Supporting Information for:

Synthesis and Characterization of a Novel Symmetrical Sulfone-Substituted Polyphenylene Vinylene (SO_2EH-PPV) for Applications in Light Emitting Devices

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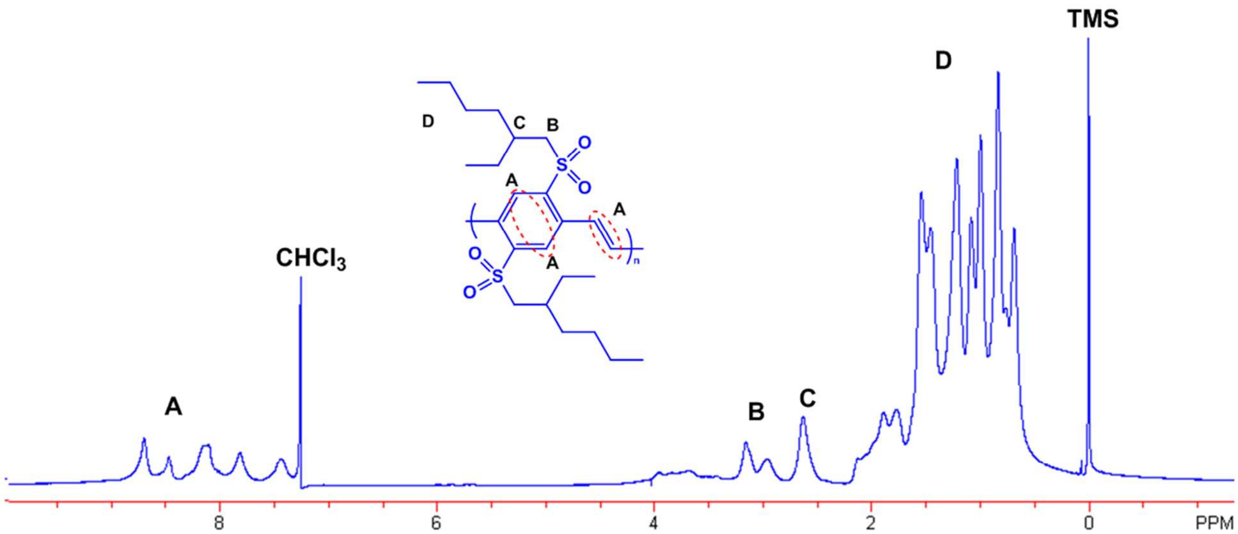


Figure S1. ^{1}H NMR of polymer (SO_2EH-PPV)

