**Supporting Information for:**

**Star-shaped Oligomers with Truxenone Center and Triphenylene Branches: Mesomorphism, Optical and Electronic Properties**

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**Contents:**

TGA curves ofthreeoligomers............................................................................. S2

DSC curves of threeoligomers..............................................................................S3

POM images of threeoligomers.............................................................................S4

X-ray Diffractograms................................................................................................S5

Cyclic Voltammetry Results. ..................................................................................S8

UV-Vis and Fluorescence Data .............................................................................S8

1H and 13C NMR Spectra..........................................................................................S11

HRMSofthreeoligomers…………………………….………………………………………………………S21



1. **TGA**

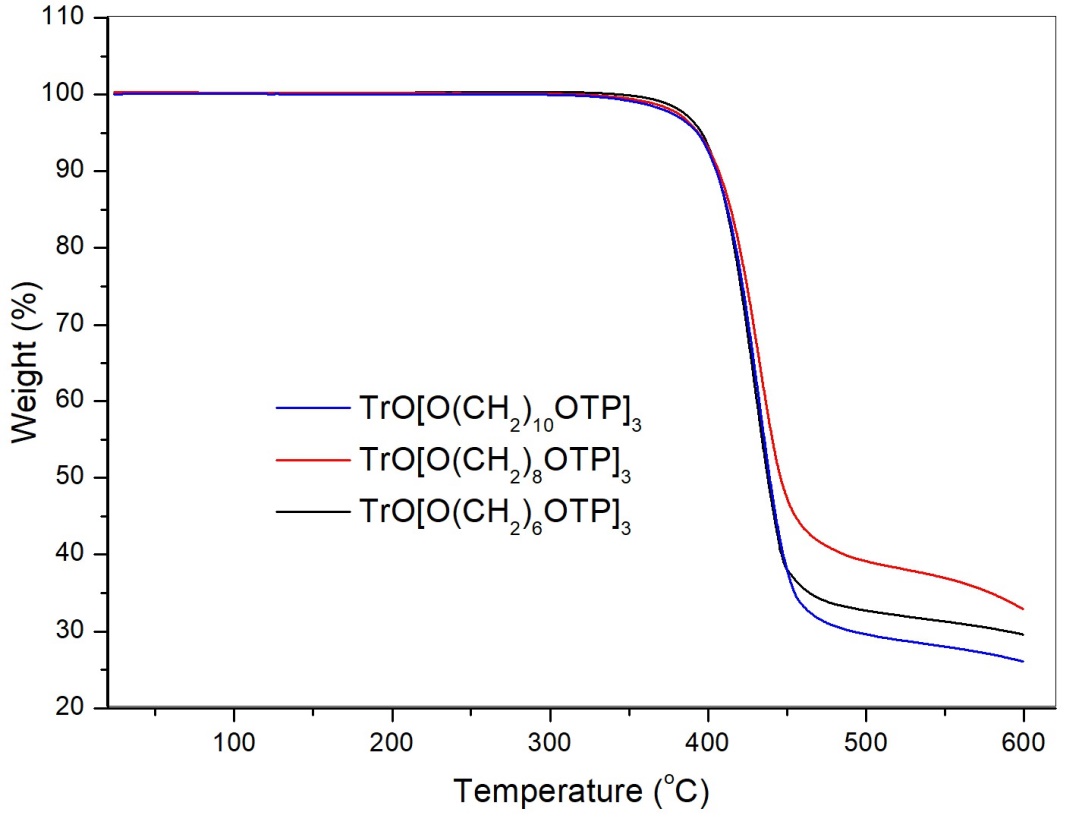
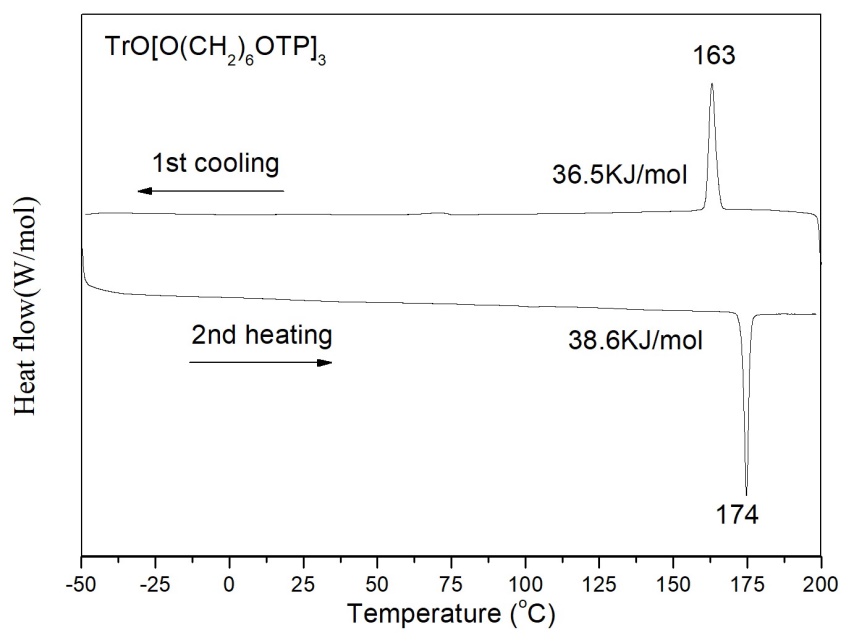
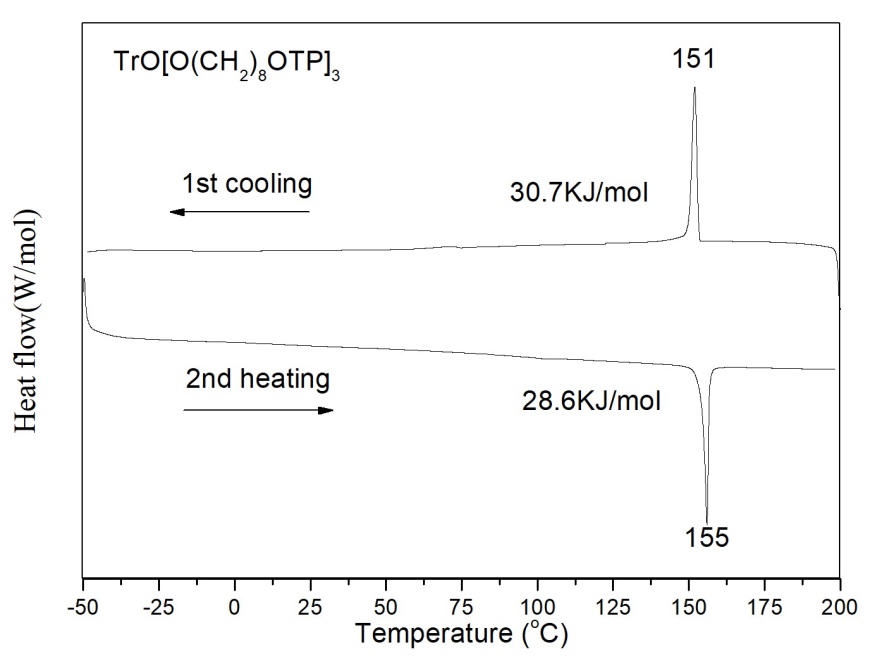


Fig. S1. TGA curves ofthreeoligomers. The measurements were performed under a nitrogen atmosphere, with heating and cooling rates of 10 oC min-1.

