Arri PriimÃ¤gi

List of Publications by Year
in descending order

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146 papers	10,733 citations	50170 46 h-index	31759 101 g-index
156 all docs	156 docs citations	156 times ranked	10149 citing authors

#	Article	IF	Citations
1	The Halogen Bond. Chemical Reviews, 2016, 116, 2478-2601.	23.0	2,906
2	The Halogen Bond in the Design of Functional Supramolecular Materials: Recent Advances. Accounts of Chemical Research, 2013, 46, 2686-2695.	7.6	728
3	A light-driven artificial flytrap. Nature Communications, 2017, 8, 15546.	5.8	499
4	Azobenzene photomechanics: prospects and potential applications. Polymer Bulletin, 2012, 69, 967-1006.	1.7	339
5	Selfâ€Regulating Iris Based on Lightâ€Actuated Liquid Crystal Elastomer. Advanced Materials, 2017, 29, 1701814.	11.1	288
6	Light Robots: Bridging the Gap between Microrobotics and Photomechanics in Soft Materials. Advanced Materials, 2018, 30, e1703554.	11.1	270
7	Azopolymerâ€based microâ€and nanopatterning for photonic applications. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 163-182.	2.4	256
8	Bioinspired underwater locomotion of light-driven liquid crystal gels. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5125-5133.	3.3	237
9	Reconfigurable photoactuator through synergistic use of photochemical and photothermal effects. Nature Communications, 2018, 9, 4148.	5.8	233
10	Nearâ€Infrared Lightâ€Driven Shapeâ€Morphing of Programmable Anisotropic Hydrogels Enabled by MXene Nanosheets. Angewandte Chemie - International Edition, 2021, 60, 3390-3396.	7.2	213
11	Lightâ€Driven, Caterpillarâ€Inspired Miniature Inching Robot. Macromolecular Rapid Communications, 2018, 39, 1700224.	2.0	180
12	Halogen Bonding versus Hydrogen Bonding in Driving Selfâ€Assembly and Performance of Lightâ€Responsive Supramolecular Polymers. Advanced Functional Materials, 2012, 22, 2572-2579.	7.8	178
13	An Artificial Nocturnal Flower via Humidityâ€Gated Photoactuation in Liquid Crystal Networks. Advanced Materials, 2019, 31, e1805985.	11.1	154
14	Kirigamiâ€Based Lightâ€Induced Shapeâ€Morphing and Locomotion. Advanced Materials, 2020, 32, e1906233.	11.1	147
15	Recent twists in photoactuation and photoalignment control. Journal of Materials Chemistry C, 2014, 2, 7155-7162.	2.7	142
16	Light-fuelled freestyle self-oscillators. Nature Communications, 2019, 10, 5057.	5.8	142
17	Stimulus-driven liquid metal and liquid crystal network actuators for programmable soft robotics. Materials Horizons, 2021, 8, 2475-2484.	6.4	142
18	Polymerâˆ'Dye Complexes:Â A Facile Method for High Doping Level and Aggregation Control of Dye Molecules. Chemistry of Materials, 2005, 17, 5798-5802.	3.2	114

