

NUEVOS ANTIMITÓTICOS BASADOS EN SULFONAMIDAS: DISEÑO, SÍNTESIS Y EVALUACIÓN COMO AGENTES ANTITUMORALES Y LEISHMANICIDAS

Myriam González Díaz

Departamento de Ciencias Farmacéuticas, área de Química Farmacéutica.
Facultad de Farmacia.
Universidad de Salamanca.

Memoria para optar al Grado de Doctor bajo la dirección de:

Dr. Rafael Peláez, Dra. Raquel Álvarez, Prof. Manuel Medarde.

Anexo digital 2.d. ^1H and ^{13}C NMR spectra of the synthesized sulfonamide library.

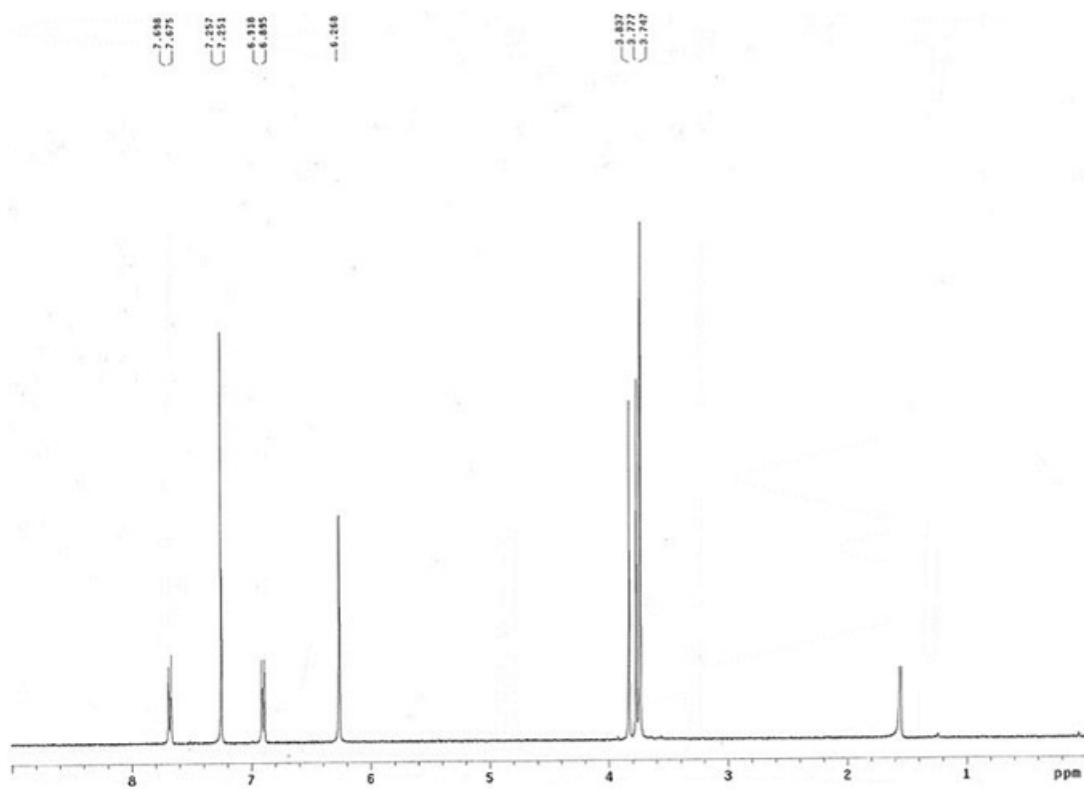


Fig. 1a: Compound **1a** ^1H NMR spectra.

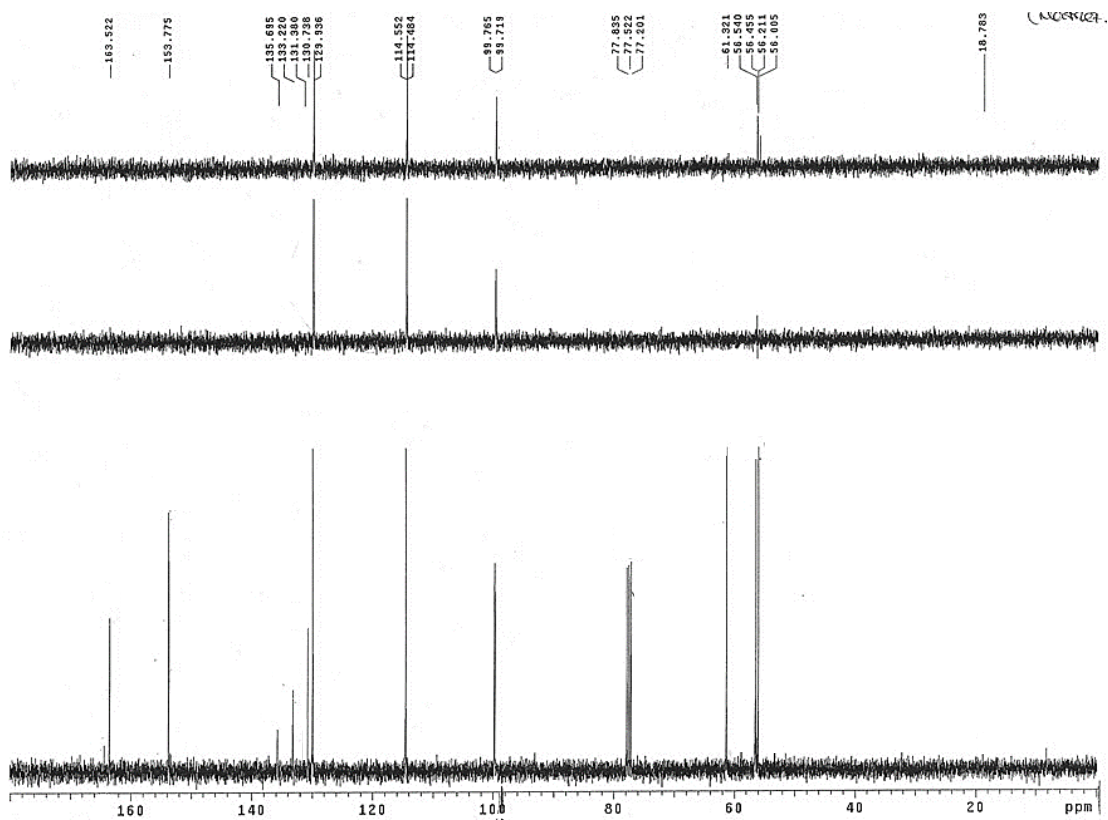


Fig. 1b: Compound **1a** ^{13}C NMR spectra.

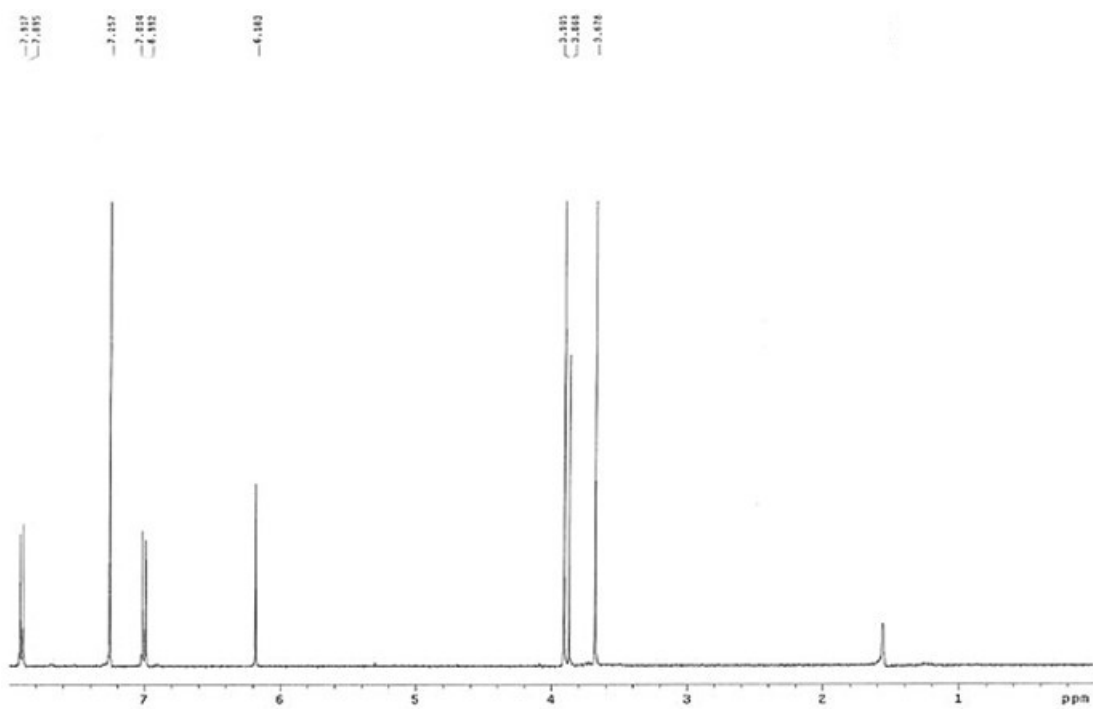


Fig. 2a: Compound **1b** ¹H NMR spectra.

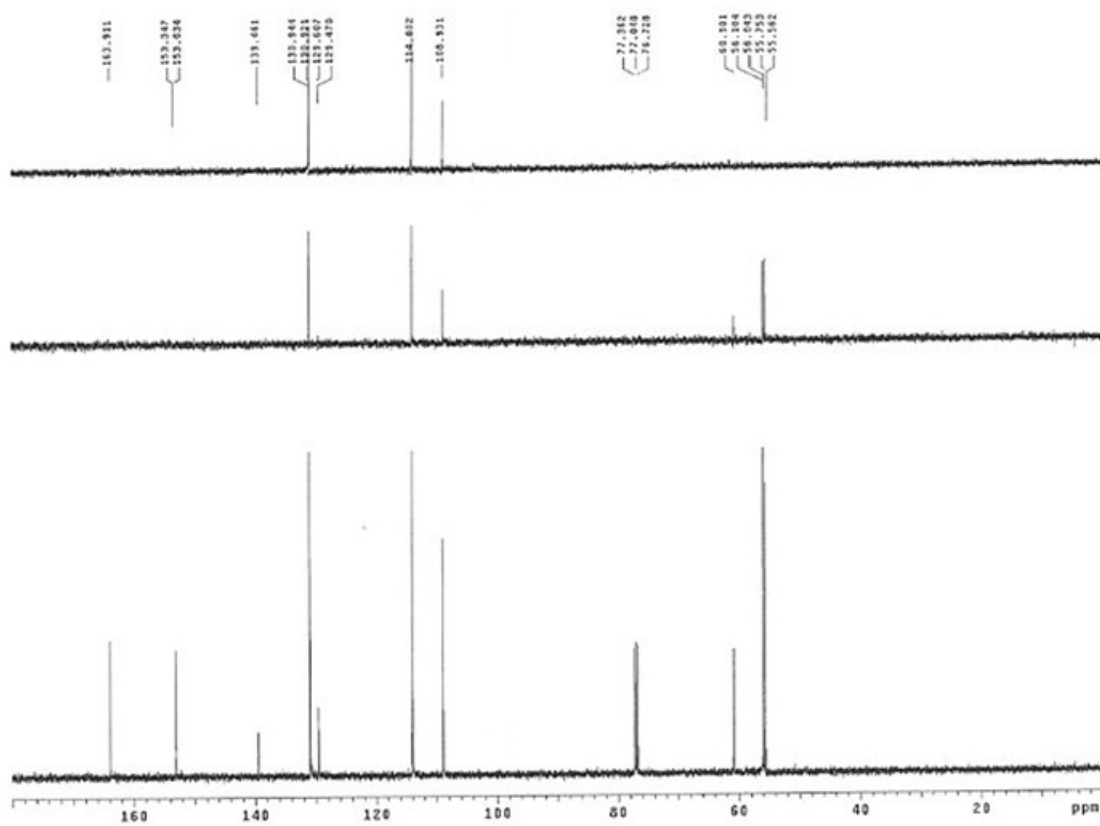


Fig. 2b: Compound **1b** ¹³C NMR spectra.

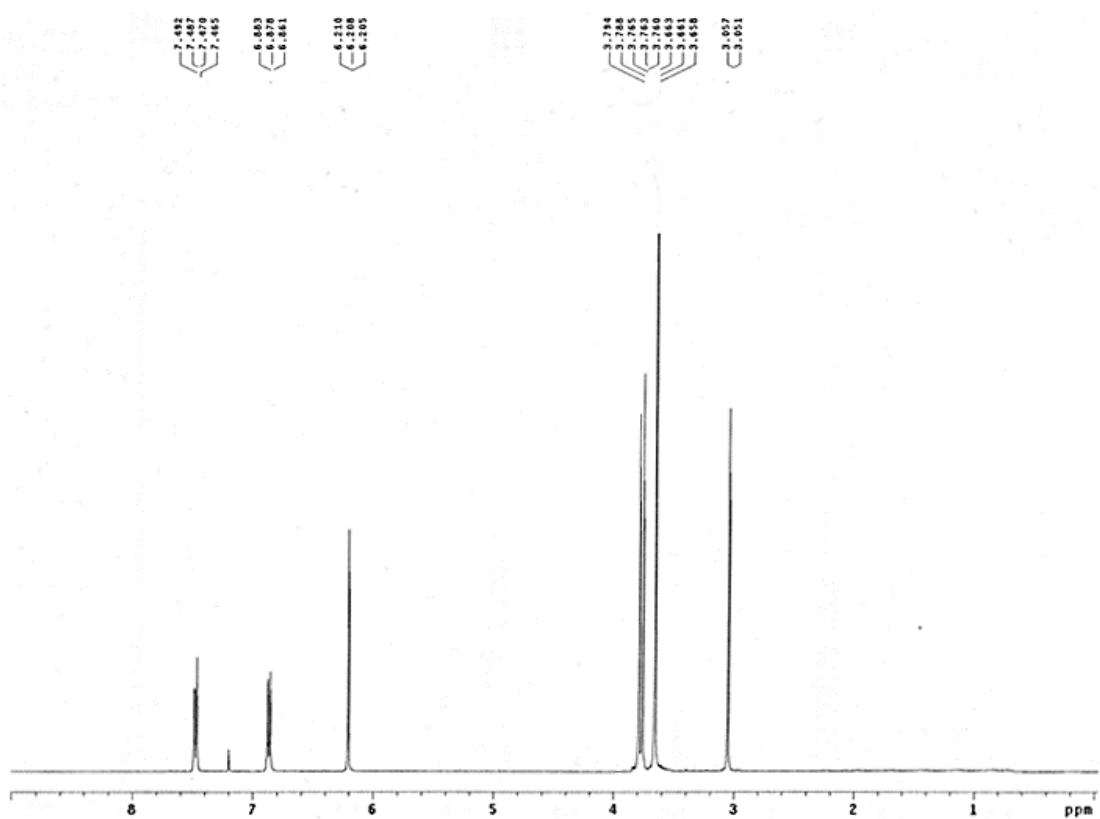


Fig. 3a: Compound 2a ¹H NMR spectra.

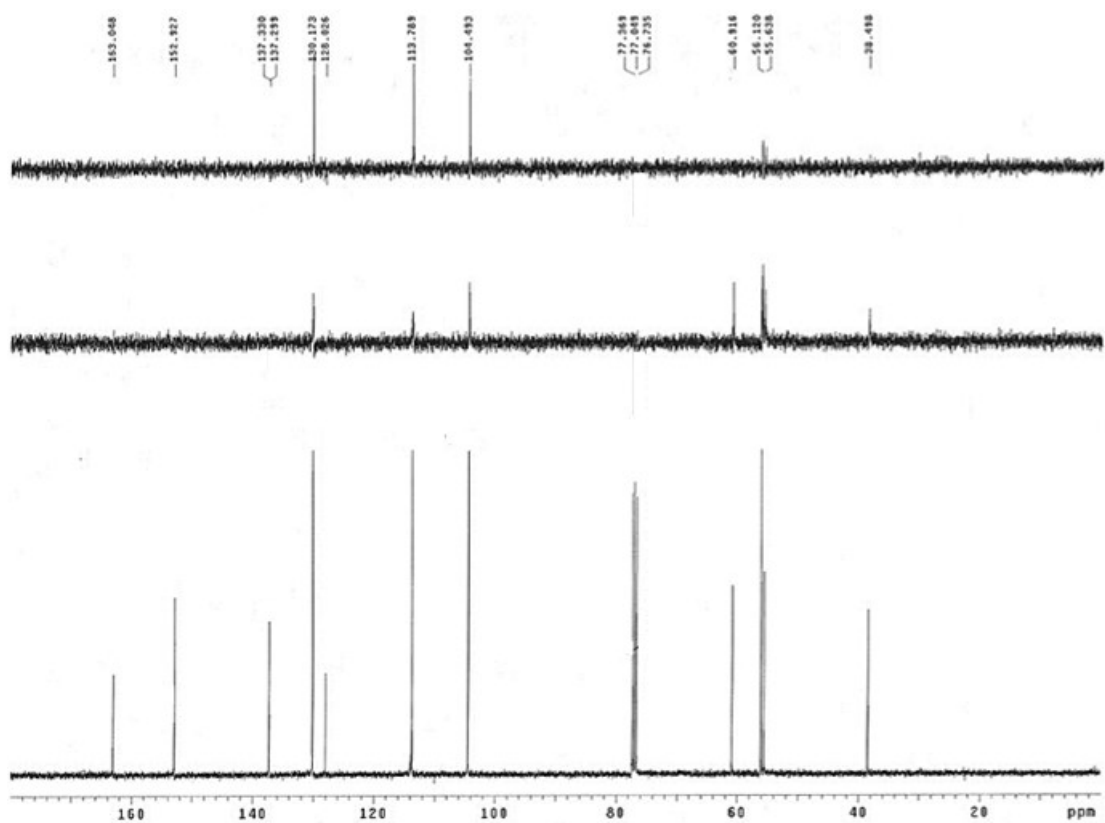


Fig. 3b: Compound 2a ¹³C NMR spectra.

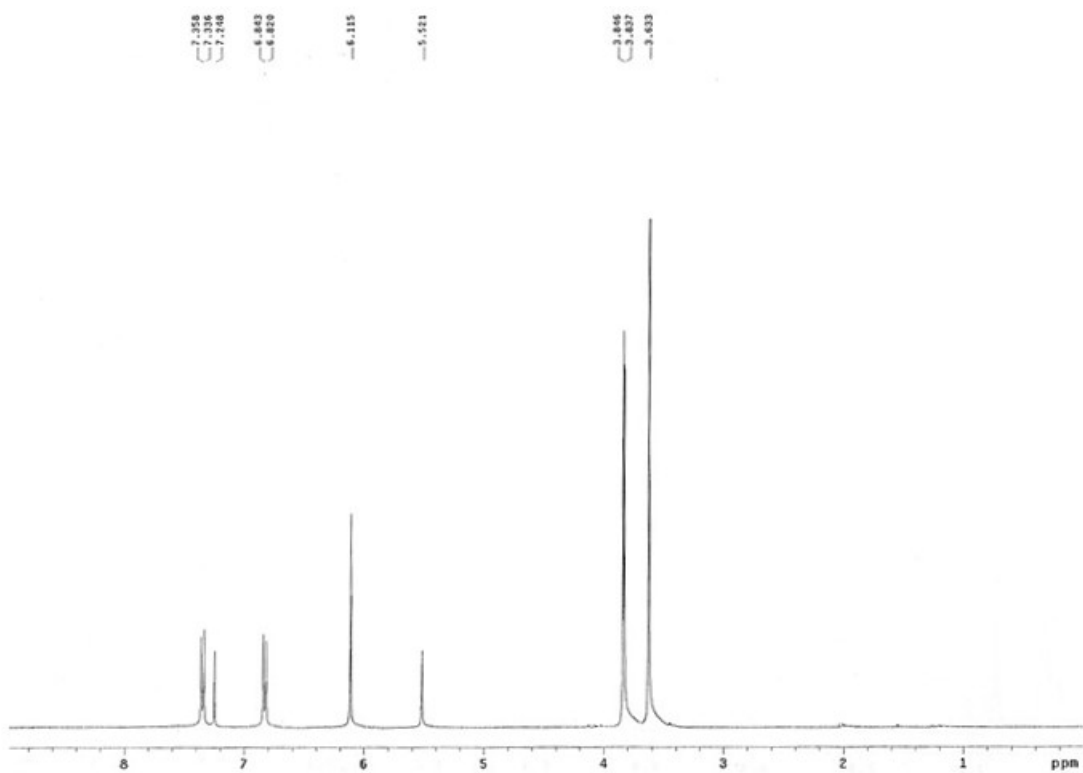


Fig. 4a: Compound **2b** ^1H NMR spectra.

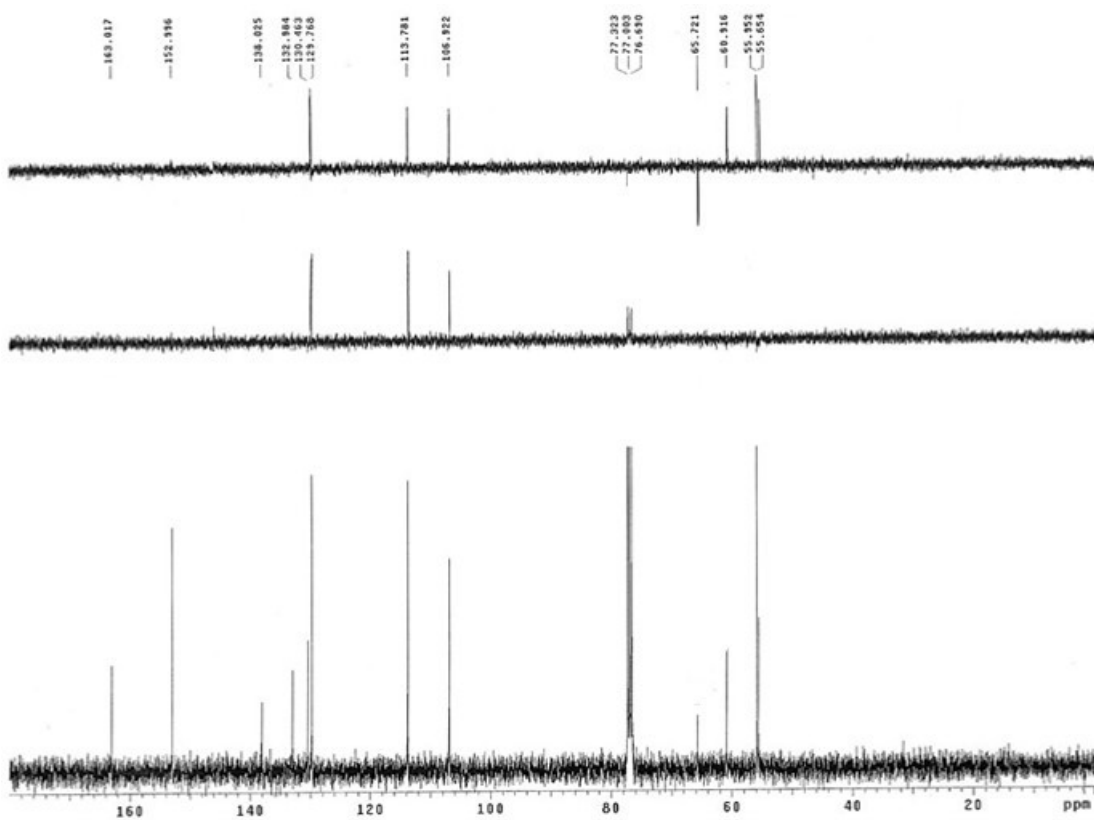


Fig. 4b: Compound **2b** ^{13}C NMR spectra.

