

# Supporting Information

for

## Direct arylation catalysis with chloro[8-(dimesitylboryl)quinoline- $\kappa$ N]copper(I)

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### NMR spectra and GC–MS data of the products

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## Experimental

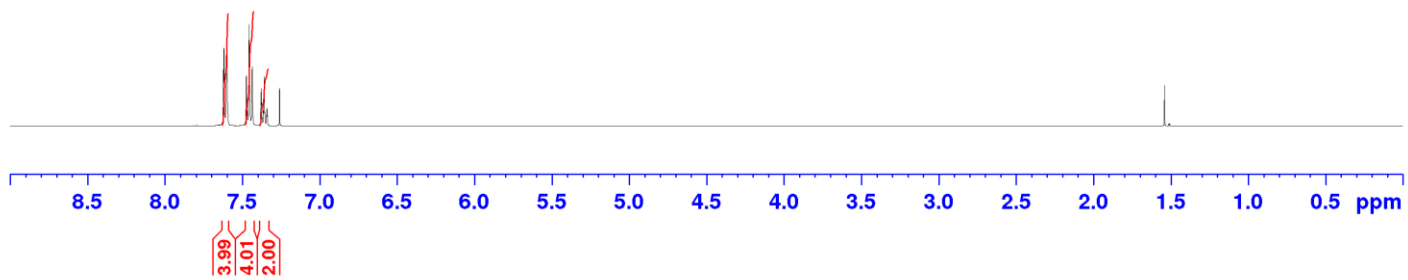
### General Conditions

Compound 1 and Chloro[8-(dimesitylboryl)quinoline- $\kappa$ N]copper(I) was prepared according to the literature [1]. All organic reagents and solvents were obtained from commercial sources and used without further purification. A GCMS-QP2010SE gas chromatograph-mass spectrometer (Shimadzu Corp., Kyoto, Japan) was used for GCMS analyses. NMR spectra were recorded on an Avance 400 MHz spectrometer (Bruker, Billerica, MA, USA).

