## **Supplementary Information**

## Synthesis and Application of a Novel Poly-L-phenylalanine Electroactive

## Macromonomer as Matrix for the Biosensing of 'Abused Drug' Model

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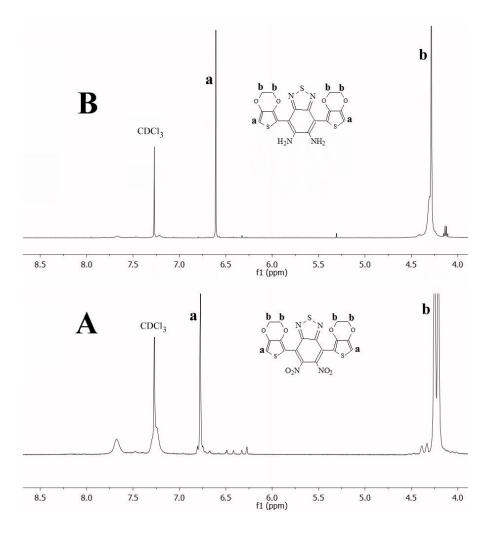


Figure S1. The <sup>1</sup>H-NMR spectra in CDCl<sub>3</sub> of the intermediates used for the initiator synthesis: (A) **EDOT-NO<sub>2</sub>-BTDA**, **3** and (B) **EDOT-NH<sub>2</sub>-BTDA**, **4** in Scheme 1.

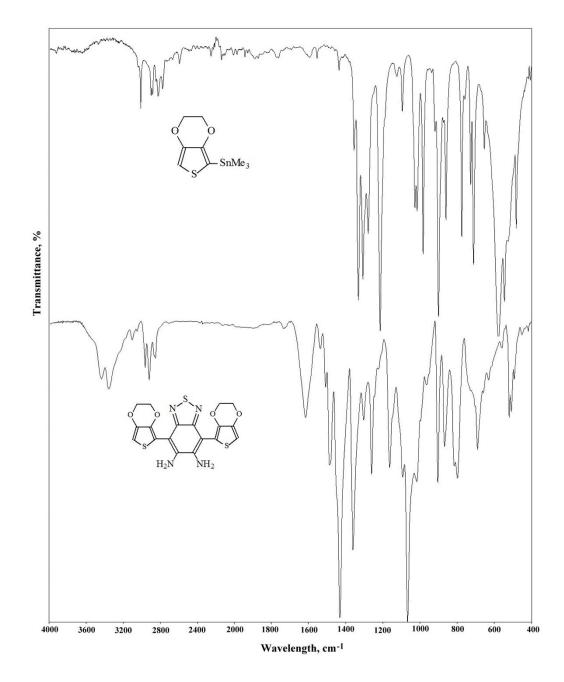


Fig. S2. IR spectra of the initiator, EDOT-NH<sub>2</sub>-BTDA, 4 and of the organic intermediate used for its synthesis

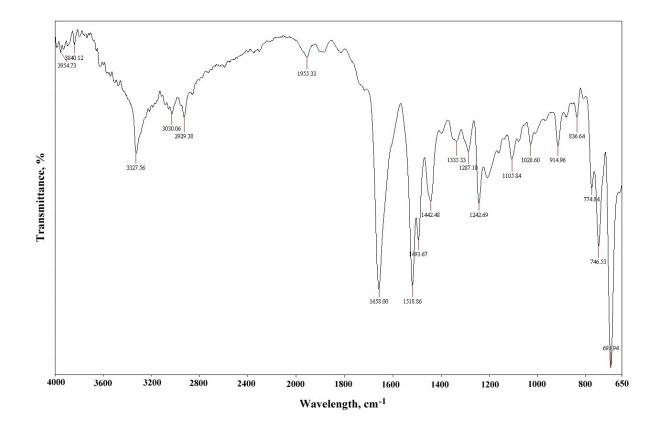


Fig. S3. IR spectrum of the macromonomer EDOT-BTDA-PPhe

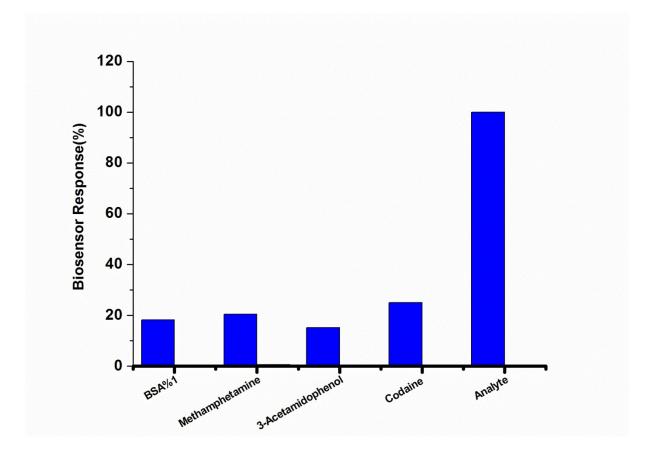


Fig. S4. Influence of interferants including BSA (1.0%), 0.5  $\mu$ M of metamphetamine, 3-acetamidophenol, codeine. (Error bars shows ± S.D).