## Chromonic mesophases

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Citation Report

#	Article	IF	CITATIONS
1	Pretransitional fluctuations in the isotropic phase of a lyotropic chromonic liquid crystal. Physical Review E, 2004, 70, 051706.	0.8	58
3	Lyotropic chromonic liquid crystals in aligned films for applications as polarizing coatings. Journal of Information Display, 2004, 5, 27-38.	2.1	16
4	Real-time microbe detection based on director distortions around growing immune complexes in lyotropic chromonic liquid crystals. Physical Review E, 2005, 71, 020702.	0.8	135
5	Influence of Lyotropic Liquid Crystals on the Ability of Antibodies To Bind to Surface-Immobilized Antigens. Chemistry of Materials, 2005, 17, 4774-4782.	3.2	36
6	Liquid crystal effects on bacterial viability. Liquid Crystals, 2005, 32, 417-423.	0.9	90
7	Salt Effects on the Phase Behavior, Structure, and Rheology of Chromonic Liquid Crystals. Journal of Physical Chemistry B, 2005, 109, 19126-19133.	1.2	80
8	Absorption and Fluorescence Spectra of Aqueous Solutions of Disodium Cromoglycate. Molecular Crystals and Liquid Crystals, 2005, 426, 117-127.	0.4	3
9	Aggregation behavior and chromonic liquid crystal properties of an anionic monoazo dye. Physical Review E, 2005, 72, 041710.	0.8	156
10	Oriented Monolayers Prepared from Lyotropic Chromonic Liquid Crystal. Langmuir, 2005, 21, 2300-2307.	1.6	46
11	Nano-Architecture of Self-Assembled Monolayer and Multilayer Stacks of Lyotropic Chromonic Liquid Crystalline Dyes. Molecular Crystals and Liquid Crystals, 2005, 434, 305/[633]-314/[642].	0.4	9
12	Optical characterization of the nematic lyotropic chromonic liquid crystals: Light absorption, birefringence, and scalar order parameter. Physical Review E, 2005, 72, 041711.	0.8	152
13	Liquid-Crystalline Materials by the Ionic Self-Assembly Route. Molecular Crystals and Liquid Crystals, 2006, 450, 55/[255]-65/[265].	0.4	11
14	Hypothesis of Dye Aggregation in a Nematic Liquid Crystal: From Experiment to a Model of the Enhanced Light-Director Interaction. Molecular Crystals and Liquid Crystals, 2006, 454, 145/[547]-156/[558].	0.4	18
15	Lyotropic liquid crystal as a real-time detector of microbial immune complexes. Letters in Applied Microbiology, 2006, 43, 27-32.	1.0	42
16	X-ray microscopy study of chromonic liquid crystal dry film texture. Physical Review E, 2007, 76, 061703.	0.8	44
17	Phase-Tunable Fluorophores Based upon Benzobis(imidazolium) Salts. Journal of the American Chemical Society, 2007, 129, 14550-14551.	6.6	118
18	End-to-End Stacking and Liquid Crystal Condensation of 6– to 20–Base Pair DNA Duplexes. Science, 2007, 318, 1276-1279.	6.0	370
19	Chromonic/Silica Nanohybrids:  Synthesis and Macroscopic Alignment. Langmuir, 2007, 23, 12350-12355.	1.6	24

#	ARTICLE	IF	CITATIONS
20	Water-in-Water Emulsions Stabilized by Non-Amphiphilic Interactions:Â Polymer-Dispersed Lyotropic Liquid Crystals. Langmuir, 2007, 23, 1453-1458.	1.6	56
21	Fluorinated liquid crystals – properties and applications. Chemical Society Reviews, 2007, 36, 2070.	18.7	704
22	Highly Fluorescent Lyotropic Mesophases and Organogels Based on Jâ€Aggregates of Coreâ€√wisted Perylene Bisimide Dyes. Chemistry - A European Journal, 2008, 14, 8074-8078.	1.7	169
23	Nanofibers and Lyotropic Liquid Crystals from a Class of Selfâ€Assembling βâ€Peptides. Angewandte Chemie - International Edition, 2008, 47, 1241-1244.	7.2	96
25	Chromonic liquid crystals: properties and applications as functional materials. Chemical Communications, 2008, , 1957.	2,2	157