1. **Differential scanning calorimetry (DSC) curves of three oligomers**





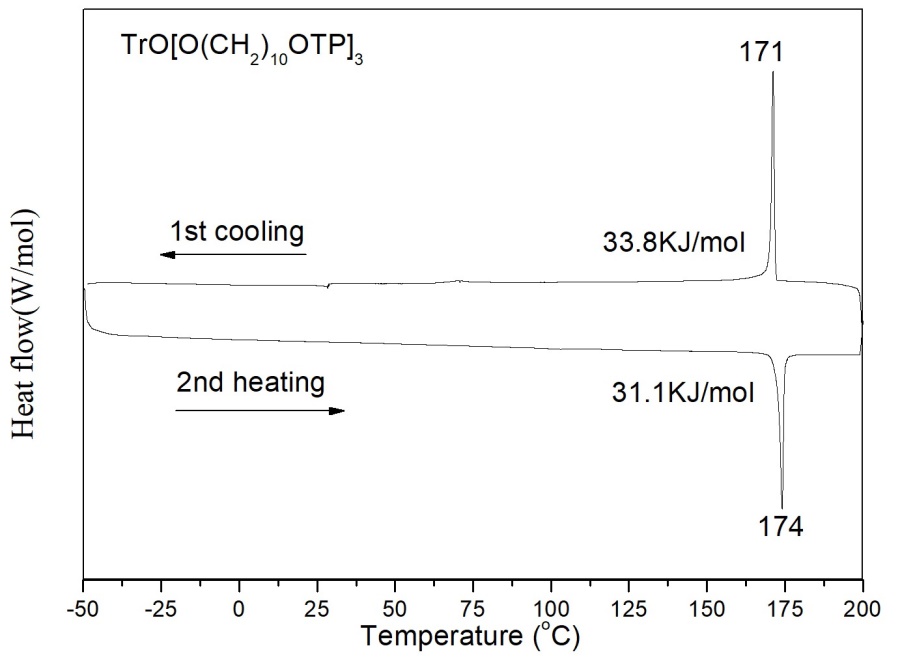
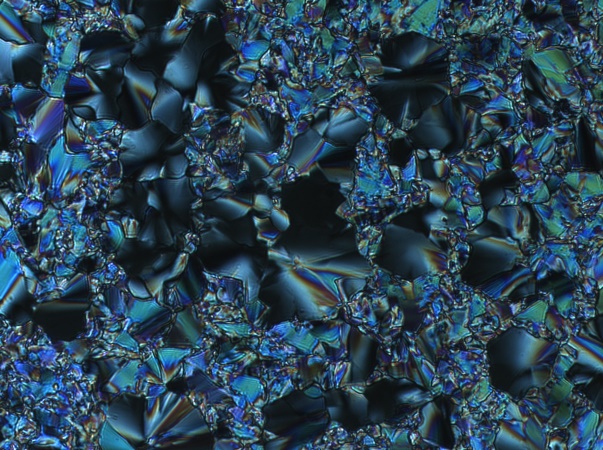
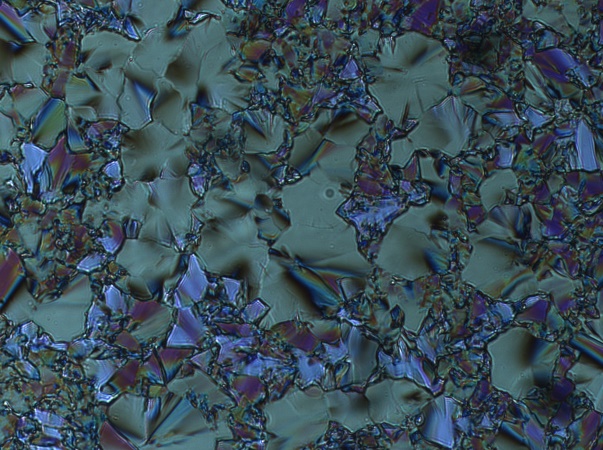


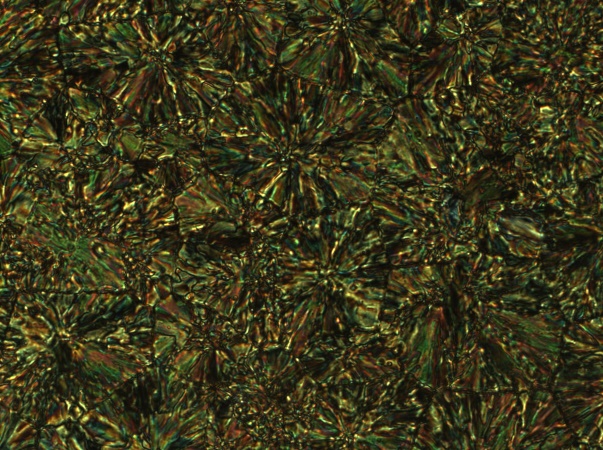
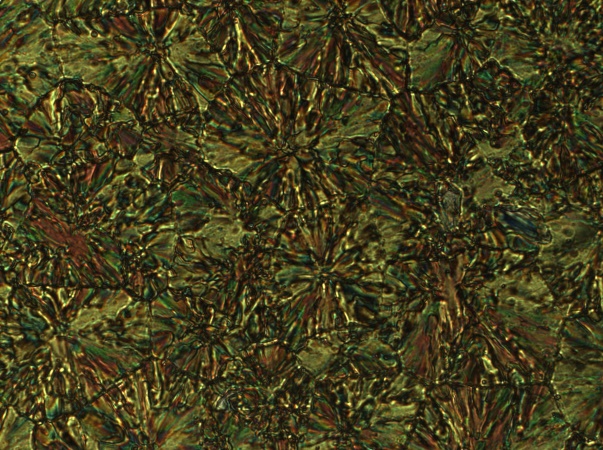
Fig. S2. DSC curves of three oligomers. The measurements were performed under a nitrogen atmosphere, with heating and cooling rates of 10 oC min-1.

1. **Polarizing optical microscopy images**

(a)

(b)

(c)

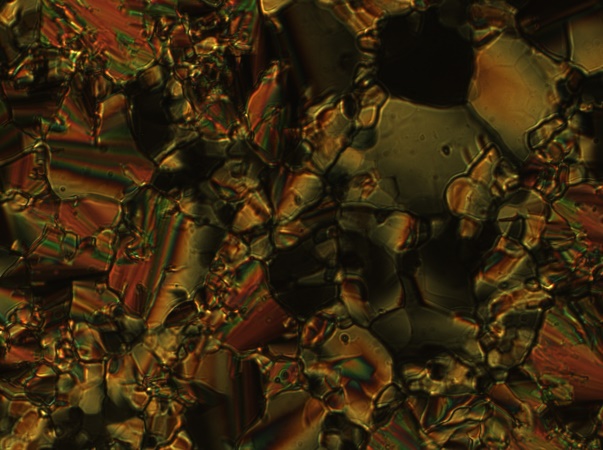
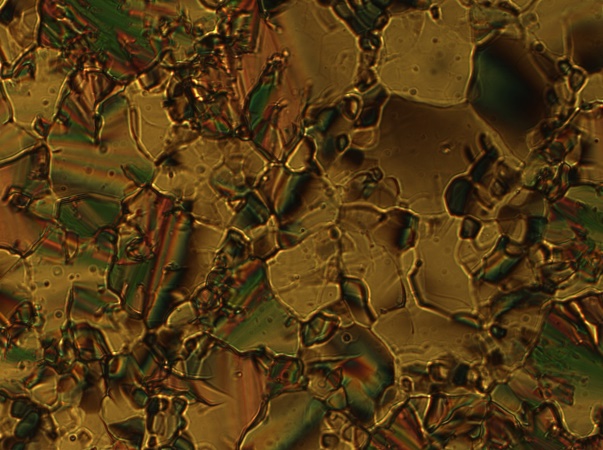
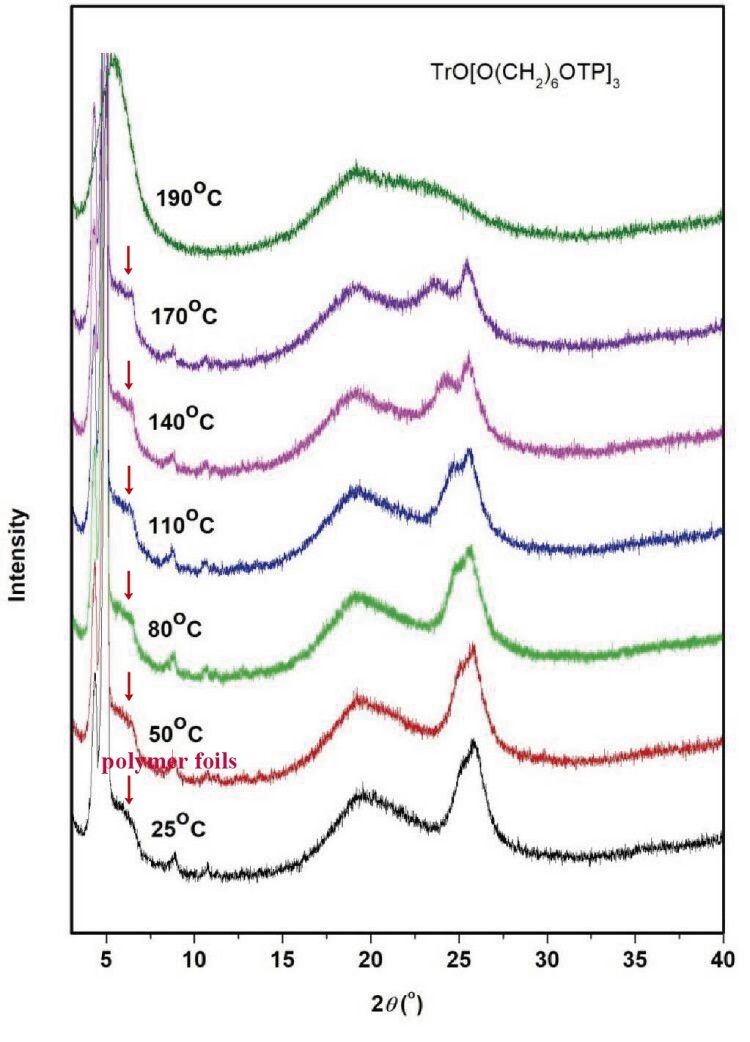
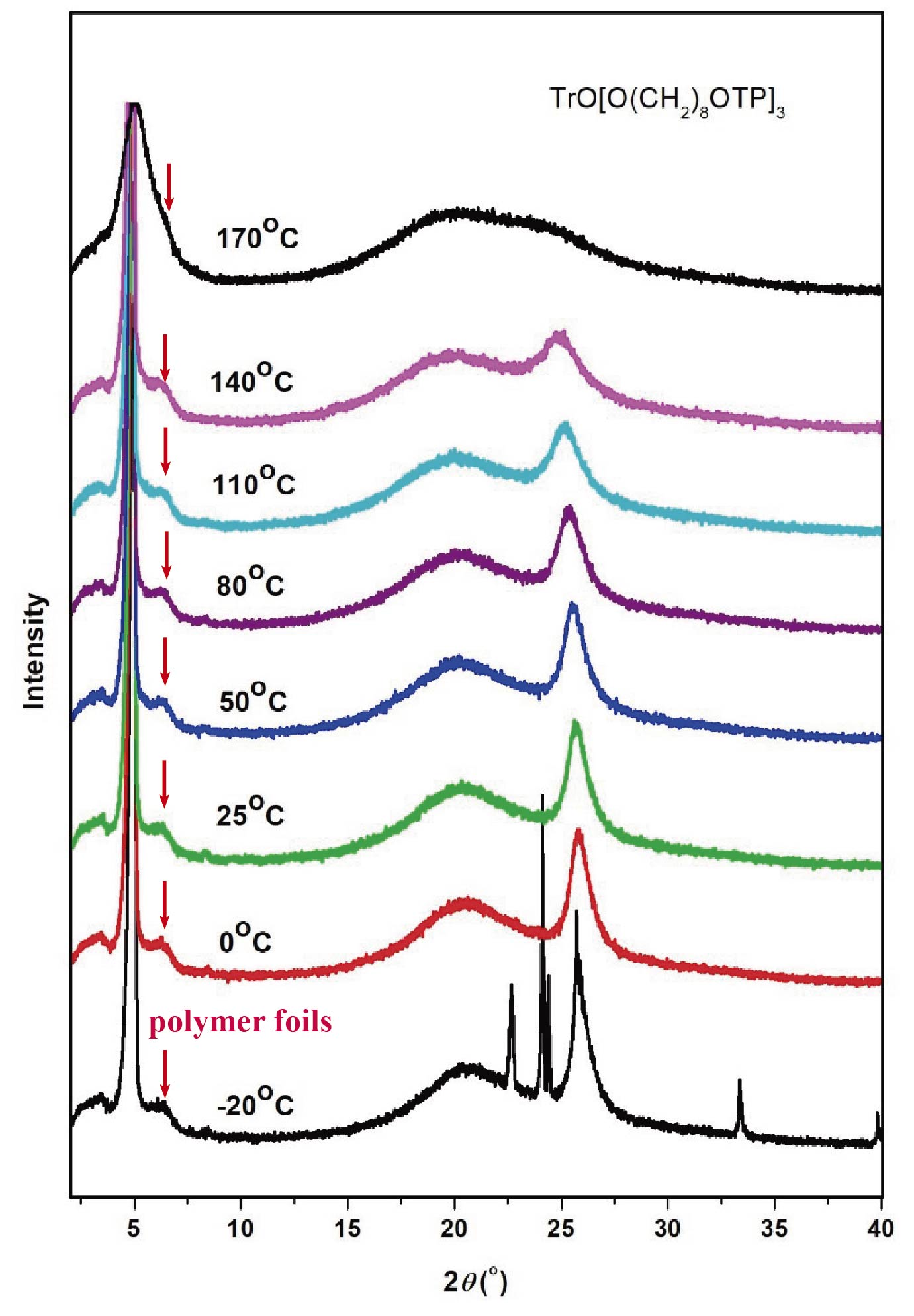
 