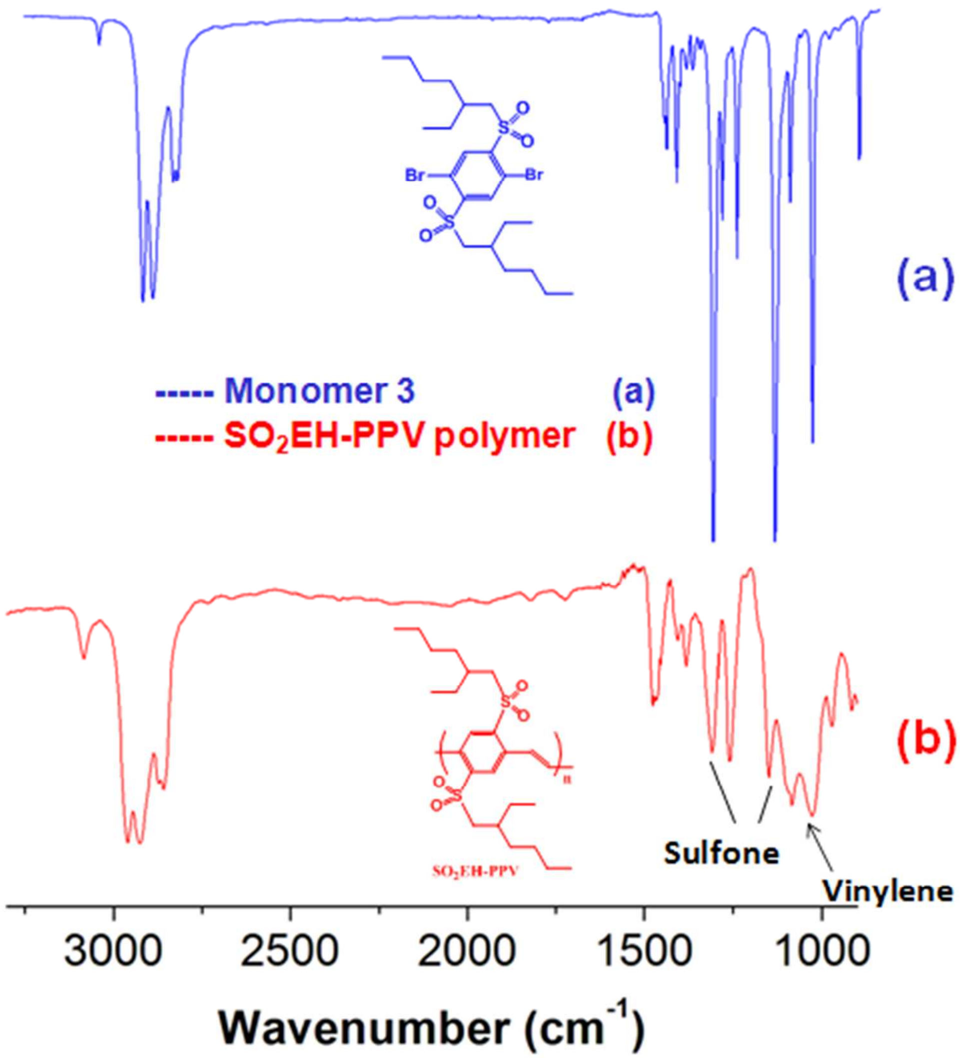


Figure S2. IR spectra of monomer 3 and a polymer (SO_2EH-PPV)

Quantum yield measurements:[45]

The quantum yield of fluorescence for the polymer SO_2EH-PPE was determined using Rhodamine 6G (Φ=0.95) as a standard. Quantum yield was determined using the gradients (slope) determined for the sample and the standard. The following equation is used to determine the quantum yield:

$$Q_s = Q_r \left(\frac{Grad_s}{Grad_r}\right)\left(\frac{\eta_s^2}{\eta_r^2}\right)$$

where *Grad* represents the slope obtained from the plot of the integrated fluorescence intensity vs. absorbance. Subscripts *r* and *s* correspond to the reference and sample respectively. η represents the refractive index of the solvent. The fluorescence of the polymer was obtained using chloroform as a solvent and water was used as a solvent for the reference. Quantum yield was determined by preparing both reference and sample solutions with absorbencies between 0.02 to 0.1. The following table 4 below summarizes the results from quantum yield measurements.

Polymer	Excitation (nm)	Emission max (nm)	Quantum yield (Φ)
SO_2EH-PPV	442	532	0.95

