

Alexander N Cartwright

List of Publications by Year in descending order

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136
papers

3,886
citations

109137

35
h-index

128067

60
g-index

138
all docs

138
docs citations

138
times ranked

5460
citing authors

#	ARTICLE	IF	CITATIONS
1	Fingerprint enhancement using STFT analysis. <i>Pattern Recognition</i> , 2007, 40, 198-211.	5.1	320
2	Size-Controlled Synthesis of Cu ₂ X (E = S, Se) Nanocrystals with Strong Tunable Near-Infrared Localized Surface Plasmon Resonance and High Conductivity in Thin Films. <i>Advanced Functional Materials</i> , 2013, 23, 1256-1264.	7.8	257
3	Efficient Heterojunction Photovoltaic Cell Utilizing Nanocomposites of Lead Sulfide Nanocrystals and a Low-Bandgap Polymer. <i>Advanced Materials</i> , 2011, 23, 3984-3988.	11.1	148
4	Sub-bandgap photoconductivity in ZnO epilayers and extraction of trap density spectra. <i>Semiconductor Science and Technology</i> , 2006, 21, 717-723.	1.0	133
5	Monodispersed InP Quantum Dots Prepared by Colloidal Chemistry in a Noncoordinating Solvent. <i>Chemistry of Materials</i> , 2005, 17, 3754-3762.	3.2	130
6	Time-resolved spectroscopy of recombination and relaxation dynamics in InN. <i>Applied Physics Letters</i> , 2003, 83, 4984-4986.	1.5	103
7	Shape-Controlled Synthesis of SnE (E = S, Se) Semiconductor Nanocrystals for Optoelectronics. <i>Chemistry of Materials</i> , 2014, 26, 3515-3521.	3.2	101
8	Moiré interferogram phase extraction: a ridge detection algorithm for continuous wavelet transforms. <i>Applied Optics</i> , 2004, 43, 850.	2.1	100
9	Efficient Photodetection at IR Wavelengths by Incorporation of PbSe-Carbon-Nanotube Conjugates in a Polymeric Nanocomposite. <i>Advanced Materials</i> , 2007, 19, 232-236.	11.1	97
10	Effects of Solubilized Water on the Relaxation Dynamics Surrounding 6-Propionyl-2-(N,N-dimethylamino)naphthalene Dissolved in 1-Butyl-3-methylimidazolium Hexafluorophosphate at 298 K. <i>Industrial & Engineering Chemistry Research</i> , 2003, 42, 6457-6463.	1.8	95
11	Spinning Light on the Nanoscale. <i>Nano Letters</i> , 2014, 14, 2726-2729.	4.5	92
12	Enhancement of the photovoltaic performance in PbS nanocrystal:P3HT hybrid composite devices by post-treatment-driven ligand exchange. <i>Nanotechnology</i> , 2009, 20, 095202.	1.3	87
13	Multiple exciton generation and electrical extraction from a PbSe quantum dot photoconductor. <i>Applied Physics Letters</i> , 2008, 92, .	1.5	84
14	InN: A material with photovoltaic promise and challenges. <i>Journal of Crystal Growth</i> , 2006, 288, 218-224.	0.7	82
15	Polymer nanocomposite photovoltaics utilizing CdSe nanocrystals capped with a thermally cleavable solubilizing ligand. <i>Applied Physics Letters</i> , 2009, 94, 133302.	1.5	78
16	Simultaneous Multiple Wavelength Upconversion in a Core-Shell Nanoparticle for Enhanced Near Infrared Light Harvesting in a Dye-Sensitized Solar Cell. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 18018-18025.	4.0	77
17	High contrast switching of distributed-feedback lasing in dye-doped H-PDLC transmission grating structures. <i>Optics Express</i> , 2005, 13, 3787.	1.7	71
18	Ultrahigh Molecular Weight Linear Block Copolymers: Rapid Access by Reversible-Deactivation Radical Polymerization and Self-Assembly into Large Domain Nanostructures. <i>Macromolecules</i> , 2016, 49, 3733-3738.	2.2	70

