

# Torsten Hegmann

## List of Publications by Citations

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93  
papers

3,154  
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33  
h-index

54  
g-index

99  
ext. papers

3,525  
ext. citations

7.2  
avg, IF

5.5  
L-index

#	Paper	IF	Citations
93	Nanoparticles in Liquid Crystals: Synthesis, Self-Assembly, Defect Formation and Potential Applications. <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , <b>2007</b> , 17, 483-508	3.2	265
92	Impact of nanoscale particles and carbon nanotubes on current and future generations of liquid crystal displays. <i>Journal of Materials Chemistry</i> , <b>2008</b> , 18, 3288		163
91	Formation of periodic stripe patterns in nematic liquid crystals doped with functionalized gold nanoparticles. <i>Journal of Materials Chemistry</i> , <b>2006</b> , 16, 4197		161
90	Nanoparticles in liquid crystals and liquid crystalline nanoparticles. <i>Topics in Current Chemistry</i> , <b>2012</b> , 318, 331-93		138
89	Quantum dots as liquid crystal dopants. <i>Journal of Materials Chemistry</i> , <b>2012</b> , 22, 22350		131
88	Effects of size, capping agent, and concentration of CdSe and CdTe quantum dots doped into a nematic liquid crystal on the optical and electro-optic properties of the final colloidal liquid crystal mixture. <i>Journal of Materials Chemistry</i> , <b>2010</b> , 20, 448-458		129
87	Multiple alignment modes for nematic liquid crystals doped with alkylthiol-capped gold nanoparticles. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2009</b> , 1, 1731-8	9.5	79
86	The Importance of Micro Segregation for Mesophase Formation: Thermotropic Columnar Mesophases of Tetrahedral and other Low-Aspect-Ratio Organic Materials. <i>Chemistry - A European Journal</i> , <b>1999</b> , 5, 1643-1660	4.8	79
85	Miscibility and alignment effects of mixed monolayer cyanobiphenyl liquid-crystal-capped gold nanoparticles in nematic cyanobiphenyl liquid crystal hosts. <i>ChemPhysChem</i> , <b>2009</b> , 10, 1211-8	3.2	75
84	Bent-core liquid crystal (LC) decorated gold nanoclusters: synthesis, self-assembly, and effects in mixtures with bent-core LC hosts. <i>Journal of Materials Chemistry</i> , <b>2008</b> , 18, 2983		71
83	Luminescence and photoconductivity in mononuclear ortho-platinated metallomesogens. <i>Journal of Materials Chemistry</i> , <b>2006</b> , 16, 1808		69
82	Characterization of cellular uptake and toxicity of aminosilane-coated iron oxide nanoparticles with different charges in central nervous system-relevant cell culture models. <i>International Journal of Nanomedicine</i> , <b>2013</b> , 8, 961-70	7.3	68
81	Nanocomposites of a nematic liquid crystal doped with magic-sized CdSe quantum dots. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 12710		67
80	Liquid crystal-gold nanoparticle composites. <i>Liquid Crystals Today</i> , <b>2011</b> , 20, 102-114	1.9	67
79	Large Area Self-Assembly of Nematic Liquid-Crystal-Functionalized Gold Nanorods. <i>Advanced Functional Materials</i> , <b>2013</b> , 23, 1393-1403	15.6	65
78	Nanoparticles: complex and multifaceted additives for liquid crystals. <i>Liquid Crystals</i> , <b>2011</b> , 38, 1495-1514	4.3	58
77	Significant Enhancement of the Chiral Correlation Length in Nematic Liquid Crystals by Gold Nanoparticle Surfaces Featuring Axially Chiral Binaphthyl Ligands. <i>ACS Nano</i> , <b>2016</b> , 10, 1552-64	16.7	57

