Supplementary Information for

Formylnitroenamines: Useful Building Blocks for Nitrated Pyridones and Aminopyridines with Functional Groups

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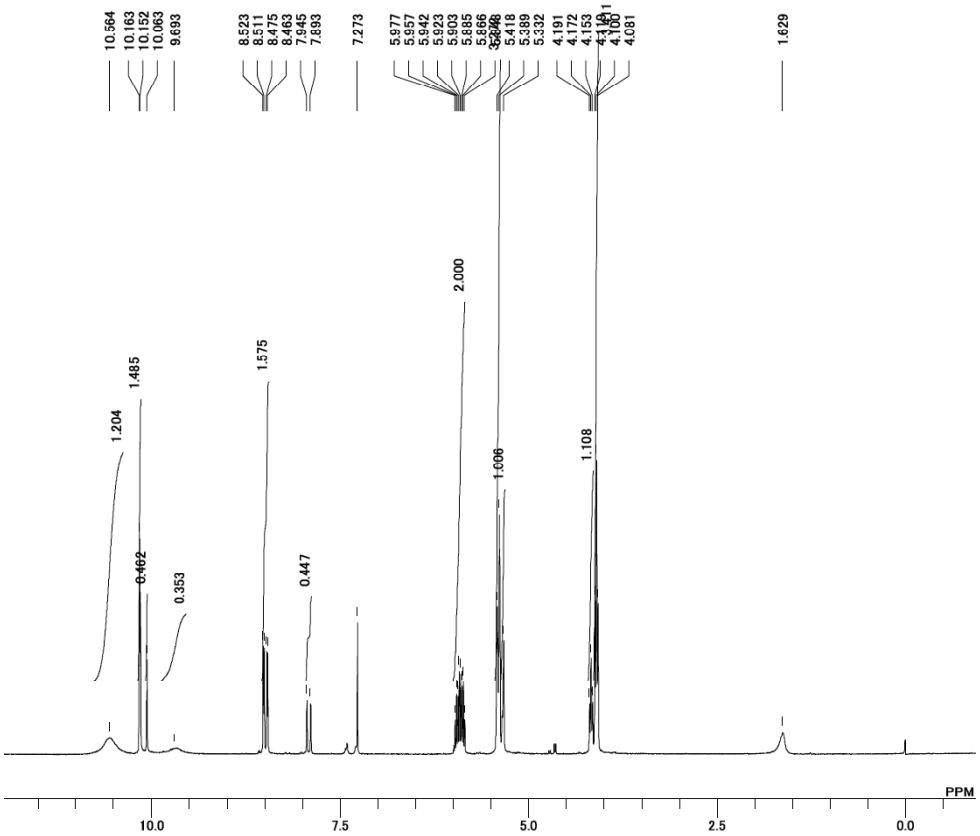
Contents

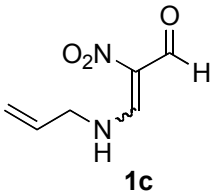
Experimental Procedures

General

The melting points were determined on a Yanaco micro-melting-points apparatus, and were uncorrected. All the reagents and solvents were commercially available and used as received. The ^{1}H spectra were measured on a Bruker DPX-400, Varian Mercury 300, or JEOL AL-400 spectrometer at 400 or 300 MHz, respectively, with TMS as an internal standard, and the ^{13}C NMR spectra were measured on a Bruker DPX-400 or JEOL AL-400 spectrometer at 100 MHz. Assignments of ^{13}C NMR spectra were performed by DEPT experiments. The IR spectra were recorded on a Horiba FT-200 IR spectrometer and a JASCO FT/IR-4200 Spectrophotometer. The mass spectra were recorded on a JEOL JMS-AX505HA or JEOL-DX-303-HF spectrometer. The elemental microanalyses were performed using a Yanaco MT-6 CHN corder. The X-Ray analysis was carried out with a Rigaku RAXIS-RAPID imaging plate diffractometer, using graphite monochromated Mo Kα radiation. The intensity data were computed by teXsan Single Crystal Structure Analysis Software Version 2.0 and structure solution and refinement were computed by SAPI91 and SHELXL-97, respectively.

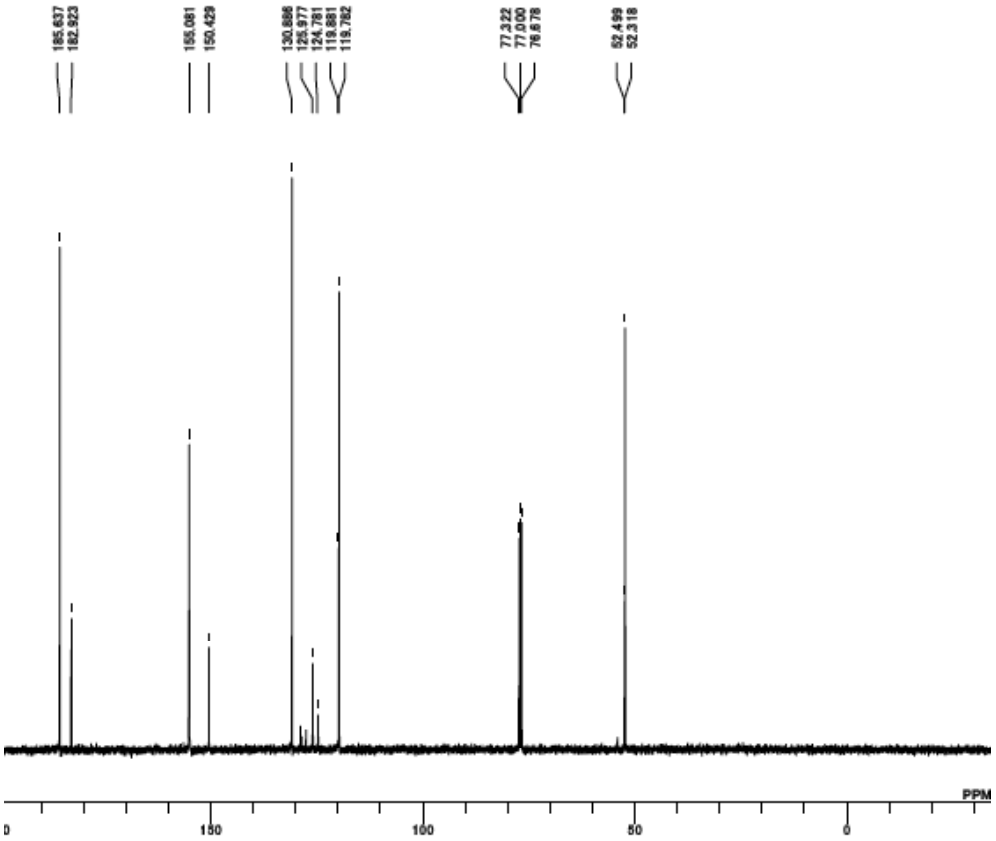
^{1}H NMR Spectrum of **1c** (*E*/*Z* = 3/1) (300 MHz, $CDCl_3$) δ (ppm)



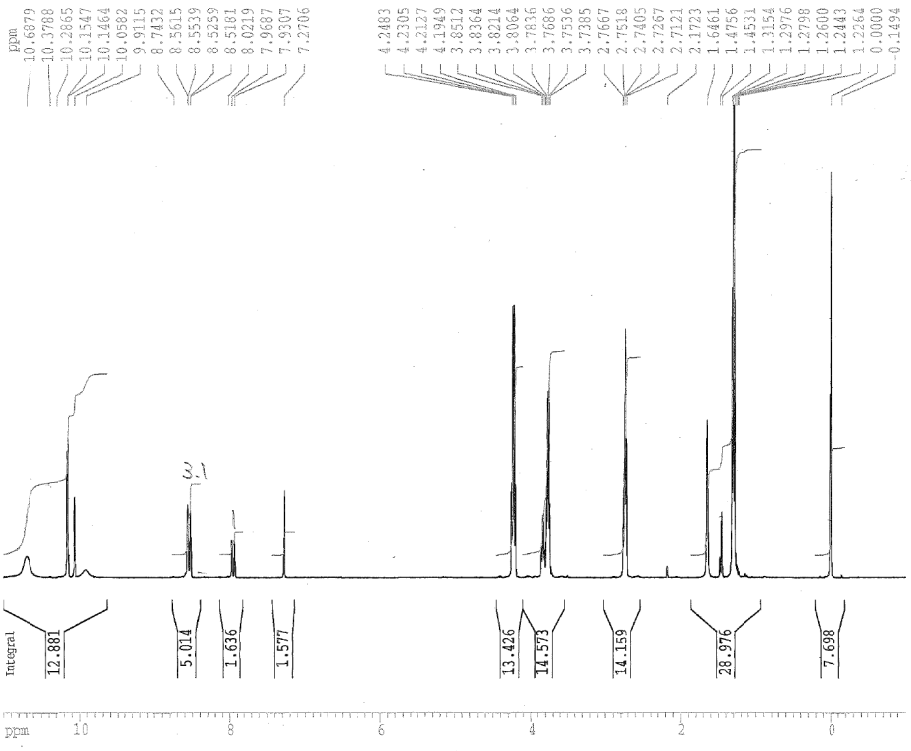


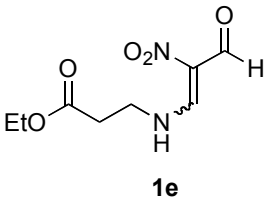
1c

^{13}C NMR Spectrum of **1c** (*E*/*Z* = 3/1) (100 MHz, $CDCl_3$) δ (ppm)



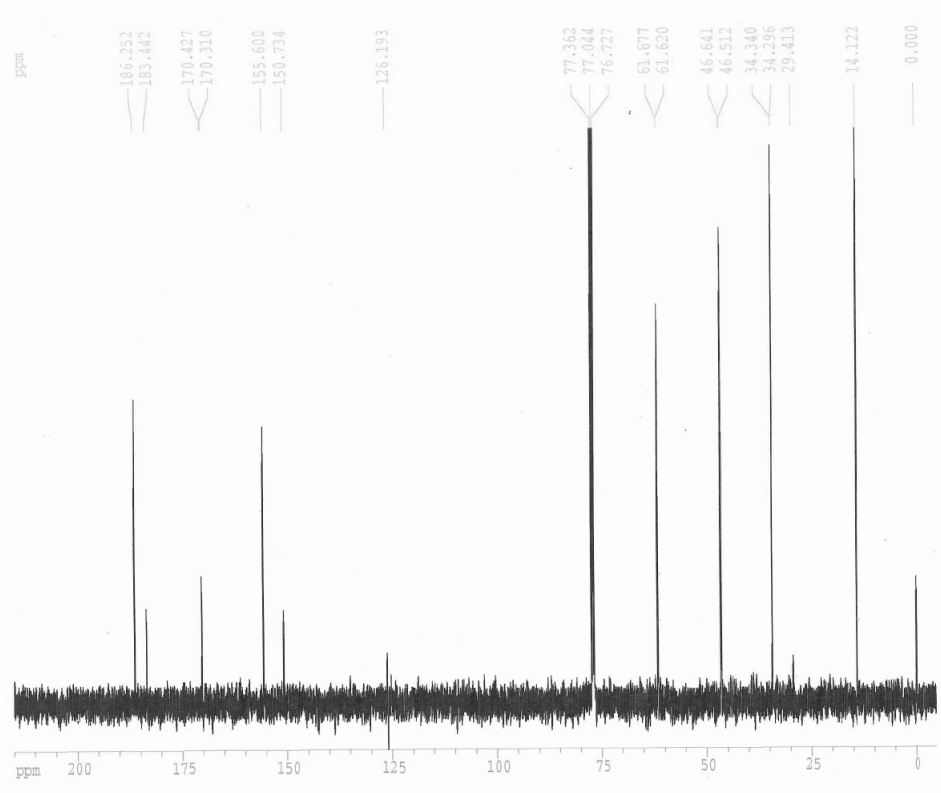
^{1}H NMR Spectrum of **1e** (*E*/*Z* = 3/1) (400 MHz, $CDCl_3$) δ (ppm)



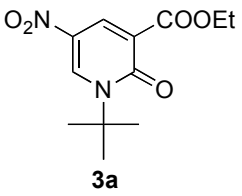


1e

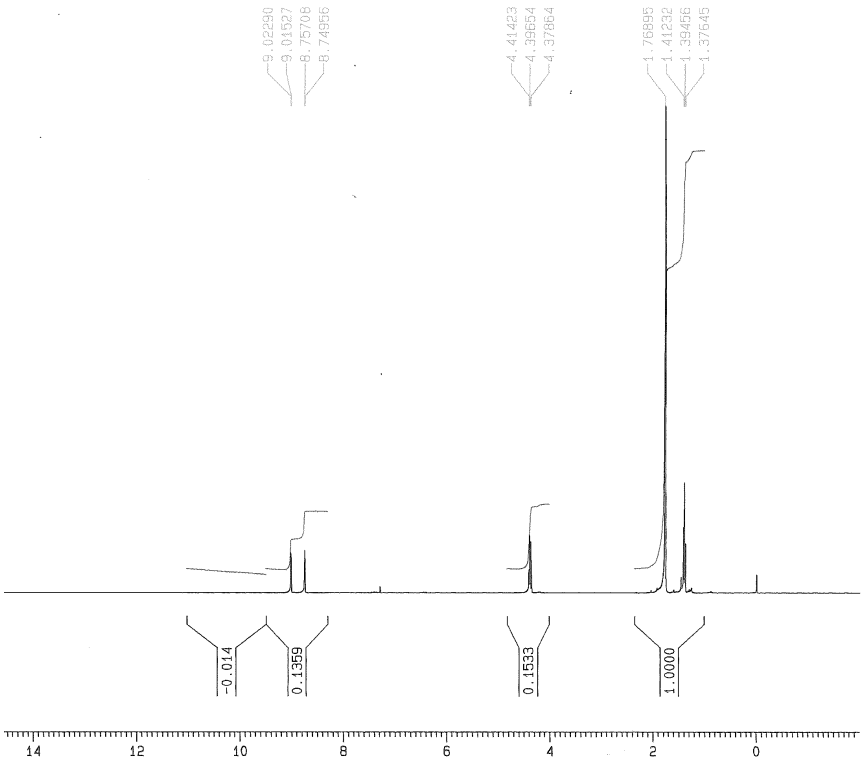
^{13}C NMR Spectrum of **1e** (*E*/*Z* = 3/1) (100 MHz, $CDCl_3$) δ (ppm)



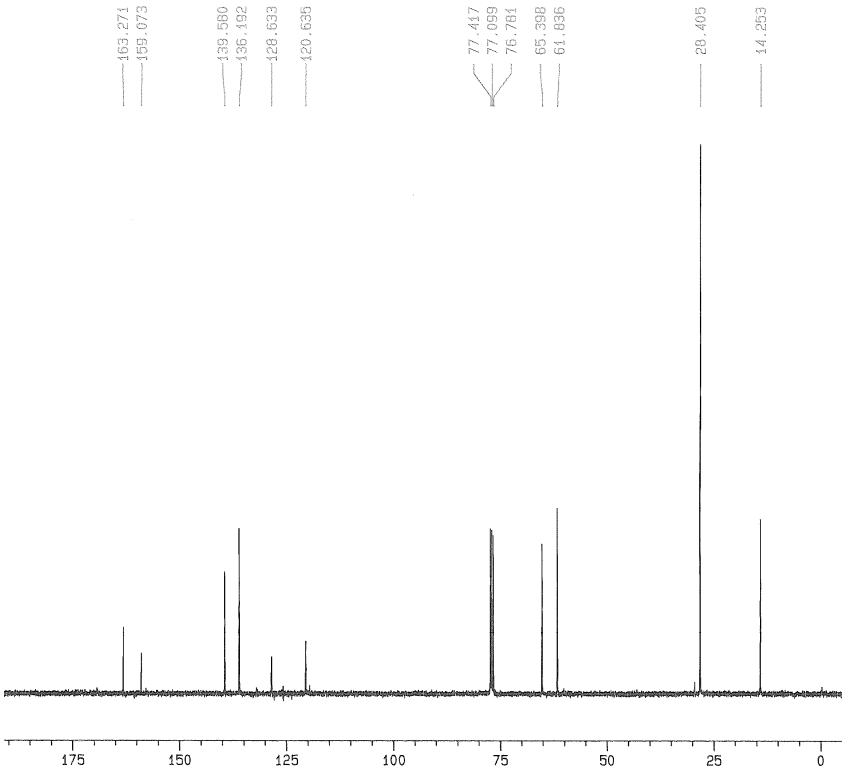
^{1}H NMR Spectrum of **3a** (400 MHz, $CDCl_3$) δ (ppm)



