

**Direct arylation of heterocycles through C-H bond cleavage using metal-organic-  
framework  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$  as an efficient heterogeneous catalyst**

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**Supporting Information**

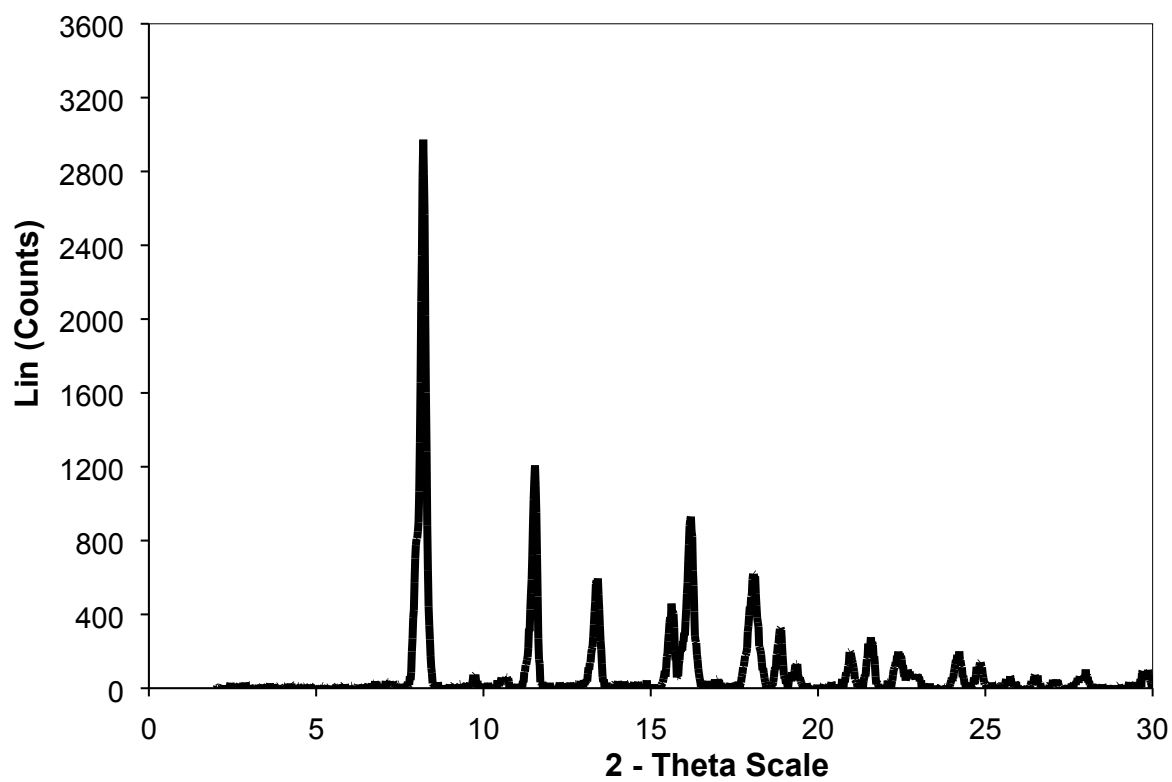


Fig. S1. X-ray powder diffractograms of the  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$ .