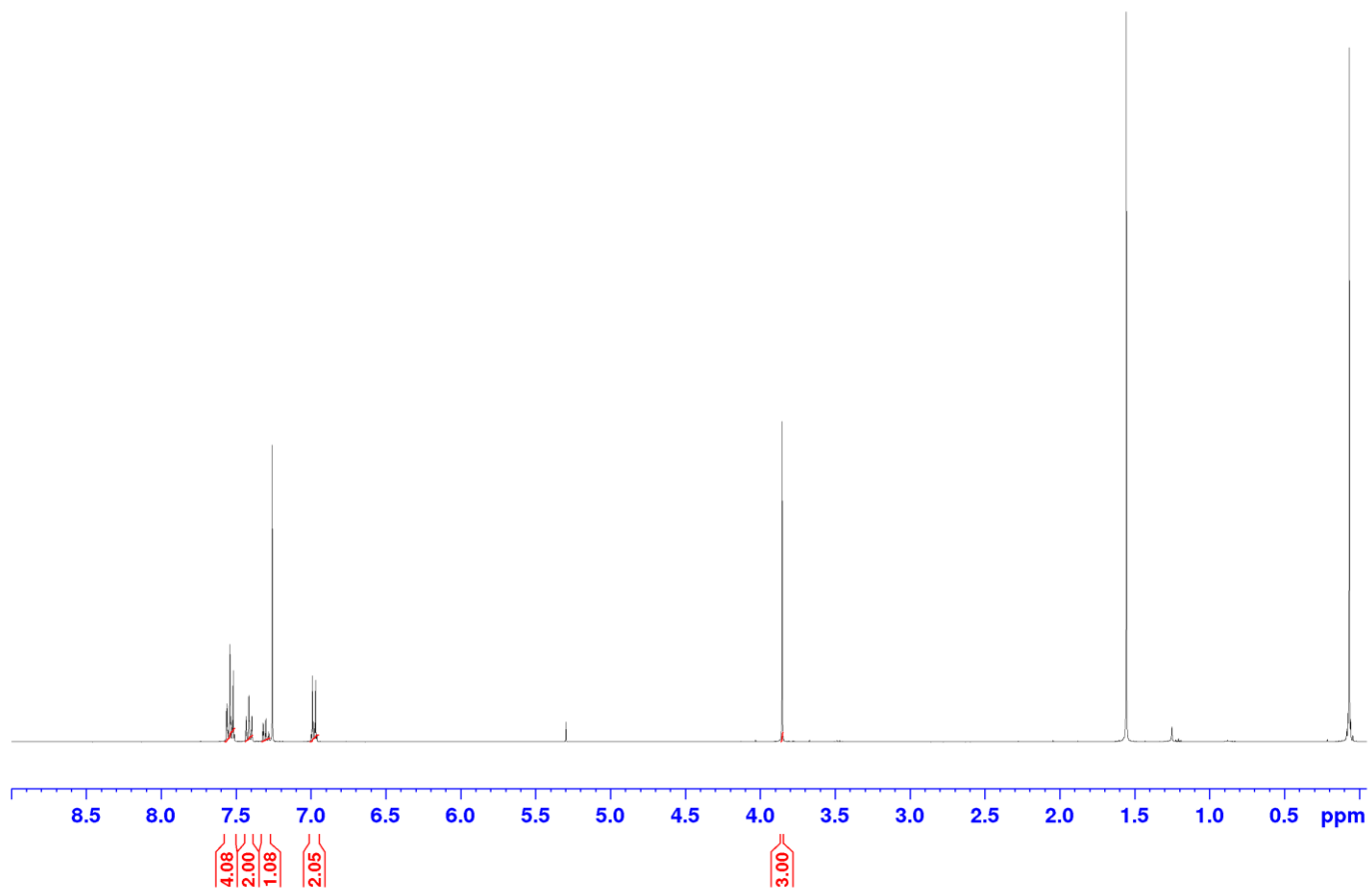
### Experimental Conditions

A 50 mL roundbottom flask was charged with 0.5 mmol of aryl halide, benzene (4mL) and 1.5 mmol of KO $t$ Bu. The flask was fitted with a reflux condenser left open to air. Then, a solution of catalyst dissolved in 420 $\mu$ L DMF was added to the reaction. The reaction was then stirred and refluxed for 40 hrs. The reaction was worked up by extraction with ether and washing with DI H<sub>2</sub>O. The organic phase was collected and dried over anhydrous sodium sulfate. The residue was purified by flash column chromatography. NMR spectra of isolated products matched well with the literature.

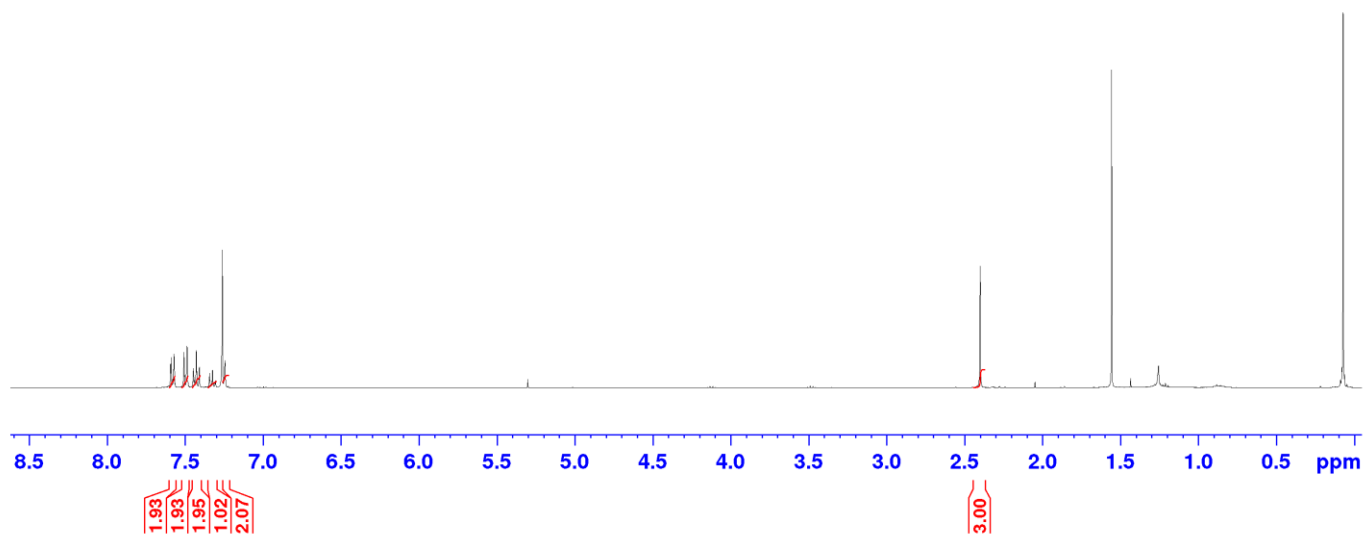
[1] Son, J.H.; Pudenz, M.A.; Hoefelmeyer, J.D. *Dalton Trans.* **2010**, 39, 11081-11090.



