Supporting information for:

Strong Solid Emission and Mechanofluorochromism of Carbazole-based Terephthalate Derivatives Adjusted by Alkyl Chains

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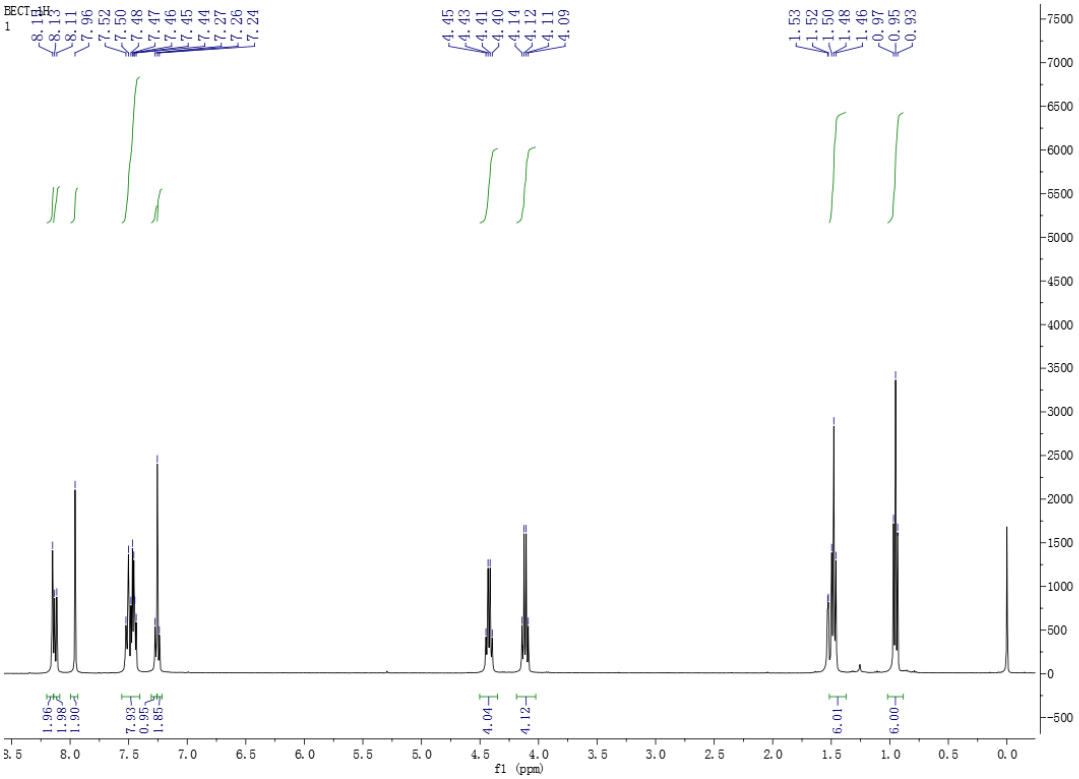

Fig. S1 ^{1}H NMR spectrum of **BECT** in $CDCl_3$.

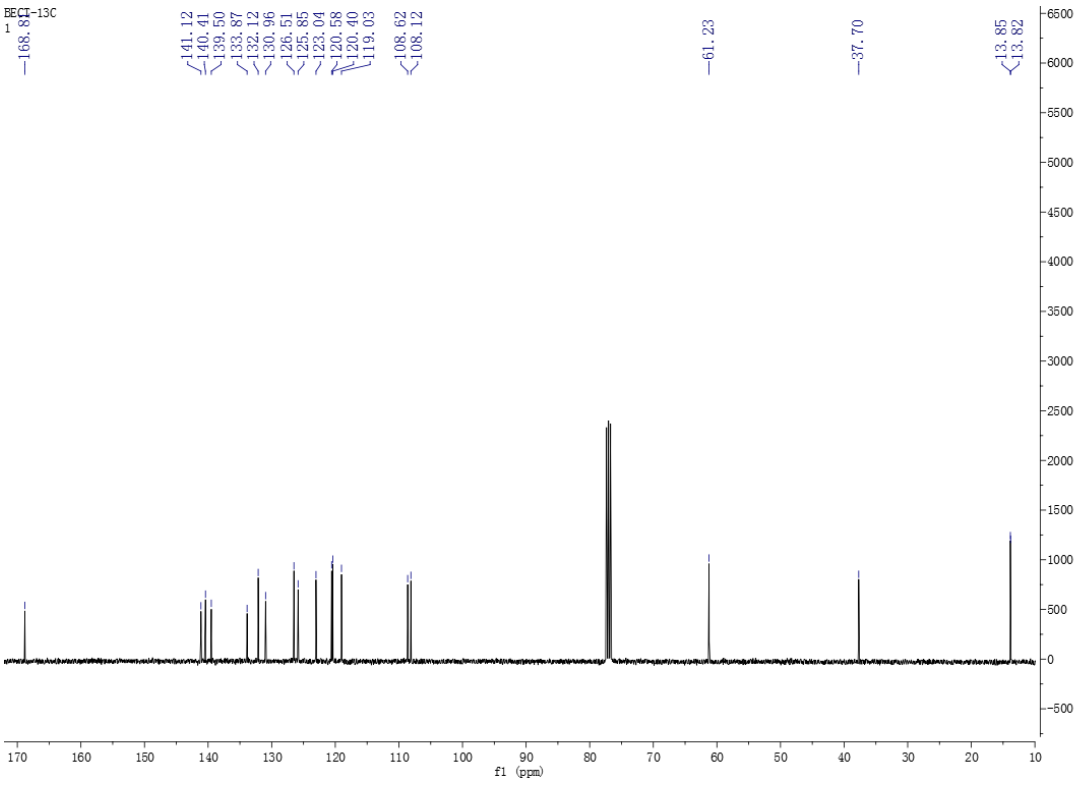

Fig. S2 ^{13}C NMR spectrum of **BECT** in $CDCl_3$.

