorus heterostructures. <b>2017</b> , 28, 475705	1
1585	Interface dipole and band bending in the hybrid p $\bar{n}$ heterojunction MoS <sub>2</sub> /GaN(0001). <b>2017</b> , 96,	44
1584	Wafer-Scale Integration of Highly Uniform and Scalable MoS Transistors. <b>2017</b> , 9, 37146-37153	21
1583	Complete Separation of Carriers in the GeS/SnS Lateral Heterostructure by Uniaxial Tensile Strain. <b>2017</b> , 9, 40969-40977	25
1582	Effect of edge plasmons on the optical properties of MoS <sub>2</sub> monolayer flakes. <b>2017</b> , 96,	11
1581	Recent advance in MXenes: A promising 2D material for catalysis, sensor and chemical adsorption. <b>2017</b> , 352, 306-327	315
1580	Wrinkled 2D Materials: A Versatile Platform for Low-Threshold Stretchable Random Lasers. <b>2017</b> , 29, 1703549	64
1579	The facile synthesis of layered TiC MXene/carbon nanotube composite paper with enhanced electrochemical properties. <b>2017</b> , 46, 14880-14887	40
1578	Critical behavior of the quasi-two-dimensional weak itinerant ferromagnet trigonal chromium telluride Cr <sub>0.62</sub> Te. <b>2017</b> , 96,	23
1577	Anisotropic tunneling resistance in a phosphorene-based magnetic barrier. <b>2017</b> , 96,	5
1576	Interlayer bond polarizability model for stacking-dependent low-frequency Raman scattering in layered materials. <b>2017</b> , 9, 15340-15355	32
1575	Characterization of highly crystalline lead iodide nanosheets prepared by room-temperature solution processing. <b>2017</b> , 28, 455703	33
1574	Centimeter-Scale 2D van der Waals Vertical Heterostructures Integrated on Deformable Substrates Enabled by Gold Sacrificial Layer-Assisted Growth. <b>2017</b> , 17, 6157-6165	25

1573	From capacitance-controlled to diffusion-controlled electrochromism in one-dimensional shape-tailored tungsten oxide nanocrystals. <b>2017</b> , 41, 634-645	41
1572	Partial Etching of Al from MoAlB Single Crystals To Expose Catalytically Active Basal Planes for the Hydrogen Evolution Reaction. <b>2017</b> , 29, 8953-8957	63
1571	Cp-Graphyne: A Low-Energy Graphyne Polymorph with Double Distorted Dirac Points. <b>2017</b> , 2, 6822-6830	28
1570	Stability of the tungsten diselenide and silicon carbide heterostructure against high energy proton exposure. <b>2017</b> , 111, 143104	5
1569	Recent advances in investigations of the electronic and optoelectronic properties of group III, IV, and V selenide based binary layered compounds. <b>2017</b> , 5, 11214-11225	30
1568	Evolution of the electronic and magnetic properties of zigzag silicene nanoribbon used for hydrogen storage material. <b>2017</b> , 42, 27184-27205	12
1567	Highly Periodic Metal Dichalcogenide Nanostructures with Complex Shapes, High Resolution, and High Aspect Ratios. <b>2017</b> , 27, 1703842	11
1566	Atomic mechanism for the growth of wafer-scale single-crystal graphene: theoretical perspective and scanning tunneling microscopy investigations. <b>2017</b> , 4, 042002	10
1565	Two-Dimensional Stoichiometric Boron Oxides as a Versatile Platform for Electronic Structure Engineering. <b>2017</b> , 8, 4347-4353	31
1564	Metal Thio- and Selenophosphates as Multifunctional van der Waals Layered Materials. <b>2017</b> , 29, 1602852	156
1563	Large-Area Chemical Vapor Deposited MoS <sub>2</sub> with Transparent Conducting Oxide Contacts toward Fully Transparent 2D Electronics. <b>2017</b> , 27, 1703119	36
1562	Adsorption patterns of aromatic amino acids on monolayer MoS <sub>2</sub> and Au-modified MoS <sub>2</sub> surfaces: A first-principles study. <b>2017</b> , 1118, 115-122	13
1561	Molecular Epitaxy on Two-Dimensional Materials: The Interplay between Interactions. <b>2017</b> , 56, 10552-10581	22
1560	Tailoring photoelectrochemical properties of semiconducting transition metal dichalcogenide nanolayers with porphyrin functionalization. <b>2017</b> , 5, 11233-11238	18
1559	Enhancing light absorption in graphene with plasmonic lattices. <b>2017</b> , 119, 17006	7
1558	Dimensional crossover of the charge density wave transition in thin exfoliated VSe <sub>2</sub> . <b>2017</b> , 4, 041005	42
1557	Origin of the counterintuitive dynamic charge in the transition metal dichalcogenides. <b>2017</b> , 95,	24
1556	WSe/MoS and MoTe/SnSe van der Waals heterostructure transistors with different band alignment. <b>2017</b> , 28, 415201	37



1555	Temperature-dependent conduction mechanism of vertically aligned graphene nanoflakes incorporated with nitrogen in situ. <b>2017</b> , 4, 075011		
1554	Adsorption-photocatalytic properties of micronic and graphene (2D) nanoparticles of molybdenum dichalcogenides. <b>2017</b> , 39, 132-137	4	
1553	Thermal fluctuations and effective bending stiffness of elastic thin sheets and graphene: A nonlinear analysis. <b>2017</b> , 107, 294-319		32
1552	Computationally Driven Two-Dimensional Materials Design: What Is Next?. <i>ACS Nano</i> , <b>2017</b> , 11, 7560-7566	16.7	32
1551	Nonlinear Absorption Induced Transparency and Optical Limiting of Black Phosphorus Nanosheets. <b>2017</b> , 4, 3063-3070		61
1550	Electronic Properties of a 1D Intrinsic/p-Doped Heterojunction in a 2D Transition Metal Dichalcogenide Semiconductor. <i>ACS Nano</i> , <b>2017</b> , 11, 9128-9135	16.7	47
1549	Two-Dimensional Hexagonal Sheet of TiO <sub>2</sub> . <b>2017</b> , 29, 8594-8603		51
1548	A kinetic Monte Carlo simulation method of van der Waals epitaxy for atomistic nucleation-growth processes of transition metal dichalcogenides. <b>2017</b> , 7, 2977		56
1547	Single Graphene Layer on Pt(111) Creates Confined Electrochemical Environment via Selective Ion Transport. <b>2017</b> , 129, 13063-13067		
1546	Single Graphene Layer on Pt(111) Creates Confined Electrochemical Environment via Selective Ion Transport. <b>2017</b> , 56, 12883-12887		23
1545	First-principles prediction of a novel cadmium disulfide monolayer (penta-CdS <sub>2</sub> ): Indirect to direct band gap transition by strain engineering. <b>2017</b> , 685, 310-315		36
1544	Synthesis and Physical Properties of Phase-Engineered Transition Metal Dichalcogenide Monolayer Heterostructures. <i>ACS Nano</i> , <b>2017</b> , 11, 8619-8627	16.7	34
1543	Chemically Activated Covalent Triazine Frameworks with Enhanced Textural Properties for High Capacity Gas Storage. <b>2017</b> , 9, 30679-30685		50
1542	Electrical Characterization and Nanoindentation of Opto-electro-mechanical Percolative Composites from 2D Layered Materials. <b>2017</b> , 2, 3741-3747		
1541	Two-Dimensional Materials as Prospective Scaffolds for Mixed-Matrix Membrane-Based CO Separation. <b>2017</b> , 10, 3304-3316		57
1540	. <b>2017</b> ,		
1539	Field-Effect Transistors Using Thin Flakes of Misfit Layer Compound (LaS) <sub>1.20</sub> CrS <sub>2</sub> . <b>2017</b> , 4, 1700631		3
1538	Two-Dimensional Transition Metal Dichalcogenides and Their Charge Carrier Mobilities in Field-Effect Transistors. <b>2017</b> , 9, 50		82

1537	Large-Scale Synthesis of Freestanding Layer-Structured Pbl and MAPbl Nanosheets for High-Performance Photodetection. <b>2017</b> , 29, 1702759	78
1536	Intricate Resonant Raman Response in Anisotropic ReS. <b>2017</b> , 17, 5897-5907	49
1535	Spatially-resolved studies on the role of defects and boundaries in electronic behavior of 2D materials. <b>2017</b> , 92, 176-201	26
1534	Determining the Gaussian Modulus and Edge Properties of 2D Materials: From Graphene to Lipid Bilayers. <b>2017</b> , 119, 068002	17
1533	Raman evidence for pressure-induced formation of diamondene. <b>2017</b> , 8, 96	94
1532	The prediction of a family group of two-dimensional node-line semimetals. <b>2017</b> , 9, 13112-13118	43
1531	Protection of boron nitride nanosheets by atomic layer deposition toward thermal energy management applications. <b>2017</b> , 40, 149-154	4
1530	Anisotropic carrier mobility in two-dimensional materials with tilted Dirac cones: theory and application. <b>2017</b> , 19, 23942-23950	40
1529	Improving MOCVD MoS <sub>2</sub> Electrical Performance: Impact of Minimized Water and Air Exposure Conditions. <b>2017</b> , 38, 1606-1609	28
1528	van der Waals Layered Materials: Opportunities and Challenges. <i>ACS Nano</i> , <b>2017</b> , 11, 11803-11830	16.7 258
1527	Facile synthesis and characterization of ultrathin MnO <sub>2</sub> nanoflakes. <b>2017</b> , 7, 55734-55740	22
1526	Theoretical prediction of phonon-mediated superconductivity with T <sub>c</sub> ≈ 25 K in Li-intercalated hexagonal boron nitride bilayer. <b>2017</b> , 10, 093101	13
1525	Synthesis of Vertical MoO <sub>2</sub> /MoS <sub>2</sub> Core/Shell Structures on an Amorphous Substrate via Chemical Vapor Deposition. <b>2017</b> , 121, 27693-27699	16
1524	Two-Dimensional Semiconducting Boron Monolayers. <b>2017</b> , 139, 17233-17236	34
1523	Low sub-threshold swing realization with contacts of graphene/h-BN/MoS <sub>2</sub> heterostructures in MoS <sub>2</sub> transistors. <b>2017</b> , 111, 193502	22
1522	Theoretical exploration of the potential applications of Sc-based MXenes. <b>2017</b> , 19, 32253-32261	23
1521	Design, Synthesis, and Surface Modification of Materials Based on Transition-Metal Dichalcogenides for Biomedical Applications. <b>2017</b> , 1, 1700220	64
1520	Electrostatically driven scalable synthesis of MoS <sub>2</sub> /graphene hybrid films assisted by hydrophobins. <b>2017</b> , 7, 50166-50175	16

1519	1T-Phase Transition Metal Dichalcogenides (MoS, MoSe, WS, and WSe) with Fast Heterogeneous Electron Transfer: Application on Second-Generation Enzyme-Based Biosensor. <b>2017</b> , 9, 40697-40706	95
1518	Pure spin current injection in hydrogenated graphene structures. <b>2017</b> , 96,	3
1517	Giant Spin Lifetime Anisotropy in Graphene Induced by Proximity Effects. <b>2017</b> , 119, 206601	115
1516	Nanoribbon edges of transition-metal dichalcogenides: Stability and electronic properties. <b>2017</b> , 96,	15
1515	(Invited) Scalable Growth of Two-Dimensional Materials $\square$ Prerequisite for Process Integration. <b>2017</b> , 80, 259-270	
1514	Atomistic potential for graphene and other sp carbon systems. <b>2017</b> , 19, 30925-30932	6
1513	Large magneto-optical effects in hole-doped blue phosphorene and gray arsenene. <b>2017</b> , 9, 17405-17414	16
1512	Critical behavior of the van der Waals bonded ferromagnet $\text{Fe}_3\text{GeTe}_2$ . <b>2017</b> , 96,	43
1511	Low-Frequency Shear and Layer-Breathing Modes in Raman Scattering of Two-Dimensional Materials. <i>ACS Nano</i> , <b>2017</b> , 11, 11777-11802	16.7 109
1510	Partial reduction of graphene oxide upon intercalation into exfoliated manganese thiophosphate. <b>2017</b> , 97, 2484-2495	3
1509	Lifting the mist of flatland: The recent progress in the characterizations of two-dimensional materials. <b>2017</b> , 63, 72-93	6
1508	Synthesis, structure and applications of graphene-based 2D heterostructures. <b>2017</b> , 46, 4572-4613	206
1507	Graphene-coupled nitrogen-enriched porous carbon nanosheets for energy storage. <b>2017</b> , 5, 16732-16739	28
1506	Epitaxial growth of HfS <sub>2</sub> on sapphire by chemical vapor deposition and application for photodetectors. <b>2017</b> , 4, 031012	36
1505	Antiferromagnetism in the van der Waals layered spin-lozenge semiconductor $\text{CrTe}_3$ . <b>2017</b> , 95,	28
1504	TiO <sub>2</sub> nanoparticles-functionalized two-dimensional WO <sub>3</sub> for high-performance supercapacitors developed by facile two-step ALD process. <b>2017</b> , 12, 55-62	19
1503	Effect of Doping in Controlling the Structure, Reactivity, and Electronic Properties of Pristine and Ca(II)-Intercalated Layered Silicene. <b>2017</b> , 121, 15169-15180	16
1502	High-response hybrid quantum dots- 2D conductor phototransistors: recent progress and perspectives. <b>2017</b> , 6, 1263-1280	19

1501	Tunnelling characteristics of Stone-Wales defects in monolayers of Sn and group-V elements. <b>2017</b> , 29, 395501	7
1500	Excitonic mass gap in uniaxially strained graphene. <b>2017</b> , 95,	12
1499	Uniform large-area growth of nanotemplated high-quality monolayer MoS <sub>2</sub> . <b>2017</b> , 110, 263103	6
1498	Graphene/Mo <sub>2</sub> C heterostructure directly grown by chemical vapor deposition. <b>2017</b> , 26, 067901	21
1497	Molecular beam epitaxy of thin HfTe <sub>2</sub> semimetal films. <b>2017</b> , 4, 015001	47
1496	Spectroscopic imaging ellipsometry for automated search of flakes of mono- and n-layers of 2D-materials. <b>2017</b> , 421, 435-439	21
1495	Quantum Confinement and Gas Sensing of Mechanically Exfoliated GaSe. <b>2017</b> , 2, 1600197	22
1494	General overview of graphene: Production, properties and application in polymer composites. <b>2017</b> , 215, 9-28	210
1493	Scalable exfoliation and dispersion of two-dimensional materials - an update. <b>2017</b> , 19, 921-960	214
1492	Cytotoxicity of Exfoliated Layered Vanadium Dichalcogenides. <b>2017</b> , 23, 684-690	34
1491	Probing the intrinsic optical quality of CVD grown MoS <sub>2</sub> . <b>2017</b> , 10, 1608-1617	51
1490	Surface chemistry and catalysis confined under two-dimensional materials. <b>2017</b> , 46, 1842-1874	309
1489	Plasmon spectroscopy of graphene and other two-dimensional materials with transmission electron microscopy. <b>2017</b> , 65, 88-99	25
1488	Tunable magneto-optical effects in hole-doped group-III A metal-monochalcogenide monolayers. <b>2017</b> , 4, 015017	35
1487	Biocompatibility and Nanotoxicity of Layered Two-Dimensional Nanomaterials. <b>2017</b> , 3, 5-16	59
1486	Deconvoluting the Photonic and Electronic Response of 2D Materials: The Case of MoS. <b>2017</b> , 7, 16938	18
1485	On electronic structure and geometry of MoX <sub>2</sub> (X = S, Se, Te) and black phosphorus by ab initio Simulation with various van der waals corrections. <b>2017</b> ,	1
1484	Audience Based View of Publication Impact. <b>2017</b> ,	1

1483	Probing effect of electric field on photocarrier transfer in graphene-WS <sub>2</sub> van der Waals heterostructures. <b>2017</b> , 25, 1949-1957	19
1482	Noncovalent Interactions in Nanotechnology. <b>2017</b> , 417-451	5
1481	Structural model of silicene-like nanoribbons on a Pb-reconstructed Si(111) surface. <b>2017</b> , 8, 1836-1843	4
1480	The Advent of Indium Selenide: Synthesis, Electronic Properties, Ambient Stability and Applications. <b>2017</b> , 7,	35
1479	Patterning of supported gold monolayers via chemical lift-off lithography. <b>2017</b> , 8, 2648-2661	15
1478	Pronounced Photovoltaic Response from Multi-layered MoTe Phototransistor with Asymmetric Contact Form. <b>2017</b> , 12, 603	5
1477	Tuning the Electronic Structure of Hydrogen-Decorated Silicene. <b>2017</b> , 2, 1	7
1476	Electronic and magnetic properties of SnS <sub>2</sub> monolayer doped with 4 d transition metals. <b>2017</b> , 438, 152-162	18
1475	Manipulating polarized light with a planar slab of black phosphorus. <b>2017</b> , 1, 045003	17
1474	Electronic Transport in Two-Dimensional Materials. <b>2018</b> , 69, 299-325	145
1473	Photodeposited metal-semiconductor nanocomposites and their applications. <b>2018</b> , 4, 83-94	18
1472	Two-dimensional transition metal dichalcogenides: interface and defect engineering. <b>2018</b> , 47, 3100-3128	381
1471	Facile approach to synthesis the curly leaf-like Nano-sheets of g-C <sub>3</sub> N <sub>4</sub> with enhanced photocatalytic ability. <b>2018</b> , 5, 035507	
1470	A New Holistic Model of 2-D Semiconductor FETs. <b>2018</b> , 65, 1239-1245	22
1469	Spin Proximity Effects in Graphene/Topological Insulator Heterostructures. <b>2018</b> , 18, 2033-2039	65
1468	First principles analysis of the CDW instability of single-layer 1 T -TlSe <sub>2</sub> and its evolution with charge carrier density. <b>2018</b> , 5, 025024	14
1467	A review on chemiresistive room temperature gas sensors based on metal oxide nanostructures, graphene and 2D transition metal dichalcogenides. <b>2018</b> , 185, 213	350
1466	Lithiation/Delithiation Synthesis of Few Layer Silicene Nanosheets for Rechargeable Li-O Batteries. <b>2018</b> , 30, e1705523	40

- 1465 Tunable Electronic and Optical Properties of Monolayer and Multilayer Janus MoSSe as a Photocatalyst for Solar Water Splitting: A First-Principles Study. **2018**, 122, 6209-6216 161
- 1464 Front-End-of-Line Integration of Graphene Oxide for Graphene-Based Electrical Platforms. **2018**, 3, 1700318 11
- 1463 Recent progress in ultrathin two-dimensional semiconductors for photocatalysis. **2018**, 130, 1-39 88
- 1462 Insights into the electronic properties and reactivity of graphene-like BC<sub>3</sub> supported metal catalysts. **2018**, 42, 11299-11311 4
- 1461 Rashba effect and enriched spin-valley coupling in GaX/MX<sub>2</sub> (M = Mo, W; X = S, Se, Te) heterostructures. **2018**, 97, 31
- 1460 Manifold Coupling Mechanisms of Transition Metal Dichalcogenides to Plasmonic Gold Nanoparticle Arrays. **2018**, 122, 9663-9670 6
- 1459 Piezoelectric properties in two-dimensional materials: Simulations and experiments. **2018**, 21, 611-630 127
- 1458 AC phase sensing of graphene FETs for chemical vapors with fast recovery and minimal baseline drift. **2018**, 263, 94-102 39
- 1457 Thermodynamics and Kinetics Synergetic Phase-Engineering of Chemical Vapor Deposition Grown Single Crystal MoTe<sub>2</sub> Nanosheets. **2018**, 18, 2844-2850 11
- 1456 Chiral MoS Quantum Dots: Dual-Mode Detection Approaches for Avian Influenza Viruses. **2018**, 2, 1700071 12
- 1455 Recent progress in plasma-assisted synthesis and modification of 2D materials. **2018**, 5, 032002 39
- 1454 Hysteresis features of the transition-metal dichalcogenides VX<sub>2</sub> (X = S, Se, and Te). **2018**, 5, 046108 15
- 1453 Anomalous Hall effect in the van der Waals bonded ferromagnet Fe<sub>3</sub>GeTe<sub>2</sub>. **2018**, 97, 26
- 1452 Deformation Mechanisms of Vertically Stacked WS<sub>2</sub>/MoS<sub>2</sub> Heterostructures: The Role of Interfaces. *ACS Nano*, **2018**, 12, 4036-4044 16.7 35
- 1451 The organic-2D transition metal dichalcogenide heterointerface. **2018**, 47, 3241-3264 113
- 1450 Tunable Resonance Coupling in Single Si Nanoparticle-Monolayer WS<sub>2</sub> Structures. **2018**, 10, 16690-16697 54
- 1449 Minimizing residues and strain in 2D materials transferred from PDMS. **2018**, 29, 265203 59
- 1448 Effect of stacking order and in-plane strain on the electronic properties of bilayer GeSe. **2018**, 20, 6929-6935 25

1447	Three-Dimensional Integrated X-ray Diffraction Imaging of a Native Strain in Multi-Layered WSe. <b>2018</b> , 18, 1993-2000	8
1446	Magnetic Defects in Transitional Metal Di-Chalcogenide Semiconducting Layers. <b>2018</b> , 3, 351-357	1
1445	Two-Dimensional Phosphorus-Doped Carbon Nanosheets with Tunable Porosity for Oxygen Reactions in Zinc-Air Batteries. <b>2018</b> , 8, 2464-2472	129
1444	Synthesis of MoAlB Particulates and Their Porous Derivatives by Selective Deintercalation of Al from MoAlB. <b>2018</b> , 535-541	1
1443	First-Principles Study on Layered CN-Metal Interfaces. <b>2018</b> , 34, 2647-2653	10
1442	Time-dependent first-principles study of angle-resolved secondary electron emission from atomic sheets. <b>2018</b> , 97,	13
1441	Synthesis of molybdenum nitrides nanosheets by nitriding 2H-MoS <sub>2</sub> with ammonia. <b>2018</b> , 101, 2796-2808	18
1440	Two-Dimensional Fluorinated Boron Sheets: Mechanical, Electronic, and Thermal Properties. <b>2018</b> , 3, 1815-1822	38
1439	Energy dissipation mechanism revealed by spatially resolved Raman thermometry of graphene/hexagonal boron nitride heterostructure devices. <b>2018</b> , 5, 025009	9
1438	Transition-Metal Oxide (111) Bilayers. <b>2018</b> , 87, 041006	14
1437	Tuning the Electronic and Photonic Properties of Monolayer MoS <sub>2</sub> via In Situ Rhenium Substitutional Doping. <b>2018</b> , 28, 1706950	85
1436	Impact of vacancies on electronic properties of black phosphorus probed by STM. <b>2018</b> , 123, 044301	23
1435	Exploring Two-Dimensional Materials toward the Next-Generation Circuits: From Monomer Design to Assembly Control. <b>2018</b> , 118, 6236-6296	261
1434	Monolayered Silicon and Germanium Monopnictide Semiconductors: Excellent Stability, High Absorbance, and Strain Engineering of Electronic Properties. <b>2018</b> , 10, 5133-5139	62
1433	Beyond van der Waals Interaction: The Case of MoSe Epitaxially Grown on Few-Layer Graphene. <i>ACS Nano</i> , <b>2018</b> , 12, 2319-2331	16.7 29
1432	Condition optimization for exfoliation of two dimensional titanium carbide (TiCT ). <b>2018</b> , 29, 095605	35
1431	Dynamical phase transition characteristics of FeC <sub>2</sub> monolayer. <b>2018</b> , 5, 026101	1
1430	On-surface synthesis: a promising strategy toward the encapsulation of air unstable ultra-thin 2D materials. <b>2018</b> , 10, 3799-3804	16

1429	Tailoring the Surface Chemical Reactivity of Transition-Metal Dichalcogenide PtTe <sub>2</sub> Crystals. <b>2018</b> , 28, 1706504	43
1428	Structural Engineering of 2D Nanomaterials for Energy Storage and Catalysis. <b>2018</b> , 30, e1706347	224
1427	Cutting Materials in Half: A Graph Theory Approach for Generating Crystal Surfaces and Its Prediction of 2D Zeolites. <b>2018</b> , 4, 235-245	31
1426	Controlling Sulfur Vacancies in TiS <sub>2</sub> Cathode Insertion Hosts via the Conversion of TiS <sub>3</sub> Nanobelts for Energy-Storage Applications. <b>2018</b> , 1, 851-859	27
1425	Visualization and manipulation of magnetic domains in the quasi-two-dimensional material Fe <sub>3</sub> GeTe <sub>2</sub> . <b>2018</b> , 97,	49
1424	Tunable Polarity Behavior and High-Performance Photosensitive Characteristics in Schottky-Barrier Field-Effect Transistors Based on Multilayer WS. <b>2018</b> , 10, 2745-2751	13
1423	van der Waals epitaxy of SnS film on single crystal graphene buffer layer on amorphous SiO <sub>2</sub> /Si. <b>2018</b> , 435, 759-768	8
1422	Electrical Characterization of Discrete Defects and Impact of Defect Density on Photoluminescence in Monolayer WS. <i>ACS Nano</i> , <b>2018</b> , 12, 1793-1800	16.7 70
1421	Gapped electronic structure of epitaxial stanene on InSb(111). <b>2018</b> , 97,	68
1420	Interplay of Structural and Bonding Characters in Thermal Conductivity and Born-Effective Charge of Transition Metal Dichalcogenides. <b>2018</b> , 122, 2521-2527	7
1419	Light-Emitting Transition Metal Dichalcogenide Monolayers under Cellular Digestion. <b>2018</b> , 30, 1703321	12
1418	Single layer molybdenum disulfide as an optical nanoprobe for 2 photon luminescence and second harmonic generation cell imaging. <b>2018</b> , 11, e201700354	1
1417	A reliable and highly efficient exfoliation method for water-dispersible MoS nanosheet. <b>2018</b> , 514, 642-647	19
1416	Atlas for the properties of elemental two-dimensional metals. <b>2018</b> , 97,	46
1415	Topological Insulator in Two-Dimensional SiGe Induced by Biaxial Tensile Strain. <b>2018</b> , 3, 1-7	18
1414	Tuning the electronic properties of germanene by molecular adsorption and under an external electric field. <b>2018</b> , 6, 5937-5948	22
1413	Atomic-scale defects and electronic properties of a transferred synthesized MoS monolayer. <b>2018</b> , 29, 305703	12
1412	MoS/ZnO van der Waals heterostructure as a high-efficiency water splitting photocatalyst: a first-principles study. <b>2018</b> , 20, 13394-13399	200



1411	Half-metallicity in a honeycomb-kagome-lattice MgC monolayer with carrier doping. <b>2018</b> , 20, 14166-14173	11
1410	Layer-by-layer self-assembled two-dimensional MXene/layered double hydroxide composites as cathode for alkaline hybrid batteries. <b>2018</b> , 390, 208-214	37
1409	Two-step vapor deposition of self-catalyzed large-size PbI <sub>2</sub> nanobelts for high-performance photodetectors. <b>2018</b> , 6, 5746-5753	22
1408	Parallel boron nitride nanoribbons and etch tracks formed through catalytic etching. <b>2018</b> , 11, 4874-4882	5
1407	Nanoscale doping heterogeneity in few-layer WSe <sub>2</sub> exfoliated onto noble metals revealed by correlated SPM and TERS imaging. <b>2018</b> , 5, 035003	14
1406	Theoretical study of ozone adsorption on the surface of Fe, Co and Ni doped boron nitride nanosheets. <b>2018</b> , 444, 642-649	15
1405	Epitaxially grown monolayer VSe <sub>2</sub> : an air-stable magnetic two-dimensional material with low work function at edges. <b>2018</b> , 63, 419-425	61
1404	Enhanced electronic and magnetic properties by functionalization of monolayer GaS via substitutional doping and adsorption. <b>2018</b> , 30, 195805	7
1403	Hydrogen production from methanol aqueous solution by ZnO/Zn(OH) <sub>2</sub> macrostructure photocatalysts. <b>2018</b> , 8, 11395-11402	7
1402	Anhydrous Liquid-Phase Exfoliation of Pristine Electrochemically Active GeS Nanosheets. <b>2018</b> , 30, 2245-2250	26
1401	Robust half-metallicities and perfect spin transport properties in 2D transition metal dichlorides. <b>2018</b> , 6, 4087-4094	48
1400	Strain-mediated electronic properties of pristine and Mn-doped GaN monolayers. <b>2018</b> , 5, 045001	3
1399	Electrostatics of electron-hole interactions in van der Waals heterostructures. <b>2018</b> , 97,	20
1398	Giant Mechano-Optoelectronic Effect in an Atomically Thin Semiconductor. <b>2018</b> , 18, 2351-2357	27
1397	Effect of 10B isotope and vacancy defects on the phonon modes of two-dimensional hexagonal boron nitride. <b>2018</b> , 57, 02CB04	3
1396	Strain mapping in single-layer two-dimensional crystals via Raman activity. <b>2018</b> , 97,	32
1395	Dislocation-driven growth of two-dimensional lateral quantum-well superlattices. <b>2018</b> , 4, eaap9096	30
1394	Emerging Two-Dimensional Nanomaterials for Electrocatalysis. <b>2018</b> , 118, 6337-6408	1057

