Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

for

Polythiophenoazomethines –Alternate Photoactive Materials for Photovoltaics

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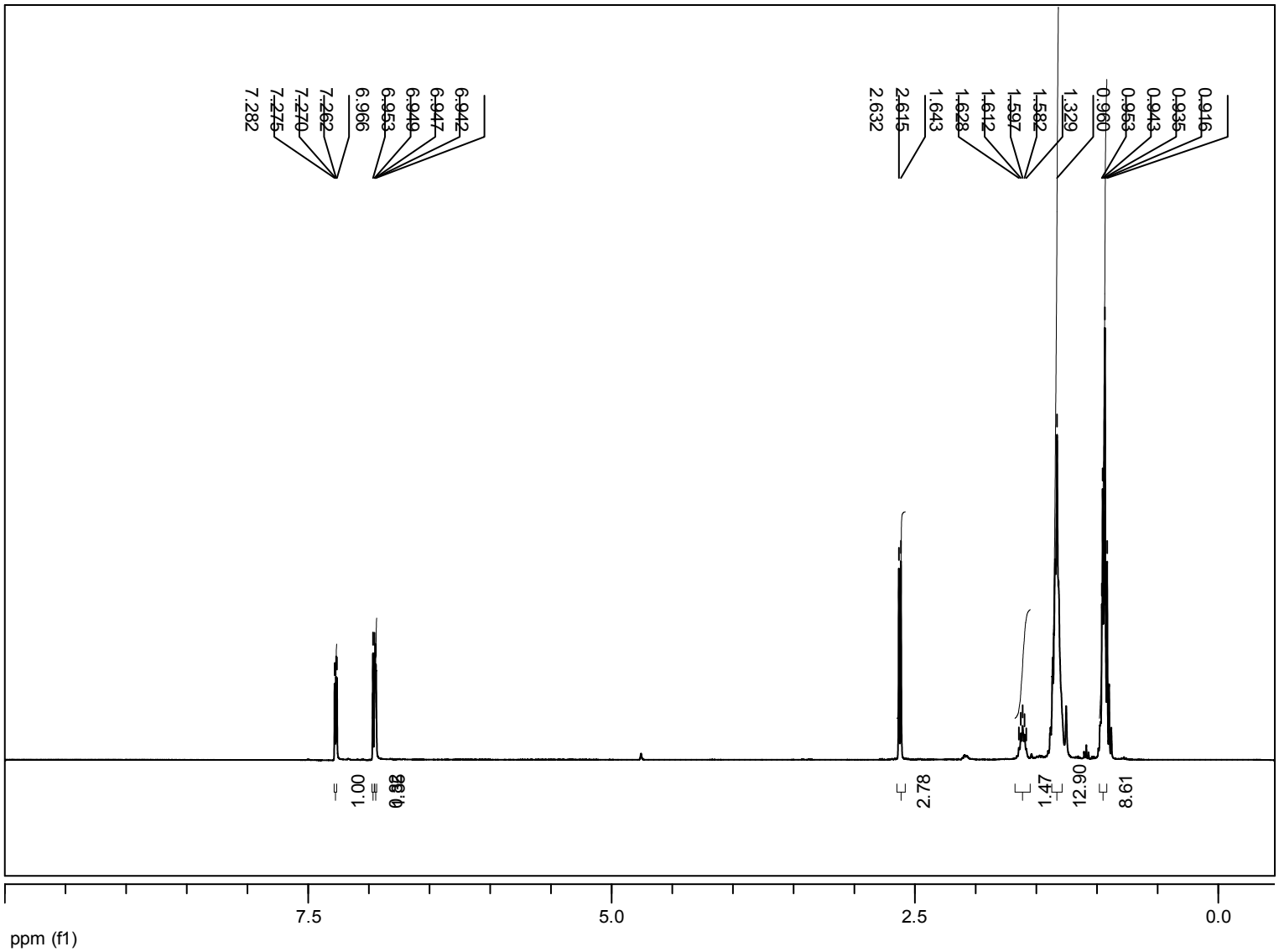

Figure S1. ^{1}H NMR spectrum of 3-(2-ethylhexyl) thiophene.

