Hasan ÅahÄºn

List of Publications by Year
in descending order

144 papers	13,881 citations	38742 50 h-index	20358 116 g-index
144 all docs	144 docs citations	144 times ranked	13235 citing authors

#	Article	IF	Citations
1	Two- and One-Dimensional Honeycomb Structures of Silicon and Germanium. Physical Review Letters, 2009, 102, 236804.	7.8	2,837
2	Monolayer honeycomb structures of group-IV elements and III-V binary compounds: First-principles calculations. Physical Review B, 2009, 80, .	3.2	1,769
3	Stable, Single-Layer MX₂ Transition-Metal Oxides and Dichalcogenides in a Honeycomb-Like Structure. Journal of Physical Chemistry C, 2012, 116, 8983-8999.	3.1	1,196
4	Monolayer behaviour in bulk ReS2 due to electronic and vibrational decoupling. Nature Communications, 2014, 5, 3252.	12.8	906
5	Mechanical and Electronic Properties of MoS₂ Nanoribbons and Their Defects. Journal of Physical Chemistry C, 2011, 115, 3934-3941.	3.1	427
6	Anomalous Raman spectra and thickness-dependent electronic properties of WSe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 87, .	3.2	408
7	Tuning the Optical, Magnetic, and Electrical Properties of ReSe₂ by Nanoscale Strain Engineering. Nano Letters, 2015, 15, 1660-1666.	9.1	363
8	Adsorption of alkali, alkaline-earth, and 3<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>d</mml:mi></mml:math>transition metal atoms on silicene. Physical Review B, 2013, 87, .	3.2	282
9	Tuning of the electronic and optical properties of single-layer black phosphorus by strain. Physical Review B, 2014, 90, .	3.2	279
10	Structures of fluorinated graphene and their signatures. Physical Review B, 2011, 83, .	3.2	254
11	Phonon softening and direct to indirect band gap crossover in strained single-layer MoSe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 87, .	3.2	200
12	Adsorption and absorption of boron, nitrogen, aluminum, and phosphorus on silicene: Stability and electronic and phonon properties. Physical Review B, 2013, 87, .	3.2	186
13	Graphene coatings: An efficient protection from oxidation. Physical Review B, 2012, 85, .	3.2	178
14	Environmental Changes in MoTe₂ Excitonic Dynamics by Defects-Activated Molecular Interaction. ACS Nano, 2015, 9, 5326-5332.	14.6	166
15	Quantum properties and applications of 2D Janus crystals and their superlattices. Applied Physics Reviews, 2020, 7, .	11.3	156
16	Formation and stability of point defects in monolayer rhenium disulfide. Physical Review B, 2014, 89, .	3.2	151
17	Electronic and magnetic properties of graphane nanoribbons. Physical Review B, 2010, 81, .	3.2	136
18	Chlorine Adsorption on Graphene: Chlorographene. Journal of Physical Chemistry C, 2012, 116, 24075-24083.	3.1	135

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19	Janus single layers of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>In</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> : A first-principles study. Physical Review B, 2018, 97, .	3.2	127
20	Mechanical properties of monolayer GaS and GaSe crystals. Physical Review B, 2016, 94, .	3.2	122
21	Hexagonal AlN: Dimensional-crossover-driven band-gap transition. Physical Review B, 2015, 91, .	3.2	121
22	Realization of a pâ€“n junction in a single layer boron-phosphide. Physical Chemistry Chemical Physics, 2015, 17, 13013-13020.	2.8	112
23	Magnetization of graphane by dehydrogenation. Applied Physics Letters, 2009, 95, .	3.3	110