Fig. S3. Polarized optical microscopy (POM) images of the drop-casted thin film of three oligomers between two glass slides observed under two crossed polarizers upon slow cooling (1-2 oC min-1) from the isotropic phase: (a) **TrO[O(CH2)6OTP]3** at 168 oC;(b) **TrO[O(CH2)8OTP]3** at 158 oC;(c) **TrO[O(CH2)10OTP]3** at 147 oC.

1. **X-ray diffraction (XRD)**





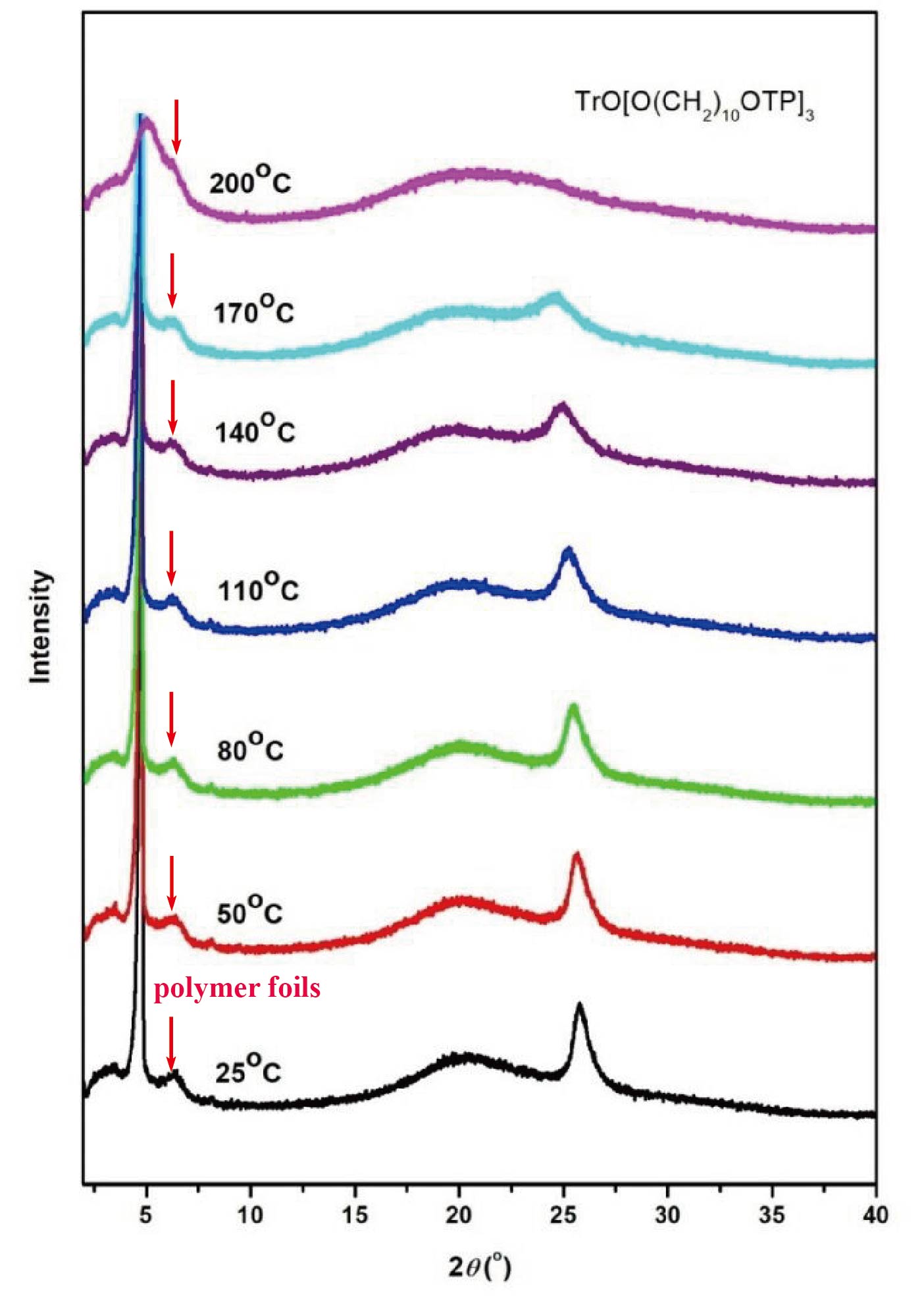


Fig. S4. XRD data forthree oligomers.

**5. Cyclic Voltammogram**



Fig. S5. Cyclic Voltammogram of three oligomers (2 mM) in dry DCM with 0.1 M Bu4NPF6 as the electrolyte with a scan rate of 100 mV s-1.

**6. UV-Vis and Fluorescence Data**

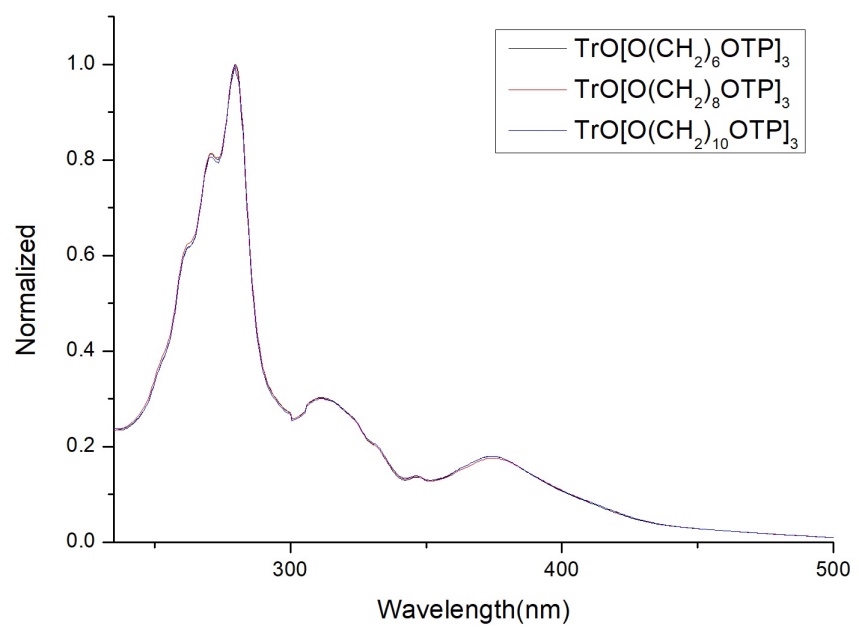


Fig. S6. UV-Vis absorbance spectra of 10-5 M solutions of three oligomers.