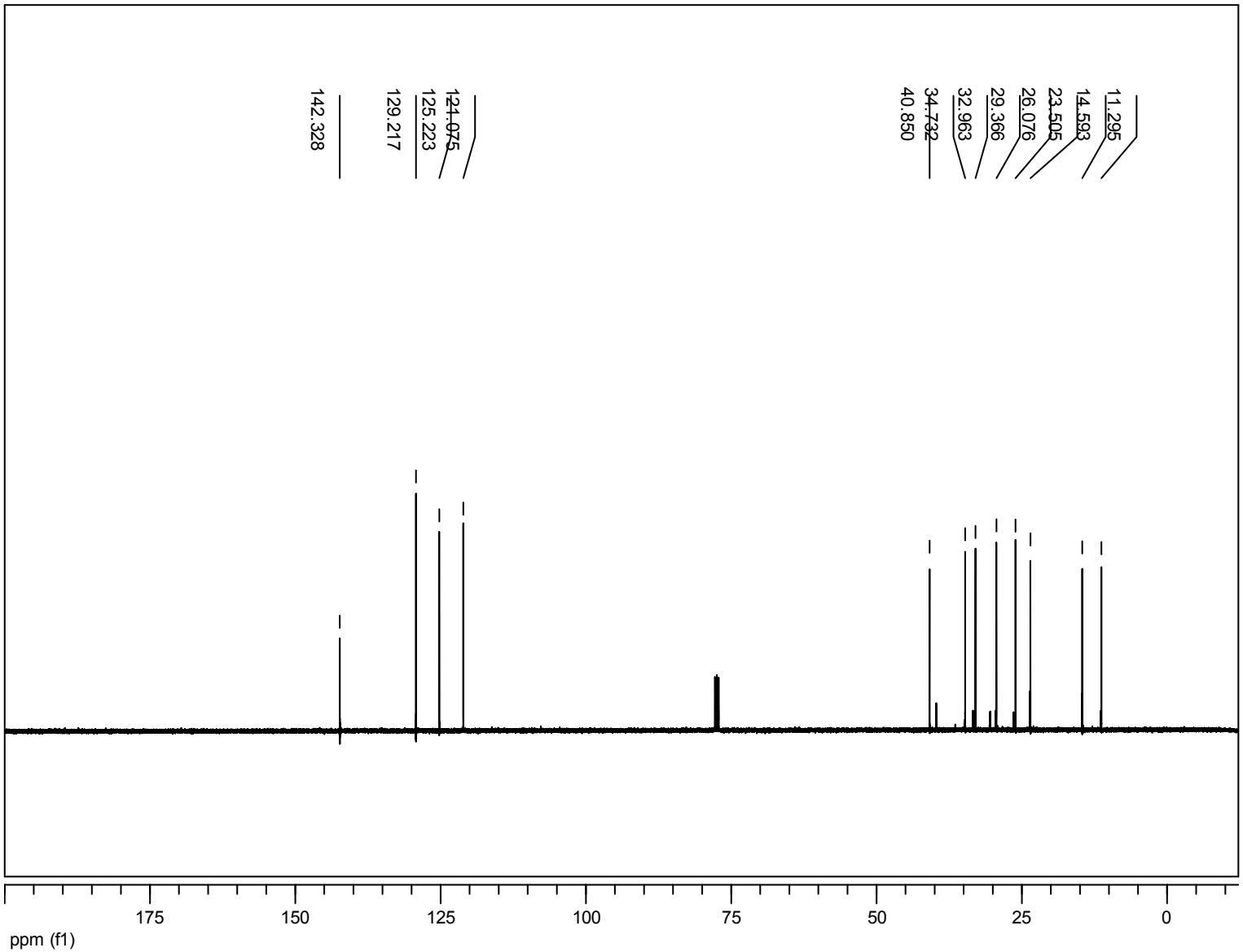

Figure S2. ^{13}C NMR spectrum of 3-(2-ethylhexyl) thiophene.

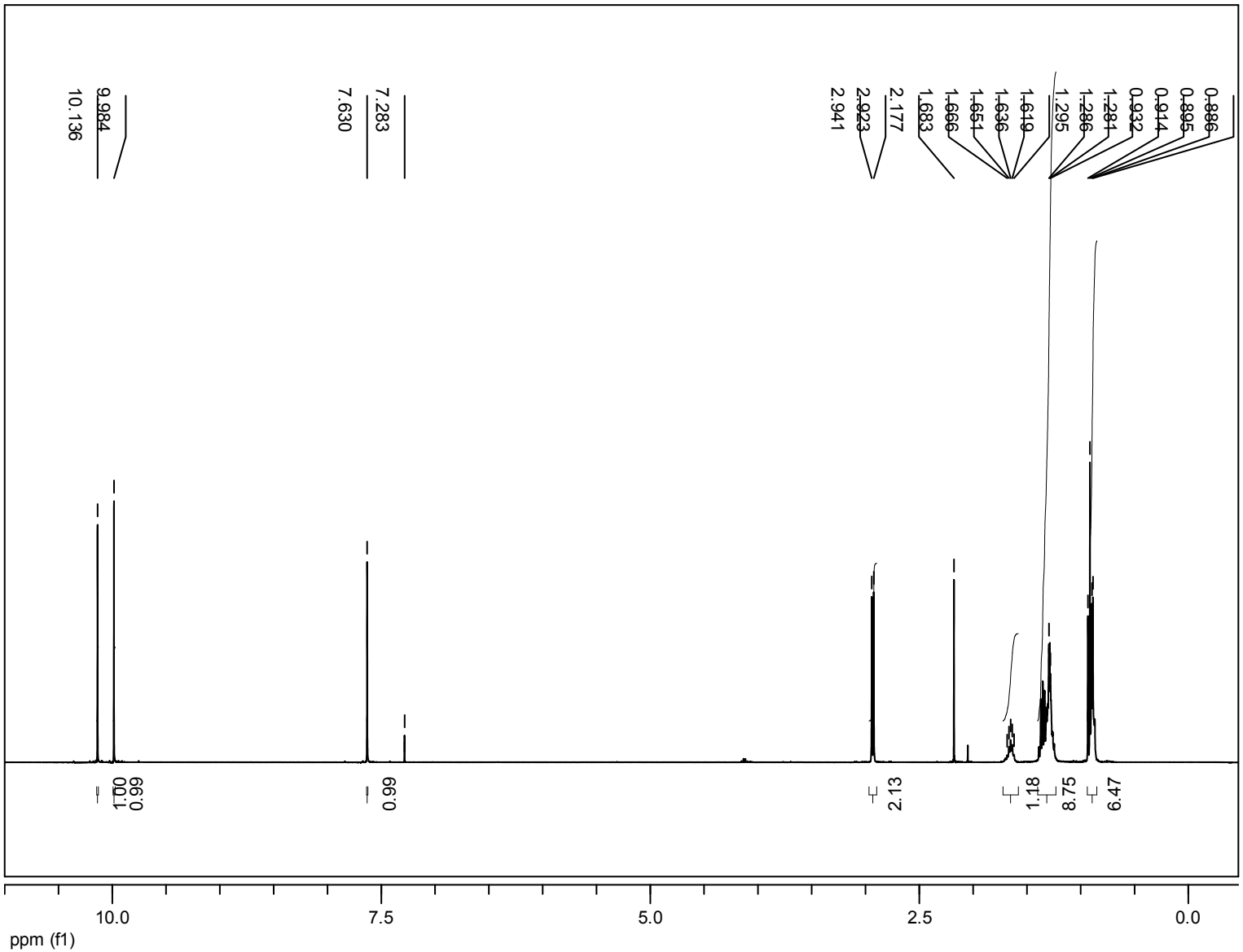

Figure S3. ^{1}H NMR spectrum of 3-(2-ethylhexyl) thiophene-2,5-dicarbaldehyde.