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19	Hydrogen-Bonded Polymerâ˜Azobenzene Complexes: Enhanced Photoinduced Birefringence with High Temporal Stability through Interplay of Intermolecular Interactions. Chemistry of Materials, 2008, 20, 6358-6363.	3.2	111
20	Optical Interference Lithography Using Azobenzeneâ€Functionalized Polymers for Microâ€and Nanopatterning of Silicon. Advanced Materials, 2011, 23, 4174-4177.	11.1	103
21	Location of the Azobenzene Moieties within the Cross-Linked Liquid-Crystalline Polymers Can Dictate the Direction of Photoinduced Bending. ACS Macro Letters, 2012, 1, 96-99.	2.3	98
22	Hole-Transporting Materials for Printable Perovskite Solar Cells. Materials, 2017, 10, 1087.	1.3	94
23	Supramolecular design principles for efficient photoresponsive polymerâ€“azobenzene complexes. Journal of Materials Chemistry C, 2018, 6, 2168-2188.	2.7	94
24	Supramolecular hierarchy among halogen and hydrogen bond donors in light-induced surface patterning. Journal of Materials Chemistry C, 2015, 3, 759-768.	2.7	87
25	Simultaneous Analysis of Optical and Mechanical Properties of Cross-Linked Azobenzene-Containing Liquid-Crystalline Polymer Films. ACS Applied Materials & Interfaces, 2011, 3, 4190-4196.	4.0	86
26	Local polarization of tightly focused unpolarized light. Nature Photonics, 2007, 1, 228-231.	15.6	80
27	Photoalignment and Surfaceâ€Reliefâ€Grating Formation are Efficiently Combined in Lowâ€Molecularâ€Weight Halogenâ€Bonded Complexes. Advanced Materials, 2012, 24, OP345-52.	11.1	80
28	Efficient Surface-Relief Gratings in Hydrogen-Bonded Polymerâ˜Azobenzene Complexes. ACS Applied Materials & Interfaces, 2009, 1, 1183-1189.	4.0	71
29	Photoinduced surface-relief gratings in films of supramolecular polymerâ€“bisazobenzene complexes. Journal of Materials Chemistry, 2010, 20, 5260.	6.7	70
30	Enhanced photoinduced birefringence in polymer-dye complexes: Hydrogen bonding makes a difference. Applied Physics Letters, 2007, 90, 121103.	1.5	68
31	Photoreversible Soft Azo Dye Materials: Toward Optical Control of Bioâ€Interfaces. Advanced Optical Materials, 2019, 7, 1900091.	3.6	63
32	Programming Photoresponse in Liquid Crystal Polymer Actuators with Laser Projector. Advanced Optical Materials, 2018, 6, 1700949.	3.6	62
33	Photoresponsive Halogen-Bonded Liquid Crystals: The Role of Aromatic Fluorine Substitution. Chemistry of Materials, 2019, 31, 462-470.	3.2	60
34	Redoxâ€Active, Organometallic Surfaceâ€Relief Gratings from Azobenzeneâ€Containing Polyferrocenylsilane Block Copolymers. Advanced Materials, 2012, 24, 926-931.	11.1	59
35	Single-layer one-dimensional nonpolarizing guided-mode resonance filters under normal incidence. Optics Letters, 2011, 36, 2411.	1.7	57
36	Surface-Relief Gratings and Stable Birefringence Inscribed Using Light of Broad Spectral Range in Supramolecular Polymer-Bisazobenzene Complexes. Journal of Physical Chemistry C, 2012, 116, 2363-2370.	1.5	57

