

# Supporting Information

## Systematic Study on Nonlinear Optical Chromophores with Improved Electro-Optic Activity by Introducing 3,5-Bis(Trifluoromethyl)Benzene Derivative Isolation Groups into the Bridge

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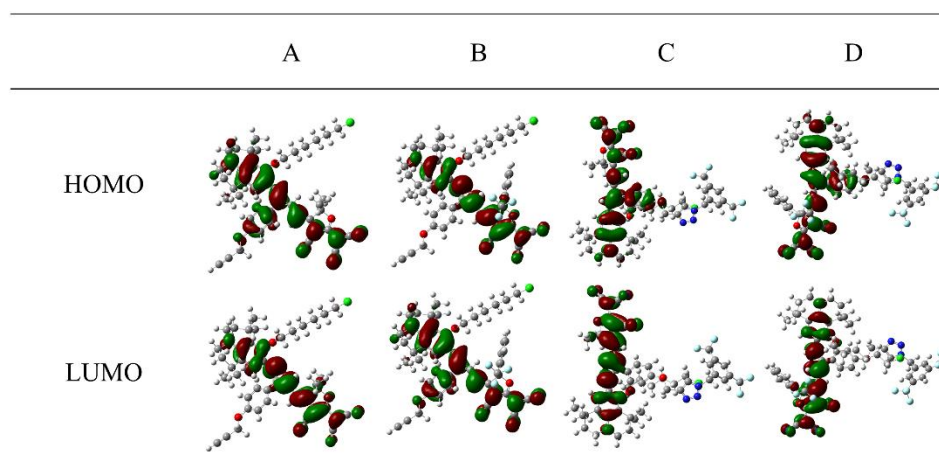
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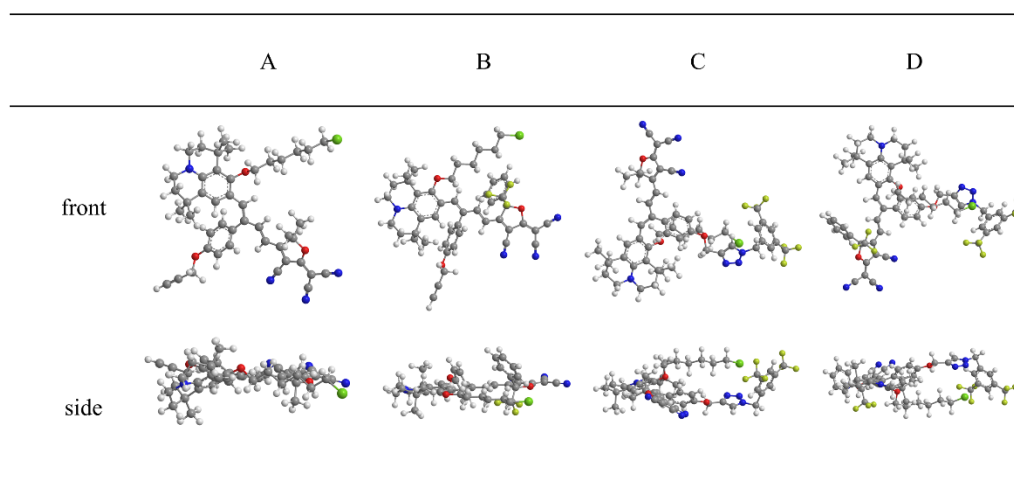
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**Table S1.** The values of glass transition temperature ( $T_g$ ) and contact poling temperature ( $T_p$ ) of the chromophore doped APC

Chromophore	A	B	C	D
$T_g$ (15wt%)	154	147	149	148
$T_p$ (15wt%)	155	150	152	149
$T_g$ (25wt%)	135	129	131	133
$T_p$ (25wt%)	137	131	134	135
$T_g$ (35wt%)	130	128	127	129
$T_p$ (35wt%)	134	129	134	133

