Mato Knez

List of Publications by Year in descending order

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48187 57631 8,329 136 44 88 citations h-index g-index papers 157 157 157 10884 docs citations times ranked citing authors all docs

#	Article	IF	CITATIONS
1	Synthesis and Surface Engineering of Complex Nanostructures by Atomic Layer Deposition. Advanced Materials, 2007, 19, 3425-3438.	11.1	812
2	Monocrystalline spinel nanotube fabrication based on the Kirkendall effect. Nature Materials, 2006, 5, 627-631.	13.3	699
3	Biotemplate Synthesis of 3-nm Nickel and Cobalt Nanowires. Nano Letters, 2003, 3, 1079-1082.	4.5	397
4	Greatly Increased Toughness of Infiltrated Spider Silk. Science, 2009, 324, 488-492.	6.0	372
5	Influence of Surface Diffusion on the Formation of Hollow Nanostructures Induced by the Kirkendall Effect:Â The Basic Concept. Nano Letters, 2007, 7, 993-997.	4.5	363
6	Structural analysis and mapping of individual protein complexes by infrared nanospectroscopy. Nature Communications, 2013, 4, 2890.	5.8	319
7	Spatially Selective Nucleation of Metal Clusters on the Tobacco Mosaic Virus. Advanced Functional Materials, 2004, 14, 116-124.	7.8	235
8	Ordered Iron Oxide Nanotube Arrays of Controlled Geometry and Tunable Magnetism by Atomic Layer Deposition. Journal of the American Chemical Society, 2007, 129, 9554-9555.	6.6	232
9	Atomic Layer Deposition on Biological Macromolecules:Â Metal Oxide Coating of Tobacco Mosaic Virus and Ferritin. Nano Letters, 2006, 6, 1172-1177.	4.5	200
10	Reducing Stress on Cells with Apoferritin-Encapsulated Platinum Nanoparticles. Nano Letters, 2010, 10, 219-223.	4.5	191
11	Progress and future directions for atomic layer deposition and ALD-based chemistry. MRS Bulletin, 2011, 36, 865-871.	1.7	178
12	Ultrasensitive and label-free molecular-level detection enabled by light phase control in magnetoplasmonic nanoantennas. Nature Communications, 2015, 6, 6150.	5.8	172
13	Ferromagnetic nanotubes by atomic layer deposition in anodic alumina membranes. Journal of Applied Physics, 2007, 101, 09J111.	1,1	161
14	Hybrid nanomaterials through molecular and atomic layer deposition: Top down, bottom up, and in-between approaches to new materials. Progress in Materials Science, 2016, 75, 1-37.	16.0	148
15	Enhanced Catalytic Activity for Methanol Electroâ€oxidation of Uniformly Dispersed Nickel Oxide Nanoparticlesâ€"Carbon Nanotube Hybrid Materials. Small, 2012, 8, 3390-3395.	5.2	144
16	Copper nanowires within the central channel of tobacco mosaic virus particles. Electrochimica Acta, 2006, 51, 6251-6257.	2.6	123
17	Rayleigh-Instability-Induced Metal Nanoparticle Chains Encapsulated in Nanotubes Produced by Atomic Layer Deposition. Nano Letters, 2008, 8, 114-118.	4.5	118
18	Atomic layer deposition of Al_2O_3 and TiO_2 multilayers for applications as bandpass filters and antireflection coatings. Applied Optics, 2009, 48, 1727.	2.1	117

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19	Nanostructured Pure Anatase Titania Tubes Replicated from Electrospun Polymer Fiber Templates by Atomic Layer Deposition. Chemistry of Materials, 2008, 20, 3085-3091.	3.2	110
20	Electrochemical modification of individual nano-objects. Journal of Electroanalytical Chemistry, 2002, 522, 70-74.	1.9	105
21	Binding the Tobacco Mosaic Virus to Inorganic Surfaces. Langmuir, 2004, 20, 441-447.	1.6	103
22	Nanoscopic Morphologies in Block Copolymer Nanorods as Templates for Atomicâ€Layer Deposition of Semiconductors. Advanced Materials, 2009, 21, 2763-2766.	11.1	93