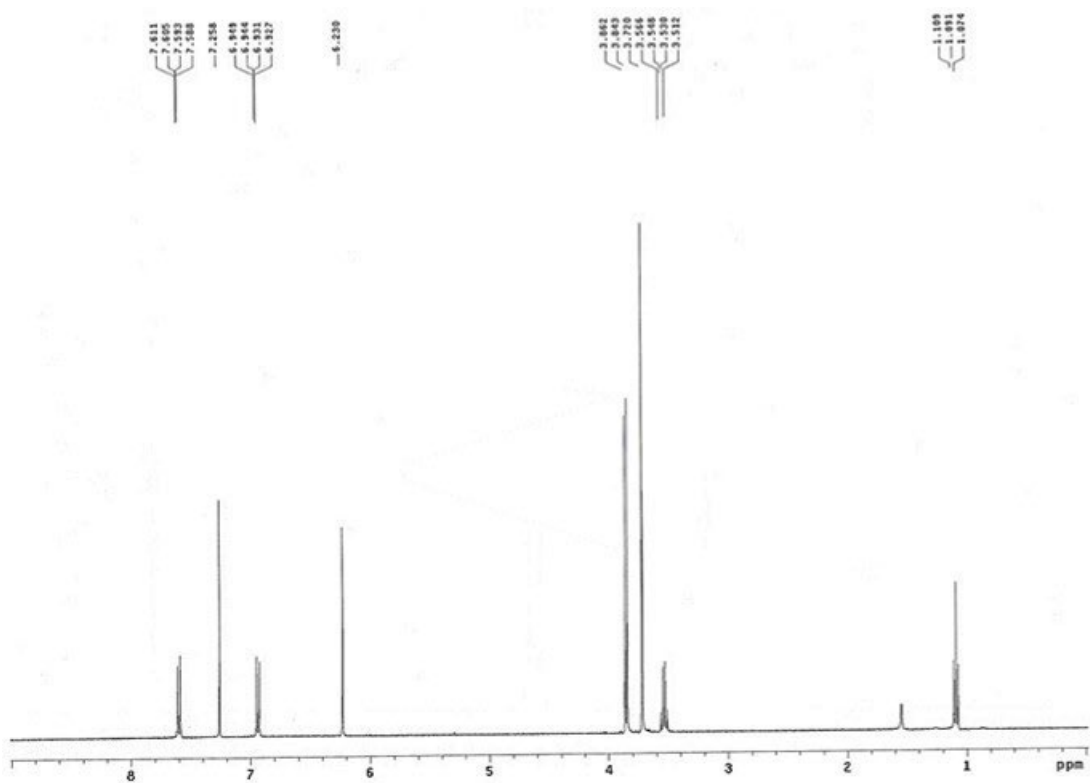


Fig. 5a: Compound **3** ^1H NMR spectra.

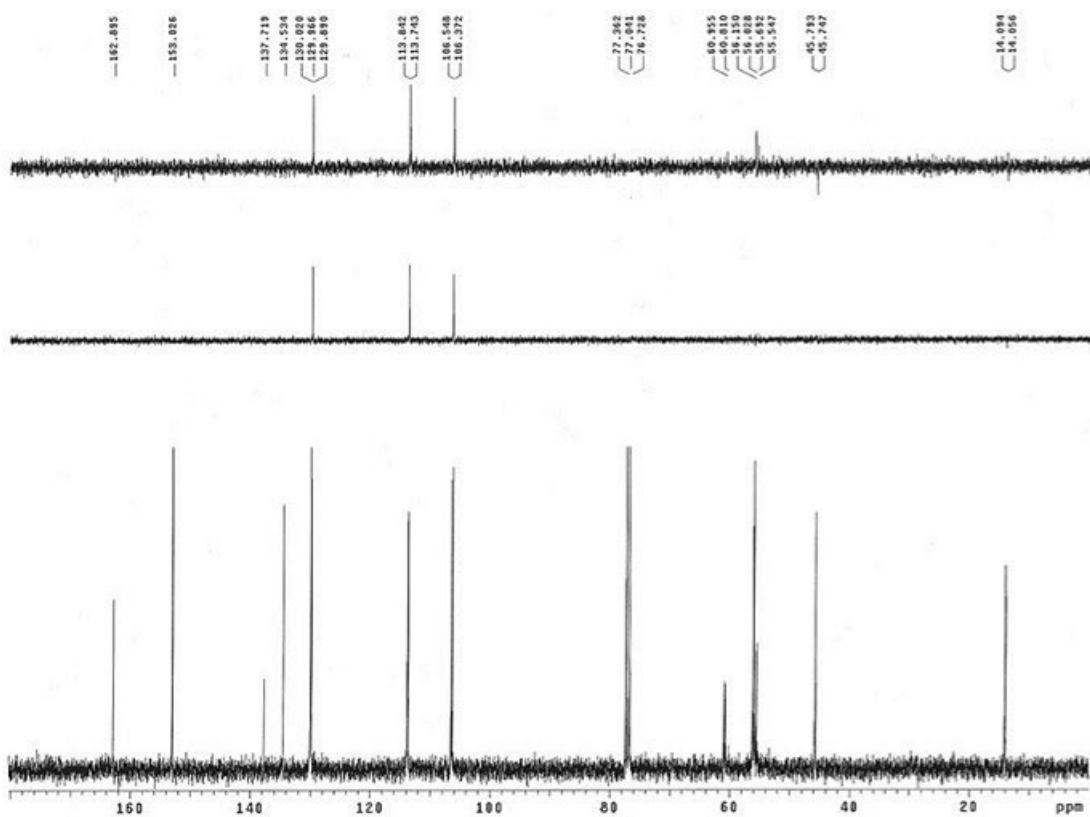


Fig. 5b: Compound **3** ^{13}C NMR spectra.

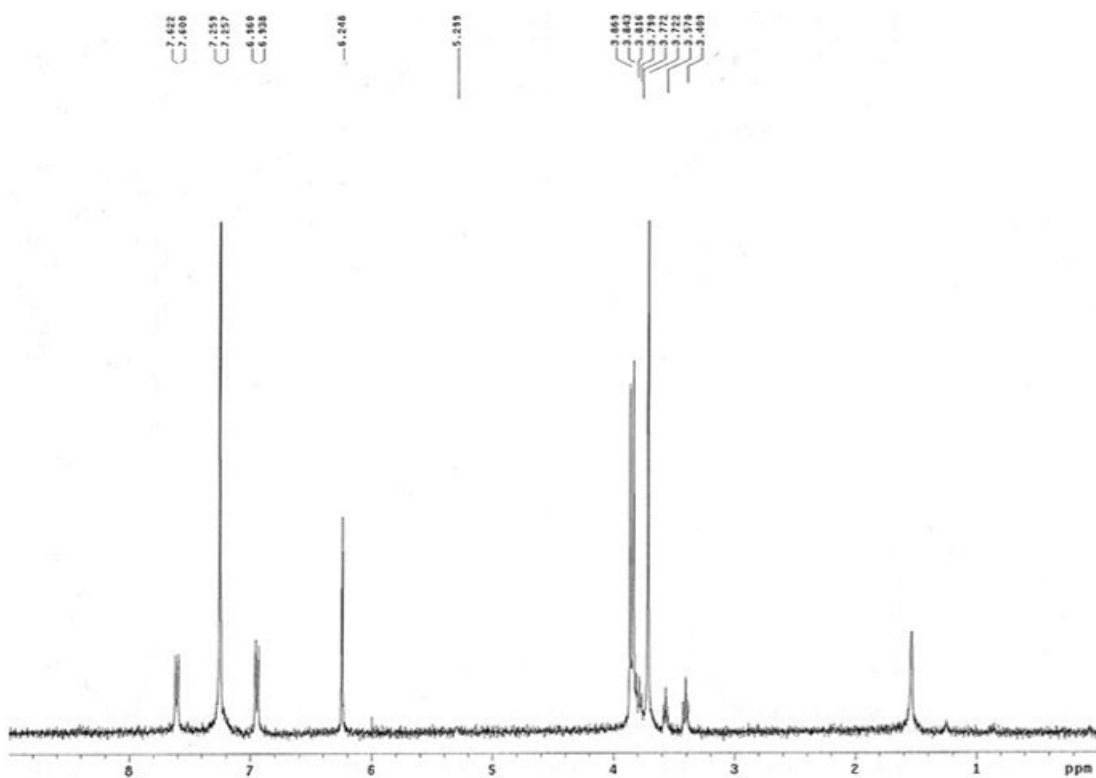


Fig. 6a: Compound **4** ^1H NMR spectra.

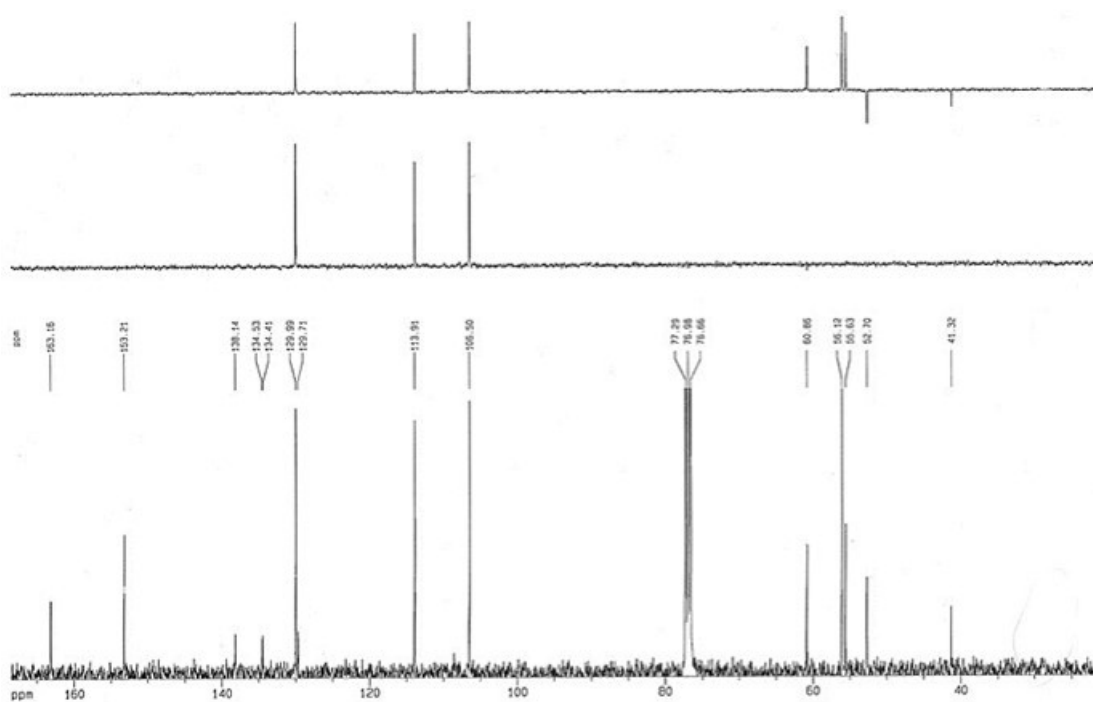


Fig. 6b: Compound **4** ^{13}C NMR spectra.

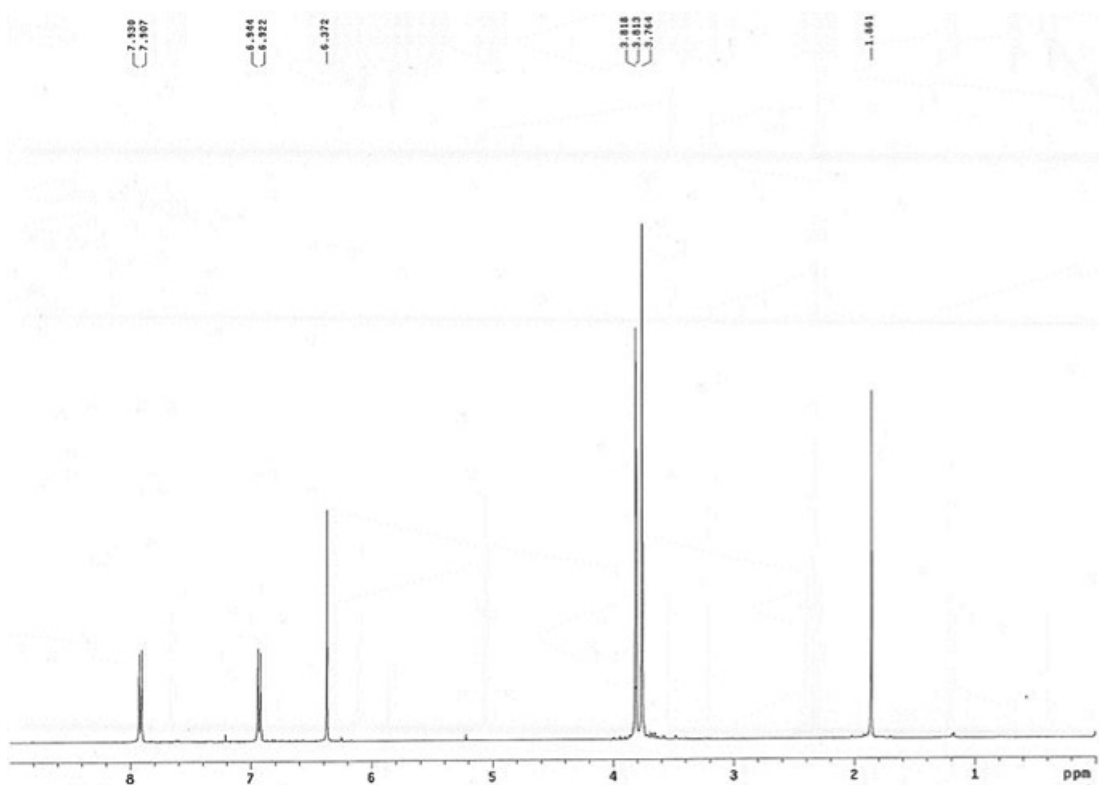


Fig. 7a: Compound 5 ^1H NMR spectra.

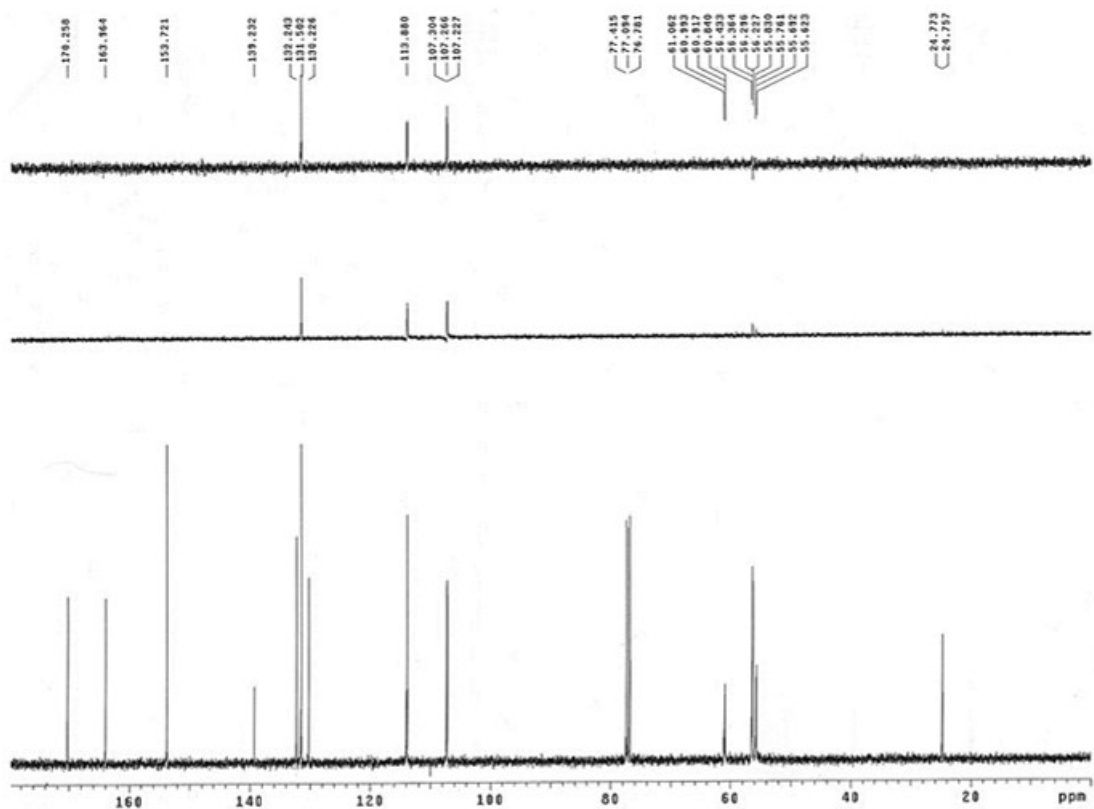


Fig. 7b: Compound 5 ^{13}C NMR spectra.

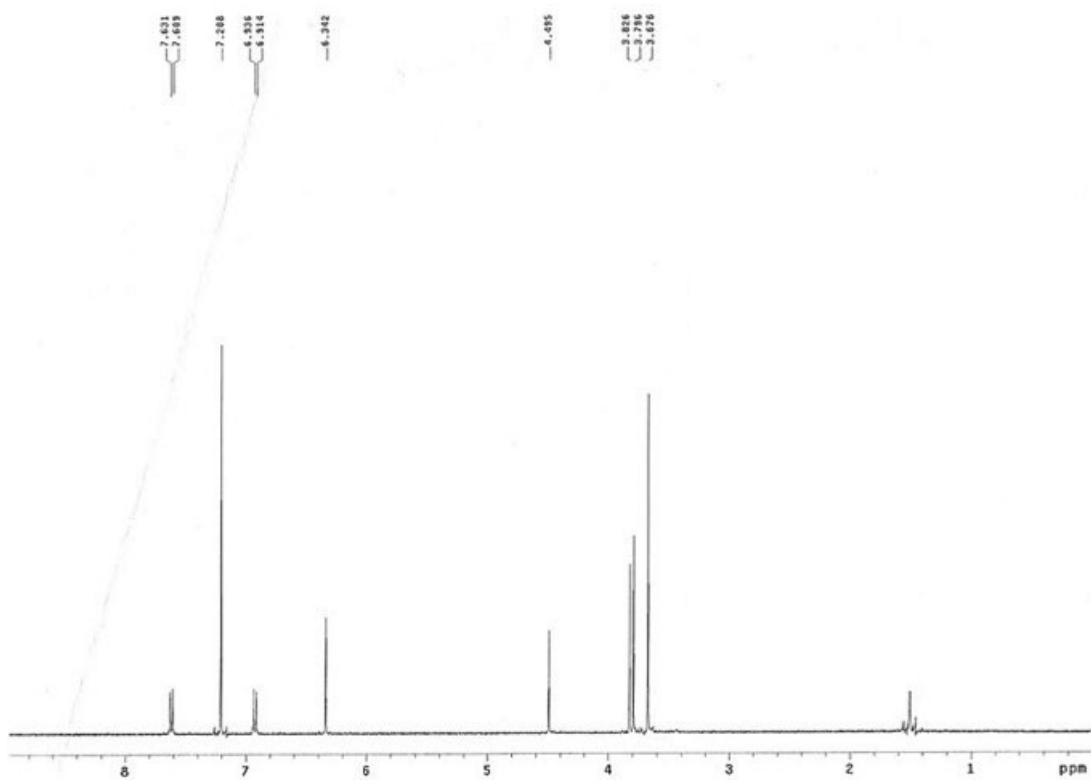


Fig. 8a: Compound 6 ^1H NMR spectra.

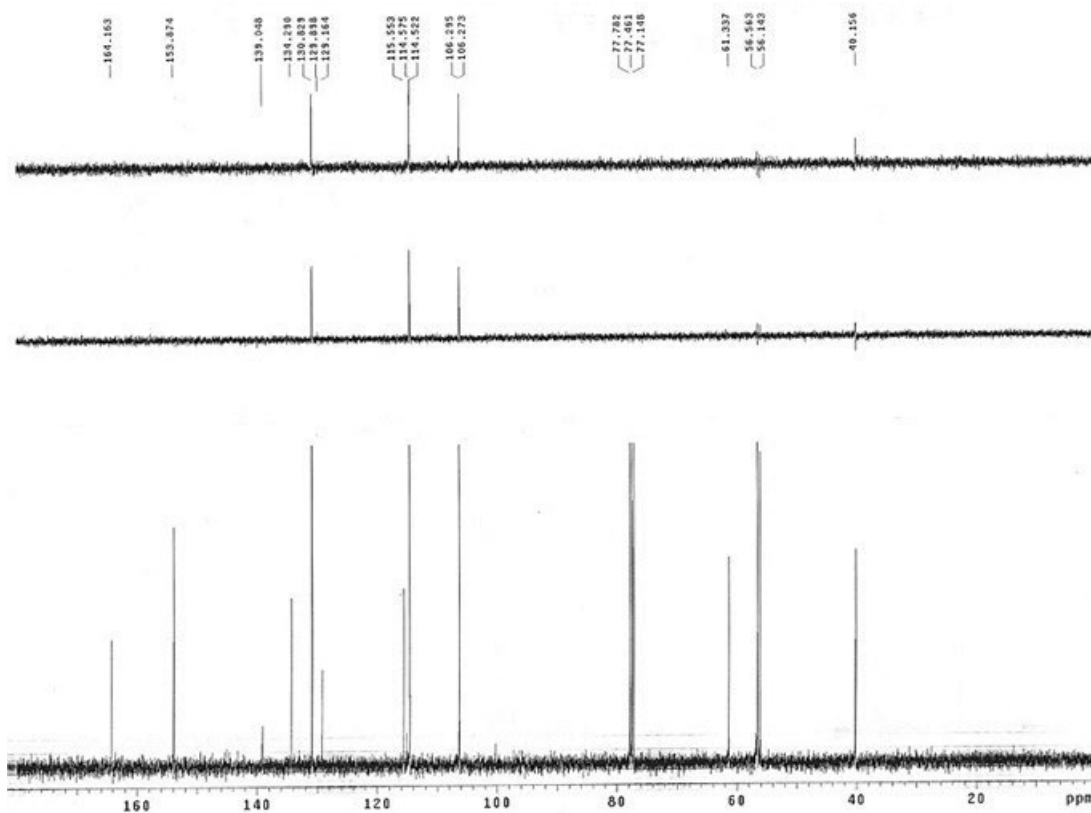


Fig. 8b: Compound 6 ^{13}C NMR spectra.