1393	First-principles study on the gas sensing property of the Ge, As, and Br doped PtSe <sub>2</sub> . <b>2018</b> , 5, 035037	8
1392	Resolving localized phonon modes on graphene/Ir(111) by inelastic atom scattering. <b>2018</b> , 133, 31-38	3
1391	Digenite (Cu <sub>9</sub> S <sub>5</sub> ): Layered p-Type Semiconductor Grown by Reactive Annealing of Copper. <b>2018</b> , 30, 2379-2388	22
1390	Novel nanostructured thermal interface materials: a review. <b>2018</b> , 63, 22-45	143
1389	Epitaxial Growth of Two-Dimensional Layered Transition-Metal Dichalcogenides: Growth Mechanism, Controllability, and Scalability. <b>2018</b> , 118, 6134-6150	206
1388	2D nanomaterials assembled from sequence-defined molecules. <b>2018</b> , 15, 153-166	16
1387	Recent progress on exploring exceptionally high and anisotropic H/OH ion conduction in two-dimensional materials. <b>2018</b> , 9, 33-43	35
1386	Analyzing the application of silicon/silver 2D nanomaterials/Al <sub>2</sub> O <sub>3</sub> heterojunction in plasmonic sensor and its performance evaluation. <b>2018</b> , 410, 75-82	4
1385	The influence of the environment on monolayer tungsten diselenide photoluminescence. <b>2018</b> , 15, 84-97	19
1384	Density functional theory calculations of biomolecules adsorption on phosphorene for biomedical applications. <b>2018</b> , 427, 1227-1234	25
1383	First-principle study of the Nbn+1CnT <sub>2</sub> systems as electrode materials for supercapacitors. <b>2018</b> , 143, 225-231	19
1382	Katalyse der Kohlenstoffdioxid-Photoreduktion an Nanoschichten: Grundlagen und Herausforderungen. <b>2018</b> , 130, 7734-7752	19
1381	Casting a Wider Net: Rational Synthesis Design of Low-Dimensional Bulk Materials. <b>2018</b> , 51, 12-20	11
1380	The transport and optical sensing properties of MoS <sub>2</sub> , MoSe <sub>2</sub> , WS <sub>2</sub> and WSe <sub>2</sub> semiconducting transition metal dichalcogenides. <b>2018</b> , 33, 025002	41
1379	Two-dimensional material functional devices enabled by direct laser fabrication. <b>2018</b> , 11, 2-22	21
1378	Edge orientations of mechanically exfoliated anisotropic two-dimensional materials. <b>2018</b> , 112, 157-168	15
1377	Group 6 transition metal dichalcogenide nanomaterials: synthesis, applications and future perspectives. <b>2018</b> , 3, 90-204	203
1376	Catalysis of Carbon Dioxide Photoreduction on Nanosheets: Fundamentals and Challenges. <b>2018</b> , 57, 7610-7627	242

1375	Electronic and magnetic properties of monolayer $\text{HfRuCl}$ : a first-principles and Monte Carlo study. <b>2018</b> , 20, 997-1004	42
1374	Substrate effects in high gain, low operating voltage SnSe photoconductor. <b>2018</b> , 29, 035205	18
1373	Reduced graphene oxide film with record-high conductivity and mobility. <b>2018</b> , 21, 186-192	110
1372	Lateral heterostructures of two-dimensional materials by electron-beam induced stitching. <b>2018</b> , 128, 106-116	17
1371	Tuning the electronic and optical properties of XP(X = Al,Ga) monolayer semiconductors using biaxial strain effect: Modified Becke-Johnson calculations. <b>2018</b> , 691, 181-189	13
1370	Thiol-modified MoS <sub>2</sub> nanosheets as a functional layer for electrical bistable devices. <b>2018</b> , 406, 112-117	5
1369	Conversion of Multi-layered MoTe Transistor Between P-Type and N-Type and Their Use in Inverter. <b>2018</b> , 13, 291	15
1368	The role of Anderson's rule in determining electronic, optical and transport properties of transition metal dichalcogenide heterostructures. <b>2018</b> , 20, 30351-30364	28
1367	Highly active single-layer MoS catalysts synthesized by swift heavy ion irradiation. <b>2018</b> , 10, 22908-22916	26
1366	Transition metal dichalcogenide quantum dots: synthesis, photoluminescence and biological applications. <b>2018</b> , 6, 8011-8036	28
1365	Micro-Extinction Spectroscopy (MEXS): a versatile optical characterization technique. <b>2018</b> , 4,	12
1364	Influence of Transition Metal Dichalcogenide Surfaces on Cellular Morphology and Adhesion.. <b>2018</b> , 1, 1448-1457	10
1363	Dialkali-Metal Monochalcogenide Semiconductors with High Mobility and Tunable Magnetism. <b>2018</b> , 9, 6695-6701	12
1362	Properties of Synthetic Two-Dimensional Materials and Heterostructures. <b>2018</b> ,	2
1361	Strength and toughness anisotropy in hexagonal boron nitride: An atomistic picture. <b>2018</b> , 124, 185108	9
1360	Effect of Dipole Corrections and Spin Orbit Coupling on Tungsten Dichalcogenides Monolayer: A in Silico First Principles Study. <b>2018</b> ,	3
1359	Self-Assembly and Exfoliation of a Molecular Solid Based on Cooperative $\text{B}\ddot{\text{N}}$ and Hydrogen Bonds. <b>2018</b> , 18, 7259-7263	7
1358	Structure and electronic properties of the $(3\text{B})\text{R}30\text{?SnAu}_2/\text{Au}(111)$ surface alloy. <b>2018</b> , 98,	13

1357	Electronic and Optical Properties of 2D Transition Metal Carbides and Nitrides (MXenes). <b>2018</b> , 30, e1804779	464
1356	Photonic spin Hall effect of monolayer black phosphorus in the Terahertz region. <b>2018</b> , 7, 1929-1937	38
1355	Anisotropic Third-Order Nonlinearity in Pristine and Lithium Hydride Intercalated Black Phosphorus. <b>2018</b> , 5, 4969-4977	21
1354	Two-dimensional nanomaterials for novel piezotronics and piezophototronics. <b>2018</b> , 4, 17-31	57
1353	. <b>2018</b> ,	8
1352	Scientific worth of polymer and graphene foam-based nanomaterials. <b>2018</b> , 6, 779-800	4
1351	Recent advances in emerging 2D nanomaterials for biosensing and bioimaging applications. <b>2018</b> , 21, 164-177	104
1350	Observation of interface superconductivity in a SnSe <sub>2</sub> /epitaxial graphene van der Waals heterostructure. <b>2018</b> , 98,	26
1349	Dependence of h-BN Film Thickness as Grown on Nickel Single-Crystal Substrates of Different Orientations. <b>2018</b> , 10, 44862-44870	9
1348	Broadly Tunable Plasmons in Doped Oxide Nanoparticles for Ultrafast and Broadband Mid-Infrared All-Optical Switching. <i>ACS Nano</i> , <b>2018</b> , 12, 12770-12777	16.7 32
1347	Quasi-1D TiS Nanoribbons: Mechanical Exfoliation and Thickness-Dependent Raman Spectroscopy. <i>ACS Nano</i> , <b>2018</b> , 12, 12713-12720	16.7 41
1346	Laser Synthesis, Processing, and Spectroscopy of Atomically-Thin Two Dimensional Materials. <b>2018</b> , 1-37	
1345	Spin gapless semiconductor and half-metal properties in magnetic penta-hexa-graphene nanotubes. <b>2018</b> , 63, 310-317	20
1344	Band Structure Engineering in 2D Materials for Optoelectronic Applications. <b>2018</b> , 3, 1800072	48
1343	Tarnishing Silver Metal into Mithrene. <b>2018</b> , 140, 13892-13903	18
1342	An Insight into the Phase Transformation of WS upon Fluorination. <b>2018</b> , 30, e1803366	15
1341	Large magneto-optical effects and magnetic anisotropy energy in two-dimensional Cr <sub>2</sub> Ge <sub>2</sub> Te <sub>6</sub> . <b>2018</b> , 98,	71
1340	Recent Advances in Synthesis and Applications of 2D Junctions. <b>2018</b> , 14, e1801606	16

1339	Fabrication of Sub-Micrometer-Sized MoS Thin-Film Transistor by Phase Mode AFM Lithography. <b>2018</b> , 14, e1803273	12
1338	Contact and Noncontact Measurement of Electronic Transport in Individual 2D SnS Colloidal Semiconductor Nanocrystals. <i>ACS Nano</i> , <b>2018</b> , 12, 10045-10060	16.7 13
1337	2D layered transition metal dichalcogenides (MoS <sub>2</sub> ): Synthesis, applications and theoretical aspects. <b>2018</b> , 13, 242-270	75
1336	Defects in h-BN tunnel barrier for local electrostatic probing of two dimensional materials. <b>2018</b> , 6, 091102	8
1335	Beyond ideal two-dimensional metals: Edges, vacancies, and polarizabilities. <b>2018</b> , 98,	8
1334	Trivacancy and Stone-Wales defected silicene for adsorption of small gas molecules. <b>2018</b> , 154, 276-283	7
1333	Esaki Diodes Based on 2-D/3-D Heterojunctions. <b>2018</b> , 65, 4155-4159	7
1332	Self-Assembly of Large-Area 2D Polycrystalline Transition Metal Carbides for Hydrogen Electrocatalysis. <b>2018</b> , 30, e1805188	59
1331	Two-Dimensional Materials. <b>2018</b> , 1-19	
1330	Construction of Hierarchical Natural Fabric Surface Structure Based on Two-Dimensional Boron Nitride Nanosheets and Its Application for Preparing Biobased Toughened Unsaturated Polyester Resin Composites. <b>2018</b> , 10, 40168-40179	32
1329	Metallic 1T-MoS <sub>2</sub> nanosheets and their composite materials: Preparation, properties and emerging applications. <b>2018</b> , 10, 264-279	39
1328	Magnetic and electrocatalytic properties of transition metal doped MoS <sub>2</sub> nanocrystals. <b>2018</b> , 124, 153903	26
1327	Molecular Functionalization of Two-Dimensional MoS Nanosheets. <b>2018</b> , 24, 18246-18257	41
1326	Functionalization of MnSe Monolayer via Adsorption of Small Molecule for Gas Sensing. <b>2018</b> , 6, 430	10
1325	Strong coupling between excitons in transition metal dichalcogenides and optical bound states in the continuum. <b>2018</b> , 98,	43
1324	Silicene: When Silicon Mimics Graphene. <b>2018</b> , 318-331	
1323	Inelastic electron tunneling spectroscopy by STM of phonons at solid surfaces and interfaces. <b>2018</b> , 93, 131-145	4
1322	Inhomogeneous Strain Release during Bending of WS on Flexible Substrates. <b>2018</b> , 10, 39177-39186	9

1321	Comparison of Electrical and Photoelectrical Properties of ReS Field-Effect Transistors on Different Dielectric Substrates. <b>2018</b> , 10, 32501-32509	27
1320	Ultrathin and Edge-Enriched Holey Nitride Nanosheets as Bifunctional Electrocatalysts for the Oxygen and Hydrogen Evolution Reactions. <b>2018</b> , 8, 9686-9696	51
1319	Valley-Selective Response of Nanostructures Coupled to 2D Transition-Metal Dichalcogenides. <b>2018</b> , 8, 1157	18
1318	H <sub>2</sub> S adsorption process on (0001) $\alpha$ -quartz SiO <sub>2</sub> surfaces. <b>2018</b> , 124, 115301	10
1317	One-Dimensional Atomic Segregation at Semiconductor-Metal Interfaces of Polymorphic Transition Metal Dichalcogenide Monolayers. <b>2018</b> , 18, 6157-6163	2
1316	Electronic structure calculations for rhenium carbonitride: an extended Hückel tight-binding study. <b>2018</b> , 93, 115801	0
1315	Rabi Splitting in a Plasmonic Nanocavity Coupled to a WS <sub>2</sub> Monolayer at Room Temperature. <b>2018</b> , 5, 3970-3976	83
1314	High-Vacuum Particulate-Free Deposition of Wafer-Scale Mono-, Bi-, and Trilayer Molybdenum Disulfide with Superior Transport Properties. <b>2018</b> , 10, 33457-33463	5
1313	Progress in Contact, Doping and Mobility Engineering of MoS <sub>2</sub> : An Atomically Thin 2D Semiconductor. <b>2018</b> , 8, 316	75
1312	2D-MoS-Based $\beta$ -Lactamase Inhibitor for Combination Therapy against Drug-Resistant Bacteria.. <b>2018</b> , 1, 967-974	23
1311	Valence band inversion and spin-orbit effects in the electronic structure of monolayer GaSe. <b>2018</b> , 98,	34
1310	Graphene & two-dimensional devices for bioelectronics and neuroprosthetics. <b>2018</b> , 5, 042004	24
1309	A Self-Assembling Two-Dimensional Protein Array is a Versatile Platform for the Assembly of Multicomponent Nanostructures. <b>2018</b> , 13, e1800141	8
1308	Mapping the elastic properties of two-dimensional MoS <sub>2</sub> via bimodal atomic force microscopy and finite element simulation. <b>2018</b> , 4,	41
1307	Extraction of Intrinsic Electrical Parameters in Partially Depleted MoS <sub>2</sub> Field-Effect Transistors. <b>2018</b> , 65, 3050-3053	6
1306	Boron Nitride for Hydrogen Storage. <b>2018</b> , 83, 893-903	25
1305	Proximity exchange induced gap opening and topological feature in graphene/1T'-MX (M = Mo,W; X = S,Se,Te) Dirac heterostructures. <b>2018</b> , 30, 275001	3
1304	Structural, electronic, and magnetic properties of gas molecules on Mo-, Si-, and Pt-doped BC <sub>3</sub> sheets. <b>2018</b> , 121, 247-255	7

1303	Two-dimensional ferromagnetism in few-layer van der Waals crystals: Renormalized spin-wave theory and calculations. <b>2018</b> , 463, 28-35	21
1302	Optical Gating of Graphene on Photoconductive Fe:LiNbO. <i>ACS Nano</i> , <b>2018</b> , 12, 5940-5945	16.7 19
1301	High-Sensitivity Photodetector Based on Atomically Thin MoS <sub>2</sub> . <b>2018</b> , 52, 771-775	1
1300	Nanosheets of Nonlayered Aluminum Metal-Organic Frameworks through a Surfactant-Assisted Method. <b>2018</b> , 30, e1707234	80
1299	Flux-Mediated Topochemical Growth of Platelet-Shaped Perovskite LiNbO <sub>3</sub> Single Crystals from Layered Potassium Niobate Crystals. <b>2018</b> , 18, 4111-4116	3
1298	One step sputtered grown MoS <sub>2</sub> nanoworms binder free electrodes for high performance supercapacitor application. <b>2018</b> , 43, 11141-11149	39
1297	Emerging trends in 2D nanotechnology that are redefining our understanding of Nanocomposites <b>2018</b> , 21, 18-40	47
1296	Synthesis and Characterization of Phosphorene: A Novel 2D Material. <b>2018</b> , 61-92	0
1295	Dirac Electrons at the Source: Breaking the 60-mV/Decade Switching Limit. <b>2018</b> , 65, 2736-2743	38
1294	Study of the Intrinsic Limitations of the Contact Resistance of Metal/Semiconductor Interfaces through Atomistic Simulations. <b>2018</b> , 7, N73-N80	7
1293	Enhanced sunlight-driven photocatalytic property of Mg-doped ZnO nanocomposites with three-dimensional graphene oxide/MoS nanosheet composites.. <b>2018</b> , 8, 17399-17409	18
1292	Layer-by-Layer Oxidation Induced Electronic Properties in Transition-Metal Dichalcogenides. <b>2018</b> , 122, 17001-17007	10
1291	The rise of two-dimensional MoS <sub>2</sub> for catalysis. <b>2018</b> , 13, 1	62
1290	A Solid-State Fibriform Supercapacitor Boosted by Host-Guest Hybridization between the Carbon Nanotube Scaffold and MXene Nanosheets. <b>2018</b> , 14, e1801203	99
1289	Roadmap on finding chiral valleys: screening 2D materials for valleytronics. <b>2018</b> , 2, 032001	34
1288	MoS <sub>2</sub> nanosheets via electrochemical lithium-ion intercalation under ambient conditions. <b>2018</b> , 9, 33-39	28
1287	Epitaxial growth and physical properties of 2D materials beyond graphene: from monatomic materials to binary compounds. <b>2018</b> , 47, 6073-6100	63
1286	Boosting the performance of a nanoscale graphene nanoribbon field-effect transistor using graded gate engineering. <b>2018</b> , 17, 1276-1284	19

1285	Large-size niobium disulfide nanoflakes down to bilayers grown by sulfurization. <b>2018</b> , 11, 5978-5988	15
1284	Mithrene Is a Self-Assembling Robustly Blue Luminescent MetalOrganic Chalcogenolate Assembly for 2D Optoelectronic Applications. <b>2018</b> , 1, 3498-3508	18
1283	Dimensionality of excitons in stacked van der Waals materials: The example of hexagonal boron nitride. <b>2018</b> , 97,	27
1282	Ultraviolet Light-Induced Persistent and Degenerated Doping in MoS for Potential Photocontrollable Electronics Applications. <b>2018</b> , 10, 27840-27849	8
1281	Recent Advances in Growth of Novel 2D Materials: Beyond Graphene and Transition Metal Dichalcogenides. <b>2018</b> , 30, e1800865	135
1280	Universal Scaling Laws in Schottky Heterostructures Based on Two-Dimensional Materials. <b>2018</b> , 121, 056802	80
1279	Nanophotonics with 2D transition metal dichalcogenides [Invited]. <b>2018</b> , 26, 15972-15994	91
1278	Two-dimensional materials: Emerging toolkit for construction of ultrathin high-efficiency microwave shield and absorber. <b>2018</b> , 13, 1	33
1277	Physics of intrinsic point defects in bismuth oxychalcogenides: A first-principles investigation. <b>2018</b> , 124, 055701	16
1276	Interlayer coupling in two-dimensional semiconductor materials. <b>2018</b> , 33, 093001	23
1275	Fully Transparent p-MoTe <sub>2</sub> 2D Transistors Using Ultrathin MoO <sub>x</sub> /Pt Contact Media for Indium-Tin-Oxide Source/Drain. <b>2018</b> , 28, 1801204	20
1274	Can an element form a two-dimensional nanosheet of type 15 pentagons?. <b>2018</b> , 154, 37-40	31
1273	Size-Dependent Nonlinear Optical Response of Black Phosphorus Liquid Phase Exfoliated Nanosheets in Nanosecond Regime. <b>2018</b> , 5, 3608-3612	20
1272	2D Materials Beyond Graphene for Metal Halide Perovskite Solar Cells. <b>2018</b> , 5, 1800339	23
1271	Metallic MoS for High Performance Energy Storage and Energy Conversion. <b>2018</b> , 14, e1800640	127
1270	Universal absorption of two-dimensional materials within k ? p method. <b>2018</b> , 382, 3035-3041	2
1269	Molecular chemistry approaches for tuning the properties of two-dimensional transition metal dichalcogenides. <b>2018</b> , 47, 6845-6888	139
1268	B C N hybrid graphenylene: stability and electronic properties.. <b>2018</b> , 8, 24847-24856	16



1267	Flexible thermoelectric materials and devices. <b>2018</b> , 12, 366-388		286
1266	Defect Dynamics in 2-D MoS Probed by Using Machine Learning, Atomistic Simulations, and High-Resolution Microscopy. <i>ACS Nano</i> , <b>2018</b> , 12, 8006-8016	16.7	48
1265	Scanning ultrafast electron microscopy: Four-dimensional imaging of materials dynamics in space and time. <b>2018</b> , 43, 491-496		13
1264	Recent Advances in Tactile Sensing Technology. <b>2018</b> , 9,		39
1263	Emerging nanofabrication and quantum confinement techniques for 2D materials beyond graphene. <b>2018</b> , 2,		82
1262	High-performance broadband heterojunction photodetectors based on multilayered PtSe directly grown on a Si substrate. <b>2018</b> , 10, 15285-15293		61
1261	Self-assembled atomically thin hybrid conjugated polymer perovskites with two-dimensional structure. <b>2018</b> , 6, 8405-8410		3
1260	Two-Dimensional Materials for Antimicrobial Applications: Graphene Materials and Beyond. <b>2018</b> , 13, 3378-3410		66
1259	Tunable Multipolar Surface Plasmons in 2D TiC T MXene Flakes. <i>ACS Nano</i> , <b>2018</b> , 12, 8485-8493	16.7	105
1258	Emerging photonic architectures in two-dimensional opto-electronics. <b>2018</b> , 47, 6824-6844		51
1257	New monolayer ternary In-containing sesquichalcogenides BiInSe, SbInSe, BiInTe, and SbInTe with high stability and extraordinary piezoelectric properties. <b>2018</b> , 20, 19177-19187		23
1256	2D library beyond graphene and transition metal dichalcogenides: a focus on photodetection. <b>2018</b> , 47, 6296-6341		145
1255	Accessing new 2D semiconductors with optical band gap: synthesis of iron-intercalated titanium diselenide thin films LPCVD.. <b>2018</b> , 8, 22552-22558		1
1254	Interlayer screening effects in WS <sub>2</sub> /WSe <sub>2</sub> van der Waals hetero-bilayer. <b>2018</b> , 5, 041003		12
1253	High Curie-temperature intrinsic ferromagnetism and hole doping-induced half-metallicity in two-dimensional scandium chlorine monolayers. <b>2018</b> , 3, 551-555		49
1252	Electronic properties of pentagonal CN <sub>2</sub> nanoribbon under external electric field and tensile strain. <b>2018</b> , 104, 6-10		1
1251	Redox-Responsive and Thermoresponsive Supramolecular Nanosheet Gels with High Young's Moduli. <b>2018</b> , 39, e1800282		7
1250	Assembly of Advanced Materials into 3D Functional Structures by Methods Inspired by Origami and Kirigami: A Review. <b>2018</b> , 5, 1800284		129

1249	Electron doping induced semiconductor to metal transitions in ZrSe <sub>2</sub> layers via copper atomic intercalation. <b>2018</b> , 11, 4914-4922	28
1248	"Alternated cooling and heating" strategy enables rapid fabrication of highly-crystalline g-C <sub>3</sub> N <sub>4</sub> nanosheets for efficient photocatalytic water purification under visible light irradiation. <b>2018</b> , 137, 19-30	43
1247	Ultrafast probes of electron-hole transitions between two atomic layers. <b>2018</b> , 9, 1859	23
1246	1305 nm Few-Layer MoTe <sub>2</sub> -on-Silicon Laser-Like Emission. <b>2018</b> , 12, 1800015	27
1245	Growth of 'W' doped molybdenum disulfide on graphene transferred molybdenum substrate. <b>2018</b> , 8, 7396	2
1244	Synthesis of 2D Metal Chalcogenide Thin Films through the Process Involving Solution-Phase Deposition. <b>2018</b> , 30, e1707577	29
1243	The Computational 2D Materials Database: high-throughput modeling and discovery of atomically thin crystals. <b>2018</b> , 5, 042002	399
1242	Infrared Semiconducting Transition-Metal Dichalcogenide Lasing with a Silicon Nanocavity. <b>2018</b> , 73, 278-282	2
1241	Ultrafast Electron Diffraction Technology for Exploring Dynamics of Molecules. <b>2018</b> , 73, 466-478	2
1240	2D Phosphorene: Epitaxial Growth and Interface Engineering for Electronic Devices. <b>2018</b> , 30, e1802207	42
1239	Impact of a van der Waals interface on intrinsic and extrinsic defects in an MoSe monolayer. <b>2018</b> , 29, 425706	13
1238	2D Materials for Ubiquitous Electronics. <b>2018</b> ,	0
1237	Low and Ultra-low Energy Scanning Electron Microscopy of 2D Transition Metal Dichalcogenides: Experiments and Simulations. <b>2018</b> , 24, 1564-1565	
1236	Exploring Multifunctional Applications of Hexagonal Boron Arsenide Sheet: A DFT Study. <b>2018</b> , 3, 9533-9543	21
1235	Three dimensionally-ordered 2D MoS vertical layers integrated on flexible substrates with stretch-tunable functionality and improved sensing capability. <b>2018</b> , 10, 17525-17533	23
1234	Tuning the mechanical properties of silicene nanosheet by auxiliary cracks: a molecular dynamics study. <b>2018</b> , 8, 30354-30365	14
1233	Visible-infrared dual-mode MoS <sub>2</sub> -graphene-MoS <sub>2</sub> phototransistor with high ratio of the I <sub>ph</sub> / I <sub>dark</sub> . <b>2018</b> , 5, 045027	21
1232	Research Update: Recent progress on 2D materials beyond graphene: From ripples, defects, intercalation, and valley dynamics to straintronics and power dissipation. <b>2018</b> , 6, 080701	22

1231	Two-dimensional ferroelastic topological insulators in single-layer Janus transition metal dichalcogenides $MSe_2$ ( $M=Mo,W$ ). <b>2018</b> , 98,	48
1230	Size-Induced Phase Evolution of $MoSe_2$ Nanoflakes Revealed by Density Functional Theory. <b>2018</b> , 122, 20483-20488	11
1229	State-of-the-Art and Future Prospects for Atomically Thin Membranes from 2D Materials. <b>2018</b> , 30, e1801179	52
1228	Electronic properties of silicene in BN/silicene van der Waals heterostructures. <b>2018</b> , 27, 077302	3
1227	The effect of chemical reduction conditions on the structural and optical properties of $WO_3-xTeO_2$ binary compounds by controlled synthesis from oxide precursors. <b>2018</b> , 124, 1	6
1226	Synthesis and Characterization of Zirconium Disulfide Single Crystals and Thin-Film Transistors Based on Multilayer Zirconium Disulfide Flakes. <b>2018</b> , 4, 1078-1082	5
1225	In-Plane Homojunctions and Their Dominant Effects on Charge Transport in Vertical van der Waals Heterostructures. <b>2018</b> , 122, 20513-20520	1
1224	Few-Layer $PdSe$ Sheets: Promising Thermoelectric Materials Driven by High Valley Convergence. <b>2018</b> , 3, 5971-5979	61
1223	Carboxymethyl cellulose-grafted graphene oxide for efficient antitumor drug delivery. <b>2018</b> , 7, 291-301	22
1222	MXene: An emerging material for sensing and biosensing. <b>2018</b> , 105, 424-435	268
1221	Origin of metallicity in 2D multilayer nickel bis(dithiolene) sheets. <b>2018</b> , 5, 035027	5
1220	Multivalent Interactions between 2D Nanomaterials and Biointerfaces. <b>2018</b> , 30, e1706709	78
1219	Tunable quantum order in bilayer $Bi_2Te_3$ : Stacking dependent quantum spin Hall states. <b>2018</b> , 112, 243103	4
1218	Two-dimensional materials for gas sensors: from first discovery to future possibilities. <b>2018</b> , 6, 205-230	14
1217	Controlling the dendritic structure and the photo-electrocatalytic properties of highly crystalline $MoS_2$ on sapphire substrate. <b>2018</b> , 5, 031015	9
1216	Two-dimensional $MTe_2$ ( $M = Co, Fe, Mn, Sc, Ti$ ) transition metal tellurides as sodium ion battery anode materials: Density functional theory calculations. <b>2018</b> , 382, 2781-2786	16
1215	Recent Advances in the Solution-Based Preparation of Two-Dimensional Layered Transition Metal Chalcogenide Nanostructures. <b>2018</b> , 118, 6151-6188	127
1214	Interface-Assisted Synthesis of 2D Materials: Trend and Challenges. <b>2018</b> , 118, 6189-6235	358

1213	Hexagonal MoTe with Amorphous BN Passivation Layer for Improved Oxidation Resistance and Endurance of 2D Field Effect Transistors. <b>2018</b> , 8, 8668	39
1212	Luminescence in 2D Materials and van der Waals Heterostructures. <b>2018</b> , 6, 1701296	45
1211	Surface Engineering of Two-Dimensional Materials. <b>2019</b> , 5, 6-23	15
1210	2D Oxide Nanomaterials to Address the Energy Transition and Catalysis. <b>2019</b> , 31, e1801712	64
1209	Two-Dimensional Covalent Crystals by Chemical Conversion of Thin van der Waals Materials. <b>2019</b> , 19, 6475-6481	26
1208	First-Principles Study of Strain Engineered Electronic Properties of GeSe-SnS Hetero-bilayer. <b>2019</b> , 48, 6735-6741	5
1207	Magic vacancy-numbers in h-BN multivacancies: The first-principles study. <b>2019</b> , 20, 100591	0
1206	The Computational Design of Two-Dimensional Materials. <b>2019</b> , 96, 2308-2314	6
1205	Strain induced valley degeneracy: a route to the enhancement of thermoelectric properties of monolayer WS <sub>2</sub> . <b>2019</b> , 9, 25216-25224	20
1204	2D Crystal-Based Fibers: Status and Challenges. <b>2019</b> , 15, e1902691	26
1203	Titanium Trisulfide as Sensitive Gas Sensor. <b>2019</b> ,	
1202	A Perspective on Recent Advances in 2D Stanene Nanosheets. <b>2019</b> , 6, 1900752	26
1201	A biomimetic 2D transistor for audiomorphic computing. <b>2019</b> , 10, 3450	37
1200	Strain and electric field engineering of band alignment in InSe/Ca(OH) <sub>2</sub> heterostructure. <b>2019</b> , 732, 136649	5
1199	Theoretical analysis of oxygen reduction reaction activity on single metal (Ni, Pd, Pt, Cu, Ag, Au) atom supported on defective two-dimensional boron nitride materials. <b>2019</b> , 21, 18589-18594	22
1198	Exploring the electronic, charge transport and lattice dynamic properties of two-dimensional phosphorene. <b>2019</b> , 572, 88-93	5
1197	2D molecular crystal lattices: advances in their synthesis, characterization, and application. <b>2019</b> , 7, 23537-23564	64
1196	Unveiling chemical reactivity and oxidation of 1T-phased group VI disulfides. <b>2019</b> , 21, 17010-17017	5

