Supplementary Material

Solvent-free microwave-assisted Bingel reaction in carbon nanohorns

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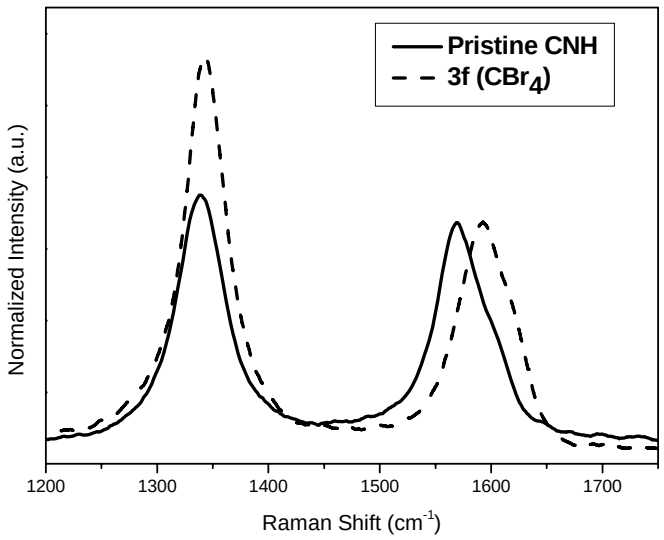

Figure S1. Raman spectra of CNHs and functionalized malonate derivative **3f**, obtained under conventional Bingel reaction conditions (laser line for excitation at 514 nm). The spectra are normalized to the peak intensity of the G band.

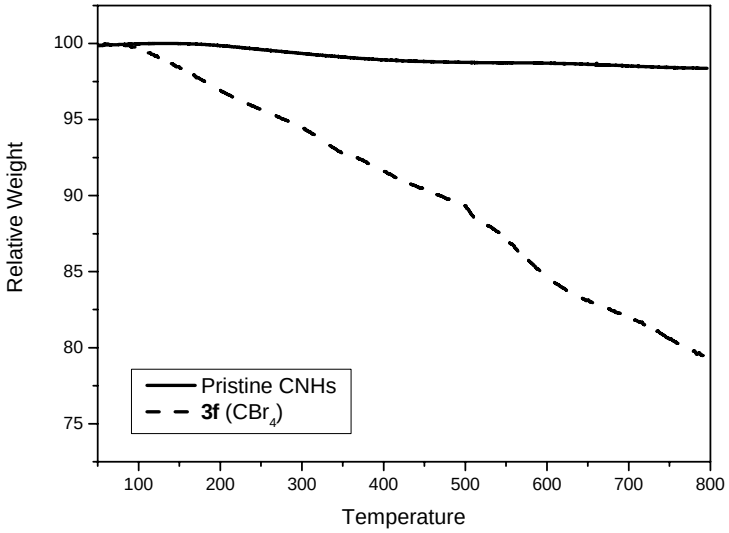

Figure S2. TGA graphs of functionalized CNHs **3f**, obtained under conventional Bingel reaction conditions (dashed line) and pristine CNHs (solid line). Heating rate is kept constant at 10 ^{o}C/min under N_2 flow.