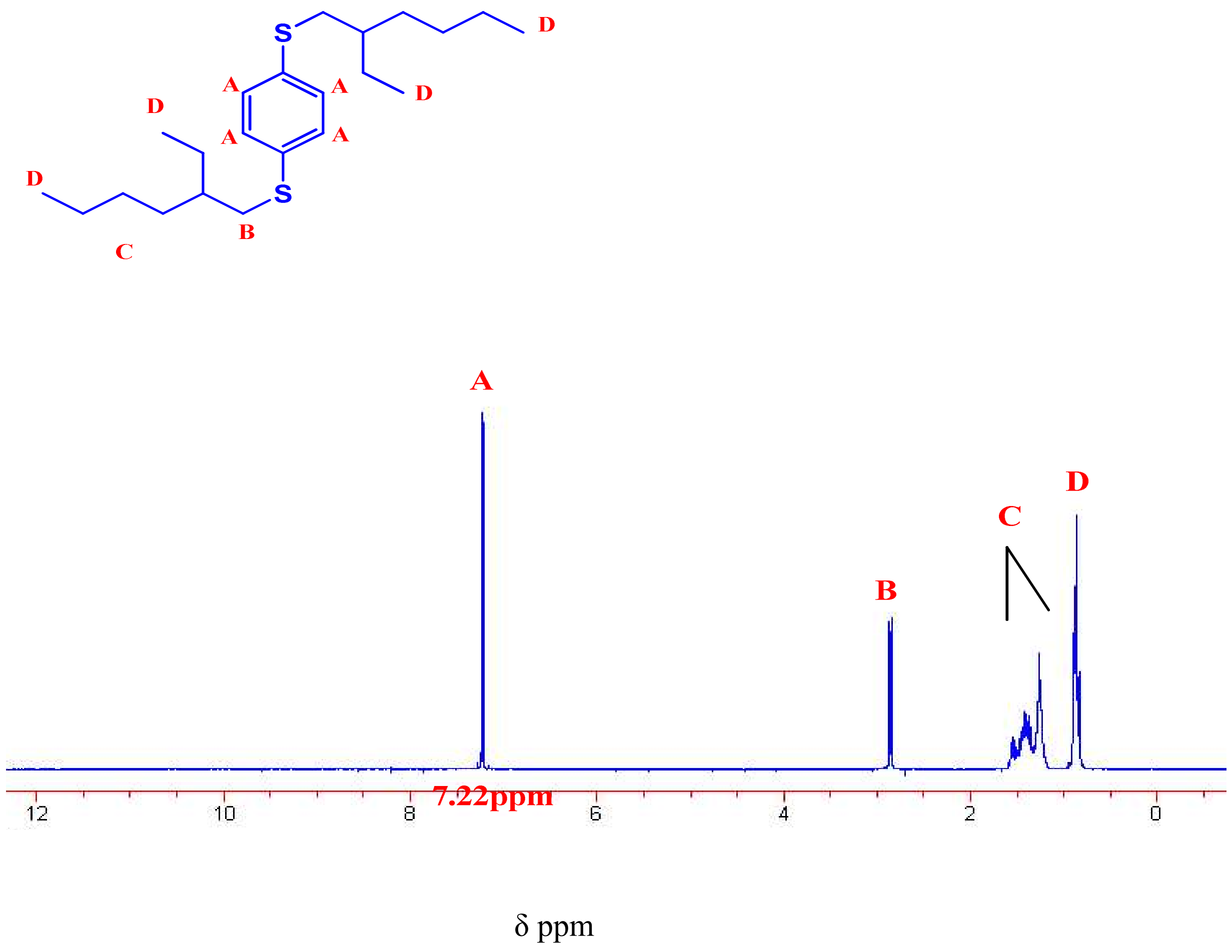
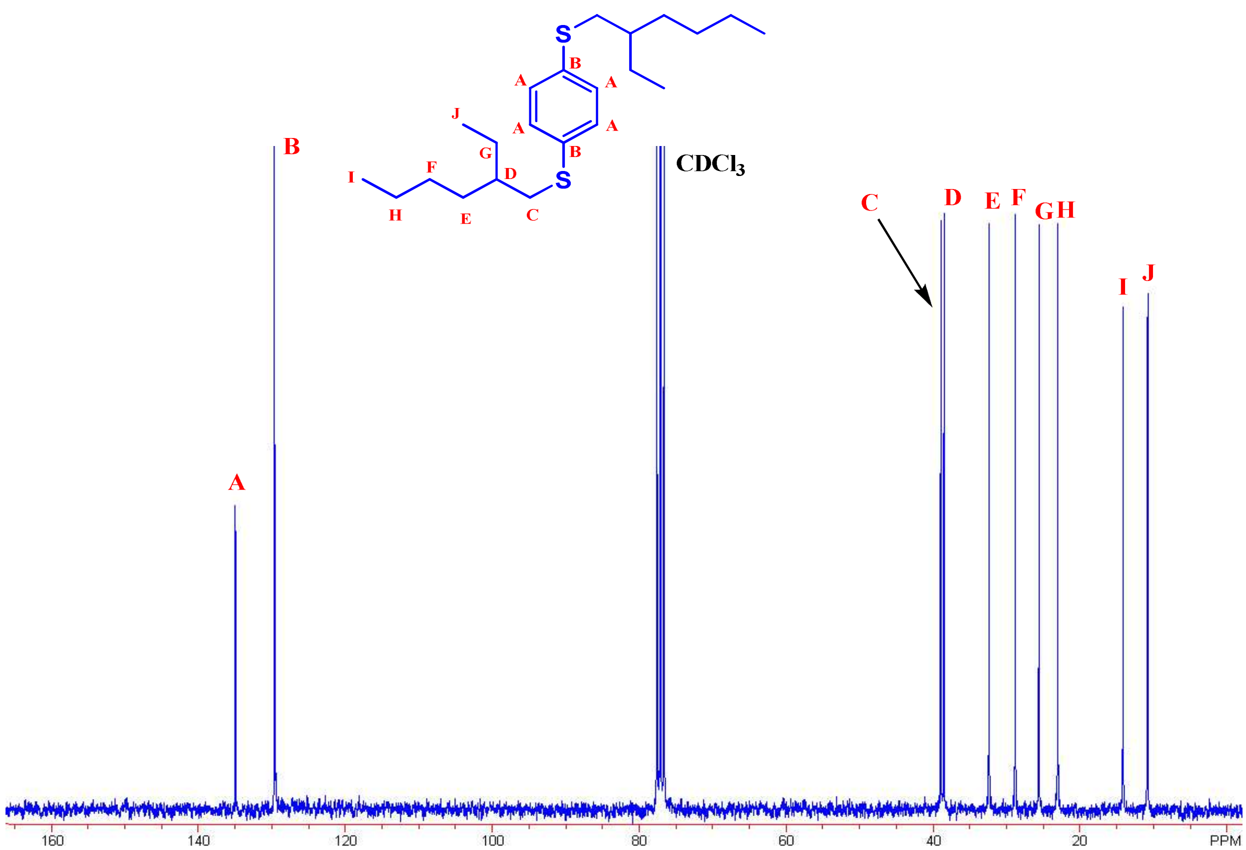