1195	Synergistic effects of reduced graphene oxide with freeze drying tuned interfacial structure on performance of transparent and flexible supercapacitors. <b>2019</b> , 554, 650-657	4
1194	Few-Body Systems in Condensed Matter Physics. <b>2019</b> , 60, 1	13
1193	Two-dimensional ferroelastic topological insulator with tunable topological edge states in single-layer ZrAsX (X = Br and Cl). <b>2019</b> , 7, 9743-9747	6
1192	Two-Dimensional/Three-Dimensional Schottky Junction Photovoltaic Devices Realized by the Direct CVD Growth of vdW 2D PtSe Layers on Silicon. <b>2019</b> , 11, 27251-27258	29
1191	Cationic Polyelectrolyte Bridged Boron Nitride Microplatelet Based Poly(vinyl alcohol) Composite: A Novel Method toward High Thermal Conductivity. <b>2019</b> , 6, 1900787	16
1190	Graphene-Based Mixed-Dimensional van der Waals Heterostructures for Advanced Optoelectronics. <b>2019</b> , 31, e1806411	67
1189	A DFT study of In doped Ti2O: a superior NO2 gas sensor with selective adsorption and distinct optical response. <b>2019</b> , 494, 162-169	15
1188	Clean Transfer of 2D Transition Metal Dichalcogenides Using Cellulose Acetate for Atomic Resolution Characterizations. <b>2019</b> , 2, 5320-5328	17
1187	The Potential Application of BAs for a Gas Sensor for Detecting SO Gas Molecule: a DFT Study. <b>2019</b> , 14, 133	14
1186	Black phosphorus quantum dot based all-optical signal processing: ultrafast optical switching and wavelength converting. <b>2019</b> , 30, 415202	19
1185	Hidden anisotropy in the Drude conductivity of charge carriers with Dirac-Schrödinger dynamics. <b>2019</b> , 100,	1
1184	Facile Solution Processing of Stable MXene Dispersions towards Conductive Composite Fibers. <b>2019</b> , 3, 1900037	38
1183	Mask-free patterning and selective CVD-growth of 2D-TMDCs semiconductors. <b>2019</b> , 34, 085010	1
1182	Dynamics of cleaning, passivating and doping monolayer MoS2 by controlled laser irradiation. <b>2019</b> , 6, 045031	24
1181	Two-dimensional semiconductor transition metal based chalcogenide based heterostructures for water splitting applications. <b>2019</b> , 48, 12772-12802	42
1180	Impact ionization dynamics in small band-gap two-dimensional materials from a coherent phonon mechanism. <b>2019</b> , 100,	1
1179	Intrinsic Optoelectronic Characteristics of MoS Phototransistors a Fully Transparent van der Waals Heterostructure. <i>ACS Nano</i> , <b>2019</b> , 13, 9638-9646	16.7 27
1178	Two Dimensional Transition Metal Dichalcogenides. <b>2019</b> ,	3

1177	Transition Metal Dichalcogenides for Biomedical Applications. <b>2019</b> , 241-292	1
1176	Mechanical Exfoliation Assisted by Molecular Tweezers for Production of Sulfur-Based Semiconducting Two-Dimensional Materials. <b>2019</b> , 58, 14170-14179	1
1175	Spectroscopic Signatures of Electronic Excitations in Raman Scattering in Thin Films of Rhombohedral Graphite. <b>2019</b> , 19, 6152-6156	4
1174	A design for the photoelectrochemical detection of miRNA-221 based on a tungsten diselenide-cysteine-dopamine nanoprobe coupled with mismatched catalytic hairpin assembly target recycling with ultra-low background noise. <b>2019</b> , 55, 10380-10383	12
1173	Preparation of 3D assembly of mono layered molybdenum disulfide nanotubules for rapid screening of carbamate pesticide diethofencarb. <b>2019</b> , 204, 455-464	14
1172	Schottky barrier modulation of a GaTe/graphene heterostructure by interlayer distance and perpendicular electric field. <b>2019</b> , 30, 405207	4
1171	Impact of MoS <sub>2</sub> supporting interface on the photothermal-induced deformation of gold nanoshells: tracked through an optical microfiber. <b>2019</b> , 6, 045007	3
1170	Experimental Realization of Few Layer Two-Dimensional MoS Membranes of Near Atomic Thickness for High Efficiency Water Desalination. <b>2019</b> , 19, 5194-5204	45
1169	Design of WSe <sub>2</sub> /MoS <sub>2</sub> Heterostructures as the Counter Electrode to Replace Pt for Dye-Sensitized Solar Cell. <b>2019</b> , 7, 13195-13205	33
1168	Mo Concentration Controls the Morphological Transitions from Dendritic to Semicompact, and to Compact Growth of Monolayer Crystalline MoS on Various Substrates. <b>2019</b> , 11, 42751-42759	16
1167	Three-terminal ballistic junction based on phosphorene. <b>2019</b> , 6, 045053	0
1166	Topological Design of Graphene. <b>2019</b> , 1-44	2
1165	Two-Step Exfoliation of WS for NO, H and Humidity Sensing Applications. <b>2019</b> , 9,	10
1164	Observation and theoretical analysis of near-infrared luminescence from CVD grown lanthanide Er doped monolayer MoS <sub>2</sub> triangles. <b>2019</b> , 115, 153105	6
1163	Biomolecular Material Recognition in Two Dimensions: Peptide Binding to Graphene, -BN, and MoS Nanosheets as Unique Bioconjugates. <b>2019</b> , 30, 2727-2750	19
1162	Characterization and layer thickness mapping of two-dimensional MoS <sub>2</sub> flakes via hyperspectral line-scanning microscopy. <b>2019</b> , 12, 102004	8
1161	Remarkable dielectric breakdown strength enhancement of a PVDF terpolymer using a 2D hybrid organic inorganic perovskite as a functional additive. <b>2019</b> , 7, 13390-13395	2
1160	Few-Layer MoS <sub>2</sub> Suspended Channel Transistors and Nanoelectromechanical Resonators. <b>2019</b> ,	0

1159	Controlled Plasma Thinning of Bulk MoS Flakes for Photodetector Fabrication. <b>2019</b> , 4, 19693-19704	7
1158	Incorporating Niobium in MoS <sub>2</sub> at BEOL-Compatible Temperatures and its Impact on Copper Diffusion Barrier Performance. <b>2019</b> , 6, 1901055	8
1157	Confined Catalysis: Progress and Prospects in Energy Conversion. <b>2019</b> , 9, 1902307	50
1156	NHC-Catalyzed Chemoselective Reactions of Enals and Aminobenzaldehydes for Access to Chiral Dihydroquinolines. <b>2019</b> , 58, 18410-18413	20
1155	Topological Magnetic-Spin Textures in Two-Dimensional van der Waals CrGeTe. <b>2019</b> , 19, 7859-7865	56
1154	Molecularly Thin Electrolyte for All Solid-State Nonvolatile Two-Dimensional Crystal Memory. <b>2019</b> , 19, 8911-8919	5
1153	Symmetry-adapted real-space density functional theory for cylindrical geometries: Application to large group-IV nanotubes. <b>2019</b> , 100,	16
1152	Planar Silicene: A New Silicon Allotrope Epitaxially Grown by Segregation. <b>2019</b> , 29, 1906053	21
1151	Chemical Vapor Transport Reactions for Synthesizing Layered Materials and Their 2D Counterparts. <b>2019</b> , 15, e1804404	26
1150	High performance broadband bismuth telluride tetradymite topological insulator photodiode. <b>2019</b> , 30, 165201	13
1149	Diffraction paradox: An unusually broad diffraction background marks high quality graphene. <b>2019</b> , 100,	3
1148	Studying 2D Materials by Means of Microscopy and Spectroscopy with Low Energy Electrons. <b>2019</b> , 25, 482-483	1
1147	Work function modulation of electrodes contacted to molybdenum disulfide using an attached metal pad. <b>2019</b> , 9, 085118	1
1146	Near-field infrared spectroscopy of monolayer MnPS <sub>3</sub> . <b>2019</b> , 100,	10
1145	Two-Dimensional Materials in Biosensing and Healthcare: From Diagnostics to Optogenetics and Beyond. <i>ACS Nano</i> , <b>2019</b> , 13, 9781-9810	16.7 142
1144	Graphene's Partial Transparency to van der Waals and Electrostatic Interactions. <b>2019</b> , 35, 12306-12316	6
1143	Single-step exfoliation and functionalization of few-layers black phosphorus and its application for polymer composites. <b>2019</b> , 18, 100131	24
1142	Atomic Layer Deposition of High-Quality AlO Thin Films on MoS with Water Plasma Treatment. <b>2019</b> , 11, 35438-35443	7

1141	First-principles insight into Ni-doped InN monolayer as a noxious gases scavenger. <b>2019</b> , 494, 859-866	158
1140	Ultrafast Hyperspectral Transient Absorption Spectroscopy: Application to Single Layer Graphene. <b>2019</b> , 6, 95	5
1139	Annealing effects on sulfur vacancies and electronic transport of MoS2 films grown by pulsed-laser deposition. <b>2019</b> , 115, 121901	14
1138	Impact of nano-morphology, lattice defects and conductivity on the performance of graphene based electrochemical biosensors. <b>2019</b> , 17, 101	18
1137	Influence of specimen size and strain rate on tensile deformation and fracture behavior of single-layer Silicene. <b>2019</b> , 18, 1401-1410	
1136	Photodefined In-Plane Heterostructures in Two-Dimensional In2Se3 Nanolayers for Ultrathin Photodiodes. <b>2019</b> , 2, 6774-6782	9
1135	Dynamics of Defects in van der Waals Epitaxy of Bismuth Telluride Topological Insulators. <b>2019</b> , 123, 24818-24825	6
1134	A systematic study of various 2D materials in the light of defect formation and oxidation. <b>2019</b> , 21, 1089-1099	8
1133	Recent advances in oxidation and degradation mechanisms of ultrathin 2D materials under ambient conditions and their passivation strategies. <b>2019</b> , 7, 4291-4312	100
1132	Nonvolatile Memories Based on Graphene and Related 2D Materials. <b>2019</b> , 31, e1806663	145
1131	Effect of Incorporating MoS2 in Organic Coatings on the Corrosion Resistance of 316L Stainless Steel in a 3.5% NaCl Solution. <b>2019</b> , 9, 45	18
1130	Location-selective growth of two-dimensional metallic/semiconducting transition metal dichalcogenide heterostructures. <b>2019</b> , 11, 4183-4189	10
1129	Polarization dependent trion dynamics in large area CVD grown 2D monolayer MoS2 by terahertz time-domain spectroscopy. <b>2019</b> , 52, 155104	1
1128	First-principles calculations of aluminium nitride monolayer with chemical functionalization. <b>2019</b> , 481, 1549-1553	20
1127	Two-dimensional materials for advanced Li-S batteries. <b>2019</b> , 22, 284-310	69
1126	Two-dimensional materials in semiconductor photoelectrocatalytic systems for water splitting. <b>2019</b> , 12, 59-95	244
1125	A novel hydrogenated boron-carbon monolayer with high stability and promising carrier mobility. <b>2019</b> , 21, 2572-2577	6
1124	Two-dimensional antiferromagnetic boron form first principles. <b>2019</b> , 9, 055211	2



1123	A graphene-based smart thermal conductive system regulated by a reversible pressure-induced mechanism. <b>2019</b> , 11, 11730-11735	2
1122	Selective Engineering of Chalcogen Defects in MoS by Low-Energy Helium Plasma. <b>2019</b> , 11, 24404-24411	24
1121	Formation of Silicene on Ultrathin Pb(111) Films. <b>2019</b> , 123, 17019-17025	24
1120	Real-Time Observing Ultrafast Carrier and Phonon Dynamics in Colloidal Tin Chalcogenide van der Waals Nanosheets. <b>2019</b> , 10, 3750-3755	9
1119	Low Resistivity and High Breakdown Current Density of 10 nm Diameter van der Waals TaSe Nanowires by Chemical Vapor Deposition. <b>2019</b> , 19, 4355-4361	32
1118	Topochemical synthesis of phase-pure MoAlB through staging mechanism. <b>2019</b> , 55, 9295-9298	12
1117	Van der Waals materials integrated nanophotonic devices [Invited]. <b>2019</b> , 9, 384	33
1116	Strain-induced band modulation of surface F-functionalized two-dimensional Sc2C. <b>2019</b> , 491, 276-285	8
1115	A Review on Size-Dependent Mechanical Properties of Nanowires. <b>2019</b> , 21, 1900192	36
1114	Why are most 2D lattices hexagonal? The stability of 2D lattices predicted by a simple mechanics model. <b>2019</b> , 32, 100507	10
1113	Application of lasers in the synthesis and processing of two-dimensional quantum materials. <b>2019</b> , 31, 031202	7
1112	Atomic Structure and Dynamics of Defects and Grain Boundaries in 2D PdSe Monolayers. <i>ACS Nano</i> , <b>2019</b> , 13, 8256-8264	16.7 24
1111	Memristive devices based on emerging two-dimensional materials beyond graphene. <b>2019</b> , 11, 12413-12435	64
1110	Effect of mechanochemical preparation of 2D g-C3N4 on electronic properties and efficiency of photocatalytic hydrogen evolution. <b>2019</b> , 44, 17922-17929	7
1109	Quasiparticle electronic structure and optical spectra of single-layer and bilayer PdSe2: Proximity and defect-induced band gap renormalization. <b>2019</b> , 99,	32
1108	Facile preparation of novel and active 2D nanosheets from non-layered and traditionally non-exfoliable earth-abundant materials. <b>2019</b> , 7, 15411-15419	19
1107	Temperature-induced phonon behavior in titanium disulfide (TiS2) nanosheets. <b>2019</b> , 50, 1114-1119	5
1106	Transforming layered MoS into functional MoO nanowires. <b>2019</b> , 11, 11687-11695	6

1105	Aqueous dispersions of highly luminescent boron-rich nanosheets by the exfoliation of polycrystalline titanium diboride. <b>2019</b> , 43, 9953-9960	12
1104	The Compendium: A Practical Guide to Theoretical Photoemission Spectroscopy. <b>2019</b> , 7, 377	139
1103	Production of large-area 2D materials for high-performance photodetectors by pulsed-laser deposition. <b>2019</b> , 106, 100573	94
1102	Topological nanomaterials. <b>2019</b> , 4, 479-496	77
1101	First-principles study of molecule adsorption on Ni-decorated monolayer MoS <sub>2</sub> . <b>2019</b> , 18, 826-835	7
1100	Prediction of quantum anomalous Hall effect and giant magnetic anisotropy in graphene with adsorbed Ir-based dimers. <b>2019</b> , 125, 193903	4
1099	Energy loss spectrum and surface modes of two-dimensional black phosphorus. <b>2019</b> , 2, 045001	1
1098	Elastic Properties of 2D Ultrathin Tungsten Nitride Crystals Grown by Chemical Vapor Deposition. <b>2019</b> , 29, 1902663	21
1097	Dual function of graphene oxide for assisted exfoliation of black phosphorus and electron shuttle in promoting visible and near-infrared photocatalytic H <sub>2</sub> evolution. <b>2019</b> , 256, 117864	31
1096	Effect of interlayer cations on exfoliating 2D montmorillonite nanosheets with high aspect ratio: From experiment to molecular calculation. <b>2019</b> , 45, 17054-17063	9
1095	Using ligands to control reactivity, size and phase in the colloidal synthesis of WSe nanocrystals. <b>2019</b> , 55, 8856-8859	21
1094	Engineering of transition metal dichalcogenide-based 2D nanomaterials through doping for environmental applications. <b>2019</b> , 4, 804-827	40
1093	Deciphering mechanical properties of 2D materials from the size distribution of exfoliated fragments. <b>2019</b> , 29, 100473	8
1092	Design and synthesis of two-dimensional covalent organic frameworks with four-arm cores: prediction of remarkable ambipolar charge-transport properties. <b>2019</b> , 6, 1868-1876	41
1091	Dual characteristics of molybdenum disulfide based PN heterojunction photodetector prepared via drop-cast technique. <b>2019</b> , 188, 8-11	1
1090	Ultrafast Excitonic Behavior in Two-Dimensional Metal Semiconductor Heterostructure. <b>2019</b> , 6, 1379-1386	17
1089	Metallo-Hydrogel-Assisted Synthesis and Direct Writing of Transition Metal Dichalcogenides. <b>2019</b> , 29, 1807612	7
1088	Intrinsic Van Der Waals Magnetic Materials from Bulk to the 2D Limit: New Frontiers of Spintronics. <b>2019</b> , 31, e1900065	136

1087	Ultrathin MoSSe alloy nanosheets anchored on carbon nanotubes as advanced catalysts for hydrogen evolution. <b>2019</b> , 44, 16110-16119		18
1086	Molecular-Orientation-Dependent Interfacial Charge Transfer in Phthalocyanine/MoS <sub>2</sub> Mixed-Dimensional Heterojunctions. <b>2019</b> , 123, 13337-13343		31
1085	Chemical and structural stability of 2D layered materials. <b>2019</b> , 6, 042001		43
1084	Angle-resolved secondary photoelectron emission from graphene interfaces. <b>2019</b> , 99,		1
1083	Gas Sensors Based on Mechanically Exfoliated MoS Nanosheets for Room-Temperature NO Detection. <b>2019</b> , 19,		38
1082	Super-stretchability in two-dimensional RuCl <sub>3</sub> and RuBr <sub>3</sub> confirmed by first-principles simulations. <b>2019</b> , 113, 79-85		4
1081	Characterization of an AX Compound Derived from Ti <sub>2</sub> SC MAX Phase. <b>2019</b> , 2019, 2312-2317		1
1080	A Double Support Layer for Facile Clean Transfer of Two-Dimensional Materials for High-Performance Electronic and Optoelectronic Devices. <i>ACS Nano</i> , <b>2019</b> , 13, 5513-5522	16.7	18
1079	Thermal stability and electronic and magnetic properties of atomically thin 2D transition metal oxides. <b>2019</b> , 3,		23
1078	Two-dimensional hexagonal boron-carbon-nitrogen atomic layers. <b>2019</b> , 11, 10454-10462		20
1077	Tailoring electrical conductivity of two dimensional nanomaterials using plasma for edge electronics: A mini review. <b>2019</b> , 13, 427-443		0
1076	Surfactants as promising media in the field of metal-organic frameworks. <b>2019</b> , 391, 30-43		201
1075	Repairing the N-vacancy in an InN monolayer using NO molecules: a first-principles study. <b>2019</b> , 1, 2003-2008		12
1074	Strong anisotropy in strength and toughness in defective hexagonal boron nitride. <b>2019</b> , 99,		10
1073	Transport properties and photoresponse of a series of 2D transition metal dichalcogenide intercalation compounds. <b>2019</b> , 43, 6523-6534		3
1072	Large-area synthesis of 2D MoO <sub>3</sub> for enhanced optoelectronic applications. <b>2019</b> , 6, 035031		31
1071	Soft-Templated Synthesis of Sheet-Like Nanoporous Nitrogen-Doped Carbons for Electrochemical Supercapacitors. <b>2019</b> , 6, 1901-1907		2
1070	Insights into the unusual semiconducting behavior in low-dimensional boron. <b>2019</b> , 11, 7866-7874		2

1069	Modifying the Band Gap of Semiconducting Two-Dimensional Materials by Polymer Assembly into Different Structures. <b>2019</b> , 35, 4956-4965	3
1068	Dark-exciton valley dynamics in transition metal dichalcogenide alloy monolayers. <b>2019</b> , 9, 4575	16
1067	Squeezed nanocrystals: equilibrium configuration of metal clusters embedded beneath the surface of a layered material. <b>2019</b> , 11, 6445-6452	11
1066	Pressure-induced evolution of structural and electronic properties in TiTe <sub>2</sub> . <b>2019</b> , 99,	7
1065	Wafer-Scale Growth of Single-Crystal 2D Semiconductor on Perovskite Oxides for High-Performance Transistors. <b>2019</b> , 19, 2148-2153	52
1064	Influence of Quantum Capacitance on Charge Carrier Density Estimation in a Nanoscale Field-Effect Transistor with a Channel Based on a Monolayer WSe <sub>2</sub> Two-Dimensional Crystal Semiconductor. <b>2019</b> , 48, 3504-3513	7
1063	Current and future envision on developing biosensors aided by 2D molybdenum disulfide (MoS <sub>2</sub> ) productions. <b>2019</b> , 132, 248-264	62
1062	The development of 2D materials for electrochemical energy applications: A mechanistic approach. <b>2019</b> , 7, 030902	16
1061	. <b>2019</b> , 7, 322-328	1
1060	Control of the metal/WS contact properties using 2-dimensional buffer layers. <b>2019</b> , 11, 5548-5556	10
1059	Electromagnetic plasmonic field of nanoparticles tune the band gap of two-dimensional semiconducting materials. <b>2019</b> , 7, 3675-3687	5
1058	Stabilizing the commensurate charge-density wave in 1T-tantalum disulfide at higher temperatures via potassium intercalation. <b>2019</b> , 11, 6016-6022	5
1057	Highly anisotropic thermoelectric properties of carbon sulfide monolayers. <b>2019</b> , 31, 125501	2
1056	Electronic structure, carrier mobility and strain modulation of CH (SiH, GeH) nanoribbons. <b>2019</b> , 31, 165502	6
1055	Unraveling the multiscale damping properties of two-dimensional layered MXene. <b>2019</b> , 8, 84-95	3
1054	Reversible photo-induced doping in WSe field effect transistors. <b>2019</b> , 11, 7358-7363	11
1053	Quantum confinement in few layer SnS nanosheets. <b>2019</b> , 30, 245705	7
1052	Enhanced excitation and emission from 2D transition metal dichalcogenides with all-dielectric nanoantennas. <b>2019</b> , 30, 254004	11

1051	Ferromagnetism Near Room Temperature in the Cleavable van der Waals Crystal FeGeTe. <i>ACS Nano</i> , <b>2019</b> , 13, 4436-4442	16.7	119
1050	Finite-momentum exciton landscape in mono- and bilayer transition metal dichalcogenides. <b>2019</b> , 6, 035003		51
1049	Chemical and Bio Sensing Using Graphene-Enhanced Raman Spectroscopy. <b>2019</b> , 9,		15
1048	Investigating the Optical Properties of a Laser Induced 3D Self-Assembled Carbon-Metal Hybrid Structure. <b>2019</b> , 15, e1900512		4
1047	Activating MoS <sub>2</sub> with Super-High Nitrogen-Doping Concentration as Efficient Catalyst for Hydrogen Evolution Reaction. <b>2019</b> , 123, 10917-10925		22
1046	One-dimensional facile growth of MAPbI perovskite micro-rods.. <b>2019</b> , 9, 11589-11594		12
1045	Photosensitizer-Anchored 2D MOF Nanosheets as Highly Stable and Accessible Catalysts toward Artemisinin Production. <b>2019</b> , 6, 1802059		60
1044	Impact of surface oxidation on the structural, electronic transport, and optical properties of two-dimensional titanium nitride (Ti <sub>3</sub> N <sub>2</sub> ) MXene. <b>2019</b> , 20, e00382		12
1043	Destructive role of oxygen in growth of molybdenum disulfide determined by secondary ion mass spectrometry. <b>2019</b> , 21, 8837-8842		4
1042	Synthesis of Ti <sub>3</sub> C <sub>2</sub> /TiO <sub>2</sub> heterostructure by microwave heating with high electrochemical performance. <b>2019</b> , 6, 065056		6
1041	Centimeter-scale growth of two-dimensional layered high-mobility bismuth films by pulsed laser deposition. <b>2019</b> , 1, 98-107		56
1040	Electronic and magnetic properties of the one-dimensional interfaces of two-dimensional lateral GeC/BP heterostructures. <b>2019</b> , 21, 8856-8864		6
1039	MXenes and ultrasonication. <b>2019</b> , 7, 10843-10857		101
1038	Quantum transport properties of hybrid zigzag C <sub>3</sub> N and C <sub>3</sub> B nanoribbons. <b>2019</b> , 52, 185301		1
1037	Effects of buried grain boundaries in multilayer MoS. <b>2019</b> , 30, 285705		10
1036	Structural and electronic properties of bulk and ultrathin layers of V <sub>2</sub> O <sub>5</sub> and MoO <sub>3</sub> . <b>2019</b> , 163, 230-240		20
1035	Ultrafast Carrier Dynamics in Few-Layer Colloidal Molybdenum Disulfide Probed by Broadband Transient Absorption Spectroscopy. <b>2019</b> , 123, 10571-10577		21
1034	Lattice constant-dependent anchoring effect of MXenes for lithium-sulfur (Li-S) batteries: a DFT study. <b>2019</b> , 11, 8485-8493		52

1033	Microscope Observation of Morphology of Colloidally Dispersed Niobate Nanosheets Combined with Optical Trapping. <b>2019</b> , 35, 5568-5573	3
1032	Ultrathin transition-metal dichalcogenide nanosheet-based colorimetric sensor for sensitive and label-free detection of DNA. <b>2019</b> , 290, 565-572	23
1031	Fiber optic evanescent wave absorption-based sensors: A detailed review of advancements in the last decade (2007-18). <b>2019</b> , 183, 1008-1025	19
1030	Two-Dimensional Atomically Thin Tin-Based Fluorescent Oxide Synthesized at Ambient Temperature and Its Biomedical Applications. <b>2019</b> , 7, 7479-7485	5
1029	Lateral heterostructures and one-dimensional interfaces in 2D transition metal dichalcogenides. <b>2019</b> , 31, 213001	17
1028	Electronic and magnetic properties of CoPc and FePc molecules on graphene: the substrate, defect, and hydrogen adsorption effects. <b>2019</b> , 21, 5424-5434	10
1027	MBE Growth of Graphene. <b>2019</b> , 395-409	0
1026	Ultrasensitive plasmonic biosensors based on halloysite nanotubes/MoS <sub>2</sub> /black phosphorus hybrid architectures. <b>2019</b> , 7, 3843-3851	18
1025	History of MBE. <b>2019</b> , 1-21	
1024	Cluster nuclearity control and modulated hydrothermal synthesis of functionalized Zr metal-organic frameworks. <b>2019</b> , 48, 7069-7073	20
1023	Multifunctional van der Waals Broken-Gap Heterojunction. <b>2019</b> , 15, e1804885	42
1022	Heteroepitaxy of MoSe <sub>2</sub> on Si(111) substrates: Role of surface passivation. <b>2019</b> , 114, 053106	5
1021	Electronic Structure and Bond Relaxation at Na/Ta(110) Interfaces and 1D-Chain and 2D-Ring Ta Metal Structures on Na(110). <b>2019</b> , 256, 1800413	
1020	Mechanical and thermal transport properties of monolayer PbI <sub>2</sub> via first-principles investigations. <b>2019</b> , 99, 1277-1296	7
1019	Enhanced photocatalytic degradation of RhB by two-dimensional composite photocatalyst. <b>2019</b> , 568, 429-435	17
1018	Emerging Fet Architectures. <b>2019</b> , 27-66	0
1017	Surface engineering of phosphorene nanoribbons by transition metal heteroatoms for spintronics. <b>2019</b> , 21, 4879-4887	10
1016	Resolution of the exponent puzzle for the Anderson transition in doped semiconductors. <b>2019</b> , 99,	8

1015	2D Nanosheets and Their Composite Membranes for Water, Gas, and Ion Separation. <b>2019</b> , 131, 17674-17689	32
1014	2D Nanosheets and Their Composite Membranes for Water, Gas, and Ion Separation. <b>2019</b> , 58, 17512-17527	111
1013	Phosphorene: Current status, challenges and opportunities. <b>2019</b> , 13, 296-309	10
1012	A single-atom catalyst of cobalt supported on a defective two-dimensional boron nitride material as a promising electrocatalyst for the oxygen reduction reaction: a DFT study. <b>2019</b> , 21, 6900-6907	45
1011	Exfoliation of Two-Dimensional Materials: The Role of Entropy. <b>2019</b> , 10, 981-986	21
1010	Tuning the morphology and chemical composition of MoS <sub>2</sub> nanostructures. <b>2019</b> , 54, 7768-7779	12
1009	Fundamentals of Fascinating Graphene Nanosheets: A Comprehensive Study. <b>2019</b> , 14, 1930003	10
1008	Spin-polarized magneto-electronic properties in buckled monolayer GaAs. <b>2019</b> , 9, 2332	6
1007	Isotope Effect in Bilayer WSe. <b>2019</b> , 19, 1527-1533	12
1006	Centimeter-scale Green Integration of Layer-by-Layer 2D TMD vdW Heterostructures on Arbitrary Substrates by Water-Assisted Layer Transfer. <b>2019</b> , 9, 1641	33
1005	TWO-PHOTON LUMINESCENCE AND SECOND HARMONIC GENERATION OF SINGLE LAYER MOLYBDENUM DISULPHIDE NANOPROBE FOR NONBLEACHING AND NONBLINKING OPTICAL BIOIMAGING. <b>2019</b> , 166, 107-117	6
1004	Spectroscopic photoemission and low-energy electron microscopy studies of the surface and electronic structure of two-dimensional materials. <b>2019</b> , 4, 1688187	4
1003	Surface modification of multilayer FePS by Ga ion irradiation. <b>2019</b> , 9, 15219	4
1002	Tailorable Metal-Ceramic (Cu-TiC) Layered Electrode with High Mechanical Property and Conductivity. <b>2019</b> , 11, 44413-44420	1
1001	2D Layered Materials: Synthesis, Nonlinear Optical Properties, and Device Applications. <b>2019</b> , 13, 1800327	203
1000	Study of Oxidation and Polarization-Dependent Optical Properties of Environmentally Stable Layered GaTe Using a Novel Passivation Approach. <b>2019</b> , 9,	5
999	Tuning two-dimensional phase formation through epitaxial strain and growth conditions: silica and silicate on NiPd(111) alloy substrates. <b>2019</b> , 11, 21340-21353	5
998	Carbon-metal compound composite electrodes for capacitive deionization: synthesis, development and applications. <b>2019</b> , 7, 26693-26743	39