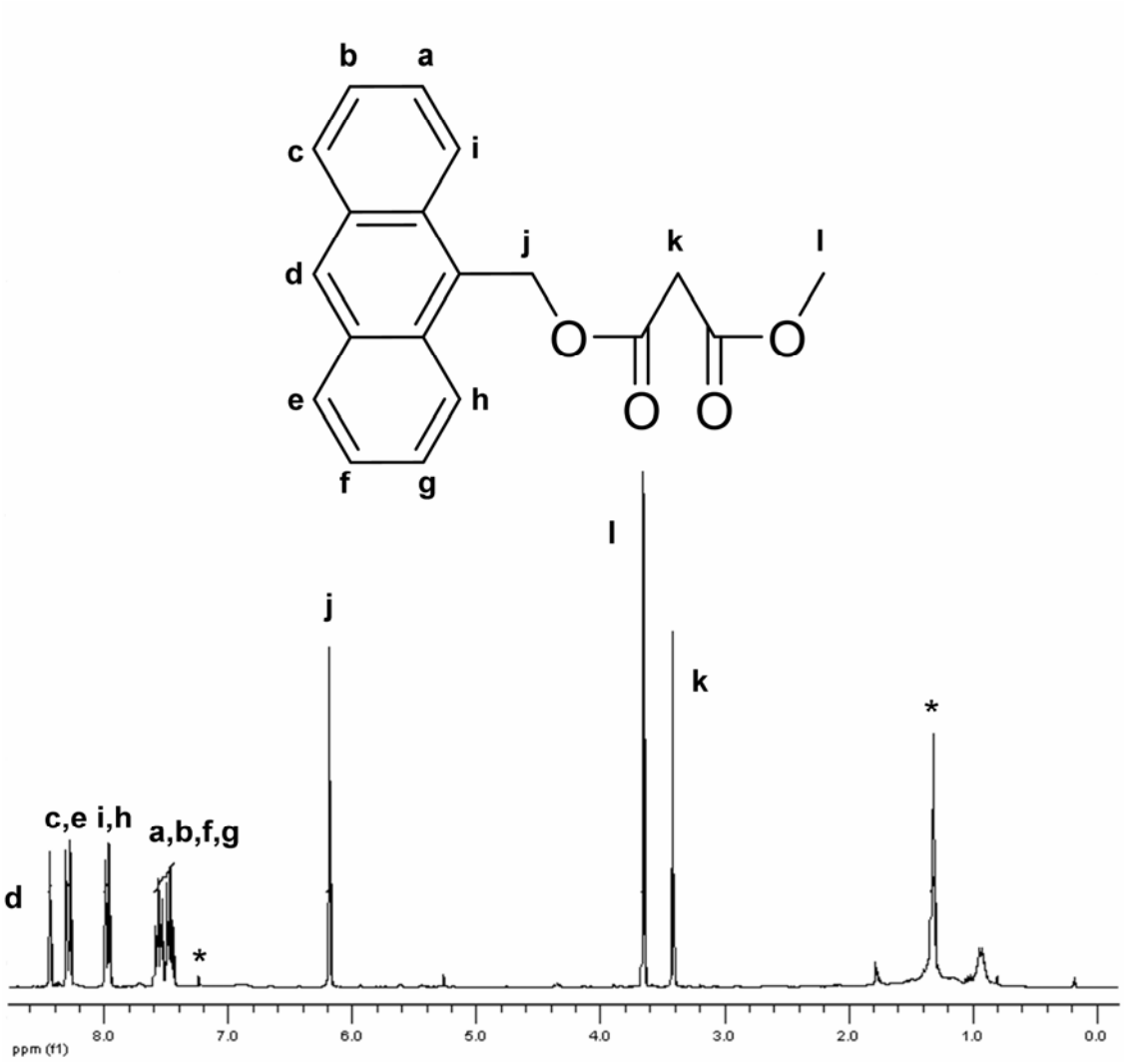

Figure S3. ^{1}H NMR spectrum of anthracene malonate derivative **1**.

