

## Supplementary materials for:

### ***Layered polythiophene-silica composite through self-assembly and polymerization of thiophene-based silylated molecular precursors***

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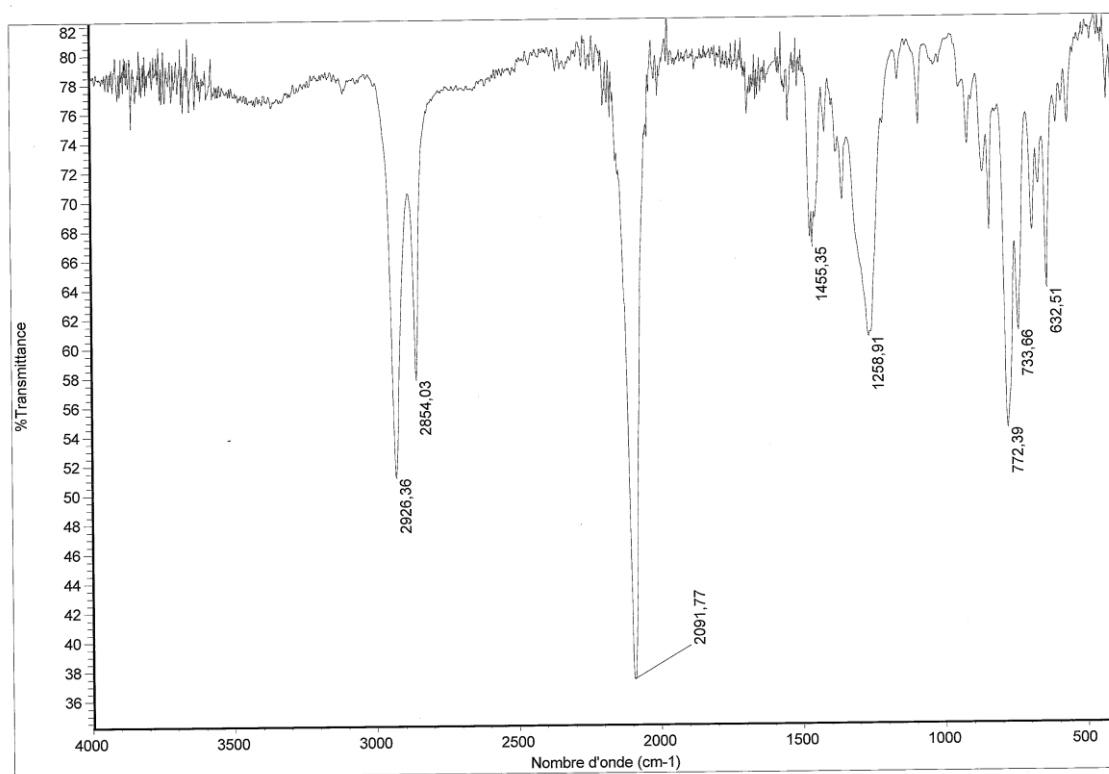


Figure S1 : ATR-FT-IR spectrum of 2.