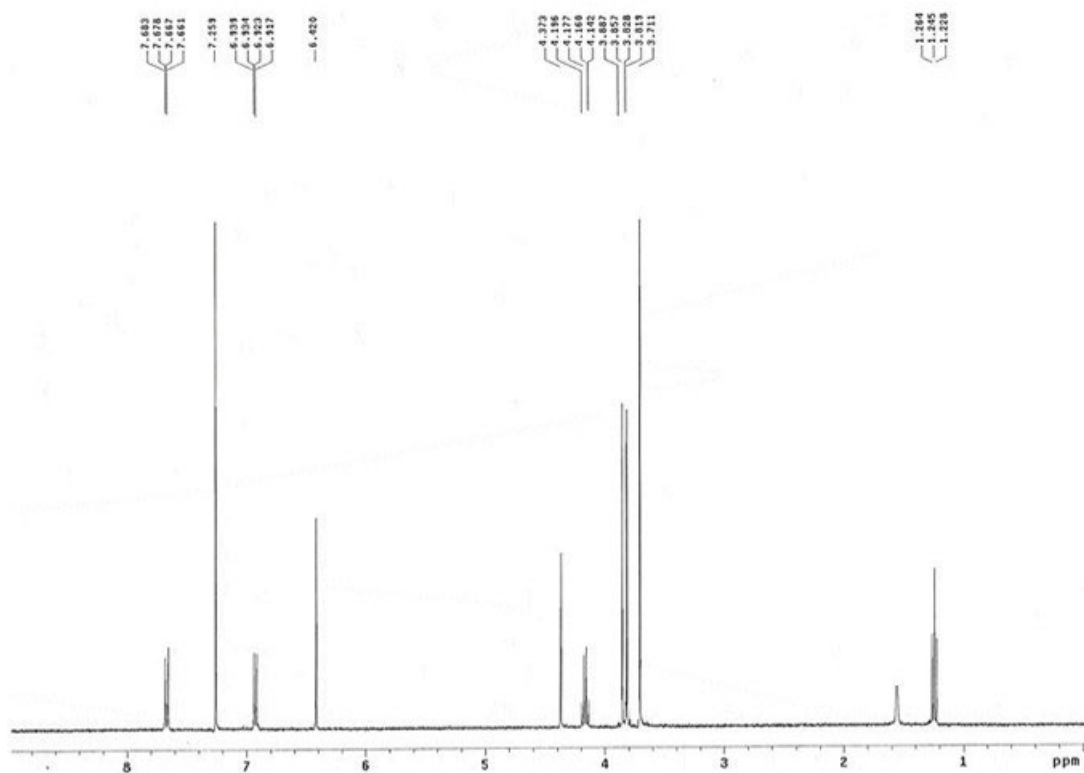


Fig. 9a: Compound 7 ¹H NMR spectra.

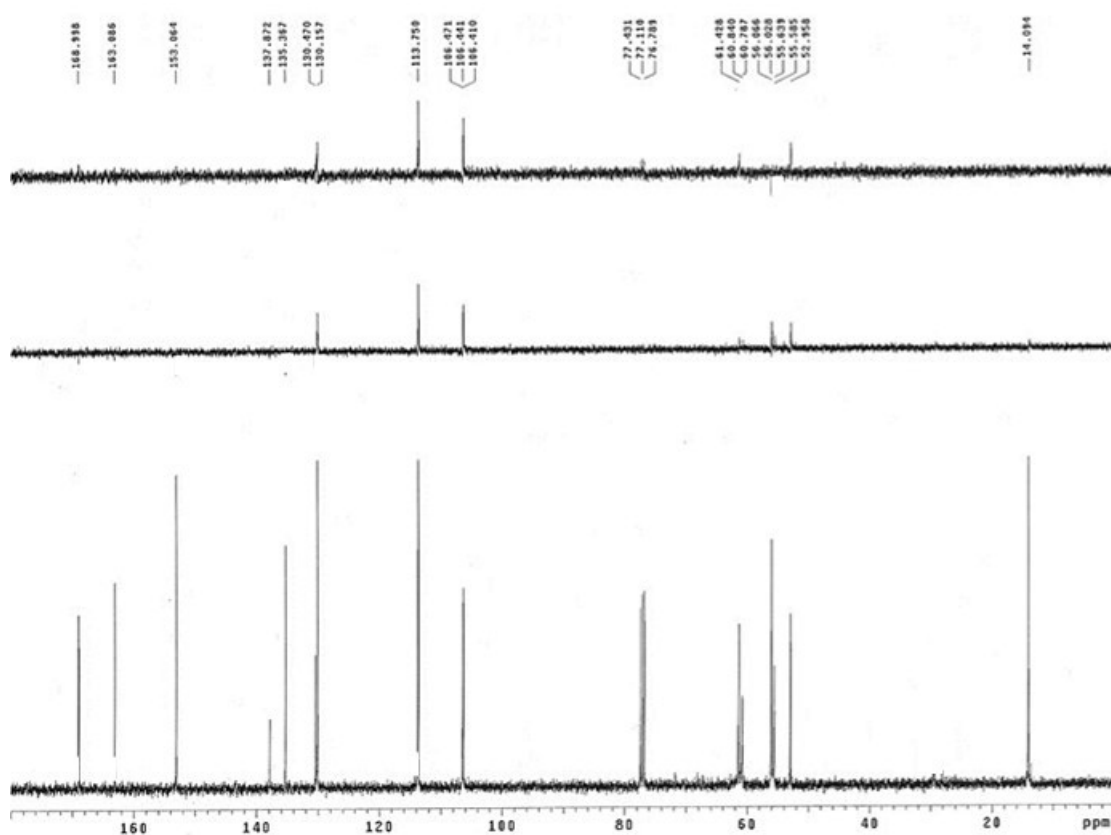


Fig. 9b: Compound 7 ¹³C NMR spectra.

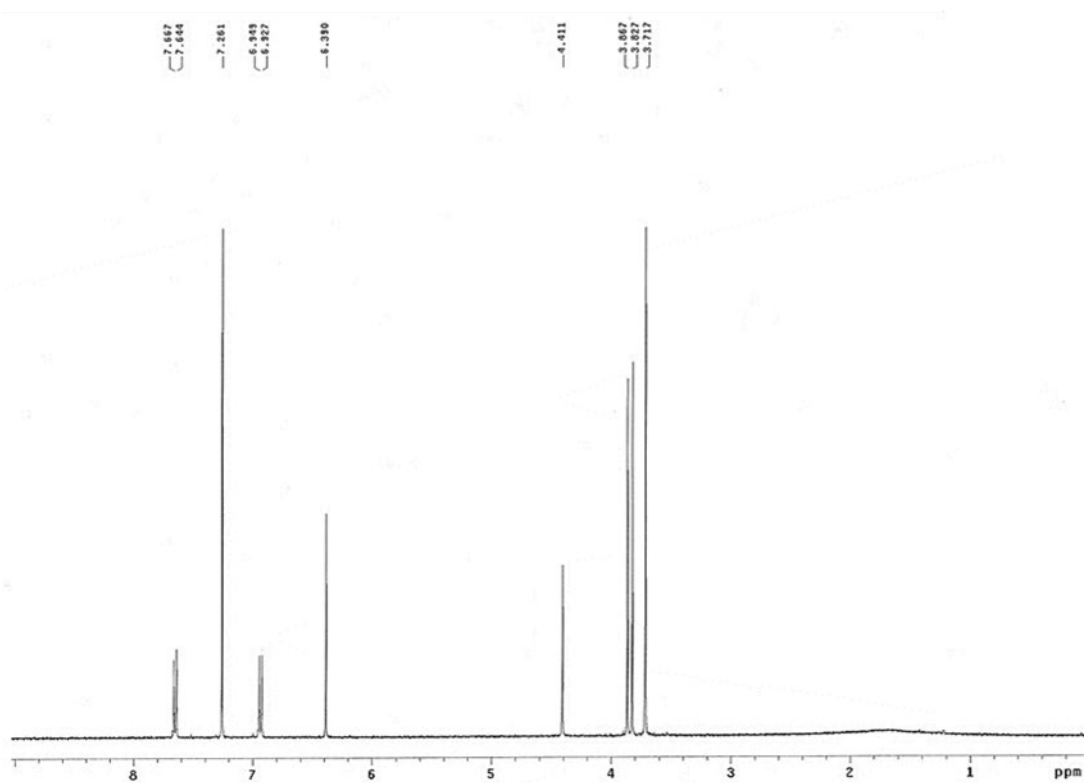


Fig. 10a: Compound **8** ^1H NMR spectra.

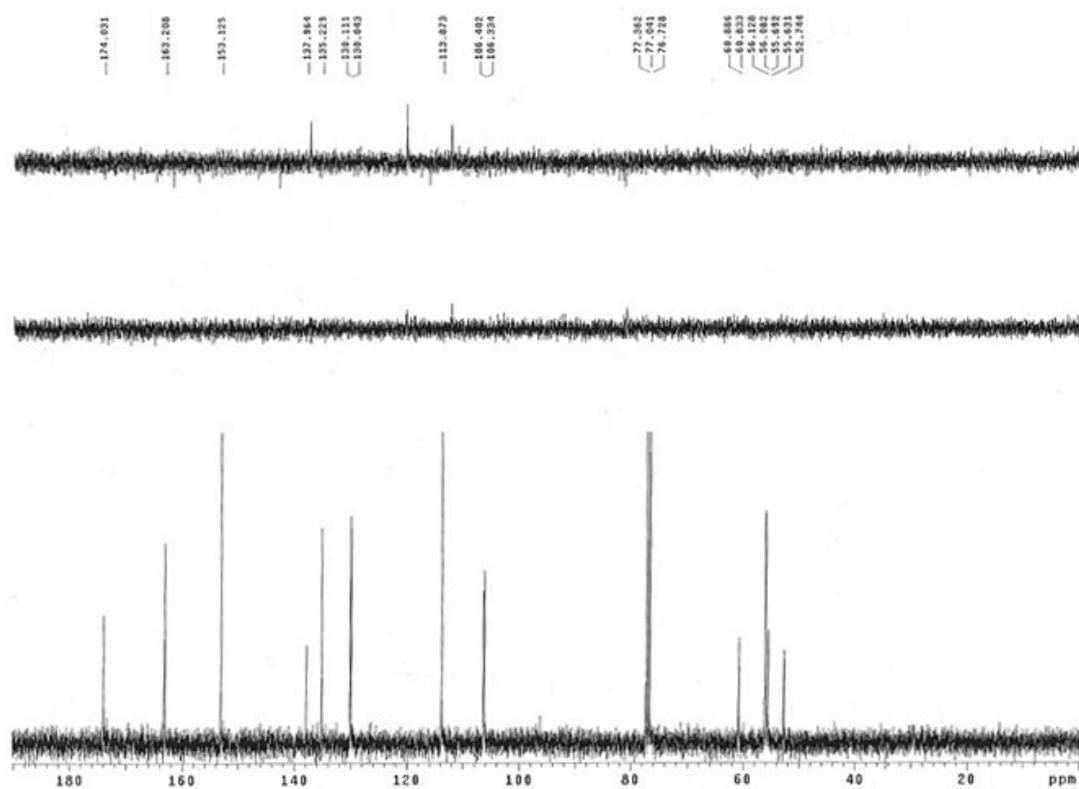


Fig. 10b: Compound **8** ^{13}C NMR spectra.

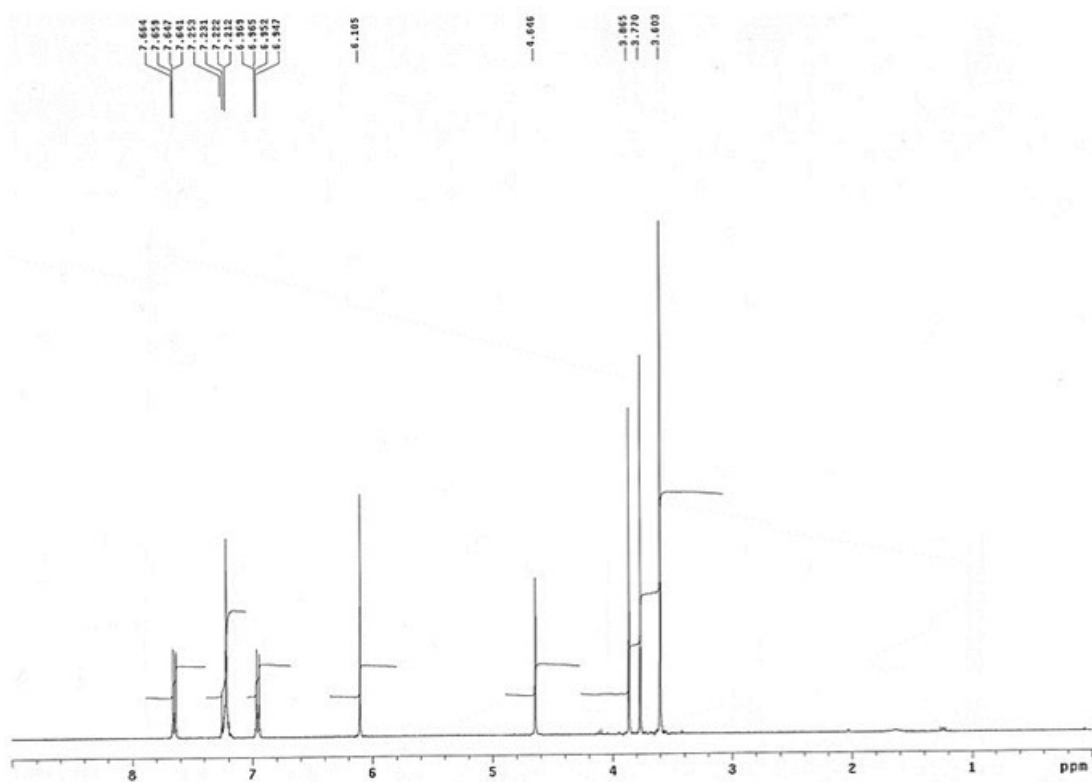


Fig. 11a: Compound 9 ^1H NMR spectra.

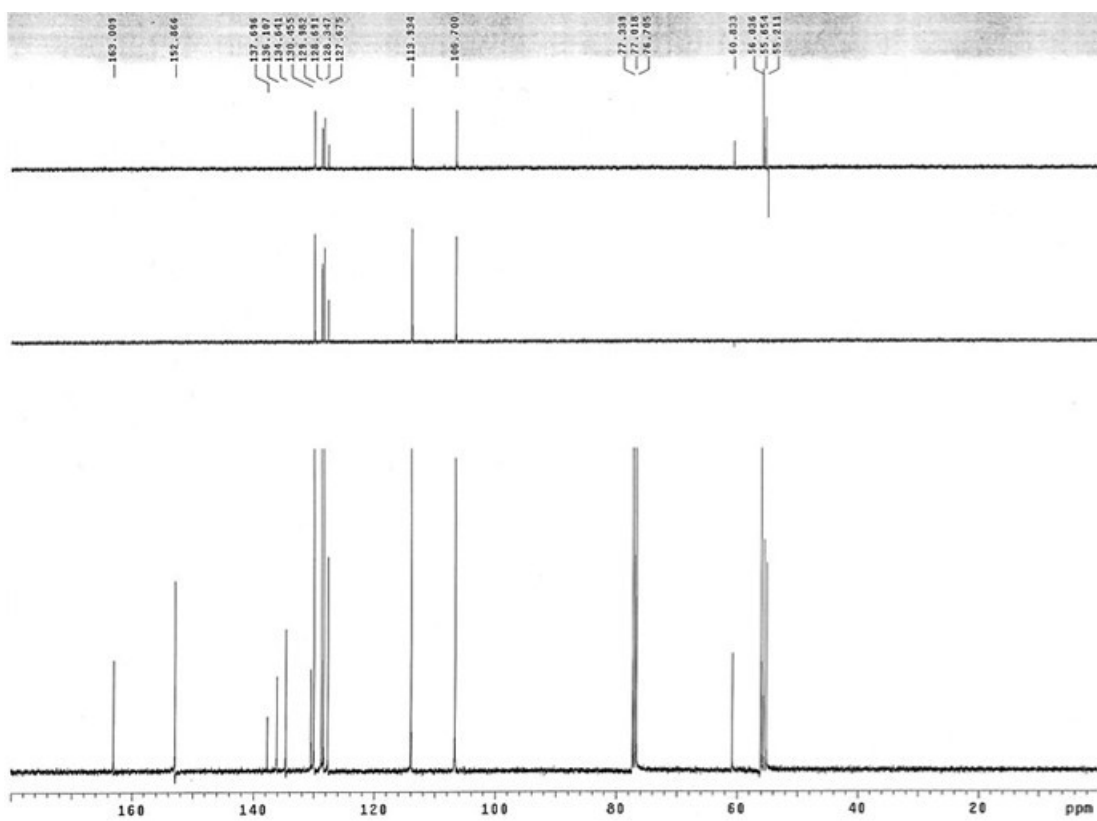


Fig. 11b: Compound 9 ^{13}C NMR spectra.

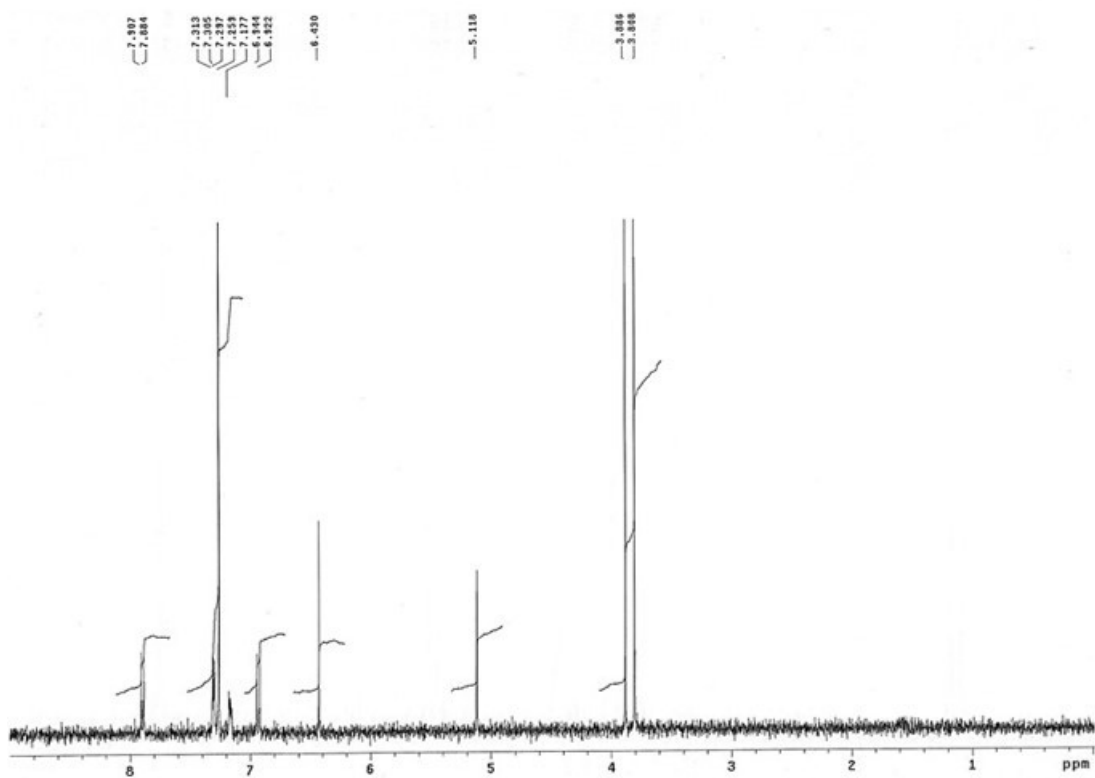


Fig. 12a: Compound **10** ^1H NMR spectra.

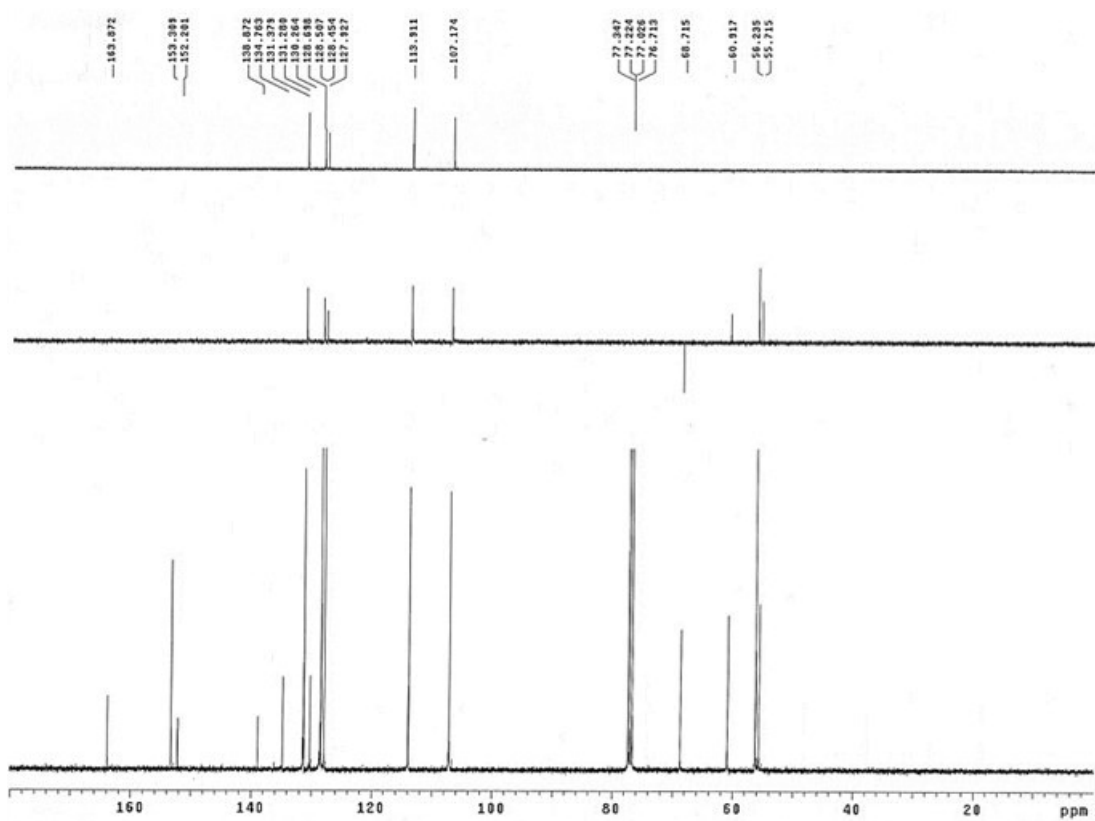


Fig. 12b: Compound **10** ^{13}C NMR spectra.