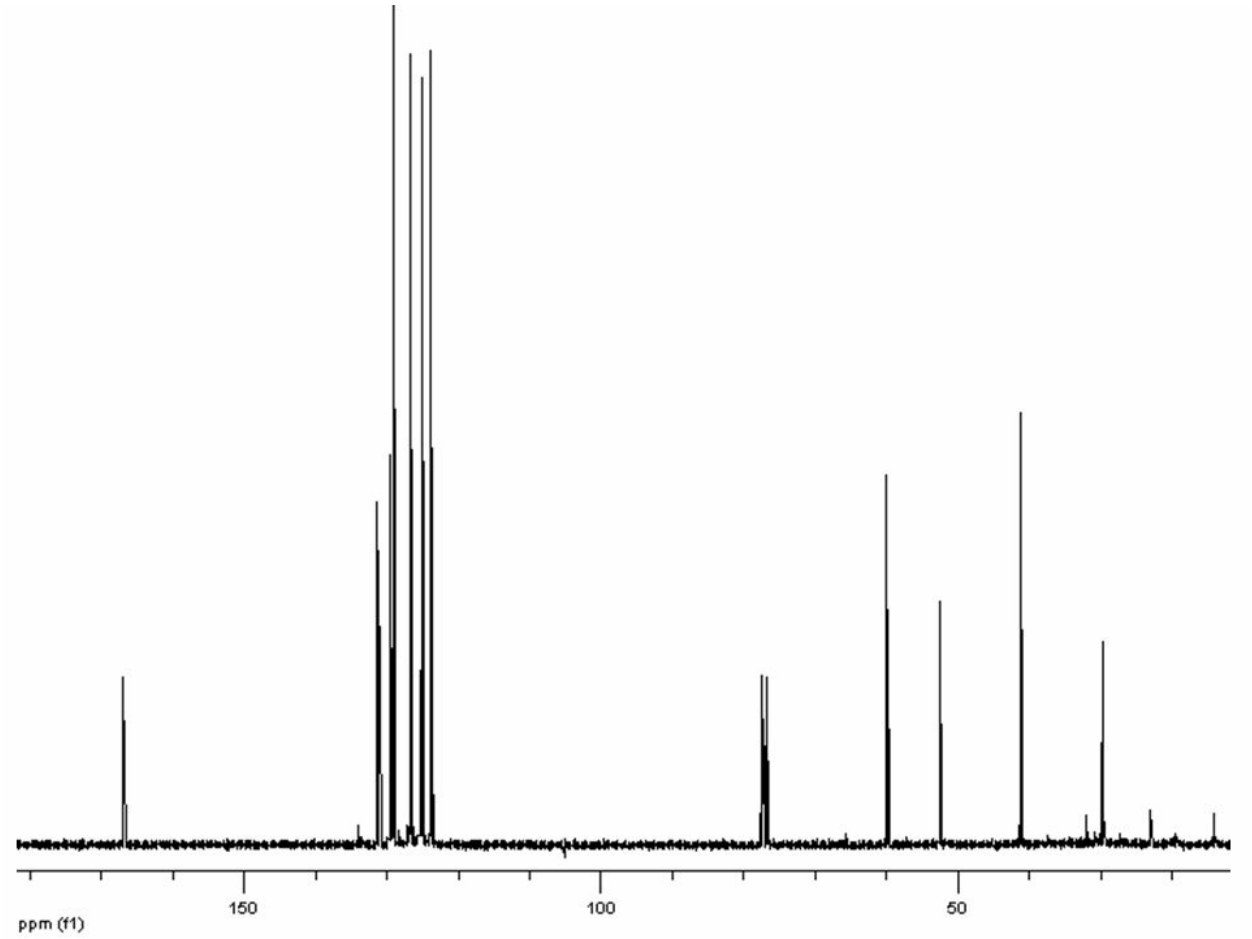

Figure S4. ^{13}C NMR of anthracene malonate derivative **1**.