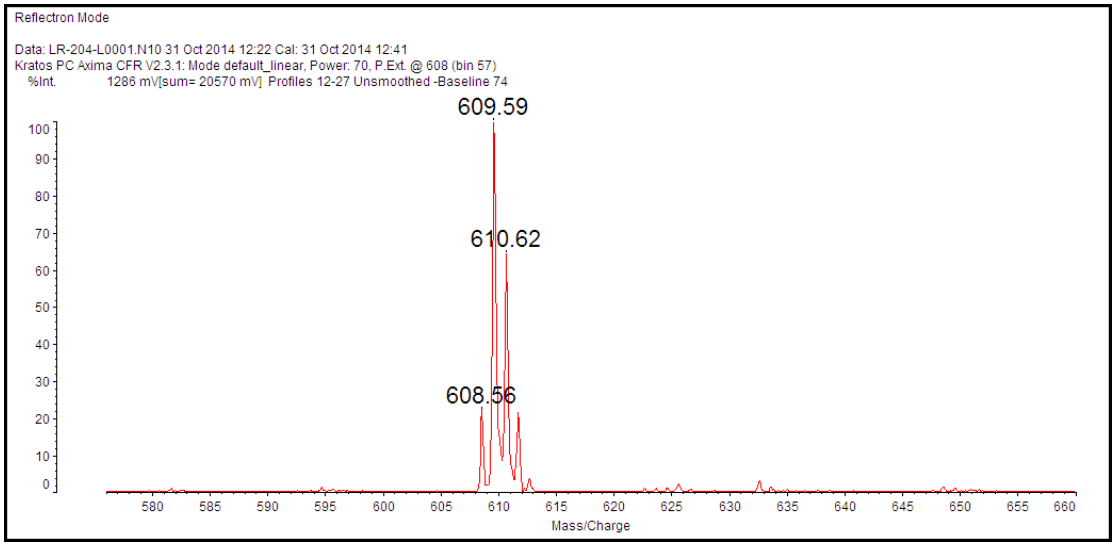

Fig. S3 MALDI-TOF MS of **BECT**.

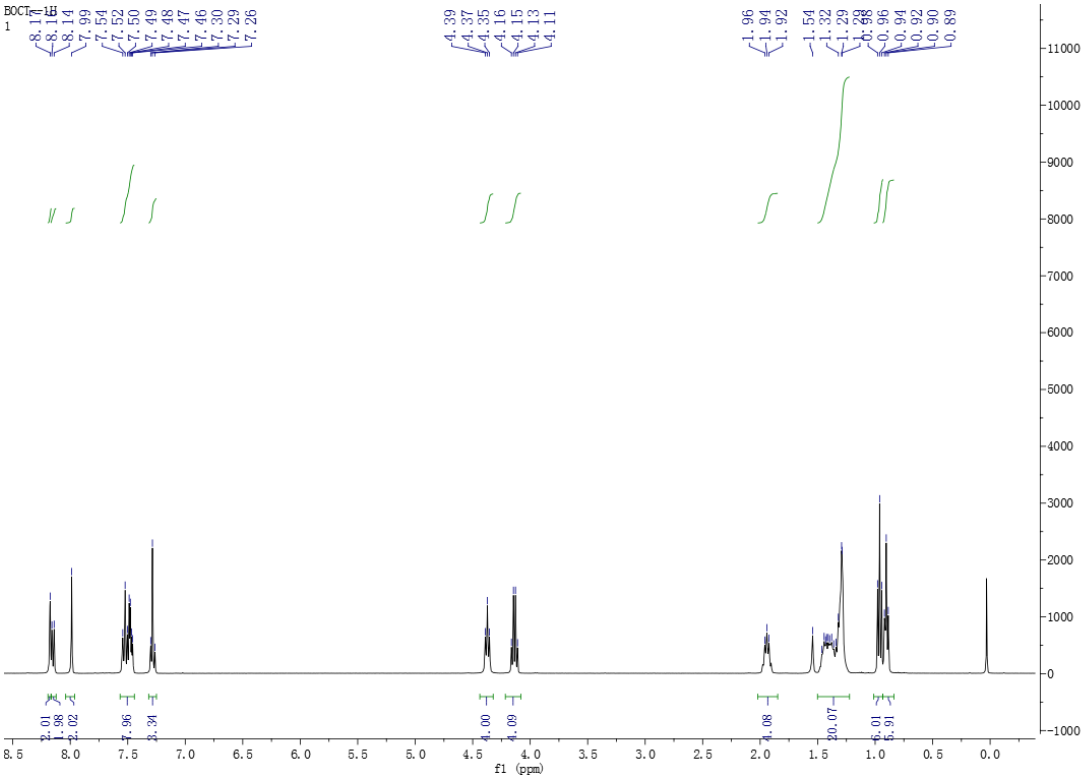

Fig. S4 ^{1}H NMR spectrum of **BOCT** in $CDCl_3$.