23	3D photonic crystal intermediate reflector for micromorph thinâ€film tandem solar cell. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 2796-2810.	0.8	82
24	Influence of Temperature on Evolution of Coaxial ZnO/Al ₂ O ₃ One-Dimensional Heterostructures:  From Coreâ^'Shell Nanowires to Spinel Nanotubes and Porous Nanowires. Journal of Physical Chemistry C, 2008, 112, 4068-4074.	1.5	73
25	Improved Mechanical Stability of Dried Collagen Membrane after Metal Infiltration. ACS Applied Materials & Samp; Interfaces, 2010, 2, 2436-2441.	4.0	72
26	Nanoporous Nitrogenâ€Doped Titanium Dioxide with Excellent Photocatalytic Activity under Visible Light Irradiation Produced by Molecular Layer Deposition. Angewandte Chemie - International Edition, 2013, 52, 9196-9200.	7.2	72
27	Single-crystalline MgAl2O4spinel nanotubes using a reactive and removable MgO nanowire template. Nanotechnology, 2006, 17, 5157-5162.	1.3	69
28	Ferritin-mediated siRNA delivery and gene silencing in human tumor and primary cells. Biomaterials, 2016, 98, 143-151.	5.7	65
29	General Assembly Method for Linear Metal Nanoparticle Chains Embedded in Nanotubes. Nano Letters, 2008, 8, 3221-3225.	4.5	60
30	An Alternative Route Towards Metal–Polymer Hybrid Materials Prepared by Vaporâ€Phase Processing. Advanced Functional Materials, 2011, 21, 3047-3055.	7.8	60
31	Characteristics of Al2O3/AllnN/GaN MOSHEMT. Electronics Letters, 2007, 43, 691.	0.5	57
32	Preparation and Elastic Properties of Helical Nanotubes Obtained by Atomic Layer Deposition with Carbon Nanocoils as Templates. Small, 2010, 6, 910-914.	5.2	57
33	Low-temperature ZnO atomic layer deposition on biotemplates: flexible photocatalytic ZnO structures from eggshell membranes. Physical Chemistry Chemical Physics, 2009, 11, 3608.	1.3	56
34	Tuning the Tensile Strength of Cellulose through Vapor-Phase Metalation. Chemistry of Materials, 2015, 27, 181-188.	3.2	55
35	Hierarchical Three-Dimensional ZnO and Their Shape-Preserving Transformation into Hollow ZnAl2O4 Nanostructures. Chemistry of Materials, 2008, 20, 3487-3494.	3.2	54
36	Efficient and controllable vapor to solid doping of the polythiophene P3HT by low temperature vapor phase infiltration. Journal of Materials Chemistry C, 2017, 5, 2686-2694.	2.7	54

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37	Porous Fe2O3 nanotubes with $\hat{l}\pm\hat{l}^3$ phase junction for enhanced charge separation and photocatalytic property produced by molecular layer deposition. Applied Catalysis B: Environmental, 2019, 248, 218-225.	10.8	54
38	Black silicon with controllable macropore array for enhanced photoelectrochemical performance. Applied Physics Letters, 2012, 101 , .	1.5	51
39	Ferritin light-chain subunits: key elements for the electron transfer across the protein cage. Chemical Communications, 2014, 50, 15358-15361.	2.2	50
40	Hâ€Chain Ferritin: A Natural Nuclei Targeting and Bioactive Delivery Nanovector. Advanced Healthcare Materials, 2015, 4, 1305-1310.	3.9	50
41	Suppressing the Thermal and Ultraviolet Sensitivity of Kevlar by Infiltration and Hybridization with ZnO. Chemistry of Materials, 2017, 29, 10068-10074.	3.2	50
42	Diffusionâ€Facilitated Fabrication of Goldâ€Decorated Zn ₂ SiO ₄ Nanotubes by a Oneâ€Step Solidâ€State Reaction. Angewandte Chemie - International Edition, 2010, 49, 1442-1446.	7.2	48
43	Theoretical and Experimental Analysis of the Sensitivity of Guided Mode Resonance Sensors. Journal of Physical Chemistry C, 2010, 114, 21150-21157.	1.5	48