26	Functional Lyotropic Liquid Crystal Materials. , 2007, , 181-222.		60
27	Chromonic Liquid Crystal Formation by Edicol Sunset Yellow. Journal of Physical Chemistry B, 2008, 112, 14628-14636.	1.2	92
28	Photoalignment and patterning of a chromonic–silica nanohybrid on photocrosslinkable polymer thin films. Journal of Materials Chemistry, 2008, 18, 3259.	6.7	20
29	Controllable Side-by-Side and End-to-End Assembly of Au Nanorods by Lyotropic Chromonic Materials. Langmuir, 2008, 24, 13833-13837.	1.6	111
30	Aggregation Behavior and Chromonic Liquid Crystal Phase of a Dye Derived from Naphthalenecarboxylic Acid. Journal of Physical Chemistry B, 2008, 112, 9883-9889.	1.2	46
31	Liquid crystal ordering of DNA and RNA oligomers with partially overlapping sequences. Journal of Physics Condensed Matter, 2008, 20, 494214.	0.7	34
32	Effects of Anthraquinone Dye Aggregation on Selective Reflection Spectra of Cholesteric Liquid Crystal. Molecular Crystals and Liquid Crystals, 2008, 496, 202-211.	0.4	6
33	Surface-mediated photoalignment of organic/inorganic nanohybrids. Journal of the Ceramic Society of Japan, 2008, 116, 361-368.	0.5	3
34	Light-directed Dynamic Structure Formation and Alignment in Photoresponsive Thin Films. Chemistry Letters, 2008, 37, 484-489.	0.7	33
35	<i>Phase Transitions</i> and recent advances in liquid-crystals research. Phase Transitions, 2009, 82, 831-849.	0.6	11
37	Supramolecular Polymers and Chromonic Mesophases Selfâ€Organized from Phosphorescent Cationic Organoplatinum(II) Complexes in Water. Angewandte Chemie - International Edition, 2009, 48, 7621-7625.	7.2	173
38	Concentration, temperature, and mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"> <mml:mrow><mml:mi>p</mml:mi><mml:mtext>H</mml:mtext></mml:mrow> depe of sunset-yellow aggregates in aqueous solutions: An x-ray investigation. Physical Review E, 2009, 80, 041703.	ndence 0.8	48
39	Aggregate Structure and Free Energy Changes in Chromonic Liquid Crystals. Molecular Crystals and Liquid Crystals, 2009, 509, 9/[751]-20/[762].	0.4	50

#	Article	IF	Citations
40	Polymer-Assisted Synthesis of Two-Dimensional Silver Meso-Structures. Journal of Physical Chemistry C, 2009, 113, 11198-11203.	1.5	13
41	Nonamphiphilic Assembly in Water: Polymorphic Nature, Thread Structure, and Thermodynamic Incompatibility. Journal of the American Chemical Society, 2009, 131, 7430-7443.	6.6	54
42	Light-Responsive 2-D Motions and Manipulations in Azobenzene-Containing Liquid Crystalline Polymer Materials., 0,, 273-302.		2
43	Molecular aggregation and chromonic liquid crystals. Liquid Crystals, 2010, 37, 701-710.	0.9	66
45	Tetrakis(arylisocyanide) Rhodium(I) Salts in Water: NIR Luminescent and Conductive Supramolecular Polymeric Nanowires with Hierarchical Organization. Angewandte Chemie - International Edition, 2010, 49, 9968-9971.	7.2	45
46	NMR Characterization of the Aggregation State of the Azo Dye Sunset Yellow in the Isotropic Phase. Journal of Physical Chemistry B, 2010, 114, 10032-10038.	1.2	47
47	Controlling Thread Assemblies of Pharmaceutical Compounds in Liquid Crystal Phase by Using Functionalized Nanotopography. Chemistry of Materials, 2010, 22, 2434-2441.	3.2	20
48	Noncovalent Polymerization and Assembly in Water Promoted by Thermodynamic Incompatibility. Journal of Physical Chemistry B, 2010, 114, 10357-10367.	1.2	12
49	Aggregation Properties of the Chromonic Liquid Crystal Benzopurpurin 4B. Journal of Physical Chemistry B, 2010, 114, 1888-1896.	1,2	35
50	Molecular Order in a Chromonic Liquid Crystal: A Molecular Simulation Study of the Anionic Azo Dye Sunset Yellow. Journal of the American Chemical Society, 2010, 132, 7794-7802.	6.6	119