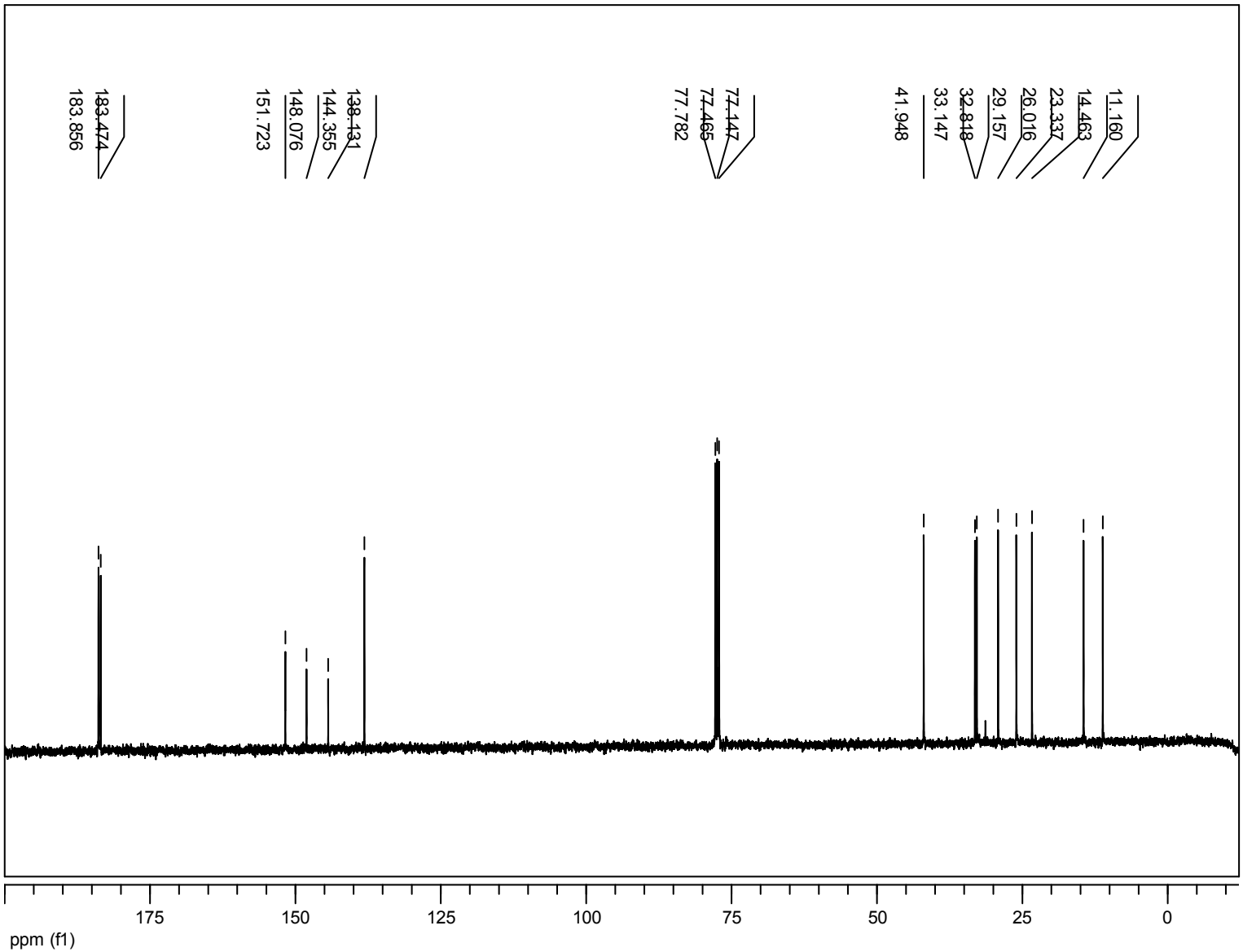

Figure S4. ^{13}C NMR spectrum of 3-(2-ethylhexyl) thiophene-2,5-dicarbaldehyde.

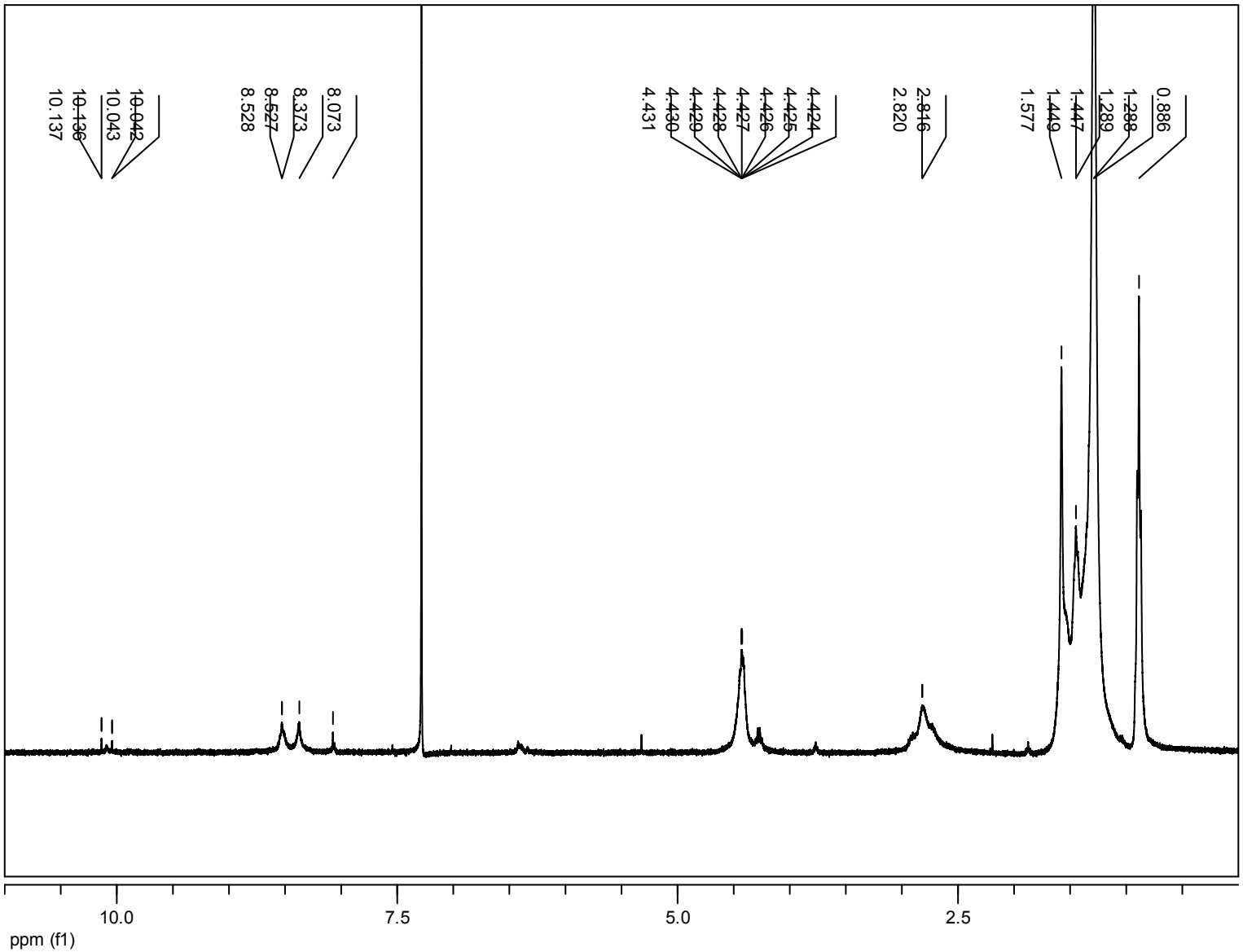

Figure S5. ^{1}H NMR spectrum of **2**.

