

# David M Walba

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/4539677/publications.pdf>

Version: 2024-02-01

112  
papers

5,020  
citations

117625

34  
h-index

95266

68  
g-index

116  
all docs

116  
docs citations

116  
times ranked

2417  
citing authors

#	ARTICLE	IF	CITATIONS
1	Precision adiabatic scanning calorimetry of a nematic $\hat{\epsilon}$ ferroelectric nematic phase transition. <i>Liquid Crystals</i> , 2022, 49, 780-789.	2.2	5
2	Effect of shape and nano-segregation in $\hat{\Gamma}^{2\prime}$ -isoxazoline and isoxazole on the mesogenic behavior of 1,3-bis-isophthalalimines. <i>Liquid Crystals</i> , 2022, 49, 699-708.	2.2	1
3	Precise orientation control of a liquid crystal organic semiconductor via anisotropic surface treatment. <i>NPG Asia Materials</i> , 2022, 14, .	7.9	5
4	Ideal mixing of paraelectric and ferroelectric nematic phases in liquid crystals of distinct molecular species. <i>Liquid Crystals</i> , 2022, 49, 1531-1544.	2.2	25
5	Understanding and Manipulating Helical Nanofilaments in Binary Systems with Achiral Dopants. <i>Nano Letters</i> , 2022, 22, 4569-4575.	9.1	5
6	Polar in-plane surface orientation of a ferroelectric nematic liquid crystal: Polar monodomains and twisted state electro-optics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	51
7	Electrically Tunable Reflection Color of Chiral Ferroelectric Nematic Liquid Crystals. <i>Advanced Optical Materials</i> , 2021, 9, 2101230.	7.3	30
8	Surface alignment of ferroelectric nematic liquid crystals. <i>Soft Matter</i> , 2021, 17, 8130-8139.	2.7	38
9	First-principles experimental demonstration of ferroelectricity in a thermotropic nematic liquid crystal: Polar domains and striking electro-optics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 14021-14031.	7.1	174
10	Nanoconfined heliconical structure of twist-bend nematic liquid crystal phase. <i>Liquid Crystals</i> , 2019, 46, 316-325.	2.2	6
11	Frontispiece: Nanoconfinement of the Low- $\epsilon$ Temperature Dark Conglomerate: Structural Control from Focal Conics to Helical Nanofilaments. <i>Chemistry - A European Journal</i> , 2019, 25, .	3.3	0
12	Distinct differences in the nanoscale behaviors of the twist-bend liquid crystal phase of a flexible linear trimer and homologous dimer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 10698-10704.	7.1	62
13	Chiral Incommensurate Helical Phase in a Smectic of Achiral Bent-Core Mesogens. <i>Physical Review Letters</i> , 2019, 122, 107801.	7.8	21
14	Nanoconfinement of the Low- $\epsilon$ Temperature Dark Conglomerate: Structural Control from Focal Conics to Helical Nanofilaments. <i>Chemistry - A European Journal</i> , 2019, 25, 7438-7442.	3.3	11
15	Driving a Liquid Crystal Phase Transition Using a Photochromic Hydrazone. <i>Journal of the American Chemical Society</i> , 2018, 140, 13623-13627.	13.7	73
16	Highly Oriented Liquid Crystal Semiconductor for Organic Field-Effect Transistors. <i>ACS Central Science</i> , 2018, 4, 1495-1502.	11.3	37
17	Structural transitions and guest/host complexing of liquid crystal helical nanofilaments induced by nanoconfinement. <i>Science Advances</i> , 2017, 3, e1602102.	10.3	32
18	The heliconical nematic twist-bend phase from $\hat{\epsilon}$ -bent-core benzylideneanilines with oligomethylene cores. <i>Molecular Crystals and Liquid Crystals</i> , 2017, 647, 430-438.	0.9	5

