

SUPPORTING INFORMATION

Enantioselective synthesis of the antiepileptic agent, (-)- Levetiracetam through Evans asymmetric strategy

K. Chandra Babu^{a,b}, R. Buchi Reddy^c, K. Mukkanti^b, G. Madhusudhan^{a,*}, K. Suresh^a
Satish Nigam^a

^aInogent Laboratories Private Limited, A GVK BIO Company, Hyderabad 500 076, India

^bCentre for Pharmaceutical Sciences, J.N.T. University, Hyderabad 500 072, India

^cOrchid Chemicals and Pharmaceuticals Ltd, 476/14, R&D Centre, Chennai -600 119, India

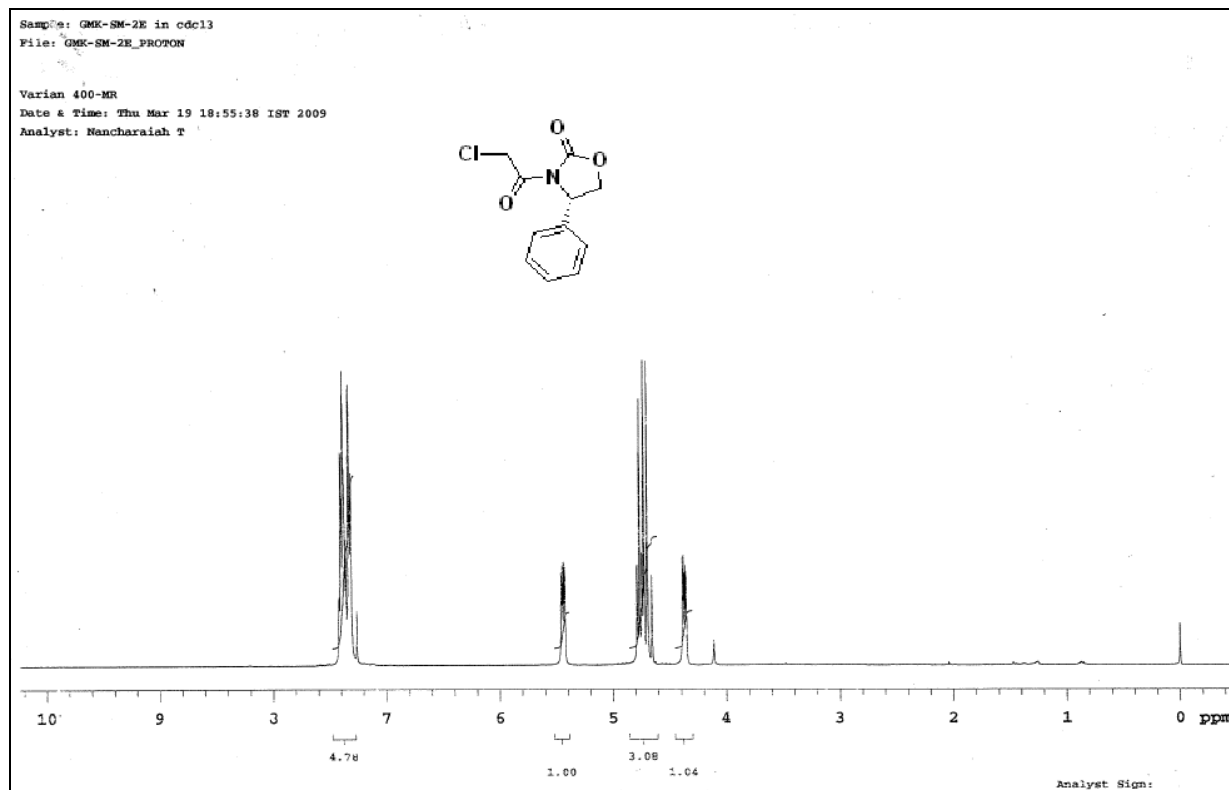
Supplementary Material

Materials and methods

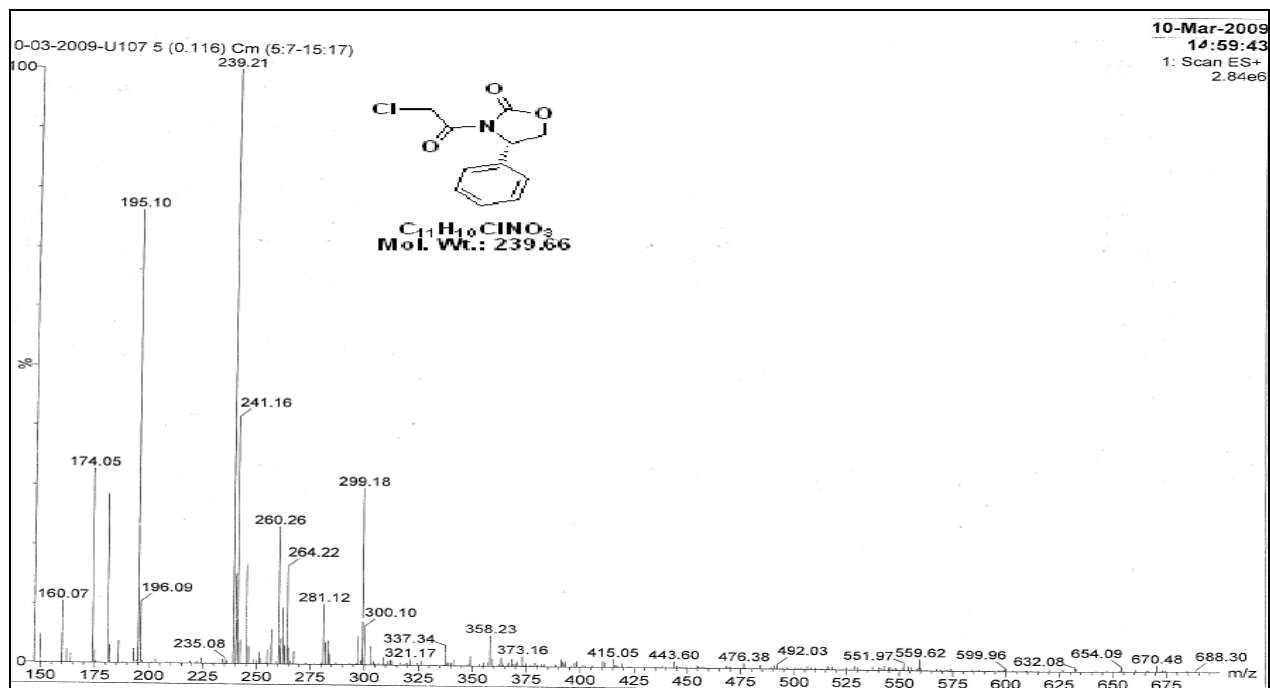
Melting points were determined on Buchi 540 melting point apparatus and are uncorrected. FT-IR spectra were recorded as KBr pellet on Nicolet 380 FT-IR Instrument (Model Thermo Electron Corporation-Spectrum One), ¹H and ¹³C NMR (proton decoupled) spectra were recorded on Varian 400MHz spectrometer using DMSO-*d*₆, CDCl₃ as solvent and tetramethylsilane (TMS) as internal standard. Mass spectra were recorded on Agilent triple quadrupole mass spectrometer equipped with turboion spray interface at 375 °C. All the organic extracts were dried over sodium sulfate after work-up. The dry reactions were carried out under nitrogen atmosphere with magnetic/mechanical stirring. Unless otherwise mentioned all the solvents and reagents used were of LR grade. TLC was performed on precoated silica-gel plates, which were visualized using UV light and sulphuric acid/ethanol (5:95) charring. Flash column-chromatography was carried out on silica gel (230-400 mesh) unless otherwise stated