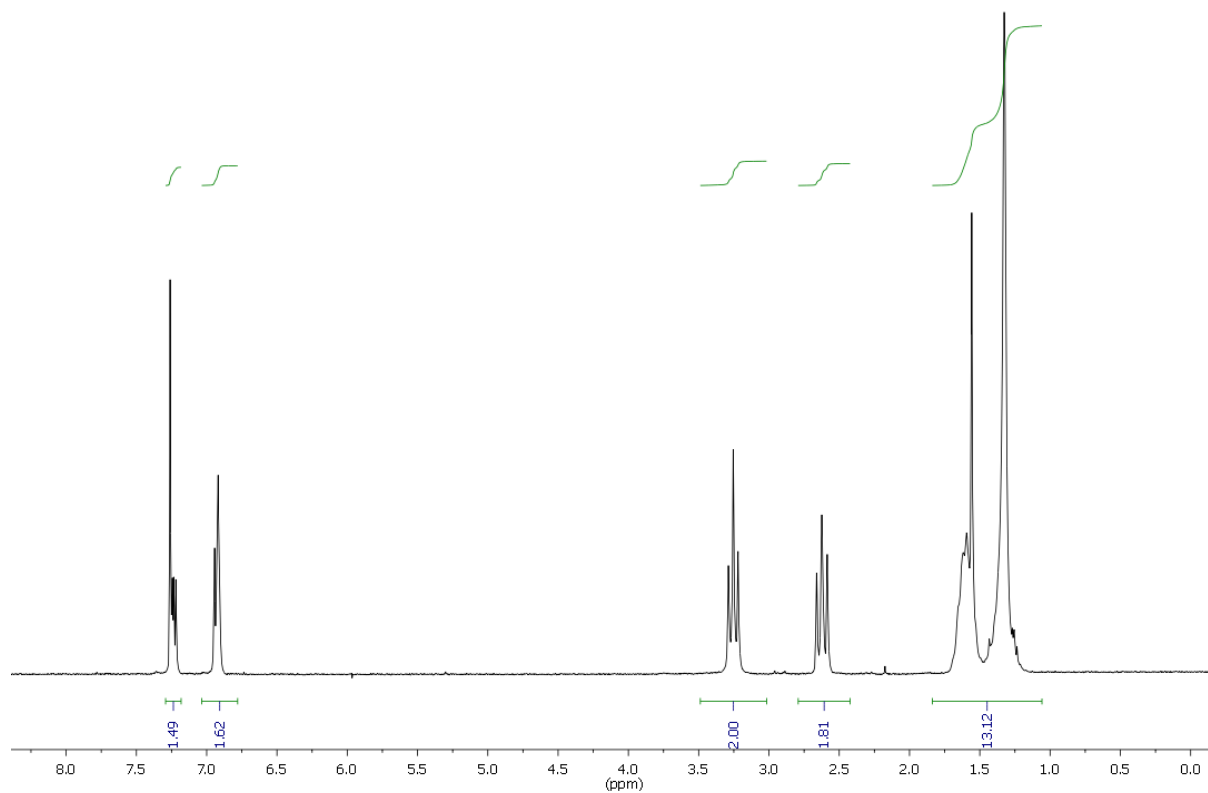


Figure S2 :  $^1\text{H}$  NMR spectrum of 2 in  $\text{CDCl}_3$ .

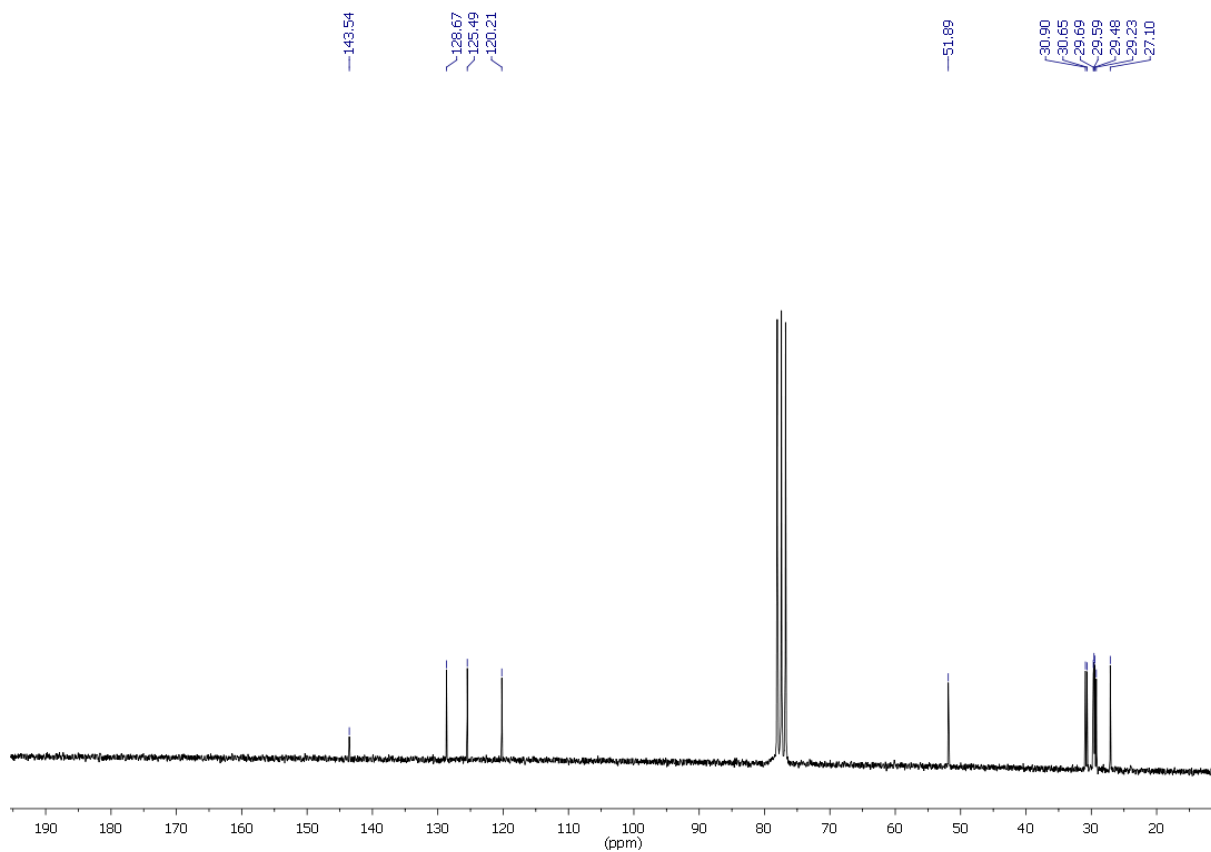


Figure S3 :  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of **2** in  $\text{CDCl}_3$ .