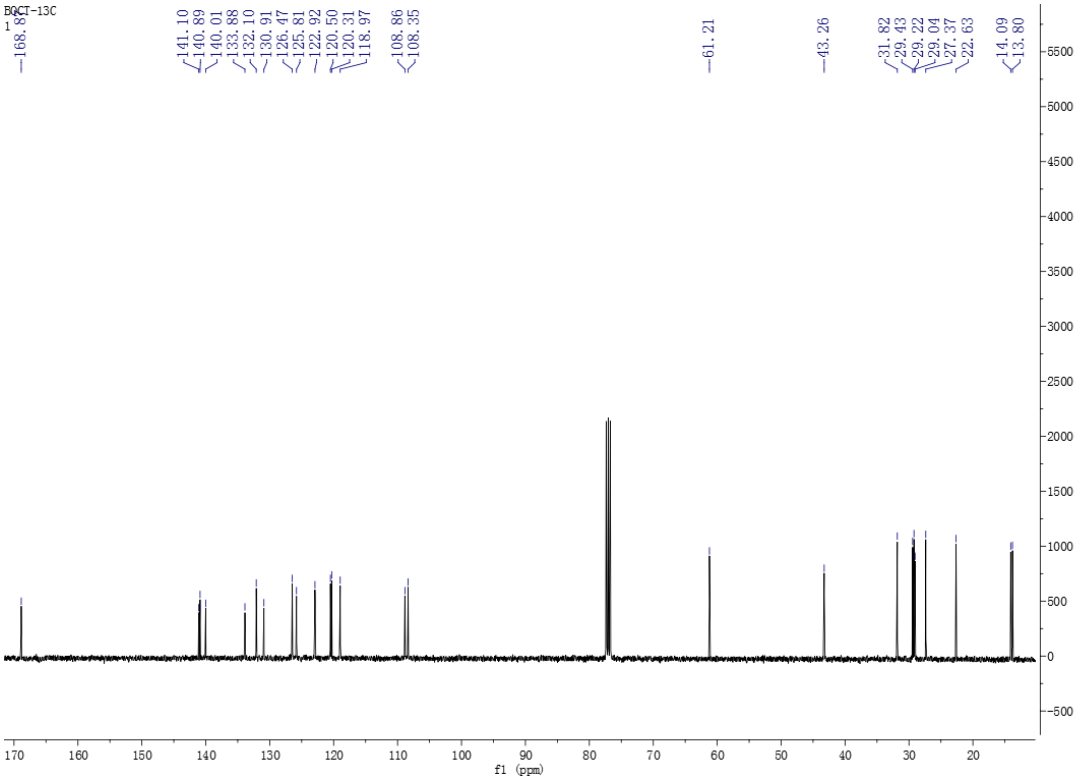

Fig. S5 ^{13}C NMR spectrum of **BOCT** in $CDCl_3$.

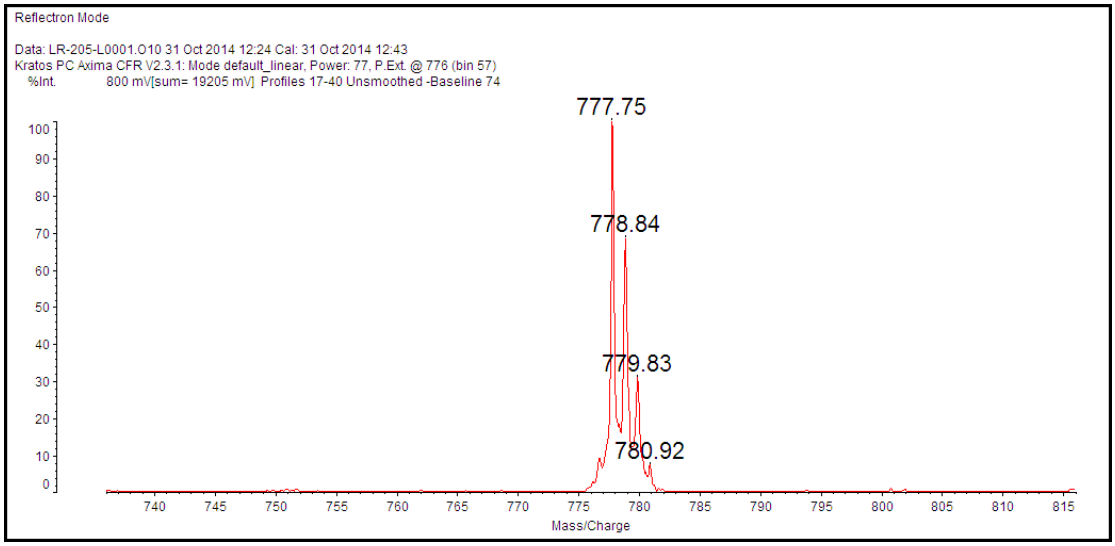

Fig. S6 MALDI-TOF MS of **BOCT**.

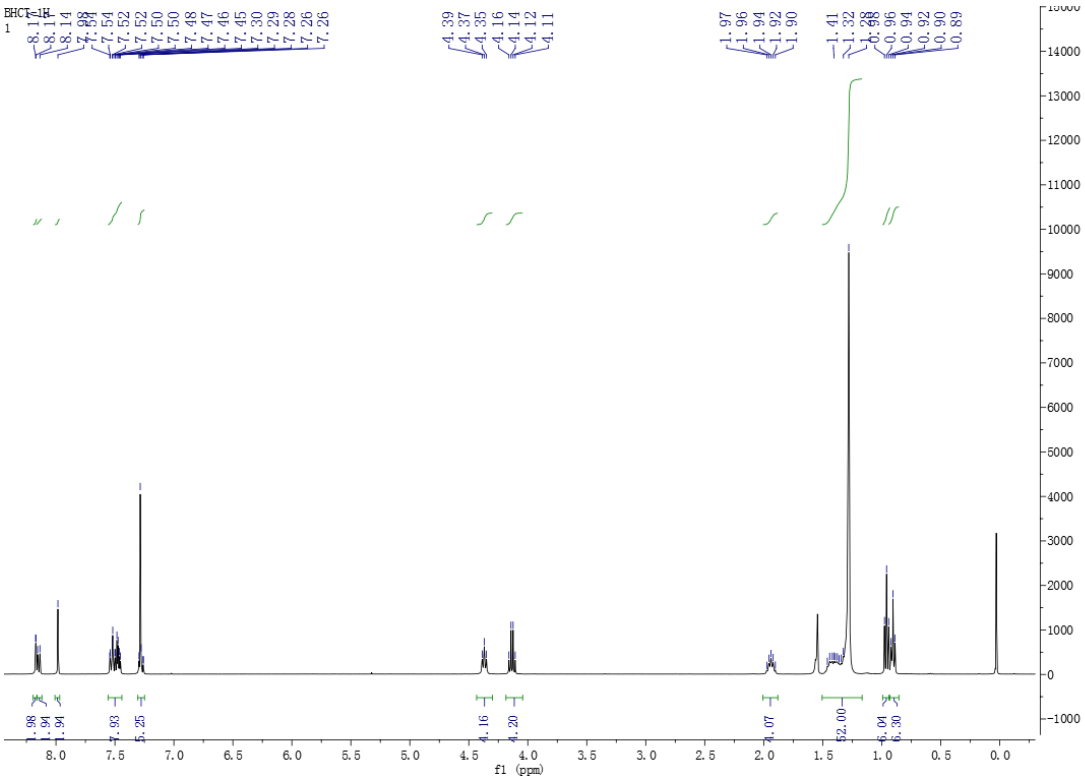

Fig. S7 ^{1}H NMR spectrum of **BHCT** in $CDCl_3$.