¹H NMR, ¹³C NMR, MS, IR Spectra and HPLC

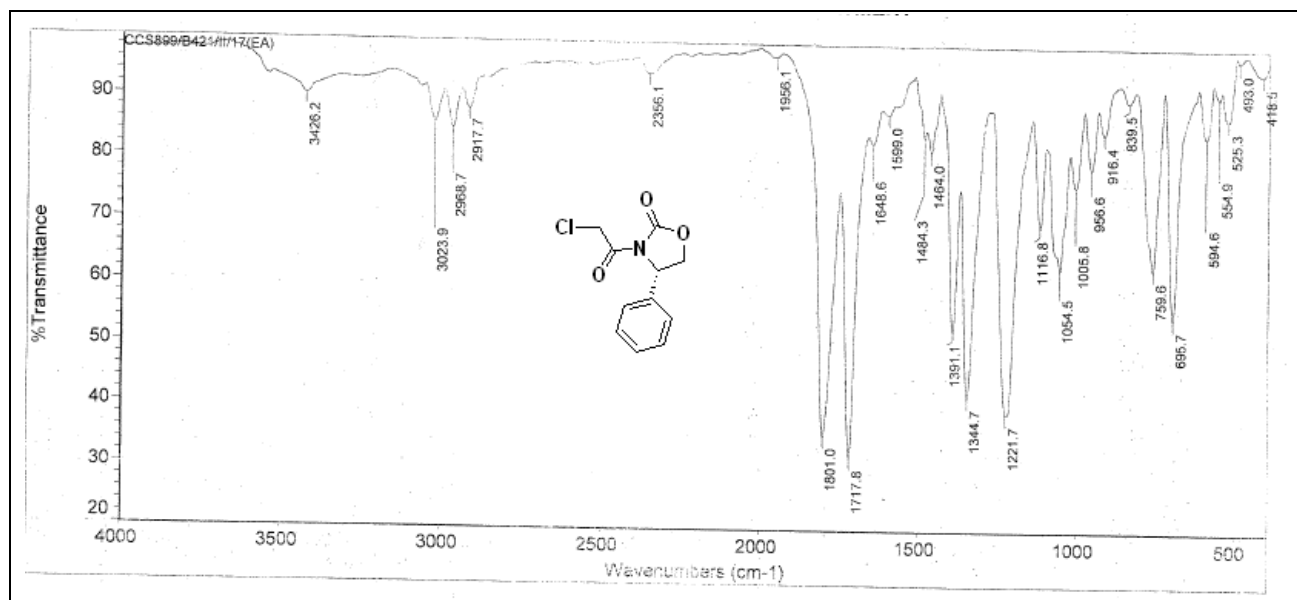
^1H NMR in (CDCl_3): compound **3**



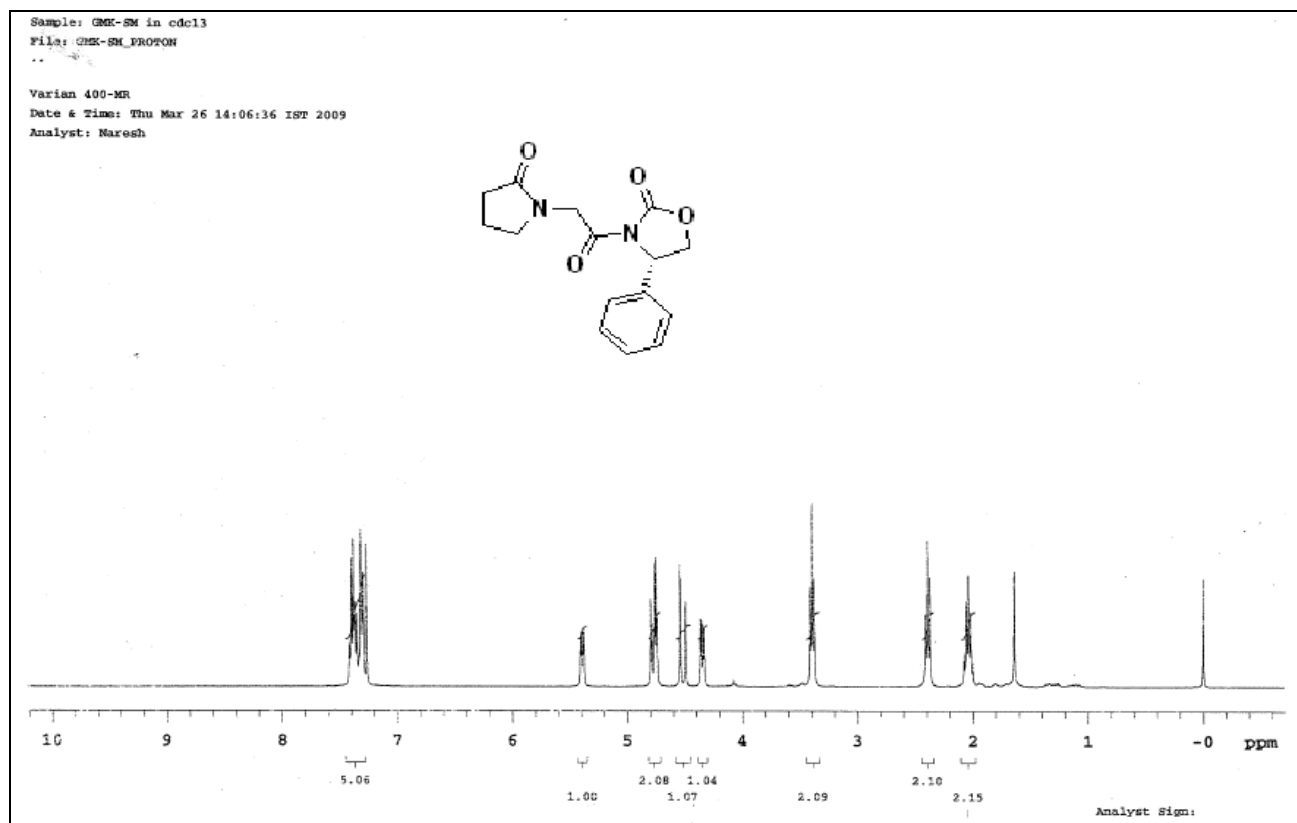
MS (ESI): compound **3**