997	Resistive switching behavior in HnSe nanoflakes modulated by ferroelectric polarization and interface defects.. <b>2019</b> , 9, 30565-30569	14
996	. <b>2019</b> ,	38
995	Mechanical properties and superconductivity in two-dimensional BO under extreme strain. <b>2019</b> , 21, 25859-25864	4
994	A tunable floating-base bipolar transistor based on a 2D material homojunction realized using a solid ionic dielectric material. <b>2019</b> , 11, 22531-22538	7
993	First-Principles Exploration of Two-Dimensional Transition Metal Dichalcogenides Based on Fe, Co, Ni, and Cu Groups and Their van der Waals Heterostructures. <b>2019</b> , 2, 8491-8501	12
992	Nitrogen-Plasma-Treated Continuous Monolayer MoS for Improving Hydrogen Evolution Reaction. <b>2019</b> , 4, 21509-21515	17
991	Modeling chemical reactions on surfaces: The roles of chemical bonding and van der Waals interactions. <b>2019</b> , 94, 100561	27
990	Recent progress of spintronics based on emerging 2D materials: CrI3 and Xenes. <b>2019</b> , 6, 122004	8
989	Doping of Two-Dimensional Semiconductors: A Rapid Review and Outlook. <b>2019</b> , 4, 2743-2757	11
988	The design and biomedical applications of self-assembled two-dimensional organic biomaterials. <b>2019</b> , 48, 5564-5595	70
987	Strain-engineered electronic and topological properties of bismuthene on SiC(0001) substrate. <b>2019</b> , 3, 045002	5
986	Structural evolution and the role of native defects in subnanometer MoS nanowires. <b>2019</b> , 100,	4
985	Thermotropic liquid crystal (5CB) on two-dimensional materials. <b>2019</b> , 100, 062701	3
984	Fluorescence imaging of a potential diagnostic biomarker for breast cancer cells using a peptide-functionalized fluorogenic 2D material. <b>2019</b> , 55, 13235-13238	4
983	Hydrophobicity and CH/π Interaction-driven self-assembly of amphiphilic aromatic hydrocarbons into nanosheets. <b>2019</b> , 55, 14950-14953	7
982	Fiber all-optical light control with low-dimensional materials (LDMs): thermo-optic effect and saturable absorption. <b>2019</b> , 1, 4190-4206	4
981	Electronic and optical properties of B C N hybrid Hgraphynes.. <b>2019</b> , 9, 35176-35188	4
980	Direct Visualization of Grain Boundaries in 2D Monolayer WS2 via Induced Growth of CdS Nanoparticle Chains. <b>2019</b> , 3, 1800245	17



979	Multiwall carbon nanotubes loaded with MoS <sub>2</sub> quantum dots and MXene quantum dots: NonPt bifunctional catalyst for the methanol oxidation and oxygen reduction reactions in alkaline solution. <b>2019</b> , 464, 78-87	64
978	Influence of hydrogen and halogen adsorption on the photocatalytic water splitting activity of C <sub>2</sub> N monolayer: A first-principles study. <b>2019</b> , 141, 50-58	29
977	High dielectric permittivity and low loss of polyvinylidene fluoride filled with carbon additives: Expanded graphite versus reduced graphene oxide. <b>2019</b> , 31, 778-784	3
976	Physically-triggered nanosystems based on two-dimensional materials for cancer theranostics. <b>2019</b> , 138, 211-232	39
975	The electronic and transport properties of zigzag antimonene nanoribbons. <b>2019</b> , 105, 41-46	7
974	Dielectric Environment-Robust Ultrafast Charge Transfer Between Two Atomic Layers. <b>2019</b> , 10, 150-155	28
973	Barrier Inhomogeneities in Atomic Contacts on WS. <b>2019</b> , 19, 1190-1196	7
972	Strain engineering in functional 2-dimensional materials. <b>2019</b> , 125, 082402	45
971	Complementary Black Phosphorus Tunneling Field-Effect Transistors. <i>ACS Nano</i> , <b>2019</b> , 13, 377-385	16.7 78
970	PdSe <sub>2</sub> : Flexible Two-Dimensional Transition Metal Dichalcogenides Monolayer for Water Splitting Photocatalyst with Extremely Low Recombination Rate. <b>2019</b> , 2, 513-520	42
969	Improved femtosecond third-order nonlinear optical properties of thin layered Cu <sub>3</sub> Nb <sub>2</sub> O <sub>8</sub> . <b>2019</b> , 88, 586-593	9
968	Electrically-Transduced Chemical Sensors Based on Two-Dimensional Nanomaterials. <b>2019</b> , 119, 478-598	294
967	Correlation of exfoliation performance with interlayer cations of montmorillonite in the preparation of two-dimensional nanosheets. <b>2019</b> , 102, 3908-3922	18
966	Mapping the mechanical properties of a graphene drum at the nanoscale. <b>2019</b> , 6, 025005	8
965	Hydration of Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> MXene: An Interstratification Process with Major Implications on Physical Properties. <b>2019</b> , 31, 454-461	33
964	Effect of molecular weight of polyethylene glycol on the sheet-thickness and photocatalytic performance of MoS <sub>2</sub> nanoparticles. <b>2019</b> , 469, 312-315	4
963	Single-layer planar penta-X <sub>2</sub> N <sub>4</sub> (X = Ni, Pd and Pt) as direct-bandgap semiconductors from first principle calculations. <b>2019</b> , 469, 456-462	23
962	Nitrogen-doped porous carbon monoliths from molecular-level dispersion of carbon nanotubes into polyacrylonitrile (PAN) and the effect of carbonization process for supercapacitors. <b>2019</b> , 143, 776-785	36

961	2D charge density wave in single-layer TiTe <sub>2</sub> . <b>2019</b> , 6, 015027	10
960	Structure of a Two-Dimensional Silicate Layer Formed by Reaction with an Alloy Substrate. <b>2019</b> , 31, 851-861	4
959	Interaction Behavior of Cyanogen Fluoride and Chloride Gas Molecules on Red Phosphorene Nanosheet: A DFT Study. <b>2019</b> , 29, 954-963	27
958	Vibrations of van der Waals heterostructures: A study by molecular dynamics and continuum mechanics. <b>2019</b> , 125, 025113	4
957	Probing the origin of lateral heterogeneities in synthetic monolayer molybdenum disulfide. <b>2019</b> , 6, 025008	2
956	Thickness controlled nanostructure formation in RF sputtered WS <sub>2</sub> thin film. <b>2019</b> , 6, 025002	1
955	BPC2: Graphene-like ternary semi-metal material. <b>2019</b> , 107, 5-10	2
954	Hexagonal boron nitride monolayers on metal supports: Versatile templates for atoms, molecules and nanostructures. <b>2019</b> , 74, 1-95	113
953	Heterostructures Based on 2D Materials: A Versatile Platform for Efficient Catalysis. <b>2019</b> , 31, e1804828	78
952	Growth of 1T' MoTe <sub>2</sub> by Thermally Assisted Conversion of Electrodeposited Tellurium Films. <b>2019</b> , 2, 521-530	23
951	Electrochemical Polishing of Two-Dimensional Materials. <i>ACS Nano</i> , <b>2019</b> , 13, 78-86	16.7 17
950	Impact of Post-Lithography Polymer Residue on the Electrical Characteristics of MoS <sub>2</sub> and WSe <sub>2</sub> Field Effect Transistors. <b>2019</b> , 6, 1801321	39
949	Graphene as an electrochemical transfer layer. <b>2019</b> , 141, 266-273	13
948	Basics and Families of Monatomic Layers. <b>2019</b> , 3-22	5
947	2D material printer: a deterministic cross contamination-free transfer method for atomically layered materials. <b>2019</b> , 6, 015006	14
946	Using photoelectron spectroscopy in the integration of 2D materials for advanced devices. <b>2019</b> , 231, 94-103	4
945	Atom-Thick Membranes for Water Purification and Blue Energy Harvesting. <b>2020</b> , 30, 1902394	25
944	Confined Synthesis of 2D Nanostructured Materials toward Electrocatalysis. <b>2020</b> , 10, 1900486	70

943	Electronic properties and carrier transport properties of low-dimensional aluminium doped silicene nanostructure. <b>2020</b> , 116, 113731	7
942	Controlling electronic structure of single-layered ( $\text{HfX}_3$ ) ( $\text{X}=\text{S}$ ), Se) trichalcogenides through systematic Zr doping. <b>2020</b> , 55, 660-669	10
941	Thermal Transport in 2D Semiconductors—Considerations for Device Applications. <b>2020</b> , 30, 1903929	41
940	Novel room-temperature ferromagnetism in Gd-doped 2-dimensional $\text{Ti}_3\text{C}_2\text{T}_x$ MXene semiconductor for spintronics. <b>2020</b> , 497, 165954	23
939	Au-MoOx nanoparticles for LSPR hydrogen detection prepared by a facile anodizing method. <b>2020</b> , 384, 126079	5
938	Two-Dimensional Electrocatalysts for Efficient Reduction of Carbon Dioxide. <b>2020</b> , 13, 59-77	18
937	Emerging 2D Layered Materials for Perovskite Solar Cells. <b>2020</b> , 10, 1902253	40
936	High energy density of two-dimensional MXene/NiCo-LDHs interstratification assembly electrode: Understanding the role of interlayer ions and hydration. <b>2020</b> , 380, 122456	86
935	Structural, electronic and vibrational properties of ultra-thin octahedrally coordinated structure of $\text{EuO}_2$ . <b>2020</b> , 493, 165668	1
934	Graphene oxide membranes with hierarchical structures used for molecule sieving. <b>2020</b> , 230, 115879	12
933	Time-Resolved Terahertz Spectroscopy Studies on 2D Van der Waals Materials. <b>2020</b> , 8, 1900533	20
932	Phonon thermal transport in Janus single layer $\text{M}_2\text{XY}$ ( $\text{M} = \text{Ga}$ ; $\text{X}, \text{Y} = \text{S}, \text{Se}, \text{Te}$ ): A study based on first-principles. <b>2020</b> , 115, 113683	15
931	2 D Materials for Inhibiting the Shuttle Effect in Advanced Lithium-Sulfur Batteries. <b>2020</b> , 13, 1447-1479	30
930	Ferromagnetic half-metal properties of two dimensional vertical tellurene/ $\text{VS}_2$ heterostructure: A first-principles study. <b>2020</b> , 171, 109215	6
929	Photoresponse of wafer-scale palladium diselenide films prepared by selenization method. <b>2020</b> , 53, 065102	5
928	2D Materials as Ionic Sieves for Inhibiting the Shuttle Effect in Batteries. <b>2020</b> , 15, 2294-2302	13
927	Accelerated synthesis of atomically-thin 2D quantum materials by a novel laser-assisted synthesis technique. <b>2020</b> , 7, 015014	11
926	MXene and MXene-based composites: synthesis, properties and environment-related applications. <b>2020</b> , 5, 235-258	240

925	Antiambipolar Transistor: A Newcomer for Future Flexible Electronics. <b>2020</b> , 30, 1903724	28
924	Novel BCN-phosphorene bilayer: Dependence of carbon doping on band offsets for potential photovoltaic applications. <b>2020</b> , 504, 144327	6
923	Recent advancements in two-dimensional nanomaterials for drug delivery. <b>2020</b> , 12, e1596	17
922	MXene-based sensors and biosensors: next-generation detection platforms. <b>2020</b> , 361-372	3
921	Hall effect measurements using low ac magnetic fields and lock-in technique on field effect transistors with molybdenum disulfide channels. <b>2020</b> , 384, 126073	2
920	Tunable electric properties of bilayer MX <sub>2</sub> (M = Ge, Sn; X = S, Se) with different strain and external electric field. <b>2020</b> , 581, 411673	2
919	Tunable Topological Energy Bands in 2D Dialkali-Metal Monoxides. <b>2020</b> , 7, 1901939	18
918	Advances of 2D bismuth in energy sciences. <b>2020</b> , 49, 263-285	78
917	Interaction of hydrated metals with chemically modified hexagonal boron nitride quantum dots: wastewater treatment and water splitting. <b>2020</b> , 22, 2566-2579	13
916	Electronic, magnetic and optical properties of MnPX (X = S, Se) monolayers with and without chalcogen defects: a first-principles study.. <b>2020</b> , 10, 851-864	22
915	Rational design of two-dimensional nanomaterials for lithium-sulfur batteries. <b>2020</b> , 13, 1049-1075	156
914	2D transition metal dichalcogenide nanomaterials: advances, opportunities, and challenges in multi-functional polymer nanocomposites. <b>2020</b> , 8, 845-883	47
913	Thermodynamics and Kinetics Synergy for Controlled Synthesis of 2D van der Waals Single-Crystal NbSe <sub>2</sub> via Modified Chemical Vapor Transport. <b>2020</b> , 20, 706-712	3
912	A type-II GaSe/GeS heterobilayer with strain enhanced photovoltaic properties and external electric field effects. <b>2020</b> , 8, 89-97	22
911	Ultrafast synthesis of uniform 4B atoms-thin layered tremella-like Pd nanostructure with extremely large electrochemically active surface area for formic acid oxidation. <b>2020</b> , 447, 227248	42
910	Investigations on different two-dimensional materials as slit membranes for enhanced desalination. <b>2020</b> , 598, 117653	13
909	Tunneling-based rectification and photoresponsivity in black phosphorus/hexagonal boron nitride/rhenium diselenide van der Waals heterojunction diode. <b>2020</b> , 12, 3455-3468	25
908	Strain-tunable electronic properties and lithium storage of 2D transition metal carbide (MXene) Ti <sub>2</sub> CO <sub>2</sub> as a flexible electrode. <b>2020</b> , 8, 760-769	15

907	Recent developments in emerging two-dimensional materials and their applications. <b>2020</b> , 8, 387-440	227
906	Kagome-like group-VA monolayers with indirect/direct band gap transition and anisotropic mobility. <b>2020</b> , 8, 2732-2740	10
905	Controlling Polarity of MoTe Transistors for Monolithic Complementary Logic Schottky Contact Engineering. <i>ACS Nano</i> , <b>2020</b> , 14, 1457-1467	16.7 12
904	Adsorption properties of formaldehyde on $\alpha$ -borophene surfaces: A first-principles study. <b>2020</b> , 739, 137035	5
903	Recent advances in black phosphorus and transition metal dichalcogenide-based electronic and optoelectronics devices. <b>2020</b> , 251-312	2
902	Synthesis, characterization, and properties of graphene reinforced metal-matrix nanocomposites. <b>2020</b> , 183, 107664	69
901	Equilibration of energies in a two-dimensional harmonic graphene lattice. <b>2020</b> , 378, 20190114	5
900	STM/STS and ARPES characterization of structure and electronic properties. <b>2020</b> , 199-220	1
899	Atomic structure of defects in transitional metal dichalcogenides using transmission electron microscopy. <b>2020</b> , 167-197	2
898	Two-Dimensional Nanoconfined Channels for a Heavy Metal Sensor. <b>2020</b> , 2, 41-47	2
897	Scalable BEOL compatible 2D tungsten diselenide. <b>2020</b> , 7, 015029	25
896	First-principles study of high performance lithium/sodium storage of $Ti_3C_2T_2$ nanosheets as electrode materials. <b>2020</b> , 29, 016802	5
895	Strain tunable Schottky barriers and tunneling characteristics of borophene/MX <sub>2</sub> van der Waals heterostructures. <b>2020</b> , 120, 113842	3
894	Van der Waals Bound Organic Semiconductor/2D-Material Hybrid Heterosystems: Intrinsic Epitaxial Alignment of Perfluoropentacene Films on Transition Metal Dichalcogenides. <b>2020</b> , 32, 9034-9043	9
893	Two-Dimensional Black Arsenic Phosphorus for Ultrafast Photonics in Near- and Mid-Infrared Regimes. <b>2020</b> , 12, 46509-46518	18
892	Low-Symmetry PdSe <sub>2</sub> for High Performance Thermoelectric Applications. <b>2020</b> , 30, 2004896	23
891	Adsorption Behavior of Ni-Doped ZnO Monolayer upon SF Decomposed Components and Effect of the Applied Electric Field. <b>2020</b> , 5, 24118-24124	6
890	Strain-induced electronic structures, mechanical anisotropy, and piezoelectricity of transition-metal dichalcogenide monolayer CrS <sub>2</sub> . <b>2020</b> , 128, 125111	7

889	Electron and hole mobilities in ambipolar MoS <sub>2</sub> electric-double-layer transistor. <b>2020</b> , 128, 114305		1
888	Phosphorene pnp junctions as perfect electron waveguides. <b>2020</b> , 128, 114303		4
887	Thermoelectric properties of hydrogenated SnBi monolayer under mechanical strain: a DFT approach. <b>2020</b> , 22, 23246-23257		5
886	Tunable Electronic Properties of Type-II SiS/WSe Hetero-Bilayers. <b>2020</b> , 10,		4
885	Sensitive detection using heterostructure of black phosphorus, transition metal di-chalcogenides and MXene in SPR sensor. <b>2020</b> , 126, 1		16
884	Two-Dimensional Near-Atom-Thickness Materials for Emerging Neuromorphic Devices and Applications. <b>2020</b> , 23, 101676		21
883	Recent Advances in the Electromagnetic Interference Shielding of 2D Materials beyond Graphene. <b>2020</b> , 2, 3048-3071		22
882	Tunable Ferromagnetism and Thermally Induced Spin Flip in Vanadium-Doped Tungsten Diselenide Monolayers at Room Temperature. <b>2020</b> , 32, e2003607		25
881	0CoP-Doped nickel aluminum double hydroxide as superior electrode for boosting pseudocapacitive storage. <b>2020</b> , 361, 137092		1
880	Determining dimensionalities and multiplicities of crystal nets. <b>2020</b> , 6,		2
879	Tunable valley polarization, magnetic anisotropy and Dzyaloshinskii-Moriya interaction in two-dimensional intrinsic ferromagnetic Janus 2H-VSeX (X = S, Te) monolayers. <b>2020</b> , 22, 23597-23608		14
878	Niobium Carbide MXenes with Broad-Band Nonlinear Optical Response and Ultrafast Carrier Dynamics. <i>ACS Nano</i> , <b>2020</b> , 14, 10492-10502	16.7	37
877	Above Room-Temperature Ferromagnetism in Wafer-Scale Two-Dimensional van der Waals FeGeTe Tailored by a Topological Insulator. <i>ACS Nano</i> , <b>2020</b> , 14, 10045-10053	16.7	45
876	Mechanical testing of two-dimensional materials: a brief review. <b>2020</b> , 11, 207-246		7
875	The structural, electronic and optic properties in a series of M <sub>2</sub> XY (M = Ga, In; X,Y = S, Se, Te) Janus monolayer materials based on GW and the Bethe-Salpeter equation. <b>2020</b> , 93, 1		3
874	Superposition of semiconductor and semi-metal properties of self-assembled 2D SnTiS <sub>3</sub> heterostructures. <b>2020</b> , 4,		5
873	Transition metal dichalcogenides based two-dimensional heterostructures for optoelectronic applications. <b>2020</b> , 125-149		3
872	Growth of NiSe <sub>2</sub> , NiTe <sub>2</sub> and alloy NiSe <sub>2</sub> □ <sub>x</sub> Te <sub>x</sub> nanosheets with tunable shape evolution and chemical composition. <b>2020</b> , 7, 041001		7

871	Density functional theory calculation of Ti <sub>3</sub> C <sub>2</sub> MXene monolayer as catalytic support for platinum towards the dehydrogenation of methylcyclohexane. <b>2020</b> , 529, 147186	16
870	Device physics and device integration of two-dimensional heterostructures. <b>2020</b> , 195-214	2
869	Even-odd chain effect and quantum pumping effect induced spatial spin filter on a Y-shaped zigzag silicene nanoribbon junction. <b>2020</b> , 93, 1	0
868	Area-Selective Growth of HfS <sub>2</sub> Thin Films via Atomic Layer Deposition at Low Temperature. <b>2020</b> , 7, 2001493	3
867	Amino Acid Assisted One-Pot Green Synthesis of N-Doped 3D Graphene for Ultrasensitive Neurochemical Sensing. <b>2020</b> , 5, 13951-13956	
866	Exploring reactivity and product formation in N(S) collisions with pristine and defected graphene with direct dynamics simulations. <b>2020</b> , 153, 184702	6
865	Advancements in Therapeutics via 3D Printed Multifunctional Architectures from Dispersed 2D Nanomaterial Inks. <b>2020</b> , 16, e2004900	12
864	Optical excitation and electron donation at the surface of MoS <sub>2</sub> . <b>2020</b> ,	
863	Vertically Aligned 2D MoS Layers with Strain-Engineered Serpentine Patterns for High-Performance Stretchable Gas Sensors: Experimental and Theoretical Demonstration. <b>2020</b> , 12, 53174-53183	14
862	Tuning Transport and Chemical Sensitivity via Niobium Doping of Synthetic MoS <sub>2</sub> . <b>2020</b> , 7, 2000856	5
861	Antimonene dendritic nanostructures: Dual-functional material for high-performance energy storage and harvesting devices. <b>2020</b> , 77, 105248	36
860	Two-dimensional metal (oxy)hydroxide and oxide ultrathin nanosheets via liquid phase epitaxy. <b>2020</b> , 32, 272-280	6
859	Two dimensionalization induced enhancing dielectric anisotropy of titania. <b>2020</b> , 842, 155699	
858	Surface coordination chemistry of graphene: Understanding the coordination of single transition metal atoms. <b>2020</b> , 422, 213469	15
857	Towards Scalable Fabrications and Applications of 2D Layered Material-based Vertical and Lateral Heterostructures. <b>2020</b> , 36, 525-550	3
856	Nanotoxicity of ZrS Probed in a Bioluminescence Test on Bacteria: The Effect of Evolving HS. <b>2020</b> , 10,	5
855	Diode-Like Selective Enhancement of Carrier Transport through Metal-Semiconductor Interface Decorated by Monolayer Boron Nitride. <b>2020</b> , 32, e2002716	7
854	Exceptional plasticity in the bulk single-crystalline van der Waals semiconductor InSe. <b>2020</b> , 369, 542-545	60

853	The impact of anion elements on the engineering of the electronic and optical characteristics of the two dimensional monolayer janus MoSSe for nanoelectronic device applications. <b>2020</b> , 18, 103284	1
852	Evaluation of the discrete thickness of exfoliated artificially synthesized mica nanosheets on silicon substrates: Toward characterization of the tunneling current through the nanosheets. <b>2020</b> , 532, 147388	3
851	An artificial intelligence-aided virtual screening recipe for two-dimensional materials discovery. <b>2020</b> , 6,	14
850	Recent advances and perspectives of 2D silicon: Synthesis and application for energy storage and conversion. <b>2020</b> , 32, 115-150	28
849	In situ monitoring of electrical and optoelectronic properties of suspended graphene ribbons during laser-induced morphological changes. <b>2020</b> , 2, 4034-4040	1
848	Interlayer charge transfer in tin disulphide: Orbital anisotropy and temporal aspects. <b>2020</b> , 102,	3
847	WS/GeSe/WS Bipolar Transistor-Based Chemical Sensor with Fast Response and Recovery Times. <b>2020</b> , 12, 39524-39532	20
846	First-Principles Insight into Pd-Doped ZnO Monolayers as a Promising Scavenger for Dissolved Gas Analysis in Transformer Oil. <b>2020</b> , 5, 17801-17807	21
845	Two-dimensional polar metal of a PbTe monolayer by electrostatic doping. <b>2020</b> , 5, 1400-1406	2
844	Controlled Electron-Induced Fabrication of Metallic Nanostructures on 1 nm Thick Membranes. <b>2020</b> , 16, e2003947	5
843	Low-Power and Ultra-Thin MoS Photodetectors on Glass. <i>ACS Nano</i> , <b>2020</b> , 14, 15440-15449	16.7 26
842	Effects of A Magnetic Field on the Transport and Noise Properties of a Graphene Ribbon with Antidots. <b>2020</b> , 10,	0
841	Optoelectronic Properties of Graphene-Based van der Waals Hybrids. <b>2020</b> ,	0
840	Ultrafast Photocurrent Response and High Detectivity in Two-Dimensional MoSe-based Heterojunctions. <b>2020</b> , 12, 46476-46482	11
839	2D materials towards ultrafast photonic applications. <b>2020</b> , 22, 22140-22156	17
838	Stochastic resonance in MoS photodetector. <b>2020</b> , 11, 4406	30
837	Surface-Enhanced Raman Scattering Monitoring of Oxidation States in Defect-Engineered Two-Dimensional Transition Metal Dichalcogenides. <b>2020</b> , 11, 7981-7987	8
836	Progress in Optomechanics. <b>2020</b> ,	



835	Production of Quasi-2D Platelets of Nonlayered Iron Pyrite (FeS) by Liquid-Phase Exfoliation for High Performance Battery Electrodes. <i>ACS Nano</i> , <b>2020</b> , 14, 13418-13432	16.7	20
834	Wafer-Scale Highly Oriented Monolayer MoS with Large Domain Sizes. <b>2020</b> , 20, 7193-7199		69
833	Fermi-crossing Type-II Dirac fermions and topological surface states in NiTe. <b>2020</b> , 10, 12957		10
832	A Comprehensive Physics-Based Current-Voltage SPICE Compact Model for 2-D-Material-Based Top-Contact Bottom-Gated Schottky-Barrier FETs. <b>2020</b> , 67, 5188-5195		1
831	Tungsten disulfide: synthesis and applications in electrochemical energy storage and conversion. <b>2020</b> , 2, 217-239		11
830	Quantum Phase Engineering of Two-Dimensional Post-Transition Metals by Substrates: Toward a Room-Temperature Quantum Anomalous Hall Insulator. <b>2020</b> , 20, 7186-7192		3
829	Facile synthesis of aqueous-dispersed luminescent nanosheets from non-layered lanthanum hexaboride.. <b>2020</b> , 10, 31788-31793		3
828	Thickness and strain engineering of structural and electronic properties for 2D square-octagon AlN. <b>2020</b> , 11, 288-297		1
827	Antimonene nanosheets with enhanced electrochemical performance for energy storage applications. <b>2020</b> , 49, 13717-13725		11
826	Progress Report on Property, Preparation, and Application of Bi2O2Se. <b>2020</b> , 30, 2004480		25
825	First-principles study of two dimensional CN and its derivatives.. <b>2020</b> , 10, 33469-33474		2
824	Tunable Electronic Structure of Two-Dimensional MoX2 (X = S, Se)/SnS2 van der Waals Heterostructures. <b>2020</b> , 124, 21357-21365		8
823	Aberration-corrected STEM imaging of 2D materials: Artifacts and practical applications of threefold astigmatism. <b>2020</b> , 6,		7
822	Phase Variations and Layer Epitaxy of 2D PdSe Grown on 2D Monolayers by Direct Selenization of Molecular Pd Precursors. <i>ACS Nano</i> , <b>2020</b> , 14, 11677-11690	16.7	5
821	Raman Fingerprint of Pressure-Induced Phase Transitions in TiS3 Nanoribbons: Implications for Thermal Measurements under Extreme Stress Conditions. <b>2020</b> , 3, 8794-8802		10
820	Pulsed laser annealing of amorphous two-dimensional transition metal dichalcogenides. <b>2020</b> , 38, 052201		2
819	Ferromagnetic hybrid nodal loop and switchable type-I and type-II Weyl fermions in two dimensions. <b>2020</b> , 102,		49
818	Ab-initio investigation of preferential triangular self-formation of oxide heterostructures of monolayer [Formula: see text]. <b>2020</b> , 10, 21737		0

817	Ultrathin Carbon Nanomembranes from 5,10,15,20-Tetraphenylporphyrin: Electron Beam Induced Fabrication and Functionalization via Focused Electron Beam Induced Processing. <b>2020</b> , 124, 28335-28344	1
816	Computational prediction of a two-dimensional semiconductor SnO <sub>2</sub> with negative Poisson's ratio and tunable magnetism by doping. <b>2020</b> , 102,	4
815	Defect-Induced Atomic Doping in Transition Metal Dichalcogenides via Liquid-Phase Synthesis toward Efficient Electrochemical Activity. <i>ACS Nano</i> , <b>2020</b> ,	16.7 6
814	Free-Standing Two-Dimensional Gold Membranes Produced by Extreme Mechanical Thinning. <i>ACS Nano</i> , <b>2020</b> ,	16.7 8
813	Refractive Uses of Layered and Two-Dimensional Materials for Integrated Photonics. <b>2020</b> , 7, 3270-3285	11
812	Two-Dimensional Nanomaterials With Enzyme-Like Properties for Biomedical Applications. <b>2020</b> , 8, 565940	13
811	Opto-Mechanical Photonic Crystal Cavities for Sensing Application. <b>2020</b> , 10, 7080	7
810	Hydrothermal and Electrochemical Synthesis of MoS <sub>2</sub> Nanoparticles and Characterization of the Latter. <b>2020</b> , 56, 127-132	
809	Preparation of Methacrylate Polymer/Reduced Graphene Oxide Nanocomposite Particles Stabilized by Poly(ionic liquid) Block Copolymer via Miniemulsion Polymerization. <b>2020</b> , 41, e2000141	3
808	Tunable Schottky barrier in InTe/graphene van der Waals heterostructure. <b>2020</b> , 31, 335201	4
807	Current Trends in MXene-Based Nanomaterials for Energy Storage and Conversion System: A Mini Review. <b>2020</b> , 10, 495	39
806	Pressure Manipulation of Interlayer Interactions and Ultrafast Carrier Dynamics in Few-Layer MoS <sub>2</sub> . <b>2020</b> , 124, 11183-11192	1
805	Annihilation mechanism of excitons in a MoS <sub>2</sub> monolayer through direct Förster-type energy transfer and multistep diffusion. <b>2020</b> , 101,	6
804	Broadband photodetector based on 2D layered PtSe <sub>2</sub> / silicon heterojunction at room-temperature. <b>2020</b> , 123, 114147	5
803	Anisotropic High Carrier Mobilities of One-Third-Hydrogenated Group-V Elemental Monolayers. <b>2020</b> , 124, 12628-12635	0
802	Solution-gated transistors of two-dimensional materials for chemical and biological sensors: status and challenges. <b>2020</b> , 12, 11364-11394	19
801	2D Electrets of Ultrathin MoO with Apparent Piezoelectricity. <b>2020</b> , 32, e2000006	22
800	Tailoring ultra-fast charge transfer in MoS. <b>2020</b> , 22, 10335-10342	7