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19	Tunable two-photon pumped lasing using a holographic polymer-dispersed liquid-crystal grating as a distributed feedback element. <i>Applied Physics Letters</i> , 2003, 83, 2733-2735.	1.5	69
20	Mn ²⁺ -Doped CdSe/CdS Core/Multishell Colloidal Quantum Wells Enabling Tunable Carrier Dopant Exchange Interactions. <i>ACS Nano</i> , 2015, 9, 12473-12479.	7.3	63
21	Robust Microstructures Using UV Photopatternable Semiconductor Nanocrystals. <i>Nano Letters</i> , 2008, 8, 3262-3265.	4.5	62
22	Magnitude, origin, and evolution of piezoelectric optical nonlinearities in strained [111]B InGaAs/GaAs quantum wells. <i>Journal of Applied Physics</i> , 1993, 73, 7767-7774.	1.1	60
23	X-ray absorption spectroscopy studies of electronic structure recovery and nitrogen local structure upon thermal reduction of graphene oxide in an ammonia environment. <i>RSC Advances</i> , 2014, 4, 634-644.	1.7	60
24	Templated xerogels as platforms for biomolecule-less biomolecule sensors. <i>Analytica Chimica Acta</i> , 2006, 564, 59-65.	2.6	59
25	Ultrafast carrier dynamics in InN epilayers. <i>Journal of Crystal Growth</i> , 2004, 269, 10-14.	0.7	55
26	Carrier multiplication in a PbSe nanocrystal and P3HT/PCBM tandem cell. <i>Applied Physics Letters</i> , 2008, 92, .	1.5	55
27	Organic Solvent Vapor Detection Using Holographic Photopolymer Reflection Gratings. <i>Advanced Materials</i> , 2005, 17, 2211-2214.	11.1	53
28	Temporal and spatial control of transgene expression using laser induction of the hsp70 promoter. <i>BMC Developmental Biology</i> , 2006, 6, 55.	2.1	50
29	CMOS-Based Phase Fluorometric Oxygen Sensor System. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , 2007, 54, 111-118.	0.1	49
30	Electroluminescence Properties of Systematically Derivatized Organic Chromophores Containing Electron Donor and Acceptor Groups. <i>Chemistry of Materials</i> , 2002, 14, 4044-4048.	3.2	48
31	K-plet and Coupled BFS: A Graph Based Fingerprint Representation and Matching Algorithm. <i>Lecture Notes in Computer Science</i> , 2005, , 309-315.	1.0	48
32	A Solution-Processed UV-Sensitive Photodiode Produced Using a New Silicon Nanocrystal Ink. <i>Advanced Functional Materials</i> , 2014, 24, 6016-6022.	7.8	46
33	One-Step Fabrication of Graded Rainbow-Colored Holographic Photopolymer Reflection Gratings. <i>Advanced Materials</i> , 2012, 24, 1604-1609.	11.1	44
34	Experimental Damage Mechanics of Microelectronics Solder Joints under Concurrent Vibration and Thermal Loading. <i>International Journal of Damage Mechanics</i> , 2001, 10, 153-170.	2.4	40
35	Measurement of optical trapping forces by use of the two-photon-excited fluorescence of microspheres. <i>Optics Letters</i> , 2003, 28, 2288.	1.7	35
36	Hole transport and carrier lifetime in InN epilayers. <i>Applied Physics Letters</i> , 2005, 87, 212104.	1.5	34

