Jose A Garrido

List of Publications by Year
in descending order

155 papers	10,119 citations	47006 47 h-index	36028 97 g-index
158 all docs	158 docs citations	158 times ranked	14290 citing authors

#	Article	IF	Citations
1	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. Nanoscale, 2015, 7, 4598-4810.	5.6	2,452
2	Protein-modified nanocrystalline diamond thin films for biosensor applications. Nature Materials, 2004, 3, 736-742.	27.5	495
3	Production and processing of graphene and related materials. 2D Materials, 2020, 7, 022001.	4.4	333
4	Chemical control of the charge state of nitrogen-vacancy centers in diamond. Physical Review B, 2011, 83, .	3.2	272
5	Electronic and optical properties of boron-doped nanocrystalline diamond films. Physical Review B, 2009, 79, .	3.2	220
6	Graphene Transistor Arrays for Recording Action Potentials from Electrogenic Cells. Advanced Materials, 2011, 23, 5045-5049.	21.0	210
7	Photocatalytic Stability of Single- and Few-Layer MoS₂. ACS Nano, 2015, 9, 11302-11309.	14.6	197
8	Charge state manipulation of qubits in diamond. Nature Communications, 2012, 3, 729.	12.8	187
9	Photoconductive gain modelling of GaN photodetectors. Semiconductor Science and Technology, 1998, 13, 563-568.	2.0	167
10	Photoconductor gain mechanisms in GaN ultraviolet detectors. Applied Physics Letters, 1997, 71, 870-872.	3.3	163
11	Direct biofunctionalization of semiconductors: A survey. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 3424-3437.	1.8	150
12	Peptide adsorption on a hydrophobic surface results from an interplay of solvation, surface, and intrapeptide forces. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 2842-2847.	7.1	147
13	Polymer Brushes on Graphene. Journal of the American Chemical Society, 2011, 133, 10490-10498.	13.7	142
14	Graphene Solutionâ€Gated Fieldâ€Effect Transistor Array for Sensing Applications. Advanced Functional Materials, 2010, 20, 3117-3124.	14.9	137
15	Graphene in the Design and Engineering of Nextâ€Generation Neural Interfaces. Advanced Materials, 2017, 29, 1700909.	21.0	129
16	Graphene Transistors for Bioelectronics. Proceedings of the IEEE, 2013, 101, 1780-1792.	21.3	121
17	High-resolution mapping of infraslow cortical brain activity enabled by graphene microtransistors. Nature Materials, 2019, 18, 280-288.	27.5	121
18	Single-layer graphene modulates neuronal communication and augments membrane ion currents. Nature Nanotechnology, 2018, 13, 755-764.	31.5	120

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19	Effect of nitrogen on the electronic properties of ultrananocrystalline diamond thin films grown on quartz and diamond substrates. Physical Review B, 2006, 74, .	3.2	103
20	Purified Neurons can Survive on Peptideâ€Free Graphene Layers. Advanced Healthcare Materials, 2013, 2, 929-933.	7.6	103
21	Chemical Grafting of Biphenyl Self-Assembled Monolayers on Ultrananocrystalline Diamond. Journal of the American Chemical Society, 2006, 128, 16884-16891.	13.7	102
22	pH sensors based on hydrogenated diamond surfaces. Applied Physics Letters, 2005, 86, 073504.	3.3	101
23	Electrolyte-gated organic field-effect transistors for sensing applications. Applied Physics Letters, 2011, 98, .	3.3	99
24	Flexible Graphene Solutionâ€Gated Fieldâ€Effect Transistors: Efficient Transducers for Microâ€Electrocorticography. Advanced Functional Materials, 2018, 28, 1703976.	14.9	97
25	Optical properties of nanocrystalline diamond thin films. Applied Physics Letters, 2006, 88, 101908.	3.3	95
26	Biofunctional Electrolyteâ€Gated Organic Fieldâ€Effect Transistors. Advanced Materials, 2012, 24, 4511-4517.	21.0	93
27	AlN/diamond heterojunction diodes. Applied Physics Letters, 2003, 82, 290-292.	3.3	92
28	Structured Polymer Grafts on Diamond. Journal of the American Chemical Society, 2007, 129, 15655-15661.	13.7	90
29	Diamond Transistor Array for Extracellular Recording From Electrogenic Cells. Advanced Functional Materials, 2009, 19, 2915-2923.	14.9	86
30	Synthetic Nanocrystalline Diamond as a Third-Generation Biosensor Support. Langmuir, 2006, 22, 5837-5842.	3.5	84
31	High-transconductance graphene solution-gated field effect transistors. Applied Physics Letters, 2011, 99, .	3.3	78
32	Graphene Transistors with Multifunctional Polymer Brushes for Biosensing Applications. ACS Applied Materials & Interfaces, 2014, 6, 9705-9710.	8.0	77
33	Role of grain boundaries in tailoring electronic properties of polycrystalline graphene by chemical functionalization. 2D Materials, 2015, 2, 024008.	4.4	74
34	The Ion Sensitivity of Surface Conductive Single Crystalline Diamond. Journal of the American Chemical Society, 2007, 129, 1287-1292.	13.7	73
35	Self-Assembled GaN Nanowires on Diamond. Nano Letters, 2012, 12, 2199-2204.	9.1	73
36	Mapping brain activity with flexible graphene micro-transistors. 2D Materials, 2017, 4, 025040.	4.4	72