51	Self-assembly, condensation, and order in aqueous lyotropic chromonic liquid crystals crowded with additives. Soft Matter, 2010, 6, 4157.	1,2	67
52	Linear aggregation and liquid-crystalline order: comparison of Monte Carlo simulation and analytic theory. Journal of Materials Chemistry, 2010, 20, 10366.	6.7	63
53	Surface Alignment and Anchoring Transitions in Nematic Lyotropic Chromonic Liquid Crystal. Physical Review Letters, 2010, 105, 017801.	2.9	68
54	Discotic nematic liquid crystals: science and technology. Chemical Society Reviews, 2010, 39, 264-285.	18.7	270
55	Chromonic review. Journal of Materials Chemistry, 2010, 20, 10071.	6.7	191
56	Lyotropic chromonic liquid crystal semiconductors for water-solution processable organic electronics. Applied Physics Letters, 2010, 97, .	1.5	57
57	Shear induced ordering in branched living polymer solutions. Soft Matter, 2010, 6, 489-492.	1.2	15
58	A novel thin film polarizer from photocurable non-aqueous lyotropic chromonic liquid crystal solutions. Journal of Materials Chemistry, 2011, 21, 2074.	6.7	41

#	ARTICLE	IF	CITATIONS
59	Structural Variations on Self-Assembly and Macroscopic Properties of 1,4,5,8-Naphthalene-diimide Chromophores. Chemistry of Materials, 2011, 23, 95-105.	3.2	86
60	Chromonic Liquid Crystalline Phases of Pinacyanol Acetate: Characterization and Use as Templates for the Preparation of Mesoporous Silica Nanofibers. Langmuir, 2011, 27, 3067-3073.	1.6	35
61	Condensation of Self-Assembled Lyotropic Chromonic Liquid Crystal Sunset Yellow in Aqueous Solutions Crowded with Polyethylene Glycol and Doped with Salt. Langmuir, 2011, 27, 4164-4175.	1.6	67
62	Lyotropic Liquid Crystals Formed from ACHC-Rich $\hat{I}^2$ -Peptides. Journal of the American Chemical Society, 2011, 133, 13604-13613.	6.6	56
64	Color-tunable anisotropic optical films fabricated using perylene diimide mixed with naphthalene benzimidazole. Thin Solid Films, 2011, 520, 486-490.	0.8	7
65	Molecular interaction of oxazine dyes in aqueous solution: Temperature dependent molecular disposition of the aggregates. Journal of Molecular Liquids, 2011, 164, 250-256.	2.3	8
66	Discotic Liquid Crystals for Opto-Electronic Applications. Chemistry of Materials, 2011, 23, 378-396.	3.2	451
67	Chromonic liquid crystalline phases. Liquid Crystals, 2011, 38, 1663-1681.	0.9	146
68	Polymerâ€Stabilized Chromonic Liquidâ€Crystalline Polarizer. Advanced Functional Materials, 2011, 21, 2129-2139.	7.8	34
69	Pâ€138: Plasma Beam Alignment of Lyotropic Chromonic Liquid Crystals. Digest of Technical Papers SID International Symposium, 2011, 42, 1627-1629.	0.1	2
70	Chiral symmetry breaking by spatial confinement in tactoidal droplets of lyotropic chromonic liquid crystals. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 5163-5168.	3.3	154
71	Chromonics: Reviewing a High-performance Self-assembling Structure. Indian Chemical Engineer, 2011, 53, 84-94.	0.9	4
73	Alignment of Discotic Lyotropic Liquid Crystals at Hydrophobic and Hydrophilic Self-Assembled Monolayers. Journal of Physical Chemistry C, 2012, 116, 12627-12635.	1.5	19
74	A macroscopically oriented lyotropic chromonic liquid crystalline nanofiber mat embedding self-assembled Sunset-Yellow FCF nanocolumns. Journal of Materials Chemistry, 2012, 22, 13477.	6.7	10
75	Aggregation, pretransitional behavior, and optical properties in the isotropic phase of lyotropic chromonic liquid crystals studied in high magnetic fields. Soft Matter, 2013, 9, 9487.	1.2	18