24	Frictional Figures of Merit for Single Layered Nanostructures. Physical Review Letters, 2012, 108, 126103.	7.8	110
25	Structural Transitions in Monolayer MoS₂by Lithium Adsorption. Journal of Physical Chemistry C, 2015, 119, 10602-10609.	3.1	109
26	Stone-Wales defects in silicene: Formation, stability, and reactivity of defect sites. Physical Review B, 2013, 88, .	3.2	108
27	Stable half-metallic monolayers of FeCl2. Applied Physics Letters, 2015, 106, .	3.3	108
28	Mechanical properties of monolayer sulphides: a comparative study between MoS₂, HfS₂ and TiS₃. Physical Chemistry Chemical Physics, 2015, 17, 27742-27749.	2.8	99
29	First-principles calculations of spin-dependent conductance of graphene flakes. Physical Review B, 2008, 78, .	3.2	93
30	Pentagonal monolayer crystals of carbon, boron nitride, and silver azide. Journal of Applied Physics, 2015, 118, .	2.5	91
31	Structural, electronic and phononic properties of PtSe₂: from monolayer to bulk. Semiconductor Science and Technology, 2018, 33, 085002.	2.0	82
32	Single-Layer Janus-Type Platinum Dichalcogenides and Their Heterostructures. Journal of Physical Chemistry C, 2019, 123, 4549-4557.	3.1	81
33	Structural and phononic characteristics of nitrogenated holey graphene. Physical Review B, 2015, 92, .	3.2	80
34	Nanoribbons: From fundamentals to state-of-the-art applications. Applied Physics Reviews, 2016, 3, .	11.3	77
35	Structural, mechanical, and electronic properties of defect-patterned graphene nanomeshes from first principles. Physical Review B, 2011, 84, .	3.2	76
36	Anisotropic electronic, mechanical, and optical properties of monolayer WTe2. Journal of Applied Physics, 2016, 119, .	2.5	76

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37	Tuning Carrier Confinement in the MoS₂/WS₂ Lateral Heterostructure. Journal of Physical Chemistry C, 2015, 119, 9580-9586.	3.1	74
38	Unusual lattice vibration characteristics in whiskers of the pseudo-one-dimensional titanium trisulfide TiS3. Nature Communications, 2016, 7, 12952.	12.8	69
39	Spintronic properties of zigzag-edged triangular graphene flakes. Journal of Applied Physics, 2010, 108, .	2.5	65
40	Angle resolved vibrational properties of anisotropic transition metal trichalcogenide nanosheets. Nanoscale, 2017, 9, 4175-4182.	5.6	64
41	Strong dichroic emission in the pseudo one dimensional material ZrS₃. Nanoscale, 2016, 8, 16259-16265.	5.6	63
42	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>CsPbBr</mml:mi><mml:mn>3</mml:mn></mml:msub></ perovskites: Theoretical and experimental investigation on water-assisted transition from nanowire formation to degradation. Physical Review Materials, 2018, 2, .	2.4	63
43	Doping of rhenium disulfide monolayers: a systematic first principles study. Physical Chemistry Chemical Physics, 2014, 16, 16771-16779.	2.8	62
44	Adsorption of carbon adatoms to graphene and its nanoribbons. Journal of Applied Physics, 2011, 109, 013704.	2.5	59
45	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>TiS</mml:mi><mml:mn>3</mml:mn></mml:msub></m Width-independent band gap and strain-tunable electronic properties. Physical Review B, 2015, 92, .	3.2	58
46	Bilayers of Janus WSSe: monitoring the stacking type via the vibrational spectrum. Physical Chemistry Chemical Physics, 2018, 20, 17380-17386.	2.8	56
47	Monolayers of MoS2 as an oxidation protective nanocoating material. Journal of Applied Physics, 2014, 116, .	2.5	55