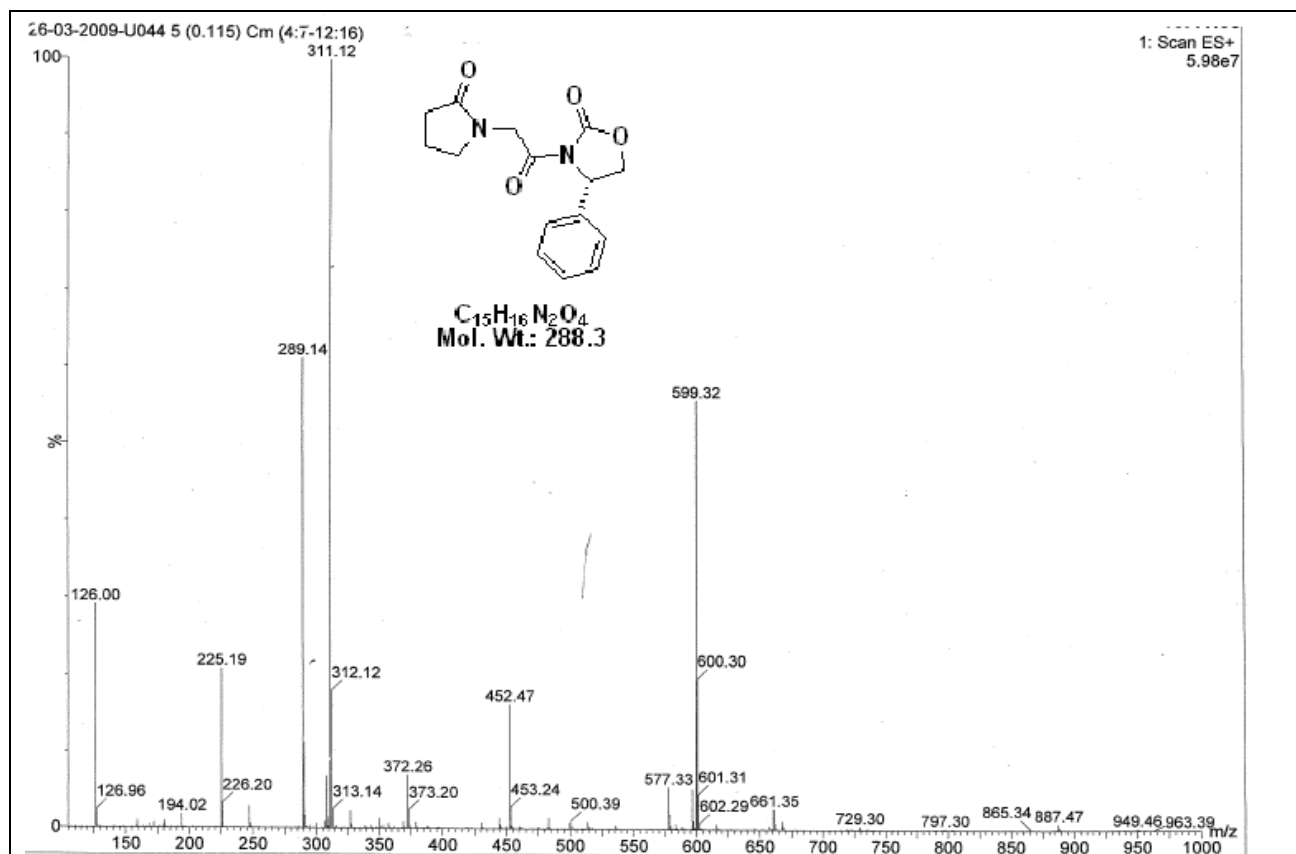
IR (CHCl₃): compound 3



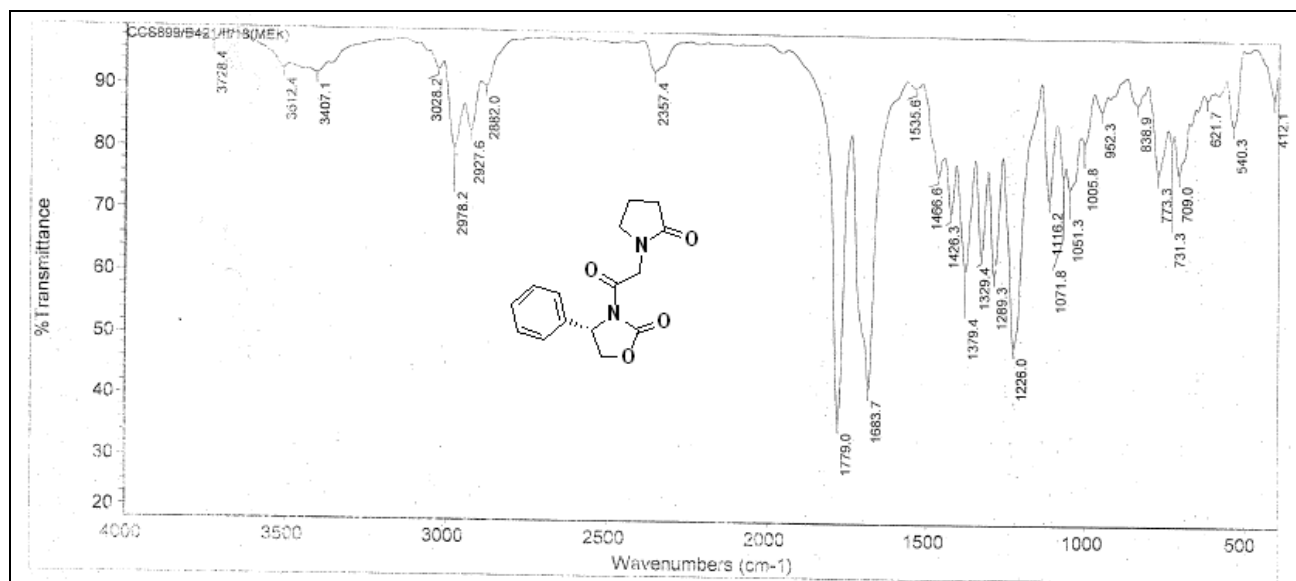
¹H NMR in (CDCl₃): compound 4



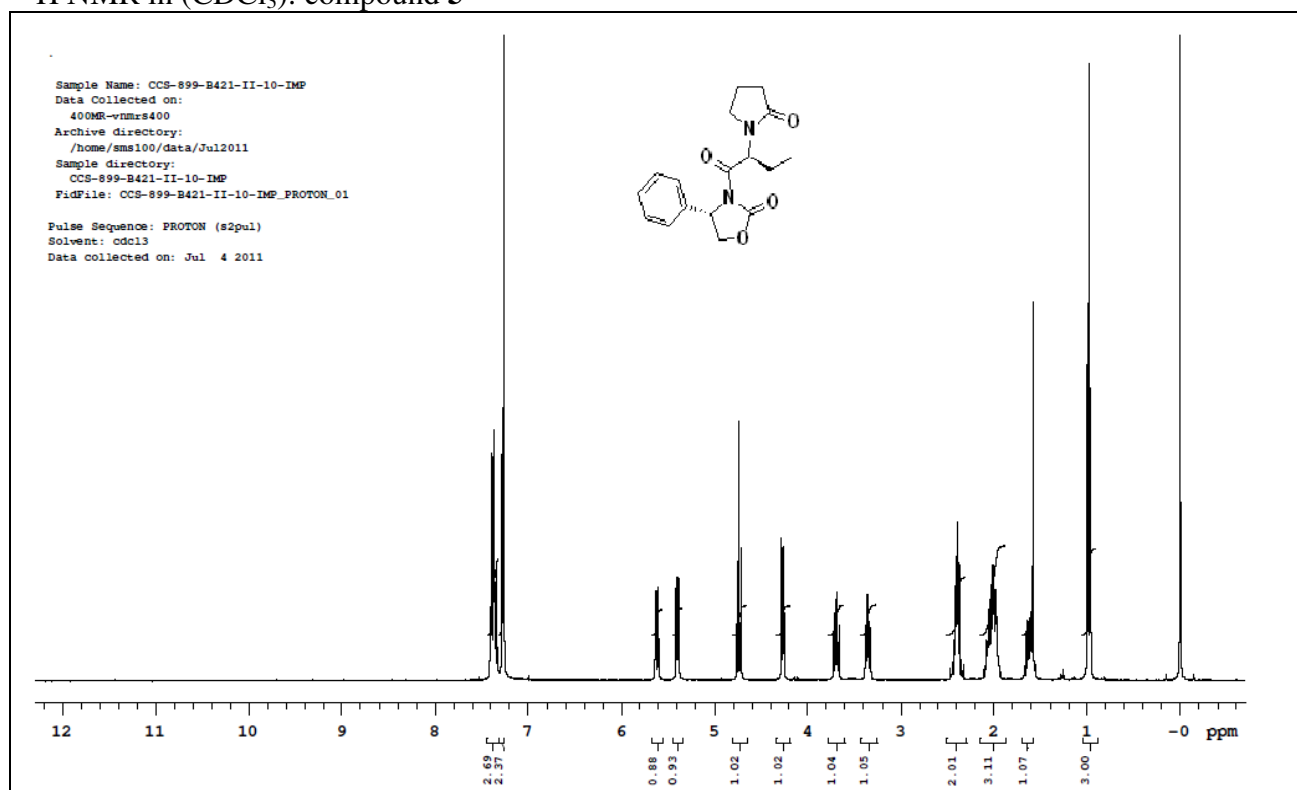
MS (ESI): compound 4