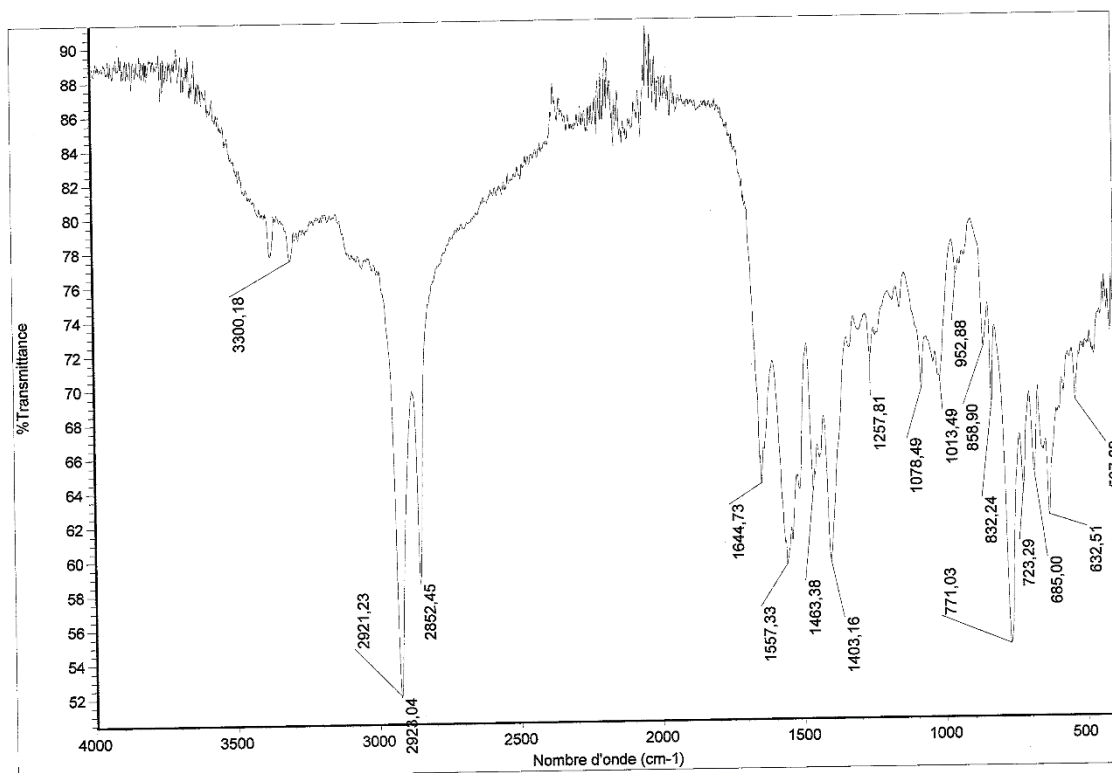


Figure S4: ATR-FT-IR spectrum of **3**.