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37	Are Two Azo Groups Better than One? Investigating the Photoresponse of Polymer-Bisazobenzene Complexes. Chemistry of Materials, 2014, 26, 5089-5096.	3.2	57
38	Superfluorinated Ionic Liquid Crystals Based on Supramolecular, Halogenâ€Bonded Anions. Angewandte Chemie - International Edition, 2016, 55, 6300-6304.	7.2	56
39	Efficient surface structuring and photoalignment of supramolecular polymerâ€“azobenzene complexes through rational chromophore design. Journal of Materials Chemistry, 2011, 21, 15437.	6.7	55
40	Fast Switching of Bright Whiteness in Channeled Hydrogel Networks. Advanced Functional Materials, 2020, 30, 2000754.	7.8	53
41	Highâ€Contrast Photoswitching of Nonlinear Optical Response in Crosslinked Ferroelectric Liquidâ€Crystalline Polymers. Advanced Materials, 2012, 24, 6410-6415.	11.1	52
42	Light-Driven Surface Patterning of Supramolecular Polymers with Extremely Low Concentration of Photoactive Molecules. ACS Macro Letters, 2014, 3, 1196-1200.	2.3	52
43	Benchmarking DFT methods with small basis sets for the calculation of halogen-bond strengths. Journal of Molecular Modeling, 2017, 23, 50.	0.8	51
44	Associative Learning by Classical Conditioning in Liquid Crystal Network Actuators. Matter, 2020, 2, 194-206.	5.0	51
45	Hierarchical Self-Assembly of Halogen-Bonded Block Copolymer Complexes into Upright Cylindrical Domains. CheM, 2017, 2, 417-426.	5.8	49
46	Phenothiazine-Based Hole-Transporting Materials toward Eco-friendly Perovskite Solar Cells. ACS Applied Energy Materials, 2019, 2, 3021-3027.	2.5	49
47	Controlling azobenzene photoswitching through combined ortho-fluorination and -amination. Chemical Communications, 2017, 53, 12520-12523.	2.2	48
48	Halide Perovskite Nanocrystals for Nextâ€Generation Optoelectronics. Small, 2019, 15, e1900801.	5.2	48
49	Programmable responsive hydrogels inspired by classical conditioning algorithm. Nature Communications, 2019, 10, 3267.	5.8	47
50	From partial to complete optical erasure of azobenzeneâ€“polymer gratings: effect of molecular weight. Journal of Materials Chemistry C, 2015, 3, 11011-11016.	2.7	46
51	Efficient Light-Induced Phase Transitions in Halogen-Bonded Liquid Crystals. Chemistry of Materials, 2016, 28, 8314-8321.	3.2	46
52	Halogen bonding enhances nonlinear optical response in poled supramolecular polymers. Journal of Materials Chemistry C, 2015, 3, 3003-3006.	2.7	44
53	Halogenâ€Bonded Holeâ€Transport Material Suppresses Charge Recombination and Enhances Stability of Perovskite Solar Cells. Advanced Energy Materials, 2021, 11, 2101553.	10.2	44
54	Digital holographic microscopy for real-time observation of surface-relief grating formation on azobenzene-containing films. Scientific Reports, 2020, 10, 19642.	1.6	42

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55	Light-Fuelled Transport of Large Dendrimers and Proteins. Journal of the American Chemical Society, 2014, 136, 6850-6853.	6.6	37
56	Thionation Enhances the Performance of Polymeric Dopantâ€Free Holeâ€Transporting Materials for Perovskite Solar Cells. Advanced Materials Interfaces, 2019, 6, 1901036.	1.9	36
57	Nanoindentation study of light-induced softening of supramolecular and covalently functionalized azo polymers. Journal of Materials Chemistry C, 2013, 1, 2806.	2.7	34
58	Facile strain analysis of largely bending films by a surface-labelled grating method. Scientific Reports, 2014, 4, 5377.	1.6	33
59	Effect of head group size on the photoswitching applications of azobenzene Disperse Red 1 analogues. Journal of Materials Chemistry C, 2014, 2, 7505-7512.	2.7	32
60	Multicomponent Petasisâ€boronо Mannich Preparation of Alkylaminophenols and Antimicrobial Activity Studies. ChemMedChem, 2016, 11, 2015-2023.	1.6	31
61	Controlling the shape of Janus nanostructures through supramolecular modification of ABC terpolymer bulk morphologies. Polymer, 2016, 107, 456-465.	1.8	31
62	Thermal Isomerization of Hydroxyazobenzenes as a Platform for Vapor Sensing. ACS Macro Letters, 2018, 7, 381-386.	2.3	31
63	ortho-Fluorination of azophenols increases the mesophase stability of photoresponsive hydrogen-bonded liquid crystals. Journal of Materials Chemistry C, 2018, 6, 9958-9963.	2.7	31
64	Azobenzene-based sinusoidal surface topography drives focal adhesion confinement and guides collective migration of epithelial cells. Scientific Reports, 2020, 10, 15329.	1.6	30
65	High-Modulation-Depth Surface Relief Gratings Using sâ€“s Polarization Configuration in Supramolecular Polymerâ€“Azobenzene Complexes. Journal of Physical Chemistry C, 2014, 118, 23279-23284.	1.5	29
66	Structurally Controlled Dynamics in Azobenzene-Based Supramolecular Self-Assemblies in Solid State. Macromolecules, 2016, 49, 4095-4101.	2.2	29
67	Large-area arrays of three-dimensional plasmonic subwavelength-sized structures from azopolymer surface-relief gratings. Materials Horizons, 2014, 1, 74-80.	6.4	28
68	Crystallisation-enhanced bulk hole mobility in phenothiazine-based organic semiconductors. Scientific Reports, 2017, 7, 46268.	1.6	28
69	SUPPRESSION OF CHROMOPHORE AGGREGATION IN AMORPHOUS POLYMERIC MATERIALS: TOWARDS MORE EFFICIENT PHOTORESPONSIVE BEHAVIOR. Journal of Nonlinear Optical Physics and Materials, 2010, 19, 57-73.	1.1	27
70	Photomechanical Energy Transfer to Photopassive Polymers through Hydrogen and Halogen Bonds. Macromolecules, 2015, 48, 7535-7542.	2.2	27
71	Multistage Reversible T_g Photomodulation and Hardening of Hydrazone-Containing Polymers. Journal of the American Chemical Society, 2021, 143, 16348-16353.	6.6	26
72	Lightâ€Fueled Polymer Film Capable of Directional Crawling, Frictionâ€Controlled Climbing, and Selfâ€Sustained Motion on a Human Hair. Advanced Science, 2022, 9, e2103090.	5.6	26

