Electronic Supplementary Information

Fluorescent chiral fluorinated liquid crystalline polymers containing rare earth complexes

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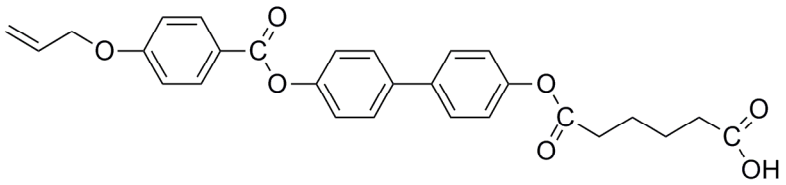


C_1

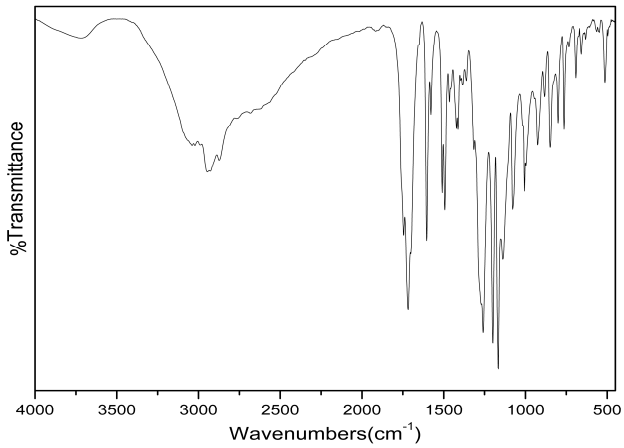
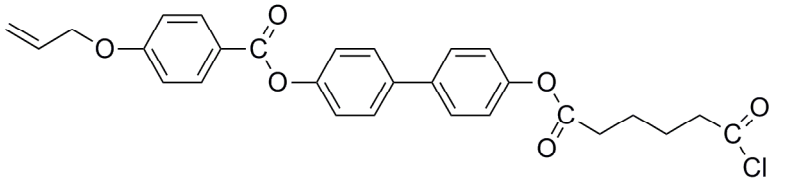


Figure S1. FT-IR spectrogram of C_1

Yield: 73%. IR (KBr, cm^{-1}): 3250–2500 (–OH), 2928, 2853 ($–CH_3$, $–CH_2–$), 1749, 1718 1696 (C=O), 1650 (C=C), 1604, 1578 (Ar–)



C_2

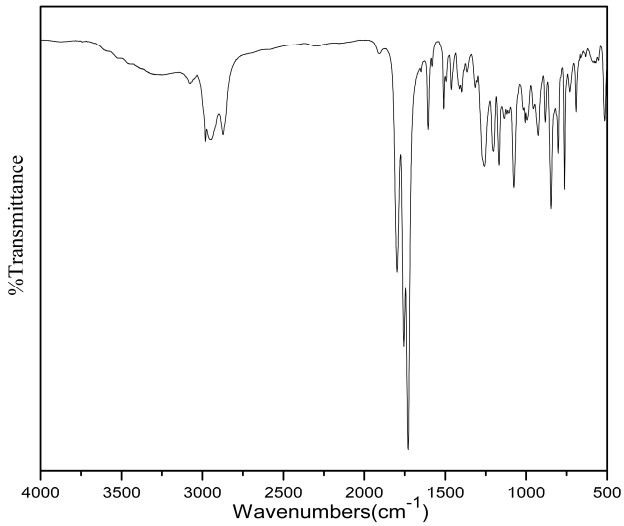


Figure S2. FT-IR spectrogram of C_2

Yield: 86%. IR (KBr, cm^{-1}): 2925, 2855 ($–CH_3$, $–CH_2–$), 1797, 1753, 1724 (C=O), 1650 (C=C), 1605, 1578 (Ar–)