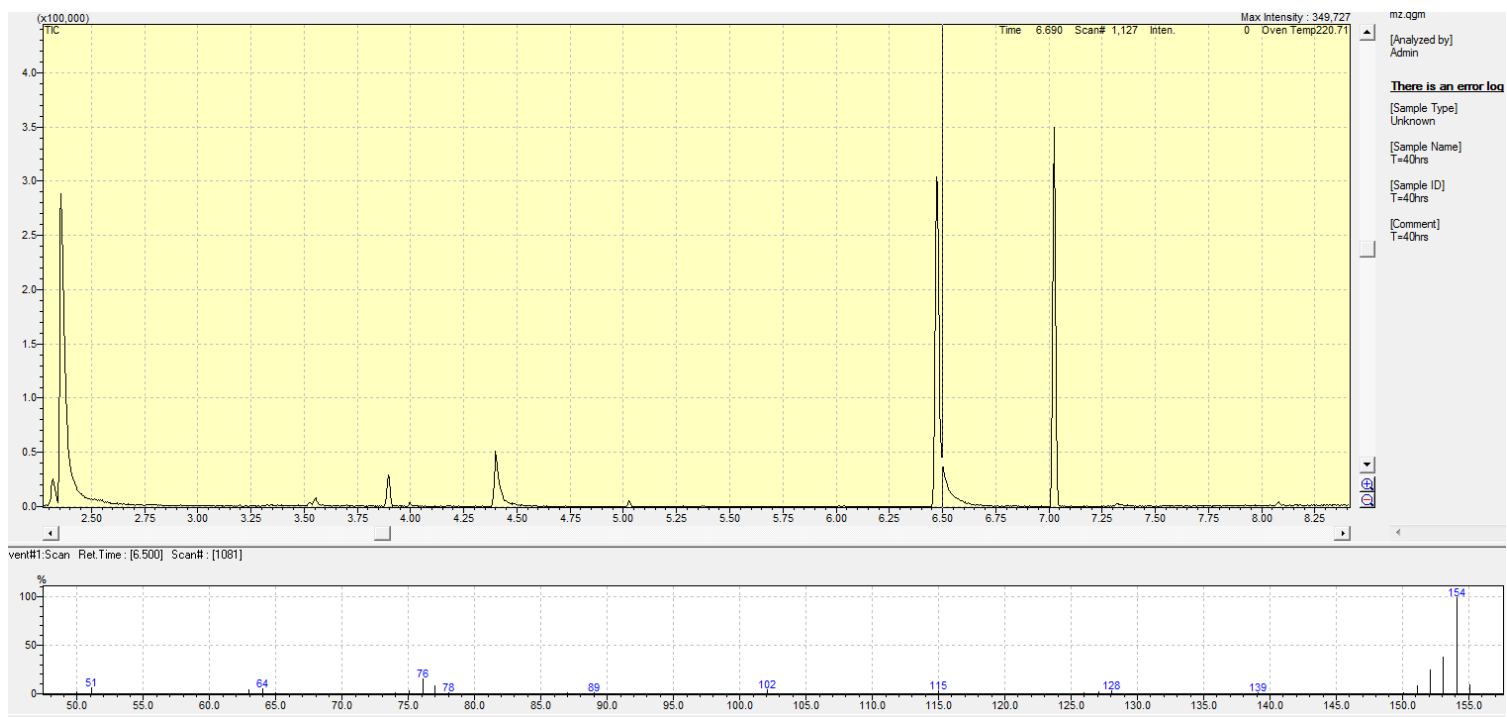
**Figure S1:**  $^1\text{H}$  NMR of biphenyl in  $\text{CDCl}_3$ .