44	Unexpected Oxidation Behavior of Cu Nanoparticles Embedded in Porous Alumina Films Produced by Molecular Layer Deposition. Nano Letters, 2011, 11, 2503-2509.	4.5	48
45	Novel Threeâ€Dimensional Nanoporous Alumina as a Template for Hierarchical TiO ₂ Nanotube Arrays. Small, 2013, 9, 1025-1029.	5.2	42
46	Chemical Infiltration during Atomic Layer Deposition: Metalation of Porphyrins as Model Substrates. Angewandte Chemie - International Edition, 2009, 48, 4982-4985.	7.2	41
47	Unexpected Long-Term Instability of ZnO Nanowires "Protected―by a TiO ₂ Shell. Journal of the American Chemical Society, 2009, 131, 13920-13921.	6.6	40
48	Tunable Guidedâ€Mode Resonance Grating Filter. Advanced Functional Materials, 2010, 20, 2053-2062.	7.8	40
49	Multilayer Fresnel zone plate for soft X-ray microscopy resolves sub-39 nm structures. Ultramicroscopy, 2011, 111, 1706-1711.	0.8	40
50	Iridium wire grid polarizer fabricated using atomic layer deposition. Nanoscale Research Letters, 2011, 6, 558.	3.1	40
51	Metal Infiltration into Biomaterials by ALD and CVD: A Comparative Study. ChemPhysChem, 2011, 12, 791-798.	1.0	40
52	Recent Progress on Conductive Metalâ€Organic Framework Films. Advanced Materials Interfaces, 2021, 8, 2002151.	1.9	37
53	Functionalization of Defect Sites in Graphene with RuO ₂ for High Capacitive Performance. ACS Applied Materials & Samp; Interfaces, 2015, 7, 20513-20519.	4.0	36
54	Printing and Aligning Mesoscale Patterns of Tobacco mosaic virus on Surfaces. Advanced Materials, 2008, 20, 2195-2200.	11.1	35

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55	Reversible and Irreversible Reactions of Trimethylaluminum with Common Organic Functional Groups as a Model for Molecular Layer Deposition and Vapor Phase Infiltration. Advanced Materials Interfaces, 2017, 4, 1700237.	1.9	34
56	Transmission Electron Microscopy in situ Fabrication of ZnO/Al ₂ O ₃ Composite Nanotubes by Electronâ€Beamâ€Irradiationâ€Induced Local Etching of ZnO/Al _{O₃ Core/Shell Nanowires. Small, 2008, 4, 2112-2117.}	5.2	32
57	Tuning the Conductivity of Polyaniline through Doping by Means of Single Precursor Vapor Phase Infiltration. Advanced Materials Interfaces, 2017, 4, 1600806.	1.9	32
58	Atomic layer deposition of metal fluorides through oxide chemistry. Journal of Materials Chemistry, 2011, 21, 14461.	6.7	31
59	Atomic Layer Deposition Assisted Template Approach for Electrochemical Synthesis of Au Crescent-Shaped Half-Nanotubes. ACS Nano, 2011, 5, 788-794.	7.3	31
60	In Situ Raman Spectroscopic Study of Al-Infiltrated Spider Dragline Silk under Tensile Deformation. ACS Applied Materials & Samp; Interfaces, 2014, 6, 16827-16834.	4.0	31
61	Receptorâ€Mediated Cellular Uptake of Nanoparticles: A Switchable Delivery System. Small, 2011, 7, 1538-1541.	5.2	30
62	Conductive Polymer–Inorganic Hybrid Materials through Synergistic Mutual Doping of the Constituents. ACS Applied Materials & Samp; Interfaces, 2017, 9, 27964-27971.	4.0	30
63	Comparison of two endogenous delivery agents in cancer therapy: Exosomes and ferritin. Pharmacological Research, 2016, 110, 1-9.	3.1	28
64	Vapor phase processing: a novel approach for fabricating functional hybrid materials. Nanotechnology, 2020, 31, 342001.	1.3	28
65	Synthesis and optical properties of ZnO and carbon nanotube based coaxial heterostructures. Applied Physics Letters, 2008, 93, 103108.	1.5	27
66	Tuning, inhibiting and restoring the enzyme mimetic activities of Pt–apoferritin. Chemical Communications, 2014, 50, 701-703.	2.2	27