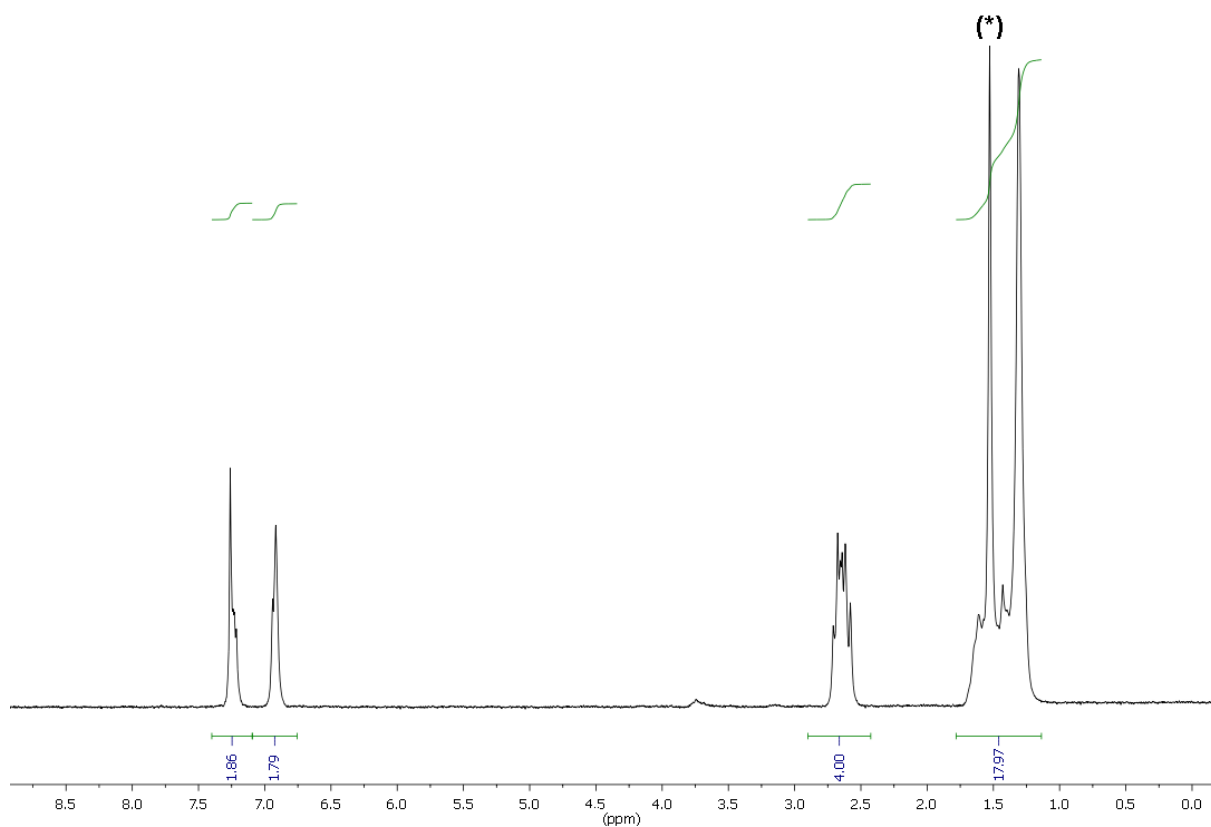


Figure S5 :  $^1\text{H}$  NMR spectrum of **3** in  $\text{CDCl}_3$ .(\*) Water.