799	Synthesis of Tungsten Disulfide and Molybdenum Disulfide Quantum Dots and Their Applications. <b>2020</b> , 32, 4409-4424	18
798	Gas-Phase Formation of Highly Luminescent 2D GaSe Nanoparticle Ensembles in a Nonequilibrium Laser Ablation Process. <b>2020</b> , 10,	3
797	Emission Control from Transition Metal Dichalcogenide Monolayers by Aggregation-Induced Molecular Rotors. <i>ACS Nano</i> , <b>2020</b> , 14, 7444-7453	16.7 15
796	Artificial Intelligence Algorithm Enabled Industrial-Scale Graphene Characterization. <b>2020</b> , 10, 308	8
795	Direct growth of 2D MoO <sub>2</sub> single crystal on SiO <sub>2</sub> /Si substrate by atmospheric pressure chemical vapor deposition. <b>2020</b> , 251, 123166	6
794	Layer-by-Layer Assembly of Two-Dimensional Materials: Meticulous Control on the Nanoscale. <b>2020</b> , 2, 1148-1165	48
793	Highly Effective Electrochemical Exfoliation of Ultrathin Tantalum Disulfide Nanosheets for Energy-Efficient Hydrogen Evolution Electrocatalysis. <b>2020</b> , 12, 24675-24682	15
792	Ultrafast Exfoliation of 2D Materials by Solvent Activation and One-Step Fabrication of All-2D-Material Photodetectors by Electrohydrodynamic Printing. <b>2020</b> , 12, 28840-28851	24
791	Extraction of Two-Dimensional Aluminum Alloys from Decagonal Quasicrystals. <i>ACS Nano</i> , <b>2020</b> , 14, 7435-7443	11
790	Recent Progress on Extended Wavelength and Split-Off Band Heterostructure Infrared Detectors. <b>2020</b> , 11,	3
789	Normal-Incidence-Excited Strong Coupling between Excitons and Symmetry-Protected Quasi-Bound States in the Continuum in Silicon Nitride-WS Heterostructures at Room Temperature. <b>2020</b> , 11, 4631-4638	15
788	Emerging Opportunities for Electrostatic Control in Atomically Thin Devices. <i>ACS Nano</i> , <b>2020</b> , 14, 6498-6518	26
787	Graphene hetero-multilayer on layered platinum mineral jacutingaite (Pt <sub>2</sub> HgSe <sub>3</sub> ): van der Waals heterostructures with novel optoelectronic and thermoelectric performances. <b>2020</b> , 8, 13248-13260	44
786	Structural Transition in Oxidized Ca <sub>2</sub> N Electrenes: CaO/Ca <sub>n</sub> 2D Heterostructures. <b>2020</b> , 124, 14706-14712	0
785	Quasi-BIC Resonant Enhancement of Second-Harmonic Generation in WS Monolayers. <b>2020</b> , 20, 5309-5314	63
784	A new family of two-dimensional ferroelastic semiconductors with negative Poisson's ratios. <b>2020</b> , 12, 14150-14159	11
783	Transformation of multilayer WS <sub>2</sub> nanosheets to 1D luminescent WS <sub>2</sub> nanostructures by one-pot supercritical fluid processing for hydrogen evolution reaction. <b>2020</b> , 119, 105167	5
782	Voltammetric determination of hydrogen peroxide using AuCu nanoparticles attached on polypyrrole-modified 2D metal-organic framework nanosheets. <b>2020</b> , 187, 389	8

781	Space Charge-Limited Current Transport Mechanism in Crossbar Junction Embedding Molecular Spin Crossovers. <b>2020</b> , 12, 31696-31705	4
780	Crossover from weakly indirect to direct excitons in atomically thin films of InSe. <b>2020</b> , 101,	1
779	Plastic Inorganic Semiconductors for Flexible Electronics. <b>2020</b> ,	
778	Thermal Nonlinear Refraction in Cesium Lead Halide Perovskite Nanostructure Colloids. <b>2020</b> , 124, 15558-15564	
777	Sil <sub>2</sub> monolayer as a promising photocatalyst for water splitting hydrogen production under the irradiation of solar light. <b>2020</b> , 45, 17517-17524	12
776	Dielectrophoretic borophene tweezer: Sub-10 mV nano-particle trapping. <b>2020</b> , 527, 146859	3
775	Electronic and Transport Properties in Defective MoS <sub>2</sub> : Impact of Sulfur Vacancies. <b>2020</b> , 124, 15076-15084	15
774	Applications of Raman spectroscopy in two-dimensional materials. <b>2020</b> , 13, 2030010	3
773	Monolayer 2D quantum materials subjected to gamma irradiation in high-vacuum for nuclear and space applications. <b>2020</b> , 116, 213105	5
772	Cu Nano-Roses Self-Assembly from <i>Allium cepa</i> , L., Pyrolysis by Green Synthesis of C Nanostructures. <b>2020</b> , 10, 3819	1
771	Controlling Exciton and Valley Dynamics in Two-Dimensional Heterostructures with Atomically Precise Interlayer Proximity. <i>ACS Nano</i> , <b>2020</b> , 14, 4618-4625	16.7 23
770	Strain-Engineered Metal-Free h-B <sub>2</sub> O Monolayer as a Mechanocatalyst for Photocatalysis and Improved Hydrogen Evolution Reaction. <b>2020</b> , 124, 7884-7892	9
769	Nucleic acid hybridization on a plasmonic nanointerface of optical microfiber enables ultrahigh-sensitive detection and potential photothermal therapy. <b>2020</b> , 156, 112147	11
768	Twist Angle-Dependent Atomic Reconstruction and Moiré Patterns in Transition Metal Dichalcogenide Heterostructures. <i>ACS Nano</i> , <b>2020</b> , 14, 4550-4558	16.7 84
767	Properties of two-dimensional nanomaterials. <b>2020</b> , 73-100	4
766	Selective etching in graphene/MoS <sub>2</sub> heterostructures for fabricating graphene-contacted MoS <sub>2</sub> transistors. <b>2020</b> , 10, 035219	2
765	New approach for the molecular beam epitaxy growth of scalable WSe monolayers. <b>2020</b> , 31, 255602	7
764	Blending functionalised ligands to form multivariate metal-organic framework nanosheets (MTV-MONs) with tuneable surface chemistry. <b>2020</b> , 12, 7986-7994	8

763	Unfolding method for periodic twisted systems with commensurate Moiré patterns. <b>2020</b> , 32, 025501	1
762	Electrochemical Reactivity under Confinement Enabled by Molecularly Pillared 2D and Layered Materials <b>2020</b> , 32, 3325-3334	17
761	Synergistic effect of Bi-doped exfoliated MoS nanosheets on their bactericidal and dye degradation potential. <b>2020</b> , 49, 5362-5377	26
760	Phonon Thermal Properties of Heterobilayers with a Molecular Dynamics Study. <b>2020</b> , 41, 1	3
759	Ion-Locking in Solid Polymer Electrolytes for Reconfigurable Gateless Lateral Graphene p-n Junctions. <b>2020</b> , 13,	5
758	Two-Dimensional Magnetic Nanostructures. <b>2020</b> , 2, 163-173	17
757	Thickness-Independent Semiconducting-to-Metallic Conversion in Wafer-Scale Two-Dimensional PtSe Layers by Plasma-Driven Chalcogen Defect Engineering. <b>2020</b> , 12, 14341-14351	29
756	Two-Dimensional MOF and COF Nanosheets: Synthesis and Applications in Electrochemistry. <b>2020</b> , 26, 6402-6422	75
755	Atomic Layer Deposition of Two-Dimensional Layered Materials: Processes, Growth Mechanisms, and Characteristics. <b>2020</b> , 2, 587-630	47
754	Nano-scale multifunctional logic gate based on graphene/hexagonal boron nitride plasmonic waveguides. <b>2020</b> , 14, 37-43	12
753	Observation and Optical Control of Saturable Excitonic Behaviors in Monolayer MoS <sub>2</sub> . <b>2020</b> , 14, 2000222	6
752	Two-dimensional materials-based nonvolatile resistive memories and radio frequency switches. <b>2020</b> , 1-28	1
751	Mechanical properties of two-dimensional materials: atomistic modeling and future directions. <b>2020</b> , 9-35	3
750	Shape-control growth of 2D-InSe with out-of-plane ferroelectricity by chemical vapor deposition. <b>2020</b> , 12, 20189-20201	7
749	Accurate electronic band gaps of two-dimensional materials from the local modified Becke-Johnson potential. <b>2020</b> , 101,	8
748	First-principles study of magnetism and electric field effects in 2D systems. <b>2020</b> , 2, 027101	1
747	Material composition and peptide sequence affects biomolecule affinity to and selectivity for h-boron nitride and graphene. <b>2020</b> , 56, 8834-8837	9
746	Channel width dependent subthreshold operation of tri-gate junctionless transistors. <b>2020</b> , 171, 107860	3

745	Broadband Light Amplitude Tuning Characteristics of SnSe <sub>2</sub> Coated Microfiber. <b>2020</b> , 38, 6089-6096	3
744	Performance Evaluation and Device Physics Investigation of Negative-Capacitance MOSFETs Based on Ultrathin Body Silicon and Monolayer MoS <sub>2</sub> . <b>2020</b> , 67, 3049-3055	3
743	Electronic and optoelectronic properties of van der Waals heterostructure based on graphene-like GaN, blue phosphorene, SiC, and ZnO: A first principles study. <b>2020</b> , 127, 245302	7
742	Iron-Intercalated Zirconium Diselenide Thin Films from the Low-Pressure Chemical Vapor Deposition of [Fe(CH <sub>3</sub> Se)Zr(CH <sub>3</sub> )]. <b>2020</b> , 5, 15799-15804	3
741	Synthesis of two-dimensional hexagonal boron nitride. <b>2020</b> , 223-246	
740	Metal-free ferromagnetic semiconductor: Mechanical, electronic and magnetic properties of boron doped graphitic carbon nitride (g-C <sub>3</sub> N <sub>6</sub> ) sheet. <b>2020</b> , 254, 123470	8
739	A high-performance transparent photodetector via building hierarchical g-C <sub>3</sub> N <sub>4</sub> nanosheets/CNTs van der Waals heterojunctions by a facile and scalable approach. <b>2020</b> , 529, 147122	15
738	Effect of temperature on the morphological, structural and optical properties of electrodeposited Yb-doped ZrSe <sub>2</sub> thin films. <b>2020</b> , 220, 165180	1
737	Growth and properties of magnetic two-dimensional transition-metal chalcogenides. <b>2020</b> , 227-251	2
736	Manufacturing strategies for wafer-scale two-dimensional transition metal dichalcogenide heterolayers. <b>2020</b> , 35, 1350-1368	9
735	Supergiant elasticity and fracture of 3D spirally wound (hbox {MoS}_{\mathbf{2}}). <b>2020</b> , 223, 39-52	5
734	Recent advances in two-dimensional inorganic nanosheet-based supercapacitor electrodes. <b>2020</b> , 57, 119-134	9
733	Facile synthesis of large-area ultrathin two-dimensional supramolecular nanosheets in water. <b>2020</b> , 13, 868-874	10
732	Synthesis and Evaluation of Molybdenum Imido-Thiolato Complexes for the Aerosol-Assisted Chemical Vapor Deposition of Nitrogen-Doped Molybdenum Disulfide. <b>2020</b> , 39, 956-966	6
731	A flexible two-dimensional layered metal-organic framework functionalized with (trifluoromethyl)trifluoroborate: synthesis, crystal structure, and adsorption/separation properties. <b>2020</b> , 49, 3692-3699	8
730	Research progress on the preparations, characterizations and applications of large scale 2D transition metal dichalcogenides films. <b>2020</b> , 21, 100161	21
729	InTel: a novel wide-bandgap 2D material with desirable stability and highly anisotropic carrier mobility. <b>2020</b> , 12, 5888-5897	16
728	Digital holography for non-invasive quantitative imaging of two-dimensional materials. <b>2020</b> , 127, 084901	3

727	Tunable Onset of Hydrogen Evolution in Graphene with Hot Electrons. <b>2020</b> , 20, 1791-1799	3
726	Interfacial study of vertically aligned n-type MoS <sub>2</sub> flakes heterojunction with p-type Cu-Zn-Sn-S for self-powered, fast and high performance broadband photodetector. <b>2020</b> , 514, 145901	14
725	Effect of Substrate Orientation on MoSe <sub>2</sub> /GaAs Heteroepitaxy. <b>2020</b> , 124, 5196-5203	8
724	Low dimensional freestanding semiconductors for flexible optoelectronics: materials, synthesis, process, and applications. <b>2020</b> , 8, 123-144	22
723	Unusual mechanical and electronic behaviors of bulk layered hydrogen substituted graphdiyne under biaxial strain. <b>2020</b> , 513, 145694	5
722	Transferrable thin film of ultrasonically exfoliated MoSe <sub>2</sub> nanocrystals for efficient visible-light photodetector. <b>2020</b> , 119, 114019	17
721	Peculiar piezoelectricity of atomically thin planar structures. <b>2020</b> , 12, 2875-2901	25
720	The COMPASS force field: Validation for carbon nanoribbons. <b>2020</b> , 118, 113937	10
719	Tuning the electronic structure of RhX (X = Cl, Br, I) nonmagnetic monolayers: effects of charge-injection and external strain. <b>2020</b> , 22, 4561-4573	3
718	Doping induced charge density wave in monolayer TiS <sub>2</sub> and phonon-mediated superconductivity. <b>2020</b> , 127, 044301	5
717	2D bismuthene/graphene modified electrodes for the ultra-sensitive stripping voltammetric determination of lead and cadmium. <b>2020</b> , 336, 135726	25
716	A full picture of intrinsic defects induced self-activation of elastic potential fluctuation within monolayered metal chalcogenide. <b>2020</b> , 70, 104530	2
715	Semiconducting Phase and Anisotropic Properties in Borophene via Chemical Surface Functionalization. <b>2020</b> , 124, 5807-5816	3
714	Realizing graphene-like Dirac cones in triangular boron sheets by chemical functionalization. <b>2020</b> , 8, 2798-2805	7
713	Two-dimensional materials for energy conversion and storage. <b>2020</b> , 111, 100637	73
712	High-Mobility Flexible Oxyselenide Thin-Film Transistors Prepared by a Solution-Assisted Method. <b>2020</b> , 142, 2726-2731	25
711	Theoretical investigations of a new two-dimensional semiconducting boron-carbon-nitrogen structure.. <b>2020</b> , 10, 3424-3428	2
710	Recent Advances in Tin: From Two-Dimensional Quantum Spin Hall Insulator to Bulk Dirac Semimetal. <b>2020</b> , 11, 1317-1329	9

709	High tunnel magnetoresistance based on 2D Dirac spin gapless semiconductor VCl <sub>3</sub> . <b>2020</b> , 116, 022402	10
708	Orientational DNA binding and directed transport on nanomaterial heterojunctions. <b>2020</b> , 12, 5217-5226	16
707	PbE (E = S, Se) Colloidal Quantum Dot-Layered 2D Material Hybrid Photodetectors. <b>2020</b> , 10,	19
706	Thermal conductivity of graphene polymorphs and compounds: From C <sub>3</sub> N to graphdiyne lattices. <b>2020</b> , 161, 816-826	36
705	Symmetric, Asymmetric, and Battery-Type Supercapacitors Using Two-Dimensional Nanomaterials and Composites. <b>2020</b> , 3, 860-875	16
704	High Curie temperature and carrier mobility of novel Fe, Co and Ni carbide MXenes. <b>2020</b> , 12, 11627-11637	12
703	A DFT study of healing the N vacancy in h-BN monolayer by NO molecules. <b>2020</b> , 126, 1	1
702	Pd-doped h-BN monolayer: a promising gas scavenger for SF <sub>6</sub> insulation devices. <b>2020</b> , 26, 619-626	10
701	A novel one-pot strategy for fabrication of PEGylated MoS <sub>2</sub> composites for pH responsive controlled drug delivery. <b>2020</b> , 307, 112962	2
700	Phosphorus-based metal-free Z-scheme 2D van der Waals heterostructures for visible-light photocatalytic water splitting: a first-principles study. <b>2020</b> , 22, 9250-9256	11
699	Multifunctional V <sub>2</sub> VI <sub>2</sub> binary heterostructure-based self-powered pH-sensitive photo-detector. <b>2020</b> , 8, 5991-6000	5
698	Two-dimensional few-layered PC as a promising photocatalyst for overall water splitting. <b>2020</b> , 22, 9477-9486	7
697	Polarization domain wall solitons in a quasi-isotropic fibre laser using quantum dot tungsten disulfide. <b>2020</b> , 30, 055801	
696	Controlling the electronic and optical properties of HfS mono-layers lanthanide substitutional doping: a DFT+ study.. <b>2020</b> , 10, 15670-15676	16
695	Switch of Optical Nonlinear Absorption in Black Phosphorous. <b>2020</b> , 206, 32-40	3
694	. <b>2020</b> , 108, 628-654	18
693	Elastomer nanocomposites containing MXene for mechanical robustness and electrical and thermal conductivity. <b>2020</b> , 31, 315715	18
692	Monolayer MoS <sub>2</sub> Transferred on Arbitrary Substrates for Potential Use in Flexible Electronics. <b>2020</b> , 3, 4445-4453	11



691	Analyses of hyperspectral imaging microscopy data sets of semiconducting 2D materials. <b>2020</b> , 13, 052008	3
690	Intrinsic Photocatalysis of Morphology and Oxygen Vacancy-Tunable Ultrathin WO <sub>3</sub> Nanosheets. <b>2020</b> , 5, 4008-4016	6
689	Biomolecular sensing by surface-enhanced Raman scattering of monolayer Janus transition metal dichalcogenide. <b>2020</b> , 12, 10723-10729	13
688	Wafer-scale 2D PtTe layers for high-efficiency mechanically flexible electro-thermal smart window applications. <b>2020</b> , 12, 10647-10655	11
687	Review Current Trends in Disposable Graphene-Based Printed Electrode for Electrochemical Biosensors. <b>2020</b> , 167, 067523	7
686	Low thermal conductivity in single crystalline epitaxial germanane films. <b>2020</b> , 13, 055503	16
685	Epitaxial Growth of Main Group Monoelemental 2D Materials. <b>2021</b> , 31, 2006997	7
684	Recent progress in contact, mobility, and encapsulation engineering of InSe and GaSe. <b>2021</b> , 3, 662-693	15
683	Strain engineering for C <sub>2</sub> N/Janus monochalcogenides van der Waals heterostructures: Potential applications for photocatalytic water splitting. <b>2021</b> , 536, 147845	6
682	Geometric, Electronic and Optical Properties of Pt-Doped C <sub>3</sub> N Monolayer Upon NO <sub>x</sub> Adsorption: A DFT Study. <b>2021</b> , 21, 3602-3608	13
681	Radiofrequency Switches Based on Emerging Resistive Memory Technologies - A Survey. <b>2021</b> , 109, 77-95	12
680	Controllable fabrication of two-dimensional layered transition metal oxides through electrochemical exfoliation of non-van der Waals metals for rechargeable zinc-ion batteries. <b>2021</b> , 408, 127247	9
679	Room-temperature plastic inorganic semiconductors for flexible and deformable electronics. <b>2021</b> , 3, 22-35	16
678	Pd-doped C <sub>3</sub> N monolayer: A promising low-temperature and high-activity single-atom catalyst for CO oxidation. <b>2021</b> , 537, 147881	22
677	CdInGaS <sub>4</sub> : An unexplored two-dimensional materials with desirable band gap for optoelectronic devices. <b>2021</b> , 854, 157220	7
676	Dynamic Oscillation via Negative Differential Resistance in Type III Junction Organic/Two-Dimensional and Oxide/Two-Dimensional Transition Metal Dichalcogenide Diodes. <b>2021</b> , 31, 2009436	7
675	Investigation of the electronic structure of two-dimensional GaN/Zr <sub>2</sub> CO <sub>2</sub> hetero-junction: Type-II band alignment with tunable bandgap. <b>2021</b> , 542, 148505	9
674	Controllable synthesis of tunable aspect ratios novel h-BN nanorods with an enhanced wetting performance for water repellent applications. <b>2021</b> , 184, 109927	4

673	Tunable Optical Properties of 2D Materials and Their Applications. <b>2021</b> , 9, 2001313	24
672	Stabilizing Co, Ni and Cu on the h-BN surface: Using OO bond activation to probe their performance as single atom catalyst. <b>2021</b> , 370, 75-82	3
671	Characteristics of transmission light in tetracycline hydrochloride polluted wastewater and the response of g-CN under different transmission spectral range during the photodegradation process. <b>2021</b> , 263, 128196	3
670	Monolayer Janus TeSe-based gas sensor to detect SO and NO: a first-principles study. <b>2021</b> , 23, 1675-1683	6
669	Recent Advances in Electrochemical Water Splitting and Reduction of CO <sub>2</sub> into Green Fuels on 2D Phosphorene-Based Catalyst. <b>2021</b> , 9, 2000741	4
668	MXenes: Are they emerging materials for analytical chemistry applications? - A review. <b>2021</b> , 1143, 267-280	29
667	Surface-enhanced Raman Scattering on 2D Nanomaterials: Recent Developments and Applications <b>2021</b> , 39, 745-756	11
666	A new 2D Si <sub>3</sub> X(X=S, O) direct band gap semiconductor with anisotropic carrier mobility. <b>2021</b> , 704, 121736	1
665	Indirect interactions of metal nanoparticles through graphene. <b>2021</b> , 174, 132-137	0
664	Atomically Thin Hexagonal Boron Nitride and Its Heterostructures. <b>2021</b> , 33, e2000769	31
663	Sensing behavior of Cu-embedded C <sub>3</sub> N monolayer upon dissolved gases in transformer oil: a first-principles study. <b>2021</b> , 31, 489-496	1
662	Synthesis of magnetic two-dimensional materials by chemical vapor deposition. <b>2021</b> , 14, 1789-1801	9
661	Theory and Ab Initio Calculation of Optically Excited States-Recent Advances in 2D Materials. <b>2021</b> , 33, e1904306	7
660	Biosensors based on two-dimensional materials. <b>2021</b> , 245-312	
659	Two-dimensional aluminium, gallium, and indium metallic crystals by first-principles design. <b>2020</b> ,	5
658	Sensing Materials: 2D Semiconductors for Biosensing. <b>2021</b> ,	
657	Molecular mechanisms underlying the role of the puckered surface in the biocompatibility of black phosphorus. <b>2021</b> , 13, 3790-3799	5
656	Solution-processed two-dimensional materials for next-generation photovoltaics. <b>2021</b> , 50, 11870-11965	21

655	Highly Electroconductive and Mechanically Strong TiCT MXene Fibers Using a Deformable MXene Gel. <i>ACS Nano</i> , <b>2021</b> , 15, 3320-3329	16.7	43
654	Intelligent Decision Support System (IDSS) to Optimize 2D Materials Detection Using Digital Image Processing and Deep Learning. <b>2021</b> ,		
653	Germanene/2D-AIP van der Waals heterostructure: Tunable structural and electronic properties. <b>2021</b> , 11, 015126		7
652	High mobility and enhanced photoelectric performance of two-dimensional ternary compounds NaCuX (X = S, Se, and Te). <b>2021</b> , 23, 2475-2482		5
651	Combined healing and doping of transition metal dichalcogenides through molecular functionalization.		1
650	Bidirectional Superionic Conduction in Surface-Engineered 2D Hexagonal Boron Nitrides. <b>2021</b> , 13, 6532-6544		2
649	Tunable anomalous Hall transport in bulk and two-dimensional 1T <sub>Cr</sub> Te <sub>2</sub> : A first-principles study. <b>2021</b> , 103,		8
648	Emerging beyond-graphene elemental 2D materials for energy and catalysis applications. <b>2021</b> , 50, 10983-11031		10
647	Highly symmetric and delayed excitonic emission response and space charge-limited current transport in $\mu$ irradiated WSe <sub>2</sub> and WS <sub>2</sub> nanoflakes. <b>2021</b> , 36, 870-883		1
646	Thickness control of 2D nanosheets assembled from precise side-chain giant molecules. <b>2021</b> , 12, 5216-5223		4
645	Two-dimensional multimetallic alloy nanocrystals: recent progress and challenges. <b>2021</b> , 23, 6454-6469		1
644	Satisfiability Attack-Resistant Camouflaged Two-Dimensional Heterostructure Devices. <i>ACS Nano</i> , <b>2021</b> , 15, 3453-3467	16.7	12
643	A novel spin-valley-coupled nodal-ring semimetal in single-layer TaC. <b>2021</b> , 23, 12280-12287		0
642	2D materials in nonlinear optics. <b>2021</b> , 347-385		
641	A wafer-scale synthesis of monolayer MoS <sub>2</sub> and their field-effect transistors toward practical applications. <b>2021</b> , 3, 2117-2138		7
640	Two-dimensional inorganic nanosheets: production and utility in the development of novel electrochemical (bio)sensors and gas-sensing applications. <b>2021</b> , 188, 6		5
639	Wafer-Scale Lateral Self-Assembly of Mosaic TiCT MXene Monolayer Films. <i>ACS Nano</i> , <b>2021</b> , 15, 625-636	16.7	20
638	Bias-tunable two-dimensional magnetic and topological materials. <b>2021</b> , 13, 12513-12520		1

637	Benchmarking monolayer MoS and WS field-effect transistors. <b>2021</b> , 12, 693	66
636	Promotion of H <sub>2</sub> adsorption performance on InN monolayer by embedding Cu atom: A first-principles study. <b>2021</b> , 46, 865-874	13
635	Magnetism of elemental two-dimensional metals. <b>2021</b> , 9, 4554-4561	2
634	New insight into the growth of monolayer MoS <sub>2</sub> flakes using an indigenously developed CVD setup: a study on shape evolution and spectroscopy. <b>2021</b> , 5, 5429-5441	3
633	Tunable band gaps and high carrier mobilities in stanene by small organic molecule adsorption under external electric fields. <b>2021</b> , 23, 16023-16032	1
632	Investigation on the interlayer coupling and bonding in layered nitride-halides ThNF and ThNCl.. <b>2021</b> , 11, 28698-28703	
631	Evolution of the Electronic Properties of ZrX <sub>2</sub> (X = S, Se, or Te) Thin Films under Varying Thickness. <b>2021</b> , 125, 1134-1142	7
630	State-of-the-art surface oxide semiconductors of liquid metals: an emerging platform for development of multifunctional two-dimensional materials. <b>2021</b> , 9, 34-73	12
629	Introduction. <b>2021</b> , 1-12	
628	Band structure engineering in gallium sulfide nanostructures. <b>2021</b> , 127, 1	
627	Tunable Interlayer Distance via Adsorption of Cyclic Hydrocarbons in SCSC Mode. <b>2021</b> , 21, 2255-2262	2
626	MXenes: Synthesis, Optical Properties, and Applications in Ultrafast Photonics. <b>2021</b> , 17, e2006054	41
625	Insights into adsorption, diffusion, and reactions of atomic nitrogen on a highly oriented pyrolytic graphite surface. <b>2021</b> , 154, 074708	2
624	Nanoscale redox mapping at the MoS-liquid interface. <b>2021</b> , 12, 1321	5
623	First principle studies on the structures, electronic properties and Raman spectrums of monolayer WX <sub>2</sub> (X = S, Se, Te) under strain condition. <b>2021</b> , 35, 2150135	1
622	Controllable Thin-Film Approaches for Doping and Alloying Transition Metal Dichalcogenides Monolayers. <b>2021</b> , 8, 2004249	15
621	Magnetic excitation and dissipation of multilayer two-dimensional resonators. <b>2021</b> , 118, 063103	2
620	Tunable magnetism in ferroelectric Hn <sub>2</sub> Se <sub>3</sub> by hole-doping. <b>2021</b> , 118, 072902	8