#	ARTICLE	IF	CITATIONS
19	Effect of Conformational Chirality on Optical Activity Observed in a Smectic of Achiral, Bent-Core Molecules. <i>Journal of Physical Chemistry B</i> , 2017, 121, 6944-6950.	2.6	12
20	Aggregation-driven, re-entrant isotropic phase in a smectic liquid crystal material. <i>Liquid Crystals</i> , 2017, 44, 769-783.	2.2	4
21	New SmAPF Mesogens Designed for Analog Electrooptics Applications. <i>Materials</i> , 2017, 10, 1284.	2.9	4
22	Resonant Carbon $K$ -Edge Soft X-Ray Scattering from Lattice-Free Helical Molecular Ordering: Soft Dilative Elasticity of the Twist-Bend Liquid Crystal Phase. <i>Physical Review Letters</i> , 2016, 116, 147803.	7.8	157
23	Airflow-aligned helical nanofilament (B4) phase in topographic confinement. <i>Scientific Reports</i> , 2016, 6, 29111.	3.3	4
24	Manipulating the twist sense of helical nanofilaments of bent-core liquid crystals using rod-shaped, chiral mesogenic dopants. <i>Liquid Crystals</i> , 2016, 43, 1083-1091.	2.2	6
25	Molecular structure of the discotic liquid crystalline phase of hexa-peri-hexabenzocoronene/oligothiophene hybrid and their charge transport properties. <i>Journal of Chemical Physics</i> , 2015, 143, 144505.	3.0	20
26	Probing and Controlling Liquid Crystal Helical Nanofilaments. <i>Nano Letters</i> , 2015, 15, 3420-3424.	9.1	42
27	Diastereomeric liquid crystal domains at the mesoscale. <i>Nature Communications</i> , 2015, 6, 7763.	12.8	33
28	Multidimensional Helical Nanostructures in Multiscale Nanochannels. <i>Langmuir</i> , 2015, 31, 8156-8161.	3.5	16
29	Energy Pooling Upconversion in Organic Molecular Systems. <i>Journal of Physical Chemistry A</i> , 2015, 119, 4009-4016.	2.5	20
30	Abiotic ligation of DNA oligomers templated by their liquid crystal ordering. <i>Nature Communications</i> , 2015, 6, 6424.	12.8	42
31	Cybotactic behavior in the de Vries smectic-A* liquid-crystal structure formed by a silicon-containing molecule. <i>Physical Review E</i> , 2014, 89, 032502.	2.1	5
32	An Electric-Field-Responsive Discotic Liquid-Crystalline Hexa-peri-Hexabenzocoronene/Oligothiophene Hybrid. <i>Advanced Materials</i> , 2014, 26, 2066-2071.	21.0	40
33	Orientation control over bent-core smectic liquid crystal phases. <i>Liquid Crystals</i> , 2014, 41, 328-341.	2.2	13
34	Ferroelectric and antiferroelectric odd-even behavior in a tricarbosilane-terminated liquid crystal homologous series. <i>Chemical Science</i> , 2014, 5, 1869-1874.	7.4	8
35	Chiral Isotropic Sponge Phase of Hexatic Smectic Layers of Achiral Molecules. <i>ChemPhysChem</i> , 2014, 15, 1502-1507.	2.1	13
36	Charge Generation Measured for Fullerene-Helical Nanofilament Liquid Crystal Heterojunctions. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 4823-4830.	8.0	35

