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## **APPENDICES**

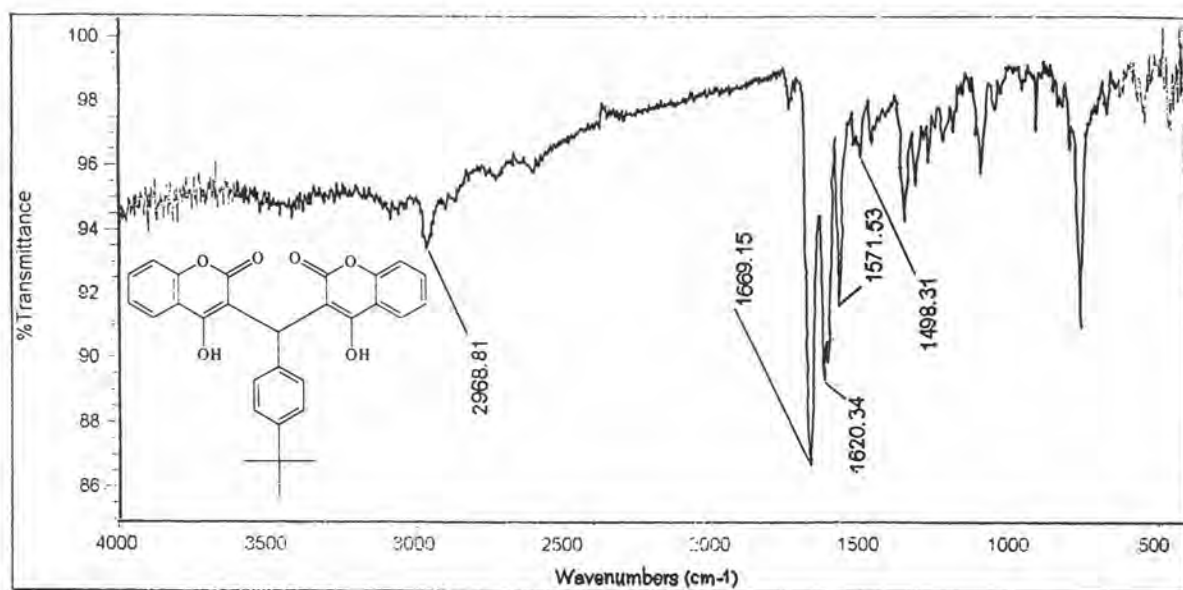


Fig 1 The FT-IR spectrum of Compound 17

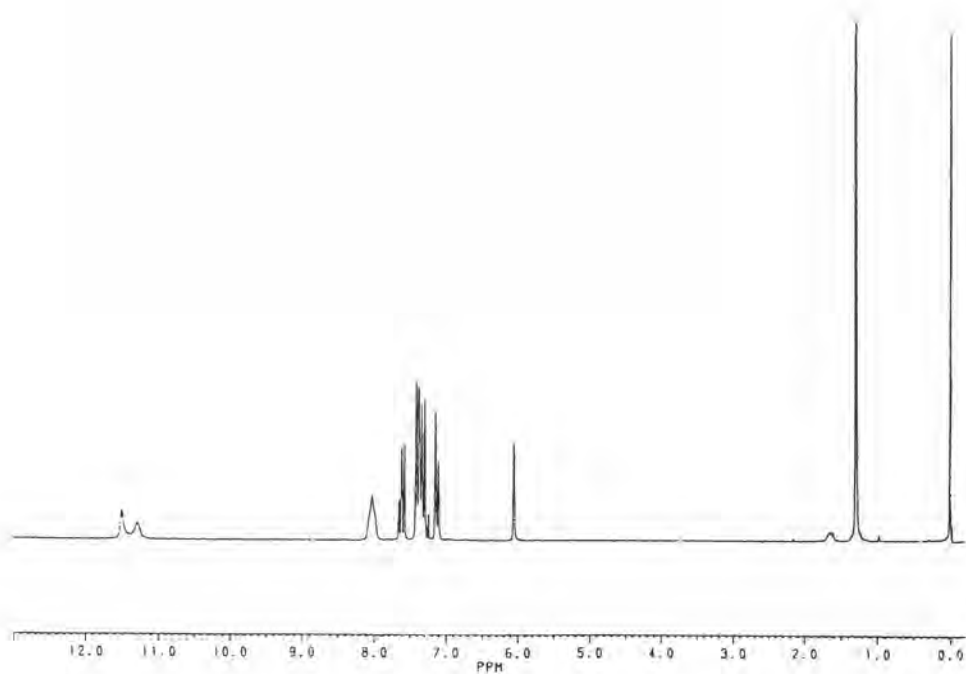


Fig 2 The <sup>1</sup>H-NMR spectrum of Compound 17



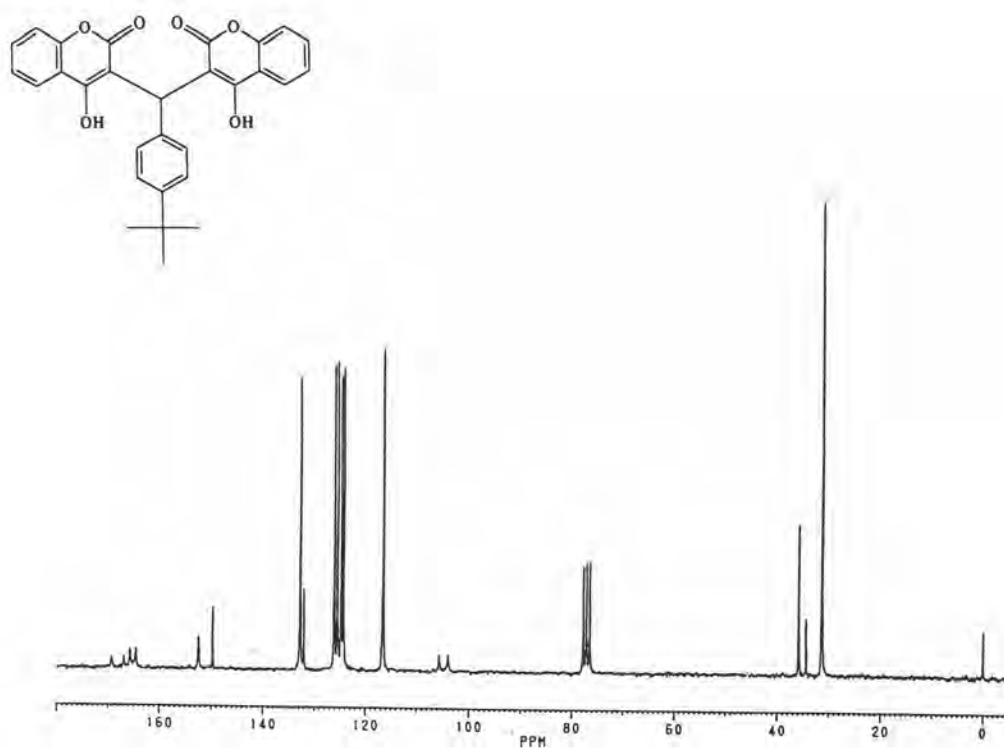


Fig 3 The  $^{13}\text{C}$ -NMR spectrum of Compound 17

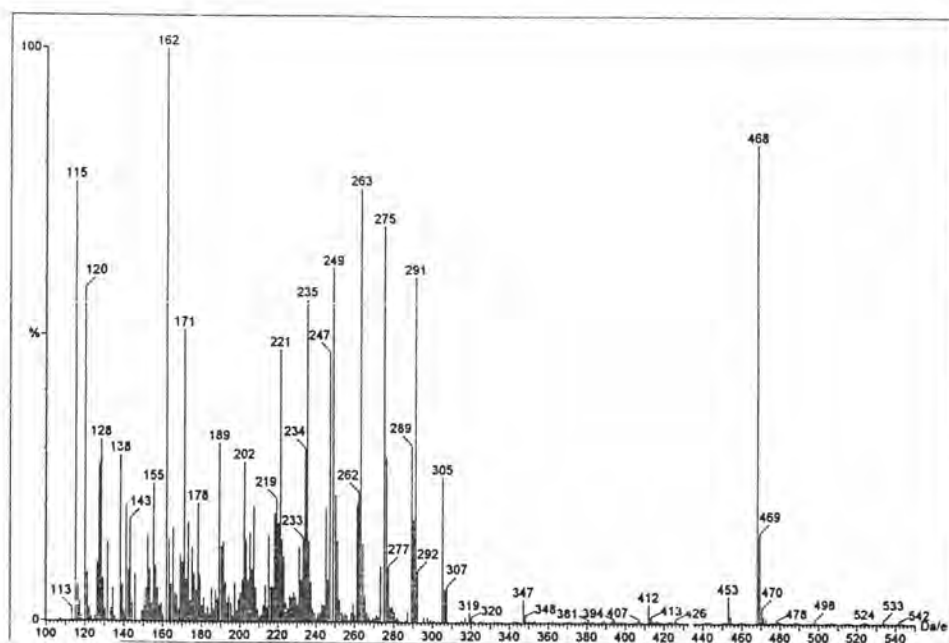


Fig 4 The mass spectrum of Compound 17

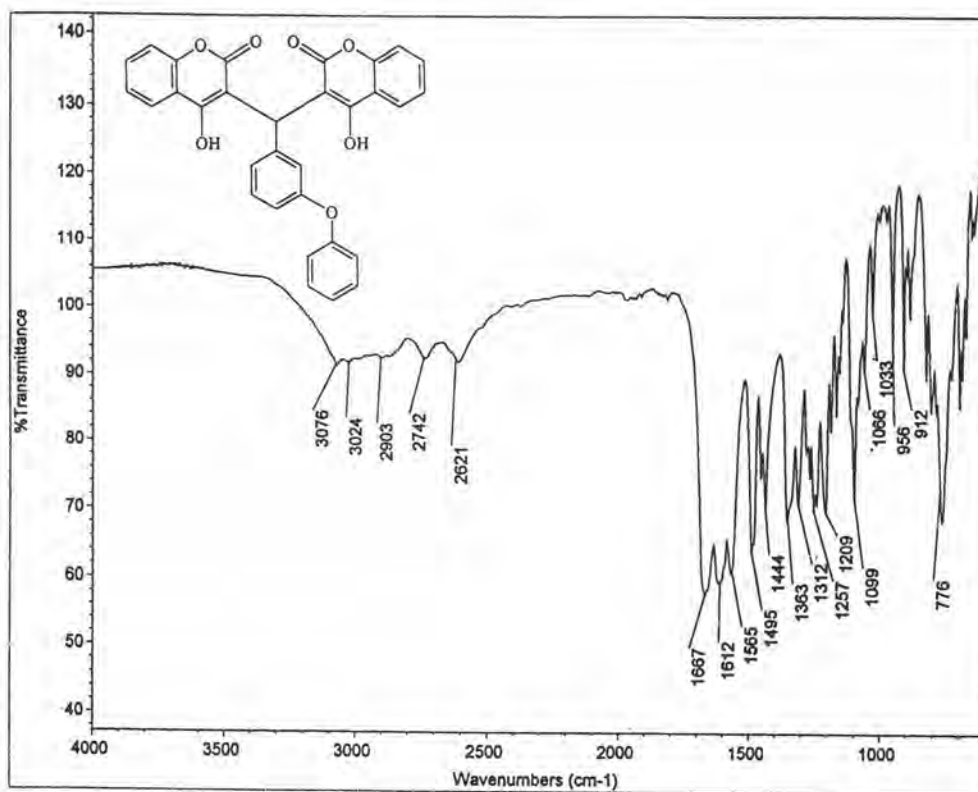