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73	Halogen-Bonded Photoresponsive Materials. Topics in Current Chemistry, 2014, 359, 147-166.	4.0	25
74	Reconfiguring Gaussian Curvature of Hydrogel Sheets with Photoswitchable Hostâ€“Guest Interactions. ACS Macro Letters, 2020, 9, 1172-1177.	2.3	24
75	Optically Controlled Latching and Launching in Soft Actuators. Advanced Functional Materials, 2022, 32, .	7.8	24
76	Photoresponsive ionic liquid crystals assembled via halogen bond: en route towards light-controllable ion transporters. Faraday Discussions, 2017, 203, 407-422.	1.6	23
77	Halogen-Bond-Assisted Photoluminescence Modulation in Carbazole-Based Emitter. Scientific Reports, 2018, 8, 14431.	1.6	23
78	Low-dimensional formamidinium lead perovskite architectures via controllable solvent intercalation. Journal of Materials Chemistry C, 2019, 7, 3945-3951.	2.7	23
79	Tunable Photomechanics in Diarylethene-Driven Liquid Crystal Network Actuators. ACS Applied Materials & Interfaces, 2020, 12, 47939-47947.	4.0	23
80	Expanding excitation wavelengths for azobenzene photoswitching into the near-infrared range via endothermic triplet energy transfer. Chemical Science, 2021, 12, 7504-7509.	3.7	23
81	Halogen-bond driven self-assembly of triangular macrocycles. New Journal of Chemistry, 2018, 42, 10467-10471.	1.4	22
82	Fluorescence enhancement of quinolines by protonation. RSC Advances, 2020, 10, 29385-29393.	1.7	22
83	Directional Growth of Human Neuronal Axons in a Microfluidic Device with Nanotopography on Azobenzeneâ€Based Material. Advanced Materials Interfaces, 2021, 8, 2100048.	1.9	22
84	Azobenzene-based difunctional halogen-bond donor: towards the engineering of photoresponsive co-crystals. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2014, 70, 149-156.	0.5	21
85	Viewpoint: Pavlovian Materialsâ€”Functional Biomimetics Inspired by Classical Conditioning. Advanced Materials, 2020, 32, e1906619.	11.1	21
86	Nearâ€Infrared Lightâ€Driven Shapeâ€Morphing of Programmable Anisotropic Hydrogels Enabled by MXene Nanosheets. Angewandte Chemie, 2021, 133, 3432-3438.	1.6	20
87	Mesogens with Aggregation-Induced Emission Formed by Hydrogen Bonding. , 2019, 1, 589-593.		19
88	Supramolecular control of liquid crystals by doping with halogen-bonding dyes. RSC Advances, 2017, 7, 40237-40242.	1.7	18
89	Design principles for non-reciprocal photomechanical actuation. Soft Matter, 2020, 16, 5951-5958.	1.2	17
90	High and stable photoinduced anisotropy in guestâ€“host polymer mediated by chromophore aggregation. Optics Letters, 2010, 35, 1813.	1.7	16