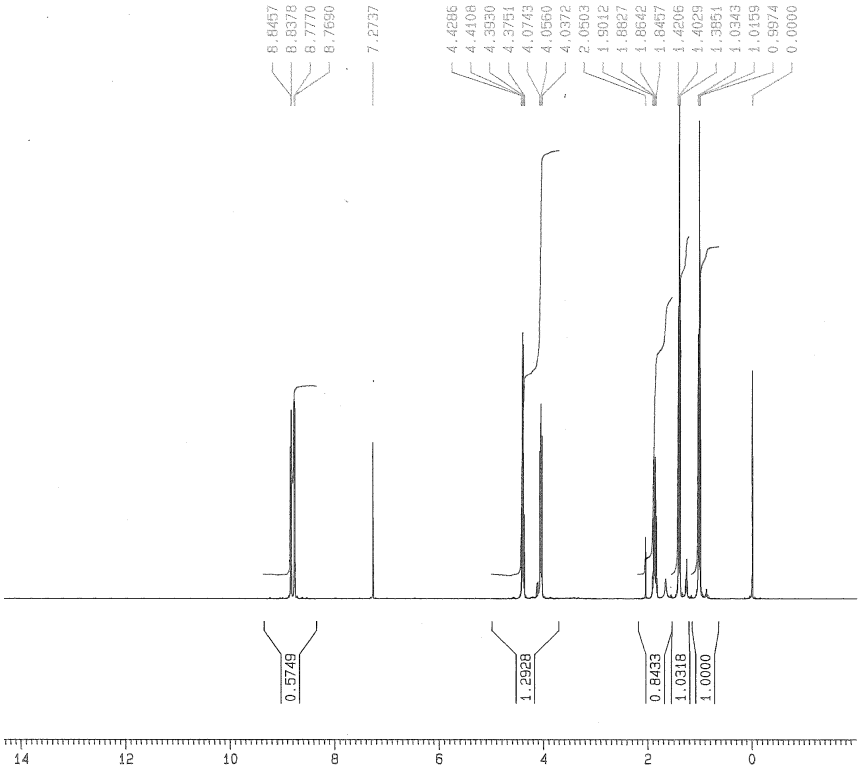
3a

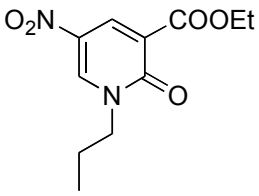


^{13}C NMR Spectrum of **3a** (100 MHz, $CDCl_3$) δ (ppm)



^{1}H NMR Spectrum of **3b** (400 MHz, $CDCl_3$) δ (ppm)





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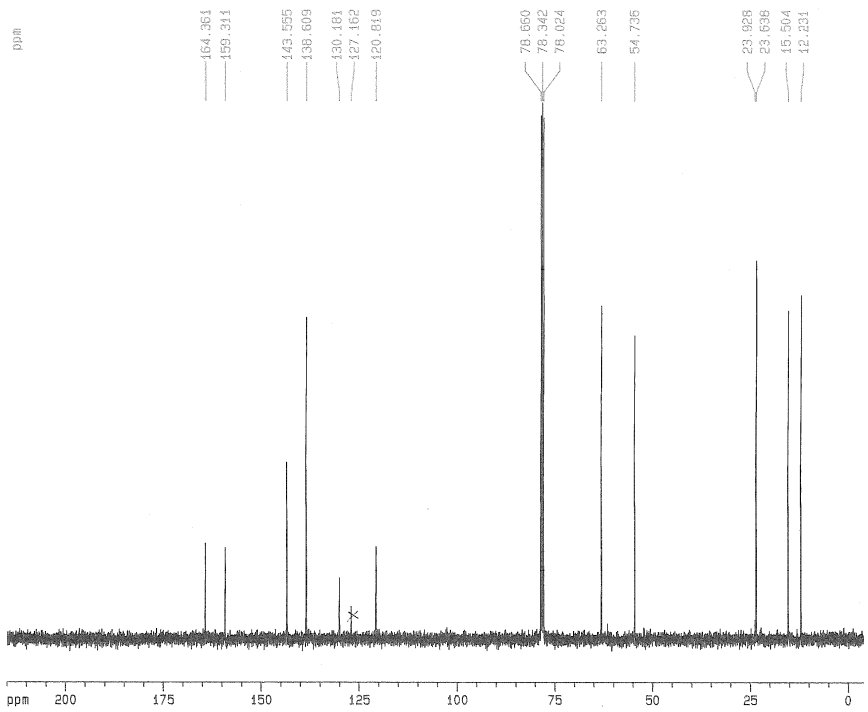
^{13}C NMR Spectrum of **3b** (100 MHz, $CDCl_3$) δ (ppm)



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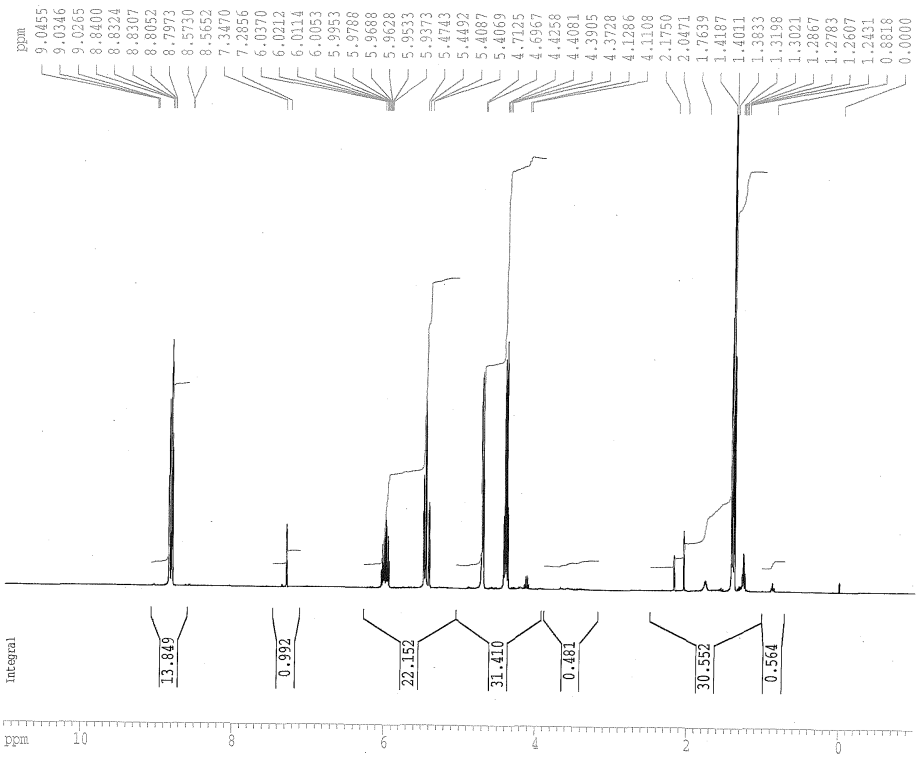
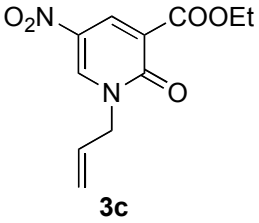
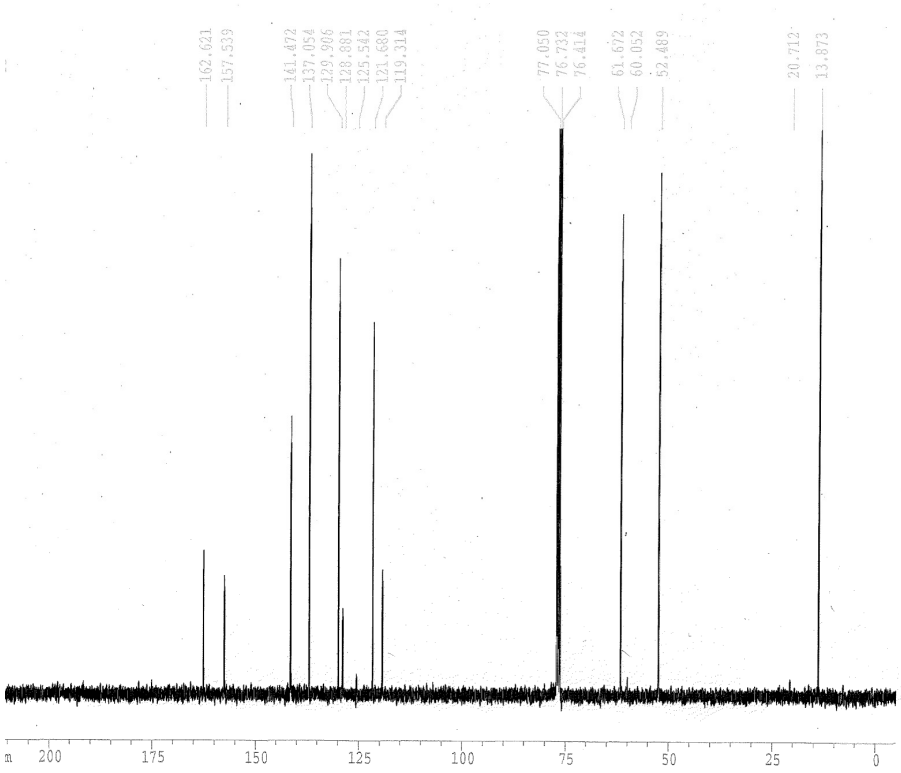


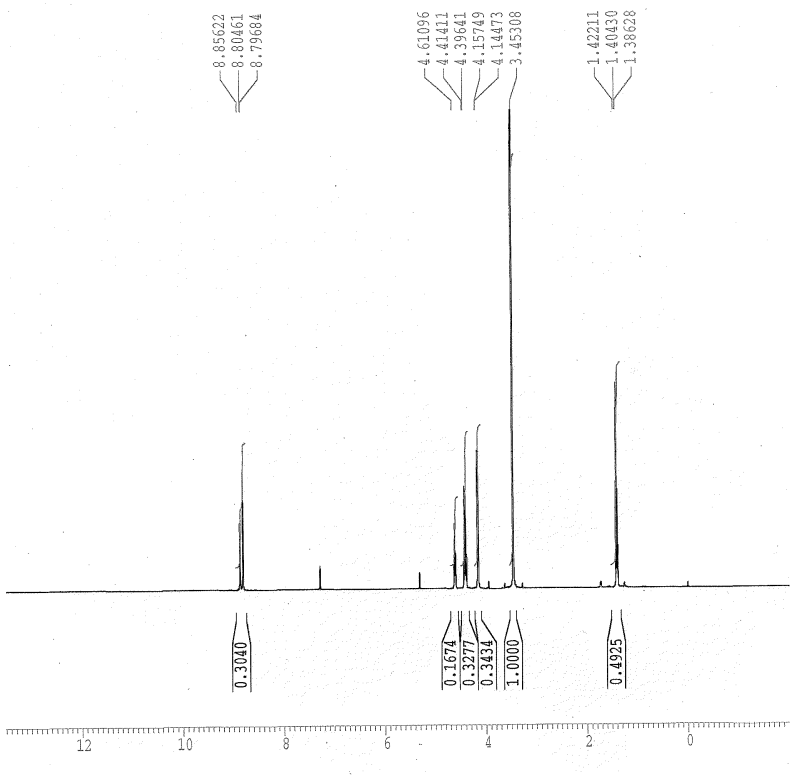


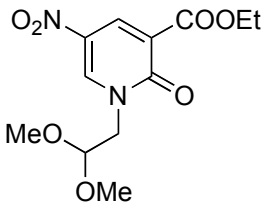
3c

^{13}C NMR Spectrum of **3c** (100 MHz, $CDCl_3$) δ (ppm)



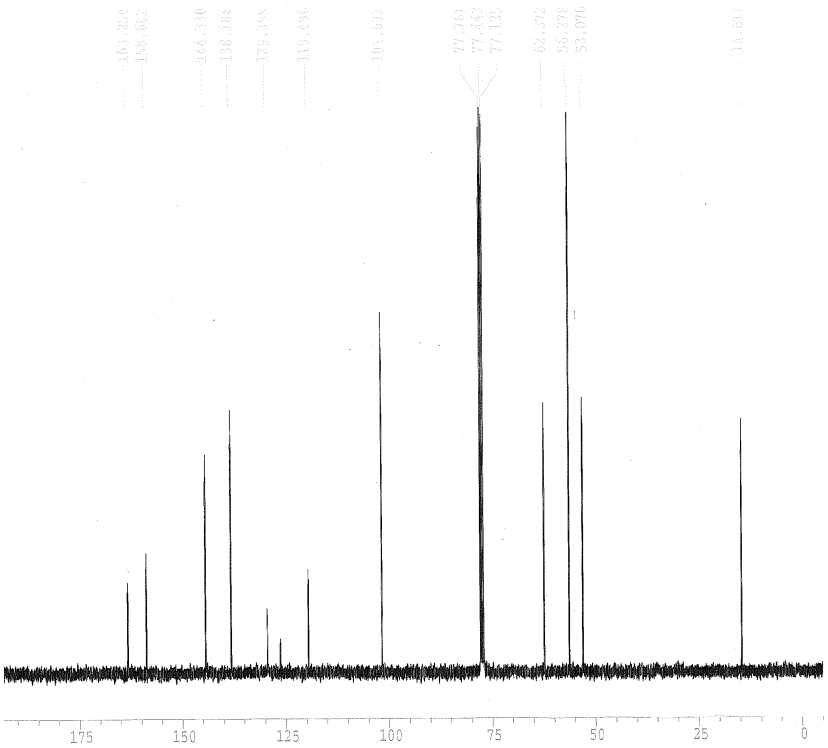
^{1}H NMR Spectrum of **3d** (400 MHz, $CDCl_3$) δ (ppm)





3d

^{13}C NMR Spectrum of **3d** (100 MHz, $CDCl_3$) δ (ppm)



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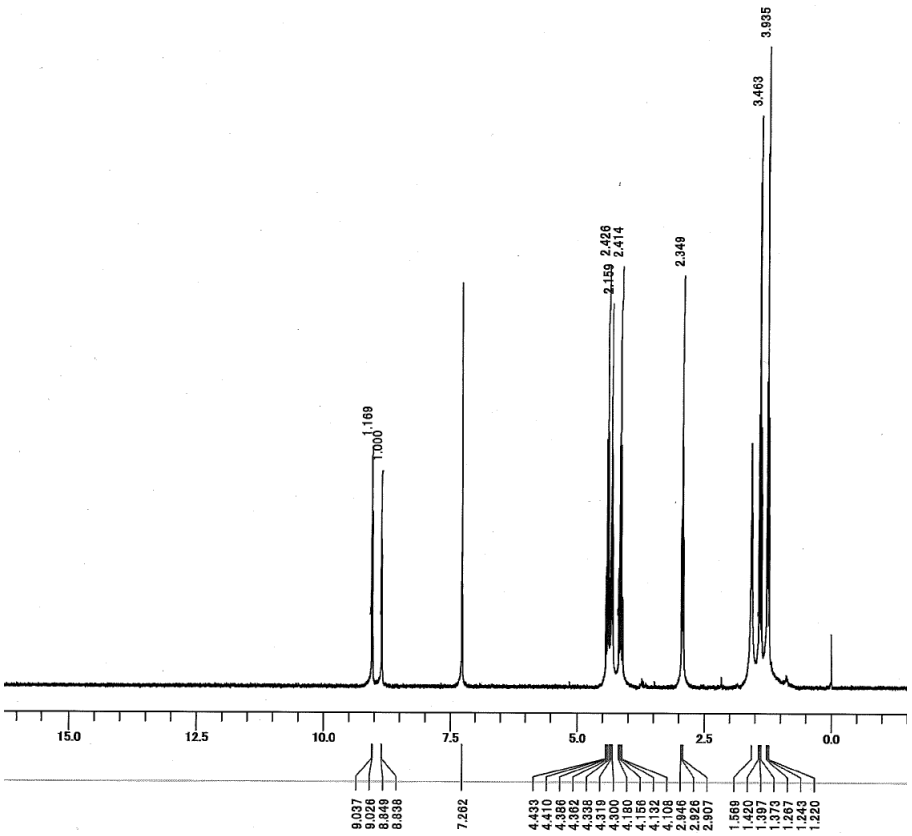
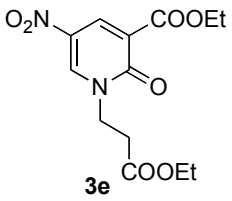
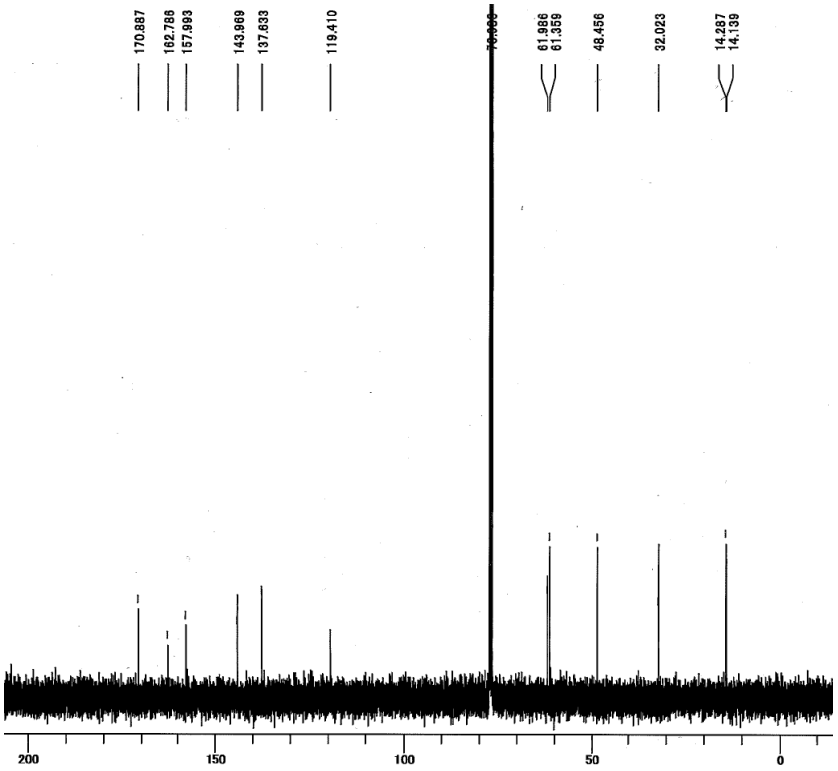




