

Supplementary Information

Synthetic investigations in epimerization reactions of β -lactams

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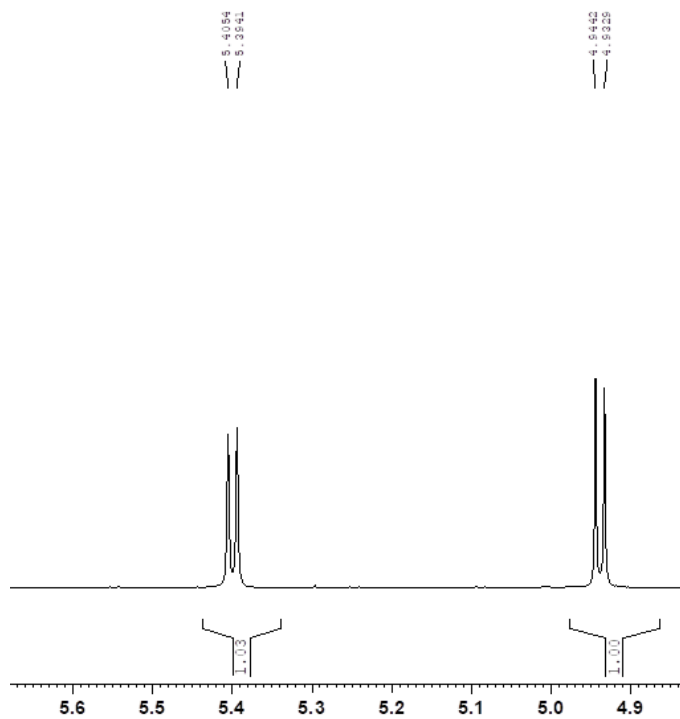
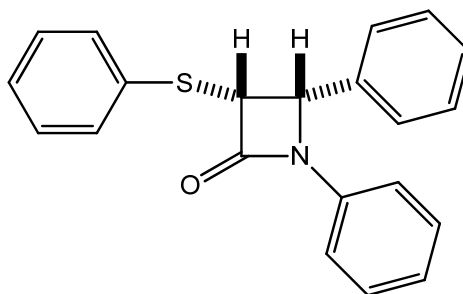
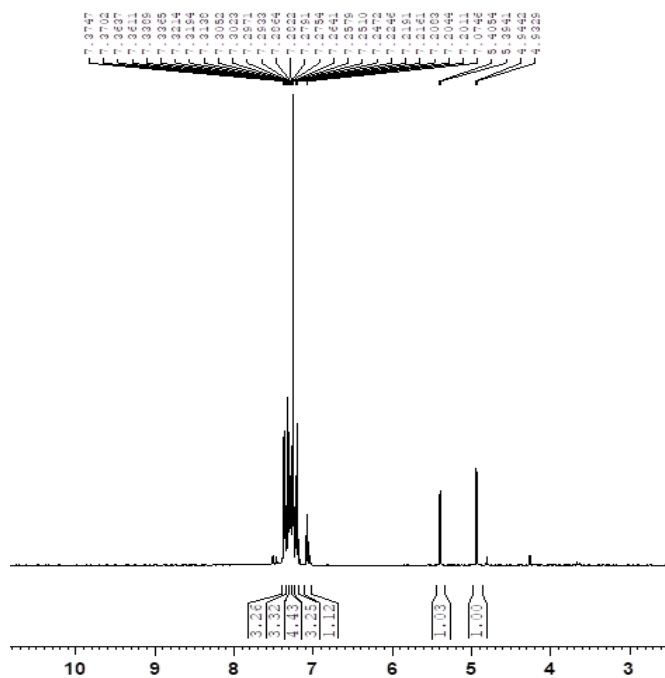
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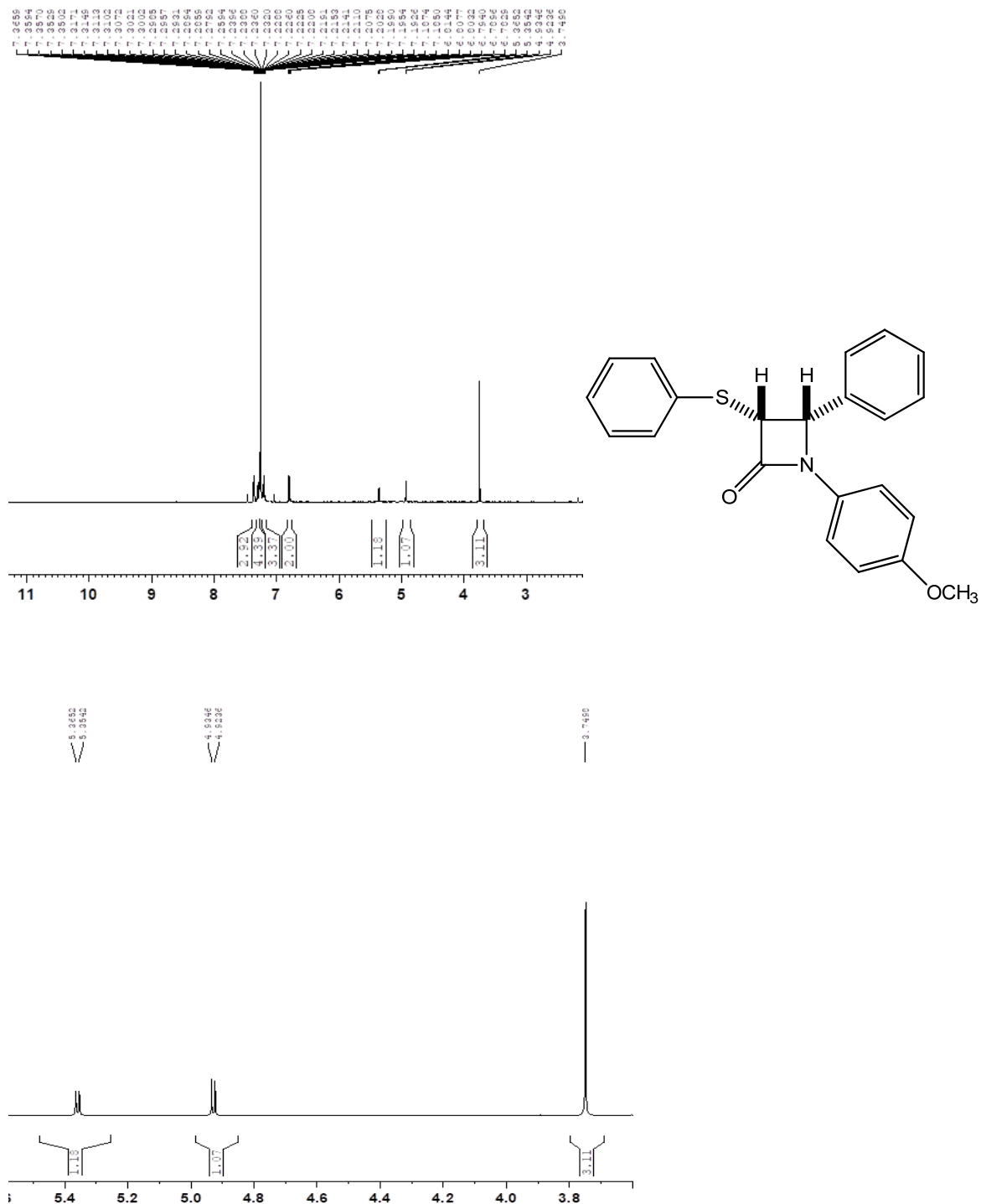
Spectra of compounds 4