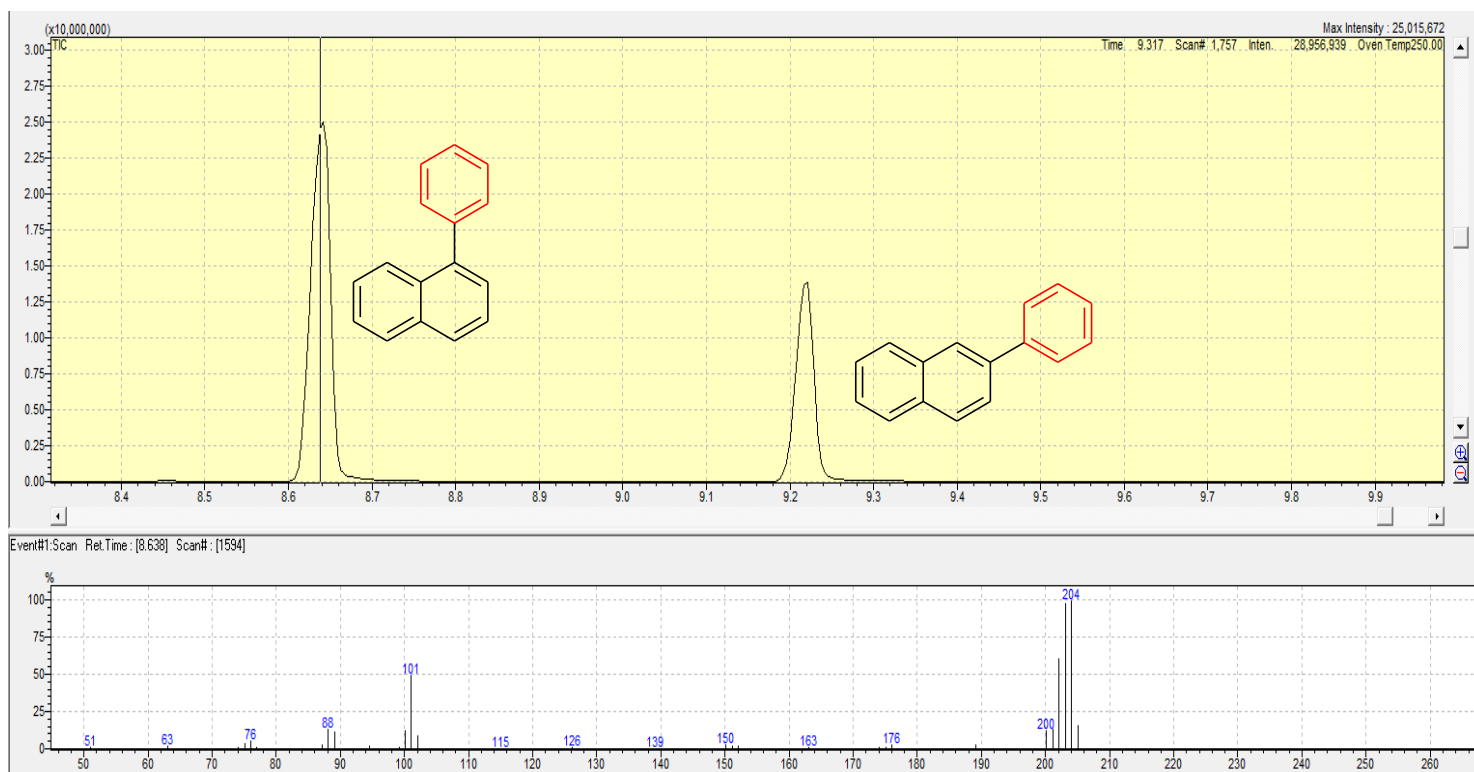
**Figure S2:**  $^1\text{H}$  NMR of 4-methoxybiphenyl in  $\text{CDCl}_3$ .