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37	Ultrafast electronic readout of diamond nitrogenâ€"vacancy centres coupled to graphene. Nature Nanotechnology, 2015, 10, 135-139.	31.5	70
38	Position-Controlled Growth of GaN Nanowires and Nanotubes on Diamond by Molecular Beam Epitaxy. Nano Letters, 2015, 15, 1773-1779.	9.1	69
39	Protecting a Diamond Quantum Memory by Charge State Control. Nano Letters, 2017, 17, 5931-5937.	9.1	66
40	Polarization fields determination in AlGaN/GaN heterostructure field-effect transistors from charge control analysis. Applied Physics Letters, 1999, 75, 2407-2409.	3.3	65
41	Diamond surface conductivity: Properties, devices, and sensors. MRS Bulletin, 2014, 39, 542-548.	3.5	64
42	n-Type doping of diamond by sulfur and phosphorus. Diamond and Related Materials, 2002, 11, 289-295.	3.9	62
43	Hydrophobic and Hofmeister Effects on the Adhesion of Spider Silk Proteins onto Solid Substrates:â€‰ An AFM-Based Single-Molecule Study. Langmuir, 2008, 24, 1350-1355.	3.5	55
44	High surface area graphene foams by chemical vapor deposition. 2D Materials, 2016, 3, 045013.	4.4	53
45	Flexible graphene transistors for recording cell action potentials. 2D Materials, 2016, 3, 025007.	4.4	53
46	Low-frequency noise and mobility fluctuations in AlGaN/GaN heterostructure field-effect transistors. Applied Physics Letters, 2000, 76, 3442-3444.	3.3	50
47	Immobilization of horseradish peroxidase via an amino silane on oxidized ultrananocrystalline diamond. Diamond and Related Materials, 2007, 16, 138-143.	3.9	50
48	Full-bandwidth electrophysiology of seizures and epileptiform activity enabled by flexible graphene microtransistor depth neural probes. Nature Nanotechnology, 2022, 17, 301-309.	31.5	49
49	Scattering times in AlGaN/GaN two-dimensional electron gas from magnetoresistance measurements. Journal of Applied Physics, 2000, 88, 932-937.	2.5	48
50	Gas sensing properties of hydrogen-terminated diamond. Sensors and Actuators B: Chemical, 2008, 133, 156-165.	7.8	48
51	The Diamond/Aqueous Electrolyte Interface:â€‰ an Impedance Investigation. Langmuir, 2008, 24, 3897-3904.	3.5	46
52	Addressing Single Nitrogen-Vacancy Centers in Diamond with Transparent in-Plane Gate Structures. Nano Letters, 2014, 14, 2359-2364.	9.1	45
53	Graphene active sensor arrays for long-term and wireless mapping of wide frequency band epicortical brain activity. Nature Communications, 2021, 12, 211.	12.8	44
54	Photocurrent Generation in Diamond Electrodes Modified with Reaction Centers. ACS Applied Materials & Interfaces, 2015, 7, 8099-8107.	8.0	42