^1H NMR (500 MHz, CDCl_3) of **4a**

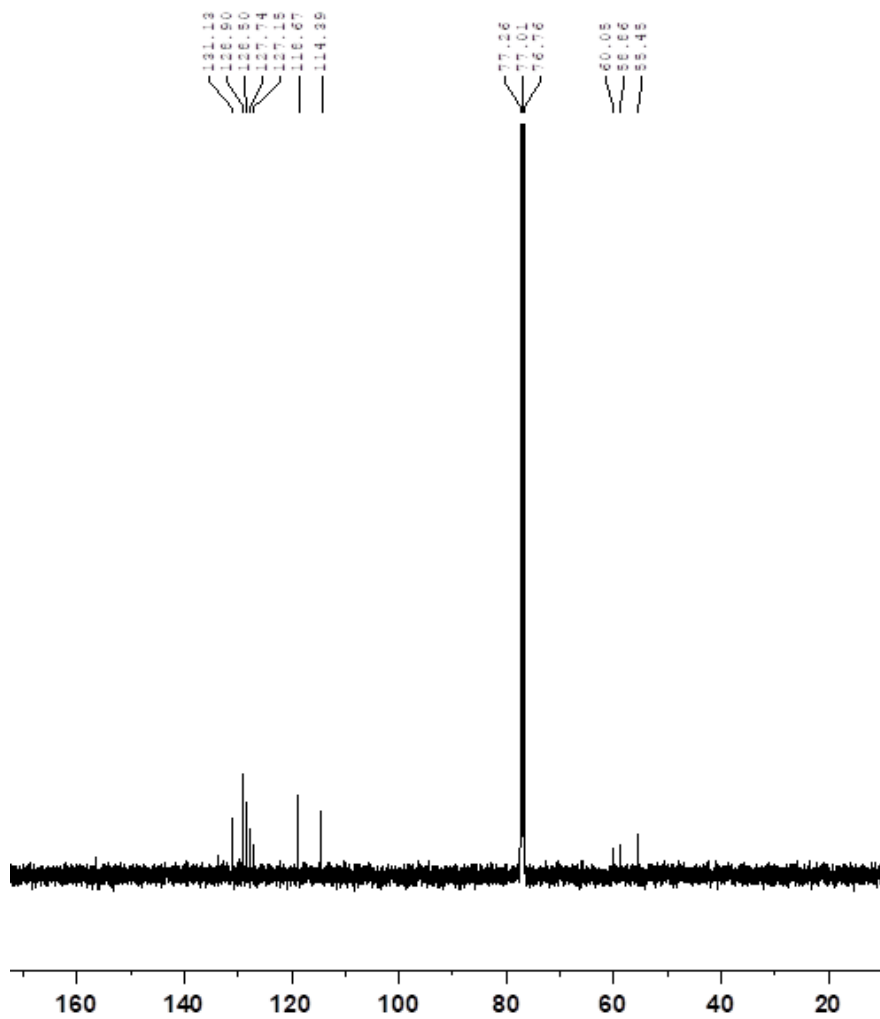


Spectral data of compound **4b**

^1H NMR (500 MHz, CDCl_3) of **4b**

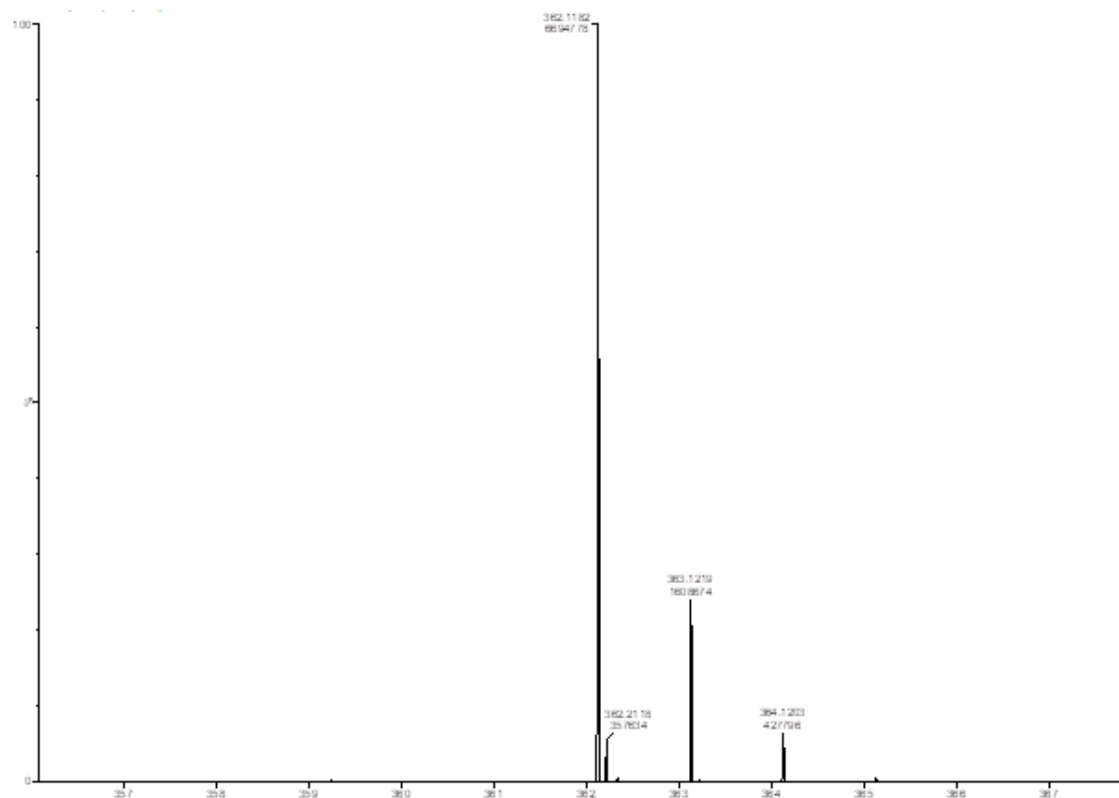


^{13}C NMR (100 MHz, CDCl_3) of **4b**



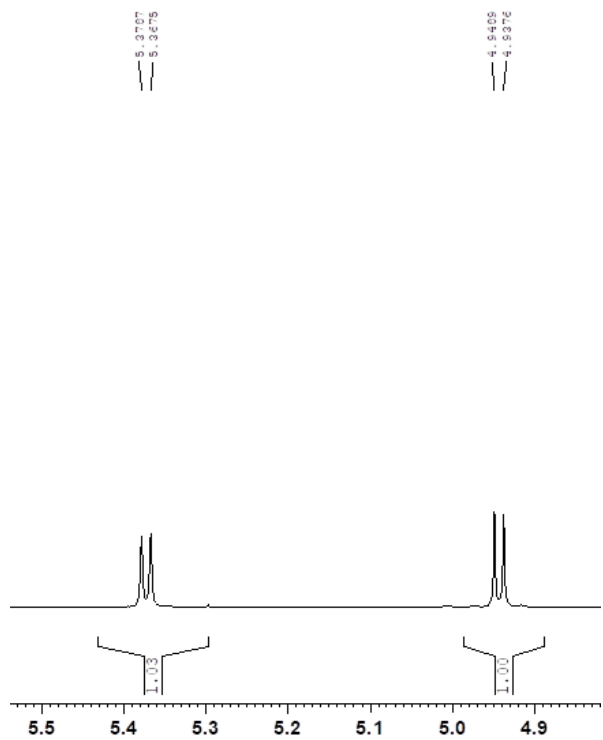
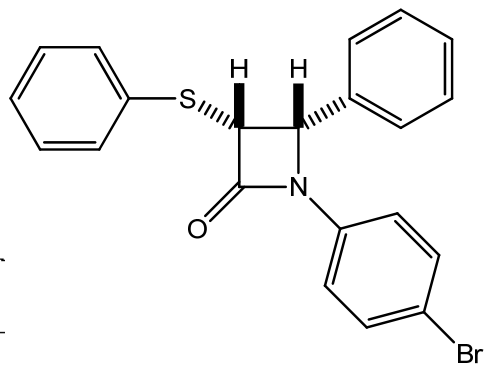
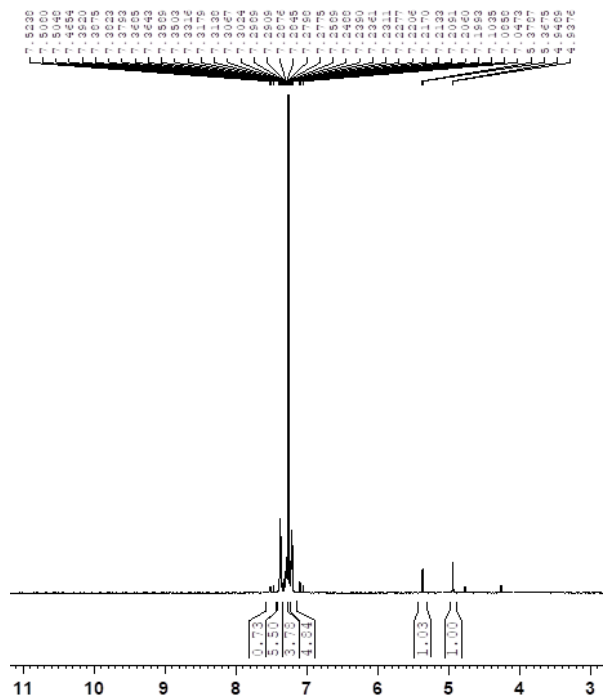
HRMS (ESI) of **4b**

Calculated for $C_{22}H_{19}NO_2S^+$ $[M+1]^+$ 362.113, found 362.1182.