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37	Near-edge x-ray absorption fine structure spectroscopy study of nitrogen incorporation in chemically reduced graphene oxide. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2013, 31, .	0.6	33
38	Si doping of high-Al-mole fraction Al _x Ga _{1-x} N alloys with rf plasma-induced molecular-beam-epitaxy. <i>Applied Physics Letters</i> , 2002, 81, 5192-5194.	1.5	32
39	Optical microfabrication of highly reflective volume Bragg gratings. <i>Applied Physics Letters</i> , 2005, 86, 131113.	1.5	30
40	In situ near-edge x-ray absorption fine structure spectroscopy investigation of the thermal defunctionalization of graphene oxide. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2012, 30, 061206.	0.6	29
41	Temperature-dependent optical properties of wurtzite InN. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2004, 20, 308-312.	1.3	28
42	Quasi-reversible photoluminescence quenching of stable dispersions of silicon nanoparticles. <i>Journal of Materials Chemistry</i> , 2005, 15, 2028.	6.7	28
43	Manipulating Complex Light with Metamaterials. <i>Scientific Reports</i> , 2013, 3, 2826.	1.6	27
44	Annealing Studies on Zinc Oxide Thin Films Deposited by Magnetron Sputtering. <i>Journal of Electronic Materials</i> , 2008, 37, 764-769.	1.0	26
45	Room-temperature ultraviolet emission from GaN/AlN multiple-quantum-well heterostructures. <i>Applied Physics Letters</i> , 2003, 83, 3486-3488.	1.5	25
46	Sensitivity improvement in phase-shifted moiré interferometry using 1-D continuous wavelet transform image processing. <i>Optical Engineering</i> , 2003, 42, 2646.	0.5	22
47	Self-Passivating hybrid (organic/inorganic) tandem solar cell. <i>Solar Energy Materials and Solar Cells</i> , 2009, 93, 657-661.	3.0	22
48	Polymeric nanocomposite infrared photovoltaics enhanced by pentacene. <i>Applied Physics Letters</i> , 2007, 90, 252112.	1.5	18
49	Nonlinear optical response, screening, and distribution of strain in piezoelectric multiple quantum wells. <i>Journal of Applied Physics</i> , 1994, 76, 7870-7873.	1.1	17
50	Nanoporous polymeric photonic crystals by emulsion holography. <i>Journal of Materials Chemistry</i> , 2009, 19, 3998.	6.7	17
51	In ⁺ well screening nonlinearities in piezoelectric multiple quantum wells. <i>Applied Physics Letters</i> , 1995, 67, 950-952.	1.5	16
52	Enhancement of third-harmonic generation in a polymer-dispersed liquid-crystal grating. <i>Applied Physics Letters</i> , 2005, 87, 051102.	1.5	16
53	Polymeric Nanocomposites Involving a Physical Blend of IR Sensitive Quantum Dots and Carbon Nanotubes for Photodetection. <i>Journal of Physical Chemistry C</i> , 2010, 114, 3180-3184.	1.5	16
54	Surfactant-Imposed Interference in the Optical Characterization of GaP Nanocrystals. <i>Journal of Physical Chemistry B</i> , 2003, 107, 11622-11625.	1.2	15