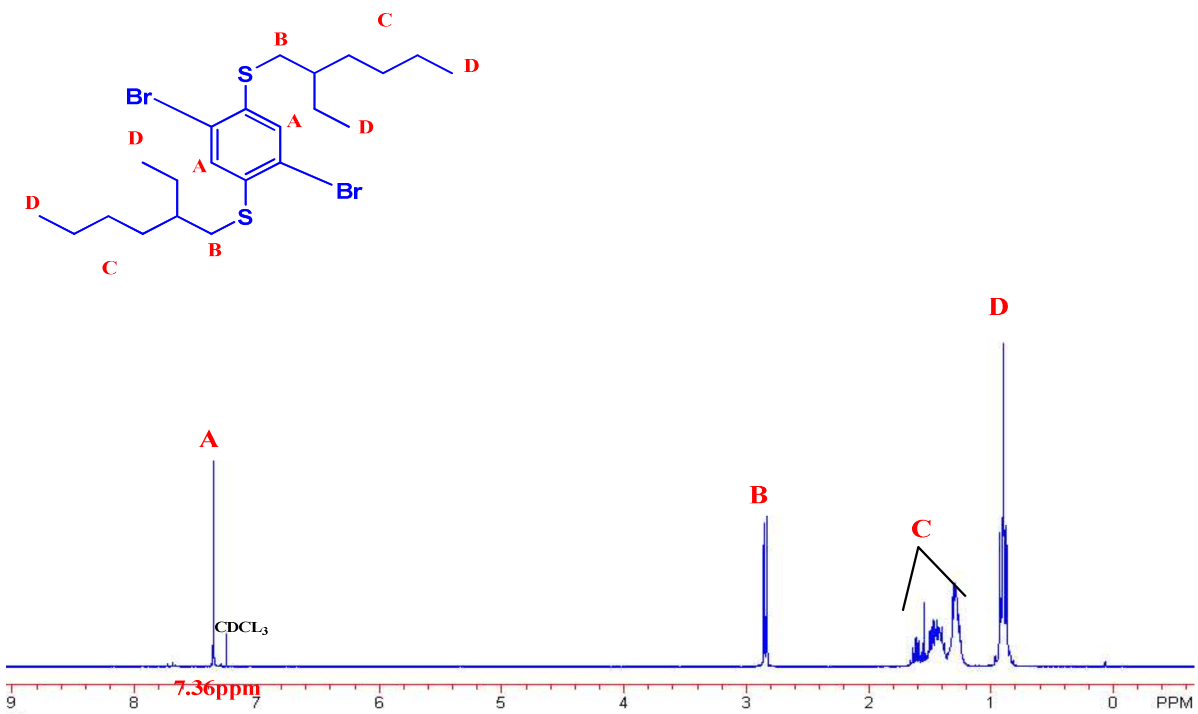