C_3

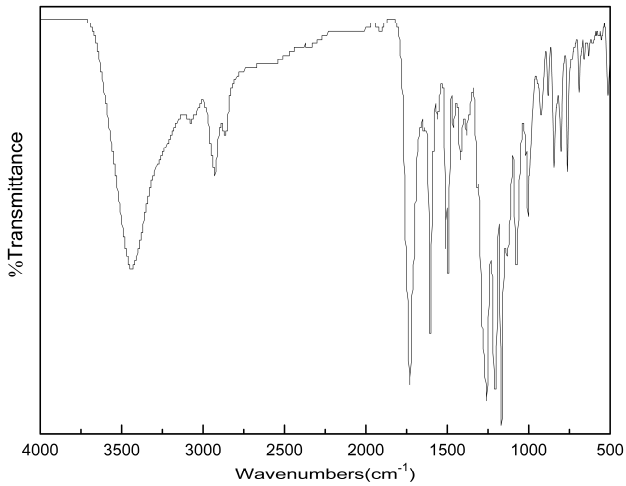


Figure S3. FT-IR spectrogram of C_3

Yield: 67%. IR (KBr, cm^{-1}): 3450 (–OH), 2937, 2865 ($–CH_3$, $–CH_2–$), 1755, 1741 1725 (C=O), 1650 (C=C), 1605, 1580 (Ar–)

M_1

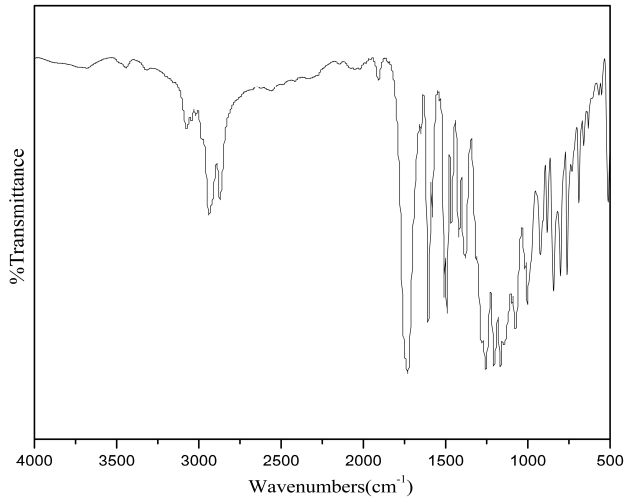
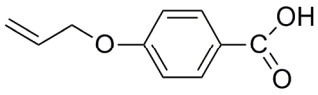


Figure S4. FT-IR spectrogram of M_1

ABA



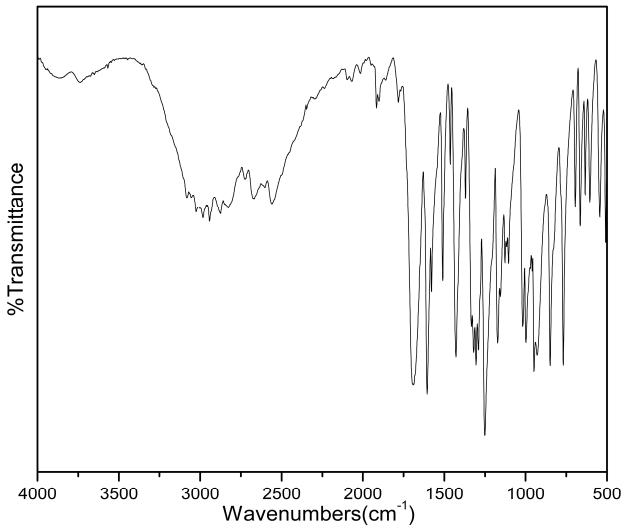
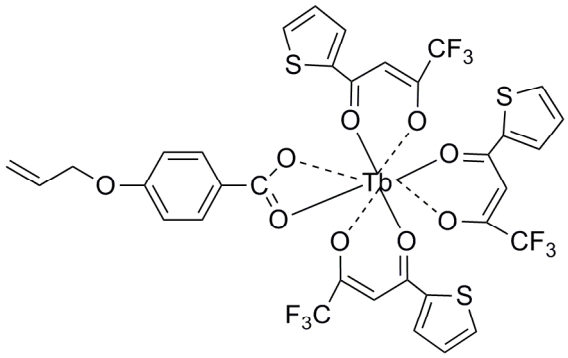