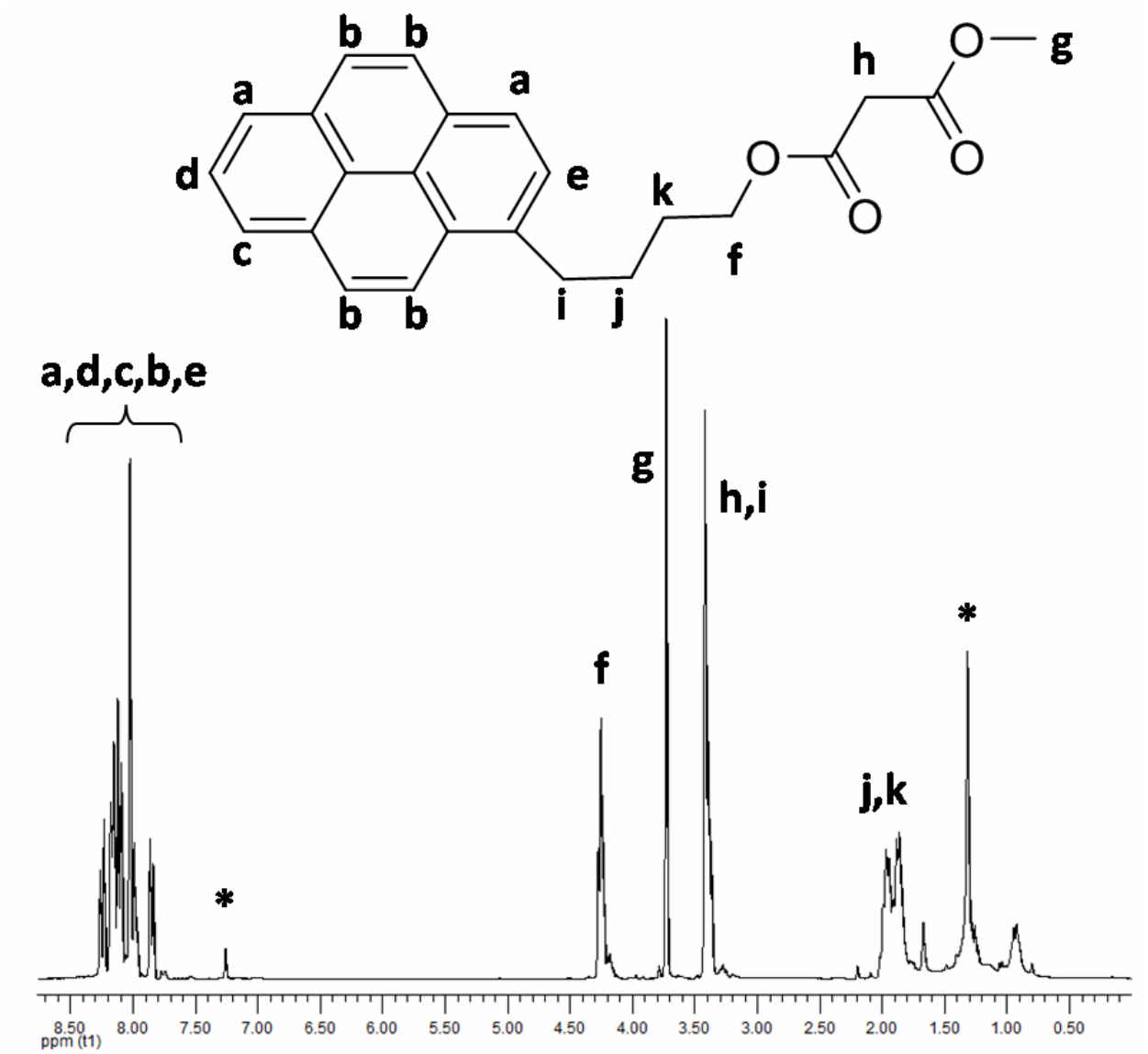

Figure S5. ^{1}H NMR spectrum of pyrene malonate derivative **2**.

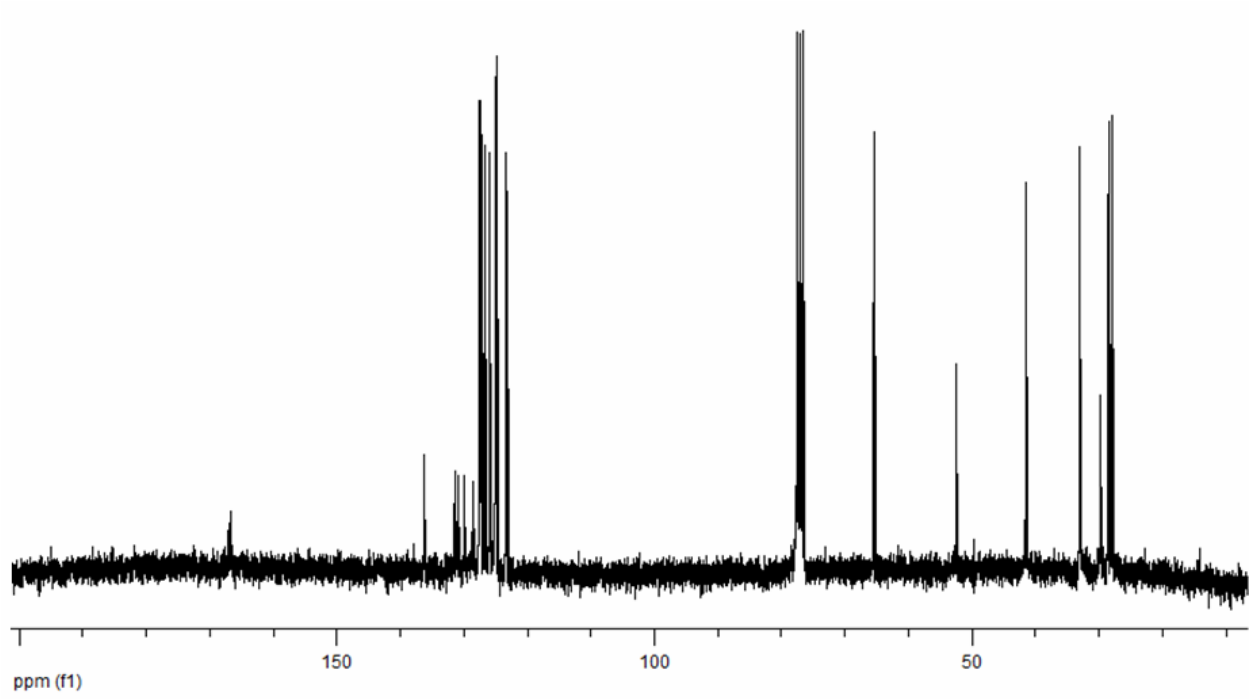

Figure S6. ^{13}C NMR spectrum of pyrene malonate derivative **2**.