Fig 5 The FT-IR spectrum of Compound 23

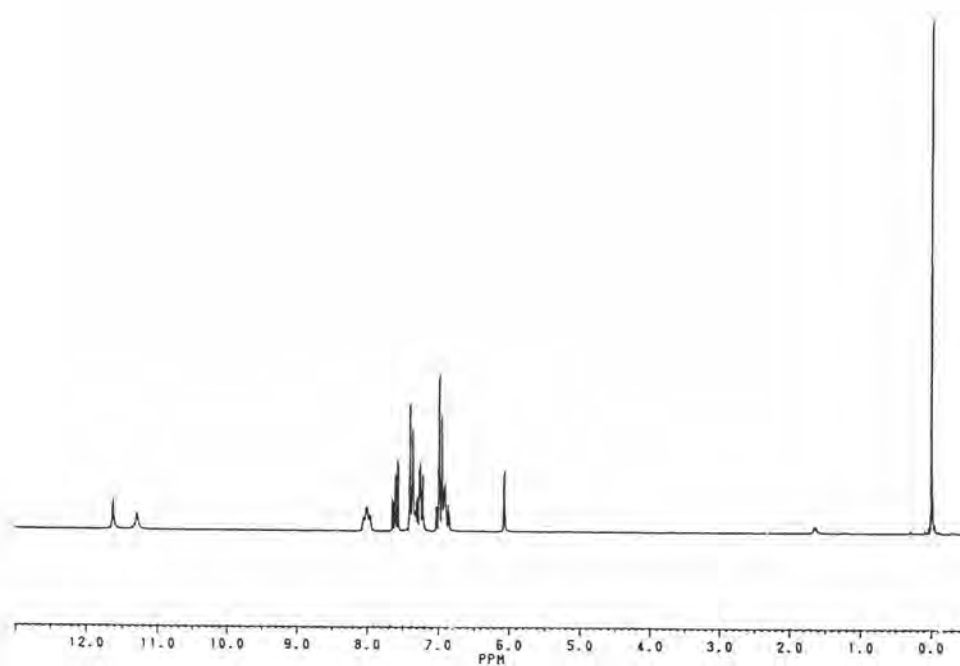


Fig 6 The <sup>1</sup>H-NMR spectrum of Compound 23

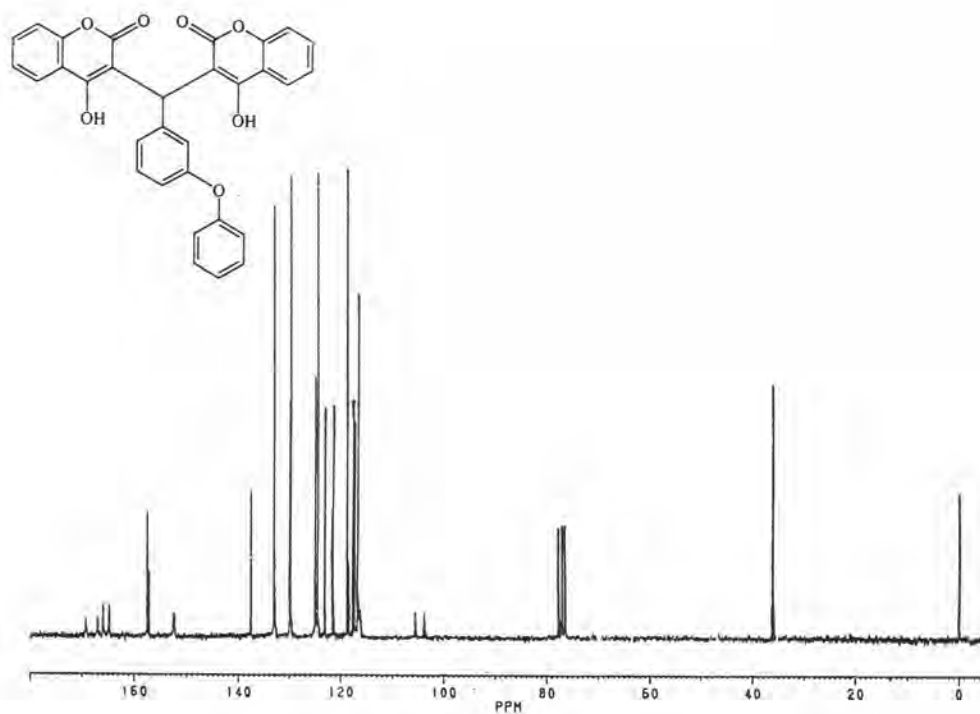


Fig 7 The  $^{13}\text{C}$ -NMR spectrum of Compound 23

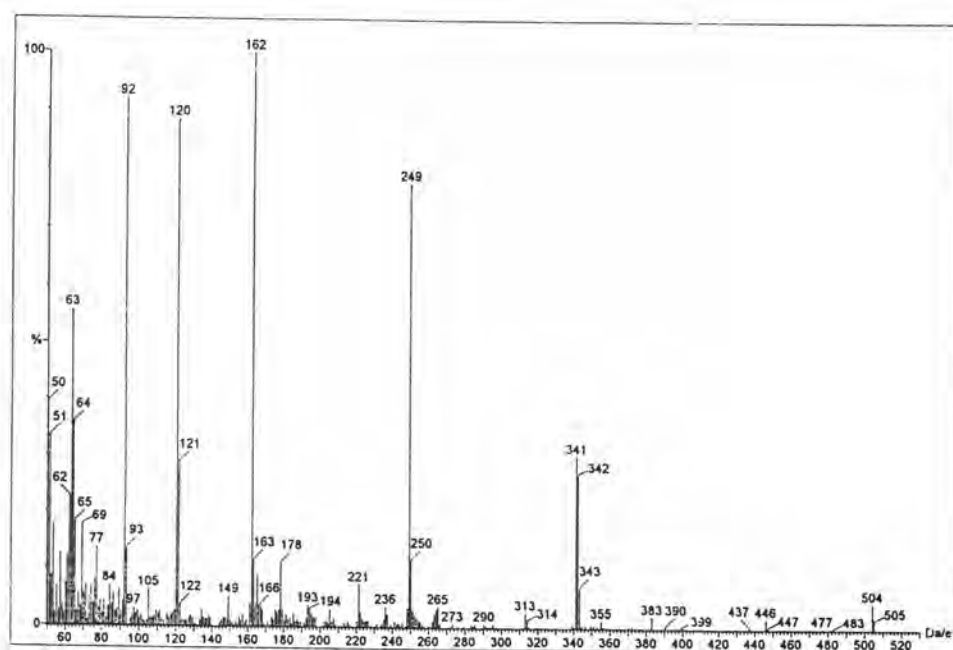


Fig 8 The mass spectrum of Compound 23

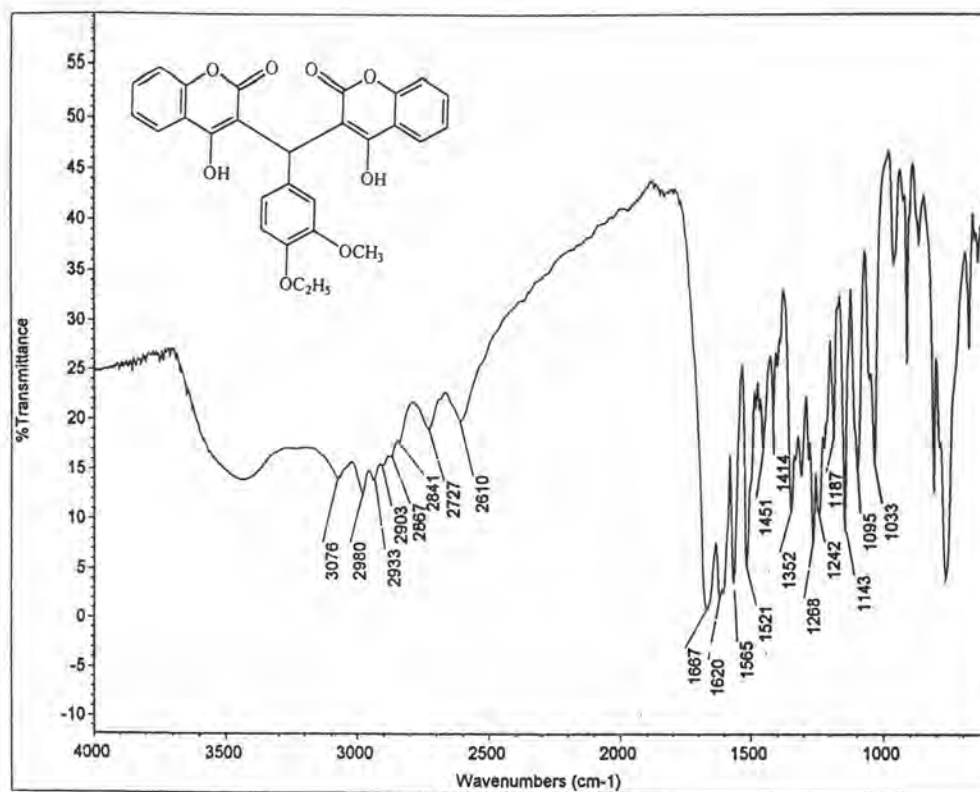


Fig 9 The FT-IR spectrum of Compound 29

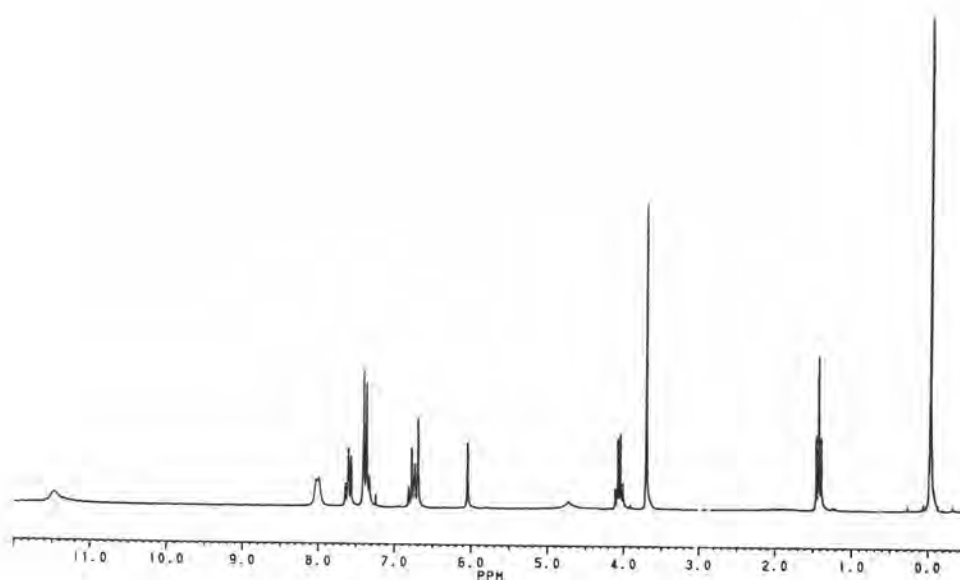


Fig 10 The <sup>1</sup>H-NMR spectrum of Compound 29

