

List of abbreviations

Å	Angstroms
ABS	Absorbance
B3LYP	Becke, 3-parameter, Lee-Yang-Parr
BP	Blue Phase
CCF	Cholesteryl chloroformate
CLC	Cholesteric Liquid Crystal
Col _h	Columnar Hexagonal
Col _L	Lamellar
Col _{ob}	Columnar Oblique
Col _p	Plastic
Col _r	Columnar Rectangular
D _h	Discotic hexagonal
D _r	Discotic rectangular
D _{tet}	Discotic tetragonal
DCC	1,3-Dicyclohexylcarbodiimide
DFT	Density Function Theory
DMF	N, N-Dimethyl formamide
DMSO	Dimethylsulfoxide
DPPH	2,2-diphenyl-1-picrylhydrazyl
DSC	Differential Scanning Calorimetry
FLC	Ferroelectric Liquid Crystal
FMO	Frontier molecular orbital theory
FT-IR	Fourier-transform infrared

HOMO	Highest occupied molecular orbital
IC ₅₀	Half-maximal inhibitory concentration
ICT	Intramolecular charge transfer
Iso	Isotropic
LC	Liquid Crystal
LCD	Liquid Crystal Display
LCE	Liquid Crystal Elastomers
LCP	Liquid Crystal Polymer
LUMO	Lowest unoccupied molecular orbital
MEP	Molecular Electrostatic Potential
N	Nematic
N*	Chiral Nematic (Cholesteric)
N _C	Columnar nematic
N _D	Nematic discotic phase
N _u	Optical uniaxiality
N _b	Biaxial nematic phases
N _D	Discotic Nematic
NLO	Non-Linear Optical
NMR	Nuclear Magnetic Resonance
OLED	Organic Light Emitting Diodes
PDLC	Polymer-Dispersed Liquid Crystal
PL	Photoluminescence
POM	Polarized Optical Microscope
ppm	parts per million

Ps	Spontaneous Polarization
PSCLC	Polymer-Stabilized Cholesteric Liquid Crystal
Sm	Smectic
T _g	Glass Transition Temperature
TGA	Thermogravimetric Analysis
TGB	Twist-Grain Boundary
THF	Tetrahydrofuran
T _i	Clearing points
TLC	Thin Layer Chromatography
T _m	Melting temperature
TMS	Tetramethylsilane
T _N	Twisted Nematic
T _{N-I}	Nematic Phase Stability
TPSA	Total Polar Surface Area
UTGB	Undulating Twist-Grain Boundary
UV	Ultraviolet
WAXS	Wide angle X-ray scattering
XRD	X-ray Diffraction