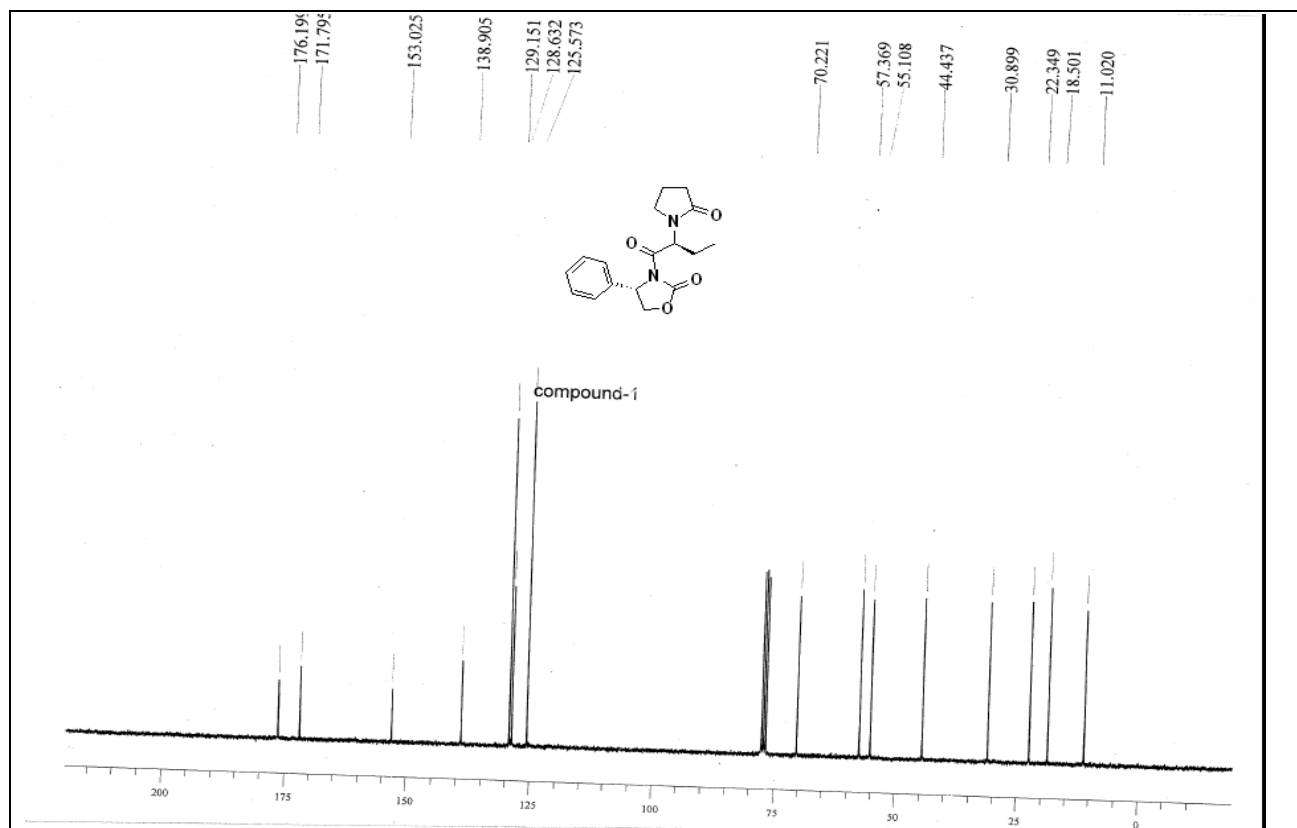
IR in (CHCl₃): compound 4



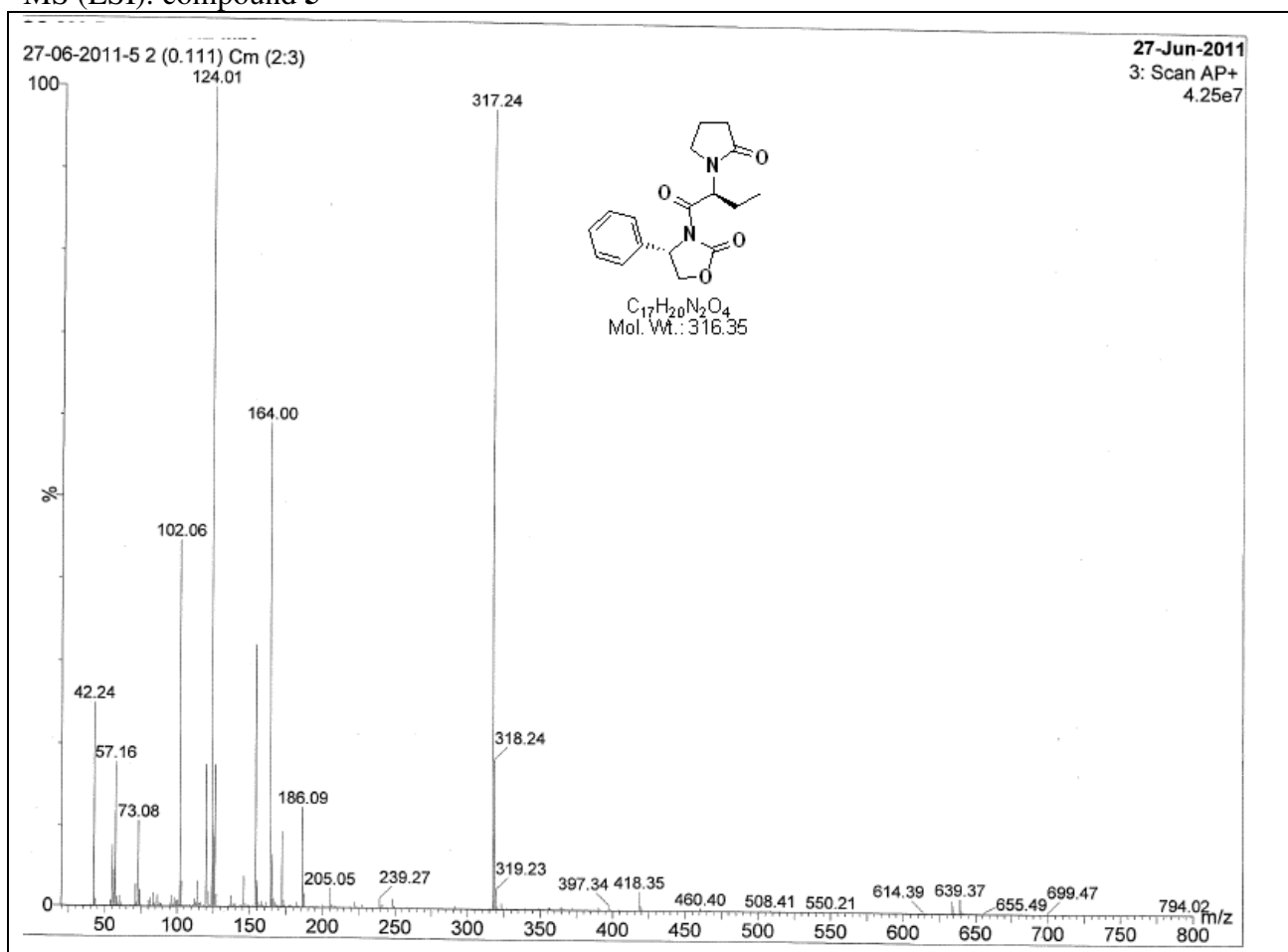
^1H NMR in (CDCl_3): compound **5**



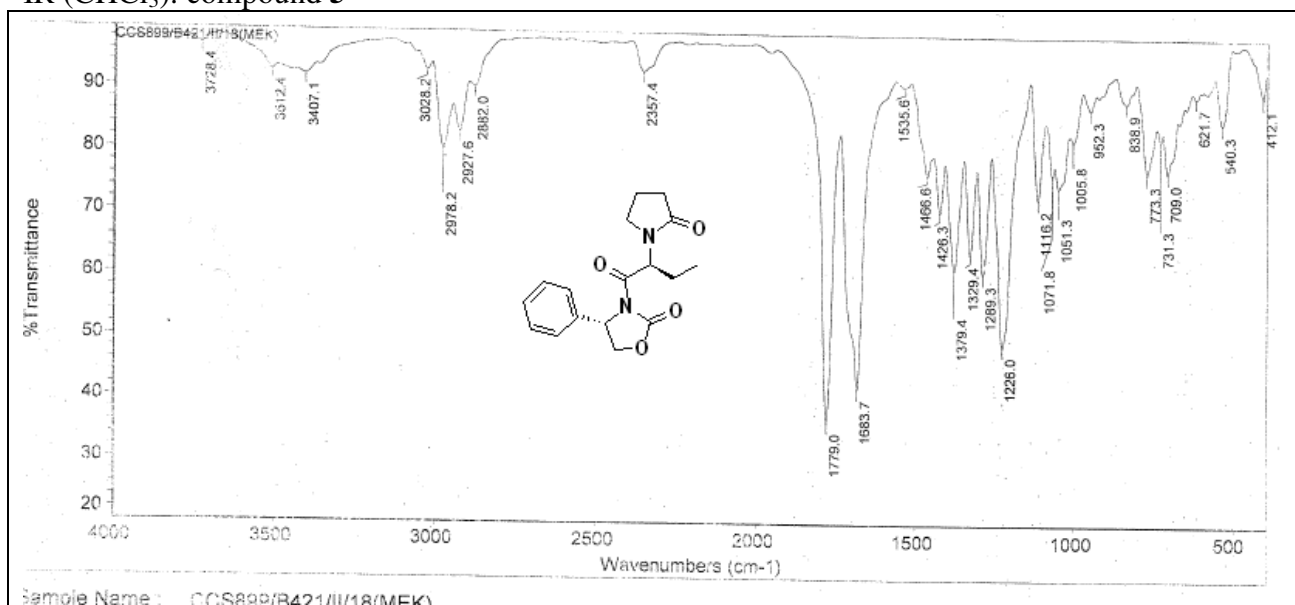
^{13}C NMR in (CDCl_3): compound **5**



