

High Mobility 2D Palladium Diselenide Field-Effect Transistors Characteristics

Advanced Materials

29, 1602969

DOI: [10.1002/adma.201602969](https://doi.org/10.1002/adma.201602969)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Anomalous interlayer vibrations in strongly coupled layered PdSe ₂ . 2D Materials, 2018, 5, 035016.	2.0	60
2	Monolayer PdSe ₂ : A promising two-dimensional thermoelectric material. Scientific Reports, 2018, 8, 2764.	1.6	133
3	Spin Polarization Properties of Pentagonal PdSe ₂ Induced by 3D Transition-Metal Doping: First-Principles Calculations. Materials, 2018, 11, 2339.	1.3	12
4	Single-layer antiferromagnetic semiconductor $\langle \text{mml:math} \text{xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mrow} \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{CoS} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \rangle \langle \text{mml:msub} \langle \text{mml:mi} \rangle \text{Pt} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \rangle \rangle \rangle$ with pentagonal structure. Physical Review B, 2018, 98, .	1.1	12
5	Temperature dependence of Raman responses of few-layer PtS ₂ . Nanotechnology, 2018, 29, 505709.	1.3	23
6	Recent Advances in Synthesis and Applications of 2D Junctions. Small, 2018, 14, e1801606.	5.2	19
7	Physical Properties and Photovoltaic Application of Semiconducting Pd ₂ Se ₃ Monolayer. Nanomaterials, 2018, 8, 832.	1.9	16
8	Self-scrolling MoS ₂ metallic wires. Nanoscale, 2018, 10, 18178-18185.	2.8	83
9	Construction of bilayer PdSe ₂ on epitaxial graphene. Nano Research, 2018, 11, 5858-5865.	5.8	84
10	Bithiazolidinylidene polymers: synthesis and electronic interactions with transition metal dichalcogenides. Chemical Science, 2018, 9, 5047-5051.	3.7	7
11	Molecular chemistry approaches for tuning the properties of two-dimensional transition metal dichalcogenides. Chemical Society Reviews, 2018, 47, 6845-6888.	18.7	202
12	The ambipolar transport behavior of WSe ₂ transistors and its analogue circuits. NPG Asia Materials, 2018, 10, 703-712.	3.8	124
13	3D Imaging and Manipulation of Subsurface Selenium Vacancies in $\langle \text{mml:math} \text{xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \text{display}=\text{"inline"} \rangle \langle \text{mml:mrow} \langle \text{mml:msub} \langle \text{mml:mrow} \langle \text{mml:mi} \rangle \text{PdSe} \langle \text{mml:mi} \rangle \rangle \langle \text{mml:mrow} \langle \text{mml:mrow} \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \rangle \rangle \rangle$ Physical Review Letters, 2018, 121, 086101.	2.9	66
14	Few-Layer PdSe ₂ Sheets: Promising Thermoelectric Materials Driven by High Valley Convergence. ACS Omega, 2018, 3, 5971-5979.	1.6	87
15	Synthesis of ultrathin two-dimensional nanosheets and van der Waals heterostructures from non-layered $\text{I}^3\text{-CuI}$. Npj 2D Materials and Applications, 2018, 2, .	3.9	34
16	Hole-doping-induced half-metallic ferromagnetism in a highly-air-stable PdSe ₂ monolayer under uniaxial stress. Journal of Materials Chemistry C, 2018, 6, 6792-6798.	2.7	38
17	Multilayered PdSe ₂ /Perovskite Schottky Junction for Fast, Self-Powered, Polarization-Sensitive, Broadband Photodetectors, and Image Sensor Application. Advanced Science, 2019, 6, 1901134.	5.6	308
18	Near-infrared optical transitions in PdSe ₂ phototransistors. Nanoscale, 2019, 11, 14410-14416.	2.8	23