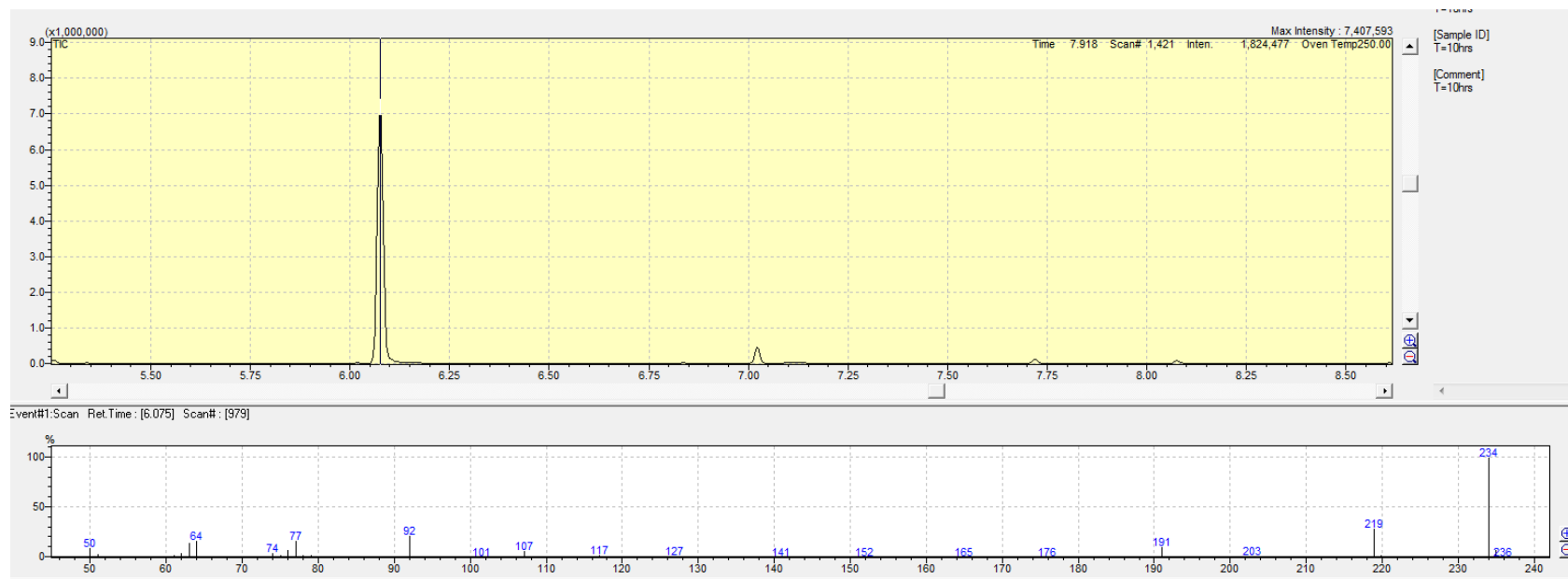
**Figure S3:**  $^1\text{H}$  NMR of 4-methylbiphenyl in  $\text{CDCl}_3$ .