619	Harnessing the Unique Features of 2D Materials toward Dendrite-free Metal Anodes.	5
618	Pure spin current generation with photogalvanic effect in graphene interconnect junctions. <b>2021</b> , 10, 1701-1709	2
617	Computational insights into modulating the performance of MXene based electrode materials for rechargeable batteries. <b>2021</b> ,	8
616	Promoting a Weak Coupling of Monolayer MoSe Grown on (100)-Faceted Au Foil. <i>ACS Nano</i> , <b>2021</b> , 15, 4481-4489	16.7 4
615	The Impact of Interlayer Rotation on Thermal Transport Across Graphene/Hexagonal Boron Nitride van der Waals Heterostructure. <b>2021</b> , 21, 2634-2641	37
614	Semiconductor-to-metal transition in bilayer MoSi <sub>2</sub> N <sub>4</sub> and WSi <sub>2</sub> N <sub>4</sub> with strain and electric field. <b>2021</b> , 118, 113102	27
613	High intrinsic lattice thermal conductivity in monolayer MoSi <sub>2</sub> N <sub>4</sub> . <b>2021</b> , 23, 033005	31
612	Adsorption and sensing performances of transition metal (Pd, Pt, Ag and Au) doped MoTe <sub>2</sub> monolayer upon NO <sub>2</sub> : A DFT study. <b>2021</b> , 391, 127117	17
611	Spin transport properties in Dirac spin gapless semiconductors Cr <sub>2</sub> X <sub>3</sub> with high Curie temperature and large magnetic anisotropic energy. <b>2021</b> , 118, 112407	7
610	Self-powered and high responsivity photodetector based on a n-Si/p-GaTe heterojunction. <b>2021</b> ,	8
609	Transient Optical Modulation of Two-Dimensional Materials by Excitons at Ultimate Proximity. <i>ACS Nano</i> , <b>2021</b> , 15, 5495-5501	16.7 3
608	Lateral Interfaces between Monolayer MoS Edges and Armchair Graphene Nanoribbons on Au(111). <i>ACS Nano</i> , <b>2021</b> , 15, 6699-6708	16.7 2
607	Interconnecting layers of different crystalline silicon bottom cells in monolithic perovskite/silicon tandem solar cells. <b>2021</b> , 151, 106811	1
606	Modeling buckling and topological defects in stacked two-dimensional layers of graphene and hexagonal boron nitride. <b>2021</b> , 5,	2
605	Dimensional transformation of chemical bonding during crystallization in a layered chalcogenide material. <b>2021</b> , 11, 4782	6
604	Optical anisotropy in bare and janus tellurene allotropes from ultraviolet to visible region: A first principle study. <b>2021</b> , 265, 115014	3
603	Performance Analysis of High Broadband Optical Absorption by MoSe <sub>2</sub> Monolayer in Octonacci Quasi-Photonic Crystal. <b>2021</b> ,	2
602	Nano-FET-enabled biosensors: Materials perspective and recent advances in North America. <b>2021</b> , 176, 112941	5

601	Solution-Processed MoS Film with Functional Interfaces via Precursor-Assisted Chemical Welding. <b>2021</b> , 13, 12221-12229	9
600	Combined role of polarization matching and critical coupling in enhanced absorption of 2D materials based on metamaterials. <b>2021</b> , 29, 9269-9282	3
599	Noncovalently functionalization of Janus MoSSe monolayer with organic molecules. <b>2021</b> , 127, 114503	29
598	Magnetism and Charge Order in the Honeycomb Lattice. <b>2021</b> , 126, 107205	2
597	First-Principles Study of a MoS-PbS van der Waals Heterostructure Inspired by Naturally Occurring Merelaniite. <b>2021</b> , 14,	1
596	Strain-dependent optical properties of the novel monolayer group-IV dichalcogenides SiS <sub>2</sub> semiconductor: A first-principles study. <b>2021</b> ,	1
595	The Adatom Concentration Profile: A Paradigm for Understanding Two-Dimensional MoS Morphological Evolution in Chemical Vapor Deposition Growth. <i>ACS Nano</i> , <b>2021</b> , 15, 6839-6848	16.7 5
594	Recent Advances in Synthesis and Study of 2D Twisted Transition Metal Dichalcogenide Bilayers. <b>2021</b> , 2, 2000153	9
593	Three-dimensional ferromagnetism and magnetotransport in van der Waals Mn-intercalated tantalum disulfide. <b>2021</b> , 103,	3
592	Strain-Induced Tunable Band Offsets in Blue Phosphorus and WSe <sub>2</sub> van der Waals Heterostructure. <b>2021</b> , 11, 470	0
591	Electronic structure evolution of the transition metals substituted tetragonal graphene: a first-principles investigations. <b>2021</b> , 33,	
590	Exploration of Ni-doped BN monolayer as a promising gas sensor for air decomposed species in the high-voltage switchgears. <b>2021</b> , 1198, 113175	
589	Synthesis of Wafer-Scale Graphene with Chemical Vapor Deposition for Electronic Device Applications. <b>2021</b> , 6, 2000744	16
588	Pristine and Janus monolayers of vanadium dichalcogenides: potential materials for overall water splitting and solar energy conversion. <b>2021</b> , 56, 12270-12284	0
587	Two-dimensional nanomaterials with engineered bandgap: Synthesis, properties, applications. <b>2021</b> , 37, 101059	24
586	A biomimetic neural encoder for spiking neural network. <b>2021</b> , 12, 2143	15
585	Anomalous Flexural Elasticities of Graphene Membranes Unveiled by Manipulating Topology. <b>2021</b> , 126, 146101	0
584	Two-Dimensional Nanomaterials as Anticorrosion Surface Coatings for Uranium Metal: Physical Insights from First-Principles Theory. <b>2021</b> , 4, 5038-5046	1

583	Layer-Dependent Electronic and Optical Properties of 2D Black Phosphorus: Fundamentals and Engineering. <b>2021</b> , 15, 2000399	8
582	Schottky barrier heights in two-dimensional field-effect transistors: from theory to experiment. <b>2021</b> , 84,	26
581	Fabrication, characterization and applications of graphene electronic tattoos. <b>2021</b> , 16, 2395-2417	13
580	Putting the World Back Together and Announcing the 2021 Award Lecture Laureates. <i>ACS Nano</i> , <b>2021</b> , 15, 7837-7839	16.7 1
579	Thermal camouflaging metamaterials. <b>2021</b> , 45, 120-141	48
578	Structural, magnetic, and critical behavior of CrTe <sub>1-x</sub> Sb <sub>x</sub> alloys. <b>2021</b> , 136, 1	3
577	Two-Dimensional WSe <sub>2</sub> /MoSe <sub>2</sub> Heterostructures Grown by Molecular-Beam Epitaxy. <b>2021</b> , 125, 11257-11261	3
576	A multiscale insight into the growth of h-BN: effect of the enclosure. <b>2021</b> , 8, 035033	3
575	Electronically Weak Coupled Bilayer MoS at Various Twist Angles via Folding. <b>2021</b> , 13, 22819-22827	2
574	Biocompatibility nanoprobe of MXene N-TiC quantum dot/Fe for detection and fluorescence imaging of glutathione in living cells. <b>2021</b> , 201, 111631	11
573	Emerging MXenes for Functional Memories. <b>2021</b> , 1, 2100006	19
572	Kinetic 2D Crystals via Topochemical Approach. <b>2021</b> , 33, e2006043	1
571	Highly stable two-dimensional metal-carbon monolayer with interpenetrating honeycomb structures. <b>2021</b> , 5,	1
570	Advanced tape-exfoliated method for preparing large-area 2D monolayers: a review. <b>2021</b> , 8, 032002	9
569	Silicon-assisted growth of hexagonal boron nitride to improve oxidation resistance of germanium. <b>2021</b> , 8, 035041	2
568	Significance of Coulomb interaction in interlayer coupling, polarized Raman intensities, and infrared activities in the layered van der Waals semiconductor GaSe. <b>2021</b> , 103,	2
567	Synthesis and characterization of 2D transition metal dichalcogenides: Recent progress from a vacuum surface science perspective. <b>2021</b> , 76, 100523	12
566	Magnetic-Field-Driven Electron Dynamics in Graphene. <b>2021</b> , 12, 4749-4754	0

565	Application of Graphene-Based Nanomaterials Combined with Early Exercise Rehabilitation Training in the Treatment of Patients with Infectious Bone Defects. <b>2021</b> , 216, 247-261	
564	Remote growth of oxide heteroepitaxy through MoS <sub>2</sub> . <b>2021</b> , 9, 051115	1
563	Enhanced Electrochemical Performance of Hydrothermally Exfoliated Hexagonal Boron Nitride Nanosheets for Applications in Electrochemistry. <b>2021</b> , 168, 056512	2
562	A cost-effective approach to synthesize NiFe <sub>2</sub> O <sub>4</sub> /MXene heterostructures for enhanced photodegradation performance and anti-bacterial activity. <b>2021</b> , 32, 2248-2248	14
561	EGeSe: A New Hexagonal Polymorph from Group IV-VI Monochalcogenides. <b>2021</b> , 21, 4305-4313	11
560	Large-area uniform few-layer PtS <sub>2</sub> : Synthesis, structure and physical properties. <b>2021</b> , 18, 100376	7
559	Unoccupied electronic states of 2D Si on Ag-3-Si(111). <b>2021</b> , 33,	0
558	SF decomposed gas sensing performance of van der Waals layered cobalt oxyhydroxide: insights from a computational study. <b>2021</b> , 27, 158	
557	2D Metal-Free Nanomaterials Beyond Graphene and Its Analogues toward Electrocatalysis Applications. <b>2021</b> , 11, 2101202	8
556	Photoluminescence upconversion of 2D materials and applications. <b>2021</b> , 33,	3
555	Solid-Binding Proteins: Bridging Synthesis, Assembly, and Function in Hybrid and Hierarchical Materials Fabrication. <b>2021</b> , 12, 333-357	2
554	Hybrid improper ferroelectricity and magnetoelectric coupling in a two-dimensional perovskite oxide. <b>2021</b> , 103,	1
553	Two-Dimensional Materials for Renewable Energy Devices. 1-39	0
552	Theoretical realization of two-dimensional Dirac/Weyl line-node and traversing edge states in penta-X <sub>2</sub> Y monolayers. <b>2021</b> , 23, 101057	7
551	Advances in Lithium-Sulfur Batteries: From Academic Research to Commercial Viability. <b>2021</b> , 33, e2003666	77
550	Interfacial charge-transfer for robust Raman quenching in staggered band aligned n-SnS <sub>2</sub> /p-rGO heterostructures. <b>2021</b> , 550, 149356	5
549	Controllable Synthesis of 2D Nonlayered Cr <sub>2</sub> S <sub>3</sub> Nanosheets and Their Electrocatalytic Activity Toward Oxygen Evolution Reaction. <b>2021</b> , 3,	3
548	Discontinuous yielding of pristine micro-crystals. <b>2021</b> , 22, 1-48	1



547	Wavelength dependent anisotropic photosensing activity of zirconium trisulfide crystal. <b>2021</b> , 33, 1827-1851	1
546	Application of MXene in Electrochemical Sensors: A Review. <b>2021</b> , 33, 1827-1851	18
545	Topological transformations in hyperuniform pentagonal two-dimensional materials induced by Stone-Wales defects. <b>2021</b> , 103,	1
544	Photodynamic and Photoelectrochemical Properties of Few-Layered Bismuthene Film on SnO <sub>2</sub> Electrode and Its Hybridization with C60. <b>2021</b> , 125, 13954-13962	0
543	Magnetic order in the van der Waals antiferromagnet CrPS <sub>4</sub> : Anisotropic H <sub>T</sub> phase diagrams and effects of pressure. <b>2021</b> , 103,	2
542	CrI <sub>3</sub> revisited with a many-body ab initio theoretical approach. <b>2021</b> , 5,	4
541	Enhanced Valley Polarization of Bilayer MoSe with Variable Stacking Order and Interlayer Coupling. <b>2021</b> , 12, 5879-5888	2
540	Opening the germanene monolayer band gap using halogen atoms: An efficient approach studied by first-principles calculations. <b>2021</b> , 551, 149318	4
539	Magnetoelectric coupling dependent on ferroelectric switching paths in two-dimensional perovskite multiferroics. <b>2021</b> , 103,	1
538	Higher-order band topology. <b>2021</b> , 3, 520-532	40
537	Optoelectronic properties of van der Waals stacked homo- and hetero-bilayers of tin-monochalcogenides: A first-principles study. <b>2021</b> , 24, 101083	1
536	Advances in Liquid-Phase and Intercalation Exfoliations of Transition Metal Dichalcogenides to Produce 2D Framework. <b>2021</b> , 8, 2002205	15
535	Point Defects in a Two-Dimensional ZnSnN <sub>2</sub> Nanosheet: A First-Principles Study on the Electronic and Magnetic Properties. <b>2021</b> , 125, 13067-13075	15
534	SnC monolayer with transition metal adatom for gas sensing: a density functional theory studies. <b>2021</b> , 32,	3
533	Graphene Aerosol Gel Ink for Printing Micro-Supercapacitors. <b>2021</b> , 4, 7632-7641	6
532	Two-Dimensional Functionalized Germananes as Photoelectrocatalysts. <i>ACS Nano</i> , <b>2021</b> ,	16.7 9
531	Multiresponsive 2D TiCT MXene Implanting Molecular Properties. <i>ACS Nano</i> , <b>2021</b> , 15, 10067-10075	16.7 5
530	Manipulating Ferromagnetism in Few-Layered Cr Ge Te. <b>2021</b> , 33, e2008586	7

529	Theoretical investigation of lattice dynamics, infrared reflectivity, polarized Raman spectra and nature of interlayer coupling in two-dimensional layered gallium sulfide. <b>2021</b> , 33,	
528	Shaping and structuring 2D materials via kirigami and origami. <b>2021</b> , 145, 100621	5
527	Photocatalysis over MXene-based hybrids: Synthesis, surface chemistry, and interfacial charge kinetics. <b>2021</b> , 9, 070703	9
526	Differences and Similarities of Photocatalysis and Electrocatalysis in Two-Dimensional Nanomaterials: Strategies, Traps, Applications and Challenges. <b>2021</b> , 13, 156	20
525	Anomalous Anisotropy of the Piezoelectric Response in 2D Copper-Based Ternary Chalcogenides CuMX <sub>2</sub> . <b>2021</b> , 15, 2100304	1
524	Structural, Thermal, and Electronic Properties of Two-Dimensional Gallium Oxide (Ga <sub>2</sub> O <sub>3</sub> ) from First-Principles Design. <b>2021</b> , 22, 2362-2370	1
523	Inkjet Printing of Perovskite Nanosheets for Microcapacitors. <b>2021</b> , 7, 2100402	4
522	An Insight into Chemistry and Structure of Colloidal 2D-WS Nanoflakes: Combined XPS and XRD Study. <b>2021</b> , 11,	4
521	Few-Layer PdSe <sub>2</sub> Nanofilm/Si Heterojunction for Sensing NO <sub>2</sub> at Room Temperature. <b>2021</b> , 4, 7358-7370	2
520	Two-dimensional coordination polymer-based nanosensor for sensitive and reliable nucleic acids detection in living cells. <b>2021</b> ,	1
519	Piezo-Phototronic Effect in 2D In <sub>2</sub> Se <sub>3</sub> /WSe <sub>2</sub> van der Waals Heterostructure for Photodetector with Enhanced Photoresponse. 2100864	10
518	Recent progress of the computational 2D materials database (C2DB). <b>2021</b> , 8, 044002	33
517	Electronic and optical properties of antimonene/palladium ditelluride (Sb/PdTe <sub>2</sub> ) heterostructure with the effect of strain and external electric field: A computational study. <b>2021</b> , 612, 412977	0
516	Strain of 2D materials via substrate engineering. <b>2021</b> ,	3
515	Self-Assembled Membrane-like Nanomaterials from Sequence-Defined Peptoid Block Copolymers. <b>2021</b> , 13,	1
514	Integrated Photonic Structure Enhanced Infrared Photodetectors. <b>2021</b> , 2, 2000187	2
513	Paraffin-Enabled Compressive Folding of Two-Dimensional Materials with Controllable Broadening of the Electronic Band Gap. <b>2021</b> , 13, 40922-40931	1
512	Novel thermoelectric performance of 2D 1T- SeTe and SeTe with ultralow lattice thermal conductivity but high carrier mobility. <b>2021</b> , 32,	4

- 511 Fast Water-Assisted Lithium Ion Conduction in Restacked Lithium Tin Sulfide Nanosheets. **2021**, 33, 7337-7349 4
- 510 Surface Plasmonic Sensors: Sensing Mechanism and Recent Applications. **2021**, 21, 11
- 509 Angle-dependent electron confinement in graphene moiré superlattices. **2021**, 104, 0
- 508 Broadband electromagnetically induced transparency-like manipulation of graphene/black phosphorus hybrid metasurface. **2021**, 54, 445104 2
- 507 Hybrid Devices by Selective and Conformal Deposition of PtSe<sub>2</sub> at Low Temperatures. **2021**, 31, 2103936 4
- 506 First-principles investigations of electronic and thermoelectric properties of Janus Al<sub>2</sub>SSe monolayer. **2021**, 615, 413057 3
- 505 Strain-induced electronic, stability and enhancement of thermoelectric performance of 2D Si<sub>2</sub>C<sub>3</sub> monolayer: An emerging material for renewable energy. **2021**, 132, 114769 1
- 504 A facile approach to synthesize ZnO-decorated titanium carbide nanoarchitectures to boost up the photodegradation performance. **2021**, 4
- 503 Material considerations for the design of 2D/3D hot electron transistors. **2021**, 9, 081103 1
- 502 Two-dimensional heterostructures and their device applications: progress, challenges and opportunities Review. **2021**, 54, 433001 6
- 501 QM/MD study on the ability of phosphorene for selective detection of amino acids. **2021**, 336, 116865 3
- 500 Synergistic Effect of Metal Cations and Visible Light on 2D MoS Nanosheet Aggregation. **2021**, 1
- 499 A novel van der Waals semiconductor: InTe crystal. **2021**, 119, 111331 1
- 498 Charge transfer between the epitaxial monolayer WSe<sub>2</sub> films and graphene substrates. **2021**, 119, 111602
- 497 Quantum metasurfaces of arrays of  $\mathbb{E}$ mitters for photonic nano-devices.
- 496 Strong coupling between excitons in a two-dimensional atomic crystal and quasibound states in the continuum in a two-dimensional all-dielectric asymmetric metasurface. **2021**, 104, 3
- 495 Surface morphology-modulated electrical conductivity behavior in 2D anisotropic exfoliated nanoribbons. **2021**, 8, 045025 1
- 494 Visible to Short-Wave Infrared Photodetectors Based on ZrGeTe van der Waals Materials. **2021**, 13, 45881-45889

493	Boosted Solar Light Absorbance in PdS/PtS Vertical Heterostructures for Ultrathin Photovoltaic Devices. <b>2021</b> , 13, 43615-43621	1
492	Magnetic dynamics of two-dimensional itinerant ferromagnet Fe <sub>3</sub> GeTe <sub>2</sub> *. <b>2021</b> , 30, 097501	0
491	Magnetism in Au-Supported Planar Silicene. <b>2021</b> , 11,	0
490	Simulating quantum materials with digital quantum computers. <b>2021</b> , 6, 043002	2
489	Visible to near-infrared photodetector based on SnSe/WSe heterojunction with potential application in artificial visual neuron. <b>2021</b> , 32,	3
488	WS <sub>2</sub> /WSe <sub>2</sub> Nanodot Composite Photodetectors for Fast and Sensitive Light Detection.	1
487	Theoretical study of Au <sub>20</sub> /WS <sub>2</sub> composite material as a potential candidate for the capture of XO (X=C, N, S) gases. <b>2021</b> , 28, e00580	1
486	Bandgap of two-dimensional materials: Thorough assessment of modern exchange-correlation functionals. <b>2021</b> , 155, 104103	4
485	Tuning the Optical Band Gap of Two-Dimensional WS Integrated with Gold Nanocubes by Introducing Palladium Nanostructures. <b>2021</b> , 37, 10720-10731	
484	Observation of high carrier density, ohmic contact, and metallic conductivity down to 5 K in aluminum-contacted multilayer MoS <sub>2</sub> flakes.	0
483	Growth Mechanisms and Morphology Engineering of Atomic Layer-Deposited WS. <b>2021</b> , 13, 43115-43122	2
482	Layer Orientation-Engineered Two-Dimensional Platinum Ditetelluride for High-Performance Direct Alcohol Fuel Cells. 3481-3487	3
481	A DFT study of As doped WSe <sub>2</sub> : A NO <sub>2</sub> sensing material with ultra-high selectivity in the atmospheric environment. <b>2021</b> , 28, 102654	2
480	Etching-Free Transfer and Nanoimaging of CVD-Grown MoS <sub>2</sub> Monolayers. <b>2021</b> , 125, 21011-21017	0
479	Predicting MnB <sub>6</sub> monolayer with room temperature ferromagnetism and high magnetic anisotropy. <b>2021</b> , 134, 114930	1
478	Effects of the V and P doping on the electronic and magnetic properties of the monolayer ZrS <sub>2</sub> . <b>2021</b> , 735, 138875	
477	MoS <sub>2</sub> based nanocomposites: An excellent material for energy and environmental applications. <b>2021</b> , 9, 105836	14
476	Advances and challenges in 2D MXenes: From structures to energy storage and conversions. <b>2021</b> , 40, 101273	19

475	Thermal transport in two-dimensional C3N/C2N superlattices: A molecular dynamics approach. <b>2021</b> , 177, 121561	6
474	Thermo-mechanical properties of nitrogenated holey graphene (C2N): A comparison of machine-learning-based and classical interatomic potentials. <b>2021</b> , 178, 121589	7
473	Two-dimensional materials and their derivatives for high performance phase change materials: emerging trends and challenges. <b>2021</b> , 42, 845-870	9
472	Two-dimensional ferromagnetic semiconductors of rare-earth monolayer GdX <sub>2</sub> (X = Cl, Br, I) with large perpendicular magnetic anisotropy and high Curie temperature. <b>2021</b> , 21, 100514	8
471	A simple and direct SPR platform combining three-in-one multifunctional peptides for ultra-sensitive detection of PD-L1 exosomes. <b>2021</b> , 346, 130496	7
470	2D ternary nitrides XNY (X=Ti, Zr, Hf; YF, Cl, Br) with applications as photoelectric and photocatalytic materials featuring mechanical and optical anisotropy: A DFT study. <b>2021</b> , 303, 122517	2
469	Tension-compression asymmetry of the stress-strain behavior of the stacked graphene assembly: Experimental measurement and theoretical interpretation. <b>2021</b> , 157, 104642	1
468	Pd-doped SnP <sub>3</sub> monolayer: A new 2D buddy for sensing typical dissolved gases in transformer oil. <b>2021</b> , 568, 150893	3
467	Synthesis, structural, topographical, optical and luminescence of CeO <sub>2</sub> /SnO <sub>2</sub> 2D hexagonal nanostructures. <b>2021</b> , 575, 126356	
466	On the optical properties and dynamical and mechanical stability of 1T PdSSe, PdSTe, and PdSeTe monolayers under biaxial strain. <b>2021</b> , 29, 102735	1
465	Methods of synthesis, characteristics, and environmental applications of MXene: A comprehensive review. <b>2022</b> , 286, 131607	34
464	Electronic properties of the Poly(3-hexylthiophene) / MoS <sub>2</sub> interfaces: The influence of the substrate. <b>2022</b> , 572, 151372	0
463	Construction of MXene-Coupled Nitrogen-Doped Porous Carbon Hybrid from a Conjugated Microporous Polymer for High-Performance Supercapacitors. <b>2021</b> , 2, 2000052	5
462	Magnetic exchange interactions in the van der Waals layered antiferromagnet MnPSe <sub>3</sub> . <b>2021</b> , 103,	1
461	Multiscale numerical simulation of in-plane mechanical properties of two-dimensional monolayers.. <b>2021</b> , 11, 20232-20247	3
460	Stone-Wales defects preserve hyperuniformity in amorphous two-dimensional networks. <b>2021</b> , 118,	7
459	Stepwise coordination isomerism of 2D networks: adsorption of diiodomethane into crystals and recognition in SCSC mode.	2
458	Two-dimensional transition metal phosphorous trichalcogenides (MPX <sub>3</sub> ): a review on emerging trends, current state and future perspectives. <b>2021</b> , 9, 2560-2591	33

457	Two-dimensional buckled tetragonal cadmium chalcogenides including CdS, CdSe, and CdTe monolayers as photo-catalysts for water splitting. <b>2021</b> , 23, 12226-12232	11
456	Defect Engineering of Two-Dimensional Transition-Metal Dichalcogenides: Applications, Challenges, and Opportunities. <i>ACS Nano</i> , <b>2021</b> , 15, 2165-2181	16.7 53
455	Synthesis of graphene and other two-dimensional materials. <b>2021</b> , 1-79	2
454	Impact of Device Configurations on Sensing Performance of WS <sub>2</sub> based Gas Sensors: A Review. <b>2021</b> , 1-1	3
453	Photophysical properties and fluorescence lifetime imaging of exfoliated near-infrared fluorescent silicate nanosheets. <b>2021</b> , 3, 4541-4553	0
452	Modulating a 2D heterointerface with g-C <sub>3</sub> N <sub>4</sub> mesh layers: a suitable hetero-layered architecture for high-power and long-life energy storage. <b>2021</b> , 9, 7791-7806	4
451	Electrical conductivity in a non-covalent two-dimensional porous organic material with high crystallinity. <b>2021</b> , 12, 2955-2959	2
450	Controlled 2H/1T phase transition in MoS monolayers by a strong interface with MC MXenes: a computational study. <b>2021</b> , 23, 20107-20116	5
449	Studying 2D materials with advanced Raman spectroscopy: CARS, SRS and TERS. <b>2021</b> , 23, 23428-23444	4
448	Band structure of MoSTe Janus nanotubes. <b>2021</b> , 5,	11
447	Exploring the emerging of electronic and magnetic properties with adatom adsorption on a novel semiconductor monolayer: NP. <b>2021</b> , 23, 22045-22056	2
446	A Library of Atomically Thin 2D Materials Featuring the Conductive-Point Resistive Switching Phenomenon. <b>2021</b> , 33, 2007792	27
445	Ultrasensitive and Broadband All-Optically Controlled THz Modulator Based on MoTe <sub>2</sub> /Si van der Waals Heterostructure. <b>2020</b> , 8, 2000160	15
444	Gas Sensing Using Monolayer MoS <sub>2</sub> . <b>2019</b> , 71-95	1
443	Nonlinear elasticity of monolayer hexagonal crystals: Theory and application to circular bulge test. <b>2018</b> , 68, 117-132	7
442	Janus XSe/SiC (X = Mo, W) van der Waals heterostructures as promising water-splitting photocatalysts. <b>2020</b> , 123, 114207	63
441	Chemical Surface Reactivity and Morphological Changes of Bismuth Triiodide (BiI <sub>3</sub> ) under Different Environmental Conditions. <b>2020</b> , 36, 6458-6464	4
440	Morphology and Dimension Variations of Copper Sulfide for High-Performance Electrode in Rechargeable Batteries: A Review. <b>2020</b> , 3, 11480-11499	13

439	TiO <sub>2</sub> Nanorod Array Conformally Coated with a Monolayer MoS <sub>2</sub> Film: An Efficient Electrocatalyst for Hydrogen Evolution Reaction. <b>2020</b> , 3, 10854-10862	4
438	Data-driven studies of magnetic two-dimensional materials. <b>2020</b> , 10, 15795	10
437	Chapter 10: Graphene and 2D Materials Based Membranes for Water Treatment. <b>2018</b> , 211-224	1
436	Recent progress and advances in the environmental applications of MXene related materials. <b>2020</b> , 12, 3574-3592	88
435	Computational prediction of a novel 1D InSeI nanochain with high stability and promising wide-bandgap properties. <b>2020</b> , 22, 27441-27449	3
434	Bandgap opening and magnetic anisotropy switching by uniaxial strain in graphene/CrI <sub>3</sub> heterojunction. <b>2020</b> , 53, 385002	6
433	Influence of chemical potential on shape evolution of 2D-MoS flakes produced by chemical vapor deposition. <b>2020</b> ,	2
432	Two ultra-stable novel allotropes of tellurium few-layers. <b>2020</b> , 29, 097103	2
431	An outlook into the flat land of 2D materials beyond graphene: synthesis, properties and device applications. <b>2021</b> , 8, 013001	12
430	Two-dimensional materials applied for room-temperature thermoelectric photodetectors. <b>2020</b> , 7, 112001	8
429	Scalable low-temperature synthesis of two-dimensional materials beyond graphene. <b>2020</b> , 4, 012001	10
428	Toward 2D materials for flexible electronics: opportunities and outlook. <b>2020</b> , 1,	8
427	Magnetic structure and exchange interactions in the layered semiconductor CrPS <sub>4</sub> . <b>2020</b> , 102,	11
426	Valley-dependent properties of monolayer MoSi <sub>2</sub> N <sub>4</sub> , WSi <sub>2</sub> N <sub>4</sub> , and MoSi <sub>2</sub> As <sub>4</sub> . <b>2020</b> , 102,	55
425	Highly anisotropic two-dimensional metal in monolayer MoOCl <sub>2</sub> . <b>2020</b> , 102,	5
424	External-strain-induced semimetallic and metallic phase of chlorographene. <b>2018</b> , 2,	2
423	Vibrational and dielectric properties of the bulk transition metal dichalcogenides. <b>2018</b> , 2,	17
422	Monolayer Mg <sub>2</sub> C: Negative Poisson's ratio and unconventional two-dimensional emergent fermions. <b>2018</b> , 2,	20