#	ARTICLE	IF	CITATIONS
37	Multistep hierarchical self-assembly of chiral nanopore arrays. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14342-14347.	7.1	53
38	Twist-bend heliconical chiral nematic liquid crystal phase of an achiral rigid bent-core mesogen. Physical Review E, 2014, 89, 022506.	2.1	212
39	Topography of bent-core liquid crystals at the air/liquid crystal interface. Liquid Crystals, 2013, 40, 1730-1735.	2.2	10
40	Spiral layer undulation defects in B7 liquid crystals. Soft Matter, 2013, 9, 11303.	2.7	9
41	Generalized Langevin-Debye model of the field dependence of tilt, birefringence, and polarization current near the de Vries smectic- $A$ smectic- $C$ transition. Physical Review E, 2013, 87, 022401.	2.1	23
42	Nanoconfinement of guest materials by helical nanofilament networks of bent-core mesogens. Soft Matter, 2013, 9, 462-471.	2.7	51
43	Self-assembled hydrophobic surface generated from a helical nanofilament (B4) liquid crystal phase. Soft Matter, 2013, 9, 2793.	2.7	28
44	A Modulated Helical Nanofilament Phase. Angewandte Chemie - International Edition, 2013, 52, 5254-5257.	13.8	45
45	Alignment of helical nanofilaments on the surfaces of various self-assembled monolayers. Soft Matter, 2013, 9, 6185.	2.7	38
46	Chiral heliconical ground state of nanoscale pitch in a nematic liquid crystal of achiral molecular dimers. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 15931-15936.	7.1	431
47	Alignment of the columnar liquid crystal phase of nano-DNA by confinement in channels. Liquid Crystals, 2012, 39, 571-577.	2.2	20
48	Structure of the B4 Liquid Crystal Phase near a Glass Surface. ChemPhysChem, 2012, 13, 155-159.	2.1	38
49	Chirality-Preserving Growth of Helical Filaments in the B4 Phase of Bent-Core Liquid Crystals. Journal of the American Chemical Society, 2011, 133, 12656-12663.	13.7	75
50	Spontaneous Ferroelectric Order in a Bent-Core Smectic Liquid Crystal of Fluid Orthorhombic Layers. Science, 2011, 332, 72-77.	12.6	141
51	Dynamics of cis isomers in highly sensitive amino-azobenzene monolayers: The effect of slow relaxation on photo-induced anisotropy. Journal of Applied Physics, 2011, 109, 103521.	2.5	5
52	Effective conductivity due to continuous polarization reorientation in fluid ferroelectrics. Physical Review E, 2011, 84, 020701.	2.1	15
53	Synthesis and physical properties of a main-chain chiral smectic thiol-ene oligomer. Liquid Crystals, 2010, 37, 325-334.	2.2	11
54	Pretransitional Orientational Ordering of a Calamitic Liquid Crystal by Helical Nanofilaments of a Bent-Core Mesogen. Langmuir, 2010, 26, 15541-15545.	3.5	30

#	ARTICLE	IF	CITATIONS
55	On the Origin of the "Giant" Electroclinic Effect in a "De Vries" Type Ferroelectric Liquid Crystal Material for Chirality Sensing Applications. <i>ChemPhysChem</i> , 2009, 10, 890-892.	2.1	18
56	A Main-Chain de Vries Smectic Liquid Crystal Polymer Prepared by Hoveyda's Grubbs Catalyst Initiated Acyclic Diene Metathesis Polymerization. <i>Macromolecular Rapid Communications</i> , 2009, 30, 1894-1899.	3.9	9
57	<i>Macromol. Rapid Commun.</i> 22/2009. <i>Macromolecular Rapid Communications</i> , 2009, 30, .	3.9	0
58	de Gennes' triclinic smectics "not so far-fetched after all. <i>Liquid Crystals</i> , 2009, 36, 1309-1317.	2.2	16
59	Novel liquid-crystalline mesogens and main-chain chiral smectic thiol-ene polymers based on trifluoromethylphenyl moieties. <i>Journal of Materials Chemistry</i> , 2009, 19, 7208.	6.7	29
60	Chiral SmA* materials for display applications?. <i>Journal of the Society for Information Display</i> , 2007, 15, 585-588.	2.1	11
61	A General Method for Measurement of Enantiomeric Excess by Using Electrooptics in Ferroelectric Liquid Crystals. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 1473-1475.	13.8	14
62	The intrinsic photoferroelectric effect in the smectic C* phase of a chiral azobenzene. <i>Journal of Materials Chemistry</i> , 2006, 16, 4170.	6.7	16
63	Main-Chain Chiral Smectic Polymers Showing a Large Electroclinic Effect in the SmA* Phase. <i>Chemistry of Materials</i> , 2006, 18, 4576-4584.	6.7	31
64	Reflection Symmetry Breaking in Achiral Rod-Shaped Smectic Liquid Crystals?. <i>Journal of the American Chemical Society</i> , 2006, 128, 5318-5319.	13.7	28
65	The peculiar optic, dielectric and X-ray diffraction properties of a fluorinated de Vries asymmetric diffuse cone-model ferroelectric liquid crystal. <i>Liquid Crystals</i> , 2006, 33, 17-23.	2.2	15
66	On the Nature of the B4 Banana Phase: "Crystal or Not a Crystal?. <i>Crystal Growth and Design</i> , 2005, 5, 2091-2099.	3.0	80
67	Field control of the surface electroclinic effect in chiral smectic-A liquid crystals. <i>Physical Review E</i> , 2004, 69, 061716.	2.1	10
68	Ferroelectric Liquid Crystal Conglomerates. <i>Topics in Stereochemistry</i> , 2004, , 457-518.	2.0	34
69	Chirality Detection with FLCs "a Comment. <i>Ferroelectrics</i> , 2004, 309, 121-123.	0.6	12
70	Polarity-directed analog electro-optic switching in a low-polarization chiral smectic liquid crystal with positive dielectric anisotropy. <i>Physical Review E</i> , 2004, 70, 031703.	2.1	4
71	Main-Chain Ferroelectric Liquid Crystal Polymers for Electronic Nonlinear Optics Applications 1. <i>Ferroelectrics</i> , 2004, 309, 77-82.	0.6	5
72	Mean field theory-based calculation of FLC polarization. <i>Liquid Crystals</i> , 2002, 29, 1073-1085.	2.2	11