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55	Switchless Multiplexing of Graphene Active Sensor Arrays for Brain Mapping. Nano Letters, 2020, 20, 3528-3537.	9.1	42
56	Si-doped AlxGa1-xN photoconductive detectors. Semiconductor Science and Technology, 1999, 14, 685-689.	2.0	40
57	Functional Polymer Brushes on Hydrogenated Graphene. Chemistry of Materials, 2013, 25, 466-470.	6.7	40
58	Emergence of Photoswitchable States in a Grapheneâ€"Azobenzeneâ€"Au Platform. Nano Letters, 2014, 14, 6823-6827.	9.1	40
59	Photoresponse of supramolecular self-assembled networks on grapheneâ€"diamond interfaces. Nature Communications, 2016, 7, 10700.	12.8	40
60	Fabrication of in-plane gate transistors on hydrogenated diamond surfaces. Applied Physics Letters, 2003, 82, 988-990.	3.3	39
61	High quality heteroepitaxial AlN films on diamond. Journal of Applied Physics, 2004, 96, 895-902.	2.5	38
62	The Surface Conductivity at the Diamond/Aqueous Electrolyte Interface. Journal of the American Chemical Society, 2008, 130, 4177-4181.	13.7	38
63	Nanostructured polymer brushes and protein density gradients on diamond by carbon templating. Soft Matter, 2011, 7, 4861.	2.7	37
64	Temperature-dependent transport properties of hydrogen-induced diamond surface conductive channels. Physical Review B, 2005, 71, .	3.2	35
65	Low-temperature transport in highly boron-doped nanocrystalline diamond. Physical Review B, 2009, 79, .	3.2	35
66	Tailoring of internal fields in AlGaN/GaN and InGaN/GaN heterostructure devices. Physical Review B, 2000, 61, 2773-2778.	3.2	34
67	GaN-based solar-ultraviolet detection instrument. Applied Optics, 1998, 37, 5058.	2.1	33
68	A Currentâ€"Voltage Model for Graphene Electrolyte-Gated Field-Effect Transistors. IEEE Transactions on Electron Devices, 2014, 61, 3971-3977.	3.0	33
69	Novel Nanocomposite Actuator Based on Sulfonated Poly(styrene-b-ethylene-co-butylene-b-styrene) Polymer. Journal of Nanoscience and Nanotechnology, 2007, 7, 3740-3743.	0.9	32
70	THz-circuits driven by photo-thermoelectric, gate-tunable graphene-junctions. Scientific Reports, 2016, 6, 35654.	3.3	32
71	Microstructured poly(2-oxazoline) bottle-brush brushes on nanocrystalline diamond. Physical Chemistry Chemical Physics, 2010, 12, 4360.	2.8	31
72	Impact of contact overlap on transconductance and noise in organic electrochemical transistors. Flexible and Printed Electronics, 2019, 4, 044003.	2.7	30