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91	Polymer Stabilization Enhances the Orientational Optical Nonlinearity of Oligothiopheneâ€Doped Nematic Liquid Crystals. Advanced Optical Materials, 2013, 1, 787-791.	3.6	16
92	Laser-pointer-induced self-focusing effect in hybrid-aligned dye-doped liquid crystals. Scientific Reports, 2015, 5, 9890.	1.6	16
93	Molding Optical Waveguides with Nematicons. Advanced Optical Materials, 2017, 5, 1700199.	3.6	16
94	Superfluorinated Ionic Liquid Crystals Based on Supramolecular, Halogenâ€Bonded Anions. Angewandte Chemie, 2016, 128, 6408-6412.	1.6	15
95	Periodic Surface Structures Induced by a Single Laser Beam Irradiation. Macromolecular Materials and Engineering, 2017, 302, 1600329.	1.7	15
96	All-Optical Emission Control and Lasing in Plasmonic Lattices. ACS Photonics, 2020, 7, 2850-2858.	3.2	15
97	Towards low-energy-light-driven bistable photoswitches: ortho-fluoroaminoazobenzenes. Photochemical and Photobiological Sciences, 2022, 21, 159-173.	1.6	15
98	Photoinduced surface patterning of azobenzene-containing supramolecular dendrons, dendrimers and dendronized polymers. Optical Materials Express, 2013, 3, 711.	1.6	12
99	Surface-Relief Gratings in Halogen-Bonded Polymerâ€“Azobenzene Complexes: A Concentration-Dependence Study. Molecules, 2017, 22, 1844.	1.7	11
100	A bifacial colour-tunable system via combination of a cholesteric liquid crystal network and hydrogel. Journal of Materials Chemistry C, 2020, 8, 10191-10196.	2.7	11
101	Continuously tunable polymer membrane laser. Optics Express, 2019, 27, 25634.	1.7	11
102	Humidity- and Temperature-Tunable Metalâ€“Hydrogelâ€“Metal Reflective Filters. ACS Applied Materials & Interfaces, 2021, 13, 50564-50572.	4.0	11
103	Fluorination of pyrene-based organic semiconductors enhances the performance of light emitting diodes and halide perovskite solar cells. Organic Electronics, 2020, 77, 105524.	1.4	10
104	PHOTOINDUCED BENDING UPON PULSED IRRADIATION IN AZOBENZENE-CONTAINING CROSSLINKED LIQUID-CRYSTALLINE POLYMERS. Journal of Nonlinear Optical Physics and Materials, 2011, 20, 405-413.	1.1	9
105	Halogen bonding stabilizes acis-azobenzene derivative in the solid state: a crystallographic study. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2017, 73, 227-233.	0.5	9
106	On the molecular optical nonlinearity of halogen-bond-forming azobenzenes. Physical Chemistry Chemical Physics, 2018, 20, 28810-28817.	1.3	9
107	N-Substituted Phenothiazines as Environmentally Friendly Hole-Transporting Materials for Low-Cost and Highly Stable Halide Perovskite Solar Cells. ACS Omega, 2020, 5, 23334-23342.	1.6	9
108	Multiscale Hierarchical Surface Patterns by Coupling Optical Patterning and Thermal Shrinkage. ACS Applied Materials & Interfaces, 2021, 13, 15563-15571.	4.0	9

