Supplementary materials

A new homologous series of semi-conducting liquid crystals based on phenyl-anthracene: synthesis and effect of alkyloxy terminal chain on charge transport and photoconductive properties

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NMR spectra

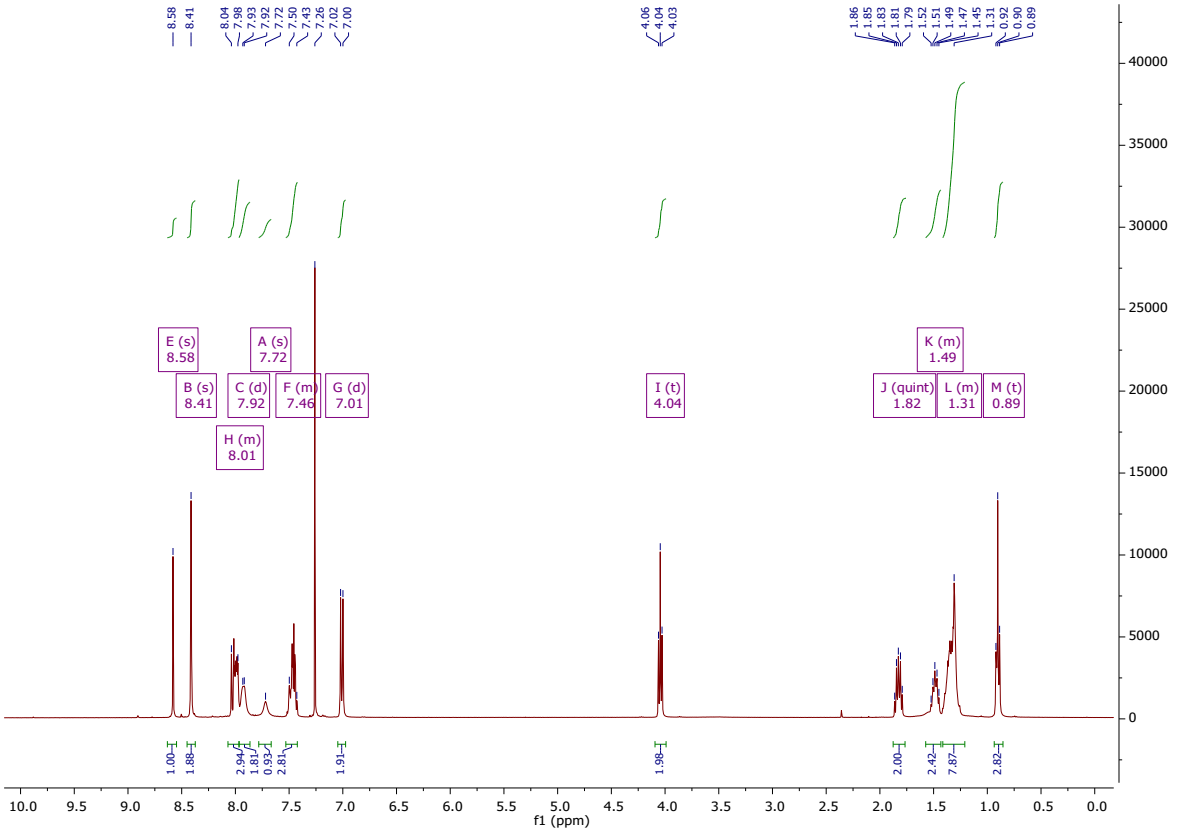

Fig. S 1 : ^{1}H NMR spectrum for 8-OPIA, $CDCl_3$, 400 MHz, 300 K.