421	Grain boundaries in chemical-vapor-deposited atomically thin hexagonal boron nitride. <b>2019</b> , 3,	14
420	Definition of a scoring parameter to identify low-dimensional materials components. <b>2019</b> , 3,	12
419	Electronic properties of tetragraphene nanoribbons. <b>2019</b> , 3,	7
418	Two-dimensional nodal-loop half-metal in monolayer MnN. <b>2019</b> , 3,	39
417	Tuning magnetic order in the van der Waals metal Fe <sub>5</sub> GeTe <sub>2</sub> by cobalt substitution. <b>2020</b> , 4,	15
416	Ab initio investigation of the role of charge transfer in the adsorption properties of H <sub>2</sub> , N <sub>2</sub> , O <sub>2</sub> , CO, NO, CO <sub>2</sub> , NO <sub>2</sub> , and CH <sub>4</sub> on the van der Waals layered Sn <sub>3</sub> O <sub>4</sub> semiconductor. <b>2020</b> , 4,	1
415	Failure in Two-Dimensional Materials: Defect Sensitivity and Failure Criteria. <b>2020</b> , 87,	8
414	Hybrid optical security system using photonic crystals and MEMS devices. <b>2017</b> ,	1
413	Peptoid-based membrane-mimetic two dimensional nanomaterials. <b>2018</b> ,	1
412	Review of optical properties of two-dimensional transition metal dichalcogenides. <b>2018</b> ,	1
411	Strain-induced effects on the electronic properties of 2D materials. <b>2020</b> , 10, 184798042090256	9
410	Computational analysis of dispersive and nonlinear 2D materials by using a GS-FDTD method. <b>2018</b> , 35, 2754	10
409	Highly sensitive all-optical control of light in WS coated microfiber knot resonator. <b>2018</b> , 26, 27650-27658	14
408	Two-photon absorption and non-resonant electronic nonlinearities of layered semiconductor TlGaS. <b>2018</b> , 26, 33895-33905	9
407	A pulsewidth measurement technology based on carbon-nanotube saturable absorber. <b>2019</b> , 27, 4188-4203	8
406	Optical materials for maximal nanophotonic response [Invited]. <b>2020</b> , 10, 1561	10
405	Engineering light emission of two-dimensional materials in both the weak and strong coupling regimes. <b>2018</b> , 7, 253-267	12
404	Recent advances on hybrid integration of 2D materials on integrated optics platforms. <b>2020</b> , 9, 2191-2214	13



403	Novel layered 2D materials for ultrafast photonics. <b>2020</b> , 9, 1743-1786	12
402	Defect Engineering in 2D Materials: Precise Manipulation and Improved Functionalities. <b>2019</b> , 2019, 4641739	46
401	Temperature dependent excitonic transition energies and linewidths of monolayer MoS <sub>2</sub> probed by magnetic circular dichroism spectroscopy. <b>2018</b> , 67, 147801	1
400	Achieving an Ohmic contact in graphene-based van der Waals heterostructures by intrinsic defects and the inner polarized electric field of Janus AlGaSSe.	1
399	Construction of frustrated Lewis pairs on carbon nitride nanosheets for catalytic hydrogenation of acetylene. <b>2021</b> , 23, 24349-24356	3
398	Control of spin-charge conversion in van der Waals heterostructures. <b>2021</b> , 9, 100901	3
397	In-plane anisotropic 2D CrPS <sub>4</sub> for promising polarization-sensitive photodetection. <b>2021</b> , 119, 171102	5
396	Electronic properties and quasiparticle model of monolayer MoSi <sub>2</sub> N <sub>4</sub> . <b>2021</b> , 104,	3
395	First-Principle Study of Rh-Doped Nitrogen Vacancy Boron Nitride Monolayer for Scavenging and Detecting SF Decomposition Products. <b>2021</b> , 13,	
394	Demonstration of Stochastic Resonance, Population Coding, and Population Voting Using Artificial MoS <sub>2</sub> Based Synapses. <i>ACS Nano</i> , <b>2021</b> , 15, 16172-16182	16.7 1
393	Thiolated Ligand-Functionalized MoS <sub>2</sub> Nanosheets for Peroxidase-like Activities.	4
392	Emerging properties of carbon based 2D material beyond graphene. <b>2021</b> , 34,	3
391	InP Monolayer as a Promising 2D Sensing Material in SF Insulation Devices. <b>2021</b> , 6, 29752-29758	0
390	Lattice-dynamics-based descriptors for interfacial heat transfer across two-dimensional carbon-based nanostructures. <b>2021</b> , 130, 135106	4
389	Novel Two-Dimensional MAN Materials for Photovoltaic and Spintronic Applications. <b>2021</b> , 12, 10120-10127	5
388	Low voltage scanning transmission electron microscopy for two-dimensional materials. <b>2017</b> , 66, 217303	
387	Preparation, structure configuration, physical properties and applications of borophene and two-dimensional alkaline-earth metal boride nanomaterials. <b>2017</b> , 66, 217702	2
386	Novel materials and devices bring new opportunities for holographic display. <b>2018</b> , 67, 024213	

- 385 Density-dependent excitonic properties and dynamics in 2D heterostructures consisting of boron nitride and monolayer or few-layer tungsten diselenide. **2018**,
- 384 Recent progress in polarization-sensitive photodetectors based on low-dimensional semiconductors. **2019**, 68, 163201 5
- 383 Chapter 2. Two-dimensional Layered Materials for High-performance Lithium-ion Batteries. **2019**, 39-70
- 382 Developing ultrathin light emitters and metalenses based on Van der Waals materials. **2019**,
- 381 Hyperspectral imaging microscopy for thickness measurement and surface characterization of layered MoS<sub>2</sub>. **2019**, 1
- 380 Novel UV line beam system for large area processing with 248 nm (Withdrawal Notice). **2019**,
- 379 Quasi-two-dimensional van der Waals semiconducting magnet CrSiTe<sub>3</sub> studied by using THz spectroscopy. **2020**, 69, 207302 0
- 378 Theoretical prediction of superconductivity in monolayer h-BN doped with alkaline-earth metals (Ca, Sr, Ba). **2020**, 32, 435002 2
- 377 Correlative imaging of exciton distribution in monolayer of transition metal dichalcogenides. **2020**,
- 376 Synergistic Effect of the Photothermal Performance and Osteogenic Properties of MXene and Hydroxyapatite Nanoparticle Composite Nanofibers for Osteogenic Application. **2021**, 17, 2014-2020 2
- 375 Multifunctional, Robust, and Porous PHBV-GO/MXene Composite Membranes with Good Hydrophilicity, Antibacterial Activity, and Platelet Adsorption Performance. **2021**, 13, 3
- 374 Molecular docking and DFT analyses of magnetic cobalt doped MoS<sub>2</sub> and BN nanocomposites for catalytic and antimicrobial explorations. **2021**, 27, 101571 6
- 373 Structure, Stability, Properties, and Application of Atomically Thin Coinage Metal Flatland in Graphene Pore: A Density Functional Theory Calculation. 2100489 2
- 372 Black Phosphorus Quantum Dots as Hole Capturers in Group-VA Monoelemental Heterostructures for the Application of High-Performance Flexible Photodetectors. 2
- 371 2 D -Materials-Based Heterostructures for EC Energy Conversion. **2022**, 53-128
- 370 Highly wrinkled palladium nanosheets as advanced electrocatalysts for the oxygen reduction reaction in acidic medium. **2021**, 431, 133237 4
- 369 Theoretical Insight of Plasmonic Resonance in WS<sub>2</sub>/Graphene Based Heterostructure with Ag/Au Bimetal for Optical Sensing. **2020**, 129-136
- 368 Highly Thermostable Dynamic Structures of Polyaramid Two-Dimensional Polymers. **2021**, 54, 1291-1303

367	Novel CuTe monolayer as promising anode material for Na-ion batteries: A theoretical study. <b>2022</b> , 573, 151550	2
366	Thermal transport in planar sp <sup>2</sup> -hybridized carbon allotropes: A comparative study of biphenylene network, pentaheptite and graphene. <b>2022</b> , 183, 122060	9
365	Tuning magnetism at the two-dimensional limit: a theoretical perspective. <b>2021</b> ,	6
364	Introduction. <b>2020</b> , 1-11	
363	Sequential growth of two-dimensional MoSe <sub>2</sub> -WSe <sub>2</sub> lateral heterojunctions. <b>2020</b> ,	2
362	Inter-Layer interaction induced electronic properties in partially oxidized transition metal dichalcogenides. <b>2020</b> ,	
361	Compact I-V Model for Ambipolar Field-Effect Transistors With 2D Transition Metal Dichalcogenide as Semiconductor. <b>2020</b> , 19, 841-848	0
360	Caveats in obtaining high-quality 2D materials and property characterization. <b>2020</b> , 35, 855-863	2
359	Novel optoelectronics and nanophotonics based on van der Waals materials. <b>2020</b> ,	
358	Temperature-stable black phosphorus field-effect transistors through effective phonon scattering suppression on atomic layer deposited aluminum nitride. <b>2020</b> , 9, 2053-2062	0
357	Interactions in stanene centred van der Waals trilayers structures of boron-nitride and graphene: effect of mirror symmetry on electronic interactions. <b>2020</b> , 32, 265001	1
356	Metal Micropatterning by Triboelectric Spark Discharge. 2109265	3
355	Enhanced Charge Carrier Separation and Improved Biexciton Yield at the p-n Junction of SnSe/CdSe Heterostructures: A Detailed Electrochemical and Ultrafast Spectroscopic Investigation. <b>2021</b> , 12, 10958-10968 <sup>3</sup>	
354	First-principles study on effects of local Coulomb repulsion and Hund's coupling in ferromagnetic semiconductor CrGeTe <sub>3</sub> . <b>2020</b> , 128, 123901	1
353	Interfacial coupling effects on the thermal conductivity of few-layer graphene. <b>2020</b> , 7, 095602	1
352	Size-dependent mechanical properties of twin graphene. <b>2021</b> , 235, 4-11	0
351	Engineering photonic environments for two-dimensional materials. <b>2021</b> , 10, 1031-1058	5
350	Molecular interactions between pre-formed metal nanoparticles and graphene families. <b>2018</b> , 6, 357-375	3

349	Passivated 2D Janus borophene as unique Dirac anodes for Na- and K-ion batteries: A first-principle investigation. <b>2022</b> , 578, 151994	0
348	A self-assemble strategy toward conductive 2D MXene reinforced ZrO <sub>2</sub> composites with sensing performance. <b>2022</b> , 42, 1102-1112	1
347	Superatoms as Building Blocks of 2D Materials. <b>2021</b> , 209-255	
346	Intrinsic half-metallic properties of MnHm (M: Fe, V, Co, and Cr) in various space groups: A first-principles study. <b>2021</b> , 547, 168758	0
345	An investigation of the coupling of phonon-polaritons with plasmon-polaritons in hBN/nanopatterned Au layered devices. <b>2021</b> , 130, 193101	0
344	Giant Enhancement of Seebeck Coefficient by Deformation of Silicene Buckled Structure in Calcium-Intercalated Layered Silicene Film. 2101752	5
343	Tunable Band Alignments in 2D Ferroelectric Hn <sub>2</sub> Se <sub>3</sub> Based Van der Waals Heterostructures. <b>2021</b> , 3, 5114-5123	0
342	Landau level laser. <b>2021</b> , 15, 875-883	1
341	Electrical Conductivity Enhancement and Electronic Applications of 2D Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> MXene Materials. <b>2021</b> , 8, 2100903	5
340	Versatile Post-Doping toward Two-Dimensional Semiconductors. <i>ACS Nano</i> , <b>2021</b> ,	16.7 4
339	Thermodynamic Perspective on the Broad Solvent Window for Liquid-Phase Exfoliation of Two-Dimensional van der Waals Solids.	
338	Enhanced electronic and optical responses of nitrogen- or boron-doped BeO monolayer: First principle computation. <b>2021</b> , 107102	0
337	Electric field and strain induced gap modifications in multilayered GaN. <b>2021</b> , 578, 151970	2
336	Al <sub>5</sub> 251-based hybrid nanocomposite by FSP reinforced with graphene nanoplates and boron nitride nanoparticles: Microstructure, wear, and mechanical characterization. <b>2021</b> , 10, 1752-1765	2
335	Surface Stability of Wn Ultrathin Films Under O <sub>2</sub> and H <sub>2</sub> O Exposure: A First-Principles Study.	
334	Two-Dimensional Materials for Heavy Metal Removal. <b>2021</b> , 105-134	
333	Blue phosphorene on Au(111) as a decoupling layer for organic epitaxially grown films. <b>2022</b> , 6,	0
332	Exfoliation Routes to the Production of Nanoflakes of Graphene Analogous 2D Materials and Their Applications. <b>2022</b> , 377-443	1

- 331 All-Optical Modulation Technology Based on 2D Layered Materials.. **2022**, 13, 2
- 330 High performance and gate-controlled GeSe/HfS negative differential resistance device.. **2022**, 12, 1278-1286 1
- 329 Two-dimensional transition metal chalcogenide nanomaterials for cancer diagnosis and treatment. **2022**, 1
- 328 High thermoelectric and optical conductivity driven by the interaction of Boron and Nitrogen dopant atoms with a 2D monolayer Beryllium Oxide. **2022**, 141, 106409 0
- 327 Adsorption of toxic H<sub>2</sub>S, CO and NO molecules on pristine and transition metal doped  $\alpha$ -AsP monolayer by first-principles calculations. **2022**, 138, 115109 0
- 326 Electronic and transport property of two-dimensional boron phosphide sheet.. **2021**, 112, 108117 0
- 325 Facile Synthesis of Vertically Aligned MoS<sub>2</sub> Nanosheets at Ambient Pressure. **2021**, 56, 2000085 1
- 324 Two-dimensional titanium carbide (TiCT) MXenes to inhibit the shuttle effect in sodium sulfur batteries.. **2022**, 1
- 323 Toxicity of metal and metal oxide nanoparticles. **2022**, 87-126 2
- 322 Stability and electronic properties of gallene. 0
- 321 Futuristic 2D Nanomaterial Composites Agro-Formulations for Sustainable Agriculture. **2022**, 223-242
- 320 Synthesis of photo-responsive indium selenides (InSe and In<sub>2</sub>Se<sub>3</sub>) from tris(4,6-dimethyl-2-pyrimidylselenolato)indium(iii) as a molecular precursor. 3
- 319 Two-dimensional ferroelasticity and negative Poisson's ratios in monolayer YbX (X = S, Se, Te).. **2022**, 0
- 318 Coexistence of intrinsic room-temperature ferromagnetism and piezoelectricity in monolayer BiCrX (X = S, Se, and Te).. **2021**, 2
- 317 Emerging 2D Nanomaterial Composites for Efficient Energy Conversion: Insight into the Evolutionary Perspective of Devices. **2022**, 25-46
- 316 Growth and Electronic and Optoelectronic Applications of Surface Oxides on Atomically Thin WSe<sub>2</sub>. **2022**, 149-160
- 315 Inhomogeneous defect distribution of triangular WS monolayer revealed by surface-enhanced and tip-enhanced Raman and photoluminescence spectroscopy.. **2022**, 156, 034702
- 314 Commensurate Assembly of C on Black Phosphorus for Mixed-Dimensional van der Waals Transistors.. **2022**, e2105916 0

313	Polymorph Structures, Rich Physical Properties and Potential Applications of Two-Dimensional MoTe <sub>2</sub> , WTe <sub>2</sub> and Their Alloys □	0
312	Recent progress in graphenes: synthesis, covalent functionalization and environmental applications. 1	0
311	Experimental and theoretical characterization of the interfacial adhesion of 2D heterogeneous materials: A review. 1-18	0
310	Giant tunneling magnetoresistance in atomically thin VSi <sub>2</sub> N <sub>4</sub> /MoSi <sub>2</sub> N <sub>4</sub> /VSi <sub>2</sub> N <sub>4</sub> magnetic tunnel junction. <b>2022</b> , 120, 022401	3
309	Simulation of scanning near-field optical microscopy spectra of 1D plasmonic graphene junctions.. <b>2022</b> , 30, 9000-9007	
308	Relevant photovoltaic effect in N-doped CQDs/MoS <sub>2</sub> (0D/2D) quantum dimensional heterostructure. <b>2022</b> ,	1
307	Anisotropic Low-Dimensional Materials for Polarization-Sensitive Photodetectors: From Materials to Devices. 2102436	9
306	An Introduction to the Wonder 2D Nanomaterials: Synthetic Approaches and Fundamental Properties. <b>2022</b> , 1-24	
305	Prospective on 2D Nanomaterials for Energy and Environment: Challenges, Commercial Aspect, and the Future Research Endeavor. <b>2022</b> , 267-329	0
304	Polariton condensate and Landau-Zener-Stückelberg interferometry transition in multilayer transition metal dichalcogenides. <b>2022</b> , 97, 025801	0
303	Janus monolayer HfSO with improved optical properties as a novel material for photovoltaic and photocatalyst applications. <b>2022</b> , 46, 1557-1568	1
302	Atomic-scale characterization of structural heterogeneity in 2D TMD layers. <b>2022</b> , 3, 1401-1414	2
301	Graphene-based semiconductor nanocrystals for optoelectronics devices. <b>2022</b> , 383-406	
300	Chalcogen-Chalcogen Bonding in Molybdenum Disulfide, Molybdenum Diselenide and Molybdenum Ditelluride Dimers as Prototypes for a Basic Understanding of the Local Interfacial Chemical Bonding Environment in 2D Layered Transition Metal Dichalcogenides. <b>2022</b> , 10, 11	4
299	Monolayer NbNSe with High Fermi Velocity and Anisotropic Properties.	0
298	Large-range and high-precision autofocus method based on an annular DOE for a laser direct writing system.. <b>2022</b> , 30, 6981-6990	1
297	Density functional theory method for twisted geometries with application to torsional deformations in group-IV nanotubes. <b>2022</b> , 456, 111023	1
296	Metallic Transport in Monolayer and Multilayer Molybdenum Disulfides by Molecular Surface Charge Transfer Doping.. <b>2022</b> ,	

295	Quantum spin Hall insulating phase and van Hove singularities in Zintl single-quintuple-layer AM <sub>2</sub> X <sub>2</sub> (A = Ca, Sr, or Ba; M = Zn or Cd; X = Sb or Bi) family. <b>2022</b> , 9, 011410	2
294	Biodegradable two-dimensional nanomaterials for cancer theranostics. <b>2022</b> , 458, 214415	1
293	Adsorption of H <sub>2</sub> and C <sub>2</sub> H <sub>2</sub> onto Rh-decorated InN monolayer and the effect of applied electric field.	1
292	2D Heterostructures for Ubiquitous Electronics and Optoelectronics: Principles, Opportunities, and Challenges.. <b>2022</b> ,	28
291	Theory of exciton-phonon coupling. <b>2022</b> , 105,	1
290	Memristive Devices Based on Two-Dimensional Transition Metal Chalcogenides for Neuromorphic Computing.. <b>2022</b> , 14, 58	8
289	Enhanced photoresponse of PVP:GaSe nanocomposite thin film based photodetectors.. <b>2022</b> ,	
288	Effects of van der Waals interaction on the adsorption of H <sub>2</sub> on MoS <sub>2</sub> monolayers and nanoribbons. <b>2022</b> , 555, 111446	
287	Polyaniline Protrusions on MoS <sub>2</sub> Nanosheets for PVDF Scaffolds with Improved Electrical Stimulation. <b>2021</b> , 4, 13955-13966	3
286	An expanded sandwich-like heterostructure with thin FeP nanosheets@graphene charge-driven self-assembly as high-performance anodes for sodium ion battery.. <b>2022</b> ,	0
285	Evidence for highly p-type doping and type II band alignment in large scale monolayer WSe/Se-terminated GaAs heterojunction grown by molecular beam epitaxy.. <b>2022</b> ,	0
284	Plasmonic-Metal/2d-Semiconductor Hybrids for Photodetection and Photocatalysis in Energy-Related and Environmental Processes.	
283	Semiconductor-to-metal transition from monolayer to bilayer blue phosphorous induced by extremely strong interlayer coupling: a first-principles study.. <b>2022</b> ,	0
282	2D-Heterostructures. <b>2022</b> , 111-146	
281	Engineered Clay Nanomaterials for Biomedical Applications. <b>2022</b> , 277-314	
280	Exploring a silicene monolayer as a promising sensor platform to detect and capture NO and CO gas.. <b>2022</b> , 12, 9828-9835	1
279	Diffusion and Entropy of Supercooled Water in Nanoslit.	
278	Investigation of Atomic Layer Futuristic Memory Devices of Binary Chalcogenides WX <sub>2</sub> (X = S and Se): First-Principles Study. <b>2022</b> ,	

277	Towards an universal artificial synapse using MXene-PZT based ferroelectric memristor. <b>2022,</b>	3
276	Strain-tuned mechanical, electronic, and optoelectronic properties of two-dimensional transition metal sulfides ZrS: a first-principles study.. <b>2022, 28, 63</b>	0
275	Electronic Quantum Materials Simulated with Artificial Model Lattices.	1
274	Unveiling a Chemisorbed Crystallographically Heterogeneous Graphene/1-FePd Interface with a Robust and Perpendicular Orbital Moment.. <i>ACS Nano</i> , <b>2022,</b>	16.7 4
273	Charged Lithium adsorption on pristine and defective silicene: A theoretical study.. <b>2022,</b>	0
272	Enhanced Light-Matter Interaction in Two-Dimensional Transition Metal Dichalcogenides.. <b>2021,</b>	4
271	Unveiling the electrical and photo-physical properties of intrinsic n-type 2D WSe <sub>2</sub> for high performance field-effect transistors. <b>2022, 131, 094301</b>	
270	Transport Simulation of Graphene Devices with a Generic Potential in the Presence of an Orthogonal Magnetic Field.. <b>2022, 12,</b>	1
269	Insertion of the Liquid Crystal 5CB into Monovacancy Graphene.. <b>2022, 27,</b>	
268	Two-Dimensional CIPS-InSe van der Waal Heterostructure Ferroelectric Field Effect Transistor for Nonvolatile Memory Applications.. <i>ACS Nano</i> , <b>2022,</b>	16.7 7
267	Effect of layer sliding on the interfacial electronic properties of intercalated silicene/indium selenide van der Waals heterostructure. <b>2022, 74, 035701</b>	
266	Thermoplasmonics in Solar Energy Conversion: Materials, Nanostructured Designs, and Applications.. <b>2022, e2107351</b>	7
265	Strong four-phonon scattering in monolayer and hydrogenated bilayer BAs with horizontal mirror symmetry. <b>2022, 120, 132201</b>	6
264	Recent Advances of Versatile MXenes for Electrochemical Enzyme-Based Biosensors, Immunosensors, and Nucleic Acid-Based Biosensors.	1
263	Modulation of the B <sub>4</sub> N monolayer as an efficient electrocatalyst for hydrogen evolution reaction. <b>2022, 47, 11511-11519</b>	0
262	Unraveling the phonon scattering mechanism in exfoliated MoSe <sub>2</sub> nanosheets using temperature-dependent Raman spectroscopy. 1	
261	Tunable 2D Nanomaterials; Their Key Roles and Mechanisms in Water Purification and Monitoring. <b>2022, 10,</b>	1
260	Tuning the Electronic and Optical Properties of the Novel Monolayer Noble-Transition-Metal Dichalcogenides Semiconductor #AuSe via Strain: A Computational Investigation.. <b>2022, 12,</b>	



- 259 Surface stability of WN ultrathin films under O<sub>2</sub> and H<sub>2</sub>O exposure: A first-principles study. **2022**, 588, 152940 1
- 258 Tunable topology and berry curvature dipole in transition metal dichalcogenide Janus monolayers. **2021**, 8, 124001 0
- 257 Orientation-Dependent Electronic and Mechanical Properties of Tungsten Nitride Nanosheets: Implications for Flexible Devices. **2021**, 4, 13771-13777 3
- 256 Hybrid Organic-2D TMD Heterointerfaces: Towards Devices Using 2D Materials. **2022**, 171-198
- 255 Insight into the Anchoring Effect of Two-Dimensional TiX<sub>2</sub> (X = S, Se, Te) Materials for Lithium-Sulfur Batteries: A DFT Study. **2021**, 168, 120516 2
- 254 New van der Waals Heterostructures Based on Borophene and Rhenium Sulfide/Selenide for Photovoltaics: An Ab Initio Study. **2021**, 11, 11636
- 253 Data-Driven Studies of the Magnetic Anisotropy of Two-Dimensional Magnetic Materials.. **2021**, 12, 12048-12054
- 252 Effect of stress regulation on electronic structure and optical properties of TiOCl<sub>2</sub> monolayer. **2022**, 71, 077101 0
- 251 Peel-and-Stick Integration of Atomically Thin Nonlayered PtS Semiconductors for Multidimensionally Stretchable Electronic Devices.. **2022**, 0
- 250 NbCX (X=F, Cl, Br, I) with Highly Anisotropic Fermi Velocity, Optical, Mechanical and Electric Transport Properties. **2022**, 111551 0
- 249 Properties and applications of quantum dots derived from two-dimensional materials. **2022**, 7,
- 248 Discussion on a Novel Reusable OR & AND logic gate based on two-dimensional materials. **2022**, 2245, 012011
- 247 Structural reconstruction and anisotropic conductance in 4f-ferromagnetic monolayer. **2022**, 100693 0
- 246 Density Functional Theory-Based Calculations for 2D Hexagonal Lanthanide Metals. 2200057 0
- 245 2D materials-enabled optical modulators: From visible to terahertz spectral range. **2022**, 9, 021302 2
- 244 Designing a Perfect Phosphorene-Plasmon Adsorbent and Investigating its Geometric Irregularity Effects: A Simulation Study.
- 243 Significant enhancement of lattice thermal conductivity of monolayer AlN under bi-axial strain: A first principles study.
- 242 Applications of DNA bases, Graphene and Biosensors : A Critical Review. **2022**, 303-313

- 241 Study of the effect of chemical reduction agent on the synthesis and structural properties of WO<sub>3</sub>-TeO<sub>2</sub> and MoO<sub>3</sub>-TeO<sub>2</sub> two-dimensional compounds.. **2022**, 30, 179-188
- 240 Assessment of radiation attenuation properties for novel alloys: An experimental approach. **2022**, 110152 4
- 239 A Promising Half-Metallic MXene Monolayer Ti<sub>2</sub>ZnC<sub>2</sub> Induced by the Charge States. 1
- 238 Synthesis of 2D material based Bi<sub>2</sub>O<sub>3</sub>/MXene nanohybrids and their applications for the removal of industrial effluents. **2022**, 0
- 237 A Glimpse on the plethora of applications of prodigious material MXene. **2022**, e00439 0
- 236 Near-zero Poisson's ratio and suppressed mechanical anisotropy in strained black phosphorene/SnSe van der Waals heterostructure: a first-principles study. **2022**, 43, 627-636
- 235 Flexible MXene films for batteries and beyond. 2
- 234 Electron irradiation-induced defects for reliability improvement in monolayer MoS<sub>2</sub>-based conductive-point memory devices. **2022**, 6, 4
- 233 The physio-chemical properties and applications of 2D nanomaterials in agricultural and environmental sustainability.. **2022**, 837, 155669 0
- 232 London Dispersion-Corrected Density Functionals Applied to van der Waals Stacked Layered Materials: Validation of Structure, Energy, and Electronic Properties. 2200055 1
- 231 200 mm-scale growth of 2D layered GaSe with preferential orientation. **2022**, 10, 051106
- 230 Robust and Low-Power-Consumption Black Phosphorus-Graphene Artificial Synaptic Devices.. **2022**, 1
- 229 Coexisting ferromagnetic component and negative magnetoresistance at low temperature in single crystals of the VdW material GaGeTe. **2022**, 312, 123106 1
- 228 Polysaccharide/Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> MXene adhesive hydrogels with self-healing ability for multifunctional and sensitive sensors. **2022**, 291, 119572 1
- 227 MXenes and MXene-based (nano)structures: A perspective on greener synthesis and biomedical prospects. **2022**, 2
- 226 Gadolinium Halide Monolayers: A Fertile Family of Two-Dimensional 4f Magnets. 0
- 225 Characterizations of two-dimensional materials with cryogenic ultrahigh vacuum near-field optical microscopy in the visible range. **2022**, 40, 040801 1
- 224 Antimicrobial Mechanisms of Biomaterials: From Macro to Nano. 4

223	Compact Super Electron-Donor to Monolayer MoS <sub>2</sub> .	2
222	Laser Patterning of the Sb <sub>2</sub> O <sub>3</sub> Atomic Thin Layer Assisted by Near Field Heating.	1
221	Field-effect conductivity scaling for two-dimensional materials with tunable impurity density.	0
220	A Review on MX <sub>2</sub> (M' = Mo, W and X' = S, Se) layered material for opto-electronic devices. <b>2022</b> , 13, 023001	1
219	Anomalous Response in the Orbital Magnetic Susceptibility of 2D Topological Systems.	
218	Functionalization of 2D MoS <sub>2</sub> Nanosheets with Various Metal and Metal Oxide Nanostructures: Their Properties and Application in Electrochemical Sensors. <b>2022</b> , 12, 386	2
217	Modifying electronic and magnetic properties of the $\text{HfS}_2$ monolayer by doping with III-, IV-, and V-group atoms. <b>2022</b> , 142, 115315	
216	Preparation, properties and applications of near-infrared fluorescent silicate nanosheets.	0
215	3d transition metal coordination on monolayer MoS <sub>2</sub> : a facile doping method to functionalize surfaces.	1
214	Design of Transition Metal Carbonitrides (Mcn <sub>s</sub> ) as Potential Anchoring and High Catalytic Performance Materials for Lithium-Sulfur Battery.	
213	Review The Synthesis and Characterization of Recent Two-Dimensional Materials for Energy Storage Applications.	
212	Engineering van der Waals Materials for Advanced Metaphotonics.	2
211	Oxygen-Induced Dissociation of a Single Water Molecule in Confined 2-D Layers: A Semiempirical study.	0
210	Novel Van Der Waals Heterostructures Based on Borophene, Graphene-like GaN and ZnO for Nanoelectronics: A First Principles Study. <b>2022</b> , 15, 4084	0
209	Solid-State Reaction Synthesis of Nanoscale Materials: Strategies and Applications.	0
208	Ga <sub>3</sub> Te <sub>3</sub> I: novel 1D and 2D semiconductor materials with promising electronic and optical properties.	0
207	The rise of 2D materials/ferroelectrics for next generation photonics and optoelectronics devices. <b>2022</b> , 10, 060903	3
206	Recent Progress in Contact Probing Methods of Two-Dimensional Materials and Van Der Waals Heterostructures. 8,	