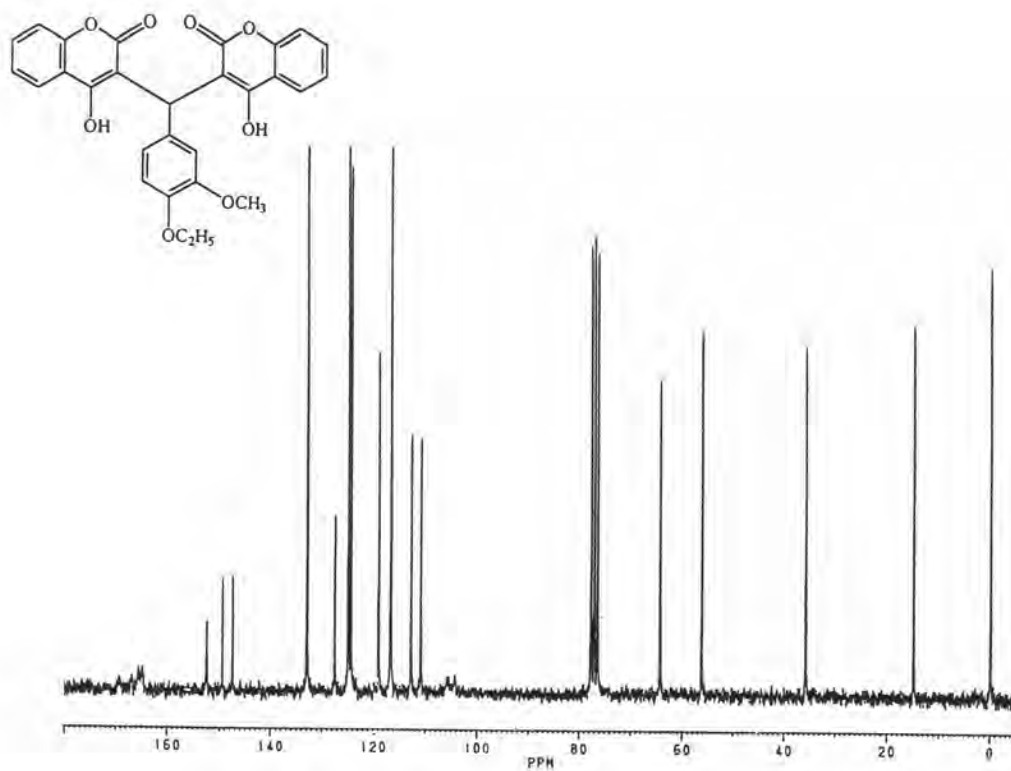


Fig 11 The  $^{13}\text{C}$ -NMR spectrum of Compound 29

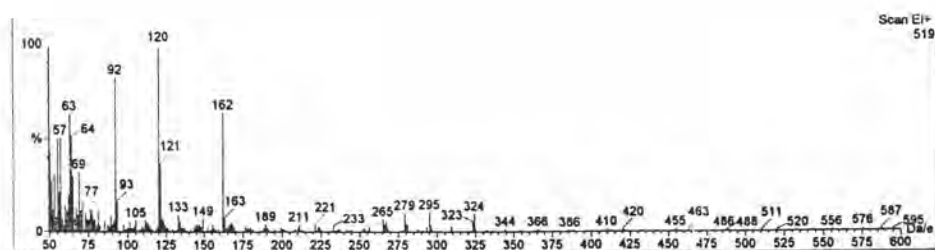


Fig 12 The mass spectrum of Compound 29

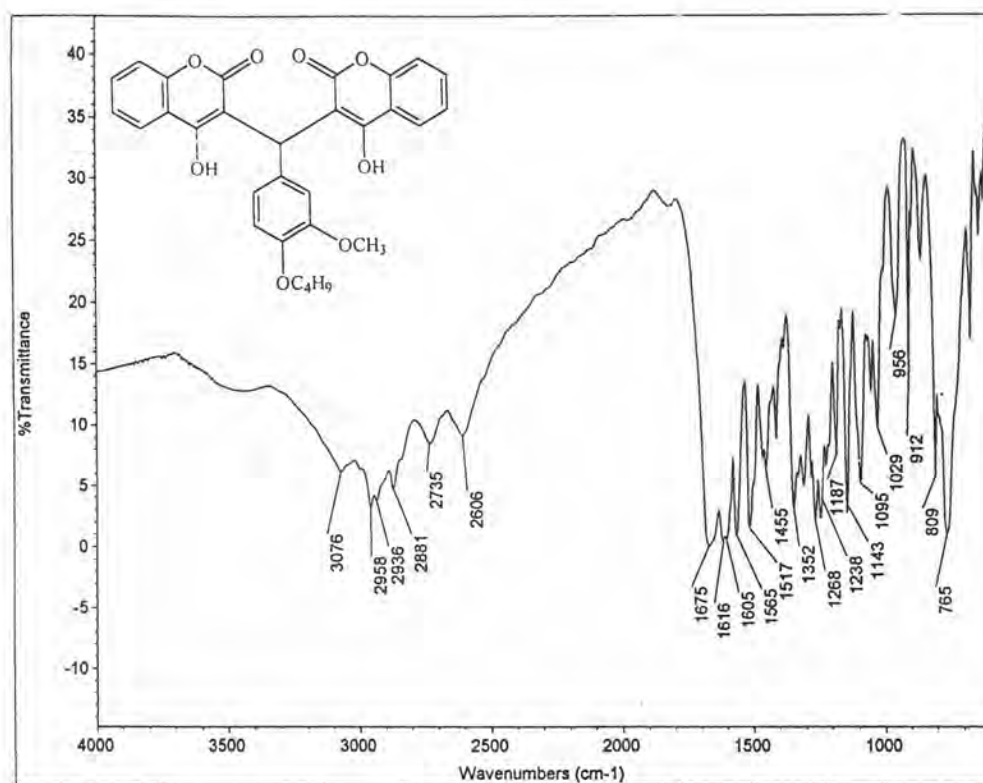


Fig 13 The FT-IR spectrum of Compound 30

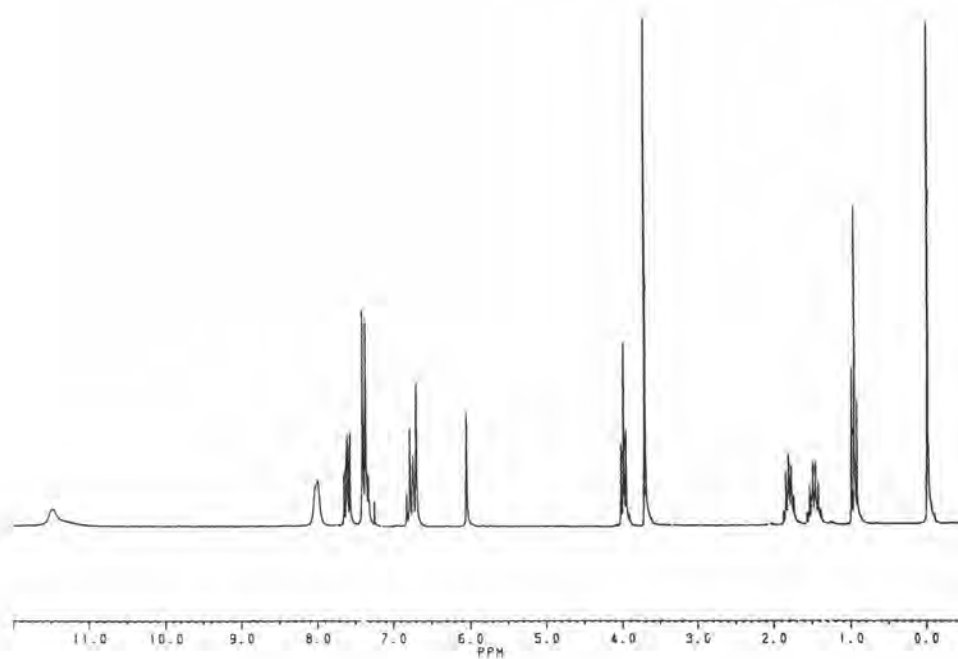


Fig 14 The <sup>1</sup>H-NMR spectrum of Compound 30



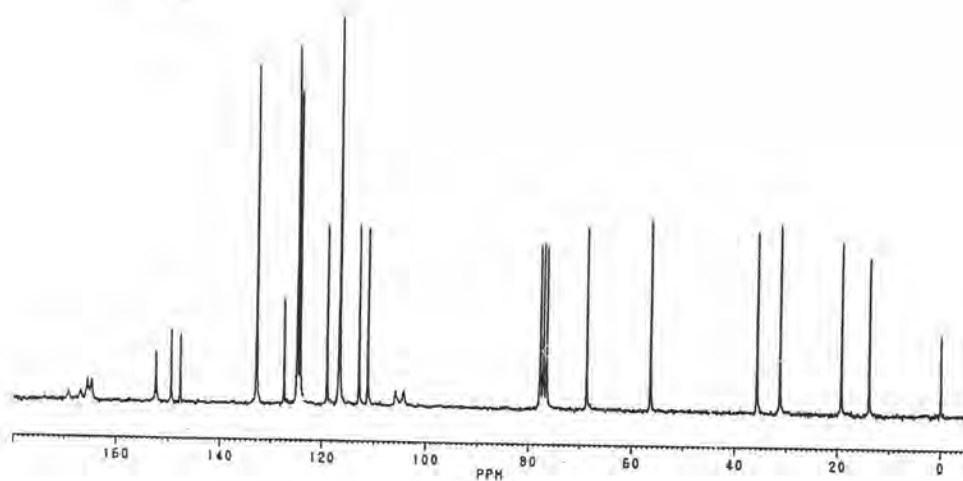
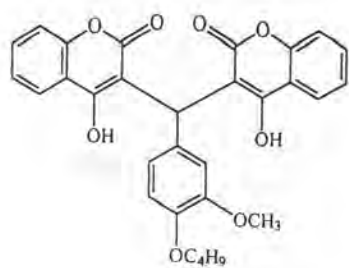