48	Gd³⁺-Doped Î±-CsPbI₃ Nanocrystals with Better Phase Stability and Optical Properties. Journal of Physical Chemistry C, 2019, 123, 24865-24872.	3.1	55
49	Graphane. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2015, 5, 255-272.	14.6	53
50	Vacancy Formation and Oxidation Characteristics of Single Layer TiS₃. Journal of Physical Chemistry C, 2015, 119, 10709-10715.	3.1	51
51	Bilayer<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>SnS</mml:mi><mml:mn>2</mml:mn></mml:msub></m Tunable stacking sequence by charging and loading pressure. Physical Review B, 2016, 93, .	3.2	51
52	Unusual dimensionality effects and surface charge density in 2D Mg(OH)2. Scientific Reports, 2016, 6, 20525.	3.3	49
53	Electronic and vibrational properties of PbI2 : From bulk to monolayer. Physical Review B, 2018, 98, .	3.2	49
54	Tuning electronic and magnetic properties of monolayer Î±-RuCl₃ by in-plane strain. Journal of Materials Chemistry C, 2018, 6, 2019-2025.	5.5	47

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55	Strain mapping in single-layer two-dimensional crystals via Raman activity. Physical Review B, 2018, 97, .	3.2	43
56	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Mg</mml:mi><mml:msub><mml:mrow><mml:mo>(</mml:mo> van der Waals heterobilayer: Electric field tunable band-gap crossover. Physical Review B, 2016, 94, .	3.2	40
57	2D vibrational properties of epitaxial silicene on Ag(111). 2D Materials, 2017, 4, 015008.	4.4	39
58	Tuning the magnetic anisotropy in single-layer crystal structures. Physical Review B, 2015, 92, .	3.2	37
59	Portlandite crystal: Bulk, bilayer, and monolayer structures. Physical Review B, 2015, 91, .	3.2	34
60	Introduction to the Physics of Silicene and other 2D Materials. Lecture Notes in Physics, 2017, , .	0.7	33
61	Two-Dimensional Covalent Crystals by Chemical Conversion of Thin van der Waals Materials. Nano Letters, 2019, 19, 6475-6481.	9.1	32
62	Vanadium dopant- and strain-dependent magnetic properties of single-layer VI3. Applied Surface Science, 2020, 508, 144937.	6.1	30
63	Luminescence, Patterned Metallic Regions, and Photon-Mediated Electronic Changes in Single-Sided Fluorinated Graphene Sheets. ACS Nano, 2014, 8, 7801-7808.	14.6	28
64	Exciton pumping across type-I gallium chalcogenide heterojunctions. Nanotechnology, 2016, 27, 065203.	2.6	26
65	Hydrogen-induced structural transition in single layer ReS ₂. 2D Materials, 2017, 4, 035013.	4.4	26
66	Thinning <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>CsPb</mml:mi><mml:mn>2</mml:mn> perovskite down to monolayers: Cs-dependent stability. Physical Review B, 2017, 96, .	3.2	26
67	Raman fingerprint of stacking order in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>HfS</mml:mi><mml:mn>2</mml:mn> heterobilayer. Physical Review B, 2019, 99, .	3.2	26
68	Controlled growth mechanism of poly (3-hexylthiophene) nanowires. Nanotechnology, 2016, 27, 455604.	2.6	25
69	Enhanced Stability of Single-Layer w-Gallenene through Hydrogenation. Journal of Physical Chemistry C, 2018, 122, 28302-28309.	3.1	25
70	Electronic and magnetic properties of 1 T-TiSe ₂ nanoribbons. 2D Materials, 2015, 2, 044002.	4.4	21
71	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>h</mml:mi><mml:mtext>-AlN-</mml:mtext><mml:mtext>Mg</mml:mtext> van der Waals bilayer heterostructure: Tuning the excitonic characteristics. Physical Review B, 2017, 95, .	3.2	20
72	Optical properties of GaS-Ca(OH)<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>bilayer heterostructure. Physical Review B, 2016, 93, .	3.2	18