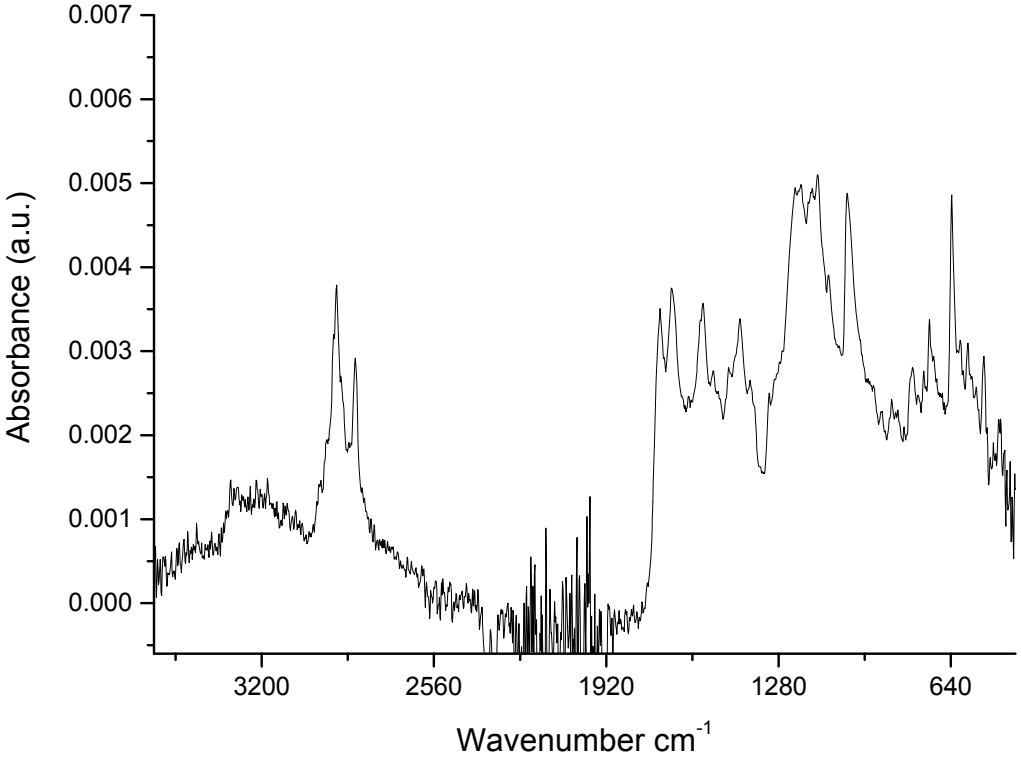

Figure S6. FT-IR spectrum of **1**.

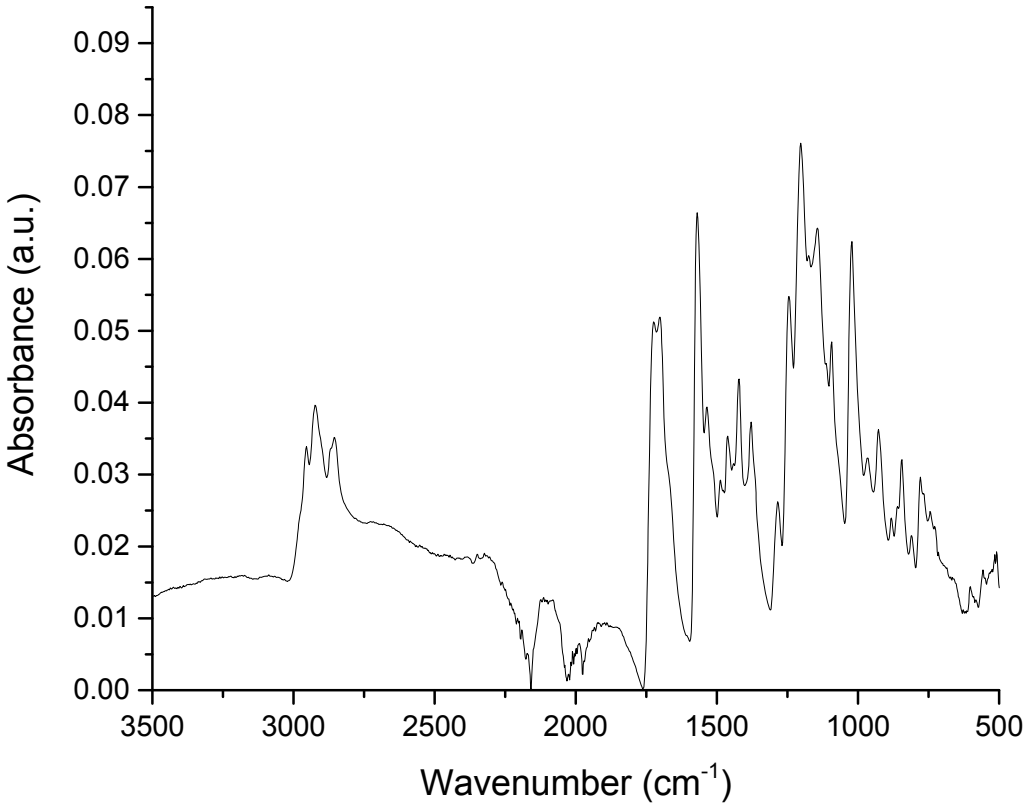

Figure S7. FT-IR spectrum of **2**.