3e

^{1}H NMR Spectrum of **3e** (100 MHz, $CDCl_3$) δ(ppm)



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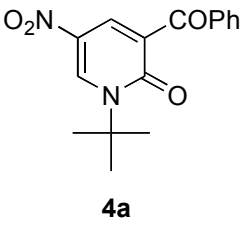
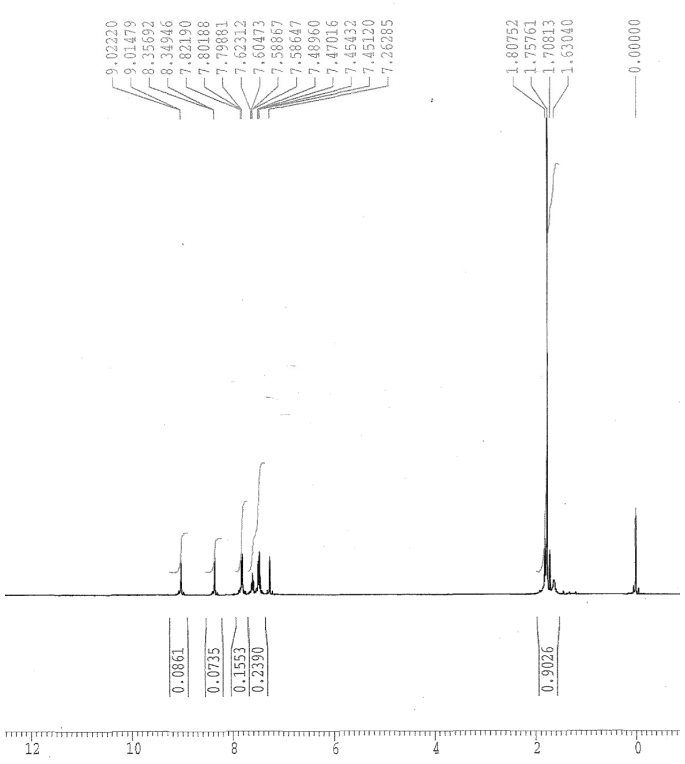
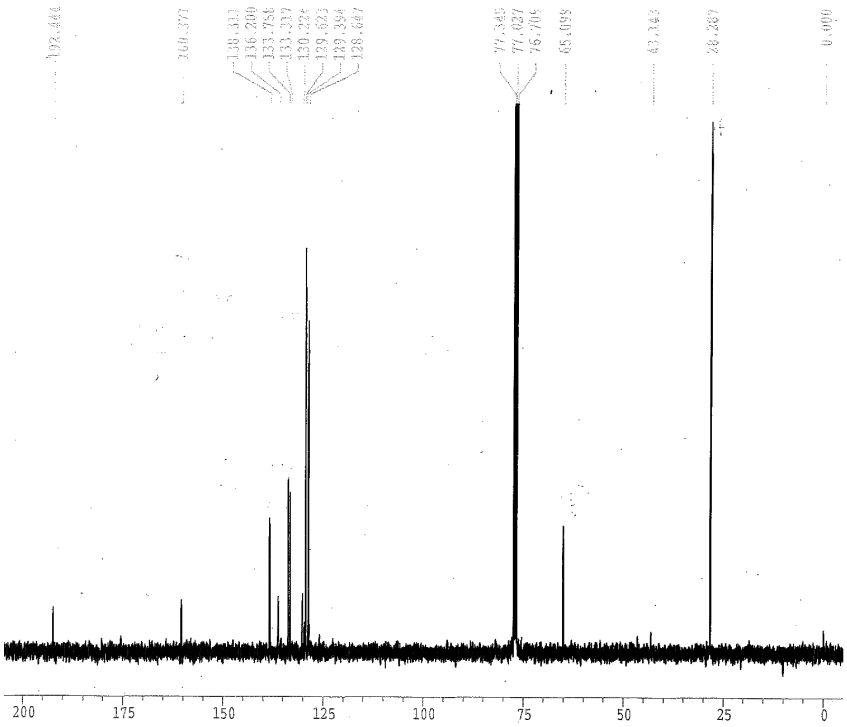


4a



^{13}C NMR Spectrum of **4a** (100 MHz, $CDCl_3$) δ (ppm)



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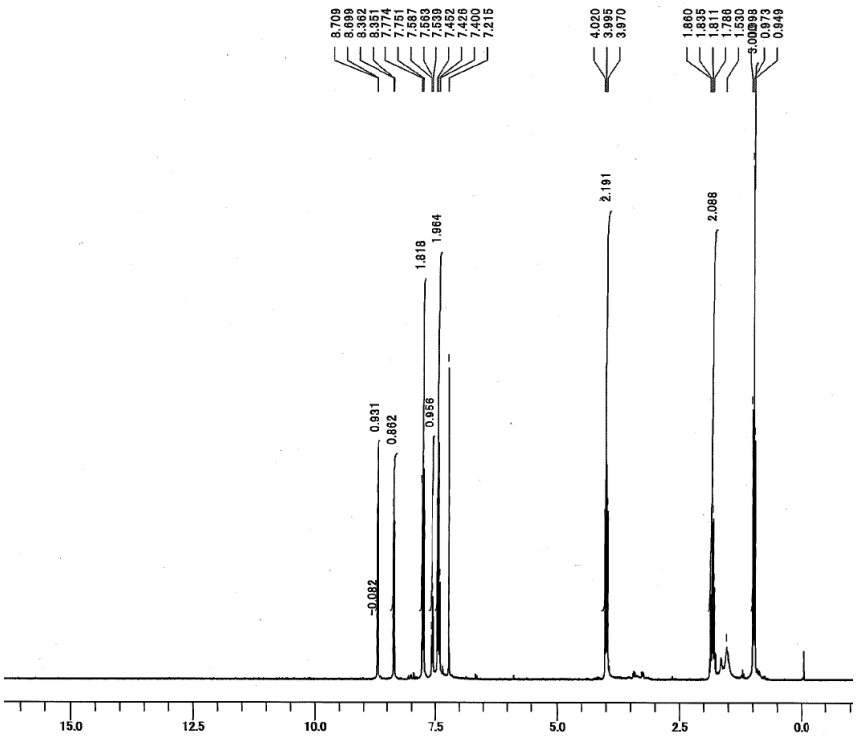
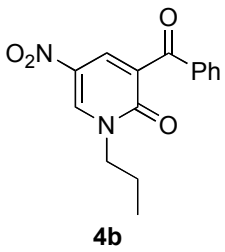
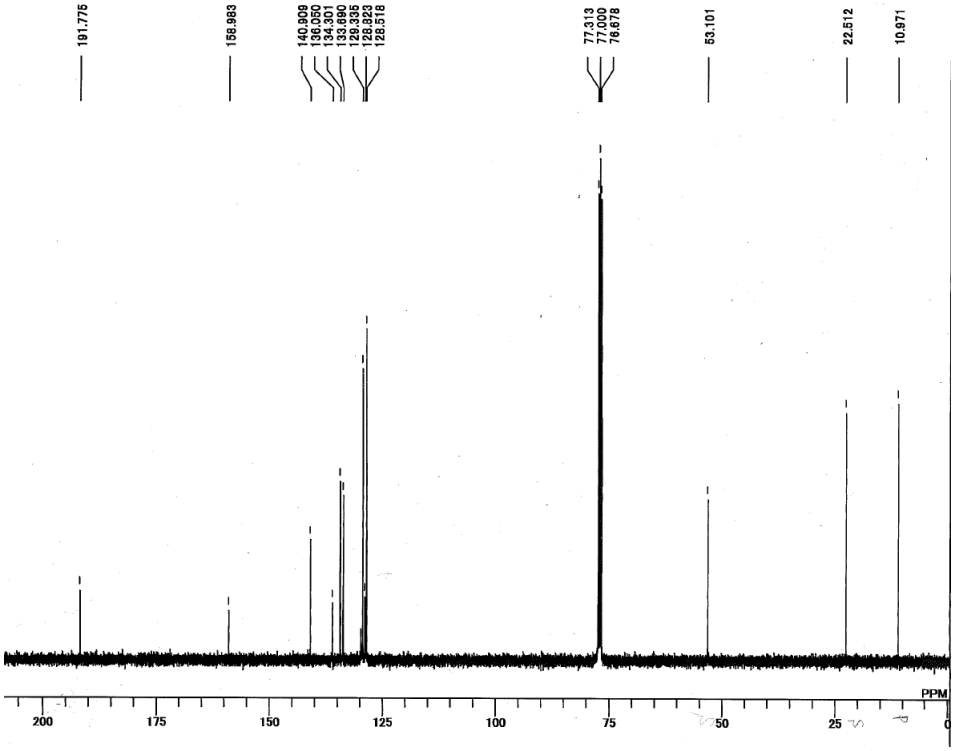


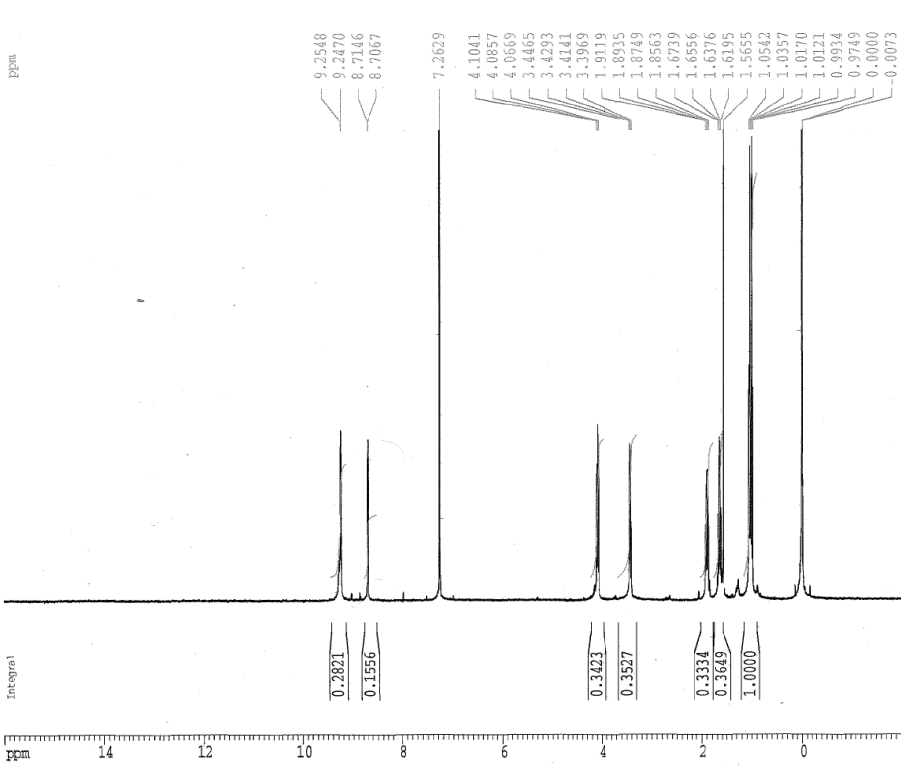


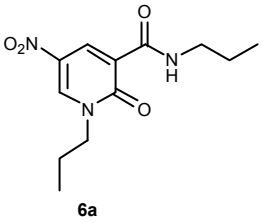
4b

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



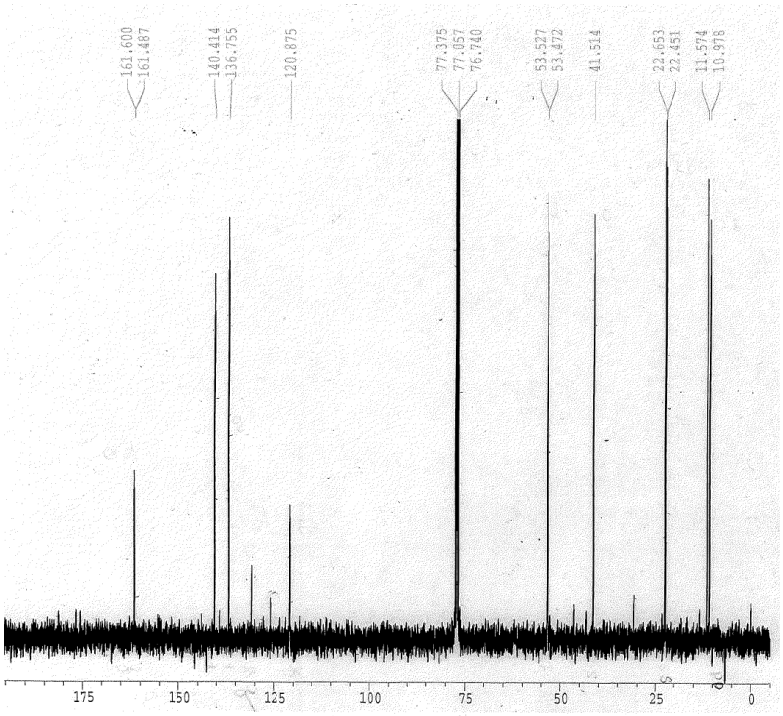
^{1}H NMR Spectrum of **6a** (400 MHz, $CDCl_3$) δ (ppm)



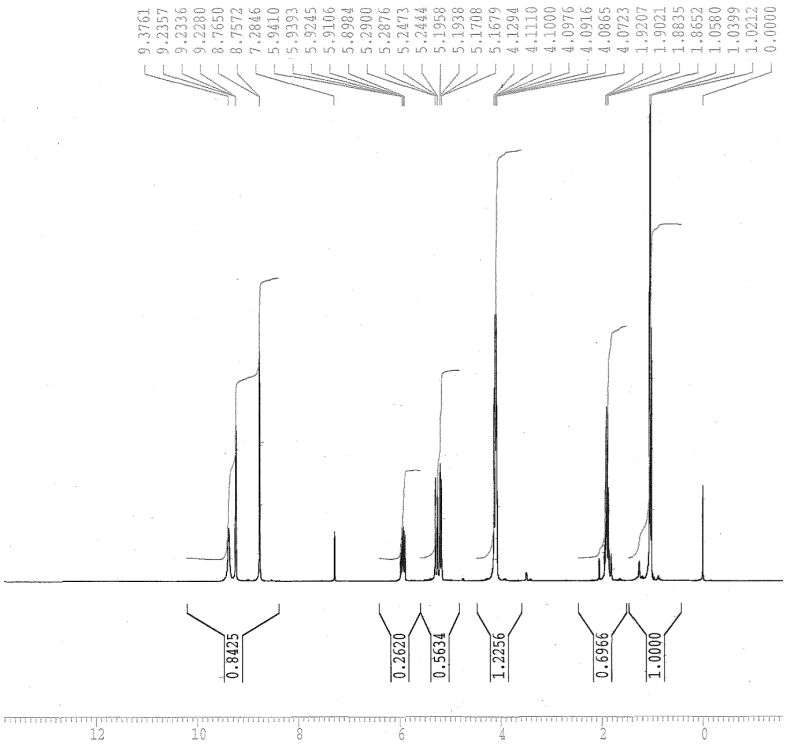


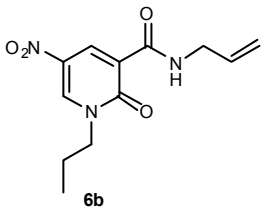
6a

^{13}C NMR Spectrum of **6a** (100 MHz, $CDCl_3$) δ (ppm)



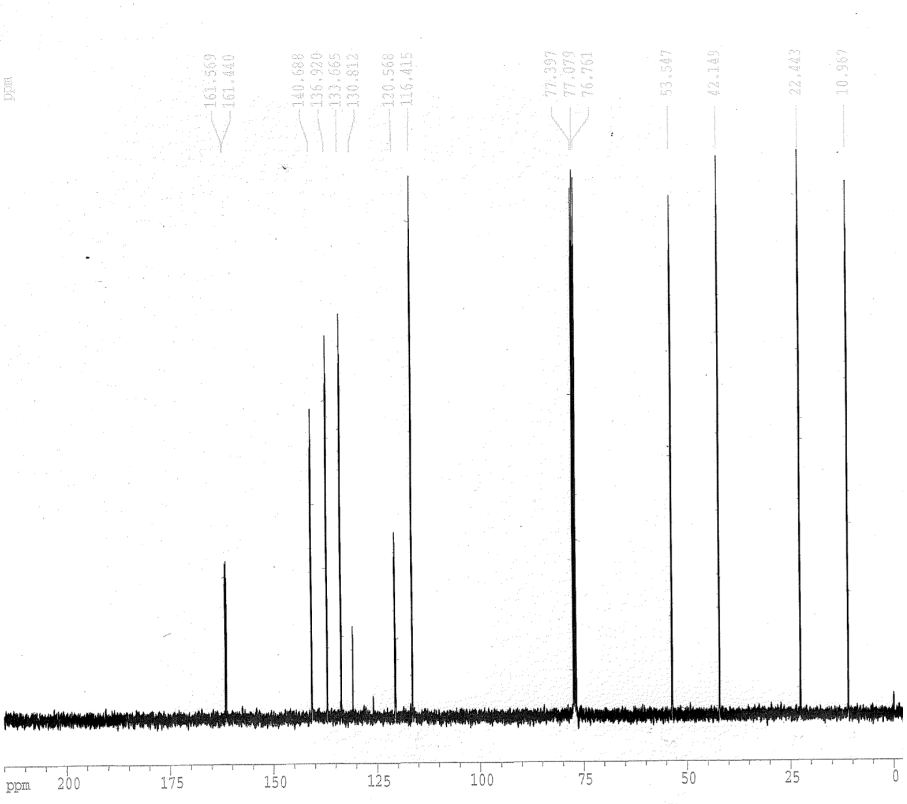
^{1}H NMR Spectrum of **6b** (400 MHz, $CDCl_3$) δ (ppm)