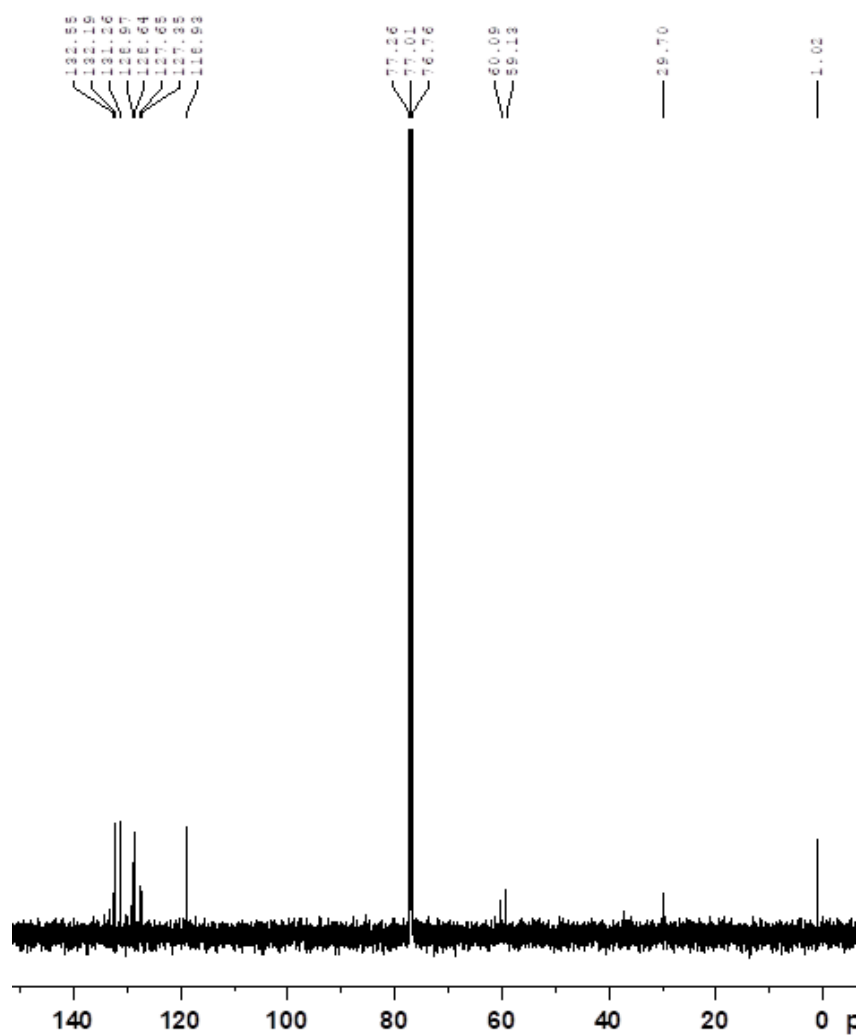


Spectral data of compound **4c**

^1H NMR (500 MHz, CDCl_3) of **4c**

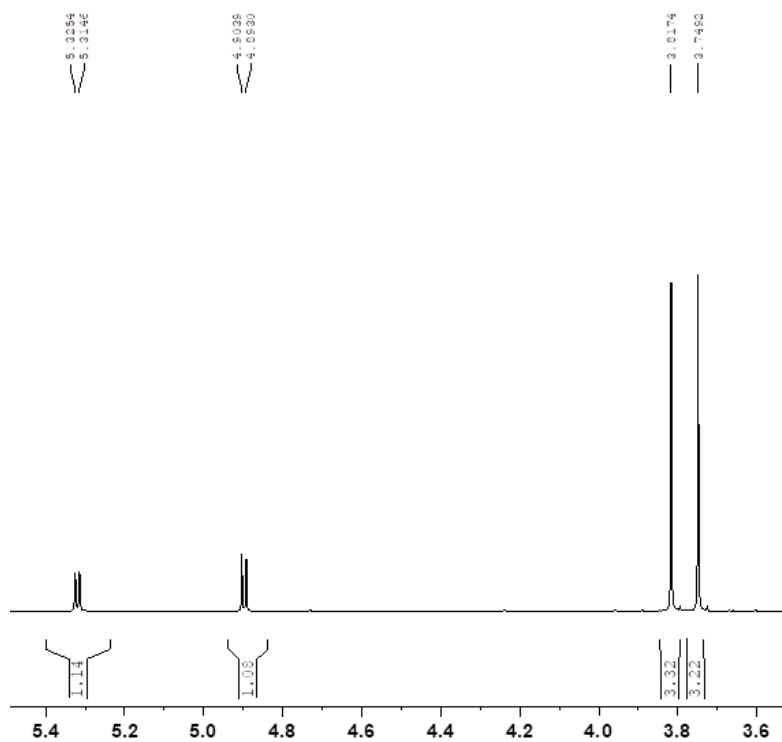
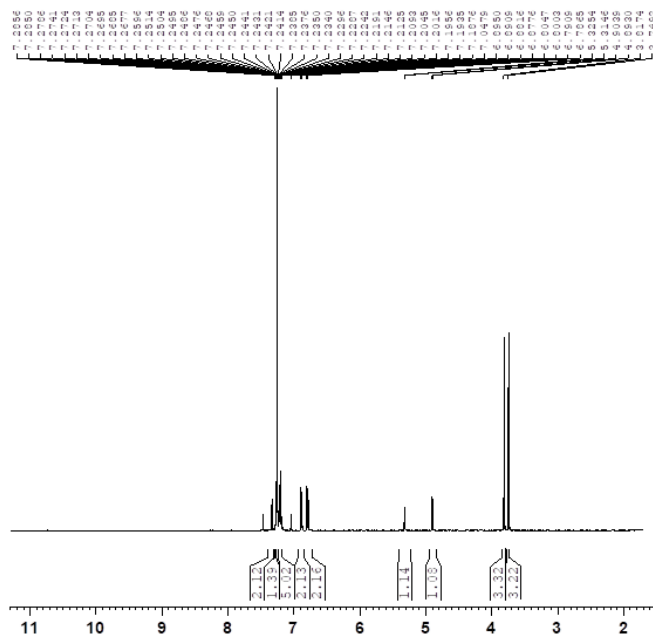


^{13}C NMR (100 MHz, CDCl_3) of **4c**