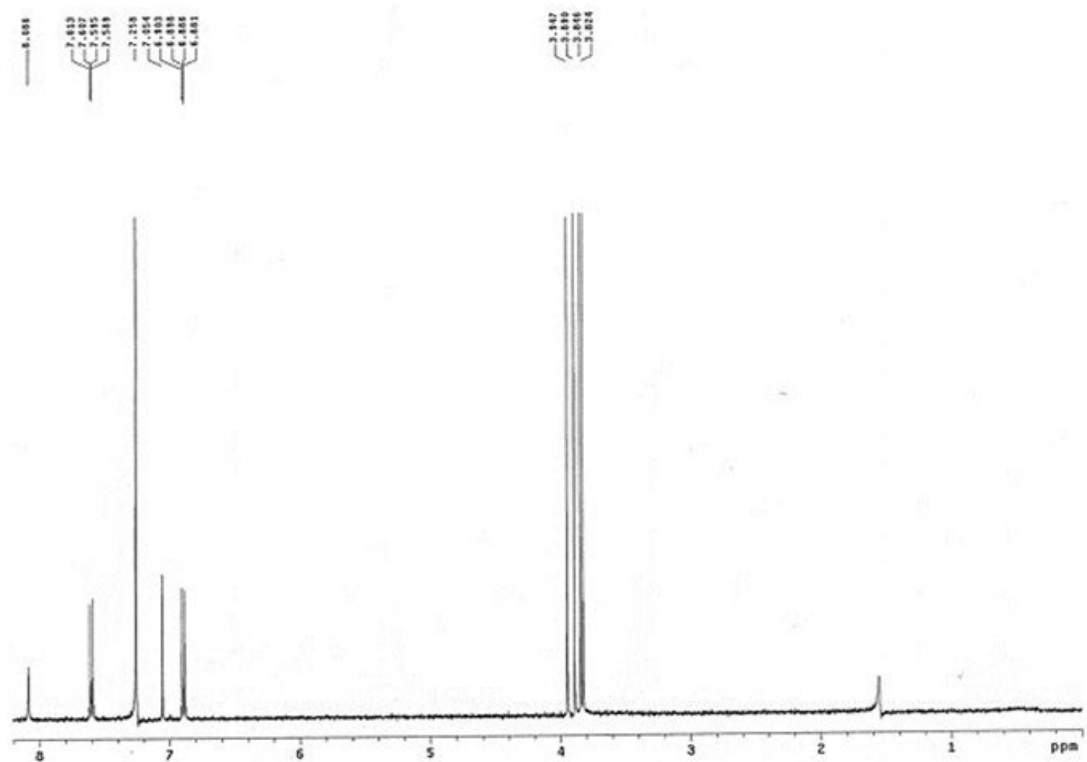


Fig. 13a: Compound **11** ^1H NMR spectra.

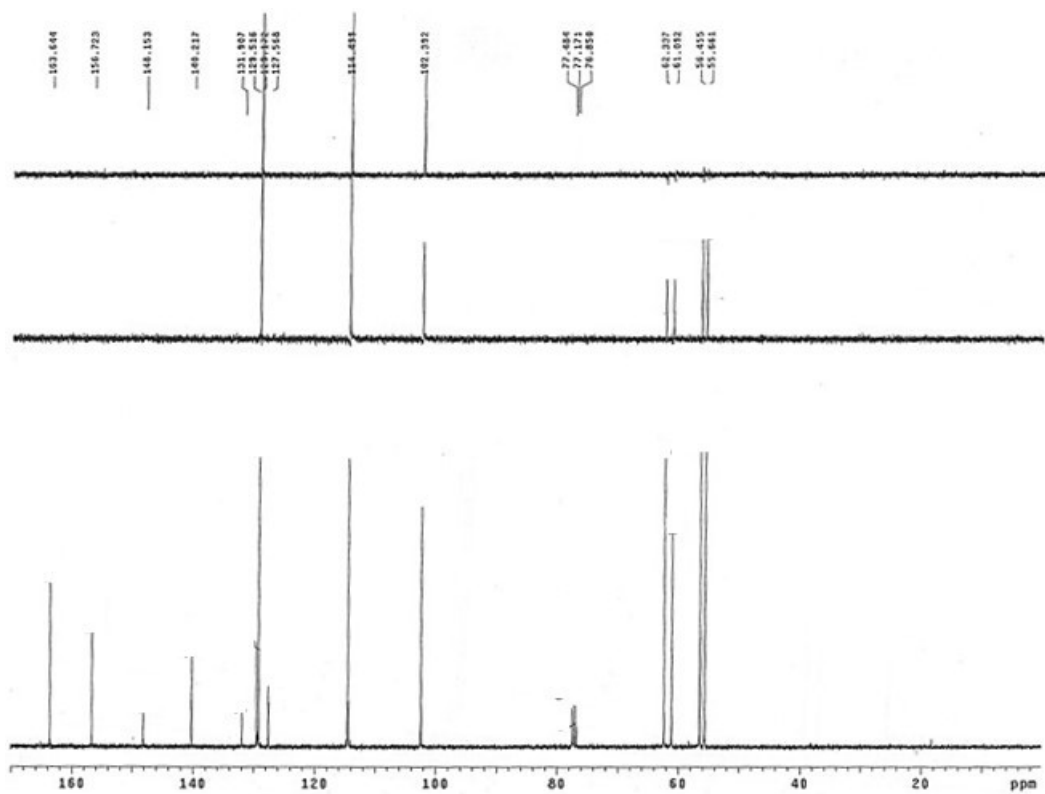


Fig. 13b: Compound **11** ^{13}C NMR spectra.

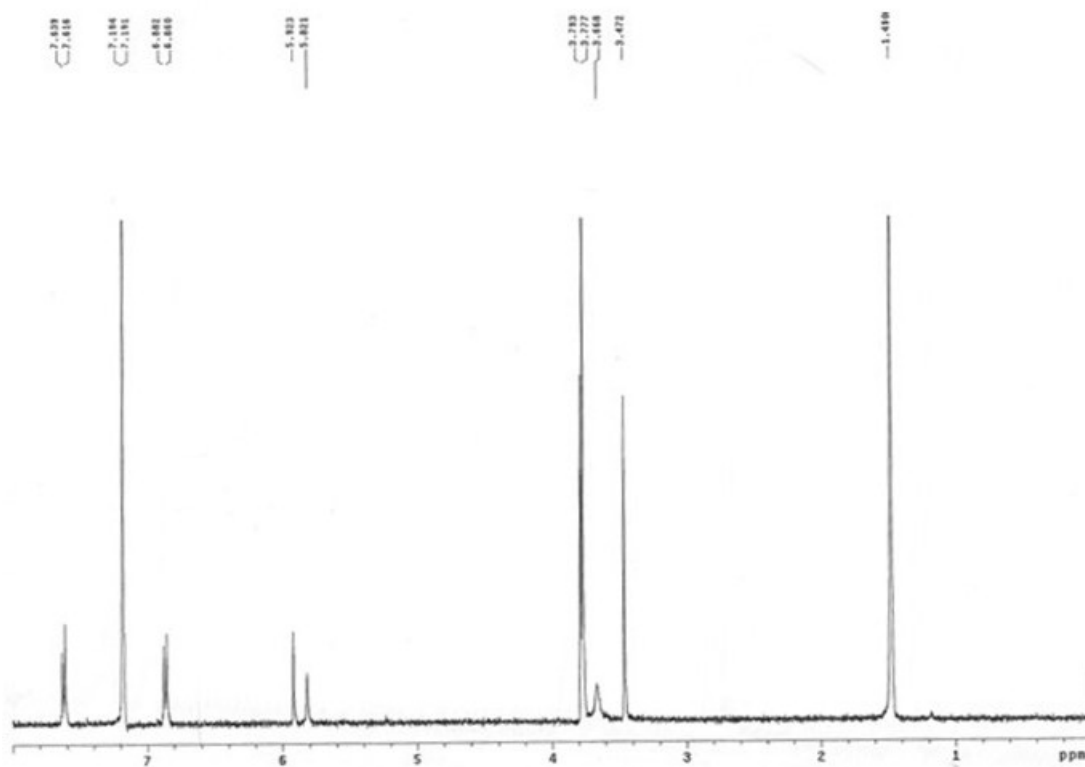


Fig. 14a: Compound **12** ^1H NMR spectra.

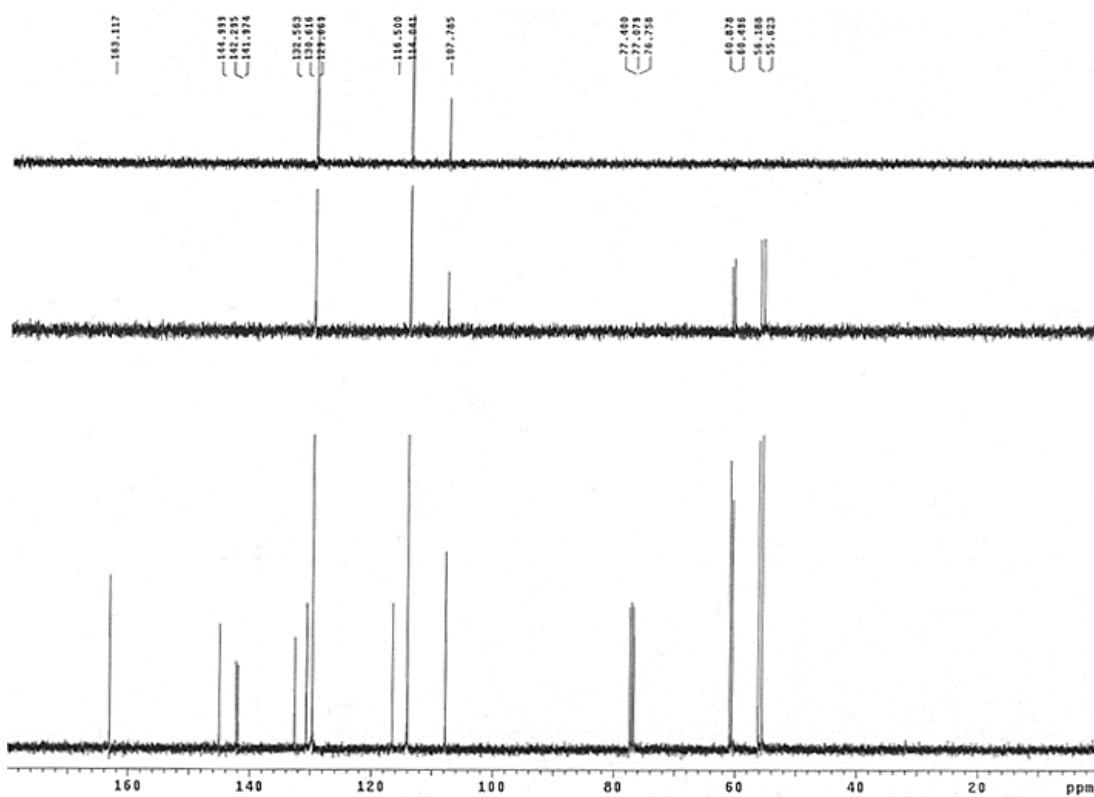


Fig. 14b: Compound **12** ^{13}C NMR spectra.

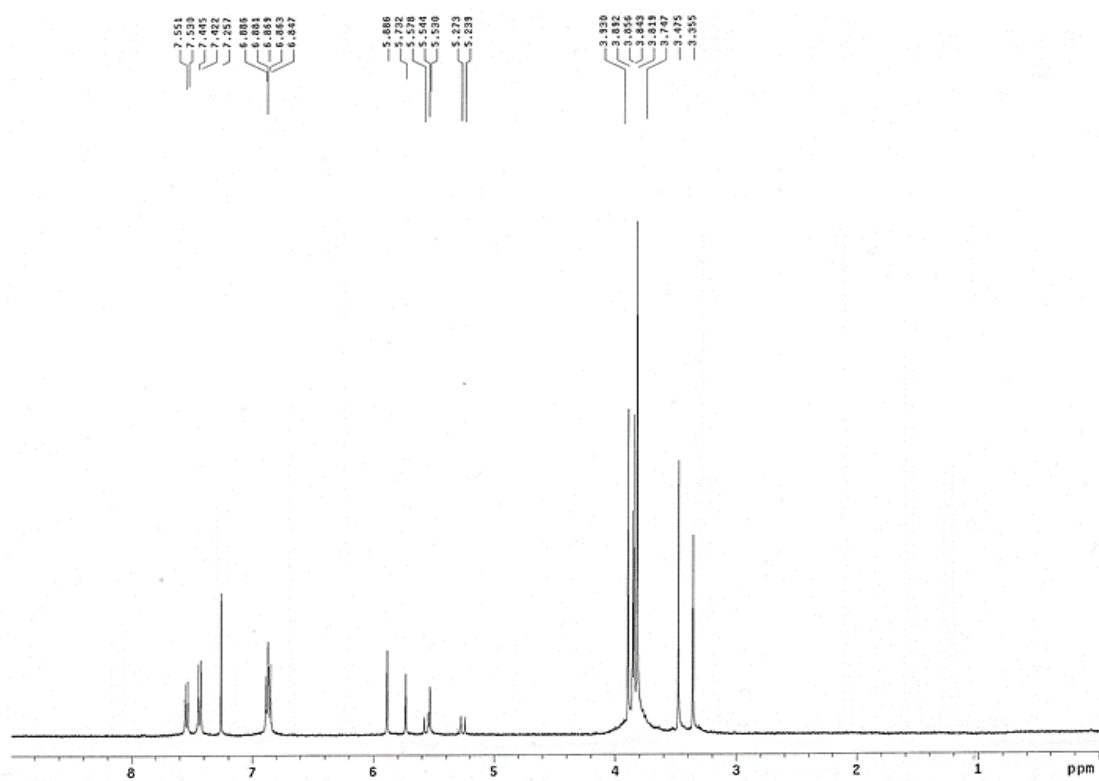


Fig. 16a: Compound **14** ^1H NMR spectra.

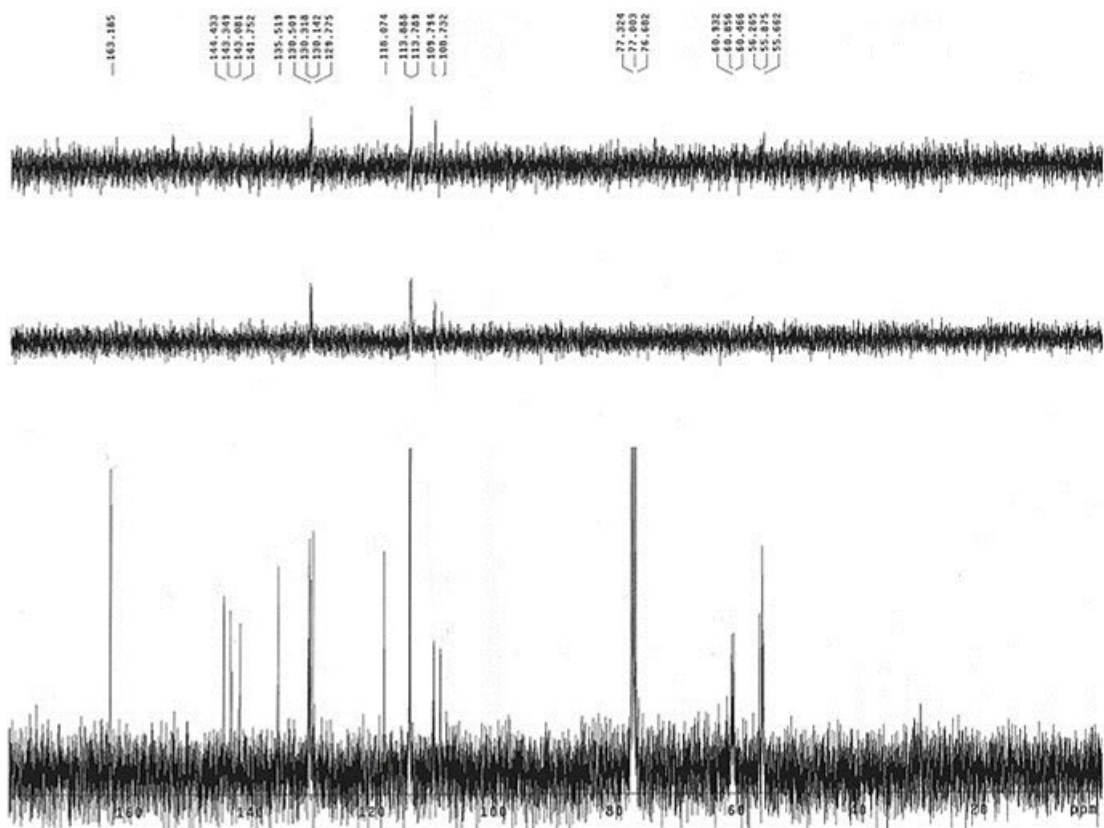


Fig. 16b: Compound **14** ^{13}C NMR spectra.

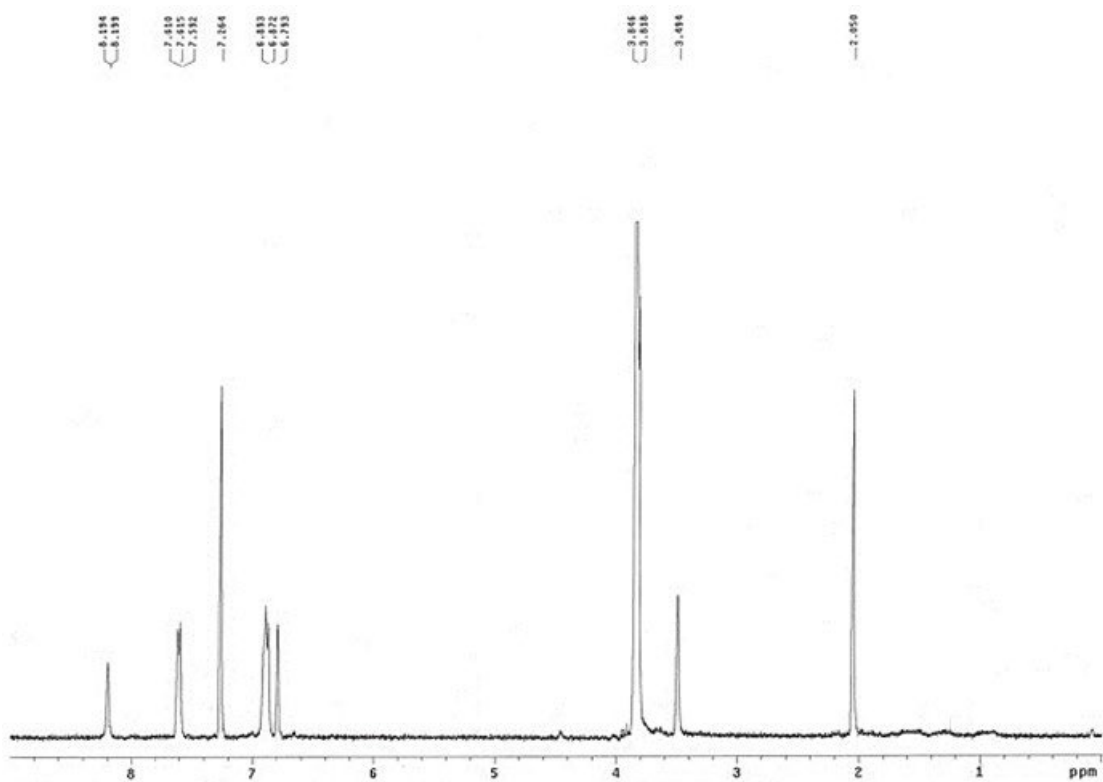


Fig. 17a: Compound **15** ^1H NMR spectra.