205	Surface charge-transfer doping a quantum-confined silver monolayer beneath epitaxial graphene. <b>2022</b> , 105,	1
204	Preparation and characterization of Ti <sub>3</sub> C <sub>2</sub> TX MXene/PVDF cation exchange membrane for electro dialysis. <b>2022</b> , 129556	1
203	Ab Initio Study of Graphene/hBN Van der Waals Heterostructures: Effect of Electric Field, Twist Angles and p-n Doping on the Electronic Properties. <b>2022</b> , 12, 2118	0
202	Advanced Hybrid Positioning System of SEM and AFM for 2D Material Surface Metrology. 1-7	
201	Impact of different structural defects on fundamental properties of blue phosphorene nanotubes. <b>2022</b> , 32, e00701	0
200	High-pressure modified mesoporous Zr-BTB nanosheets with enhanced photocatalyst activity. <b>2022</b> , 649, 129511	0
199	Plasmonic-metal/2D-semiconductor hybrids for photodetection and photocatalysis in energy-related and environmental processes. <b>2022</b> , 469, 214665	2
198	XSnS <sub>3</sub> (X = Ga, In) monolayer semiconductors as photo-catalysts for water splitting: a first principles study.	0
197	Synthesis of MoS <sub>2</sub> -based nanostructures and their applications in rechargeable ion batteries, catalysts and gas sensors: a review. <b>2022</b> , 12, 19512-19527	1
196	Enhanced Selectivity of the Propylene Epoxidation Reaction on a Cu Monolayer Surface via Eley-Rideal Mechanism.	0
195	Optical amplification in a charge density wave phase of a quasi-two-dimensional material. <b>2022</b> , 105,	
194	First-principles study of optical properties of monolayer h-BN and its defect structures under equibiaxial strain. <b>2022</b> , 128,	1
193	Promising performance of polyvinylpyrrolidone-doped bismuth oxyiodide quantum dots for antibacterial and catalytic applications.	7
192	Revealing local structural properties of an atomically thin MoSe <sub>2</sub> surface using optical microscopy. 13, 572-581	
191	One-Step Growth of Bilayer 2H <sub>1T'</sub> MoTe <sub>2</sub> van der Waals Heterostructures with Interlayer-Coupled Resonant Phonon Vibration. <i>ACS Nano</i> ,	16.7 1
190	Adsorption of toxic and harmful gas CO on TM (Ni, Pd, Pt) doped MoTe <sub>2</sub> monolayer: A DFT study. <b>2022</b> , 31, 102111	1
189	Strong coupling with directional scattering features of metal nanoshells with monolayer WS <sub>2</sub> heterostructures. <b>2022</b> , 121, 021104	1
188	Scalable Production of Ultrathin Boron Nanosheets from a Low-Cost Precursor. 2200508	2

- 187 MXene as Emerging Low Dimensional Material in Modern Energy and Bio Application: A Review. 74, 109-154
- 186 Emerging Synthesis Strategies of 2D MOFs for Electrical Devices and Integrated Circuits. 2201642 2
- 185 Friction behaviors of two-dimensional materials at the nanoscale. **2022**, 27, 100771 2
- 184 Phenyl- and naphthyl-type heteroatom substitution blocks in naphthylene- $\pi$ A DFT study. **2022**, 213, 111578
- 183 Study of the buckling effects on the electrical and optical properties of the group III-Nitride monolayers. **2022**, 150, 106943 0
- 182 Hydrogen-Induced Conversion of SnS<sub>2</sub> into SnS or Sn: A Route to Create SnS<sub>2</sub>/SnS Heterostructures. 2202661
- 181 Exploring the Cryogenic Phase Changes within 2D MoTe<sub>2</sub> via TEM, 4DSTEM and Electron Spectroscopy Techniques. **2022**, 28, 1728-1729
- 180 Multi-Stimuli-Responsive Synapse Based on Vertical van der Waals Heterostructures. 2
- 179 Highly anisotropic thermal conductivity of few-layer CrOCl for efficient heat dissipation in graphene device. 1
- 178 Linear and nonlinear optical propagation in 2D materials. **2021**, 2021, 19-37
- 177 Tunable Schottky and Ohmic contacts in Ti<sub>2</sub>NF<sub>2</sub>/Te van der Waals heterostructure.
- 176 Realizing Pure Spin Current by Photogalvanic Effect in Armchair Graphene Nanoribbons with Nano-Constriction Engineering.
- 175 Transfer of 2D Nanostructures with Reduced Residues: Influence of Water-soluble Layer and Fabrication of Photodetector. **2022**,
- 174 Computer Modelling of Metal Nanoparticles Adsorbed on Graphene. **2022**, 23, 239-267
- 173 Nanostructures and catalytic atoms engineering of tellurium-based materials and their roles in electrochemical energy conversion. 2
- 172 Si-CMOS-compatible 2D PtSe<sub>2</sub>-based self-driven photodetector with ultrahigh responsivity and specific detectivity. 0
- 171 A prospectus for thickness dependent electronic properties of two-dimensional metals using density functional theory calculation.
- 170 Celebrating 25 Years of IMRE: Research Highlights on Nanomaterials and Nanotechnologies. **2022**, 16, 11492-11497 1

169	Insight into the Nanotribological Mechanism of Two-Dimensional Covalent Organic Frameworks.	
168	An atomistic-based finite deformation continuum membrane model for monolayer Transition Metal Dichalcogenides. <b>2022</b> , 105033	
167	The role of graphene nanoplatelets in the friction reducing process of polymer.	0
166	Strain modulated electronic and optical properties of laterally stitched MoSi <sub>2</sub> N <sub>4</sub> /XSi <sub>2</sub> N <sub>4</sub> (X=W, Ti) 2D heterostructures. <b>2022</b> , 115471	1
165	TiB <sub>2</sub> derived nanosheets co-immobilized with triangular gold nanoparticles elicit fast and stable photocatalytic hydrogen evolution. <b>2022</b> ,	1
164	High-frequency enhanced response based on Sb <sub>2</sub> Te <sub>3</sub> topological insulators.	
163	Designing a perfect Phosphorene-Plasmon absorber and investigating its geometric irregularity effects: A simulation study. <b>2022</b> , 156, 108519	
162	Synthesis and polymorphism of a new phase 1D chalcogenide M <sub>2</sub> N <sub>3</sub> X <sub>8</sub> structure based on the periodic table: Ta <sub>2</sub> Ni <sub>3</sub> S <sub>8</sub> with a tetragonal structure. <b>2022</b> , 926, 166752	0
161	The electronic, thermoelectric and optical properties of Janus In <sub>2</sub> STe monolayer: A first-principles investigation. <b>2022</b> , 759, 139471	0
160	D-Shaped Fiber Surface Plasmon Resonance Refractive Index Sensor Enhanced By MXene (Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> ). <b>2022</b> , 14, 1-7	1
159	Strong temperature dependence of transfer characteristics and time constants near freezing point of ionic liquid in an ambipolar electric double layer transistor. <b>2022</b> , 452, 128444	0
158	Adsorption of metal atoms on MoSi <sub>2</sub> N <sub>4</sub> monolayer: A first principles study. <b>2022</b> , 152, 107072	2
157	Two-dimensional AlXY (X= S, Se and Y = Cl, Br, I) monolayers: promising photocatalysts for water splitting with high anisotropic carrier mobilities.	1
156	Mechanical, electronic and catalytic properties of 2H-1T' MoS <sub>2</sub> heterointerfaces.	0
155	Computational modeling of precursor evolution during the synthesis of MoS <sub>2</sub> . <b>2022</b> ,	0
154	Abnormally weak intervalley electron scattering in MoS <sub>2</sub> monolayer: insights from the matching between electron and phonon bands. <b>2022</b> , 14, 12007-12012	0
153	UV-light-assisted gas sensor based on PdSe <sub>2</sub> /InSe heterojunction for ppb-level NO <sub>2</sub> sensing at room temperature. <b>2022</b> , 14, 13204-13213	1
152	Recent advances in solution assisted synthesis of transition metal chalcogenides for photo-electrocatalytic hydrogen evolution. <b>2022</b> , 24, 20638-20673	3

- 151 W4PCl11 monolayer: an unexplored 2D material with moderate direct bandgap and strong visible-light absorption for highly efficient solar cells. **2022**, 14, 12386-12394 ○
- 150 Functionalization of antimonene and bismuthene with Lewis acids. **2022**, 14, 13834-13843 ○
- 149 Sulfur Line Vacancies in MoS2 for Catalytic Hydrogen Evolution Reaction. **2022**, 12, 1218 1
- 148 Surface Passivation of Layered MoSe 2 via van der Waals Stacking of Amorphous Hydrocarbon. **2022**, 18, 2202912 ○
- 147 Ion-gating analysis on conduction mechanisms in oxide semiconductors. **2022**, 100010 ○
- 146 Room-Temperature Deep-UV Photoluminescence from Low-Dimensional Hexagonal Boron Nitride Prepared Using a Facile Synthesis. **2022**, 7, 33926-33933 1
- 145 Two-dimensional ternary chalcogenides FeX2Y4 (X=Ga, In; Y=. **2022**, 6, ○
- 144 From Top to DownRecent Advances in Etching of 2D Materials. 2201334 1
- 143 Ordered Double Transition Metal MXenes. ○
- 142 Mott transition and superexchange mechanism in magnetically doped XSi2N4 caused by large 3d orbital onsite Coulomb interaction. **2022**, 106, ○
- 141 Structural, Electronic, and Magnetic Characteristics of Graphitic Carbon Nitride Nanoribbons and Their Applications in Spintronics. **2022**, 126, 16429-16436 ○
- 140 Ferroelectrics-Integrated Two-Dimensional Devices toward Next-Generation Electronics. **2022**, 16, 13595-13611 1
- 139 Janus MoSO and MoSSe Monolayers: A Promising Material for Solar Cells and Photocatalytic Applications. 2200267 ○
- 138 Optoelectronic and photocatalytic properties of Mo-based Janus monolayers for solar cell applications. **2022**, 170071 ○
- 137 Probing the interlayer mechanical coupling of 2D layered materials - A review. **2022**, ○
- 136 Extraordinary piezoelectric effect induced in two-dimensional rare earth monochalcogenides via reducing system dimensionality. **2022**, ○
- 135 Recent advances on the utilization of nanosheets as electrode material for supercapacitor application. **2022**, 55, 105697 1
- 134 Bis(2-hydroxyethyl) terephthalate from depolymerized waste polyester modified graphene as a novel functional crosslinker for electrical and thermal conductive polyurethane composites. **2022**, 35, 101343 1

133	Electronic and thermoelectric properties of semiconducting Bi <sub>2</sub> SSe <sub>2</sub> and Bi <sub>2</sub> S <sub>2</sub> Se monolayers with high optical absorption.	0
132	Collision Avoidance Systems and Emerging Bio-inspired Sensors for Autonomous Vehicles. <b>2022</b> , 121-141	0
131	Prospects of Biosynthetically produced Nanoparticles in Biocontrol of Pests and Phytopathogens: A review. <b>2022</b> , 4, 552-563	2
130	Electronic fingerprint mechanism of NO <sub>x</sub> sensor based on single-material SnP <sub>3</sub> logical junction. <b>2022</b> , 8,	0
129	Electronic transport properties of atomic wires on monolayers. <b>2022</b> , 1258, 012060	0
128	Zigzag direction nanoarchitectonics of monolayer GeSe for SO <sub>2</sub> gas sensors with high sensitivity and selectivity: a first-principles study. <b>2022</b> , 128,	0
127	A Promising Intrinsic Half-Metallic MXene Nanosheet Sc <sub>2</sub> Li <sub>2</sub> N <sub>3</sub> : the First-Principles Study.	0
126	P-Type 2D Semiconductors for Future Electronics. 2206939	0
125	Monolayer C <sub>2</sub> /mBnX (X=P, As): An in-plane anisotropic two-dimensional direct band gap semiconductor with ultrahigh mobility, ideal IR-VIS light tran. <b>2022</b> , 6,	0
124	Two-dimensional carbon-based heterostructures as bifunctional electrocatalysts for water splitting and metal-air batteries. <b>2022</b> ,	0
123	Co-Ion Desorption as the Main Charging Mechanism in Metallic 1T-MoS <sub>2</sub> Supercapacitors.	0
122	Application of Nanotechnology in COVID-19 Infection: Findings and Limitations. <b>2022</b> , 3, 203-232	0
121	Mixed Insulating State for van der Waals CoPS <sub>3</sub> . 10486-10493	1
120	Recent Progress in Double-Layer Honeycomb Structure: A New Type of Two-Dimensional Material. <b>2022</b> , 15, 7715	1
119	Application of graphdiyne oxide in photoelectrochemical-type photodetectors and ultrafast fiber lasers. <b>2022</b> , 47, 101653	0
118	Anomalous strain-dependent charge density in honeycomb borophene. <b>2023</b> , 216, 111838	0
117	Structure and interaction between the novel graphene-like planar biphenylene network and DNA: Molecular dynamics simulations. <b>2023</b> , 146, 115547	0
116	Cu-MXene: A potential biocide for the next-generation biomedical application. <b>2023</b> , 294, 127029	2



115	High gain, broadband p-WSe <sub>2</sub> /n-Ge van der Waals heterojunction phototransistor with a Schottky barrier collector.	2
114	Two-Dimensional Nodal-Loop Semimetal in Monolayer Zn <sub>4</sub> C <sub>2</sub> .	0
113	Review of Interface Modification Based on 2D Nanomaterials for Surface Plasmon Resonance Biosensors.	2
112	Excitons and light-emission in semiconducting MoSi <sub>2</sub> X <sub>4</sub> two-dimensional materials. <b>2022</b> , 6,	3
111	Bottom-up Hydrothermal Carbonization for the Precise Engineering of Carbon Materials. <b>2022</b> , 101048	1
110	Emerging MXene-Based Memristors for In-Memory, Neuromorphic Computing, and Logic Operation. 2208320	1
109	MXene fibers for electronic textiles: Progress and perspectives. <b>2022</b> , 107996	0
108	Reconstructing the exit wave of 2D materials in high-resolution transmission electron microscopy using machine learning. <b>2023</b> , 243, 113641	0
107	Realizing pure spin current by photogalvanic effect in armchair graphene nanoribbons with nano-constriction engineering.	0
106	Spotting the Driving Forces for SERS of Two-Dimensional Nanomaterials.	0
105	Two-dimensional magnetic behavior in hybrid NiFe-layered double hydroxides by molecular engineering.	0
104	A first-principles study of the adsorption mechanism of NO <sub>2</sub> on monolayer antimonide phosphide: a highly sensitive and selective gas sensor.	0
103	One-step fragmentation of a 2D MXene across the fine 1D MnO <sub>2</sub> surface and its supercapacitance. <b>2022</b> , 25, 72-85	0
102	Synthesis of atomically thin yellow pearl: An impetus for nonlinear optical effect assisted light scattering application. <b>2023</b> , 135, 113325	0
101	Tunable absorptance by the magnetic field in multilayer black phosphorene dielectric structures. <b>2023</b> , 457, 128569	0
100	Effects of CVD growth parameters on global and local optical properties of MoS <sub>2</sub> monolayers. <b>2023</b> , 296, 127185	0
99	Formation of buried 2D Aluminium Gallium Nitride structures with enhanced piezoelectric modulus by xenon ion implantation. <b>2023</b> , 30, 101710	0
98	Optimising 1T-NiS <sub>2</sub> monolayer thermoelectric performance via valley engineering. <b>2023</b> , 34, 105169	0

97	Constructing heterostructures of ZIF-67 derived C, N doped Co <sub>2</sub> P and Ti <sub>2</sub> VC <sub>2</sub> T MXene for enhanced OER. <b>2023</b> , 145, 74-82	0
96	Interface Engineering and Device Applications of 2D Ultrathin Film/Ferroelectric Copolymer P(VDF-TrFE).	0
95	Engineering tumor-specific catalytic nanosystem for NIR-II photothermal-augmented and synergistic starvation/chemodynamic nanotherapy. <b>2022</b> , 26,	0
94	Nanobionics-Driven Synthesis of Molybdenum Oxide Nanosheets with Tunable Plasmonic Resonances in Visible Light Regions. <b>2022</b> , 14, 55285-55294	0
93	Ultrafast Photocurrent Dynamics in Vertically Aligned SnS <sub>2</sub> Nanoflakes Probing with Transient Terahertz Spectroscopy. <b>2023</b> , 13, 5	0
92	Programming material properties by tuning intermolecular bonding. <b>2022</b> , 132, 210703	0
91	The 2D Semiconductor Library. <b>2022</b> , 1-31	0
90	Hardware and Information Security Primitives Based on Two-Dimensional Materials and Devices. 2205365	1
89	Fundamentals and Scientific Challenges in Structural Design of Cathode Materials for Zinc-Ion Hybrid Supercapacitors. 2202303	0
88	Study of Molecular-Level Dispersion of Pristine Graphene in Aqueous Media via Polyvinyl Alcohol Coil Physisorption. <b>2022</b> , 38, 16046-16054	1
87	Two-Dimensional Multiferroics with Intrinsic Magnetoelectric Coupling in A-Site Ordered Perovskite Monolayers.	0
86	Accurate prediction on the lattice thermal conductivities of monolayer systems by a high-throughput descriptor. <b>2023</b> , 56, 045304	0
85	Strain Modulated Electronic and Photocatalytic Properties of MoS <sub>2</sub> /WS <sub>2</sub> Heterostructure: A DFT Study.	0
84	Covalently Functionalized Egyptian Blue Nanosheets for Near-Infrared Bioimaging.	0
83	Synthesis, Structural, and Photoluminescence Properties of MoS <sub>2</sub> Nanowall Films. 2200481	0
82	Electronic and optical properties of Janus-like hexagonal monolayer materials of group IV-VI. <b>2023</b> , 7,	0
81	Optical properties of triangular nanoflakes of Cr <sub>2</sub> Se <sub>5</sub> . <b>2023</b> ,	0
80	Impact of single Pt atom adsorption on fundamental properties of blue phosphorene and its activity toward hydrogen evolution reaction. <b>2023</b> ,	0

- 79 Atomic layer deposition (ALD)-constructed TaS<sub>2</sub> nanoflakes for cancer-related nucleolin detection. ○
- 78 Recent Advances in Mechanically Transferable III-Nitride Based on 2D Buffer Strategy. 2209880 ○
- 77 Efficient Ohmic Contact in Monolayer CrX<sub>2</sub>N<sub>4</sub> (X = C, Si) Based Field-Effect Transistors. 2201056 ○
- 76 Room-temperature sensing performance of binary Co-Zn doped MoS<sub>2</sub>/graphite composite toward ppb-level NO<sub>2</sub>. 1
- 75 Scaling analysis of anomalous Hall resistivity and magnetoresistance in the quasi-two-dimensional ferromagnet Fe<sub>3</sub>GeTe<sub>2</sub>. **2023**, 107, ○
- 74 Mechanochemical Molecular Motion Using Noncovalent Interactions on Graphene and Its Application to Tailoring the Adsorption Energetics. 574-579 ○
- 73 High-performance broadband flexible photodetector based on Gd<sub>3</sub>Fe<sub>5</sub>O<sub>12</sub>-assisted double van der Waals heterojunctions. ○
- 72 Redispersion Mechanisms of 2D Nanosheets: Combined Role of Intersheet Contact and Surface Chemistry. ○
- 71 Improved Electrical Properties of EHD Jet-Patterned MoS<sub>2</sub> Thin-Film Transistors with Printed Ag Electrodes on a High-k Dielectric. **2023**, 13, 194 ○
- 70 Deterministic organic functionalization of monolayer graphene via high resolution surface engineering. ○
- 69 Mechanics-Microstructure relations in 1D, 2D and mixed dimensional carbon nanomaterials. **2023**, 204, 162-190 ○
- 68 Toward a Mechanistic Understanding of the Formation of 2D-GaN<sub>x</sub> in Epitaxial Graphene. **2023**, 17, 230-239 ○
- 67 Synthesis of MXene Nano sheets and their modification for hydrogen sensing applications. **2022**, ○
- 66 Thermal Transport in 2D Materials. **2023**, 13, 117 ○
- 65 Liquid Phase Isolation of SnS Monolayers with Enhanced Optoelectronic Properties. 2201842 ○
- 64 Introduction of defects in hexagonal boron nitride for vacancy-based 2D memristors. ○
- 63 Rational Design of Flexible Zn-Based Batteries for Wearable Electronic Devices. ○
- 62 Density Functional Theory Combined with Thermodynamics Exploration of Novel 2D Materials Created Using Aqueous Exfoliation. **2023**, 127, 2314-2325 ○

- 61 Antimonene: a tuneable post-graphene material for advanced applications in optoelectronics, catalysis, energy and biomedicine. 1
- 60 Novel materials-based devices to mitigate challenges. **2023**, 119-157 0
- 59 First-Principles Study of Lattice Thermal Conductivity in Janus MoSSe Bilayers with Different Stacking Modes. 0
- 58 2D materials for flexible electronics. **2023**, 169-206 0
- 57 Tunability of the Superconductivity of NbSe<sub>2</sub> Films Grown by Two-Step Vapor Deposition. **2023**, 28, 1059 0
- 56 Defect-Engineered Functionalized MoS<sub>2</sub> Quantum Dots with Enhanced Antibacterial Activity. **2023**, 6, 2193-2202 0
- 55 A type-II GaP/GaSe van der Waals heterostructure with high carrier mobility and promising photovoltaic properties. **2023**, 618, 156544 0
- 54 Investigation on electrochemical performance of striped,  $\sqrt{2}$  and  $\sqrt{3}$  Borophene as anode materials for lithium-ion batteries. **2023**, 120, 108423 0
- 53 Searching for d<sub>0</sub> spintronic materials: bismuthene monolayer doped with IVA-group atoms. **2023**, 13, 5885-5892 0
- 52 General rules and applications for screening high phonon-limited mobility in two-dimensional semiconductors. **2023**, 107, 0
- 51 Additively manufactured MAX- and MXene-composite scaffolds for bone regeneration- recent advances and future perspectives. **2023**, 225, 113282 0
- 50 Microstructure control and property switching in stress-free van der Waals epitaxial VO<sub>2</sub> films on mica. **2023**, 229, 111864 0
- 49 Two-dimensional materials for boosting the performance of perovskite solar cells: Fundamentals, materials and devices. **2023**, 153, 100727 0
- 48 A theoretical exploration of different  $\sqrt{3}$  stacking dimers of coronenes and its substituted analogues. **2023**, 1282, 135198 0
- 47 First-principles prediction of two-dimensional Janus XMInZ<sub>2</sub>(X = Cl, Br, I; M =. **2023**, 623, 157020 0
- 46 Transforming the electronic properties of phosphorene through charge transfer superatomic doping. **2023**, 732, 122269 0
- 45 Unexpected Bi-functional Co-g-GaN monolayer for detecting and scavenging toxic gases. **2023**, 35, 105781 0
- 44 Thermal stability of twin graphene: A Reaxff molecular dynamics study. **2023**, 623, 157038 0

- 43 Layer-by-layer assembly of nanomultilayer structures: Reinforcement of expanded char reduced the toxicity and fire hazard of epoxy resins. **2023**, 177, 107426 ○
- 42 Adsorption of 3d transition-metal atoms on two-dimensional penta-graphene: A first-principles study. **2023**, 27, 101611 ○
- 41 Deep ultraviolet optical limiting materials: 2D Ti3C2 and Ti3AlC2 nanosheets. **2023**, 11, 2355-2363 ○
- 40 Structures, Electric Properties and STM Images of GeSe Monolayers Doped by Group IV/VI Atoms: A First-Principles Study. **2023**, 13, 284 ○
- 39 Operating Principle and Device Configuration Driven Mechanisms in Low-Dimensional Materials for Neuromorphics. 2200316 ○
- 38 Black Phosphorus-Based Absorbing Bionic Stacked Structured Linear Polarization Detector. **2023**, 11, ○
- 37 Revealing 3D Ripple Structure and Its Dynamics in Freestanding Monolayer MoSe2 by Single-Frame 2D Atomic Image Reconstruction. **2023**, 23, 1298-1305 ○
- 36 Graphene-Like Monoelemental 2D Materials for Perovskite Solar Cells. **2023**, 13, 2204074 ○
- 35 MOCVD of Hierarchical C-MoS 2 Nanobranches for ppt-Level NO 2 Detection. 2200392 ○
- 34 First-principles studies of electronic properties in a Pt2CdSe3/Pt2HgSe3 Kane-Mele heterobilayer. **2023**, 107, ○
- 33 Chemical sensors based on two-dimensional materials. **2023**, 143-163 ○
- 32 Enhancement of Valley Polarization in Monolayer WSe 2 Coupled with Microsphere-Cavity-Array. 2213933 ○
- 31 Bis(2-hydroxyethyl) Terephthalate-Modified Ti3C2Tx/Graphene Nanohybrids as Three-Dimensional Functional Chain Extenders for Polyurethane Composite Films with Strain-Sensing and Conductive Properties. **2023**, 15, 12403-12413 ○
- 30 Impact of two-step calcination on microstructure, phase, electronic, and dielectric properties of KCa2Nb3O10 bulk layered perovskite. **2023**, 11, 188-196 ○
- 29 Electronic, spintronic, and piezoelectric properties of new Janus ZnAXY ( A=Si,Ge,Sn , and . **2023**, 107, ○
- 28 Effects of surface defects on mechanical properties and fracture mechanism of gallium selenide/graphene heterostructure. **2023**, 180, 104610 ○
- 27 Recent progress in the theoretical design of two-dimensional ferroelectric materials. **2023**, ○
- 26 Interfacial contact barrier and charge carrier transport of MoS2/metal(001) heterostructures. **2023**, 25, 9548-9558 ○

- 25 Adsorption and Sensing Performances of MoTe<sub>2</sub> Monolayers Doped with Pd, Ni, and Pt for SO<sub>2</sub> and NH<sub>3</sub>: A DFT Investigation. **2023**, 39, 4125-4139 ○
- 24 Modelling of disclinated phosphorene crystals. **2023**, 13, 45-49 ○
- 23 Micro Spectrometers Based on Materials Nanoarchitectonics. **2023**, 16, 2253 ○
- 22 Physics-based bias-dependent compact modeling of 1/f noise in single- to few-layer 2D-FETs. **2023**, 15, 6853-6863 ○
- 21 Conductive Nanomaterials with Different Dimensions for Flexible Piezoresistive Sensors: From Selectivity to Applications. 2201886 ○
- 20 Hexagonal warping effect in the Janus group-VIA binary monolayers with large Rashba spin splitting and piezoelectricity. **2023**, 25, 10827-10835 ○
- 19 An Atomically Thin and Photosensitive Vanadium Disulfide Memtransistor. ○
- 18 Direct synthesis and chemical vapor deposition of 2D carbide and nitride MXenes. **2023**, 379, 1242-1247 ○
- 17 A direct and clean route to MXenes. **2023**, 379, 1189-1190 ○
- 16 Low-pass filters based on van der Waals ferromagnets. ○
- 15 Efficient GW calculations in two dimensional materials through a stochastic integration of the screened potential. **2023**, 9, ○
- 14 Recent developments in 2D materials for energy harvesting applications. ○
- 13 Three-dimensional N-doped mesoporous carbon/MXene hybrid architecture for supercapacitor applications. **2023**, 13, 9983-9997 ○
- 12 Ultrathin 2D Violet Phosphorus Nanosheets: Facile Liquid-Phase Exfoliation, Characterization, and Photoelectrochemical Application. ○
- 11 Broad Electronic Modulation of Two-Dimensional Metal-Organic Frameworks over Four Distinct Redox States. ○
- 10 Realizing a Superconducting Square-Lattice Bismuth Monolayer. ○
- 9 van der Waals Heterostructures Based on Nanolayered Paramagnetic Tm(II) Compounds and Boron Nitride for Investigating Spin Frustration. ○
- 8 Pressure-induced ferroelectric-to-superconductor transition in SnPS<sub>3</sub>. **2023**, 107, ○

- 7 Engineering Dirac cones and topological flat bands with organic molecules. **2023**, 107,
- 6 Photoemission study of twisted monolayers and bilayers of WSe<sub>2</sub> on graphite substrates. **2023**, 7,
- 5 Recent Advances, Properties, Fabrication and Opportunities in Two-Dimensional Materials for their Potential Sustainable Applications. **2023**, 102780
- 4 WS<sub>2</sub>/WO<sub>3</sub> Heterostructure-Based Photodetectors on SiO<sub>2</sub>/Si for Future Optoelectronics.
- 3 Two-dimensional Mg<sub>2</sub>Si-111: A direct bandgap semiconductor with excellent optical response properties predicted by first-principles calculations. **2023**, 128849
- 2 Nb<sub>2</sub>CT<sub>x</sub>-Based MXenes Most Recent Developments: From Principles to New Applications. **2023**, 16, 3520
- 1 Excellent Seebeck coefficient observed in exfoliated N-type Tungsten Disulphide (WS<sub>2</sub>). **2023**, 162, 107554