

# Vertical and in-plane heterostructures from WS<sub>2</sub>/MoS<sub>2</sub>

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Citation Report

#	ARTICLE	IF	CITATIONS
6	A perfect match. Nature Materials, 2014, 13, 1075-1076.	13.3	68
7	Intimate contacts. Nature Materials, 2014, 13, 1076-1078.	13.3	107
8	Two-dimensional transition-metal dichalcogenide materials: Toward an age of atomic-scale photonics. MRS Bulletin, 2015, 40, 592-599.	1.7	61
9	Interfaces in Two-Dimensional Heterostructures of Transition Metal Dichalcogenides. Microscopy and Microanalysis, 2015, 21, 105-106.	0.2	0
10	Synthesis and structure of two-dimensional transition-metal dichalcogenides. MRS Bulletin, 2015, 40, 566-576.	1.7	43
11	Heterostructures of transition metal dichalcogenides. Physical Review B, 2015, 92, .	1.1	190
12	Monolayer II-VI semiconductors: A first-principles prediction. Physical Review B, 2015, 92, .	1.1	226
13	<i>Ab initio</i> tight-binding Hamiltonian for transition metal dichalcogenides. Physical Review B, 2015, 92, .	1.1	158
14	Theory of two-dimensional spatially indirect equilibrium exciton condensates. Physical Review B, 2015, 92, .	1.1	84
15	Microscopic basis for the band engineering of Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> -based heterojunction. Scientific Reports, 2015, 5, 14808.	1.6	52
16	Controlling the Electronic Structures and Properties of in-Plane Transition-Metal Dichalcogenides Quantum Wells. Scientific Reports, 2015, 5, 17578.	1.6	28
17	Rotation-Induced Free Heteroepitaxial Stacking and Stitching Growth of Hexagonal Transition-Metal Dichalcogenide Monolayers by Nucleation Kinetics Controls. Advanced Materials, 2015, 27, 3803-3810.	11.1	113
18	Chemical Vapor Deposition of Monolayer Rhenium Disulfide (ReS <sub>2</sub> ). Advanced Materials, 2015, 27, 4640-4648.	11.1	203
19	Lateral Built-In Potential of Monolayer MoS <sub>2</sub> /WS <sub>2</sub> In-Plane Heterostructures by a Shortcut Growth Strategy. Advanced Materials, 2015, 27, 6431-6437.	11.1	191
21	Nonvolatile Floating-Gate Memories Based on Stacked Black Phosphorus/Boron Nitride/MoS <sub>2</sub> Heterostructures. Advanced Functional Materials, 2015, 25, 7360-7365.	7.8	129
22	Two-Dimensional Layered Heterostructures Synthesized from Core-Shell Nanowires. Angewandte Chemie - International Edition, 2015, 54, 8957-8960.	7.2	78
23	Functionalized Graphene Superlattice as a Single-Sheet Solar Cell. Advanced Functional Materials, 2015, 25, 5199-5205.	7.8	7
25	Kinetic Nature of Grain Boundary Formation in As-Grown MoS <sub>2</sub> Monolayers. Advanced Materials, 2015, 27, 4069-4074.	11.1	130

#	ARTICLE	IF	CITATIONS
26	Drying-mediated Self-Assembled Growth of Transition Metal Dichalcogenide Wires and their Heterostructures. <i>Advanced Materials</i> , 2015, 27, 4142-4149.	11.1	30
27	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Light-Matter Interactions. <i>Advanced Materials</i> , 2015, 27, 7800-7808.	11.1	109
28	Coupling and Interlayer Exciton in Twisted Stacked WS <sub>2</sub> Bilayers. <i>Advanced Optical Materials</i> , 2015, 3, 1600-1605.	3.6	63
29	Fabrication of Two-Dimensional Lateral Heterostructures of WS <sub>2</sub> /WO <sub>3</sub> through Selective Oxidation of Monolayer WS <sub>2</sub> . <i>Angewandte Chemie - International Edition</i> , 2015, 54, 15226-15230.	7.2	109
30	Electron mobility in few-layer Mo <sub>x</sub> W <sub>1-x</sub> S <sub>2</sub> . <i>Materials Research Express</i> , 2015, 2, 095007.	0.8	6
31	Scalable Fabrication of 2D Semiconducting Crystals for Future Electronics. <i>Electronics (Switzerland)</i> , 2015, 4, 1033-1061.	1.8	21
32	Exciton Mapping at Subwavelength Scales in Two-Dimensional Materials. <i>Physical Review Letters</i> , 2015, 114, 107601.	2.9	79
33	Effect of WO <sub>3</sub> precursor and sulfurization process on WS <sub>2</sub> crystals growth by atmospheric pressure CVD. <i>Materials Letters</i> , 2015, 156, 156-160.	1.3	41
34	Indirect Band Gap Emission by Hot Electron Injection in Metal/MoS <sub>2</sub> and Metal/WSe <sub>2</sub> Heterojunctions. <i>Nano Letters</i> , 2015, 15, 3977-3982.	4.5	60
35	Line and Point Defects in MoSe <sub>2</sub> Bilayer Studied by Scanning Tunneling Microscopy and Spectroscopy. <i>ACS Nano</i> , 2015, 9, 6619-6625.	7.3	73
36	Two step growth phenomena of molybdenum disulfide-tungsten disulfide heterostructures. <i>Chemical Communications</i> , 2015, 51, 11213-11216.	2.2	21
37	Energy landscape and band-structure tuning in realistic $\text{MoS}_2$ . <i>Physical Review B</i> , 2015, 91, .		
38	Tightly Bound Triions in Transition Metal Dichalcogenide Heterostructures. <i>ACS Nano</i> , 2015, 9, 6459-6464.	7.3	103
39	Charge Transfer Excitons at van der Waals Interfaces. <i>Journal of the American Chemical Society</i> , 2015, 137, 8313-8320.	6.6	252
40	Bandgap-tunable lateral and vertical heterostructures based on monolayer Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> alloys. <i>Nano Research</i> , 2015, 8, 3261-3271.	5.8	54
41	Vibrational and optical properties of MoS <sub>2</sub> : From monolayer to bulk. <i>Surface Science Reports</i> , 2015, 70, 554-586.	3.8	178
42	Chemical Vapor Deposition Growth of Graphene and Related Materials. <i>Journal of the Physical Society of Japan</i> , 2015, 84, 121013.	0.7	24
43	Tuning the surface properties of alloyed CdS <sub>x</sub> Se <sub>1-x</sub> 2D nanosheets. <i>RSC Advances</i> , 2015, 5, 100834-100837.	1.7	9

#	ARTICLE	IF	CITATIONS
44	Designing band-to-band tunneling field-effect transistors with 2D semiconductors for next-generation low-power VLSI. , 2015, , .		18
45	Three-dimensional architectures constructed using two-dimensional nanosheets. Science China Chemistry, 2015, 58, 1792-1799.	4.2	19
48	A graphene explosion. Nature Materials, 2015, 14, 265-265.	13.3	0
49	Stacked 2D materials shed light. Nature Materials, 2015, 14, 264-265.	13.3	203
50	van der Waals Epitaxial Ultrathin Two-Dimensional Nonlayered Semiconductor for Highly Efficient Flexible Optoelectronic Devices. Nano Letters, 2015, 15, 1183-1189.	4.5	127
51	Synthesis and Transport Properties of Large-Scale Alloy $\text{Co}_{0.16}\text{Mo}_{0.84}\text{S}_2$ Bilayer Nanosheets. ACS Nano, 2015, 9, 1257-1262.	7.3	79
52	Lighten the Olympia of the Flatland: Probing and Manipulating the Photonic Properties of 2D Transition-Metal Dichalcogenides. Small, 2015, 11, 3206-3220.	5.2	15
53	Interface Coupling in Twisted Multilayer Graphene by Resonant Raman Spectroscopy of Layer Breathing Modes. ACS Nano, 2015, 9, 7440-7449.	7.3	127
54	Pressure-driven dome-shaped superconductivity and electronic structural evolution in tungsten ditelluride. Nature Communications, 2015, 6, 7805.	5.8	324
55	Electronic transport properties of in-plane heterostructures constructed by $\text{MoS}_2$ and $\text{WS}_2$ nanoribbons. RSC Advances, 2015, 5, 66852-66860.	1.7	31
56	Patterned arrays of lateral heterojunctions within monolayer two-dimensional semiconductors. Nature Communications, 2015, 6, 7749.	5.8	213
57	Pervasive drought legacies in forest ecosystems and their implications for carbon cycle models. Science, 2015, 349, 528-532.	6.0	836
58	Epitaxial growth of a monolayer $\text{WSe}_2$ - $\text{MoS}_2$ lateral p-n junction with an atomically sharp interface. Science, 2015, 349, 524-528.	6.0	1,009
59	Two-Step Growth of Two-Dimensional $\text{WSe}_2/\text{MoSe}_2$ Heterostructures. Nano Letters, 2015, 15, 6135-6141.	4.5	479
60	Reversible Semiconducting-to-Metallic Phase Transition in Chemical Vapor Deposition Grown Monolayer $\text{WSe}_2$ and Applications for Devices. ACS Nano, 2015, 9, 7383-7391.	7.3	164
61	$\text{MoS}_2$ Heterojunctions by Thickness Modulation. Scientific Reports, 2015, 5, 10990.	1.6	93
62	CVD synthesis of $\text{Mo}_{(1-x)}\text{W}_x\text{S}_2$ and $\text{MoS}_2(1-x)\text{Se}_x$ alloy monolayers aimed at tuning the bandgap of molybdenum disulfide. Nanoscale, 2015, 7, 13554-13560.	2.8	103
63	Elastic Deformations in 2D van der waals Heterostructures and their Impact on Optoelectronic Properties: Predictions from a Multiscale Computational Approach. Scientific Reports, 2015, 5, 10872.	1.6	76

#	ARTICLE	IF	CITATIONS
64	Probing Interlayer Interactions in Transition Metal Dichalcogenide Heterostructures by Optical Spectroscopy: MoS <sub>2</sub> /WS <sub>2</sub> and MoSe <sub>2</sub> /WSe <sub>2</sub> . Nano Letters, 2015, 15, 5033-5038.	4.5	277
65	Controllable synthesis of molybdenum tungsten disulfide alloy for vertically composition-controlled multilayer. Nature Communications, 2015, 6, 7817.	5.8	188
66	Scalable Transfer of Suspended Two-Dimensional Single Crystals. Nano Letters, 2015, 15, 5089-5097.	4.5	38
67	Nanostructure formation via post growth of particles. CrystEngComm, 2015, 17, 6796-6808.	1.3	12
68	A sustainable future for photonic colloidal nanocrystals. Chemical Society Reviews, 2015, 44, 5897-5914.	18.7	115
69	Atomically thin resonant tunnel diodes built from synthetic van der Waals heterostructures. Nature Communications, 2015, 6, 7311.	5.8	382
70	Synthesis, properties and applications of 2D non-graphene materials. Nanotechnology, 2015, 26, 292001.	1.3	101
71	Vertical and Bidirectional Heterostructures from Graphyne and MSe <sub>2</sub> (M = Mo, W). Journal of Physical Chemistry Letters, 2015, 6, 2694-2701.	2.1	35
72	Arrayed van der Waals Vertical Heterostructures Based on 2D GaSe Grown by Molecular Beam Epitaxy. Nano Letters, 2015, 15, 3571-3577.	4.5	146
73	Two-dimensional MoS <sub>2</sub> : Properties, preparation, and applications. Journal of Materiomics, 2015, 1, 33-44.	2.8	597
74	Photocurrent generation with two-dimensional van der Waals semiconductors. Chemical Society Reviews, 2015, 44, 3691-3718.	18.7	802
75	All Chemical Vapor Deposition Growth of MoS <sub>2</sub> :h-BN Vertical van der Waals Heterostructures. ACS Nano, 2015, 9, 5246-5254.	7.3	326
76	Phase engineering of transition metal dichalcogenides. Chemical Society Reviews, 2015, 44, 2702-2712.	18.7	915
77	Beyond Graphene: Progress in Novel Two-Dimensional Materials and van der Waals Solids. Annual Review of Materials Research, 2015, 45, 1-27.	4.3	537
78	Low-Frequency Raman Fingerprints of Two-Dimensional Metal Dichalcogenide Layer Stacking Configurations. ACS Nano, 2015, 9, 6333-6342.	7.3	151
79	New Strategy for the Growth of Complex Heterostructures Based on Different 2D Materials. Chemistry of Materials, 2015, 27, 4105-4113.	3.2	32
80	Wetting of Mono and Few-Layered WS <sub>2</sub> and MoS <sub>2</sub> Films Supported on Si/SiO <sub>2</sub> Substrates. ACS Nano, 2015, 9, 3023-3031.	7.3	186
81	Multivalency-Induced Band Gap Opening at MoS <sub>2</sub> Edges. Chemistry of Materials, 2015, 27, 3326-3331.	3.2	50

#	ARTICLE	IF	CITATIONS
82	Comprehensive structural and optical characterization of MBE grown MoSe <sub>2</sub> on graphite, CaF <sub>2</sub> and graphene. 2D Materials, 2015, 2, 024007.	2.0	120
83	Fano Resonance and Spectrally Modified Photoluminescence Enhancement in Monolayer MoS <sub>2</sub> Integrated with Plasmonic Nanoantenna Array. Nano Letters, 2015, 15, 3646-3653.	4.5	246
84	Observation of Excitonic Rydberg States in Monolayer MoS <sub>2</sub> and WS <sub>2</sub> by Photoluminescence Excitation Spectroscopy. Nano Letters, 2015, 15, 2992-2997.	4.5	327
85	Electronic, dielectric and mechanical properties of MoS <sub>2</sub> /SiC hybrid bilayer: A first principle study. Physica E: Low-Dimensional Systems and Nanostructures, 2015, 71, 49-55.	1.3	14
86	Tuning Carrier Confinement in the MoS <sub>2</sub> /WS <sub>2</sub> Lateral Heterostructure. Journal of Physical Chemistry C, 2015, 119, 9580-9586.	1.5	74
87	High-performance Na <sub>2</sub> Ti <sub>2</sub> O <sub>5</sub> nanowire arrays coated with VS <sub>2</sub> nanosheets for sodium-ion storage. Nano Energy, 2015, 18, 20-27.	8.2	80
88	Atomic layer deposition on 2D transition metal chalcogenides: layer dependent reactivity and seeding with organic ad-layers. Chemical Communications, 2015, 51, 16553-16556.	2.2	39
89	Polar discontinuities and 1D interfaces in monolayered materials. Progress in Surface Science, 2015, 90, 444-463.	3.8	18
90	Large-Area, Transfer-Free, Oxide-Assisted Synthesis of Hexagonal Boron Nitride Films and Their Heterostructures with MoS <sub>2</sub> and WS <sub>2</sub> . Journal of the American Chemical Society, 2015, 137, 13060-13065.	6.6	110
91	Ultrathin Two-Dimensional Nanomaterials. ACS Nano, 2015, 9, 9451-9469.	7.3	1,726
92	Emerging energy applications of two-dimensional layered transition metal dichalcogenides. Nano Energy, 2015, 18, 293-305.	8.2	236
93	Electronic and vibrational properties of 2D materials from monolayer to bulk. , 2015, , .		1
94	Tellurium-Assisted Low-Temperature Synthesis of MoS <sub>2</sub> and WS <sub>2</sub> Monolayers. ACS Nano, 2015, 9, 11658-11666.	7.3	123
95	Seed Crystal Homogeneity Controls Lateral and Vertical Heteroepitaxy of Monolayer MoS <sub>2</sub> and WS <sub>2</sub> . Journal of the American Chemical Society, 2015, 137, 14281-14287.	6.6	147
96	Electronic properties of two-dimensional van der Waals GaS/GaSe heterostructures. Journal of Materials Chemistry C, 2015, 3, 11548-11554.	2.7	66
97	Recent Advances in Two-Dimensional Materials beyond Graphene. ACS Nano, 2015, 9, 11509-11539.	7.3	2,069
98	Prediction of spin-orbital coupling effects on the electronic structure of two dimensional van der Waals heterostructures. Physical Chemistry Chemical Physics, 2015, 17, 31253-31259.	1.3	17
99	Pronounced Photovoltaic Response from Multilayered Transition-Metal Dichalcogenides PN-Junctions. Nano Letters, 2015, 15, 7532-7538.	4.5	98

#	ARTICLE	IF	CITATIONS
100	Tuning carrier confinement in the MoS <sub>2</sub> /WS <sub>2</sub> heterostructure. Superlattices and Microstructures, 2015, 88, 12-17.	1.4	3
101	Growth and synthesis of mono and few-layers transition metal dichalcogenides by vapour techniques: a review. RSC Advances, 2015, 5, 75500-75518.	1.7	105
102	Monolayers of W <sub>x</sub> Mo <sub>1-x</sub> S <sub>2</sub> alloy heterostructure with in-plane composition variations. Applied Physics Letters, 2015, 106, .	1.5	99
103	Optimal Ge/SiGe nanofin geometries for hole mobility enhancement: Technology limit from atomic simulations. Journal of Applied Physics, 2015, 117, .	1.1	1
104	Two-dimensional transition metal dichalcogenides as atomically thin semiconductors: opportunities and challenges. Chemical Society Reviews, 2015, 44, 8859-8876.	18.7	917
105	Lateral and Vertical Two-Dimensional Layered Topological Insulator Heterostructures. ACS Nano, 2015, 9, 10916-10921.	7.3	30
106	Probing charge transfer excitons in a MoSe <sub>2</sub> /WS <sub>2</sub> van der Waals heterostructure. Nanoscale, 2015, 7, 17523-17528.	2.8	89
107	Electronic structures of in-plane two-dimensional transition-metal dichalcogenide heterostructures. Physical Chemistry Chemical Physics, 2015, 17, 29380-29386.	1.3	34
108	Spectroscopic Visualization of Grain Boundaries of Monolayer Molybdenum Disulfide by Stacking Bilayers. ACS Nano, 2015, 9, 11042-11048.	7.3	47
109	Semiconductor/Insulator/Semiconductor Diode Consisting of Monolayer MoS <sub>2</sub> , h-BN, and GaN Heterostructure. ACS Nano, 2015, 9, 10032-10038.	7.3	88
110	Direct Growth of Single- and Few-Layer MoS <sub>2</sub> on h-BN with Preferred Relative Rotation Angles. Nano Letters, 2015, 15, 6324-6331.	4.5	172
111	3D Band Diagram and Photoexcitation of 2D/3D Semiconductor Heterojunctions. Nano Letters, 2015, 15, 5919-5925.	4.5	33
112	Monolayered Bi <sub>2</sub> WO <sub>6</sub> nanosheets mimicking heterojunction interface with open surfaces for photocatalysis. Nature Communications, 2015, 6, 8340.	5.8	578
113	Electronic Properties of MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures Synthesized with Two-Step Lateral Epitaxial Strategy. ACS Nano, 2015, 9, 9868-9876.	7.3	283
114	Epitaxial Growth of Hetero-Nanostructures Based on Ultrathin Two-Dimensional Nanosheets. Journal of the American Chemical Society, 2015, 137, 12162-12174.	6.6	218
115	Two-dimensional transition metal dichalcogenides: Clusters, ribbons, sheets and more. Nano Today, 2015, 10, 559-592.	6.2	107
116	Manganese Doping of Monolayer MoS <sub>2</sub> : The Substrate Is Critical. Nano Letters, 2015, 15, 6586-6591.	4.5	357
117	Wafer-scale arrayed p-n junctions based on few-layer epitaxial GaTe. Nano Research, 2015, 8, 3332-3341.	5.8	41

#	ARTICLE	IF	CITATIONS
118	Molecular beam epitaxy of the van der Waals heterostructure MoTe <sub>2</sub> on MoS <sub>2</sub> : phase, thermal, and chemical stability. 2D Materials, 2015, 2, 044010.	2.0	91
119	Stacking-Dependent Interlayer Coupling in Trilayer MoS <sub>2</sub> with Broken Inversion Symmetry. Nano Letters, 2015, 15, 8155-8161.	4.5	141
120	Liquid-Phase Epitaxial Growth of Two-Dimensional Semiconductor Heterostructures. Angewandte Chemie - International Edition, 2015, 54, 1841-1845.	7.2	88
121	Synthesis of Lateral Heterostructures of Semiconducting Atomic Layers. Nano Letters, 2015, 15, 410-415.	4.5	285
122	Band Engineering for Novel Two-Dimensional Atomic Layers. Small, 2015, 11, 1868-1884.	5.2	96
123	Equally Efficient Interlayer Exciton Relaxation and Improved Absorption in Epitaxial and Nonepitaxial MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures. Nano Letters, 2015, 15, 486-491.	4.5	337
124	Physical and chemical tuning of two-dimensional transition metal dichalcogenides. Chemical Society Reviews, 2015, 44, 2664-2680.	18.7	694
125	Synthesis and Physicochemical Properties of Two-Dimensional Gallium Sulfide Crystals. Bioenergetics: Open Access, 2016, 5, .	0.1	4
126	Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. Applied Sciences (Switzerland), 2016, 6, 78.	1.3	96
127	Graphene and Two-Dimensional Materials for Optoelectronic Applications. Electronics (Switzerland), 2016, 5, 13.	1.8	72
128	Two-Dimensional Semiconductor Optoelectronics Based on van der Waals Heterostructures. Nanomaterials, 2016, 6, 193.	1.9	107
129	First-Principles Study of the Electron Transport Properties of Graphene-Like 2D Materials. , 0, , .		1
130	Graphene and monolayer transition-metal dichalcogenides: properties and devices. Journal of Materials Research, 2016, 31, 845-877.	1.2	15
131	Large-scale chemical assembly of atomically thin transistors and circuits. Nature Nanotechnology, 2016, 11, 954-959.	15.6	251
132	Configuration-Dependent Electrically Tunable Van der Waals Heterostructures Based on MoTe <sub>2</sub> /MoS <sub>2</sub> . Advanced Functional Materials, 2016, 26, 5499-5506.	7.8	95
133	Band Engineering by Controlling vdW Epitaxy Growth Mode in 2D Gallium Chalcogenides. Advanced Materials, 2016, 28, 7375-7382.	11.1	28
134	Lösungsprozessierte MoS <sub>2</sub> -Nanoplättchen: Herstellung, Hybridisierung und Anwendungen. Angewandte Chemie, 2016, 128, 8960-8984.	1.6	52
135	Synthesis of Millimeter-Scale Transition Metal Dichalcogenides Single Crystals. Advanced Functional Materials, 2016, 26, 2009-2015.	7.8	152



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136	Controlled Sulfurization Process for the Synthesis of Large Area MoS <sub>2</sub> Films and MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures. <i>Advanced Materials Interfaces</i> , 2016, 3, 1500635.	1.9	61
137	Layer-Controlled Chemical Vapor Deposition Growth of MoS <sub>2</sub> Vertical Heterostructures via van der Waals Epitaxy. <i>ACS Nano</i> , 2016, 10, 7039-7046.	7.3	122
138	Highly Efficient Photocurrent Generation from Nanocrystalline Graphene-Molybdenum Disulfide Lateral Interfaces. <i>Advanced Materials</i> , 2016, 28, 1793-1798.	11.1	13
139	Parallel Stitching of 2D Materials. <i>Advanced Materials</i> , 2016, 28, 2322-2329.	11.1	195
140	Edge States-Induced Disruption to the Energy Band Alignment at Thickness-Modulated Molybdenum Sulfide Junctions. <i>Advanced Electronic Materials</i> , 2016, 2, 1600048.	2.6	18
141	Large-Scale Production of Bismuth Chalcogenide and Graphene Heterostructure and Its Application for Flexible Broadband Photodetector. <i>Advanced Electronic Materials</i> , 2016, 2, 1600077.	2.6	33
142	Distinct photoluminescence and Raman spectroscopy signatures for identifying highly crystalline WS <sub>2</sub> monolayers produced by different growth methods. <i>Journal of Materials Research</i> , 2016, 31, 931-944.	1.2	95
143	Bottom-up direct writing approach for controlled fabrication of WS <sub>2</sub> /MoS <sub>2</sub> heterostructure systems. <i>RSC Advances</i> , 2016, 6, 66589-66594.	1.7	8
144	Design and construction of ultra-thin MoSe <sub>2</sub> nanosheet-based heterojunction for high-speed and low-noise photodetection. <i>Nano Research</i> , 2016, 9, 2641-2651.	5.8	43
145	Solution-Processed Two-Dimensional MoS <sub>2</sub> Nanosheets: Preparation, Hybridization, and Applications. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 8816-8838.	7.2	557
146	Anisotropic Growth of Nonlayered CdS on MoS <sub>2</sub> Monolayer for Functional Vertical Heterostructures. <i>Advanced Functional Materials</i> , 2016, 26, 2648-2654.	7.8	118
147	Recent Advances in Controlling Syntheses and Energy Related Applications of MX <sub>2</sub> and MX <sub>2</sub> /Graphene Heterostructures. <i>Advanced Energy Materials</i> , 2016, 6, 1600459.	10.2	43
148	High pressure Raman study of layered Mo <sub>0.5</sub> W <sub>0.5</sub> S <sub>2</sub> ternary compound. <i>2D Materials</i> , 2016, 3, 025003.	2.0	20
149	Strain and electric-field tunable valley states in 2D van der Waals MoTe <sub>2</sub> /WTe <sub>2</sub> heterostructures. <i>Journal of Physics Condensed Matter</i> , 2016, 28, 505003.	0.7	13
150	High density of (pseudo) periodic twin-grain boundaries in molecular beam epitaxy-grown van der Waals heterostructure: MoTe <sub>2</sub> /MoS <sub>2</sub> . <i>Applied Physics Letters</i> , 2016, 108, .	1.5	71
151	Recent Progress in Atomic Layer Deposition of Multifunctional Oxides and Two-Dimensional Transition Metal Dichalcogenides. <i>Journal of Molecular and Engineering Materials</i> , 2016, 04, 1640010.	0.9	24
152	Enhanced monolayer MoS <sub>2</sub> /InP heterostructure solar cells by graphene quantum dots. <i>Applied Physics Letters</i> , 2016, 108, 163901.	1.5	26
153	Non-linear excitation of quantum emitters in hexagonal boron nitride multiplayers. <i>APL Photonics</i> , 2016, 1, .	3.0	43

#	ARTICLE	IF	CITATIONS
154	Two dimensional WS <sub>2</sub> lateral heterojunctions by strain modulation. Applied Physics Letters, 2016, 108, 263104.	1.5	31
155	Band engineering in transition metal dichalcogenides: Stacked versus lateral heterostructures. Applied Physics Letters, 2016, 108, .	1.5	151
156	Electric field tuning of band offsets in transition metal dichalcogenides. Physical Review B, 2016, 94, .	1.1	24
157	Two-dimensional van der Waals materials. Physics Today, 2016, 69, 38-44.	0.3	381
158	Twinned growth behaviour of two-dimensional materials. Nature Communications, 2016, 7, 13911.	5.8	123
159	Raman fingerprint for semi-metal WTe <sub>2</sub> evolving from bulk to monolayer. Scientific Reports, 2016, 6, 19624.	1.6	106
160	Materials properties of out-of-plane heterostructures of MoS <sub>2</sub> -WSe <sub>2</sub> and WS <sub>2</sub> -MoSe <sub>2</sub> . Applied Physics Letters, 2016, 108, .	1.5	79
161	Self-Limiting Layer Synthesis of Transition Metal Dichalcogenides. Scientific Reports, 2016, 6, 18754.	1.6	74
162	Very high thermoelectric figure of merit found in hybrid transition-metal-dichalcogenides. Journal of Applied Physics, 2016, 120, .	1.1	22
163	An effective approach to synthesize monolayer tungsten disulphide crystals using tungsten halide precursor. Applied Physics Letters, 2016, 108, .	1.5	19
164	Limits of Coherency and Strain Transfer in Flexible 2D van der Waals Heterostructures: Formation of Strain Solitons and Interlayer Debonding. Scientific Reports, 2016, 6, 21516.	1.6	49
165	Correlation of nanostructure changes with the electrical properties of molybdenum disulfide (MoS <sub>2</sub> ) as affected by sulfurization temperature. Applied Physics Letters, 2016, 109, 242104.	1.5	1
166	Promoting the Performance of Layered-Material Photodetectors by Alloy Engineering. ACS Applied Materials & Interfaces, 2016, 8, 12915-12924.	4.0	133
167	Facile synthesis of ZnO flowers modified graphene like MoS <sub>2</sub> sheets for enhanced visible-light-driven photocatalytic activity and antibacterial properties. Journal of Alloys and Compounds, 2016, 682, 208-215.	2.8	140
168	Nanomaterials for Hydrogen Generation from Solar Water Splitting. Nanoscience and Technology, 2016, , 445-470.	1.5	2
169	Van der Waals stacked 2D layered materials for optoelectronics. 2D Materials, 2016, 3, 022001.	2.0	213
170	Electric Field Effects on Spin Splitting of Two-Dimensional van der Waals Arsenene/FeCl <sub>2</sub> Heterostructures. Journal of Physical Chemistry C, 2016, 120, 5613-5618.	1.5	46
171	Bandgap Transition of 2H Transition Metal Dichalcogenides: Predictive Tuning via Inherent Interface Coupling and Strain. Journal of Physical Chemistry C, 2016, 120, 8927-8935.	1.5	31

#	ARTICLE	IF	CITATIONS
172	System-size dependent band alignment in lateral two-dimensional heterostructures. <i>2D Materials</i> , 2016, 3, 025012.	2.0	18
173	Electric-Field-Assisted Directed Assembly of Transition Metal Dichalcogenide Monolayer Sheets. <i>ACS Nano</i> , 2016, 10, 5006-5014.	7.3	9
174	Lattice Mismatch Dominant Yet Mechanically Tunable Thermal Conductivity in Bilayer Heterostructures. <i>ACS Nano</i> , 2016, 10, 5431-5439.	7.3	57
175	High-Performance $WSe_2$ Field-Effect Transistors <i>via</i> Controlled Formation of In-Plane Heterojunctions. <i>ACS Nano</i> , 2016, 10, 5153-5160.	7.3	135
176	Synthesis and Characterization of $ReS_2$ and $ReSe_2$ Layered Chalcogenide Single Crystals. <i>Chemistry of Materials</i> , 2016, 28, 3352-3359.	3.2	162
177	Strain-Induced Electronic Structure Changes in Stacked van der Waals Heterostructures. <i>Nano Letters</i> , 2016, 16, 3314-3320.	4.5	122
178	Growth Mechanism of Transition Metal Dichalcogenide Monolayers: The Role of Self-Seeding Fullerene Nuclei. <i>ACS Nano</i> , 2016, 10, 5440-5445.	7.3	163
179	Optoelectronic devices based on two-dimensional transition metal dichalcogenides. <i>Nano Research</i> , 2016, 9, 1543-1560.	5.8	186
180	Universal Transfer and Stacking of Chemical Vapor Deposition Grown Two-Dimensional Atomic Layers with Water-Soluble Polymer Mediator. <i>ACS Nano</i> , 2016, 10, 5237-5242.	7.3	70
181	Two-dimensional metallic $NbS_2$ : growth, optical identification and transport properties. <i>2D Materials</i> , 2016, 3, 025027.	2.0	86
182	In-plane interfacing effects of two-dimensional transition-metal dichalcogenide heterostructures. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 15632-15638.	1.3	46
183	Effect of underlying boron nitride thickness on photocurrent response in molybdenum disulfide - boron nitride heterostructures. <i>Journal of Materials Research</i> , 2016, 31, 893-899.	1.2	11
184	Highly active and stable layered ternary transition metal chalcogenide for hydrogen evolution reaction. <i>Nano Energy</i> , 2016, 28, 366-372.	8.2	107
185	The possible formation of a magnetic $FeS_2$ phase in the two-dimensional $MoS_2$ matrix. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 26956-26959.	1.3	1
186	Design of lateral heterostructure from arsenene and antimonene. <i>2D Materials</i> , 2016, 3, 035017.	2.0	66
187	Multifunctional heterostructures constructed using $MoS_2$ and $WS_2$ nanoribbons. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 27468-27475.	1.3	8
188	Tunable electronic structures in $MPX_3$ (M = Zn, Cd; X = S, Se) monolayers by strain engineering. <i>RSC Advances</i> , 2016, 6, 89901-89906.	1.7	19
189	Temperature-Mediated Selective Growth of $MoS_2/WS_2$ and $WS_2/MoS_2$ Vertical Stacks on Au Foils for Direct Photocatalytic Applications. <i>Advanced Materials</i> , 2016, 28, 10664-10672.	11.1	188

#	ARTICLE	IF	CITATIONS
190	Strain-induced chiral symmetry breaking leads to large Dirac cone splitting in graphene/graphane heterostructure. <i>Physical Review B</i> , 2016, 94, .	1.1	18
191	Controlled Synthesis of Core-Shell Carbon@MoS <sub>2</sub> Nanotube Sponges as High-Performance Battery Electrodes. <i>Advanced Materials</i> , 2016, 28, 10175-10181.	11.1	145
192	Lateral Epitaxy of Atomically Sharp WSe <sub>2</sub> /WS <sub>2</sub> Heterojunctions on Silicon Dioxide Substrates. <i>Chemistry of Materials</i> , 2016, 28, 7194-7197.	3.2	59
193	Epitaxial growth of two-dimensional SnSe <sub>2</sub> /MoS <sub>2</sub> misfit heterostructures. <i>Journal of Materials Chemistry C</i> , 2016, 4, 10215-10222.	2.7	33
194	Tuning two-dimensional nanomaterials by intercalation: materials, properties and applications. <i>Chemical Society Reviews</i> , 2016, 45, 6742-6765.	18.7	363
195	Direct Vapor Phase Growth and Optoelectronic Application of Large Band Offset SnS <sub>2</sub> /MoS <sub>2</sub> Vertical Bilayer Heterostructures with High Lattice Mismatch. <i>Advanced Electronic Materials</i> , 2016, 2, 1600298.	2.6	155
196	TMDC Heterostructures. <i>Springer Series in Materials Science</i> , 2016, , 447-471.	0.4	0
197	Recent progress in chemical vapor deposition growth of two-dimensional transition metal dichalcogenides. <i>Progress in Crystal Growth and Characterization of Materials</i> , 2016, 62, 9-28.	1.8	66
198	Fluorescence Concentric Triangles: A Case of Chemical Heterogeneity in WS <sub>2</sub> Atomic Monolayer. <i>Nano Letters</i> , 2016, 16, 5559-5567.	4.5	76
199	Solid-Vapor Reaction Growth of Transition-Metal Dichalcogenide Monolayers. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 10656-10661.	7.2	27
200	Insight into In Situ Amphiphilic Functionalization of Few-Layered Transition Metal Dichalcogenide Nanosheets. <i>Advanced Materials</i> , 2016, 28, 8469-8476.	11.1	16
201	Solid-Vapor Reaction Growth of Transition-Metal Dichalcogenide Monolayers. <i>Angewandte Chemie</i> , 2016, 128, 10814-10819.	1.6	17
202	Atomically Layered MoS <sub>2</sub> as a Tunable Optical Platform. <i>Advanced Optical Materials</i> , 2016, 4, 1429-1456.	3.6	54
203	One-step fabrication of large-area ultrathin MoS <sub>2</sub> nanofilms with high catalytic activity for photovoltaic devices. <i>Nanoscale</i> , 2016, 8, 16017-16025.	2.8	51
204	Nanowire Array Structures for Photocatalytic Energy Conversion and Utilization: A Review of Design Concepts, Assembly and Integration, and Function Enabling. <i>Advanced Energy Materials</i> , 2016, 6, 1600683.	10.2	89
205	2D materials and van der Waals heterostructures. <i>Science</i> , 2016, 353, aac9439.	6.0	4,958
206	Chemical Vapor Deposition of High-Quality Large-Sized MoS <sub>2</sub> Crystals on Silicon Dioxide Substrates. <i>Advanced Science</i> , 2016, 3, 1500033.	5.6	128
207	Unexpected Epitaxial Growth of a Few WS <sub>2</sub> Layers on {111...00} Facets of ZnO Nanowires. <i>Journal of Physical Chemistry C</i> , 2016, 120, 21451-21459.	1.5	22

#	ARTICLE	IF	CITATIONS
208	Dual functions of 2D WS <sub>2</sub> and MoS <sub>2</sub> as WS <sub>2</sub> monolayers coupled with a Ag <sub>3</sub> PO <sub>4</sub> photocatalyst. Semiconductor Science and Technology, 2016, 31, 095013.	1.0	8
209	Co-nucleus 1D/2D Heterostructures with Bi <sub>2</sub> S <sub>3</sub> Nanowire and MoS <sub>2</sub> Monolayer: One-Step Growth and Defect-Induced Formation Mechanism. ACS Nano, 2016, 10, 8938-8946.	7.3	82
210	Phonon transport in single-layer Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> alloy embedded with WS <sub>2</sub> nanodomains. Physical Review B, 2016, 94, .	1.1	18
211	Lateral Versus Vertical Growth of Two-Dimensional Layered Transition-Metal Dichalcogenides: Thermodynamic Insight into MoS <sub>2</sub> . Nano Letters, 2016, 16, 5742-5750.	4.5	102
212	Increased monolayer domain size and patterned growth of tungsten disulfide through controlling surface energy of substrates. Journal Physics D: Applied Physics, 2016, 49, 325304.	1.3	24
213	Booming Development of Group IV-VI Semiconductors: Fresh Blood of 2D Family. Advanced Science, 2016, 3, 1600177.	5.6	181
214	Mechanical properties of two-dimensional materials and heterostructures. Journal of Materials Research, 2016, 31, 832-844.	1.2	84
215	Visualizing band offsets and edge states in bilayer monolayer transition metal dichalcogenides lateral heterojunction. Nature Communications, 2016, 7, 10349.	5.8	120
216	Chemical Vapor Deposition of Monolayer Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> Crystals with Tunable Band Gaps. Scientific Reports, 2016, 6, 21536.	1.6	101
217	Interlayer coupling in anisotropic/isotropic van der Waals heterostructures of ReS <sub>2</sub> and MoS <sub>2</sub> monolayers. Nano Research, 2016, 9, 3772-3780.	5.8	56
218	Synthesis, Properties, and Stacking of Two-Dimensional Transition Metal Dichalcogenides. Semiconductors and Semimetals, 2016, 95, 189-219.	0.4	12
219	Thermal transport in van der Waals solids from first-principles calculations. Physical Review B, 2016, 94, .	1.1	89
220	Gate-Tunable Hole and Electron Carrier Transport in Atomically Thin Dual-Channel WSe <sub>2</sub> /MoS <sub>2</sub> Heterostructure for Ambipolar Field-Effect Transistors. Advanced Materials, 2016, 28, 9519-9525.	11.1	70
221	Carrier Delocalization in Two-Dimensional Coplanar p-n Junctions of Graphene and Metal Dichalcogenides. Nano Letters, 2016, 16, 5032-5036.	4.5	77
222	Phosphorene and Phosphorene-Based Materials – Prospects for Future Applications. Advanced Materials, 2016, 28, 8586-8617.	11.1	378
223	Diffusion-Mediated Synthesis of MoS <sub>2</sub> /WS <sub>2</sub> Lateral Heterostructures. Nano Letters, 2016, 16, 5129-5134.	4.5	129
224	Edge states in dichalcogenide nanoribbons and triangular quantum dots. Physical Review B, 2016, 93, .	1.1	29
225	Band alignment of two-dimensional semiconductors for designing heterostructures with momentum space matching. Physical Review B, 2016, 94, .	1.1	347

#	ARTICLE	IF	CITATIONS
226	Patterned Growth of P&#x201c;Type MoS <sub>2</sub> Atomic Layers Using Sol&#x201c;Gel as Precursor. <i>Advanced Functional Materials</i> , 2016, 26, 6371-6379.	7.8	34
227	Utilization of MoS <sub>2</sub> Nanosheets To Enhance the Photocatalytic Activity of ZnO for the Aerobic Oxidation of Benzyl Halides under Visible Light. <i>Industrial &amp; Engineering Chemistry Research</i> , 2016, 55, 8726-8732.	1.8	53
228	Van der Waals heterostructures and devices. <i>Nature Reviews Materials</i> , 2016, 1, .	23.3	1,897
229	Valleytronics in 2D materials. <i>Nature Reviews Materials</i> , 2016, 1, .	23.3	1,712
230	Two-dimensional GaSe/MoSe <sub>2</sub> misfit bilayer heterojunctions by van der Waals epitaxy. <i>Science Advances</i> , 2016, 2, e1501882.	4.7	239
231	Ultrafast Charge Transfer and Hybrid Exciton Formation in 2D/0D Heterostructures. <i>Journal of the American Chemical Society</i> , 2016, 138, 14713-14719.	6.6	102
232	The role of collective motion in the ultrafast charge transfer in van der Waals heterostructures. <i>Nature Communications</i> , 2016, 7, 11504.	5.8	103
233	A theoretical prediction of super high-performance thermoelectric materials based on MoS <sub>2</sub> /WS <sub>2</sub> hybrid nanoribbons. <i>Scientific Reports</i> , 2016, 6, 21639.	1.6	64
234	Centimeter Scale Patterned Growth of Vertically Stacked Few Layer Only 2D MoS <sub>2</sub> /WS <sub>2</sub> van der Waals Heterostructure. <i>Scientific Reports</i> , 2016, 6, 25456.	1.6	116
235	Scalable solution-phase epitaxial growth of symmetry-mismatched heterostructures on two-dimensional crystal soft template. <i>Science Advances</i> , 2016, 2, e1600993.	4.7	52
236	Interface strain in vertically stacked two-dimensional heterostructured carbon-MoS <sub>2</sub> nanosheets controls electrochemical reactivity. <i>Nature Communications</i> , 2016, 7, 11796.	5.8	157
237	Imaging and controlling plasmonic interference fields at buried interfaces. <i>Nature Communications</i> , 2016, 7, 13156.	5.8	58
238	Stacking orders induced direct band gap in bilayer MoSe <sub>2</sub> -WSe <sub>2</sub> lateral heterostructures. <i>Scientific Reports</i> , 2016, 6, 31122.	1.6	39
239	Electronics and optoelectronics of lateral heterostructures within monolayer indium monochalcogenides. <i>Journal of Materials Chemistry C</i> , 2016, 4, 11253-11260.	2.7	49
240	Introduction of Interfacial Charges to Black Phosphorus for a Family of Planar Devices. <i>Nano Letters</i> , 2016, 16, 6870-6878.	4.5	69
241	Unveiling Three-Dimensional Stacking Sequences of 1T Phase MoS <sub>2</sub> Monolayers by Electron Diffraction. <i>ACS Nano</i> , 2016, 10, 10308-10316.	7.3	21
242	Laterally Stitched Heterostructures of Transition Metal Dichalcogenide: Chemical Vapor Deposition Growth on Lithographically Patterned Area. <i>ACS Nano</i> , 2016, 10, 10516-10523.	7.3	52
243	Mutual Photoluminescence Quenching and Photovoltaic Effect in Large-Area Single-Layer MoS <sub>2</sub> Polymer Heterojunctions. <i>ACS Nano</i> , 2016, 10, 10573-10579.	7.3	99