6b

^{13}C NMR Spectrum of **6b** (100 MHz, $CDCl_3$) δ (ppm)



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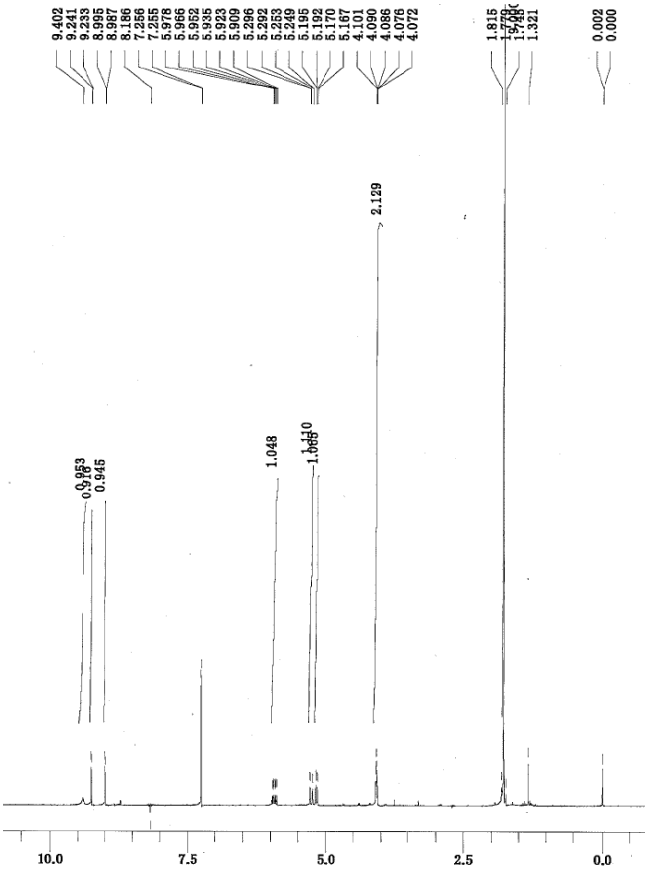
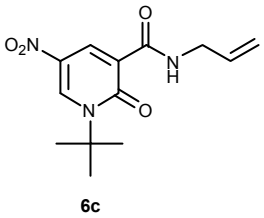
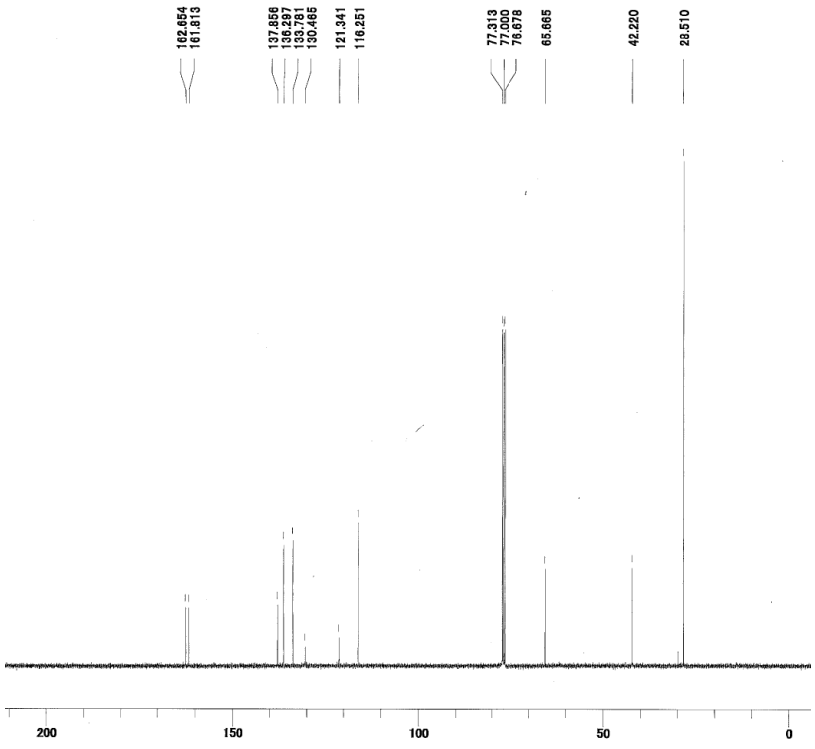




6c

^{13}C NMR Spectrum of **6c** (100 MHz, $CDCl_3$) δ (ppm)



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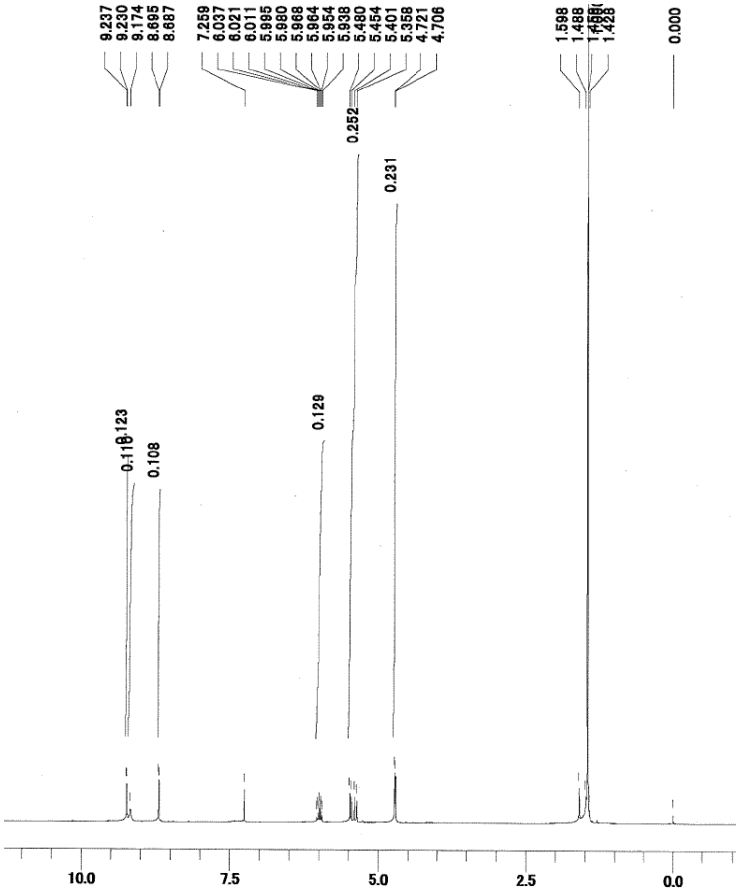

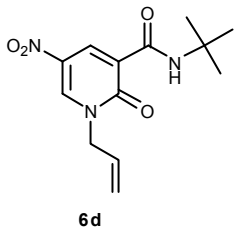

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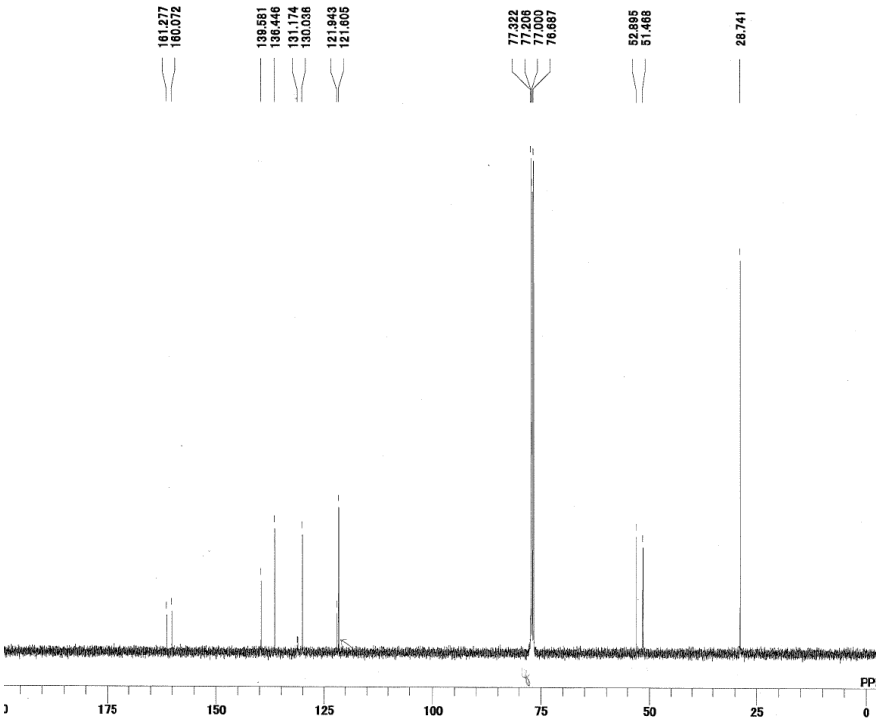
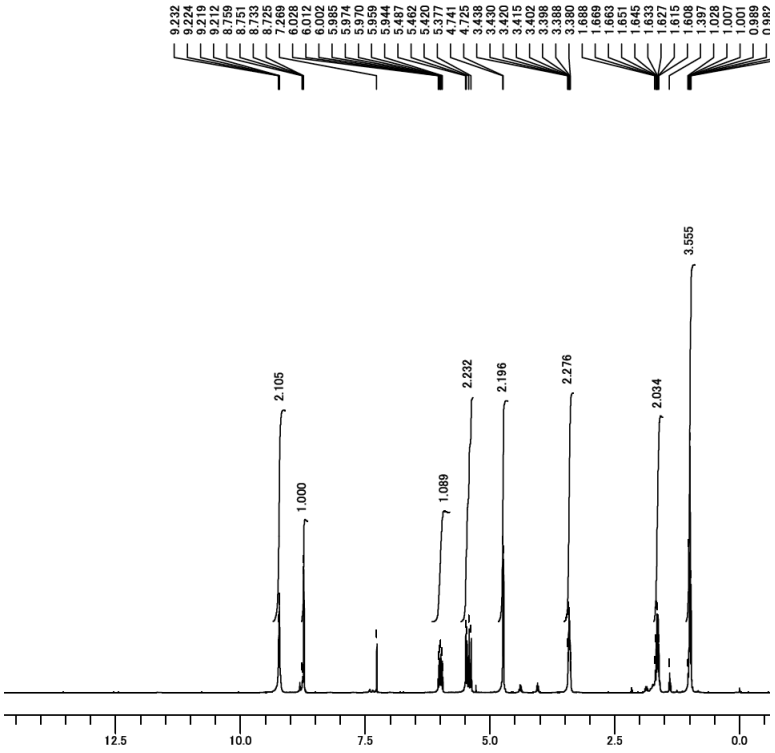
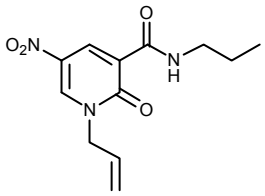


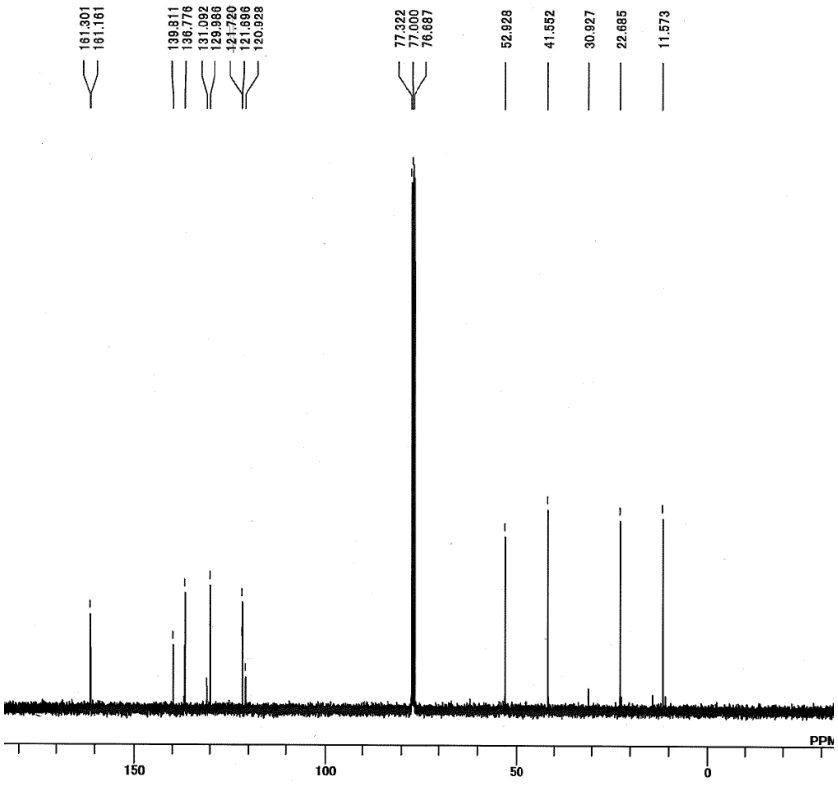
^{1}H NMR Spectrum of **6e** (400 MHz, $CDCl_3$) δ (ppm)



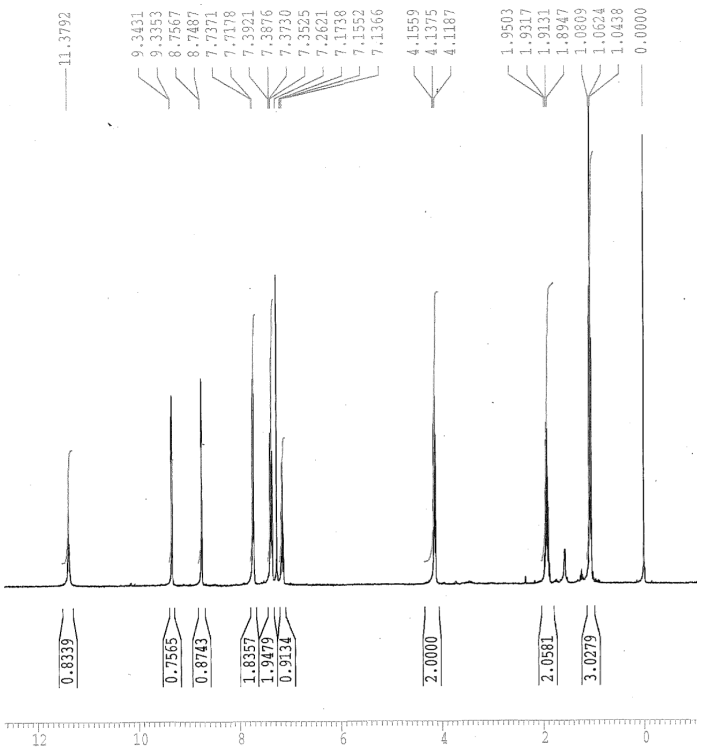


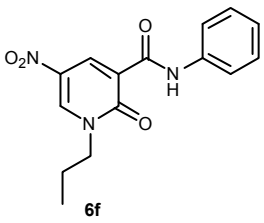
6e

^{13}C NMR Spectrum of **6e** (100 MHz, $CDCl_3$) δ (ppm)



^{1}H NMR Spectrum of **6f** (400 MHz, $CDCl_3$) δ (ppm)





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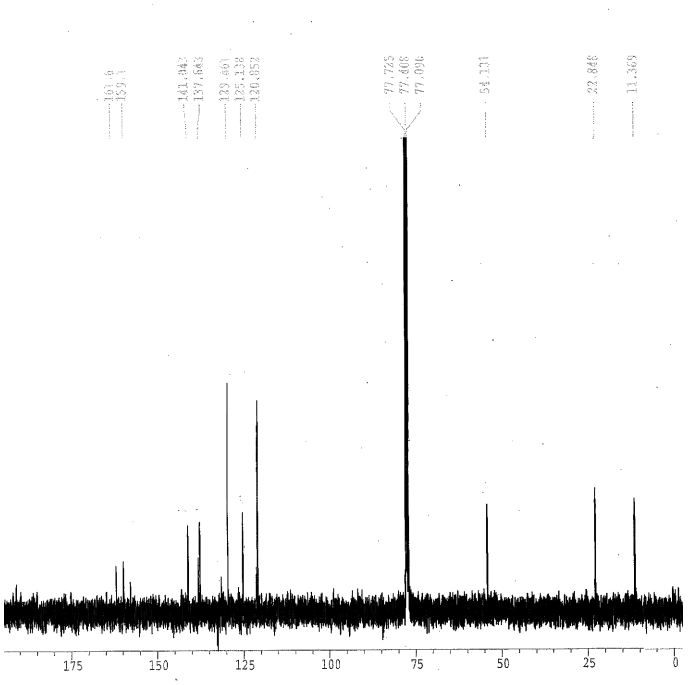