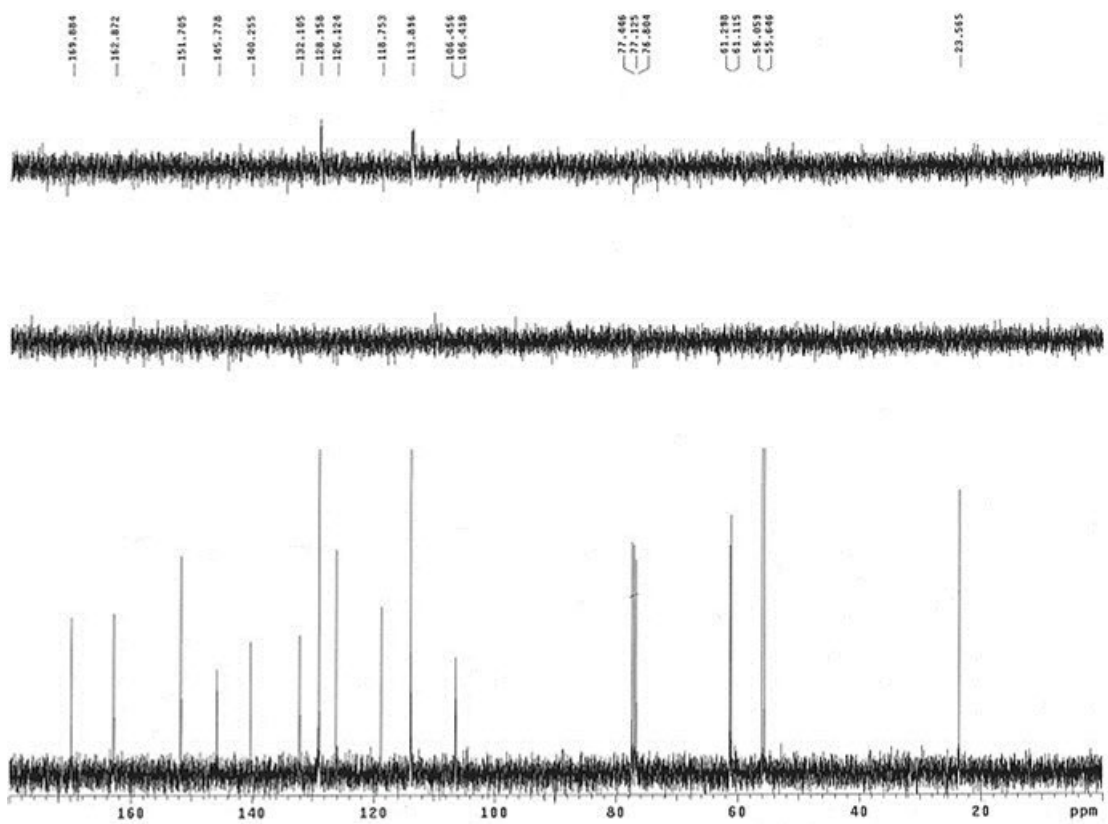


Fig. 17b: Compound **15** ^{13}C NMR spectra.

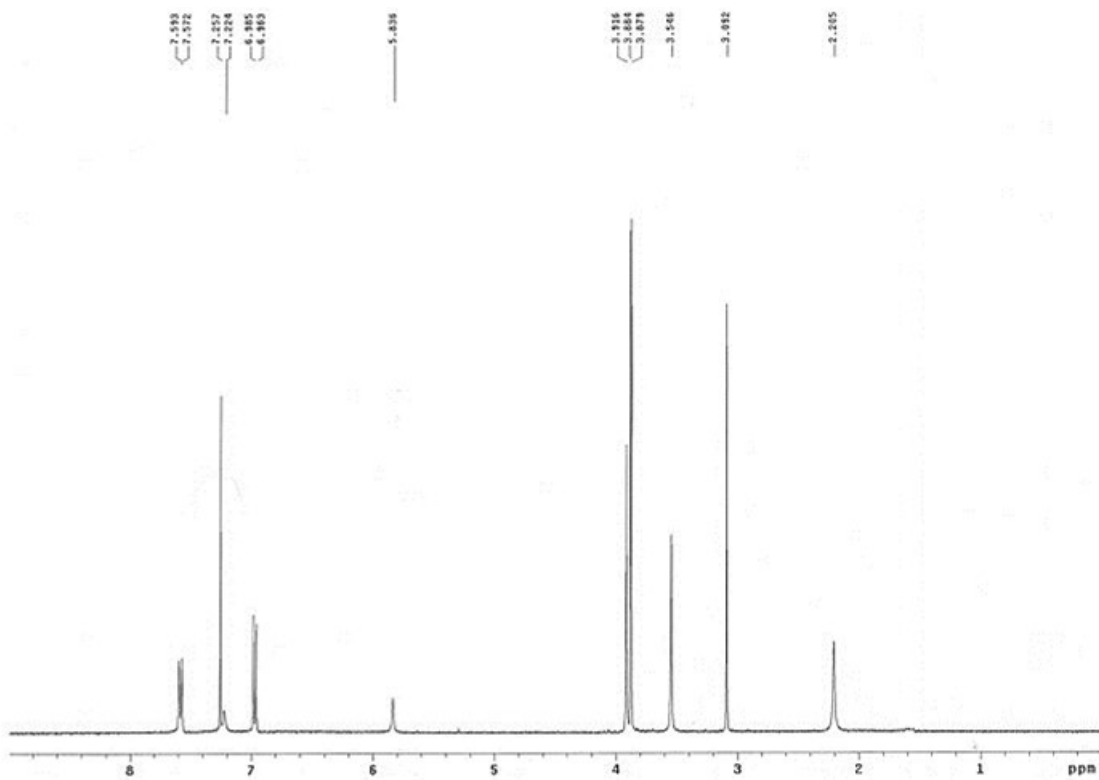


Fig. 18a: Compound **16** ^1H NMR spectra.

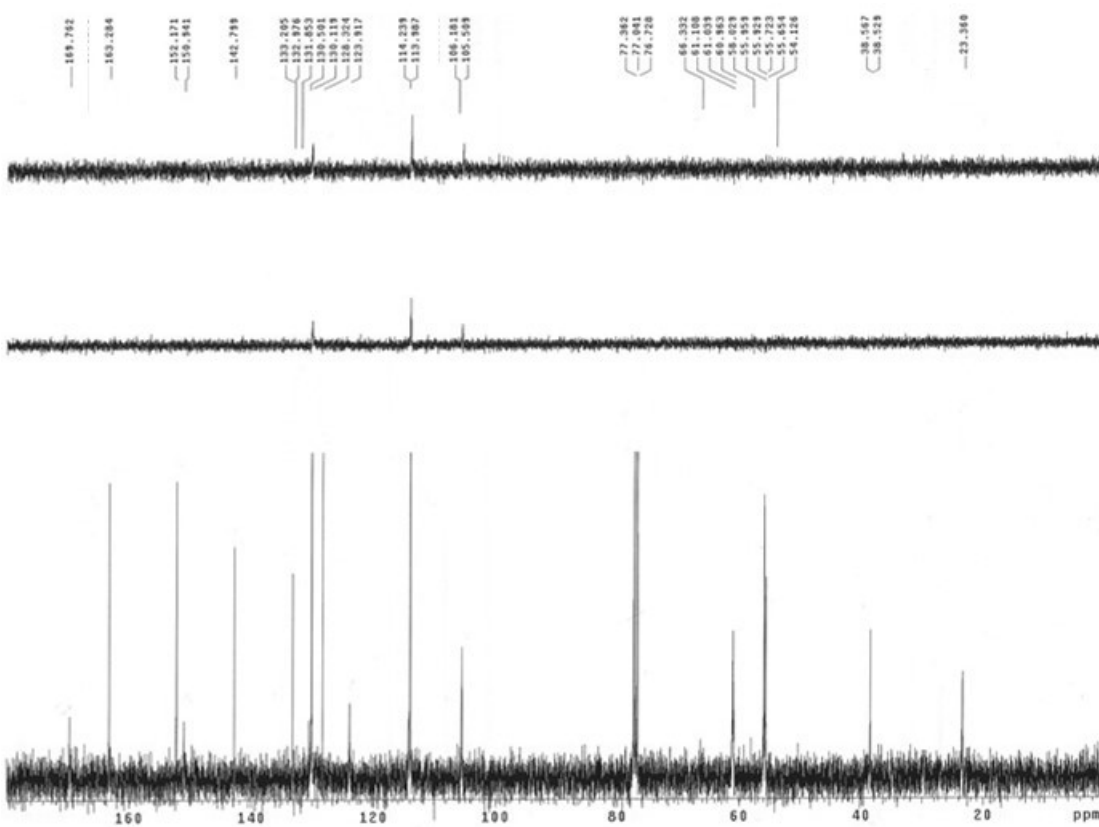


Fig. 18b: Compound **16** ^{13}C NMR spectra.

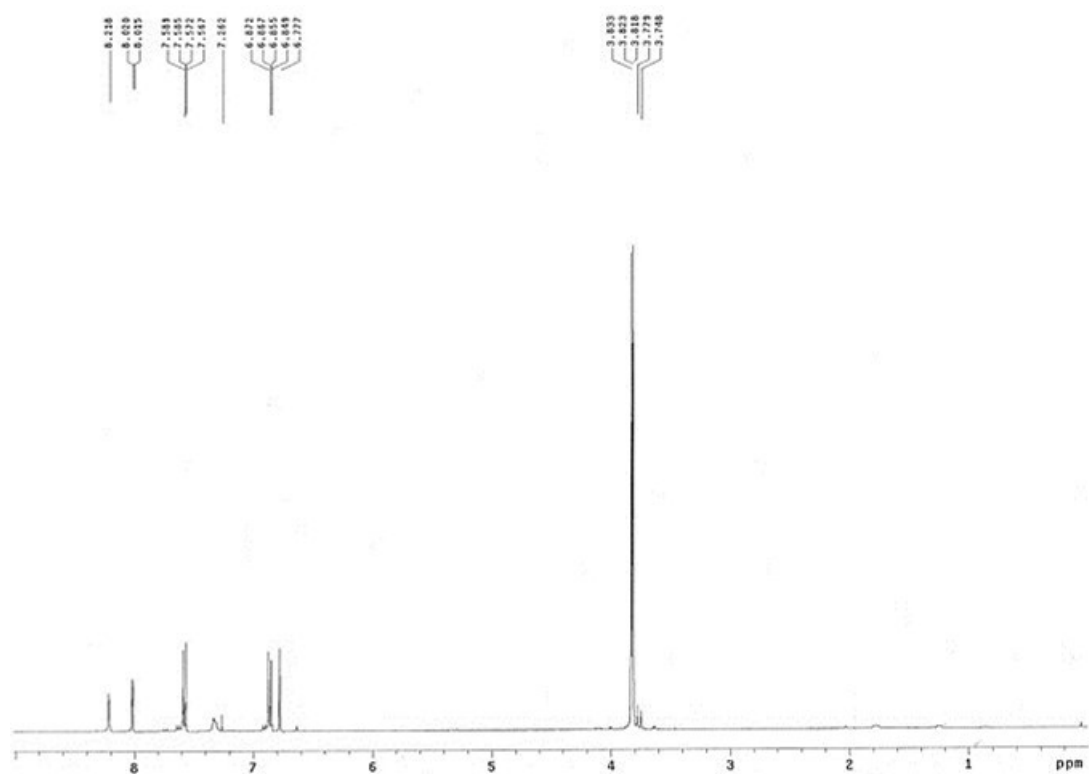


Fig. 19a: Compound **17** ^1H NMR spectra.

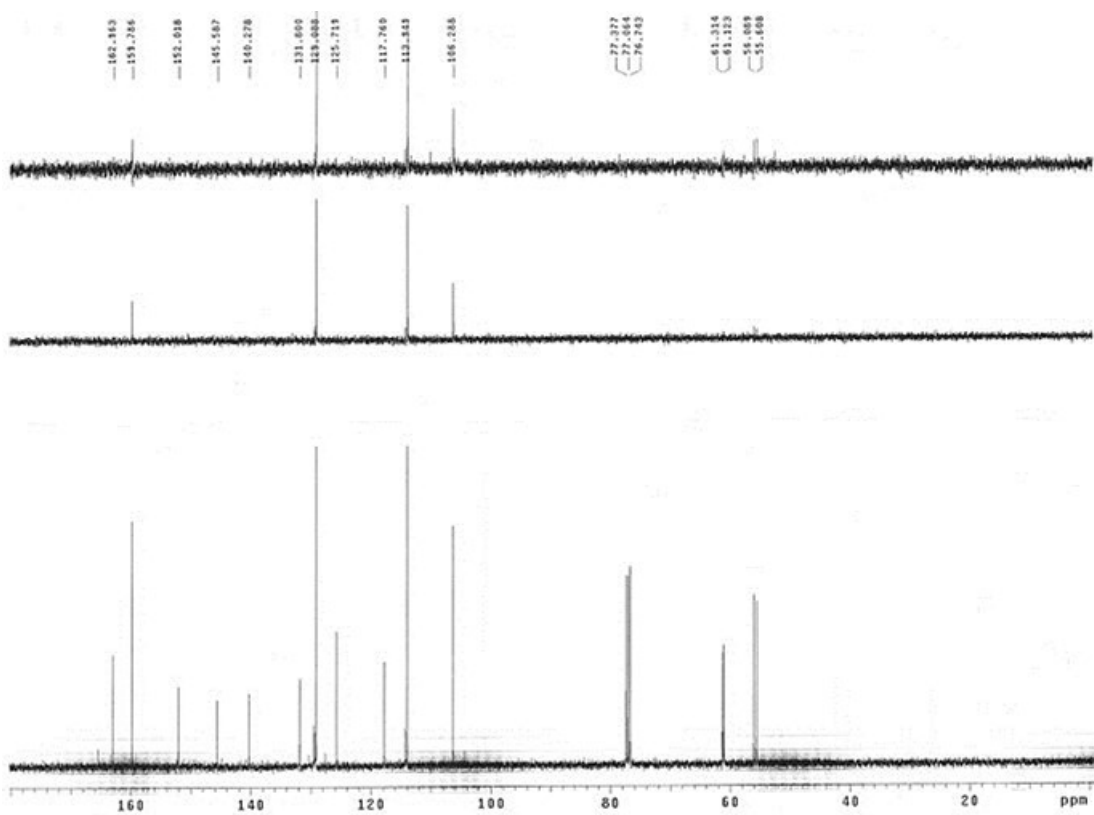


Fig. 19b: Compound **17** ^{13}C NMR spectra.

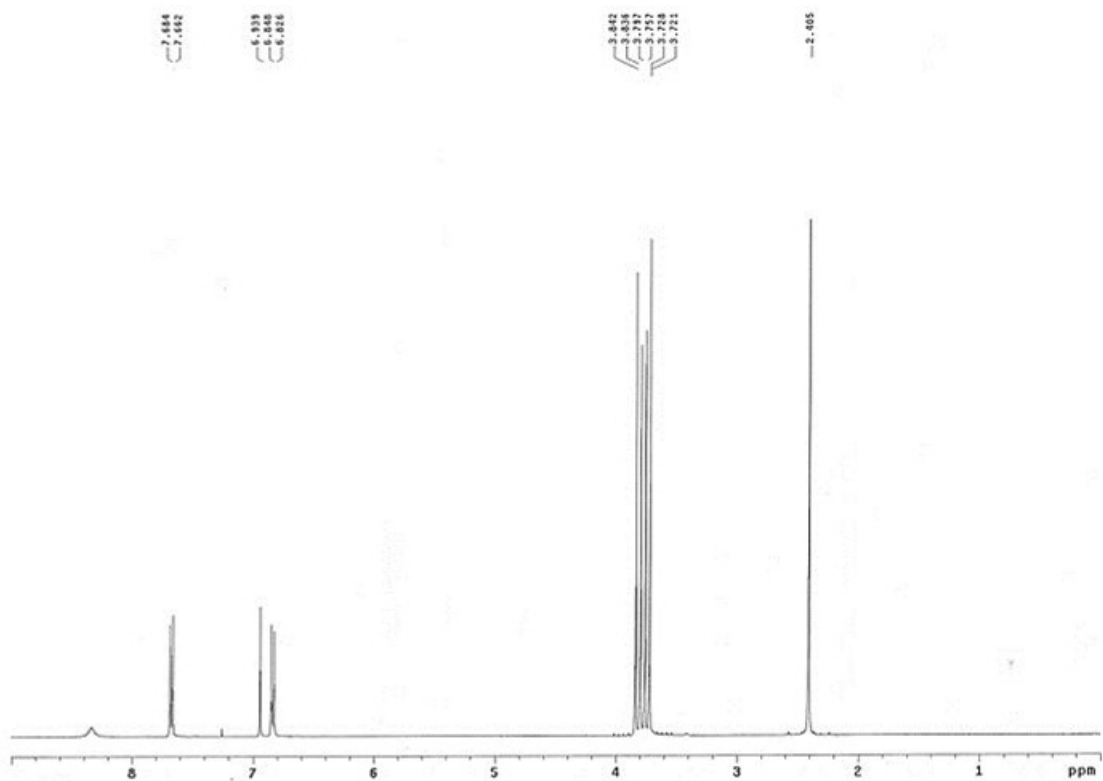


Fig. 20a: Compound **18** ^1H NMR spectra.

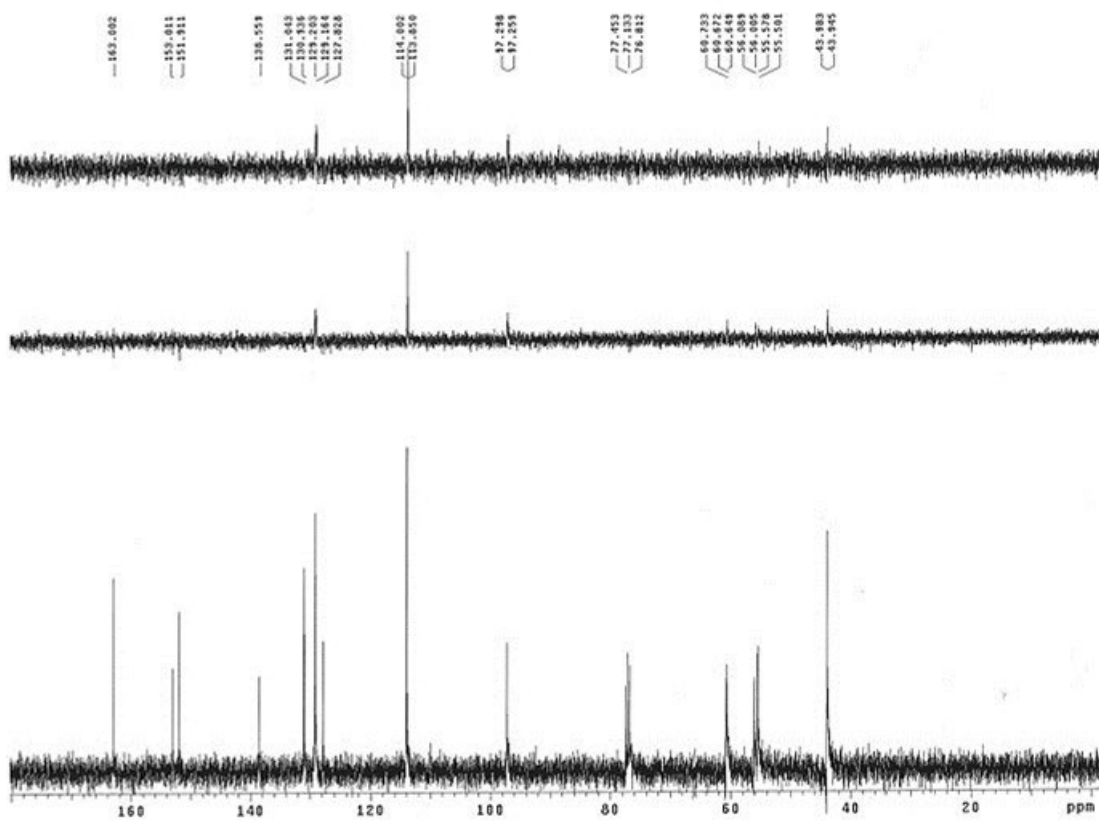


Fig. 20b: Compound **18** ^{13}C NMR spectra.

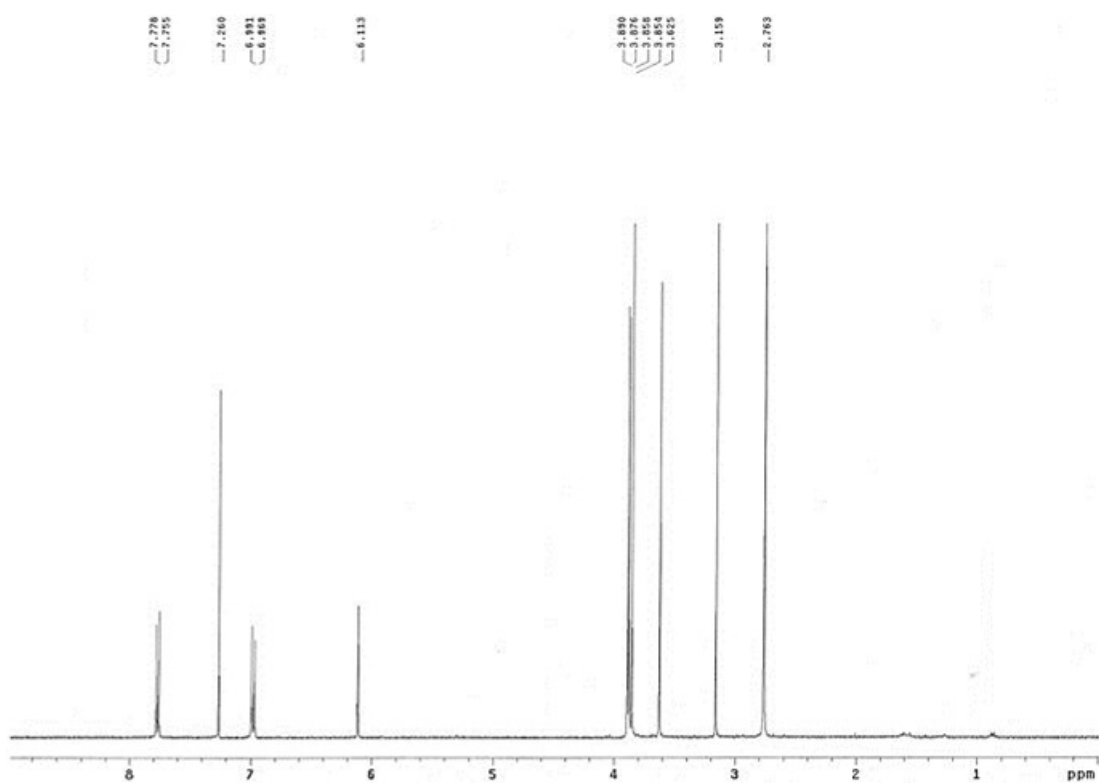


Fig. 21a: Compound **19** ^1H NMR spectra.