#	ARTICLE	IF	CITATIONS
19	Thermoelectric properties of 1 T monolayer pristine and Janus Pd dichalcogenides. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 455502.	0.7	22
20	Highly Polarization-Sensitive, Broadband, Self-Powered Photodetector Based on Graphene/PdSe ₂ /Germanium Heterojunction. <i>ACS Nano</i> , 2019, 13, 9907-9917.	7.3	420
21	Recent Progress on 2D Noble-Transition-Metal Dichalcogenides. <i>Advanced Functional Materials</i> , 2019, 29, 1904932.	7.8	186
22	Van der Waals Heterostructures for High-Performance Device Applications: Challenges and Opportunities. <i>Advanced Materials</i> , 2020, 32, e1903800.	11.1	304
23	Light Confinement Effect Induced Highly Sensitive, Self-Driven Near-Infrared Photodetector and Image Sensor Based on Multilayer PdSe ₂ /Pyramid Si Heterojunction. <i>Small</i> , 2019, 15, e1903831.	5.2	51
24	Interfacial Engineering Enabled Novel Bi-Based Layered Oxide Supercells with Modulated Microstructures and Tunable Physical Properties. <i>Crystal Growth and Design</i> , 2019, 19, 7088-7095.	1.4	6
25	Anisotropic Growth and Scanning Tunneling Microscopy Identification of Ultrathin Even-Layered PdSe ₂ Ribbons. <i>Small</i> , 2019, 15, e1902789.	5.2	50
26	Stability and electronic properties of two dimensional pentagonal layers of palladium chalcogenides. <i>AIP Conference Proceedings</i> , 2019, , .	0.3	0
27	High Thermoelectric Performance in Hexagonal 2D PdTe ₂ Monolayer at Room Temperature. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 38819-38827.	4.0	42
28	Negative Poisson's ratio in monolayer PdSe ₂ . <i>Computational Materials Science</i> , 2019, 160, 309-314.	1.4	29
29	A new 2D high-pressure phase of PdSe ₂ with high-mobility transport anisotropy for photovoltaic applications. <i>Journal of Materials Chemistry C</i> , 2019, 7, 2096-2105.	2.7	70
30	Pressure-Tunable Ambipolar Conduction and Hysteresis in Thin Palladium Diselenide Field Effect Transistors. <i>Advanced Functional Materials</i> , 2019, 29, 1902483.	7.8	98
31	Atomic Structure and Dynamics of Defects and Grain Boundaries in 2D Pd ₂ Se ₃ Monolayers. <i>ACS Nano</i> , 2019, 13, 8256-8264.	7.3	38
32	Optical and electrical properties of two-dimensional palladium diselenide. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	74
33	Ferroelastic lattice rotation and band-gap engineering in quasi 2D layered-structure PdSe ₂ under uniaxial stress. <i>Nanoscale</i> , 2019, 11, 12317-12325.	2.8	32
34	Quasiparticle electronic structure and optical spectra of single-layer and bilayer PdSe ₂ : Proximity and defect-induced band gap renormalization. <i>Physical Review B</i> , 2019, 99, .		
35	The novel transistor and photodetector of monolayer MoS ₂ based on surface-ionic-gate modulation powered by a triboelectric nanogenerator. <i>Nano Energy</i> , 2019, 62, 38-45.	8.2	46
36	Defect-Mediated Phase Transformation in Anisotropic Two-Dimensional PdSe ₂ Crystals for Seamless Electrical Contacts. <i>Journal of the American Chemical Society</i> , 2019, 141, 8928-8936.	6.6	81

#	ARTICLE	IF	CITATIONS
37	Intrinsic transport properties of nanoporous graphene highly suitable for complementary field-effect transistors. <i>2D Materials</i> , 2019, 6, 035026.	2.0	3
38	High-Performance, Room Temperature, Ultra-Broadband Photodetectors Based on Air-Stable PdSe ₂ . <i>Advanced Materials</i> , 2019, 31, e1807609.	11.1	223
39	PdSe ₂ Multilayer on Germanium Nanocones Array with Light Trapping Effect for Sensitive Infrared Photodetector and Image Sensing Application. <i>Advanced Functional Materials</i> , 2019, 29, 1900849.	7.8	90
40	A high-performance near-infrared light photovoltaic detector based on a multilayered PtSe ₂ /Ge heterojunction. <i>Journal of Materials Chemistry C</i> , 2019, 7, 5019-5027.	2.7	58
41	Penta-PdX ₂ (X = S, Se, Te) monolayers: promising anisotropic thermoelectric materials. <i>Journal of Materials Chemistry A</i> , 2019, 7, 11134-11142.	5.2	117
42	Multifunctional 2D CuSe monolayer nanodevice. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 355301.	0.7	8
43	The mechanical, electronic and optical properties of two-dimensional transition metal chalcogenides MX ₂ and M ₂ X ₃ (M = Ni, Pd; X = S, Se, Te) with hexagonal and orthorhombic structures. <i>Journal of Materials Chemistry C</i> , 2019, 7, 13518-13525.	2.7	58
44	Janus electrochemical exfoliation of two-dimensional materials. <i>Journal of Materials Chemistry A</i> , 2019, 7, 25691-25711.	5.2	41
45	Direct Laser Patterning and Phase Transformation of 2D PdSe ₂ Films for On-Demand Device Fabrication. <i>ACS Nano</i> , 2019, 13, 14162-14171.	7.3	44
46	Exploring the air stability of PdSe ₂ via electrical transport measurements and defect calculations. <i>Npj 2D Materials and Applications</i> , 2019, 3, .	3.9	55
47	Photoluminescence of PdS ₂ and PdSe ₂ quantum dots. <i>RSC Advances</i> , 2019, 9, 38077-38084.	1.7	13
48	Progress, Challenges, and Opportunities for 2D Material Based Photodetectors. <i>Advanced Functional Materials</i> , 2019, 29, 1803807.	7.8	884
49	Controlled Synthesis of 2D Palladium Diselenide for Sensitive Photodetector Applications. <i>Advanced Functional Materials</i> , 2019, 29, 1806878.	7.8	286
50	From pentagonal geometries to two-dimensional materials. <i>Computational Materials Science</i> , 2019, 159, 448-453.	1.4	24
51	Photoresponse of wafer-scale palladium diselenide films prepared by selenization method. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 065102.	1.3	10
52	A Noble Metal Dichalcogenide for High-Performance Field-Effect Transistors and Broadband Photodetectors. <i>Advanced Functional Materials</i> , 2020, 30, 1907945.	7.8	72
53	Environmental effects on transport properties of PdSe ₂ field effect transistors. <i>Materials Today: Proceedings</i> , 2020, 20, 50-53.	0.9	15
54	2D material broadband photodetectors. <i>Nanoscale</i> , 2020, 12, 454-476.	2.8	167