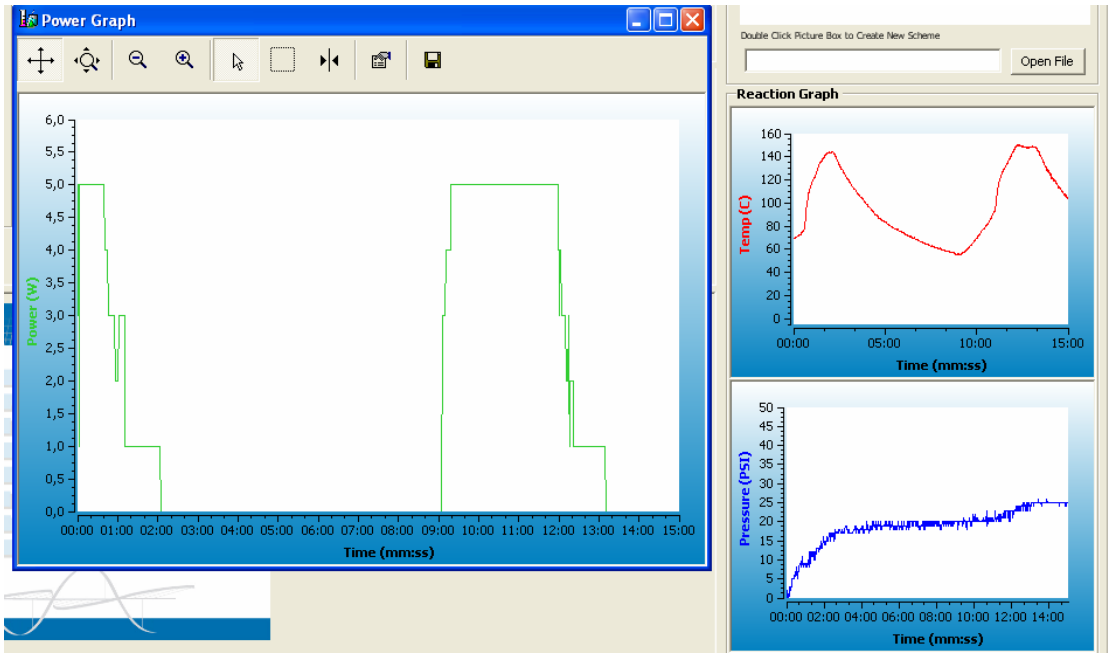

Figure S7. Power, temperature and pressure over time graphs, obtained from the Synergy software of the CEM discover microwave reactor, following the reaction conditions of **3b**.