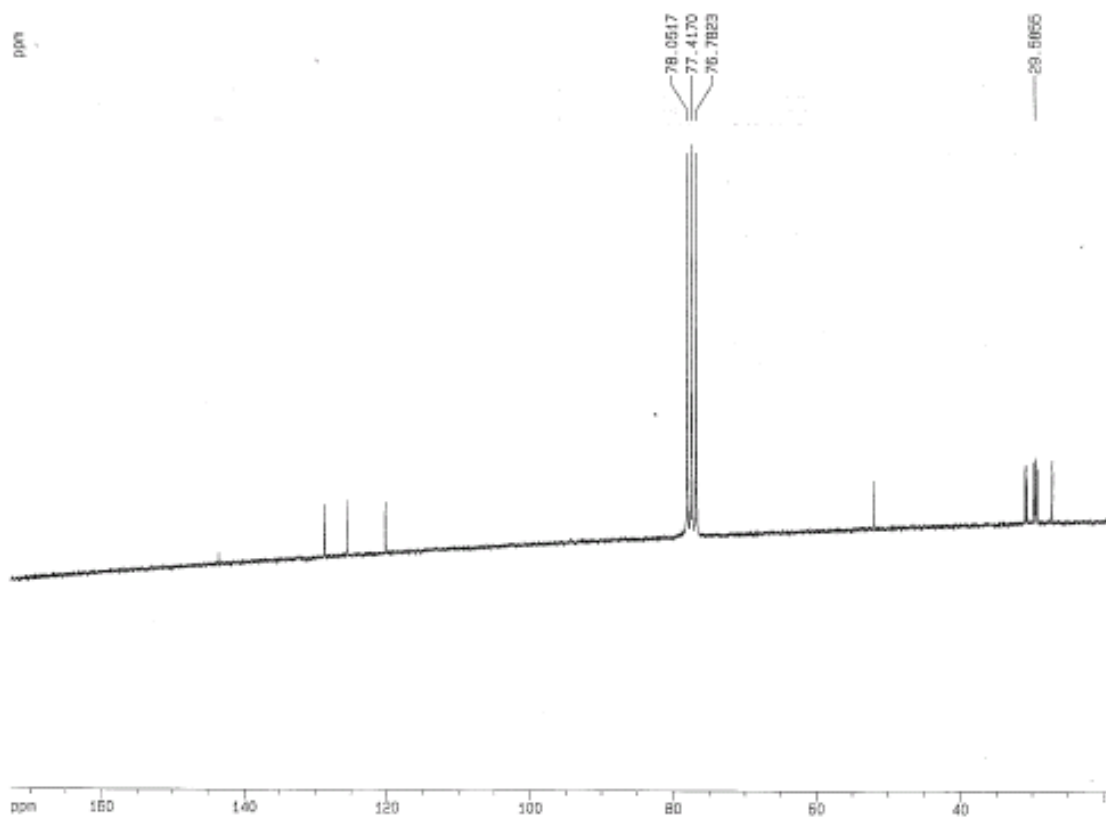
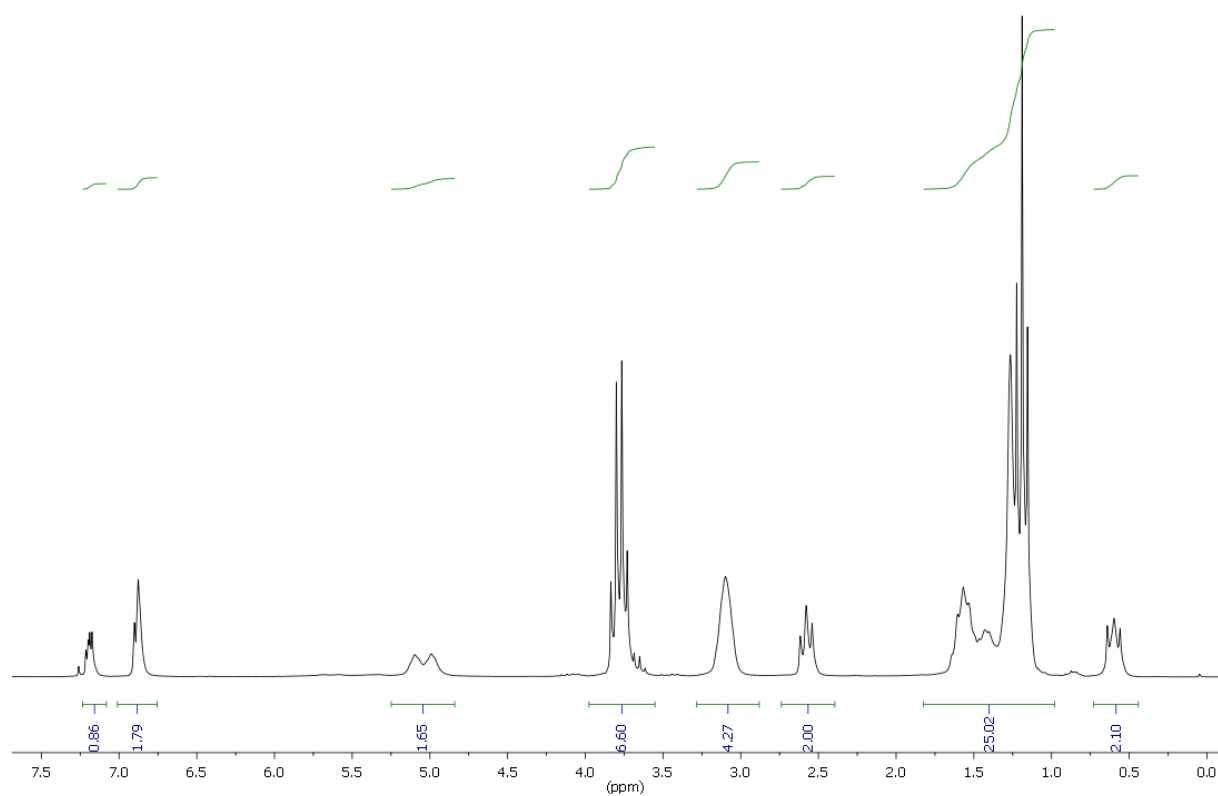
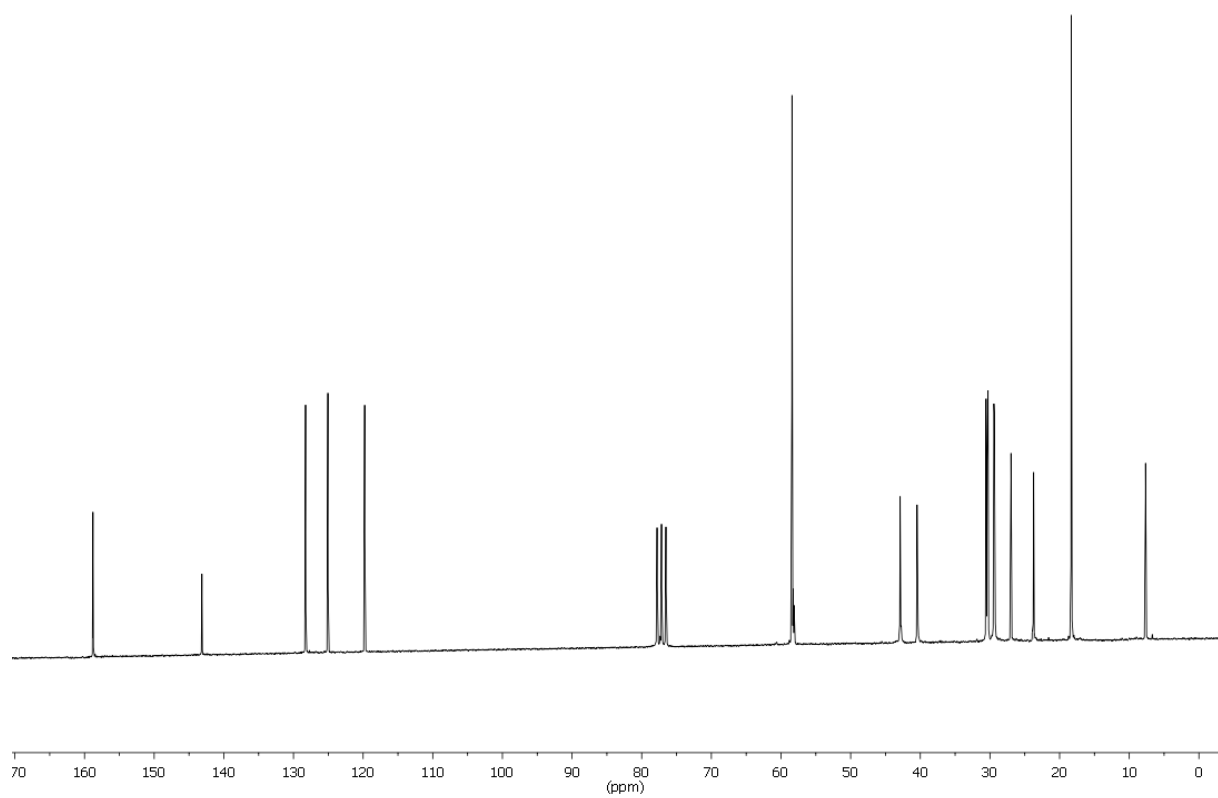