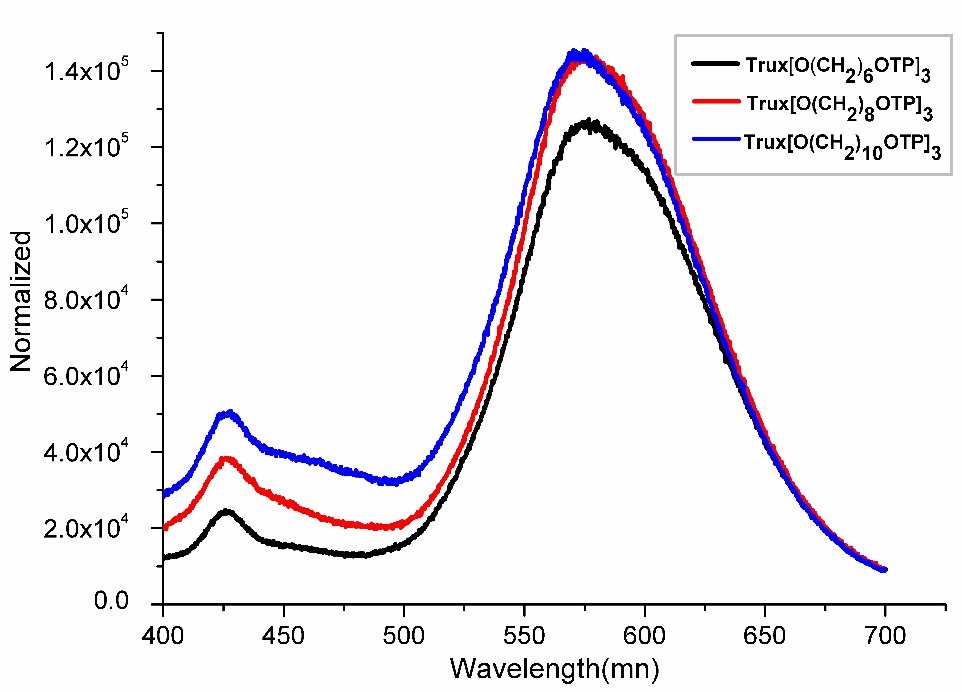


Fig. S7. Emission spectra of 10-5 M solutions of three oligomers(λexc = 350 nm).

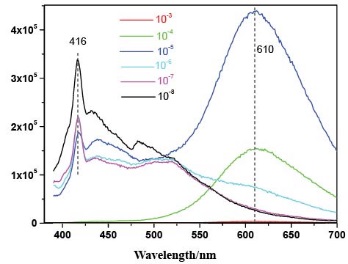


Fig. S8. Fluorescence emission of TrO[O(CH2)6OTP]3 in different concentrations of DCM solution(λexc = 350 nm).

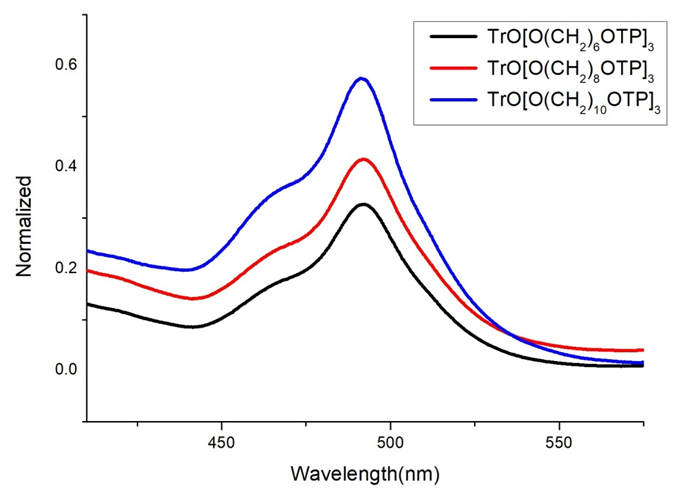
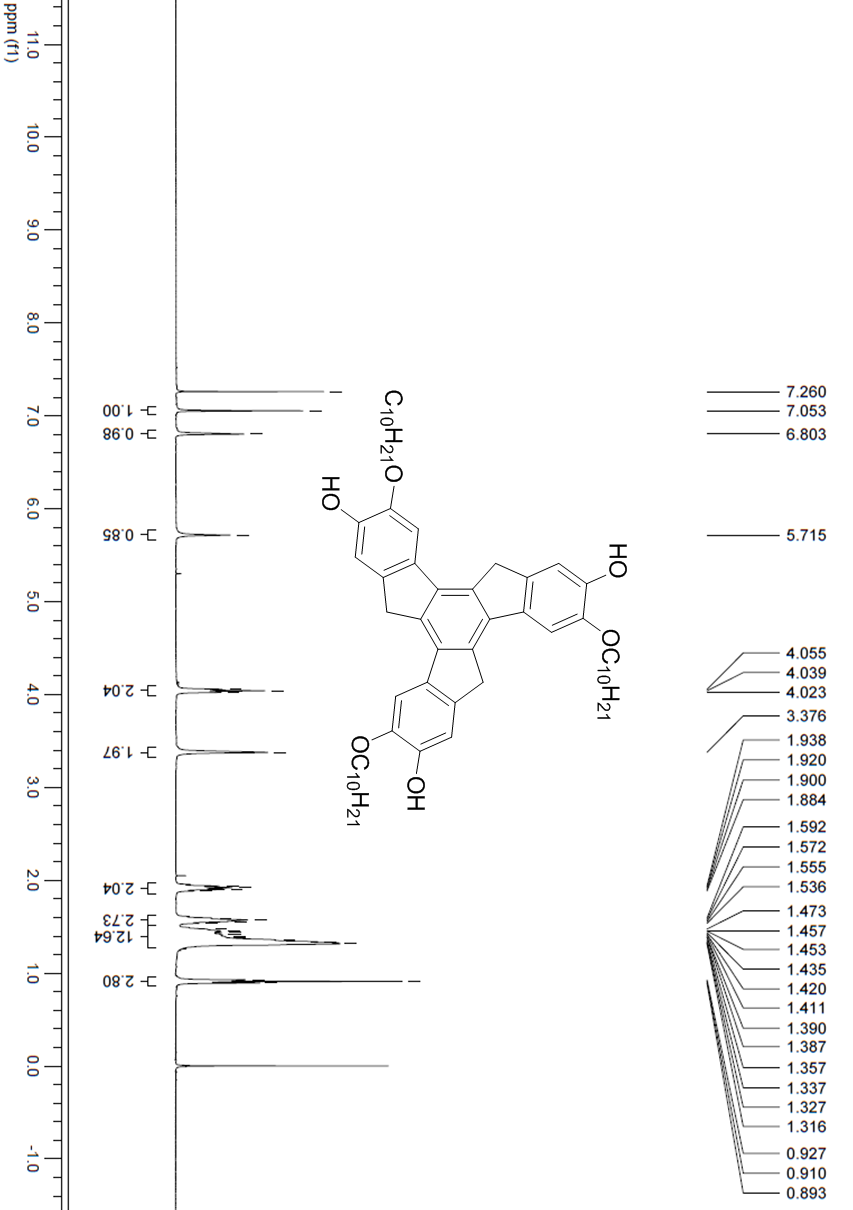