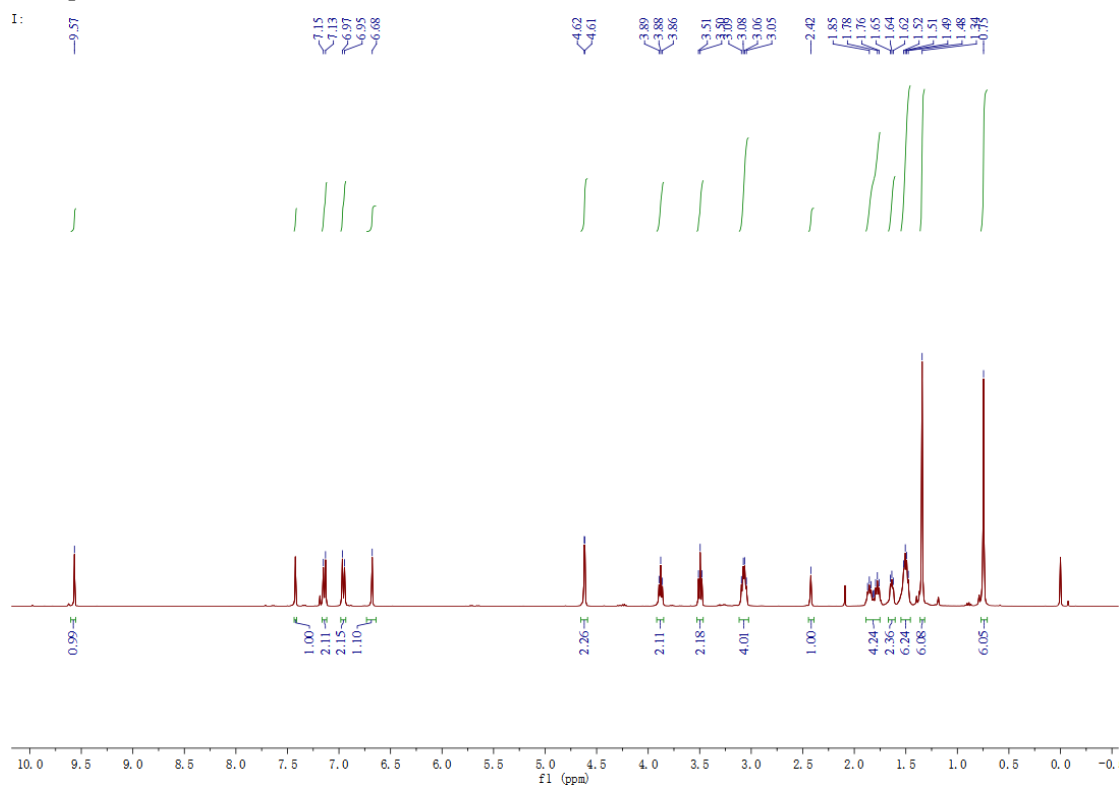


**Figure S1.** The frontier molecular orbitals of chromophores A, B, C and D.



**Figure S2.** The optimized structures of chromophores A, B, C, D.

# Compound 6:



# Compound 8:

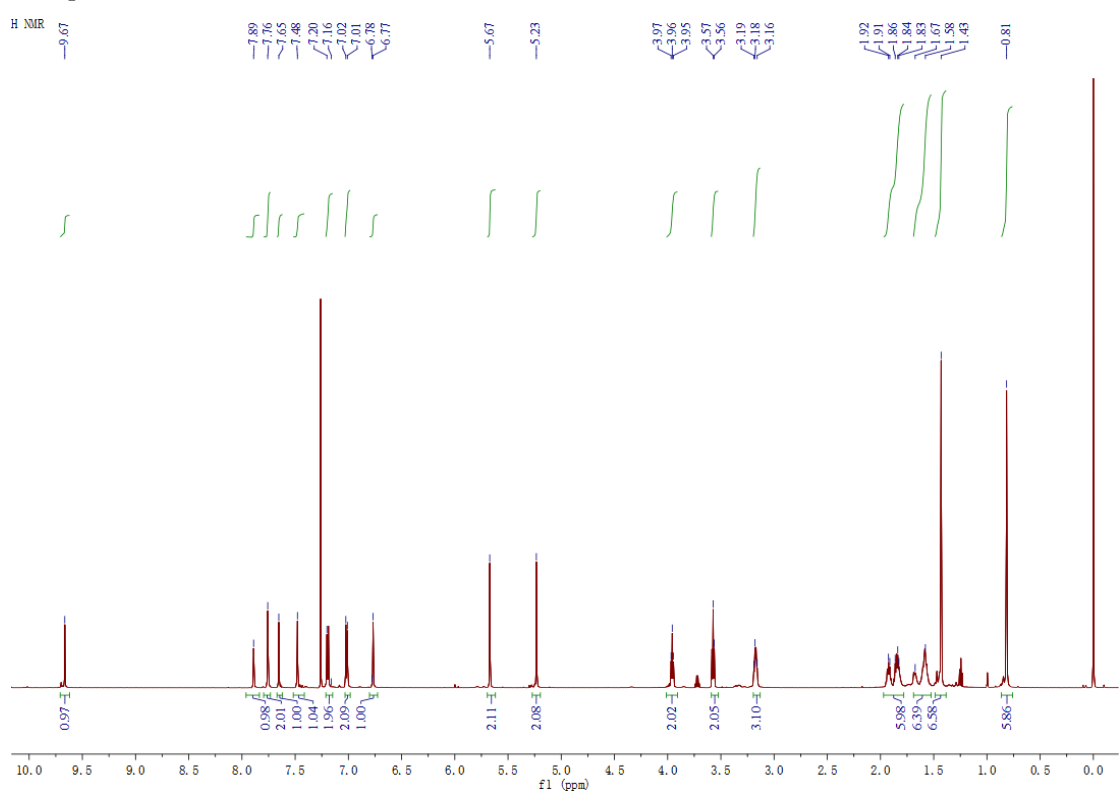
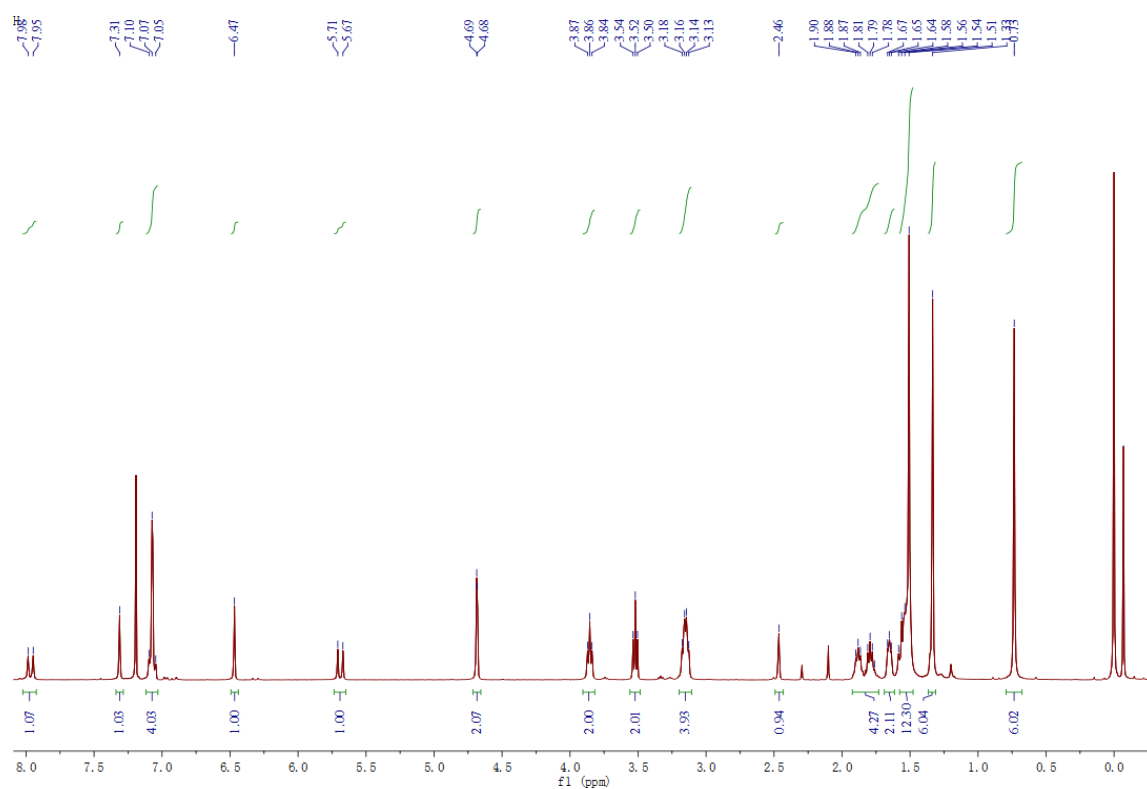
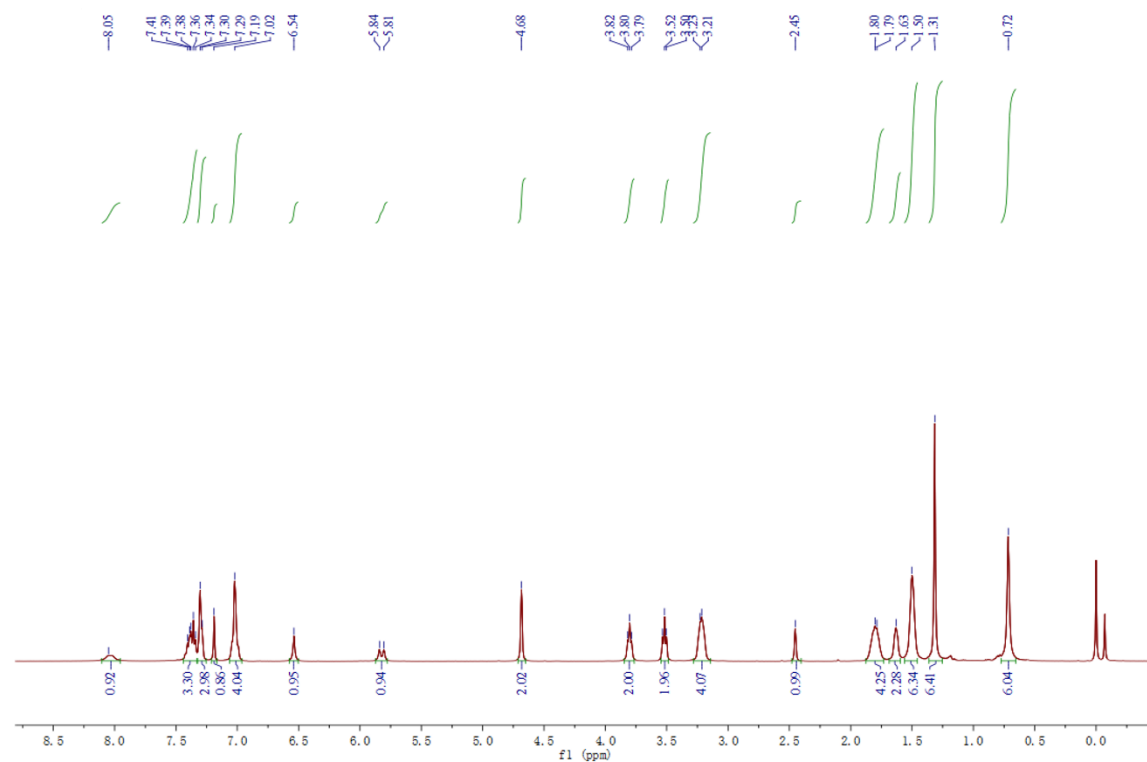