Figure S6 :  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of **3** in  $\text{CDCl}_3$ .



**Figure S7** :  $^1\text{H}$  NMR spectrum of **4** in  $\text{CDCl}_3$ .



**Figure S8** :  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of **4** in  $\text{CDCl}_3$ .

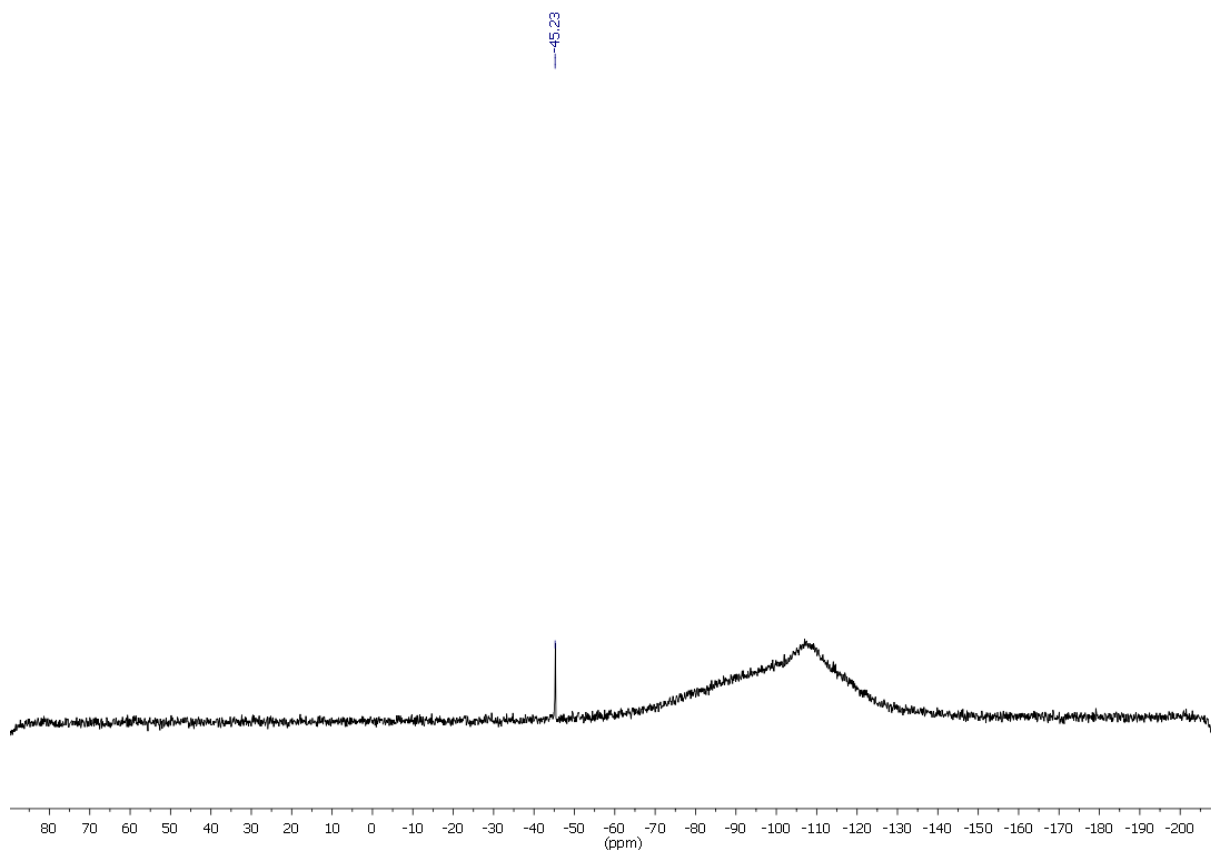


Figure S9 :  $^{29}\text{Si}\{^1\text{H}\}$  NMR spectrum of **4** in  $\text{CDCl}_3$ .