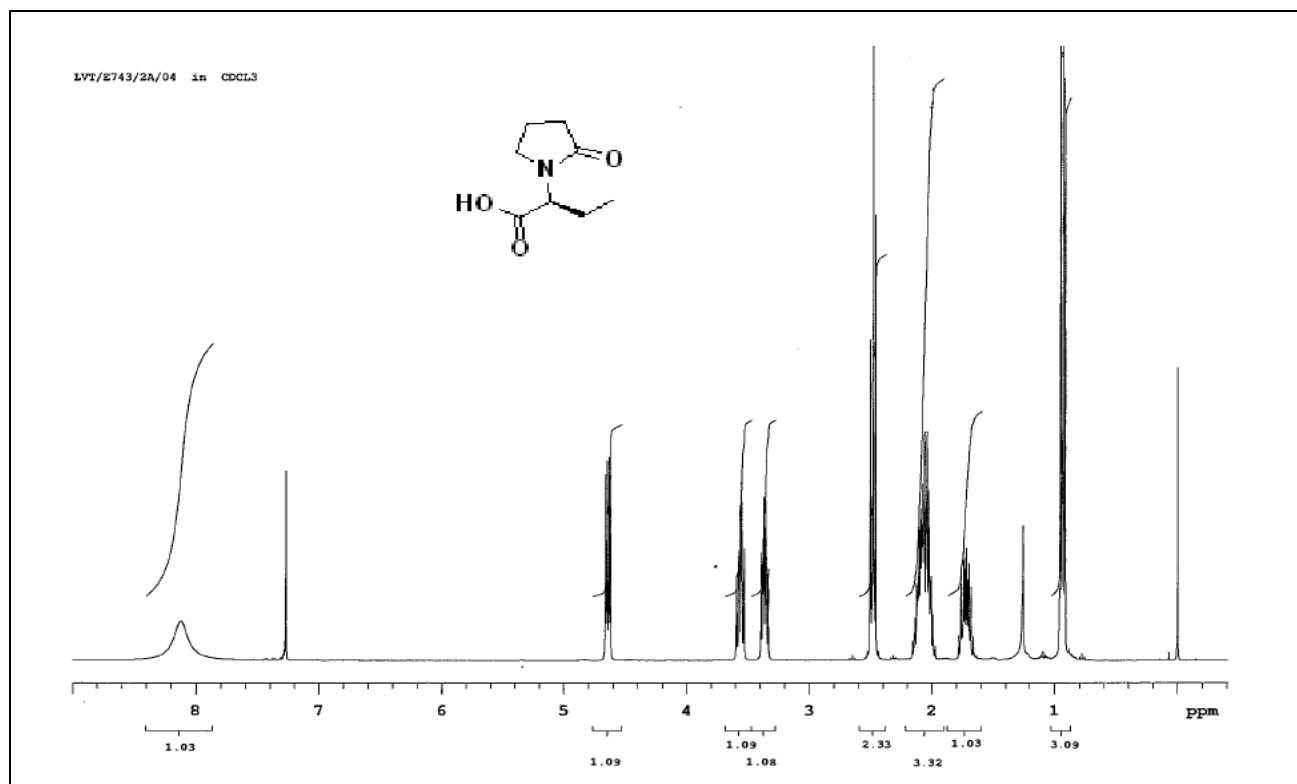
MS (ESI): compound **5**



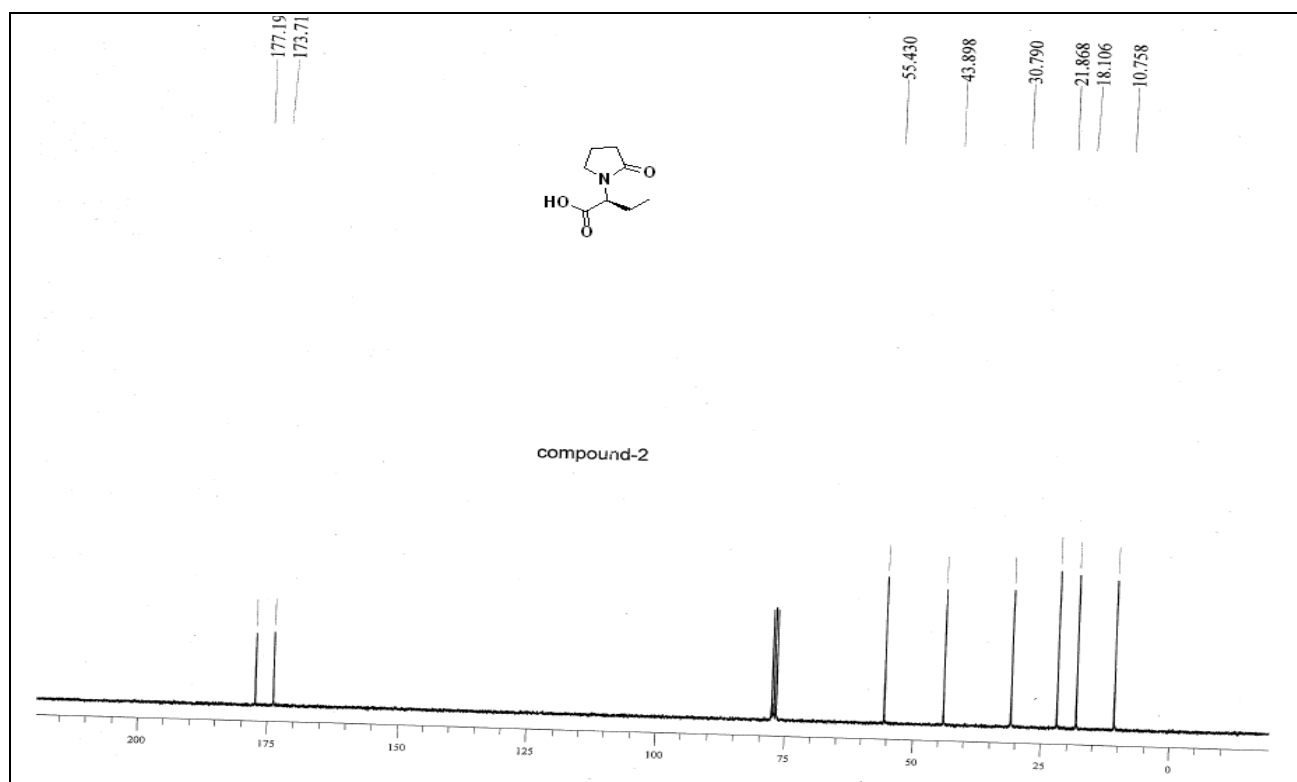
IR (CHCl₃): compound **5**



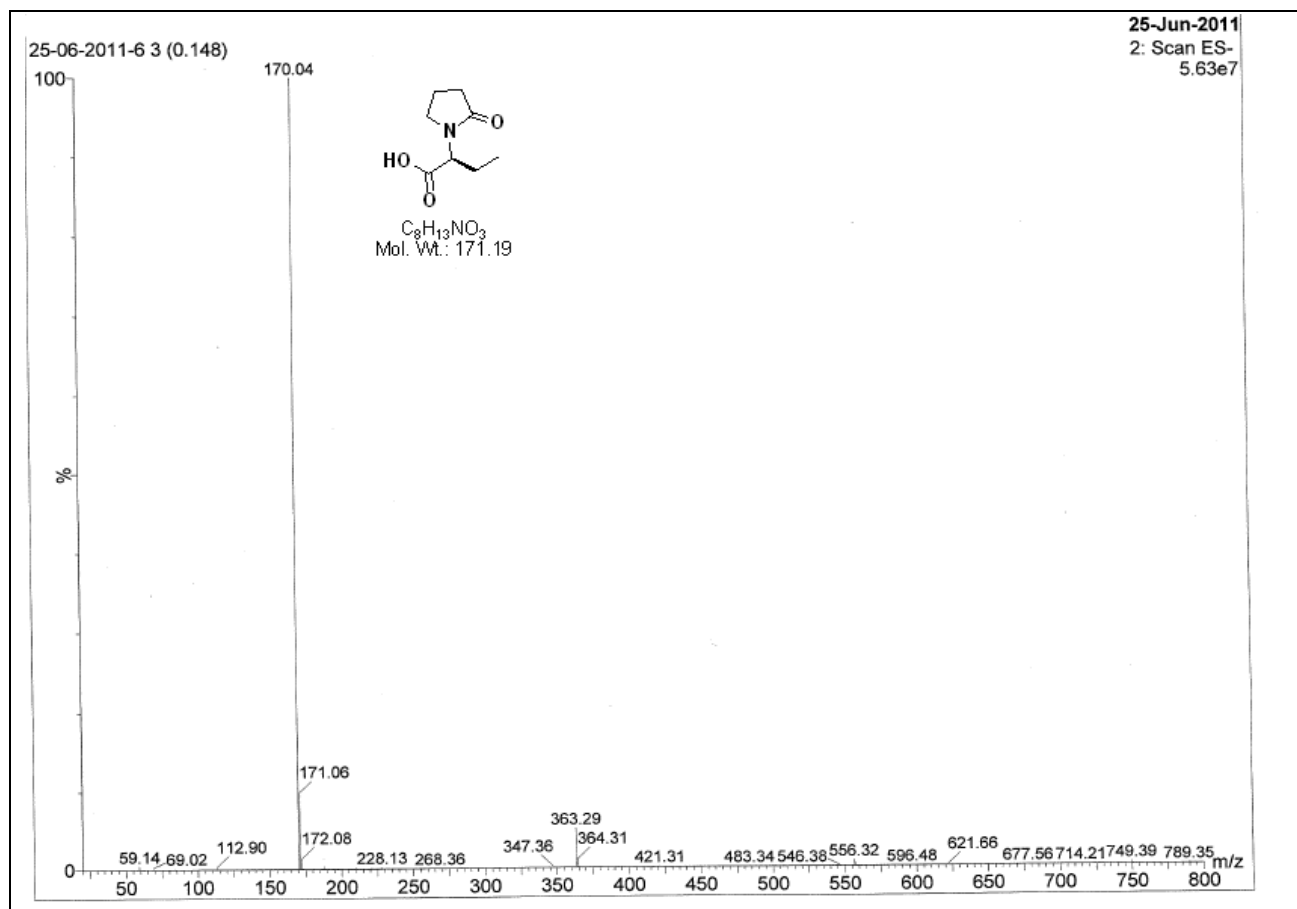