#	ARTICLE	IF	CITATIONS
55	Defects in Highly Anisotropic Transition-Metal Dichalcogenide PdSe ₂ . Journal of Physical Chemistry Letters, 2020, 11, 740-746.	2.1	28
56	Thermoelectric properties of InN graphene-like nanosheet: A first principle study. Superlattices and Microstructures, 2020, 138, 106367.	1.4	26
57	Intriguing field-effect-transistor performance of two-dimensional layered and crystalline CrI ₃ . Materials Today Physics, 2020, 12, 100174.	2.9	13
58	Ultra-Broadband, High Speed, and High-Quantum-Efficiency Photodetectors Based on Black Phosphorus. ACS Applied Materials & Interfaces, 2020, 12, 1201-1209.	4.0	49
59	Infrared photodetectors. , 2020, , 105-115.		1
60	Low-Symmetry PdSe ₂ for High Performance Thermoelectric Applications. Advanced Functional Materials, 2020, 30, 2004896.	7.8	49
61	Direct Tellurization of Pt to Synthesize 2D PtTe ₂ for High-Performance Broadband Photodetectors and NIR Image Sensors. ACS Applied Materials & Interfaces, 2020, 12, 53921-53931.	4.0	48
62	First-Principles Study of the Hexagonal T-Phase PdSe ₂ Monolayer and Its Application in Solar Cells. Journal of Physical Chemistry C, 2020, 124, 26565-26571.	1.5	28
63	PdSSe: Two-dimensional pentagonal Janus structures with strong visible light absorption for photovoltaic and photocatalytic applications. Vacuum, 2020, 181, 109649.	1.6	13
64	Two-Dimensional Platinum Diselenide: Synthesis, Emerging Applications, and Future Challenges. Nano-Micro Letters, 2020, 12, 174.	14.4	50
65	Electrical transport in two-dimensional PdSe ₂ and MoS ₂ nanosheets. , 2020, , .		3
66	Phase Variations and Layer Epitaxy of 2D PdSe ₂ Grown on 2D Monolayers by Direct Selenization of Molecular Pd Precursors. ACS Nano, 2020, 14, 11677-11690.	7.3	10
67	Two unexplored two-dimensional MSe ₂ (M = Cd, Zn) structures as the photocatalysts of water splitting and the enhancement of their performances by strain. Vacuum, 2020, 182, 109728.	1.6	12
68	Field Emission in Ultrathin PdSe ₂ Back-Gated Transistors. Advanced Electronic Materials, 2020, 6, 2000094.	2.6	66
69	Tunable n-type and p-type doping of two-dimensional layered PdSe ₂ via organic molecular adsorption. Physical Chemistry Chemical Physics, 2020, 22, 12973-12979.	1.3	15
70	Synthesis Techniques, Optoelectronic Properties, and Broadband Photodetection of Thin-Film Black Phosphorus. Advanced Optical Materials, 2020, 8, 2000045.	3.6	39
71	Vapor phase growth of two-dimensional PdSe ₂ nanosheets for high-photoresponsivity near-infrared photodetectors. Nano Research, 2020, 13, 2091-2097.	5.8	44
72	Structural transition, metallization, and superconductivity in quasi-two-dimensional layered $S_{x}Pd_{1-x}Se_{2}$ under compression. Physical Review B, 2020, 101, .	1.1	22

#	ARTICLE	IF	CITATIONS
73	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
74	Semiconducting few-layer PdSe ₂ and Pd ₂ Se ₃ : native point defects and contacts with native metallic Pd ₁₇ Se ₁₅ . <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 7365-7373.	1.3	8
75	Layer-dependent band engineering of Pd dichalcogenides: a first-principles study. <i>New Journal of Physics</i> , 2020, 22, 053010.	1.2	25
76	Magnetic-field guided solvent vapor annealing for enhanced molecular alignment and carrier mobility of a semiconducting diketopyrrolopyrrole-based polymer. <i>Journal of Materials Chemistry C</i> , 2020, 8, 4477-4485.	2.7	13
77	Tuning electronic and optical properties of monolayer PdSe ₂ by introducing defects: first-principles calculations. <i>Scientific Reports</i> , 2020, 10, 4028.	1.6	16
78	Layer-Dependent and In-Plane Anisotropic Properties of Low-Temperature Synthesized Few-Layer PdSe ₂ Single Crystals. <i>ACS Nano</i> , 2020, 14, 4963-4972.	7.3	64
79	High-Performance p-BP/n-PdSe ₂ Near-Infrared Photodiodes with a Fast and Gate-Tunable Photoresponse. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 19625-19634.	4.0	67
80	Nitrogen-mediated aligned growth of hexagonal BN films for reliable high-performance InSe transistors. <i>Journal of Materials Chemistry C</i> , 2020, 8, 4421-4431.	2.7	5
81	Enhanced photoresponse of highly air-stable palladium diselenide by thickness engineering. <i>Nanophotonics</i> , 2020, 9, 2467-2474.	2.9	10
82	Anisotropic Phonon Response of Few-Layer PdSe ₂ under Uniaxial Strain. <i>Advanced Functional Materials</i> , 2020, 30, 2003215.	7.8	26
83	Atomically Precise PdSe ₂ Pentagonal Nanoribbons. <i>ACS Nano</i> , 2020, 14, 1951-1957.	7.3	21
84	Multifunctional and high-performance GeSe/PdSe ₂ heterostructure device with a fast photoresponse. <i>Journal of Materials Chemistry C</i> , 2020, 8, 4743-4753.	2.7	47
85	Zweidimensionale Edelmetallchalkogenide und -phosphochalkogenide. <i>Angewandte Chemie</i> , 2020, 132, 9328-9341.	1.6	2
86	Two-Dimensional Noble-Metal Chalcogenides and Phosphochalcogenides. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 9242-9254.	7.2	78
87	Compositional effect in pentagonal layered PdSe ₂ -S solid-solutions and their transport properties. <i>Scripta Materialia</i> , 2020, 182, 6-10.	2.6	4
88	Lateral Heterostructure Field-Effect Transistors Based on Two-Dimensional Material Stacks with Varying Thickness and Energy Filtering Source. <i>ACS Nano</i> , 2020, 14, 1982-1989.	7.3	43
89	Layer-by-Layer Thinning of PdSe ₂ Flakes via Plasma Induced Oxidation and Sublimation. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 7345-7350.	4.0	20
90	Mixed-dimensional PdSe ₂ /SiNWA heterostructure based photovoltaic detectors for self-driven, broadband photodetection, infrared imaging and humidity sensing. <i>Journal of Materials Chemistry A</i> , 2020, 8, 3632-3642.	5.2	158