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109	Photoelastic plasmonic metasurfaces with ultra-large near infrared spectral tuning. Materials Horizons, 2022, 9, 942-951.	6.4	9
110	Coordination networks incorporating halogen-bond donor sites and azobenzene groups. CrystEngComm, 2016, 18, 2251-2257.	1.3	8
111	Microrobotics: Light Robots: Bridging the Gap between Microrobotics and Photomechanics in Soft Materials (Adv. Mater. 24/2018). Advanced Materials, 2018, 30, 1870174.	11.1	8
112	Effect of saturation on the diffraction efficiency of holographically recorded gratings in azopolymer films. Optics Express, 2009, 17, 844.	1.7	7
113	Different chromophore concentration dependence of photoinduced birefringence and second-order susceptibility in all-optical poling. Applied Physics Letters, 2011, 99, 183309.	1.5	7
114	From Responsive Molecules to Interactive Materials. Advanced Materials, 2020, 32, e2000215.	11.1	7
115	Azobenzene Photoswitching with Near-Infrared Light Mediated by Molecular Oxygen. Journal of Physical Chemistry B, 2021, 125, 12568-12573.	1.2	7
116	Photoinduced nonlinear optical response in azobenzene-functionalized molecular glass. Optics Express, 2016, 24, 4964.	1.7	6
117	Protonation-induced fluorescence modulation of carbazole-based emitters. Materials Advances, 2022, 3, 1703-1712.	2.6	6
118	Optically controlled grasping-slipping robot moving on tubular surfaces. Multifunctional Materials, 2022, 5, 024001.	2.4	5
119	Lightâ€Responsive Bilayer Cell Culture Platform for Reversible Cell Guidance. Small Science, 2022, 2, 2100099.	5.8	5
120	Photocontrol of Supramolecular Azo-Containing Block Copolymer Thin Films during Dip-Coating: Toward Nanoscale Patterned Coatings. ACS Applied Nano Materials, 2019, 2, 3526-3537.	2.4	4
121	Humidity-Controlled Tunable Emission in a Dye-Incorporated Metalâ€“Hydrogelâ€“Metal Cavity. ACS Photonics, 2022, 9, 2287-2294.	3.2	4
122	Real-time monitoring of all-optical poling by two-beam second-harmonic generation. Optics Letters, 2006, 31, 2178.	1.7	3
123	Supramolecular guest-host systems: combining high dye doping level with low aggregation tendency. , 2006, 6331, 174.		3
124	Anisotropic Plasmon Resonance of Surface Metallic Nanostructures Prepared by Ion Beam Mixing. , 2007, , .		3
125	Photoresponsive Liquid-Crystalline Polymer Films Bilayered with an Inverse Opal Structure. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2016, 29, 145-148.	0.1	3
126	Effect of hydrogen-bond strength on photoresponsive properties of polymer-azobenzene complexes. Canadian Journal of Chemistry, 2020, 98, 531-538.	0.6	3

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127	Optically induced crossover from weak to strong coupling regime between surface plasmon polaritons and photochromic molecules. Optics Express, 2020, 28, 26509.	1.7	3
128	Polymer-dye complexes: supramolecular route toward functional optical materials. , 2006, , .		2
129			

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145	Surface Stability of Azobenzeneâ€Based Thin Films in Aqueous Environment: Lightâ€Controllable Underwater Blistering. Advanced Materials Interfaces, 2022, 9, .	1.9	0
146	Surface Stability of Azobenzeneâ€Based Thin Films in Aqueous Environment: Lightâ€Controllable Underwater Blistering (Adv. Mater. Interfaces 9/2022). Advanced Materials Interfaces, 2022, 9, .	1.9	0