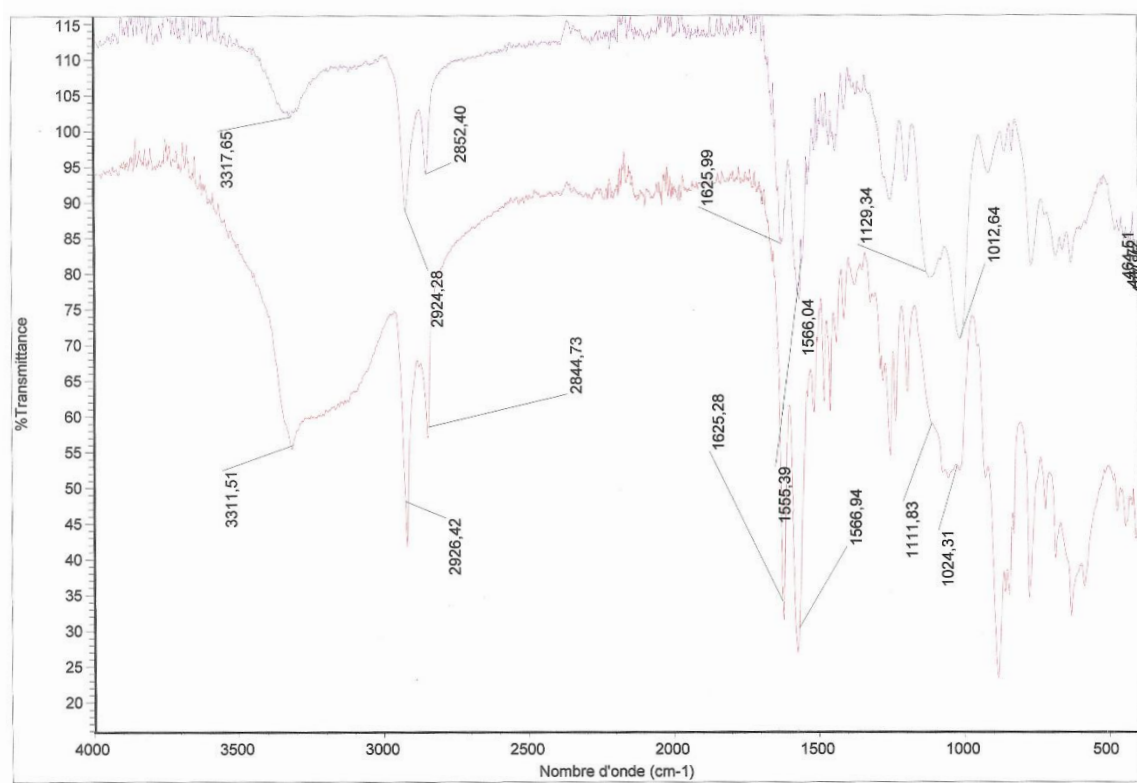
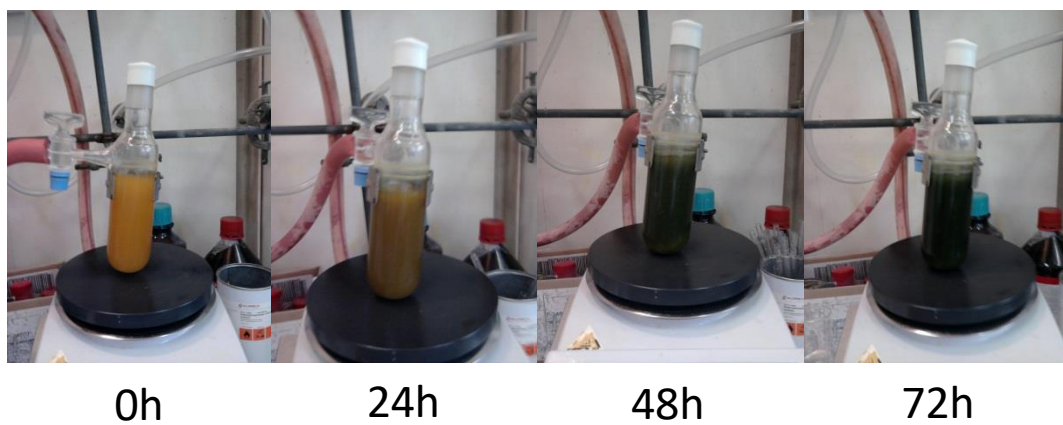
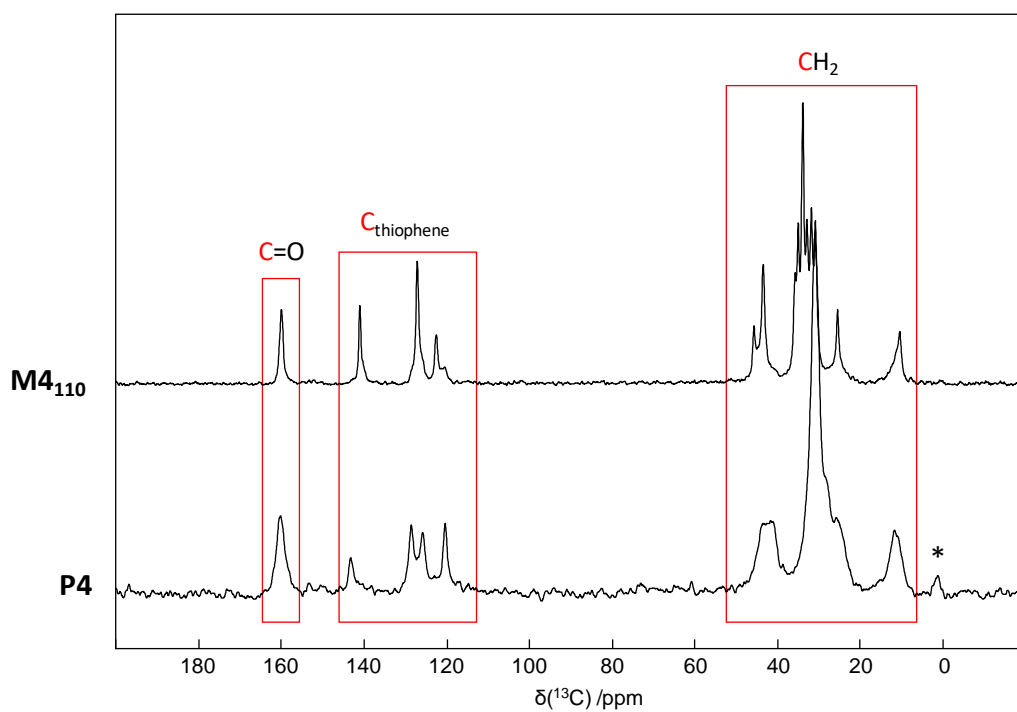


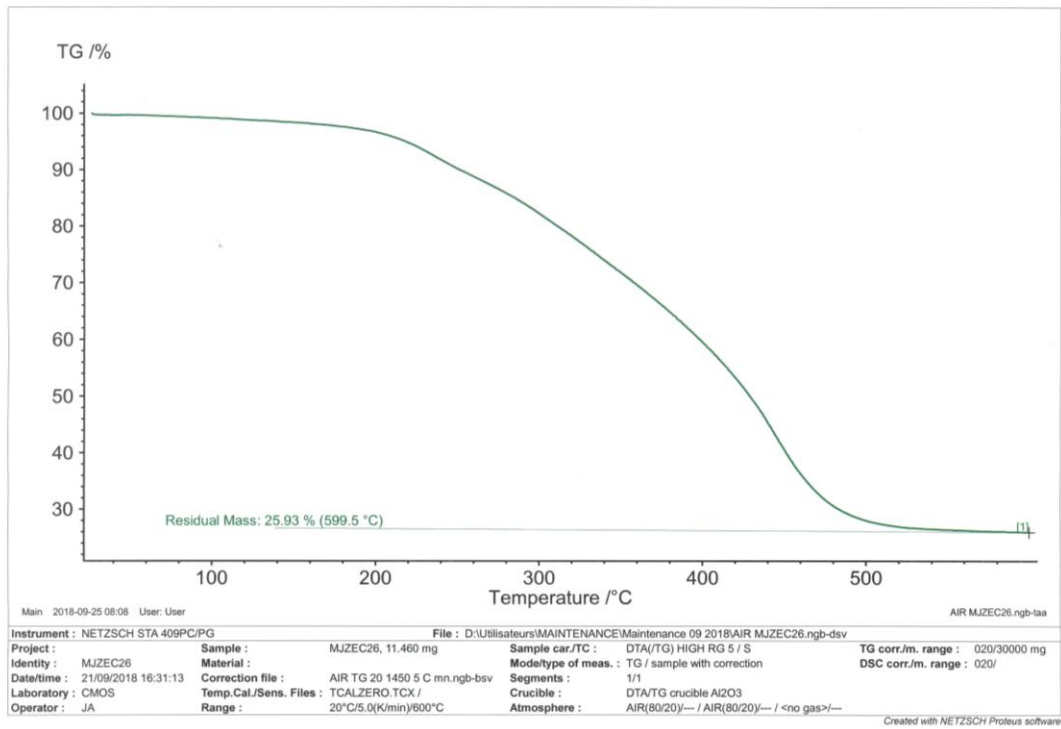
Figure S10: ATR-FT-IR spectra of hybrid materials **M4<sub>25</sub>** (bottom) and **M4<sub>110</sub>** (top).



**Figure S11:** Colour evolution during the chemical polymerization of thiophene units in **M4<sub>110</sub>**.



**Figure S12:** <sup>13</sup>C CPMAS solid state NMR spectra of **M4<sub>110</sub>** and **P4**.



**Figure S13:** TGA curve of lamellar polythiophene-silica hybrid material **P4**.