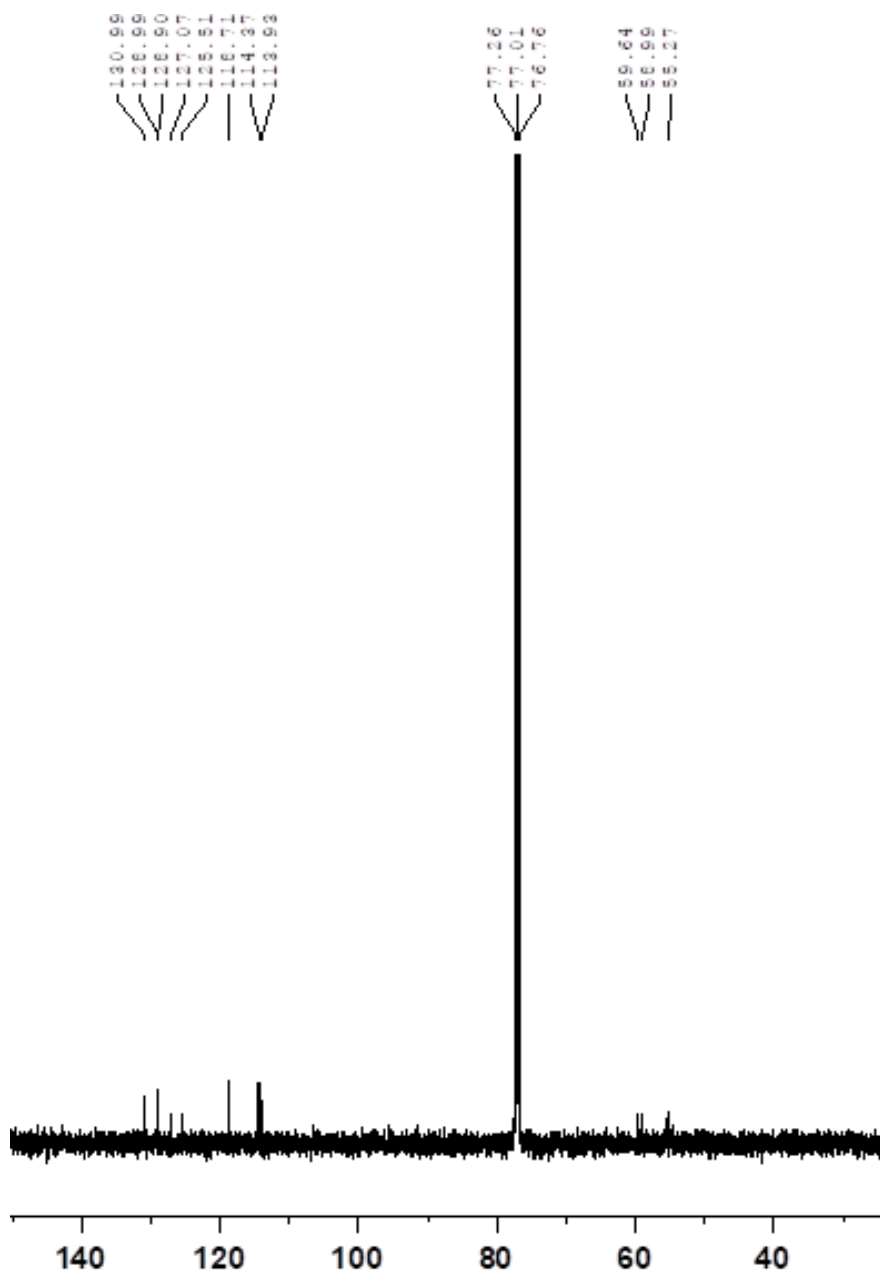


Spectral data of compound **4d**

^1H NMR (500 MHz, CDCl_3) of **4d**

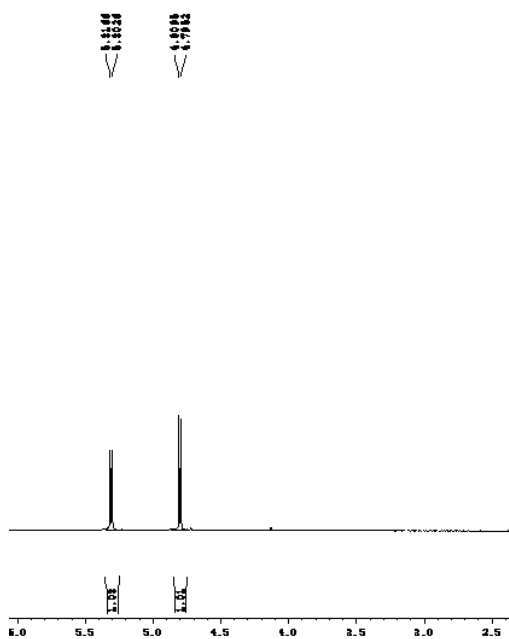
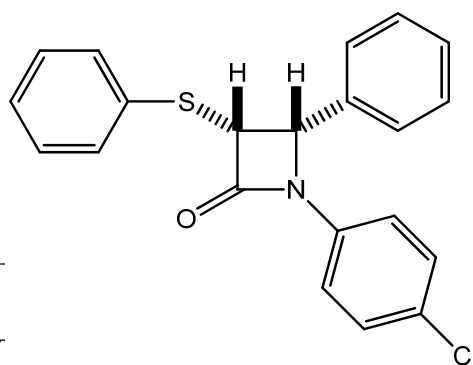
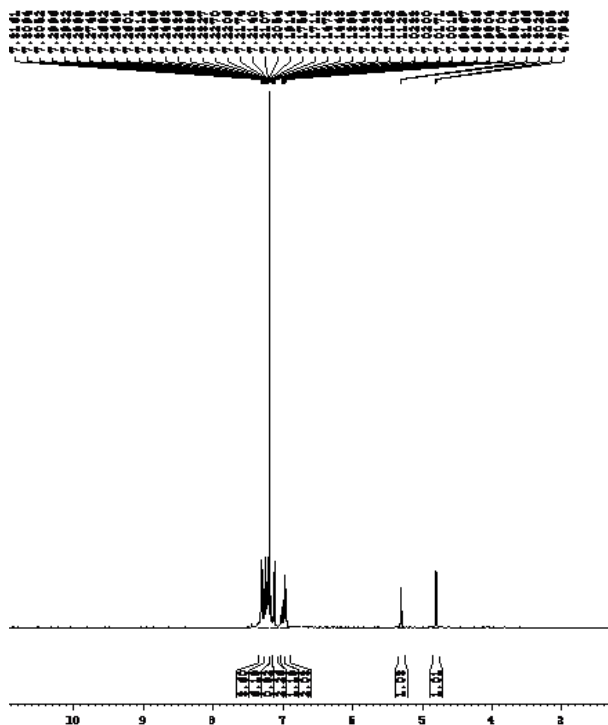