Figure S3. The <sup>1</sup>H NMR spectra of the compound 6 and compound 8.

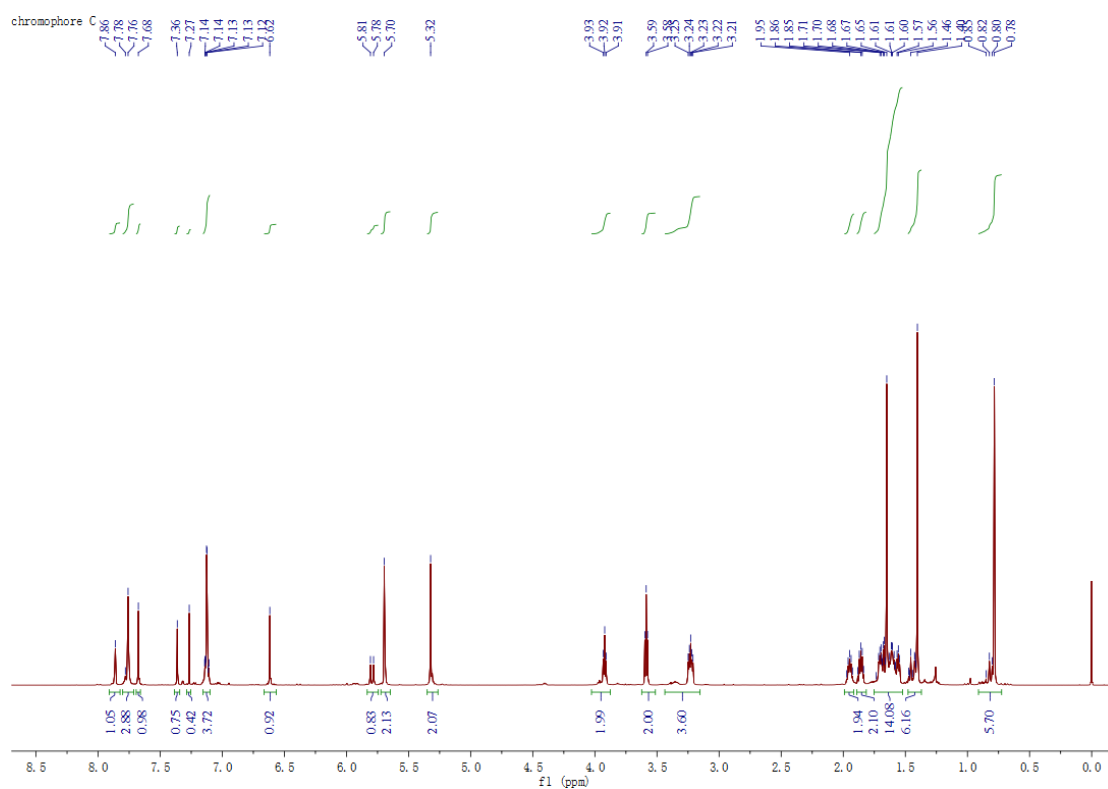
# Chromophore A:



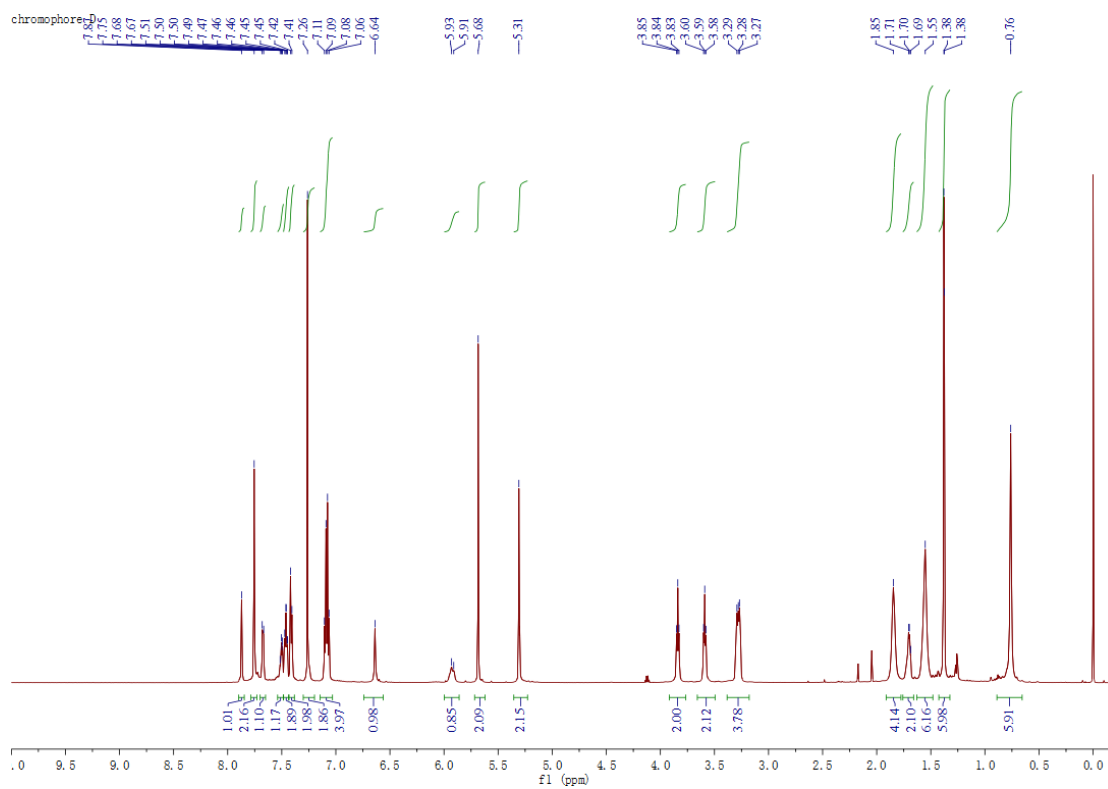
# Chromophore B:



### Chromophore C:

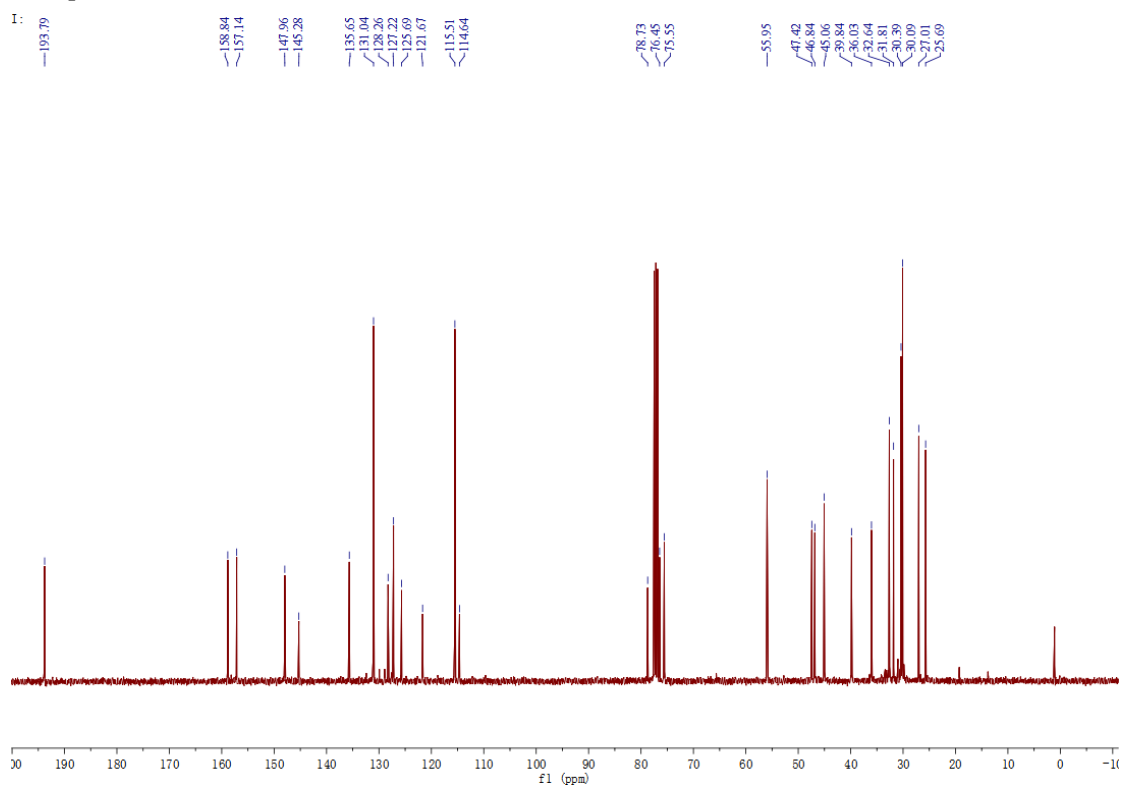


### Chromophore D:



**Figure S4.** The  $^1\text{H}$  NMR spectra of the chromophore A, B, C and D.

Compound 6:



Compound 8:

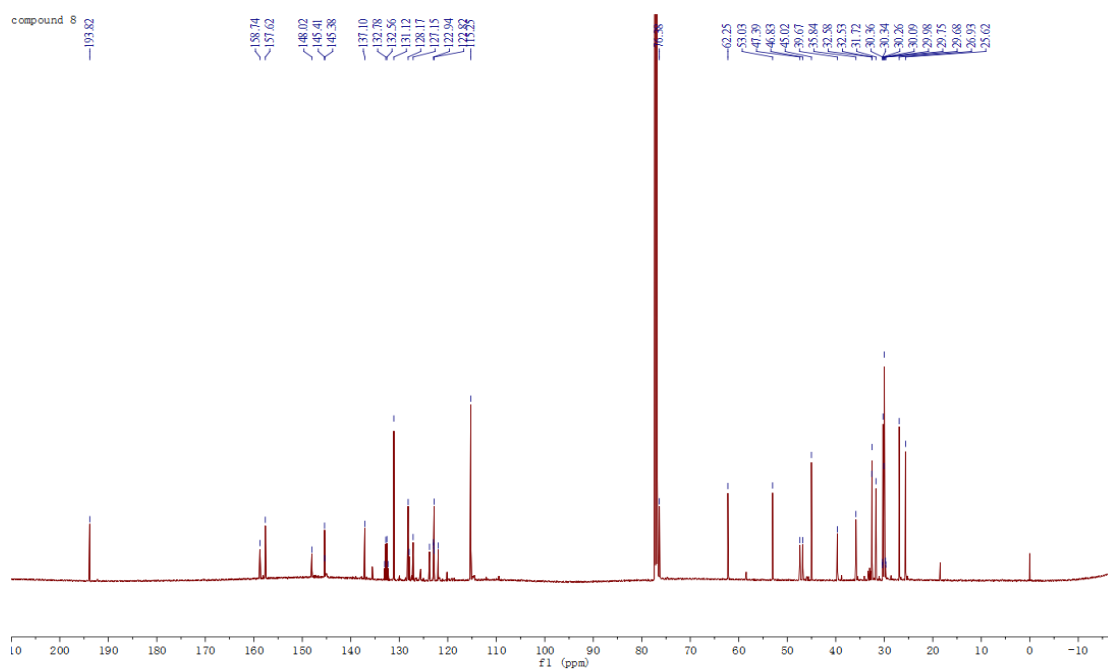
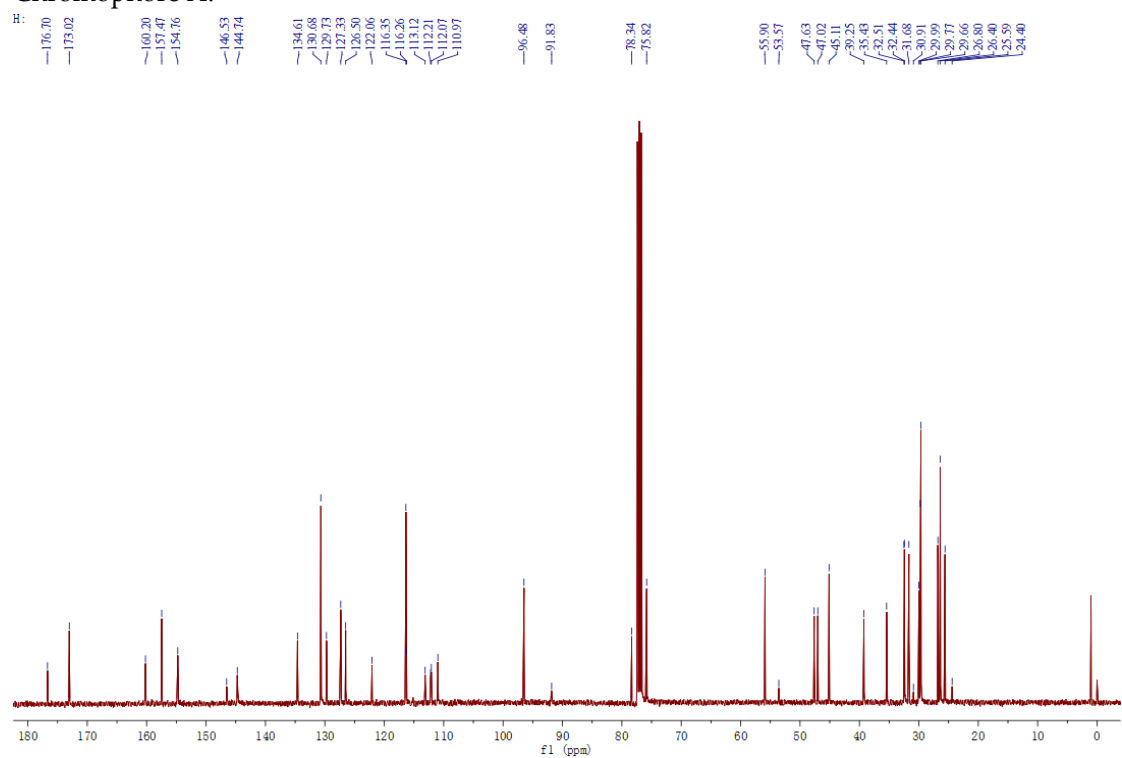
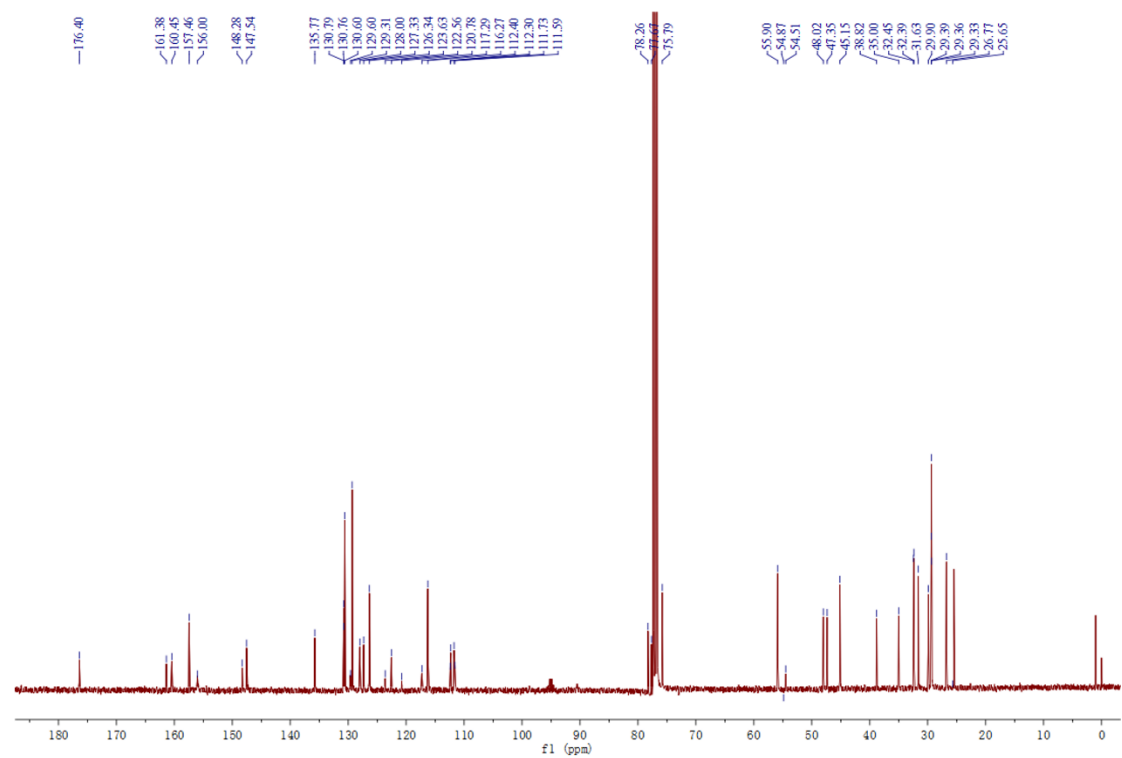