#	ARTICLE	IF	CITATIONS
244	Effect of Sulfur Evaporation Rate on Screw Dislocation Driven Growth of MoS <sub>2</sub> with High Atomic Step Density. <i>Crystal Growth and Design</i> , 2016, 16, 7145-7154.	1.4	38
245	Atomic Structure and Spectroscopy of Single Metal (Cr, V) Substitutional Dopants in Monolayer MoS <sub>2</sub> . <i>ACS Nano</i> , 2016, 10, 10227-10236.	7.3	96
246	Towards functional assembly of 3D and 2D nanomaterials. <i>Proceedings of SPIE</i> , 2016, , .	0.8	0
247	Novel Colloidal MoS <sub>2</sub> Quantum Dot Heterojunctions on Silicon Platforms for Multifunctional Optoelectronic Devices. <i>Scientific Reports</i> , 2016, 6, 29016.	1.6	133
248	Ultrafast formation of interlayer hot excitons in atomically thin MoS <sub>2</sub> /WS <sub>2</sub> heterostructures. <i>Nature Communications</i> , 2016, 7, 12512.	5.8	313
249	High-responsivity UV-Vis Photodetector Based on Transferable WS <sub>2</sub> Film Deposited by Magnetron Sputtering. <i>Scientific Reports</i> , 2016, 6, 20343.	1.6	230
250	Controlled Synthesis of Atomically Thin 1T-TaS <sub>2</sub> for Tunable Charge Density Wave Phase Transitions. <i>Chemistry of Materials</i> , 2016, 28, 7613-7618.	3.2	75
251	Mapping of Low-Frequency Raman Modes in CVD-Grown Transition Metal Dichalcogenides: Layer Number, Stacking Orientation and Resonant Effects. <i>Scientific Reports</i> , 2016, 6, 19476.	1.6	111
252	Two-dimensional hexagonal semiconductors beyond graphene. <i>Advances in Natural Sciences: Nanoscience and Nanotechnology</i> , 2016, 7, 043001.	0.7	19
253	Modulation of electrical potential and conductivity in an atomic-layer semiconductor heterojunction. <i>Scientific Reports</i> , 2016, 6, 31223.	1.6	44
254	Spin-orbital effects in metal-dichalcogenide semiconducting monolayers. <i>Scientific Reports</i> , 2016, 6, 24093.	1.6	60
255	The electronic transport properties of transition-metal dichalcogenide lateral heterojunctions. <i>Journal of Materials Chemistry C</i> , 2016, 4, 10962-10966.	2.7	59
257	Local optical absorption spectra of h-BN/MoS <sub>2</sub> van der Waals heterostructure revealed by scanning near-field optical microscopy. <i>Japanese Journal of Applied Physics</i> , 2016, 55, 06GB01.	0.8	3
258	Black Phosphorus Nanosheets: Synthesis, Characterization and Applications. <i>Small</i> , 2016, 12, 3480-3502.	5.2	337
259	<i>In silico</i> engineering of graphene-based van der Waals heterostructured nanohybrids for electronics and energy applications. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2016, 6, 551-570.	6.2	32
260	Ferroelectrically Gated Atomically Thin Transition-Metal Dichalcogenides as Nonvolatile Memory. <i>Advanced Materials</i> , 2016, 28, 2923-2930.	11.1	134
261	Graphene/h-BN Heterostructures: Recent Advances in Controllable Preparation and Functional Applications. <i>Advanced Energy Materials</i> , 2016, 6, 1600541.	10.2	24
262	Size Fractionation of Two-Dimensional Sub-Nanometer Thin Manganese Dioxide Crystals towards Superior Urea Electrocatalytic Conversion. <i>Angewandte Chemie</i> , 2016, 128, 3868-3872.	1.6	47

#	ARTICLE	IF	CITATIONS
263	Epitaxy of Layered Orthorhombic SnS <sub>x</sub> Se <sub>(1-x)</sub> Core-Shell Heterostructures with Anisotropic Photoresponse. <i>Advanced Functional Materials</i> , 2016, 26, 4673-4679.	7.8	45
264	Observation of Strong Interlayer Coupling in MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures. <i>Advanced Materials</i> , 2016, 28, 1950-1956.	11.1	225
265	Defect engineering of two-dimensional transition metal dichalcogenides. <i>2D Materials</i> , 2016, 3, 022002.	2.0	736
266	Electronic Properties of MoS <sub>2</sub> /MX <sub>2</sub> /MoS <sub>2</sub> Trilayer Heterostructures: A First Principle Study. <i>ECS Journal of Solid State Science and Technology</i> , 2016, 5, Q3001-Q3007.	0.9	6
267	Interlayer Coupling in Twisted WSe <sub>2</sub> /WS <sub>2</sub> Bilayer Heterostructures Revealed by Optical Spectroscopy. <i>ACS Nano</i> , 2016, 10, 6612-6622.	7.3	249
268	Atomically thin binary V <sup>v</sup> compound semiconductor: a first-principles study. <i>Journal of Materials Chemistry C</i> , 2016, 4, 6581-6587.	2.7	126
269	Emerging opportunities in the two-dimensional chalcogenide systems and architecture. <i>Current Opinion in Solid State and Materials Science</i> , 2016, 20, 374-387.	5.6	29
270	Atomic defect states in monolayers of MoS <sub>2</sub> and WS <sub>2</sub> . <i>Surface Science</i> , 2016, 651, 215-221.	0.8	69
271	Atomic thin titania nanosheet-coupled reduced graphene oxide 2D heterostructures for enhanced photocatalytic activity and fast lithium storage. <i>Electronic Materials Letters</i> , 2016, 12, 211-218.	1.0	13
272	Experimental investigation of metallic thin film modification of nickel substrates for chemical vapor deposition growth of single layer graphene at low temperature. <i>Applied Surface Science</i> , 2016, 385, 554-561.	3.1	12
273	Quantitative Subsurface Atomic Structure Fingerprint for 2D Materials and Heterostructures by First-Principles-Calibrated Contact-Resonance Atomic Force Microscopy. <i>ACS Nano</i> , 2016, 10, 6491-6500.	7.3	23
274	Electrostatically tunable lateral MoTe <sub>2</sub> p-n junction for use in high-performance optoelectronics. <i>Nanoscale</i> , 2016, 8, 13245-13250.	2.8	49
275	Computing optical properties of ultra-thin crystals. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2016, 6, 351-368.	6.2	15
276	Layer Engineering of 2D Semiconductor Junctions. <i>Advanced Materials</i> , 2016, 28, 5126-5132.	11.1	63
277	CoNi <sub>2</sub> S <sub>4</sub> @Graphene@2D-MoSe <sub>2</sub> as an Advanced Electrode Material for Supercapacitors. <i>Advanced Energy Materials</i> , 2016, 6, 1600341.	10.2	145
278	Size Fractionation of Two-Dimensional Sub-Nanometer Thin Manganese Dioxide Crystals towards Superior Urea Electrocatalytic Conversion. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 3804-3808.	7.2	288
279	Layering effects on low frequency modes in n-layered MX <sub>2</sub> transition metal dichalcogenides. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 4807-4813.	1.3	18
280	Exciton pumping across type-I gallium chalcogenide heterojunctions. <i>Nanotechnology</i> , 2016, 27, 065203.	1.3	26



#	ARTICLE	IF	CITATIONS
281	Fundamentals of lateral and vertical heterojunctions of atomically thin materials. <i>Nanoscale</i> , 2016, 8, 3870-3887.	2.8	117
282	Defects Engineered Monolayer MoS <sub>2</sub> for Improved Hydrogen Evolution Reaction. <i>Nano Letters</i> , 2016, 16, 1097-1103.	4.5	1,015
283	Direct Growth of MoS <sub>2</sub> /h-BN Heterostructures <i>via</i> a Sulfide-Resistant Alloy. <i>ACS Nano</i> , 2016, 10, 2063-2070.	7.3	139
284	Mixed multilayered vertical heterostructures utilizing strained monolayer WS <sub>2</sub> . <i>Nanoscale</i> , 2016, 8, 2639-2647.	2.8	27
285	Band structure modulation in MoS <sub>2</sub> multilayers and heterostructures through electric field and strain. <i>Computational Materials Science</i> , 2016, 112, 377-382.	1.4	13
286	Structural Flexibility and Alloying in Ultrathin Transition-Metal Chalcogenide Nanowires. <i>ACS Nano</i> , 2016, 10, 2782-2790.	7.3	53
287	Twisted MoSe <sub>2</sub> Bilayers with Variable Local Stacking and Interlayer Coupling Revealed by Low-Frequency Raman Spectroscopy. <i>ACS Nano</i> , 2016, 10, 2736-2744.	7.3	117
288	Synthesis of WS <sub>2</sub> /Se <sub>2</sub> Alloy Nanosheets with Composition-Tunable Electronic Properties. <i>Nano Letters</i> , 2016, 16, 264-269.	4.5	308
289	Heterostructures based on two-dimensional layered materials and their potential applications. <i>Materials Today</i> , 2016, 19, 322-335.	8.3	469
290	Hexagonal Planar CdS Monolayer Sheet for Visible Light Photocatalysis. <i>Journal of Physical Chemistry C</i> , 2016, 120, 7052-7060.	1.5	132
291	Spatially resolved optical absorption spectroscopy of single- and few-layer MoS <sub>2</sub> by hyperspectral imaging. <i>Nanotechnology</i> , 2016, 27, 115705.	1.3	145
292	Metal-Insulator-Semiconductor Diode Consisting of Two-Dimensional Nanomaterials. <i>Nano Letters</i> , 2016, 16, 1858-1862.	4.5	74
293	Optoelectronic properties of atomically thin ReSe with weak interlayer coupling. <i>Nanoscale</i> , 2016, 8, 5826-5834.	2.8	32
294	Recent advances in high-pressure science and technology. <i>Matter and Radiation at Extremes</i> , 2016, 1, 59-75.	1.5	98
295	Valley-polarized exciton dynamics in a 2D semiconductor heterostructure. <i>Science</i> , 2016, 351, 688-691.	6.0	606
296	Two-dimensional layered MoS <sub>2</sub> : rational design, properties and electrochemical applications. <i>Energy and Environmental Science</i> , 2016, 9, 1190-1209.	15.6	532
297	Q-switched waveguide laser based on two-dimensional semiconducting materials: tungsten disulfide and black phosphorous. <i>Optics Express</i> , 2016, 24, 2858.	1.7	41
298	Alloyed 2D Metal-Insulator Semiconductor Atomic Layer Junctions. <i>Nano Letters</i> , 2016, 16, 1890-1895.	4.5	77

#	ARTICLE	IF	CITATIONS
299	One-Step Synthesis of MoS <sub>2</sub> /WS <sub>2</sub> Layered Heterostructures and Catalytic Activity of Defective Transition Metal Dichalcogenide Films. ACS Nano, 2016, 10, 2004-2009.	7.3	164
300	Excitation intensity dependence of photoluminescence from monolayers of MoS <sub>2</sub> and WS <sub>2</sub> /MoS <sub>2</sub> heterostructures. 2D Materials, 2016, 3, 015005.	2.0	65
301	Bandgap engineering of MoS <sub>2</sub> /MX <sub>2</sub> (MX <sub>2</sub> = WS <sub>2</sub> ), Tj ETQq0 0 0 rgBT /Overlock 10 compressive strain. RSC Advances, 2016, 6, 18319-18325.	1.7	39
302	Surface functionalization of two-dimensional metal chalcogenides by Lewis acid-base chemistry. Nature Nanotechnology, 2016, 11, 465-471.	15.6	197
303	Interactions between lasers and two-dimensional transition metal dichalcogenides. Chemical Society Reviews, 2016, 45, 2494-2515.	18.7	61
304	Gas adsorption on MoS <sub>2</sub> /WS <sub>2</sub> in-plane heterojunctions and the I <sub>g</sub> -V response: a first principles study. RSC Advances, 2016, 6, 17494-17503.	1.7	56
305	Synthesis, doping and properties of two-dimensional materials. Proceedings of SPIE, 2016, , .	0.8	0
306	Enhanced field emission behavior of layered MoSe <sub>2</sub> . Materials Research Express, 2016, 3, 035003.	0.8	31
307	Two-Dimensional Heterojunctions from Nonlocal Manipulations of the Interactions. Nano Letters, 2016, 16, 2322-2327.	4.5	80
308	Size effect on the magnetic and electronic properties of the monolayer lateral hetero-junction WS <sub>2</sub> -MoS <sub>2</sub> nanoribbon. Applied Surface Science, 2016, 371, 376-382.	3.1	26
309	Visualization of Grain Structure and Boundaries of Polycrystalline Graphene and Two-Dimensional Materials by Epitaxial Growth of Transition Metal Dichalcogenides. ACS Nano, 2016, 10, 3233-3240.	7.3	70
310	Interlayer Transition and Infrared Photodetection in Atomically Thin Type-II MoTe <sub>2</sub> /MoS <sub>2</sub> van der Waals Heterostructures. ACS Nano, 2016, 10, 3852-3858.	7.3	453
311	Stacks of graphene with silicane or germanane: a first-principles study. Journal of Physics Condensed Matter, 2016, 28, 035304.	0.7	6
312	Water activated doping and transport in multilayered germanane crystals. Journal of Physics Condensed Matter, 2016, 28, 034001.	0.7	21
313	Graphene Schottky diodes: An experimental review of the rectifying graphene/semiconductor heterojunction. Physics Reports, 2016, 606, 1-58.	10.3	449
314	Growth of multiple WS <sub>2</sub> /SnS layered semiconductor heterojunctions. Nanoscale, 2016, 8, 2143-2148.	2.8	51
315	2D layered group IIIA metal chalcogenides: synthesis, properties and applications in electronics and optoelectronics. CrystEngComm, 2016, 18, 3968-3984.	1.3	171
316	Two-Dimensional MnO <sub>2</sub> /Graphene Interface: Half-Metallicity and Quantum Anomalous Hall State. Journal of Physical Chemistry C, 2016, 120, 2119-2125.	1.5	29

#	ARTICLE	IF	CITATIONS
317	Layer number controllability of transition-metal dichalcogenides and the establishment of hetero-structures by using sulfurization of thin transition metal films. Journal Physics D: Applied Physics, 2017, 50, 064001.	1.3	13
318	Substrate induced changes in atomically thin 2-dimensional semiconductors: Fundamentals, engineering, and applications. Applied Physics Reviews, 2017, 4, 011301.	5.5	97
319	Frank van der Merwe Growth versus Volmer Weber Growth in Successive Stacking of a Few Layer Bi <sub>2</sub> Te <sub>3</sub> /Sb <sub>2</sub> Te <sub>3</sub> by van der Waals Heteroepitaxy: The Critical Roles of Finite Lattice Mismatch with Seed Substrates. Advanced Electronic Materials, 2017, 3, 1600375.	2.6	25
320	Realization of vertical and lateral van der Waals heterojunctions using two-dimensional layered organic semiconductors. Nano Research, 2017, 10, 1336-1344.	5.8	30
321	Modulation of silicene properties by AsSb with van der Waals interaction. RSC Advances, 2017, 7, 5827-5835.	1.7	10
322	Strain-engineered optoelectronic properties of 2D transition metal dichalcogenide lateral heterostructures. 2D Materials, 2017, 4, 021016.	2.0	72
323	Epitaxial Stitching and Stacking Growth of Atomically Thin Transition Metal Dichalcogenides (TMDCs) Heterojunctions. Advanced Functional Materials, 2017, 27, 1603884.	7.8	73
324	Gate tunable photovoltaic effect in MoS <sub>2</sub> vertical homostructures. Journal of Materials Chemistry C, 2017, 5, 854-861.	2.7	50
325	Controlled Electrochemical Deposition of Large Area MoS <sub>2</sub> on Graphene for High Responsivity Photodetectors. Advanced Functional Materials, 2017, 27, 1603998.	7.8	45
326	Engineering of the interactions of volatile organic compounds with MoS <sub>2</sub> . Journal of Materials Chemistry C, 2017, 5, 1463-1470.	2.7	30
327	Epitaxial growth of vertically stacked p-MoS <sub>2</sub> /n-MoS <sub>2</sub> heterostructures by chemical vapor deposition for light emitting devices. Nano Energy, 2017, 32, 454-462.	8.2	50
328	Hybrid Heterojunctions of Solution-Processed Semiconducting 2D Transition Metal Dichalcogenides. ACS Energy Letters, 2017, 2, 524-531.	8.8	31
329	InPlane 2H MoTe <sub>2</sub> Homojunctions Synthesized by Flux Controlled Phase Engineering. Advanced Materials, 2017, 29, 1605461.	11.1	97
330	Ultrafast Hot-Carrier Photovoltaics of Type-I Monolayer Heterojunctions in the Broad Spectral Ranges. ACS Photonics, 2017, 4, 429-434.	3.2	6
331	Transfer of monolayer TMD WS <sub>2</sub> and Raman study of substrate effects. Scientific Reports, 2017, 7, 43037.	1.6	51
332	Arrayed Van Der Waals Broadband Detectors for Dual Band Detection. Advanced Materials, 2017, 29, 1604439.	11.1	218
333	Franckeite as a naturally occurring van der Waals heterostructure. Nature Communications, 2017, 8, 14409.	5.8	103
334	Temperature effect on lattice and electronic structures of WTe <sub>2</sub> from first-principles study. Journal of Applied Physics, 2017, 121, .	1.1	11

#	ARTICLE	IF	CITATIONS
335	Monolayer $W_xMo_{1-x}S_2$ Grown by Atmospheric Pressure Chemical Vapor Deposition: Bandgap Engineering and Field Effect Transistors. <i>Advanced Functional Materials</i> , 2017, 27, 1606469.	7.8	48
336	Lateral topological crystalline insulator heterostructure. <i>2D Materials</i> , 2017, 4, 025038.	2.0	10
337	Solution synthesis of few-layer 2H $MX_2$ ( $M = Mo, W; X = S, Se$ ). <i>Journal of Materials Chemistry C</i> , 2017, 5, 2859-2864.	2.7	32
338	Synthesis of $MoS_2$ ribbons and their branched structures by chemical vapor deposition in sulfur-enriched environment. <i>Applied Surface Science</i> , 2017, 409, 396-402.	3.1	26
339	Spatially composition-modulated two-dimensional $WS_2Se_{2(1-x)}$ nanosheets. <i>Nanoscale</i> , 2017, 9, 4707-4712.	2.8	39
340	Band gap engineering of atomically thin two-dimensional semiconductors. <i>Chinese Physics B</i> , 2017, 26, 034208.	0.7	17
341	From Flatland to Spaceland: Higher Dimensional Patterning with Two-Dimensional Materials. <i>Advanced Materials</i> , 2017, 29, 1605096.	11.1	76
342	Epitaxial Halide Perovskite Lateral Double Heterostructure. <i>ACS Nano</i> , 2017, 11, 3355-3364.	7.3	79
343	Recent progress in van der Waals heterojunctions. <i>Nanoscale</i> , 2017, 9, 4324-4365.	2.8	155
344	Planar heterostructures of single-layer transition metal dichalcogenides: Composite structures, Schottky junctions, tunneling barriers, and half metals. <i>Physical Review B</i> , 2017, 95, .	1.1	20
345	Quantitative Agreement between Electron-Optical Phase Images of $WSe_2$ Simulations Based on Electrostatic Potentials that Include Bonding Effects. <i>Physical Review Letters</i> , 2017, 118, 086101.	2.0	12
346	Vertical $Al_2Se_3/MoSe_2$ heterojunction on sapphire synthesized using ion beam. <i>RSC Advances</i> , 2017, 7, 10154-10157.	1.7	9
347	Atomistic mechanisms of van der Waals epitaxy and property optimization of layered materials. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2017, 7, e1300.	6.2	14
348	Enhanced conductivity along lateral homojunction interfaces of atomically thin semiconductors. <i>2D Materials</i> , 2017, 4, 021012.	2.0	12
349	2D lateral heterostructures of monolayer and bilayer phosphorene. <i>Journal of Materials Chemistry C</i> , 2017, 5, 2291-2300.	2.7	25
350	Centimeter-Scale Nearly Single-Crystal Monolayer $MoS_2$ via Self-Limiting Vapor Deposition Epitaxy. <i>Journal of Physical Chemistry C</i> , 2017, 121, 4703-4707.	1.5	12
351	Strong thermal transport along polycrystalline transition metal dichalcogenides revealed by multiscale modeling for $MoS_2$ . <i>Applied Materials Today</i> , 2017, 7, 67-76.	2.3	35
352	$MoS_2$ - $MX_2$ in-plane superlattices: Electronic properties and bandgap engineering via strain. <i>Computational Materials Science</i> , 2017, 132, 30-35.	1.4	5

#	ARTICLE	IF	CITATIONS
353	Electric field tunable electronic structure in two dimensional van der Waals g-C <sub>2</sub> N/XSe <sub>2</sub> (X=Mo, W) heterostructures. Carbon, 2017, 117, 393-398.	5.4	36
354	Fast Photoelectron Transfer in (C <sub>3</sub> N) <sub>4</sub> Plane Heterostructural Nanosheets for Overall Water Splitting. Journal of the American Chemical Society, 2017, 139, 3021-3026.	6.6	640
355	Strain and water effects on the electronic structure and chemical activity of in-plane graphene/silicene heterostructure. Journal of Physics Condensed Matter, 2017, 29, 095302.	0.7	25
356	Interfacial Engineering of Van der Waals Coupled 2D Layered Materials. Advanced Materials Interfaces, 2017, 4, 1601054.	1.9	26
357	Complex and Noncentrosymmetric Stacking of Layered Metal Dichalcogenide Materials Created by Screw Dislocations. Journal of the American Chemical Society, 2017, 139, 3496-3504.	6.6	81
358	Wafer-scale synthesis of ultrathin CoO nanosheets with enhanced electrochemical catalytic properties. Journal of Materials Chemistry A, 2017, 5, 9060-9066.	5.2	31
359	Thermal dissociation of inter-layer excitons in MoS <sub>2</sub> /MoSe <sub>2</sub> hetero-bilayers. Nanoscale, 2017, 9, 6674-6679.	2.8	64
360	MoS <sub>2</sub> edges and heterophase interfaces: energy, structure and phase engineering. 2D Materials, 2017, 4, 025080.	2.0	16
361	The effects of local bond relaxations on the electronic and photocatalysis performances of nonmetal doped 3R-MoS <sub>2</sub> based photocatalyst: density functional theory. Materials Research Express, 2017, 4, 035908.	0.8	1
362	Interlayer State Coupling Dependent Ultrafast Charge Transfer in MoS <sub>2</sub> /WS <sub>2</sub> Bilayers. Advanced Science, 2017, 4, 1700086.	5.6	87
363	CO <sub>2</sub> -Assisted Solution Phase Selective Assembly of 2D WS <sub>2</sub> /WO <sub>3</sub> /H <sub>2</sub> O and 1T <sub>2</sub> H MoS <sub>2</sub> to Desirable Complex Heterostructures. ChemNanoMat, 2017, 3, 632-638.	1.5	16
364	Size and strain tunable band alignment of black/blue phosphorene lateral heterostructures. Physical Chemistry Chemical Physics, 2017, 19, 12466-12472.	1.3	25
365	Superionic and electronic conductivity in monolayer W <sub>2</sub> C: ab initio predictions. Journal of Materials Chemistry A, 2017, 5, 11094-11099.	5.2	51
366	Review Article: Progress in fabrication of transition metal dichalcogenides heterostructure systems. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2017, 35, 030803.	0.6	94
367	CO <sub>2</sub> -Induced Defect Engineering: A New Protocol by Doping Vacancies in 2D Heterostructures for Enhanced Visible-Light Photocatalysis. Applied Surface Science, 2017, 419, 573-579.	3.1	22
368	Interlayer exciton dynamics in a dichalcogenide monolayer heterostructure. 2D Materials, 2017, 4, 025112.	2.0	146
369	Optimal light harvesting in 2D semiconductor heterostructures. 2D Materials, 2017, 4, 025115.	2.0	13
370	Phonon Thermal Properties of Transition-Metal Dichalcogenides MoS <sub>2</sub> and MoSe <sub>2</sub> Heterostructure. Journal of Physical Chemistry C, 2017, 121, 10336-10344.	1.5	44

#	ARTICLE	IF	CITATIONS
371	Soft exfoliation of 2D SnO with size-dependent optical properties. 2D Materials, 2017, 4, 025110.	2.0	59
372	Hydrogen evolution activity of individual mono-, bi-, and few-layer MoS <sub>2</sub> towards photocatalysis. Applied Materials Today, 2017, 8, 132-140.	2.3	32
373	Strained W(Se <sub>1-x</sub> S <sub>x</sub> ) <sub>2</sub> Nanoporous Films for Highly Efficient Hydrogen Evolution. ACS Energy Letters, 2017, 2, 1315-1320.	8.8	64
374	Graphene: Synthesis and Functionalization. Nanostructure Science and Technology, 2017, , 101-132.	0.1	2
375	Local Lattice Distortion Activate Metastable Metal Sulfide as Catalyst with Stable Full Discharge/Charge Capability for Li-O <sub>2</sub> Batteries. Nano Letters, 2017, 17, 3518-3526.	4.5	68
376	Annealing tunes interlayer coupling and optoelectronic property of bilayer SnSe <sub>2</sub> /MoSe <sub>2</sub> heterostructures. Applied Surface Science, 2017, 419, 460-464.	3.1	18
377	Coulomb engineering of the bandgap and excitons in two-dimensional materials. Nature Communications, 2017, 8, 15251.	5.8	526
378	Phase transition and in situ construction of lateral heterostructure of 2D superconducting $\hat{I}_{\pm}^2$ Mo <sub>2</sub> C with sharp interface by electron beam irradiation. Nanoscale, 2017, 9, 7501-7507.	2.8	28
379	Band alignment of lateral two-dimensional heterostructures with a transverse dipole. Applied Physics Letters, 2017, 110, 181602.	1.5	5
380	Material Constraints and Scaling of 2-D Vertical Heterostructure Interlayer Tunnel Field-Effect Transistors. IEEE Transactions on Electron Devices, 2017, 64, 2714-2720.	1.6	7
381	Large-Area 2D/3D MoS <sub>2</sub> -MoO <sub>2</sub> Heterostructures with Thermally Stable Exciton and Intriguing Electrical Transport Behaviors. Advanced Electronic Materials, 2017, 3, 1600335.	2.6	25
382	Tunable bending stiffness of MoSe <sub>2</sub> /WSe <sub>2</sub> heterobilayers from flexural wrinkling. Nanotechnology, 2017, 28, 195701.	1.3	8
383	Optical identification of sulfur vacancies: Bound excitons at the edges of monolayer tungsten disulfide. Science Advances, 2017, 3, e1602813.	4.7	213
384	2D Nanoelectronics. Nanoscience and Technology, 2017, , .	1.5	20
385	Straintronics in two-dimensional in-plane heterostructures of transition-metal dichalcogenides. Physical Chemistry Chemical Physics, 2017, 19, 663-672.	1.3	56
386	Controlling of the electronic properties of WS <sub>2</sub> and graphene oxide heterostructures from first-principles calculations. Journal of Materials Chemistry C, 2017, 5, 201-207.	2.7	16
387	Systematic study of electronic structure and band alignment of monolayer transition metal dichalcogenides in Van der Waals heterostructures. 2D Materials, 2017, 4, 015026.	2.0	160
388	Two-Dimensional Materials. Nanoscience and Technology, 2017, , 115-159.	1.5	1

#	ARTICLE	IF	CITATIONS
389	Patterned films from exfoliated two-dimensional transition metal dichalcogenides assembled at a liquid-liquid interface. <i>Journal of Materials Chemistry C</i> , 2017, 5, 6937-6944.	2.7	12
390	Heterostructures containing dichalcogenides-new materials with predictable nanoarchitectures and novel emergent properties. <i>Semiconductor Science and Technology</i> , 2017, 32, 093004.	1.0	26
391	MoS <sub>2</sub> /WS <sub>2</sub> Heterojunction for Photoelectrochemical Water Oxidation. <i>ACS Catalysis</i> , 2017, 7, 4990-4998.	5.5	189
392	Metal Immiscibility Route to Synthesis of Ultrathin Carbides, Borides, and Nitrides. <i>Advanced Materials</i> , 2017, 29, 1700364.	11.1	61
393	Recent Progress on Localized Field Enhanced Two-dimensional Material Photodetectors from Ultraviolet-Visible to Infrared. <i>Small</i> , 2017, 13, 1700894.	5.2	234
394	Strongly Coupled High-Quality Graphene/2D Superconducting MoS <sub>2</sub> /C Vertical Heterostructures with Aligned Orientation. <i>ACS Nano</i> , 2017, 11, 5906-5914.	7.3	110
395	Graphene and related two-dimensional materials: Structure-property relationships for electronics and optoelectronics. <i>Applied Physics Reviews</i> , 2017, 4, .	5.5	476
396	Synthetic approaches to two-dimensional transition metal dichalcogenide nanosheets. <i>Progress in Materials Science</i> , 2017, 89, 411-478.	16.0	176
397	(Invited) Thermodynamic Modeling of W-C-O-H-S System for Controlled Growth of WS <sub>2</sub> Atomic Layers by True CVD. <i>ECS Transactions</i> , 2017, 77, 49-59.	0.3	1
398	Exfoliated MoS <sub>2</sub> and MoSe <sub>2</sub> Nanosheets by a Supercritical Fluid Process for a Hybrid Mg-Li-Ion Battery. <i>ACS Omega</i> , 2017, 2, 2360-2367.	1.6	64
399	Atomic layer etchings of transition metal dichalcogenides with post healing procedures: equivalent selective etching of 2D crystal hetero-structures. <i>2D Materials</i> , 2017, 4, 034001.	2.0	13
400	Tuning the catalytic functionality of transition metal dichalcogenides grown by chemical vapour deposition. <i>Journal of Materials Chemistry A</i> , 2017, 5, 14950-14968.	5.2	38
401	Theoretical Investigation of the Intercalation Chemistry of Lithium/Sodium Ions in Transition Metal Dichalcogenides. <i>Journal of Physical Chemistry C</i> , 2017, 121, 13599-13605.	1.5	87
402	Two-dimensional non-volatile programmable pn junctions. <i>Nature Nanotechnology</i> , 2017, 12, 901-906.	15.6	278
403	Epitaxial Templating of Two-Dimensional Metal Chloride Nanocrystals on Monolayer Molybdenum Disulfide. <i>ACS Nano</i> , 2017, 11, 6404-6415.	7.3	20
404	2D transition metal dichalcogenides. <i>Nature Reviews Materials</i> , 2017, 2, .	23.3	3,689
405	Synthesis of large-scale atomic-layer SnS <sub>2</sub> through chemical vapor deposition. <i>Nano Research</i> , 2017, 10, 2386-2394.	5.8	124
406	Graphene Nanoribbon Based Thermoelectrics: Controllable Self-Doping and Long-Range Disorder. <i>Advanced Science</i> , 2017, 4, 1600467.	5.6	5

#	ARTICLE	IF	CITATIONS
407	Gate-controlled BP/WSe <sub>2</sub> Heterojunction Diode for Logic Rectifiers and Logic Optoelectronics. <i>Small</i> , 2017, 13, 1603726.	5.2	86
408	Recent progress in high-mobility thin-film transistors based on multilayer 2D materials. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 164001.	1.3	20
409	Interlayer resistance of misoriented MoS <sub>2</sub> . <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 10406-10412.	1.3	12
410	Light-matter interaction in transition metal dichalcogenides and their heterostructures. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 173001.	1.3	91
411	Enhancement of photodetection based on perovskite/MoS <sub>2</sub> hybrid thin film transistor. <i>Journal of Semiconductors</i> , 2017, 38, 034002.	2.0	27
412	Functional two/three-dimensional assembly of monolayer WS <sub>2</sub> and nickel oxide. <i>Journal of Photonics for Energy</i> , 2017, 7, 014001.	0.8	1
413	Transition-metal dichalcogenide heterostructure solar cells: a numerical study. <i>Journal of Mathematical Chemistry</i> , 2017, 55, 50-64.	0.7	4
414	Manipulation of local optical properties and structures in molybdenum-disulfide monolayers using electric field-assisted near-field techniques. <i>Scientific Reports</i> , 2017, 7, 46004.	1.6	5
415	Angular magnetoresistance oscillations in the tunneling conductance of a metallic heterojunction. <i>Journal of Applied Physics</i> , 2017, 121, 094307.	1.1	0
416	Impact of Interfacial Defects on the Properties of Monolayer Transition Metal Dichalcogenide Lateral Heterojunctions. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 1664-1669.	2.1	34
417	Asymmetric Junctions in Metallic-Semiconducting-Metallic Heterophase MoS <sub>2</sub> . <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 2457-2460.	1.6	17
418	Slidable atomic layers in van der Waals heterostructures. <i>Applied Physics Express</i> , 2017, 10, 045201.	1.1	22
419	Devices and applications of van der Waals heterostructures. <i>Journal of Semiconductors</i> , 2017, 38, 031005.	2.0	30
420	Probing Evolution of Twist-Angle-Dependent Interlayer Excitons in MoSe <sub>2</sub> /WSe <sub>2</sub> van der Waals Heterostructures. <i>ACS Nano</i> , 2017, 11, 4041-4050.	7.3	227
421	Lateral heterostructures of monolayer group-IV monochalcogenides: band alignment and electronic properties. <i>Journal of Materials Chemistry C</i> , 2017, 5, 3788-3795.	2.7	94
422	Photodetectors based on junctions of two-dimensional transition metal dichalcogenides. <i>Chinese Physics B</i> , 2017, 26, 038504.	0.7	56
423	Enhanced Photoluminescence of Solution-Exfoliated Transition Metal Dichalcogenides by Laser Etching. <i>ACS Omega</i> , 2017, 2, 738-745.	1.6	13
424	Recent Advances in Ultrathin Two-Dimensional Nanomaterials. <i>Chemical Reviews</i> , 2017, 117, 6225-6331.	23.0	3,940



#	ARTICLE	IF	CITATIONS
425	Growth of Single-Crystalline Cadmium Iodide Nanoplates, CdI <sub>2</sub> /MoS <sub>2</sub> (WS <sub>2</sub> , WSe <sub>2</sub> ) van der Waals Heterostructures, and Patterned Arrays. ACS Nano, 2017, 11, 3413-3419.	7.3	59
426	Vertical heterostructures based on SnSe <sub>2</sub> /MoS <sub>2</sub> for high performance photodetectors. 2D Materials, 2017, 4, 025048.	2.0	183
427	Tuning Coupling Behavior of Stacked Heterostructures Based on MoS <sub>2</sub> , WS <sub>2</sub> , and WSe <sub>2</sub> . Scientific Reports, 2017, 7, 44712.	1.6	56
428	Controlled synthesis and mechanism of large-area WS <sub>2</sub> flakes by low-pressure chemical vapor deposition. Journal of Materials Science, 2017, 52, 7215-7223.	1.7	25
429	Transition Metal Dichalcogenide Atomic Layers for Lithium Polysulfides Electrocatalysis. Journal of the American Chemical Society, 2017, 139, 171-178.	6.6	325
430	In-Plane Mosaic Potential Growth of Large-Area 2D Layered Semiconductors MoS <sub>2</sub> and MoSe <sub>2</sub> Lateral Heterostructures and Photodetector Application. ACS Applied Materials & Interfaces, 2017, 9, 1684-1691.	4.0	93
431	2D Heterostructure coatings of BN-MoS <sub>2</sub> layers for corrosion resistance. Journal Physics D: Applied Physics, 2017, 50, 045301.	1.3	19
432	Temperature dependent Raman and photoluminescence of vertical WS <sub>2</sub> /MoS <sub>2</sub> monolayer heterostructures. Science Bulletin, 2017, 62, 16-21.	4.3	37
433	Edge-Enriched 2D MoS <sub>2</sub> Thin Films Grown by Chemical Vapor Deposition for Enhanced Catalytic Performance. ACS Catalysis, 2017, 7, 877-886.	5.5	123
434	Doping two-dimensional materials: ultra-sensitive sensors, band gap tuning and ferromagnetic monolayers. Nanoscale Horizons, 2017, 2, 72-80.	4.1	85
435	Band alignment of two-dimensional lateral heterostructures. 2D Materials, 2017, 4, 015038.	2.0	80
436	Composition-Modulated Two-Dimensional Semiconductor Lateral Heterostructures via Layer-Selected Atomic Substitution. ACS Nano, 2017, 11, 961-967.	7.3	99
437	Electronic properties of layered phosphorus heterostructures. Physical Chemistry Chemical Physics, 2017, 19, 1229-1235.	1.3	10
438	Electronic structures and transport properties of a MoS <sub>2</sub> /NbS <sub>2</sub> nanoribbon lateral heterostructure. Physical Chemistry Chemical Physics, 2017, 19, 1303-1310.	1.3	30
439	Ultrafast Interfacial Self-Assembly of 2D Transition Metal Dichalcogenides Monolayer Films and Their Vertical and In-Plane Heterostructures. ACS Applied Materials & Interfaces, 2017, 9, 1021-1028.	4.0	43
440	Solution-Mediated Growth of Two-Dimensional SnSe@GeSe Nanosheet Heterostructures. Chemistry of Materials, 2017, 29, 817-822.	3.2	18
441	Resonant photonic crystals based on van der Waals heterostructures for effective light pulse retardation. Superlattices and Microstructures, 2017, 112, 639-643.	1.4	1
442	Bandgap engineering in semiconductor alloy nanomaterials with widely tunable compositions. Nature Reviews Materials, 2017, 2, .	23.3	279

#	ARTICLE	IF	CITATIONS
443	Electronic Properties of Bulk and Monolayer TMDs: Theoretical Study Within DFT Framework (GV)â€²e Tj ETQq0 0.0 rgBT /Overlock 10	0.8	277
444	Surface State Mediated Interlayer Excitons in a 2D Nonlayeredâ€œLayered Semiconductor Heterojunction. <i>Advanced Electronic Materials</i> , 2017, 3, 1700373.	2.6	15
445	Complete Separation of Carriers in the GeS/SnS Lateral Heterostructure by Uniaxial Tensile Strain. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 40969-40977.	4.0	34
446	Exciton broadening in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle \text{WS} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle 1 \langle \text{mml:mdiv} \rangle \langle \text{mml:math} \rangle / \text{graphene heterostructures. } \textit{Physical Review B}, 2017, 96, .$	2.6	15
447	Centimeter-Scale 2D van der Waals Vertical Heterostructures Integrated on Deformable Substrates Enabled by Gold Sacrificial Layer-Assisted Growth. <i>Nano Letters</i> , 2017, 17, 6157-6165.	4.5	28
448	Synergistic effect of polymer encapsulated silver nanoparticle doped WS <sub>2</sub> sheets for plasmon enhanced 2D/3D heterojunction photodetectors. <i>Nanoscale</i> , 2017, 9, 15591-15597.	2.8	28
449	Flower-like nanoarchitecture assembled from Bi <sub>2</sub> S <sub>3</sub> nanorod/MoS <sub>2</sub> nanosheet heterostructures for high-performance supercapacitor electrodes. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2017, 535, 41-48.	2.3	64
450	Ultrafast exciton dynamics in chemical heterogenous WSe <sub>2</sub> monolayer. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 485109.	1.3	5
451	Synthesis of MoS <sub>2</sub> (1âˆ™x)Se <sub>2x</sub> and WS <sub>2</sub> (1âˆ™x)Se <sub>2x</sub> alloys for enhanced hydrogen evolution reaction performance. <i>Inorganic Chemistry Frontiers</i> , 2017, 4, 2068-2074.	3.0	27
452	Grains in Selectively Grown MoS <sub>2</sub> Thin Films. <i>Small</i> , 2017, 13, 1702256.	5.2	32
453	Competitive Growth Mechanism of WS <sub>2</sub> /MoS <sub>2</sub> Vertical Heterostructures at High Temperature. <i>Physica Status Solidi (B): Basic Research</i> , 2017, 254, 1700219.	0.7	4
454	Phase Segregation Behavior of Two-Dimensional Transition Metal Dichalcogenide Binary Alloys Induced by Dissimilar Substitution. <i>Chemistry of Materials</i> , 2017, 29, 7431-7439.	3.2	27
455	Biofunctionalized conductive polymers enable efficient CO <sub>2</sub> electroreduction. <i>Science Advances</i> , 2017, 3, e1700686.	4.7	89
456	Strain-Mediated Interlayer Coupling Effects on the Excitonic Behaviors in an Epitaxially Grown MoS <sub>2</sub> /WS <sub>2</sub> van der Waals Heterobilayer. <i>Nano Letters</i> , 2017, 17, 5634-5640.	4.5	169
457	Growth and Simultaneous Valleys Manipulation of Two-Dimensional MoSe <sub>2</sub> -WSe <sub>2</sub> Lateral Heterostructure. <i>ACS Nano</i> , 2017, 11, 8822-8829.	7.3	54
458	Electrical Breakdown of Suspended Mono- and Few-Layer Tungsten Disulfide <i>via</i> Sulfur Depletion Identified by <i>in situ</i> Atomic Imaging. <i>ACS Nano</i> , 2017, 11, 9435-9444.	7.3	16
459	Tunable and laser-reconfigurable 2D heterocrystals obtained by epitaxial stacking of crystallographically incommensurate Bi <sub>2</sub> Se <sub>3</sub> and MoS <sub>2</sub> atomic layers. <i>Science Advances</i> , 2017, 3, e1601741.	4.7	39
460	Two-Dimensional C/TiO <sub>2</sub> Heterogeneous Hybrid for Noble-Metal-Free Hydrogen Evolution. <i>ACS Catalysis</i> , 2017, 7, 6892-6900.	5.5	39