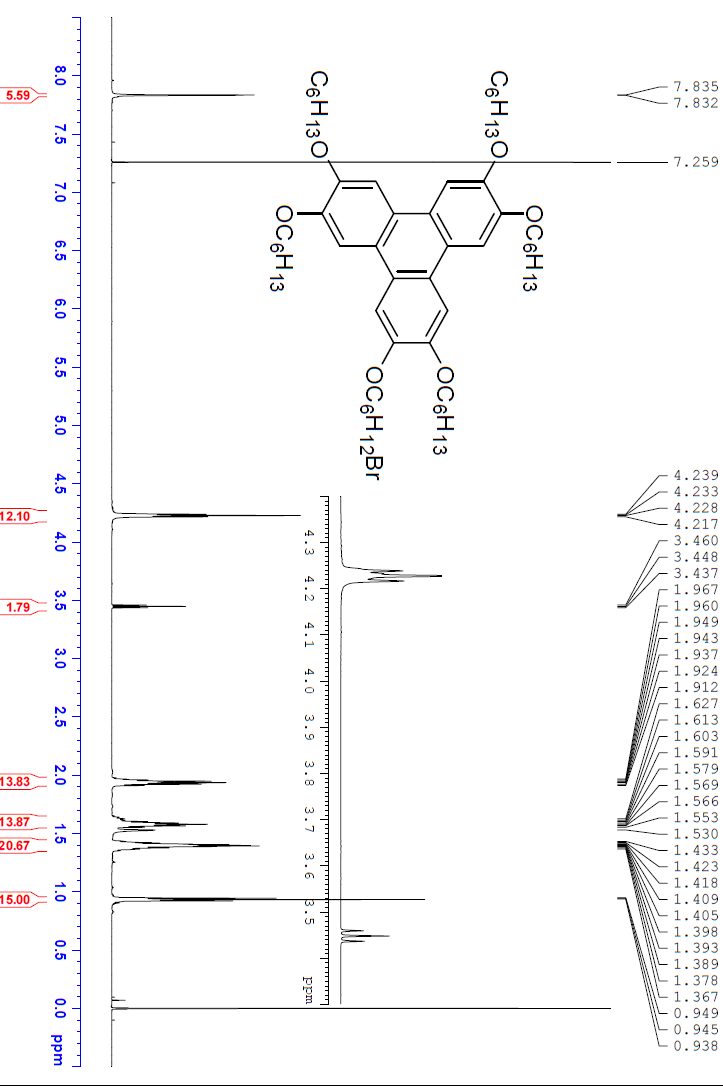
Fig. S9. Emission spectra of three oligomers in thin film(λexc = 350 nm).