76	Intermolecular organisation of triphenylene-based discotic mesogens by interdigitation of alkyl chains. <i>Journal of Materials Chemistry</i> , <b>2001</b> , 11, 302-311		53
75	A Versatile Method for the Reductive, One-Pot Synthesis of Bare, Hydrophilic and Hydrophobic Magnetite Nanoparticles. <i>Advanced Functional Materials</i> , <b>2011</b> , 21, 1457-1464	15.6	52
74	Chirality transfer in nematic liquid crystals doped with (S)-naproxen-functionalized gold nanoclusters: an induced circular dichroism study. <i>Journal of Materials Chemistry</i> , <b>2008</b> , 18, 374-380		52
73	Biocompatible, biodegradable and porous liquid crystal elastomer scaffolds for spatial cell cultures. <i>Macromolecular Bioscience</i> , <b>2015</b> , 15, 200-14	5.5	49
72	Chirality amplification by desymmetrization of chiral ligand-capped nanoparticles to nanorods quantified in soft condensed matter. <i>Nature Communications</i> , <b>2018</b> , 9, 3908	17.4	48
71	Magnetic field enhanced convective diffusion of iron oxide nanoparticles in an osmotically disrupted cell culture model of the blood-brain barrier. <i>International Journal of Nanomedicine</i> , <b>2014</b> , 9, 3013-26	7.3	46
70	Liquid Crystal Elastomer Microspheres as Three-Dimensional Cell Scaffolds Supporting the Attachment and Proliferation of Myoblasts. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2015</b> , 7, 14528-35	9.5	45
69	Detecting, visualizing, and measuring gold nanoparticle chirality using helical pitch measurements in nematic liquid crystal phases. <i>ACS Nano</i> , <b>2014</b> , 8, 11966-76	16.7	45
68	Molecular design at the calamitic/discotic cross-over point. Mononuclear ortho-metallated mesogens based on the combination of rod-like phenylpyrimidines and -pyridines with bent or half-disc-shaped diketonates. <i>Journal of Materials Chemistry</i> , <b>2003</b> , 13, 991-1003		45
67	Determining the composition of gold nanoparticles: a compilation of shapes, sizes, and calculations using geometric considerations. <i>Journal of Nanoparticle Research</i> , <b>2016</b> , 18, 295	2.3	41
66	Oriented Gold Nanorods and Gold Nanorod Chains within Smectic Liquid Crystal Topological Defects. <i>ACS Nano</i> , <b>2017</b> , 11, 6728-6738	16.7	38
65	Director field of birefringent stripes in liquid crystal/nanoparticle dispersions. <i>Liquid Crystals</i> , <b>2010</b> , 37, 1151-1156	2.3	37
64	Discotic Liquid Crystal-Functionalized Gold Nanorods: 2- and 3D Self-Assembly and Macroscopic Alignment as well as Increased Charge Carrier Mobility in Hexagonal Columnar Liquid Crystal Hosts Affected by Molecular Packing and Interactions. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 1180-1192	15.6	36
63	Postsynthesis racemization and place exchange reactions. Another step to unravel the origin of chirality for chiral ligand-capped gold nanoparticles. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 14201-6	16.4	36
62	One-pot synthesis of iron oxide nanoparticles with functional silane shells: a versatile general precursor for conjugations and biomedical applications. <i>Langmuir</i> , <b>2013</b> , 29, 10850-8	4	35
61	Liquid crystalline paracyclophanes and ansa compounds—series of polyether macrocycles incorporating diacetylene, phenyl, biphenyl, p-terphenyl and 2,5-diphenyl-1,3,4-thiadiazole rigid cores. <i>Journal of Materials Chemistry</i> , <b>2005</b> , 15, 1025-1034		29
60	Synthesis of liquid crystal silane-functionalized gold nanoparticles and their effects on the optical and electro-optic properties of a structurally related nematic liquid crystal. <i>ChemPhysChem</i> , <b>2014</b> , 15, 1381-94	3.2	28
59	Hydrophobic gold nanoparticles via silane conjugation: chemically and thermally robust nanoparticles as dopants for nematic liquid crystals. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2013</b> , 371, 20120256	3	28

