Supporting Information

**Synthesis and Investigation on Liquid Crystal and Optical Properties of Dyads Based on Triphenylene and Perylene**

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S1 $^1$H NMR of Compound 3

S2 IR of Compound 3
S3 $^1$H NMR of Compound 4

S4 IR of Compound 4
S5 $^1$H NMR of DC$_2$A

S6 $^{13}$C NMR of DC$_2$A
S7 IR of DC2A

User Spectra

Fragmentor Voltage  Collision Energy  Ionization Mode
380               0                ESI

+ESI Scan (0.020-0.956 min, 142 Scans) Frag=380.0V TP6-C2-DGRZ.d

Peak List

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S8 MS of DC2A
S9 $^1$H NMR of DC$_6$A

S10 $^{13}$C NMR of DC$_6$A
S11 IR of DC₆A

User Spectra

Fragmenter Voltage | Collision Energy | Ionization Mode
-------------------|------------------|------------------
300                | 0                | ESI

+ESI Scan (0.020-0.894 min, 133 Scans) Frag=380.0V TP6-C6-DGRZ.d

S12 MS of DC₆A

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S13 $^1$H NMR of DC$_{10}$A

S14 $^{13}$C NMR of DC$_{10}$A
S15 IR of DC$_{10}$A

S16 MS of DC$_{10}$A
S17 $^1$H NMR of DC$_{12}$A

S18 $^{13}$C NMR of DC$_{12}$A
S19 IR of DC$_{12}$A

User Spectra

Fragmentor Voltage 380
Collision Energy 0
Ionization Mode ESI

*ESI Scan (0.060-0.987 min, 141 Scans) Frag=380.0V TP6-C12-DGRZ.d

Counts vs. Mass-to-Charge (m/z)

Peak List

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S20 MS of DC$_{12}$A
S21 Uv/vis of DC₆A in DCM solution (conc.=5×10⁻⁶ mol·L⁻¹)