#	ARTICLE	IF	CITATIONS
461	Twinned Growth of Metal-Free, Triazine-Based Photocatalyst Films as Mixed-Dimensional (2D/3D) van der Waals Heterostructures. <i>Advanced Materials</i> , 2017, 29, 1703399.	11.1	59
462	Optimizing Nonlinear Optical Visibility of Two-Dimensional Materials. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 34448-34455.	4.0	20
463	Well-Hidden Grain Boundary in the Monolayer MoS <sub>2</sub> Formed by a Two-Dimensional Core-Shell Growth Mode. <i>ACS Nano</i> , 2017, 11, 10608-10615.	7.3	14
464	Coplanar semiconductor-metal circuitry defined on few-layer MoTe <sub>2</sub> via polymorphic heteroepitaxy. <i>Nature Nanotechnology</i> , 2017, 12, 1064-1070.	15.6	210
465	First-principles study of enhanced magnetic anisotropies in transition-metal atoms doped WS <sub>2</sub> monolayer. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 475803.	0.7	4
466	Molecular Epitaxy on Two-Dimensional Materials: The Interplay between Interactions. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 10552-10581.	1.8	29
467	Tailoring Semiconductor Lateral Multijunctions for Giant Photoconductivity Enhancement. <i>Advanced Materials</i> , 2017, 29, 1703680.	11.1	21
468	Controllable Interface Junction, In-Plane Heterostructures Capable of Mechanically Mediating On-Demand Asymmetry of Thermal Transports. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 34506-34517.	4.0	21
469	Probing the Interlayer Exciton Physics in a MoS <sub>2</sub> /MoSe <sub>2</sub> /MoS <sub>2</sub> van der Waals Heterostructure. <i>Nano Letters</i> , 2017, 17, 6360-6365.	4.5	118
470	Synthesis of Ultrathin Composition Graded Doped Lateral WSe <sub>2</sub> /WS <sub>2</sub> Heterostructures. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 34204-34212.	4.0	22
471	Tuning the p-type Schottky barrier in 2D metal/semiconductor interface: boron-sheet on MoSe <sub>2</sub> , and WSe <sub>2</sub> . <i>Journal of Physics Condensed Matter</i> , 2017, 29, 405002.	0.7	3
472	Langmuir-Blodgett Deposition of 2D Materials for Unique Identification. <i>Springer Theses</i> , 2017, , 63-88.	0.0	0
473	Nanodots of transition metal dichalcogenides embedded in MoS <sub>2</sub> and MoSe <sub>2</sub> : first-principles calculations. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 26240-26247.	1.3	0
474	Interlayer excitons in a bulk van der Waals semiconductor. <i>Nature Communications</i> , 2017, 8, 639.	5.8	76
475	Optical properties and band alignments in ZnTe nanoparticles/MoS <sub>2</sub> layer hetero-interface using SE and KPFM studies. <i>Nanotechnology</i> , 2017, 28, 445701.	1.3	15
476	Vertical versus Lateral Two-Dimensional Heterostructures: On the Topic of Atomically Abrupt p/n-Junctions. <i>Nano Letters</i> , 2017, 17, 4787-4792.	4.5	69
477	Experimental Determination of the Ionization Energies of MoSe <sub>2</sub> , WS <sub>2</sub> , and MoS <sub>2</sub> on SiO <sub>2</sub> Using Photoemission Electron Microscopy. <i>ACS Nano</i> , 2017, 11, 8223-8230.	7.3	69
478	Self-organized growth and self-assembly of nanostructures on 2D materials. <i>FlatChem</i> , 2017, 5, 50-68.	2.8	33

#	ARTICLE	IF	CITATIONS
479	NaCl-assisted one-step growth of MoS <sub>2</sub> /WS <sub>2</sub> in-plane heterostructures. Nanotechnology, 2017, 28, 325602.	1.3	85
480	Argon Plasma Induced Phase Transition in Monolayer MoS <sub>2</sub> . Journal of the American Chemical Society, 2017, 139, 10216-10219.	6.6	332
481	All-layered 2D Optoelectronics: A High-performance UV-visible-NIR Broadband SnSe Photodetector with Bi <sub>2</sub> Te <sub>3</sub> Topological Insulator Electrodes. Advanced Functional Materials, 2017, 27, 1701823.	7.8	222
482	Controlling Structural Anisotropy of Anisotropic 2D Layers in Pseudo-1D/2D Material Heterojunctions. Advanced Materials, 2017, 29, 1701201.	11.1	22
483	Few-Layered Mo <sub>2</sub> W <sub>2</sub> S <sub>2</sub> Hollow Nanospheres on Ni <sub>3</sub> S <sub>2</sub> Nanorod Heterostructure as Robust Electrocatalysts for Overall Water Splitting. ACS Applied Materials & Interfaces, 2017, 9, 26066-26076.	4.0	122
484	Ultrathin Two-Dimensional Multinary Layered Metal Chalcogenide Nanomaterials. Advanced Materials, 2017, 29, 1701392.	11.1	242
485	Tunneling Photocurrent Assisted by Interlayer Excitons in Staggered van der Waals Hetero-Bilayers. Advanced Materials, 2017, 29, 1701512.	11.1	51
486	Synthesis of WO <sub>3</sub> /WX <sub>2</sub> (x=2.7, 2.9; X=S, Se) Heterostructures for Highly Efficient Green Quantum Dot Light-Emitting Diodes. Angewandte Chemie, 2017, 129, 10622-10626.	1.6	7
487	Synthesis of WO <sub>3</sub> /WX <sub>2</sub> (x=2.7, 2.9; X=S, Se) Heterostructures for Highly Efficient Green Quantum Dot Light-Emitting Diodes. Angewandte Chemie - International Edition, 2017, 56, 10486-10490.	7.2	21
488	Imaging of Interlayer Coupling in van der Waals Heterostructures Using a Bright-Field Optical Microscope. Nano Letters, 2017, 17, 5342-5349.	4.5	74
489	Two-Dimensional Hexagonal Sheet of TiO <sub>2</sub> . Chemistry of Materials, 2017, 29, 8594-8603.	3.2	69
490	Janus Monolayer Transition-Metal Dichalcogenides. ACS Nano, 2017, 11, 8192-8198.	7.3	1,001
491	Low-Temperature Solution Synthesis of Transition Metal Dichalcogenide Alloys with Tunable Optical Properties. Journal of the American Chemical Society, 2017, 139, 11096-11105.	6.6	68
492	One-dimensional electron gas in strained lateral heterostructures of single layer materials. Scientific Reports, 2017, 7, 4316.	1.6	4
493	In-plane commensurate GaN/AlN junctions: Single-layer composite structures, single and multiple quantum wells and quantum dots. Physical Review B, 2017, 95, .	1.1	20
494	Synthesis and Physical Properties of Phase-Engineered Transition Metal Dichalcogenide Monolayer Heterostructures. ACS Nano, 2017, 11, 8619-8627.	7.3	42
495	In Situ Transmission Electron Microscopy Characterization and Manipulation of Two-Dimensional Layered Materials beyond Graphene. Small, 2017, 13, 1604259.	5.2	75
496	A facile and efficient dry transfer technique for two-dimensional Van derWaals heterostructure. Chinese Physics B, 2017, 26, 087306.	0.7	7

#	ARTICLE	IF	CITATIONS
497	Tunable electronic structure in strained two dimensional van der Waals g-C <sub>2</sub> N/XSe <sub>2</sub> (X = Mo, W) heterostructures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2017, 94, 148-152.	1.3	8
498	Contact Engineering of Molybdenum Ditelluride Field Effect Transistors through Rapid Thermal Annealing. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 30107-30114.	4.0	37
499	Temperature-Dependent Two-Dimensional Transition Metal Dichalcogenide Heterostructures: Controlled Synthesis and Their Properties. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 30821-30831.	4.0	47
500	Robust epitaxial growth of two-dimensional heterostructures, multiheterostructures, and superlattices. <i>Science</i> , 2017, 357, 788-792.	6.0	518
501	Spatially-resolved studies on the role of defects and boundaries in electronic behavior of 2D materials. <i>Progress in Surface Science</i> , 2017, 92, 176-201.	3.8	40
502	2D hetero-structures based on transition metal dichalcogenides: fabrication, properties and applications. <i>Science Bulletin</i> , 2017, 62, 1148-1161.	4.3	32
503	Structural and electronic properties of MoS <sub>2</sub> , WS <sub>2</sub> , and WS <sub>2</sub> /MoS <sub>2</sub> heterostructures encapsulated with hexagonal boron nitride monolayers. <i>Journal of Applied Physics</i> , 2017, 122, .	1.1	49
504	Van der Waals Epitaxial Growth of 2D Metallic Vanadium Diselenide Single Crystals and their Extra-High Electrical Conductivity. <i>Advanced Materials</i> , 2017, 29, 1702359.	11.1	191
505	Optical Properties of TMD Heterostructures. , 0, , 310-328.		2
506	Synthesis of Transition Metal Dichalcogenides. , 0, , 344-358.		0
507	Pulsed laser deposition for the synthesis of monolayer WSe <sub>2</sub> . <i>Applied Physics Letters</i> , 2017, 111, .	1.5	23
508	Stability, electronic and phononic properties of $\hat{I}^2$ and 1T structures of SiTe <sub>x</sub> ( $x = 1, 2$ ) and their vertical heterostructures. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 395504.	0.7	6
509	Cryo-mediated exfoliation and fracturing of layered materials into 2D quantum dots. <i>Science Advances</i> , 2017, 3, e1701500.	4.7	91
510	MoSe <sub>2</sub> Nanosheet Array with Layered MoS <sub>2</sub> Heterostructures for Superior Hydrogen Evolution and Lithium Storage Performance. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 44550-44559.	4.0	96
511	Electrostatics of lateral p-n junctions in atomically thin materials. <i>Journal of Applied Physics</i> , 2017, 122, .	1.1	36
512	van der Waals Layered Materials: Opportunities and Challenges. <i>ACS Nano</i> , 2017, 11, 11803-11830.	7.3	394
513	Toward a Mechanistic Understanding of Vertical Growth of van der Waals Stacked 2D Materials: A Multiscale Model and Experiments. <i>ACS Nano</i> , 2017, 11, 12780-12788.	7.3	89
514	Van der Waals epitaxial growth and optoelectronics of large-scale WSe <sub>2</sub> /SnS <sub>2</sub> vertical bilayer p-n junctions. <i>Nature Communications</i> , 2017, 8, 1906.	5.8	369

#	ARTICLE	IF	CITATIONS
515	Electronic and Optical Properties of Pristine and Vertical and Lateral Heterostructures of Janus MoSSe and WSSe. Journal of Physical Chemistry Letters, 2017, 8, 5959-5965.	2.1	293
516	Disparity in Photoexcitation Dynamics between Vertical and Lateral MoS <sub>2</sub> /WSe <sub>2</sub> Heterojunctions: Time-Domain Simulation Emphasizes the Importance of Donor-Acceptor Interaction and Band Alignment. Journal of Physical Chemistry Letters, 2017, 8, 5771-5778.	2.1	52
517	Ultrathin GaGeTe p-type transistors. Applied Physics Letters, 2017, 111, .	1.5	28
518	Interlayer Coupling and Gate-Tunable Excitons in Transition Metal Dichalcogenide Heterostructures. Nano Letters, 2017, 17, 7809-7813.	4.5	95
519	Recoil Effect and Photoemission Splitting of Trions in Monolayer MoS <sub>2</sub> . ACS Nano, 2017, 11, 10808-10815.	7.3	11
520	Ultrahigh-Gain and Fast Photodetectors Built on Atomically Thin Bilayer Tungsten Disulfide Grown by Chemical Vapor Deposition. ACS Applied Materials & Interfaces, 2017, 9, 42001-42010.	4.0	26
521	Moiré excitons: From programmable quantum emitter arrays to spin-orbit-coupled artificial lattices. Science Advances, 2017, 3, e1701696.	4.7	427
522	Damage-free and rapid transfer of CVD-grown two-dimensional transition metal dichalcogenides by dissolving sacrificial water-soluble layers. Nanoscale, 2017, 9, 19124-19130.	2.8	27
523	Two-dimensional van der Waals heterojunctions for functional materials and devices. Journal of Materials Chemistry C, 2017, 5, 12289-12297.	2.7	151
524	Robust Stacking-Independent Ultrafast Charge Transfer in MoS <sub>2</sub> /WS <sub>2</sub> Bilayers. ACS Nano, 2017, 11, 12020-12026.	7.3	130
525	Universal Substrate-Trapping Strategy To Grow Strictly Monolayer Transition Metal Dichalcogenides Crystals. Chemistry of Materials, 2017, 29, 6095-6103.	3.2	40
526	Atomic Structure and Dynamics of Defects in 2D MoS <sub>2</sub> Bilayers. ACS Omega, 2017, 2, 3315-3324.	1.6	32
527	Edge Epitaxy of Two-Dimensional MoSe <sub>2</sub> and MoS <sub>2</sub> Nanosheets on One-Dimensional Nanowires. Journal of the American Chemical Society, 2017, 139, 8653-8660.	6.6	118
528	2D WS <sub>2</sub> nanosheets with TiO <sub>2</sub> quantum dots decoration for high-performance ammonia gas sensing at room temperature. Sensors and Actuators B: Chemical, 2017, 253, 1034-1042.	4.0	128
529	Tailoring catalytic activities of transition metal disulfides for water splitting. FlatChem, 2017, 4, 68-80.	2.8	24
530	Layer dependence of the electronic band alignment of few-layer MoS <sub>2</sub> /Si on SiO <sub>2</sub> /Si	1.1	35
531	Two-dimensional square transition metal dichalcogenides with lateral heterostructures. Nano Research, 2017, 10, 3909-3919.	5.8	17
532	Cascaded exciton energy transfer in a monolayer semiconductor lateral heterostructure assisted by surface plasmon polariton. Nature Communications, 2017, 8, 35.	5.8	32

#	ARTICLE	IF	CITATIONS
533	Enhanced current rectification and self-powered photoresponse in multilayer p-MoTe <sub>2</sub> /n-MoS <sub>2</sub> van der Waals heterojunctions. <i>Nanoscale</i> , 2017, 9, 10733-10740.	2.8	75
534	Topological Exciton Bands in Moiré Heterojunctions. <i>Physical Review Letters</i> , 2017, 118, 147401.	2.9	248
535	KPFM and CAFM based studies of MoS <sub>2</sub> (2D)/WS <sub>2</sub> heterojunction patterns fabricated using stencil mask lithography technique. <i>Journal of Alloys and Compounds</i> , 2017, 723, 50-57.	2.8	12
536	OD-2D heterostructures of Au nanoparticles and layered MoS <sub>2</sub> for simultaneous detections of dopamine, ascorbic acid, uric acid, and nitrite. <i>Sensors and Actuators B: Chemical</i> , 2017, 253, 352-360.	4.0	72
537	Current rectification and asymmetric photoresponse in MoS <sub>2</sub> stacking-induced homojunctions. <i>2D Materials</i> , 2017, 4, 035011.	2.0	13
538	Transition metal dichalcogenides: structural, optical and electronic property tuning via thickness and stacking. <i>FlatChem</i> , 2017, 4, 1-19.	2.8	51
539	Large Area and High Quality 2D Transition Metal Telluride. <i>Advanced Materials</i> , 2017, 29, 1603471.	11.1	181
540	Electric field modulation of the band structure in MoS <sub>2</sub> /WS <sub>2</sub> van der waals heterostructure. <i>Solid State Communications</i> , 2017, 250, 9-13.	0.9	34
541	Concurrent Growth and Formation of Electrically Contacted Monolayer Transition Metal Dichalcogenides on Bulk Metallic Patterns. <i>Advanced Materials Interfaces</i> , 2017, 4, 1600599.	1.9	7
542	MoS <sub>2</sub> /Rubrene van der Waals Heterostructure: Toward Ambipolar Field Effect Transistors and Inverter Circuits. <i>Small</i> , 2017, 13, 1602558.	5.2	40
543	Highly efficient, high speed vertical photodiodes based on few-layer MoS <sub>2</sub> . <i>2D Materials</i> , 2017, 4, 015004.	2.0	22
544	Structural, magnetic and electronic properties of single Iron atom at graphene edges. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2017, 86, 243-247.	1.3	2
545	Photodetectors Based on Two-Dimensional Layered Materials Beyond Graphene. <i>Advanced Functional Materials</i> , 2017, 27, 1603886.	7.8	534
546	Type-I van der Waals heterostructure formed by MoS <sub>2</sub> and ReS <sub>2</sub> monolayers. <i>Nanoscale Horizons</i> , 2017, 2, 31-36.	4.1	179
547	Multifunctional OD-2D Ni <sub>2</sub> P Nanocrystals-Black Phosphorus Heterostructure. <i>Advanced Energy Materials</i> , 2017, 7, 1601285.	10.2	149
548	Tuning electronic properties of the S <sub>2</sub> /graphene heterojunction by strains from density functional theory. <i>Chinese Physics B</i> , 2017, 26, 127101.	0.7	1
549	Synergistic effect of rare earth metal Sm oxides and Co <sub>1-x</sub> S on sheet structure MoS <sub>2</sub> for photocatalytic hydrogen evolution. <i>RSC Advances</i> , 2017, 7, 56417-56425.	1.7	30
550	Influence of band offset, nanostructuring, and applied electric field on the optoelectronic properties of vertically stacked $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mrow} \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{MoS} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:math} \rangle \text{materials}$ . <i>Physical Review B</i> , 2017, 96, .	1.1	8

#	ARTICLE	IF	CITATIONS
551	MoS <sub>2</sub> materials synthesized on SiO <sub>2</sub> /Si substrates via MBE. Journal of Physics: Conference Series, 2017, 864, 012037.	0.3	12
552	Two Step Chemical Vapor Deposition of In <sub>2</sub> Se <sub>3</sub> /MoSe <sub>2</sub> van der Waals Heterostructures. Chinese Journal of Chemical Physics, 2017, 30, 325-332.	0.6	14
553	Noncovalent Interactions in Nanotechnology. , 2017, , 417-451.		8
554	Graphene composites with inorganic 2-D materials. , 2017, , 103-122.		1
555	Green Intelligent Nanomaterials by Design (Using Nanoparticulate/2D-Materials Building Blocks) Current Developments and Future Trends. , 2017, , .		1
556	Directly Identifying Phase Segregation in 2D Quaternary Alloys. Microscopy and Microanalysis, 2017, 23, 1438-1439.	0.2	1
557	Thin 2D: The New Dimensionality in Gas Sensing. Chemosensors, 2017, 5, 21.	1.8	101
558	Dualâ€ˆNative Vacancy Activated Basal Plane and Conductivity of MoSe <sub>2</sub> with Highâ€ˆEfficiency Hydrogen Evolution Reaction. Small, 2018, 14, e1704150.	5.2	114
559	Nanoscale Surface Photovoltage Mapping of 2D Materials and Heterostructures by Illuminated Kelvin Probe Force Microscopy. Journal of Physical Chemistry C, 2018, 122, 13564-13571.	1.5	30
560	Microsecond dark-exciton valley polarization memory in two-dimensional heterostructures. Nature Communications, 2018, 9, 753.	5.8	96
561	Quantum engineering of transistors based on 2D materials heterostructures. Nature Nanotechnology, 2018, 13, 183-191.	15.6	319
562	Nano-â€ˆSqueezeeâ€ˆfor the Creation of Clean 2D Material Interfaces. ACS Applied Materials & Interfaces, 2018, 10, 10379-10387.	4.0	124
563	Monolayer atomic crystal molecular superlattices. Nature, 2018, 555, 231-236.	18.7	323
564	Two-dimensional transition metal dichalcogenide hybrid materials for energy applications. Nano Today, 2018, 19, 16-40.	6.2	142
565	Coherent, atomically thin transition-metal dichalcogenide superlattices with engineered strain. Science, 2018, 359, 1131-1136.	6.0	247
566	A carbon science perspective in 2018: Current achievements and future challenges. Carbon, 2018, 132, 785-801.	5.4	80
567	Device physics of van der Waals heterojunction solar cells. Npj 2D Materials and Applications, 2018, 2, .	3.9	100
568	Direct and Indirect Interlayer Excitons in a van der Waals Heterostructure of hBN/WS <sub>2</sub> /MoS <sub>2</sub> /hBN. ACS Nano, 2018, 12, 2498-2505.	7.3	96



#	ARTICLE	IF	CITATIONS
569	Spatially controlled doping of two-dimensional SnS <sub>2</sub> through intercalation for electronics. <i>Nature Nanotechnology</i> , 2018, 13, 294-299.	15.6	269
570	Robust tunable excitonic features in monolayer transition metal dichalcogenide quantum dots. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 145301.	0.7	6
571	Self-Formed Channel Devices Based on Vertically Grown 2D Materials with Large Surface Area and Their Potential for Chemical Sensor Applications. <i>Small</i> , 2018, 14, e1704116.	5.2	57
572	Defect engineering of two-dimensional materials for efficient electrocatalysis. <i>Journal of Materiomics</i> , 2018, 4, 95-107.	2.8	79
573	Resonant enhancement of band-to-band tunneling in in-plane MoS <sub>2</sub> /WS <sub>2</sub> heterojunctions. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 04FP03.	0.8	5
574	In-Plane Heterostructures Enable Internal Stress Assisted Strain Engineering in 2D Materials. <i>Small</i> , 2018, 14, e1703512.	5.2	9
575	Recent progress in Van der Waals (vdW) heterojunction-based electronic and optoelectronic devices. <i>Carbon</i> , 2018, 133, 78-89.	5.4	83
576	Mechanical responses of pristine and defective C <sub>3</sub> N nanosheets studied by molecular dynamics simulations. <i>Computational Materials Science</i> , 2018, 147, 316-321.	1.4	68
577	Novel structured transition metal dichalcogenide nanosheets. <i>Chemical Society Reviews</i> , 2018, 47, 3301-3338.	18.7	303
578	Intrinsic Transport in 2D Heterostructures Mediated through h-BN Tunneling Contacts. <i>Nano Letters</i> , 2018, 18, 2990-2998.	4.5	39
579	Controlled Growth of MoS <sub>2</sub> Flakes from in-Plane to Edge-Enriched 3D Network and Their Surface-Energy Studies. <i>ACS Applied Nano Materials</i> , 2018, 1, 2356-2367.	2.4	44
580	Stacking-mode confined growth of 2H-MoTe <sub>2</sub> /MoS <sub>2</sub> bilayer heterostructures for UV-vis-IR photodetectors. <i>Nano Energy</i> , 2018, 49, 200-208.	8.2	96
581	Random anion distribution in MS <sub>x</sub> Se <sub>2-2x</sub> (M = Mo, W) crystals and nanosheets. <i>RSC Advances</i> , 2018, 8, 9871-9878.	1.7	2
582	Atomically thin p-n junctions based on two-dimensional materials. <i>Chemical Society Reviews</i> , 2018, 47, 3339-3358.	18.7	231
584	Materials-by-design: computation, synthesis, and characterization from atoms to structures. <i>Physica Scripta</i> , 2018, 93, 053003.	1.2	32
585	Carbon Quantum Dot Implanted Graphite Carbon Nitride Nanotubes: Excellent Charge Separation and Enhanced Photocatalytic Hydrogen Evolution. <i>Angewandte Chemie</i> , 2018, 130, 5867-5873.	1.6	69
586	Carbon Quantum Dot Implanted Graphite Carbon Nitride Nanotubes: Excellent Charge Separation and Enhanced Photocatalytic Hydrogen Evolution. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 5765-5771.	7.2	372
587	Interlayer Excitons with Large Optical Amplitudes in Layered van der Waals Materials. <i>Nano Letters</i> , 2018, 18, 2984-2989.	4.5	71

#	ARTICLE	IF	CITATIONS
588	Quantum oscillation in carrier transport in two-dimensional junctions. <i>Nanoscale</i> , 2018, 10, 7912-7917.	2.8	5
589	Rolling up transition metal dichalcogenide nanoscrolls via one drop of ethanol. <i>Nature Communications</i> , 2018, 9, 1301.	5.8	117
590	Deformation Mechanisms of Vertically Stacked WS <sub>2</sub> /MoS <sub>2</sub> Heterostructures: The Role of Interfaces. <i>ACS Nano</i> , 2018, 12, 4036-4044.	7.3	54
591	Electronic properties of two-dimensional in-plane heterostructures of WS <sub>2</sub> /WSe <sub>2</sub> /MoS <sub>2</sub> . <i>Materials Research Express</i> , 2018, 5, 046307.	0.8	18
592	Autonomous robotic searching and assembly of two-dimensional crystals to build van der Waals superlattices. <i>Nature Communications</i> , 2018, 9, 1413.	5.8	212
593	Minimizing residues and strain in 2D materials transferred from PDMS. <i>Nanotechnology</i> , 2018, 29, 265203.	1.3	108
594	New Approach to Unveiling Individual Atomic Layers of 2D Materials and Their Heterostructures. <i>Chemistry of Materials</i> , 2018, 30, 1718-1728.	3.2	19
595	Resonance Raman signature of intertube excitons in compositionally-defined carbon nanotube bundles. <i>Nature Communications</i> , 2018, 9, 637.	5.8	16
596	Three-Dimensional Integrated X-ray Diffraction Imaging of a Native Strain in Multi-Layered WSe <sub>2</sub> . <i>Nano Letters</i> , 2018, 18, 1993-2000.	4.5	9
597	Controllable Chemical Vapor Deposition Growth of Two-Dimensional Heterostructures. <i>CheM</i> , 2018, 4, 671-689.	5.8	84
598	Ultrasonic assisted etching and delaminating of Ti <sub>3</sub> C <sub>2</sub> Mxene. <i>Ceramics International</i> , 2018, 44, 7084-7087.	2.3	41
599	Heterostructured Bi <sub>2</sub> S <sub>3</sub> â€“Bi <sub>2</sub> O <sub>3</sub> Nanosheets with a Built-In Electric Field for Improved Sodium Storage. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 7201-7207.	4.0	153
600	Determining the Optimized Interlayer Separation Distance in Vertical Stacked 2D WS <sub>2</sub> :hBN:MoS <sub>2</sub> Heterostructures for Exciton Energy Transfer. <i>Small</i> , 2018, 14, e1703727.	5.2	54
601	2D Photovoltaic Devices: Progress and Prospects. <i>Small Methods</i> , 2018, 2, 1700294.	4.6	135
602	Impact of Polar Edge Terminations of the Transition Metal Dichalcogenide Monolayers during Vapor Growth. <i>Journal of Physical Chemistry C</i> , 2018, 122, 3575-3581.	1.5	6
603	2D Layered Materialâ€“Based van der Waals Heterostructures for Optoelectronics. <i>Advanced Functional Materials</i> , 2018, 28, 1706587.	7.8	279
604	Interlayer Trions in the MoS <sub>2</sub> /WS <sub>2</sub> van der Waals Heterostructure. <i>Nano Letters</i> , 2018, 18, 1460-1465.	4.5	56
605	Exploring Two-Dimensional Materials toward the Next-Generation Circuits: From Monomer Design to Assembly Control. <i>Chemical Reviews</i> , 2018, 118, 6236-6296.	23.0	410

#	ARTICLE	IF	CITATIONS
606	Role of Interfaces in Two-Dimensional Photocatalyst for Water Splitting. ACS Catalysis, 2018, 8, 2253-2276.	5.5	773
607	Chemical Vapor Deposition Growth and Applications of Two-Dimensional Materials and Their Heterostructures. Chemical Reviews, 2018, 118, 6091-6133.	23.0	1,000
608	Ternary Composite Nanosheets with MoS <sub>2</sub> /WS <sub>2</sub> /Graphene Heterostructures as High-Performance Cathode Materials for Supercapacitors. ChemElectroChem, 2018, 5, 1024-1031.	1.7	112
609	Phase engineering of seamless heterophase homojunctions with co-existing 3R and 2H phases in WS <sub>2</sub> monolayers. Nanoscale, 2018, 10, 3320-3330.	2.8	27
610	2D WC/WO <sub>3</sub> Heterogeneous Hybrid for Photocatalytic Decomposition of Organic Compounds with Visible-NIR Light. Advanced Functional Materials, 2018, 28, 1705357.	7.8	58
611	2D Nanomaterial Arrays for Electronics and Optoelectronics. Advanced Functional Materials, 2018, 28, 1706559.	7.8	101
612	Alpha Lead Oxide (α-PbO): A New 2D Material with Visible Light Sensitivity. Small, 2018, 14, e1703346.	5.2	58
613	Epitaxial growth of hybrid nanostructures. Nature Reviews Materials, 2018, 3, .	23.3	318
614	Franck Condon shift assessment in 2D MoS <sub>2</sub> . Journal of Physics Condensed Matter, 2018, 30, 095501.	0.7	8
615	Theory of optical absorption by interlayer excitons in transition metal dichalcogenide heterobilayers. Physical Review B, 2018, 97, .	1.1	199
616	Synthesis of In-Plane Artificial Lattices of Monolayer Multijunctions. Advanced Materials, 2018, 30, 1704796.	11.1	35
617	Rediscovering the MP <sub>15</sub> Family (M = Li, Na, and K) as an Anisotropic Layered Semiconducting Material. Journal of Physical Chemistry Letters, 2018, 9, 732-738.	2.1	15
618	Growth and microstructural evolution of WS <sub>2</sub> nanostructures with tunable field and light modulated electrical transport. Applied Surface Science, 2018, 436, 846-853.	3.1	18
619	Mechanical Properties of 2D Materials Studied by In Situ Microscopy Techniques. Advanced Materials Interfaces, 2018, 5, 1701246.	1.9	71
620	Atomically Thin Mesoporous In <sub>2</sub> O <sub>3</sub> Lateral Heterostructures Enabling Robust Broadband Light Photoelectrochemical Water Splitting. Advanced Energy Materials, 2018, 8, 1701114.	10.2	106
621	Vertically-heterostructured TiO <sub>2</sub> -Ag-rGO ternary nanocomposite constructed with {001} faceted TiO <sub>2</sub> nanosheets for enhanced Pt-free hydrogen production. International Journal of Hydrogen Energy, 2018, 43, 1508-1515.	3.8	25
622	Atom-Dependent Edge-Enhanced Second-Harmonic Generation on MoS <sub>2</sub> Monolayers. Nano Letters, 2018, 18, 793-797.	4.5	51
623	Strain distributions and their influence on electronic structures of WSe <sub>2</sub> /MoS <sub>2</sub> laterally strained heterojunctions. Nature Nanotechnology, 2018, 13, 152-158.	15.6	206

#	ARTICLE	IF	CITATIONS
624	Space-confined vapor deposition synthesis of two dimensional materials. Nano Research, 2018, 11, 2909-2931.	5.8	76
625	Low-dimensional catalysts for hydrogen evolution and CO2 reduction. Nature Reviews Chemistry, 2018, 2, .	13.8	631
626	Two-Dimensional Pyramid-like WS <sub>2</sub> Layered Structures for Highly Efficient Edge Second-Harmonic Generation. ACS Nano, 2018, 12, 689-696.	7.3	63
627	One-pot growth of two-dimensional lateral heterostructures via sequential edge-epitaxy. Nature, 2018, 553, 63-67.	13.7	394
628	Novel Optoelectronic Devices: Transition Metal Dichalcogenide Based 2D Heterostructures. Advanced Electronic Materials, 2018, 4, 1700335.	2.6	91
629	Lateral and Vertical Heterostructures of Transition Metal Dichalcogenides. Journal of Physical Chemistry C, 2018, 122, 1547-1555.	1.5	26
630	Probing Exciton Complexes and Charge Distribution in Inkslab-Like WSe <sub>2</sub> Homojunction. ACS Nano, 2018, 12, 4959-4967.	7.3	21
631	MoS <sub>2</sub> /ZnO van der Waals heterostructure as a high-efficiency water splitting photocatalyst: a first-principles study. Physical Chemistry Chemical Physics, 2018, 20, 13394-13399.	1.3	292
632	Humidity Sensing Properties of Coexfoliated Heterogeneous WS <sub>2</sub> /WSe <sub>2</sub> Nanohybrids. IEEE Nanotechnology Magazine, 2018, 17, 582-589.	1.1	15
633	Double Indirect Interlayer Exciton in a MoSe <sub>2</sub> /WSe <sub>2</sub> van der Waals Heterostructure. ACS Nano, 2018, 12, 4719-4726.	7.3	160
634	Strain relaxation via formation of cracks in compositionally modulated two-dimensional semiconductor alloys. Npj 2D Materials and Applications, 2018, 2, .	3.9	23
635	Distinct Photoluminescence in Multilayered van der Waals Heterostructures of MoS <sub>2</sub> /WS <sub>2</sub> /ReS <sub>2</sub> and BN. Physica Status Solidi (B): Basic Research, 2018, 255, 1700691.	0.7	9
636	Phase Engineered Type-II Multimetal Selenide Heterostructures toward Low Power Consumption, Flexible, Transparent, and Wide Spectrum Photoresponse Photodetectors. Small, 2018, 14, e1704052.	5.2	32
637	One-Step Synthesis of Metal/Semiconductor Heterostructure NbS <sub>2</sub> /MoS <sub>2</sub> . Chemistry of Materials, 2018, 30, 4001-4007.	3.2	85
638	Low-temperature, plasma assisted, cyclic synthesis of MoS <sub>2</sub> . Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2018, 36, .	0.6	6
639	Sulfur-vacancy-dependent geometric and electronic structure of bismuth adsorbed on $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \langle \text{mml:mrow} \langle \text{mml:mi} \text{Mo} \langle \text{mml:msub} \langle \text{mml:mi} \text{S} \langle \text{mml:mi} \text{S} \langle \text{mml:mn} 2 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle .$	1.1	4
640	Raman spectroscopy characterization of two-dimensional materials. Chinese Physics B, 2018, 27, 037802.	0.7	38
641	Emergence of photoluminescence on bulk MoS <sub>2</sub> by laser thinning and gold particle decoration. Nano Research, 2018, 11, 4574-4586.	5.8	30

#	ARTICLE	IF	CITATIONS
642	Toward High-Performance Photodetectors Based on 2D Materials: Strategy on Methods. <i>Small Methods</i> , 2018, 2, 1700349.	4.6	118
643	Simultaneous assembly of van der Waals heterostructures into multiple nanodevices. <i>Nanoscale</i> , 2018, 10, 7966-7970.	2.8	17
644	Two-dimensional halide perovskite nanomaterials and heterostructures. <i>Chemical Society Reviews</i> , 2018, 47, 6046-6072.	18.7	339
645	Lateral Heterostructures Formed by Thermally Converting n-Type SnSe <sub>2</sub> to p-Type SnSe. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 12831-12838.	4.0	37
646	Dislocation-driven growth of two-dimensional lateral quantum-well superlattices. <i>Science Advances</i> , 2018, 4, eaap9096.	4.7	38
647	Emerging Two-Dimensional Nanomaterials for Electrocatalysis. <i>Chemical Reviews</i> , 2018, 118, 6337-6408.	23.0	1,552
648	Chemical synthesis of two-dimensional atomic crystals, heterostructures and superlattices. <i>Chemical Society Reviews</i> , 2018, 47, 3129-3151.	18.7	132
649	Band-offset-induced lateral shift of valley electrons in ferromagnetic MoS <sub>2</sub> /WS <sub>2</sub> planar heterojunctions. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	11
650	Epitaxial Growth of Two-Dimensional Layered Transition-Metal Dichalcogenides: Growth Mechanism, Controllability, and Scalability. <i>Chemical Reviews</i> , 2018, 118, 6134-6150.	23.0	285
651	Towards band structure and band offset engineering of monolayer Mo (1 <sup>st</sup> ) / WS <sub>2</sub> via Strain. <i>2D Materials</i> , 2018, 5, 015008.	2.0	28
652	Graphene-based heterojunction photocatalysts. <i>Applied Surface Science</i> , 2018, 430, 53-107.	3.1	386
653	Charge trapping and coalescence dynamics in few layer MoS <sub>2</sub> . <i>2D Materials</i> , 2018, 5, 015011.	2.0	20
654	Enhanced reversible lithium ion storage in stable 1T@2H WS <sub>2</sub> nanosheet arrays anchored on carbon fiber. <i>Electrochimica Acta</i> , 2018, 259, 1-8.	2.6	49
655	Effect of UV Irradiation and Heat Treatment on the Surface Potential Distribution of Monolayer WS <sub>2</sub> on SiO <sub>2</sub> /Si and Au Substrates. <i>Advanced Materials Interfaces</i> , 2018, 5, 1701083.	1.9	7
656	Growth control, interface behavior, band alignment, and potential device applications of 2D lateral heterostructures. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2018, 8, e1353.	6.2	37
657	Multimodal Kelvin Probe Force Microscopy Investigations of a Photovoltaic WSe <sub>2</sub> /MoS <sub>2</sub> Type-II Interface. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 1363-1373.	4.0	58
658	Design lateral heterostructure of monolayer ZrS <sub>2</sub> and HfS <sub>2</sub> from first principles calculations. <i>Applied Surface Science</i> , 2018, 436, 919-926.	3.1	33
659	Bi SPR-Promoted Z-Scheme Bi <sub>2</sub> MoO <sub>6</sub> /CdS-Diethylenetriamine Composite with Effectively Enhanced Visible Light Photocatalytic Hydrogen Evolution Activity and Stability. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 696-706.	3.2	240

#	ARTICLE	IF	CITATIONS
660	Ultrafast, Ultrafast, and Self-Powered Visible-Near-Infrared Optical Position-Sensitive Detector Based on a CVD-Prepared Vertically Standing Few-Layer MoS <sub>2</sub> /Si Heterojunction. <i>Advanced Science</i> , 2018, 5, 1700502.	5.6	87
661	Sub-nanometre channels embedded in two-dimensional materials. <i>Nature Materials</i> , 2018, 17, 129-133.	13.3	97
662	Two-step synthesis and characterization of vertically stacked SnS <sub>2</sub> /WS <sub>2</sub> and SnS <sub>2</sub> /MoS <sub>2</sub> heterojunctions. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 889-897.	1.3	28
663	Group 6 transition metal dichalcogenide nanomaterials: synthesis, applications and future perspectives. <i>Nanoscale Horizons</i> , 2018, 3, 90-204.	4.1	309
664	Rational and green synthesis of novel two-dimensional WS <sub>2</sub> /MoS <sub>2</sub> heterojunction via direct exfoliation in ethanol-water targeting advanced visible-light-responsive photocatalytic performance. <i>Journal of Colloid and Interface Science</i> , 2018, 513, 389-399.	5.0	76
665	Lateral heterostructures of two-dimensional materials by electron-beam induced stitching. <i>Carbon</i> , 2018, 128, 106-116.	5.4	20
666	Chemical vapor deposition growth of two-dimensional heterojunctions. <i>Science China: Physics, Mechanics and Astronomy</i> , 2018, 61, 1.	2.0	52
667	Microwave-assisted mass synthesis of Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> alloy composites with a tunable lithium storage property. <i>Dalton Transactions</i> , 2018, 47, 15148-15154.	1.6	9
668	Development of a WS <sub>2</sub> /MoTe <sub>2</sub> heterostructure as a counter electrode for the improved performance in dye-sensitized solar cells. <i>Inorganic Chemistry Frontiers</i> , 2018, 5, 3178-3183.	3.0	27
669	Gate-tunable and high optoelectronic performance in multilayer WSe <sub>2</sub> P-N diode. <i>Journal of Materials Chemistry C</i> , 2018, 6, 11673-11678.	2.7	23
670	Fabrication of a high performance ZnIn <sub>2</sub> S <sub>4</sub> /Si heterostructure photodetector array for weak signal detection. <i>Journal of Materials Chemistry C</i> , 2018, 6, 12928-12939.	2.7	25
671	Near Perfect Neural Critic from Motor Cortical Activity Toward an Autonomously Updating Brain Machine Interface. , 2018, 2018, 73-76.		19
672	Micro-Extinction Spectroscopy (MEs): a versatile optical characterization technique. <i>Advanced Structural and Chemical Imaging</i> , 2018, 4, .	4.0	16
673	Synthesis of Two-Dimensional (2-D) Polymer in the Realm of Liquid-Liquid Interfaces. , 2018, , 453-471.		3
675	Ultrafast formation and dynamics of interlayer exciton in a large-area CVD-grown WS <sub>2</sub> /WSe <sub>2</sub> heterostructure. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 495701.	0.7	16
676	Evolution of Two-Dimensional Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> Alloy-Based Vertical Heterostructures with Various Composition Ranges via Manipulating the Mo/W Superconductivity in the metastable $\sqrt{3} \times \sqrt{3}$ phase. <i>ACS Nano</i> , 2018, 12, 28337-28346.	1.5	17
677	Theoretical Insights into Interfacial Electron Transfer between Zinc Phthalocyanine and Molybdenum Disulfide. <i>Journal of Physical Chemistry A</i> , 2018, 122, 9587-9596.	1.1	28