58	Combination of molecular rods and half-discs: transition from lamellar to columnar order in multichain mononuclear ortho-palladated metallomesogens. <i>Liquid Crystals</i> , <b>2000</b> , 27, 1261-1265	2.3	27
57	Effects of hydrophilic and hydrophobic gold nanoclusters on the stability and ordering of bolaamphiphilic liquid crystals. <i>Journal of Materials Chemistry</i> , <b>2007</b> , 17, 2139		26
56	Butterfly-mesogens: para-cyclophanebased macrocyclic metallomesogens forming smectic and columnar liquid crystalline phases. <i>Journal of Materials Chemistry</i> , <b>2000</b> , 10, 2244-2248		26
55	An unusual type of polymorphism in a liquid crystal. <i>Nature Communications</i> , <b>2018</b> , 9, 714	17.4	23
54	Electroconvection in nematic liquid crystals via nanoparticle doping. <i>Nanoscale</i> , <b>2010</b> , 2, 1118-21	7.7	23
53	Heliconical-layered nanocylinders (HLNCs) hierarchical self-assembly in a unique B4 phase liquid crystal morphology. <i>Materials Horizons</i> , <b>2019</b> , 6, 959-968	14.4	23
52	Nanoparticle doping in nematic liquid crystals: distinction between surface and bulk effects by numerical simulations. <i>ChemPhysChem</i> , <b>2014</b> , 15, 1395-404	3.2	22
51	Effects of Structural Variations on the Cellular Response and Mechanical Properties of Biocompatible, Biodegradable, and Porous Smectic Liquid Crystal Elastomers. <i>Macromolecular Bioscience</i> , <b>2017</b> , 17, 1600278	5.5	22
50	Ferroelectric liquid crystals induced by atropisomeric biphenyl dopants: influence of the SmC host mixture composition. <i>Journal of Materials Chemistry</i> , <b>2004</b> , 14, 185		21
49	Biodistribution of negatively charged iron oxide nanoparticles (IONPs) in mice and enhanced brain delivery using lysophosphatidic acid (LPA). <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , <b>2016</b> , 12, 1775-1784	6	20
48	A versatile, one-pot synthesis of gold nanostars with long, well-defined thorns using a lyotropic liquid crystal template. <i>Liquid Crystals</i> , <b>2014</b> , 41, 265-276	2.3	20
47	A Dual Modulated Homochiral Helical Nanofilament Phase with Local Columnar Ordering Formed by Bent Core Liquid Crystals: Effects of Molecular Chirality. <i>Small</i> , <b>2016</b> , 12, 3944-55	11	20
46	Chiral Amplification by L-Cysteine-Capped Gold Nanoparticles in Lyotropic Chromonic Liquid Crystals. <i>ChemNanoMat</i> , <b>2017</b> , 3, 863-868	3.5	18
45	Molecular ordering in a biaxial smectic-A phase studied by scanning transmission X-ray microscopy (STXM). <i>Physical Chemistry Chemical Physics</i> , <b>2007</b> , 9, 1705-12	3.6	18
44	Chemically and thermally stable, emissive carbon dots as viable alternatives to semiconductor quantum dots for emissive nematic liquid crystal nanoparticle mixtures with lower threshold voltage. <i>Liquid Crystals</i> , <b>2016</b> , 43, 183-194	2.3	17
43	Liquid crystalline macrocycles containing phenylpyrimidine units. <i>Journal of Materials Chemistry</i> , <b>2003</b> , 13, 778-784		17
42	Biphenyl-based liquid crystals for elevated temperature processing with polymers. <i>Liquid Crystals</i> , <b>2014</b> , 41, 1473-1482	2.3	16
41	Highly Sensitive, Tunable Chirality Amplification through Space Visualized for Gold Nanorods Capped with Axially Chiral Binaphthyl Derivatives. <i>ACS Nano</i> , <b>2019</b> , 13, 10312-10326	16.7	15