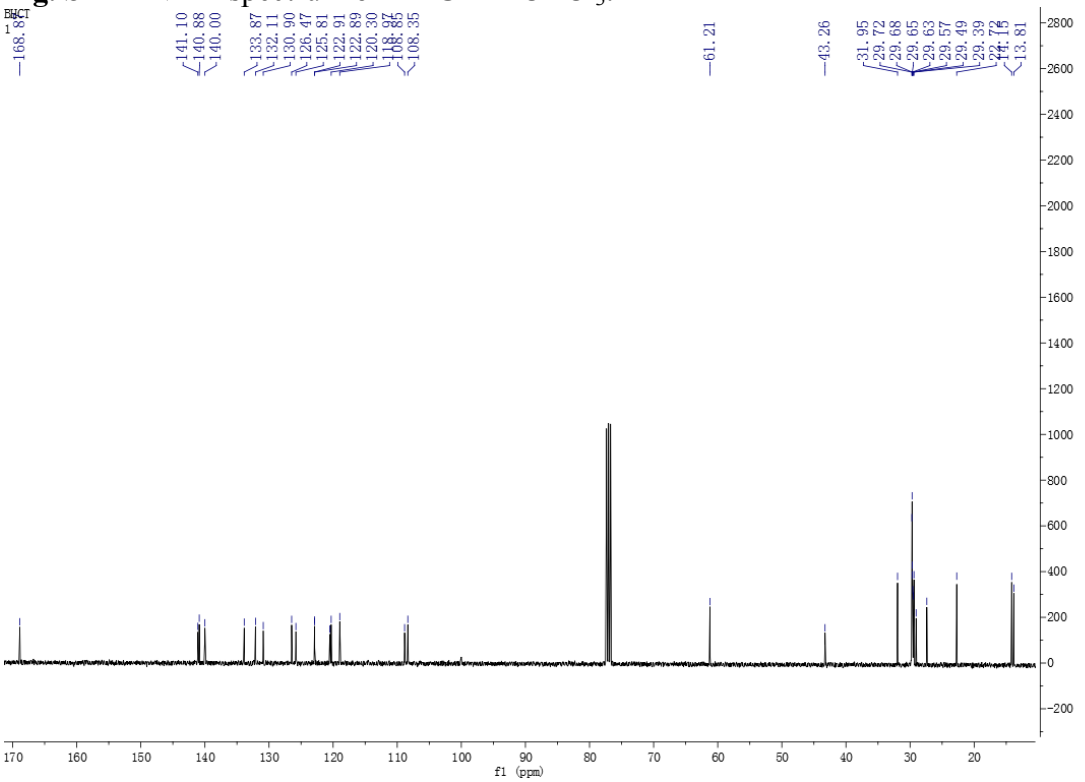

Fig. S8 ^{13}C NMR spectrum of **BHCT** in $CDCl_3$.

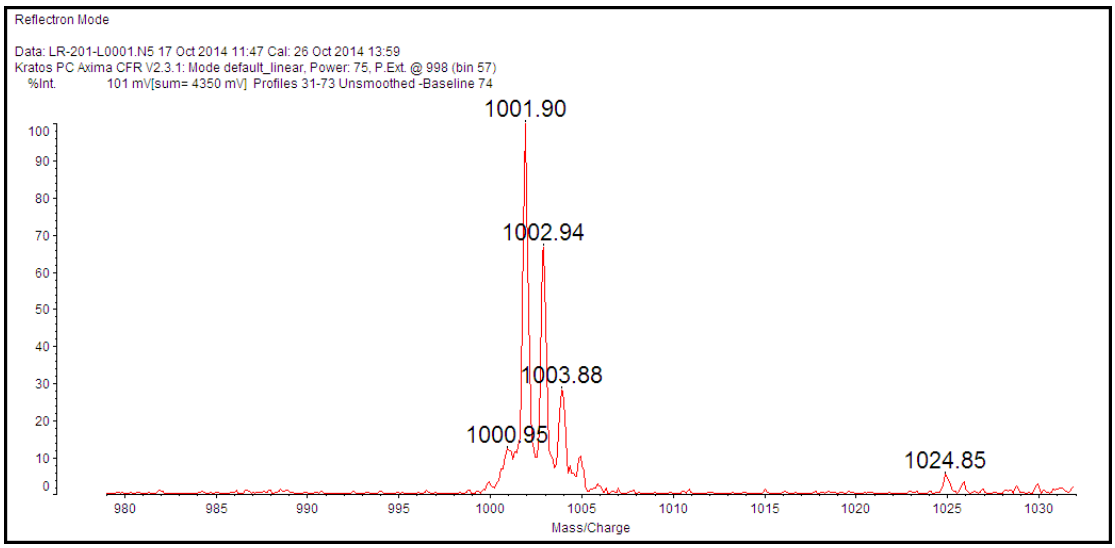

Fig. S9 MALDI-TOF MS of **BHCT**.