Figure S3. [1]H NMR spectrum of 1,4-bis-(2-ethylhexylthio)benzene (**1**).



δ ppm

Figure S4. ^{13}C NMR spectrum of 1,4-bis-(2-ethylhexylthio)benzene (**1**).



δ ppm

Figure S5. [1]H NMR spectrum of 2,5-dibromo-1,4-bis-(2-ethylhexylthio)benzene (**2**).

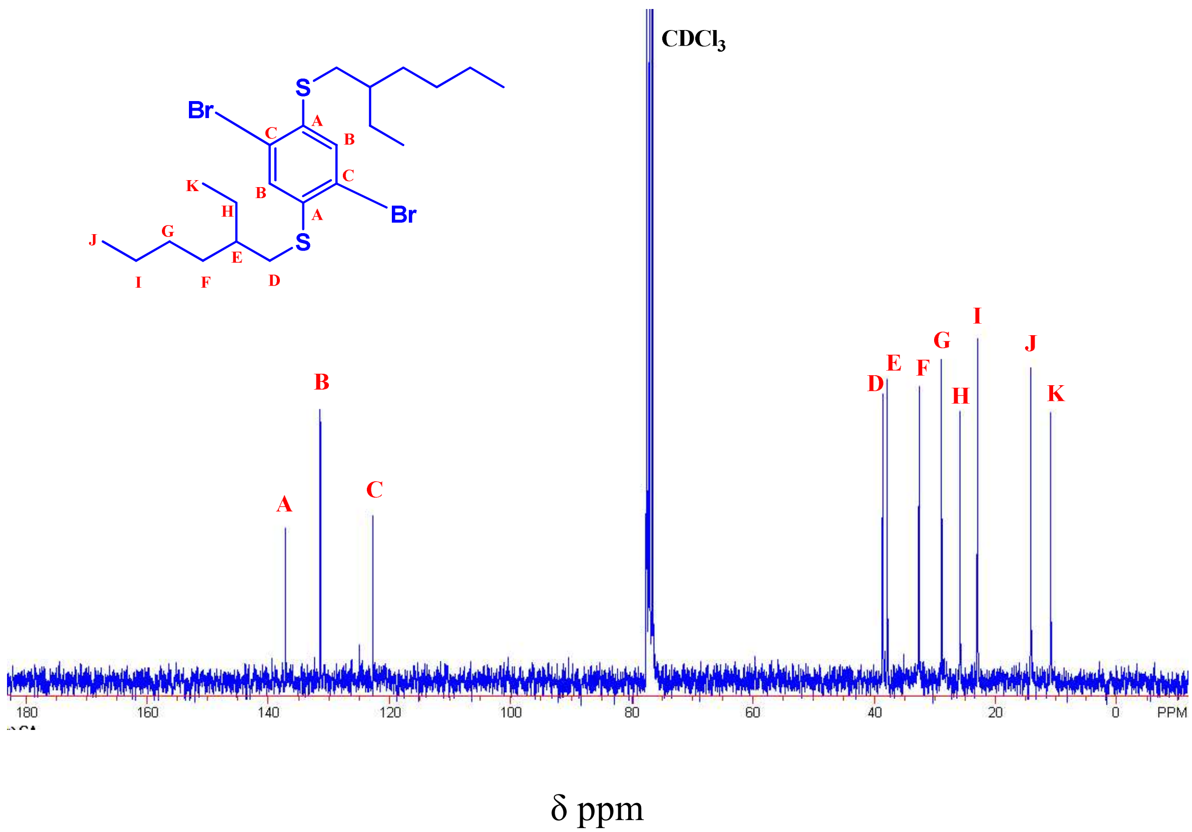


Figure S6. [13]C NMR spectrum of 2,5-dibromo-1,4-bis-(2-ethylhexylthio)benzene (**2**).