Fig 15 The  $^{13}\text{C-NMR}$  spectrum of Compound 30

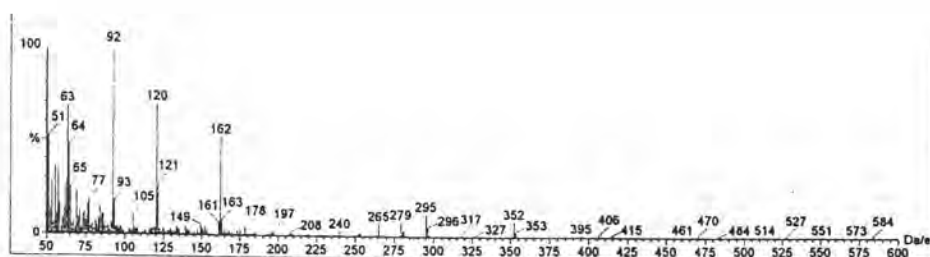


Fig 16 The mass spectrum of Compound 30

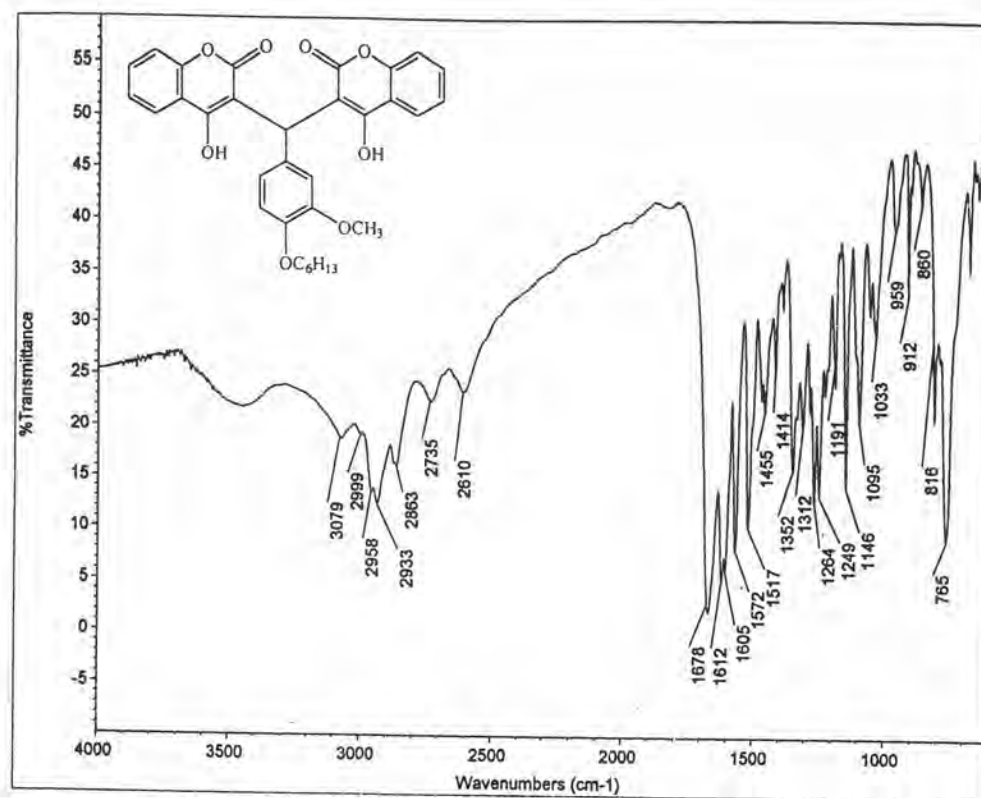


Fig 17 The FT-IR spectrum of Compound 31

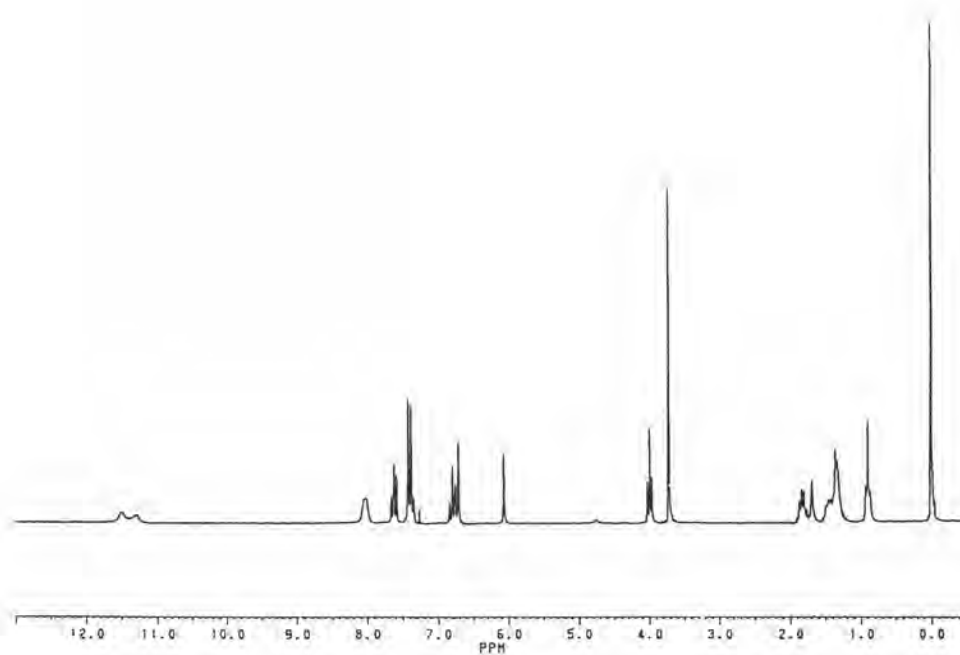


Fig 18 The <sup>1</sup>H-NMR spectrum of Compound 31

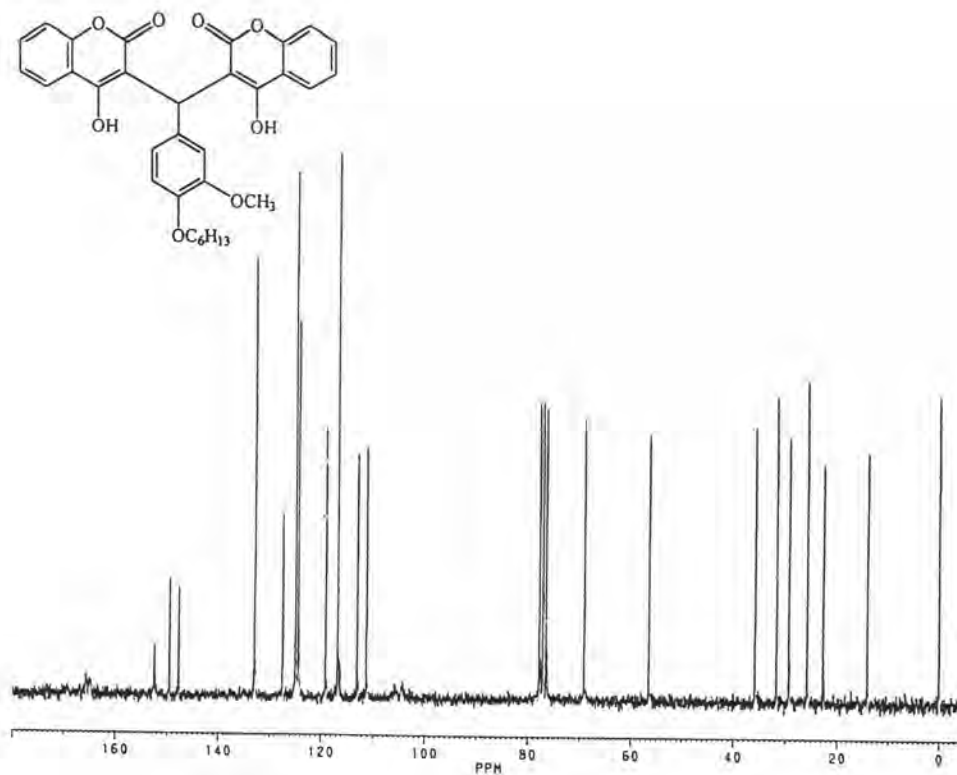


Fig 19 The  $^{13}\text{C}$ -NMR spectrum of Compound 31

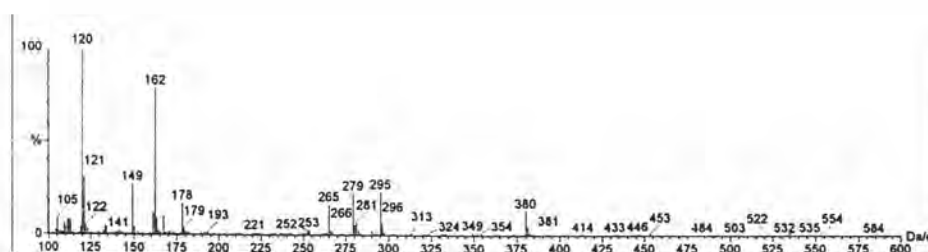


Fig 20 The mass spectrum of Compound 31

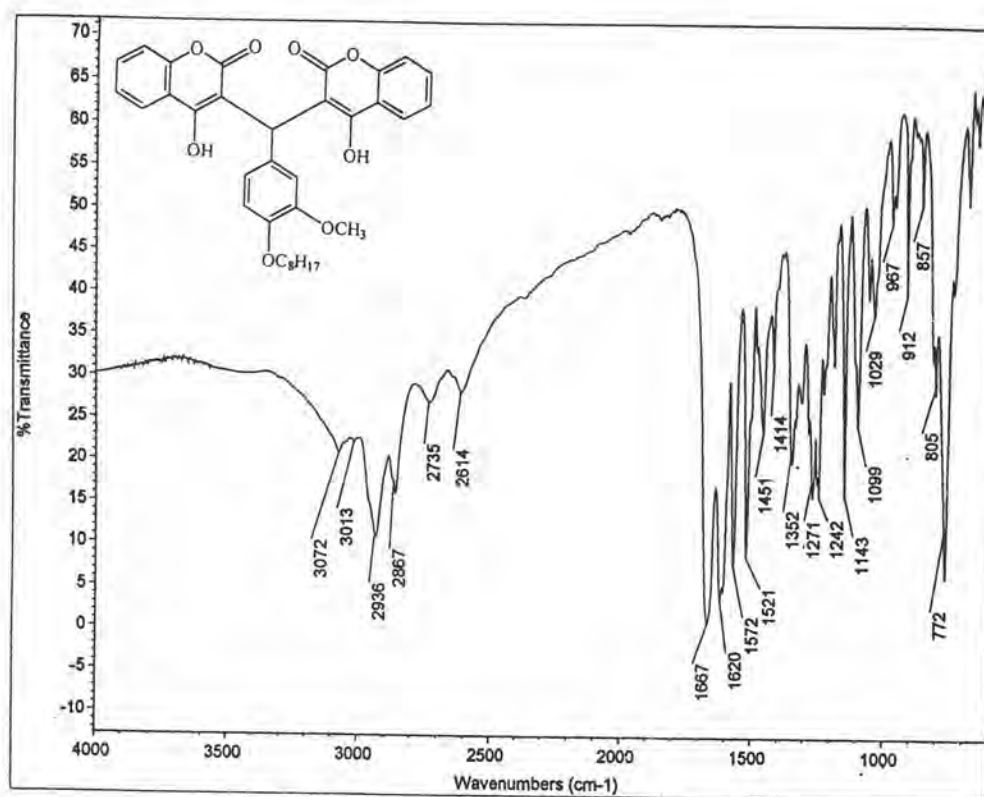


Fig 21 The FT-IR spectrum of Compound 32

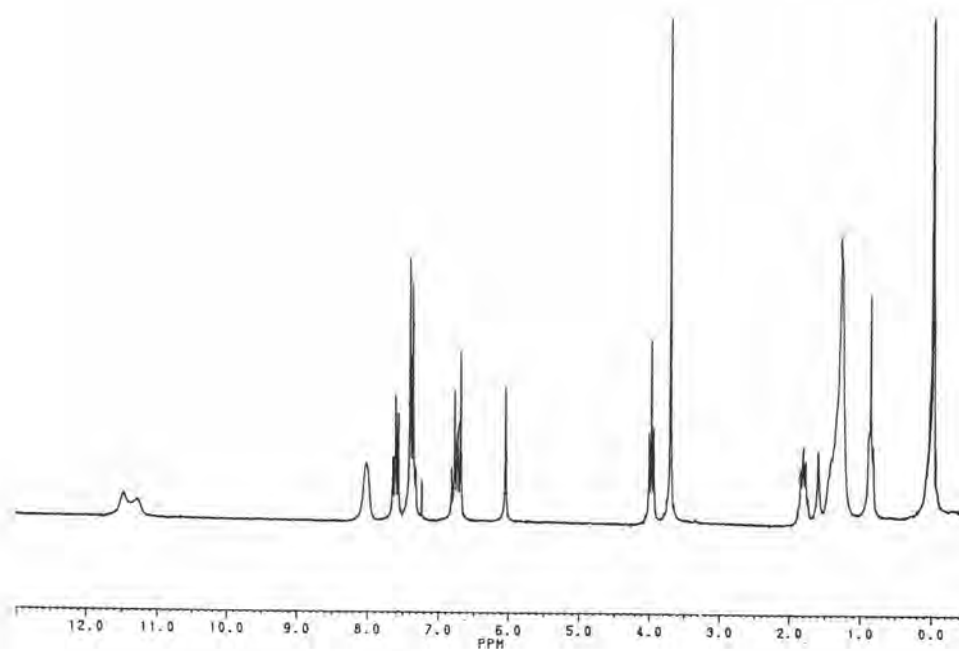


Fig 22 The <sup>1</sup>H-NMR spectrum of Compound 32