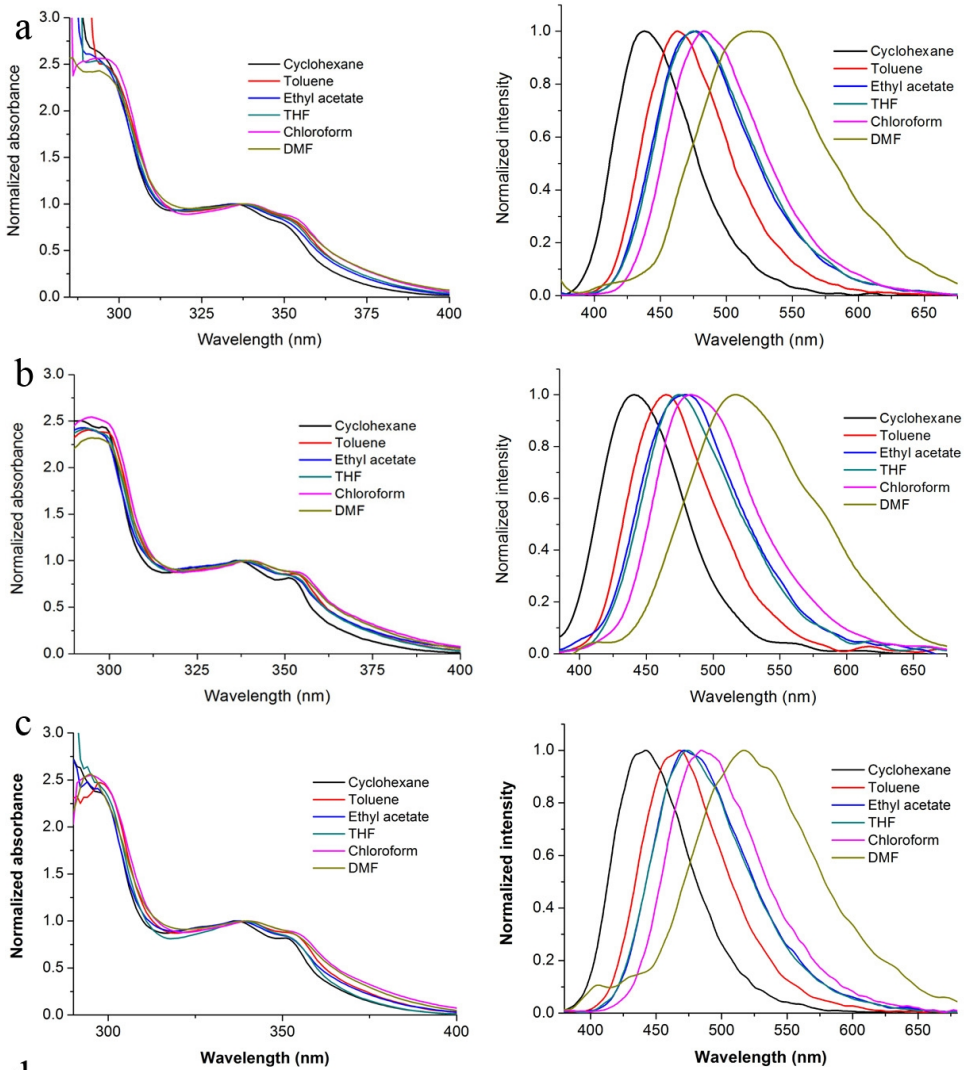

Fig. S10 UV-vis absorption (left) and fluorescence (right) of **BECT** (a), **BOCT** (b) and **BHCT** (c) in different solvents. λ_{ex} = 365 nm.

Table S1. UV-vis absorption and fluorescence data of three compounds in different solvents.

	BECT				BOCT				BHCT			
	λ_{abs}[a]	λ_{max}[a]	Φ[b]	τ (ns)	λ_{abs}[a]	λ_{max}[a]	Φ[b]	τ (ns)	λ_{abs}[a]	λ_{max}[a]	Φ[b]	τ (ns)
Cyclohexane	334 349	438	0.39	3.83	336 351	441	0.45	3.79	336 351	442	0.42	3.73
Toluene	337 352	463	0.42	-	340 352	465	0.48	-	340 352	468	0.49	-
Ethyl acetate	336 349	475	0.42	-	338 352	479	0.35	-	338 352	471	0.38	-
THF	337 350	476	0.36	-	338 353	477	0.49	-	339 352	474	0.61	-
$CHCl_3$	339 354	484	0.45	-	340 354	484	0.46	-	340 354	485	0.38	-
DMF	338 353	521	0.08	-	340 354	516	0.11	-	339 354	517	0.11	-

[a] The spectra were measured at a concentration of 10^{-5} M. [b] The fluorescence quantum yields were obtained by comparing with a standard quinine sulphate in water, $\Phi_F = 0.56$).

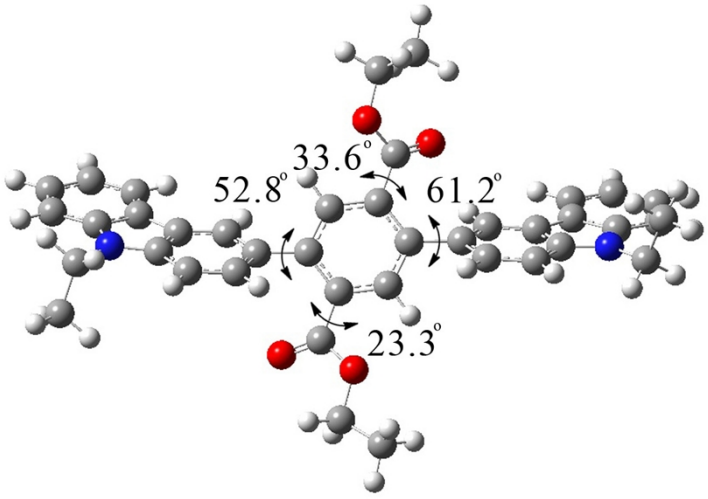

Fig. S11 molecular conformation with makers of dihedral angles

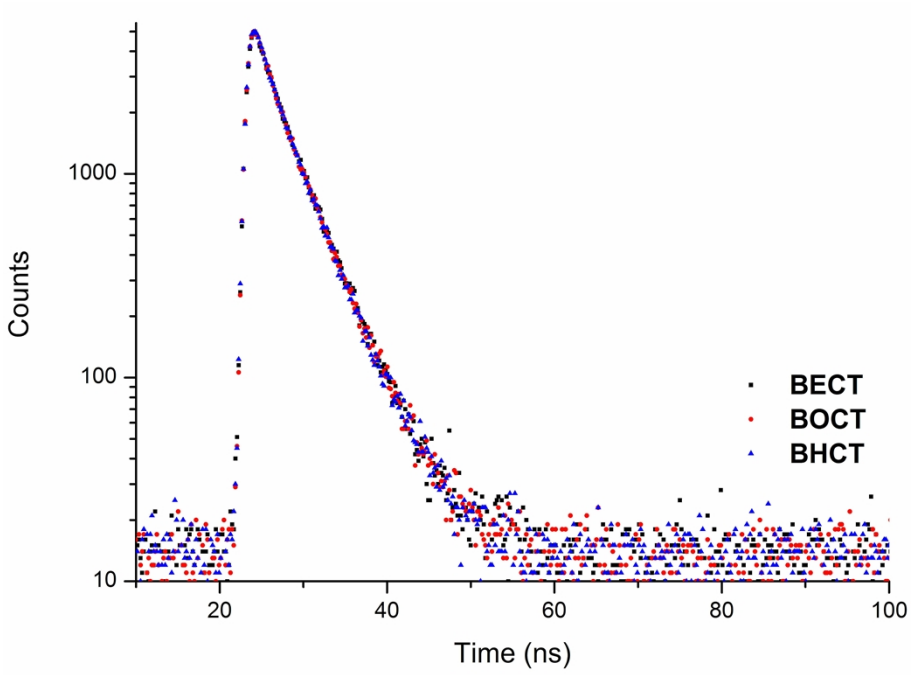

Fig. S12 Time-resolved fluorescence spectra of **BECT**, **BOCT** and **BHCT** in cyclohexane. λ_{ex} = 365 nm.