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55	Ultrafast differential transmission spectroscopy of excitonic transitions in InGaN/GaN multiple quantum wells. <i>Journal of Applied Physics</i> , 2003, 93, 4933-4935.	1.1	15
56	Experimental verification of improvement of phase shifting moiré interferometry using wavelet-based image processing. <i>Optical Engineering</i> , 2004, 43, 1206.	0.5	15
57	Concealing with Structured Light. <i>Scientific Reports</i> , 2015, 4, 4093.	1.6	15
58	Growth of InN on Ge substrate by molecular beam epitaxy. <i>Journal of Crystal Growth</i> , 2005, 279, 311-315.	0.7	14
59	Multi-sensor system based on phase detection, an LED array, and luminophore-doped xerogels. <i>Electronics Letters</i> , 2005, 41, 1031.	0.5	14
60	Holographic Photopolymer Linear Variable Filter with Enhanced Blue Reflection. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 3081-3087.	4.0	14
61	Enhanced ambipolar in-plane transport in an InAs/GaAs heterostructure. <i>Journal of Applied Physics</i> , 1993, 73, 3860-3866.	1.1	12
62	CMOS integrated luminescence oxygen multi-sensor system. <i>Electronics Letters</i> , 2007, 43, 688.	0.5	12
63	Wavelength-Independent Optical Polarizer Based on Metallic Nanowire Arrays. <i>IEEE Photonics Journal</i> , 2011, 3, 1083-1092.	1.0	11
64	Flat metallic surface gratings with sub-10 nm gaps controlled by atomic-layer deposition. <i>Nanotechnology</i> , 2016, 27, 374003.	1.3	11
65	Ultra-broadband enhancement of nonlinear optical processes from randomly patterned super absorbing metasurfaces. <i>Scientific Reports</i> , 2017, 7, 4346.	1.6	11
66	Enhanced photorefractivity in a polymer/nanocrystal composite photorefractive device at telecommunication wavelength. <i>Applied Physics Letters</i> , 2010, 97, 263108.	1.5	10
67	Photocurrent Enhancement in Nanocrystalline-ZnO/Si Heterojunction Metal-Semiconductor-Metal Photodetectors. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, H415.	2.2	10
68	Phase fluorometric glucose biosensor using oxygen as transducer and enzyme-doped xerogels. <i>Electronics Letters</i> , 2007, 43, 202.	0.5	9
69	Effects of nitrogen doping of ZnO during or after deposition. <i>Journal of Vacuum Science & Technology B</i> , 2009, 27, 1943-1948.	1.3	9
70	Optical fiber metamagnetics. <i>Optics Express</i> , 2011, 19, 19813.	1.7	9
71	Filterless optical oxygen sensor based on a CMOS buried double junction photodiode. <i>Sensors and Actuators B: Chemical</i> , 2013, 176, 729-735.	4.0	9
72	Ag-carried CMC/functional copolymer/ODA-Mt wLED-treated NC and their responses to brain cancer cells. <i>Materials Science and Engineering C</i> , 2018, 92, 463-476.	3.8	9

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73	Improved Performance of Silicon Nanowire-Based Solar Cells with Diallyl Disulfide Passivation. <i>Journal of Physical Chemistry C</i> , 2019, 123, 4664-4673.	1.5	9
74	Dual-Color Emission in Hybrid III-V Nitride/ZnO Light Emitting Diodes. <i>Applied Physics Express</i> , 2010, 3, 022101.	1.1	8
75	Soluble Polyacetylene Derivatives by Chain-Growth Polymerization of Dienes. <i>Macromolecules</i> , 2011, 44, 4665-4671.	2.2	8
76	Antiresonant guiding optofluidic biosensor. <i>Optics Communications</i> , 2011, 284, 4094-4098.	1.0	8
77	Porous Nanostructured Encapsulation and Immobilization Materials for Optical Biosensors. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2012, 18, 1147-1159.	1.9	8
78	Excitonic field screening and bleaching in InGaN/GaN multiple quantum wells. <i>Solid State Communications</i> , 2003, 125, 617-622.	0.9	7
79	Enhanced oxygen detection using porous polymeric gratings with integrated recognition elements. <i>Sensors and Actuators B: Chemical</i> , 2008, 130, 758-764.	4.0	7
80	Influence of non-reactive solvent on optical performance, photopolymerization kinetics and morphology of nanoporous polymer gratings. <i>European Polymer Journal</i> , 2010, 46, 937-943.	2.6	7
81	Component level modular design of a Solid State X-ray Image Intensifier for an M&N array. , 2010, 2010, 2714-2717.		7
82	Hybrid Oxygen-Responsive Reflective Bragg Grating Platforms. <i>Analytical Chemistry</i> , 2012, 84, 1402-1407.	3.2	7
83	Frozen "Tofu" Effect: Engineered Pores of Hydrophilic Nanoporous Materials. <i>ACS Omega</i> , 2017, 2, 4838-4844.	1.6	7
84	Per-carrier nonlinear optical response of [111]-oriented piezoelectric InGaAs/GaAs multiple quantum wells. <i>Journal of Applied Physics</i> , 1996, 79, 417-423.	1.1	6
85	Photoluminescence study of MBE grown InGaN with intentional indium segregation. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 2779-2782.	0.8	6
86	Dynamics of multiple trapping by a single-beam laser tweezer. <i>Applied Optics</i> , 2005, 44, 3963.	2.1	6
87	Experimental verification of the applicability of the homogenization approximation to rough one-dimensional photonic crystals using a holographically fabricated reflection grating. <i>Journal of Applied Physics</i> , 2006, 100, 066103.	1.1	5
88	Formation of IV-VI Alloy Nanocrystals for Application in Solution-Processed Optoelectronic Devices: The Case of Pb _{1-x} Sn _x S. <i>Chemistry of Materials</i> , 2013, 25, 4409-4415.	3.2	5
89	Circular Polarization Dynamics during Magnetic Polaron Formation in Type-II Magnetic Quantum Dots. <i>Journal of Physical Chemistry C</i> , 2020, 124, 12766-12773.	1.5	5
90	Reflective micro-concentrator arrays from holographic photopolymerization: design, fabrication and characterization. <i>Journal of Materials Chemistry</i> , 2012, 22, 25161.	6.7	4