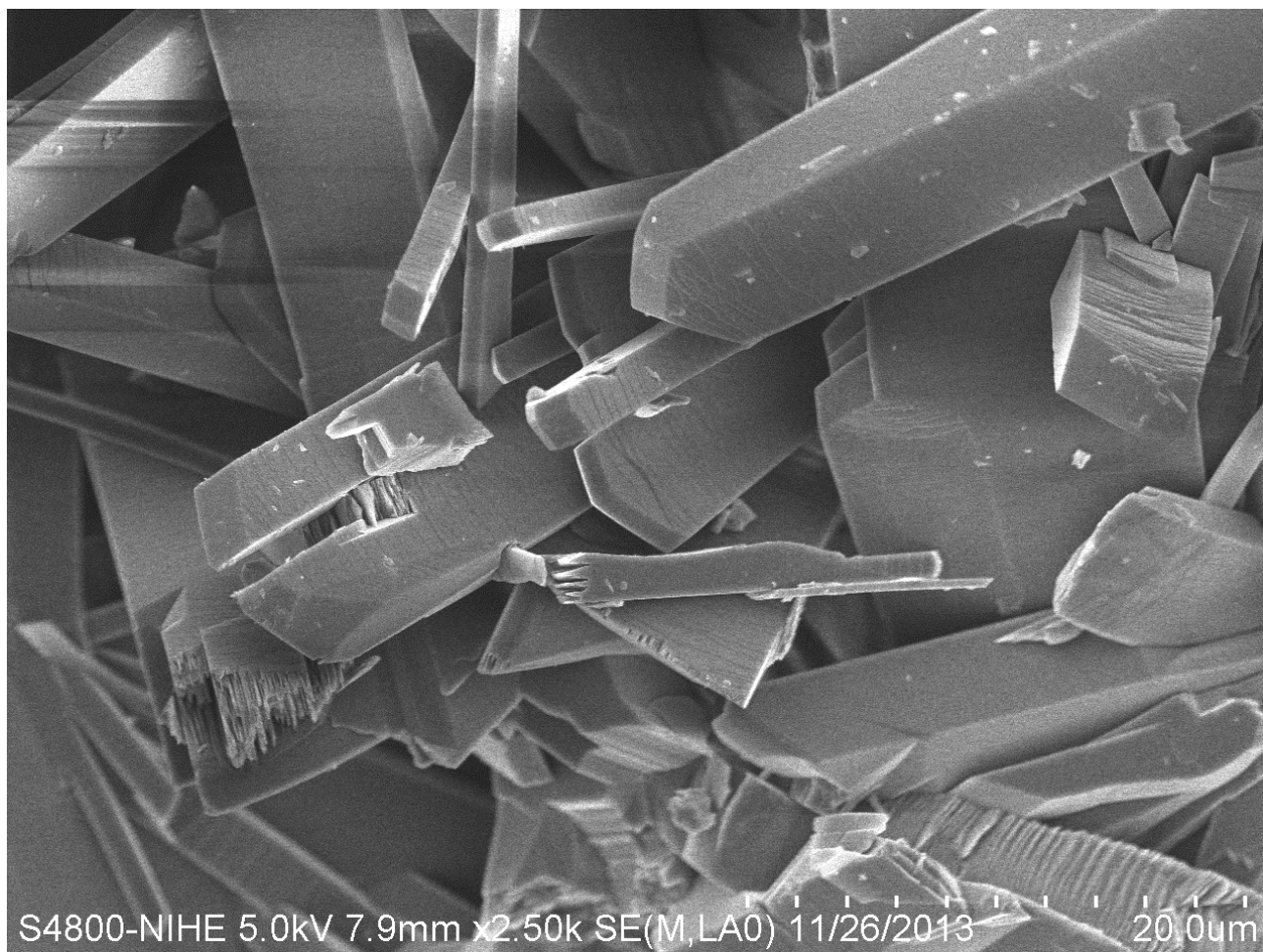
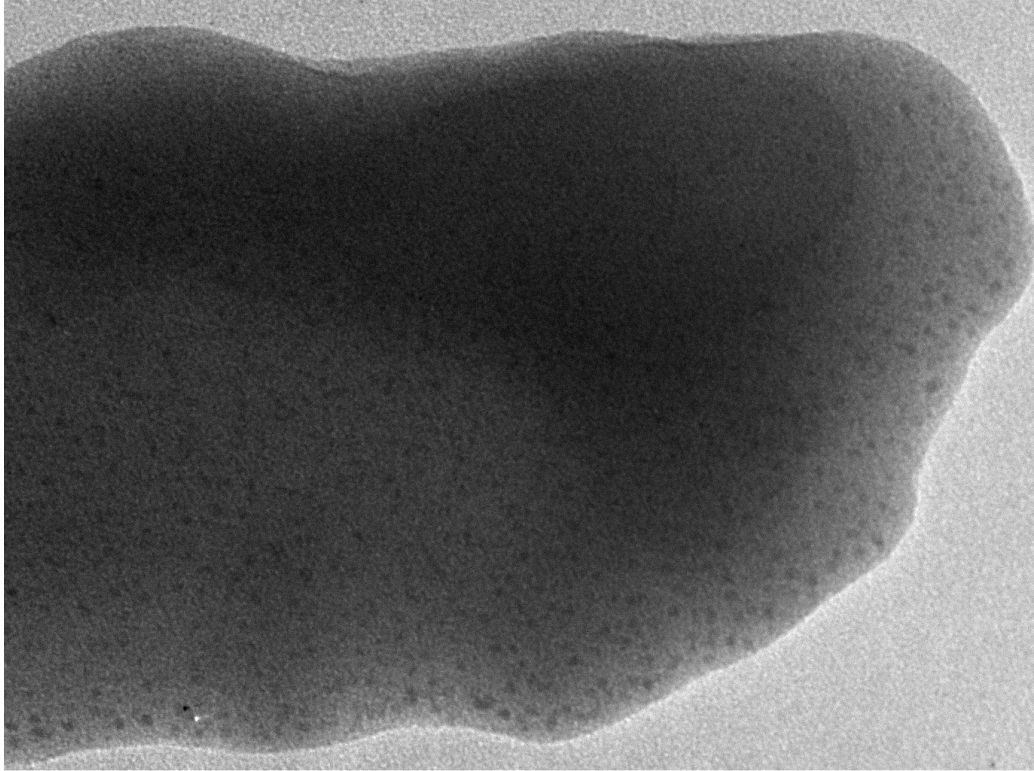