67	Formation of Titania/Silica Hybrid Nanowires Containing Linear Mesocage Arrays by Evaporationâ€Induced Blockâ€Copolymer Selfâ€Assembly and Atomic Layer Deposition. Angewandte Chemie - International Edition, 2007, 46, 6829-6832.	7.2	26
68	Semi-artificial and bioactive ferroxidase with nanoparticles as the active sites. Chemical Communications, 2014, 50, 8021-8023.	2.2	26
69	Vapor phase infiltration: from a bioinspired process to technologic application, a prospective review. MRS Communications, 2018, 8, 727-741.	0.8	26
70	Nanoscale Patterning of Organosilane Molecular Thin Films from the Gas Phase and Its Applications: Fabrication of Multifunctional Surfaces and Large Area Molecular Templates for Site-Selective Material Deposition. Langmuir, 2012, 28, 3045-3052.	1.6	25
71	Design of active and stable oxygen reduction reaction catalysts by embedding Co x O y nanoparticles into nitrogen-doped carbon. Nano Research, 2017, 10, 97-107.	5.8	25
72	All dielectric hard x-ray mirror by atomic layer deposition. Applied Physics Letters, 2009, 94, .	1.5	24

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73	Efficient focusing of 8 keV X-rays with multilayer Fresnel zone plates fabricated by atomic layer deposition and focused ion beam milling. Journal of Synchrotron Radiation, 2013, 20, 433-440.	1.0	24
74	Structure-Based Color of Natural Petals Discriminated by Polymer Replication. ACS Applied Materials & Samp; Interfaces, 2011, 3, 30-34.	4.0	23
75	Diffusion phenomena in atomic layer deposition. Semiconductor Science and Technology, 2012, 27, 074001.	1.0	22
76	High aspect ratio deep UV wire grid polarizer fabricated by double patterning. Microelectronic Engineering, 2012, 98, 433-435.	1.1	22
77	Laponite-Based Surfaces with Holistic Self-Cleaning Functionality by Combining Antistatics and Omniphobicity. ACS Applied Materials & Interfaces, 2017, 9, 39078-39085.	4.0	22
78	Ferromagnetic Nanostructures by Atomic Layer Deposition: From Thin Films Towards Core-Shell Nanotubes. ECS Transactions, 2007, 11, 139-148.	0.3	21
79	TiO2 microstructures by inversion of macroporous silicon usingÂatomic layer deposition. Applied Physics A: Materials Science and Processing, 2008, 93, 399-403.	1.1	21
80	Titania Nanostructures Fabricated by Atomic Layer Deposition Using Spherical Protein Cages. Langmuir, 2009, 25, 13284-13289.	1.6	21
81	Omniphobic Etched Aluminum Surfaces with Anti-Icing Ability. Langmuir, 2020, 36, 10916-10922.	1.6	21
82	Multilayer Fresnel zone plates for high energy radiation resolve 21 nm features at 12 keV. Optics Express, 2014, 22, 18440.	1.7	20
83	Imidazoleâ€Grafted Nanogels for the Fabrication of Organic–Inorganic Protein Hybrids. Advanced Functional Materials, 2018, 28, 1803115.	7.8	20
84	Preparation and magnetoviscosity of nanotube ferrofluids by viral scaffolding and ALD on porous templates. Physica Status Solidi (B): Basic Research, 2010, 247, 2412-2423.	0.7	19
85	Ultrathin Hybrid SiAlCOH Dielectric Films through Ring-Opening Molecular Layer Deposition of Cyclic Tetrasiloxane. Chemistry of Materials, 2021, 33, 1022-1030.	3.2	17
86	A Novel Fabrication Technique for MEMS Based on Agglomeration of Powder by ALD. Journal of Microelectromechanical Systems, 2017, 26, 1093-1098.	1.7	16
87	Carrierless Immobilization Route for Highly Robust Metal–Organic Hybrid Enzymes. ACS Omega, 2019, 4, 5172-5179.	1.6	15
88	Single phase ZnO submicrotubes as a replica of electrospun polymer fiber template by atomic layer deposition. Thin Solid Films, 2014, 562, 291-298.	0.8	14
89	Nanoconfined (Bio)Catalysts as Efficient Glucoseâ€Responsive Nanoreactors. Advanced Functional Materials, 2020, 30, 2002990.	7.8	14