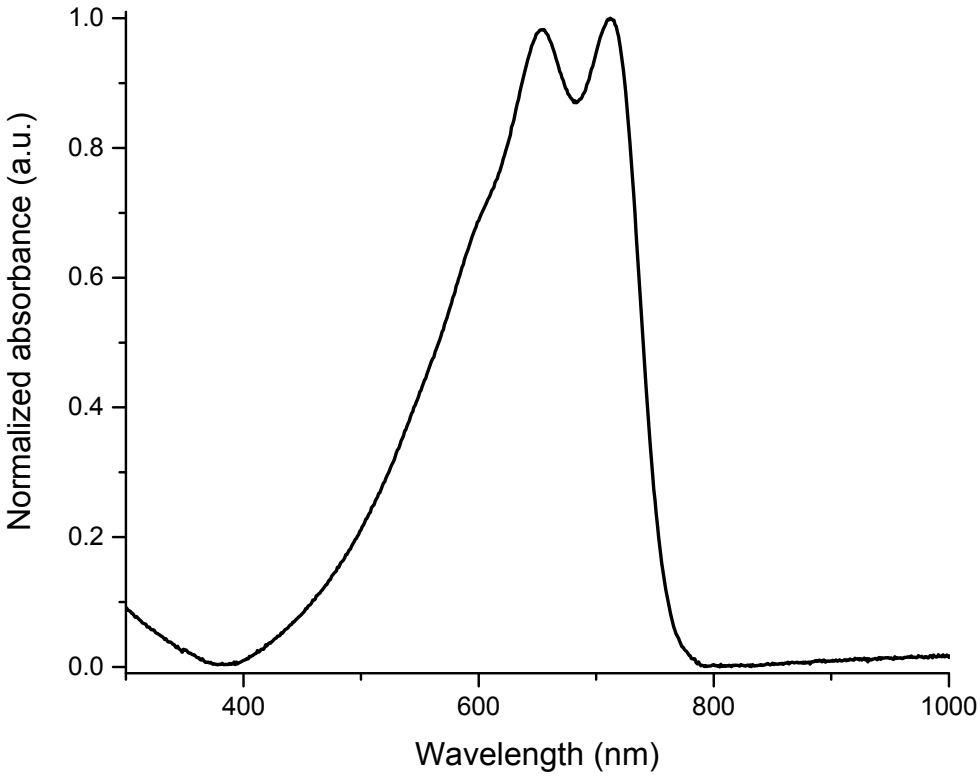

Figure S8. Normalized absorbance of **2** in dichloromethane.

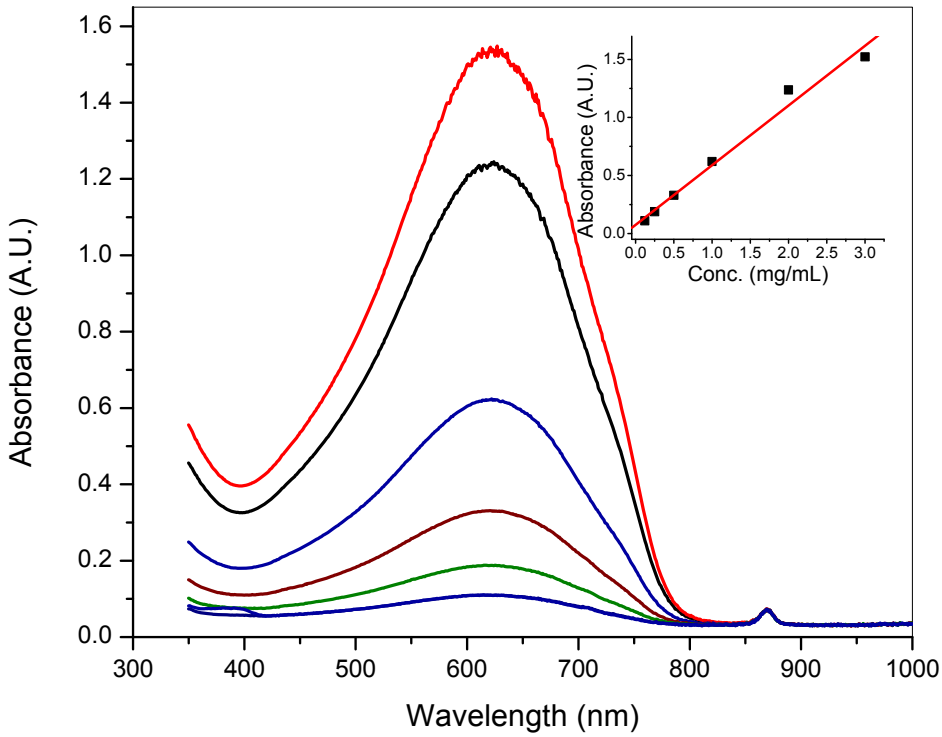

Figure S9. Absorbance of **1** as a function of concentration between 0.13 and 2 mg/mL in chloroform. Inset: absorbance of **1** at 625 nm as a function of concentration.

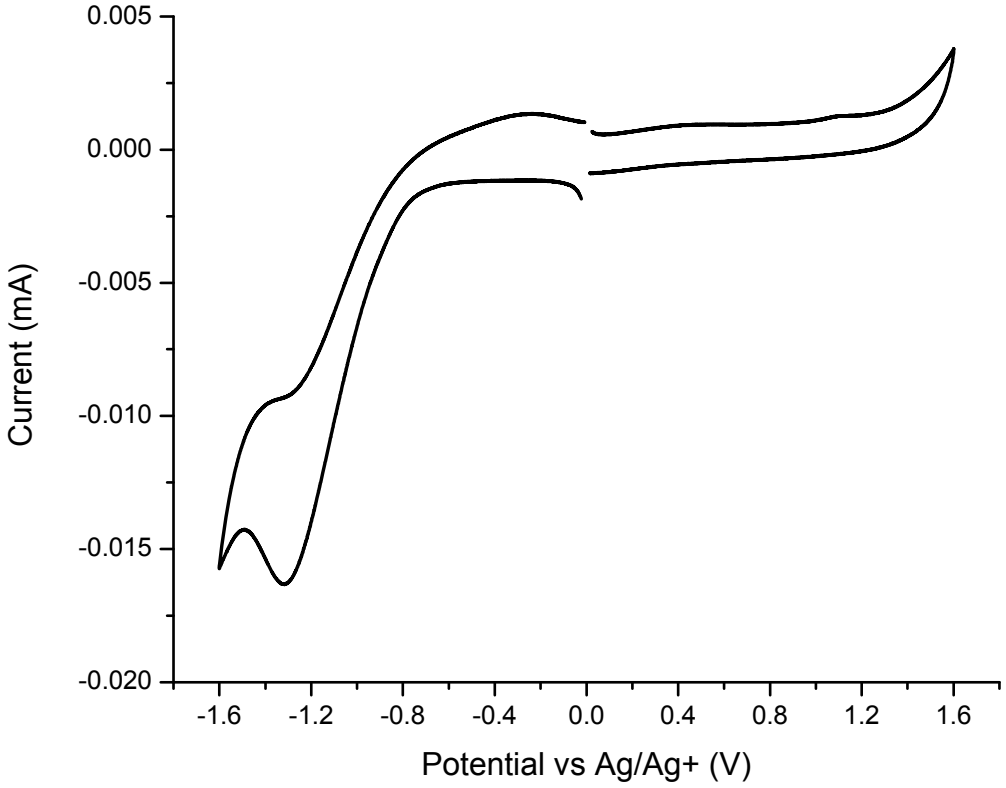

Figure 10. Cyclic voltammogram of **2** in dichloromethane measured at 100 mV/sec with $TBAPF_6$ against Ag/AgCl (sat'd) electrode in anhydrous dichloromethane.