^1H NMR in (CDCl_3): compound **6**



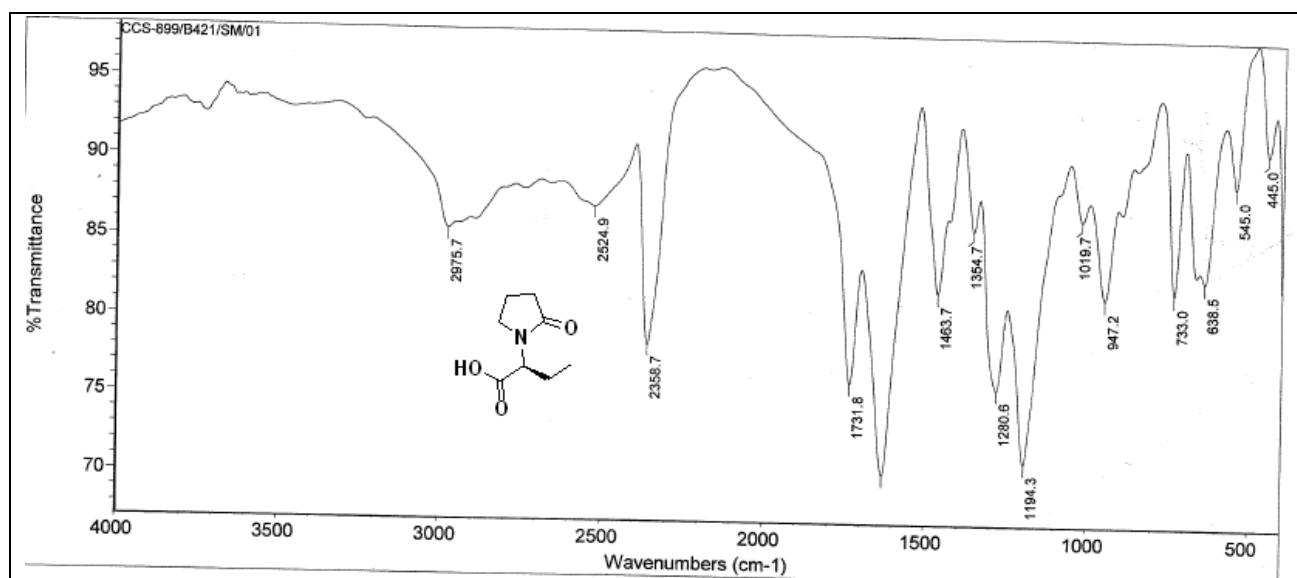
^{13}C NMR in (CDCl_3): compound **6**



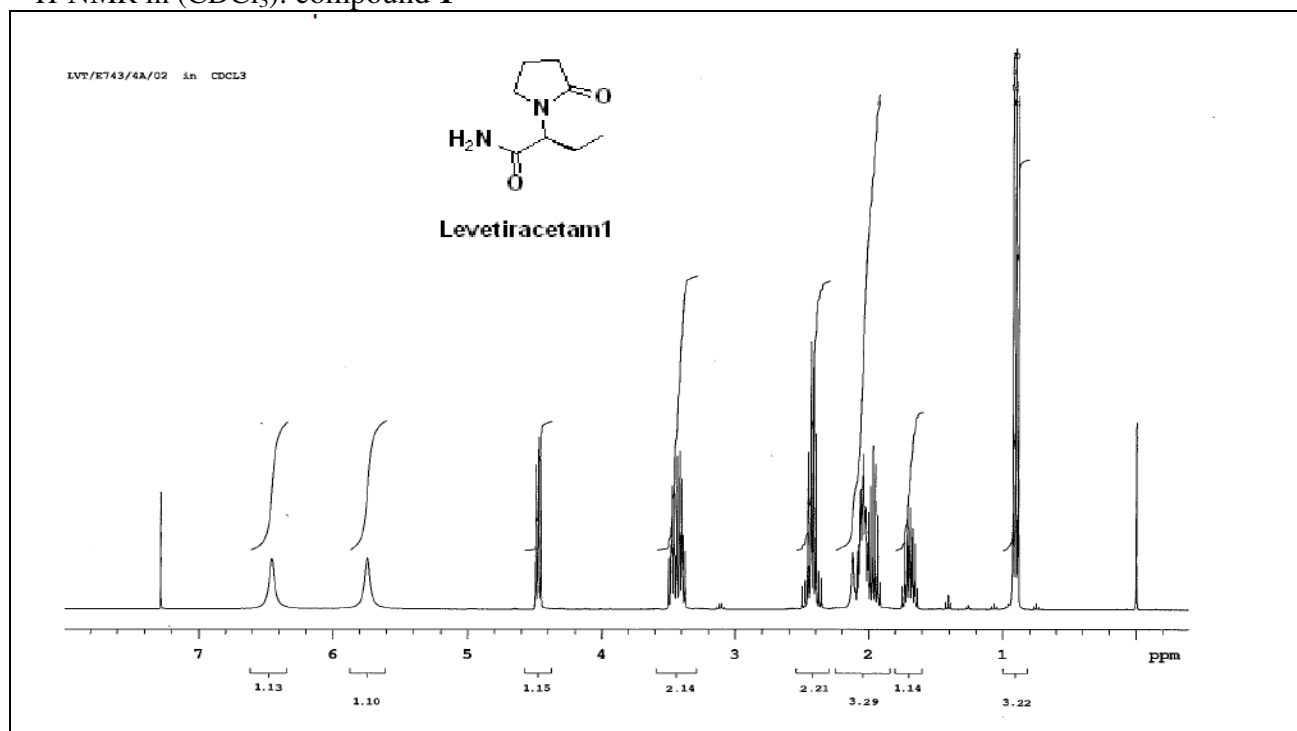
MS(ESI): compound **6**



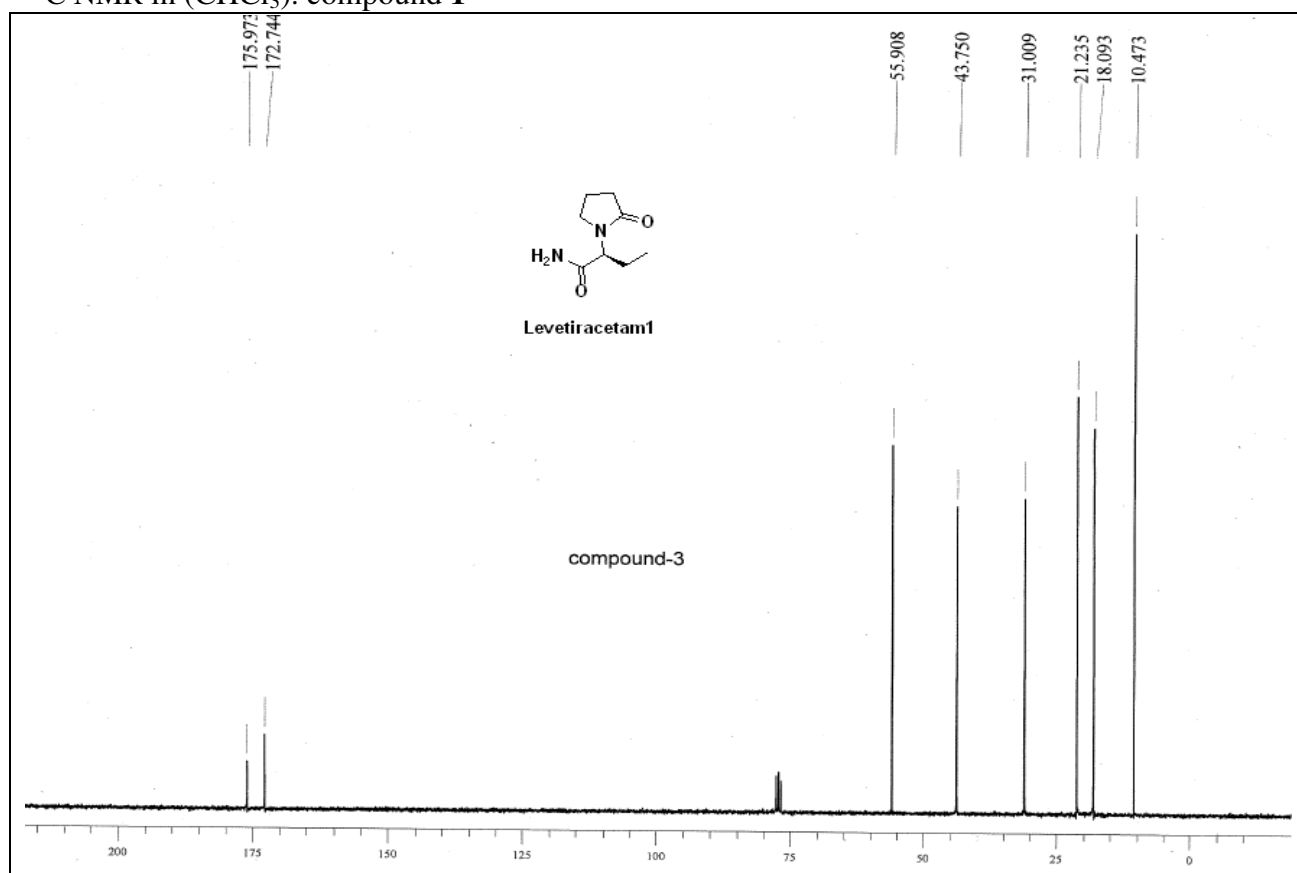