#	ARTICLE	IF	CITATIONS
679	Growth Mechanisms and Electronic Properties of Vertically Aligned MoS <sub>2</sub> . Scientific Reports, 2018, 8, 16480.	1.6	28
680	<i>Colloquium</i> : Phononic thermal properties of two-dimensional materials. Reviews of Modern Physics, 2018, 90, .	16.4	238
681	Anisotropic Thermal Conduction in Transition Metal Dichalcogenide Nanocomposites with Rough Interfaces. Nanomaterials, 2018, 8, 1054.	1.9	2
682	2D-Layer-Dependent Behavior in Lateral Au/WS <sub>2</sub> /Graphene Photodiode Devices with Optical Modulation of Schottky Barriers. ACS Applied Nano Materials, 2018, 1, 6874-6881.	2.4	22
683	Poly(diallyldimethylammonium chloride)-Induced Dispersion and Exfoliation of Tungsten Disulfide for the Sensing of Glutathione and Catalytic Hydrogenation of <i>p</i> -Nitrophenol. ACS Applied Nano Materials, 2018, 1, 6808-6817.	2.4	20
684	Atomic scale depletion region at one dimensional MoSe <sub>2</sub> -WSe <sub>2</sub> heterointerface. Applied Physics Letters, 2018, 113, .	1.5	12
685	Growth of Large-Area SnS Films with Oriented 2D SnS Layers for Energy-Efficient Broadband Optoelectronics. Advanced Functional Materials, 2018, 28, 1804737.	7.8	42
686	Band Structure Engineering in 2D Materials for Optoelectronic Applications. Advanced Materials Technologies, 2018, 3, 1800072.	3.0	78
687	Optoelectronics with single layer group-VIB transition metal dichalcogenides. Nanophotonics, 2018, 7, 1589-1600.	2.9	18
688	Recent Advances in Synthesis and Assembly of van der Waals Materials. Journal of the Korean Physical Society, 2018, 73, 805-816.	0.3	11
689	Recent Advances in Synthesis and Applications of 2D Junctions. Small, 2018, 14, e1801606.	5.2	19
690	The impact of substrate surface defects on the properties of two-dimensional van der Waals heterostructures. Nanoscale, 2018, 10, 19212-19219.	2.8	10
691	Electrical-Equivalent van der Waals Gap for Two-Dimensional Bilayers. Physical Review Applied, 2018, 10, .	1.5	5
692	Engineering Defect Transition-Levels through the van der Waals Heterostructure. Journal of Physical Chemistry C, 2018, 122, 24475-24480.	1.5	27
693	Diverse Atomically Sharp Interfaces and Linear Dichroism of 1T' ReS <sub>2</sub> -ReSe <sub>2</sub> Lateral $\pi$ -n Heterojunctions. Advanced Functional Materials, 2018, 28, 1804696.	7.8	50
694	Controlled crack propagation for atomic precision handling of wafer-scale two-dimensional materials. Science, 2018, 362, 665-670.	6.0	208
695	Vertical-Tunnel Field-Effect Transistor Based on a Silicon-MoS <sub>2</sub> Three-Dimensional-Two-Dimensional Heterostructure. ACS Applied Materials & Interfaces, 2018, 10, 40212-40218.	4.0	34
696	High performance WTe <sub>2</sub> -MoS <sub>2</sub> in-plane heterojunction Tunnel Field Effect Transistors. , 2018, , .		1

#	ARTICLE	IF	CITATIONS
697	Simple One-Step Fabrication of Semiconductive Lateral Heterostructures Using Bipolar Electrodeposition. <i>Physica Status Solidi - Rapid Research Letters</i> , 2018, 12, 1800418.	1.2	13
698	Multicolor Heterostructures of Two-Dimensional Layered Halide Perovskites that Show Interlayer Energy Transfer. <i>Journal of the American Chemical Society</i> , 2018, 140, 15675-15683.	6.6	95
699	Synthesis and Properties of 2D Semiconductors. Springer Theses, 2018, , 21-43.	0.0	1
700	Atomically Thin Resonant Tunnel Diodes. Springer Theses, 2018, , 113-125.	0.0	0
701	Photocatalytic Reduction on Bismuth-Based <i>pn</i> -Block Semiconductors. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 15936-15953.	3.2	62
702	Strain-Induced Band Structure Modulation in Hexagonal Boron Phosphide/Blue Phosphorene vdW Heterostructure. <i>Journal of Physical Chemistry C</i> , 2018, 122, 26120-26129.	1.5	28
703	High-Performance Two-Dimensional Schottky Diodes Utilizing Chemical Vapour Deposition-Grown Graphene-MoS <sub>2</sub> Heterojunctions. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 37258-37266.	4.0	30
704	Recent Advances in van der Waals Heterojunctions Based on Semiconducting Transition Metal Dichalcogenides. <i>Advanced Electronic Materials</i> , 2018, 4, 1800270.	2.6	25
705	Controllable epitaxial growth of MoSe <sub>2</sub> -MoS <sub>2</sub> lateral heterostructures with tunable electrostatic properties. <i>Nanotechnology</i> , 2018, 29, 484003.	1.3	8
706	Chemical vapor deposition of WS <sub>2</sub> /Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> /MoS <sub>2</sub> lateral heterostructures. <i>Superlattices and Microstructures</i> , 2018, 123, 323-329.	1.4	3
707	Interface Engineering of Metal Oxynitride Lateral Heterojunctions for Photocatalytic and Optoelectronic Applications. <i>Journal of Physical Chemistry C</i> , 2018, 122, 22504-22511.	1.5	6
708	Interface excitons at lateral heterojunctions in monolayer semiconductors. <i>Physical Review B</i> , 2018, 98, .	1.1	28
709	Two-Dimensional MoxW1-xS <sub>2</sub> Graded Alloys: Growth and Optical Properties. <i>Scientific Reports</i> , 2018, 8, 12889.	1.6	24
710	Band offset and an ultra-fast response UV-VIS photodetector in In <sub>2</sub> Se <sub>3</sub> /p-Si heterojunction heterostructures. <i>RSC Advances</i> , 2018, 8, 29555-29561.	1.7	17
711	Realization of vertical metal semiconductor heterostructures via solution phase epitaxy. <i>Nature Communications</i> , 2018, 9, 3611.	5.8	49
712	Edge decoration of MoS <sub>2</sub> monolayer with ferromagnetic CoFe nanoparticles. <i>Materials Research Express</i> , 2018, 5, 115010.	0.8	2
713	Enhancement of Out-of-Plane Charge Transport in a Vertically Stacked Two-Dimensional Heterostructure Using Point Defects. <i>ACS Nano</i> , 2018, 12, 10529-10536.	7.3	56
714	Synthetic Lateral Metal-Semiconductor Heterostructures of Transition Metal Disulfides. <i>Journal of the American Chemical Society</i> , 2018, 140, 12354-12358.	6.6	85



#	ARTICLE	IF	CITATIONS
715	Vertical-tunneling field-effect transistor based on MoTe <sub>2</sub> /MoS <sub>2</sub> 2D/2D heterojunction. Journal Physics D: Applied Physics, 2018, 51, 475101.	1.3	26
716	Composition modulation in one-dimensional and two-dimensional chalcogenide semiconductor nanostructures. Chemical Society Reviews, 2018, 47, 7504-7521.	18.7	99
717	Writing monolithic integrated circuits on a two-dimensional semiconductor with a scanning light probe. Nature Electronics, 2018, 1, 512-517.	13.1	74
718	Chemical Vapor Deposition Grown Wafer-Scale 2D Tantalum Diselenide with Robust Charge-Density-Wave Order. Advanced Materials, 2018, 30, e1804616.	11.1	63
719	Step-like band alignment and stacking-dependent band splitting in trilayer TMD heterostructures. Physical Chemistry Chemical Physics, 2018, 20, 25000-25008.	1.3	13
720	Thermally Induced 2D Alloy-Heterostructure Transformation in Quaternary Alloys. Advanced Materials, 2018, 30, e1804218.	11.1	29
721	Atomically sharp interlayer stacking shifts at anti-phase grain boundaries in overlapping MoS <sub>2</sub> secondary layers. Nanoscale, 2018, 10, 16692-16702.	2.8	22
722	Efficient and Layer-Dependent Exciton Pumping across Atomically Thin Organic-Inorganic Type-II Heterostructures. Advanced Materials, 2018, 30, e1803986.	11.1	79
723	BiOI/BiVO <sub>4</sub> Two-Dimensional Heteronanostructures for Visible-Light Photocatalytic Degradation of Rhodamine B. ACS Applied Nano Materials, 2018, 1, 5128-5141.	2.4	47
724	<i>In situ</i> exploration of the thermodynamic evolution properties in the type II interface from the WSe <sub>2</sub> /WS <sub>2</sub> lateral heterojunction. Nanotechnology, 2018, 29, 435703.	1.3	7
725	Epitaxial growth of $\sqrt{3} \times \sqrt{3}$ -InSe and $\sqrt{3} \times \sqrt{3}$ , $\sqrt{2} \times \sqrt{2}$ , and $\sqrt{3} \times \sqrt{3}$ -In <sub>2</sub> Se <sub>3</sub> on $\sqrt{3} \times \sqrt{3}$ -GaSe. 2D Materials, 2018, 5, 035026.	2.0	98
726	In-situ fabrication of MoS <sub>6</sub> -nanowire-terminated edges in monolayer molybdenum disulfide. Nano Research, 2018, 11, 5849-5857.	5.8	32
727	Phonon-coupled ultrafast interlayer charge oscillation at van der Waals heterostructure interfaces. Physical Review B, 2018, 97, .	1.1	81
728	Conversion of Single Crystal (NH <sub>4</sub> ) <sub>2</sub> Mo <sub>3</sub> S <sub>13</sub> ·H <sub>2</sub> O to Isomorphic Pseudocrystals of MoS <sub>2</sub> Nanoparticles. Chemistry of Materials, 2018, 30, 3847-3853.	3.2	14
729	Atomically Resolved Observation of Continuous Interfaces between an As-Grown MoS <sub>2</sub> Monolayer and a WS <sub>2</sub> /MoS <sub>2</sub> Heterobilayer on SiO <sub>2</sub> . ACS Applied Nano Materials, 2018, 1, 2041-2048.	2.4	13
730	Theoretical design of blue phosphorene/arsenene lateral heterostructures with superior electronic properties. Journal Physics D: Applied Physics, 2018, 51, 255304.	1.3	28
731	Controllable solution-fabrication of triphasic 2H@1T-MoS <sub>2</sub> /graphene heterostructure with assistance of supercritical CO <sub>2</sub> . Surfaces and Interfaces, 2018, 12, 41-49.	1.5	9
732	Strain-Driven and Layer-Number-Dependent Crossover of Growth Mode in van der Waals Heterostructures: 2D/2D Layer-by-Layer Horizontal Epitaxy to 2D/3D Vertical Reorientation. Advanced Materials Interfaces, 2018, 5, 1800382.	1.9	35



#	ARTICLE	IF	CITATIONS
752	Visualized charge transfer processes in monolayer composition-graded WS <sub>2</sub> /Se <sub>2</sub> (1-x) lateral heterojunctions via ultrafast microscopy mapping. Optics Express, 2018, 26, 15867.	1.7	15
753	Optical properties and applications for MoS <sub>2</sub> -Sb <sub>2</sub> Te <sub>3</sub> -MoS <sub>2</sub> heterostructure materials. Photonics Research, 2018, 6, 220.	3.4	141
754	Low Threshold Fabry-Pérot Mode Lasing from Lead Iodide Trapezoidal Nanoplatelets. Small, 2018, 14, e1801938.	5.2	17
755	Chemically Derived Kirigami of WSe <sub>2</sub> . Journal of the American Chemical Society, 2018, 140, 10980-10987.	6.6	33
756	Interface Characterization and Control of 2D Materials and Heterostructures. Advanced Materials, 2018, 30, e1801586.	11.1	134
757	Controlled sulfurization of DC sputtered Mo and W thin films for CVD growth of MoS <sub>2</sub> /WS <sub>2</sub> heterostructures. Materials Research Express, 2018, 5, 086405.	0.8	2
758	Low-Temperature Eutectic Synthesis of PtTe <sub>2</sub> with Weak Antilocalization and Controlled Layer Thinning. Advanced Functional Materials, 2018, 28, 1803746.	7.8	70
759	Tuning electronic and transport properties of MoS <sub>2</sub> /Ti <sub>2</sub> C heterostructure by external strain and electric field. Computational Materials Science, 2018, 153, 417-423.	1.4	14
760	A progressive metal-semiconductor transition in two-faced Janus monolayer transition-metal chalcogenides. Physical Chemistry Chemical Physics, 2018, 20, 21113-21118.	1.3	16
761	Vertically trigonal WS <sub>2</sub> layer embedded heterostructure for enhanced ultraviolet-visible photodetector. Journal of Alloys and Compounds, 2018, 768, 143-149.	2.8	28
762	Strain-mediated stability and electronic properties of WS <sub>2</sub> , Janus WSSe and WSe <sub>2</sub> monolayers. Superlattices and Microstructures, 2018, 122, 268-279.	1.4	51
763	Various Structures of 2D Transition-Metal Dichalcogenides and Their Applications. Small Methods, 2018, 2, 1800094.	4.6	107
764	Electric structure and optical properties of ReS <sub>2</sub> nanomaterials. Superlattices and Microstructures, 2018, 122, 262-267.	1.4	8
765	Electronics and Optoelectronics Based on Two-Dimensional Materials. Journal of the Korean Physical Society, 2018, 73, 1-15.	0.3	16
766	A broadband, self-biased photodiode based on antimony telluride (Sb <sub>2</sub> Te <sub>3</sub> ) nanocrystals/silicon heterostructures. Nanoscale, 2018, 10, 15003-15009.	2.8	27
767	Van der Waals Heterostructure Based Field Effect Transistor Application. Crystals, 2018, 8, 8.	1.0	24
768	Production Methods of Van der Waals Heterostructures Based on Transition Metal Dichalcogenides. Crystals, 2018, 8, 35.	1.0	47
769	Progress on Crystal Growth of Two-Dimensional Semiconductors for Optoelectronic Applications. Crystals, 2018, 8, 252.	1.0	7

#	ARTICLE	IF	CITATIONS
770	Plasma-Induced Phase Transformation of SnS <sub>2</sub> to SnS. Scientific Reports, 2018, 8, 10284.	1.6	35
771	Quantum plasmonic hot-electron injection in lateral WSe <sub>2</sub> /MoSe <sub>2</sub> heterostructures. Physical Review B, 2018, 98, .	1.1	31
772	Gate Tunable Transport in Graphene/MoS <sub>2</sub> /(Cr/Au) Vertical Field-Effect Transistors. Nanomaterials, 2018, 8, 14.	1.9	22
773	Emerging nanofabrication and quantum confinement techniques for 2D materials beyond graphene. Npj 2D Materials and Applications, 2018, 2, .	3.9	117
774	A vertical WSe <sub>2</sub> /MoSe <sub>2</sub> heterostructure with tunable gate rectification. RSC Advances, 2018, 8, 25514-25518.	1.7	23
775	2D library beyond graphene and transition metal dichalcogenides: a focus on photodetection. Chemical Society Reviews, 2018, 47, 6296-6341.	18.7	207
776	Interlayer screening effects in WS <sub>2</sub> /WSe <sub>2</sub> van der Waals hetero-bilayer. 2D Materials, 2018, 5, 041003.	2.0	18
777	One-Dimensional Spin Channel in Two-Dimensional Transition Metal Dichalcogenide Heterostructures. IEEE Nanotechnology Magazine, 2018, 17, 1053-1057.	1.1	5
778	Wafer-scale synthesis of a uniform film of few-layer MoS <sub>2</sub> on GaN for 2D heterojunction ultraviolet photodetector. Journal Physics D: Applied Physics, 2018, 51, 374003.	1.3	49
779	A new generation of high performance anode materials with semiconductor heterojunction structure of SnSe/SnO <sub>2</sub> @Cr in lithium-ion batteries. Chemical Engineering Journal, 2018, 347, 552-562.	6.6	91
780	Engineering graphene and TMDs based van der Waals heterostructures for photovoltaic and photoelectrochemical solar energy conversion. Chemical Society Reviews, 2018, 47, 4981-5037.	18.7	344
781	Synthesis of 2D Metal Chalcogenide Thin Films through the Process Involving Solution-Phase Deposition. Advanced Materials, 2018, 30, e1707577.	11.1	43
782	Photoinduced Orientation-Dependent Interlayer Carrier Transportation in Cross-Stacked Black Phosphorus van der Waals Junctions. Advanced Materials Interfaces, 2018, 5, 1800964.	1.9	8
783	Three-Dimensional Atomistic Tomography of W-Based Alloyed Two-Dimensional Transition Metal Dichalcogenides. ACS Applied Materials & Interfaces, 2018, 10, 30640-30648.	4.0	3
784	Light Emission Properties of 2D Transition Metal Dichalcogenides: Fundamentals and Applications. Advanced Optical Materials, 2018, 6, 1800420.	3.6	88
785	Interlayer valley excitons in heterobilayers of transition metal dichalcogenides. Nature Nanotechnology, 2018, 13, 1004-1015.	15.6	373
786	Electronic and optical properties of heterostructures based on transition metal dichalcogenides and graphene-like zinc oxide. Scientific Reports, 2018, 8, 12009.	1.6	173
787	Disorder enhanced thermal conductivity anisotropy in two-dimensional materials and van der Waals heterostructures. Journal of Applied Physics, 2018, 124, .	1.1	20

#	ARTICLE	IF	CITATIONS
788	Hole doping in epitaxial MoSe <sub>2</sub> monolayer by nitrogen plasma treatment. 2D Materials, 2018, 5, 041005.	2.0	16
789	Band Alignment Engineering in Two-Dimensional Lateral Heterostructures. Journal of the American Chemical Society, 2018, 140, 11193-11197.	6.6	136
790	New Pathway for Hot Electron Relaxation in Two-Dimensional Heterostructures. Nano Letters, 2018, 18, 6057-6063.	4.5	49
791	Synthesis of transition metal dichalcogenides and their heterostructures. Materials Research Express, 2018, 5, 095904.	0.8	7
792	Dislocation-Driven Growth of Two-Dimensional Lateral Quantum Well Superlattices. Microscopy and Microanalysis, 2018, 24, 88-89.	0.2	0
793	Resonant energy transfer in a van der Waals stacked MoS <sub>2</sub> functionalized graphene quantum dot composite with <i>ab initio</i> validation. Nanoscale, 2018, 10, 16822-16829.	2.8	10
794	Independent Band Modulation in 2D van der Waals Heterostructures via a Novel Device Architecture. Advanced Science, 2018, 5, 1800237.	5.6	36
795	Moiré Phonons in Twisted Bilayer MoS <sub>2</sub> . ACS Nano, 2018, 12, 8770-8780.	7.3	149
796	Recent advances in the preparation, characterization, and applications of two-dimensional heterostructures for energy storage and conversion. Journal of Materials Chemistry A, 2018, 6, 21747-21784.	5.2	85
797	Nanoscale interfaces made easily. Nature, 2018, 553, 32-34.	13.7	2
798	Edge Epitaxial Growth of 2D NbS <sub>2</sub> WS <sub>2</sub> Lateral Metal-Semiconductor Heterostructures. Advanced Materials, 2018, 30, e1803665.	11.1	109
799	Effects of a magnetic field on the optoelectronic properties of mono- and bi-layer transition metal dichalcogenides. Journal of Physics Condensed Matter, 2018, 30, 275502.	0.7	1
800	Morphology Engineering in Monolayer MoS <sub>2</sub> WS <sub>2</sub> Lateral Heterostructures. Advanced Functional Materials, 2018, 28, 1801568.	7.8	67
801	Chalcogen Precursor Effect on Cold-Wall Gas-Source Chemical Vapor Deposition Growth of WS <sub>2</sub> . Crystal Growth and Design, 2018, 18, 4357-4364.	1.4	48
802	Improved Hydrogen Evolution Reaction Performance using MoS <sub>2</sub> WS <sub>2</sub> Heterostructures by Physicochemical Process. ACS Sustainable Chemistry and Engineering, 2018, 6, 8400-8409.	3.2	111
803	Single-Crystalline Nanobelts Composed of Transition Metal Ditellurides. Advanced Materials, 2018, 30, e1707260.	11.1	18
804	Monolayer Transition Metal Dichalcogenides as Light Sources. Advanced Materials, 2018, 30, e1707627.	11.1	76
805	Effect of ZnO nanoparticles doping on the optical properties of TiS <sub>2</sub> discs. Optik, 2018, 171, 183-189.	1.4	8

#	ARTICLE	IF	CITATIONS
806	Self-powered photovoltaic photodetector established on lateral monolayer MoS <sub>2</sub> -WS <sub>2</sub> heterostructures. Nano Energy, 2018, 51, 45-53.	8.2	209
807	Photocarrier Transfer across Monolayer MoS <sub>2</sub> –MoSe <sub>2</sub> Lateral Heterojunctions. ACS Nano, 2018, 12, 7086-7092.	7.3	25
808	Building Close Ties Between CO <sub>2</sub> and Functional Two-Dimensional Nanomaterials with Green Chemistry Strategy. Energy and Environmental Materials, 2018, 1, 46-60.	7.3	26
809	Spin polarized vertical transport in stacked TMDCs hetero-junctions. Semiconductor Science and Technology, 2018, 33, 075018.	1.0	6
810	Bilayers of Janus WSSe: monitoring the stacking type <i>via</i> the vibrational spectrum. Physical Chemistry Chemical Physics, 2018, 20, 17380-17386.	1.3	56
811	Interlayer coupling and electric field tunable electronic properties and Schottky barrier in a graphene/bilayer-GaSe van der Waals heterostructure. Physical Chemistry Chemical Physics, 2018, 20, 17899-17908.	1.3	99
812	Realization of In-Plane $\pi$ Junctions with Continuous Lattice of a Homogeneous Material. Advanced Materials, 2018, 30, e1802065.	11.1	17
813	Determination of band alignment at two-dimensional MoS <sub>2</sub> /Si van der Waals heterojunction. Journal of Applied Physics, 2018, 123, .	1.1	19
814	Interface-Assisted Synthesis of 2D Materials: Trend and Challenges. Chemical Reviews, 2018, 118, 6189-6235.	23.0	505
815	Surface Engineering of Two-Dimensional Materials. ChemNanoMat, 2019, 5, 6-23.	1.5	22
816	Many-Body Complexes in 2D Semiconductors. Advanced Materials, 2019, 31, e1706945.	11.1	255
817	Misfit Strain-Induced Buckling for Transition-Metal Dichalcogenide Lateral Heterostructures: A Molecular Dynamics Study. Acta Mechanica Solida Sinica, 2019, 32, 17-28.	1.0	45
818	A machine perspective of atomic defects in scanning transmission electron microscopy. Informa- Materials, 2019, 1, 359-375.	8.5	37
819	Van der Waals heterostructures for optoelectronics: Progress and prospects. Applied Materials Today, 2019, 16, 435-455.	2.3	117
820	Low Loss EELS of Lateral MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures. Microscopy and Microanalysis, 2019, 25, 640-641.	0.2	1
821	Recent Progress in CVD Growth of 2D Transition Metal Dichalcogenides and Related Heterostructures. Advanced Materials, 2019, 31, e1901694.	11.1	250
822	Spin Filtering and Rectification in Lateral Heterostructures of Zigzag-Edge BC <sub>3</sub> and Graphene Nanoribbons: Implications for Switching and Memory Devices. ACS Applied Nano Materials, 2019, 2, 5365-5372.	2.4	5
823	Strain induced valley degeneracy: a route to the enhancement of thermoelectric properties of monolayer WS <sub>2</sub> . RSC Advances, 2019, 9, 25216-25224.	1.7	52

#	ARTICLE	IF	CITATIONS
824	Controlled Growth of Large-Area Bilayer Tungsten Diselenides with Lateral P <sub>n</sub> N Junctions. ACS Nano, 2019, 13, 10490-10498.	7.3	39
825	Distinctive optoelectronic properties of nanostructured $\text{MoS}_2$ bilayers. Physical Review B, 2019, 100, .		
826	Facile synthesis and controlling factors of highly uniform nanostructured MoS <sub>2</sub> thin films as buffer layers in gas sensors. Applied Physics A: Materials Science and Processing, 2019, 125, 1.	1.1	6
827	Synergistic additive-mediated CVD growth and chemical modification of 2D materials. Chemical Society Reviews, 2019, 48, 4639-4654.	18.7	108
828	Cavity-control of interlayer excitons in van der Waals heterostructures. Nature Communications, 2019, 10, 3697.	5.8	58
829	Multiple roles of a heterointerface in two-dimensional van der Waals heterostructures: insights into energy-related applications. Journal of Materials Chemistry A, 2019, 7, 23577-23603.	5.2	43
830	Electronic properties of size-dependent MoTe <sub>2</sub> /WTe <sub>2</sub> heterostructure. Chinese Physics B, 2019, 28, 107101.	0.7	10
831	Manipulating Coherent Light-Matter Interaction: Continuous Transition between Strong Coupling and Weak Coupling in MoS <sub>2</sub> Monolayer Coupled with Plasmonic Nanocavities. Advanced Optical Materials, 2019, 7, 1900857.	3.6	48
832	Turning bulk materials into 0D, 1D and 2D metallic nanomaterials by selective aqueous corrosion. Chemical Communications, 2019, 55, 10476-10479.	2.2	12
833	Strain and electric field engineering of band alignment in InSe/Ca(OH) <sub>2</sub> heterostructure. Chemical Physics Letters, 2019, 732, 136649.	1.2	5
834	Growth and characterization of in-plane heterostructures based on two-dimensional materials. , 2019, , .		0
835	Energetics and electronic structures of borders between MoS <sub>2</sub> and WS <sub>2</sub> . Japanese Journal of Applied Physics, 2019, 58, 095002.	0.8	0
836	Structural and electronic phase transitions driven by electric field in metastable $\text{MoS}_2$ thin flakes. Physical Review B, 2019, 100, .		
837	Spin-Dependent Electronic Structure and Magnetic Anisotropy of Two-Dimensional SnO/Fe <sub>4</sub> N Heterostructures. Journal of Physical Chemistry C, 2019, 123, 22424-22430.	1.5	5
838	Temperature-Dependent Opacity of the Gate Field Inside MoS <sub>2</sub> Field-Effect Transistors. ACS Applied Materials & Interfaces, 2019, 11, 29022-29028.	4.0	7
839	Self-selective van der Waals heterostructures for large scale memory array. Nature Communications, 2019, 10, 3161.	5.8	139
840	PbI <sub>2</sub> MoS <sub>2</sub> Heterojunction: van der Waals Epitaxial Growth and Energy Band Alignment. Journal of Physical Chemistry Letters, 2019, 10, 4203-4208.	2.1	25
841	Strong-coupled hybrid structure of carbon nanotube and MoS <sub>2</sub> monolayer with ultrafast interfacial charge transfer. Nanoscale, 2019, 11, 17195-17200.	2.8	17

#	ARTICLE	IF	CITATIONS
842	Carbon Nanomaterials and Two-Dimensional Transition Metal Dichalcogenides (2D TMDCs). <i>Advanced Structured Materials</i> , 2019, , 165-245.	0.3	4
843	Two-dimensional heterostructure promoted infrared photodetection devices. <i>Informa-Materially</i> , 2019, 1, 272-288.	8.5	105
844	Infrared tunable, two colour-band photodetectors on flexible platforms using OD/2D PbS-MoS <sub>2</sub> hybrids. <i>Nanoscale Advances</i> , 2019, 1, 3279-3287.	2.2	33
845	Synthesis of two-dimensional MoS <sub>2</sub> /graphene heterostructure by atomic layer deposition using MoF <sub>6</sub> precursor. <i>Applied Surface Science</i> , 2019, 494, 591-599.	3.1	25
846	Tunable Moiré Superlattice of Artificially Twisted Monolayers. <i>Advanced Materials</i> , 2019, 31, 1901077.	11.1	27
847	Lateral Bilayer MoS <sub>2</sub> -WS <sub>2</sub> Heterostructure Photodetectors with High Responsivity and Detectivity. <i>Advanced Optical Materials</i> , 2019, 7, 1900815.	3.6	65
848	Layer Rotation-Angle-Dependent Excitonic Absorption in van der Waals Heterostructures Revealed by Electron Energy Loss Spectroscopy. <i>ACS Nano</i> , 2019, 13, 9541-9550.	7.3	25
849	Two-Dimensional Lateral Epitaxy of 2H (MoSe <sub>2</sub> )-1T (ReSe <sub>2</sub> ) Phases. <i>Nano Letters</i> , 2019, 19, 6338-6345.	4.5	30
850	Lateral and Vertical MoSe <sub>2</sub> -MoS <sub>2</sub> Heterostructures via Epitaxial Growth: Triggered by High-Temperature Annealing and Precursor Concentration. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 5027-5035.	2.1	13
851	Strong interlayer hybridization in the aligned SnS <sub>2</sub> /WSe <sub>2</sub> hetero-bilayer structure. <i>Npj 2D Materials and Applications</i> , 2019, 3, .	3.9	39
852	Morphology Control of Two-Dimensional Tin Disulfide on Transition Metal Dichalcogenides Using Chemical Vapor Deposition for Nanoelectronic Applications. <i>ACS Applied Nano Materials</i> , 2019, 2, 4222-4231.	2.4	21
853	Recent Developments in Graphene-Based Two-Dimensional Heterostructures for Sensing Applications. , 2019, , 407-436.		10
854	Graphene/h-BN In-Plane Heterostructures: Stability and Electronic and Transport Properties. <i>Journal of Physical Chemistry C</i> , 2019, 123, 18600-18608.	1.5	5
855	Layer-Number-Dependent Electronic and Optoelectronic Properties of 2D WSe <sub>2</sub> -Organic Hybrid Heterojunction. <i>Advanced Materials Interfaces</i> , 2019, 6, 1900637.	1.9	18
856	Graphene Wrinkles Enable Spatially Defined Chemistry. <i>Nano Letters</i> , 2019, 19, 5640-5646.	4.5	39
857	Enhancing electronic and optical properties of monolayer MoSe <sub>2</sub> via a MoSe <sub>2</sub> /blue phosphorene heterobilayer. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 15760-15766.	1.3	68
858	Direct Epitaxial Synthesis of Selective Two-Dimensional Lateral Heterostructures. <i>ACS Nano</i> , 2019, 13, 13047-13055.	7.3	52
859	Large-Scale Growth and Field-Effect Transistors Electrical Engineering of Atomic-Layer SnS <sub>2</sub> . <i>Small</i> , 2019, 15, e1904116.	5.2	58



#	ARTICLE	IF	CITATIONS
860	Electronic transmission in the lateral heterostructure of semiconducting and metallic transition-metal dichalcogenide monolayers. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	8
861	Interface diffusion-induced phonon localization in two-dimensional lateral heterostructures. <i>International Journal of Heat and Mass Transfer</i> , 2019, 144, 118608.	2.5	20
862	Spontaneous ssDNA stretching on graphene and hexagonal boron nitride in plane heterostructures. <i>Nature Communications</i> , 2019, 10, 4610.	5.8	36
863	Three-Dimensional Rock Microstructure Modeling Using Two-Dimensional SEM Micrographs. <i>Microscopy and Microanalysis</i> , 2019, 25, 2462-2463.	0.2	0
864	Contact Resistance at MoS <sub>2</sub> -Based 2D Metal/Semiconductor Lateral Heterojunctions. <i>ACS Applied Nano Materials</i> , 2019, 2, 760-766.	2.4	19
865	Interlayer Excitons in Transition-Metal Dichalcogenide Heterobilayers. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1900308.	0.7	15
866	High-Performance WSe <sub>2</sub> Photodetector Based on a Laser-Induced p-n Junction. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 43330-43336.	4.0	61
867	Strain Relaxation in Misfitting Transition Metal Dichalcogenide Monolayer Superlattices: Wrinkling vs Misfit Dislocation Formation. <i>Nano Letters</i> , 2019, 19, 8724-8731.	4.5	5
868	Pseudospin triplet superconductivity in $H$ -type transition-metal dichalcogenide monolayers. <i>Physical Review B</i> , 2019, 100, .	1.1	8
869	Convenient Synthesis of WS <sub>2</sub> -MoS <sub>2</sub> Heterostructures with Enhanced Photocatalytic Performance. <i>Journal of Physical Chemistry C</i> , 2019, 123, 27363-27368.	1.5	15
870	How to "train" your CVD to grow large-area 2D materials. <i>Materials Research Express</i> , 2019, 6, 125002.	0.8	11
871	Vapor growth of WSe <sub>2</sub> /WS <sub>2</sub> heterostructures with stacking dependent optical properties. <i>Nano Research</i> , 2019, 12, 3123-3128.	5.8	32
872	New Light on Molecule-Nanotube Hybrids. <i>Advanced Materials</i> , 2019, 31, e1902917.	11.1	7
873	Direct Synthesis of a Self-Assembled WSe <sub>2</sub> /MoS <sub>2</sub> Heterostructure Array and its Optoelectrical Properties. <i>Advanced Materials</i> , 2019, 31, e1904194.	11.1	47
874	Photocurrent Direction Control and Increased Photovoltaic Effects in All-2D Ultrathin Vertical Heterostructures Using Asymmetric h-BN Tunneling Barriers. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 40274-40282.	4.0	10
875	Multifarious Interfaces, Band Alignments, and Formation Asymmetry of WSe <sub>2</sub> -MoSe <sub>2</sub> Heterojunction Grown by Molecular-Beam Epitaxy. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 43766-43773.	4.0	8
876	Wet-Chemical Synthesis and Applications of Semiconductor Nanomaterial-Based Epitaxial Heterostructures. <i>Nano-Micro Letters</i> , 2019, 11, 86.	14.4	37
877	Emerging properties of two-dimensional twisted bilayer materials*. <i>Chinese Physics B</i> , 2019, 28, 107304.	0.7	18

#	ARTICLE	IF	CITATIONS
878	Photo-induced exfoliation of monolayer transition metal dichalcogenide semiconductors. 2D Materials, 2019, 6, 045052.	2.0	11
879	First-Principles Study on Transition-Metal Dichalcogenide/BSe van der Waals Heterostructures: A Promising Water-Splitting Photocatalyst. Journal of Physical Chemistry C, 2019, 123, 22742-22751.	1.5	110
880	High-Concentration Niobium-Substituted WS <sub>2</sub> Basal Domains with Reconfigured Electronic Band Structure for Hydrogen Evolution Reaction. ACS Applied Materials & Interfaces, 2019, 11, 34862-34868.	4.0	21
881	Recent progress in two-dimensional nanomaterials: Synthesis, engineering, and applications. FlatChem, 2019, 18, 100133.	2.8	52
882	Two-Dimensional Materials in Biosensing and Healthcare: From <i>In Vitro</i> Diagnostics to Optogenetics and Beyond. ACS Nano, 2019, 13, 9781-9810.	7.3	259
883	Hierarchical self-assembly of organic heterostructure nanowires. Nature Communications, 2019, 10, 3839.	5.8	123
884	Salt-assisted chemical vapor deposition of two-dimensional materials. Science China Chemistry, 2019, 62, 1300-1311.	4.2	66
885	Hetero-coupling of a carbonate hydroxide and sulfide for efficient and robust water oxidation. Journal of Materials Chemistry A, 2019, 7, 21959-21965.	5.2	28
886	Electronic stripes and transport properties in borophene heterostructures. Nanoscale, 2019, 11, 17894-17903.	2.8	21
887	Influence of length and interface structure on electron transport properties of graphene-MoS <sub>2</sub> in-plane heterojunction. Applied Surface Science, 2019, 497, 143764.	3.1	14
888	Bilayer Lateral Heterostructures of Transition-Metal Dichalcogenides and Their Optoelectronic Response. ACS Nano, 2019, 13, 12372-12384.	7.3	89
889	Effects of solvents and polymer on photoluminescence of transferred WS <sub>2</sub> monolayers. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2019, 37, .	0.6	11
890	Selective growth of wide band gap atomically thin Sb <sub>2</sub> O <sub>3</sub> inorganic molecular crystal on WS <sub>2</sub> . Nano Research, 2019, 12, 2781-2787.	5.8	9
891	Charge Separation in Epitaxial SnS/MoS <sub>2</sub> Vertical Heterojunctions Grown by Low-Temperature Pulsed MOCVD. ACS Applied Materials & Interfaces, 2019, 11, 40543-40550.	4.0	16
892	Theoretical Study of GaN/BP van der Waals Nanocomposites with Strain-Enhanced Electronic and Optical Properties for Optoelectronic Applications. ACS Applied Nano Materials, 2019, 2, 6482-6491.	2.4	75
893	Epitaxial Synthesis of Monolayer PtSe <sub>2</sub> Single Crystal on MoSe <sub>2</sub> with Strong Interlayer Coupling. ACS Nano, 2019, 13, 10929-10938.	7.3	72
894	Modulated interlayer charge transfer dynamics in a monolayer TMD/metal junction. Nanoscale, 2019, 11, 418-425.	2.8	33
895	MoS <sub>2</sub> -capped CuxS nanocrystals: a new heterostructured geometry of transition metal dichalcogenides for broadband optoelectronics. Materials Horizons, 2019, 6, 587-594.	6.4	18

#	ARTICLE	IF	CITATIONS
896	Probing Interfacial Surface State Excitons in Nanoscale Synthesized Cu <sub>x</sub> /S/MoS <sub>2</sub> Heterostructure. <i>Advanced Materials Interfaces</i> , 2019, 6, 1801771.	1.9	2
897	van der Waals Epitaxial Growth of Atomically Thin 2D Metals on Dangling-Bond-Free WSe <sub>2</sub> and WS <sub>2</sub> . <i>Advanced Functional Materials</i> , 2019, 29, 1806611.	7.8	99
898	2D/2D Heterojunctions for Catalysis. <i>Advanced Science</i> , 2019, 6, 1801702.	5.6	224
899	Engineering 2D heterojunctions with dielectrics. <i>Nature Electronics</i> , 2019, 2, 54-55.	13.1	16
900	High Photoresponsivity in Ultrathin 2D Lateral Graphene:WS <sub>2</sub> :Graphene Photodetectors Using Direct CVD Growth. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 6421-6430.	4.0	78
901	Two-dimensional materials for synaptic electronics and neuromorphic systems. <i>Science Bulletin</i> , 2019, 64, 1056-1066.	4.3	68
902	Transition-metal dichalcogenides/Mg(OH) <sub>2</sub> van der Waals heterostructures as promising water-splitting photocatalysts: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 1791-1796.	1.3	106
903	Fast Yet Quantum-Efficient Few-Layer Vertical MoS <sub>2</sub> Photodetectors. <i>Advanced Electronic Materials</i> , 2019, 5, 1900141.	2.6	16
904	Asymmetric hot-carrier thermalization and broadband photoresponse in graphene-2D semiconductor lateral heterojunctions. <i>Science Advances</i> , 2019, 5, eaav1493.	4.7	43
905	Wavelength-Tunable Micro/Nanolasers. <i>Advanced Optical Materials</i> , 2019, 7, 1900275.	3.6	13
906	Engineering Zero-Dimensional Quantum Confinement in Transition-Metal Dichalcogenide Heterostructures. <i>ACS Nano</i> , 2019, 13, 8303-8311.	7.3	24
907	On-chip integrated photonic circuits based on two-dimensional materials and hexagonal boron nitride as the optical confinement layer. <i>Journal of Applied Physics</i> , 2019, 125, 230901.	1.1	13
908	Chemical Vapor Deposition Grown Large-Scale Atomically Thin Platinum Diselenide with Semimetal-Semiconductor Transition. <i>ACS Nano</i> , 2019, 13, 8442-8451.	7.3	87
909	Electronic band dispersion determination in azimuthally disordered transition-metal dichalcogenide monolayers. <i>Communications Physics</i> , 2019, 2, .	2.0	11
910	Ag plasmon resonance promoted 2D AgBr- <i>Bi</i> 2O3 nanosheets with enhanced photocatalytic ability. <i>Journal of Alloys and Compounds</i> , 2019, 803, 565-575.	2.8	28
911	Properties and applications of new superlattice: twisted bilayer graphene. <i>Materials Today Physics</i> , 2019, 9, 100099.	2.9	62
912	Electronic Transport and Thermopower in 2D and 3D Heterostructures—A Theory Perspective. <i>Annalen Der Physik</i> , 2019, 531, 1800510.	0.9	9
913	2D Nanomaterials for Photocatalytic Hydrogen Production. <i>ACS Energy Letters</i> , 2019, 4, 1687-1709.	8.8	375