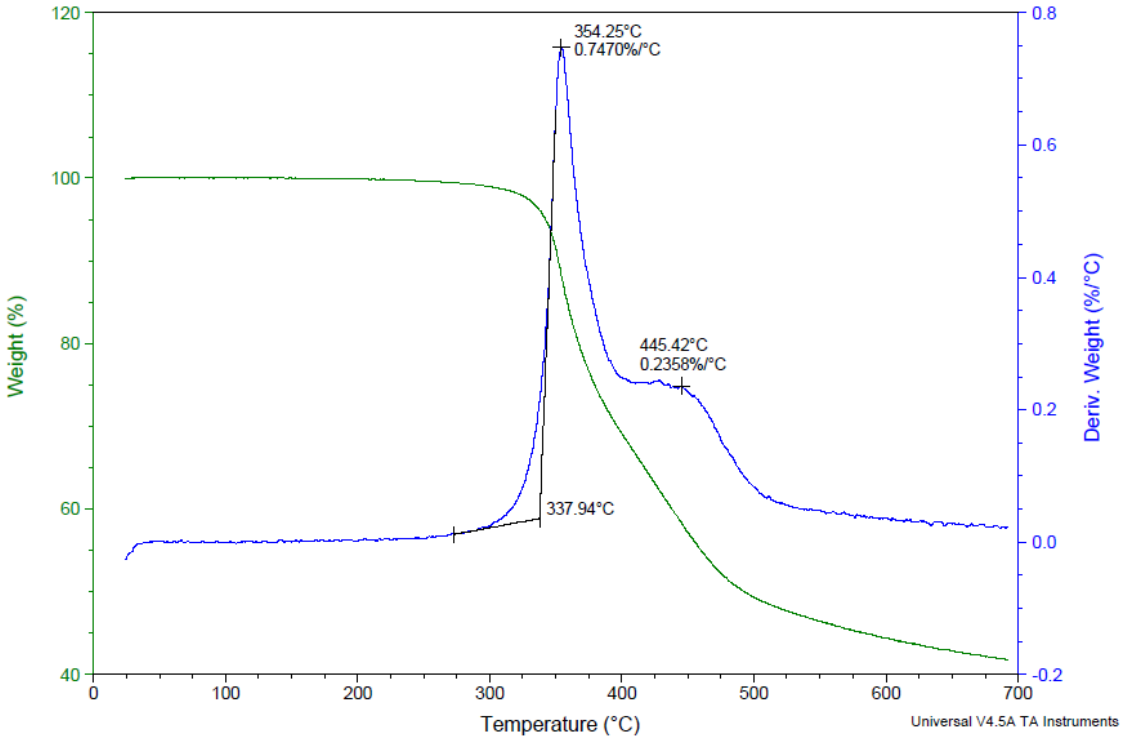

Figure S11. Thermal gravimetric analysis of **2**.

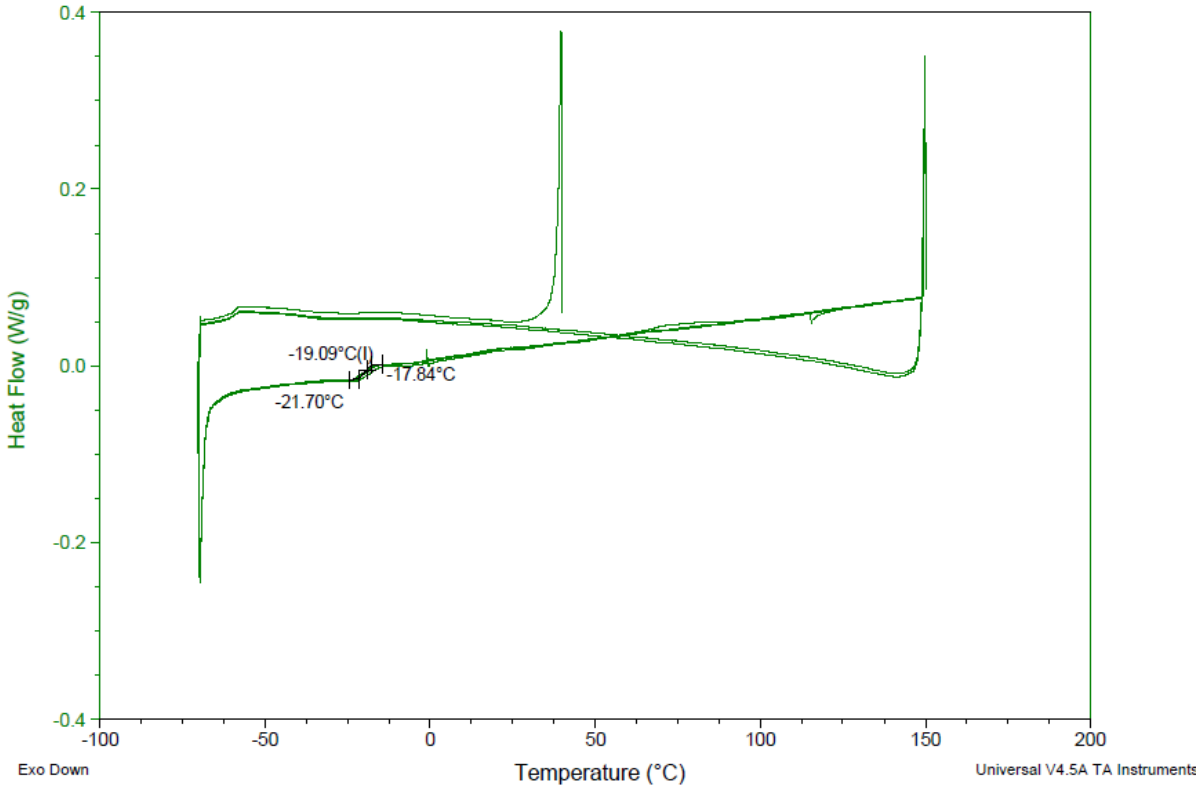

Figure S12. Differential scanning calorimetry thermograms of **2**.