#	ARTICLE	IF	CITATIONS
91	Performance Improvement by Ozone Treatment of 2D PdSe ₂ . ACS Nano, 2020, 14, 5668-5677.	7.3	54
92	Large Out-of-Plane Second Harmonic Generation Susceptibility in Penta-ZnS 2 Sheet. Advanced Theory and Simulations, 2020, 3, 2000027.	1.3	10
93	Few-layer PdSe ₂ -based field-effect transistor for photodetector applications. Materials Science in Semiconductor Processing, 2020, 115, 105102.	1.9	6
94	Structural stability of single-layer PdSe ₂ with pentagonal puckered morphology and its nanotubes. Physical Chemistry Chemical Physics, 2020, 22, 8289-8295.	1.3	26
95	Tunable Current Transport in PdSe ₂ via Layer-by-Layer Thickness Modulation by Mild Plasma. Advanced Electronic Materials, 2020, 6, 2000008.	2.6	17
96	Penta-BCN: A New Ternary Pentagonal Monolayer with Intrinsic Piezoelectricity. Journal of Physical Chemistry Letters, 2020, 11, 3501-3506.	2.1	80
97	Giant Thickness-Tunable Bandgap and Robust Air Stability of 2D Palladium Diselenide. Small, 2020, 16, e2000754.	5.2	19
98	Charge-regulated, electric-field and combined effect controlled switchable CO ₂ capture and separation on penta-C ₂ N nanosheet: A computational study. Chemical Engineering Journal, 2021, 407, 127194.	6.6	24
99	Highly In-Plane Anisotropic 2D PdSe ₂ for Polarized Photodetection with Orientation Selectivity. Advanced Functional Materials, 2021, 31, 2006774.	7.8	100
100	Ternary Ta ₂ PdS ₆ Atomic Layers for an Ultrahigh Broadband Photoresponsive Phototransistor. Advanced Materials, 2021, 33, e2005607.	11.1	44
101	Single nanoflake-based PtSe ₂ p-n junction (in-plane) formed by optical excitation of point defects in BN for ultrafast switching photodiodes. Journal of Materials Chemistry C, 2021, 9, 199-207.	2.7	23
102	Ambipolar 2D Semiconductors and Emerging Device Applications. Small Methods, 2021, 5, e2000837.	4.6	39
103	Band Alignment Engineering in Two-Dimensional Transition Metal Dichalcogenide-Based Heterostructures for Photodetectors. Small Structures, 2021, 2, 2000136.	6.9	112
104	Facile synthesis of ZnO/PdSe ₂ core-shell heterojunction for efficient photodetector application. Chemical Engineering Journal, 2021, 413, 127484.	6.6	14
105	Defect Engineering in Ambipolar Layered Materials for Mode-Regulable Nociceptor. Advanced Functional Materials, 2021, 31, 2007587.	7.8	19
106	Screening fermi-level pinning effect through van der waals contacts to monolayer MoS ₂ . Materials Today Physics, 2021, 16, 100290.	2.9	36
107	Pentagonal two-dimensional noble-metal dichalcogenide PdSSe for photocatalytic water splitting with pronounced optical absorption and ultrahigh anisotropic carrier mobility. Journal of Materials Chemistry C, 2021, 9, 7753-7764.	2.7	30
108	Gate-bias instability of few-layer WSe ₂ field effect transistors. RSC Advances, 2021, 11, 6818-6824.	1.7	6