**Figure S4:** GC-MS data of biphenyl.  $m/z = 154$ .

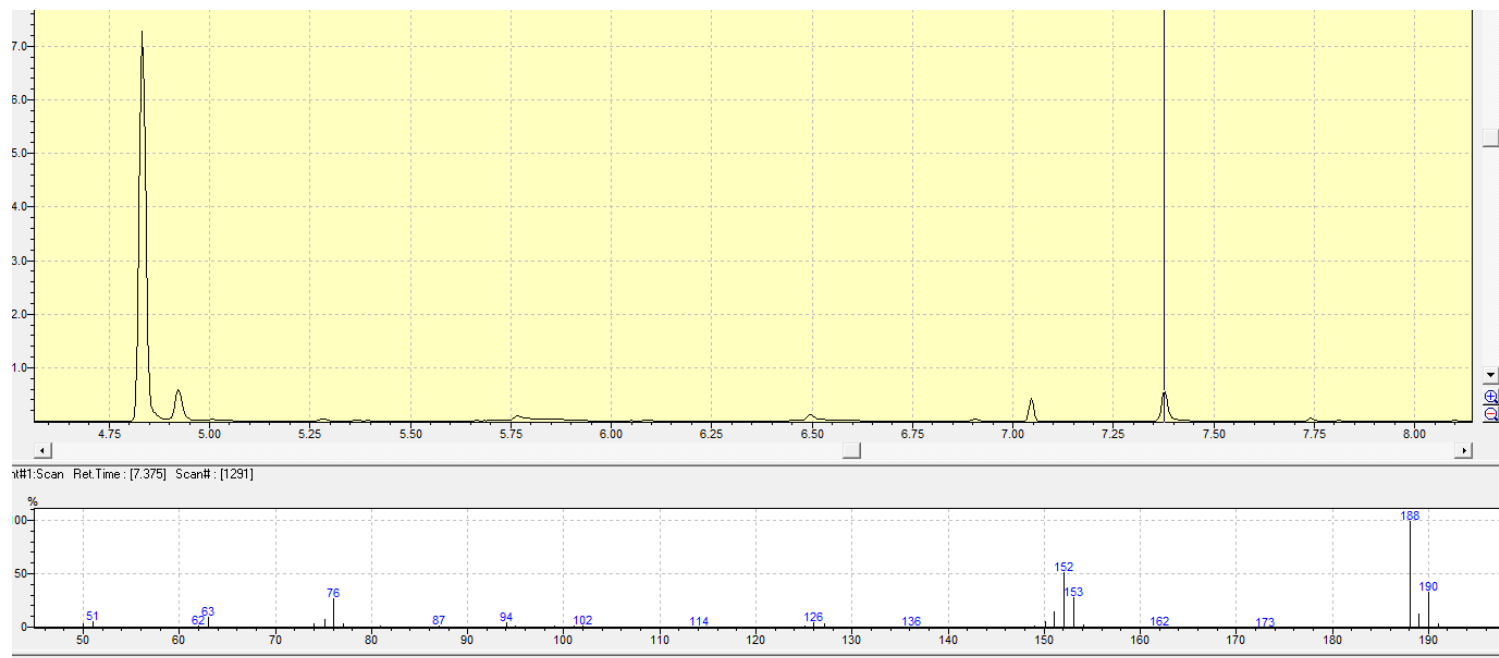


**Figure S5:** GC–MS data of direct arylation at 1 and 2 position of naphthalene.  $m/z = 204$ .

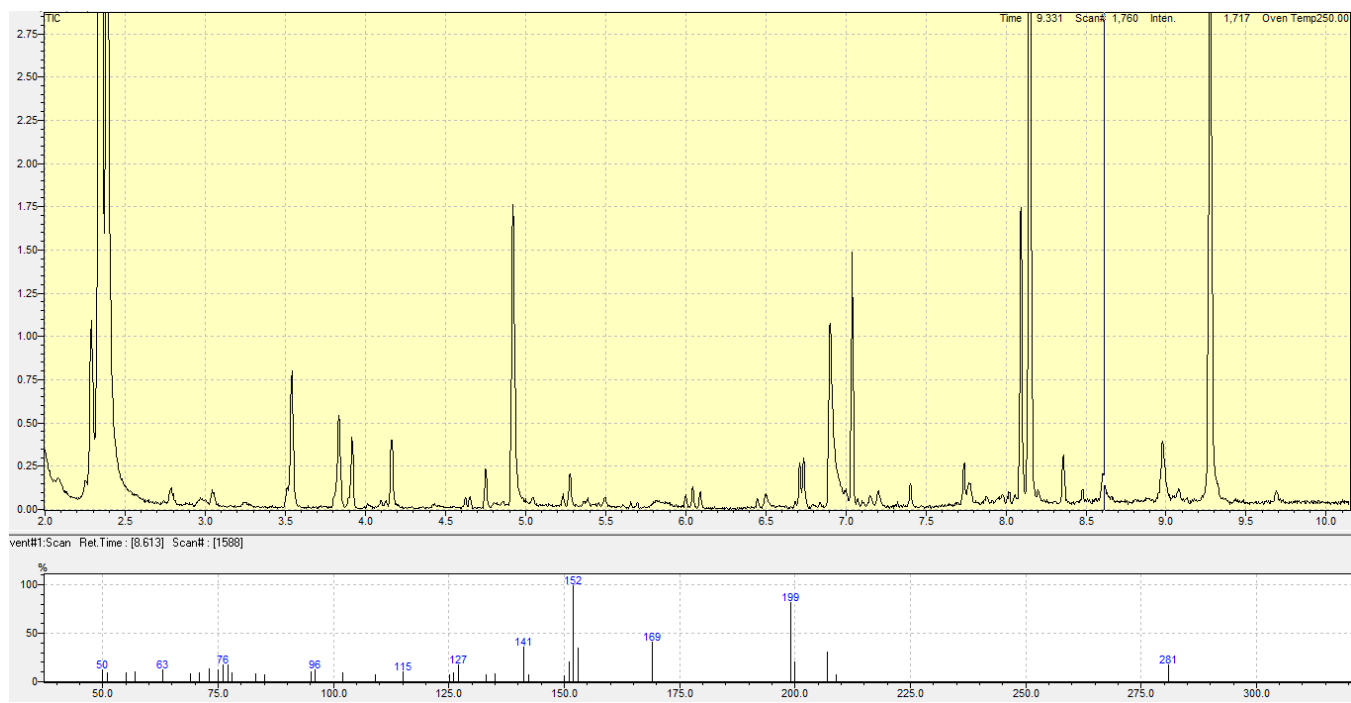