#	ARTICLE	IF	CITATIONS
914	Large-area high quality PtSe <sub>2</sub> thin film with versatile polarity. <i>Informa Mater</i> , 2019, 1, 260-267.	8.5	54
915	A Cocrystal Precursor Strategy for Carbon-Rich Graphitic Carbon Nitride toward High-Efficiency Photocatalytic Overall Water Splitting. <i>IScience</i> , 2019, 16, 22-30.	1.9	54
916	Direct Mapping of the Gate Response of a Multilayer WSe <sub>2</sub> /MoS <sub>2</sub> Heterostructure with Locally Different Degrees of Charge Depletion. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 4010-4016.	2.1	9
917	Continuous Heteroepitaxy of Two-Dimensional Heterostructures Based on Layered Chalcogenides. <i>ACS Nano</i> , 2019, 13, 7527-7535.	7.3	48
918	Atomic-Level Customization of 4 in. Transition Metal Dichalcogenide Multilayer Alloys for Industrial Applications. <i>Advanced Materials</i> , 2019, 31, e1901405.	11.1	52
919	Wrap-Around Core-Shell Heterostructures of Layered Crystals. <i>Advanced Materials</i> , 2019, 31, e1902166.	11.1	28
920	Recent Advances in 2D Lateral Heterostructures. <i>Nano-Micro Letters</i> , 2019, 11, 48.	14.4	109
921	Photochemically Induced Phase Change in Monolayer Molybdenum Disulfide. <i>Frontiers in Chemistry</i> , 2019, 7, 442.	1.8	8
922	Devices and Circuits Using Novel 2-D Materials: A Perspective for Future VLSI Systems. <i>IEEE Transactions on Very Large Scale Integration (VLSI) Systems</i> , 2019, 27, 1486-1503.	2.1	30
923	Heterostructures in two-dimensional colloidal metal chalcogenides: Synthetic fundamentals and applications. <i>Nano Research</i> , 2019, 12, 1750-1769.	5.8	33
924	Interface depended electronic and magnetic properties of vertical CrI <sub>3</sub> /WSe <sub>2</sub> heterostructures. <i>RSC Advances</i> , 2019, 9, 14766-14771.	1.7	27
925	Metallo-Hydrogel-Assisted Synthesis and Direct Writing of Transition Metal Dichalcogenides. <i>Advanced Functional Materials</i> , 2019, 29, 1807612.	7.8	12
926	Direct In Situ Growth of Centimeter-Scale Multi-Heterojunction MoS <sub>2</sub> /WS <sub>2</sub> /WSe <sub>2</sub> Thin-Film Catalyst for Photo-Electrochemical Hydrogen Evolution. <i>Advanced Science</i> , 2019, 6, 1900301.	5.6	60
927	Tuning Electron Transport Direction through the Deposition Sequence of MoS <sub>2</sub> and WS <sub>2</sub> on Fluorine-Doped Tin Oxide for Improved Electrocatalytic Reduction Efficiency. <i>ChemElectroChem</i> , 2019, 6, 2737-2740.	1.7	12
928	Tuning interlayer coupling by laser irradiation and broadband photodetection in vertical MoTe <sub>2</sub> /WS <sub>2</sub> vdW heterostructure. <i>APL Materials</i> , 2019, 7, .	2.2	9
929	Hybrid metal nanoantenna 2D-material photovoltaic device. <i>Solar Energy Materials and Solar Cells</i> , 2019, 200, 109918.	3.0	9
930	Rational Kinetics Control toward Universal Growth of 2D Vertically Stacked Heterostructures. <i>Advanced Materials</i> , 2019, 31, e1901351.	11.1	79
931	Charge-Transfer-Induced Photoluminescence Properties of WSe <sub>2</sub> Monolayer-Bilayer Homo Junction. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 20566-20573.	4.0	15

#	ARTICLE	IF	CITATIONS
932	Self-organized formation of chemical bonding in misfit-layered bismuth-based cobaltites. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2019, 232, 95-99.	0.8	0
933	Imaging microscopic electronic contrasts at the interface of single-layer WS <sub>2</sub> with oxide and boron nitride substrates. <i>Applied Physics Letters</i> , 2019, 114, 151601.	1.5	14
934	Pulsed thermal deposition of binary and ternary transition metal dichalcogenide monolayers and heterostructures. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	14
935	Enhanced photoresponse of monolayer MoS <sub>2</sub> through hybridization with carbon quantum dots as efficient photosensitizer. <i>2D Materials</i> , 2019, 6, 035025.	2.0	24
936	Using van der Waals heterostructures based on two-dimensional blue phosphorus and XC (X = Ge, Si) for water-splitting photocatalysis: a first-principles study. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 9949-9956.	1.3	66
937	Two-Dimensional Nanomaterials: Crystal Structure and Synthesis. , 2019, , 1-25.		11
938	First-principles analysis of structural stability, electronic and phonon transport properties of lateral MoS <sub>2</sub> -WX <sub>2</sub> heterostructures. <i>Computational Condensed Matter</i> , 2019, 19, e00389.	0.9	3
939	Solution-Phase Epitaxial Growth of Perovskite Films on 2D Material Flakes for High-Performance Solar Cells. <i>Advanced Materials</i> , 2019, 31, e1807689.	11.1	185
940	Spatial Mapping of Hotspots at Lateral Heterogeneities in Monolayer Transition Metal Dichalcogenides. <i>Advanced Materials</i> , 2019, 31, 1808244.	11.1	16
941	Improved carrier doping strategy of monolayer MoS <sub>2</sub> through two-dimensional solid electrolyte of YBr <sub>3</sub> . <i>Applied Physics Letters</i> , 2019, 114, .	1.5	9
942	Tunable electronic and optical properties of novel ZnSe/AIP van der Waals heterostructure. <i>Materials Research Express</i> , 2019, 6, 075907.	0.8	10
943	Contact resistance at graphene/MoS <sub>2</sub> lateral heterostructures. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	14
944	Real time optical observation and control of atomically thin transition metal dichalcogenide synthesis. <i>Nanoscale</i> , 2019, 11, 7317-7323.	2.8	33
945	Growth of Monolayer WS <sub>2</sub> Single Crystals with Atmospheric Pressure CVD: Role of Temperature. <i>MRS Advances</i> , 2019, 4, 255-262.	0.5	5
946	High-Performance WS <sub>2</sub> Monolayer Light-Emitting Tunneling Devices Using 2D Materials Grown by Chemical Vapor Deposition. <i>ACS Nano</i> , 2019, 13, 4530-4537.	7.3	56
947	A high-performance hydrogen sensor based on a reverse-biased MoS <sub>2</sub> /GaN heterojunction. <i>Nanotechnology</i> , 2019, 30, 314001.	1.3	42
948	Metal-Guided Selective Growth of 2D Materials: Demonstration of a Bottom-Up CMOS Inverter. <i>Advanced Materials</i> , 2019, 31, e1900861.	11.1	36
949	Room-temperature infrared photodetectors with hybrid structure based on two-dimensional materials. <i>Chinese Physics B</i> , 2019, 28, 017302.	0.7	24

#	ARTICLE	IF	CITATIONS
950	Directional Motion of a Graphene Sheet on Graded MoS <sub>2</sub> /WSe <sub>2</sub> Lateral Heterostructures. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	1.1	4
951	Tunable Dipole Moment in Janus Single-Layer MoSSe via Transition-Metal Atom Adsorption. Journal of Physical Chemistry C, 2019, 123, 9059-9065.	1.5	42
952	Highly-efficient heterojunction solar cells based on two-dimensional tellurene and transition metal dichalcogenides. Journal of Materials Chemistry A, 2019, 7, 7430-7436.	5.2	90
953	Van der Waals heterostructures of P, BSe, and SiC monolayers. Journal of Applied Physics, 2019, 125, .	1.1	57
954	Electronic structures and transport properties of SnS/SnSe nanoribbon lateral heterostructures. Physical Chemistry Chemical Physics, 2019, 21, 9296-9301.	1.3	8
955	Interlayer hybridization and moiré superlattice minibands for electrons and excitons in heterobilayers of transition-metal dichalcogenides. Physical Review B, 2019, 99, .	1.1	116
956	Solvent-exfoliation of transition-metal dichalcogenide MoS <sub>2</sub> to provide more active sites for enhancing photocatalytic performance of BiOI <sub>3</sub> /g-C <sub>3</sub> N <sub>4</sub> photocatalyst. Applied Surface Science, 2019, 481, 838-851.	3.1	55
957	BX <sub>1</sub> /BX <sub>2</sub> (X <sub>1</sub> , X <sub>2</sub> = P, As, Sb) lateral heterostructure: novel and efficient two-dimensional photovoltaic materials with ultra-high carrier mobilities. Journal of Materials Chemistry A, 2019, 7, 10684-10695.	5.2	30
958	Direct van der Waals epitaxial growth of 1D/2D Sb <sub>2</sub> Se <sub>3</sub> /WS <sub>2</sub> mixed-dimensional p-n heterojunctions. Nano Research, 2019, 12, 1139-1145.	5.8	63
959	Microscopic insights into the catalytic mechanisms of monolayer MoS <sub>2</sub> and its heterostructures in hydrogen evolution reaction. Nano Research, 2019, 12, 2140-2149.	5.8	33
960	Low Contact Barrier in 2H/1T MoTe <sub>2</sub> In-Plane Heterostructure Synthesized by Chemical Vapor Deposition. ACS Applied Materials & Interfaces, 2019, 11, 12777-12785.	4.0	70
961	Band Structure Engineering of Interfacial Semiconductors Based on Atomically Thin Lead Iodide Crystals. Advanced Materials, 2019, 31, e1806562.	11.1	79
962	Versatile Crystal Structures and (Opto)electronic Applications of the 2D Metal Mono-, Di-, and Tri-Chalcogenide Nanosheets. Advanced Functional Materials, 2019, 29, 1900040.	7.8	58
963	Recent Progress on Two-Dimensional Heterostructures for Catalytic, Optoelectronic, and Energy Applications. ChemElectroChem, 2019, 6, 2841-2851.	1.7	18
964	Ab initio nonadiabatic molecular dynamics investigations on the excited carriers in condensed matter systems. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2019, 9, e1411.	6.2	194
965	Electronic and optical properties of layered van der Waals heterostructure based on MS <sub>2</sub> (M = Mo, W) monolayers. Materials Research Express, 2019, 6, 065060.	0.8	13
966	Design strategies for two-dimensional material photodetectors to enhance device performance. Informa Mater, 2019, 1, 33-53.	8.5	158
967	Ultrafast transition between exciton phases in van der Waals heterostructures. Nature Materials, 2019, 18, 691-696.	13.3	168

#	ARTICLE	IF	CITATIONS
968	Multiphoton Excitation and Defect-Enhanced Fast Carrier Relaxation in Few-Layered MoS <sub>2</sub> Crystals. <i>Journal of Physical Chemistry C</i> , 2019, 123, 11216-11223.	1.5	6
969	Characterization of atomic defects on the photoluminescence in two-dimensional materials using transmission electron microscope. <i>Informa-Materially</i> , 2019, 1, 85-97.	8.5	46
970	Thermal transport in graphene/h-BN lateral heterostructures with interface compositional diffusion. <i>Europhysics Letters</i> , 2019, 125, 46001.	0.7	12
971	Tunable Control of Interlayer Excitons in WS <sub>2</sub> /MoS <sub>2</sub> Heterostructures via Strong Coupling with Enhanced Mie Resonances. <i>Advanced Science</i> , 2019, 6, 1802092.	5.6	40
972	Direct TEM observation of the $\alpha$ -cannthite $\text{I}^{\pm}\text{-Ag}_2\text{S}$ $\leftrightarrow$ $\beta$ -cannthite $\text{I}^2\text{-Ag}_2\text{S}$ phase transition in a silver sulfide nanoparticle. <i>Nanoscale Advances</i> , 2019, 1, 1581-1588.	2.2	25
973	Phonon-assisted carrier transport through a lattice-mismatched interface. <i>NPG Asia Materials</i> , 2019, 11, .	3.8	5
974	Lateral heterostructures and one-dimensional interfaces in 2D transition metal dichalcogenides. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 213001.	0.7	32
975	Enhancing Electrocatalytic Water Splitting by Strain Engineering. <i>Advanced Materials</i> , 2019, 31, e1807001.	11.1	470
976	Recent Developments in Controlled Vapor-Phase Growth of 2D Group 6 Transition Metal Dichalcogenides. <i>Advanced Materials</i> , 2019, 31, e1804939.	11.1	100
977	Multifunctional van der Waals Broken-Gap Heterojunction. <i>Small</i> , 2019, 15, e1804885.	5.2	71
978	Asymmetric MXene/monolayer transition metal dichalcogenide heterostructures for functional applications. <i>Npj Computational Materials</i> , 2019, 5, .	3.5	23
979	Recent advancement in the performance of solar cells by incorporating transition metal dichalcogenides as counter electrode and photoabsorber. <i>International Journal of Energy Research</i> , 2019, 43, 3058-3079.	2.2	30
980	Size-Dependent Quantization Effect in Optical Properties of MoS <sub>2</sub> Nanostructures. <i>ChemistrySelect</i> , 2019, 4, 2116-2121.	0.7	11
981	Ballistic thermal transport in black and blue phosphorene nanoribbons and in-plane heterostructures. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2019, 383, 1493-1497.	0.9	7
982	Evidence for moiré excitons in van der Waals heterostructures. <i>Nature</i> , 2019, 567, 71-75.	13.7	933
983	Probing nanoscale defects and wrinkles in MoS <sub>2</sub> by tip-enhanced Raman spectroscopic imaging. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	55
984	Recent Progress in the Fabrication, Properties, and Devices of Heterostructures Based on 2D Materials. <i>Nano-Micro Letters</i> , 2019, 11, 13.	14.4	157
985	Thickness Tunable Wedding-Cake-like MoS <sub>2</sub> Flakes for High-Performance Optoelectronics. <i>ACS Nano</i> , 2019, 13, 3649-3658.	7.3	75

#	ARTICLE	IF	CITATIONS
986	Van der Waals epitaxial growth of vertically stacked Sb <sub>2</sub> Te <sub>3</sub> /MoS <sub>2</sub> p-n heterojunctions for high performance optoelectronics. <i>Nano Energy</i> , 2019, 59, 66-74.	8.2	112
987	Direct Vapor Growth of 2D Vertical Heterostructures with Tunable Band Alignments and Interfacial Charge Transfer Behaviors. <i>Advanced Science</i> , 2019, 6, 1802204.	5.6	87
988	Strained 2D Layered Materials and Heterojunctions. <i>Annalen Der Physik</i> , 2019, 531, 1800465.	0.9	20
989	Centimeter-scale Green Integration of Layer-by-Layer 2D TMD vdW Heterostructures on Arbitrary Substrates by Water-Assisted Layer Transfer. <i>Scientific Reports</i> , 2019, 9, 1641.	1.6	44
990	Synthesis and Characterization of MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures by Second Harmonic Generation. , 2019, , .		0
991	Investigation of the properties of two-dimensional molybdenum disulfide films synthesized by the CVD method. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 693, 012030.	0.3	2
992	Direct/indirect band gap tunability in van der Waals heterojunctions based on ternary 2D materials Mo <sub>1-x</sub> W <sub>x</sub> Y <sub>2</sub> . <i>Journal of Physics Condensed Matter</i> , 2019, 31, 505302.	0.7	5
993	Position-Selective Growth of 2D WS <sub>2</sub> -Based Vertical Heterostructures via a One-Step CVD Approach. <i>Journal of Physical Chemistry C</i> , 2019, 123, 30519-30527.	1.5	28
994	Photo-detecting of graphene/insulator/silicon heterojunction with direct tunneling mechanism. <i>Journal of Applied Physics</i> , 2019, 126, 223102.	1.1	0
995	Strain-Mediated Stability of Structures and Electronic Properties of ReS <sub>2</sub> , Janus ReSSe, and ReSe <sub>2</sub> Monolayers. <i>Journal of Nanomaterials</i> , 2019, 2019, 1-8.	1.5	6
996	Examination of Tunable Edge Sites and Catalyst Deactivation in the MoS <sub>2</sub> -Catalyzed Methanation of Syngas. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 21996-22005.	1.8	7
997	Atomic-scale patterning in two-dimensional van der waals superlattices. <i>Nanotechnology</i> , 2019, 31, 105302.	1.3	8
998	Self-organized twist-heterostructures via aligned van der Waals epitaxy and solid-state transformations. <i>Nature Communications</i> , 2019, 10, 5528.	5.8	27
999	Heterogeneous Integration of 2D Materials: Recent Advances in Fabrication and Functional Device Applications. <i>Nano</i> , 2019, 14, 1930009.	0.5	10
1000	One-Step CVD Synthesis of Few-Layer SnS <sub>2</sub> /MoS <sub>2</sub> Vertical Heterostructures. <i>Nano</i> , 2019, 14, 1950129.	0.5	4
1001	Bidirectional heterostructures consisting of graphene and lateral MoS <sub>2</sub> /WS <sub>2</sub> composites: a first-principles study. <i>RSC Advances</i> , 2019, 9, 34986-34994.	1.7	4
1002	p-MoS <sub>2</sub> /n-InSe van der Waals heterojunctions and their applications in all-2D optoelectronic devices. <i>RSC Advances</i> , 2019, 9, 35039-35044.	1.7	15
1003	Recent Advances in Optoelectronic Devices Based on 2D Materials and Their Heterostructures. <i>Advanced Optical Materials</i> , 2019, 7, 1800441.	3.6	229



#	ARTICLE	IF	CITATIONS
1004	Direct Visualization of Grain Boundaries in 2D Monolayer WS <sub>2</sub> via Induced Growth of CdS Nanoparticle Chains. <i>Small Methods</i> , 2019, 3, 1800245.	4.6	26
1005	Progress, Challenges, and Opportunities for 2D Material Based Photodetectors. <i>Advanced Functional Materials</i> , 2019, 29, 1803807.	7.8	884
1006	The Role of Graphene and Other 2D Materials in Solar Photovoltaics. <i>Advanced Materials</i> , 2019, 31, e1802722.	11.1	268
1007	Epitaxial Growth of Two-Dimensional Metal-Semiconductor Transition-Metal Dichalcogenide Vertical Stacks (VSe <sub>2</sub> /MX <sub>2</sub> ) and Their Band Alignments. <i>ACS Nano</i> , 2019, 13, 885-893.	7.3	102
1008	Improved Electrical Contact Properties of MoS <sub>2</sub> -Graphene Lateral Heterostructure. <i>Advanced Functional Materials</i> , 2019, 29, 1807550.	7.8	44
1009	Twist-Angle-Dependent Optoelectronics in a Few-Layer Transition-Metal Dichalcogenide Heterostructure. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 2470-2478.	4.0	19
1010	Two-Dimensional GaX/SnS <sub>2</sub> (X = S, Se) van der Waals Heterostructures for Photovoltaic Application: Heteroatom Doping Strategy to Boost Power Conversion Efficiency. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1800565.	1.2	35
1011	Raman Spectroscopy of Two-Dimensional Materials. <i>Springer Series in Materials Science</i> , 2019, , .	0.4	18
1012	Symmetry-Controlled Reversible Photovoltaic Current Flow in Ultrathin All 2D Vertically Stacked Graphene/MoS <sub>2</sub> /WS <sub>2</sub> /Graphene Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 2234-2242.	4.0	32
1013	Lateral interfaces of transition metal dichalcogenides: A stable tunable one-dimensional physics platform. <i>Physical Review B</i> , 2019, 99, .	1.1	28
1014	Effect of different precursors on CVD growth of molybdenum disulfide. <i>Journal of Alloys and Compounds</i> , 2019, 782, 772-779.	2.8	26
1015	BN as a Saturable Absorber for a Passively Mode-Locked 2-µm Solid-State Laser. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019, 13, 1800482.	1.2	26
1016	Recent advances in transition metal-based catalysts with heterointerfaces for energy conversion and storage. <i>Materials Today Chemistry</i> , 2019, 11, 16-28.	1.7	72
1017	Unusual Electronic States and Superconducting Proximity Effect of Bi Films Modulated by a NbSe <sub>2</sub> Substrate. <i>ACS Nano</i> , 2019, 13, 1885-1892.	7.3	23
1018	A roadmap for electronic grade 2D materials. <i>2D Materials</i> , 2019, 6, 022001.	2.0	205
1019	Ultralow-Frequency Raman Spectroscopy of Two-dimensional Materials. <i>Springer Series in Materials Science</i> , 2019, , 203-230.	0.4	1
1020	Raman Imaging of Two Dimensional Materials. <i>Springer Series in Materials Science</i> , 2019, , 231-261.	0.4	0
1021	First-principle study of electronic and optical properties of two-dimensional materials-based heterostructures based on transition metal dichalcogenides and boron phosphide. <i>Applied Surface Science</i> , 2019, 476, 70-75.	3.1	154

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1022	Controllable preparation of 2D metal-semiconductor layered metal dichalcogenides heterostructures. <i>Science China Chemistry</i> , 2019, 62, 295-298.	4.2	9
1023	Two-dimensional heterostructures based on graphene and transition metal dichalcogenides: Synthesis, transfer and applications. <i>Carbon</i> , 2019, 145, 240-250.	5.4	53
1024	Microscopic insight into the single step growth of in-plane heterostructures between graphene and hexagonal boron nitride. <i>Nano Research</i> , 2019, 12, 675-682.	5.8	11
1025	Monolayer Epitaxial Heterostructures for Selective Visible-Light-Driven Photocatalytic NO Oxidation. <i>Advanced Functional Materials</i> , 2019, 29, 1808084.	7.8	76
1026	Vibrations of van der Waals heterostructures: A study by molecular dynamics and continuum mechanics. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	5
1027	Growth Order-Dependent Strain Variations of Lateral Transition Metal Dichalcogenide Heterostructures. <i>ACS Applied Electronic Materials</i> , 2019, 1, 113-121.	2.0	16
1028	Band Alignment of MoTe <sub>2</sub> /MoS <sub>2</sub> Nanocomposite Films for Enhanced Nonlinear Optical Performance. <i>Advanced Materials Interfaces</i> , 2019, 6, 1801733.	1.9	41
1029	Two-dimensional amorphous heterostructures of Ag/a-WO <sub>3</sub> - for high-efficiency photocatalytic performance. <i>Applied Catalysis B: Environmental</i> , 2019, 245, 648-655.	10.8	69
1030	MoSe <sub>2</sub> -Cu <sub>2</sub> S Vertical p-n Nanoheterostructures for High-Performance Photodetectors. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 4074-4083.	4.0	45
1031	Probing interlayer excitons in a vertical van der Waals p-n junction using a scanning probe microscopy technique. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 114001.	0.7	6
1032	Recent Advances in Low-Dimensional Heterojunction-Based Tunnel Field Effect Transistors. <i>Advanced Electronic Materials</i> , 2019, 5, 1800569.	2.6	53
1033	High-performance asymmetric electrodes photodiode based on Sb/WSe <sub>2</sub> heterostructure. <i>Nano Research</i> , 2019, 12, 339-344.	5.8	32
1034	Heterostructures Based on 2D Materials: A Versatile Platform for Efficient Catalysis. <i>Advanced Materials</i> , 2019, 31, e1804828.	11.1	142
1035	MoS <sub>2</sub> -graphene heterostructures as efficient organic compounds sensing 2D materials. <i>Carbon</i> , 2019, 142, 504-512.	5.4	41
1036	High performance tunnel field effect transistors based on in-plane transition metal dichalcogenide heterojunctions. <i>Nanotechnology</i> , 2019, 30, 025201.	1.3	17
1037	Tip-enhanced Raman spectroscopy: principles, practice, and applications to nanospectroscopic imaging of 2D materials. <i>Analytical and Bioanalytical Chemistry</i> , 2019, 411, 37-61.	1.9	104
1038	MoS <sub>2</sub> quantum dots-modified porous Bi <sub>2</sub> O <sub>3</sub> microspheres with enhanced visible-light-induced photocatalytic activity for Bisphenol A degradation and NO removal. <i>Journal of Materials Science: Materials in Electronics</i> , 2019, 30, 2610-2621.	1.1	10
1039	WSe <sub>2</sub> homojunctions and quantum dots created by patterned hydrogenation of epitaxial graphene substrates. <i>2D Materials</i> , 2019, 6, 021001.	2.0	7

#	ARTICLE	IF	CITATIONS
1040	On the technical challenges affecting the performance of direct internal reforming biogas solid oxide fuel cells. <i>Renewable and Sustainable Energy Reviews</i> , 2019, 101, 361-375.	8.2	121
1041	Structure and Chemistry of 2D Materials. , 2019, , 55-90.		17
1042	Recent progress on graphene-analogous 2D nanomaterials: Properties, modeling and applications. <i>Progress in Materials Science</i> , 2019, 100, 99-169.	16.0	235
1043	Modulierung der elektronischen Strukturen anorganischer Nanomaterialien für eine effiziente elektrokatalytische Wasserspaltung. <i>Angewandte Chemie</i> , 2019, 131, 4532-4551.	1.6	34
1044	Modulating Electronic Structures of Inorganic Nanomaterials for Efficient Electrocatalytic Water Splitting. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 4484-4502.	7.2	340
1045	3D-multilayer MoS <sub>2</sub> nanosheets vertically grown on highly mesoporous cubic In <sub>2</sub> O <sub>3</sub> for high-performance gas sensing at room temperature. <i>Applied Surface Science</i> , 2019, 466, 1-11.	3.1	51
1046	Photogalvanic effect in monolayer WSe <sub>2</sub> -MoS <sub>2</sub> lateral heterojunction from first principles. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 115, 113714.	1.3	9
1047	Growth of CdSe/MoS <sub>2</sub> vertical heterostructures for fast visible-wavelength photodetectors. <i>Journal of Alloys and Compounds</i> , 2020, 815, 152309.	2.8	27
1048	Width dependent rectifying behavior in Schottky heterojunction based on black phosphorene. <i>Materials Chemistry and Physics</i> , 2020, 239, 122048.	2.0	3
1049	Tuning charge transfer process of MoS <sub>2</sub> photoanode for enhanced photoelectrochemical conversion of ammonia in water into gaseous nitrogen. <i>Chemical Engineering Journal</i> , 2020, 382, 123048.	6.6	29
1050	Optical Properties and Light-Emission Device Applications of 2-D Layered Semiconductors. <i>Proceedings of the IEEE</i> , 2020, 108, 676-703.	16.4	19
1051	Low-damaged p-type doping of MoS <sub>2</sub> using direct nitrogen plasma modulated by toroidal-magnetic-field. <i>Nanotechnology</i> , 2020, 31, 015702.	1.3	13
1052	2D/2D SnS <sub>2</sub> /MoS <sub>2</sub> layered heterojunction for enhanced supercapacitor performance. <i>Journal of the American Ceramic Society</i> , 2020, 103, 1088-1096.	1.9	53
1053	Electronic and Spin-Dependent Optical Properties of Fe-Adsorbed Armchair Silicene/Silicane Superlattices. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 1900494.	1.2	3
1054	Si compatible MoO <sub>3</sub> /MoS <sub>2</sub> core-shell quantum dots for wavelength tunable photodetection in wide visible range. <i>Applied Surface Science</i> , 2020, 502, 144196.	3.1	24
1055	Strain effects on the electronic and optical properties of Van der Waals heterostructure MoS <sub>2</sub> /WS <sub>2</sub> : A first-principles study. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 116, 113799.	1.3	26
1056	Photoexcited charge carrier behaviors in solar energy conversion systems from theoretical simulations. <i>Wiley Interdisciplinary Reviews: Computational Molecular Science</i> , 2020, 10, e1441.	6.2	7
1057	2D Superlattices for Efficient Energy Storage and Conversion. <i>Advanced Materials</i> , 2020, 32, e1902654.	11.1	117

#	ARTICLE	IF	CITATIONS
1058	Direct Probing of Grain Boundary Resistance in Chemical Vapor Deposition-grown Monolayer MoS <sub>2</sub> by Conductive Atomic Force Microscopy. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 1900393.	1.2	26
1059	Realization of noble heterobilayers with enhanced optoelectronic properties. <i>Applied Surface Science</i> , 2020, 505, 144530.	3.1	4
1060	A Shallow Acceptor of Phosphorous Doped in MoSe <sub>2</sub> Monolayer. <i>Advanced Electronic Materials</i> , 2020, 6, 1900830.	2.6	16
1061	Two-dimensional materials toward future photovoltaic devices. , 2020, , 117-158.		2
1062	Non-Janus WSSe/MoSSe Heterobilayer and Its Photocatalytic Band Offset. <i>Journal of Physical Chemistry C</i> , 2020, 124, 3812-3819.	1.5	11
1063	Construction of WS <sub>2</sub> /MoSe <sub>2</sub> heterojunction for efficient photoelectrocatalytic hydrogen evolution. <i>Materials Science in Semiconductor Processing</i> , 2020, 107, 104822.	1.9	15
1064	Inorganic 2D Luminescent Materials: Structure, Luminescence Modulation, and Applications. <i>Advanced Optical Materials</i> , 2020, 8, 1900978.	3.6	37
1065	Optical performance and growth mechanism of a 2D WS <sub>2</sub> -MoWS <sub>2</sub> hybrid heterostructure fabricated by a one-step CVD strategy. <i>CrystEngComm</i> , 2020, 22, 660-665.	1.3	9
1066	Composition-induced type I and direct bandgap transition metal dichalcogenides alloy vertical heterojunctions. <i>Nanoscale</i> , 2020, 12, 201-209.	2.8	15
1067	Ultrafast growth of large single crystals of monolayer WS <sub>2</sub> and WSe <sub>2</sub> . <i>National Science Review</i> , 2020, 7, 737-744.	4.6	64
1068	Interfacial charge modulation: carbon quantum dot implanted carbon nitride double-deck nanoframes for robust visible-light photocatalytic tetracycline degradation. <i>Nanoscale</i> , 2020, 12, 3135-3145.	2.8	45
1069	Insights into the vacancy behaviour at the interface of As-Sb lateral heterostructures. <i>Journal of Materials Chemistry C</i> , 2020, 8, 650-662.	2.7	4
1070	Atomistic Modeling of van der Waals Heterostructures with Group-6 and Group-7 Monolayer Transition Metal Dichalcogenides for Near Infrared/Short-wave Infrared Photodetection. <i>ACS Applied Nano Materials</i> , 2020, 3, 820-829.	2.4	19
1071	Type-II WS <sub>2</sub> -ReSe <sub>2</sub> heterostructure and its charge-transfer properties. <i>Journal of Materials Research</i> , 2020, 35, 1417-1423.	1.2	4
1072	A mini review on two-dimensional nanomaterial assembly. <i>Nano Research</i> , 2020, 13, 1179-1190.	5.8	36
1073	Nonprecious anodic catalysts for low-molecular-hydrocarbon fuel cells: Theoretical consideration and current progress. <i>Progress in Energy and Combustion Science</i> , 2020, 77, 100805.	15.8	107
1074	Ultrahigh Speed and Broadband Few-layer MoTe <sub>2</sub> /Si 2D-3D Heterojunction-based Photodiodes Fabricated by Pulsed Laser Deposition. <i>Advanced Functional Materials</i> , 2020, 30, 1907951.	7.8	119
1075	Controlling Photoluminescence Enhancement and Energy Transfer in WS <sub>2</sub> :hBN:WS <sub>2</sub> Vertical Stacks by Precise Interlayer Distances. <i>Small</i> , 2020, 16, e1905985.	5.2	26

#	ARTICLE	IF	CITATIONS
1076	Modeling the vertical growth of van der Waals stacked 2D materials using the diffuse domain method. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2020, 28, 025002.	0.8	4
1077	Controllable Water Vapor Assisted Chemical Vapor Transport Synthesis of WS <sub>2</sub> /MoS <sub>2</sub> Heterostructure. , 2020, 2, 42-48.		29
1078	Chemical vapor deposition growth of 2D semiconductors. , 2020, , 81-101.		2
1079	Efficient sulfadiazine degradation via in-situ epitaxial grow of Graphitic Carbon Nitride (g-C <sub>3</sub> N <sub>4</sub> ) on carbon dots heterostructures under visible light irradiation: Synthesis, mechanisms and toxicity evaluation. <i>Journal of Colloid and Interface Science</i> , 2020, 561, 696-707.	5.0	79
1080	Atomic layer deposition for nonconventional nanomaterials and their applications. <i>Journal of Materials Research</i> , 2020, 35, 656-680.	1.2	9
1081	The fabrication and tunable optical properties of 2D transition metal dichalcogenides heterostructures by adjusting the thickness of Mo/W films. <i>Applied Surface Science</i> , 2020, 505, 144192.	3.1	21
1082	High-Performance Field-Effect Transistor and Logic Gates Based on GaS <sub>2</sub> /MoS <sub>2</sub> van der Waals Heterostructure. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 5106-5112.	4.0	17
1083	Programing Two-Dimensional Materials in Non-Euclidean Spaces. <i>Chem</i> , 2020, 6, 829-831.	5.8	1
1084	High performance complementary WS <sub>2</sub> devices with hybrid Gr/Ni contacts. <i>Nanoscale</i> , 2020, 12, 21280-21290.	2.8	27
1085	Thermoelectric properties of hydrogenated Sn <sub>2</sub> Bi monolayer under mechanical strain: a DFT approach. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 23246-23257.	1.3	10
1086	Spatially Resolved Persistent Photoconductivity in MoS <sub>2</sub> /WS <sub>2</sub> Lateral Heterostructures. <i>ACS Nano</i> , 2020, 14, 14080-14090.	7.3	36
1087	Charge Transport in 2D MoS <sub>2</sub> , WS <sub>2</sub> , and MoS <sub>2</sub> /WS <sub>2</sub> Heterojunction-Based Field-Effect Transistors: Role of Ambipolarity. <i>Journal of Physical Chemistry C</i> , 2020, 124, 23368-23379.	1.5	15
1088	Magnetic Heterostructures of Transition Metal Dichalcogenides: Antiparallel Magnetic Moments and Half-Metallic State. <i>Journal of Physical Chemistry C</i> , 2020, 124, 23352-23360.	1.5	3
1089	Suppressing photoexcited electron-hole recombination in MoSe <sub>2</sub> /WSe <sub>2</sub> lateral heterostructures via interface-coupled state engineering: a time-domain study. <i>Journal of Materials Chemistry A</i> , 2020, 8, 20621-20628.	5.2	18
1090	Lateral Monolayer MoSe <sub>2</sub> /WSe <sub>2</sub> Heterojunctions with Giant Built-in Potentials. <i>Small</i> , 2020, 16, e2002263.	5.2	50
1091	Design and synthesis of two-dimensional materials and their heterostructures. , 2020, , 13-54.		1
1092	Characterizations of nanoscale two-dimensional materials and heterostructures. , 2020, , 55-90.		1
1093	Transition metal dichalcogenides based two-dimensional heterostructures for optoelectronic applications. , 2020, , 125-149.		15

#	ARTICLE	IF	CITATIONS
1094	Electronic and optoelectronic properties of the heterostructure devices composed of two-dimensional layered materials. , 2020, , 151-193.		2
1095	Contact engineering for two-dimensional semiconductors. Journal of Semiconductors, 2020, 41, 071901.	2.0	19
1096	Characterization of two-dimensional materials. , 2020, , 289-322.		0
1097	Electron Density and Its Relation with Electronic and Optical Properties in 2D Mo/W Dichalcogenides. Nanomaterials, 2020, 10, 2221.	1.9	11
1098	Strain tunable ferroelectricity of SnSe/SnTe van der Waals heterostructures. Superlattices and Microstructures, 2020, 148, 106728.	1.4	6
1099	2D atomic crystal molecular superlattices by soft plasma intercalation. Nature Communications, 2020, 11, 5960.	5.8	36
1100	Halide Perovskite Epitaxial Heterostructures. Accounts of Materials Research, 2020, 1, 213-224.	5.9	20
1101	An All-Organic Dye System for Visible-Light-Driven Overall Water Splitting. Small, 2020, 16, e2003914.	5.2	80
1102	MoS <sub>2</sub> /graphene composites: Fabrication and electrochemical energy storage. Energy Storage Materials, 2020, 33, 470-502.	9.5	85
1103	Electronic structures, and optical and photocatalytic properties of the BP-BSe van der Waals heterostructures. New Journal of Chemistry, 2020, 44, 14964-14969.	1.4	11
1104	Towards Scalable Fabrications and Applications of 2D Layered Material-based Vertical and Lateral Heterostructures. Chemical Research in Chinese Universities, 2020, 36, 525-550.	1.3	6
1105	Post-synthesis Tellurium Doping Induced Mirror Twin Boundaries in Monolayer Molybdenum Disulfide. Applied Sciences (Switzerland), 2020, 10, 4758.	1.3	3
1106	Construction of few layered metallic MoS <sub>2</sub> microspheres using glucose induced carbon spheres and its application in symmetric supercapacitor device. Journal of Electroanalytical Chemistry, 2020, 874, 114461.	1.9	14
1107	Intercalation of Two-dimensional Layered Materials. Chemical Research in Chinese Universities, 2020, 36, 584-596.	1.3	21
1108	CVT and PVT growth and characterization of GaS crystals. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2020, 261, 114623.	1.7	3
1109	Scalable lateral heterojunction by chemical doping of 2D TMD thin films. Scientific Reports, 2020, 10, 12970.	1.6	30
1110	Mixed-Dimensional In-Plane Heterostructures from 1D Mo <sub>6</sub> Te <sub>6</sub> and 2D MoTe <sub>2</sub> Synthesized by Te-Flux-Controlled Chemical Vapor Deposition. Small, 2020, 16, e2002849.	5.2	15
1111	Contact resistance at 2D metal/semiconductor heterostructures. Frontiers of Nanoscience, 2020, 17, 127-140.	0.3	0

#	ARTICLE	IF	CITATIONS
1112	Theoretical Analysis of a 2D Metallic/Semiconducting Transitionâ€Metal Dichalcogenide NbS <sub>2</sub> /WSe <sub>2</sub> Hybrid Interface. Advanced Theory and Simulations, 2020, 3, 2000164.	1.3	4
1113	Hardware implementation of photoelectrically modulated dendritic arithmetic and spike-timing-dependent plasticity enabled by an ion-coupling gate-tunable vertical OD-perovskite/2D-MoS <sub>2</sub> hybrid-dimensional van der Waals heterostructure. Nanoscale, 2020, 12, 21798-21811.	2.8	51
1114	Promoted Photocharge Separation in 2D Lateral Epitaxial Heterostructure for Visibleâ€Lightâ€Driven CO <sub>2</sub> Photoreduction. Advanced Materials, 2020, 32, e2004311.	11.1	74
1115	Defect Engineering in Metastable Phases of Transitionâ€Metal Dichalcogenides for Electrochemical Applications. Chemistry - an Asian Journal, 2020, 15, 3961-3972.	1.7	8
1116	Interfacial charge transfer exciton enhanced by plasmon in 2D in-plane lateral and van der Waals heterostructures. Applied Physics Letters, 2020, 117, .	1.5	85
1117	Lateral Heterostructures of Multilayer GeS and SnS van der Waals Crystals. ACS Nano, 2020, 14, 12248-12255.	7.3	20
1118	Phaseâ€Dependent Band Gap Engineering in Alloys of Metalâ€Semiconductor Transition Metal Dichalcogenides. Advanced Functional Materials, 2020, 30, 2004912.	7.8	13
1119	MoirÃ© potential impedes interlayer exciton diffusion in van der Waals heterostructures. Science Advances, 2020, 6, .	4.7	83
1120	Enhancement of van der Waals Interlayer Coupling through Polar Janus MoSSe. Journal of the American Chemical Society, 2020, 142, 17499-17507.	6.6	80
1121	BiOI/Bi <sub>2</sub> O <sub>3</sub> CO <sub>3</sub> Two-Dimensional Heteronanostructures with Boosting Charge Carrier Separation Behavior and Enhanced Visible-Light Photocatalytic Performance. Journal of Physical Chemistry C, 2020, 124, 20294-20308.	1.5	19
1122	Bond strengthening in lateral heterostructures of transition metal dichalcogenides. Physical Review B, 2020, 102, .	1.1	6
1123	Recent progress of defect chemistry on 2D materials for advanced battery anodes. Chemistry - an Asian Journal, 2020, 15, 3390-3404.	1.7	35
1124	One-Pot Selective Epitaxial Growth of Large WS <sub>2</sub> /MoS <sub>2</sub> Lateral and Vertical Heterostructures. Journal of the American Chemical Society, 2020, 142, 16276-16284.	6.6	88
1125	Strain gradient induced spatially indirect excitons in single crystalline ZnO nanowires. Nanoscale, 2020, 12, 19083-19087.	2.8	6
1126	A type-II blue phosphorus/MoSe <sub>2</sub> van der Waals heterostructure: improved electronic and optical properties via vertical electric field. Materials Advances, 2020, 1, 1849-1857.	2.6	16
1127	Toward lateral heterostructures with two-dimensional MoX <sub>2</sub> H <sub>2</sub> (X = As, Sb). Physical Chemistry Chemical Physics, 2020, 22, 22584-22590.	1.3	1
1128	Epitaxial Growth and Determination of Band Alignment of Bi <sub>2</sub> Te <sub>3</sub> â€WSe <sub>2</sub> Vertical van der Waals Heterojunctions. , 2020, 2, 1351-1359.		9
1129	Electrophoretic Transport of Single-Stranded DNA through a Two Dimensional Nanopore Patterned on an In-Plane Heterostructure. ACS Nano, 2020, 14, 13137-13145.	7.3	19