90	SCIP: a new simultaneous vapor phase coating and infiltration process for tougher and UV-resistant polymer fibers. RSC Advances, 2020, 10, 15976-15982.	1.7	14

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91	Bottomâ€Up Tailoring of Plasmonic Nanopeapods Making Use of the Periodical Topography of Carbon Nanocoil Templates. Advanced Functional Materials, 2012, 22, 5157-5165.	7.8	13
92	Control of Stepwise Hg ²⁺ Reduction on Gold to Selectively Tune its Peroxidase and Catalaseâ€Like Activities and the Mechanism. Advanced Materials Interfaces, 2021, 8, 2100086.	1.9	13
93	Boomerang-shaped VO X belts: Twinning within isolated nanocrystals. Applied Physics A: Materials Science and Processing, 2004, 78, 527-529.	1.1	11
94	Flexible Replication Technique for Highâ€Aspectâ€Ratio Nanostructures. Small, 2010, 6, 2701-2707.	5.2	11
95	Ligand-induced reduction concerted with coating by atomic layer deposition on the example of TiO ₂ -coated magnetite nanoparticles. Chemical Science, 2019, 10, 2171-2178.	3.7	11
96	Bottom-Up Synthesis and Top-Down Organisation of Semiconductor and Metal Clusters on Surfaces. European Journal of Inorganic Chemistry, 2005, 2005, 3717-3728.	1.0	10
97	Viruses show their good side. Nature Nanotechnology, 2006, 1, 22-23.	15.6	9
98	One-transistor one-resistor (1T1R) cell for large-area electronics. Applied Physics Letters, 2018, 113, .	1.5	9
99	â€~Sandwich'-like hybrid ZnO thin films produced by a combination of atomic layer deposition and wet-chemistry using a mercapto silane as single organic precursor. Nanotechnology, 2020, 31, 185603.	1.3	9
100	Barrier layer downscaling of InAIN/GaN HEMTs. Device Research Conference, IEEE Annual, 2007, , .	0.0	8
101	Introducing the concept of pulsed vapor phase copper-free surface click-chemistry using the ALD technique. Chemical Communications, 2019, 55, 3109-3112.	2.2	8
102	Molecular layer deposition of hybrid siloxane thin films by ring opening of cyclic trisiloxane (V ₃ D ₃) and azasilane. Chemical Communications, 2020, 56, 8778-8781.	2.2	8
103	High-resolution high-efficiency multilayer Fresnel zone plates for soft and hard x-rays. Proceedings of SPIE, 2015, , .	0.8	7
104	Radical-triggered cross-linking for molecular layer deposition of SiAlCOH hybrid thin films. Chemical Communications, 2021, 57, 2160-2163.	2.2	7
105	Amorphous AlN films grown by ALD from trimethylaluminum and monomethylhydrazine. Dalton Transactions, 2021, 50, 15062-15070.	1.6	7
106	Controlled Atomic Layer Deposition of Aluminum Oxide to Improve the Performance of Lithiumâ€"Sulfur Batteries. Energy Technology, 2020, 8, 1901432.	1.8	7
107	Formation of Metal Oxide Nanotubes in Neutral Aqueous Solution Based on a Photocatalytic Effect. Angewandte Chemie - International Edition, 2010, 49, 210-212.	7.2	6
108	Coupling Enzymes and Inorganic Piezoelectric Materials for Electricity Production from Renewable Fuels. ACS Applied Energy Materials, 2018, 1, 2032-2040.	2.5	6

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109	In-situ multi-step pulsed vapor phase surface functionalization of zirconia nanoparticles via copper-free click chemistry. Applied Surface Science, 2021, 539, 148254.	3.1	6
110	Atomic Layer Deposition on Biological Macromolecules. ECS Transactions, 2007, 3, 219-225.	0.3	5
111	Atomic layer deposition of iridium thin films and their application in gold electrodeposition. Proceedings of SPIE, $2011, \ldots$	0.8	5
112	Highly reflective polymeric substrates functionalized utilizing atomic layer deposition. Applied Physics Letters, 2015, 107, .	1.5	5