**7. 1HNMR and 13C NMR of 1, 2a-c and three oligomers**

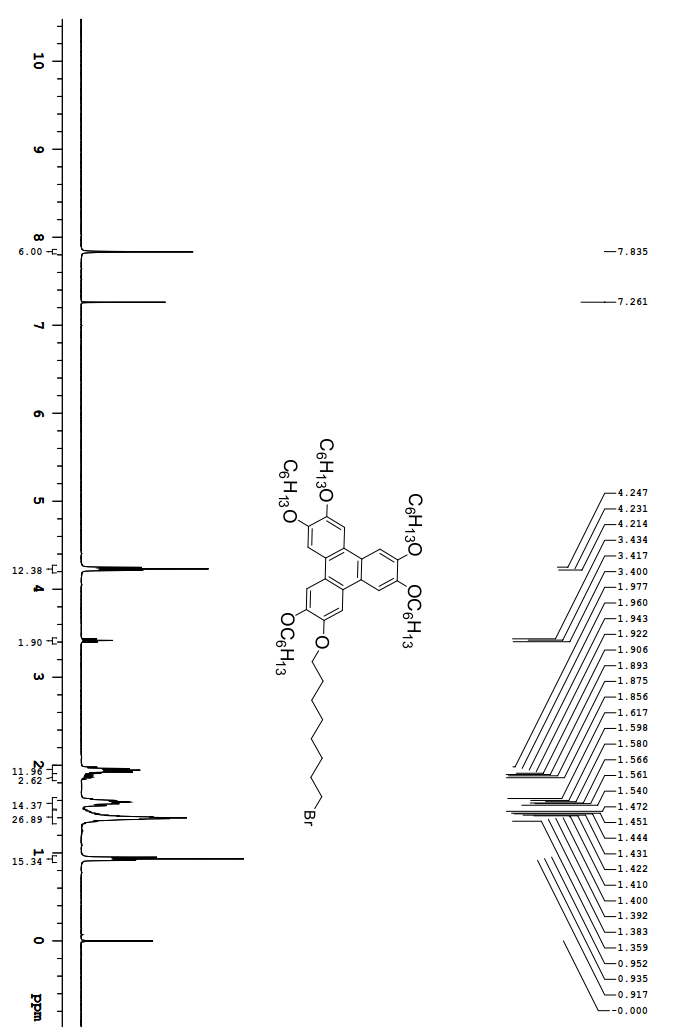
**1H NMR spectrum of compound 1**



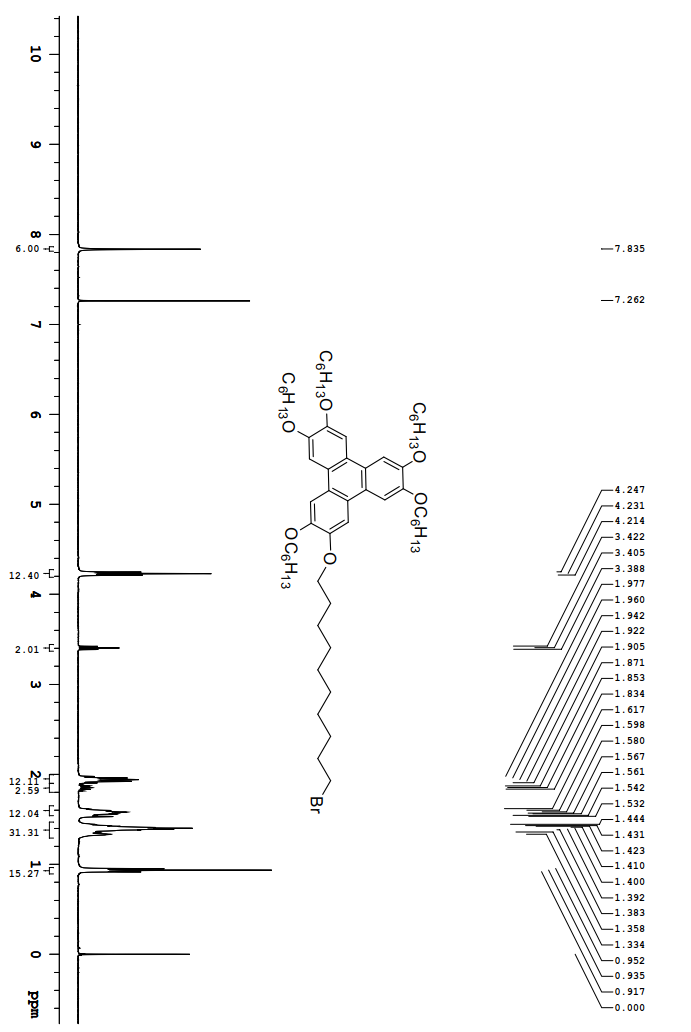
**1H NMR spectrum of compound 2a**



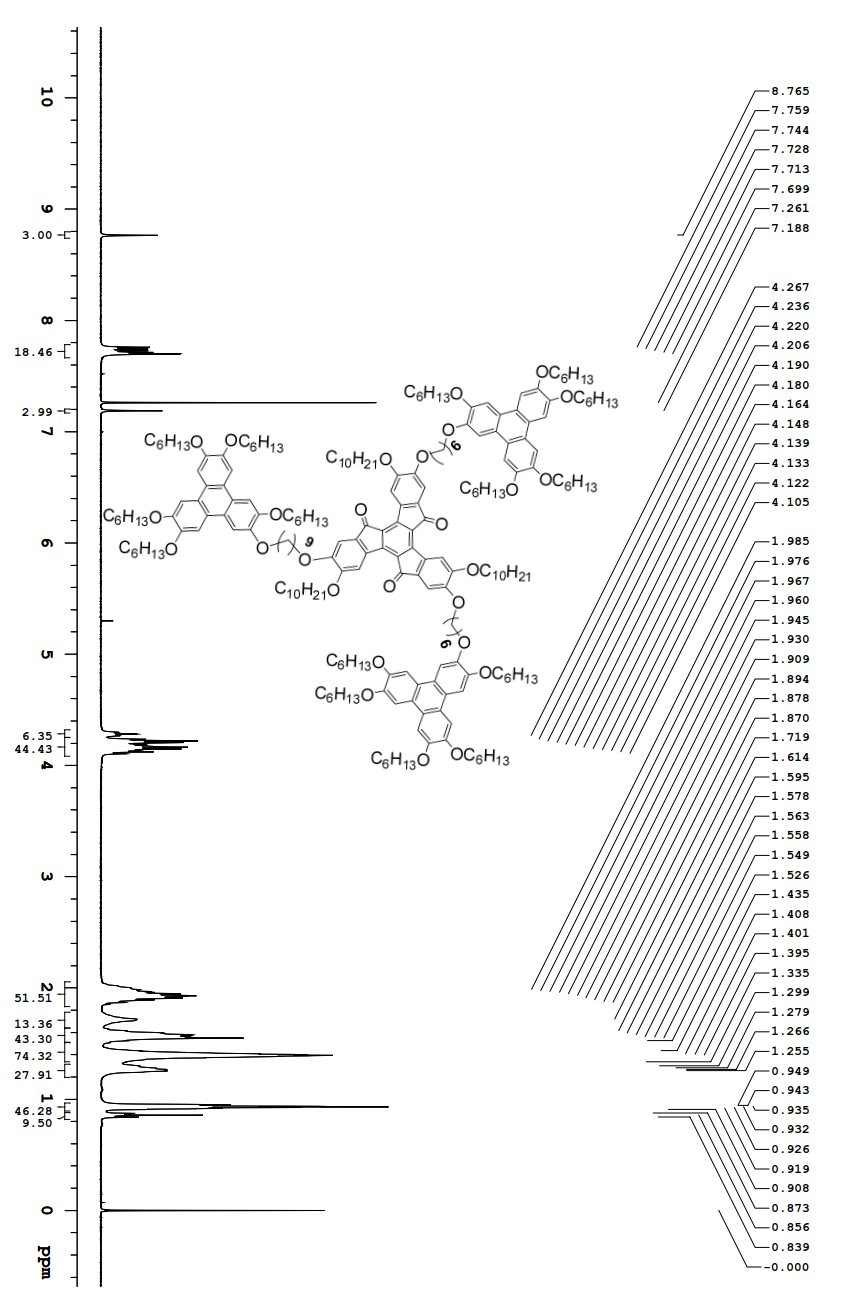
**1H NMR spectrum of compound 2b**



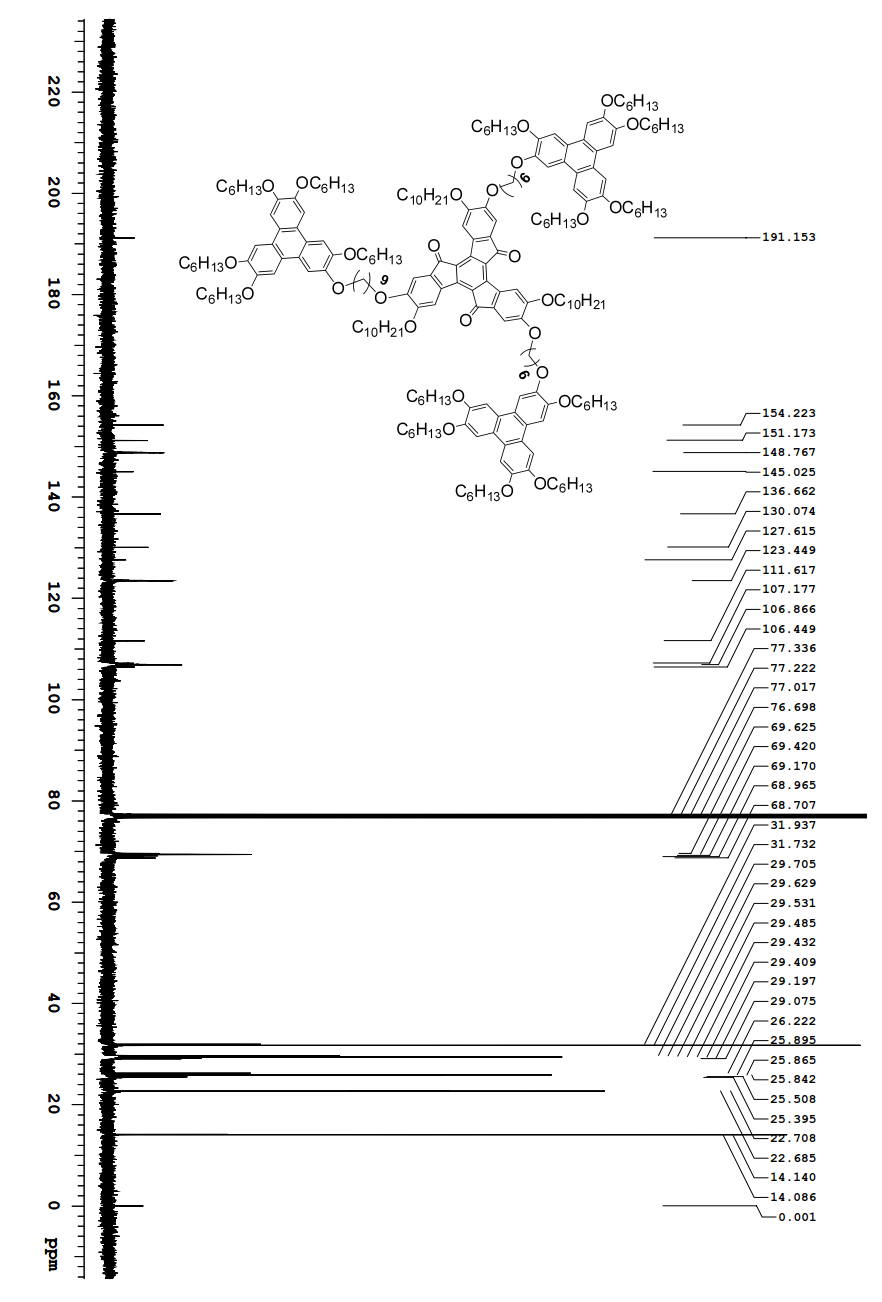
**1H NMR spectrum of compound 2c**

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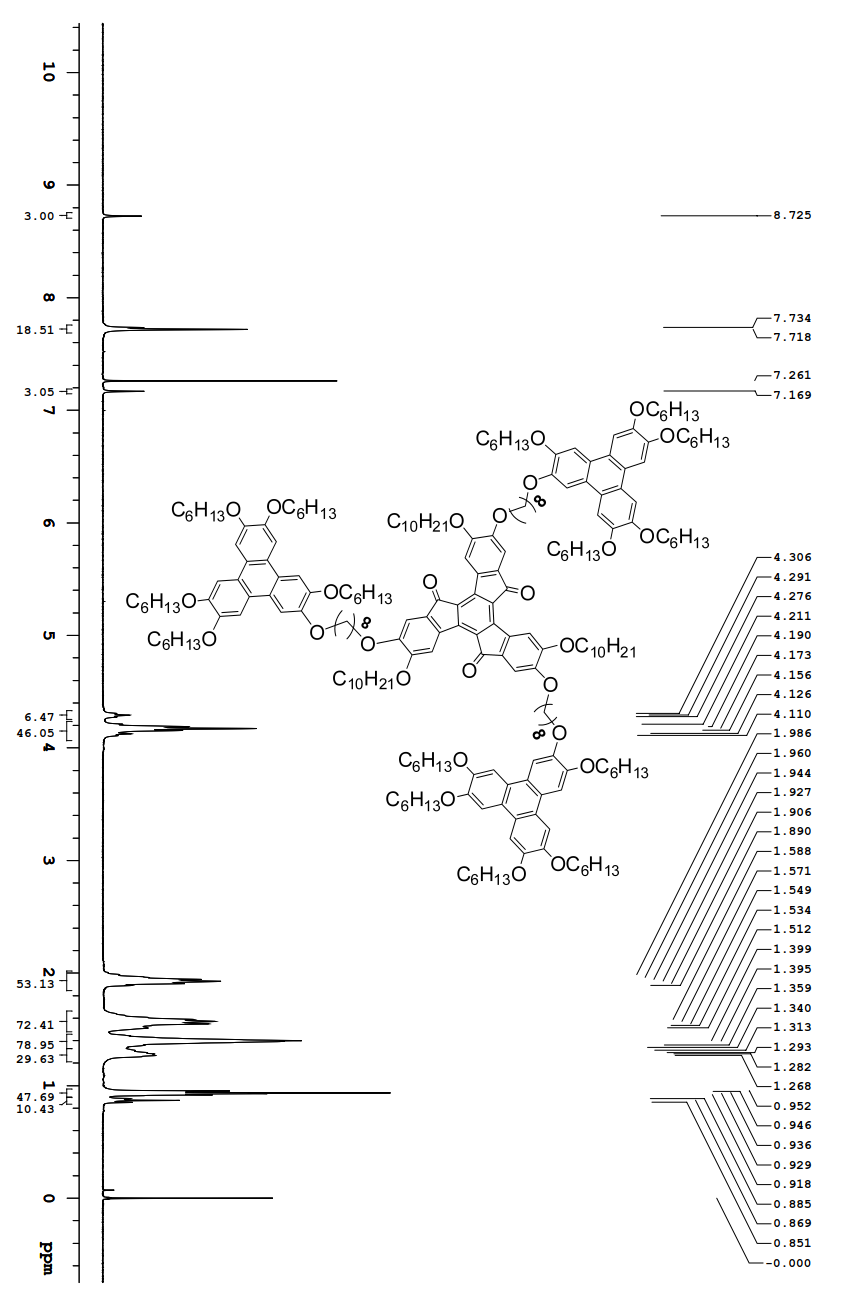
**1H NMR spectrum of compound TrO[O(CH2)6OTP]3**