76	Versatility of photoalignment techniques: From nematics to a wide range of functional materials. Polymer, 2013, 54, 6053-6072.	1.8	164
77	Lyotropic Supramolecular Helical Columnar Phases Formed by <i>C</i> <sub>3</sub> ‧ymmetric and Unsymmetric Rigid Molecules. Chemistry - A European Journal, 2013, 19, 685-690.	1.7	24
78	Stereochemical Control of Nonamphiphilic Lyotropic Liquid Crystals: Chiral Nematic Phase of Assemblies Separated by Six Nanometers of Aqueous Solvents. Journal of Physical Chemistry B, 2013, 117, 7133-7143.	1.2	19

#	ARTICLE	IF	Citations
79	Mesophase Formation in Binary Mixtures of Berberine and Glacial Acetic Acid. Molecular Crystals and Liquid Crystals, 2013, 570, 101-108.	0.4	11
80	In Situ Size Exclusion Chromatographic NMR of Sunset Yellow FCF in Solution. Journal of Physical Chemistry C, 2013, 117, 17503-17508.	1.5	6
81	Photopatterned Coatable Polarizer for Flexible Display. Japanese Journal of Applied Physics, 2013, 52, 05DB12.	0.8	8
82	Charge carrier trapping in highly-ordered lyotropic chromonic liquid crystal films based on ionic perylene diimide derivatives. EPJ Applied Physics, 2014, 68, 30201.	0.3	5
83	Investigating the interaction of sunset yellow aggregates and 6â€fluoroâ€2â€naphthoic acid: increasing probe molecule complexity. Magnetic Resonance in Chemistry, 2014, 52, 435-439.	1.1	4
84	Controlled release of folic acid through liquid-crystalline folate nanoparticles. Materials Science and Engineering C, 2014, 44, 352-361.	3.8	4
85	Unconventionally shaped chromonic liquid crystals formed by novel silver( <scp>i</scp> ) complexes. Journal of Materials Chemistry C, 2014, 2, 8780-8788.	2.7	13
86	Co-Existent Biphasic Region of Nematic and Columnar Smectic Phases in Binary Mixture of Berberine and Alizarin Dye. Molecular Crystals and Liquid Crystals, 2014, 592, 91-98.	0.4	2
87	Self-assembly and mesophase formation in a non-ionic chromonic liquid crystal system: insights from dissipative particle dynamics simulations. Physical Chemistry Chemical Physics, 2014, 16, 23074-23081.	1.3	28
88	Aggregation of Anthraquinone Dye Molecules in a Nematic Liquid Crystal. Molecular Crystals and Liquid Crystals, 2014, 589, 96-104.	0.4	3
89	Disodium cromoglycate: exploiting its properties as a NMR weak-aligning medium for small organic molecules. Organic and Biomolecular Chemistry, 2014, 12, 1957-1965.	1.5	32
90	Optical Characterization of Lyotropic Chromonic Liquid Crystals. Molecular Crystals and Liquid Crystals, 2014, 593, 43-50.	0.4	5
91	Structural Correspondence of Solution, Liquid Crystal, and Crystalline Phases of the Chromonic Mesogen Sunset Yellow. Crystal Growth and Design, 2014, 14, 4166-4176.	1.4	21
95	Robust Ordered Bundles of Porous Helical Nanotubes Assembled from Fully Rigid Ionic Benzeneâ€1,3,5â€tricarboxamides. Chemistry - A European Journal, 2015, 21, 15388-15394.	1.7	6
96	Influence of Structural Isomerism and Fluorine Atom Substitution on the Self-Association of Naphthoic Acid. Journal of Physical Chemistry B, 2015, 119, 6703-6710.	1.2	4
97	Chromonic liquid crystalline phase transition involving a biphasic region of nematic and hexagonal phases. Phase Transitions, 2015, 88, 183-191.	0.6	3
98	Aggregated Columnar Biphasic Region of Lyotropic Chromonic Liquid Crystalline Phase. Molecular Crystals and Liquid Crystals, 2015, 608, 157-165.	0.4	0
99	Co-existent Biphasic Region of Nematic Phase in Binary Mixture of Abietic Acid and Glacial Acetic Acid. Molecular Crystals and Liquid Crystals, 2015, 609, 61-69.	0.4	2