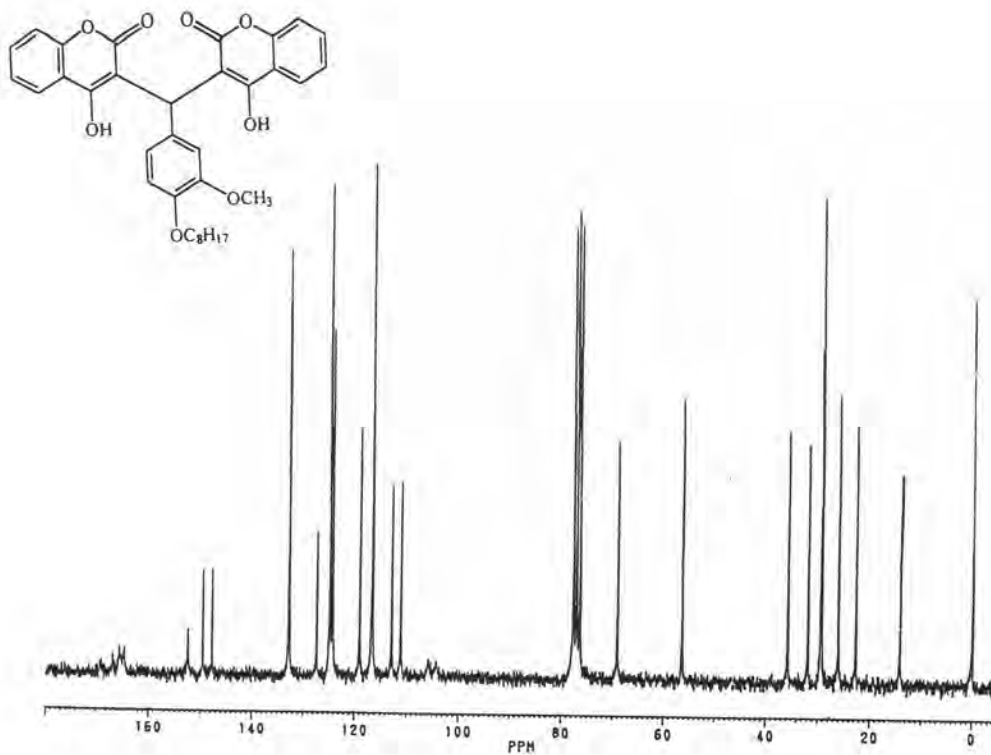


Fig 23 The  $^{13}\text{C}$ -NMR spectrum of Compound 32

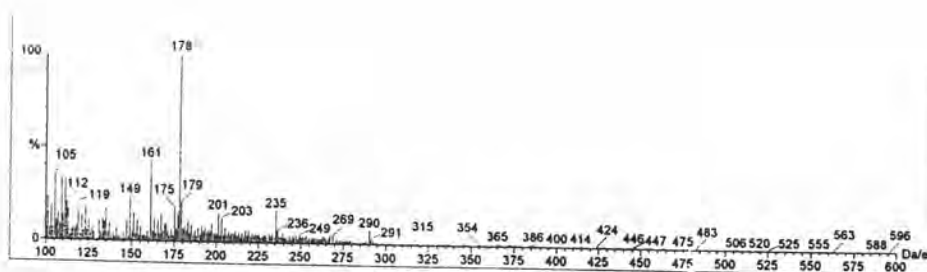


Fig 24 The mass spectrum of Compound 32

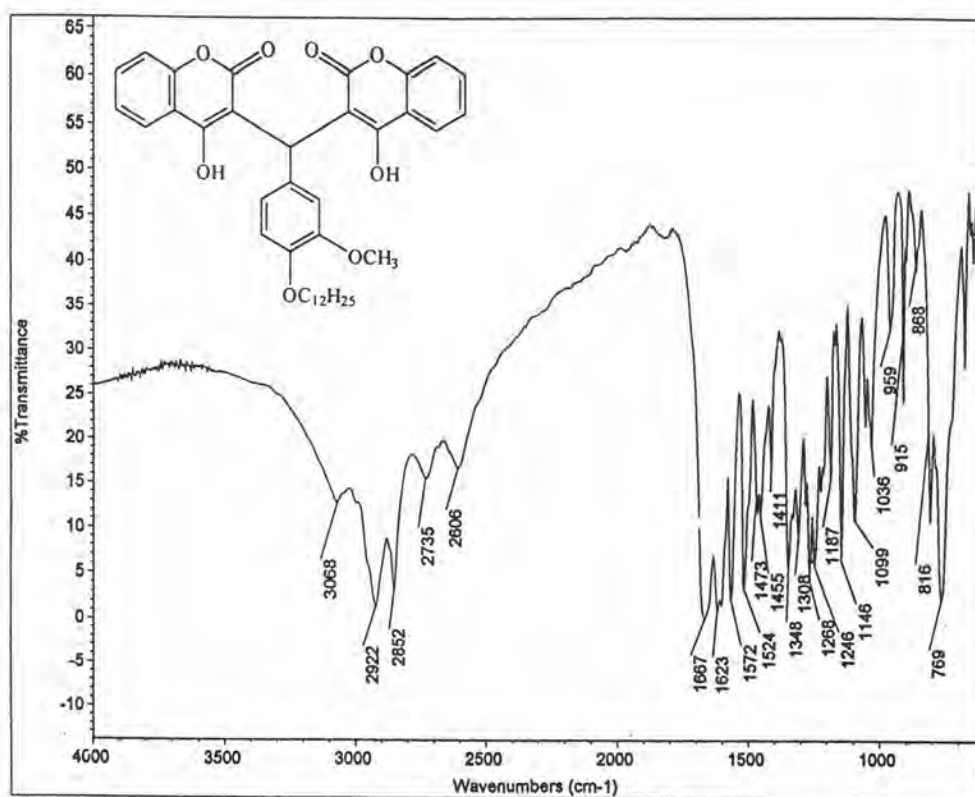


Fig 25 The FT-IR spectrum of Compound 33

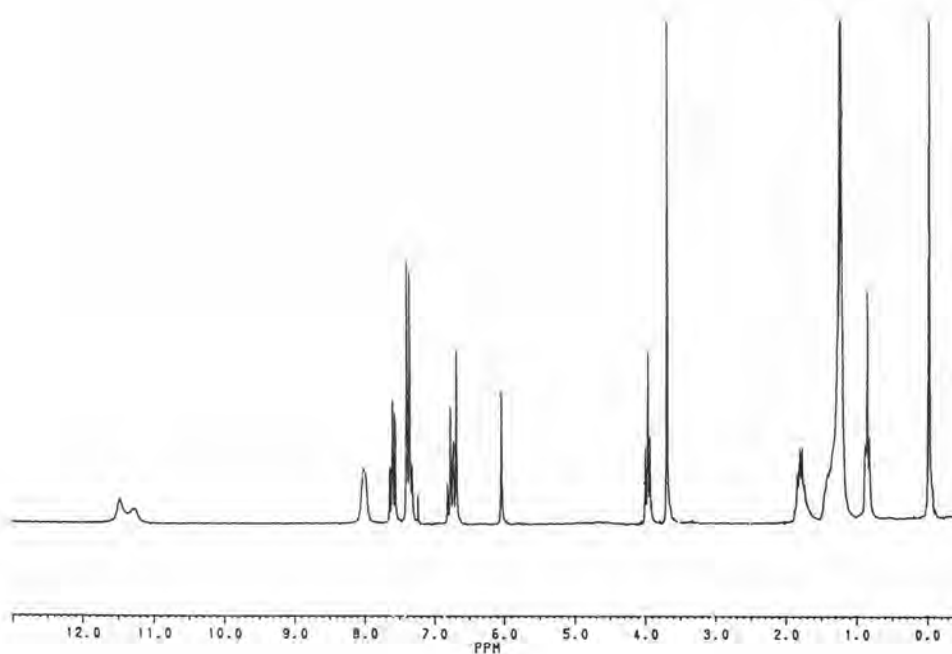


Fig 26 The <sup>1</sup>H-NMR spectrum of Compound 33



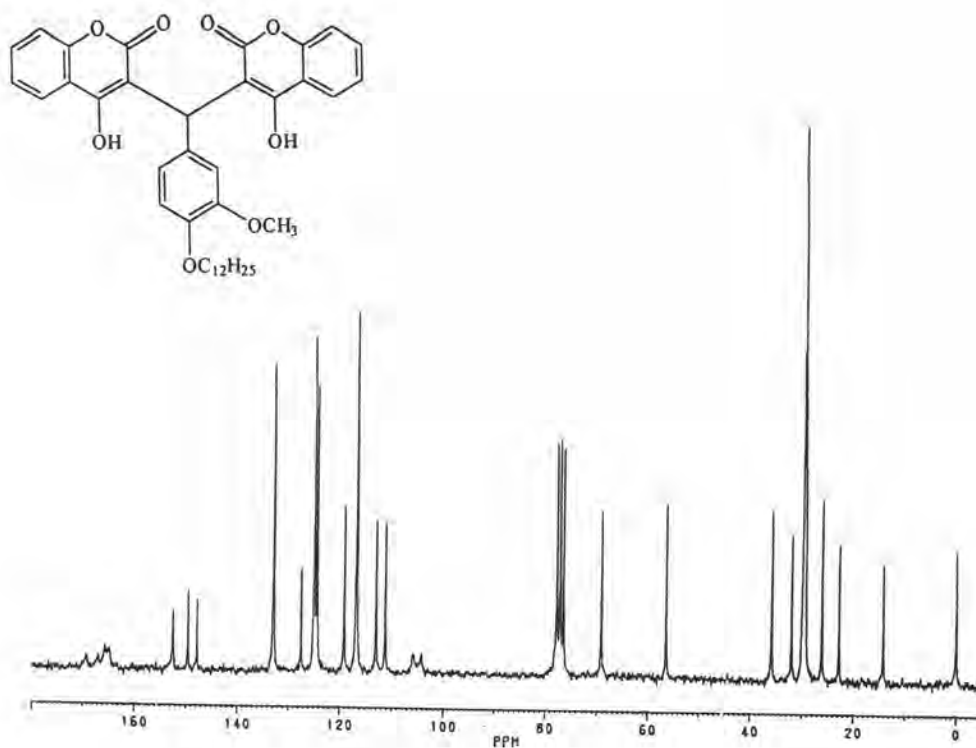


Fig 27 The  $^{13}\text{C}$ -NMR spectrum of Compound 33

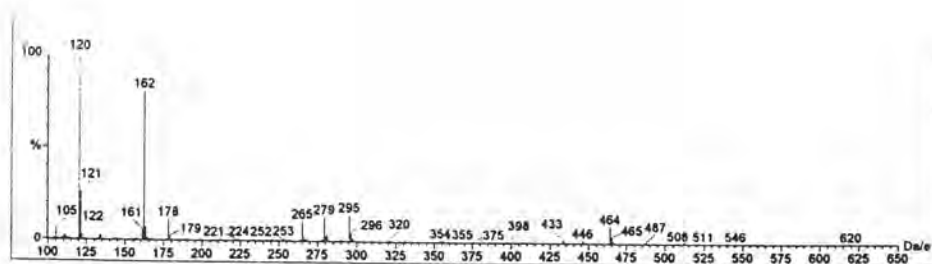


Fig 28 The mass spectrum of Compound 33

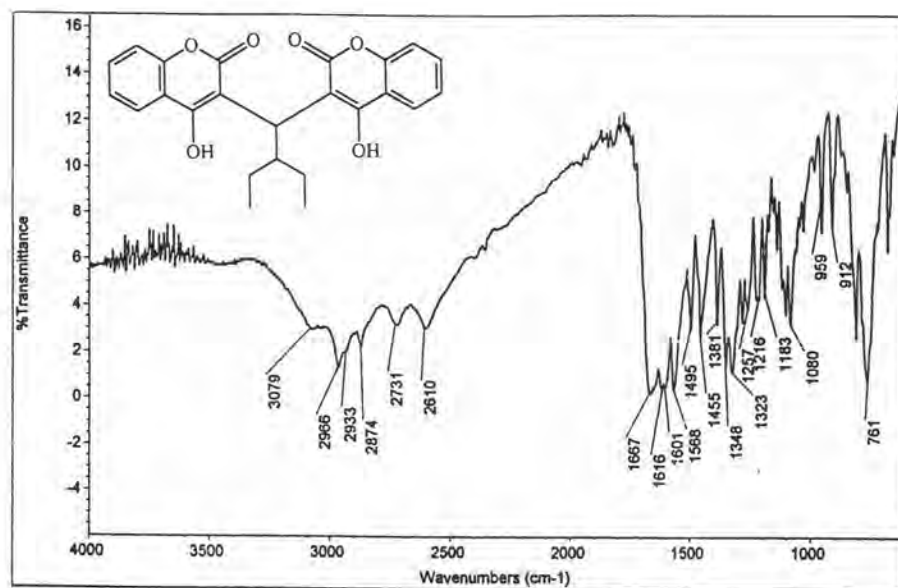


Fig 29 The FT-IR spectrum of Compound 38