Figure S5. FT-IR spectrum of ABA

Tb-M_2



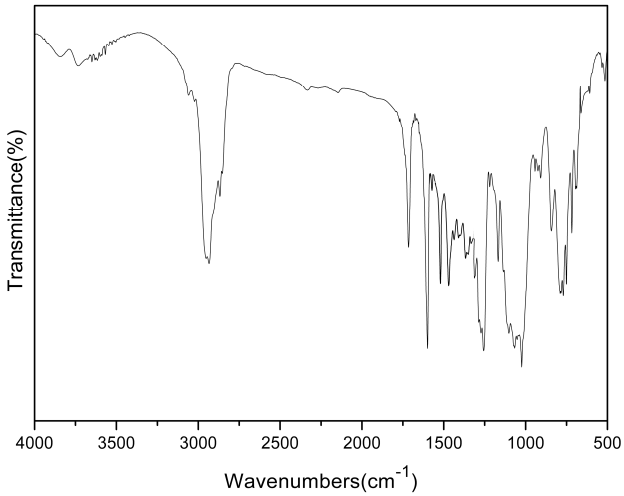
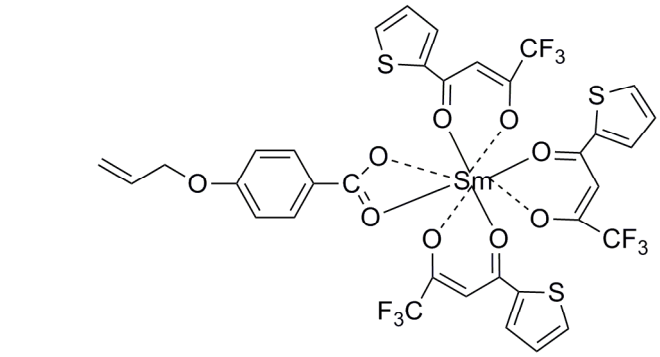