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73	Defect tolerant and dimension dependent ferromagnetism in MnSe₂. Physical Chemistry Chemical Physics, 2019, 21, 16718-16725.	2.8	18
74	Kagome-like silicene: A novel exotic form of two-dimensional epitaxial silicon. Applied Surface Science, 2020, 530, 147195.	6.1	18
75	Stacking-dependent excitonic properties of bilayer blue phosphorene. Physical Review B, 2019, 100, .	3.2	17
76	Fundamental mechanisms responsible for the temperature coefficient of resonant frequency in microwave dielectric ceramics. Journal of the American Ceramic Society, 2017, 100, 1508-1516.	3.8	16
77	Increasing solubility of metal silicates by mixed polymeric antiscalants. Geothermics, 2019, 77, 106-114.	3.4	16
78	Computing optical properties of ultraâ€thin crystals. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2016, 6, 351-368.	14.6	15
79	Monitoring the Doping and Diffusion Characteristics of Mn Dopants in Cesium Lead Halide Perovskites. Journal of Physical Chemistry C, 2018, 122, 11543-11549.	3.1	15
80	Hydrogen-induced <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>s</mml:mi><mml:msup><mml:mi>p</mml:mi><mml:mn> rehybridization in epitaxial silicene. Physical Review B, 2017, 96, .	3.2	14
81	Ab initio and semiempirical modeling of excitons and trions in monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>TiS</mml:mi><mml:mn>3</mml:mn></mml:msub></m Physical Review B, 2018, 98, .	3.2	14
82	Vertical van der Waals Heterostructure of Single Layer InSe and SiGe. Journal of Physical Chemistry C, 2019, 123, 31232-31237.	3.1	14
83	Formation and diffusion characteristics of Pt clusters on Graphene, 1Hâ€MoS₂ and 1Tâ€TaS₂. Annalen Der Physik, 2014, 526, 423-429.	2.4	13
84	Monitoring the effect of asymmetrical vertical strain on Janus single layers of MoSSe via vibrational spectrum. Journal of Chemical Physics, 2018, 149, 084707.	3.0	13
85	Monitoring the crystal orientation of black-arsenic via vibrational spectra. Journal of Materials Chemistry C, 2019, 7, 1228-1236.	5.5	13
86	Stable single-layers of calcium halides (CaX₂, X = F, Cl, Br, I). Journal of Chemical Physics, 2020, 152, 164116.	3.0	13
87	Engineering excitonic dynamics and environmental stability of post-transition metal chalcogenides by pyridine functionalization technique. Nanoscale, 2015, 7, 17109-17115.	5.6	12
88	Quantumâ€Transport Characteristics of a pâ€“n Junction on Singleâ€Layer TiS₃. ChemPhysChem, 2016, 17, 3985-3991.	2.1	12
89	First-principles investigation of B- and N-doped fluorographene. Physical Review B, 2013, 88, .	3.2	11
90	Ag and Au atoms intercalated in bilayer heterostructures of transition metal dichalcogenides and graphene. APL Materials, 2014, 2, 092801.	5.1	11

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91	Experimental and computational investigation of graphene/SAMs/n-Si Schottky diodes. Applied Surface Science, 2018, 428, 1010-1017.	6.1	11
92	Octahedrally coordinated single layered CaF₂: robust insulating behaviour. Physical Chemistry Chemical Physics, 2020, 22, 2949-2954.	2.8	11
93	Single layer PbI2: hydrogenation-driven reconstructions. RSC Advances, 2016, 6, 89708-89714.	3.6	10
94	Prevalence of oxygen defects in an in-plane anisotropic transition metal dichalcogenide. Physical Review B, 2020, 102, .	3.2	10
95	Ferromagnetism in stacked bilayers of Pd/C60. Journal of Magnetism and Magnetic Materials, 2014, 349, 128-134.	2.3	9