#	ARTICLE	IF	CITATIONS
73	Smectic liquid crystal alignment using mechanically rubbed n-octadecylsiloxane self-assembled monolayers. <i>Liquid Crystals</i> , 2002, 29, 1015-1024.	2.2	15
74	Electro-Optic Switching by Helicene Liquid Crystals. <i>Chemistry of Materials</i> , 2002, 14, 773-776.	6.7	111
75	Design of Smectic Liquid Crystal Phases Using Layer Interface Chirality. <i>ACS Symposium Series</i> , 2001, , 268-281.	0.5	1
76	A bow-phase mesogen showing strong, robust analog electro-optics. <i>Journal of Materials Chemistry</i> , 2001, 11, 2743-2747.	6.7	38
77	Giant surface electroclinic effect in a chiral smectic A liquid crystal. <i>Liquid Crystals</i> , 2001, 28, 117-123.	2.2	27
78	Supermolecular stereochemistry in ferroelectric liquid crystals. <i>Journal of Physical Organic Chemistry</i> , 2000, 13, 830-836.	1.9	14
79	Antiferroelectric Liquid Crystals from Achiral Molecules And A Liquid Conglomerate. <i>Materials Research Society Symposia Proceedings</i> , 1999, 559, 3.	0.1	0
80	Polymerization Conditions and Electrooptic Properties of Polymer-Stabilized Ferroelectric Liquid Crystals. <i>Chemistry of Materials</i> , 1998, 10, 2378-2388.	6.7	56
81	Effects of Monomer Structure on Their Organization and Polymerization in a Smectic Liquid Crystal. <i>Science</i> , 1997, 275, 57-59.	12.6	114
82	Spontaneous Formation of Macroscopic Chiral Domains in a Fluid Smectic Phase of Achiral Molecules. <i>Science</i> , 1997, 278, 1924-1927.	12.6	1,176
83	Main-Chain Ferroelectric Liquid Crystal Oligomers by Acyclic Diene Metathesis Polymerization <sup>1</sup> . <i>Journal of the American Chemical Society</i> , 1996, 118, 2740-2741.	13.7	56
84	Detecting Molecular Chirality by Scanning Tunneling Microscopy. <i>Accounts of Chemical Research</i> , 1996, 29, 591-597.	15.6	78
85	Ferroelectric Liquid Crystals for Nonlinear Optics: Orientation of the Disperse Red 1 Chromophore along the Ferroelectric Liquid Crystal Polar Axis. <i>Journal of the American Chemical Society</i> , 1996, 118, 1211-1212.	13.7	44
86	Direkte Beobachtung von aus Enantiomeren aufgebauten enantiomorphen Monoschichtkristallen mit der Rastertunnelmikroskopie. <i>Angewandte Chemie</i> , 1996, 108, 955-957.	2.0	36
87	Design and Synthesis of Ferroelectric Liquid Crystals. 25. An Approach to New Materials for Ultra-Fast Electronic Electro-Optic Modulators. <i>Molecular Crystals and Liquid Crystals</i> , 1996, 288, 83-91.	0.3	4
88	Design and synthesis of ferroelectric liquid crystals. 22. side-by-side dimers for nonlinear optics. <i>Ferroelectrics</i> , 1996, 179, 211-220.	0.6	6
89	Technique for Measuring Electronic-Based Electro-Optic Coefficients of Ferroelectric Liquid Crystals. <i>Materials Research Society Symposia Proceedings</i> , 1995, 392, 135.	0.1	2
90	Ferroelectric Liquid Crystals for Nonlinear Optics: can we Really do It?. <i>Materials Research Society Symposia Proceedings</i> , 1995, 392, 157.	0.1	2