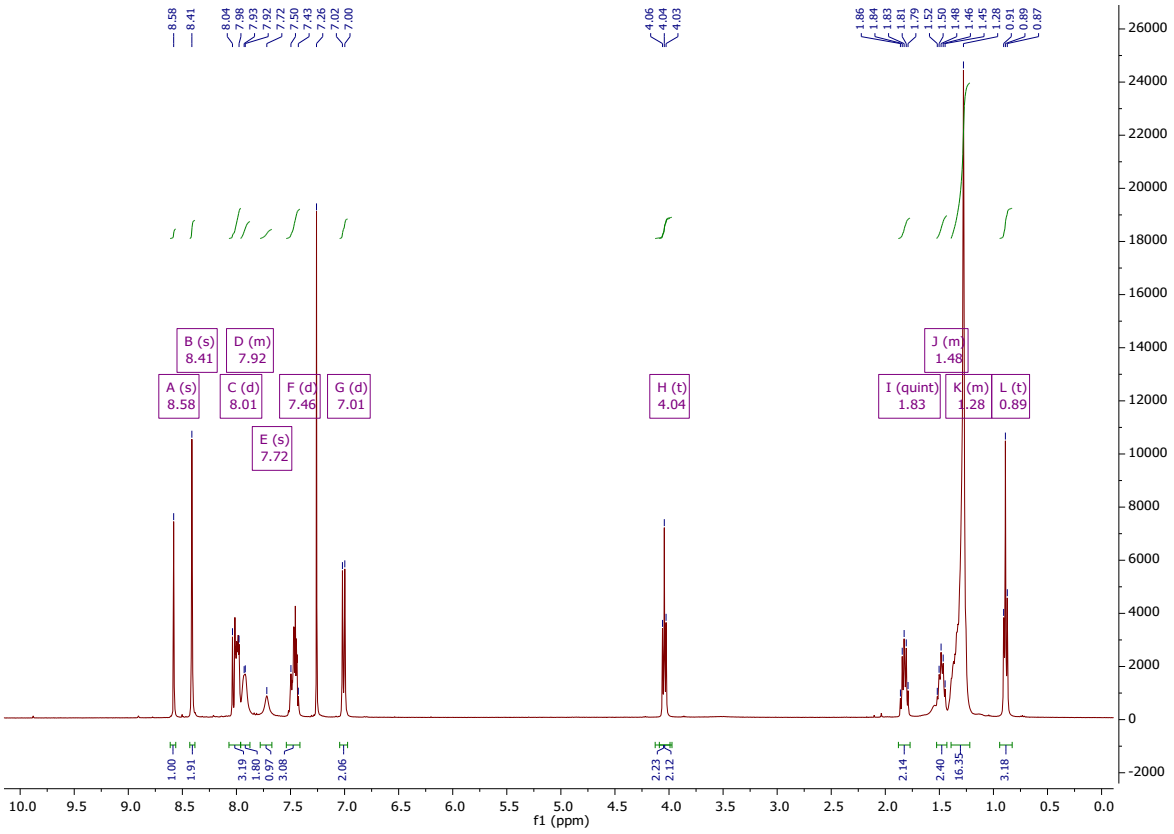

Fig. S 2 : ^{1}H NMR spectrum for 12-OPIA, $CDCl_3$, 400 MHz, 300 K.