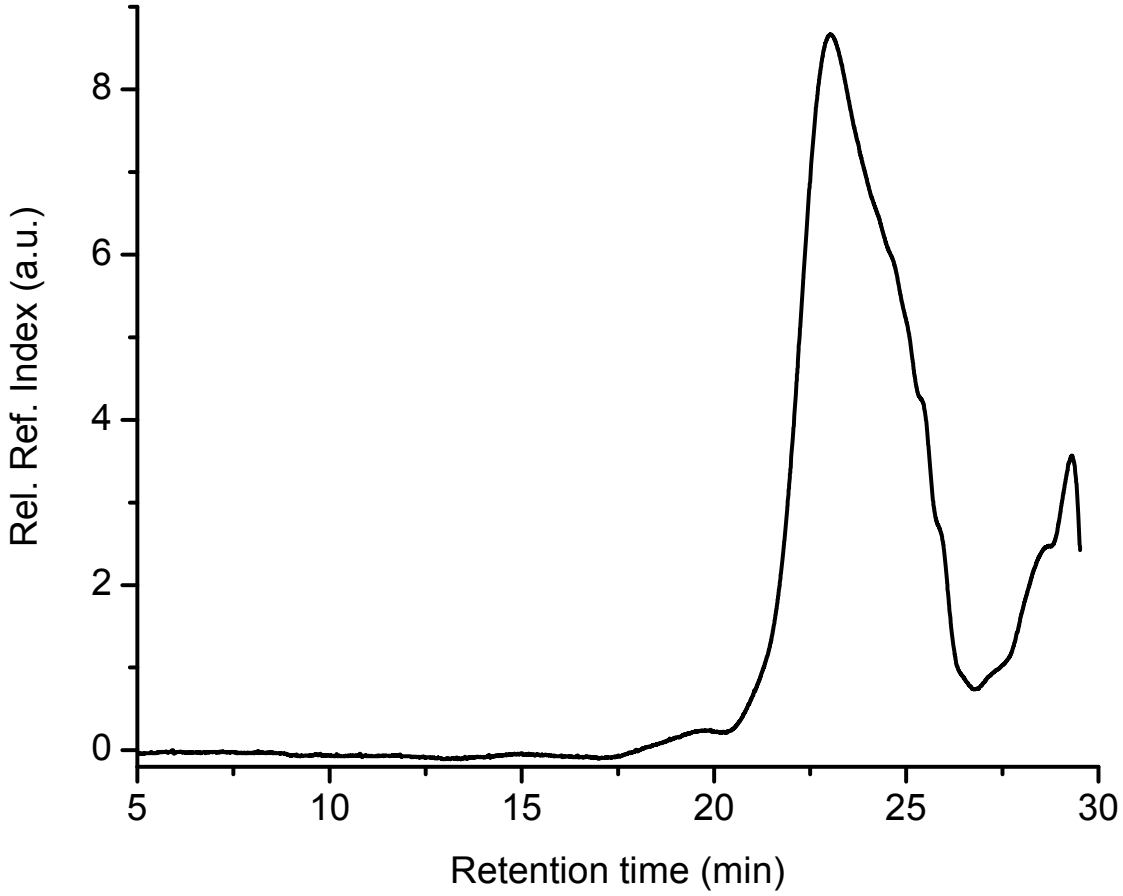

Figure S13. GPC elugram of **2**.

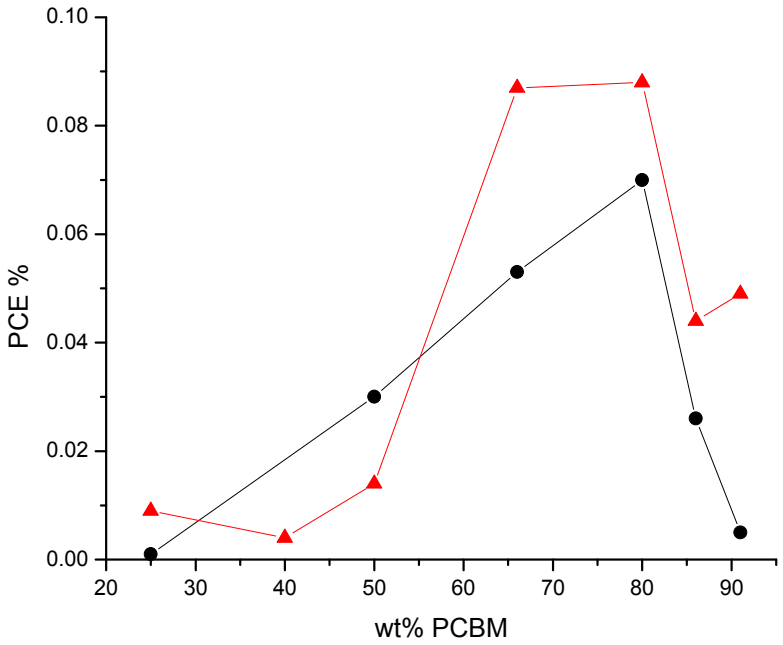

Figure S14. Unoptimized photovoltaic device power conversion efficiency as a function of the $PC_{60}BM$ content: **1** (■) and **3** (●).

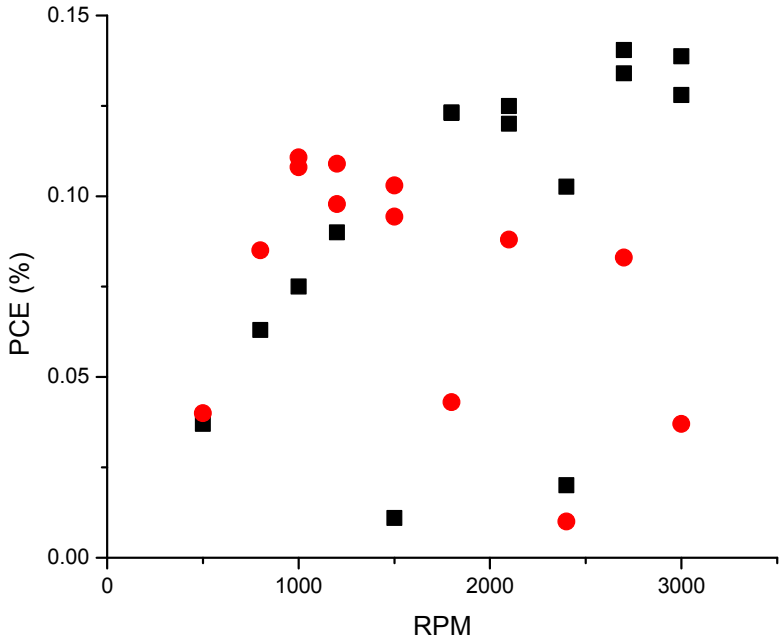

Figure S15. Unoptimized photovoltaic device power conversion efficiency with 1:4 **1**:$PC_{60}BM$ ratio as a function of spin coating speed/film thickness and donor/acceptor concentration: 10 (●) and 20 (■) mg/mL in chlorobenzene.