#	ARTICLE	IF	CITATIONS
91	Design and synthesis of ferroelectric liquid crystals. 24. Incorporation of the disperse red 1 chromophore into side-by-side dimers for nonlinear optics. Materials Research Society Symposia Proceedings, 1995, 413, 357.	0.1	0
92	X-ray observation of electroclinic layer constriction and rearrangement in a chiral smectic A liquid crystal. Applied Physics Letters, 1995, 67, 362-364.	3.3	33
93	Phase behaviour and electro-optic characteristics of a polymer stabilized ferroelectric liquid crystal. Liquid Crystals, 1995, 19, 719-727.	2.2	58
94	Atomic-Detail Simulation Studies of Smectic Liquid Crystals. Molecular Simulation, 1995, 14, 343-360.	2.0	18
95	The first high polarization ferroelectric main chain liquid crystalline polymers. Liquid Crystals, 1995, 18, 915-918.	2.2	25
96	New Ferroelectric Liquid Crystal Polymers for Nonlinear Optics Applications. Materials Research Society Symposia Proceedings, 1995, 392, 147.	0.1	1
97	Fast Ferroelectric Liquid-Crystal Electrooptics. Science, 1995, 270, 250-250.	12.6	89
98	Synthesis and Cutting "Half" of a Molecular Möbius Strip" Applications of Low Dimensional Topology in Chemistry. Series on Knots and Everything, 1995, , 427-463.	0.0	0
99	Harmonic generation in ferroelectric liquid crystals: Phase matching loci. Applied Physics Letters, 1994, 64, 2919-2921.	3.3	2
100	High performance electroclinic materials. Ferroelectrics, 1993, 148, 435-442.	0.6	15
101	Electric field induced transitions from TGBA* and TGBC* to smectic A and C states. Ferroelectrics, 1993, 147, 255-262.	0.6	30
102	Ferroelectric properties of a series of core-fluorinated dopants containing the 2,3-difluoroalkoxy tail. Liquid Crystals, 1993, 14, 1061-1068.	2.2	24
103	Studies on Ferroelectric Liquid Crystal Tolan Derivatives Designed for Nonlinear Optical Applications. Materials Research Society Symposia Proceedings, 1992, 277, 205.	0.1	9
104	An Approach to the Design of Ferroelectric Liquid Crystals with Large Second Order Electronic Nonlinear Optical Susceptibility. Molecular Crystals and Liquid Crystals, 1991, 198, 51-60.	0.7	65
105	Design and synthesis of new ferroelectric liquid crystals. 14. An approach to the stereocontrolled synthesis of polar organic thin films for nonlinear optical applications. Journal of the American Chemical Society, 1991, 113, 5471-5474.	13.7	80
106	Properties of a series of phenylpyrimidine ferroelectric liquid crystals possessing the 2,3-difluoroalkoxy tail. Ferroelectrics, 1991, 121, 219-223.	0.6	7
107	Evolution of the boulder model for the molecular origins of the polarization in ferroelectric liquid crystals. Ferroelectrics, 1991, 113, 21-36.	0.6	24
108	Synthesis, spectra, and ferroelectric properties of a series of dihalogenated dopants. Ferroelectrics, 1991, 121, 213-218.	0.6	7

#	ARTICLE	IF	CITATIONS
109	Design and synthesis of ferroelectric liquid crystals. 15. <sup>1</sup> FLC materials for nonlinear optics applications. Ferroelectrics, 1991, 121, 247-257.	0.6	53
110	Third International Ferroelectric Liquid Crystal Conference (FLC 91) University of Colorado, Boulder, Colorado, USA, June 24-28 1991. Liquid Crystals Today, 1991, 1, 4-4.	2.3	7
111	Ferroelectric Liquid Crystals Designed for Electronic Nonlinear Optical Applications. ACS Symposium Series, 1991, , 484-496.	0.5	14
112	Molecular design of ferroelectric liquid crystals. Ferroelectrics, 1988, 84, 65-72.	0.6	26