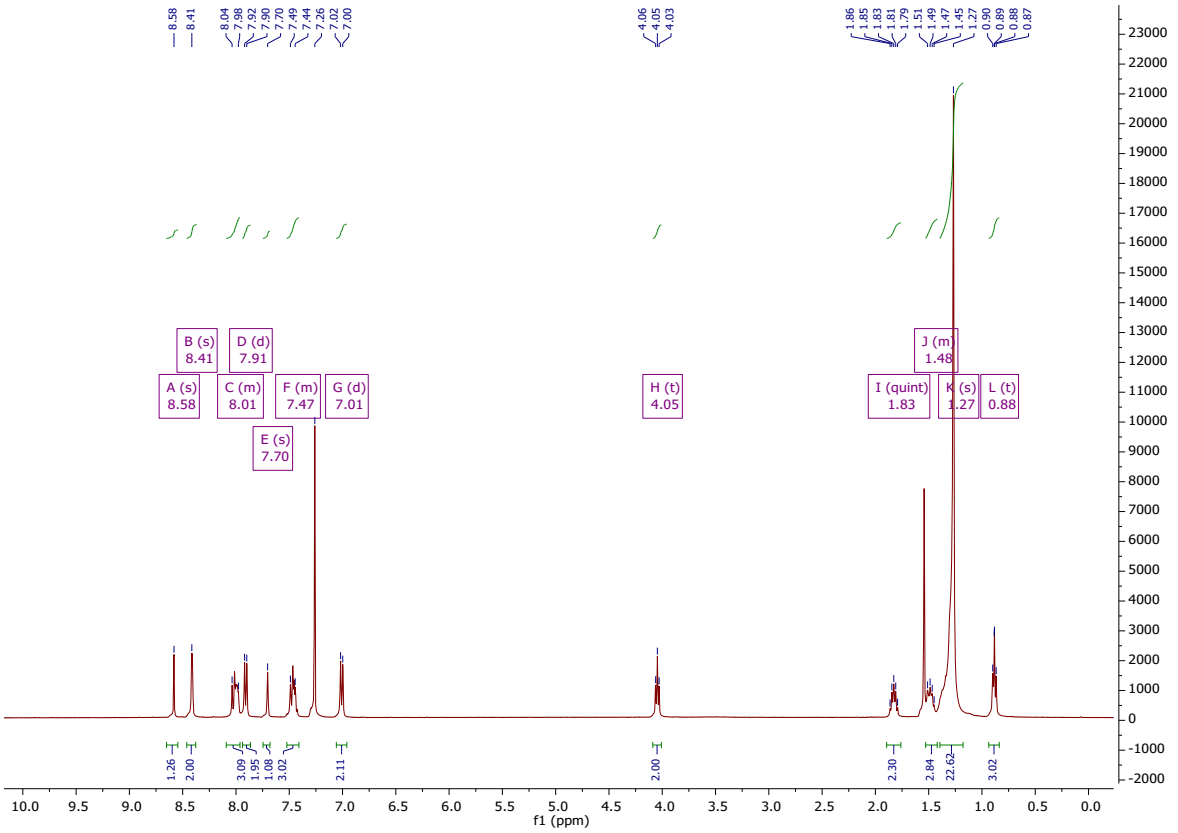

Fig. S 3 : ^{1}H NMR spectrum for 16-OPIA, $CDCl_3$, 400 MHz, 300 K.

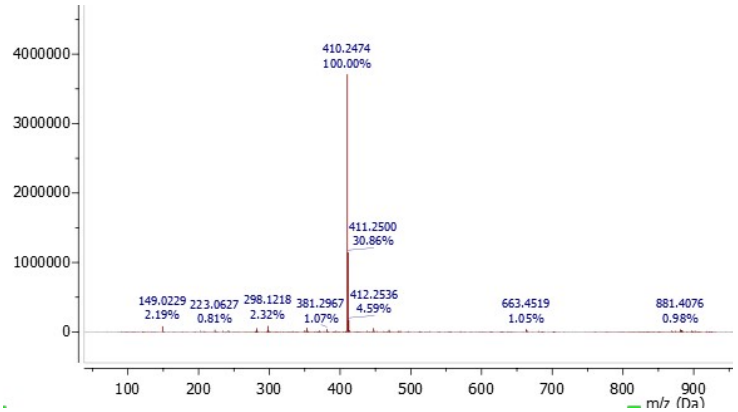

Fig. S 4 : Part of high-resolution mass spectra of 8-OPIA (calculated for $C_{29}H_{32}NO^{+}$ ($M+H^{+}$) m/z 410,2478 found m/z 410,2474) between m/z 0 and m/z 950.