#	ARTICLE	IF	CITATIONS
109	Charge Transfer Doping of 2D PdSe ₂ Thin Film and Its Application in Fabrication of Heterostructures. <i>Advanced Electronic Materials</i> , 2021, 7, 2001057.	2.6	6
110	Electronic Property of PdSe ₂ Thin Films Fabricated by Post-selenization of Pd Films. <i>Wuji Cailiao Xuebao/Journal of Inorganic Materials</i> , 2021, 36, 779.	0.6	0
111	Thermoelectric transport properties of two-dimensional materials XTe_2 ($X = Pd, Pt$) via first-principles calculations. <i>Wuli Xuebao/Acta Physica Sinica</i> , 2021, 70, 116301.	0.2	2
112	Tunable photocatalytic water splitting and solar-to-hydrogen efficiency in Γ^2 -PdSe ₂ monolayer. <i>Catalysis Science and Technology</i> , 2021, 11, 6445-6454.	2.1	22
113	Multiplexed neurochemical transmission emulated using a dual-excitatory synaptic transistor. <i>Npj 2D Materials and Applications</i> , 2021, 5, .	3.9	12
114	Two-Dimensional Group-10 Noble-Transition-Metal Dichalcogenides Photodetector. , 0, , .		0
115	Tuning electronic properties of pentagonal PdSe ₂ monolayer by applying external strain. <i>Indian Journal of Physics</i> , 2022, 96, 1037-1043.	0.9	1
116	Highly Sensitive, Ultrafast, and Broadband Photoâ€Detecting Fieldâ€Effect Transistor with Transitionâ€Metal Dichalcogenide van der Waals Heterostructures of MoTe ₂ and PdSe ₂ . <i>Advanced Science</i> , 2021, 8, e2003713.	5.6	65
117	Direct Laser Patterning of a 2D WSe ₂ Logic Circuit. <i>Advanced Functional Materials</i> , 2021, 31, 2009549.	7.8	15
118	Quasiparticle band structures of bulk and few-layer $PdSe_2$ from first-principles	1.1	17
119	Temperature-sensitive spatial distribution of defects in $PdSe_2$ flakes. <i>Physical Review Materials</i> , 2021, 5, .		
120	Activating PtSe ₂ monolayer for hydrogen evolution reaction by defect engineering and Pd doping. <i>Applied Surface Science</i> , 2021, 545, 149013.	3.1	23
121	Layer dependent interlayer coherent phonon dynamics in PdSe ₂ films. <i>Applied Physics Letters</i> , 2021, 118, 191105.	1.5	7
122	Unipolar barrier photodetectors based on van der Waals heterostructures. <i>Nature Electronics</i> , 2021, 4, 357-363.	13.1	292
123	Self-powered and high-performance all-fiber integrated photodetector based on graphene/palladium diselenide heterostructures. <i>Optics Express</i> , 2021, 29, 15631.	1.7	13
124	Microwave surface transport in narrow-bandgap PdSe ₂ -MOSFETs. <i>2D Materials</i> , 2021, 8, 035035.	2.0	1
125	Gateâ€Controlled Rectifying Direction in PdSe ₂ Lateral Heterojunction Diode. <i>Advanced Electronic Materials</i> , 2021, 7, 2100005.	2.6	5
126	PdPSe: Componentâ€Fusionâ€Based Topology Designer of Twoâ€Dimensional Semiconductor. <i>Advanced Functional Materials</i> , 2021, 31, 2102943.	7.8	15

#	ARTICLE	IF	CITATIONS
127	Applications of 2D-Layered Palladium Diselenide and Its van der Waals Heterostructures in Electronics and Optoelectronics. <i>Nano-Micro Letters</i> , 2021, 13, 143.	14.4	61
128	PentaPdPSe: A New 2D Pentagonal Material with Highly In-Plane Optical, Electronic, and Optoelectronic Anisotropy. <i>Advanced Materials</i> , 2021, 33, e2102541.	11.1	66
129	New Verbeekite-type polymorphic phase and rich phase diagram in the PdSe_2 system. <i>Physical Review B</i> , 2021, 104, .	10.6	16
130	Few-Layer PdSe_2 Nanofilm/Si Heterojunction for Sensing NO_2 at Room Temperature. <i>ACS Applied Nano Materials</i> , 2021, 4, 7358-7370.	2.4	18
131	Encapsulation strategies on 2D materials for field effect transistors and photodetectors. <i>Chinese Chemical Letters</i> , 2022, 33, 2281-2290.	4.8	17
132	Polarity Control and Weak Fermi-Level Pinning in PdSe_2 Transistors. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 43480-43488.	4.0	9
133	Intercalation Strategy in 2D Materials for Electronics and Optoelectronics. <i>Small Methods</i> , 2021, 5, e2100567.	4.6	32
134	Large bulk photovoltaic effect and second-harmonic generation in few-layer pentagonal semiconductors PdS_2 and PdSe_2 . <i>New Journal of Physics</i> , 2021, 23, 093028.	1.2	9
135	Novel two-dimensional transition metal chalcogenides created by epitaxial growth. <i>Science China: Physics, Mechanics and Astronomy</i> , 2021, 64, 1.	2.0	3
136	Junction Field-Effect Transistors Based on $\text{PdSe}_2/\text{MoS}_2$ Heterostructures for Photodetectors Showing High Responsivity and Detectivity. <i>Advanced Functional Materials</i> , 2021, 31, 2106105.	7.8	61
137	Synthesis of ultrathin PdSe_2 flakes for hydrogen evolution reaction. <i>Applied Surface Science</i> , 2021, 570, 151178.	3.1	11
138	Native O and Se Vacancy Defects in $\text{Bi}_2\text{O}_5\text{Se}$, $\text{Bi}_2\text{O}_9\text{Se}_3$, and $\text{Bi}_2\text{O}_{10}\text{Se}_3$ Dielectrics for Nanoelectronics. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2000540.	1.2	1
139	Van der Waals $\text{PdSe}_2/\text{WS}_2$ 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
140	Thickness-dependent ultrafast charge-carrier dynamics and coherent acoustic phonon oscillations in mechanically exfoliated PdSe_2 flakes. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 20666-20674.	1.3	7
141	A new 3D metallic carbon allotrope composed of penta-graphene nanoribbons as a high-performance anode material for sodium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 23214-23222.	5.2	17
142	Multilayered PtSe_2 /pyramid-Si heterostructure array with light confinement effect for high-performance photodetection, image sensing and light trajectory tracking applications. <i>Journal of Materials Chemistry C</i> , 2021, 9, 2823-2832.	2.7	20
143	Electrically adjusted deep-ultraviolet/near-infrared single-band/dual-band imaging photodetectors based on $\text{Cs}_3\text{Cu}_2\text{I}_5/\text{PdTe}_2/\text{Ge}$ multiheterostructures. <i>Journal of Materials Chemistry C</i> , 2021, 9, 14897-14907.	2.7	14
144	Switching photodiodes based on (2D/3D) PdSe_2/Si heterojunctions with a broadband spectral response. <i>Journal of Materials Chemistry C</i> , 2021, 9, 3998-4007.	2.7	24