#	Article	IF	CITATIONS
100	Optimizing polarization efficiency of optically anisotropic films cast from lyotropic chromonic liquid crystals on surface-modified triacetyl cellulose films. Progress in Organic Coatings, 2015, 85, 38-45.	1.9	2
101	The influence of polar additives on chromonic mesophase formation of Edicol Sunset Yellow. Liquid Crystals, 0, , 1-11.	0.9	2
102	Spontaneous emergence of chirality in achiral lyotropic chromonic liquid crystals confined to cylinders. Nature Communications, 2015, 6, 8067.	5.8	103
103	The influence of sodium chloride and urea on chromonic liquid crystals formed by CI Acid Red 266. Liquid Crystals, 0, , 1-8.	0.9	1
104	Polarization efficiency enhancement of anisotropic films cast from yellow lyotropic chromonic liquid crystal using its coupled core structure. Thin Solid Films, 2015, 589, 798-804.	0.8	2
105	Chromonic liquid crystals formed by CI Acid Red 266 and related structures. Liquid Crystals, 2015, 42, 1169-1178.	0.9	6
106	Deriving binary phase diagrams for chromonic materials in water mixtures via fluorescence spectroscopy: cromolyn and water. Physical Chemistry Chemical Physics, 2015, 17, 1047-1052.	1.3	4
107	Thermodynamics of the self-assembly of non-ionic chromonic molecules using atomistic simulations. The case of TP6EO2M in aqueous solution. Soft Matter, 2015, 11, 680-691.	1.2	27
108	An Introduction to the Physics of Liquid Crystals. , 2016, , 307-340.		2
109	Phase Transition and Optical Characterization of Mesophase Stability of Nematic and Columnar Biphasic Regions. Molecular Crystals and Liquid Crystals, 2016, 626, 124-129.	0.4	0
110	A Supramolecular Ice Growth Inhibitor. Journal of the American Chemical Society, 2016, 138, 13396-13401.	6.6	83
111	Responsive self-assembled nanostructured lipid systems for drug delivery and diagnostics. Journal of Colloid and Interface Science, 2016, 484, 320-339.	5.0	111
112	Formation of complex self-assembled aggregates in non-ionic chromonics: dimer and trimer columns, layer structures and spontaneous chirality. Soft Matter, 2016, 12, 8588-8594.	1.2	11
113	Initiatorless Photopolymerization of Liquid Crystal Monomers. ACS Applied Materials & Company (2016), 8, 28040-28046.	4.0	27
114	Tunable depletion potentials driven by shape variation of surfactant micelles. Physical Review E, 2016, 93, 050601.	0.8	16
115	Optical and electro-optical studies on liquid crystalline materials. Molecular Crystals and Liquid Crystals, 2016, 631, 64-68.	0.4	0
116	Optical density and ultrasonic measurements of lyotropic chromonic phase of liquid crystalline materials. Molecular Crystals and Liquid Crystals, 2016, 631, 92-98.	0.4	1
118	Self-assembly of thiacyanine dyes in water for the synthesis of active hybrid nanofibres. Liquid Crystals, 2016, 43, 473-483.	0.9	10

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119	Molecular dynamics of dilute binary chromonic liquid crystal mixtures. Molecular Systems Design and Engineering, 2017, 2, 223-234.	1.7	11
120	The Emergent Nematic Phase in Ionic Chromonic Liquid Crystals. Journal of Physical Chemistry B, 2017, 121, 6691-6698.	1.2	9
121	Discotic Liquid Crystals with Graphene: Supramolecular Selfâ€assembly to Applications. Particle and Particle Systems Characterization, 2017, 34, 1700003.	1.2	32
122	Development of new coarse-grained models for chromonic liquid crystals: insights from <i>top-down</i>	0.9	8
123	Chiral amplification of disodium cromoglycate chromonics induced by a codeine derivative. Soft Matter, 2017, 13, 6810-6815.	1.2	9
124	Nanoparticle formulation having ability to control the release of protein for drug delivery application. Materials Science and Engineering C, 2017, 70, 327-333.	3.8	4