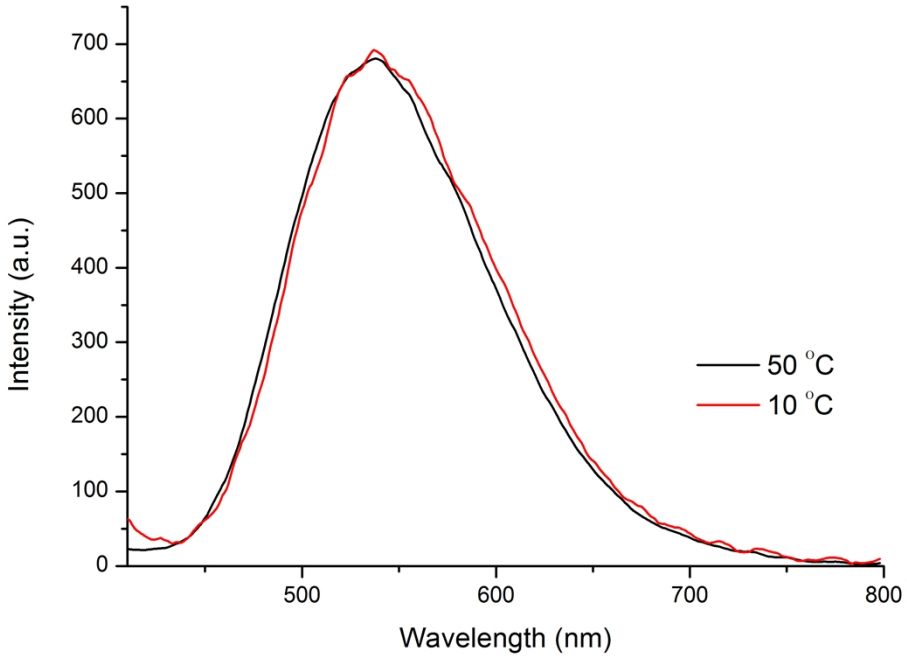

Fig. S13 Fluorescence spectra of **BECT** in DMSO at different temperatures. Excitation wavelength is 320 nm.

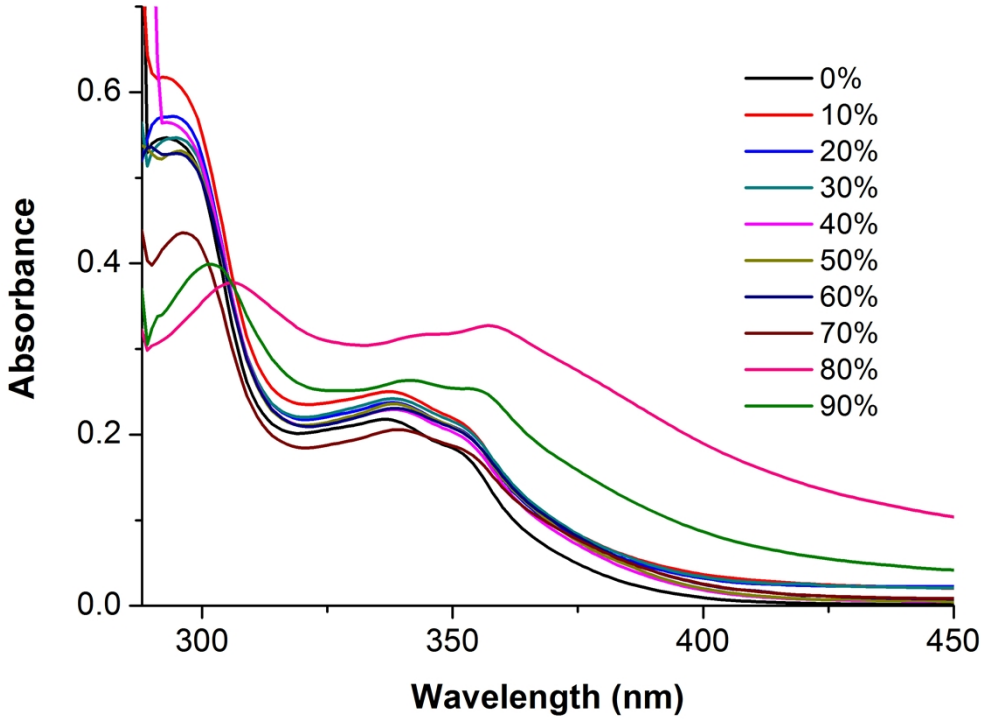

Fig. S14 Absorption spectra of **BECT** in THF-water mixtures.