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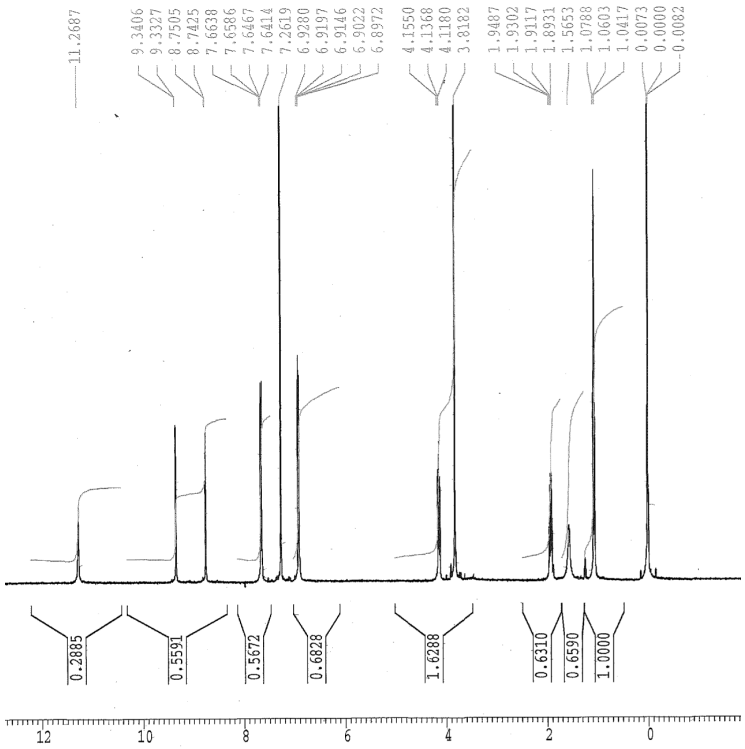
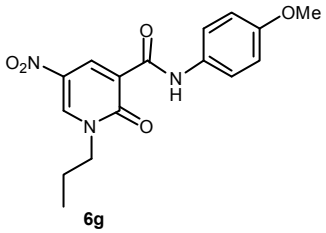
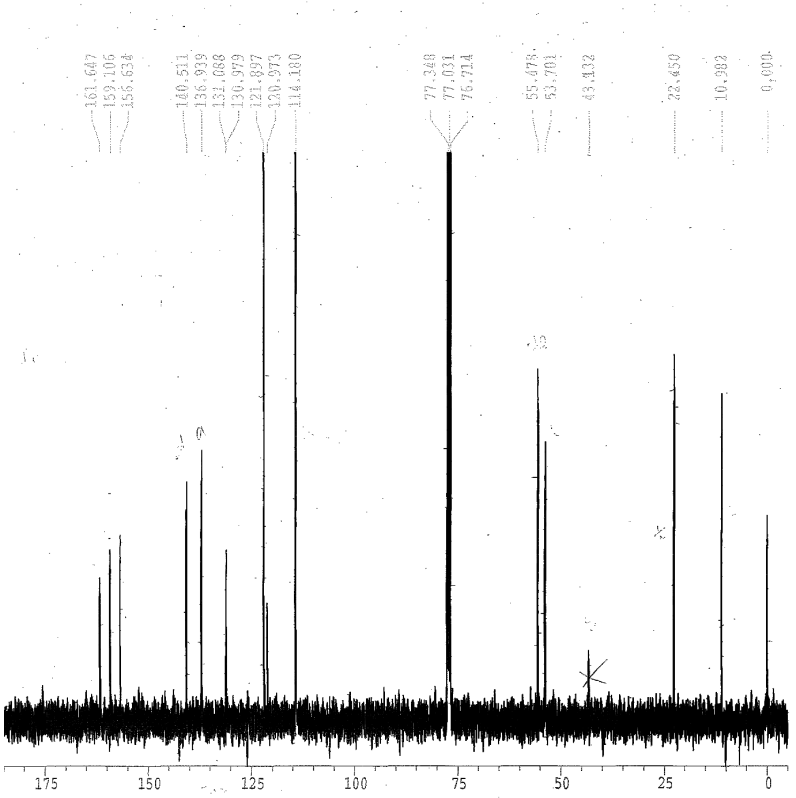


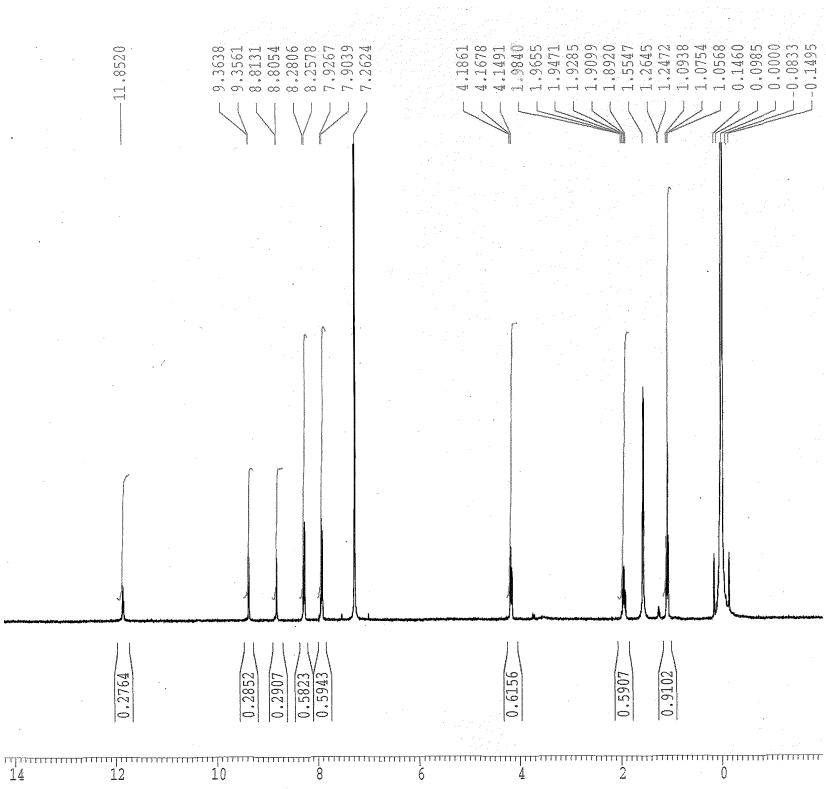


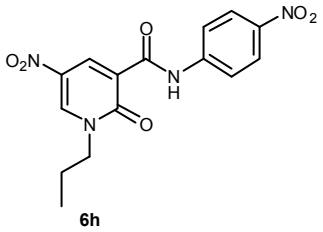
6g

^{13}C NMR Spectrum of **6g** (100 MHz, $CDCl_3$) δ (ppm)



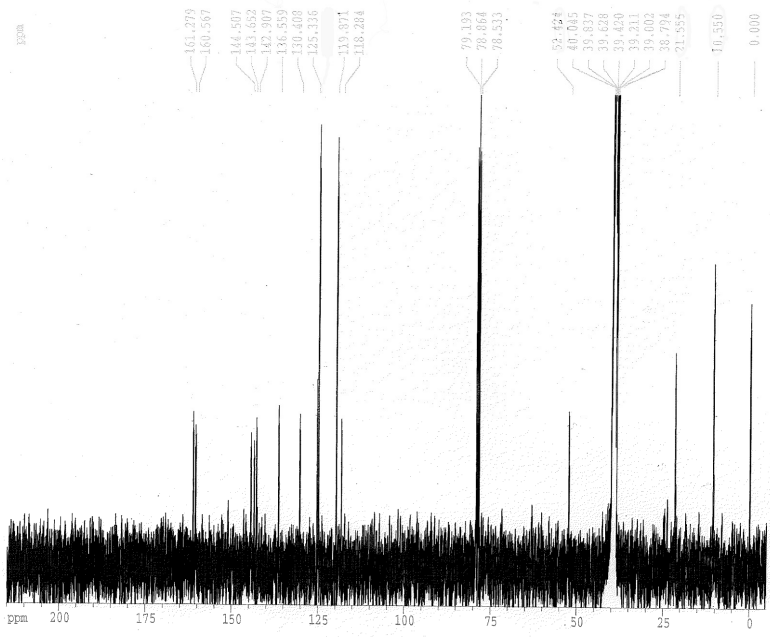
^{1}H NMR Spectrum of **6h** (400 MHz, $CDCl_3$) δ (ppm)



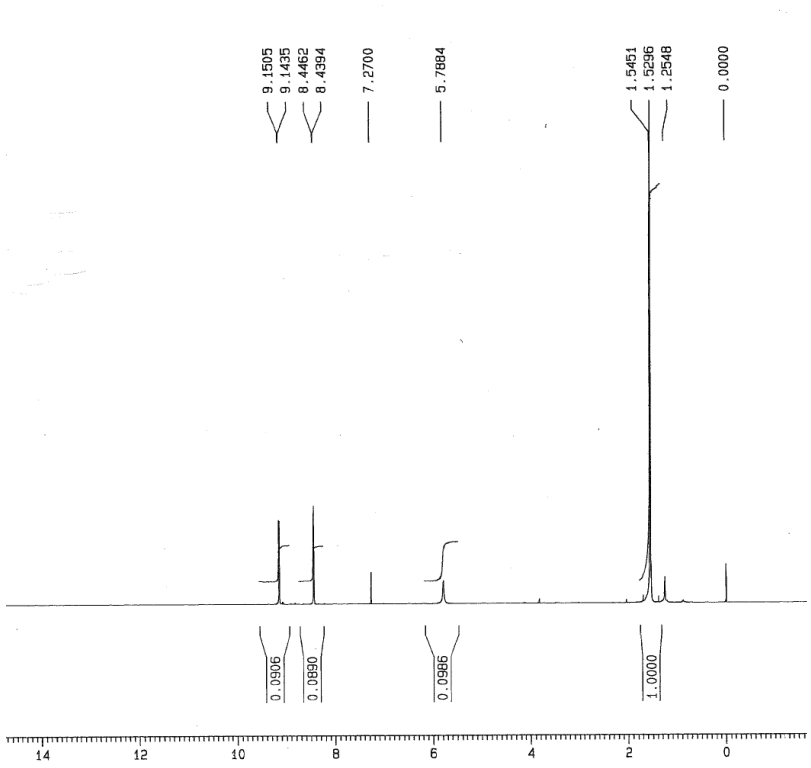


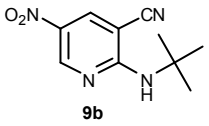
6h

^{13}C NMR Spectrum of **6h** (100 MHz, DMSO-d_6) δ (ppm)



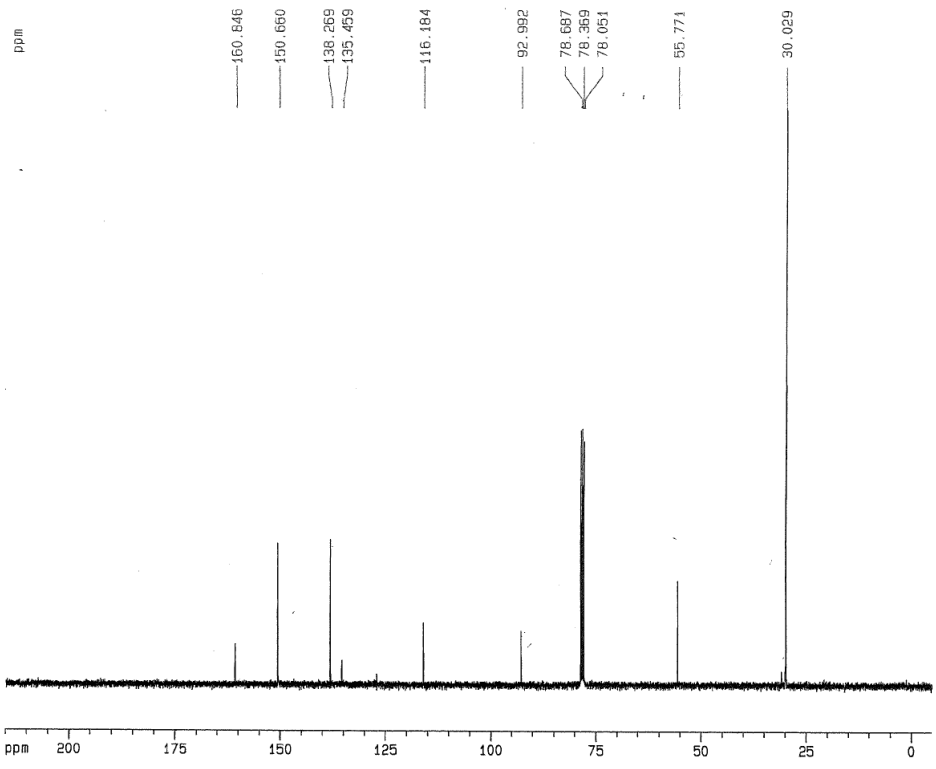
^{1}H NMR Spectrum of **9b** (400 MHz, $CDCl_3$) δ (ppm)



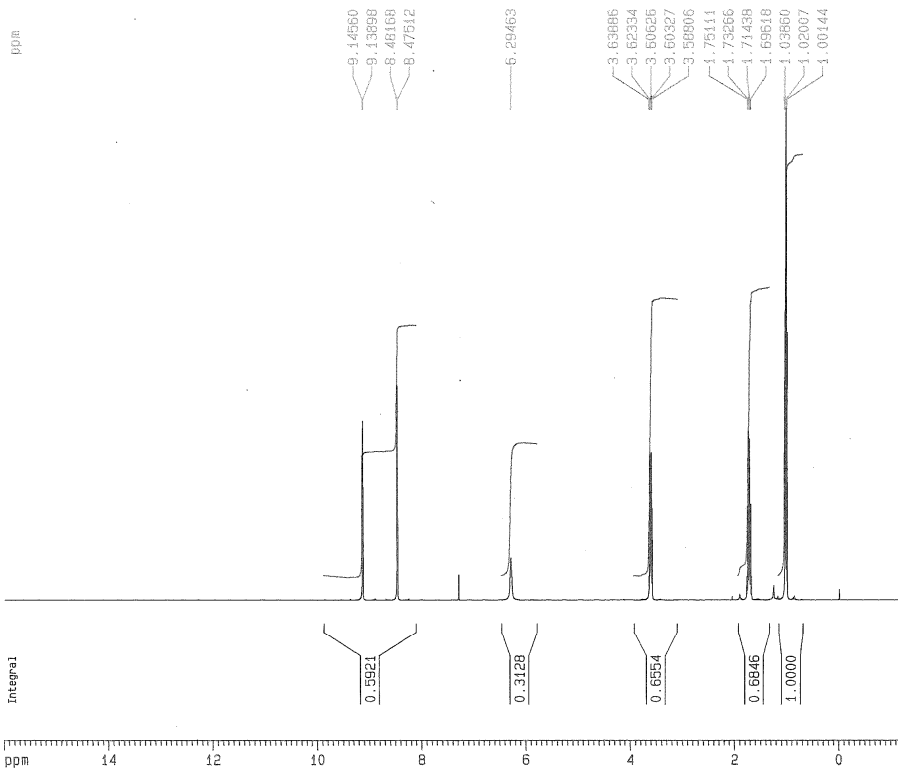


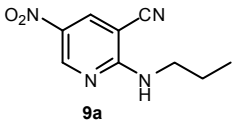
9b

^{13}C NMR Spectrum of **9b** (100 MHz, $CDCl_3$) δ (ppm)



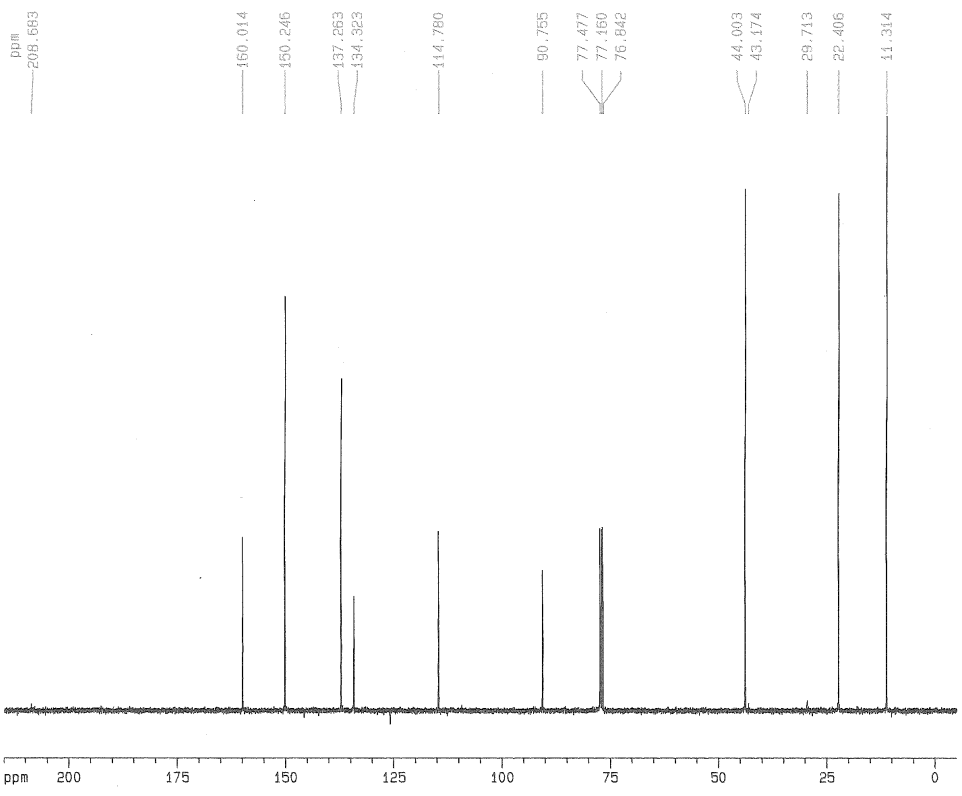
^{1}H NMR Spectrum of **9a** (400 MHz, $CDCl_3$) δ (ppm)