^{13}C NMR (100 MHz, CDCl_3) of **4d**

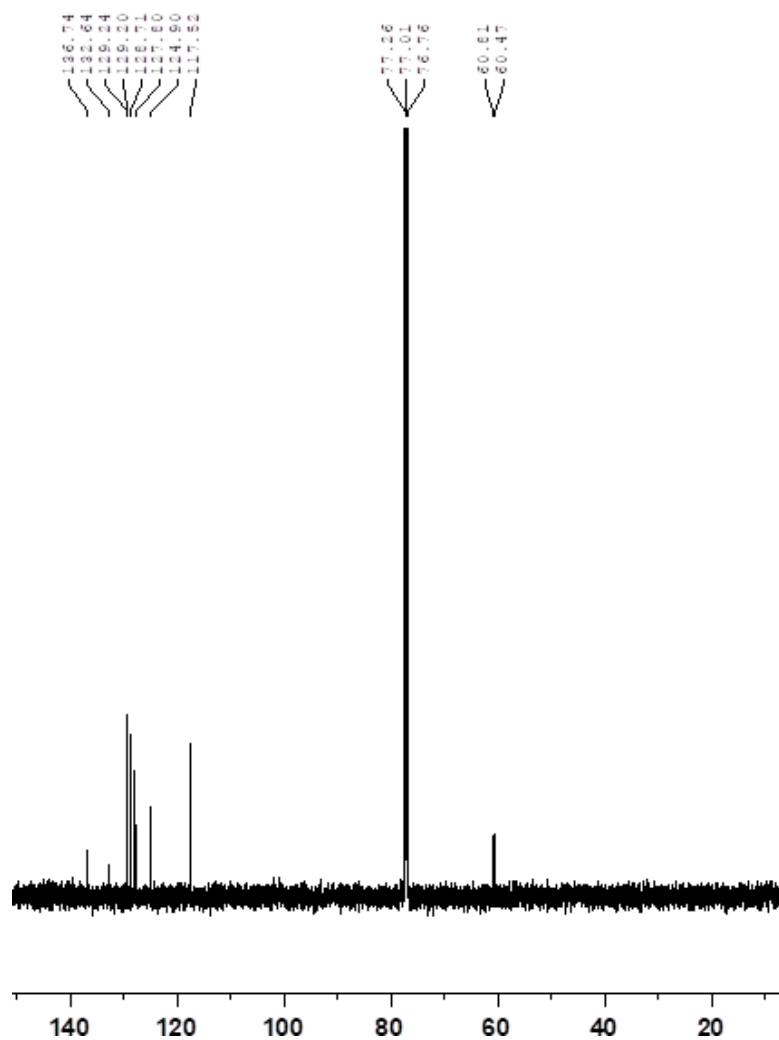


Spectral data of compound **4e**

^1H NMR (500 MHz, CDCl_3) of **4e**

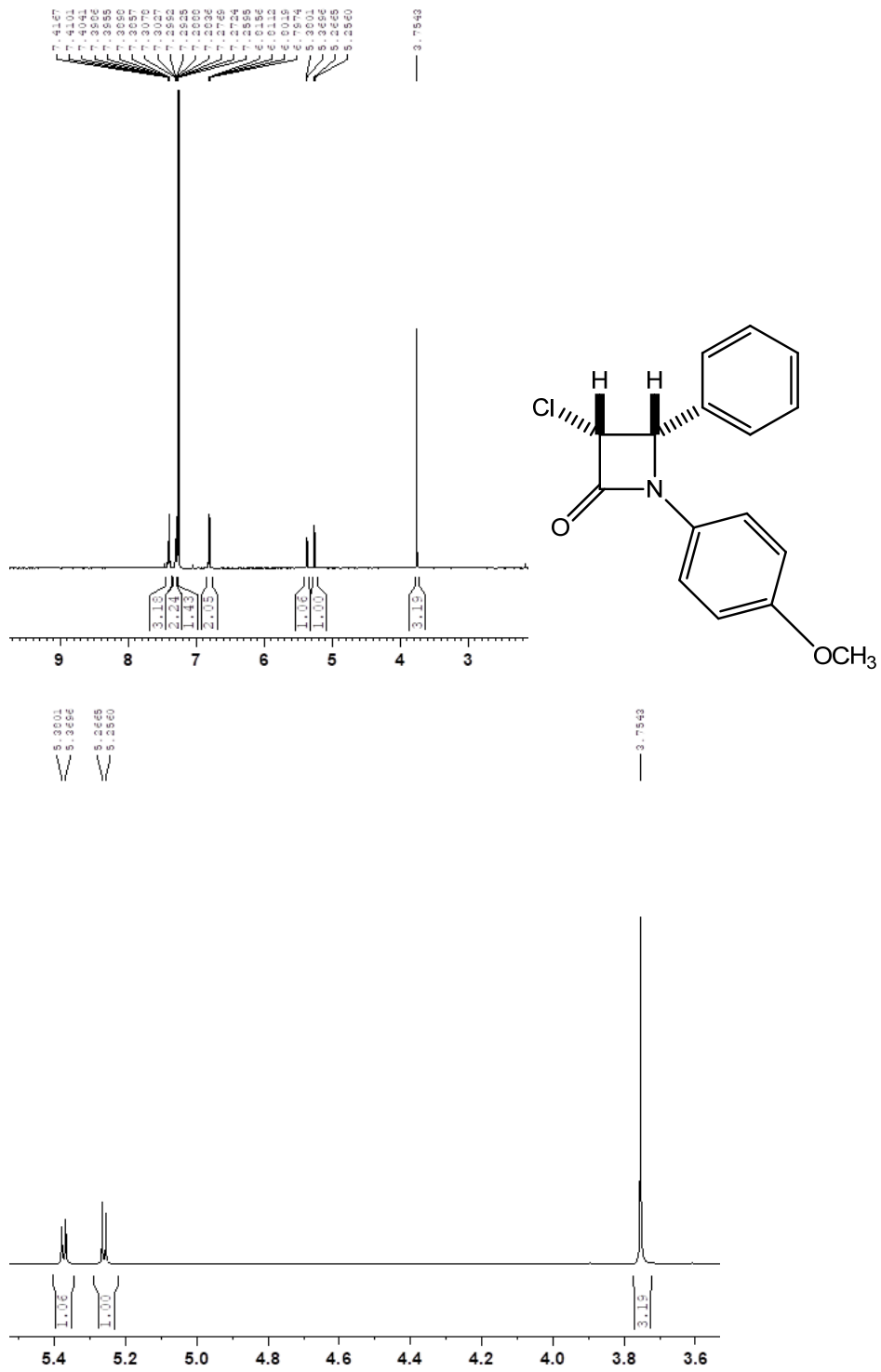