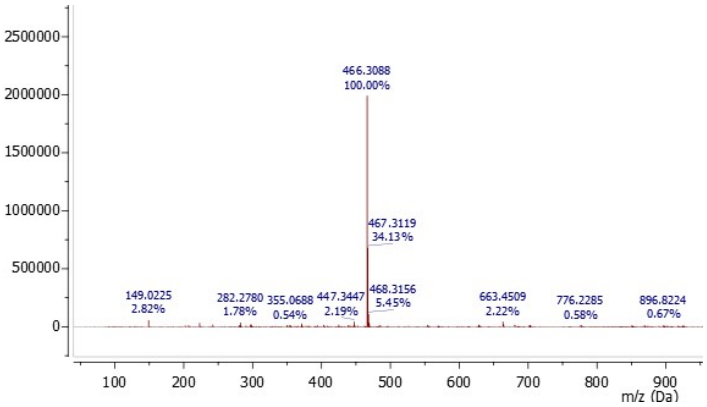

Fig. S 5 : Part of high-resolution mass spectra of 12-OPIA (calculated for $C_{33}H_{40}NO^+$ ($M+H^+$) m/z 466,3104 found m/z 466,3088) between m/z 0 and m/z 950.

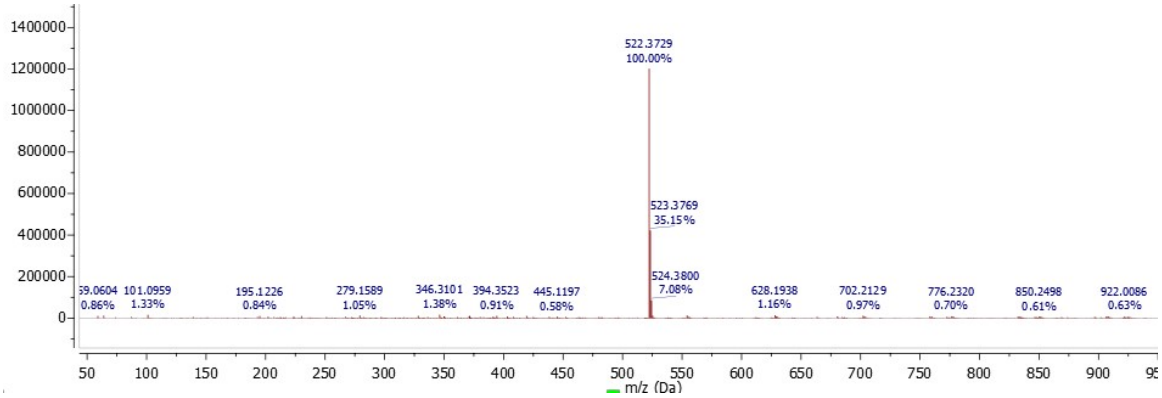

Fig. S 6 : Part of high-resolution mass spectra of 16-OPIA (calculated for $C_{37}H_{48}NO^+$ ($M+H^+$) m/z 522,3730 found m/z 522,3729) between m/z 0 and m/z 950.