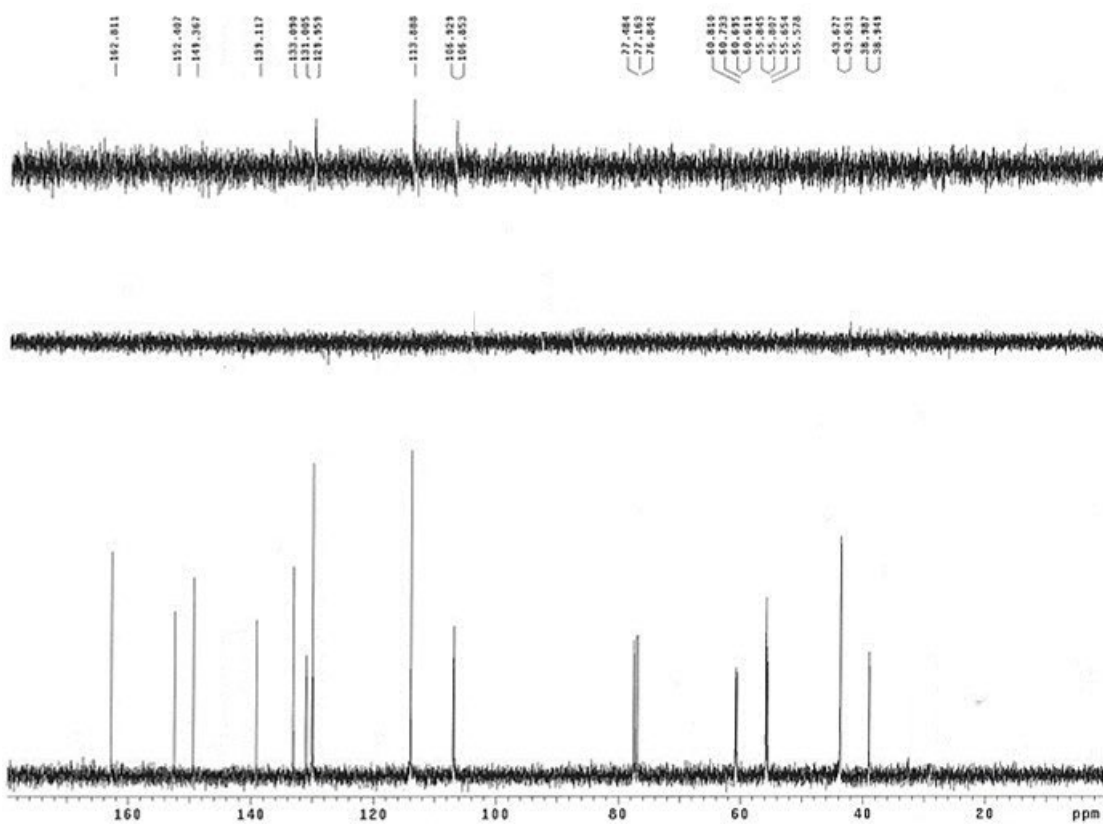


Fig. 21b: Compound **19** ^{13}C NMR spectra.

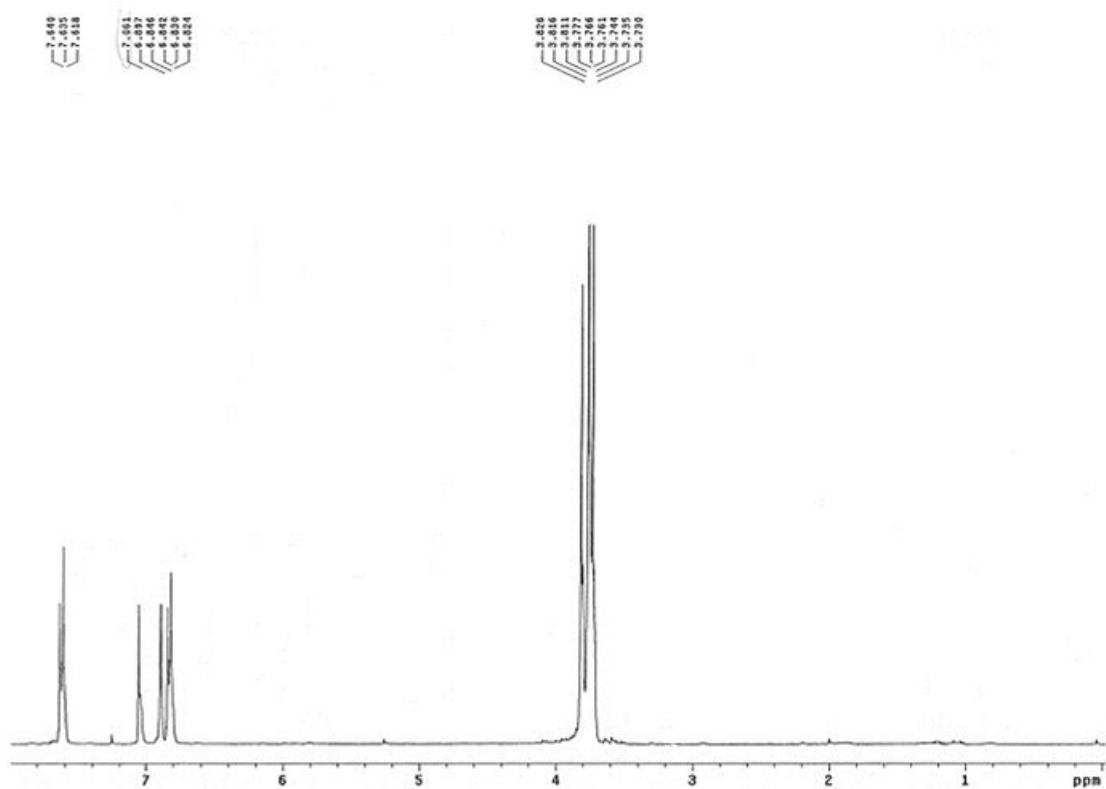


Fig. 22a: Compound **20** ^1H NMR spectra.

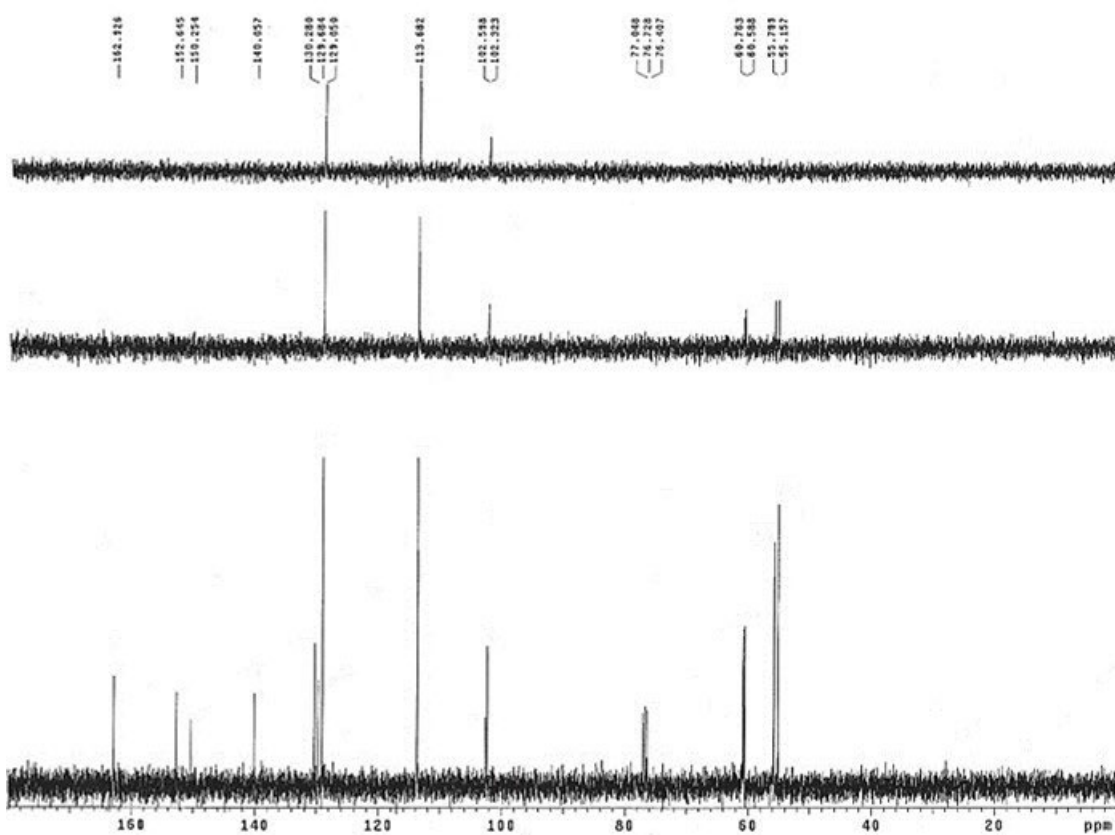


Fig. 22b: Compound **20** ^{13}C NMR spectra.

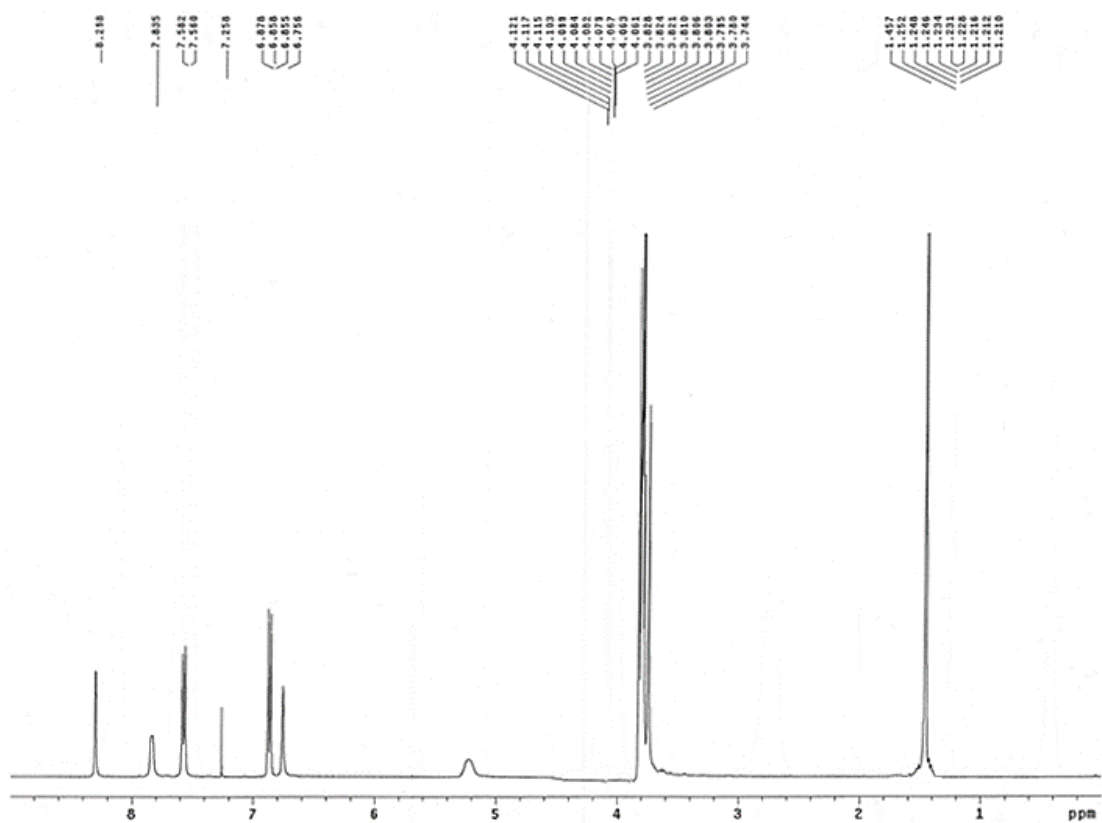


Fig. 23a: Compound **21** ^1H NMR spectra.

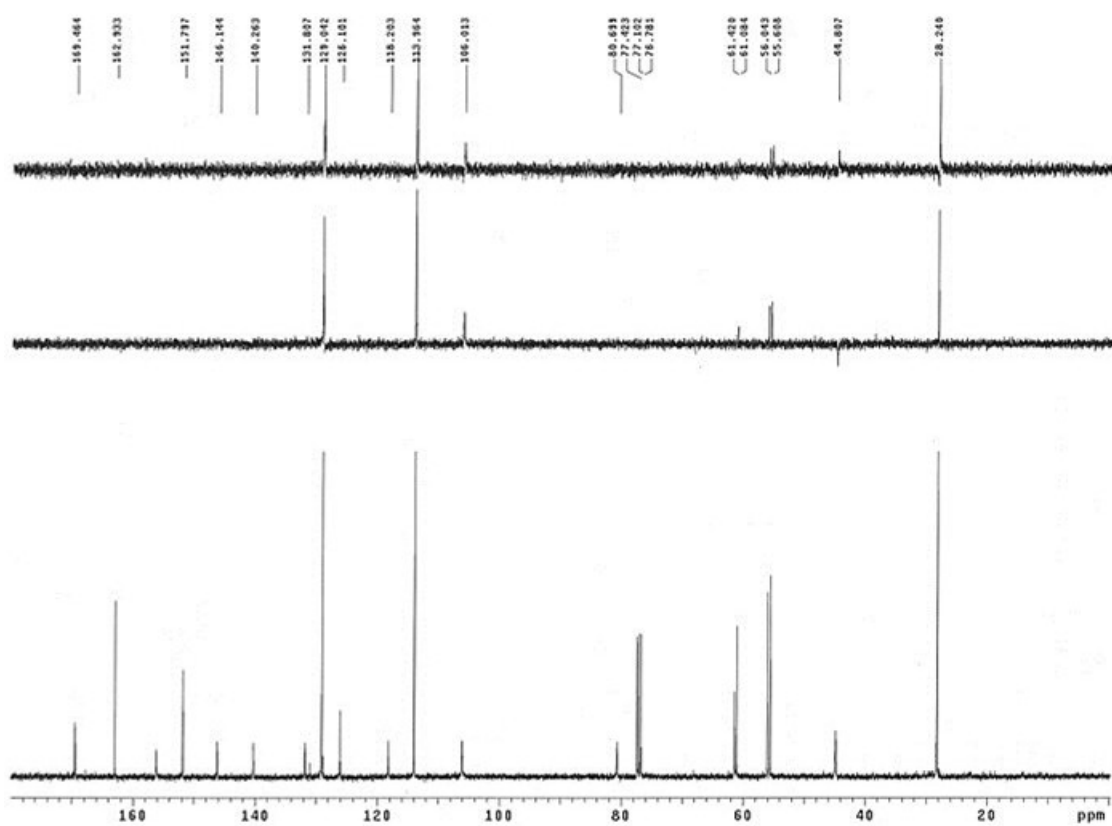


Fig. 23b: Compound **21** ^{13}C NMR spectra.

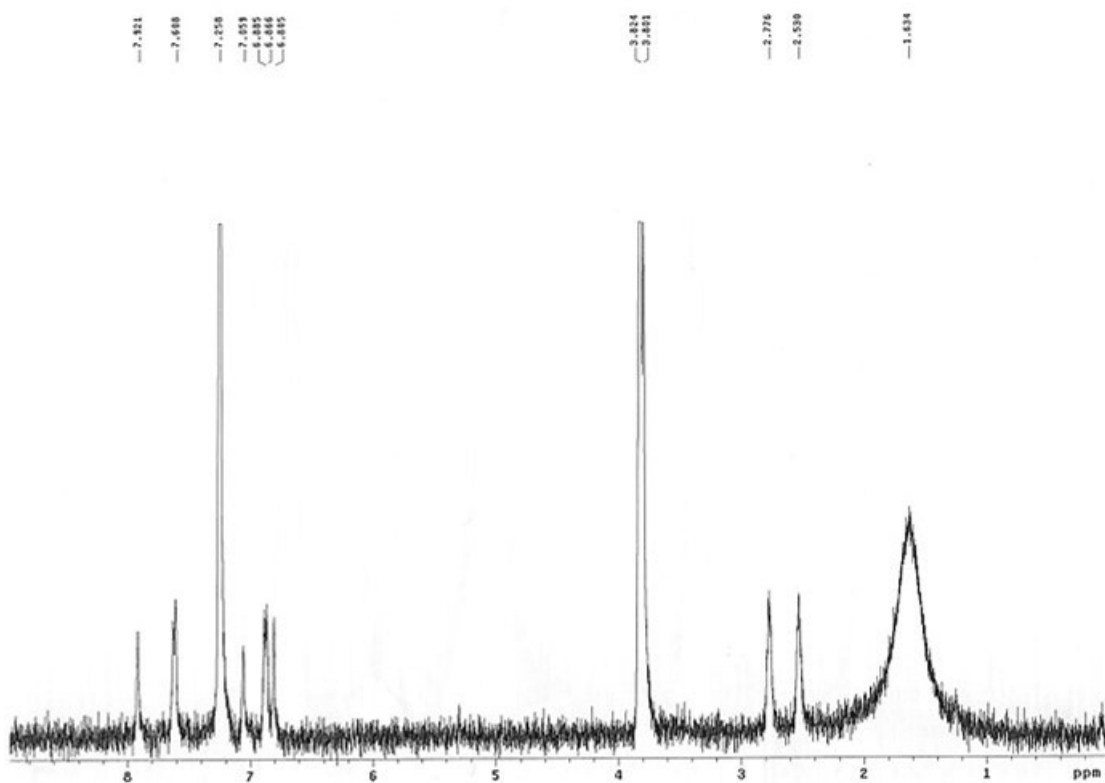


Fig. 24a: Compound **22** ^1H NMR spectra.

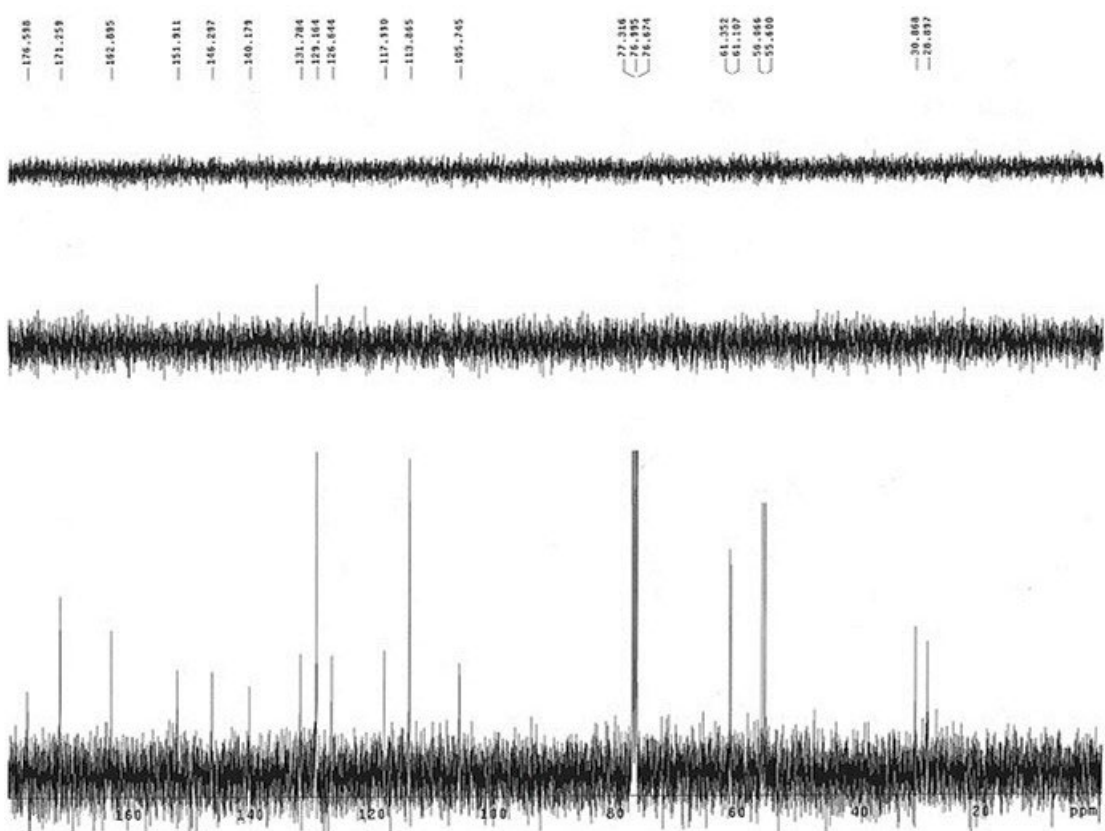


Fig. 24b: Compound **22** ^{13}C NMR spectra.

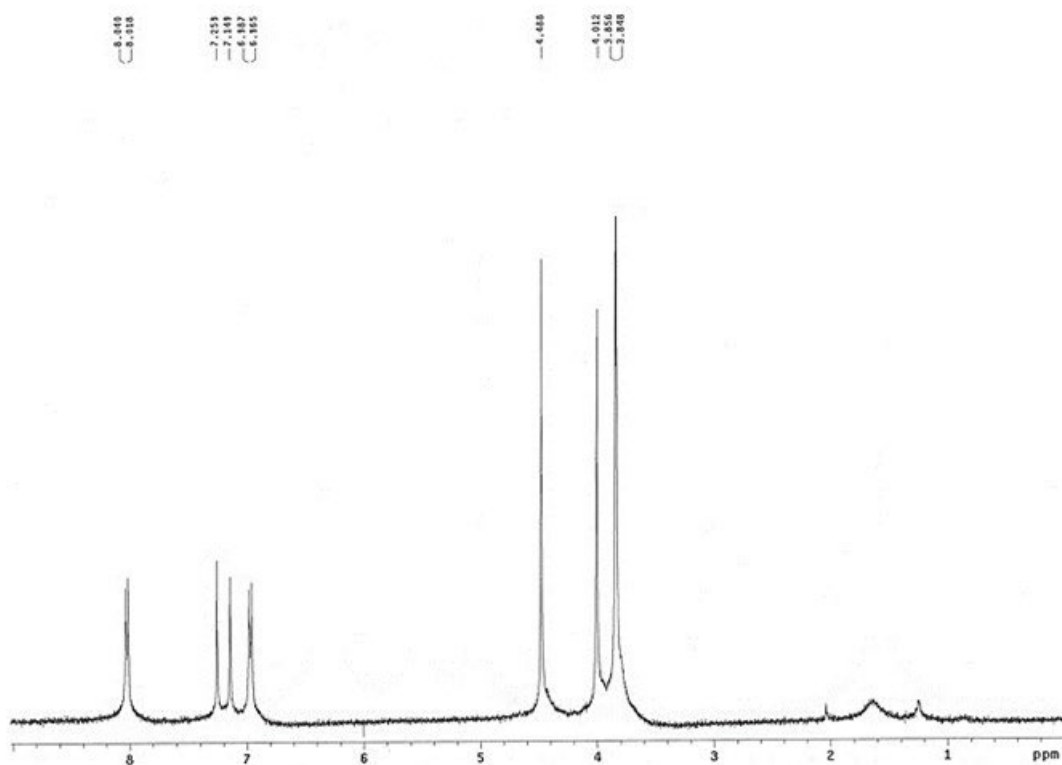


Fig. 25a: Compound **23** ^1H NMR spectra.