#	ARTICLE	IF	CITATIONS
145	Palladium Diselenide Long-Wavelength Infrared Photodetector with High Sensitivity and Stability. <i>ACS Nano</i> , 2019, 13, 2511-2519.	7.3	198
146	Electron irradiation of multilayer PdSe_2 field effect transistors. <i>Nanotechnology</i> , 2020, 31, 375204.	1.3	28
147	Utilization of group 10 2D TMDs- PdSe_2 as a nonlinear optical material for obtaining switchable laser pulse generation modes. <i>Nanotechnology</i> , 2021, 32, 055201.	1.3	24
148	Palladium diselenide as a direct absorption saturable absorber for ultrafast mode-locked operations: from all anomalous dispersion to all normal dispersion. <i>Nanophotonics</i> , 2020, 9, 4295-4306.	2.9	100
149	Temperature-dependent Raman study and determination of anisotropy ratio and in-plane thermal conductivity of low-temperature CVD-grown PdSe_2 using unpolarized laser excitation. <i>Journal of Materials Chemistry C</i> , 2021, 9, 16693-16708.	2.7	14
150	Broadband Nonlinear Photoresponse and Ultrafast Carrier Dynamics of 2D PdSe_2 . <i>Advanced Optical Materials</i> , 2022, 10, 2101963.	3.6	17
151	The Surface and Interface Effects on the CoS_2 - FeS_2 Interfacial Films. <i>Journal of Superconductivity and Novel Magnetism</i> , 2021, 34, 2983-2998.	0.8	0
152	Point and complex defects in monolayer PdSe_2 : Evolution of electronic structure and emergence of magnetism. <i>Physical Review B</i> , 2021, 104, .		
153	Ambipolar Inorganic Two-dimensional Materials for Solar Cells. <i>RSC Smart Materials</i> , 2020, , 256-297.	0.1	0
154	Layer-Tunable Nonlinear Optical Characteristics and Photocarrier Dynamics of 2D PdSe_2 in Broadband Spectra. <i>Small</i> , 2021, 17, e2103938.	5.2	18
155	Large In-Plane Anisotropic Terahertz Emission Induced by Asymmetric Polarization in Low-Symmetric PdSe_2 . <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 54543-54550.	4.0	4
156	Ultrafast and Highly Sensitive Dual-Channel FET Photodetector Based on a Two-Dimensional MoS_2 Homojunction. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 54194-54203.	4.0	5
157	Two-dimensional materials toward Terahertz optoelectronic device applications. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2022, 51, 100473.	5.6	36
158	Highly Efficient, Ultrabroad PdSe_2 Phototransistors from Visible to Terahertz Driven by Mutiphysical Mechanism. <i>ACS Nano</i> , 2021, 15, 20403-20413.	7.3	47
159	Quantitative Determination of Contradictory Bandgap Values of Bulk PdSe_2 from Electrical Transport Properties. <i>Advanced Functional Materials</i> , 2022, 32, 2108061.	7.8	11
160	First-principles study on electronic structure and optical properties of monolayer Janus PtSTe under external electric field and strain. <i>European Physical Journal Plus</i> , 2021, 136, 1.	1.2	3
161	Layer-dependent optical and dielectric properties of centimeter-scale PdSe_2 films grown by chemical vapor deposition. <i>Npj 2D Materials and Applications</i> , 2022, 6, .	3.9	44
162	Ab-initio-driven prediction of puckered penta-like PdPSeX (X O, S, Te) Janus monolayers: Study on the electronic, optical, mechanical and photocatalytic properties. <i>Applied Surface Science</i> , 2022, 582, 152356.	3.1	55