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91	Guest Aggregation within Poly(L-lactic Acid)/Pluronic P104 Thin Films. Applied Spectroscopy, 2008, 62, 290-294.	1.2	3
92	Effect of Post-Deposition Processing on ZnO Thin Films and Devices. Journal of Electronic Materials, 2010, 39, 568-572.	1.0	3
93	Graphics processing unit (GPU) implementation of image processing algorithms to improve system performance of the control acquisition, processing, and image display system (CAPIDS) of the micro-angiographic fluoroscope (MAF). Proceedings of SPIE, 2012, 8313, 83134C.	0.8	3
94	Spectroscopy and Modeling of Carrier Recombination in III-N Heterostructures. Physica Status Solidi (B): Basic Research, 2001, 228, 115-119.	0.7	2
95	Room-Temperature Time-Resolved Photoluminescence Studies of UV Emission from GaN/AlN Quantum Wells. Materials Research Society Symposia Proceedings, 2002, 743, L11.14.1.	0.1	2
96	Spectral and temporal resolution of recombination from multiple excitation states in modulation-doped AlGaIn/GaN multiple quantum well heterostructures. Applied Physics Letters, 2005, 86, 162103.	1.5	2
97	Nanostructured porous polymeric photonic bandgap structures for sensing. , 2007, , .		2
98	Quantum performance analysis of an EMCCD-based x-ray detector using photon transfer technique. , 2010, 2010, 3438-3441.		2
99	Heterogeneous integration of Polymer Porous Photonic Bandgap Structure with Xerogel based Biochemical Sensors. Materials Research Society Symposia Proceedings, 2011, 1301, 213.	0.1	2
100	Design, Characterization, and Modeling for a Modular High-Resolution Solid-State X-Ray Image Intensifier (SSXII). IEEE Transactions on Nuclear Science, 2013, 60, 20-29.	1.2	2
101	Photopatternable transparent conducting oxide nanoparticles for transparent electrodes. Nanotechnology, 2013, 24, 065302.	1.3	2
102	Strained piezoelectric [111] multiple quantum wells: clamped or free?. Superlattices and Microstructures, 1994, 15, 171.	1.4	1
103	A New Model for ASEE Student Chapters. Journal of Engineering Education, 2001, 90, 641-643.	1.9	1
104	Time Resolved Photoluminescence of Si-doped High Al Mole Fraction AlGaIn Epilayers Grown by Plasma-Enhanced Molecular Beam Epitaxy. Materials Research Society Symposia Proceedings, 2003, 798, 559.	0.1	1
105	Optical Properties of Polymer-Embedded Silicon Nanoparticles. Materials Research Society Symposia Proceedings, 2003, 789, 168.	0.1	1
106	Analysis and Applications of ZnO Semiconductor Films Deposited by Laser and Sputtering Techniques. Materials Research Society Symposia Proceedings, 2006, 957, 1.	0.1	1
107	CMOS Microsystems for Phase Fluorometric Biochemical Monitoring. , 2007, , .		1
108	Optical demonstration of a medical imaging system with an EMCCD-sensor array for use in a high resolution dynamic X-ray imager. , 2010, 2010, 2607-2609.		1