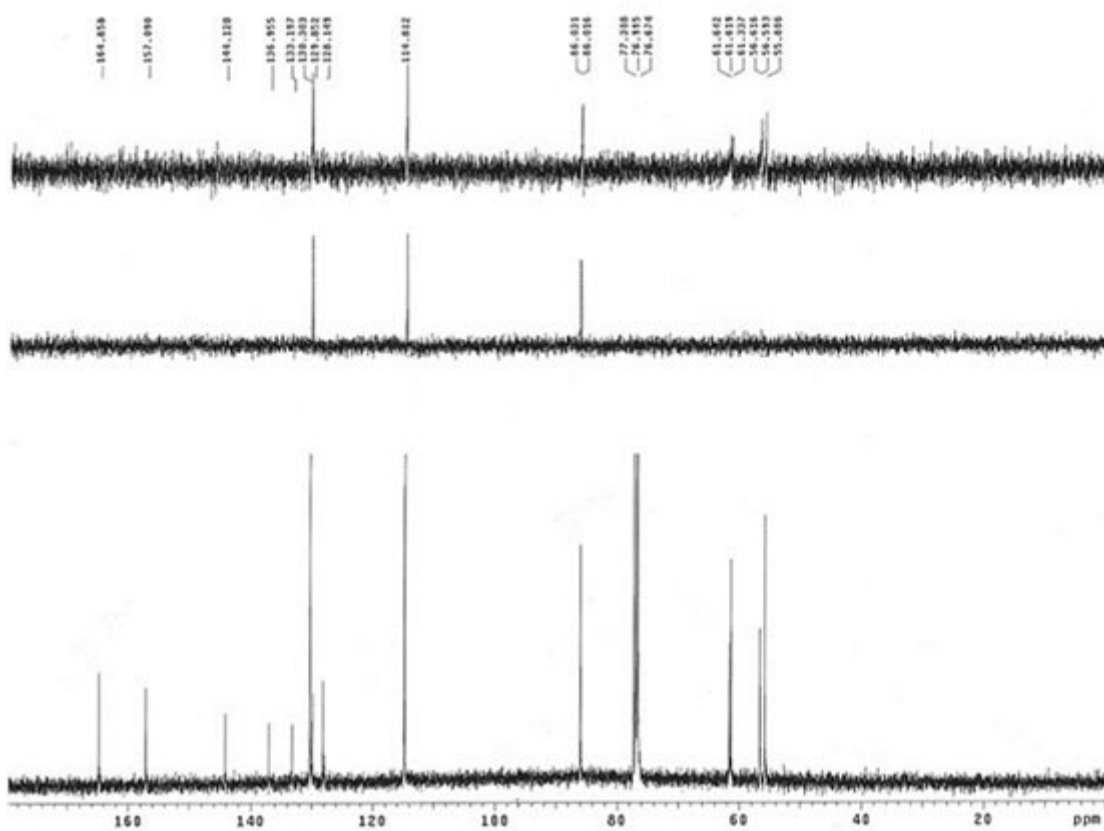


Fig. 25b: Compound **23** ^{13}C NMR spectra.

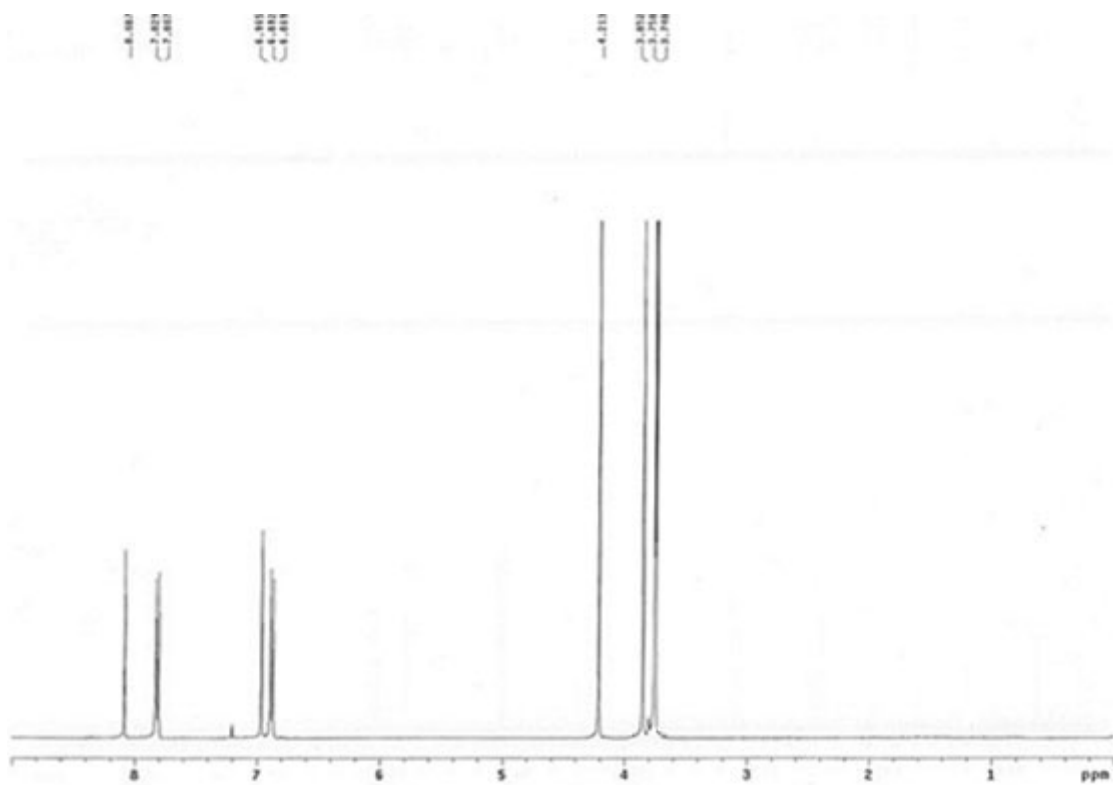


Fig. 26a: Compound **24** ^1H NMR spectra.

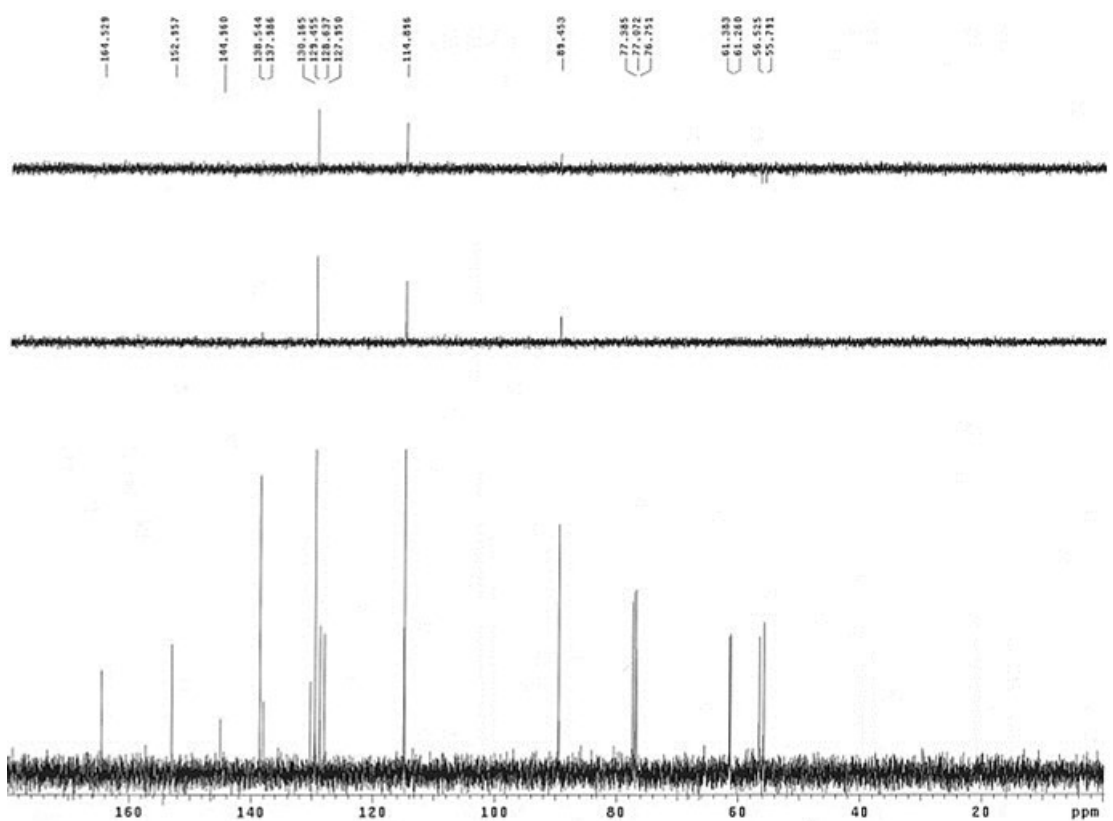


Fig. 26b: Compound **24** ^{13}C NMR spectra.

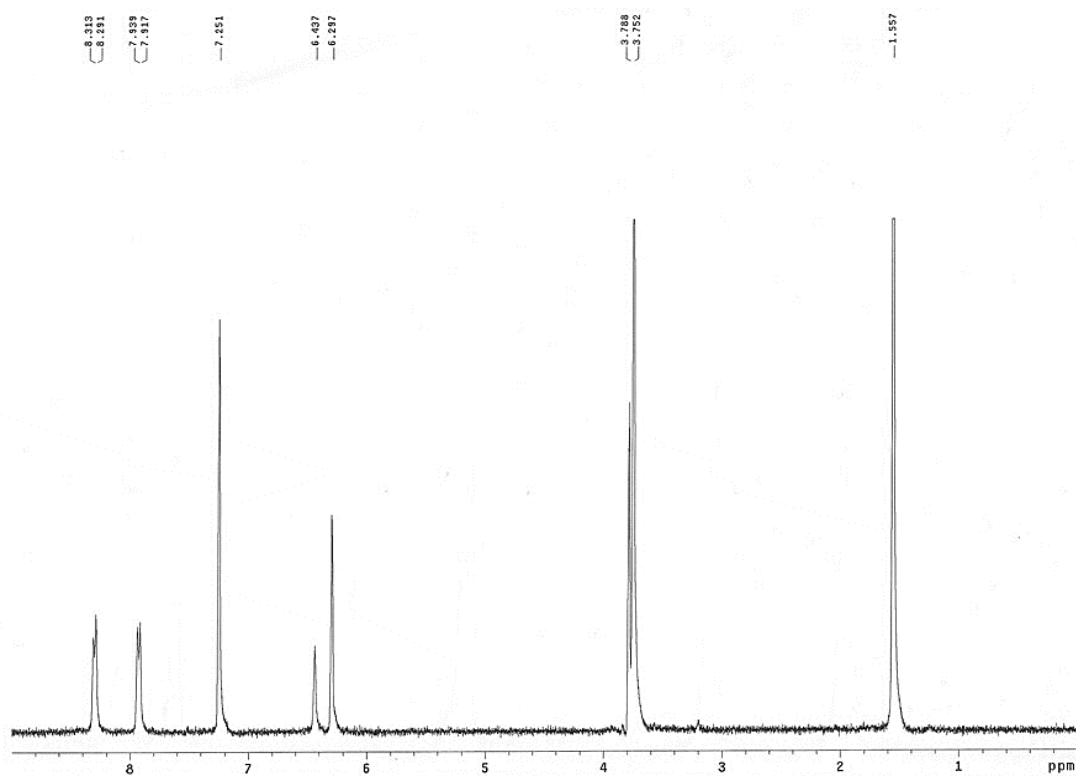


Fig. 27: Compound 25 ¹H NMR spectra.

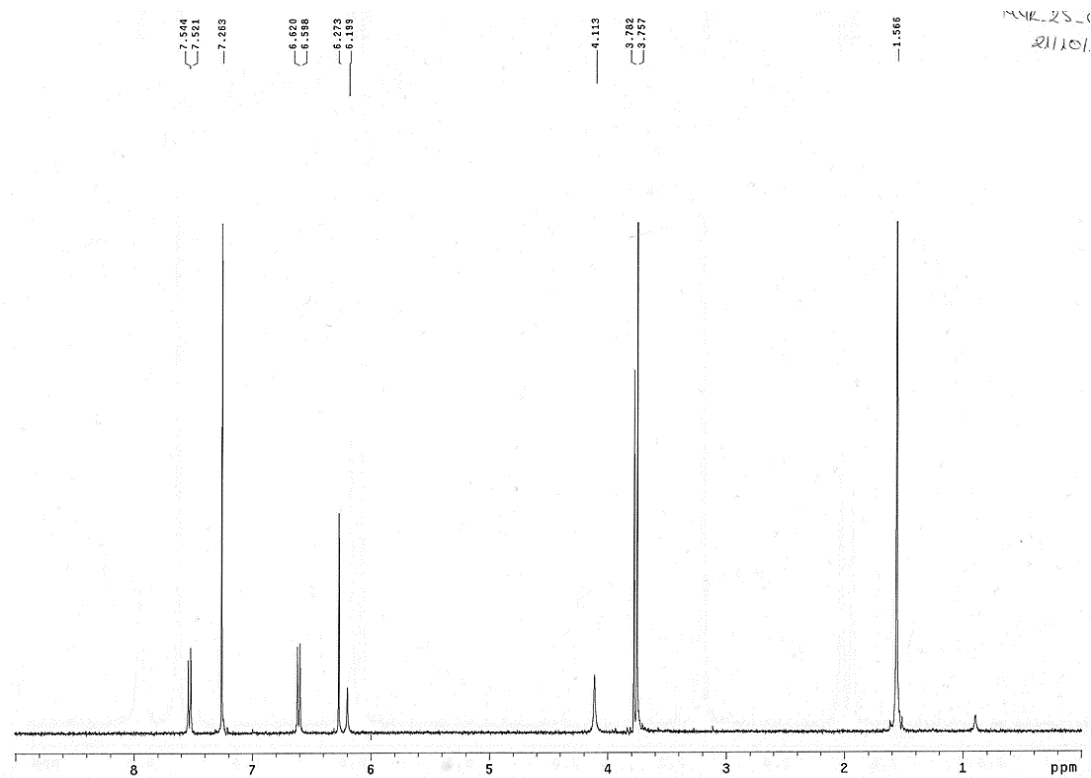


Fig. 28: Compound 26 ¹³C NMR spectra.

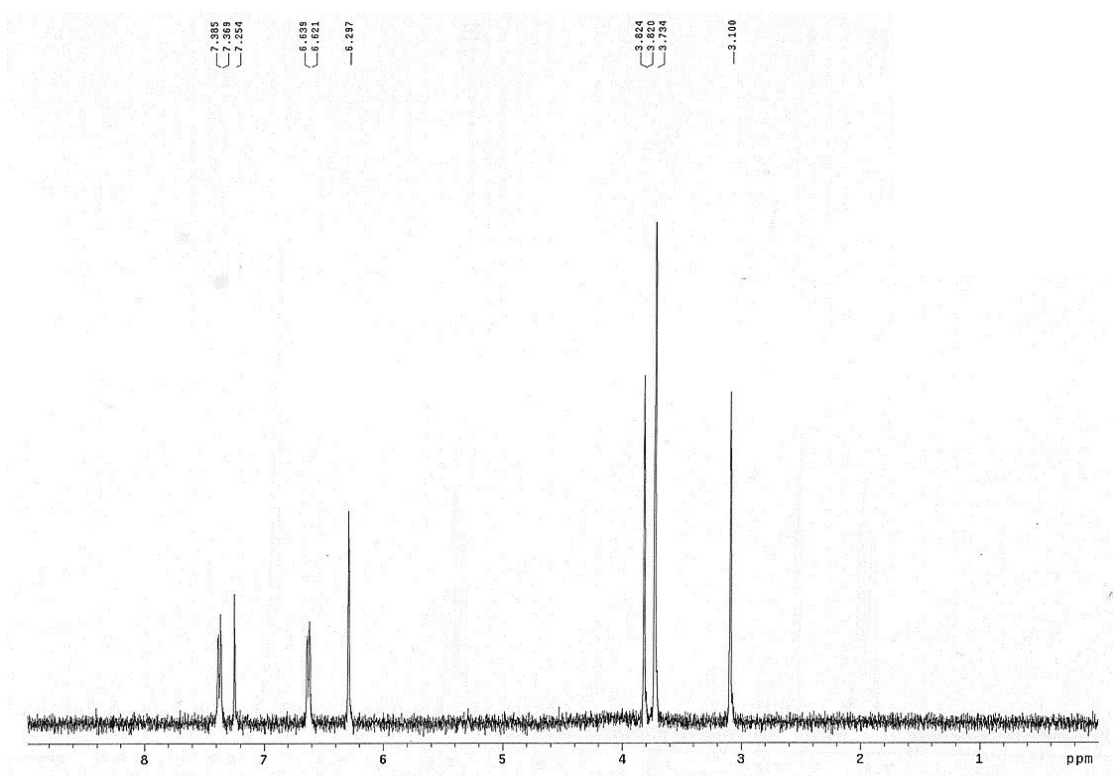


Fig. 29a: Compound **27** ^1H NMR spectra.

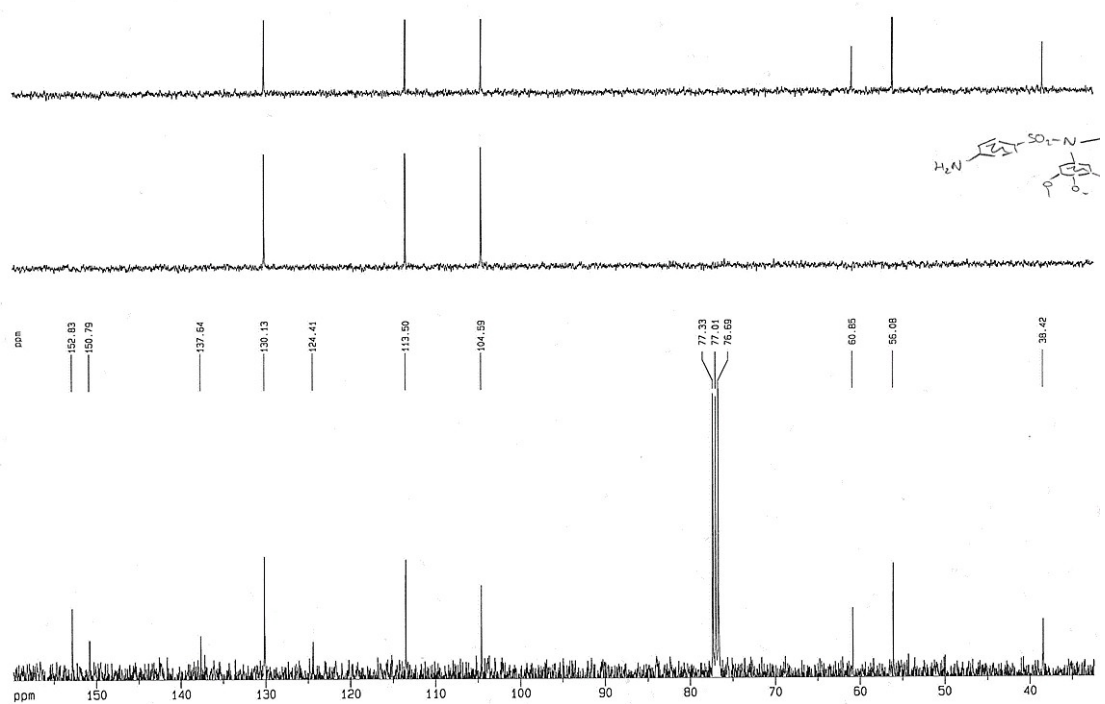


Fig. 29b: Compound **27** ^{13}C NMR spectra.

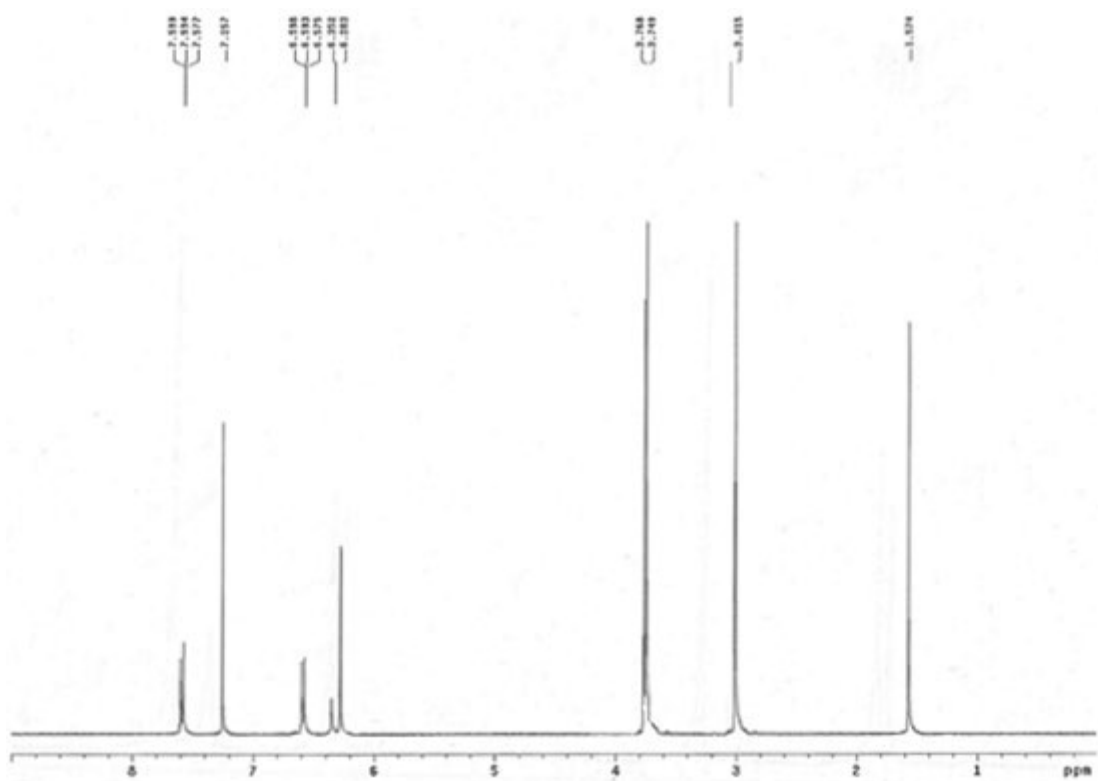


Fig. 30a: Compound **28** ^1H NMR spectra.