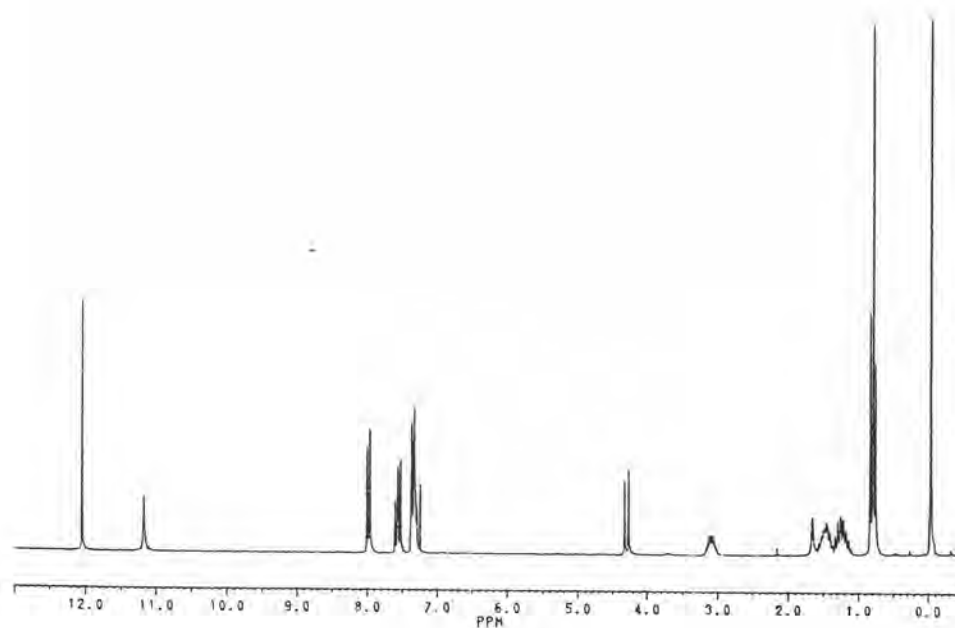


Fig 30 The <sup>1</sup>H-NMR spectrum of Compound 38

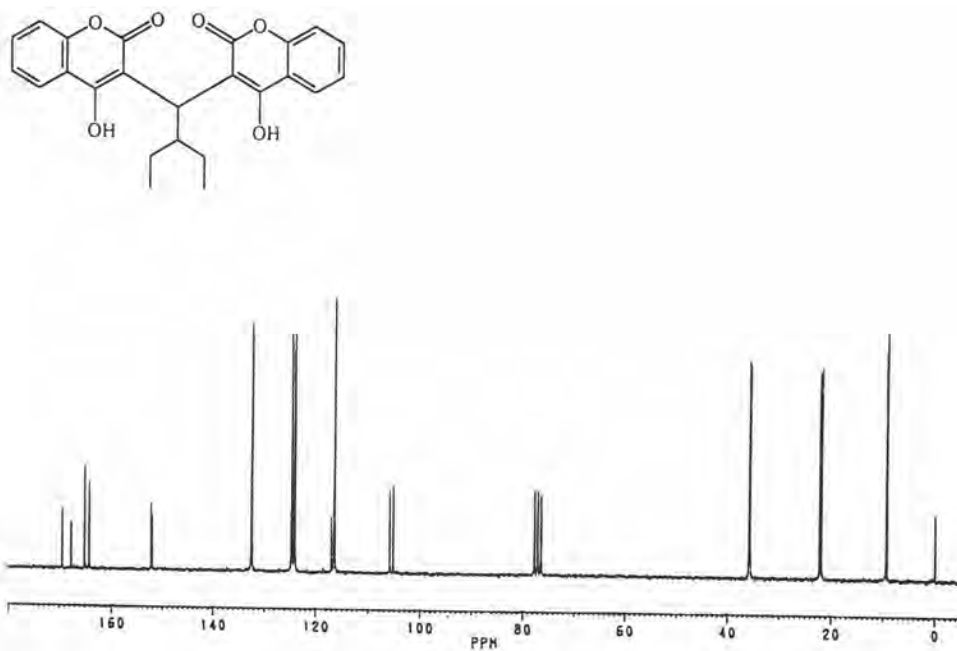


Fig 31 The  $^{13}\text{C}$ -NMR spectrum of Compound 38

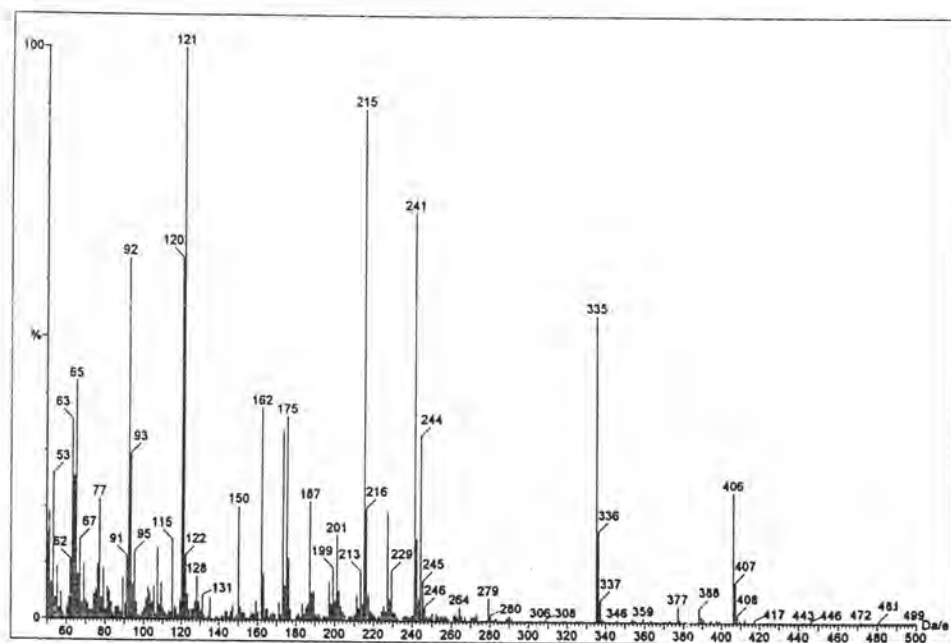


Fig 32 The mass spectrum of Compound 38

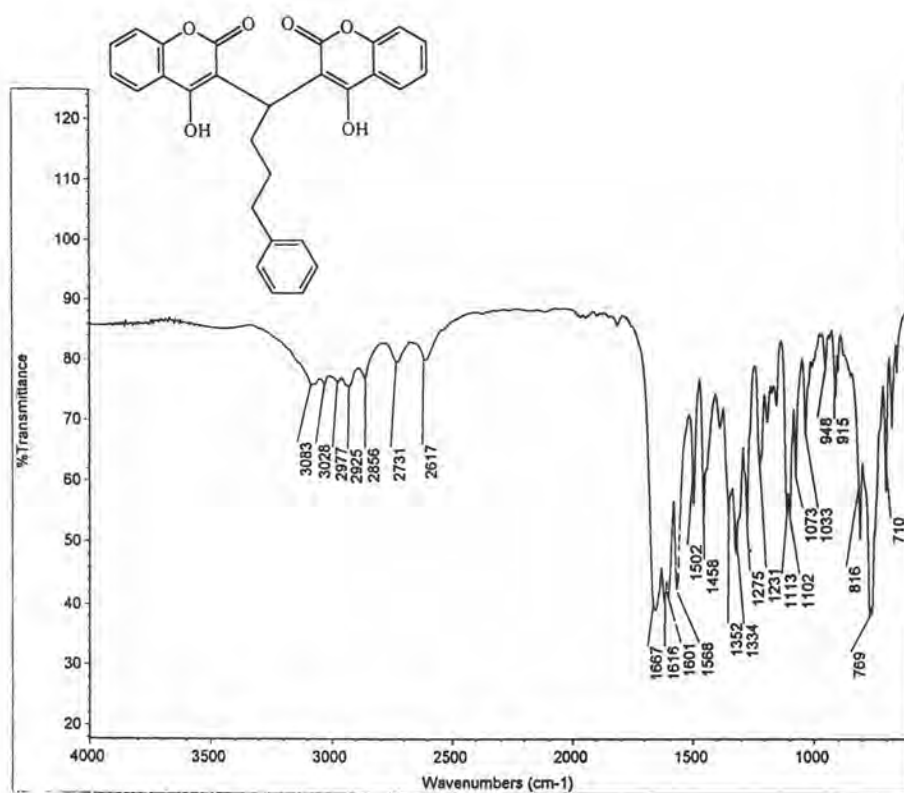


Fig 33 The FT-IR spectrum of Compound 44

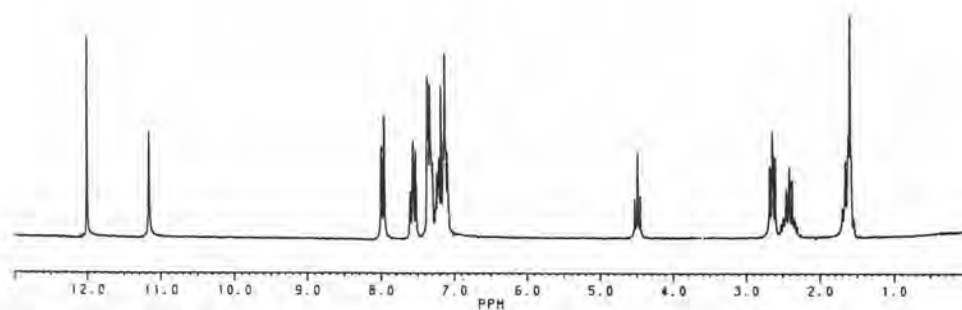


Fig 34 The <sup>1</sup>H-NMR spectrum of Compound 44

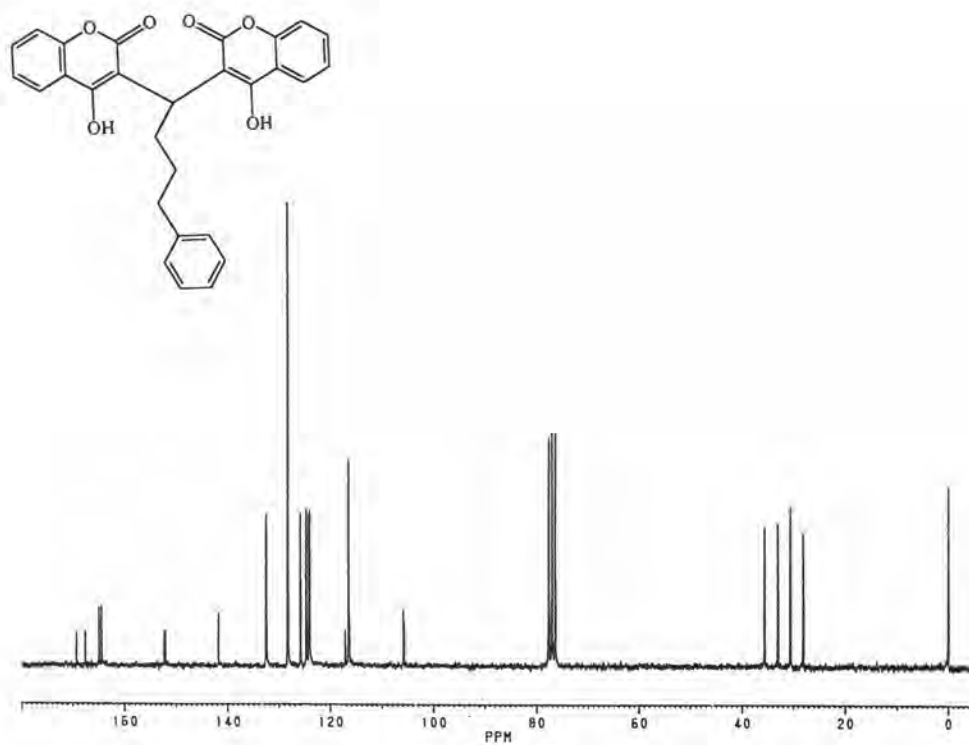


Fig 35 The  $^{13}\text{C}$ -NMR spectrum of Compound 44

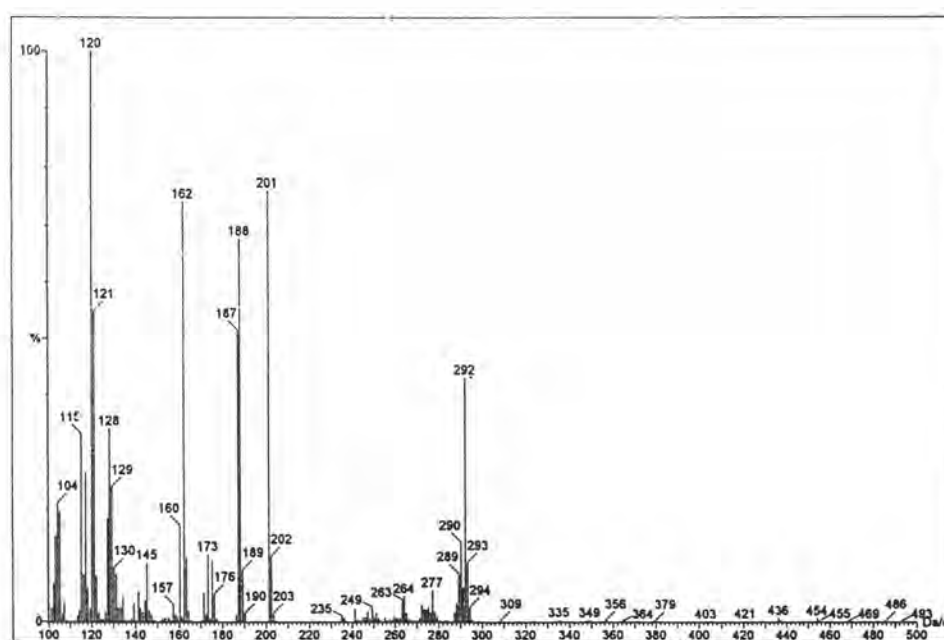


Fig 36 The mass spectrum of Compound 44

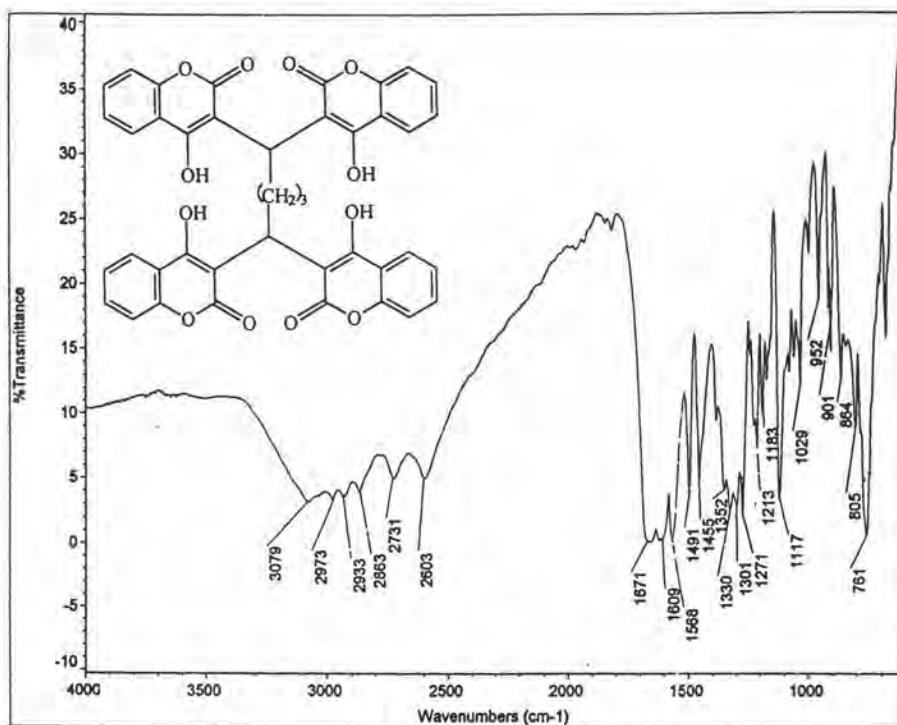