96	Stable monolayer Î±-phase of CdTe: strain-dependent properties. Journal of Materials Chemistry C, 2017, 5, 12249-12255.	5.5	9
97	Theoretical and experimental investigation of conjugation of 1,6-hexanedithiol on MoS₂. Materials Research Express, 2018, 5, 036415.	1.6	9
98	Electronic and magnetic properties of single-layer FeCl2 with defects. Physical Review B, 2021, 103, .	3.2	9
99	Origin of anomalous band-gap bowing in two-dimensional tin-lead mixed perovskite alloys. Physical Review B, 2021, 104, .	3.2	9
100	Ultra-thin ZnSe: Anisotropic and flexible crystal structure. Applied Surface Science, 2017, 409, 426-430.	6.1	8
101	The effect of DOPA hydroxyl groups on wet adhesion to polystyrene surface: An experimental and theoretical study. Materials Chemistry and Physics, 2020, 243, 122606.	4.0	8
102	Orthorhombic CsPbI3 perovskites: Thickness-dependent structural, optical and vibrational properties. Computational Condensed Matter, 2020, 23, e00453.	2.1	8
103	Parametrizing nonbonded interactions between silica and water from first principles. Applied Surface Science, 2020, 504, 144359.	6.1	7
104	Fabrication of a Postfunctionalizable, Biorepellent, Electroactive Polyurethane Interface on a Gold Surface by Surface-Assisted Polymerization. Langmuir, 2020, 36, 6828-6836.	3.5	7
105	Stable Janus TaSe2 single-layers via surface functionalization. Applied Surface Science, 2021, 538, 148064.	6.1	7
106	Giant magnetic anisotropy in doped single layer molybdenum disulfide and fluorographene. Journal of Physics Condensed Matter, 2016, 28, 195301.	1.8	6
107	Hydrogenation-driven phase transition in single-layer TiSe₂. Nanotechnology, 2017, 28, 495709.	2.6	6
108	Few-layer MoS₂as nitrogen protective barrier. Nanotechnology, 2017, 28, 415706.	2.6	6

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109	Stability, electronic and phononic properties ofÎ²and 1T structures of SiTe_x(x= 1, 2) and their vertical heterostructures. Journal of Physics Condensed Matter, 2017, 29, 395504.	1.8	6
110	Cesium manganese chloride: Stable lead-free perovskite from bulk to single layer. Journal of Magnetism and Magnetic Materials, 2021, 531, 167845.	2.3	6
111	Temperature dependence of critical currents of two-gap superconductors. EPJ Applied Physics, 2006, 36, 267-270.	0.7	5
112	New family of graphene-based organic semiconductors: An investigation of photon-induced electronic structure manipulation in half-fluorinated graphene. Physical Review B, 2016, 93, .	3.2	5
113	Interface-dependent phononic and optical properties of GeO/MoSO heterostructures. Nanoscale, 2022, 14, 865-874.	5.6	5
114	Structural changes in a Schiff base molecular assembly initiated by scanning tunneling microscopy tip. Nanotechnology, 2016, 27, 335601.	2.6	4
115	Stable ultra-thin CdTe crystal: a robust direct gap semiconductor. Journal of Physics Condensed Matter, 2017, 29, 485302.	1.8	4
116	Germanene, Stanene and Other 2D Materials. Lecture Notes in Physics, 2017, , 63-85.	0.7	4
117	Functionalization of single-layer TaS₂ and formation of ultrathin Janus structures. Journal of Materials Research, 2020, 35, 1397-1406.	2.6	4
118	Toward single-layer Janus crystals: Off-balance materials from synthesis to nanotechnology applications. Journal of Applied Physics, 2021, 129, .	2.5	4
119	Freestanding Silicene. Lecture Notes in Physics, 2017, , 13-39.	0.7	3
120	Strain Engineering of 2D Materials. Lecture Notes in Physics, 2017, , 87-96.	0.7	3