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73	Hydrophobic Interaction and Charge Accumulation at the Diamond-Electrolyte Interface. Physical Review Letters, 2011, 106, 196103.	7.8	29
74	Enzyme-Modified Field Effect Transistors Based on Surface-Conductive Single-Crystalline Diamond. Langmuir, 2008, 24, 9898-9906.	3.5	27
75	Electrochemical impedance spectroscopy of oxidized and hydrogen-terminated nitrogen-induced conductive ultrananocrystalline diamond. Electrochimica Acta, 2009, 54, 1909-1915.	5.2	27
76	Controlling Surface Functionality through Generation of Thiol Groups in a Self-Assembled Monolayer. Langmuir, 2010, 26, 15895-15900.	3.5	26
77	AlN/Diamond np-junctions. Diamond and Related Materials, 2003, 12, 1873-1876.	3.9	25
78	Electrical Coupling Between Cells and Graphene Transistors. Small, 2015, 11, 1703-1710.	10.0	25
79	Resolving the controversy on the pH sensitivity of diamond surfaces. Physica Status Solidi - Rapid Research Letters, 2008, 2, 31-33.	2.4	24
80	Low frequency noise and screening effects in AlGaN/GaN HEMTs. Electronics Letters, 1998, 34, 2357.	1.0	23
81	Characterization of n-Type Doped Homoepitaxial Diamond Thin Films. Physica Status Solidi A, 2002, 193, 541-545.	1.7	23
82	Understanding the bias dependence of low frequency noise in single layer graphene FETs. Nanoscale, 2018, 10, 14947-14956.	5.6	23
83	Multiplexed neural sensor array of graphene solution-gated field-effect transistors. 2D Materials, 2020, 7, 025046.	4.4	23
84	Capacitanceâ€"voltage studies of Al-Schottky contacts on hydrogen-terminated diamond. Applied Physics Letters, 2002, 81, 637-639.	3.3	22
85	Functional Polymer Brushes on Diamond as a Platform for Immobilization and Electrical Wiring of Biomolecules. Advanced Functional Materials, 2013, 23, 2979-2986.	14.9	21
86	Influence of substrate material, orientation, and surface termination on GaN nanowire growth. Journal of Applied Physics, 2014, 116, .	2.5	21
87	Surface State Mediated Electron Transfer Across the N-Type SiC/Electrolyte Interface. Journal of Physical Chemistry C, 2016, 120, 6524-6533.	3.1	21
88	Carbon Incorporation in MOCVD of MoS₂ Thin Films Grown from an Organosulfide Precursor. Chemistry of Materials, 2021, 33, 4474-4487.	6.7	21
89	Local Oxidation of Hydrogenated Diamond Surfaces for Device Fabrication. Physica Status Solidi A, 2002, 193, 523-528.	1.7	20
90	Three-Dimensional Bicomponent Supramolecular Nanoporous Self-Assembly on a Hybrid All-Carbon Atomically Flat and Transparent Platform. Nano Letters, 2014, 14, 4486-4492.	9.1	20

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91	Doped GaN nanowires on diamond: Structural properties and charge carrier distribution. Journal of Applied Physics, 2015, 117, .	2.5	20
92	Distortionâ€Free Sensing of Neural Activity Using Graphene Transistors. Small, 2020, 16, 1906640.	10.0	20
93	Electrical and optical measurements of CVD diamond doped with sulfur. Physical Review B, 2002, 65, .	3.2	19
94	Scribing into hydrogenated diamond surfaces using atomic force microscopy. Applied Physics Letters, 2003, 82, 3336-3338.	3.3	19
95	Crossover from ballistic to diffusive thermal transport in suspended graphene membranes. 2D Materials, 2019, 6, 025034.	4.4	19
96	Improved metal-graphene contacts for low-noise, high-density microtransistor arrays for neural sensing. Carbon, 2020, 161, 647-655.	10.3	19
97	Detection of random vapour concentrations using an integrating diamond gas sensor. Sensors and Actuators B: Chemical, 2014, 195, 603-608.	7.8	18
98	GaN surface states investigated by electrochemical studies. Applied Physics Letters, 2017, 110, .	3.3	18
99	Uniformly coated highly porous graphene/MnO₂foams for flexible asymmetric supercapacitors. Nanotechnology, 2018, 29, 225402.	2.6	18
100	Water adsorbate mediated accumulation gas sensing at hydrogenated diamond surfaces. Sensors and Actuators B: Chemical, 2013, 181, 894-903.	7.8	17
101	Low dimensionality of the surface conductivity of diamond. Physical Review B, 2014, 89, .	3.2	17
102	Frequency response of electrolyte-gated graphene electrodes and transistors. Journal Physics D: Applied Physics, 2017, 50, 095304.	2.8	17
103	Structural, optical, and electronic properties of nanocrystalline and ultrananocrystalline diamond thin films. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 2874-2880.	1.8	16
104	Electrical passivation and chemical functionalization of SiC surfaces by chlorine termination. Applied Physics Letters, 2011, 98, .	3.3	16
105	Induction heating-assisted repeated growth and electrochemical transfer of graphene on millimeter-thick metal substrates. Diamond and Related Materials, 2014, 47, 46-52.	3.9	16
106	Velocity Saturation Effect on Low Frequency Noise in Short Channel Single Layer Graphene Field Effect Transistors. ACS Applied Electronic Materials, 2019, 1, 2626-2636.	4.3	16
107	Epitaxial growth of phosphorus doped diamond on {111} substrate. Diamond and Related Materials, 2002, 11, 328-331.	3.9	15
108	Gas Sensing Interactions at Hydrogenated Diamond Surfaces. IEEE Sensors Journal, 2007, 7, 1349-1353.	4.7	15