^{13}C NMR (100 MHz, CDCl_3) of **4f**

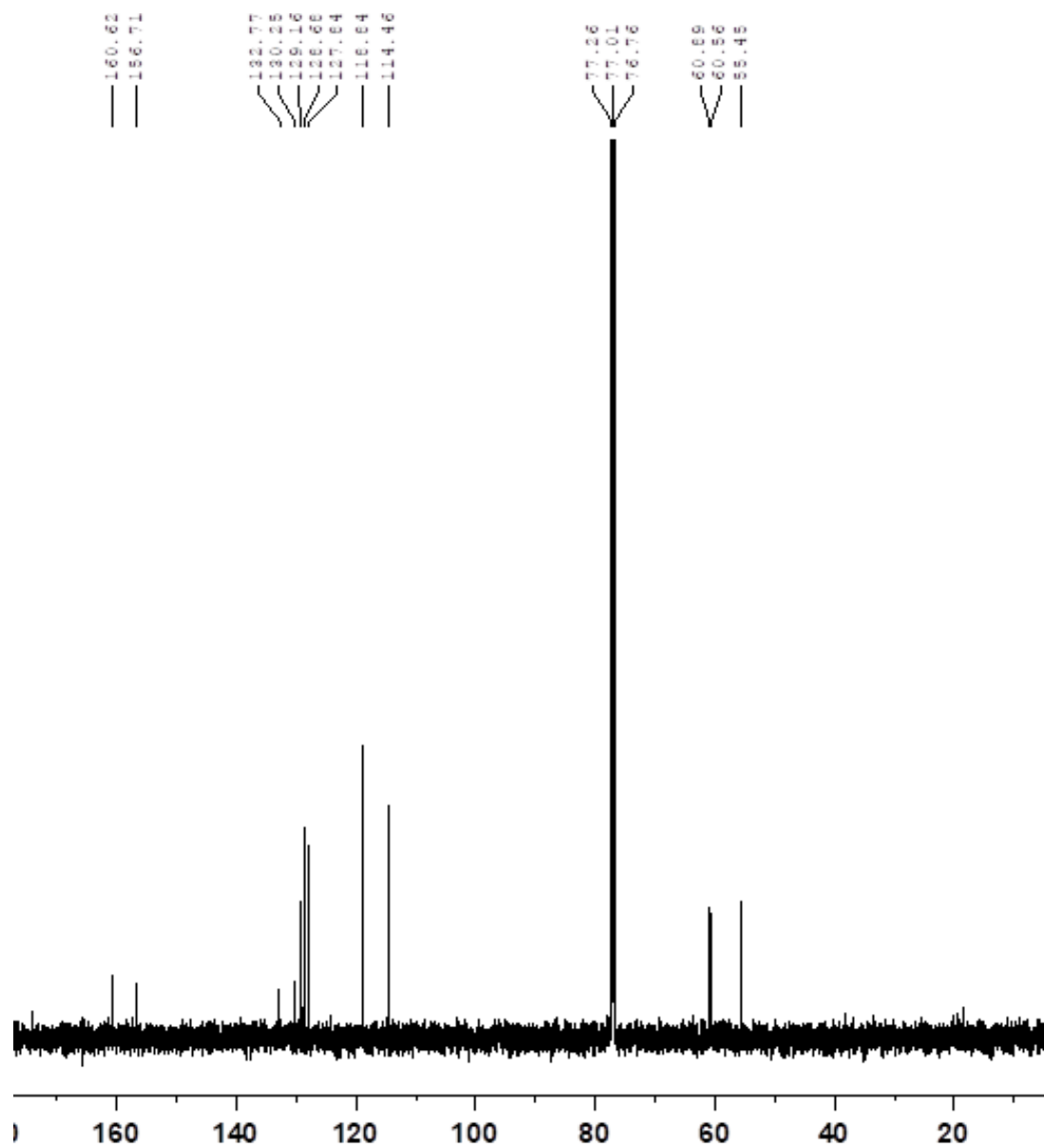


Spectral data of compound **4g**

^1H NMR (500 MHz, CDCl_3) of **4g**

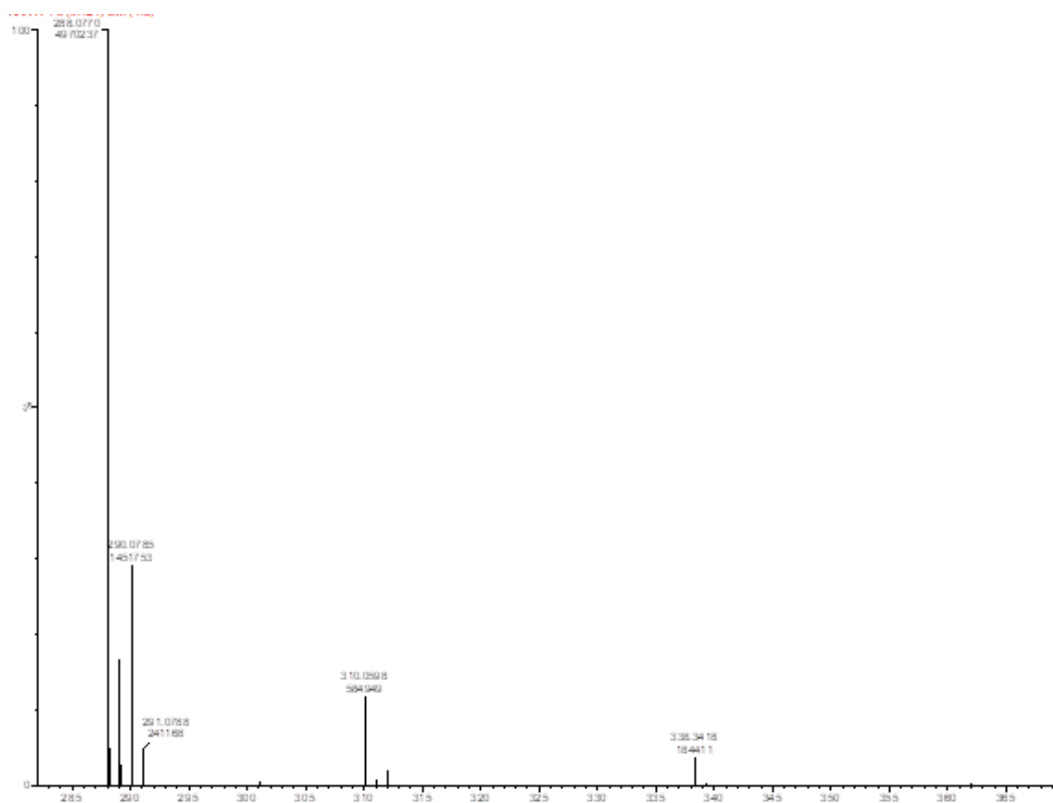