#	ARTICLE	IF	CITATIONS
1130	Topochemical synthesis of low-dimensional nanomaterials. <i>Nanoscale</i> , 2020, 12, 21971-21987.	2.8	7
1131	Recent Advances of Emerging 2D MXene for Stable and Dendrite-Free Metal Anodes. <i>Advanced Functional Materials</i> , 2020, 30, 2004613.	7.8	140
1132	Energy-Efficient Tunneling Field-Effect Transistors for Low-Power Device Applications: Challenges and Opportunities. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 47127-47163.	4.0	51
1133	Magic-angle bilayer phononic graphene. <i>Physical Review B</i> , 2020, 102, .	1.1	37
1134	Emergence of spin-orbit torques in 2D transition metal dichalcogenides: A status update. <i>Applied Physics Reviews</i> , 2020, 7, .	5.5	41
1135	Chiral phonons in the indirect optical transition of a $\text{MoS}_2$ heterostructure. <i>Physical Review B</i> , 2020, 102, .	1.1	1
1136	Mechanisms and Applications of Steady-State Photoluminescence Spectroscopy in Two-Dimensional Transition-Metal Dichalcogenides. <i>ACS Nano</i> , 2020, 14, 14579-14604.	7.3	56
1137	Tailoring two-dimensional nanomaterials by structural engineering for chemical and biological sensing. <i>Sensors and Actuators Reports</i> , 2020, 2, 100024.	2.3	8
1138	Synthetic Engineering of Morphology and Electronic Band Gap in Lateral Heterostructures of Monolayer Transition Metal Dichalcogenides. <i>ACS Nano</i> , 2020, 14, 6323-6330.	7.3	24
1139	Layer-dependent band to band tunneling in $\text{WSe}_2/\text{ReS}_2$ van der Waals heterojunction. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 374001.	1.3	4
1140	Enhanced Optoelectronic Performance of CVD-Grown Metal-Semiconductor $\text{NiTe}_2/\text{MoS}_2$ Heterostructures. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 24093-24101.	4.0	60
1141	Vertical Tunneling Field-Effect Transistor Based on $\text{WSe}_2$ - $\text{MoS}_2$ Heterostructure with Ion Gel Dielectric. <i>Advanced Electronic Materials</i> , 2020, 6, 2000091.	2.6	22
1142	Enhancement of the Photoelectrocatalytic $\text{H}_2$ Evolution on a Rutile- $\text{TiO}_2$ (001) Surface Decorated with Dendritic $\text{MoS}_2$ Monolayer Nanoflakes. <i>ACS Applied Energy Materials</i> , 2020, 3, 5756-5764.	2.5	17
1143	Type-II Lateral Heterostructures of Monolayer Halide Double Perovskites for Optoelectronic Applications. <i>ACS Energy Letters</i> , 2020, 5, 2275-2282.	8.8	20
1144	Modulating Charge Separation with Hexagonal Boron Nitride Mediation in Vertical Van der Waals Heterostructures. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 26213-26221.	4.0	14
1145	Ultra-thin tubular graphitic carbon Nitride-Carbon Dot lateral heterostructures: One-Step synthesis and highly efficient catalytic hydrogen generation. <i>Chemical Engineering Journal</i> , 2020, 397, 125470.	6.6	72
1146	Interlayer Bonding in Two-Dimensional Materials: The Special Case of $\text{SnP}_3$ and $\text{GeP}_3$ . <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 4503-4510.	2.1	24
1148	Low frequency Raman study of interlayer couplings in $\text{WS}_2$ - $\text{MoS}_2$ van der Waals heterostructures. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 062004.	0.8	6



#	ARTICLE	IF	CITATIONS
1149	Charge transport in nnn and npn phosphorene junctions: The use of phosphorene pn junctions as rectifiers. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2020, 124, 114239.	1.3	11
1150	Tunable thermal expansion coefficient of transition-metal dichalcogenide lateral heterostructures. <i>Nanotechnology</i> , 2020, 31, 405709.	1.3	4
1151	Direct visualization of out-of-equilibrium structural transformations in atomically thin chalcogenides. <i>Npj 2D Materials and Applications</i> , 2020, 4, .	3.9	31
1152	Direct solid-state nucleation and charge-transport dynamics of alkali metal-intercalated $M_{x_2}Mo_6S_6$ ( $M = K, Rb, Cs$ ) nanorods. <i>Journal of Materials Chemistry C</i> , 2020, 8, 10742-10748.	2.7	6
1153	State of the art two-dimensional materials-based photodetectors: Prospects, challenges and future outlook. <i>Journal of Industrial and Engineering Chemistry</i> , 2020, 89, 28-46.	2.9	11
1154	Wafer-scale 2D PtTe <sub>2</sub> layers-enabled Kirigami heaters with superior mechanical stretchability and electro-thermal responsiveness. <i>Applied Materials Today</i> , 2020, 20, 100718.	2.3	21
1155	Moiré Pattern-Tuned Electronic Structures of van der Waals Heterostructures. <i>Advanced Functional Materials</i> , 2020, 30, 2002672.	7.8	31
1156	Planar graphene/h-BN/graphene heterostructures for protein stretching and confinement. <i>Nanoscale</i> , 2020, 12, 13822-13828.	2.8	15
1157	Optoelectronic properties of lateral MoS <sub>2</sub> <i>p-n</i> homojunction implemented by selective <i>p</i> -type doping using nitrogen plasma. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 405102.	1.3	7
1158	Pattern Stimulated CVD Growth of 2D MoS <sub>2</sub> . <i>ChemistrySelect</i> , 2020, 5, 6709-6714.	0.7	2
1159	Two-Dimensional Palladium Diselenide with Strong In-Plane Optical Anisotropy and High Mobility Grown by Chemical Vapor Deposition. <i>Advanced Materials</i> , 2020, 32, e1906238.	11.1	81
1160	Atomic-scale engineering of chemical-vapor-deposition-grown 2D transition metal dichalcogenides for electrocatalysis. <i>Energy and Environmental Science</i> , 2020, 13, 1593-1616.	15.6	166
1161	Low-energy bands and optical properties of monolayer WS <sub>2</sub> . <i>Optik</i> , 2020, 209, 164581.	1.4	4
1162	General synthesis of two-dimensional van der Waals heterostructure arrays. <i>Nature</i> , 2020, 579, 368-374.	13.7	393
1163	Hydrogen Generation by Solar Water Splitting Using 2D Nanomaterials. <i>Solar Rrl</i> , 2020, 4, 2000050.	3.1	29
1164	Topological flat bands without magic angles in massive twisted bilayer graphenes. <i>Physical Review B</i> , 2020, 101, .	1.1	13
1165	Valley selectivity induced by magnetic adsorbates: Triplet oxygen on monolayer $MoS_2$ . <i>Physical Review B</i> , 2020, 101, .	1.1	13
1166	Van der waals heterojunctions for catalysis. <i>Materials Today Advances</i> , 2020, 6, 100059.	2.5	23

#	ARTICLE	IF	CITATIONS
1167	Fabrication, optical properties, and applications of twisted two-dimensional materials. <i>Nanophotonics</i> , 2020, 9, 1717-1742.	2.9	27
1168	Excellent thermoelectric performance induced by interface effect in MoS <sub>2</sub> /MoSe <sub>2</sub> van der Waals heterostructure. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 055302.	0.7	43
1169	Substitutional transition metal doping in MoS <sub>2</sub> : a first-principles study. <i>Nano Express</i> , 2020, 1, 010008.	1.2	20
1170	Light-matter interaction in van der Waals hetero-structures. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 333002.	0.7	22
1171	Optimized Metal Chalcogenides for Boosting Water Splitting. <i>Advanced Science</i> , 2020, 7, 1903070.	5.6	190
1172	Phonon Thermal Properties of Heterobilayers with a Molecular Dynamics Study. <i>International Journal of Thermophysics</i> , 2020, 41, 1.	1.0	8
1173	Complementary doping of van der Waals materials through controlled intercalation for monolithically integrated electronics. <i>Nano Research</i> , 2020, 13, 1369-1375.	5.8	10
1175	MoS <sub>2</sub> Van der Waals p-n Junctions Enabling Highly Selective Room-Temperature NO <sub>2</sub> Sensor. <i>Advanced Functional Materials</i> , 2020, 30, 2000435.	7.8	190
1176	Thickness-Controlled Synthesis of CoX <sub>2</sub> (X = S, Se, and Te) Single Crystalline 2D Layers with Linear Magnetoresistance and High Conductivity. <i>Chemistry of Materials</i> , 2020, 32, 2321-2329.	3.2	35
1177	Tunable photoelectronic properties of hydrogenated-silicene/halogenated-silicene superlattices for water splitting. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	18
1178	Epitaxial growth of metal-semiconductor van der Waals heterostructures NbS <sub>2</sub> /MoS <sub>2</sub> with enhanced performance of transistors and photodetectors. <i>Science China Materials</i> , 2020, 63, 1548-1559.	3.5	40
1179	Self-assembly In <sub>2</sub> Se <sub>3</sub> /SnSe <sub>2</sub> heterostructure array with suppressed dark current and enhanced photosensitivity for weak signal. <i>Science China Materials</i> , 2020, 63, 1560-1569.	3.5	24
1180	Photoinduced charge transfer in transition metal dichalcogenide heterojunctions towards next generation energy technologies. <i>Energy and Environmental Science</i> , 2020, 13, 2684-2740.	15.6	67
1181	Resonant energy transfer between hexagonal boron nitride quantum emitters and atomically layered transition metal dichalcogenides. <i>2D Materials</i> , 2020, 7, 045015.	2.0	6
1182	Structural and electronic properties of defective AlN/GaN hybrid nanostructures. <i>Computational Materials Science</i> , 2020, 183, 109860.	1.4	4
1183	Ultrasensitive Phototransistor Based on WSe <sub>2</sub> -MoS <sub>2</sub> van der Waals Heterojunction. <i>Nano Letters</i> , 2020, 20, 5741-5748.	4.5	133
1184	Universal Precise Growth of 2D Transition-Metal Dichalcogenides in Vertical Direction. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 35337-35344.	4.0	16
1185	Two-dimensional nanohybrid of MoS <sub>2</sub> and Rose Bengal: Facile solution growth and band structure probing. <i>Applied Surface Science</i> , 2020, 530, 147063.	3.1	12

#	ARTICLE	IF	CITATIONS
1186	Transport and Thermoelectric Properties of SnX (X = S or Se) Bilayers and Heterostructures. ACS Applied Energy Materials, 2020, 3, 6946-6955.	2.5	13
1187	Investigation of the electronic and thermoelectric properties of hydrogenated monolayer germanene under biaxial tensile and compressive strains by DFT approach. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 124, 114339.	1.3	10
1188	Strain-driven growth of ultra-long two-dimensional nano-channels. Nature Communications, 2020, 11, 772.	5.8	31
1189	Manufacturing strategies for wafer-scale two-dimensional transition metal dichalcogenide heterolayers. Journal of Materials Research, 2020, 35, 1350-1368.	1.2	12
1190	Engineering of the Heterointerface of Porous Carbon Nanofiber-Supported Nickel and Manganese Oxide Nanoparticle for Highly Efficient Bifunctional Oxygen Catalysis. Advanced Functional Materials, 2020, 30, 1910568.	7.8	92
1191	Synthesis of $2\text{H}\epsilon\text{-1T}\epsilon^2\text{WS}_2/\text{ReS}_2$ Heterophase Structures with Atomically Sharp Interface via Hydrogen-Triggered One-Pot Growth. Advanced Functional Materials, 2020, 30, 1910169.	7.8	42
1192	MoS <sub>2</sub> -Based Nanomaterials for Room-Temperature Gas Sensors. Advanced Materials Technologies, 2020, 5, 1901062.	3.0	138
1193	Out-of-Plane Homo Junction Enabled High Performance SnS <sub>2</sub> Lateral Phototransistor. Advanced Optical Materials, 2020, 8, 1901971.	3.6	27
1194	The biaxial strain induced properties of ReX <sub>2</sub> and ReXS (X = S, Se, Te) monolayers. Materials Research Express, 2020, 7, 055018.	0.8	4
1195	Transfer assembly for two-dimensional van der Waals heterostructures. 2D Materials, 2020, 7, 022005.	2.0	87
1196	Powerful combination of 2D g-C <sub>3</sub> N <sub>4</sub> and 2D nanomaterials for photocatalysis: Recent advances. Chemical Engineering Journal, 2020, 390, 124475.	6.6	205
1197	Epitaxial synthesis of ultrathin $\text{In}_2\text{Se}_3/\text{MoS}_2$ heterostructures with high visible/near-infrared photoresponse. Nanoscale, 2020, 12, 6480-6488.	2.8	42
1198	MOVPE of Large-Scale MoS <sub>2</sub> /WS <sub>2</sub> , WS <sub>2</sub> /MoS <sub>2</sub> , WS <sub>2</sub> /Graphene and MoS <sub>2</sub> /Graphene 2D-2D Heterostructures for Optoelectronic Applications. MRS Advances, 2020, 5, 1625-1633.	0.5	10
1199	Overview of Rational Design of Binary Alloy for the Synthesis of Two-Dimensional Materials. Surfaces, 2020, 3, 26-39.	1.0	0
1200	Magnetic ground state in $\text{FeTe}_2$ , and $\text{NiTe}_2$ monolayers: Antiparallel magnetic moments at chalcogen atoms. Physical Review B, 2020, 101, .	1.1	31
1201	Domain-size effect on the electronic properties of two-dimensional MoS <sub>2</sub> /WS <sub>2</sub> . Physical Review B, 2020, 101, .	1.1	1
1202	Optoelectronics of Multijunction Heterostructures of Transition Metal Dichalcogenides. Nano Letters, 2020, 20, 1934-1943.	4.5	27
1203	Interface-mediated noble metal deposition on transition metal dichalcogenide nanostructures. Nature Chemistry, 2020, 12, 284-293.	6.6	73

#	ARTICLE	IF	CITATIONS
1204	van der Waals Heterostructures based on Liquid Phase Exfoliated MoS <sub>2</sub> and WS <sub>2</sub> nanosheets. <i>Materials Today: Proceedings</i> , 2020, 21, 1840-1845.	0.9	4
1205	Polarization-dependent anisotropic Raman response of CVD-grown vertically stacked MoS <sub>2</sub> layers. <i>Journal of Raman Spectroscopy</i> , 2020, 51, 774-780.	1.2	16
1206	Promoting Crystal Distribution Uniformity Based on the CVD Method with the Aid of Finite Element Methods. <i>Crystal Growth and Design</i> , 2020, 20, 777-782.	1.4	3
1207	Large area, patterned growth of 2D MoS <sub>2</sub> and lateral MoS <sub>2</sub> -WS <sub>2</sub> heterostructures for nano- and opto-electronic applications. <i>Nanotechnology</i> , 2020, 31, 255603.	1.3	46
1208	How Clean Is Clean? Recipes for van der Waals Heterostructure Cleanliness Assessment. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 7701-7709.	4.0	20
1209	CVD grown bilayer WSe <sub>2</sub> /MoSe <sub>2</sub> heterostructures for high performance tunnel transistors. <i>Japanese Journal of Applied Physics</i> , 2020, 59, SGCH05.	0.8	13
1210	Vertical Heterostructure of SnS-MoS <sub>2</sub> Synthesized by Sulfur-Preloaded Chemical Vapor Deposition. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 7423-7431.	4.0	22
1211	Anion charge density disturbance induces in-plane instabilities within 2D lateral heterojunction of TMD: An atomic view. <i>Nano Energy</i> , 2020, 70, 104484.	8.2	6
1212	Interface engineering by atomically thin layer tungsten disulfide catalyst for high performance Li-S battery. <i>Materials Today Energy</i> , 2020, 16, 100380.	2.5	13
1213	Theoretical design of SnTe/GeS lateral heterostructures: A first-principles study. <i>Physica B: Condensed Matter</i> , 2020, 583, 412047.	1.3	8
1214	Production and processing of graphene and related materials. <i>2D Materials</i> , 2020, 7, 022001.	2.0	333
1215	Ultrahigh Stability 3D TI Bi <sub>2</sub> Se <sub>3</sub> /MoO <sub>3</sub> Thin Film Heterojunction Infrared Photodetector at Optical Communication Waveband. <i>Advanced Functional Materials</i> , 2020, 30, 1909659.	7.8	50
1216	Lateral 2D WSe <sub>2</sub> p-n Homojunction Formed by Efficient Charge-Carrier Type Modulation for High-Performance Optoelectronics. <i>Advanced Materials</i> , 2020, 32, e1906499.	11.1	103
1217	Ultrathin Ni(O) <sub>2</sub> -Embedded Ni(OH) <sub>2</sub> Heterostructured Nanosheets with Enhanced Electrochemical Overall Water Splitting. <i>Advanced Materials</i> , 2020, 32, e1906915.	11.1	259
1218	Scalable photonic sources using two-dimensional lead halide perovskite superlattices. <i>Nature Communications</i> , 2020, 11, 387.	5.8	29
1219	Direct optical-structure correlation in atomically thin dichalcogenides and heterostructures. <i>Nano Research</i> , 2020, 13, 1363-1368.	5.8	12
1220	Orientational DNA binding and directed transport on nanomaterial heterojunctions. <i>Nanoscale</i> , 2020, 12, 5217-5226.	2.8	29
1221	Four-layer $\text{SnSe}_2/\text{SnSe}$ heterostructure with strong visible light absorbance and ultrahigh carrier mobility. <i>Physical Review Applied</i> , 2020, 13, 044002.	1.5	8

#	ARTICLE	IF	CITATIONS
1222	Recent advancements in heterostructured interface engineering for hydrogen evolution reaction electrocatalysis. <i>Journal of Materials Chemistry A</i> , 2020, 8, 6926-6956.	5.2	158
1223	Spatially controlled lateral heterostructures of graphene and transition metal dichalcogenides toward atomically thin and multi-functional electronics. <i>Nanoscale</i> , 2020, 12, 5286-5292.	2.8	8
1224	Two-dimensional halide perovskite lateral epitaxial heterostructures. <i>Nature</i> , 2020, 580, 614-620.	13.7	284
1225	Rational design of MoNi sulfide yolk-shell heterostructure nanospheres as the efficient sulfur hosts for high-performance lithium-sulfur batteries. <i>Chemical Engineering Journal</i> , 2020, 394, 124983.	6.6	31
1226	Functional hetero-interfaces in atomically thin materials. <i>Materials Today</i> , 2020, 37, 74-92.	8.3	21
1227	Effects of Surface Terminations of 2D Bi <sub>2</sub> WO <sub>6</sub> on Photocatalytic Hydrogen Evolution from Water Splitting. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 20067-20074.	4.0	78
1228	Transition-Metal Substitution-Induced Lattice Strain and Electrical Polarity Reversal in Monolayer WS <sub>2</sub> . <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 18650-18659.	4.0	20
1229	Conductive Atomic Force Microscopy of Semiconducting Transition Metal Dichalcogenides and Heterostructures. <i>Nanomaterials</i> , 2020, 10, 803.	1.9	34
1230	First-Principles Study of Strain Modulation in S <sub>3</sub> P <sub>2</sub> /Black Phosphorene vdW Heterostructured Nanosheets for Flexible Electronics. <i>ACS Applied Nano Materials</i> , 2020, 3, 4407-4417.	2.4	20
1231	Material dependence of band-to-band tunneling in van der Waals heterojunctions of transition metal dichalcogenides. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 255107.	1.3	6
1232	First-Principles Study of the Contact Resistance at 2D Metal/2D Semiconductor Heterojunctions. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 2731.	1.3	7
1233	Automated Assembly of Wafer-Scale 2D TMD Heterostructures of Arbitrary Layer Orientation and Stacking Sequence Using Water Dissolvable Salt Substrates. <i>Nano Letters</i> , 2020, 20, 3925-3934.	4.5	25
1234	Nanoscale Interfaces of Janus Monolayers of Transition Metal Dichalcogenides for 2D Photovoltaic and Piezoelectric Applications. <i>Journal of Physical Chemistry C</i> , 2020, 124, 10385-10397.	1.5	94
1235	Vertical Chemical Vapor Deposition Growth of Highly Uniform 2D Transition Metal Dichalcogenides. <i>ACS Nano</i> , 2020, 14, 4646-4653.	7.3	101
1236	Scanning Moiré Fringe Method: A Superior Approach to Perceive Defects, Interfaces, and Distortion in 2D Materials. <i>ACS Nano</i> , 2020, 14, 6034-6042.	7.3	13
1237	Classical and quantum phases in hexagonal boron nitride-combined van der Waals heterostructures. <i>Informa-Materially</i> , 2021, 3, 252-270.	8.5	5
1238	Correlating the electronic structures of metallic/semiconducting MoTe <sub>2</sub> interface to its atomic structures. <i>National Science Review</i> , 2021, 8, nwa087.	4.6	5
1239	Interface engineering in transition metal-based heterostructures for oxygen electrocatalysis. <i>Materials Chemistry Frontiers</i> , 2021, 5, 1033-1059.	3.2	64

#	ARTICLE	IF	CITATIONS
1240	Rational Synthesis of 1D Hyperbranched Heterostructures with Enhanced Optoelectronic Performance. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 3475-3480.	7.2	12
1241	Staggered band offset induced high performance opto-electronic devices: Atomically thin vertically stacked GaSe-SnS <sub>2</sub> van der Waals p-n heterostructures. <i>Applied Surface Science</i> , 2021, 535, 147480.	3.1	16
1242	Recent progresses of NMOS and CMOS logic functions based on two-dimensional semiconductors. <i>Nano Research</i> , 2021, 14, 1768-1783.	5.8	19
1243	Transition metal dichalcogenide-based mixed-dimensional heterostructures for visible-light-driven photocatalysis: Dimensionality and interface engineering. <i>Nano Research</i> , 2021, 14, 2003-2022.	5.8	61
1244	Topological structures of transition metal dichalcogenides: A review on fabrication, effects, applications, and potential. <i>InformaÅnÅ-MateriÅly</i> , 2021, 3, 133-154.	8.5	29
1245	InÅplane epitaxial growth of 2D CoSeÅWSe 2 metalÅsemiconductor lateral heterostructures with improved WSe 2 transistors performance. <i>InformaÅnÅ-MateriÅly</i> , 2021, 3, 222-228.	8.5	21
1246	Strong exciton-photon interaction and lasing of two-dimensional transition metal dichalcogenide semiconductors. <i>Nano Research</i> , 2021, 14, 1937-1954.	5.8	36
1247	Tuning electronic properties in the C3N/C3B lateral heterostructures. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 126, 114497.	1.3	4
1248	A two-dimensional MoS <sub>2</sub> /SnS heterostructure for promising photocatalytic performance: First-principles investigations. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 126, 114453.	1.3	17
1249	Stacking of 2D Materials. <i>Advanced Functional Materials</i> , 2021, 31, 2007810.	7.8	123
1250	All-2D architectures toward advanced electronic and optoelectronic devices. <i>Nano Today</i> , 2021, 36, 101026.	6.2	35
1251	Synthesis of twoÅdimensional transition metal dichalcogenides for electronics and optoelectronics. <i>InformaÅnÅ-MateriÅly</i> , 2021, 3, 362-396.	8.5	87
1252	The Art of Constructing Black Phosphorus Nanosheet Based Heterostructures: From 2D to 3D. <i>Advanced Materials</i> , 2021, 33, e2005254.	11.1	33
1253	CarbonÅGraphitic Carbon Nitride Hybrids for Heterogeneous Photocatalysis. <i>Small</i> , 2021, 17, e2005231.	5.2	96
1254	Emerging LightÅEmitting Materials for Photonic Integration. <i>Advanced Materials</i> , 2021, 33, e2003733.	11.1	25
1255	Structure, Preparation, and Applications of 2D MaterialÅBased MetalÅSemiconductor Heterostructures. <i>Small Structures</i> , 2021, 2, 2000093.	6.9	71
1256	Recent progress about 2D metal dichalcogenides: Synthesis and application in photodetectors. <i>Nano Research</i> , 2021, 14, 1819-1839.	5.8	14
1257	<scp>WaferÅscale</scp> vertical van der <scp>Waals</scp> heterostructures. <i>InformaÅnÅ-MateriÅly</i> , 2021, 3, 3-21.	8.5	70

#	ARTICLE	IF	CITATIONS
1258	First-principles studies of MoF <sub>6</sub> absorption on hydroxylated and non-hydroxylated metal oxide surfaces and implications for atomic layer deposition of MoS <sub>2</sub> . <i>Applied Surface Science</i> , 2021, 541, 148461.	3.1	5
1259	Rational Synthesis of 1D Hyperbranched Heterostructures with Enhanced Optoelectronic Performance. <i>Angewandte Chemie</i> , 2021, 133, 3517-3522.	1.6	1
1260	Lateral epitaxial growth of two-dimensional heterostructure linked by gold adatoms. <i>Nano Research</i> , 2021, 14, 887-892.	5.8	3
1261	Two-dimensional Janus van der Waals heterojunctions: A review of recent research progresses. <i>Frontiers of Physics</i> , 2021, 16, 1.	2.4	37
1262	Defect Engineering in Ambipolar Layered Materials for Mode-Regulable Nociceptor. <i>Advanced Functional Materials</i> , 2021, 31, 2007587.	7.8	19
1263	Monolayer MoS <sub>2</sub> epitaxy. <i>Nano Research</i> , 2021, 14, 1598-1608.	5.8	11
1264	Strong coupling and pressure engineering in WSe <sub>2</sub> /MoSe <sub>2</sub> heterobilayers. <i>Nature Physics</i> , 2021, 17, 92-98.	6.5	140
1265	Synthesis of magnetic two-dimensional materials by chemical vapor deposition. <i>Nano Research</i> , 2021, 14, 1789-1801.	5.8	25
1266	Strategies to improve electrocatalytic and photocatalytic performance of two-dimensional materials for hydrogen evolution reaction. <i>Chinese Journal of Catalysis</i> , 2021, 42, 511-556.	6.9	131
1267	First-principles study of graphenylene/MoX <sub>2</sub> (X = S, Te, and Se) van der Waals heterostructures. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 14315-14324.	1.3	9
1268	A two-step chemical vapor deposition process for the growth of continuous vertical heterostructure WSe <sub>2</sub> /h-BN and its optical properties. <i>RSC Advances</i> , 2021, 11, 16962-16969.	1.7	7
1269	Plasmon-Enhanced Photovoltaic Characteristics of Black Phosphorus-MoS <sub>2</sub> Heterojunction. <i>IEEE Open Journal of Nanotechnology</i> , 2021, 2, 41-51.	0.9	4
1270	Two-dimensional WS <sub>2</sub> /MoS <sub>2</sub> heterostructures: properties and applications. <i>Nanoscale</i> , 2021, 13, 5594-5619.	2.8	73
1271	Preparation of Monolayer MoS <sub>2</sub> Film from Liquid Precursor. <i>Advances in Condensed Matter Physics</i> , 2021, 10, 66-71.	0.1	0
1272	In Situ Characterization of Transformations in Nanoscale Layered Metal Chalcogenide Materials: A Review. <i>ChemNanoMat</i> , 2021, 7, 208-222.	1.5	6
1273	Research Progress of External Electric Field Regulating TMDCs and Its Heterojunction Energy Band. <i>Advances in Condensed Matter Physics</i> , 2021, 10, 9-14.	0.1	0
1274	Entering a Two-Dimensional Materials World. <i>Springer Series in Solid-state Sciences</i> , 2021, , 17-59.	0.3	0
1275	Direct Synthesis and Enhanced Rectification of Alloy 2D Type-II MoS <sub>2</sub> (1-x)Se <sub>2x</sub> /SnS <sub>2</sub> (1-x)S <sub>2x</sub> Heterostructures. <i>Advanced Materials</i> , 2021, 33, e2006908.		

#	ARTICLE	IF	CITATIONS
1276	Atomically Controlled Two-Dimensional Heterostructures: Synthesis, Characterization and Applications. <i>Engineering Materials</i> , 2021, , 201-235.	0.3	0
1277	MoS <sub>2</sub> flake as a van der Waals homostructure: luminescence properties and optical anisotropy. <i>Nanoscale</i> , 2021, 13, 17566-17575.	2.8	7
1278	Low-Temperature Synthesis of Wafer-Scale MoS <sub>2</sub> â€“WS <sub>2</sub> Vertical Heterostructures by Single-Step Penetrative Plasma Sulfurization. <i>ACS Nano</i> , 2021, 15, 707-718.	7.3	34
1279	Controllable preparation and photoelectric applications of two-dimensional in-plane and van der Waals heterostructures. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2021, 70, 027901-027901.	0.2	5
1280	Efficient Mechanical Stress Transfer in Multilayer Graphene with a Ladder-like Architecture. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 4473-4484.	4.0	9
1281	Core@shell and lateral heterostructures composed of SnS and NbS <sub>2</sub> . <i>Nanoscale</i> , 2021, 13, 5489-5496.	2.8	7
1282	Electronic properties of hybrid WS <sub>2</sub> /MoS <sub>2</sub> multilayer on flexible PET. <i>Materials Research Express</i> , 2021, 8, 016409.	0.8	2
1283	Substitution of copper atoms into defect-rich molybdenum sulfides and their electrocatalytic activity. <i>Nanoscale Advances</i> , 2021, 3, 1747-1757.	2.2	3
1284	Raman scattering investigation of twisted WS <sub>2</sub> /MoS <sub>2</sub> heterostructures: interlayer mechanical coupling versus charge transfer. <i>Nano Research</i> , 2021, 14, 2215-2223.	5.8	29
1285	Laser-assisted two dimensional material electronic and optoelectronic devices. <i>Journal of Materials Chemistry C</i> , 2021, 9, 2599-2619.	2.7	18
1286	Defect engineering and characterization of active sites for efficient electrocatalysis. <i>Nanoscale</i> , 2021, 13, 3327-3345.	2.8	60
1287	Review and comparison of layer transfer methods for two-dimensional materials for emerging applications. <i>Chemical Society Reviews</i> , 2021, 50, 11032-11054.	18.7	61
1288	Computational discovery of stable phases of graphene and h-BN van der Waals heterostructures composed of group IIIâ€“V binary compounds. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	4
1289	Charged Exciton Kinetics in Monolayer MoSe <sub>2</sub> near Ferroelectric Domain Walls in Periodically Poled LiNbO <sub>3</sub> . <i>Nano Letters</i> , 2021, 21, 959-966.	4.5	7
1290	Epitaxial growth of CsPbBr <sub>3</sub> -PbS vertical and lateral heterostructures for visible to infrared broadband photodetection. <i>Nano Research</i> , 2021, 14, 3879-3885.	5.8	25
1291	A comparative study of electrical and opto-electrical properties of a few-layer p-WSe <sub>2</sub> /n-WS <sub>2</sub> heterojunction diode on SiO <sub>2</sub> and h-BN substrates. <i>RSC Advances</i> , 2021, 11, 17901-17909.	1.7	6
1292	Structuring Possibilities. <i>Springer Series in Solid-state Sciences</i> , 2021, , 209-228.	0.3	0
1293	First principles calculation of two-dimensional materials at an atomic scale. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2021, 70, 027301.	0.2	3



#	ARTICLE	IF	CITATIONS
1294	Ideal PN photodiode using doping controlled WSe <sub>2</sub> /MoSe <sub>2</sub> lateral heterostructure. Journal of Materials Chemistry C, 2021, 9, 3504-3512.	2.7	16
1295	Giant Photoluminescence Enhancement and Resonant Charge Transfer in Atomically Thin Two-Dimensional Cr <sub>2</sub> Ge <sub>2</sub> Te <sub>6</sub> /WS <sub>2</sub> Heterostructures. ACS Applied Materials & Interfaces, 2021, 13, 7423-7433.	4.0	19
1296	Strong localization effects in the photoluminescence of transition metal dichalcogenide heterobilayers. 2D Materials, 2021, 8, 025028.	2.0	19
1297	Comparative simulation study of intra-layer band-to-band tunneling in monolayer transition metal dichalcogenides. Japanese Journal of Applied Physics, 2021, 60, SBBH12.	0.8	1
1298	Interface dark excitons at sharp lateral two-dimensional heterostructures. Physica Scripta, 2021, 96, 045815.	1.2	0
1299	Anomalous thickness dependence of Curie temperature in air-stable two-dimensional ferromagnetic 1T-CrTe <sub>2</sub> grown by chemical vapor deposition. Nature Communications, 2021, 12, 809.	5.8	196
1300	First principle studies on the structures, electronic properties and Raman spectrums of monolayer WX <sub>2</sub> (X = S, Se, Te) under strain condition. Modern Physics Letters B, 2021, 35, 2150135.	1.0	3
1301	Quantum spin Hall effect in antiferromagnetic topological heterobilayers. Physical Review B, 2021, 103, .	1.1	15
1302	CVD Growth of Large-scale and Highly Crystalline 2D Chromium Telluride Nanoflakes. ChemNanoMat, 2021, 7, 323-327.	1.5	16
1303	Improving the thermoelectric properties of graphene through zigzag graphene-graphyne nanoribbon heterostructures. European Physical Journal B, 2021, 94, 1.	0.6	3
1304	Liquid metal intercalation of epitaxial graphene: Large-area galleene layer fabrication through gallium self-propagation at ambient conditions. Physical Review Materials, 2021, 5, .	0.9	10
1305	Low-Temperature and Large-Scale Production of a Transition Metal Sulfide Vertical Heterostructure and Its Application for Photodetectors. ACS Applied Materials & Interfaces, 2021, 13, 8710-8717.	4.0	27
1306	Recent Advances in Two-Dimensional Heterostructures: From Band Alignment Engineering to Advanced Optoelectronic Applications. Advanced Electronic Materials, 2021, 7, 2001174.	2.6	34
1307	Two-step chemical vapor deposition synthesis of NiTe <sub>2</sub> -MoS <sub>2</sub> vertical junctions with improved MoS <sub>2</sub> transistor performance. Nanotechnology, 2021, 32, 235204.	1.3	12
1308	Stacking Order Effects on the Electronic and Optical Properties of Graphene/Transition Metal Dichalcogenide Van der Waals Heterostructures. ACS Applied Electronic Materials, 2021, 3, 1671-1680.	2.0	12
1309	Study of band alignment at MoS <sub>2</sub> /SiO <sub>2</sub> interfaces grown by pulsed laser deposition method. Journal of Applied Physics, 2021, 129, 115303.	1.1	3
1310	Tunable electronic properties of two-dimensional type-I 1T-SN <sub>2</sub> /hBN and type-II 1T-XN <sub>2</sub> /hBN (X=Se, Te) van der Waals heterostructures from first-principle study. Applied Surface Science, 2021, 542, 148659.	3.1	6
1311	Polymer nanocomposites with aligned two-dimensional materials. Progress in Polymer Science, 2021, 114, 101360.	11.8	39

#	ARTICLE	IF	CITATIONS
1312	Generalized Wigner crystallization in moiré materials. Physical Review B, 2021, 103, .	1.1	46
1313	Influence of adsorption small molecules atrazine on nonvolatile resistive switching behavior in Co-Al layered double hydroxide films. Journal of Materials Science: Materials in Electronics, 2021, 32, 8304-8316.	1.1	1
1314	Controllable Epitaxial Growth of Large-Area MoS <sub>2</sub> /WS <sub>2</sub> Vertical Heterostructures by Confined-Space Chemical Vapor Deposition. Small, 2021, 17, e2007312.	5.2	37
1315	Quantum geometric exciton drift velocity. Physical Review B, 2021, 103, .	1.1	7
1316	Improved Contact Resistance by a Single Atomic Layer Tunneling Effect in WS <sub>2</sub> /MoTe <sub>2</sub> Heterostructures. Advanced Science, 2021, 8, 2100102.	5.6	11
1317	Work Function Engineering of 2D Materials: The Role of Polar Edge Reconstructions. Journal of Physical Chemistry Letters, 2021, 12, 2320-2326.	2.1	18
1318	High-order superlattices by rolling up van der Waals heterostructures. Nature, 2021, 591, 385-390.	13.7	163
1319	Recent Advances in 2D Group VB Transition Metal Chalcogenides. Small, 2021, 17, e2005411.	5.2	20
1320	Advances in transition metal dichalcogenide-based two-dimensional nanomaterials. Materials Today Chemistry, 2021, 19, 100399.	1.7	50
1321	Interlayer exciton formation, relaxation, and transport in TMD van der Waals heterostructures. Light: Science and Applications, 2021, 10, 72.	7.7	184
1322	Self-Assembled Borophene/Graphene Nanoribbon Mixed-Dimensional Heterostructures. Nano Letters, 2021, 21, 4029-4035.	4.5	11
1323	1D metallic states at 2D transition metal dichalcogenide semiconductor heterojunctions. Npj 2D Materials and Applications, 2021, 5, .	3.9	2
1324	Enhanced interlayer coupling and efficient photodetection response of <i>in-situ</i> grown MoS <sub>2</sub> -WS <sub>2</sub> van der Waals heterostructures. Journal of Applied Physics, 2021, 129, .	1.1	13
1325	Topological phases in $N$ -layer ABC graphene/boron nitride moiré superlattices. Physical Review B, 2021, 103, .	1.1	5
1326	2D Heterostructured Nanofluidic Channels for Enhanced Desalination Performance of Graphene Oxide Membranes. ACS Nano, 2021, 15, 7586-7595.	7.3	101
1327	Metastable 1T <sup>-2</sup> -phase group VIB transition metal dichalcogenide crystals. Nature Materials, 2021, 20, 1113-1120.	13.3	119
1328	High-Resolution Optical Imaging and Sensing Using Quantum Emitters in Hexagonal Boron-Nitride. Frontiers in Physics, 2021, 9, .	1.0	4
1329	All-optical control of charge transfer and interlayer excitons in transition metal dichalcogenide heterostructures. Physical Review B, 2021, 103, .	1.1	7

#	ARTICLE	IF	CITATIONS
1330	Multimodal Nanoscopic Study of Atomic Diffusion and Related Localized Optoelectronic Response of WS <sub>2</sub> /MoS <sub>2</sub> Lateral Heterojunctions. ACS Applied Materials & Interfaces, 2021, 13, 20361-20370.	4.0	9
1331	Two-dimensional nanomaterials with engineered bandgap: Synthesis, properties, applications. Nano Today, 2021, 37, 101059.	6.2	82
1332	2D/2D Heterostructures: Rational Design for Advanced Batteries and Electrocatalysis. Energy and Environmental Materials, 2022, 5, 115-132.	7.3	70
1333	High-performance MoO <sub>x</sub> /n-Si heterojunction NIR photodetector with aluminum oxide as a tunneling passivation interlayer. Nanotechnology, 2021, 32, 275502.	1.3	18
1334	The More, the Better—Recent Advances in Construction of 2D Multi-Heterostructures. Advanced Functional Materials, 2021, 31, 2102049.	7.8	27
1335	Diverse electronic and magnetic properties of CrS <sub>2</sub> enabling strain-controlled 2D lateral heterostructure spintronic devices. Npj Computational Materials, 2021, 7, .	3.5	35
1336	Single-Crystalline Metallic Films Induced by van der Waals Epitaxy on Black Phosphorus. Chemistry of Materials, 2021, 33, 3593-3601.	3.2	6
1337	Van der Waals Integration Based on Two-Dimensional Materials for High-Performance Infrared Photodetectors. Advanced Functional Materials, 2021, 31, 2103106.	7.8	112
1338	Liquid-Metal-Assisted Growth of Vertical GaSe/MoS <sub>2</sub> p-n Heterojunctions for Sensitive Self-Driven Photodetectors. ACS Nano, 2021, 15, 10039-10047.	7.3	73
1339	Synthesis of Large-Area Uniform MoS <sub>2</sub> WS <sub>2</sub> Lateral Heterojunction Nanosheets for Photodetectors. ACS Applied Nano Materials, 2021, 4, 5522-5530.	2.4	17
1340	Effects of Different edge contacts on the photocatalytic and optical properties of blue phosphorene/arsenene lateral heterostructures. Semiconductor Science and Technology, 0, , .	1.0	0
1341	2D Semiconductor Nanomaterials and Heterostructures: Controlled Synthesis and Functional Applications. Nanoscale Research Letters, 2021, 16, 94.	3.1	20
1342	Synthesis of lateral heterostructure of 2D materials for optoelectronic devices: challenges and opportunities. Emergent Materials, 2021, 4, 923-949.	3.2	14
1343	CuP: A new type of anisotropic and very stable Dirac cone material. Physica E: Low-Dimensional Systems and Nanostructures, 2021, 129, 114637.	1.3	0
1344	Parity-Dependent Moiré Superlattices in $\text{Graphene} \times \text{h} \times \text{Graphene}$ Heterostructures: A Route to Mechanomutable Metamaterials. Physical Review Letters, 2021, 126, 216101.		
1345	Strain-Dependent Band Structures and Electronic Properties in Sb/Bi Lateral Heterostructures Calculated by First Principles. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100148.	1.2	9
1346	Synergistic enhancement of photoluminescent intensity in monolayer molybdenum disulfide embedded with plasmonic nanostructures for catalytic sensing. 2D Materials, 0, , .	2.0	4
1347	The fabrication of atomically thin-MoS <sub>2</sub> based photoanodes for photoelectrochemical energy conversion and environment remediation: A review. Green Energy and Environment, 2022, 7, 372-393.	4.7	8