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109	Low-frequency noise in diamond solution-gated field effect transistors. Applied Physics Letters, 2010, 97, .	3.3	15
110	Thermally Induced Alkylation of Diamond. Langmuir, 2010, 26, 18862-18867.	3.5	15
111	Diamond solutionâ€gated field effect transistors: Properties and bioelectronic applications. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 1631-1642.	1.8	15
112	Solution processable carbon nanotube network thin-film transistors operated in electrolytic solutions at various pH. Applied Physics Letters, 2012, 101, .	3.3	15
113	A new acceptor state in CVD-diamond. Diamond and Related Materials, 2002, 11, 347-350.	3.9	14
114	Electronic properties of ultrananocrystalline diamond surfaces. Applied Physics Letters, 2010, 96, .	3.3	14
115	Effect of channel thickness on noise in organic electrochemical transistors. Applied Physics Letters, 2020, 117, .	3.3	14
116	Characterization and Modeling of Photoconductive GaN Ultraviolet Detectors. MRS Internet Journal of Nitride Semiconductor Research, 1997, 2, 1.	1.0	13
117	Novel in-plane gate devices on hydrogenated diamond surfaces. Physica Status Solidi A, 2003, 199, 56-63.	1.7	13
118	Structural and interface properties of an AlN diamond ultraviolet light emitting diode. Applied Physics Letters, 2004, 85, 3699-3701.	3.3	13
119	Metalâ€"insulator transition and superconductivity in highly boronâ€doped nanocrystalline diamond films. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1978-1985.	1.8	13
120	Solid polyelectrolyte-gated surface conductive diamond field effect transistors. Applied Physics Letters, 2012, 100, 023510.	3.3	13
121	Graphene field effect transistors for in vitro and ex vivo recordings. IEEE Nanotechnology Magazine, 2016, , 1-1.	2.0	13
122	Characterization of optogenetically-induced cortical spreading depression in awake mice using graphene micro-transistor arrays. Journal of Neural Engineering, 2021, 18, 055002.	3.5	13
123	Optoelectronic properties of p-diamond/n-GaN nanowire heterojunctions. Journal of Applied Physics, 2015, 118, .	2.5	12
124	Novel Graphene Electrode for Retinal Implants: An in vivo Biocompatibility Study. Frontiers in Neuroscience, 2021, 15, 615256.	2.8	12
125	Influence of hydrogen on nanocrystalline diamond surfaces investigated with HREELS and XPS. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2022-2027.	1.8	11
126	Semiconductor/Polymer Nanocomposites of Acrylates and Nanocrystalline Silicon by Laserâ€Induced Thermal Polymerization. Macromolecular Materials and Engineering, 2013, 298, 1160-1165.	3.6	11