^{13}C NMR (100 MHz, CDCl_3) of **4g**



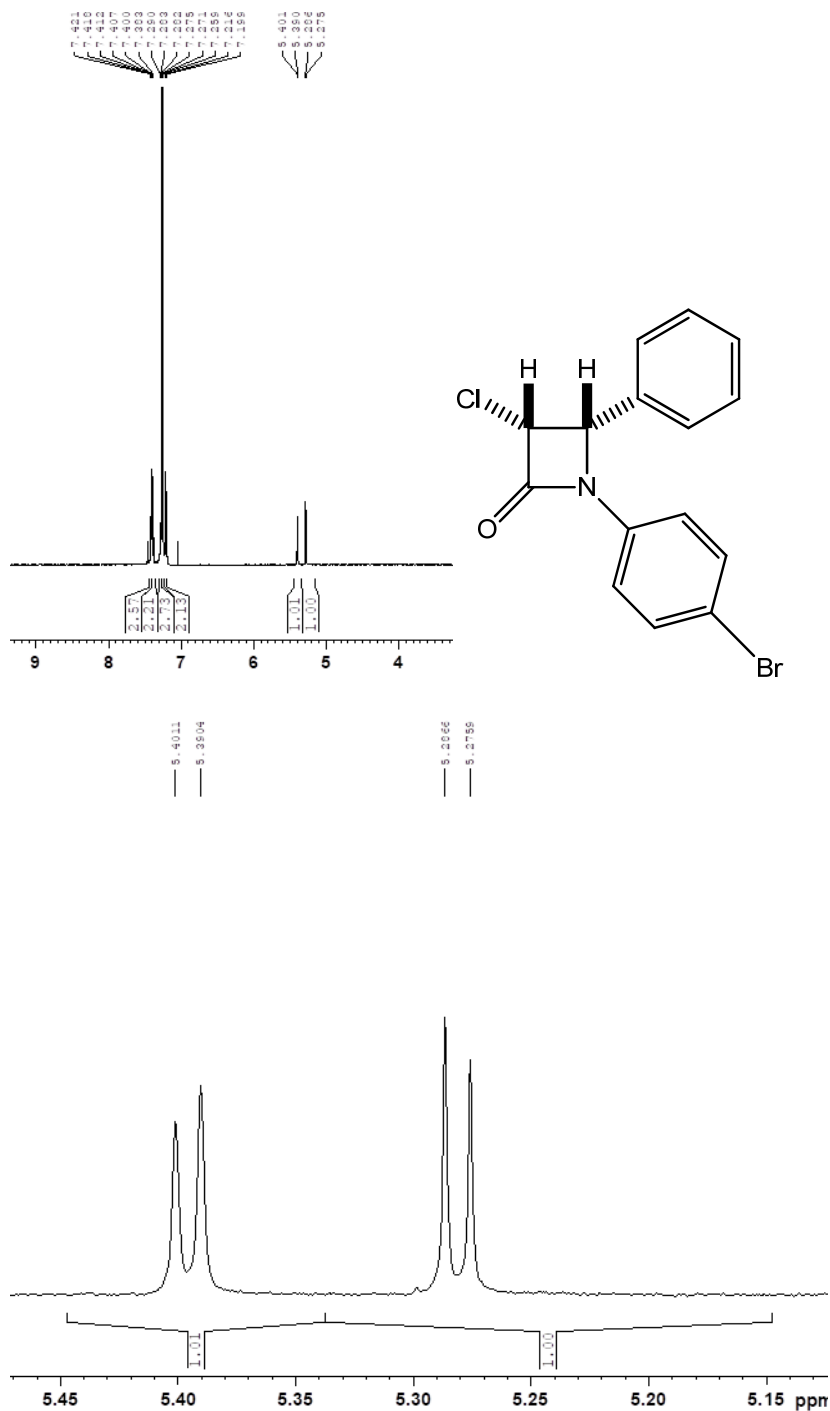
HRMS (ESI) of (4g)

Calculated for $C_{16}H_{14}NO_2Cl^+ [M+1]^+$ 288.0708, found 288.0770.