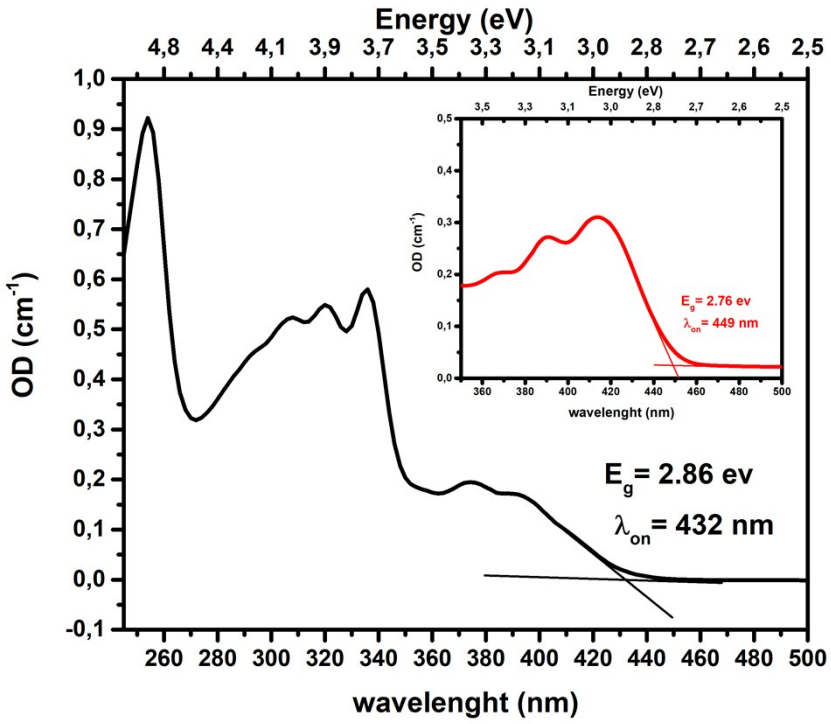

Fig. S 7 : Optical absorption spectrum of 12-OPIA (10^{-5} M solution in dichloromethane). Inset: absorption for drop-casted thin film of 12-OPIA (0.5% wt. in chlorobenzene) on quartz substrate.

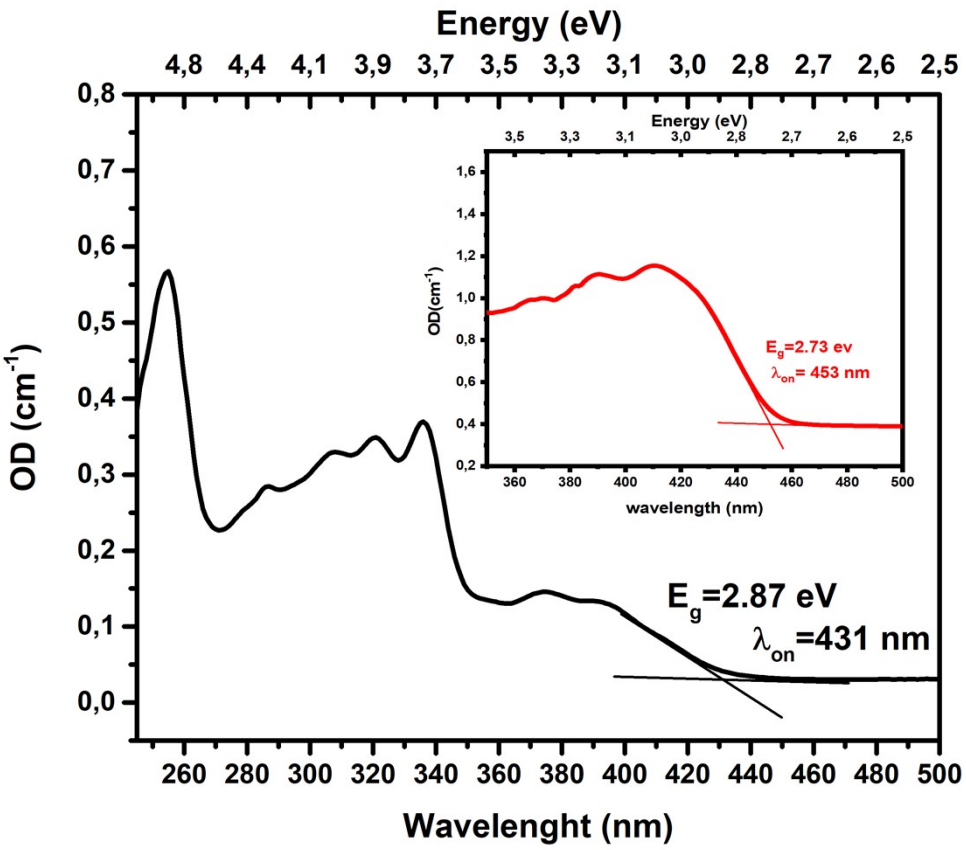

Fig. S 8 : Optical absorption spectrum of 16-OPIA (10^{-5}M solution in dichloromethane). Inset: absorption for drop-casted thin film of 16-OPIA (0.5% wt. in chlorobenzene) on quartz substrate.