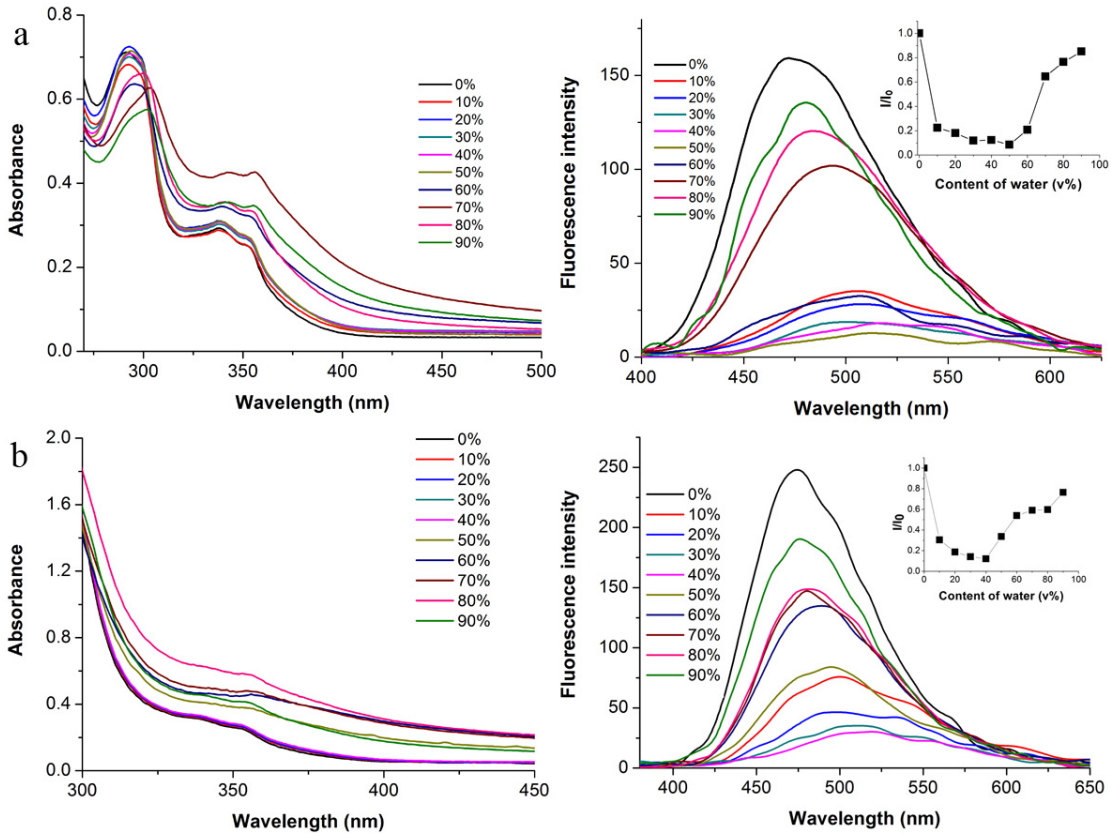

Fig. S15 Absorption (left) and fluorescence (right) of **BOCT** (a) and **BHCT** (b) in THF-water mixtures. λ_{ex} = 365 nm.

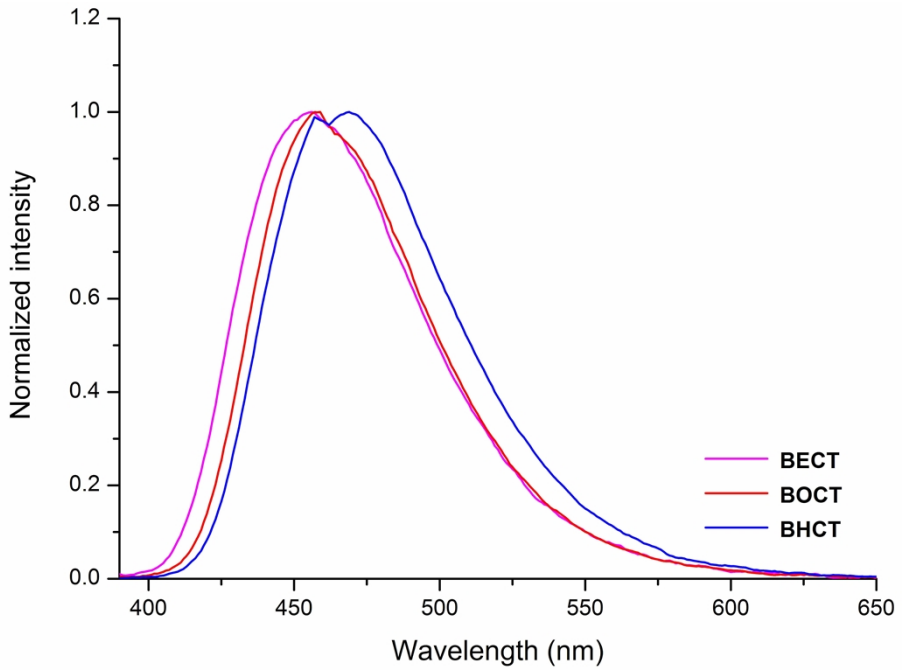

Fig. S16 Fluorescence spectra of three compounds in crystal states. λ_{ex} = 365 nm.

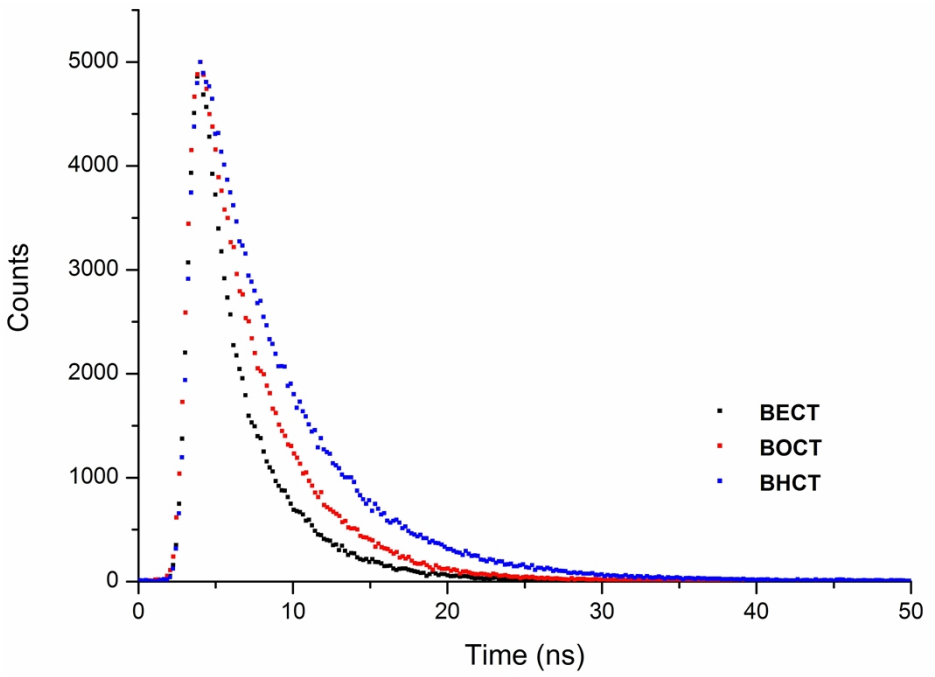

Fig. S17 Time-resolved fluorescence spectra of three compounds in crystal states. λ_{ex} = 365 nm.

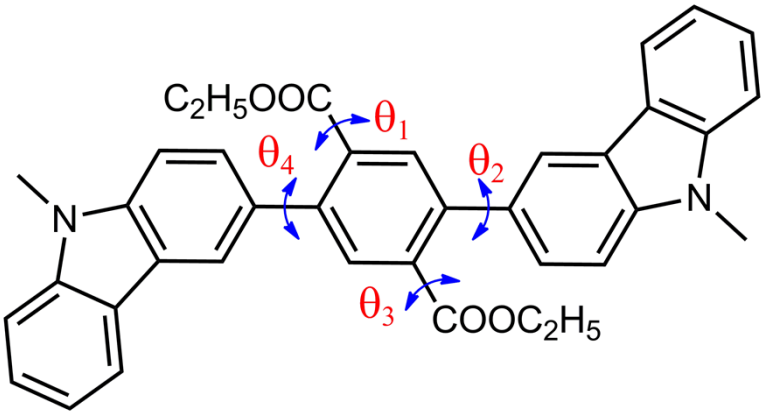

Fig. S18 Molecular structure of **BECT** and corresponding twisted angles.