Figure S6. FT-IR spectrum of Tb-M_2

Sm-M_2



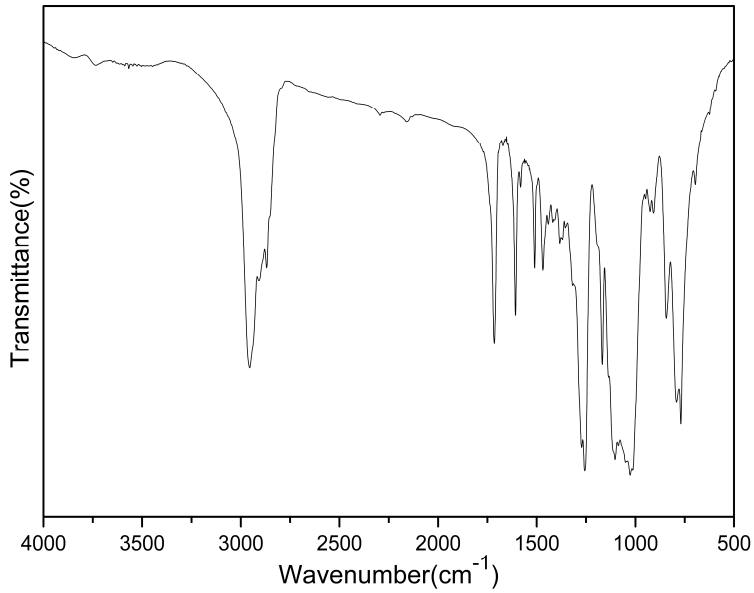


Figure S7. FT-IR spectrum of Sm-M_2

RE-LCPs

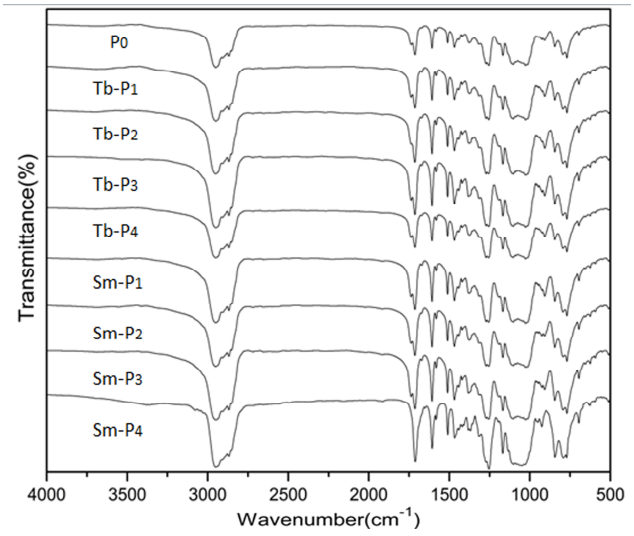


Figure S8. FT-IR spectrogram of RE-LCPs

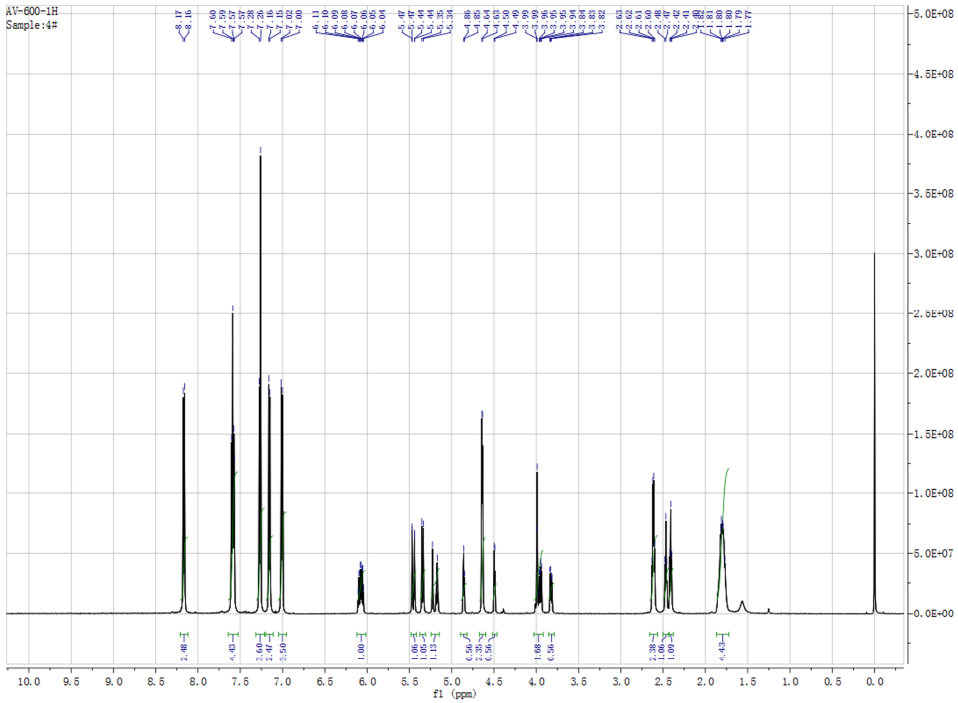


Figure S9. ^{1}H NMR spectrum of M_1 (600 MHz, $CDCl_3$).

Table 1 Specific rotations of M_1 and polymers

Sample	Concentration (g/100ml)	Solvent	Reference Fluid	Specific Rotations
M_1	0.1	THF	THF	+19.06
P_0	0.1	THF	THF	+19.42
Tb-P_1	0.1	THF	THF	+18.73
Tb-P_2	0.1	THF	THF	+18.26
Tb-P_3	0.1	THF	THF	+17.94
Tb-P_4	0.1	THF	THF	+17.58
Sm-P_1	0.1	THF	THF	+18.85
Sm-P_2	0.1	THF	THF	+18.32
Sm-P_3	0.1	THF	THF	+17.84
Sm-P_4	0.1	THF	THF	+17.47