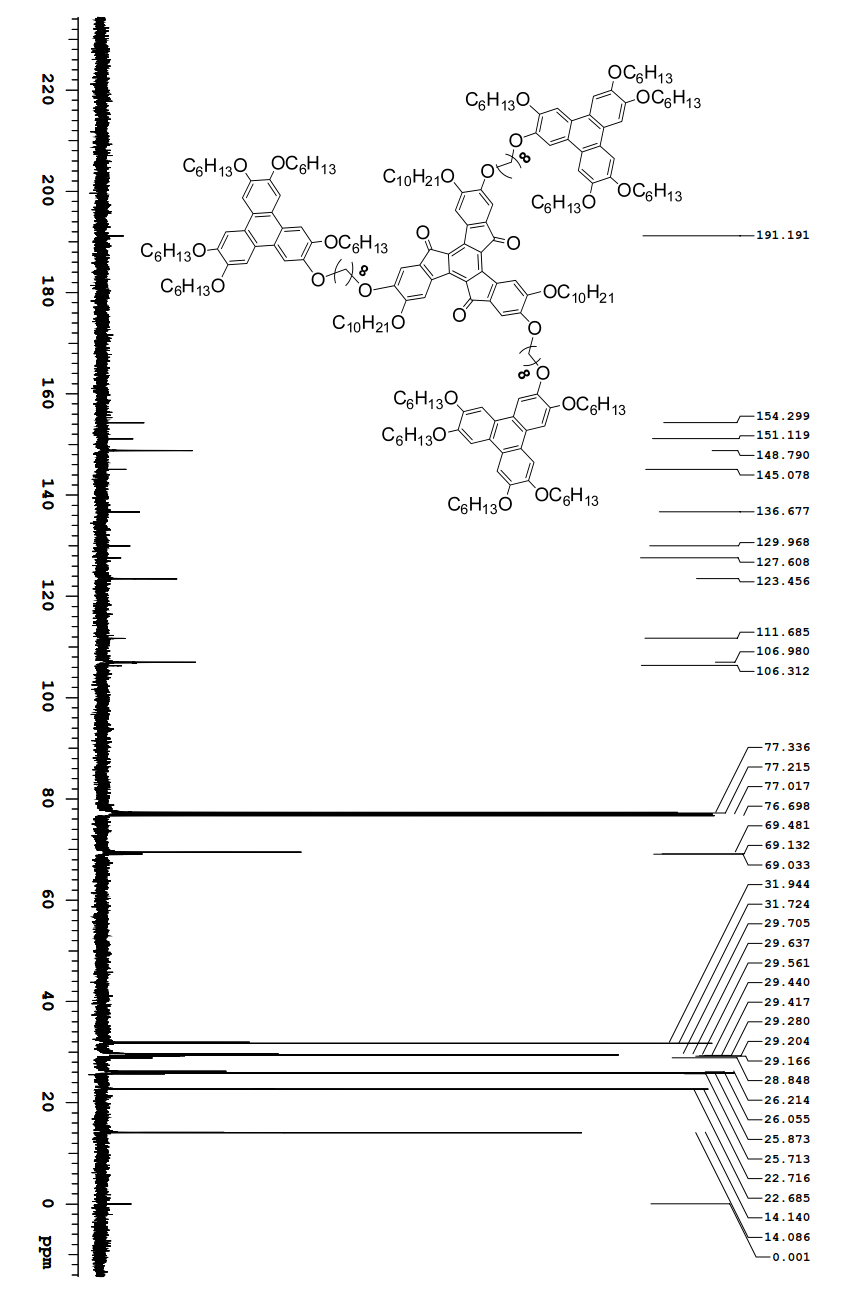
**13C NMR spectrum of compound of TrO[O(CH2)6OTP]3**



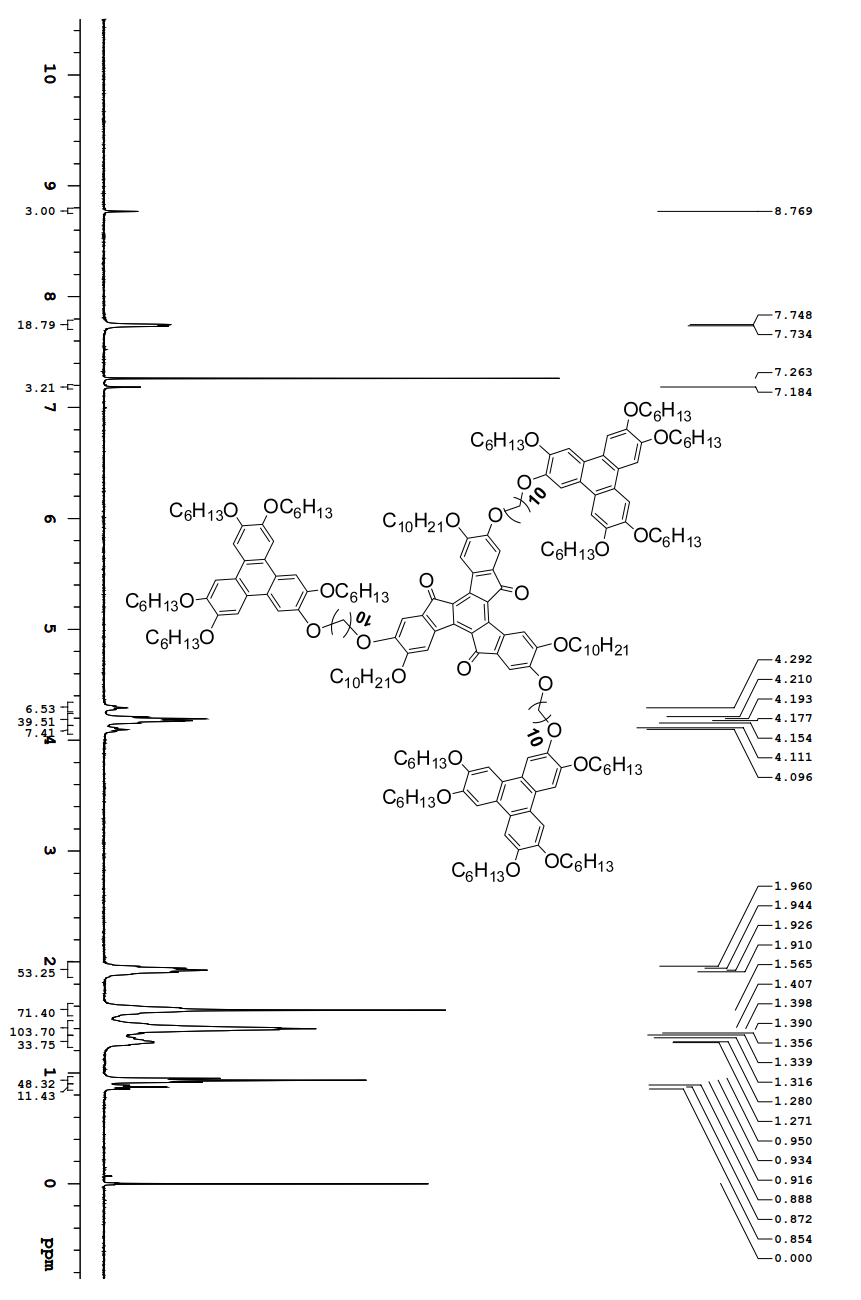
**1H NMR spectrum of compound TrO[O(CH2)8OTP]3**



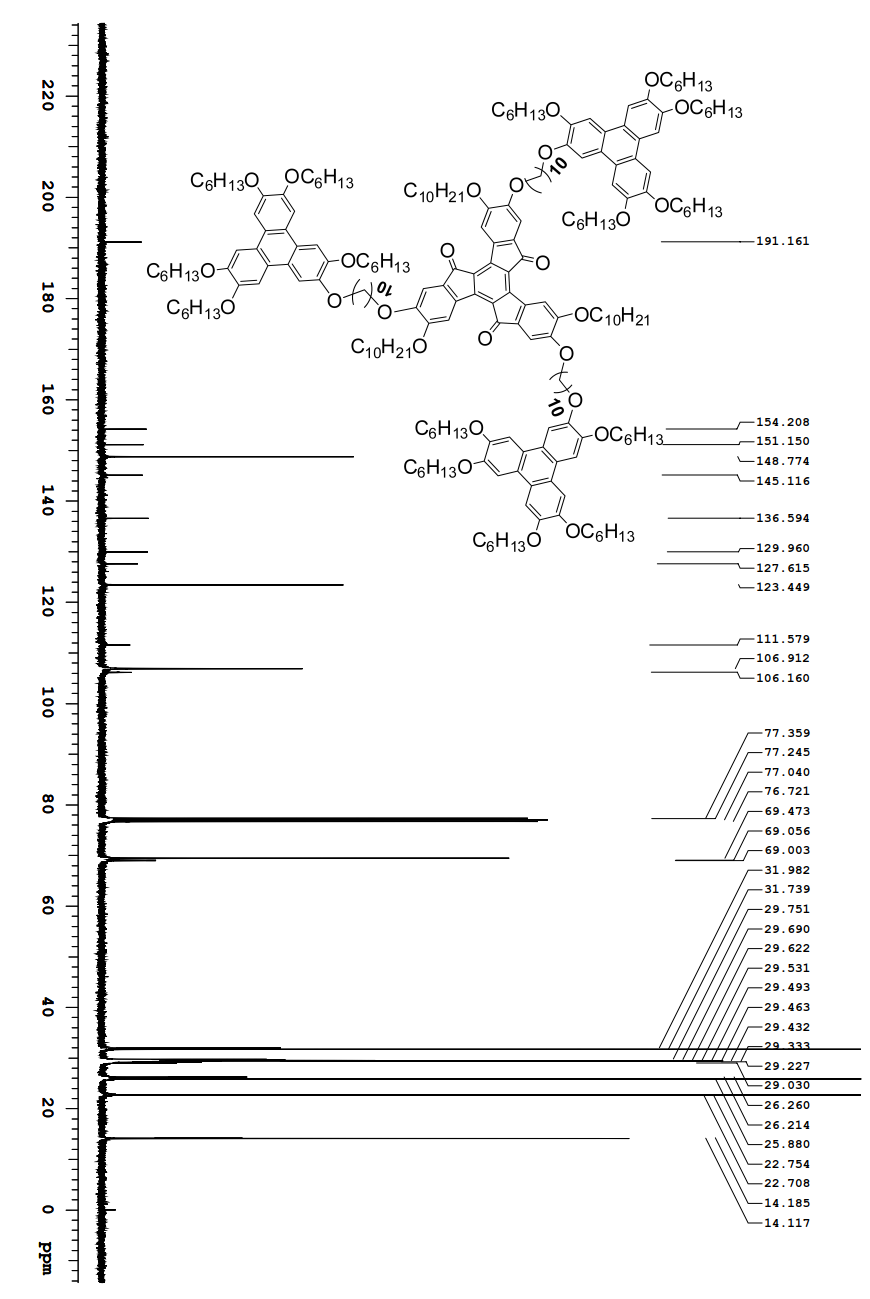
**13C NMR spectrum of compound of TrO[O(CH2)8OTP]3**