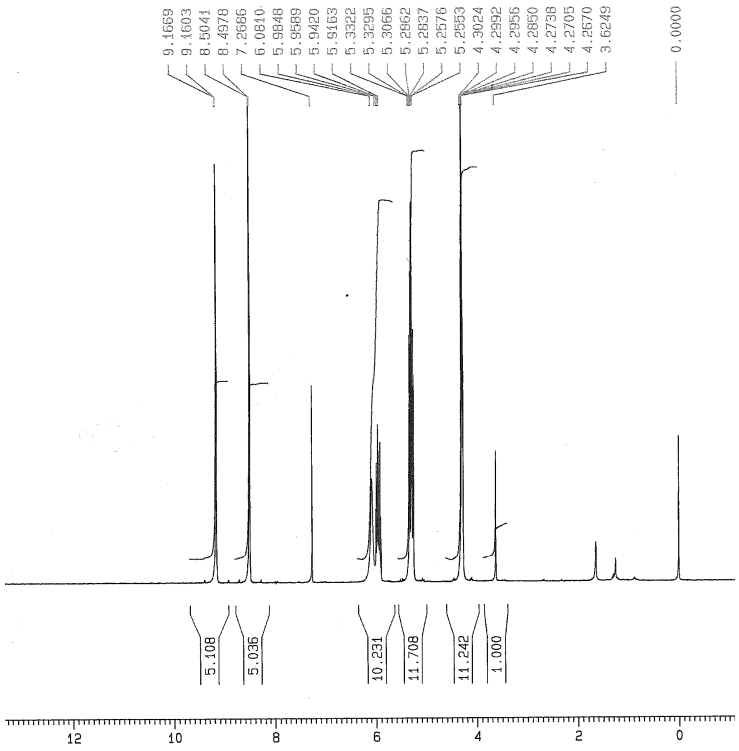


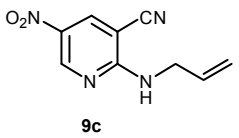
9a

^{13}C NMR Spectrum of **9a** (100 MHz, $CDCl_3$) δ (ppm)



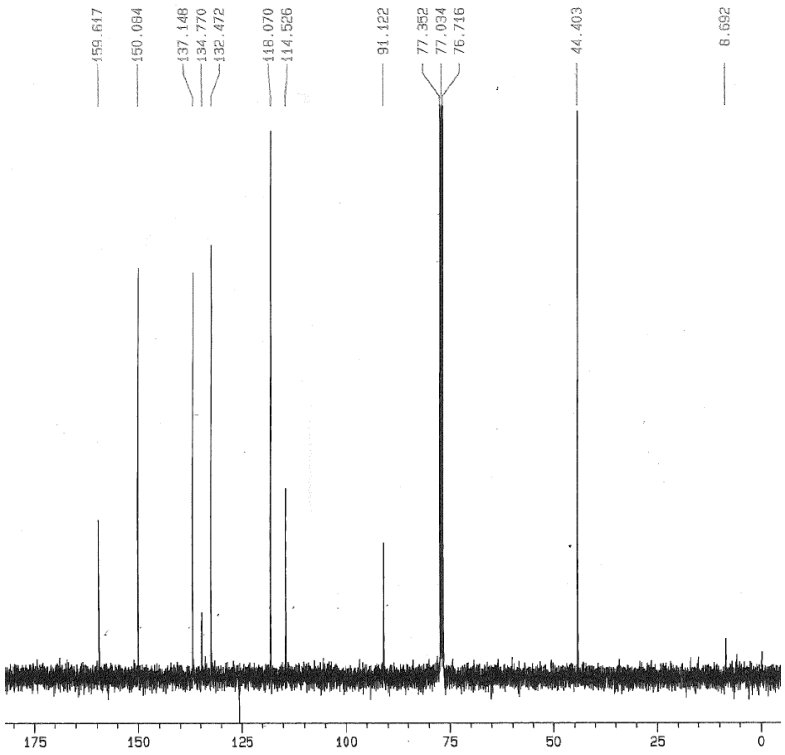
^{1}H NMR Spectrum of **9c** (400 MHz, $CDCl_3$) δ (ppm)



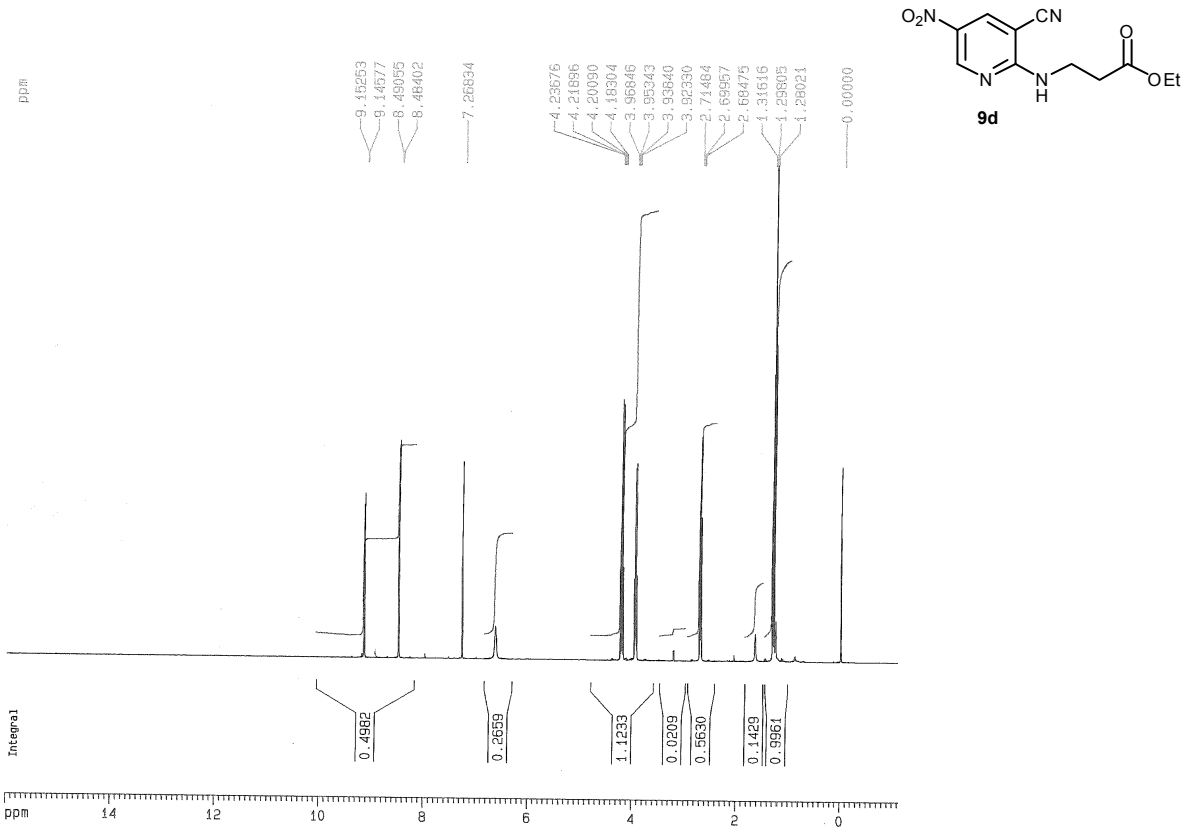


9c

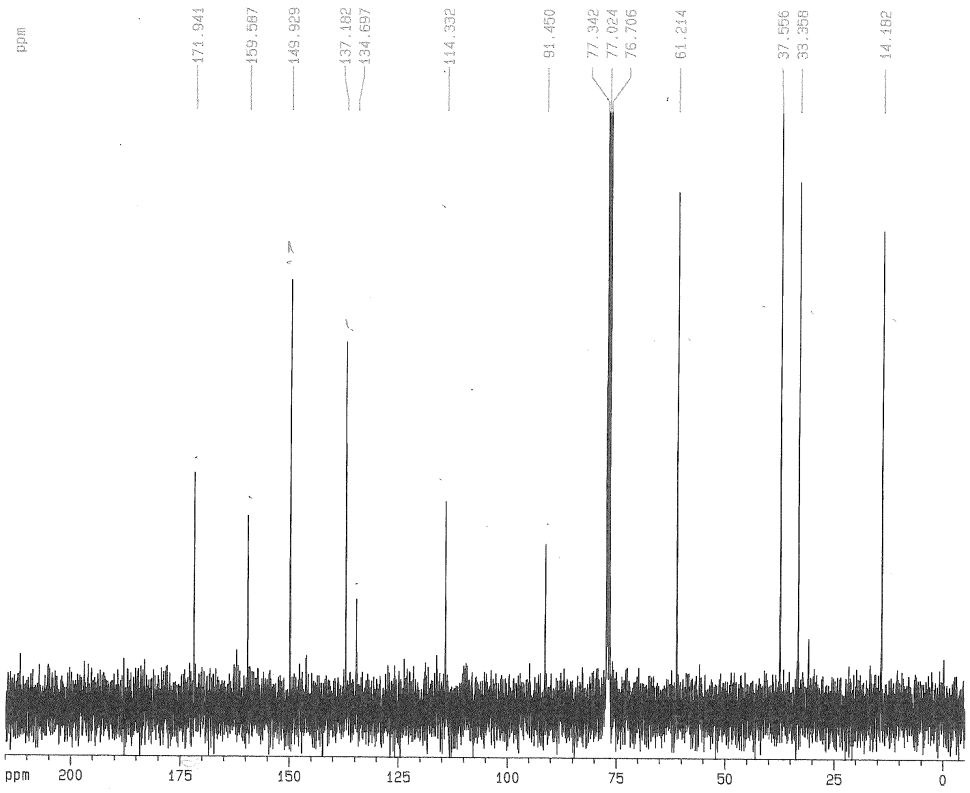
^{13}C NMR Spectrum of **9c** (100 MHz, $CDCl_3$) δ (ppm)



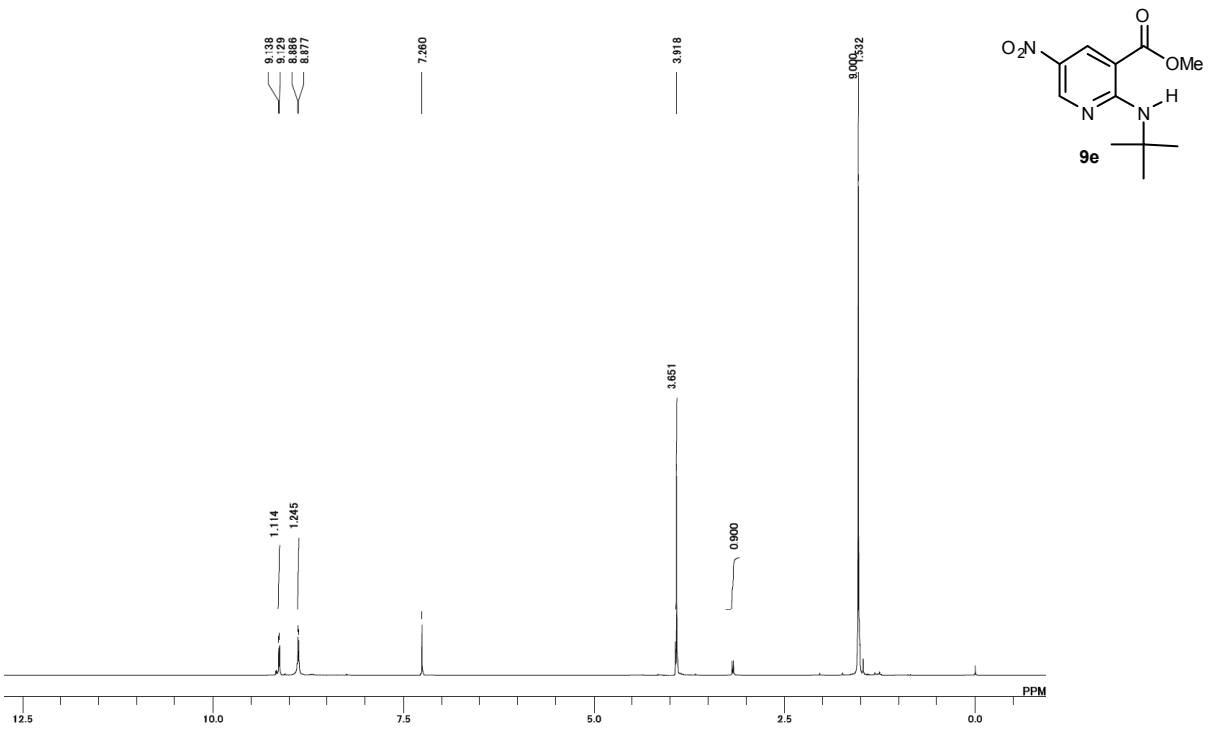
^{1}H NMR Spectrum of **9d** (400 MHz, $CDCl_3$) δ (ppm)



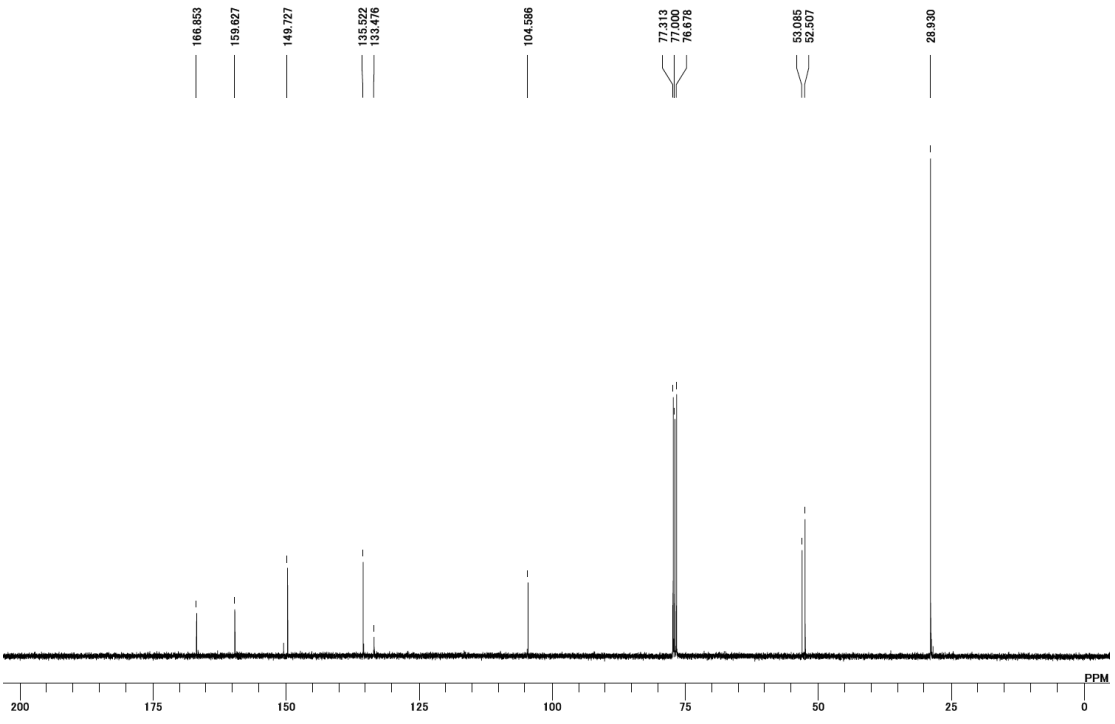
^{13}C NMR Spectrum of **9d** (100 MHz, $CDCl_3$) δ (ppm)



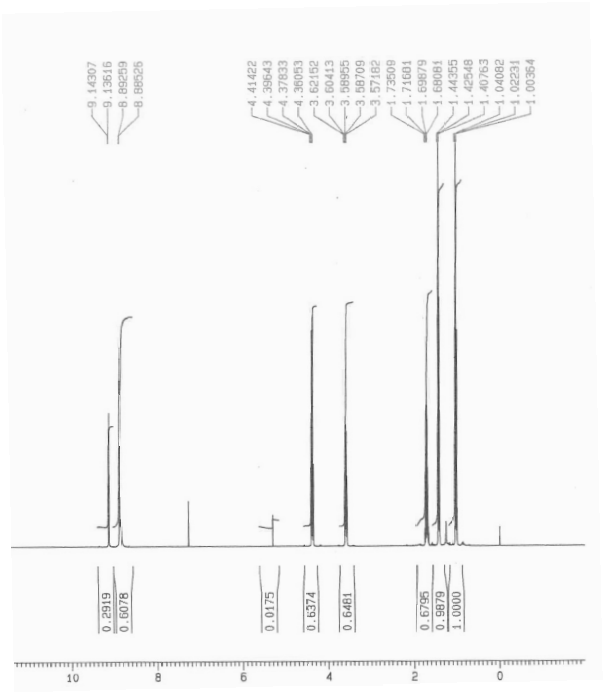
^{1}H NMR Spectrum of **9e** (400 MHz, $CDCl_3$) δ (ppm)

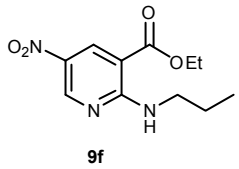


^{13}C NMR Spectrum of **9e** (100 MHz, $CDCl_3$) δ (ppm)