Fig. S2. SEM micrograph of the  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$ .



Hue T.005

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12:06:09 p 11/27/13

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Direct Mag: 100000x

Fig. S3. TEM micrograph of the  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$ .

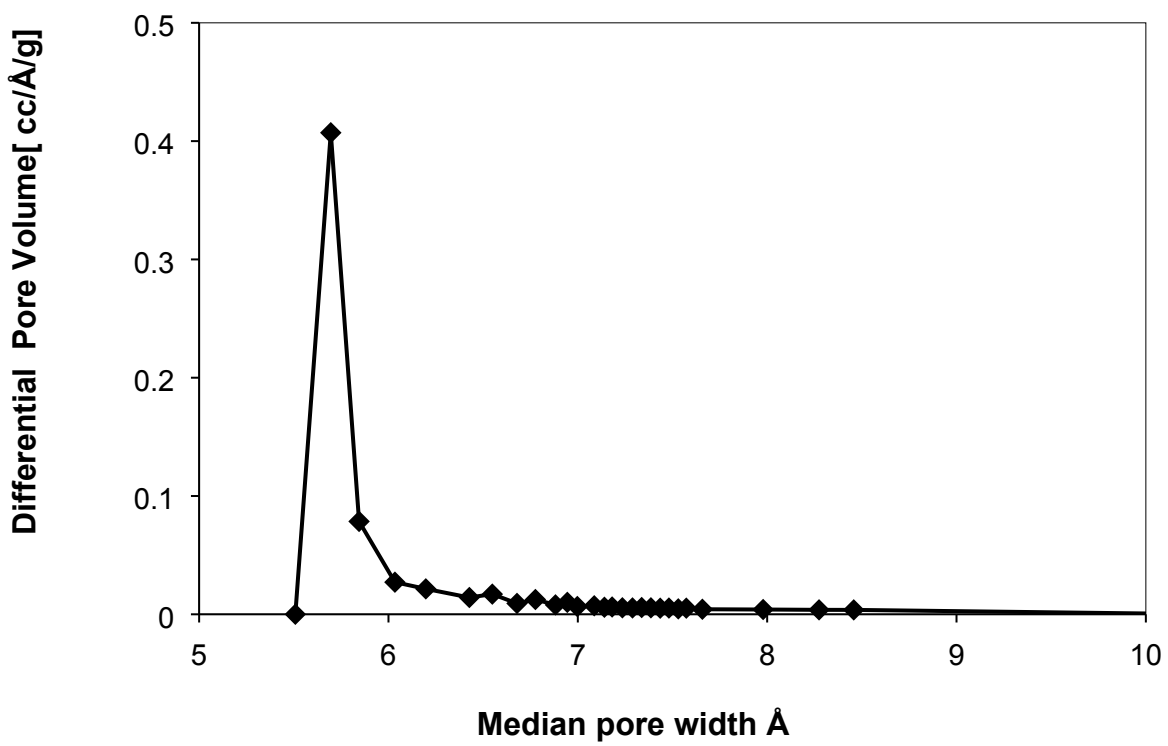


Fig. S4. Pore size distribution of the fresh  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$ .