125	Chiral lyotropic chromonic liquid crystals composed of disodium cromoglycate doped with water-soluble chiral additives. Soft Matter, 2018, 14, 1511-1516.	1.2	25
126	Cylindrical nematic liquid crystal shell: effect of saddle-splay elasticity. Soft Matter, 2018, 14, 9005-9011.	1.2	25
127	On-Demand Control of Phase Transition and Orientation of Organic-Inorganic Complex Lyotropic Liquid Crystals. Kobunshi Ronbunshu, 2018, 75, 421-432.	0.2	0
128	Macromolecular crowding for materials-directed controlled self-assembly. Journal of Materials Chemistry B, 2018, 6, 6344-6359.	2.9	34
129	Order parameters and time evolution of mesophases in the lyotropic chromonic liquid crystal Sunset Yellow FCF by DNMR. Soft Matter, 2018, 14, 7277-7286.	1.2	4
130	Elastic Constants of Chromonic Liquid Crystals. Macromolecules, 2018, 51, 5409-5419.	2.2	12
131	Lyotropic Chromonic Mesophases Derived from Metal–Organic Complexes. Chemistry - an Asian Journal, 2018, 13, 3092-3105.	1.7	5
132	Polymeric Nematics of Associating Rods: Phase Behavior, Chiral Propagation, and Elasticity. Macromolecules, 2019, 52, 7994-8005.	2.2	5
133	Interaction of supramolecular aggregates and the enhanced optical torque on the director in a dye doped nematic liquid crystal. Soft Matter, 2019, 15, 8886-8895.	1.2	2
134	Mesostructure and orientation control of lyotropic liquid crystals in a polysiloxane matrix. Polymer Journal, 2019, 51, 989-996.	1.3	11
135	Using Small-Molecule Probes to Investigate Aggregation of Sunset Yellow FCF: What are the Concentration Limits?. Journal of Physical Chemistry B, 2019, 123, 8987-8994.	1.2	1
136	Effects of Sodium and Magnesium Cations on the Aggregation of Chromonic Solutions Using Molecular Dynamics. Journal of Physical Chemistry B, 2019, 123, 1718-1732.	1.2	9

#	ARTICLE	IF	CITATIONS
137	Effect of the anionic azo dye Sunset Yellow in lyotropic mixtures with uniaxial and biaxial nematic phases. Journal of Molecular Liquids, 2020, 318, 114010.	2.3	12
138	Humidity sensing with printable films of lyotropic chromonic liquid crystals. Applied Physics Letters, 2020, 117, 071902.	1.5	3
139	Molecular Ordering Behavior of Lyotropic Chromonic Liquid Crystals on a Polyimide Alignment Layer. Langmuir, 2020, 36, 5778-5786.	1.6	3
140	Positional Order in the Columnar Phase of Lyotropic Chromonic Liquid Crystals Mediated by Ionic Additives. ACS Omega, 2020, 5, 9937-9943.	1.6	0
141	Surface forces and stratification in foam films formed with bile salts. Molecular Systems Design and Engineering, 2021, 6, 520-533.	1.7	9
142	Liquid Crystals: Role of Transition Metal Ions in the Design of Metallomesogens. , 2021, , 241-313.		2
144	Design of nematic liquid crystals to control microscale dynamics. Liquid Crystals Reviews, 2020, 8, 59-129.	1.1	22
145	Optically Active Lyotropic Chromonic Liquid Crystal Based on Green Perylene Bisimide. Bulletin of the Korean Chemical Society, 2010, 31, 2705-2708.	1.0	1
146	New Strategies for Light-Induced Alignment and Switching in Liquid Crystalline Polymers. , 2017, , 421-441.		0
147	Ion Solvation and Transport in Ionic Liquids and Ionogels. RSC Smart Materials, 2017, , 103-135.	0.1	0
148	Anchoring-induced nonmonotonic velocity versus temperature dependence of motile bacteria in a lyotropic nematic liquid crystal. Physical Review E, 2021, 104, 054603.	0.8	1
150	The helical twisting power of chiral dopants in lyotropic chromonic liquid crystals. Liquid Crystals, 2023, 50, 110-120.	0.9	2
151	Mixing of Excitons in Nanostructures Based on a Perylene Dye with CdTe Quantum Dots. Materials, 2023, 16, 552.	1.3	1