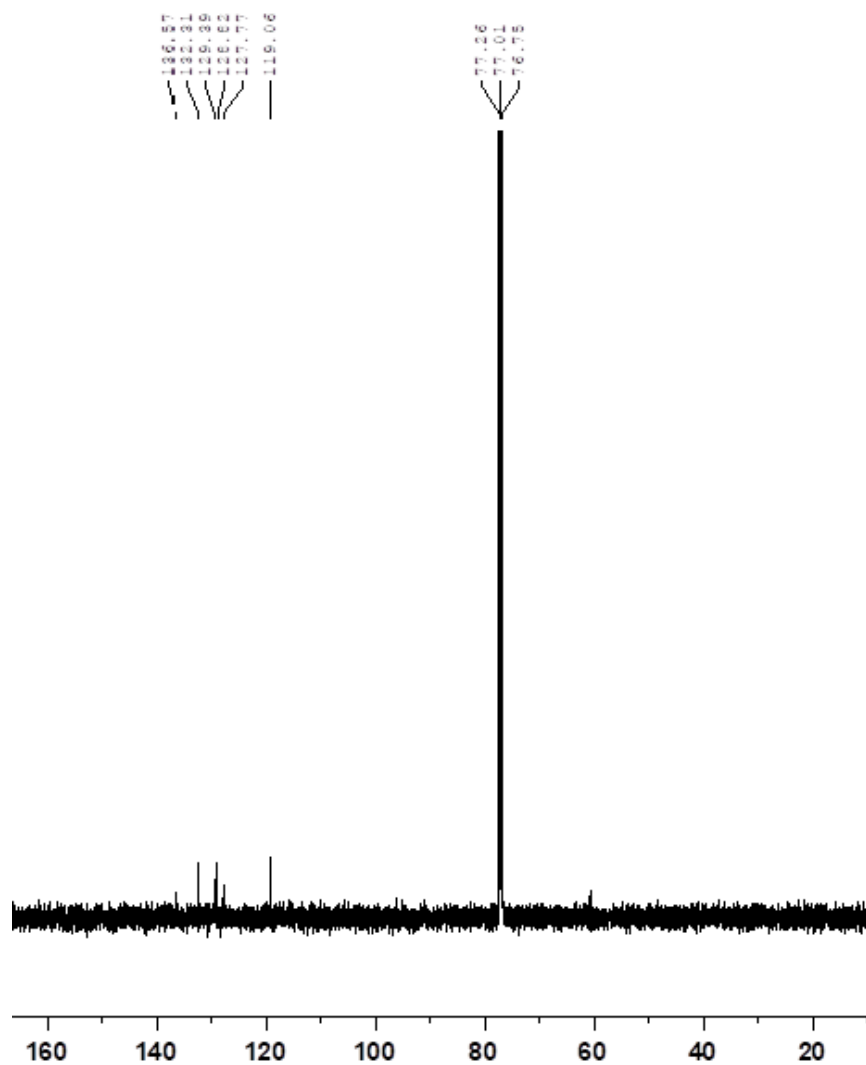


Spectral data of compound **4h**

^1H NMR (500 MHz, CDCl_3) of **4h**

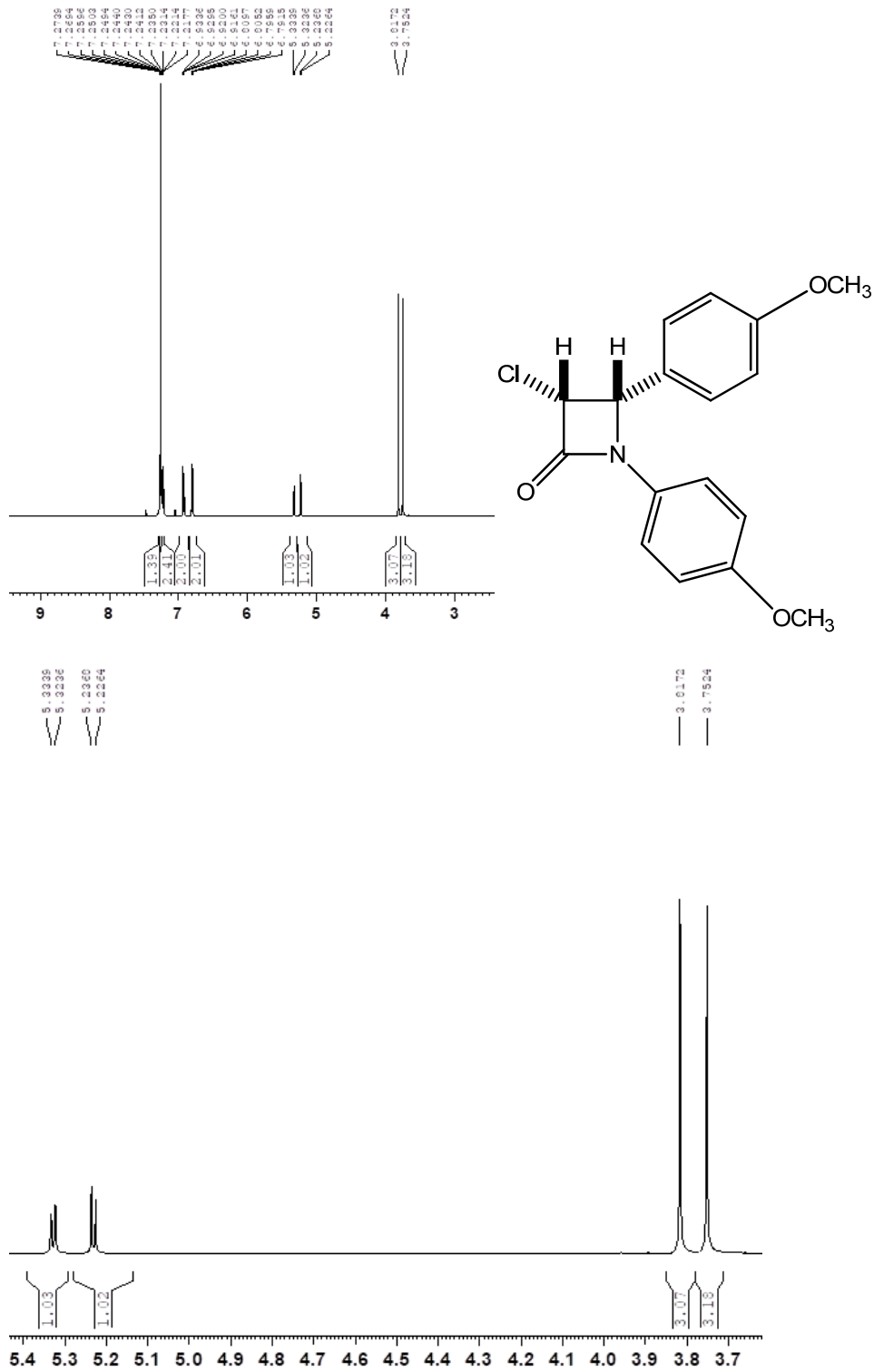


^{13}C NMR (100 MHz, CDCl_3) of **4h**

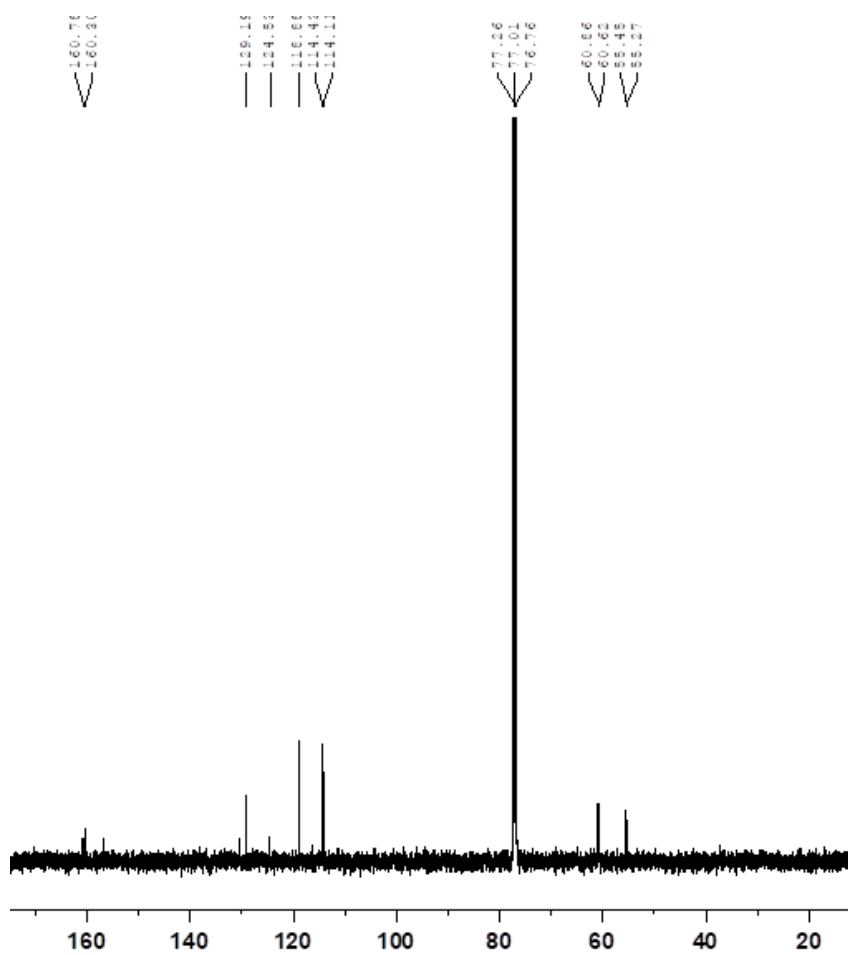


Spectral data of compound **4i**

^1H NMR (500 MHz, CDCl_3) of **4i**



^{13}C NMR (100 MHz, CDCl_3) of **4i**



^{13}C NMR (100 MHz, CDCl_3) of **4j**