40	Aqueous synthesis of polyhedral "brick-like" iron oxide nanoparticles for hyperthermia and MRI contrast enhancement. <i>Journal of Materials Chemistry B</i> , <b>2015</b> , 3, 6877-6884	7.3	14
39	Amplification of Chirality by Adenosine Monophosphate-Capped Luminescent Gold Nanoclusters in Nematic Lyotropic Chromonic Liquid Crystal Tactoids. <i>ACS Omega</i> , <b>2019</b> , 4, 1662-1668	3.9	13
38	Ink-Jet Printed Nanoparticle Alignment Layers: Easy Design and Fabrication of Patterned Alignment Layers for Nematic Liquid Crystals. <i>Particle and Particle Systems Characterization</i> , <b>2014</b> , 31, 257-265	3.1	12
37	Converging Microlens Array Using Nematic Liquid Crystals Doped with Chiral Nanoparticles. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 4574-4582	9.5	12
36	Liquid crystals and precious metal: from nanoparticle dispersions to functional plasmonic nanostructures. <i>Liquid Crystals</i> , <b>2017</b> , 1-19	2.3	11
35	A general synthesis of metal (Mn, Fe, Co, Ni, Cu, Zn) oxide and silica nanoparticles based on a low temperature reduction/hydrolysis pathway. <i>RSC Advances</i> , <b>2013</b> , 3, 23722	3.7	11
34	Missing Link between Helical Nano- and Microfilaments in B4 Phase Bent-Core Liquid Crystals, and Deciphering which Chiral Center Controls the Filament Handedness. <i>Small</i> , <b>2020</b> , 16, e1905591	11	11
33	Directing the Handedness of Helical Nanofilaments Confined in Nanochannels Using Axially Chiral Binaphthyl Dopants. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 13456-13463	9.5	10
32	Patterned alignment of nematic liquid crystals generated by inkjet printing of gold nanoparticles and emissive carbon dots on both flexible polymer and rigid glass substrates. <i>Liquid Crystals</i> , <b>2016</b> , 43, 828-838	2.3	10
31	Highly crystalline iron/iron oxide nanosheets via lyotropic liquid crystal templating. <i>RSC Advances</i> , <b>2013</b> , 3, 9210	3.7	10
30	Indication of a twist-grain-boundary-twist-bend phase of flexible core bent-shape chiral dimers. <i>Soft Matter</i> , <b>2019</b> , 15, 3283-3290	3.6	8
29	Chirality Transfer from an Innately Chiral Nanocrystal Core to a Nematic Liquid Crystal: Surface-Modified Cellulose Nanocrystals. <i>Angewandte Chemie - International Edition</i> , <b>2021</b> , 60, 17344-17349	16.4	8
28	Differential internalization of brick shaped iron oxide nanoparticles by endothelial cells. <i>Journal of Materials Chemistry B</i> , <b>2016</b> , 4, 5913-5920	7.3	8
27	A Zero-Power Optical, ppt- to ppm-Level Toxic Gas and Vapor Sensor with Image, Text, and Analytical Capabilities. <i>Advanced Materials Technologies</i> , <b>2020</b> , 5, 2000058	6.8	7
26	Wide temperature-range, multi-component, optically isotropic antiferroelectric bent-core liquid crystal mixtures for display applications. <i>Liquid Crystals</i> , <b>2018</b> , 45, 333-340	2.3	7
25	Mechanically tunable elastomer and cellulose nanocrystal composites as scaffolds for in vitro cell studies. <i>Materials Advances</i> , <b>2021</b> , 2, 464-476	3.3	7
24	Large electroclinic effect in SmA* liquid crystals induced by an atropisomeric biphenyl dopant. <i>Journal of Materials Chemistry</i> , <b>2002</b> , 12, 3368-3370		6
23	Intermolecular G-Quadruplex Induces Hyaluronic Acid-DNA Superpolymers Causing Cancer Cell Swelling, Blebbing, and Death. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 6869-6878	9.5	5