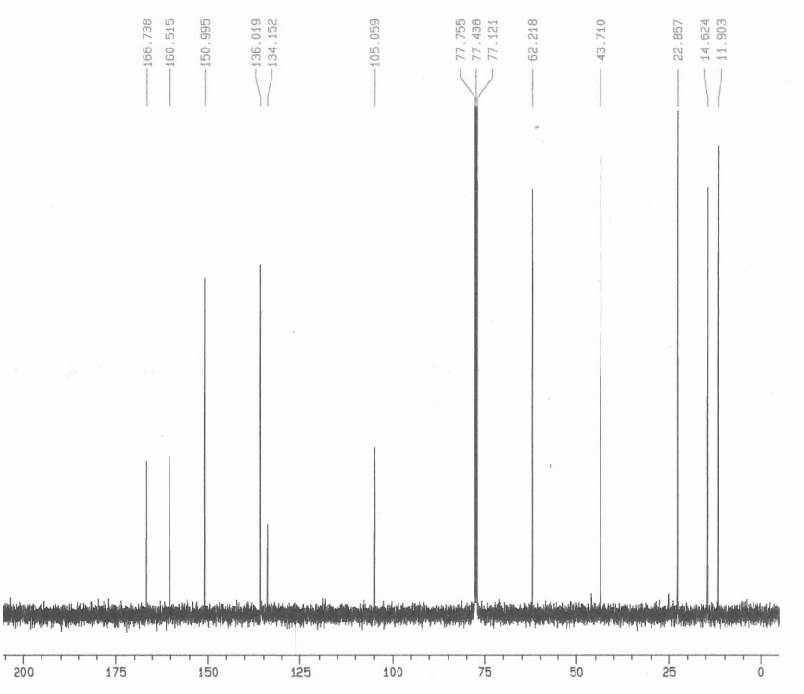
^{1}H NMR Spectrum of **9f** (400 MHz, $CDCl_3$) δ (ppm)



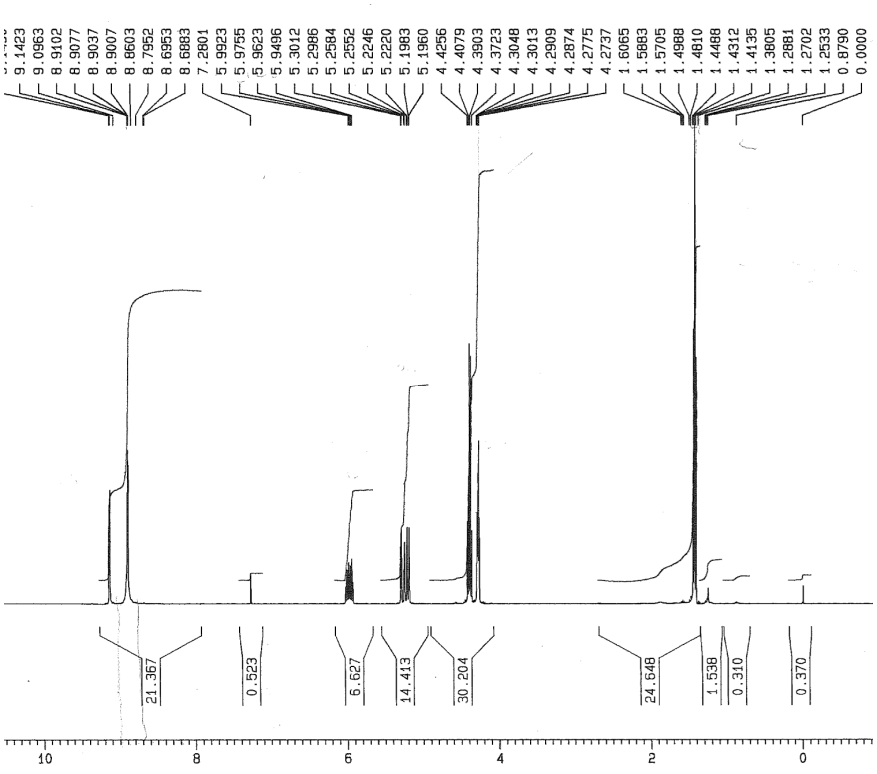


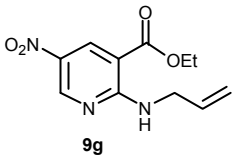
9f

^{13}C NMR Spectrum of **9f** (100 MHz, $CDCl_3$) δ (ppm)

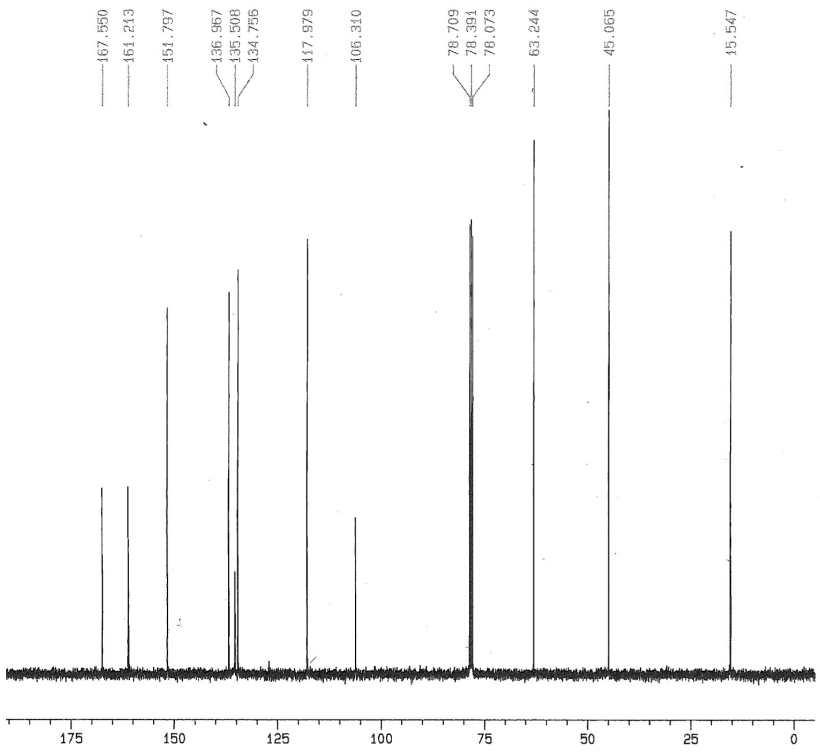


^{1}H NMR Spectrum of **9g** (400 MHz, $CDCl_3$) δ (ppm)

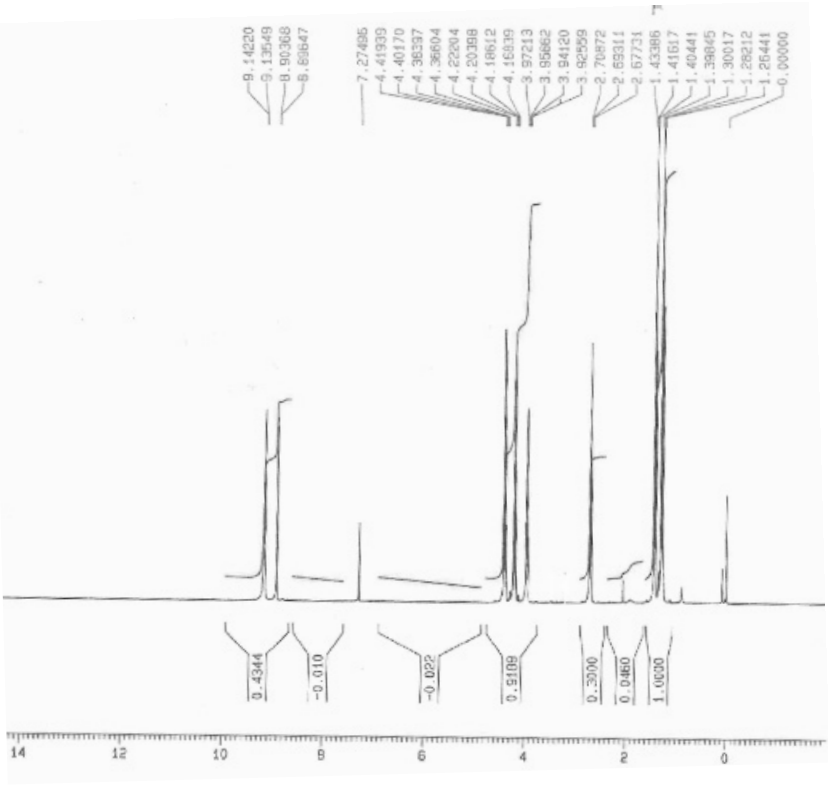


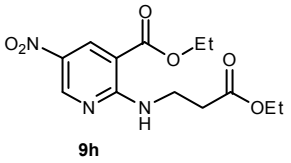


^{13}C NMR Spectrum of **9g** (100 MHz, $CDCl_3$) δ (ppm)



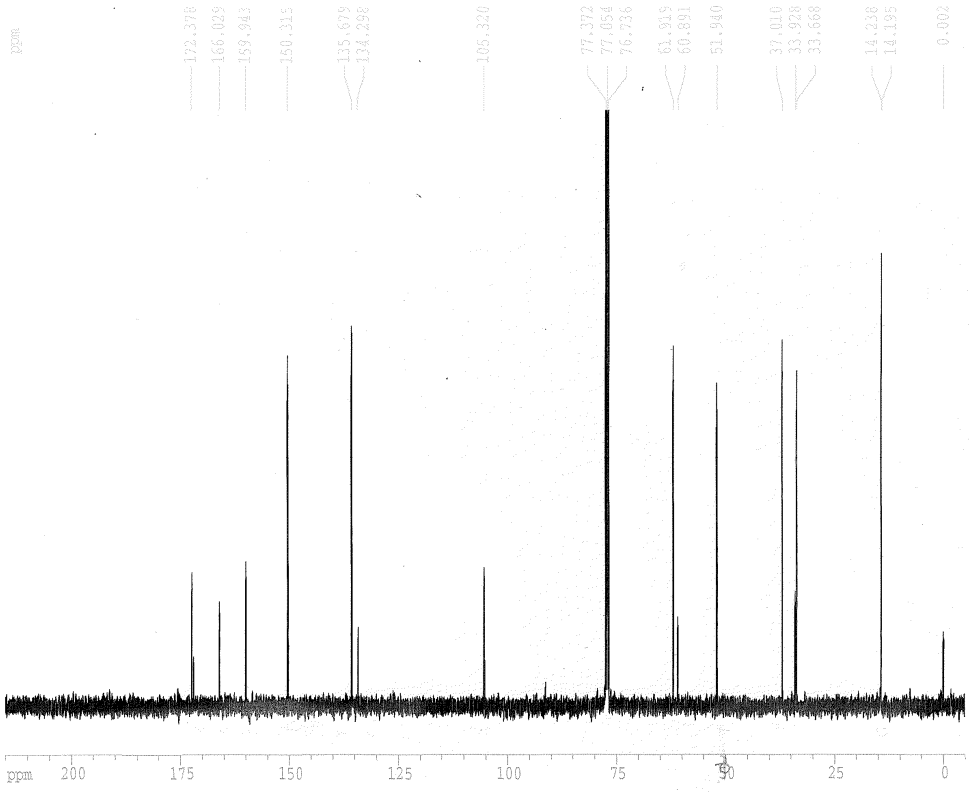
^{1}H NMR Spectrum of **9h** (400 MHz, $CDCl_3$) δ (ppm)



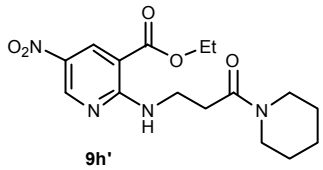


9h

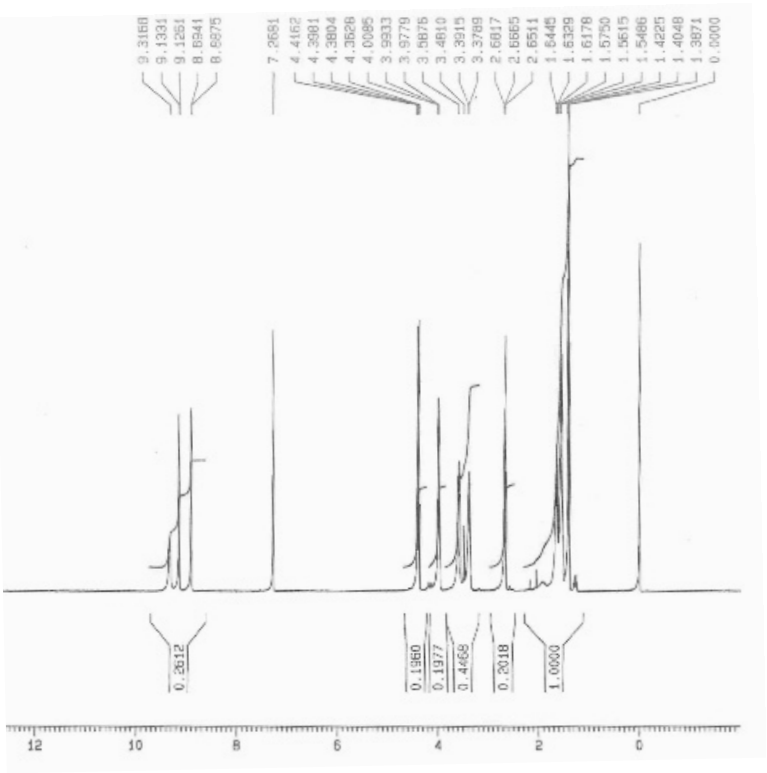
^{13}C NMR Spectrum of **9h** (100 MHz, $CDCl_3$) δ (ppm)



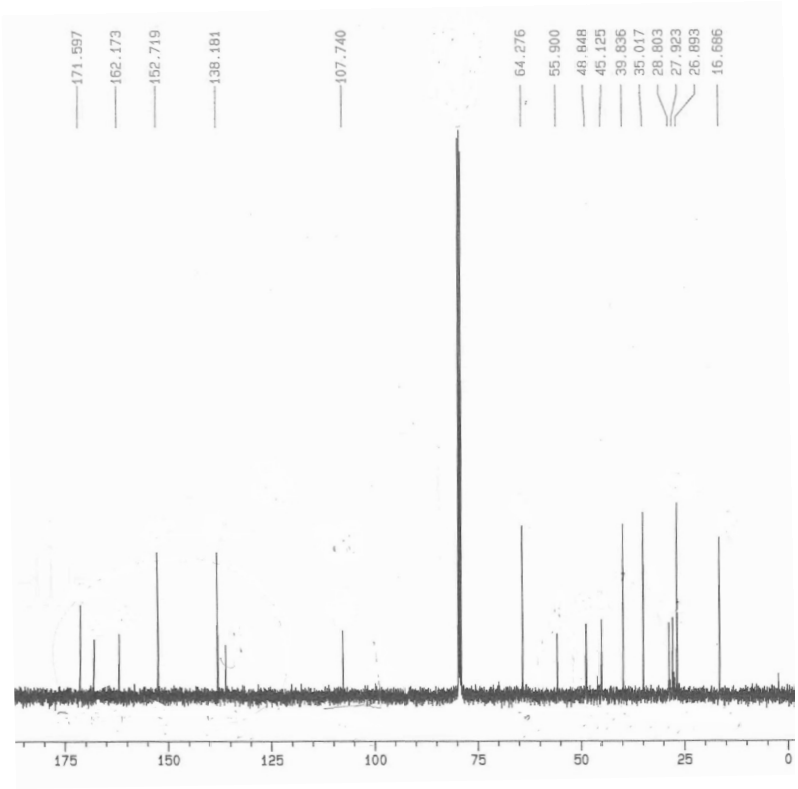
^{1}H NMR Spectrum of **9h'** (400 MHz, $CDCl_3$) δ (ppm)



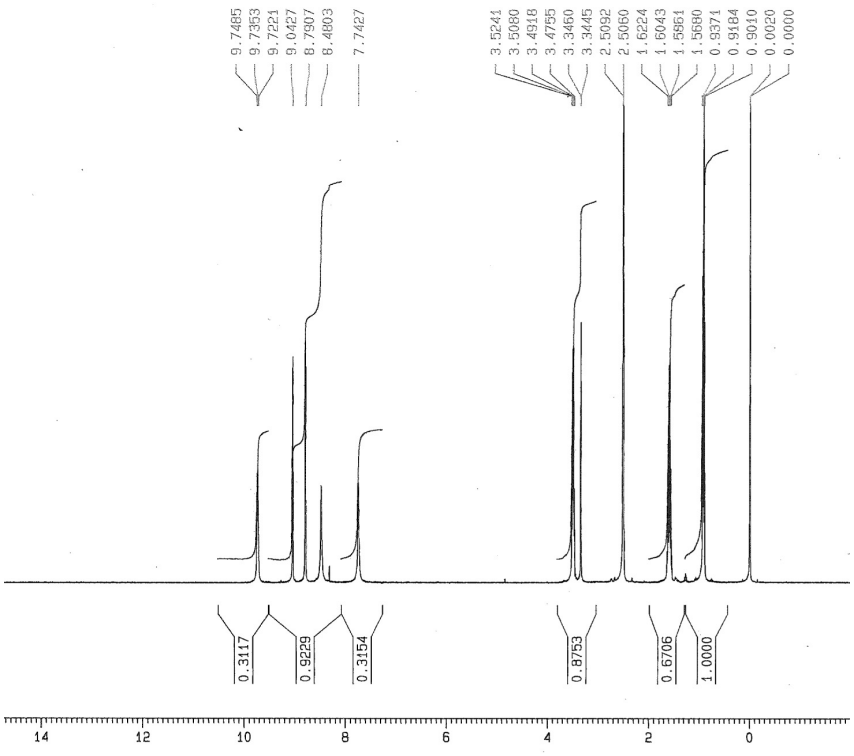
9h'