113	AZO Embedded Interdigitated Electrodes for Monitoring Stimuli Responsive Materials. Advanced Functional Materials, 2018, 28, 1803127.	7.8	5
114	Building organosilica hybrid nanohemispheres via thiol-ene click reaction on alumina thin films deposited by atomic layer deposition (ALD). Journal of Colloid and Interface Science, 2020, 560, 303-311.	5.0	5
115	ALD coating of centrifugally spun polymeric fibers and postannealing: case study for nanotubular TiO ₂ photocatalyst. Nanoscale Advances, 2021, 3, 4589-4596.	2.2	5
116	Entropyâ€driven Selfâ€healing of Metal Oxides Assisted By Polymerâ€inorganic Hybrid Materials. Advanced Materials, 0, , 2202989.	11.1	5
117	Three-dimensional photonic crystals as intermediate filter for thin-film tandem solar cells. , 2008, , .		4
118	Immobilization of Apoferritinâ€Templated Seeds for Si Nanowire Growth. Chemical Vapor Deposition, 2011, 17, 149-154.	1.4	4
119	Recent advances in use of atomic layer deposition and focused ion beams for fabrication of Fresnel zone plates for hard x-rays. , 2013 , , .		4
120	Particle atomic layer deposition as an effective way to enhance Li-S battery energy density. Materials Today Energy, 2020, 18, 100567.	2.5	4
121	Facile Fabrication of Gold Nanorods@Polystyrenesulfonate Yolk–Shell Nanoparticles for Spaser Applications. ACS Applied Nano Materials, 2022, 5, 4629-4633.	2.4	4
122	Lasing Spaser in Photonic Crystals. ACS Omega, 2021, 6, 4417-4422.	1.6	3
123	Biocompatible Silicon-Based Hybrid Nanolayers for Functionalization of Complex Surface Morphologies. ACS Applied Nano Materials, 2022, 5, 2762-2768.	2.4	3
124	Electric transport in 3D photonic crystal intermediate reflectors for micromorph thin-film tandem solar cells. Proceedings of SPIE, 2009, , .	0.8	2
125	Atomic Layer Deposition for Biomimicry. , 2013, , 399-428.		2
126	Hierarchical Structures: Novel Threeâ€Dimensional Nanoporous Alumina as a Template for Hierarchical TiO ₂ Nanotube Arrays (Small 7/2013). Small, 2013, 9, 1120-1120.	5.2	1

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127	Multilayer Fresnel Zone Plates for X-ray Microscopy. Microscopy and Microanalysis, 2015, 21, 1987-1988.	0.2	1
128	Herstellung von Nanostrukturen mittels Atomlagenabscheidung. Chemie-Ingenieur-Technik, 2008, 80, 1719-1724.	0.4	0
129	Selected Applications of Atomic Layer Deposition Dielectric Nanolaminates as Functional Optical Coatings. , 2009, , .		0
130	Hybrid Materials: An Alternative Route Towards Metal–Polymer Hybrid Materials Prepared by Vaporâ€Phase Processing (Adv. Funct. Mater. 16/2011). Advanced Functional Materials, 2011, 21, 3002-3002.	7.8	0
131	Waveguides: Bottom-Up Tailoring of Plasmonic Nanopeapods Making Use of the Periodical Topography of Carbon Nanocoil Templates (Adv. Funct. Mater. 24/2012). Advanced Functional Materials, 2012, 22, 5284-5284.	7.8	0
132	Hybrid Materials: Enhanced Catalytic Activity for Methanol Electroâ€oxidation of Uniformly Dispersed Nickel Oxide Nanoparticlesâ€"Carbon Nanotube Hybrid Materials (Small 22/2012). Small, 2012, 8, 3540-3540.	5.2	0
133	Tuning of optical properties by atomic layer deposition., 2013,,.		0
134	Preface: physica status solidi (c) 7/2015. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 853-855.	0.8	0
135	Advanced Oxide Materials â^' Growth, Application, Characterization. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800546.	0.8	0
136	Guided Mode Resonance Sensors for the Monitoring of Film Growth in Atomic Layer Deposition. , 2011,		0