IR in (CHCl₃): compound **6**



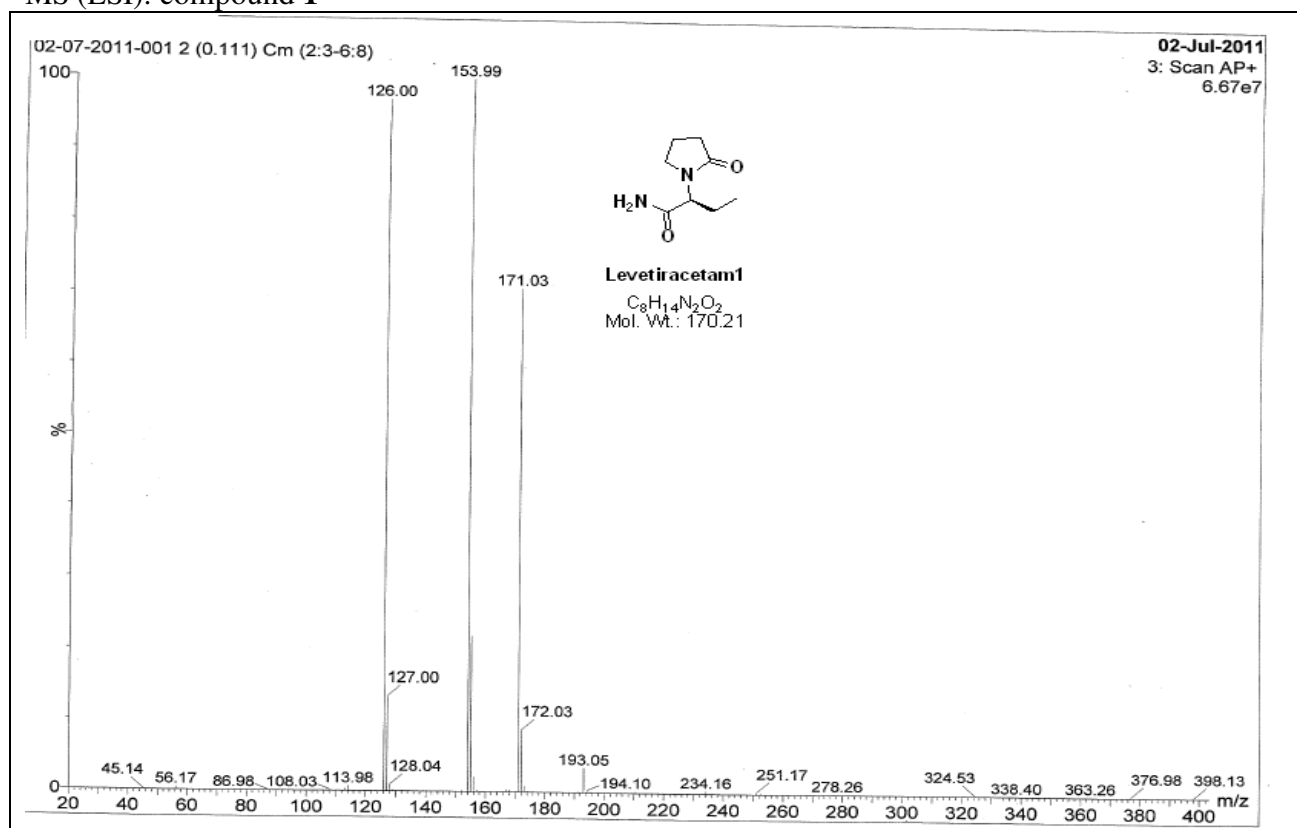
^1H -NMR in (CDCl_3): compound **1**



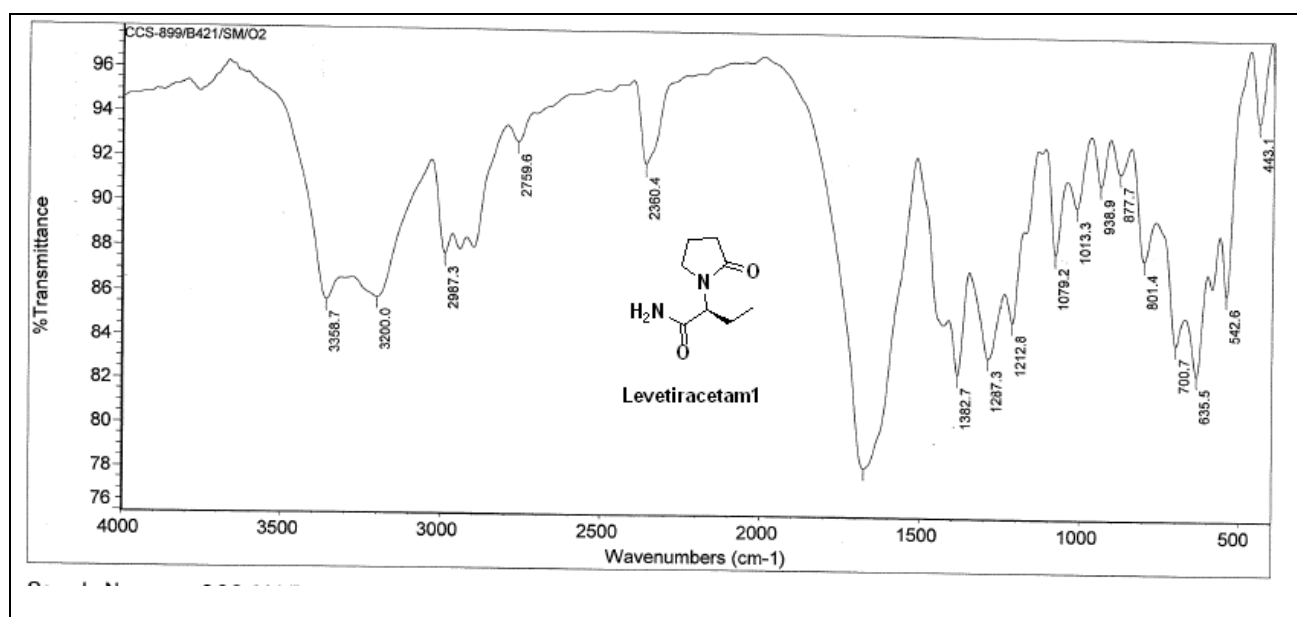
^{13}C NMR in (CHCl_3): compound **1**