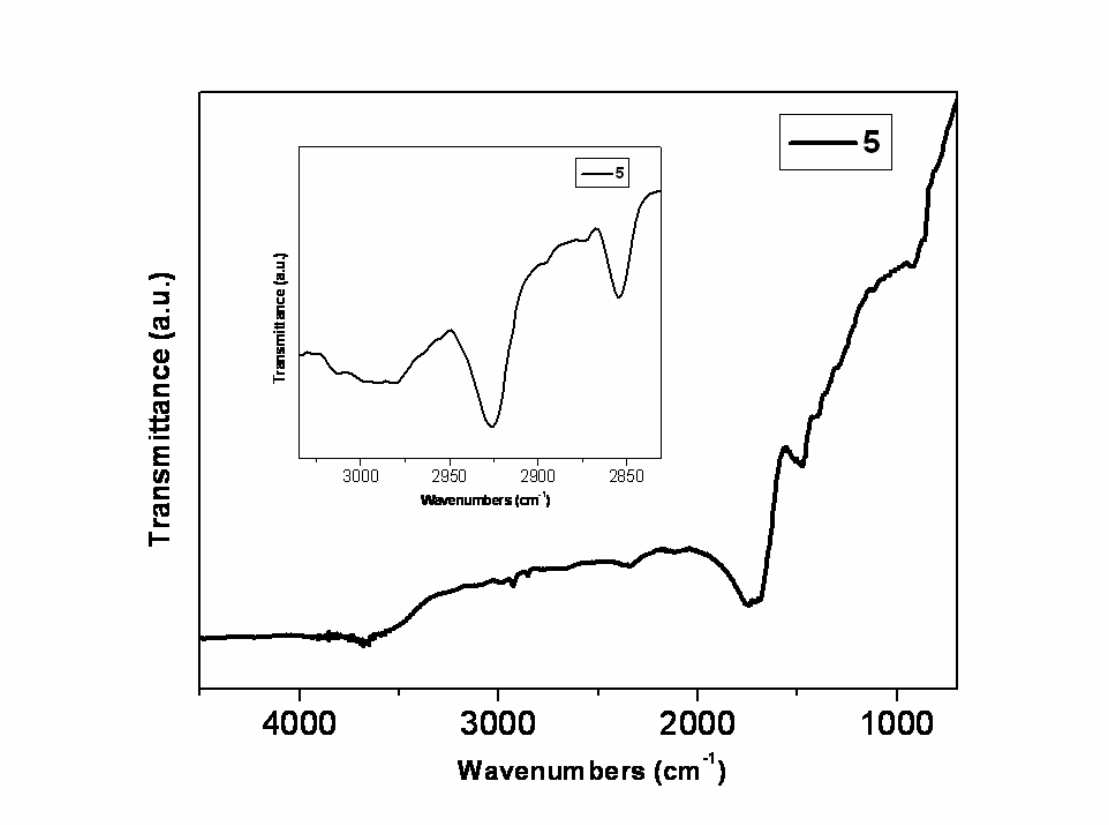

Figure S8. ATR-IR spectrum of functionalized CNHs material **5** and magnification of region 2900-3100 cm^{-1} (inset).

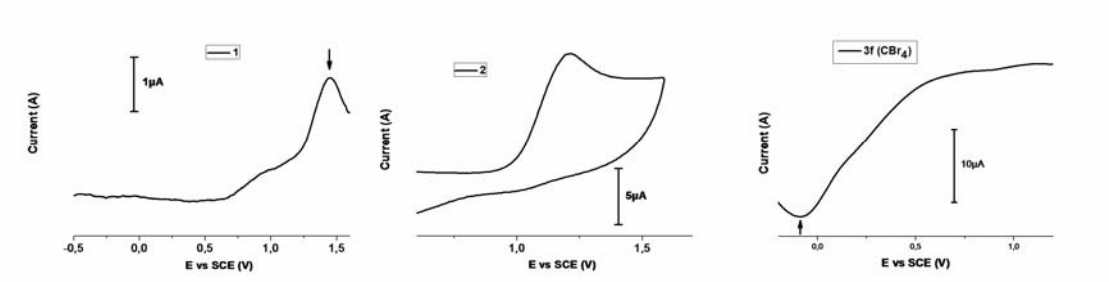

Figure S9. Differential pulse voltammetry (oxidation run) of anthracene malonate **1** (left), cyclic voltammetry of pyrene malonate **2** (middle), obtained at a scan rate of 200mV/s and differential pulse voltammetry (reduction run) of material **3** (right).

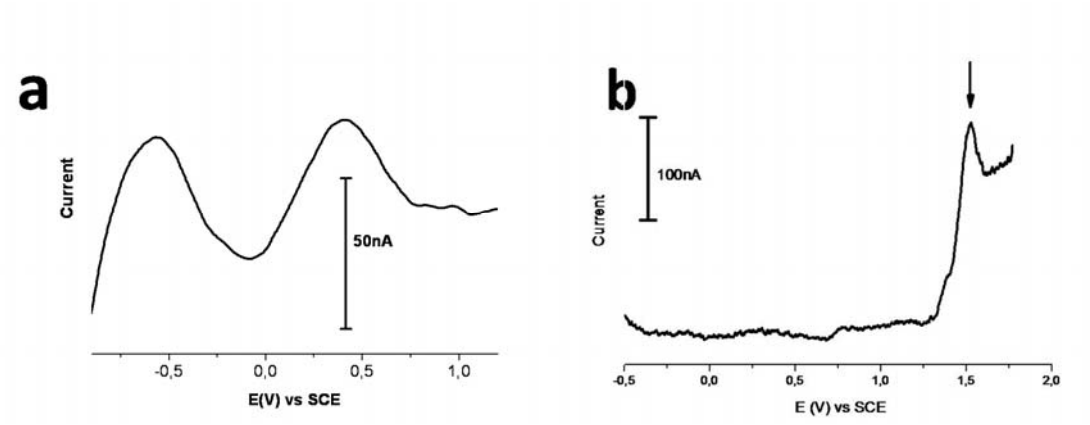

Figure S10. Differential pulse voltammetry of material **4**. Reduction (a) and oxidation (b) runs.