#	ARTICLE	IF	CITATIONS
163	Direct Observation of Orbital Driven Strong Interlayer Coupling in Puckered Two-Dimensional PdSe ₂ . Small, 2022, , 2106053.	5.2	6
164	Passively mode-locked red Pr:LiYF ₄ laser based on a two-dimensional palladium diselenide saturable absorber. Optics Express, 2022, 30, 2900.	1.7	16
165	Low-cost pentagonal NiX ₂ (X = S, Se, and Te) monolayers with strong anisotropy as potential thermoelectric materials. Physical Chemistry Chemical Physics, 2022, 24, 5185-5198.	1.3	17
166	High-Performance, Polarization-Sensitive, Long-Wave Infrared Photodetection via Photothermoelectric Effect with Asymmetric van der Waals Contacts. ACS Nano, 2022, 16, 295-305.	7.3	47
167	Strain dependent electronic and optical responses of penta-BCN monolayer. Carbon Trends, 2022, 7, 100162.	1.4	6
168	The role of 2-Dimensional materials for electronic devices. Materials Science in Semiconductor Processing, 2022, 143, 106546.	1.9	18
169	Enhanced Raman scattering on two-dimensional palladium diselenide. Nanoscale, 2022, 14, 4181-4187.	2.8	12
170	Homogeneous Palladium Diselenide pn-Junction Diodes for Reconfigurable Circuit Applications. Advanced Electronic Materials, 2022, 8, .	2.6	6
171	Pentagonal PdX ₂ (X = S, Se) nanosheets with X vacancies as high-performance electrocatalysts for the hydrogen evolution reaction. Physical Chemistry Chemical Physics, 2022, , .	1.3	2
172	Novel hybrid monolayers Si _x Ge _y Sn _{1-x-y} : first principles study of structural, electronic, optical, and electron transport properties with NH ₃ sensing application. Physical Chemistry Chemical Physics, 2022, 24, 9475-9491.	1.3	2
173	2D Cairo Pentagonal PdPS: Air-Stable Anisotropic Ternary Semiconductor with High Optoelectronic Performance. Advanced Functional Materials, 2022, 32, .	7.8	25
174	Pressure-induced structural transition, metallization, and topological superconductivity in PdSSe. Physical Review B, 2022, 105, .	1.1	9
175	Low pressure CVD growth of 2D PdSe ₂ thin film and its application in PdSe ₂ -MoSe ₂ vertical heterostructure. 2D Materials, 2022, 9, 025025.	2.0	12
176	In Situ Fabrication of PdSe ₂ /GaN Schottky Junction for Polarization-Sensitive Ultraviolet Photodetection with High Dichroic Ratio. ACS Nano, 2022, 16, 5545-5555.	7.3	139
177	Atomic-Level Dynamics of Point Vacancies and the Induced Stretched Defects in 2D Monolayer PtSe ₂ . Nano Letters, 2022, 22, 3289-3297.	4.5	9
178	Photoelectric properties of PtSe ₂ (XPtY)/BN van der Waals heterostructure. Superlattices and Microstructures, 2021, , 107145.	1.4	1
179	Two-dimensional noble transition-metal dichalcogenides for nanophotonics and optoelectronics: Status and prospects. Nano Research, 2022, 15, 3675-3694.	5.8	22
180	Penta-SiCN: A Highly Auxetic Monolayer. ACS Applied Electronic Materials, 2022, 4, 2561-2569.	2.0	12

#	ARTICLE	IF	CITATIONS
181	Puckered Penta-like PdPX (X = O, S, Te) Semiconducting Nanosheets: First-Principles Study of the Mechanical, Electro-Optical, and Photocatalytic Properties. ACS Applied Materials & Interfaces, 2022, 14, 21577-21584.	4.0	19
182	Broadband convolutional processing using band-alignment-tunable heterostructures. Nature Electronics, 2022, 5, 248-254.	13.1	131
183	Pentagon-based 2D materials: Classification, properties and applications. Physics Reports, 2022, 964, 1-42.	10.3	43
184	Chemical Vapor Deposition Synthesis of Two-dimensional Bi ₂ O ₂ Se on Silicon Substrate and its Photodetecting Application. Wuli Xuebao/Acta Physica Sinica, 2022, .	0.2	0
185	Integrated optoelectronics with two-dimensional materials. , 2022, 1, 20220022.		2
186	Optoelectronic and photocatalytic properties of stable pentagonal B ₂ S and B ₂ Se monolayers. Computational Materials Science, 2022, 211, 111524.	1.4	1
187	Enhanced mechanical, electronic, magnetic, and optical properties of penta-BCN by Ni-doping. Applied Surface Science, 2022, 599, 153997.	3.1	3
188	High-performance broadband photodetector based on PdSe ₂ /black phosphorus heterodiode. Applied Physics Letters, 2022, 120, .	1.5	6
189	First-principles study of the contact resistance and optoelectronic properties of PdSe ₂ /MoTe ₂ van der Waals heterostructure optoelectronic devices. Chinese Journal of Physics, 2022, 78, 57-71.	2.0	2
190	Pentagonal 2D Transition Metal Dichalcogenides: PdSe ₂ and Beyond. Advanced Functional Materials, 2022, 32, .	7.8	16
191	Electronic and optical properties of Janus PtSSe multi-layers: a DFT study. European Physical Journal Plus, 2022, 137, .	1.2	1
192	Stabilized Synthesis of 2D Verbeekite: Monoclinic PdSe ₂ Crystals with High Mobility and In-Plane Optical and Electrical Anisotropy. ACS Nano, 2022, 16, 13900-13910.	7.3	14
193	Waveguide-Integrated PdSe ₂ Photodetector over a Broad Infrared Wavelength Range. Nano Letters, 2022, 22, 6816-6824.	4.5	18
194	Atomic-Scale Insights into the Lateral and Vertical Epitaxial Growth in Two-Dimensional Pd ₂ Se ₃ –MoS ₂ Heterostructures. ACS Nano, 2022, 16, 10260-10272.	7.3	3
195	Synthesis of noble metal chalcogenides via cation exchange reactions. , 2022, 1, 626-634.		17
196	Demonstration of PdSe ₂ CMOS Using Same Metal Contact in PdSe ₂ nâ€pâ€MOSFETs through Thicknessâ€Dependent Phase Transition. Advanced Electronic Materials, 2022, 8, .	2.6	1
197	Recent progress in the edge reconstruction of two-dimensional materials. Journal Physics D: Applied Physics, 2022, 55, 414003.	1.3	3
198	First-Principles Calculations of Two-Dimensional Monolayer PdSe ₂ for Selective Sensing of Nitrogen-Containing Gases. ACS Applied Nano Materials, 2022, 5, 11519-11528.	2.4	9