MS (ESI): compound **1**

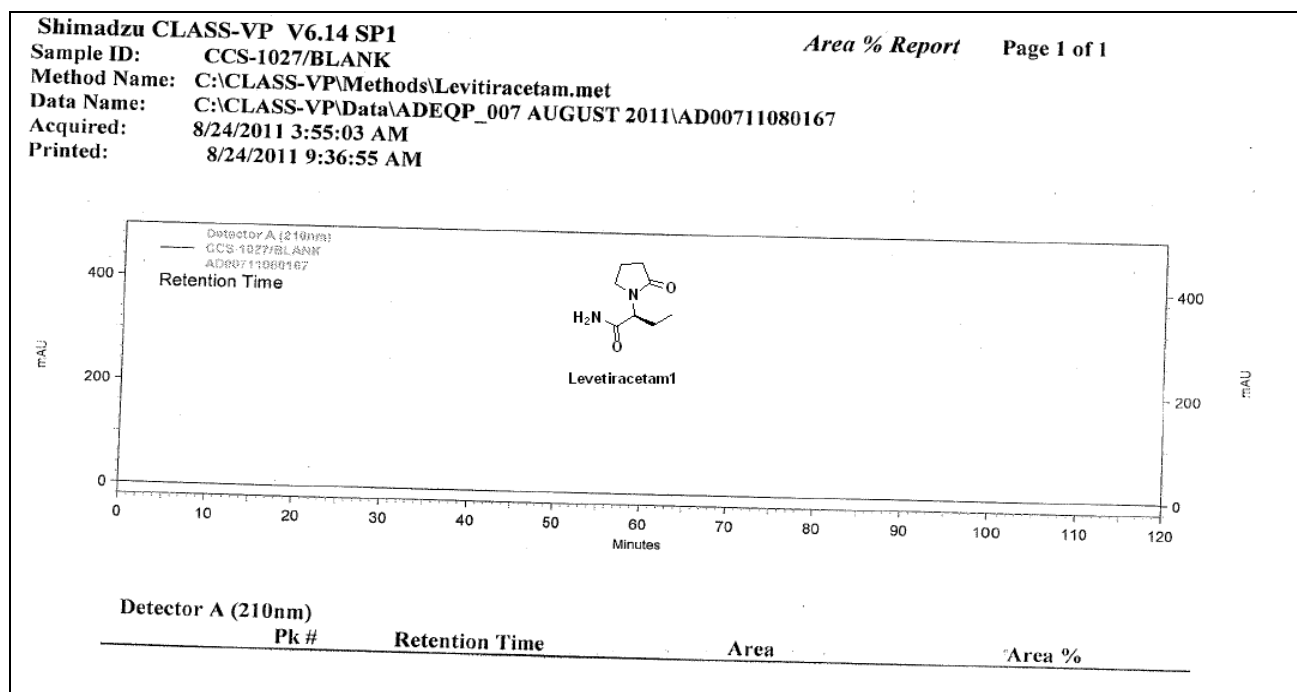


IR in (CHCl₃) : compound **1**



Chiral HPLC Chromatogram for Levetiracetam,1 :

Blank chromatogram:



Chiral compound chromatogram:

