

Hyeon S Shin

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

124 papers	17,293 citations	54 h-index	131 g-index
135 ext. papers	19,765 ext. citations	13.1 avg, IF	6.79 L-index

#	Paper	IF	Citations
124	High-yield production of mono- or few-layer transition metal dichalcogenide nanosheets by an electrochemical lithium ion intercalation-based exfoliation method.. <i>Nature Protocols</i> , 2022 ,	18.8	16
123	Epitaxial single-crystal hexagonal boron nitride multilayers on Ni (111). <i>Nature</i> , 2022 , 606, 88-93	50.4	14
122	Strong exciton-photon coupling in large area MoSe ₂ and WSe ₂ heterostructures fabricated from two-dimensional materials grown by chemical vapor deposition. <i>2D Materials</i> , 2021 , 8, 011002	5.9	4
121	Synthesis of metallic mixed 3R and 2H NbS nanoflakes by chemical vapor deposition. <i>Faraday Discussions</i> , 2021 , 227, 332-340	3.6	0
120	Vertically oriented MoS ₂ /WS ₂ heterostructures on reduced graphene oxide sheets as electrocatalysts for hydrogen evolution reaction. <i>Materials Chemistry Frontiers</i> , 2021 , 5, 3396-3403	7.8	4
119	Reply to: On the measured dielectric constant of amorphous boron nitride. <i>Nature</i> , 2021 , 590, E8-E10	50.4	1
118	Toward growth of wafer-scale single-crystal hexagonal boron nitride sheets. <i>Nano Express</i> , 2021 , 2, 031004	10.4	1
117	Interlayer electron modulation in van der Waals heterostructures assembled by stacking monolayer MoS onto monolayer graphene with different electron transfer ability. <i>Nanoscale</i> , 2021 , 13, 15464-15470	7.7	1
116	Modulation of Cu and Rh single-atoms and nanoparticles for high-performance hydrogen evolution activity in acidic media. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 10326-10334	13	19
115	Large area chemical vapour deposition grown transition metal dichalcogenide monolayers automatically characterized through photoluminescence imaging. <i>Npj 2D Materials and Applications</i> , 2020 , 4,	8.8	11
114	Effect of Pt Crystal Surface on Hydrogenation of Monolayer h-BN and Its Conversion to Graphene. <i>Chemistry of Materials</i> , 2020 , 32, 4584-4590	9.6	6
113	Ultralow-dielectric-constant amorphous boron nitride. <i>Nature</i> , 2020 , 582, 511-514	50.4	68
112	Recent Developments in Synthesis and Photocatalytic Applications of Carbon Dots. <i>Catalysts</i> , 2020 , 10, 320	4	21
111	General Colloidal Synthesis of Transition-Metal Disulfide Nanomaterials as Electrocatalysts for Hydrogen Evolution Reaction. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 13148-13155	9.5	9
110	Spatially controlled lateral heterostructures of graphene and transition metal dichalcogenides toward atomically thin and multi-functional electronics. <i>Nanoscale</i> , 2020 , 12, 5286-5292	7.7	5
109	Proton conductivity of a hexagonal boron nitride membrane and its energy applications. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 2898-2912	13	9
108	Blue emission at atomically sharp 1D heterojunctions between graphene and h-BN. <i>Nature Communications</i> , 2020 , 11, 5359	17.4	11

107	Radio-frequency-transmitting hexagonal boron nitride-based anti- and de-icing heating system. <i>Nanoscale</i> , 2020 , 12, 21895-21900	7.7	2
106	Ultrahigh-current-density niobium disulfide catalysts for hydrogen evolution. <i>Nature Materials</i> , 2019 , 18, 1309-1314	27	148
105	Chalcogenide solution-mediated activation protocol for scalable and ultrafast synthesis of single-crystalline 1-D copper sulfide for supercapacitors. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 2529-2535	13.35	14
104	High-Performance Hydrogen Evolution by Ru Single Atoms and Nitrided-Ru Nanoparticles Implanted on N-Doped Graphitic Sheet. <i>Advanced Energy Materials</i> , 2019 , 9, 1900931	21.8	131
103	Radio Frequency Transmission: Improving Radio Frequency Transmission Properties of Graphene via Carrier Concentration Control toward High Frequency Transmission Line Applications (Adv. Funct. Mater. 18/2019). <i>Advanced Functional Materials</i> , 2019 , 29, 1970123	15.6	
102	Resonantly hybridized excitons in moiré superlattices in van der Waals heterostructures. <i>Nature</i> , 2019 , 567, 81-86	50.4	367
101	Dendritic Multipods: Sphere-to-Multipod Transmorphic Change of Nanoconfined Pt Electrocatalyst during Oxygen Reduction Reaction (Small 2/2019). <i>Small</i> , 2019 , 15, 1970013	11	
100	Improving Radio Frequency Transmission Properties of Graphene via Carrier Concentration Control toward High Frequency Transmission Line Applications. <i>Advanced Functional Materials</i> , 2019 , 29, 1808057	15.6	4
99	Surface functionalization-induced photoresponse characteristics of monolayer MoS for fast flexible photodetectors. <i>Nanoscale</i> , 2019 , 11, 4726-4734	7.7	26
98	Direct Epitaxial Synthesis of Selective Two-Dimensional Lateral Heterostructures. <i>ACS Nano</i> , 2019 , 13, 13047-13055	16.7	28
97	Quantum Efficiency Enhancement of Bi-alkali Photocathodes by an Atomically Thin Layer on Substrates. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2019 , 216, 1900501	1.6	3
96	Layered material platform for surface plasmon resonance biosensing. <i>Scientific Reports</i> , 2019 , 9, 20286	4.9	33
95	Planar and van der Waals heterostructures for vertical tunnelling single electron transistors. <i>Nature Communications</i> , 2019 , 10, 230	17.4	29
94	Rapid synthesis of graphene by chemical vapor deposition using liquefied petroleum gas as precursor. <i>Carbon</i> , 2019 , 145, 462-469	10.4	21
93	Sphere-to-Multipod Transmorphic Change of Nanoconfined Pt Electrocatalyst during Oxygen Reduction Reaction. <i>Small</i> , 2019 , 15, e1802228	11	11
92	Efficient Hydrogen Evolution Reaction Catalysis in Alkaline Media by All-in-One MoS with Multifunctional Active Sites. <i>Advanced Materials</i> , 2018 , 30, e1707105	24	212
91	Low-dimensional catalysts for hydrogen evolution and CO ₂ reduction. <i>Nature Reviews Chemistry</i> , 2018 , 2,	34.6	441
90	Electrochemical and electrocatalytic reaction characteristics of boron-incorporated graphene via a simple spin-on dopant process. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 7351-7356	13	8

89	Nafion-Mediated Liquid-Phase Exfoliation of Transition Metal Dichalcogenides and Direct Application in Hydrogen Evolution Reaction. <i>Chemistry of Materials</i> , 2018 , 30, 4658-4666	9.6	21
88	Multicomponent electrocatalyst with ultralow Pt loading and high hydrogen evolution activity. <i>Nature Energy</i> , 2018 , 3, 773-782	62.3	330
87	AAUStacked Trilayer Hexagonal Boron Nitride Membrane for Proton Exchange Membrane Fuel Cells. <i>ACS Nano</i> , 2018 , 12, 10764-10771	16.7	28
86	Chemical Vapor-Deposited Hexagonal Boron Nitride as a Scalable Template for High-Performance Organic Field-Effect Transistors. <i>Chemistry of Materials</i> , 2017 , 29, 2341-2347	9.6	46
85	Hierarchically assembled tubular shell-core-shell heterostructure of hybrid transition metal chalcogenides for high-performance supercapacitors with ultrahigh cyclability. <i>Nano Energy</i> , 2017 , 37, 15-23	17.1	60
84	Study of Cooling Rate on the Growth of Graphene via Chemical Vapor Deposition. <i>Chemistry of Materials</i> , 2017 , 29, 4202-4208	9.6	19
83	2D materials-based photoelectrochemical cells: Combination of transition metal dichalcogenides and reduced graphene oxide for efficient charge transfer. <i>FlatChem</i> , 2017 , 4, 54-60	5.1	16
82	Molecular Beam Epitaxy of Highly Crystalline Monolayer Molybdenum Disulfide on Hexagonal Boron Nitride. <i>Journal of the American Chemical Society</i> , 2017 , 139, 9392-9400	16.4	110
81	Evidence of Local Commensurate State with Lattice Match of Graphene on Hexagonal Boron Nitride. <i>ACS Nano</i> , 2017 , 11, 7084-7090	16.7	24
80	Monolayer optical memory cells based on artificial trap-mediated charge storage and release. <i>Nature Communications</i> , 2017 , 8, 14734	17.4	133
79	Mechanical Properties of Poly(dopamine)-Coated Graphene Oxide and Poly(vinyl alcohol) Composite Fibers Coated with Reduced Graphene Oxide and Their Use for Piezoresistive Sensing. <i>Particle and Particle Systems Characterization</i> , 2017 , 34, 1600382	3.1	8
78	Probing Evolution of Twist-Angle-Dependent Interlayer Excitons in MoSe/WSe van der Waals Heterostructures. <i>ACS Nano</i> , 2017 , 11, 4041-4050	16.7	157
77	Strain-Mediated Interlayer Coupling Effects on the Excitonic Behaviors in an Epitaxially Grown MoS/WS van der Waals Heterobilayer. <i>Nano Letters</i> , 2017 , 17, 5634-5640	11.5	100
76	Thermodynamically Stable Synthesis of Large-Scale and Highly Crystalline Transition Metal Dichalcogenide Monolayers and their Unipolar n-n Heterojunction Devices. <i>Advanced Materials</i> , 2017 , 29, 1702206	24	76
75	Imaging of Interlayer Coupling in van der Waals Heterostructures Using a Bright-Field Optical Microscope. <i>Nano Letters</i> , 2017 , 17, 5342-5349	11.5	57
74	Anomalous Ambipolar Transport of Organic Semiconducting Crystals via Control of Molecular Packing Structures. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 27839-27846	9.5	9
73	Hydrogenation of monolayer molybdenum diselenide via hydrogen plasma treatment. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 11294-11300	7.1	14
72	Highly stable 3D porous heterostructures with hierarchically-coordinated octahedral transition metals for enhanced performance supercapacitors. <i>Nano Energy</i> , 2017 , 39, 337-345	17.1	54

71	High-quality graphene via microwave reduction of solution-exfoliated graphene oxide. <i>Science</i> , 2016 , 353, 1413-1416	33.3	521
70	Prevention of Transition Metal Dichalcogenide Photodegradation by Encapsulation with h-BN Layers. <i>ACS Nano</i> , 2016 , 10, 8973-9	16.7	48
69	A General Approach to Preferential Formation of Active Fe-N Sites in Fe-N/C Electrocatalysts for Efficient Oxygen Reduction Reaction. <i>Journal of the American Chemical Society</i> , 2016 , 138, 15046-15056	16.4	523
68	Selective synthesis of pure cobalt disulfide on reduced graphene oxide sheets and its high electrocatalytic activity for hydrogen evolution reaction. <i>Nano Convergence</i> , 2016 , 3, 5	9.2	18
67	Support-Free Transfer of Ultrasoft Graphene Films Facilitated by Self-Assembled Monolayers for Electronic Devices and Patterns. <i>ACS Nano</i> , 2016 , 10, 1404-10	16.7	52
66	Hexagonal Boron Nitride/Au Substrate for Manipulating Surface Plasmon and Enhancing Capability of Surface-Enhanced Raman Spectroscopy. <i>ACS Nano</i> , 2016 , 10, 11156-11162	16.7	44
65	Wafer-Scale and Wrinkle-Free Epitaxial Growth of Single-Orientated Multilayer Hexagonal Boron Nitride on Sapphire. <i>Nano Letters</i> , 2016 , 16, 3360-6	11.5	130
64	Chemical Vapor Deposition of High-Quality Large-Sized MoS Crystals on Silicon Dioxide Substrates. <i>Advanced Science</i> , 2016 , 3, 1500033	13.6	93
63	Unveiling surface redox charge storage of interacting two-dimensional heteronanosheets in hierarchical architectures. <i>Nano Letters</i> , 2015 , 15, 2269-77	11.5	73
62	Catalytic Conversion of Hexagonal Boron Nitride to Graphene for In-Plane Heterostructures. <i>Nano Letters</i> , 2015 , 15, 4769-75	11.5	47
61	Monolayer-precision synthesis of molybdenum sulfide nanoparticles and their nanoscale size effects in the hydrogen evolution reaction. <i>ACS Nano</i> , 2015 , 9, 3728-39	16.7	165
60	Atomic-scale dynamics of triangular hole growth in monolayer hexagonal boron nitride under electron irradiation. <i>Nanoscale</i> , 2015 , 7, 10600-5	7.7	53
59	Seamless stitching of graphene domains on polished copper (111) foil. <i>Advanced Materials</i> , 2015 , 27, 1376-82	24	253
58	VS 2 /rGO hybrid nanosheets prepared by annealing of VS 4 /rGO. <i>Journal of Solid State Chemistry</i> , 2015 , 224, 82-87	3.3	35
57	Phase-engineered transition-metal dichalcogenides for energy and electronics. <i>MRS Bulletin</i> , 2015 , 40, 585-591	3.2	49
56	Synthesis and structure of two-dimensional transition-metal dichalcogenides. <i>MRS Bulletin</i> , 2015 , 40, 566-576	3.2	30
55	Multiple Redox Modes in the Reversible Lithiation of High-Capacity, Peierls-Distorted Vanadium Sulfide. <i>Journal of the American Chemical Society</i> , 2015 , 137, 8499-508	16.4	95
54	Graphene oxide nanopaint. <i>Carbon</i> , 2014 , 72, 328-337	10.4	129

53	High yield exfoliation of two-dimensional chalcogenides using sodium naphthalenide. <i>Nature Communications</i> , 2014 , 5, 2995	17.4	556
52	Recent advances in layered transition metal dichalcogenides for hydrogen evolution reaction. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 5979-5985	13	232
51	Lithium reaction mechanism and high rate capability of VS ₄ /graphene nanocomposite as an anode material for lithium batteries. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 10847-10853	13	100
50	Superstructural defects and superlattice domains in stacked graphene. <i>Carbon</i> , 2014 , 80, 755-761	10.4	7
49	Stacking of Two-Dimensional Materials in Lateral and Vertical Directions. <i>Chemistry of Materials</i> , 2014 , 26, 4891-4903	9.6	84
48	Catalyst-free synthesis of Si-SiO _x core-shell nanowire anodes for high-rate and high-capacity lithium-ion batteries. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 6340-5	9.5	47
47	Poly(vinyl alcohol) reinforced and toughened with poly(dopamine)-treated graphene oxide, and its use for humidity sensing. <i>ACS Nano</i> , 2014 , 8, 6739-47	16.7	166
46	Substrate and buffer layer effect on the structural and optical properties of graphene oxide thin films. <i>RSC Advances</i> , 2013 , 3, 5926	3.7	39
45	Mosaic-like monolayer of graphene oxide sheets decorated with tetrabutylammonium ions. <i>ACS Nano</i> , 2013 , 7, 8082-8	16.7	27
44	Two-dimensional hybrid nanosheets of tungsten disulfide and reduced graphene oxide as catalysts for enhanced hydrogen evolution. <i>Angewandte Chemie - International Edition</i> , 2013 , 52, 13751-4	16.4	438
43	Selective formation of thickness-controlled fullerene disks by vapor-solid process. <i>Journal of Crystal Growth</i> , 2013 , 363, 141-144	1.6	4
42	Freeze-dried WS ₂ composites with low content of graphene as high-rate lithium storage materials. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 14548	13	81
41	The chemistry of two-dimensional layered transition metal dichalcogenide nanosheets. <i>Nature Chemistry</i> , 2013 , 5, 263-75	17.6	6689
40	Enhanced optical response of hybridized VO ₂ /graphene films. <i>Nanoscale</i> , 2013 , 5, 2632-6	7.7	29
39	Growth of high-crystalline, single-layer hexagonal boron nitride on recyclable platinum foil. <i>Nano Letters</i> , 2013 , 13, 1834-9	11.5	278
38	Three-dimensional pillared metallomacrocyclic-graphene frameworks with tunable micro- and mesoporosity. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 8432	13	30
37	Flexible thermochromic window based on hybridized VO ₂ /graphene. <i>ACS Nano</i> , 2013 , 7, 5769-76	16.7	123
36	Two-Dimensional Hybrid Nanosheets of Tungsten Disulfide and Reduced Graphene Oxide as Catalysts for Enhanced Hydrogen Evolution. <i>Angewandte Chemie</i> , 2013 , 125, 13996-13999	3.6	69

35	Synthesis and characterization of patronite form of vanadium sulfide on graphitic layer. <i>Journal of the American Chemical Society</i> , 2013 , 135, 8720-5	16.4	235
34	Large-scale graphene micropatterns via self-assembly-mediated process for flexible device application. <i>Nano Letters</i> , 2012 , 12, 743-8	11.5	63
33	Large-scale patterning by the roll-based evaporation-induced self-assembly. <i>Journal of Materials Chemistry</i> , 2012 , 22, 22844		17
32	Epoxy to Carbonyl Group Conversion in Graphene Oxide Thin Films: Effect on Structural and Luminescent Characteristics. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 19010-19017	3.8	71
31	Oxidation resistance of iron and copper foils coated with reduced graphene oxide multilayers. <i>ACS Nano</i> , 2012 , 6, 7763-9	16.7	146
30	Reversibly light-modulated dirac point of graphene functionalized with spiropyran. <i>ACS Nano</i> , 2012 , 6, 9207-13	16.7	72
29	Highly efficient polymer light-emitting diodes using graphene oxide as a hole transport layer. <i>ACS Nano</i> , 2012 , 6, 2984-91	16.7	113
28	Facile method for rGO field effect transistor: selective adsorption of rGO on SAM-treated gold electrode by electrostatic attraction. <i>Advanced Materials</i> , 2012 , 24, 2299-303	24	24
27	Functionalized graphene sheets/polycarbonate nanocomposites compatibilized by poly(phenylenevinylene). <i>Macromolecular Research</i> , 2012 , 20, 768-771	1.9	3
26	Interaction between metal and graphene: dependence on the layer number of graphene. <i>ACS Nano</i> , 2011 , 5, 608-12	16.7	286
25	Highly controllable transparent and conducting thin films using layer-by-layer assembly of oppositely charged reduced graphene oxides. <i>Journal of Materials Chemistry</i> , 2011 , 21, 3438-3442		181
24	Large-area graphene films by simple solution casting of edge-selectively functionalized graphite. <i>ACS Nano</i> , 2011 , 5, 4974-80	16.7	85
23	Reduced graphene oxide (rGO)-wrapped fullerene (C ₆₀) wires. <i>ACS Nano</i> , 2011 , 5, 8365-71	16.7	58
22	Surface-enhanced Raman scattering of single- and few-layer graphene by the deposition of gold nanoparticles. <i>Chemistry - A European Journal</i> , 2011 , 17, 2381-7	4.8	125
21	Effects of nanofluids containing graphene/graphene-oxide nanosheets on critical heat flux. <i>Applied Physics Letters</i> , 2010 , 97, 023103	3.4	138
20	Spontaneous electron transfer from C ₆₀ to Au ions: oxidation of C ₆₀ and hole doping. <i>Journal of Materials Chemistry</i> , 2010 , 20, 7183		10
19	Spatially resolved spontaneous reactivity of diazonium salt on edge and basal plane of graphene without surfactant and its doping effect. <i>Langmuir</i> , 2010 , 26, 12278-84	4	88
18	Transparent, flexible conducting hybrid multilayer thin films of multiwalled carbon nanotubes with graphene nanosheets. <i>ACS Nano</i> , 2010 , 4, 3861-8	16.7	285

17	Density control of ZnO nanowires grown using Au-PMMA nanoparticles and their growth behavior. <i>Nanotechnology</i> , 2009 , 20, 085601	3.4	14
16	Lithium ions intercalated into pyrene-functionalized carbon nanotubes and their mass transport: a chemical route to carbon nanotube Schottky diode. <i>Journal of the American Chemical Society</i> , 2008 , 130, 2160-1	16.4	14
15	Two-dimensional gradient mapping technique useful for detailed spectral analysis of polymer transition temperatures. <i>Journal of Physical Chemistry B</i> , 2008 , 112, 3611-6	3.4	15
14	Highly selective synthesis of C60 disks on graphite substrate by a vapor-solid process. <i>Angewandte Chemie - International Edition</i> , 2008 , 47, 693-6	16.4	83
13	"Fingertip"-guided noncovalent functionalization of carbon nanotubes by dendrons. <i>Langmuir</i> , 2007 , 23, 11373-6	4	14
12	Transition temperatures and molecular structures of poly(methyl methacrylate) thin films by principal component analysis: comparison of isotactic and syndiotactic poly(methyl methacrylate). <i>Vibrational Spectroscopy</i> , 2005 , 37, 69-76	2.1	16
11	Spontaneous formation of transition-metal nanoparticles on single-walled carbon nanotubes anchored with conjugated molecules. <i>Small</i> , 2005 , 1, 975-9	11	51
10	Mechanism of growth of colloidal silver nanoparticles stabilized by polyvinyl pyrrolidone in gamma-irradiated silver nitrate solution. <i>Journal of Colloid and Interface Science</i> , 2004 , 274, 89-94	9.3	216
9	Chemical and size effects of nanocomposites of silver and polyvinyl pyrrolidone determined by X-ray photoemission spectroscopy. <i>Chemical Physics Letters</i> , 2004 , 383, 418-422	2.5	80
8	Hydrogen-Bonding Networks of Dialkyl Disulfides Containing the Urea Moiety in Self-Assembled Monolayers. <i>Langmuir</i> , 2004 , 20, 1674-1679	4	15
7	Effects of Surface Anchoring Groups (Carboxylate vs Phosphonate) in Ruthenium-Complex-Sensitized TiO ₂ on Visible Light Reactivity in Aqueous Suspensions. <i>Journal of Physical Chemistry B</i> , 2004 , 108, 14093-14101	3.4	261
6	Direct patterning of silver colloids by microcontact printing: possibility as SERS substrate array. <i>Vibrational Spectroscopy</i> , 2002 , 29, 79-82	2.1	21
5	New Approach to Generalized Two-Dimensional Correlation Spectroscopy. 1: Combination of Principal Component Analysis and Two-Dimensional Correlation Spectroscopy. <i>Applied Spectroscopy</i> , 2002 , 56, 1562-1567	3.1	56
4	Characterization of Transition Temperatures of a Langmuir-Blodgett Film of Poly(tert-butyl Methacrylate) by Two-Dimensional Correlation Spectroscopy and Principal Component Analysis. <i>Applied Spectroscopy</i> , 2002 , 56, 1568-1574	3.1	36
3	Glass Transition Temperature and Conformational Changes of Poly(methyl methacrylate) Thin Films Determined by a Two-Dimensional Map Representation of Temperature-Dependent Reflection-Absorption FTIR Spectra. <i>Langmuir</i> , 2002 , 18, 5953-5958	4	48
2	Structural Comparison of Langmuir-Blodgett and Spin-Coated Films of Poly(tert-butyl methacrylate) by External Reflection FTIR Spectroscopy and Two-Dimensional Correlation Analysis. <i>Langmuir</i> , 2002 , 18, 5523-5528	4	22
1	Phase- and composition-controlled synthesis. <i>Nature Materials</i> ,	27	1