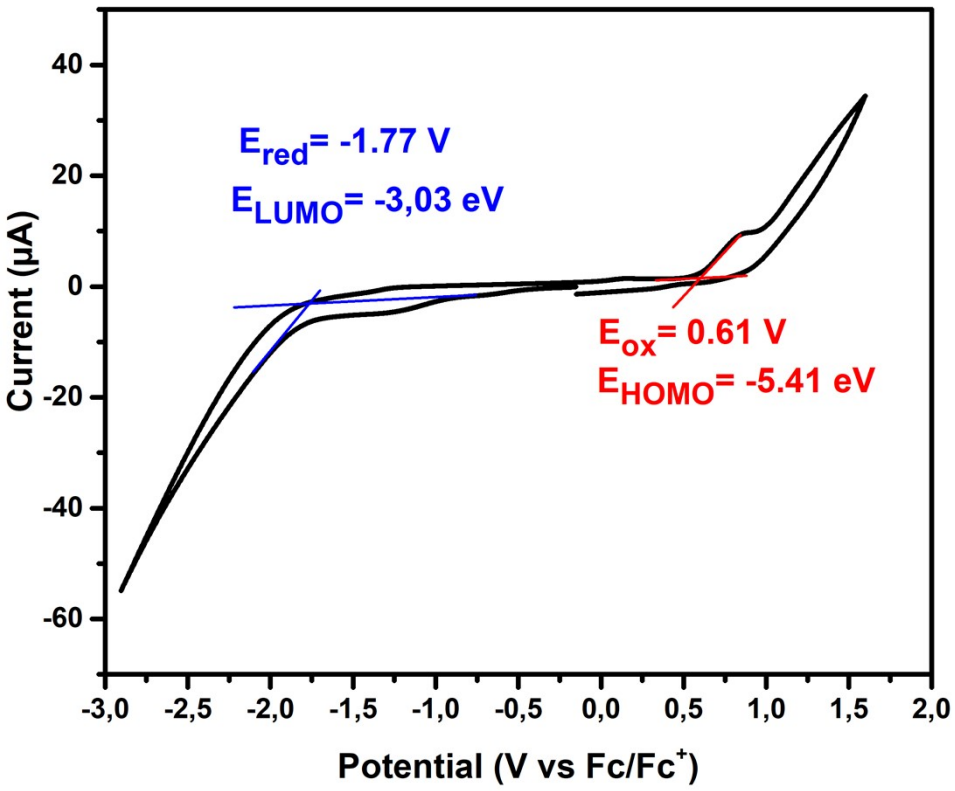

Fig. S 9 : Cyclic voltammogram obtained for 12-OPIA (2mmol) in 0.1 $TBAPF_6$ in DCM, degassed with Argon (20 minutes) at 50mV/s versus Fc/Fc+ (silver wire (RE), platinum disc of 3mm diameter (WE) and platinum wire (CE)).