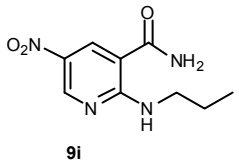


^{13}C NMR Spectrum of **9h'** (100 MHz, $CDCl_3$) δ (ppm)



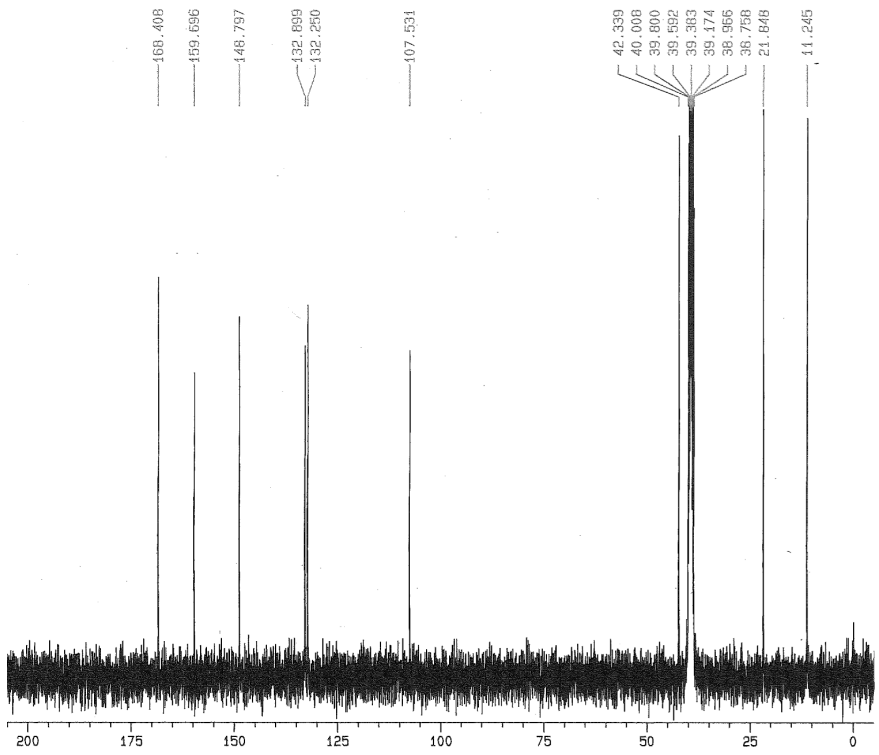
^{1}H NMR Spectrum of **9i** (400 MHz, DMSO-d_6) δ (ppm)



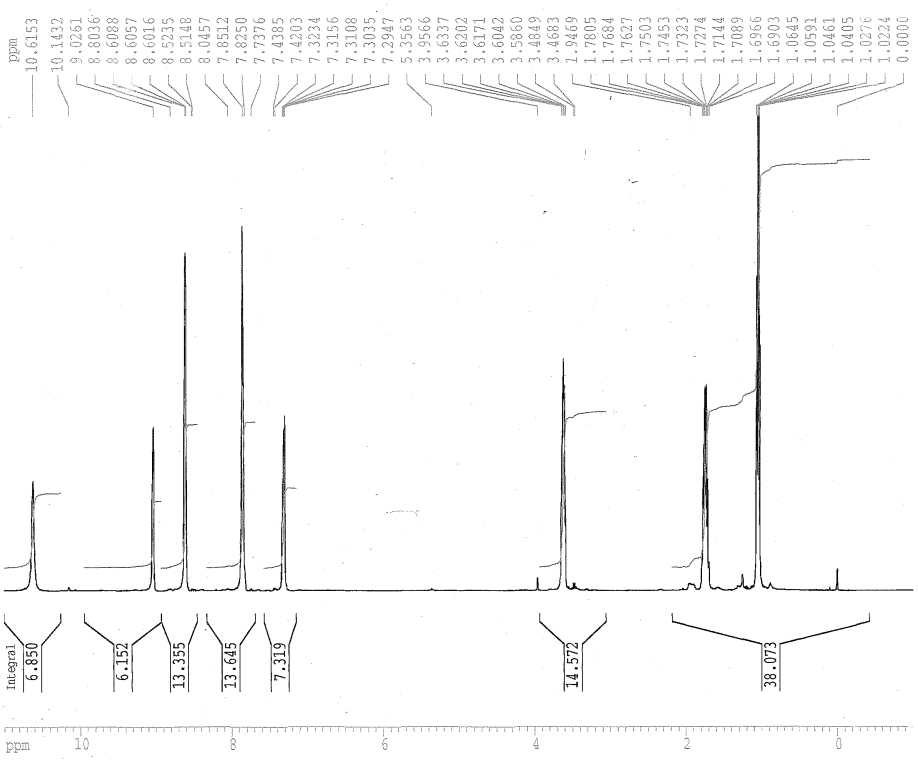


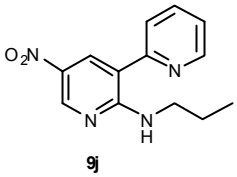
9i

^{13}C NMR Spectrum of **9i** (100 MHz, DMSO-d_6) δ (ppm)



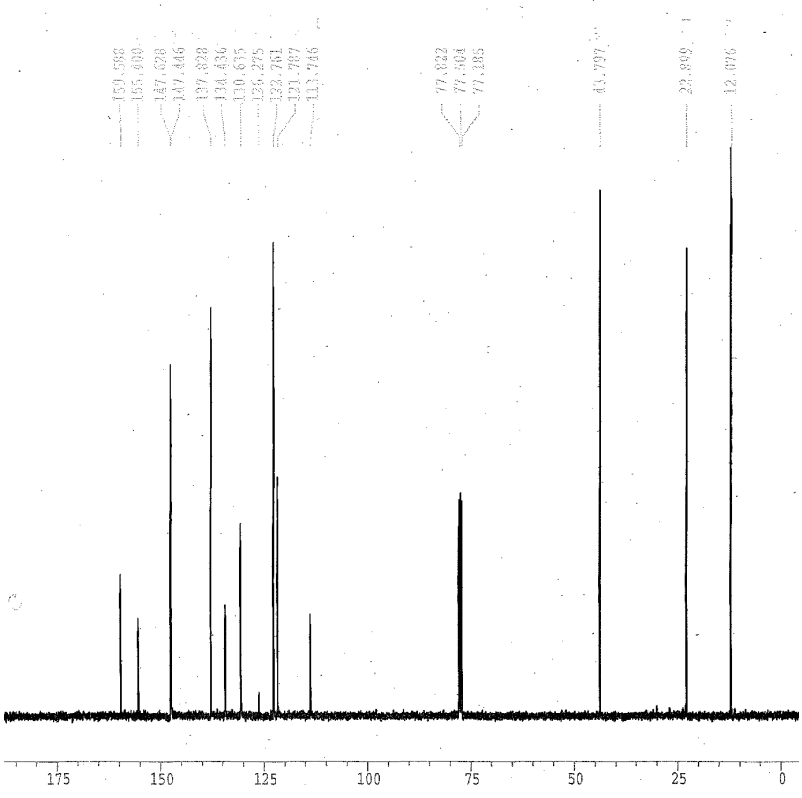
^{1}H NMR Spectrum of **9j** (400 MHz, $CDCl_3$) δ (ppm)



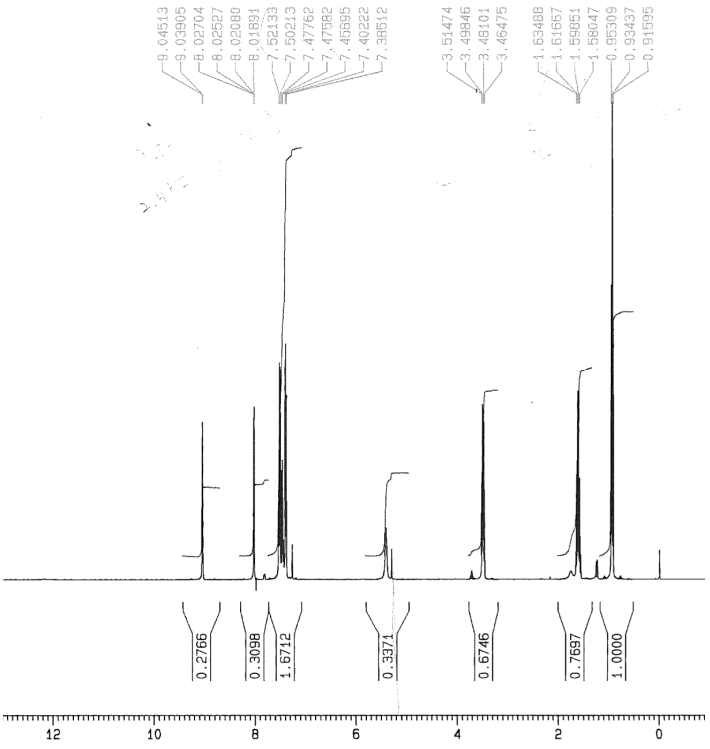


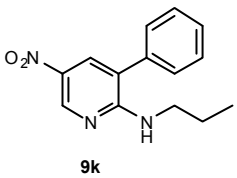
9j

^{13}C NMR Spectrum of **9j** (100 MHz, $CDCl_3$) δ (ppm)



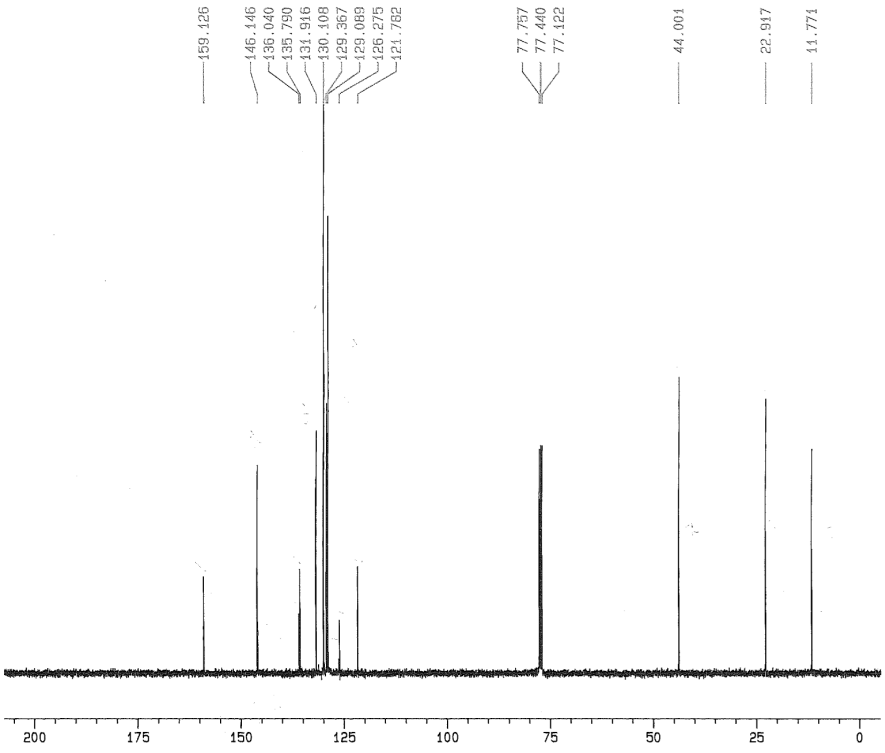
^{1}H NMR Spectrum of **9k** (400 MHz, $CDCl_3$) δ (ppm)



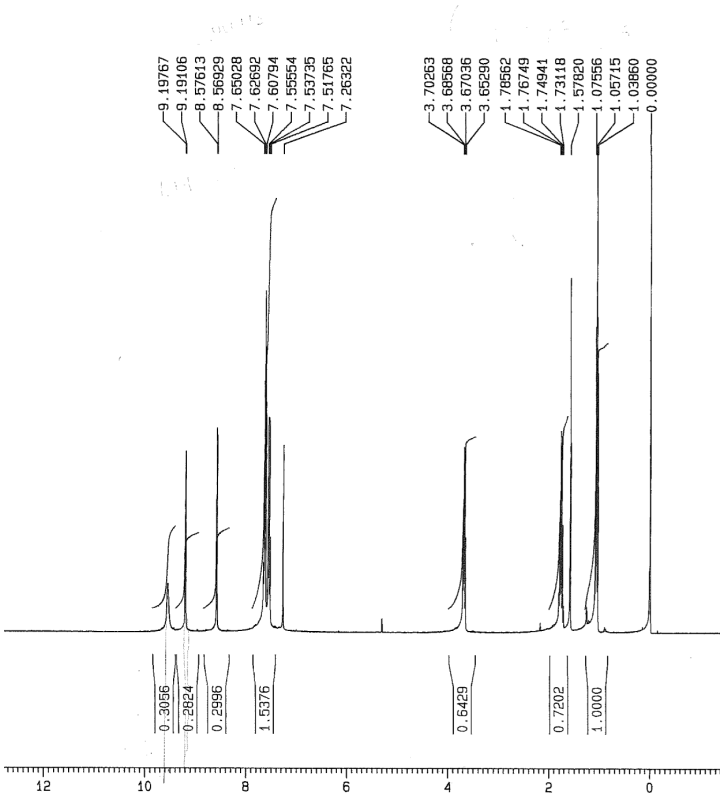


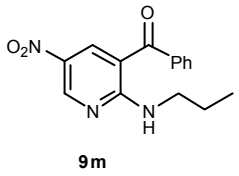
9k

^{13}C NMR Spectrum of **9k** (100 MHz, $CDCl_3$) δ (ppm)



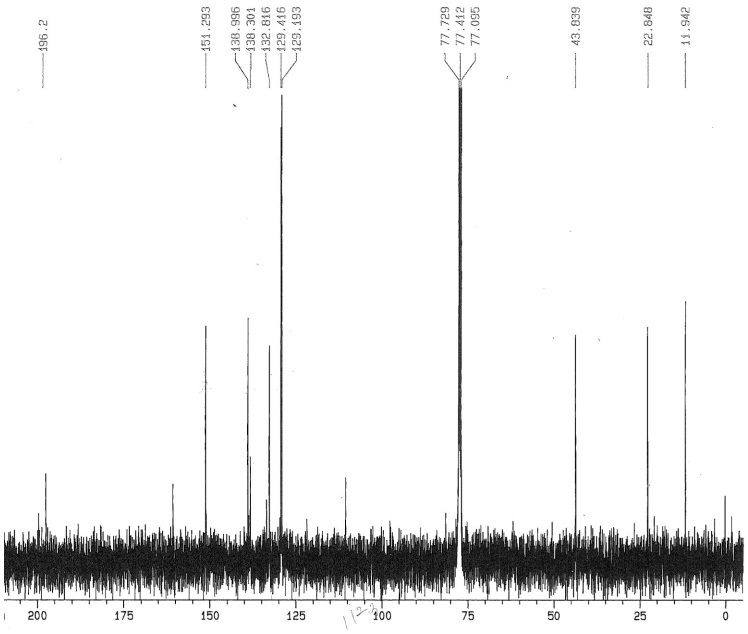
^{1}H NMR Spectrum of **9m** (400 MHz, $CDCl_3$) δ (ppm)





9m

^{13}C NMR Spectrum of **9m** (100 MHz, $CDCl_3$) δ (ppm)



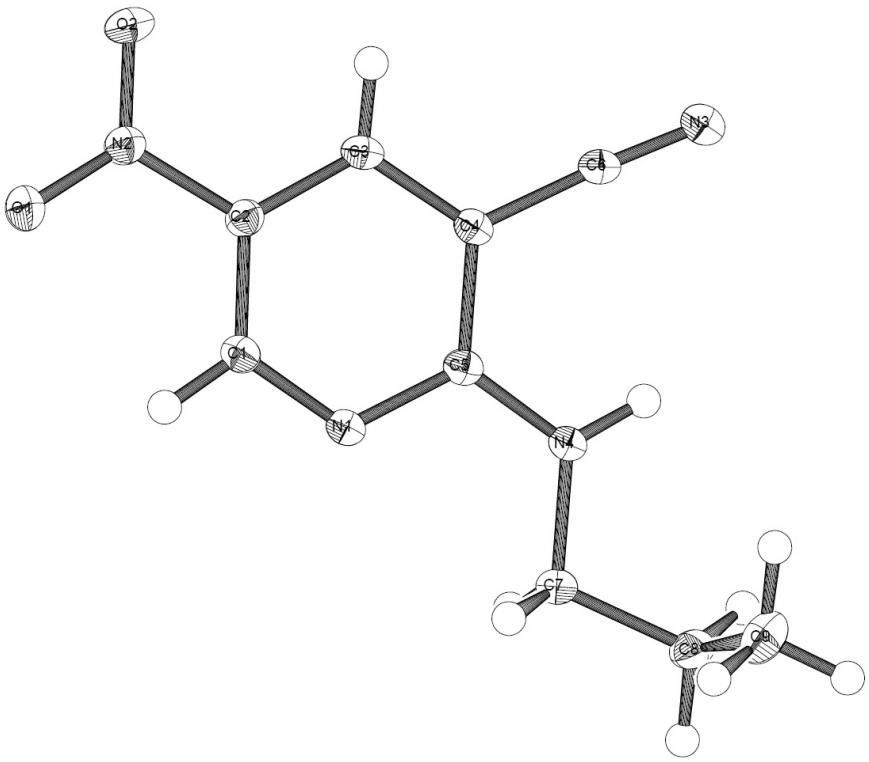


Figure S1. An ORTEP drawing of **9a** (50% probability for thermal ellipsoids).