Fig 37 The FT-IR spectrum of Compound 50

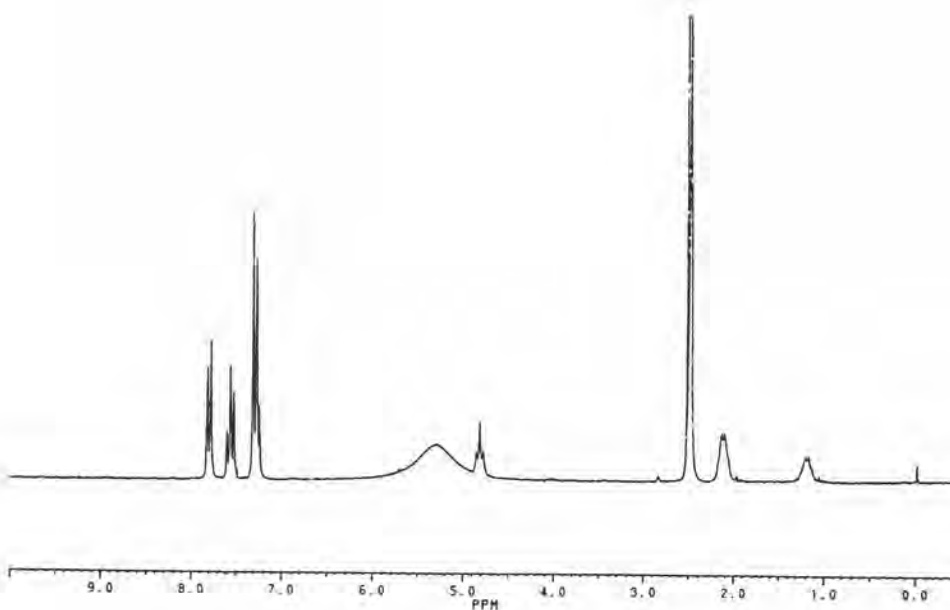


Fig 38 The <sup>1</sup>H-NMR spectrum of Compound 50



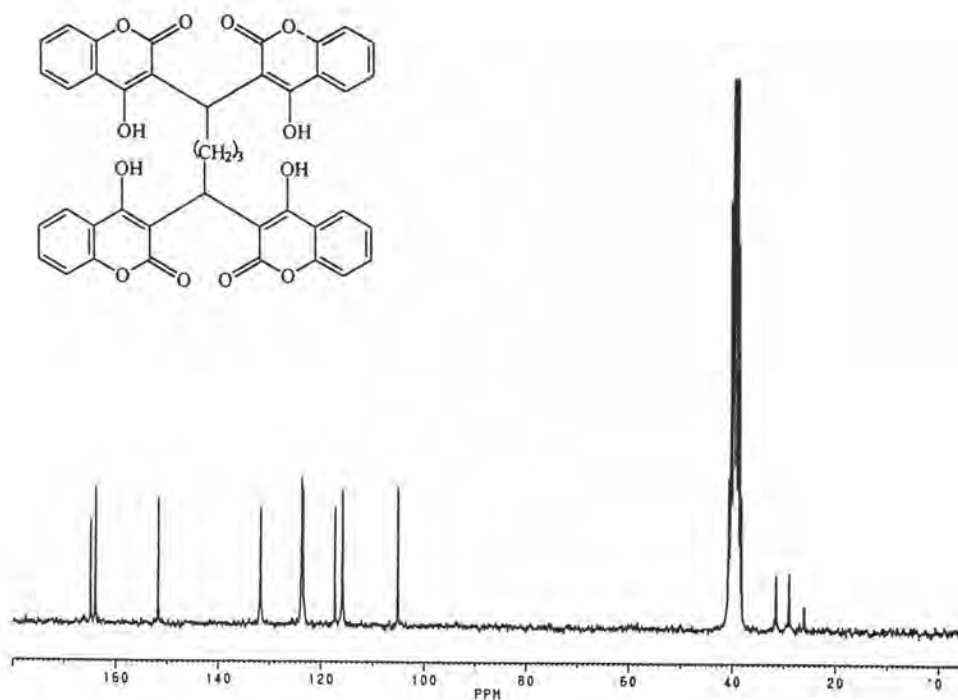


Fig 39 The  $^{13}\text{C}$ -NMR spectrum of Compound 50

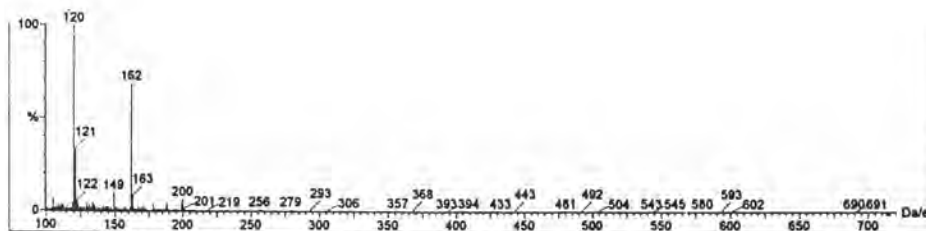


Fig 40 The mass spectrum of Compound 50

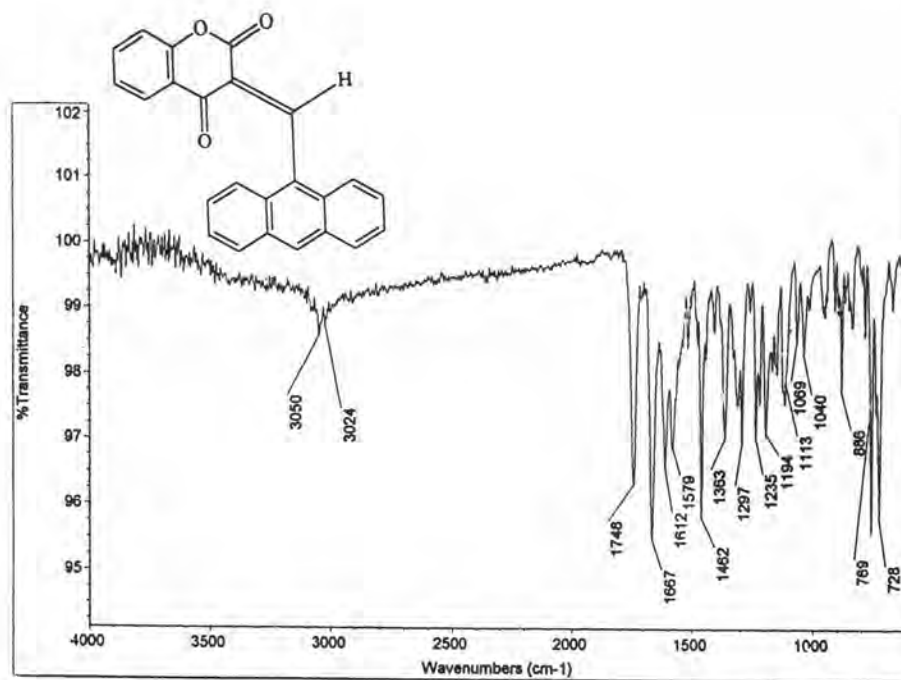


Fig 41 The FT-IR spectrum of Compound 54

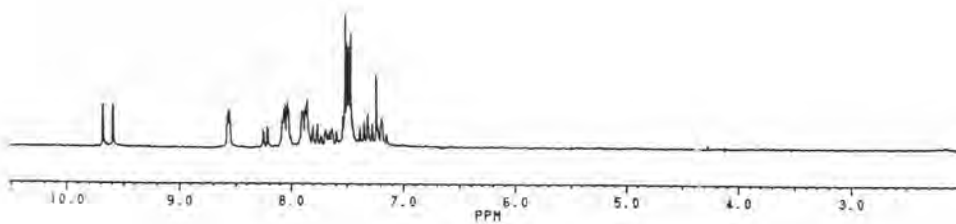


Fig 42 The <sup>1</sup>H-NMR spectrum of Compound 54

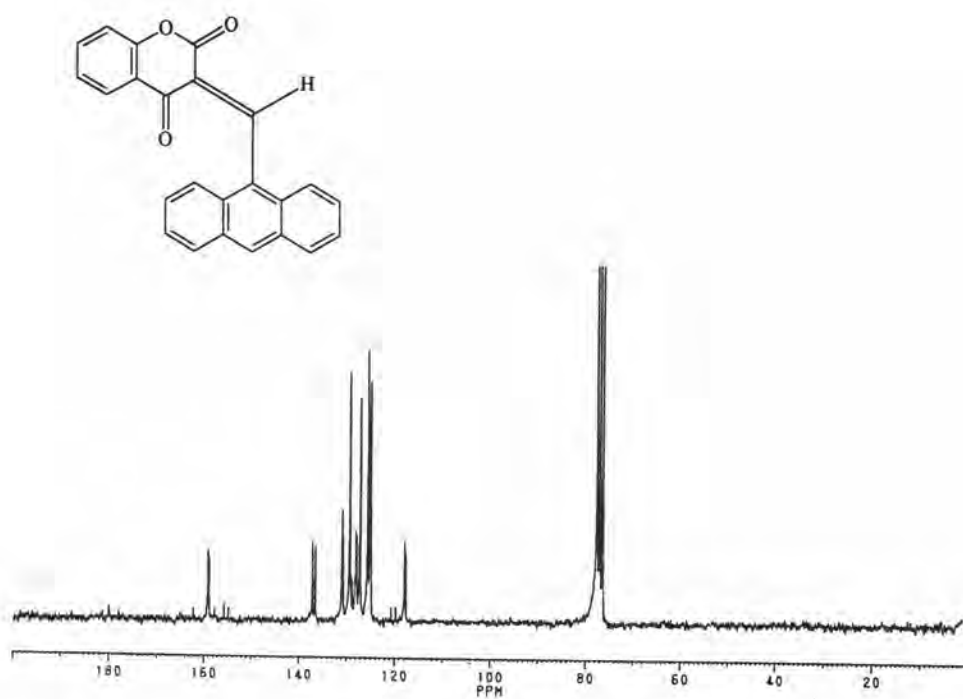


Fig 43 The  $^{13}\text{C}$ -NMR spectrum of Compound 54

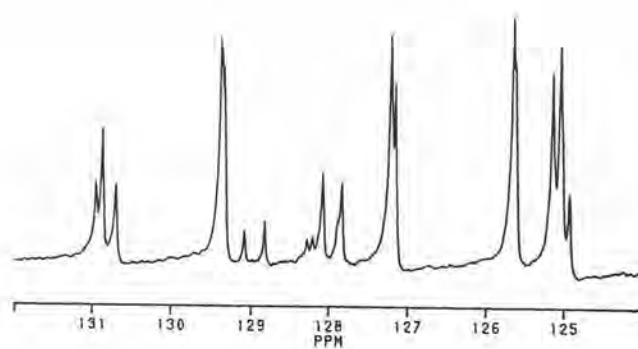