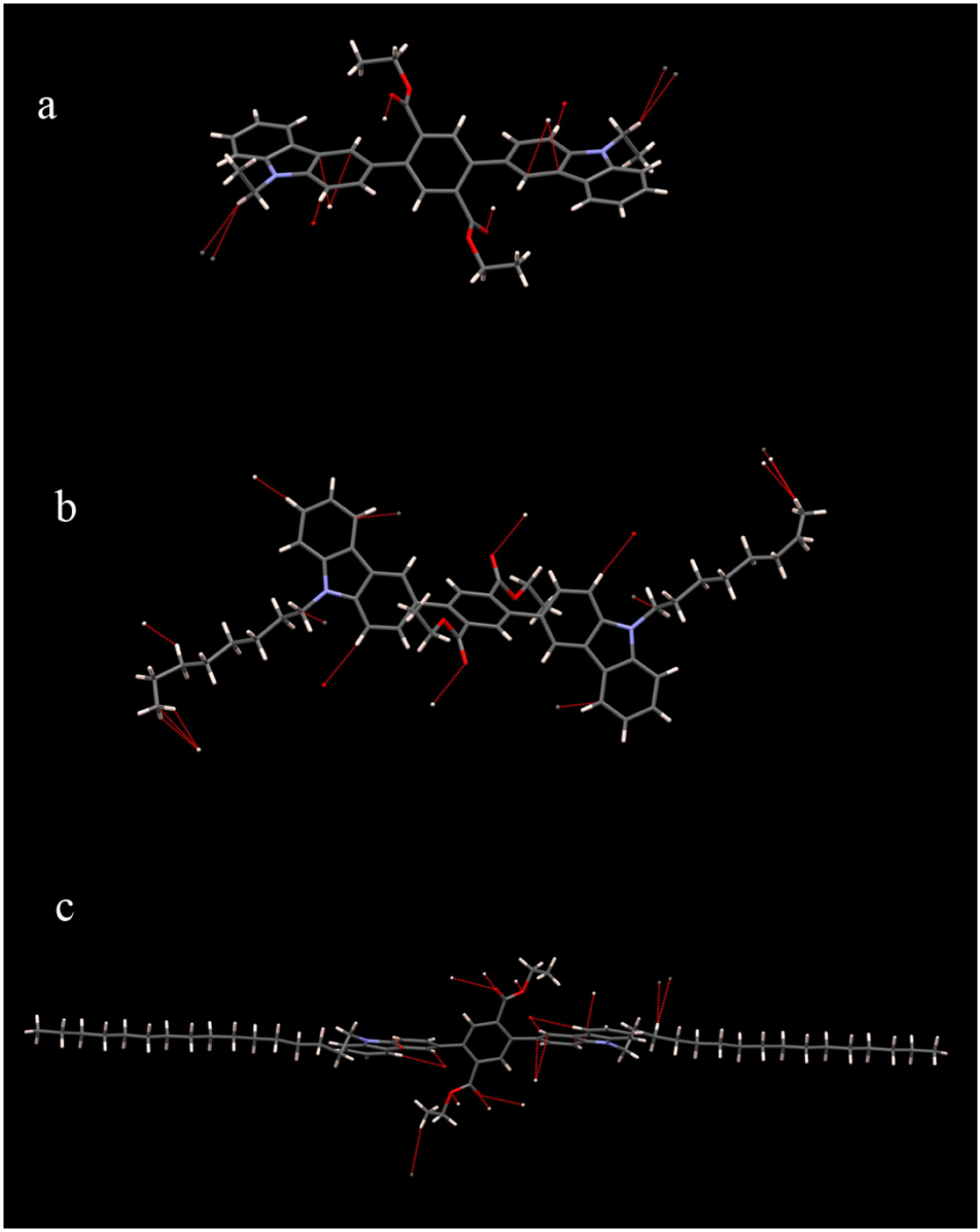

Fig. S19 Molecules with weak intermolecular interactions in **BECT** (a), **BOCT** (b) and **BHCT** (c) crystals.

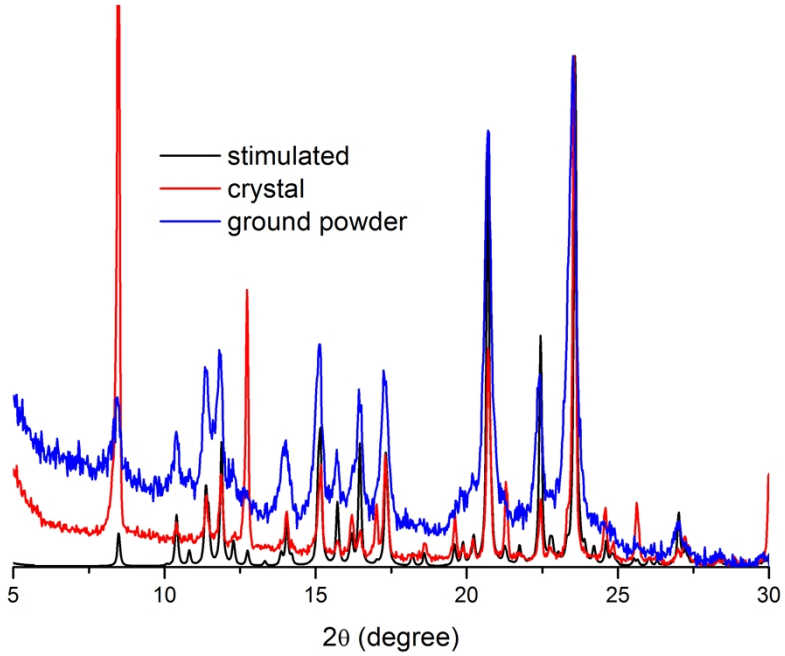

Fig. S20 Normalized XRD patterns of stimulation, crystal and ground powders.