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109	Antiresonant guiding photonic crystal fibers for distributed temperature gradient measurements. Applied Physics B: Lasers and Optics, 2011, 105, 329-333.	1.1	1
110	Image geometric corrections for a new EMCCD-based dual modular x-ray imager. , 2011, 2011, 2634-7.		1
111	Enhanced Performance from a Hybrid Quenchemetric Deoxyribonucleic Acid (DNA) Silica Xerogel Gaseous Oxygen Sensing Platform. Applied Spectroscopy, 2014, 68, 1302-1305.	1.2	1
112	Time resolved photoluminescence study of magnetic CdSe/CdMnS/CdS core/multi-shell nanoplatelets. , 2017, , .		1
113	A New Approach to Design Light Emitting Devices Using Electroactive Dyes. Materials Research Society Symposia Proceedings, 2002, 734, 9241.	0.1	0
114	Emission Mechanisms in UV Emitting GaN/AlN Multiple Quantum Well Structures. Materials Research Society Symposia Proceedings, 2003, 798, 170.	0.1	0
115	Spectroscopy Studies of InP Nanocrystals Synthesized Through a Fast Reaction. Materials Research Society Symposia Proceedings, 2003, 789, 276.	0.1	0
116	Carrier Recombination, Relaxation, and Transport Dynamics in InN. Materials Research Society Symposia Proceedings, 2005, 892, 82.	0.1	0
117	Functionalized Photonic Crystal Sensor Elements based on Nanoporous Polymers. Materials Research Society Symposia Proceedings, 2007, 1056, 1.	0.1	0
118	CMOS Chemical and Biochemical Sensors using Nanostructured Materials. LEOS Summer Topical Meeting, 2007, , .	0.0	0
119	Self Passivating Hybrid (Organic/Inorganic) Tandem Solar Cell. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	0
120	Current Transport Mechanisms for MSM-Photodetectors on ZnO:N Thin Films. Materials Research Society Symposia Proceedings, 2009, 1201, 167.	0.1	0
121	Enabling intelligent readout of luminescent signals from nanoscale biochemical sensors. Proceedings of SPIE, 2009, , .	0.8	0
122	Holographically Fabricated Dye-Doped Nanoporous Polymers as Matrix for Laser Desorption/Ionization Mass Spectrometry. Journal of Nanotechnology in Engineering and Medicine, 2010, 1, .	0.8	0
123	Optical properties of DNA-CTMA biopolymers and applications in metal-biopolymer-metal photodetectors. Proceedings of SPIE, 2011, , .	0.8	0
124	Flexible porous polymer photonic bandgap structures for chemical and biomedical sensing. , 2011, , .		0
125	One-step holographic lithography fabrication of a rainbow-colored photonic bandgap structure. , 2011, , .		0
126	Twisting Light with Metamaterials. , 2014, , .		0

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127	Creating Diversified Response Profiles from a Single Quenchometric Sensor Element by Using Phase-Resolved Luminescence. <i>Sensors</i> , 2015, 15, 760-768.	2.1	0
128	Improved holographic rainbow-colored photopolymer reflection grating. , 2012, , .		0
129	Rainbow-colored photonic bandgap structure fabricated by holographic lithography. , 2012, , .		0
130	TU-A-218-04: Phantom Studies of a Newly Developed Solid State X-Ray Image Intensifier (SSXII) for X-Ray Image Guided Neurovascular Interventions. <i>Medical Physics</i> , 2012, 39, 3894-3895.	1.6	0
131	Tailoring Nonlinear Interactions in Metamaterials. <i>Springer Series in Materials Science</i> , 2015, , 217-235.	0.4	0
132	Flat metallic surface with sub-10-nm gaps using modified atomic-layer lithography. , 2015, , .		0
133	Atomic-layer lithography of sub-10-nm plasmonic nanogaps on flat metallic surface. , 2015, , .		0
134	Reversibly tunable hydrophilic nano/microporous polymer photonic crystal. , 2016, , .		0
135	Pore size manipulation of hydrophilic nano/microporous polymer photonic crystal. , 2016, , .		0
136	Engineered pores of hydrophilic nanoporous materials using wet-drying and freeze-drying. , 2017, , .		0