Fig 44 The expanded  $^{13}\text{C}$ -NMR spectrum of Compound 54

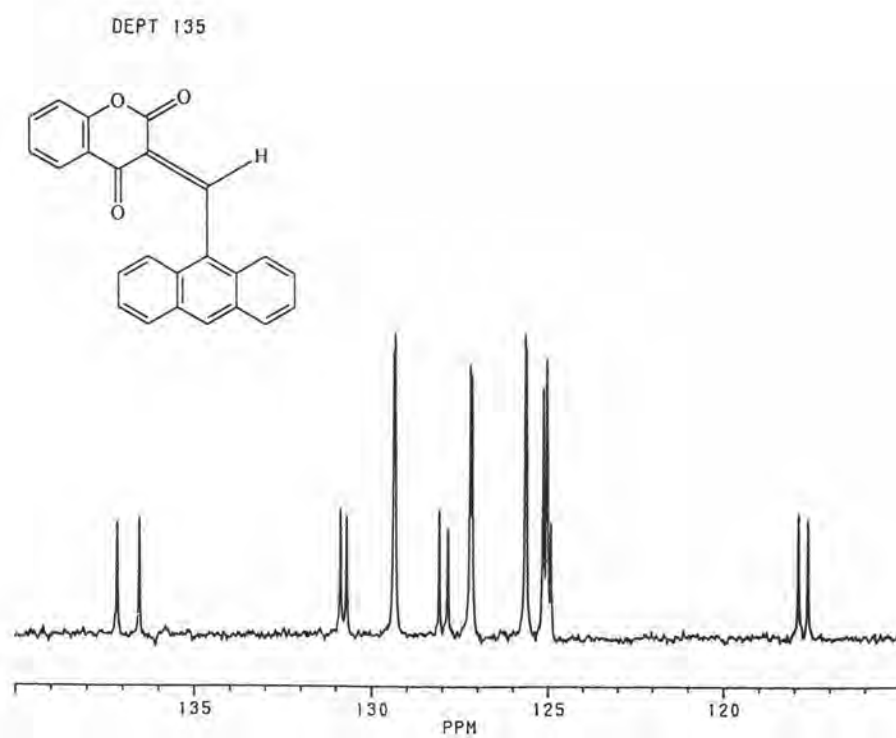


Fig 45 The DEPT 135 spectrum of Compound 54

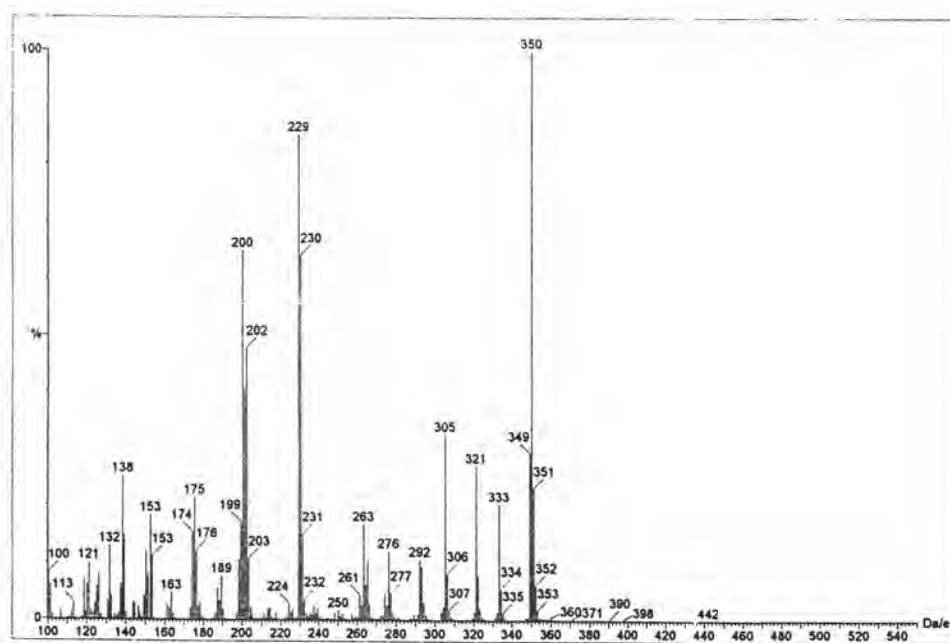


Fig 46 The mass spectrum of Compound 54

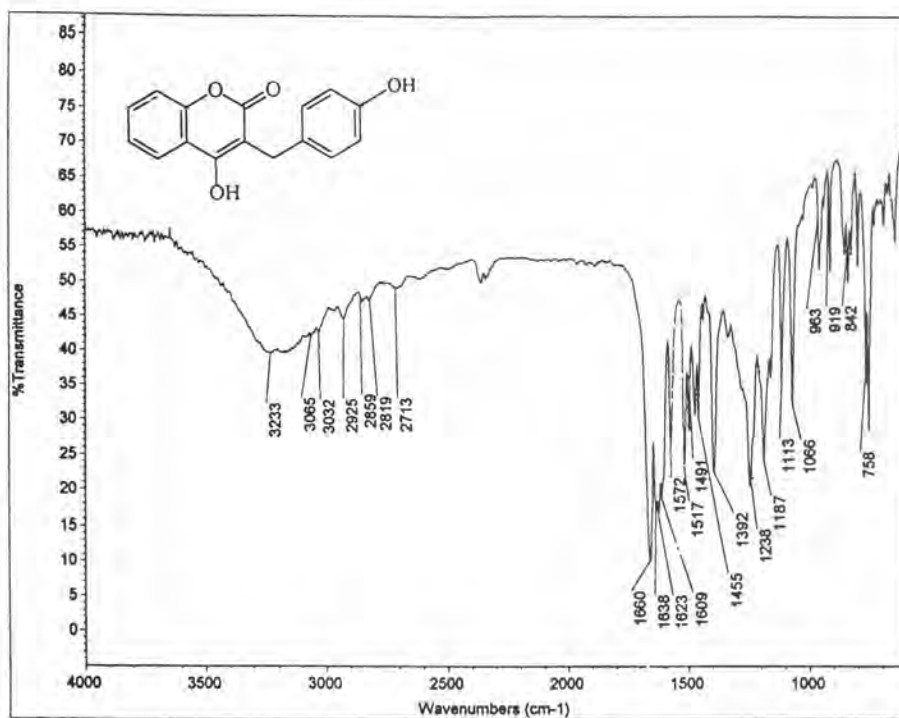


Fig 47 The FT-IR spectrum of Compound R12

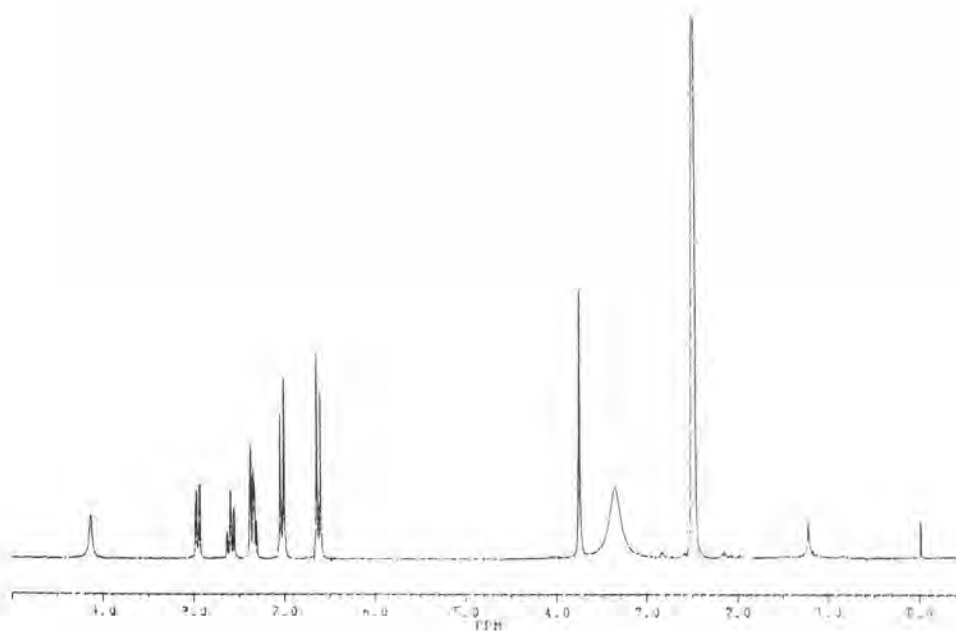


Fig 48 The <sup>1</sup>H-NMR spectrum of Compound R12

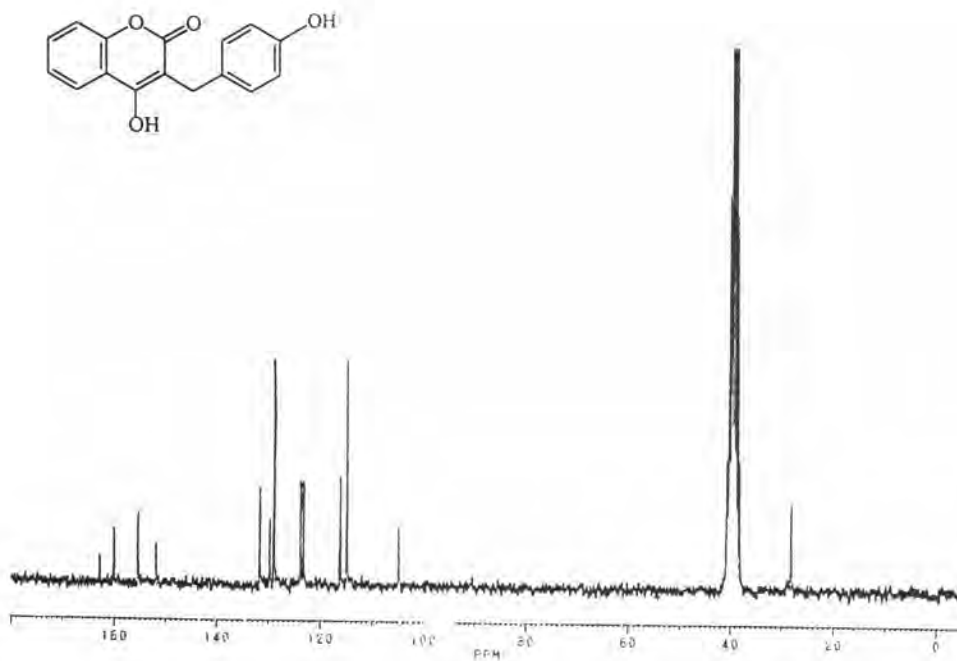


Fig 49 The  $^{13}\text{C}$ -NMR spectrum of Compound R12

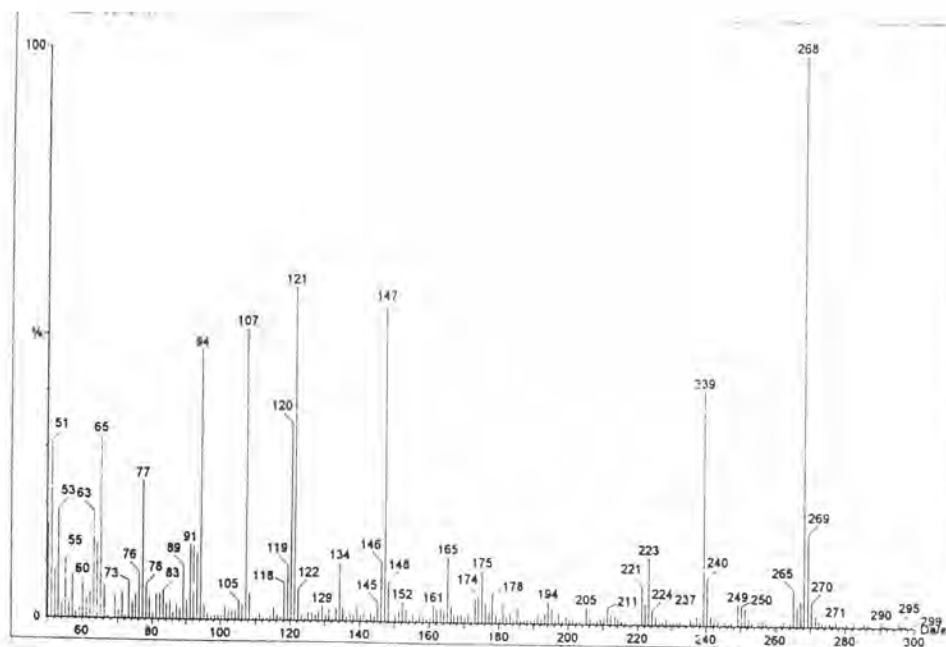


Fig 50 The mass spectrum of Compound R12

**VITA**

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