**Figure S6:** GC–MS data for *p*-methoxybiphenyl.  $m/z = 234$ .

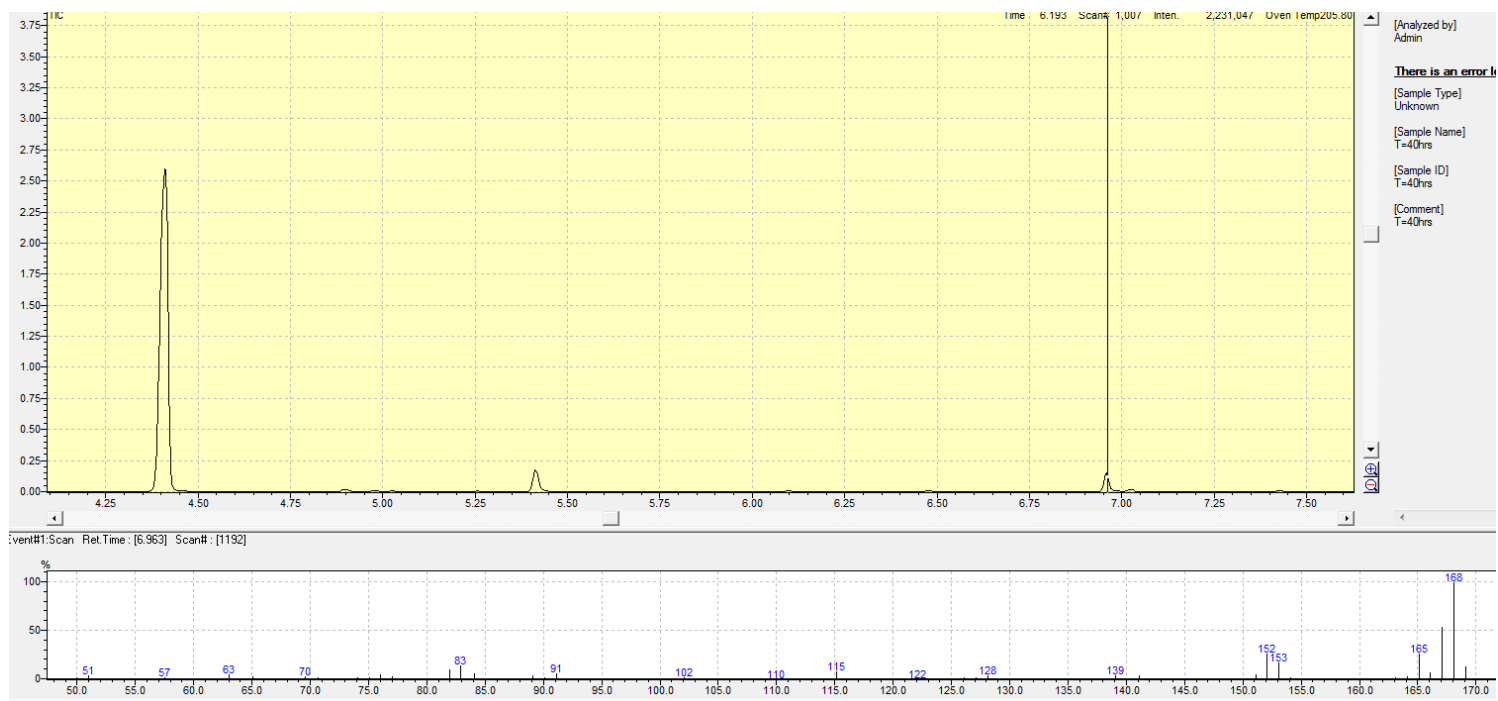




**Figure S7:** GC–MS data for *m*-chlorobiphenyl. *m/z* = 188.



**Figure S8:** GC-MS data for *p*-nitrobiphenyl.  $m/z = 199$ .



**Figure S9:** GC-MS data for *m*-methylbiphenyl.  $m/z = 168$ .