121	Î±-Silicene as oxidation-resistant ultra-thin coating material. Beilstein Journal of Nanotechnology, 2017, 8, 1808-1814.	2.8	3
122	Monolayer AsTe₂: Stable Robust Metal in 2D, 1D and 0D. ChemPhysChem, 2018, 19, 2176-2182.	2.1	3
123	Color-Tunable All-Inorganic CsPbBr₃ Perovskites Nanoplatelet Films for Photovoltaic Devices. ACS Applied Nano Materials, 2019, 2, 5149-5155.	5.0	3
124	Experimental and first-principles investigation of Cr-driven color change in cesium lead halide perovskites. Journal of Applied Physics, 2019, 125, 225705.	2.5	3
125	Electronic properties of intrinsic vacancies in single-layer CaF2 and its heterostructure with monolayer MoS2. Journal of Applied Physics, 2021, 130, .	2.5	3
126	Vibrational and optical identification of GeO₂ and GeO single layers: a first-principles study. Physical Chemistry Chemical Physics, 2021, 23, 21307-21315.	2.8	3

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127	Experimental modeling of antimony sulfides-rich geothermal deposits and their solubility in the presence of polymeric antiscalants. Geothermics, 2022, 104, 102452.	3.4	3
128	Atomic-scale understanding of dichlorobenzene-assisted poly 3-hexylthiophene-2,5-diyl nanowire formation mechanism. Journal of Molecular Structure, 2017, 1134, 681-686.	3.6	2
129	Hydrogenated derivatives of hexacoordinated metallic Cu₂Si monolayer. RSC Advances, 2018, 8, 39976-39982.	3.6	2
130	Green fabrication of lanthanide-doped hydroxide-based phosphors: Y(OH)₃:Eu³⁺ nanoparticles for white light generation. Beilstein Journal of Nanotechnology, 2019, 10, 1200-1210.	2.8	2
131	Novel ultra-thin two-dimensional structures of strontium chloride. Journal of Materials Chemistry C, 2020, 8, 12527-12532.	5.5	2
132	Raman and optical characteristics of van der Waals heterostructures of single layers of GaP and GaSe: a first-principles study. Inorganic Chemistry Frontiers, 2021, 8, 2771-2781.	6.0	2
133	Analysis of Fertility in Turkey: The Importance of Future Fertility Preferences. Sosyoekonomi, 0, , 223-234.	0.8	2
134	Silicene on Ag Substrate. Lecture Notes in Physics, 2017, , 41-52.	0.7	1
135	Adsorption and diffusion characteristics of lithium on hydrogenated Î±- and Î²-silicene. Beilstein Journal of Nanotechnology, 2017, 8, 1742-1748.	2.8	1
136	Structural, electronic and vibrational properties of ultra-thin octahedrally coordinated structure of EuO2. Journal of Magnetism and Magnetic Materials, 2020, 493, 165668.	2.3	1
137	Interaction of Ge with single layer GaAs: From Ge-island nucleation to formation of novel stable monolayers. Applied Surface Science, 2020, 505, 144218.	6.1	1
138	Ultra-thin structures of manganese fluorides: conversion from manganese dichalcogenides by fluorination. Physical Chemistry Chemical Physics, 2021, 23, 10218-10224.	2.8	1
139	First-Principles Investigation of Structural, Raman and Electronic Characteristics of Single Layer Ge3N4. Applied Surface Science, 2021, 572, 151361.	6.1	1
140	Magnetic single-layer nanoribbons of manganese oxide: edge- and width-dependent electronic properties. Journal of Materials Chemistry C, 2022, 10, 7567-7574.	5.5	1
141	A Brief History of Silicene. Lecture Notes in Physics, 2017, , 1-11.	0.7	0
142	Multilayer Silicene. Lecture Notes in Physics, 2017, , 53-61.	0.7	0
143	Enhanced stability and optical properties of Gd3+ doped CsPbI3 nanocrystals. , 0, , .		0
144	Enhanced stability and optical properties of Gd3+ doped CsPbI3 nanocrystals. , 0, , .		0