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127	Effects of Hydroxylation and Silanization on the Surface Properties of ZnO Nanowires. ACS Applied Materials & Interfaces, 2015, 7, 5331-5337.	8.0	11
128	Alignment and Graphene-Assisted Decoration of Lyotropic Chromonic Liquid Crystals Containing DNA Origami Nanostructures. Small, 2016, 12, 1658-1666.	10.0	11
129	Suppression of Photoanodic Surface Oxidation of n-Type 6H-SiC Electrodes in Aqueous Electrolytes. Langmuir, 2016, 32, 1637-1644.	3.5	11
130	Lipid Monolayer Formation and Lipid Exchange Monitored by a Graphene Field-Effect Transistor. Langmuir, 2018, 34, 4224-4233.	3.5	11
131	Organophosphonate Biofunctionalization of Diamond Electrodes. ACS Applied Materials & Interfaces, 2014, 6, 13909-13916.	8.0	10
132	Electrochemical characterization of GaN surface states. Journal of Applied Physics, 2017, 122, .	2.5	10
133	Low-Frequency Noise Parameter Extraction Method for Single-Layer Graphene FETs. IEEE Transactions on Electron Devices, 2020, 67, 2093-2099.	3.0	10
134	Polarization Field Determination in AlGaN/GaN HFETs. Physica Status Solidi A, 1999, 176, 195-199.	1.7	9
135	Versatile Graphene-Based Platform for Robust Nanobiohybrid Interfaces. ACS Omega, 2019, 4, 3287-3297.	3.5	9
136	Photoconductance of a submicron oxidized line in surface conductive single crystalline diamond. Applied Physics Letters, 2010, 97, 111107.	3.3	7
137	Photocurrent generation of biohybrid systems based on bacterial reaction centers and graphene electrodes. Diamond and Related Materials, 2018, 89, 286-292.	3.9	6
138	A 1024-Channel 10-Bit 36-muW/ch CMOS ROIC for Multiplexed GFET-Only Sensor Arrays in Brain Mapping. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 860-876.	4.0	6
139	Heat dissipation in few-layer MoS₂ and MoS₂/hBN heterostructure. 2D Materials, 2022, 9, 015005.	4.4	6
140	Resettable, Low-temperature Accumulation Gas Sensors Based on Hydrogenated Diamond Transducers. Procedia Engineering, 2015, 120, 590-593.	1.2	5
141	Characterization of Sub-Micron In-Plane Devices in H-Terminated Diamond. Physica Status Solidi A, 2002, 193, 517-522.	1.7	4
142	Photoresponse and morphology of pentacene thin films modified by oxidized and reduced diamond surfaces. Physical Review B, 2009, 80, .	3.2	4
143	Graphene Transistors for Bioelectronics: Graphene Transistor Arrays for Recording Action Potentials from Electrogenic Cells (Adv. Mater. 43/2011). Advanced Materials, 2011, 23, 4968-4968.	21.0	4
144	<i>Î±,Ï‰</i>-dihexyl-sexithiophene thin films for solution-gated organic field-effect transistors. Applied Physics Letters, 2016, 108, .	3.3	4

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145	The advantages of mapping slow brain potentials using DCâ€coupled graphene microâ€transistors: Clinical and translational applications. Clinical and Translational Medicine, 2022, 12, .	4.0	4
146	Heteroepitaxial ZnO films on diamond: Optoelectronic properties and the role of interface polarity. Journal of Applied Physics, 2014, 115, 213508.	2.5	3
147	Bias dependent variability of low-frequency noise in single-layer graphene FETs. Nanoscale Advances, 2020, 2, 5450-5460.	4.6	3
148	Photocurrent spectroscopy of in-plane surface conductive diamond homostructures. Physical Review B, 2020, 101, .	3.2	3
149	Novel transducers for high-channel-count neuroelectronic recording interfaces. Current Opinion in Biotechnology, 2021, 72, 39-47.	6.6	3
150	Enzyme-modified electrolyte-gated organic field-effect transistors. Proceedings of SPIE, 2012, , .	0.8	2
151	Neural interfaces based on flexible graphene transistors: A new tool for electrophysiology. , 2019, , .		1
152	Single and Multisite Grapheneâ€Based Electroretinography Recording Electrodes: A Benchmarking Study. Advanced Materials Technologies, 0, , 2101181.	5.8	1
153	Interaction of Hydrogen and Oxygen with Nanocrystalline Diamond Surfaces. Materials Research Society Symposia Proceedings, 2009, 1203, 1.	0.1	0
154	Fundamentals and Applications of Diamond. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 1607-1608.	1.8	0
155	Liquid Crystals: Alignment and Graphene-Assisted Decoration of Lyotropic Chromonic Liquid Crystals Containing DNA Origami Nanostructures (Small 12/2016). Small, 2016, 12, 1542-1542.	10.0	0