22	Synthesis of Distinct Iron Oxide Nanomaterial Shapes Using Lyotropic Liquid Crystal Solvents. <i>Nanomaterials</i> , <b>2017</b> , 7,	5-4	5
21	An Optically Isotropic Antiferroelectric Liquid Crystal (OI-AFLC) Display Mode Operating over a Wide Temperature Range using Ternary Bent-Core Liquid Crystal Mixtures. <i>ChemistryOpen</i> , <b>2017</b> , 6, 196-200	2.3	4
20	Towards Recyclable Nanoporous Polymer Membranes for the Synthesis of One-dimensional Nanoscale Gold Colloids. <i>Journal of Inorganic and Organometallic Polymers and Materials</i> , <b>2006</b> , 16, 91-96	3.2	4
19	Molecular Conformation of Bent-Core Molecules Affected by Chiral Side Chains Dictates Polymorphism and Chirality in Organic Nano- and Microfilaments. <i>ACS Nano</i> , <b>2021</b> , 15, 7249-7270	16.7	4
18	Binary mixtures of bent-core molecules forming distinct types of B4 phase nano- and microfilament morphologies. <i>Liquid Crystals</i> , <b>2021</b> , 48, 1129-1139	2.3	4
17	Recent progress at the interface between nanomaterial chirality and liquid crystals. <i>Liquid Crystals Reviews</i> , <b>2021</b> , 9, 1-34	2.8	4
16	Ferroelectric liquid crystal dopants with a chiral (R,R)-2,3-difluorooctyloxy side-chain: host dependence of the polarization power. <i>Liquid Crystals</i> , <b>2007</b> , 34, 987-994	2.3	3
15	Effects of shape and solute-solvent compatibility on the efficacy of chirality transfer: Nanoshapes in nematics.. <i>Science Advances</i> , <b>2022</b> , 8, eabl4385	14.3	3
14	Nanoparticles: Additives and Building Blocks for Liquid Crystal Phases <b>2014</b> , 1-50		2
13	Alignment and electrooptic effects in nanoparticle-doped nematic liquid crystals <b>2010</b> ,		2
12	Evidence for the Existence of the McMillan Phase in a Binary System of a Metallomesogen and 2,4,7-Trinitrofluorenone This work was supported by the Deutsche Forschungsgemeinschaft.. <i>Angewandte Chemie - International Edition</i> , <b>2001</b> , 40, 887-890	16.4	2
11	Sensor Devices: A Zero-Power Optical, ppt- to ppm-Level Toxic Gas and Vapor Sensor with Image, Text, and Analytical Capabilities (Adv. Mater. Technol. 5/2020). <i>Advanced Materials Technologies</i> , <b>2020</b> , 5, 2070028	6.8	1
10	Gold Nanorod Assemblies: Large Area Self-Assembly of Nematic Liquid-Crystal-Functionalized Gold Nanorods (Adv. Funct. Mater. 11/2013). <i>Advanced Functional Materials</i> , <b>2013</b> , 23, 1392-1392	15.6	1
9	Emissive Nanomaterials and Liquid Crystals <b>2020</b> , 6-1-6-27		1
8	Chirality Transfer from an Innately Chiral Nanocrystal Core to a Nematic Liquid Crystal: Surface-Modified Cellulose Nanocrystals. <i>Angewandte Chemie</i> , <b>2021</b> , 133, 17484-17489	3.6	1
7	The significance of nanoparticle shape in chirality transfer to a surrounding nematic liquid crystal reporter medium. <i>Materials Advances</i> ,	3.3	1
6	Recollections on Yuriy Reznikov [Personal views and the beginnings of nanoparticle dispersions in liquid crystals. <i>Journal of Molecular Liquids</i> , <b>2017</b> , 340, 108153	6	
5	Back Cover: Macromol. Biosci. 2/2015. <i>Macromolecular Bioscience</i> , <b>2015</b> , 15, 292-292	5.5	

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| 4 | Ink-Jet Printing: Ink-Jet Printed Nanoparticle Alignment Layers: Easy Design and Fabrication of Patterned Alignment Layers for Nematic Liquid Crystals (Part. Part. Syst. Charact. 2/2014). <i>Particle and Particle Systems Characterization</i> , <b>2014</b> , 31, 172-172 | 3.1  |
| 3 | Magnetic Nanoparticles: A Versatile Method for the Reductive, One-Pot Synthesis of Bare, Hydrophilic and Hydrophobic Magnetite Nanoparticles (Adv. Funct. Mater. 8/2011). <i>Advanced Functional Materials</i> , <b>2011</b> , 21, 1456-1456                                  | 15.6 |
| 2 | 10th European Conference on Liquid Crystals (ECLC 2009). <i>Liquid Crystals Today</i> , <b>2010</b> , 19, 17-19   | 1.9  |
| 1 | Innentitelbild: Chirality Transfer from an Innately Chiral Nanocrystal Core to a Nematic Liquid Crystal: Surface-Modified Cellulose Nanocrystals (Angew. Chem. 32/2021). <i>Angewandte Chemie</i> , <b>2021</b> , 133, 17362-17362  | 3.6  |