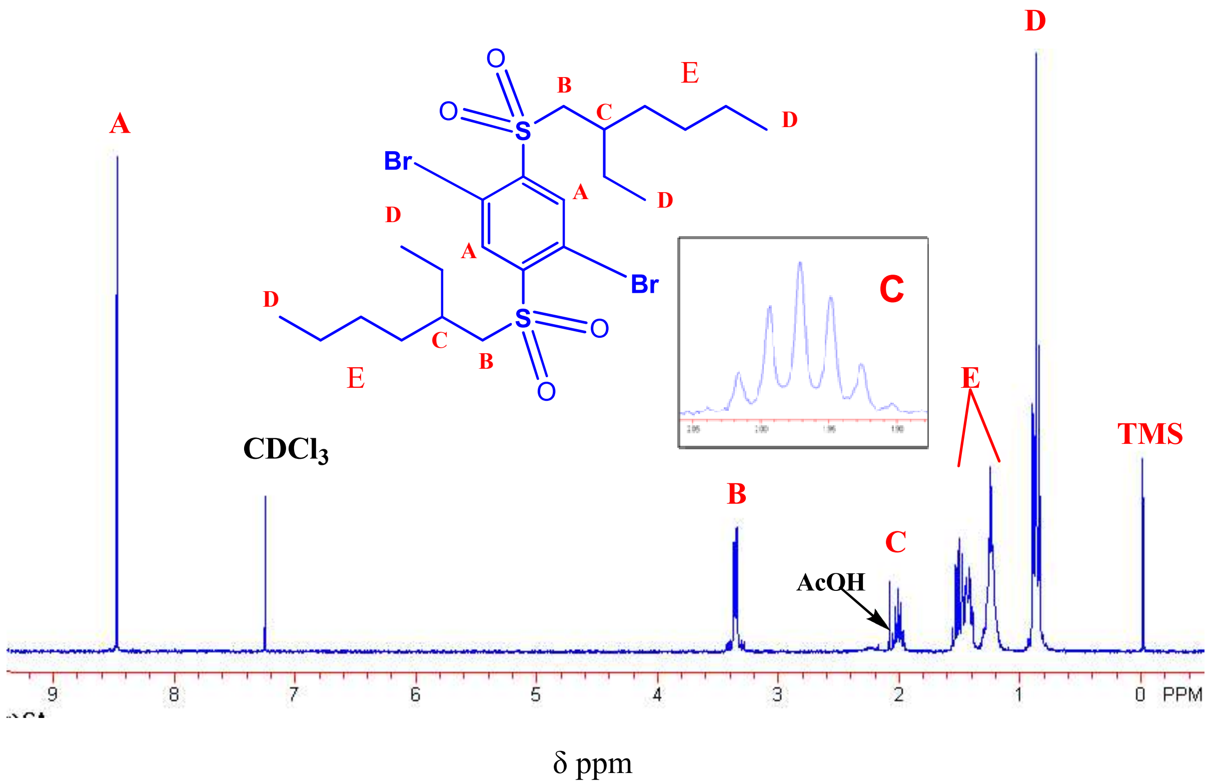
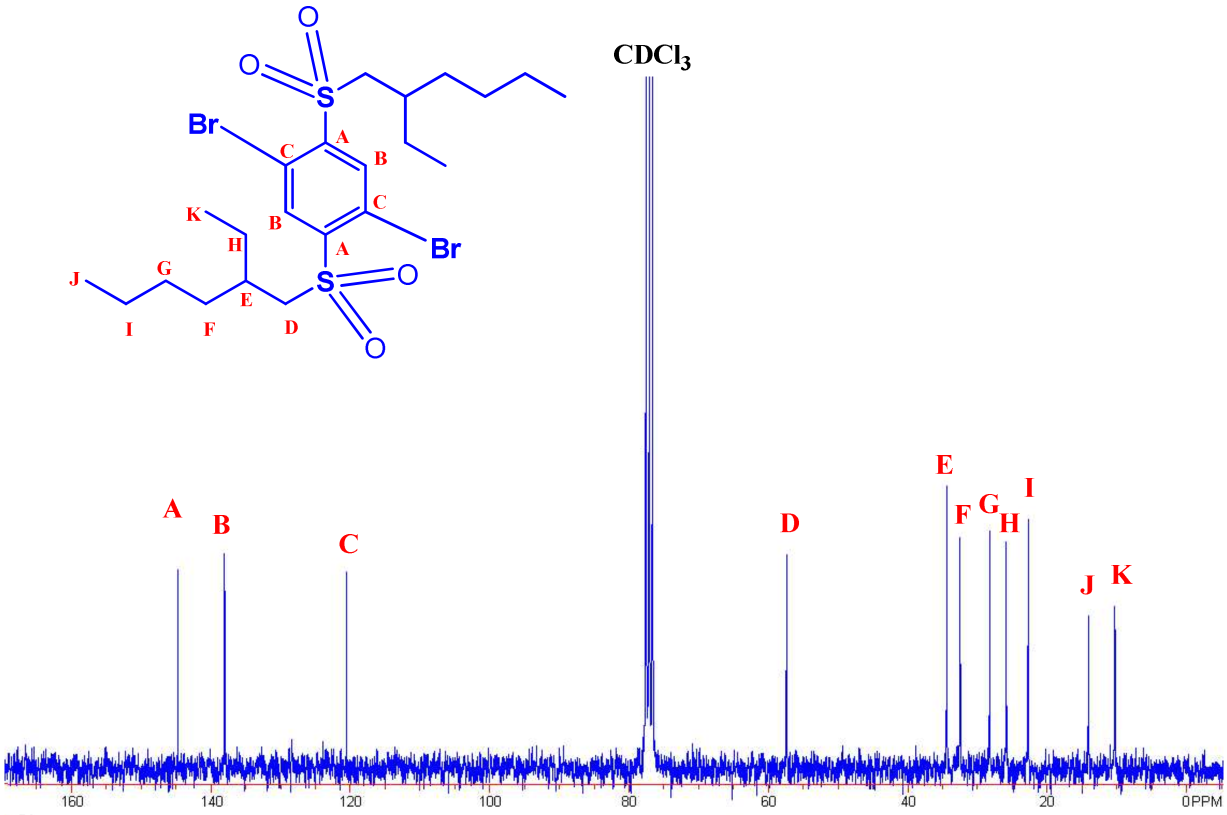


Figure S7. [1]H NMR spectrum of 1,4-dibromo-2,5-bis(2-ethylhexylsulfonyl)benzene (**3**).



δ ppm

Figure S8. ^{13}C NMR spectrum of 1,4-dibromo-2,5-bis(2-ethylhexylsulfonyl)benzene (**3**).