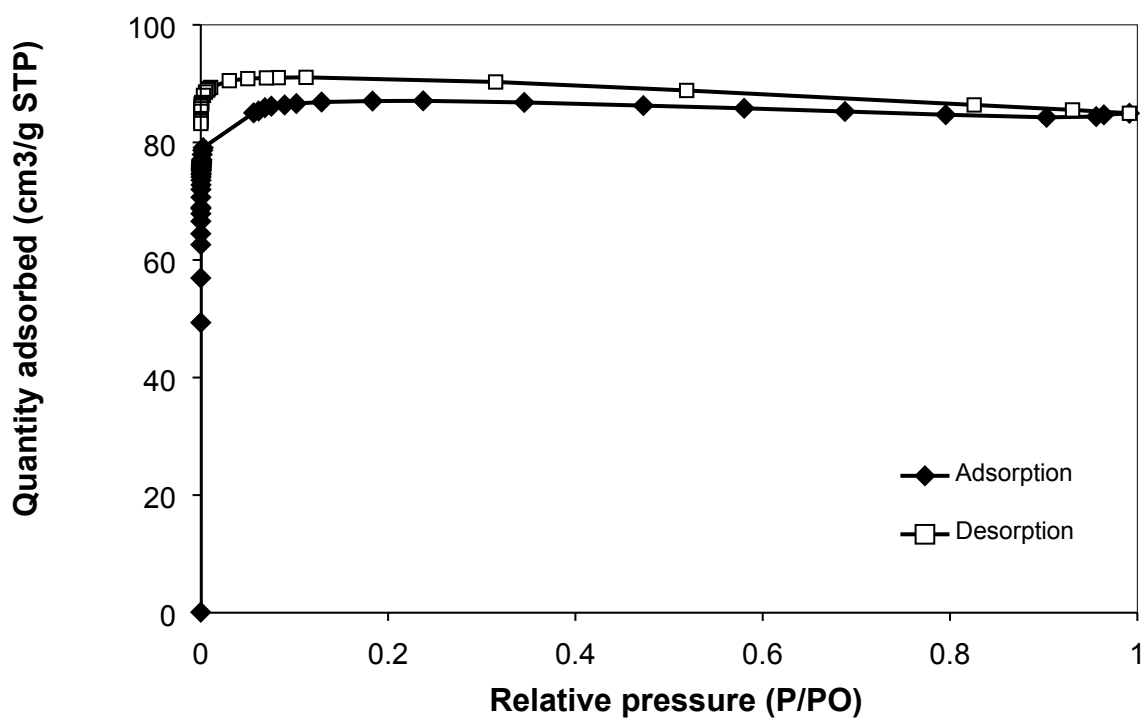


Fig. S5. Nitrogen adsorption/desorption isotherm of the  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$ . Adsorption data are shown as closed circles and desorption data as open circles.

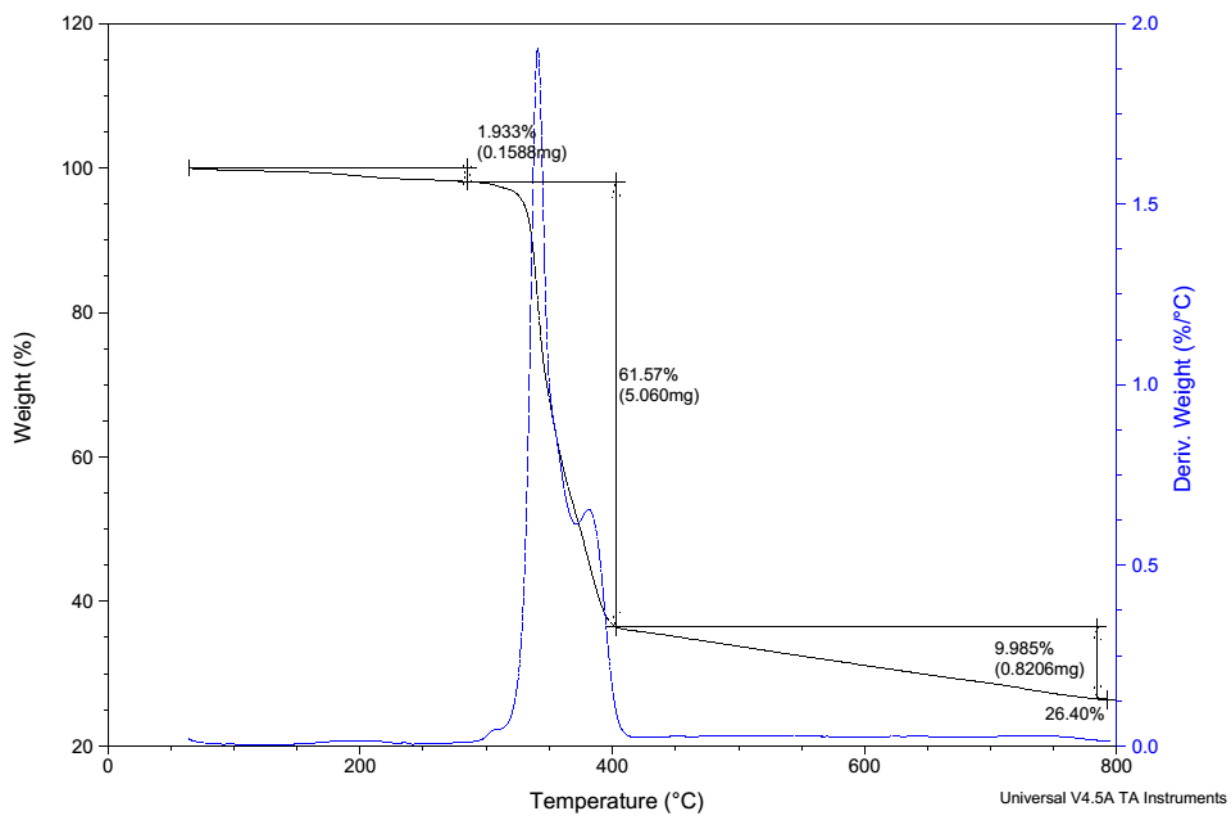


Fig. S6. TGA analysis of the  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$ .

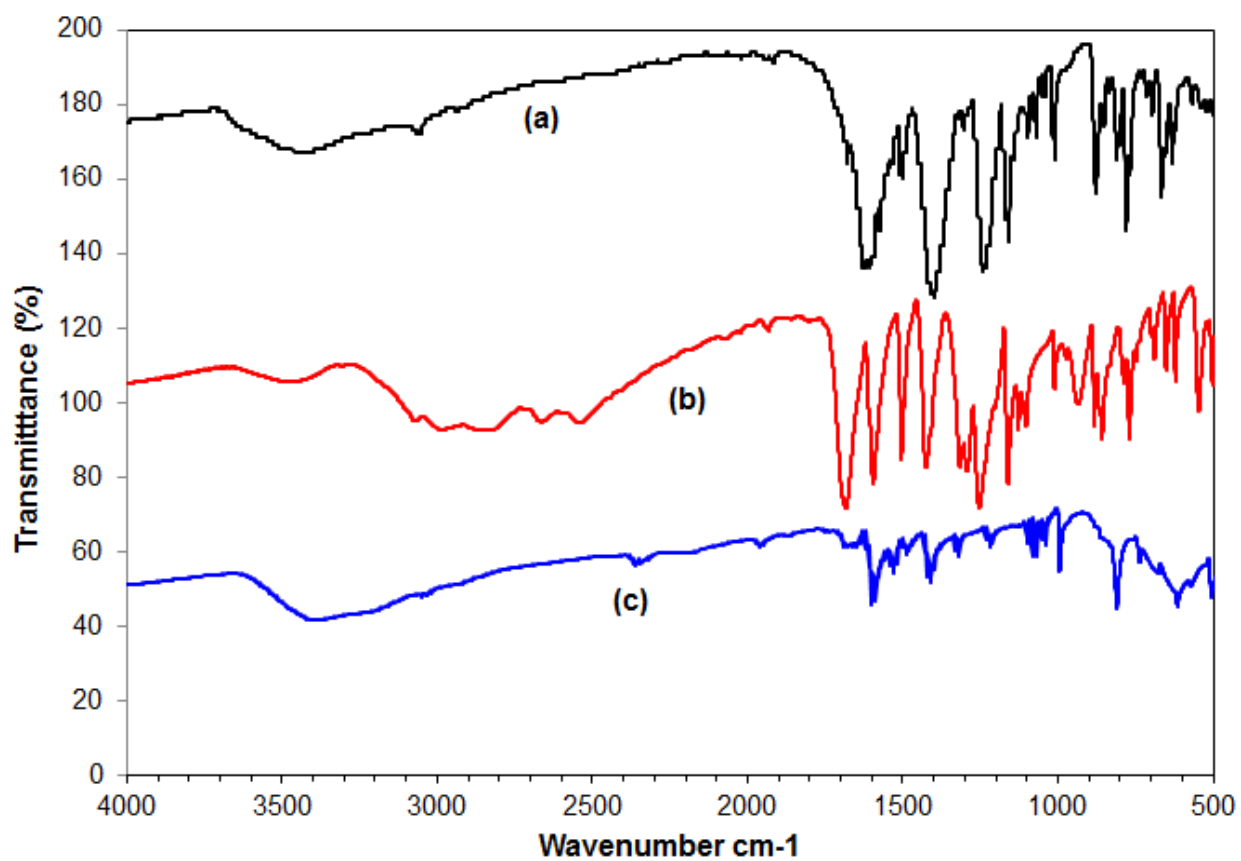


Fig. S7. FT-IR spectra of the  $\text{Cu}_2(\text{OBA})_2(\text{BPY})$  (a),  $\text{H}_2\text{OBA}$  (b), 4,4 – bipyridine (c)



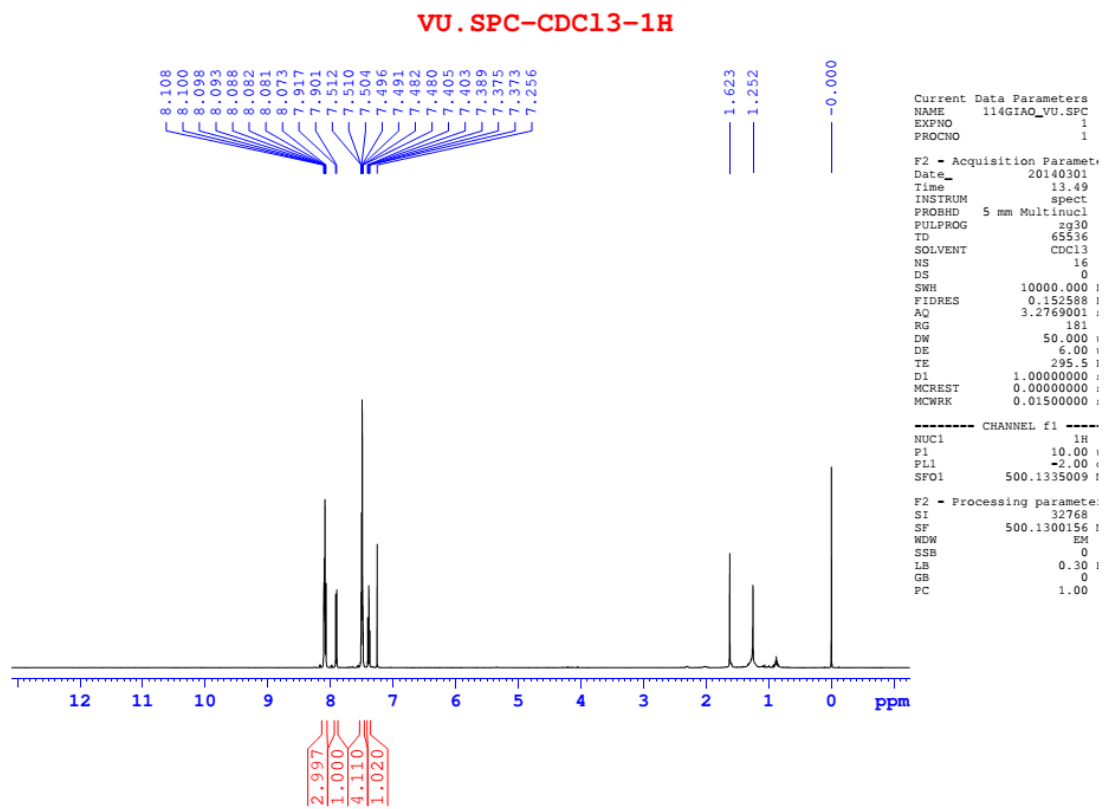


Fig. S8. <sup>1</sup>H-NMR spectra of 2-phenylbenzothiazole

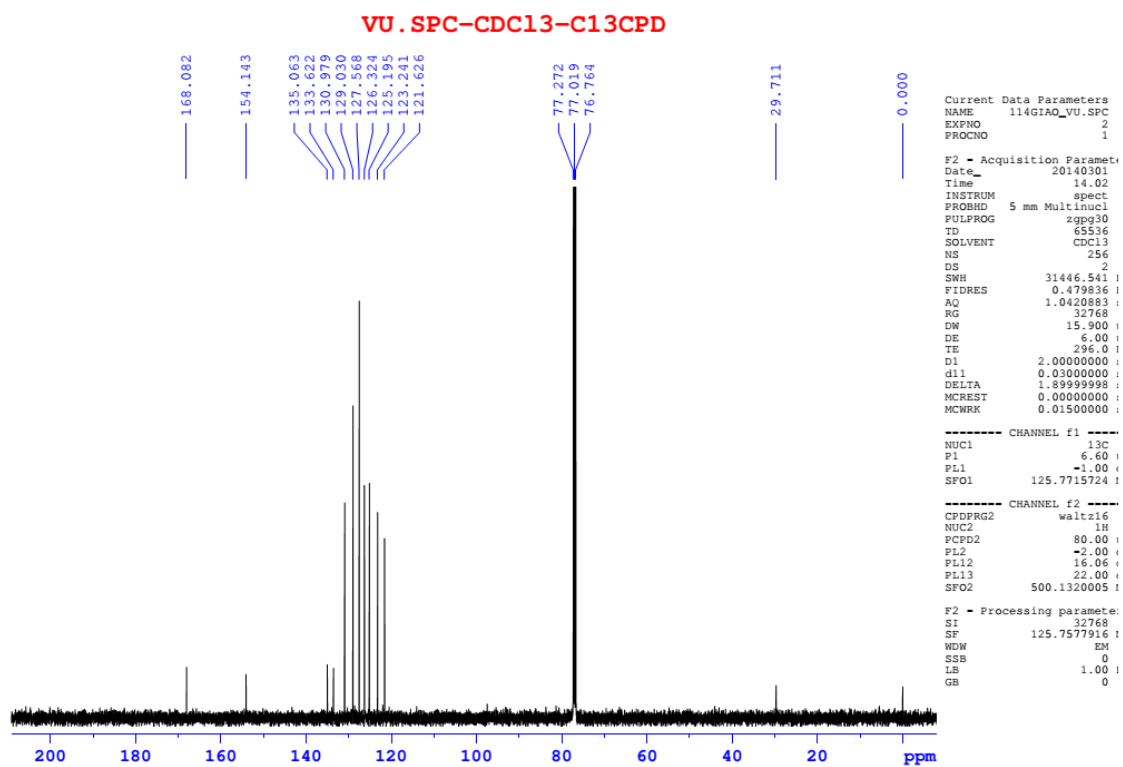


Fig. S9.  $^{13}\text{C}$ -NMR spectra of 2-phenylbenzothiazole

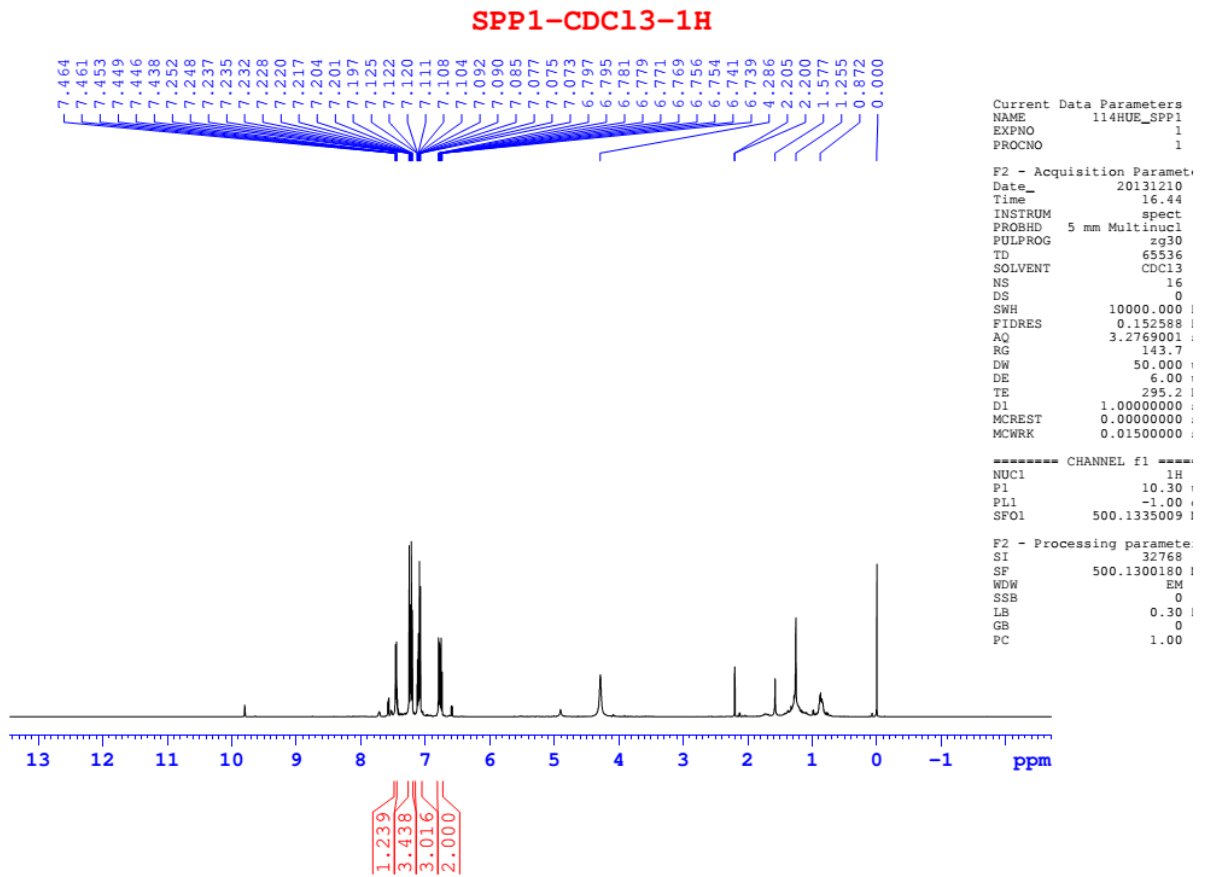


Fig. S10. <sup>1</sup>H-NMR spectra of 2-(phenylthio)benzenamine

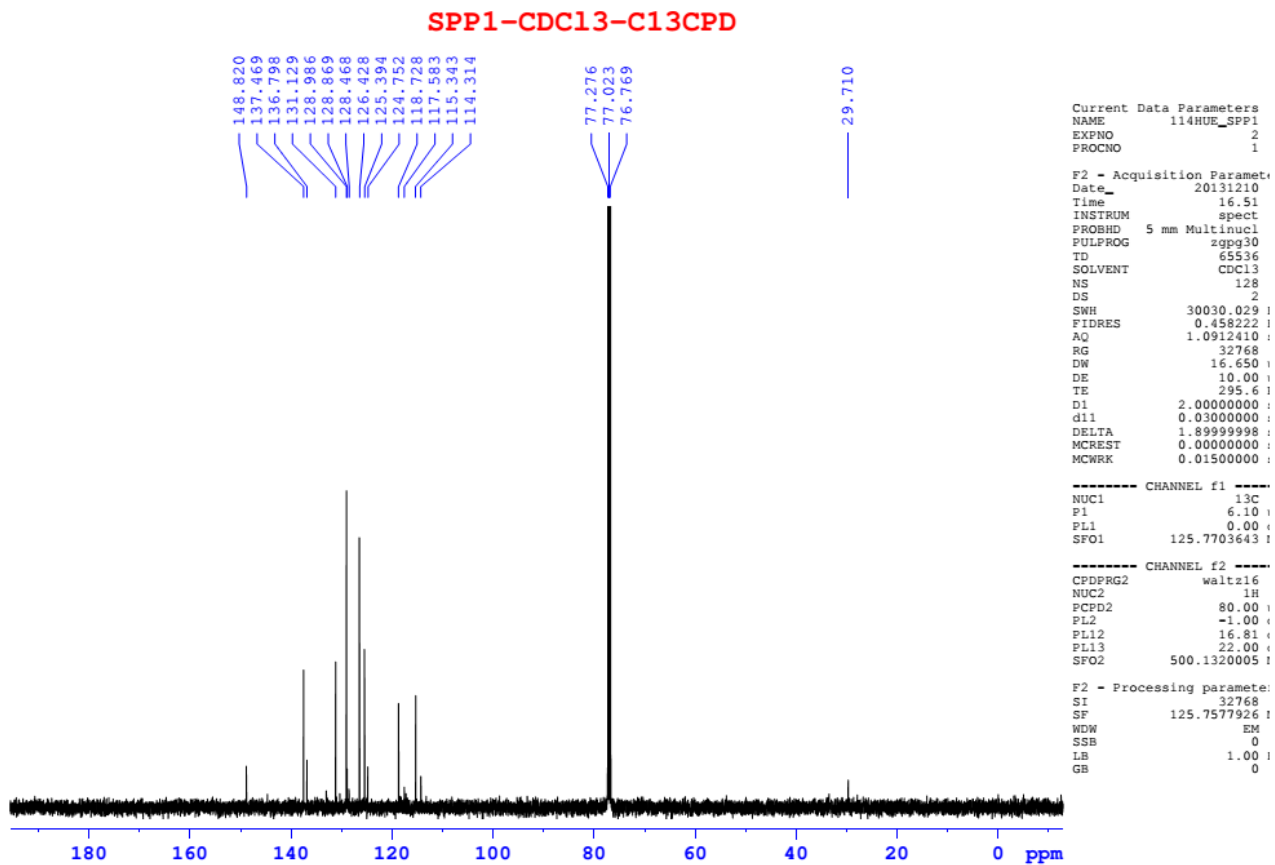


Fig. S11.  $^{13}\text{C}$ -NMR spectra of 2-(phenylthio)benzenamine