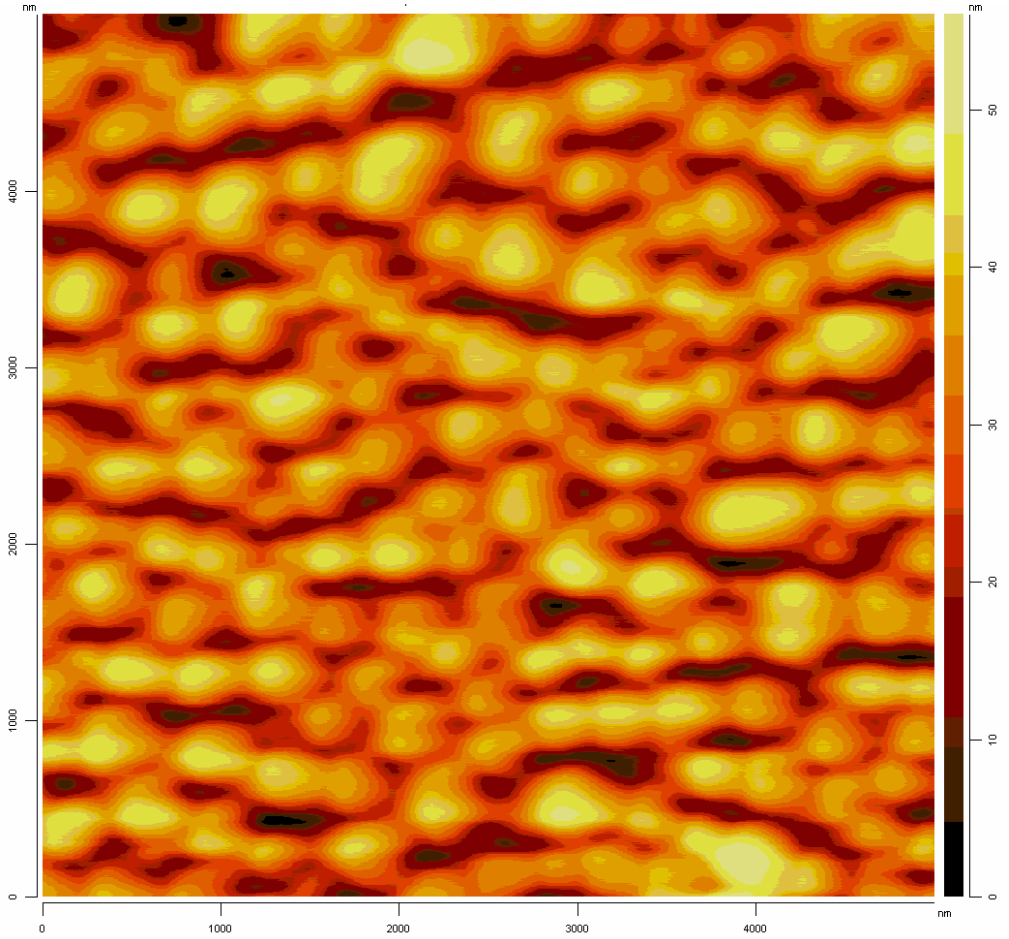

Figure S16. AFM topology image of 1:4 **1**:$PC_{60}BM$ blend in noncontact mode of 5 x 5 μm area.

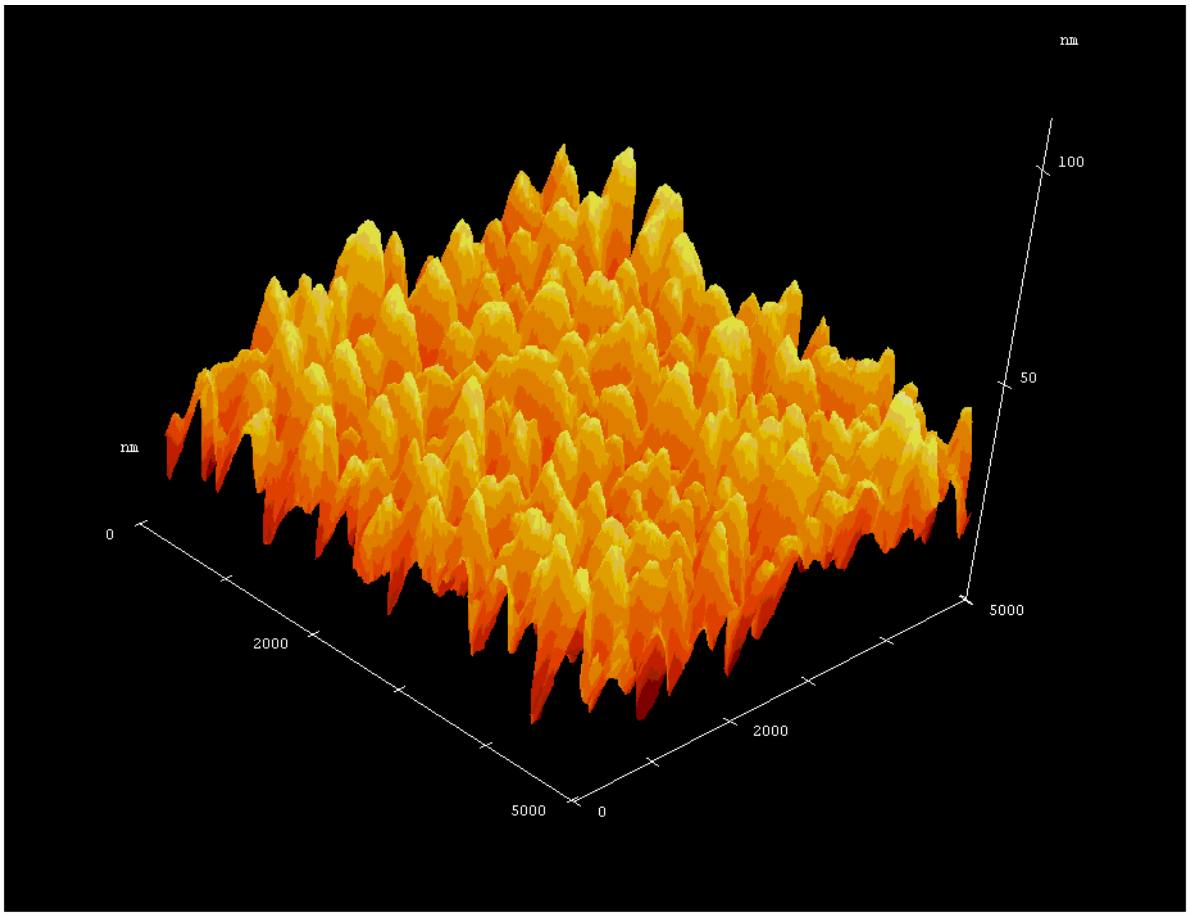

Figure S17. AFM image of 1:4 **1**:$PC_{60}BM$ blend in noncontact mode of 5 x 5 μm area showing the roughness.