**1H NMR spectrum of compound TrO[O(CH2)10OTP]3**

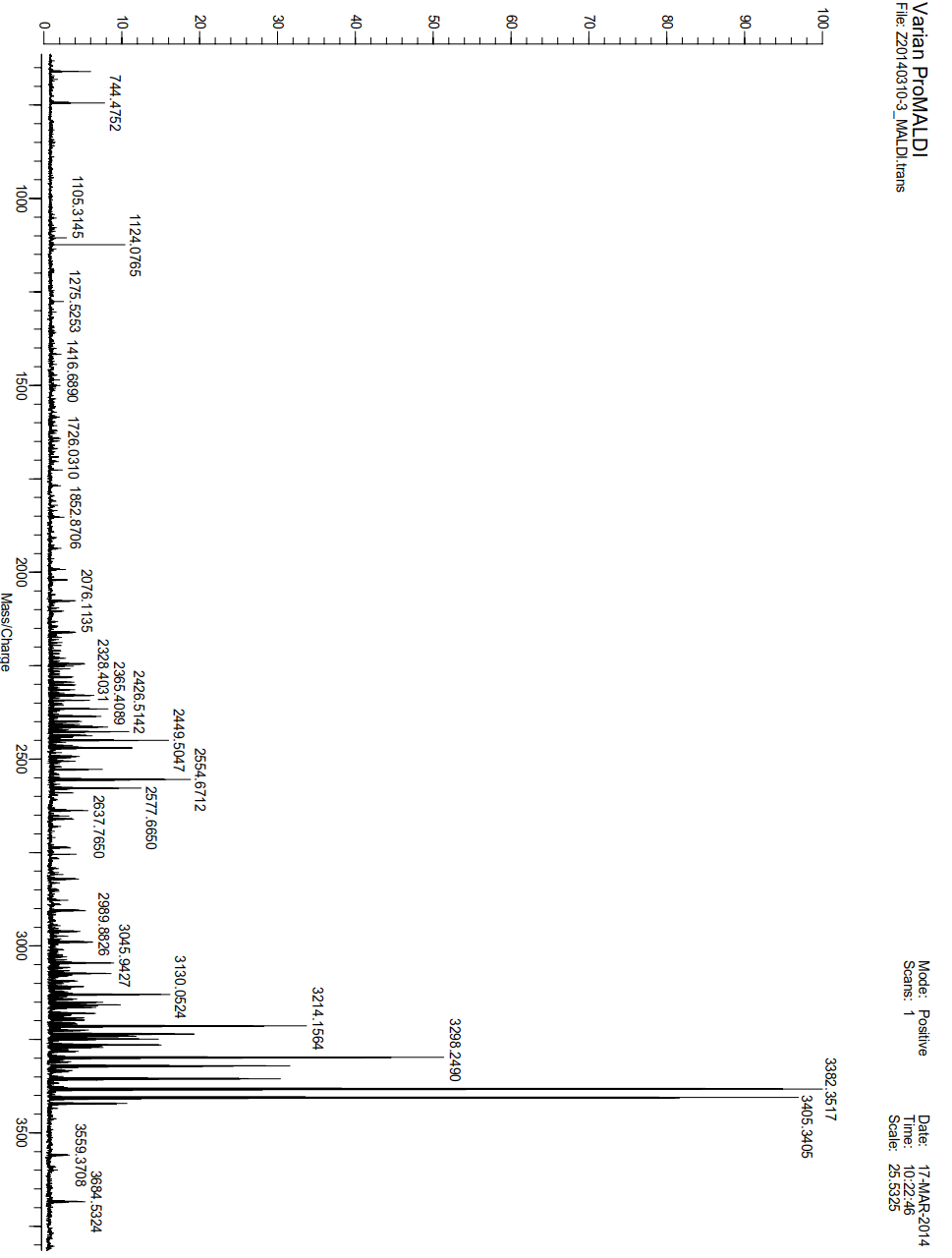


**13C NMR spectrum of compound of TrO[O(CH2)10OTP]3**

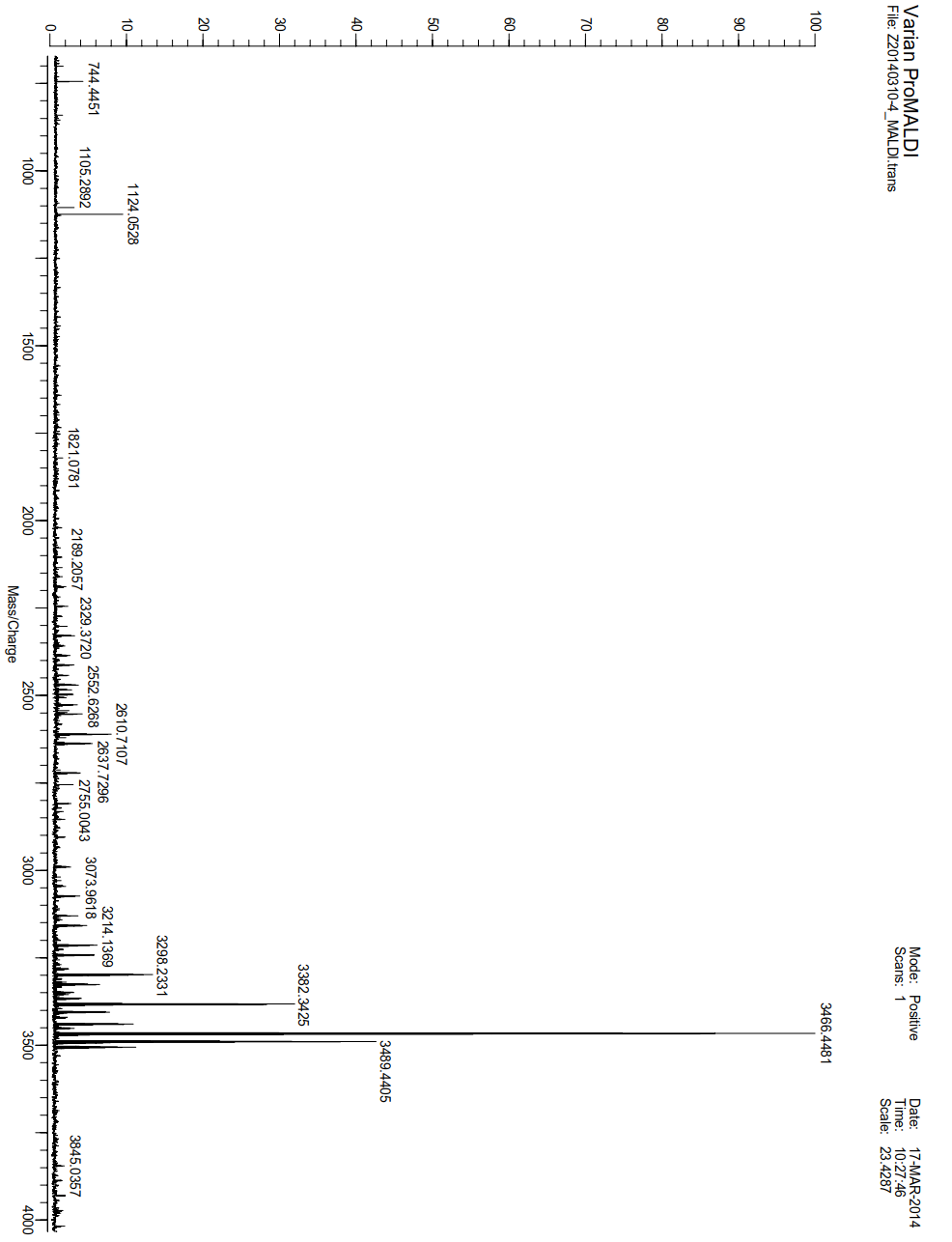


8. **HRMS of three oligomers**

**TrO[O(CH2)6OTP]3**

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**TrO[O(CH2)8OTP]3**

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**TrO[O(CH2)10OTP]3**