Figure S5. The <sup>13</sup>C NMR spectra of the compound 6 and compound 8.

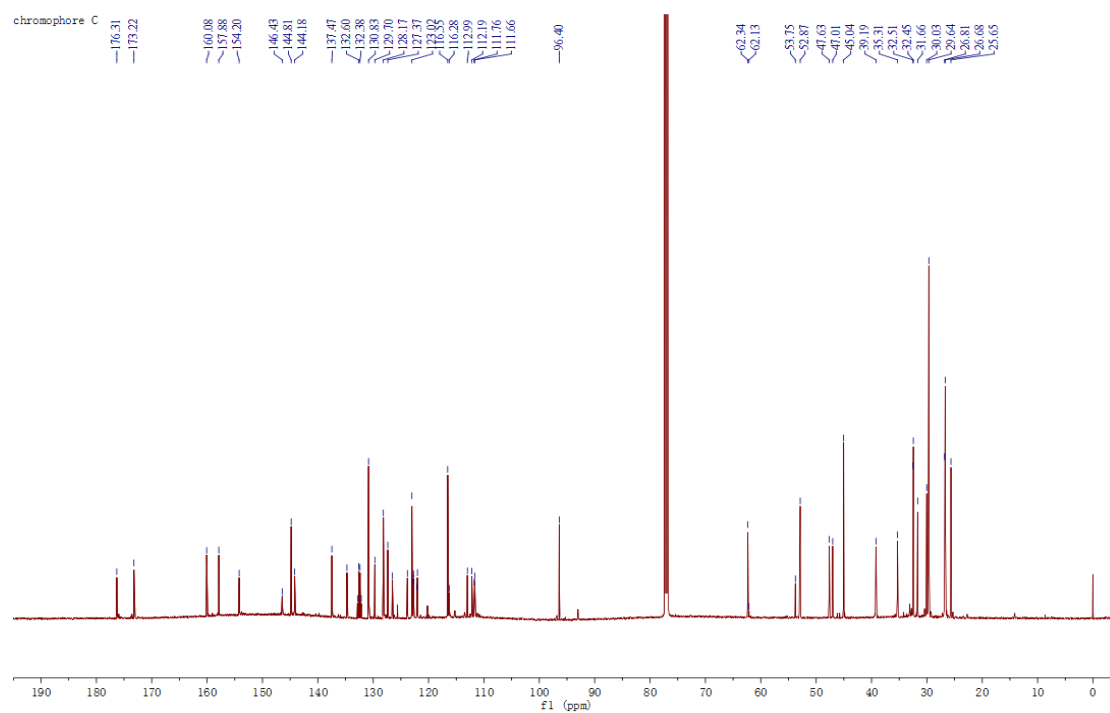
### Chromophore A:



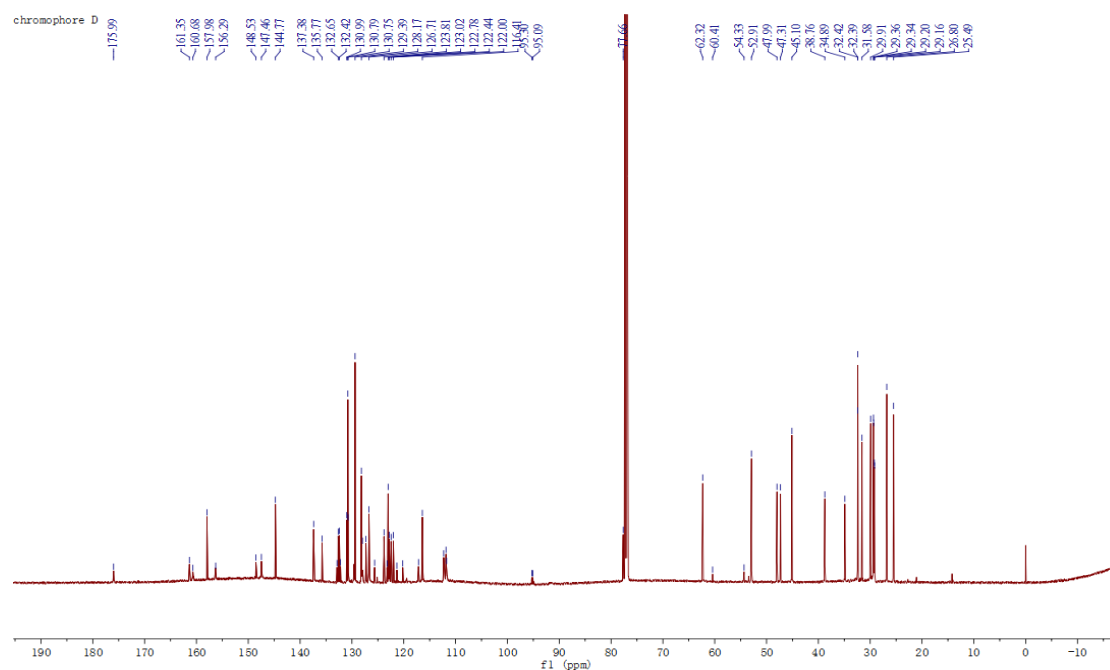
### Chromophore B:



### Chromophore C:



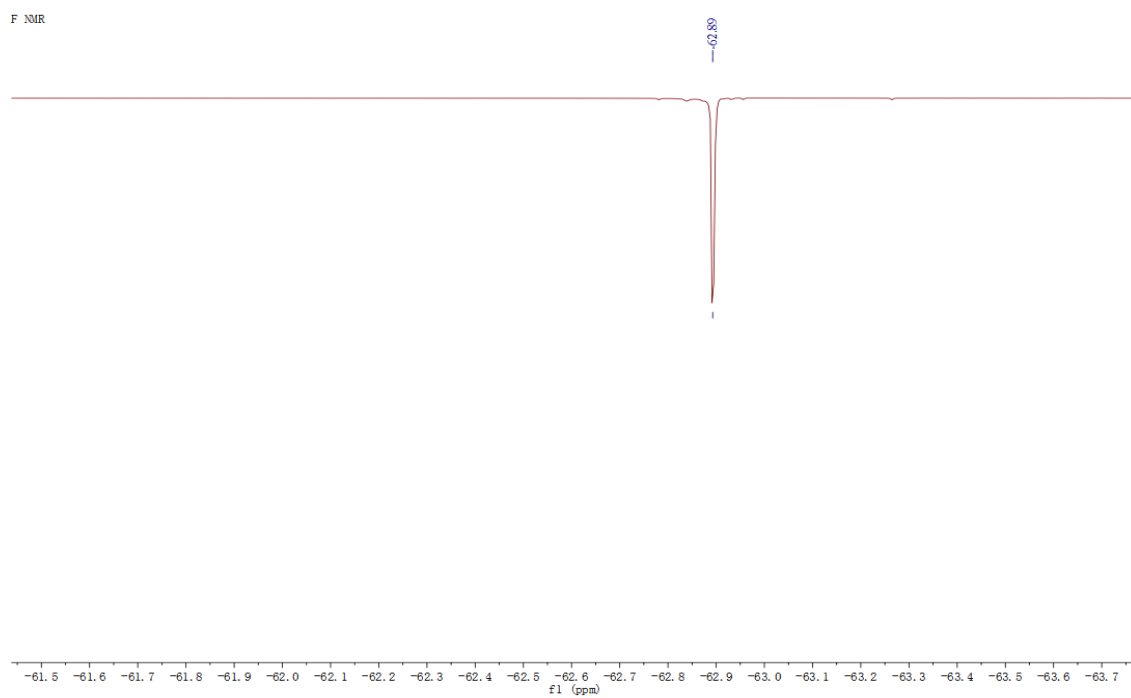
# Chromophore D:



**Figure S6.** The  $^{13}\text{C}$  NMR spectra of the chromophore A, B, C and D.

Compound 8:

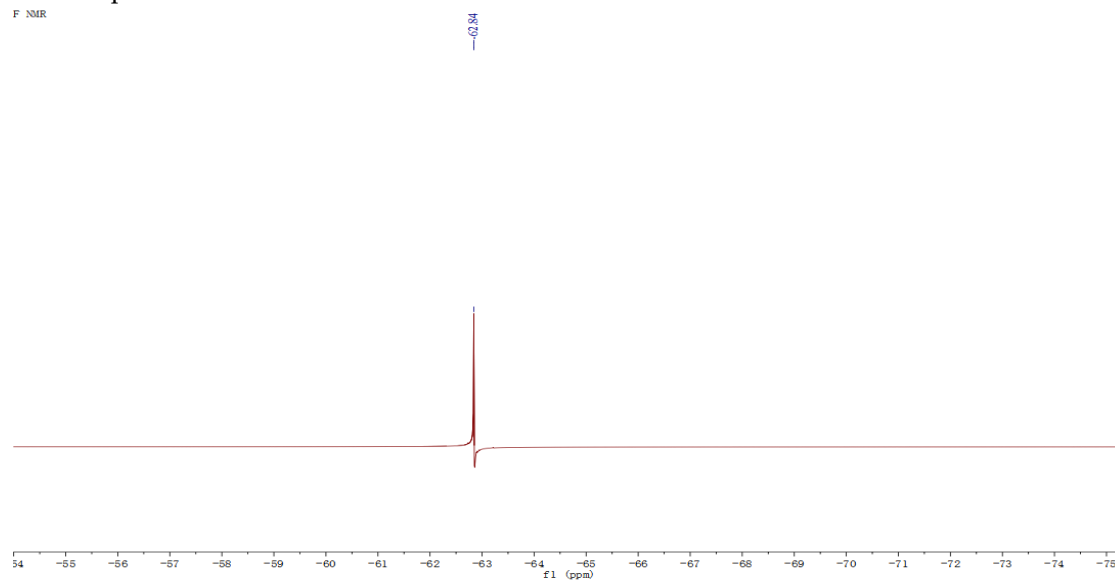




**Figure S7.** The  $^{19}\text{F}$  NMR spectra of the compound 8

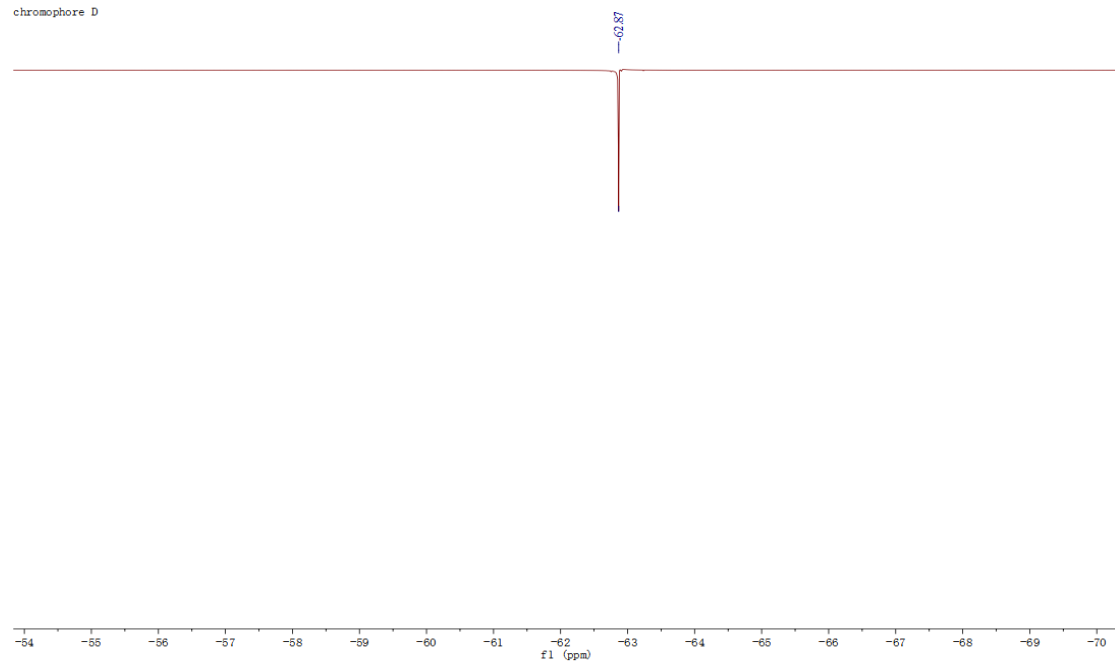
### Chromophore C:

<sup>19</sup>F NMR



### Chromophore D:

chromophore D



**Figure S8.** The <sup>19</sup>F NMR spectra of the chromophore C and D.

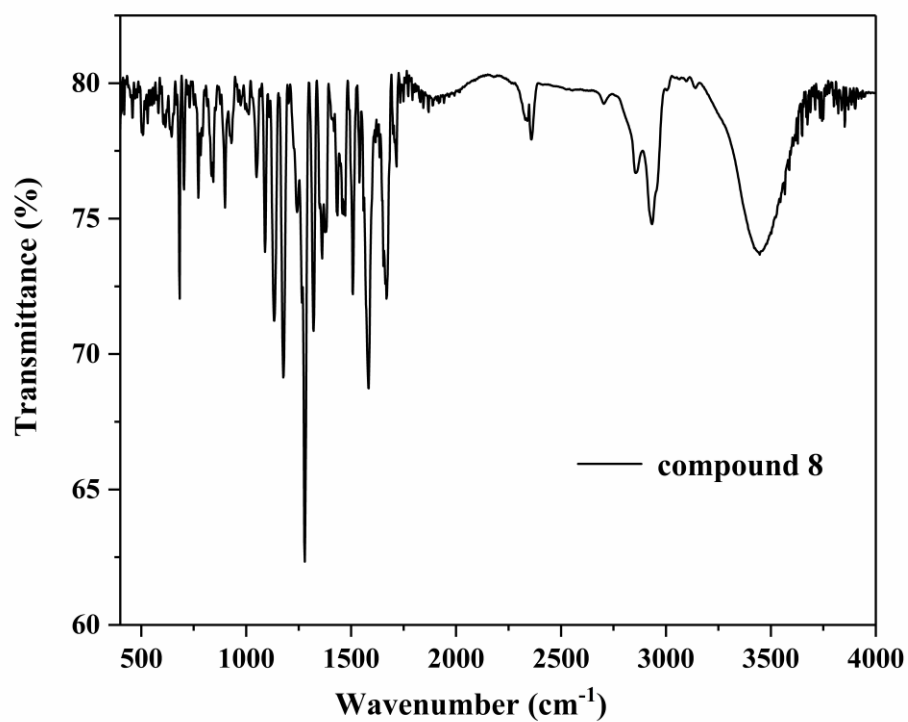
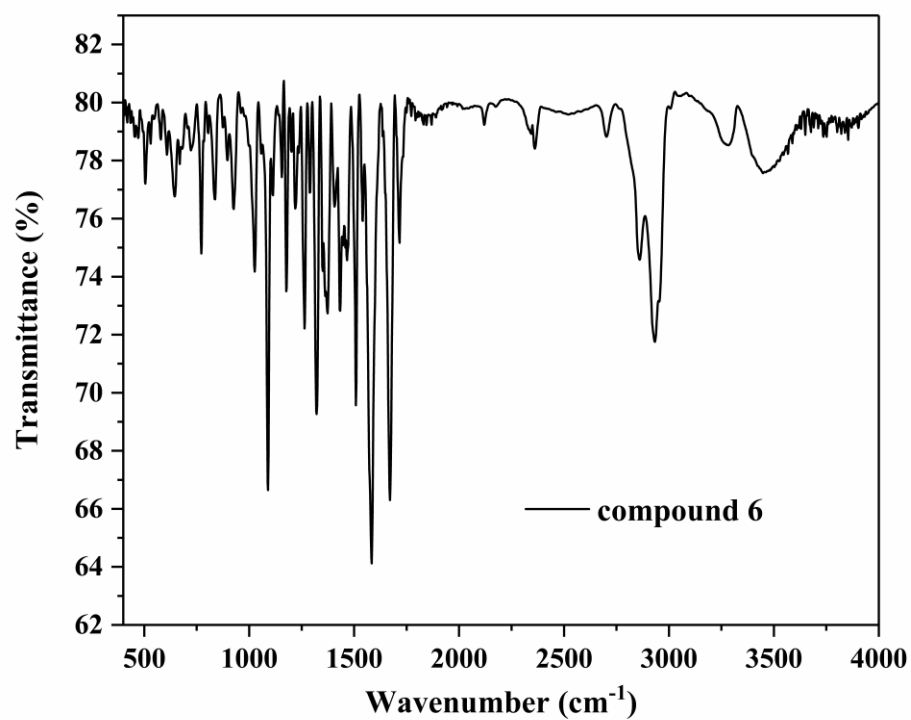
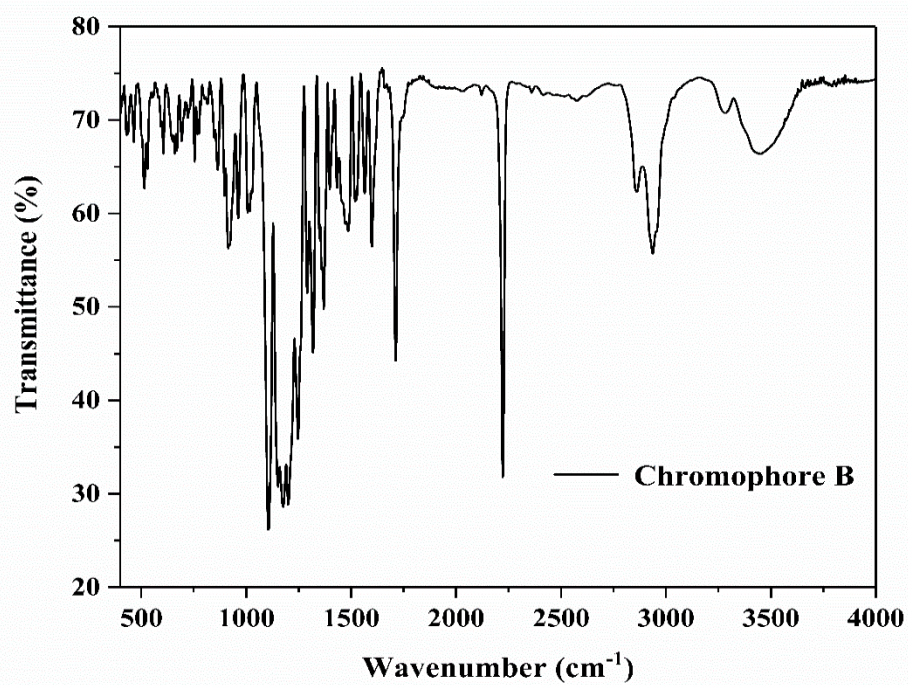
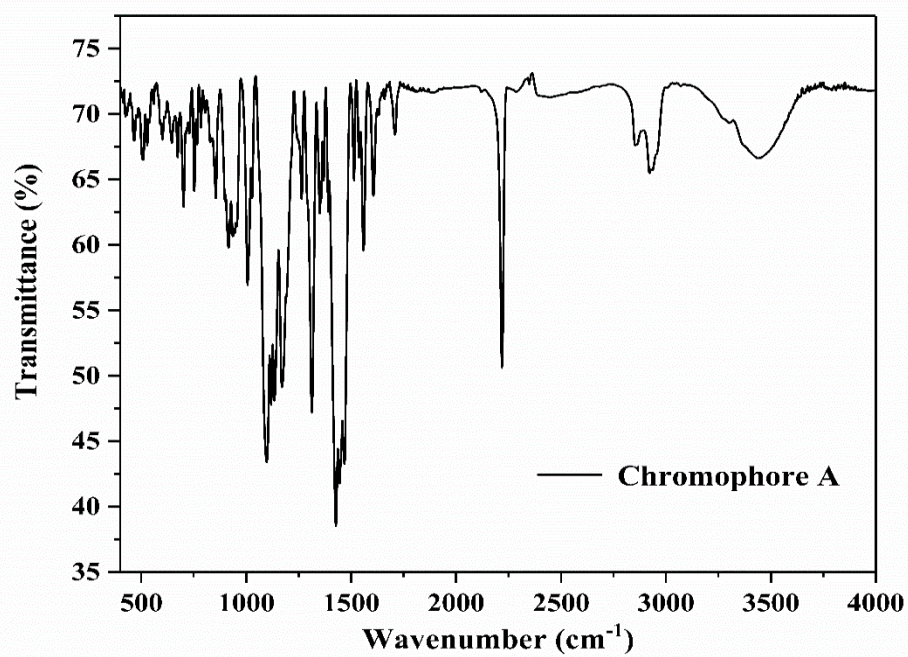


Figure S9. The FTIR spectra of the compound 6 and compound 8.



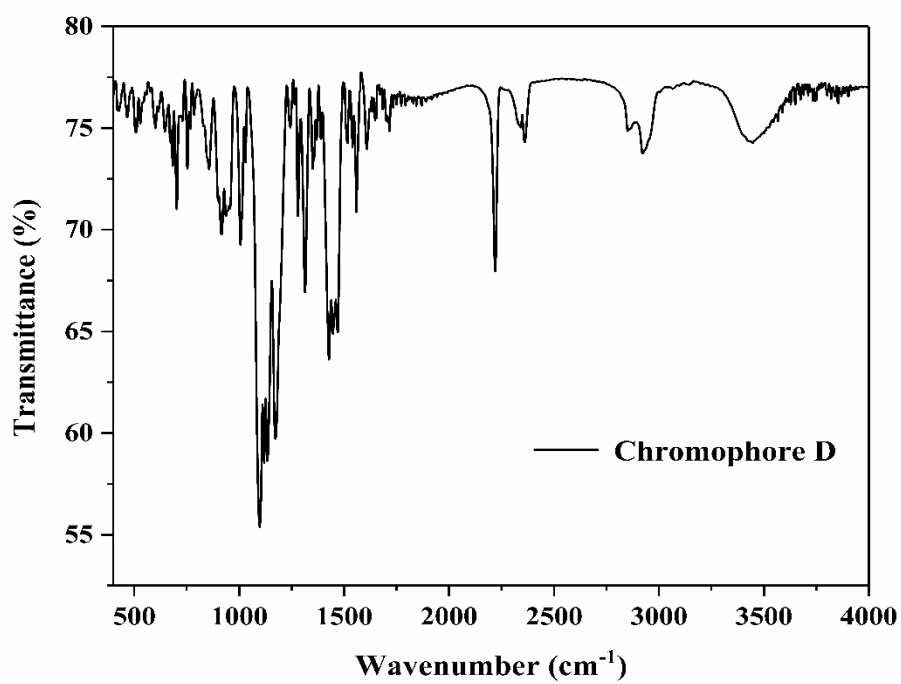
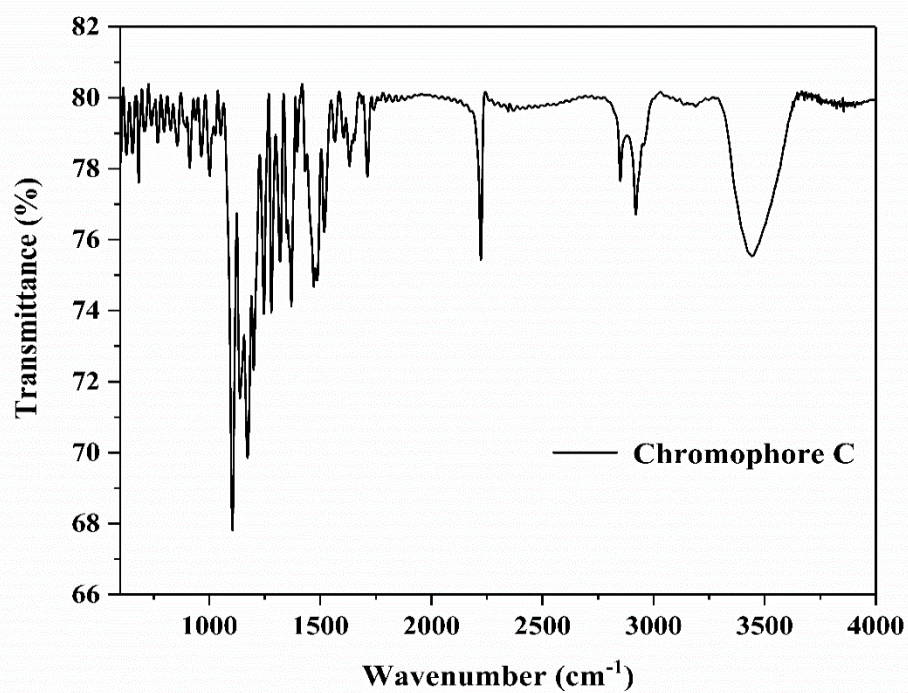


Figure S10. The FTIR spectra of the chromophore A, B, C and D.