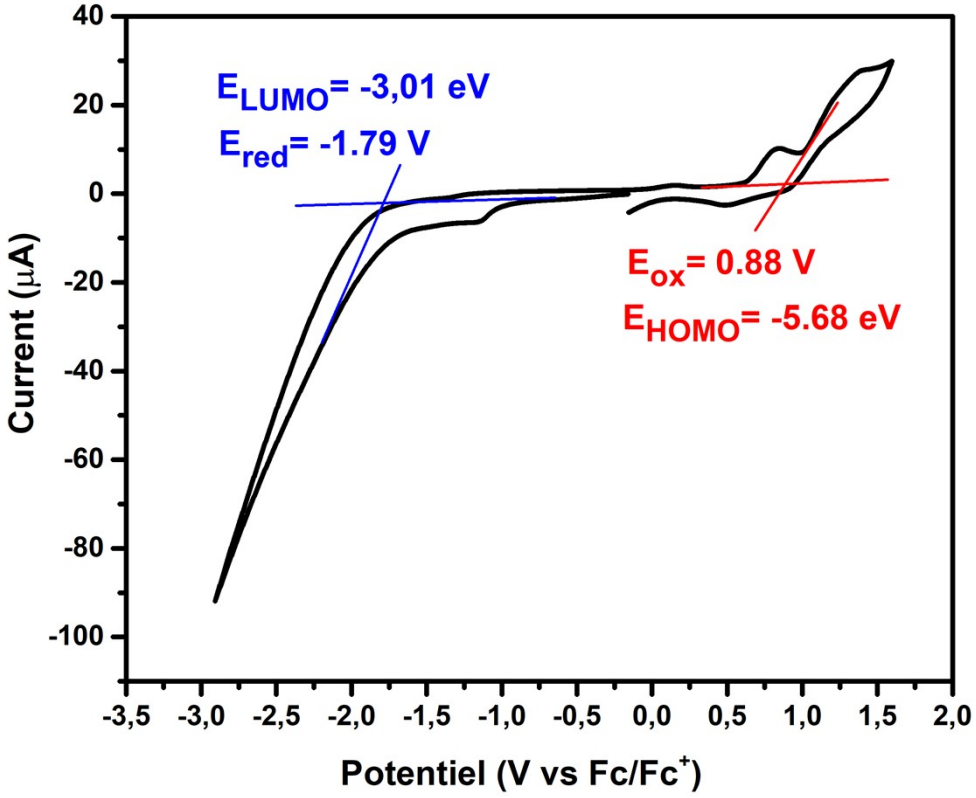

Fig. S 10: Cyclic voltammogram obtained for 16-OPIA (2mmol) in 0.1 $TBAPF_6$ in DCM, degassed with Argon (20 minutes) at 50mV/s versus Fc/Fc+ (silver wire (RE), platinum disc of 3mm diameter (WE) and platinum wire (CE)).