#	ARTICLE	IF	CITATIONS
1348	1D <i>p</i> - <i>n</i> Junction Electronic and Optoelectronic Devices from Transition Metal Dichalcogenide Lateral Heterostructures Grown by One-Pot Chemical Vapor Deposition Synthesis. <i>Advanced Functional Materials</i> , 2021, 31, 2101086.	7.8	38
1349	Low-Temperature and High-Quality Growth of Bi <sub>2</sub> O <sub>2</sub> Se Layered Semiconductors via Cracking Metal-Organic Chemical Vapor Deposition. <i>ACS Nano</i> , 2021, 15, 8715-8723.	7.3	35
1350	Gate-Controlled Rectifying Direction in PdSe <sub>2</sub> Lateral Heterojunction Diode. <i>Advanced Electronic Materials</i> , 2021, 7, 2100005.	2.6	5
1351	Two-Dimensional Lateral Heterostructures Made by Selective Reaction on a Patterned Monolayer MoS <sub>2</sub> Matrix. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 26143-26151.	4.0	5
1352	Visualization of band offsets at few-layer MoS <sub>2</sub> /Ge heterojunction. <i>Nanotechnology</i> , 2021, 32, 375711.	1.3	8
1353	Photonic analog of bilayer graphene. <i>Physical Review B</i> , 2021, 103, .	1.1	26
1354	2D Material-Based Heterostructures for Rechargeable Batteries. <i>Advanced Energy Materials</i> , 2022, 12, 2100864.	10.2	91
1355	Revealing atomically sharp interfaces of two-dimensional lateral heterostructures by second harmonic generation. <i>2D Materials</i> , 2021, 8, 035051.	2.0	9
1356	Valley-Dependent Interlayer Excitons in Magnetic WSe <sub>2</sub> /CrI <sub>3</sub> . <i>Nano Letters</i> , 2021, 21, 5173-5178.	4.5	21
1357	Light Absorption and Emission Dominated by Trions in the Type-I van der Waals Heterostructures. <i>ACS Photonics</i> , 2021, 8, 1972-1978.	3.2	10
1358	Accelerating photocatalytic hydrogen evolution of Ta <sub>2</sub> O <sub>5</sub> /g-C <sub>3</sub> N <sub>4</sub> via nanostructure engineering and surface assembly. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 20516-20523.	3.8	11
1359	Chemical Vapor Deposition of Superconducting FeTe <sub>1-x</sub> Se <sub>x</sub> Nanosheets. <i>Nano Letters</i> , 2021, 21, 5338-5344.	4.5	15
1360	Tuning the electronic properties and band alignment of GeSe/phosphorene lateral heterostructure. <i>Computational Materials Science</i> , 2021, 195, 110501.	1.4	4
1361	Two-Dimensional Metal Chalcogenide Heterostructures: Designed Growth and Emerging Novel Applications. <i>Advanced Materials Interfaces</i> , 2021, 8, 2100515.	1.9	3
1362	Improved thermal stability and tunable interfacial thermal resistance in a phosphorene/hBN bilayer heterostructure. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 131, 114761.	1.3	5
1363	Fracture fingerprint of polycrystalline C <sub>3</sub> N nanosheets: Theoretical basis. <i>Journal of Molecular Graphics and Modelling</i> , 2021, 106, 107899.	1.3	16
1364	2D van der Waals Heterojunction Nanophotonic Devices: From Fabrication to Performance. <i>Advanced Functional Materials</i> , 2021, 31, 2104260.	7.8	32
1365	Tunable Schottky barriers and electronic properties in van der Waals heterostructures of semiconducting monolayer gold sulfides and graphene. <i>Applied Surface Science</i> , 2021, 555, 149654.	3.1	7

#	ARTICLE	IF	CITATIONS
1366	Memristive Behavior in One-Dimensional Hexagonal Boron Nitride/Carbon Nanotube Heterostructure Assemblies. ACS Applied Electronic Materials, 2021, 3, 3555-3566.	2.0	11
1367	3D-Printed Topological MoS <sub>2</sub> /MoSe <sub>2</sub> Heterostructures for Macroscale Superlubricity. ACS Applied Materials & Interfaces, 2021, 13, 34984-34995.	4.0	17
1368	Atomic Scale Investigation of Interfaces in MoS <sub>2</sub> -ReS <sub>2</sub> In-plane Heterostructures Using High Resolution S/TEM. Microscopy and Microanalysis, 2021, 27, 640-641.	0.2	0
1369	Preparation Engineering of Two-Dimensional Heterostructures via Bottom-Up Growth for Device Applications. ACS Nano, 2021, 15, 11040-11065.	7.3	22
1370	Enhanced and spin-dependent infrared optical response of silicene/silicane superlattices with Cr adsorption. Journal Physics D: Applied Physics, 2021, 54, 405106.	1.3	0
1371	Spatially Controlled Preparation of Layered Metallic Semiconducting Metal Chalcogenide Heterostructures. ACS Nano, 2021, 15, 12171-12179.	7.3	9
1372	Influence of van der waals heterostructures of 2D materials on catalytic performance of ZnO and its applications in energy: A review. International Journal of Hydrogen Energy, 2021, 46, 25413-25423.	3.8	14
1373	Autonomous reinforcement learning agent for stretchable kirigami design of 2D materials. Npj Computational Materials, 2021, 7, .	3.5	13
1374	Vortex Oriented Ferroelectric Domains in SnTe/PbTe Monolayer Lateral Heterostructures. Advanced Materials, 2021, 33, e2102267.	11.1	11
1375	Spin orbit coupling induced enhancement of thermoelectric performance of HfX <sub>2</sub> (X = S, Se) and its Janus monolayer. Journal of Alloys and Compounds, 2021, 872, 159704.	2.8	40
1376	Remote Passivation in Two-Dimensional Materials: The Case of the Monolayer Bilayer Lateral Junction of MoSe <sub>2</sub> . Journal of Physical Chemistry Letters, 2021, 12, 8046-8052.	2.1	1
1377	Insights into enhancing photocatalytic reduction of CO <sub>2</sub> : Substitutional defect strategy of modified g-C <sub>3</sub> N <sub>4</sub> by experimental and theoretical calculation approaches. Journal of Alloys and Compounds, 2021, 871, 159464.	2.8	25
1378	2D Metallic Transition Metal Dichalcogenides: Structures, Synthesis, Properties, and Applications. Advanced Functional Materials, 2021, 31, 2105132.	7.8	111
1379	Electronic and Optical Properties of Atomic-Scale Heterostructure Based on MXene and MN (M = Al, Tj ETQq1 1 0.784314 rgBT /Overlo	1.9	93
1380	Defects inducing anomalous exciton kinetics in monolayer WS <sub>2</sub> . Nano Research, 2022, 15, 1616-1622.	5.8	9
1381	Harmonic generation in transition metal dichalcogenides and their heterostructures. Materials Today, 2021, 50, 570-586.	8.3	14
1382	Designing artificial two-dimensional landscapes via atomic-layer substitution. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	43
1383	Nanotube Based 1D Heterostructures Coupled by van der Waals Forces. Small, 2021, 17, e2102585.	5.2	21

#	ARTICLE	IF	CITATIONS
1384	Two-dimensional heterostructures and their device applications: progress, challenges and opportunities—review. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 433001.	1.3	30
1385	Natural van der Waals heterostructure cylindrite with highly anisotropic optical responses. <i>Npj 2D Materials and Applications</i> , 2021, 5, .	3.9	14
1386	Capturing 3D atomic defects and phonon localization at the 2D heterostructure interface. <i>Science Advances</i> , 2021, 7, eabi6699.	4.7	13
1387	Review on engineering two-dimensional nanomaterials for promoting efficiency and stability of perovskite solar cells. <i>Journal of Energy Chemistry</i> , 2022, 68, 154-175.	7.1	11
1388	Physical insights on transistors based on lateral heterostructures of monolayer and multilayer PtSe <sub>2</sub> via Ab initio modelling of interfaces. <i>Scientific Reports</i> , 2021, 11, 18482.	1.6	5
1389	Chemical Etching of Screw Dislocated Transition Metal Dichalcogenides. <i>Nano Letters</i> , 2021, 21, 7815-7822.	4.5	17
1390	Two-Dimensional Materials for Advanced Solar Cells. , 0, , .		0
1391	Multilayered Vertical Heterostructures Comprised of MoS <sub>2</sub> and WS <sub>2</sub> Nanosheets for Optoelectronics. <i>ACS Applied Nano Materials</i> , 2021, 4, 9293-9302.	2.4	9
1392	Constructing a coplanar heterojunction through enhanced ĩ€-ĩ€ conjugation in g-C <sub>3</sub> N <sub>4</sub> for efficient solar-driven water splitting. <i>Chinese Chemical Letters</i> , 2022, 33, 2579-2584.	4.8	18
1393	Near-field optical imaging and spectroscopy of 2D-TMDs. <i>Nanophotonics</i> , 2021, 10, 3397-3415.	2.9	19
1394	Binary-ternary transition metal chalcogenides interlayer coupling in van der Waals type-II heterostructure for visible-infrared photodetector with efficient suppression dark currents. <i>Nano Research</i> , 2022, 15, 2689-2696.	5.8	16
1395	Bandgap Tuned WS <sub>2</sub> Thin-Film Photodetector by Strain Gradient in van der Waals Effective Homojunctions. <i>Advanced Optical Materials</i> , 2021, 9, 2101310.	3.6	13
1396	Electronic and transport properties of TMDC planar superlattices: effective Hamiltonian approach. <i>Physica Scripta</i> , 2021, 96, 125808.	1.2	5
1397	Unconventional van der Waals heterostructures beyond stacking. <i>IScience</i> , 2021, 24, 103050.	1.9	4
1398	Recent progress in the synthesis of novel two-dimensional van der Waals materials. <i>National Science Review</i> , 2022, 9, nwab164.	4.6	50
1399	Etching-Free Transfer and Nanoimaging of CVD-Grown MoS <sub>2</sub> Monolayers. <i>Journal of Physical Chemistry C</i> , 2021, 125, 21011-21017.	1.5	2
1400	Van der Waals heterostructures with one-dimensional atomic crystals. <i>Progress in Materials Science</i> , 2021, 122, 100856.	16.0	29
1401	Interfacing 2D M <sub>2</sub> X (M=Na, K, Cs; X=O, S, Se, Te) monolayers for 2D excitonic and tandem solar cells. <i>Applied Surface Science</i> , 2021, 563, 150304.	3.1	18

#	ARTICLE	IF	CITATIONS
1402	Band and optical properties of arsenene and antimonene lateral heterostructure by first-principles calculations. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 134, 114933.	1.3	17
1403	Electric field tunable bandgap and anisotropic high carrier mobility in SiAs <sub>2</sub> /GeAs <sub>2</sub> lateral heterostructure. <i>Computational Materials Science</i> , 2021, 198, 110697.	1.4	6
1404	Synthesis of ZnS-CuS-Bi nanonail heterostructures and funnel mechanism of their photocatalytic activity. <i>Journal of Environmental Chemical Engineering</i> , 2021, 9, 106066.	3.3	4
1405	Recent advances of atomically thin 2D heterostructures in sensing applications. <i>Nano Today</i> , 2021, 40, 101287.	6.2	41
1406	Emerging van der Waals junctions based on TMDs materials for advanced gas sensors. <i>Coordination Chemistry Reviews</i> , 2021, 447, 214151.	9.5	101
1407	Edge defect-assisted synthesis of chemical vapor deposited bilayer molybdenum disulfide. <i>Ceramics International</i> , 2021, 47, 30106-30112.	2.3	11
1408	Two-dimensional quantum dots for highly efficient heterojunction solar cells. <i>Journal of Colloid and Interface Science</i> , 2021, 603, 48-57.	5.0	31
1409	Controllable growth of 2H-1T MoS <sub>2</sub> /ReS <sub>2</sub> heterostructures via chemical vapor deposition. <i>Applied Surface Science</i> , 2022, 572, 151438.	3.1	6
1410	Band engineering of Dirac materials in Sb <sub>m</sub> /Bi <sub>n</sub> lateral heterostructures. <i>RSC Advances</i> , 2021, 11, 17445-17455.	1.7	2
1411	Effects of doping on photocatalytic water splitting activities of PtS <sub>2</sub> /SnS <sub>2</sub> van der Waals heterostructures. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 18125-18136.	1.3	17
1412	Growth mechanism and atomic structure of group-IIA compound-promoted CVD-synthesized monolayer transition metal dichalcogenides. <i>Nanoscale</i> , 2021, 13, 13030-13041.	2.8	7
1413	Single-step chemical vapour deposition of anti-pyramid MoS <sub>2</sub> /WS <sub>2</sub> vertical heterostructures. <i>Nanoscale</i> , 2021, 13, 4537-4542.	2.8	17
1414	Van der Waals PdSe <sub>2</sub> /WS <sub>2</sub> Heterostructures for Robust High-Performance Broadband Photodetection from Visible to Infrared Optical Communication Band. <i>Advanced Optical Materials</i> , 2021, 9, 2001991.	3.6	40
1415	Synthesis of graphene and other two-dimensional materials. , 2021, , 1-79.		4
1416	Two-Dimensional (2D) Materials for Next-Generation Nanoelectronics and Optoelectronics: Advances and Trends. <i>Advances in Material Research and Technology</i> , 2021, , 65-96.	0.3	1
1417	Magnetic and electronic properties of Fe <sub>3</sub> O <sub>4</sub> /PtSe <sub>2</sub> /Fe <sub>3</sub> O <sub>4</sub> junctions. <i>Materials Today: Proceedings</i> , 2022, 49, 2469-2473.	0.9	3
1418	Atomic Layer Deposition of 2D Metal Dichalcogenides for Electronics, Catalysis, Energy Storage, and Beyond. <i>Advanced Materials Interfaces</i> , 2021, 8, 2001677.	1.9	39
1419	Engineering the electronic structure and transport coefficients of Janus MoSSe monolayer by applying z-axial strain. <i>Materials Today: Proceedings</i> , 2021, 45, 5597-5601.	0.9	1

#	ARTICLE	IF	CITATIONS
1420	Research Progress of Photocatalytic CO <sub>2</sub> Reduction Based on Two-dimensional Materials. Acta Chimica Sinica, 2021, 79, 10.	0.5	16
1421	Periodic nanostructures: preparation, properties and applications. Chemical Society Reviews, 2021, 50, 6423-6482.	18.7	34
1422	Interface chemistry of two-dimensional heterostructures – fundamentals to applications. Chemical Society Reviews, 2021, 50, 4684-4729.	18.7	152
1423	Design and tailoring of two-dimensional Schottky, PN and tunnelling junctions for electronics and optoelectronics. Nanoscale, 2021, 13, 6713-6751.	2.8	30
1424	Modulation of Metal and Insulator States in 2D Ferromagnetic VS <sub>2</sub> by van der Waals Interaction Engineering. Advanced Materials, 2017, 29, 1700715.	11.1	112
1425	Electronic and Optoelectronic Applications Based on 2D Novel Anisotropic Transition Metal Dichalcogenides. Advanced Science, 2017, 4, 1700231.	5.6	219
1426	Recent Progress in Black-Phosphorus-Based Heterostructures for Device Applications. Small Methods, 2018, 2, 1700296.	4.6	51
1427	Dimensional Variations in Nanohybrids: Property Alterations, Applications, and Considerations for Toxicological Implications. Nanostructure Science and Technology, 2017, , 271-291.	0.1	4
1429	MoS <sub>2</sub> - and MoO <sub>3</sub> -Based Ultrathin Layered Materials for Optoelectronic Applications. Materials Horizons, 2020, , 211-244.	0.3	2
1430	Few-layer FePS <sub>3</sub> decorated with thin MoS <sub>2</sub> nanosheets for efficient hydrogen evolution reaction in alkaline and acidic media. Applied Surface Science, 2020, 525, 146623.	3.1	32
1431	Multilayer in-plane graphene/hexagonal boron nitride heterostructures: Insights into the interfacial thermal transport properties. International Journal of Heat and Mass Transfer, 2020, 151, 119395.	2.5	95
1432	Transport properties and device-design of Z-shaped MoS <sub>2</sub> nanoribbon planar junctions. Physica E: Low-Dimensional Systems and Nanostructures, 2017, 93, 143-147.	1.3	13
1433	Substrate-Dependent Exciton Diffusion and Annihilation in Chemically Treated MoS <sub>2</sub> and WS <sub>2</sub> . Journal of Physical Chemistry C, 2020, 124, 12175-12184.	1.5	51
1434	Lateral and Vertical Heterostructures of h-GaN/h-AlN: Electron Confinement, Band Lineup, and Quantum Structures. Journal of Physical Chemistry C, 2017, 121, 27098-27110.	1.5	22
1435	Structural Characterization of a Novel Two-Dimensional Material: Cobalt Sulfide Sheets on Au(111). Journal of Physical Chemistry Letters, 2020, 11, 9038-9044.	2.1	8
1436	2D van der Waals heterostructures: processing, optical properties and applications in ultrafast photonics. Materials Horizons, 2020, 7, 2903-2921.	6.4	44
1437	Tunable strain effects on the electronic structures and mobility properties of InP/InAs lateral heterostructure. Journal Physics D: Applied Physics, 2020, 53, 505108.	1.3	2
1438	Excitons in two-dimensional van der Waals heterostructures. Journal Physics D: Applied Physics, 2021, 54, 053001.	1.3	8



#	ARTICLE	IF	CITATIONS
1439	Self-powered, ultra-high detectivity and high-speed near-infrared photodetectors from stacked layered MoSe <sub>2</sub> /Si heterojunction. Nanotechnology, 2021, 32, 075201.	1.3	20
1440	Flipping exciton angular momentum with chiral phonons in MoSe <sub>2</sub> /WSe <sub>2</sub> heterobilayers. 2D Materials, 2020, 7, 041002.	2.0	24
1441	Moiré and beyond in transition metal dichalcogenide twisted bilayers. 2D Materials, 2021, 8, 022002.	2.0	33
1442	Scalable low-temperature synthesis of two-dimensional materials beyond graphene. JPhys Materials, 2020, 4, 012001.	1.8	29
1443	Observation of double indirect interlayer exciton in WSe <sub>2</sub> /WS <sub>2</sub> heterostructure. Optics Express, 2020, 28, 13260.	1.7	32
1444	Lateral and vertical heterostructures in two-dimensional transition-metal dichalcogenides [Invited]. Optical Materials Express, 2019, 9, 1590.	1.6	40
1445	Probing nano-heterogeneity and aging effects in lateral 2D heterostructures using tip-enhanced photoluminescence. Optical Materials Express, 2019, 9, 1620.	1.6	33
1446	Near-field visualization of charge transfer at MoSe <sub>2</sub> /WSe <sub>2</sub> lateral heterojunction. Optical Materials Express, 2019, 9, 1864.	1.6	13
1447	Raman spectroscopy regulation in van der Waals crystals. Photonics Research, 2018, 6, 991.	3.4	25
1448	PHONON TRANSPORT AND THERMAL CONDUCTIVITY IN TWO-DIMENSIONAL MATERIALS. Annual Review of Heat Transfer, 2016, 19, 1-65.	0.3	57
1451	Emerging Devices Based on Two-Dimensional Monolayer Materials for Energy Harvesting. Research, 2019, 2019, 7367828.	2.8	39
1452	Polarization-Dependent Optical Properties and Optoelectronic Devices of 2D Materials. Research, 2020, 2020, 5464258.	2.8	21
1453	Recent Progresses in the Growth of Two-dimensional Transition Metal Dichalcogenides. Journal of the Korean Ceramic Society, 2019, 56, 24-36.	1.1	24
1454	Novel p-n junctions based on ambipolar two-dimensional crystals. Wuli Xuebao/Acta Physica Sinica, 2017, 66, 217302.	0.2	4
1455	Exploring the electronic band gap of Janus MoSeO and WSeO monolayers and their heterostructures. New Journal of Chemistry, 0, .	1.4	9
1456	Topological insulator bismuth selenide grown on black phosphorus for sensitive broadband photodetection. Journal of Materials Chemistry C, 2021, 9, 15150-15157.	2.7	6
1457	First principles study of electronic and optical properties and photocatalytic performance of GaNâ€SiS van der Waals heterostructure. RSC Advances, 2021, 11, 32996-33003.	1.7	11
1458	Spinâ€Dependent Electronic Structure and Magnetic Properties of 2D JANUS Mn<sub>2</sub>CFCl/CuBiP<sub>2</sub>Se<sub>6</sub> Van Der Waals Multiferroic Heterostructures. Advanced Theory and Simulations, 2021, 4, 2100302.	1.3	5

#	ARTICLE	IF	CITATIONS
1459	A strategic review of recent progress, prospects and challenges of MoS <sub>2</sub> -based photodetectors. Journal Physics D: Applied Physics, 2022, 55, 063002.	1.3	35
1460	Toward an Intelligent Synthesis: Monitoring and Intervening in the Catalytic Growth of Carbon Nanotubes. Journal of the American Chemical Society, 2021, 143, 17607-17614.	6.6	3
1461	A passively mode-locked Tm:YAG laser with a titanium disulfide saturable absorber. Infrared Physics and Technology, 2021, 119, 103942.	1.3	8
1462	Machine Learning Driven Synthesis of Few-Layered WTe <sub>2</sub> with Geometrical Control. Journal of the American Chemical Society, 2021, 143, 18103-18113.	6.6	30
1463	Twist versus heterostrain control of optical properties of moiré exciton minibands. 2D Materials, 2021, 8, 044016.	2.0	11
1464	Thin-film electronics based on all-2D van der Waals heterostructures. Journal of Information Display, 2021, 22, 231-245.	2.1	3
1465	Polymorphic Phases of Metal Chlorides in the Confined 2D Space of Bilayer Graphene. Advanced Materials, 2021, 33, e2105898.	11.1	12
1466	Fabrication and application of arrays related to two-dimensional materials. Rare Metals, 2022, 41, 262-286.	3.6	17
1467	Electronic Structure of Quasi-Freestanding WS <sub>2</sub> /MoS <sub>2</sub> Heterostructures. ACS Applied Materials & Interfaces, 2021, 13, 50552-50563.	4.0	14
1468	Edge Raman enhancement at layered Pbl <sub>2</sub> platelets induced by laser waveguide effect. Nanotechnology, 2022, 33, 035203.	1.3	2
1469	Photoelectric properties of monolayer WS <sub>2</sub> -MoS <sub>2</sub> lateral heterojunction from first principles. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 420, 127771.	0.9	8
1470	Low voltage scanning transmission electron microscopy for two-dimensional materials. Wuli Xuebao/Acta Physica Sinica, 2017, 66, 217303.	0.2	0
1471	Low-Dimensional Molybdenum-Based Catalytic Materials from Theoretical Perspectives. Advances in Chemical and Materials Engineering Book Series, 2017, , 100-128.	0.2	0
1472	Novel low-dose imaging technique for characterizing atomic structures through scanning transmission electron microscope. Physical Review Materials, 2017, 1, .	0.9	1
1474	Optical spectroscopy of interlayer excitons in TMDC heterostructures: exciton dynamics, interactions, and giant valley-selective magnetic splitting. , 2018, , .		0
1475	Tunable Berry curvature, valley and spin Hall effect in Bilayer MoS <sub>2</sub> . , 2019, , .		1
1476	The band shifts in MoS <sub>2</sub> (0001) and WSe <sub>2</sub> (0001) induced by palladium adsorption. Journal of Physics Condensed Matter, 2020, 32, 465001.	0.7	3
1477	Stoichiometric modulation on optical nonlinearity of 2D MoS <sub>x</sub> Se <sub>2-2x</sub> alloys for photonic applications. Nanophotonics, 2021, .	2.9	4

#	ARTICLE	IF	CITATIONS
1479	Artificial Neurons Based on Ag/V <sub>2</sub> C/W Threshold Switching Memristors. <i>Nanomaterials</i> , 2021, 11, 2860.	1.9	21
1480	Type-II band alignment in single crystalline TiO <sub>2</sub> nanowires under twisting. <i>Electronic Structure</i> , 2020, 2, 044001.	1.0	1
1481	Unraveling Structural and Optical Properties of Two-Dimensional Mo <sub>1-x</sub> W <sub>x</sub> S <sub>2</sub> Alloys. <i>Journal of Physical Chemistry C</i> , 2021, 125, 774-781.	1.5	17
1482	Influence of vertical strain on the photoelectronic properties of the ReSe <sub>2</sub> /MoSe <sub>2</sub> van der Waals heterostructure. <i>Applied Surface Science</i> , 2022, 572, 151465.	3.1	6
1483	Atomic Thin Telluride Multiheterostructures: Toward Spatial Modulation of Bandgaps. <i>Nanoscale</i> , 2021, 13, 19587-19592.	2.8	1
1484	Sequential growth of two-dimensional MoSe <sub>2</sub> -WSe <sub>2</sub> lateral heterojunctions. <i>AIP Conference Proceedings</i> , 2020, , .	0.3	2
1485	Facile and efficient preparation of high-quality black phosphorus quantum dot films for sensing applications. <i>RSC Advances</i> , 2020, 10, 13379-13385.	1.7	2
1486	Second Harmonic Generation in Directly-Grown MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures. , 2020, , .		0
1487	Recent progress in the CVD growth of 2D vertical heterostructures based on transition-metal dichalcogenides. <i>CrystEngComm</i> , 2021, 23, 8239-8254.	1.3	14
1488	Growth of Transition Metal Dichalcogenide Heterojunctions with Metal Oxides for Metal-Insulator-Semiconductor Capacitors. <i>ACS Applied Nano Materials</i> , 2021, 4, 12017-12023.	2.4	6
1489	Scalably Nanomanufactured Atomically Thin Materials-Based Wearable Health Sensors. <i>Small Structures</i> , 2022, 3, 2100120.	6.9	16
1490	Band alignment engineering of a Ruddlesden-Popper perovskite-based heterostructure constructed using Cs <sub>2</sub> SnI <sub>2</sub> Cl <sub>2</sub> and $\pm$ -In <sub>2</sub> Se <sub>3</sub> : The effects of ferroelectric polarization switching and electric fields. <i>Applied Physics Letters</i> , 2021, 119, 182903.	1.5	10
1491	Tunable coupling of terahertz Dirac plasmons and phonons in transition metal dichalcogenide-based van der Waals heterostructures. <i>2D Materials</i> , 0, , .	2.0	2
1492	Energetically stretching proteins on patterned two dimensional nanosheets. <i>Nano Futures</i> , 2020, 4, 035001.	1.0	3
1493	Mono- to few-layer non-van der Waals 2D lanthanide-doped NaYF <sub>4</sub> nanosheets with upconversion luminescence. <i>2D Materials</i> , 2021, 8, 015005.	2.0	3
1494	Probing the structure and composition of van der Waals heterostructures using the nonlocality of Dirac plasmons in the terahertz regime. <i>2D Materials</i> , 2021, 8, 015014.	2.0	4
1495	Recent advances in the properties and synthesis of bilayer graphene and transition metal dichalcogenides. <i>JPhys Materials</i> , 2020, 3, 042003.	1.8	11
1496	Tribological characteristics of atomic-scale niobium diselenide grown via chemical vapor deposition. <i>Applied Physics Express</i> , 2020, 13, 105004.	1.1	1

#	ARTICLE	IF	CITATIONS
1497	Materials at Atomic Scale. , 2021, , 1-40.		0
1498	Third-order polarizability of interlayer excitons in heterobilayers. Physical Review B, 2021, 104, .	1.1	3
1499	Ultrafast Interlayer Charge Transfer between Bilayer PtSe <sub>2</sub> and Monolayer WS <sub>2</sub> . ACS Applied Materials & Interfaces, 2021, 13, 57822-57830.	4.0	10
1500	Naturally occurring van der Waals heterostructure lengenbachite with strong in-plane structural and optical anisotropy. Npj 2D Materials and Applications, 2021, 5, .	3.9	7
1501	Two-dimensional transition metal dichalcogenides and their heterostructures: Role of process parameters in top-down and bottom-up synthesis approaches. Materials Science in Semiconductor Processing, 2022, 139, 106313.	1.9	24
1502	2D Arsenene and Arsenic Materials: Fundamental Properties, Preparation, and Applications. Small, 2022, 18, e2104556.	5.2	27
1503	Tunable spin polarization and electronic structure of bottom-up synthesized $\text{MoSi}_2\text{N}_4$ materials. Physical Review B, 2021, 104, .	1.1	37
1504	Photovoltaic Characteristics of GaSe/MoSe <sub>2</sub> Heterojunction Devices. Nanoscale Research Letters, 2021, 16, 171.	3.1	6
1505	Multilayer Lateral Heterostructures of Van Der Waals Crystals with Sharp, Carrier-Transparent Interfaces. Advanced Science, 2022, 9, e2103830.	5.6	12
1506	Colloidal Synthesis of MoSe <sub>2</sub> /WSe <sub>2</sub> Heterostructure Nanoflowers via Two-Step Growth. Materials, 2021, 14, 7294.	1.3	2
1507	Plasmonically engineered light-matter interactions in Au-nanoparticle/MoS <sub>2</sub> heterostructures for artificial optoelectronic synapse. Nano Research, 2022, 15, 3539-3547.	5.8	20
1508	Water assisted growth of two-dimensional MoS <sub>2</sub> /MoSe <sub>2</sub> vertical heterostructures on molten glass. Nanoscale, 2022, 14, 1990-1996.	2.8	3
1509	One-dimensional metallic grain boundary in transition metal dichalcogenides. Computational Materials Science, 2022, 203, 111115.	1.4	2
1510	In-plane and vertical heterostructures from $1T\text{-}2H$ transition-metal dichalcogenides. Oxford Open Materials Science, 2020, 1, .	0.5	0
1511	2D MoS <sub>2</sub> -MoSe <sub>2</sub> and MoS <sub>2</sub> -NbS <sub>2</sub> Lateral Hetero Structures as Anode Materials for LIBs/SIBs. SSRN Electronic Journal, 0, , .	0.4	1
1512	Bandgap Engineering in 2D Lateral Heterostructures of Transition Metal Dichalcogenides via Controlled Alloying. Small, 2022, 18, e2106600.	5.2	24
1513	Artificial Neuron Networks Enabled Identification and Characterizations of 2D Materials and van der Waals Heterostructures. ACS Nano, 2022, 16, 2721-2729.	7.3	22
1514	Adsorption and Sensing Performance toward Methanol Vapor on SnS/SnS <sub>2</sub> -In-Plane Heterostructures. ACS Applied Electronic Materials, 2022, 4, 158-167.	2.0	20

#	ARTICLE	IF	CITATIONS
1515	Enhancing excitons by oleic acid treatment in WS <sub>2</sub> , MoS <sub>2</sub> , and WS <sub>2</sub> /MoS <sub>2</sub> heterostructure. Applied Physics Express, 2022, 15, 022005.	1.1	2
1516	Photodetectors Based on Micro-nano Structure Material. Frontiers in Chemistry, 2021, 9, 832028.	1.8	8
1517	First principles studies on infrared band structure and absorption of As/Sb lateral heterostructures. Journal of Applied Physics, 2022, 131, 023101.	1.1	4
1518	Iodide-substitution-induced phase transition of chemical-vapor-deposited MoS <sub>2</sub> . Journal of Materials Chemistry C, 2022, 10, 1638-1644.	2.7	1
1519	Edge stabilities, properties and growth kinetics of graphene-like two dimensional monolayers composed with Group 15 elements. Physical Chemistry Chemical Physics, 2022, 24, 3348-3356.	1.3	19
1520	Molecular beam epitaxial growth of Sb <sub>2</sub> Te <sub>3</sub> and Bi <sub>2</sub> Te <sub>3</sub> lateral heterostructures. 2D Materials, 2022, 9, 025006.	2.0	6
1521	Experimental and theoretical characterization of the interfacial adhesion of 2D heterogeneous materials: A review. Journal of Micromechanics and Molecular Physics, 2021, 06, 31-48.	0.7	4
1522	Hot carrier dynamics in MoS <sub>2</sub> /WS <sub>2</sub> heterostructure. Nanotechnology, 2022, 33, 195701.	1.3	1
1523	Recent Advances on Tuning the Interlayer Coupling and Properties in van der Waals Heterostructures. Small, 2022, 18, e2105877.	5.2	23
1524	Excitonic devices with van der Waals heterostructures: valleytronics meets twistrionics. Nature Reviews Materials, 2022, 7, 449-464.	23.3	94
1525	Atomic-scale characterization of structural heterogeneity in 2D TMD layers. Materials Advances, 2022, 3, 1401-1414.	2.6	5
1526	Engineering sensitivity and spectral range of photodetection in van der Waals materials and hybrids. Nano Express, 2022, 3, 014001.	1.2	10
1527	Asymmetric Nanofractures Determined the Nonreciprocal Peeling for Self-Aligned Heterostructure Nanogaps and Devices. ACS Applied Materials & Interfaces, 2022, 14, 1718-1726.	4.0	2
1528	A bright future for engineering piezoelectric 2D crystals. Chemical Society Reviews, 2022, 51, 650-671.	18.7	43
1529	Epitaxy of 2D Materials toward Single Crystals. Advanced Science, 2022, 9, e2105201.	5.6	24
1530	Graphene-based semiconductor nanocrystals for optoelectronics devices. , 2022, , 383-406.		0
1531	Reproducibility in the fabrication and physics of moiré materials. Nature, 2022, 602, 41-50.	13.7	97
1532	2D Heterostructures for Ubiquitous Electronics and Optoelectronics: Principles, Opportunities, and Challenges. Chemical Reviews, 2022, 122, 6514-6613.	23.0	187

#	ARTICLE	IF	CITATIONS
1533	Analytical models for inter-layer tunneling in two-dimensional materials. Japanese Journal of Applied Physics, 2022, 61, SC1022.	0.8	1
1534	Twist-Dependent Tuning of Excitonic Emissions in Bilayer WSe <sub>2</sub> . ACS Omega, 2022, 7, 6412-6418.	1.6	4
1535	Tuning the electronic, phonon, and optical properties by strain-induced on the monolayer transition metal dichalcogenides ASe <sub>2</sub> (A=Mo and W). Materials Today Communications, 2022, 31, 103240.	0.9	10
1536	Design and analysis of III-V two-dimensional van der Waals heterostructures for ultra-thin solar cells. Applied Surface Science, 2022, 586, 152799.	3.1	16
1537	Few-Layer WS <sub>2</sub> @WSe <sub>2</sub> Lateral Heterostructures: Influence of the Gas Precursor Selenium/Tungsten Ratio on the Number of Layers. ACS Nano, 2022, 16, 1198-1207.	7.3	16
1538	Evidence for highly p-type doping and type II band alignment in large scale monolayer WSe <sub>2</sub> /Se-terminated GaAs heterojunction grown by molecular beam epitaxy. Nanoscale, 2022, 14, 5859-5868.	2.8	12
1539	Realization of electronic-grade two-dimensional transition metal dichalcogenides by thin-film deposition techniques. , 2022, , 159-193.		1
1540	Formation of nanoparticles of bi-metallic catalysts for the growth of carbon nanotubes. Journal of Materials Chemistry C, 2022, 10, 5864-5881.	2.7	2
1541	Designed synthesis of a hierarchical MoSe <sub>2</sub> @WSe <sub>2</sub> hybrid nanostructure as a bifunctional electrocatalyst for total water-splitting. Sustainable Energy and Fuels, 2022, 6, 1708-1718.	2.5	7
1542	Near-field spectroscopic imaging of exciton quenching at atomically sharp MoS <sub>2</sub> /WS <sub>2</sub> lateral heterojunctions. Nanoscale, 2022, , .	2.8	1
1544	Design and Analysis of Iii-V Two-Dimensional Van Der Waals Heterostructures for Ultra-Thin Solar Cells. SSRN Electronic Journal, 0, , .	0.4	0
1545	Recent progress on Schottky sensors based on two-dimensional transition metal dichalcogenides. Journal of Materials Chemistry A, 2022, 10, 8107-8128.	5.2	38
1546	Type-I/Type-II Transition of MoSe <sub>2</sub> /G-Gan Van Der Waals Heterostructures Mediated by Biaxial Strain And Electric Field for Overall Water Splitting. SSRN Electronic Journal, 0, , .	0.4	0
1547	Ultrafast charge transfer and carrier dynamics in a WS <sub>2</sub> /MoSe <sub>2</sub> few-layer van der Waals heterostructure. Journal of Materials Chemistry C, 2022, 10, 5328-5335.	2.7	3
1548	Tin sulfide-based nanocomposite: synthesis and study of structural, morphological and optical properties. , 2022, 18, 67-74.		2
1549	2D Heterostructures for Highly Efficient Photodetectors: From Advanced Synthesis to Characterizations, Mechanisms, and Device Applications. Advanced Photonics Research, 2022, 3, .	1.7	13
1550	Excitons in semiconductor moiré superlattices. Nature Nanotechnology, 2022, 17, 227-238.	15.6	105
1551	Binary dopant segregation enables hematite-based heterostructures for highly efficient solar H <sub>2</sub> O <sub>2</sub> synthesis. Nature Communications, 2022, 13, 1499.	5.8	24

#	ARTICLE	IF	CITATIONS
1552	2D Materials for Wearable Energy Harvesting. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	16
1553	Enhanced light-matter interaction in two-dimensional transition metal dichalcogenides. <i>Reports on Progress in Physics</i> , 2022, 85, 046401.	8.1	74
1554	Challenges and opportunities in 2D heterostructures for electronic and optoelectronic devices. <i>IScience</i> , 2022, 25, 103942.	1.9	38
1555	Valley degree of freedom in two-dimensional van der Waals materials. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 303003.	1.3	10
1556	Controllable Preparation of 2D Vertical van der Waals Heterostructures and Superlattices for Functional Applications. <i>Small</i> , 2022, 18, e2107059.	5.2	15
1557	Synthesis of transition metal dichalcogenide van der Waals heterostructures through chemical vapor deposition. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 254002.	0.7	4
1558	Are 2D Interfaces Really Flat?. <i>ACS Nano</i> , 2022, 16, 5316-5324.	7.3	15
1559	Highly accurate, reliable, and non-contaminating two-dimensional material transfer system. <i>Applied Physics Reviews</i> , 2022, 9, .	5.5	13
1560	Recent Progress on Semiconductor Heterojunction-Based Photoanodes for Photoelectrochemical Water Splitting. <i>Small Science</i> , 2022, 2, .	5.8	60
1561	Intrinsic spin-valley locking for conducting electrons in metal-semiconductor-metal lateral heterostructures of $1H$ -transition-metal dichalcogenides. <i>Physical Review B</i> , 2022, 105, .	11.2	11
1562	Dative Epitaxy of Commensurate Monocrystalline Covalent van der Waals Moiré Supercrystal. <i>Advanced Materials</i> , 2022, 34, e2200117.	11.1	20
1563	Modification of monolayer 1T-VSe <sub>2</sub> by selective deposition of vanadium and tellurium. <i>AIP Advances</i> , 2022, 12, .	0.6	3
1564	Tuning electronic properties and ferromagnetism of CrI <sub>3</sub> monolayers with doped transition-metal atoms. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 265303.	1.3	2
1565	Giant Bandgap Engineering in Two-Dimensional Ferroelectric $\pm$ -In <sub>2</sub> Se <sub>3</sub> . <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 3261-3268.	2.1	7
1566	Delayed Thermal Relaxation in Lateral Heterostructures of Transition-Metal Dichalcogenides. <i>Journal of Physical Chemistry C</i> , 2022, 126, 6815-6824.	1.5	0
1567	Science of 2.5 dimensional materials: paradigm shift of materials science toward future social innovation. <i>Science and Technology of Advanced Materials</i> , 2022, 23, 275-299.	2.8	32
1568	Oxygen vacancies Cu doping junction control of $\hat{\Gamma}$ -Bi <sub>2</sub> O <sub>3</sub> nanosheets for enhanced photocatalytic nitrogen fixation. <i>Journal of Industrial and Engineering Chemistry</i> , 2022, 111, 129-136.	2.9	12
1569	Three-step, transfer-free growth of MoS <sub>2</sub> /WS <sub>2</sub> /graphene vertical van der Waals heterostructure. <i>2D Materials</i> , 2022, 9, 025030.	2.0	5