#	ARTICLE	IF	CITATIONS
199	Penta-OsP ₂ and penta-Rhs ₂ sheets derived from marcasite and pyrite with low lattice thermal conductivity. <i>Journal of Materials Chemistry A</i> , 2022, 10, 21356-21367.	5.2	3
200	Is the Bandgap of Bulk PdSe ₂ Located Truly in the Far-Infrared Region? Determination by Fourier Transform Photocurrent Spectroscopy. <i>Advanced Photonics Research</i> , 0, , 2200231.	1.7	2
201	Low-lying electronic states with giant linear dichroic ratio observed in PdSe ₂ . <i>Physical Review B</i> , 2022, 106, .		
202	2D Structures Based Field-Effect Transistors (Review). <i>Journal of Communications Technology and Electronics</i> , 2022, 67, 1134-1151.	0.2	0
203	Large Negative Poisson's Ratio and Anisotropic Mechanics in New Penta-PBN Monolayer. <i>ACS Omega</i> , 2022, 7, 36235-36243.	1.6	5
204	A pentagonal 2D layered PdSe ₂ -based synaptic device with a graphene floating gate. <i>Journal of Materials Chemistry C</i> , 2022, 10, 16536-16545.	2.7	7
205	Defect and Doping Properties of Two-Dimensional PdSe ₂ . <i>Journal of Physical Chemistry C</i> , 2022, 126, 20678-20685.	1.5	2
206	Probing Intrinsic Defect-Induced Trap States and Hopping Transport in Two-Dimensional PdSe ₂ Semiconductor Devices. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 55787-55794.	4.0	2
207	Molecular beam epitaxy growth and scanning tunneling microscopy study of 2D layered materials on epitaxial graphene/silicon carbide. <i>Nanotechnology</i> , 2023, 34, 132001.	1.3	2
208	Structure modulation of two-dimensional transition metal chalcogenides: recent advances in methodology, mechanism and applications. <i>Chemical Society Reviews</i> , 2023, 52, 1215-1272.	18.7	26
209	A broadband, self-powered, and polarization-sensitive PdSe ₂ photodetector based on asymmetric van der Waals contacts. <i>Nanophotonics</i> , 2023, 12, 607-618.	2.9	15
210	Nonlinear photoresponse of PdSe ₂ nanosheets for soliton operations in passive mode-locked Er-doped fiber lasers. <i>Infrared Physics and Technology</i> , 2023, 131, 104626.	1.3	3
211	First-principles study on electronic structure and thermodynamic stability of two-dimensional pentagonal MX ₂ (M = Pd, Pt; X = S, Se, Te). <i>Vacuum</i> , 2023, 212, 111982.	1.6	5
212	Visible-Light-Enhanced NO ₂ Sensing Based on the Hybrid Orthorhombic/Monoclinic-PdSe ₂ Nanostructures. <i>ACS Applied Nano Materials</i> , 2023, 6, 2672-2681.	2.4	2
213	2D Material Infrared Photonics and Plasmonics. <i>ACS Nano</i> , 2023, 17, 4134-4179.	7.3	30
214	Hydrogen-assisted growth of one-dimensional tellurium nanoribbons with unprecedented high mobility. <i>Materials Today</i> , 2023, 63, 50-58.	8.3	7
215	Layer-dependent electronic structures and optical properties of two-dimensional PdSSe. <i>Physical Chemistry Chemical Physics</i> , 2023, 25, 11827-11838.	1.3	4
216	Adsorption Behaviors of Small Molecules on Two-Dimensional Penta-NiN ₂ Layers: Implications for NO and NO ₂ Gas Sensors. <i>ACS Applied Nano Materials</i> , 2023, 6, 6151-6160.	2.4	3

#	ARTICLE	IF	CITATIONS
217	Smithâ€Purcell Radiation from Highly Mobile Carriers in 2D Quantum Materials. Laser and Photonics Reviews, 2023, 17, .	4.4	1
240	van der Waals 2D transition metal dichalcogenide/organic hybridized heterostructures: recent breakthroughs and emerging prospects of the device. Nanoscale Horizons, 2023, 9, 44-92.	4.1	1