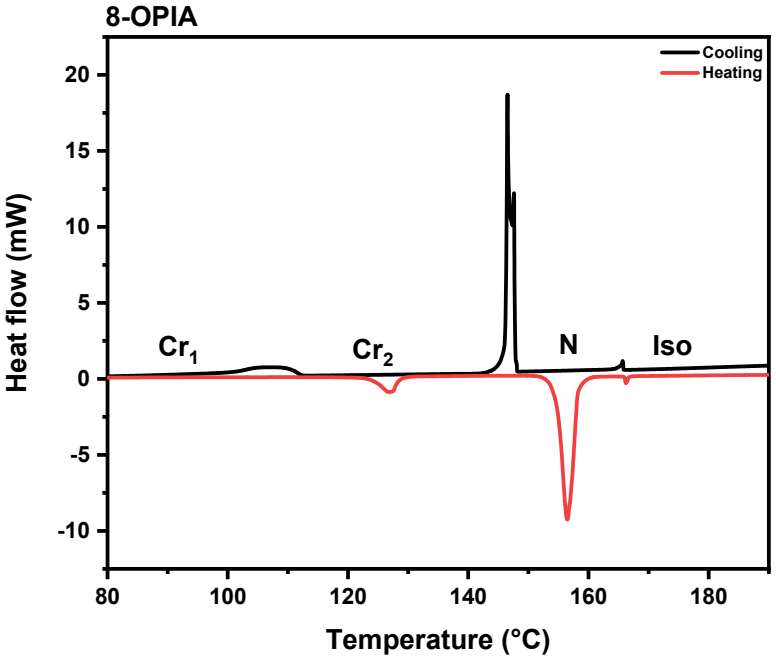

Fig. S 12 : DSC thermograms of 8-OPIA on cooling with a rate of 10°C/min

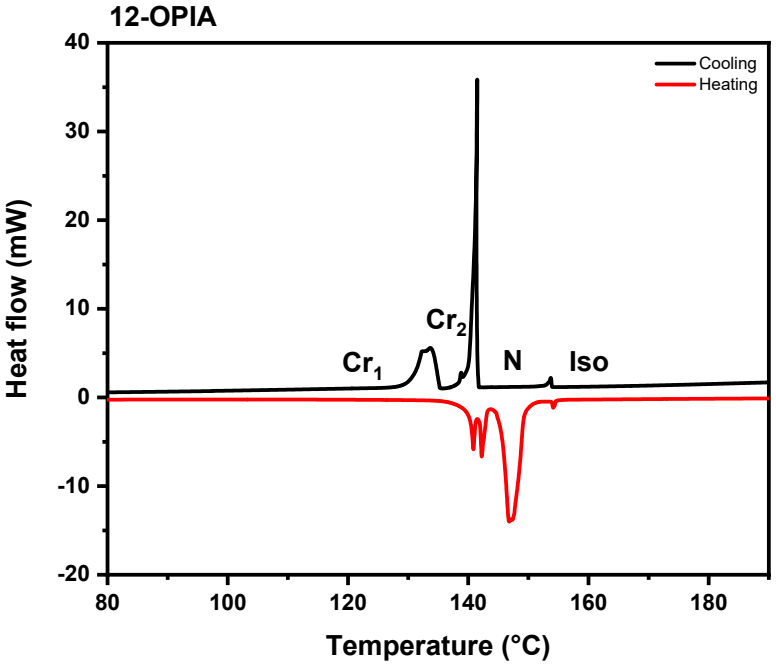

Fig. S 13 : DSC thermograms of 12-OPIA on cooling with a rate of 10°C/min

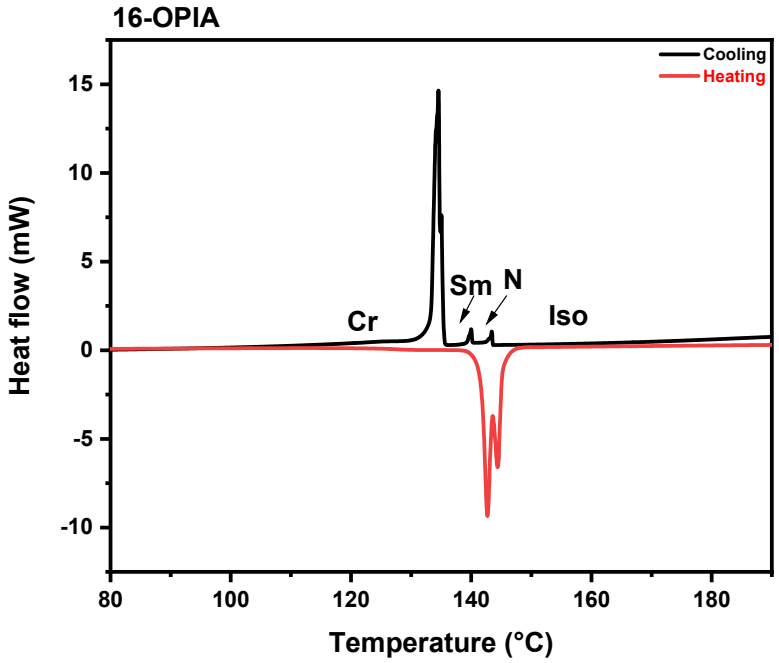

Fig. S 14 : DSC thermograms of 16-OPIA on cooling with a rate of 10°C/min