#	ARTICLE	IF	CITATIONS
1570	Effects of Mono-Vacancies of Oxygen and Manganese on the Properties of the MnO <sub>2</sub> /Graphene Heterostructure. <i>Materials</i> , 2022, 15, 2731.	1.3	2
1571	Mechanical, Elastic, and Adhesive Properties of Two-Dimensional Materials: From Straining Techniques to State-of-the-Art Local Probe Measurements. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	24
1572	Recent advances in carbonaceous sustainable nanomaterials for wastewater treatments. <i>Sustainable Materials and Technologies</i> , 2022, 32, e00406.	1.7	27
1573	Type-II CdS/PtSe heterostructures used as highly efficient water-splitting photocatalysts. <i>Applied Surface Science</i> , 2022, 589, 152931.	3.1	59
1574	Exploring the structural stability, electronic and thermal attributes of synthetic 2D materials and their heterostructures. <i>Applied Surface Science</i> , 2022, 590, 153131.	3.1	15
1575	2D-Mo <sub>3</sub> S <sub>4</sub> phase as promising contact for MoS <sub>2</sub> . <i>Applied Surface Science</i> , 2022, 589, 152971.	3.1	6
1576	Epitaxial Growth of Diamond-Shaped Au <sub>1</sub> /2Ag <sub>1</sub> /2CN Nanocrystals on Graphene. <i>Materials</i> , 2021, 14, 7569.	1.3	1
1577	Recent Progress and Approaches on Transition Metal Chalcogenides for Hydrogen Production. <i>Energies</i> , 2021, 14, 8265.	1.6	4
1578	Monolayer WS <sub>2</sub> Lateral Homosuperlattices with Two-dimensional Periodic Localized Photoluminescence. <i>ACS Nano</i> , 2022, 16, 597-603.	7.3	7
1579	Emerging Phases of Layered Metal Chalcogenides. <i>Small</i> , 2022, 18, e2105215.	5.2	12
1580	Graphene and NTCDA adsorbed on Ag(111): Temperature-dependent binding distance and phonon coupling to the interface state. <i>Physical Review B</i> , 2021, 104, .	1.1	2
1581	New van der Waals Heterostructures Based on Borophene and Rhenium Sulfide/Selenide for Photovoltaics: An Ab Initio Study. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 11636.	1.3	1
1582	Optical Harmonic Generation in 2D Materials. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	42
1583	2D multifunctional SiAs <sub>2</sub> /GeAs <sub>2</sub> van der waals heterostructure. <i>Nanotechnology</i> , 2021, , .	1.3	1
1584	Infrared Photodetectors Based on 2D Materials and Nanophotonics. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	86
1585	Plasmonic Photonic Crystal Mirror for Long-Lived Interlayer Exciton Generation. <i>ACS Photonics</i> , 2021, 8, 3619-3626.	3.2	5
1586	Epitaxial growth of structure-tunable ZnO/ZnS core/shell nanowire arrays using HfO <sub>2</sub> as the buffer layer. <i>Nanoscale</i> , 2022, 14, 7579-7588.	2.8	5
1587	Endoepitaxial growth of monolayer mosaic heterostructures. <i>Nature Nanotechnology</i> , 2022, 17, 493-499.	15.6	58



#	ARTICLE	IF	CITATIONS
1588	Observation of Strong Interlayer Couplings in WS <sub>2</sub> /MoS <sub>2</sub> Heterostructures via Low-Frequency Raman Spectroscopy. <i>Nanomaterials</i> , 2022, 12, 1393.	1.9	7
1589	Review of recent progress, challenges, and prospects of 2D materials-based short wavelength infrared photodetectors. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 313001.	1.3	12
1590	Fundamentals of Chemical Vapor Deposition of Atomic Layer Materials. <i>Vacuum and Surface Science</i> , 2022, 65, 169-176.	0.0	0
1591	Phonon and Exciton Properties between WS <sub>2</sub> and MoS <sub>2</sub> Layers via Inversion Heterostructure Engineering. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 19012-19022.	4.0	1
1593	Navigated Delivery of Peptide to the Nanopore Using In-Plane Heterostructures of MoS <sub>2</sub> and SnS <sub>2</sub> for Protein Sequencing. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 3863-3872.	2.1	11
1595	Recent progress in 2D material van der Waals heterostructure-based luminescence devices towards the infrared wavelength range. <i>Journal of Materials Chemistry C</i> , 2022, 10, 7352-7367.	2.7	6
1596	Regulating the electronic and magnetic properties of 1Tâ€²-ReS <sub>2</sub> by fabricating nanoribbons and transition-metal doping: a theoretical study. <i>Nanoscale</i> , 2022, 14, 8454-8462.	2.8	16
1597	Lateral layered semiconductor multijunctions for novel electronic devices. <i>Chemical Society Reviews</i> , 2022, 51, 4000-4022.	18.7	12
1598	Visualization of Band Shifting and Interlayer Coupling in W <sub>x</sub> Mo <sub>1-x</sub> S <sub>2</sub> Alloys Using Near-Field Broadband Absorption Microscopy. <i>ACS Nano</i> , 2022, , .	7.3	1
1599	A Review of the Synthesis, Properties, and Applications of 2D Materials. <i>Particle and Particle Systems Characterization</i> , 2022, 39, .	1.2	81
1600	Strong interfacial coupling in vertical WSe <sub>2</sub> /WS <sub>2</sub> heterostructure for high performance photodetection. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	5
1601	Observation of Hole Transfer in MoS <sub>2</sub> /WS <sub>2</sub> Van der Waals Heterostructures. <i>ACS Photonics</i> , 2022, 9, 1709-1716.	3.2	10
1602	Non-asymptotic quantum scattering theory to design high-mobility lateral transition-metal dichalcogenide heterostructures. <i>Journal of Applied Physics</i> , 2022, 131, .	1.1	2
1603	Coherent Heterostructure Mesh Grown by Gap-Filling Epitaxial Chemical Vapor Deposition. <i>Chemistry of Materials</i> , 0, , .	3.2	2
1604	Probing the charge transfer and electronâ€“hole asymmetry in grapheneâ€“graphene quantum dot heterostructure. <i>Nanotechnology</i> , 2022, 33, 325704.	1.3	2
1605	Graphdiyne@MoS <sub>2</sub> /WS <sub>2</sub> heterostructures for infrared and visible photodetectors: A first-principles study. <i>Computational Materials Science</i> , 2022, 210, 111459.	1.4	4
1606	2D MoS <sub>2</sub> -MoSe <sub>2</sub> and MoS <sub>2</sub> -NbS <sub>2</sub> lateral heterostructures as anode materials for LIBs/SIBs. <i>Applied Surface Science</i> , 2022, 596, 153529.	3.1	9
1607	Directional Exciton-Energy Transport in a Lateral Heteromonolayer of WSe <sub>2</sub> @MoSe <sub>2</sub> . <i>ACS Nano</i> , 2022, 16, 8205-8212.	7.3	20

#	ARTICLE	IF	CITATIONS
1608	Optoelectronic Properties of MoS <sub>2</sub> /Graphene Heterostructures Prepared by Dry Transfer for Light-Induced Energy Applications. <i>Journal of Electronic Materials</i> , 2022, 51, 4257-4269.	1.0	8
1609	Selective Chemical Vapor Deposition Growth of WS <sub>2</sub> /MoS <sub>2</sub> Vertical and Lateral Heterostructures on Gold Foils. <i>Nanomaterials</i> , 2022, 12, 1696.	1.9	2
1610	Direct observation of contact resistivity for monolayer TMD based junctions via PL spectroscopy. <i>Nanoscale</i> , 2022, 14, 8260-8270.	2.8	2
1611	Twist Angle-Dependent Interlayer Exciton in MoS <sub>2</sub> Bilayers Revealed by Room-Temperature Reflectance. <i>Crystals</i> , 2022, 12, 761.	1.0	2
1612	Understanding interactions between biomolecules and two-dimensional nanomaterials using in silico microscopes. <i>Advanced Drug Delivery Reviews</i> , 2022, 186, 114336.	6.6	22
1613	Thermoelectric Properties of Zigzag MoS <sub>2</sub> /MoSe <sub>2</sub> and MoS <sub>2</sub> /MoTe <sub>2</sub> Hybrid Nanoribbons: The Effects of Nanoribbon Width, Transverse Electric and External Exchange Fields. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
1614	Near-Direct Band Alignment of MoTe <sub>2</sub> /ReSe <sub>2</sub> Type-II Heterojunction for Efficient VNIR Photodetection. <i>Advanced Materials Technologies</i> , 2022, 7, .	3.0	9
1615	Theoretical Analysis of the Nanoscale Composition, Tip-Enhanced Raman Spectroscopy, and Electronic Properties of Alloys in 2D MoS <sub>2</sub> -WS <sub>2</sub> Heterostructures. <i>Journal of Physical Chemistry C</i> , 2022, 126, 9099-9108.	1.5	4
1616	Dimensionality switching and superconductivity transition in dense $1 < T < T_{c1}$ $1 < T < T_{c1}$ Physical Review B, 2022, 105, .		
1617	Harnessing the Defects at Hetero-Interface of Transition Metal Compounds for Advanced Charge Storage: A Review. <i>Small Structures</i> , 2022, 3, .	6.9	11
1618	Blue-shifted and strongly-enhanced light emission in transition-metal dichalcogenide twisted heterobilayers. <i>Npj 2D Materials and Applications</i> , 2022, 6, .	3.9	3
1619	Graphenylene/Janus transition metal dichalcogenides XMo <sub>2</sub> Y (X=Mo, W) heterostructures for optoelectronic applications. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022, , 115305.	1.3	4
1620	Promoting the optoelectronic and ferromagnetic properties of Cr <sub>2</sub> S <sub>3</sub> nanosheets via Se doping. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, .	2.0	10
1621	First-Principles Study of Electronic and Optical Properties of Tri-Layered van der Waals Heterostructures Based on Blue Phosphorus and Zinc Oxide. <i>Journal of Composites Science</i> , 2022, 6, 163.	1.4	0
1622	Janus transition-metal dichalcogenides heterostructures for highly efficient excitonic solar cells. <i>Applied Surface Science</i> , 2022, 598, 153835.	3.1	11
1623	Optoelectronic Behavior of Free Standing Al Wire Over Monolayer WSe <sub>2</sub> . <i>International Journal of Recent Technology and Engineering</i> , 2022, 11, 14-17.	0.2	0
1624	First-principles study on the vertical heterostructure of the BSe and AlN monolayers. <i>Applied Surface Science</i> , 2022, 598, 153830.	3.1	7
1626	Electronic and optical properties and quantum tuning effects of As/HfS <sub>2</sub> /van der Waals heterostructure. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2022, 71, 177304.	0.2	1

#	ARTICLE	IF	CITATIONS
1627	Electronic property modulation in two-dimensional lateral superlattices of monolayer transition metal dichalcogenides. <i>Nanoscale</i> , 2022, 14, 10439-10448.	2.8	6
1628	A lateral built-in field of the 2D/2D SnS <sub>2</sub> /SnSe <sub>2</sub> in-plane heterostructure with boosted interfacial charge transfer. <i>Journal of Materials Chemistry A</i> , 2022, 10, 14810-14819.	5.2	21
1629	Interface structure and strain controlled Pt nanocrystals grown at side facet of MoS <sub>2</sub> with critical size. <i>Nano Research</i> , 2022, 15, 8493-8501.	5.8	7
1630	Sequential Growth of Vertical Transition-Metal Dichalcogenide Heterostructures on Rollable Aluminum Foil. <i>ACS Nano</i> , 2022, 16, 8851-8859.	7.3	8
1631	Band Alignment Engineering by Twist Angle and Composition Modulation for Heterobilayer. <i>Small</i> , 2022, 18, .	5.2	2
1632	Novel Van Der Waals Heterostructures Based on Borophene, Graphene-like GaN and ZnO for Nanoelectronics: A First Principles Study. <i>Materials</i> , 2022, 15, 4084.	1.3	9
1633	Natural 2D layered mineral cannizzarite with anisotropic optical responses. <i>Scientific Reports</i> , 2022, 12, .	1.6	2
1634	Van der Waals Epitaxial Growth for High Performance Organic-Free Perovskite Solar Cell: Experimental and Theoretical Insights. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	4
1636	Thin In-plane In <sub>2</sub> O <sub>3</sub> /ZnIn <sub>2</sub> S <sub>4</sub> Heterostructure Formed by Topological Atom Extraction: Optimal Distance and Charge Transfer for Effective CO <sub>2</sub> Photoreduction. <i>Small</i> , 2022, 18, .	5.2	23
1637	Theoretical design of Janus-In <sub>2</sub> STe/InSe lateral heterostructure: A DFT investigation. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022, 143, 115359.	1.3	5
1638	Two-dimensional CdO/PtSSe heterojunctions used for Z-scheme photocatalytic water-splitting. <i>Applied Surface Science</i> , 2022, 599, 153960.	3.1	23
1639	Hybrid heterostructure of transition metal dichalcogenides as potential photocatalyst for hydrogen evolution. <i>Applied Surface Science</i> , 2022, 599, 154057.	3.1	7
1640	Accurate assignment of double resonant Raman bands in Janus MoSSe monolayer from first-principles calculations. <i>Journal of Materials Science and Technology</i> , 2022, 131, 82-90.	5.6	0
1641	Structural engineering brings new electronic properties to Janus ZrSSe and HfSSe monolayers. <i>Physical Chemistry Chemical Physics</i> , 2022, 24, 17824-17831.	1.3	1
1642	Negative Reflection and Negative Refraction in Biaxial van der Waals Materials. <i>Nano Letters</i> , 2022, 22, 5607-5614.	4.5	18
1643	Substantially Enhanced Properties of 2D WS <sub>2</sub> by High Concentration of Erbium Doping against Tungsten Vacancy Formation. <i>Research</i> , 2022, 2022, .	2.8	9
1644	Efficient and Chiral Electroluminescence from In-plane Heterostructure of Transition Metal Dichalcogenide Monolayers. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	14
1645	Strategies for Controlled Growth of Transition Metal Dichalcogenides by Chemical Vapor Deposition for Integrated Electronics. <i>ACS Materials Au</i> , 2022, 2, 665-685.	2.6	16

#	ARTICLE	IF	CITATIONS
1646	Photoluminescence Enhancement by Band Alignment Engineering in MoS <sub>2</sub> /FePS <sub>3</sub> van der Waals Heterostructures. ACS Applied Materials & Interfaces, 2022, 14, 33482-33490.	4.0	8
1647	Atomic ordering and phase separation in lateral heterostructures and multijunctions of ternary two-dimensional hexagonal materials. Physical Review Materials, 2022, 6, .	0.9	1
1648	Atomic-Scale Insights into the Lateral and Vertical Epitaxial Growth in Two-Dimensional Pd <sub>2</sub> Se <sub>3</sub> –MoS <sub>2</sub> Heterostructures. ACS Nano, 2022, 16, 10260-10272.	7.3	3
1649	Insight into electronic structure and photocatalytic character of GaSe/MoS <sub>2</sub> heterostructure by first-principles investigation. Solid State Communications, 2022, 353, 114880.	0.9	3
1650	Promoted photocarriers separation in atomically thin BiOCl/Bi <sub>2</sub> WO <sub>6</sub> heterostructure for solar-driven photocatalytic CO <sub>2</sub> reduction. Chemical Engineering Journal, 2022, 449, 137874.	6.6	18
1651	Beyond CMOS. , 2021, , .		2
1652	Role of Surface Adsorbates on the Photoresponse of (MO)CVD-Grown Graphene–MoS <sub>2</sub> Heterostructure Photodetectors. ACS Applied Materials & Interfaces, 2022, 14, 35184-35193.	4.0	7
1653	Direct Band Gap in Multilayer Transition Metal Dichalcogenide Nanoscrolls with Enhanced Photoluminescence. , 2022, 4, 1547-1555.		4
1654	Van der Waals heterostructures. Nature Reviews Methods Primers, 2022, 2, .	11.8	80
1655	Laser Irradiation Effect on the p-GaSe/n-HfS <sub>2</sub> PN-Heterojunction for High-Performance Phototransistors. ACS Applied Materials & Interfaces, 2022, 14, 35927-35939.	4.0	6
1656	Pronounced Optoelectronic Effect in n–n ReS <sub>2</sub> Homostructure. ACS Applied Electronic Materials, 2022, 4, 4306-4315.	2.0	9
1658	Recent Advances of Preparation and Application of Two-Dimension van der Waals Heterostructure. Coatings, 2022, 12, 1152.	1.2	6
1659	Transfer-free, scalable vertical heterostructure FET on MoS <sub>2</sub> /WS <sub>2</sub> continuous films. Nanotechnology, 2022, 33, 475201.	1.3	2
1660	Controlled Growth of Two-Dimensional Heterostructures: In-Plane Epitaxy or Vertical Stack. Accounts of Materials Research, 2022, 3, 999-1010.	5.9	12
1661	A Single-Step-Grown Semiconducting vdW Heterostructure of Tungsten Oxide–Sulfide for High-Performance Photodetection. Advanced Functional Materials, 2022, 32, .	7.8	5
1662	High photodetection performance on vertically oriented topological insulator Sb <sub>2</sub> Te <sub>3</sub> /Silicon heterostructure. Journal of Solid State Chemistry, 2022, 315, 123506.	1.4	2
1663	Interlayer interactions in transition metal dichalcogenides heterostructures. Reviews in Physics, 2022, 9, 100077.	4.4	13
1664	Recent progress in 2D van der Waals heterostructures: fabrication, properties, and applications. Science China Information Sciences, 2022, 65, .	2.7	16

#	ARTICLE	IF	CITATIONS
1665	Strain-Modulated Electronic and Optical Properties of Monolayer and Bilayer CdS: A DFT Study. Journal of Electronic Materials, 0, , .	1.0	0
1666	A volatile polymer stamp for large-scale, etching-free, and ultraclean transfer and assembly of two-dimensional materials and its heterostructures. Materials Today Physics, 2022, 27, 100834.	2.9	0
1667	Salt-promoted growth of monolayer tungsten disulfide on hexagonal boron nitride using all chemical vapor deposition approach. Applied Surface Science, 2022, 605, 154812.	3.1	1
1668	Enhanced optical emission at MoS <sub>2</sub> -WS <sub>2</sub> heterostructure interface with n-N junction. Applied Surface Science, 2022, 606, 154923.	3.1	2
1669	Highly Enhanced Many-body Interactions in Anisotropic 2D Semiconductors. RSC Nanoscience and Nanotechnology, 2022, , 76-125.	0.2	1
1670	Flake Size Limits for Growth of Vertically Stacked Two-Dimensional Materials by Analytical Diffusion-Based Kinetic Model. Crystal Growth and Design, 2022, 22, 5264-5271.	1.4	1
1671	Van der Waals Epitaxial Growth of 2D Layered Room-Temperature Ferromagnetic CrS <sub>2</sub> . Advanced Materials Interfaces, 2022, 9, .	1.9	8
1672	Effects of Mono-Vacancies and Co-Vacancies of Nitrogen and Boron on the Energetics and Electronic Properties of Heterobilayer h-BN/graphene. Materials, 2022, 15, 6369.	1.3	1
1673	Gate-Tunable Junctions within Monolayer MoS <sub>2</sub> -WS <sub>2</sub> Lateral Heterostructures. ACS Applied Nano Materials, 2022, 5, 15775-15784.	2.4	0
1674	Large-Area Growth of MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures by a Sequential Atomic Layer Deposition and Spin-Coating Approach. Advanced Materials Interfaces, 2022, 9, .	1.9	2
1675	One-Step Epitaxial Growth of Multilayer MoS <sub>2</sub> /SnS <sub>2</sub> Vertical Nanosheets for High-Performance Photodetectors. ACS Applied Nano Materials, 2022, 5, 14978-14986.	2.4	1
1676	Laser-assisted growth of hierarchically architected 2D MoS <sub>2</sub> crystals on metal substrate for potential energy applications. International Journal of Extreme Manufacturing, 2022, 4, 045102.	6.3	4
1677	Two-dimensional material templates for van der Waals epitaxy, remote epitaxy, and intercalation growth. Applied Physics Reviews, 2022, 9, .	5.5	9
1678	Basal Plane Functionalization of Niobium Disulfide Nanosheets with Cyclopentadienyl Manganese(I) Dicarbonyl. Inorganic Chemistry, 2022, 61, 14824-14832.	1.9	3
1679	Flux-assisted growth of atomically thin materials. , 2022, 1, 864-872.		12
1680	Distinguishing Ultrafast Energy Transfer in Atomically Thin MoS <sub>2</sub> /WS <sub>2</sub> Heterostructures. Small, 2022, 18, .	5.2	4
1681	Large in-plane vibrational and optical anisotropy in natural 2D heterostructure abramovite. Scientific Reports, 2022, 12, .	1.6	0
1682	Optically Controlled Valley Filter and Transistor Based on Transition-Metal Dichalcogenide Planar Heterojunctions. Physical Review Applied, 2022, 18, .	1.5	3

#	ARTICLE	IF	CITATIONS
1683	Two-dimensional van der Waals heterostructures (vdWHs) with band alignment transformation in multi-functional devices. RSC Advances, 2022, 12, 31456-31465.	1.7	2
1684	Emerging laser-assisted vacuum processes for ultra-precision, high-yield manufacturing. Nanoscale, 2022, 14, 16065-16076.	2.8	1
1685	Hybridization and localized flat band in the WSe <sub>2</sub> /MoSe <sub>2</sub> heterobilayer. Nanotechnology, 2023, 34, 045702.	1.3	3
1686	Simultaneous electrical and thermal rectification in a monolayer lateral heterojunction. Science, 2022, 378, 169-175.	6.0	46
1687	Emergent Moiré Phonons Due to Zone Folding in WSe <sub>2</sub> "WS <sub>2</sub> Van der Waals Heterostructures. ACS Nano, 2022, 16, 16260-16270.	7.3	10
1688	Application of Two-Dimensional Materials towards CMOS-Integrated Gas Sensors. Nanomaterials, 2022, 12, 3651.	1.9	14
1689	Structure and tribological properties of sputtered Cu-modified MoS <sub>2</sub> films. Applied Surface Science, 2023, 610, 154884.	3.1	1
1690	The Use of Carbon-Containing Compounds to Prepare Functional and Structural Composite Materials: A Review. Applied Sciences (Switzerland), 2022, 12, 9945.	1.3	6
1691	Interface Influence on the Photoelectric Performance of Transition Metal Dichalcogenide Lateral Heterojunctions. ACS Omega, 2022, 7, 39187-39196.	1.6	2
1692	Van der Waals epitaxial growth and optoelectronics of a vertical MoS <sub>2</sub> /WSe <sub>2</sub> p-n junction. Frontiers of Optoelectronics, 2022, 15, .	1.9	9
1693	Heterostructure Engineering of 2D Superlattice Materials for Electrocatalysis. Advanced Science, 2022, 9, .	5.6	29
1694	Two-dimensional carbon-based heterostructures as bifunctional electrocatalysts for water splitting and metal-air batteries. Nano Materials Science, 2022, , .	3.9	12
1695	Exciton optics, dynamics, and transport in atomically thin semiconductors. APL Materials, 2022, 10, .	2.2	23
1696	Bifunctional Monolayer WSe <sub>2</sub> /Graphene Self-Stitching Heterojunction Microreactors for Efficient Overall Water Splitting in Neutral Medium. ACS Nano, 2022, 16, 18274-18283.	7.3	20
1697	Phonon-Fostered Valley Polarization of Interlayer Excitons in van der Waals Heterostructures. Journal of Physical Chemistry C, 2022, 126, 18128-18138.	1.5	3
1698	Investigating the stability and role of defects in vertically aligned WS <sub>2</sub> /MoS <sub>2</sub> heterojunctions on OER activity using first principles study. Journal of Power Sources, 2022, 551, 232208.	4.0	7
1699	The interior NiCo <sub>2</sub> S <sub>4</sub> nanotube skeletons supported MoS <sub>2</sub> nanosheet arrays as advanced electrocatalysts for hydrogen evolution reaction. Journal of Alloys and Compounds, 2023, 932, 167678.	2.8	4
1700	WS <sub>2</sub> Gas Sensor Based on Photothermocatalytic Effect for Ammonia Detection With High Response. IEEE Sensors Journal, 2022, 22, 23610-23619.	2.4	2

#	ARTICLE	IF	CITATIONS
1701	Protein Unfolding with MoS <sub>2</sub> /SnS <sub>2</sub> Heterostructure. , 2022, , .		1
1702	The first-principles study of structural and electronic properties of two-dimensional SiC/GeC lateral polar heterostructures. Journal of Applied Physics, 2022, 132, 184301.	1.1	0
1703	Second-order topological insulator in van der Waals heterostructures of $\text{CoBr}_2$ . Physical Review B, 2022, 106, .		
1704	Unidirectional Rashba spin splitting in single layer WS <sub>2</sub> /Se <sub>2</sub> alloy. Nanotechnology, 2023, 34, 075705.	1.3	1
1705	Recent Advances in Rolling 2D TMDs Nanosheets into 1D TMDs Nanotubes/Nanoscrolls. Small, 2023, 19, .	5.2	18
1706	Van der Waals Interface-Dominated All-2D Electronics. Advanced Materials, 2023, 35, .	11.1	13
1707	One-Step Synthesis of a Bilayer MoS <sub>2</sub> /WS <sub>2</sub> Lateral Heterojunction for Photoelectric Detection. ACS Applied Nano Materials, 2022, 5, 17203-17211.	2.4	3
1708	Influence of deposition power and annealing on the performance of RF-sputtered SnS for infrared photodetection. Infrared Physics and Technology, 2022, , 104468.	1.3	0
1709	Defect engineering of two-dimensional materials towards next-generation electronics and optoelectronics. Nano Research, 2023, 16, 3104-3124.	5.8	6
1710	Perovskite quantum dot-induced monochromatization for broadband photodetection of wafer-scale molybdenum disulfide. NPG Asia Materials, 2022, 14, .	3.8	7
1711	Exciton spectroscopy and unidirectional transport in MoSe <sub>2</sub> -WSe <sub>2</sub> lateral heterostructures encapsulated in hexagonal boron nitride. Npj 2D Materials and Applications, 2022, 6, .	3.9	10
1712	Efficient modulation of thermal transport in two-dimensional materials for thermal management in device applications. Nanoscale, 2023, 15, 1459-1483.	2.8	4
1713	Interlayer excitons in CVD-grown WS <sub>2</sub> /MoS <sub>2</sub> vertical heterostructures. , 2017, , .		0
1714	Recent progress in mid-infrared photodetection devices using 2D/nD (n=0, 1, 2, 3) heterostructures. Materials and Design, 2023, 225, 111446.	3.3	4
1715	Type-I/Type-II Transition of MoSe <sub>2</sub> /g-GaN van der Waals heterostructures mediated by biaxial strain and electric field for overall water splitting. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2023, 288, 116195.	1.7	4
1716	An investigation on the stability, electronic, and optical properties of new MoSO <sub>4</sub> /WSO lateral heterostructures. Applied Surface Science, 2023, 613, 155980.	3.1	1
1717	Engineering of in-plane SnO <sub>2</sub> -Sn <sub>3</sub> O <sub>4</sub> hierarchical nanoflower heterojunctions for enhanced formaldehyde sensing. Applied Surface Science, 2023, 614, 156110.	3.1	14
1718	Interface Engineering in 2D/2D Heterogeneous Photocatalysts. Small, 2023, 19, .	5.2	23

#	ARTICLE	IF	CITATIONS
1719	Strain-induced ultrahigh power conversion efficiency in BP-MoSe <sub>2</sub> vdW heterostructure. Nanotechnology, 2023, 34, 085403.	1.3	1
1720	Spatially controlled two-dimensional quantum heterostructures. Materials Research Letters, 2023, 11, 327-346.	4.1	6
1721	Spin Coating Promotes the Epitaxial Growth of AgCN Microwires on 2D Materials. ACS Nano, 2022, 16, 20521-20532.	7.3	0
1722	Unusual stacking sequence of MoS <sub>2</sub> and WS <sub>2</sub> vertical heterostructures in one-pot chemical vapor deposition growth. Journal of the Korean Physical Society, 0, , .	0.3	0
1723	Two-dimensional optoelectronic devices for silicon photonic integration. Journal of Materiomics, 2023, 9, 551-567.	2.8	3
1725	Recent progress of two-dimensional heterostructures for thermoelectric applications. Journal of Physics Condensed Matter, 2023, 35, 073001.	0.7	27
1726	Optical reflectance imaging reveals interlayer coupling in mechanically stacked MoS <sub>2</sub> , and WS <sub>2</sub> , bilayers. Optics Express, 0, , .	1.7	0
1727	Optoelectronic properties and applications of two-dimensional layered semiconductor van der Waals heterostructures: perspective from theory. Journal of Physics Condensed Matter, 2023, 35, 043001.	0.7	2
1728	Hybrid G/BN@2H-MoS <sub>2</sub> Nanomaterial Composites: Structural, Electronic and Molecular Adsorption Properties. Nanomaterials, 2022, 12, 4351.	1.9	2
1729	Unique low-energy line defects and lateral heterostructures in phosphorene. Physica Scripta, 2023, 98, 015815.	1.2	1
1730	Two-Dimensional Nanomaterial-Templated Composites. Accounts of Chemical Research, 2022, 55, 3581-3593.	7.6	25
1731	One-pot liquid-phase synthesis of MoS <sub>2</sub> -WS <sub>2</sub> van der waals heterostructures for broadband photodetection. Nanotechnology, 2023, 34, 125704.	1.3	5
1732	Recent Advances in Surface Modifications of Elemental Two-Dimensional Materials: Structures, Properties, and Applications. Molecules, 2023, 28, 200.	1.7	6
1734	Structure modulation of two-dimensional transition metal chalcogenides: recent advances in methodology, mechanism and applications. Chemical Society Reviews, 2023, 52, 1215-1272.	18.7	26
1735	A review of the synthesis, properties, and applications of 2D transition metal dichalcogenides and their heterostructures. Materials Chemistry and Physics, 2023, 297, 127332.	2.0	29
1736	Interfacial engineering in two-dimensional heterojunction photocatalysts. International Journal of Hydrogen Energy, 2023, 48, 12257-12287.	3.8	16
1737	Two Detection Modes of Nanoslit Sensing Based on Planar Heterostructure of Graphene/Hexagonal Boron Nitride. ACS Nano, 2023, 17, 3301-3312.	7.3	2
1738	Thickness-dependent semimetal-to-semiconductor transition in two-dimensional GaGeTe. Journal of Applied Physics, 2023, 133, .	1.1	2



#	ARTICLE	IF	CITATIONS
1739	Photogating Effect of Atomically Thin Graphene/MoS <sub>2</sub> /MoTe <sub>2</sub> van der Waals Heterostructures. <i>Micromachines</i> , 2023, 14, 140.	1.4	1
1740	Substitutional p-Type Doping in NbS <sub>2</sub> /MoS <sub>2</sub> Lateral Heterostructures Grown by MOCVD. <i>Advanced Materials</i> , 2023, 35, .	11.1	7
1741	Temperature-Dependent Raman Scattering Investigation on vdW Epitaxial PbI <sub>2</sub> /CrOCl Heterostructure. <i>Crystals</i> , 2023, 13, 104.	1.0	1
1742	Anisotropic phonon dispersion and optoelectronic properties of few-layer HfS <sub>2</sub> . <i>Journal of Materials Chemistry C</i> , 2023, 11, 2608-2618.	2.7	2
1743	Tailoring Polymorphic Heterostructures of MoS <sub>2</sub> /WS <sub>2</sub> (1T/1T, 2H/2H) for Efficient Hydrogen Evolution Reaction. <i>ACS Sustainable Chemistry and Engineering</i> , 2023, 11, 568-577.	3.2	11
1744	Progress on 2D/2D heterostructured hybrid materials for efficient electrocatalysis. <i>Energy Advances</i> , 2023, 2, 280-292.	1.4	1
1745	Ultralow Subthreshold Swing 2D/2D Heterostructure Tunneling Field-Effect Transistor with Ion-Gel Gate Dielectrics. <i>ACS Applied Electronic Materials</i> , 2023, 5, 196-204.	2.0	4
1746	Van der Waals Heteroepitaxy of GaSe and InSe, Quantum Wells, and Superlattices. <i>Advanced Functional Materials</i> , 2023, 33, .	7.8	3
1747	Design and Simulation of a Ratiometric SPR Sensor Based on a 2D van der Waals Heterojunction for Refractive Index Measurement. <i>Nanomaterials</i> , 2023, 13, 515.	1.9	2
1748	Synthesis of 2D heterostructures. , 2023, , 55-95.		0
1749	Recent Progress in Metal Phosphorous Chalcogenides: Potential High-Performance Electrocatalysts. <i>Small</i> , 2023, 19, .	5.2	39
1750	Layer-Structured Anisotropic Metal Chalcogenides: Recent Advances in Synthesis, Modulation, and Applications. <i>Chemical Reviews</i> , 2023, 123, 3329-3442.	23.0	23
1751	Quantum Spin Hall States in 2D Monolayer WTe <sub>2</sub> /MoTe <sub>2</sub> Lateral Heterojunctions for Topological Quantum Computation. <i>ACS Applied Nano Materials</i> , 2023, 6, 2020-2026.	2.4	1
1752	Two Dimensional Heterostructures for Optoelectronics: Current Status and Future Perspective. <i>Molecules</i> , 2023, 28, 2275.	1.7	2
1753	Unfolding the band structure of van der Waals heterostructures. <i>Physical Review Materials</i> , 2023, 7, .	0.9	4
1754	Toward Rational Design of Ordered Heterostructures for Energy and Environmental Sustainability: A Review. <i>Advanced Energy and Sustainability Research</i> , 2023, 4, .	2.8	3
1755	Large-Area Structure-Selective Synthesis of Symmetry-Broken MoSe <sub>2</sub> and Their Broadband Nonlinear Optical Response. <i>Advanced Optical Materials</i> , 2023, 11, .	3.6	0
1756	Straining techniques for strain engineering of 2D materials towards flexible straintronic applications. <i>Nano Energy</i> , 2023, 109, 108278.	8.2	12

#	ARTICLE	IF	CITATIONS
1757	Interfacial properties of In-plane monolayer 2H-MoTe <sub>2</sub> /1T'-WTe <sub>2</sub> heterostructures. Applied Surface Science, 2023, 623, 157022.	3.1	1
1758	First-principles calculations integrated with experimental optical and electronic properties for MoS <sub>2</sub> -graphene heterostructures and MoS <sub>2</sub> -graphene-Au heterointerfaces. Applied Surface Science, 2023, 623, 157022.	3.1	3
1759	Van der Waals Heterostructures in a MoS <sub>2</sub> /WS <sub>2</sub> Heterostructure. Applied Surface Science, 2023, 623, 157022.	0.9	6
1761	Humidity-Driven High-Performance Electrothermal Actuation of Vertically Stacked 2D PtTe <sub>2</sub> Layers/Cellulose Nanofibers. Advanced Intelligent Systems, 2023, 5, .	3.3	1
1762	Internal electric field in carbon nitride-based heterojunctions for photocatalysis. Nano Energy, 2023, 108, 108228.	8.2	36
1763	First-principles investigation on structural and optoelectronic properties of buckled SnO monolayer for effective solar energy scavenging. Materials Today: Proceedings, 2023, , .	0.9	2
1764	Electronic Structures and NLO Properties of a Series of TMDs Lateral Core-Shell Heterostructures Quantum Dots. Advanced Theory and Simulations, 2023, 6, .	1.3	0
1765	Fast Fabrication of WS <sub>2</sub> /Bi <sub>2</sub> Se <sub>3</sub> Heterostructures for High-Performance Photodetection. ACS Applied Materials & Interfaces, 2023, 15, 10098-10108.	4.0	2
1766	A direction-sensitive photodetector based on the two-dimensional WSe <sub>2</sub> /MoSe <sub>2</sub> lateral heterostructure with enhanced photoresponse. Results in Physics, 2023, 46, 106271.	2.0	2
1767	Visualizing interface states in In <sub>2</sub> Se <sub>3</sub> -WSe <sub>2</sub> monolayer lateral heterostructures. Chinese Physics B, 0, , .	0.7	0
1768	The Role of Electron-Electron Interaction in Charge Transport Calculations through Transition Metal Dichalcogenides Heterojunctions. Energy Technology, 2023, 11, .	1.8	1
1769	2D Material Infrared Photonics and Plasmonics. ACS Nano, 2023, 17, 4134-4179.	7.3	30
1770	Multilayer In-Plane Heterostructures Based on Transition Metal Dichalcogenides for Advanced Electronics. ACS Nano, 2023, 17, 6545-6554.	7.3	7
1771	Monolayer WS <sub>2</sub> Nanosheets Passivated with HfO <sub>2</sub> for Enhanced Photodetectors. ACS Applied Nano Materials, 2023, 6, 4594-4601.	2.4	7
1772	Carrier Transport Properties in Few-Layer WS <sub>0.3</sub> Se <sub>1.7</sub> /(WO <sub>3</sub> /WS <sub>0.3</sub> Se <sub>1.7</sub> ) Lateral p-n Junctions Using a Metal-Oxide Semiconductor Field-Effect Transistor (MOSFET) Structure. ACS Applied Electronic Materials, 2023, 5, 1546-1557.	2.0	0
1773	First-principles investigation on structural and optoelectronic properties of buckled SnO monolayer for effective solar energy scavenging. Materials Today: Proceedings, 2023, , .	0.4	1
1774	Anomalous Photoluminescence Enhancement and Resonant Charge Transfer in Type-II 2D Lateral Heterostructures. Chinese Physics B, 0, , .	0.7	0
1775	Parsing the basic principles to build efficient heterostructures toward electrocatalysis. Inorganic Chemistry Frontiers, 2023, 10, 2220-2225.	3.0	29

#	ARTICLE	IF	CITATIONS
1776	2D-Material-Based Volatile and Nonvolatile Memristive Devices for Neuromorphic Computing. , 2023, 5, 1109-1135.		9
1777	Effect of Solution pH on the Synthesis of Two-Dimensional Molybdenumâ€“Tungsten Sulfide Nanostructures. ACS Applied Nano Materials, 2023, 6, 5963-5971.	2.4	1
1778	van der Waals heterostructures. , 2024, , 310-328.		0
1779	Band-to-band tunneling switches based on two-dimensional van der Waals heterojunctions. Applied Physics Reviews, 2023, 10, .	5.5	8
1780	ZrSe <sub>2</sub> -HfSe <sub>2</sub> lateral heterostructures: stability, fundamental properties, and interline defects. Applied Physics A: Materials Science and Processing, 2023, 129, .	1.1	2
1781	Edge-Based Two-Dimensional In <sub>2</sub> Se <sub>3</sub> â€“MoS <sub>2</sub> Ferroelectric Field Effect Device. ACS Applied Materials & Interfaces, 2023, 15, 18505-18515.	4.0	10
1782	Covalent bonded bilayers from germanene and stanene with topological giant capacitance effects. Npj 2D Materials and Applications, 2023, 7, .	3.9	6
1783	Large scale monolayer MoS <sub>2</sub> ; preparation and photoelectric property study. Wuli Xuebao/Acta Physica Sinica, 2023, .	0.2	0
1784	Ultraflexible two-dimensional Janus heterostructure superlattice: a novel intrinsic wrinkled structure. Nanoscale, 2023, 15, 8654-8661.	2.8	11
1785	Tuning of Interlayer Interaction in MoS <sub>2</sub> â€“WS <sub>2</sub> van der Waals Heterostructures Using Hydrostatic Pressure. Journal of Physical Chemistry C, 2023, 127, 7784-7791.	1.5	1
1802	Heterojunction Engineering for Electrocatalytic Applications. ACS Applied Energy Materials, 2023, 6, 7737-7784.	2.5	5
1813	MoirÃ© superlattice engineering of two-dimensional materials for electrocatalytic hydrogen evolution reaction. Nano Research, 2023, 16, 8712-8728.	5.8	13
1818	Interfacial Charge Transfer in Atomically Thin 2D Transition-Metal Dichalcogenide Heterostructures. , 2023, 1, 1192-1207.		3
1822	Design of self-driven position-sensitive detector based on PtTe <sub>2</sub> /n-Si heterojunction. , 2023, , .		0
1831	Uncovering the photoelectronic/catalytic property modulation and applications of 2D MoS <sub>2</sub> : from the perspective of constructing heterogeneous interfaces. Journal of Materials Chemistry A, 2023, 11, 19736-19763.	5.2	2
1837	Two-dimensional hybrid plasmonic materials. , 2024, , 163-194.		1
1839	MoS <sub>2</sub> /WS <sub>2</sub> quantum dots co-doped two-dimensional carbon nanosheets with high lithium ion conductivity. MRS Communications, 0, , .	0.8	0
1843	Photocatalysis with atomically thin sheets. Chemical Society Reviews, 2023, 52, 7687-7706.	18.7	6

#	ARTICLE	IF	CITATIONS
1861	Vapour-phase deposition of two-dimensional layered chalcogenides. <i>Nature Reviews Materials</i> , 2023, 8, 799-821.	23.3	1
1868	Contemporary innovations in two-dimensional transition metal dichalcogenide-based P-N junctions for optoelectronics. <i>Nanoscale</i> , 2023, 16, 14-43.	2.8	1
1870	From VIB- to VB-Group Transition Metal Disulfides: Structure Engineering Modulation for Superior Electromagnetic Wave Absorption. <i>Nano-Micro Letters</i> , 2024, 16, .	14.4	8
1871	Full automation of point defect detection in transition metal dichalcogenides through a dual mode deep learning algorithm. <i>Materials Horizons</i> , 2024, 11, 747-757.	6.4	0
1879	Interlayer exciton dynamics of transition metal dichalcogenide heterostructures under electric fields. <i>Nano Research</i> , 0, , .	5.8	1
1901	Stacking of two-dimensional materials. , 2024, , 419-474.		0
1903	Two-Dimensional Solution-Processed Tungsten Diselenide's Response to Nitrogen Gas Flow. <i>Minerals, Metals and Materials Series</i> , 2024, , 62-68.	0.3	0
1910	Graphene and its hybrid materials: Properties and applications. , 2023, , .		0