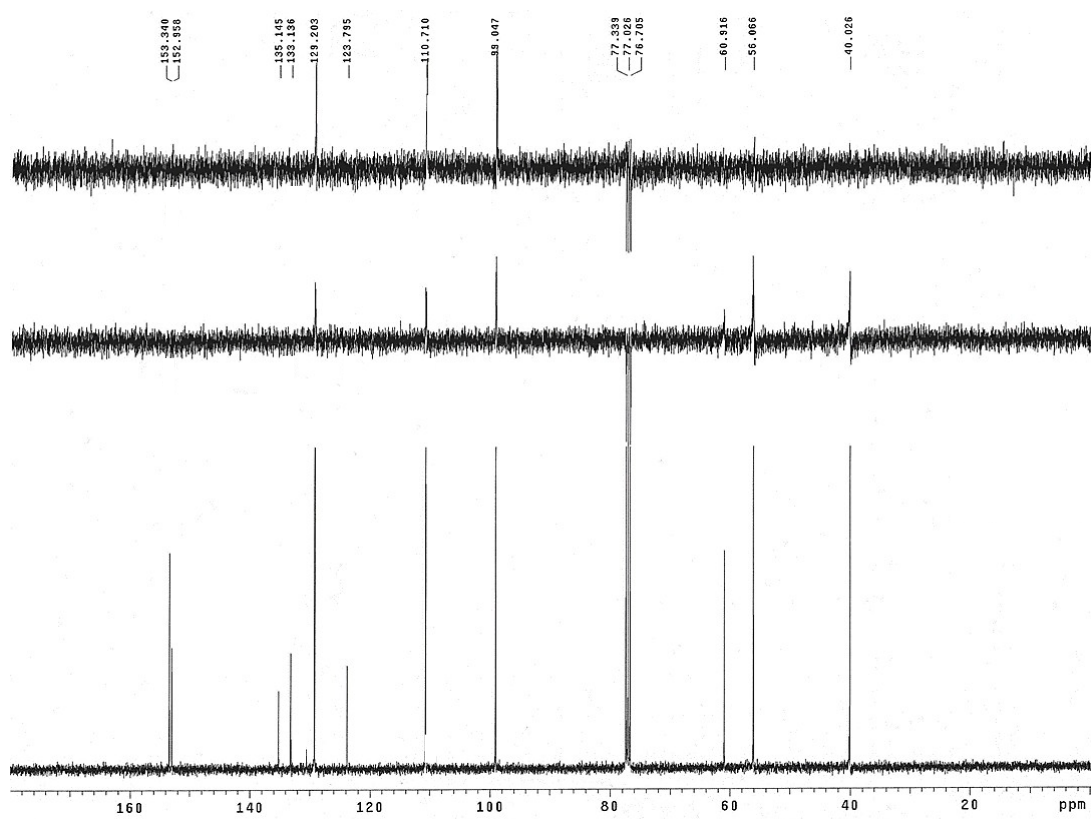


Fig. 30b: Compound **28** ^{13}C NMR spectra.

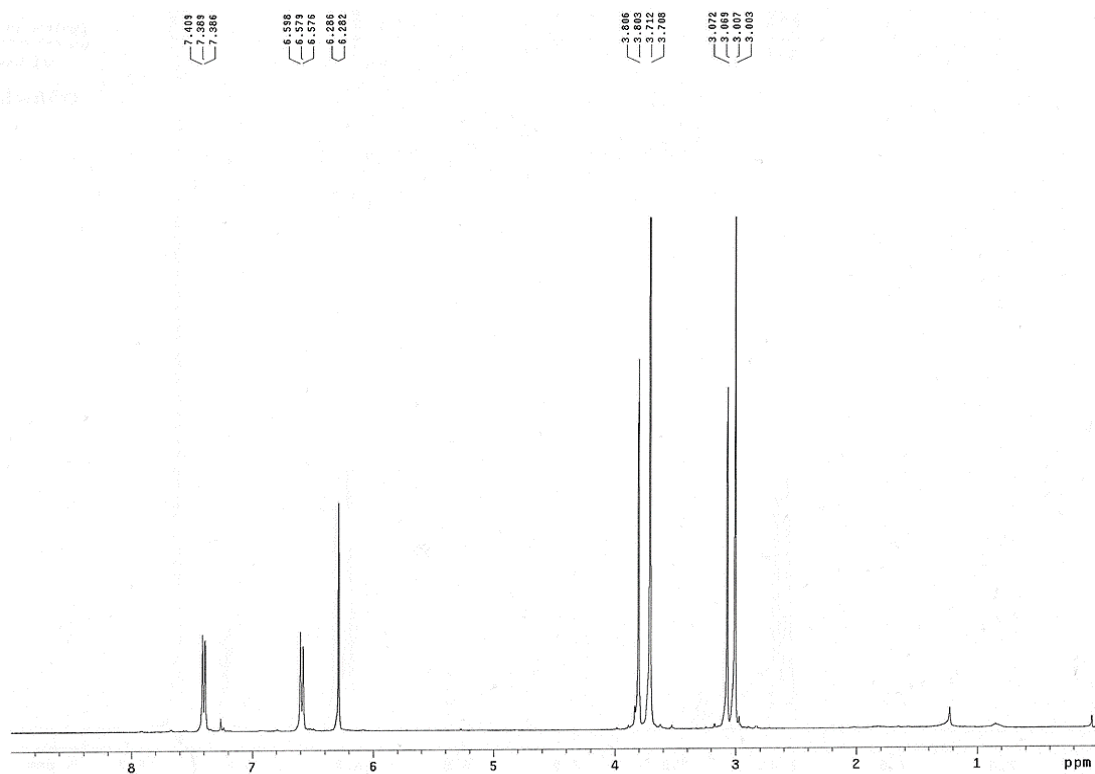


Fig. 31a: Compound **29a** ^1H NMR spectra.

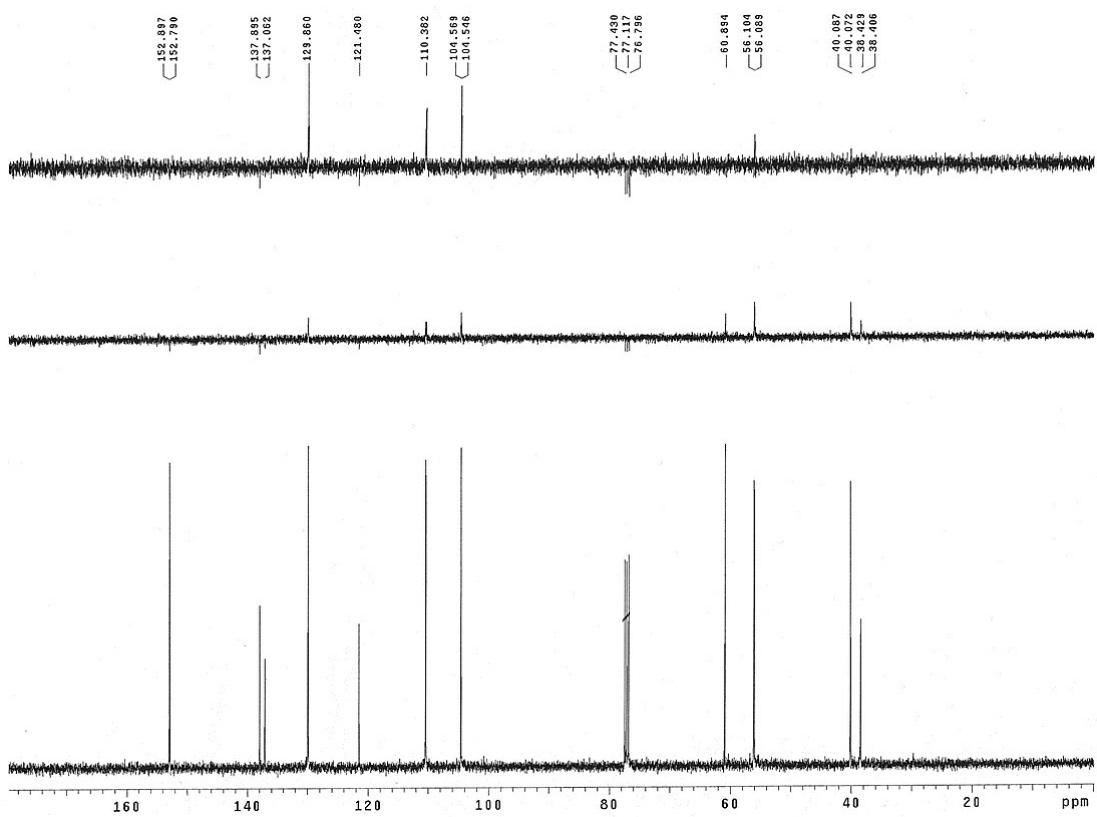


Fig. 31b: Compound **29a** ^{13}C NMR spectra.

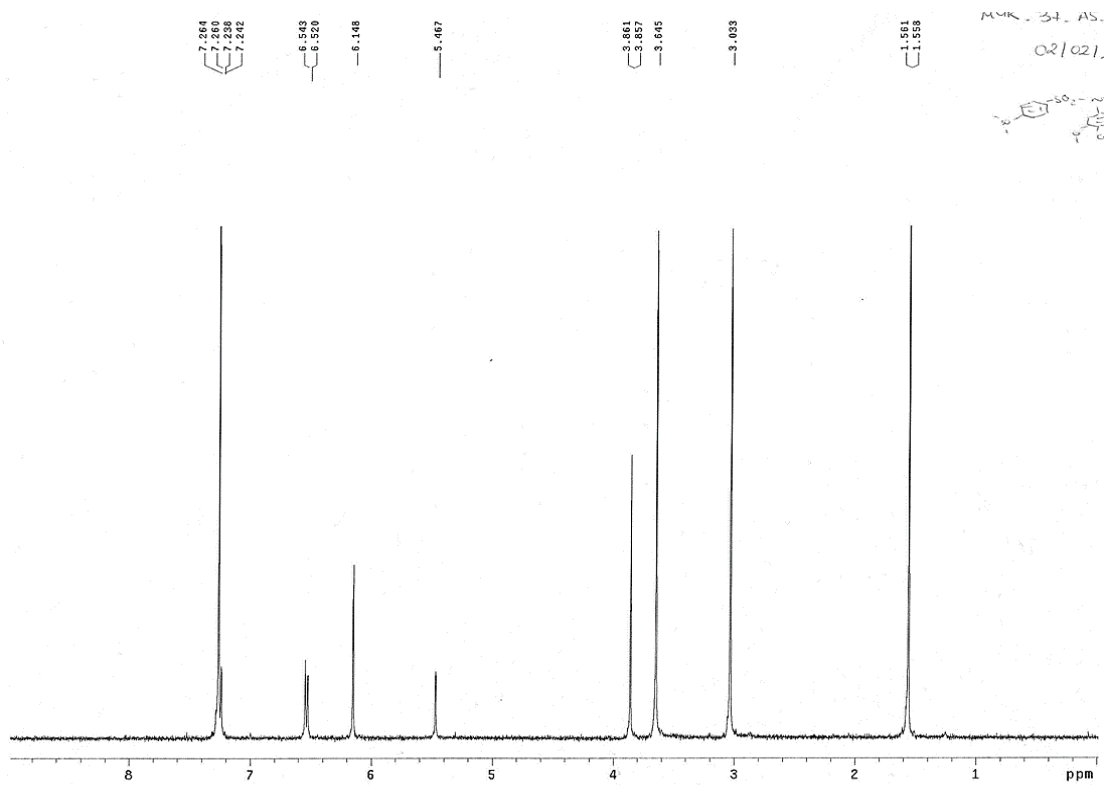


Fig. 32: Compound **29b** ^1H NMR spectra.

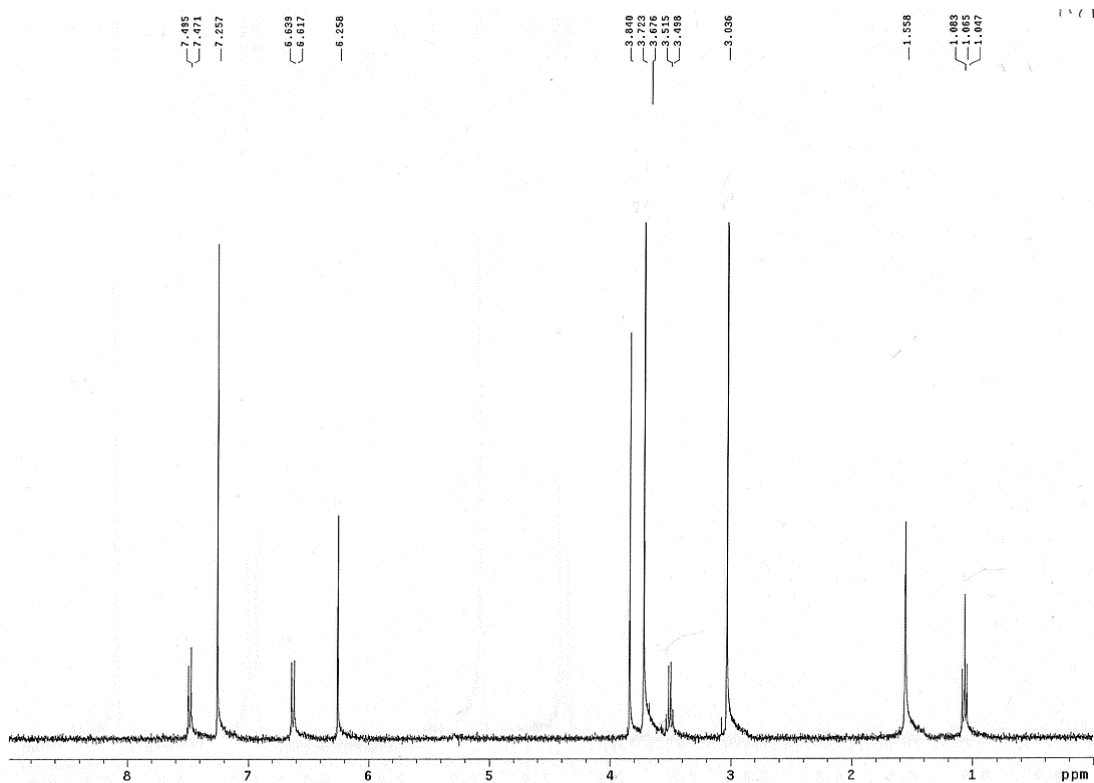


Fig. 33a: Compound **30** ^1H NMR spectra.

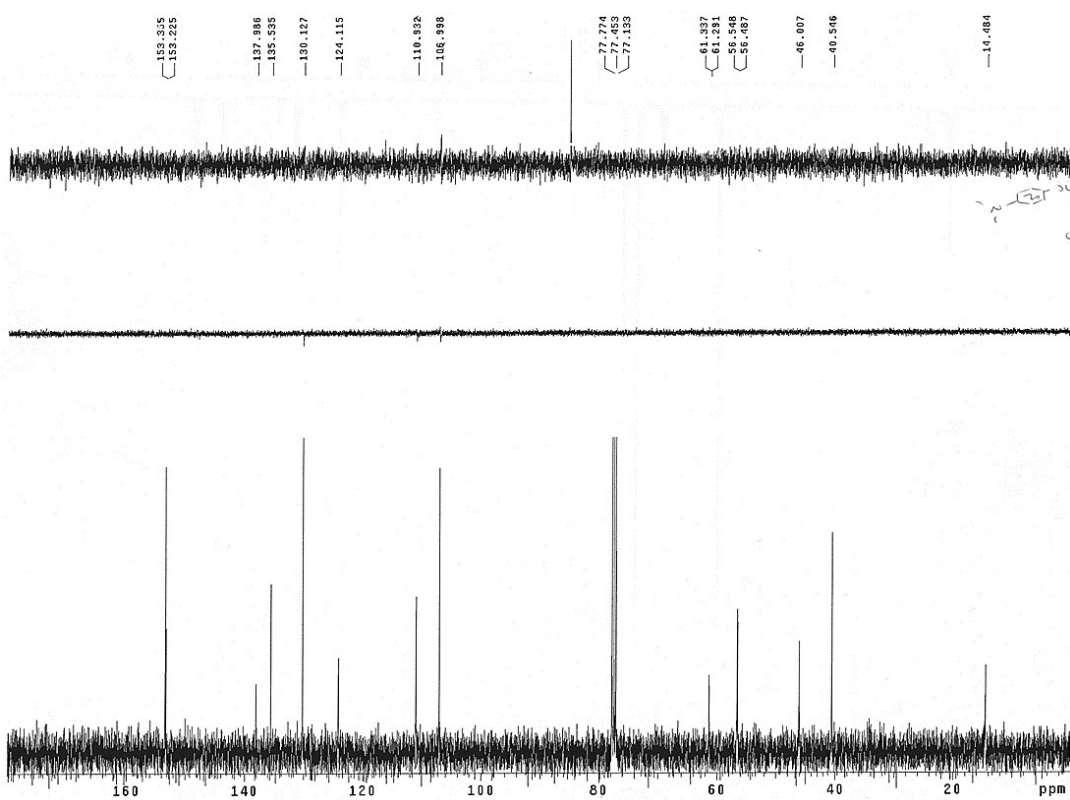


Fig. 33b: Compound **30** ^{13}C NMR spectra.

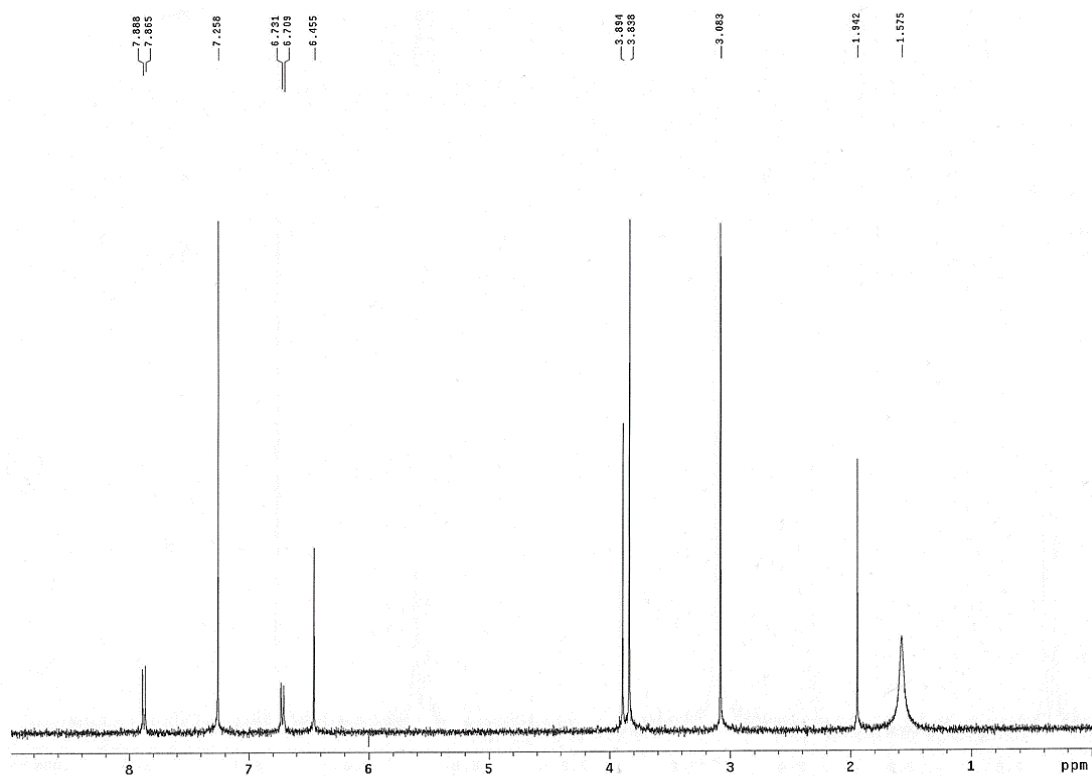


Fig. 34a: Compound **31** ^1H NMR spectra.

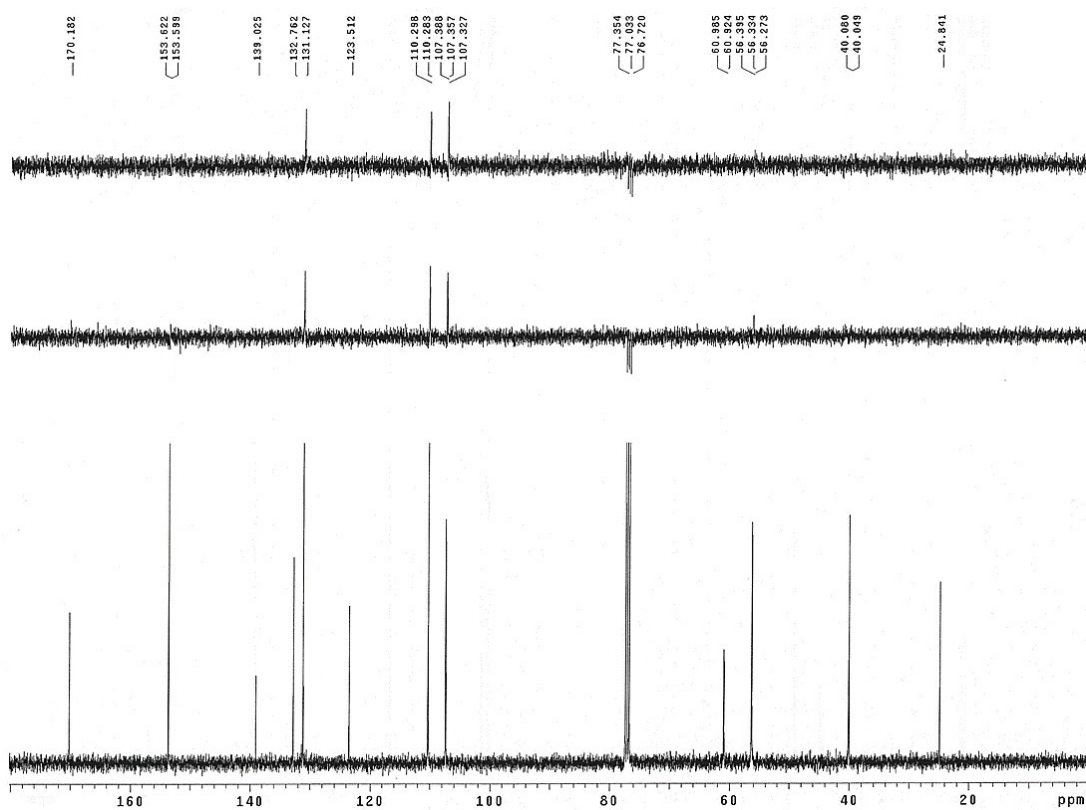
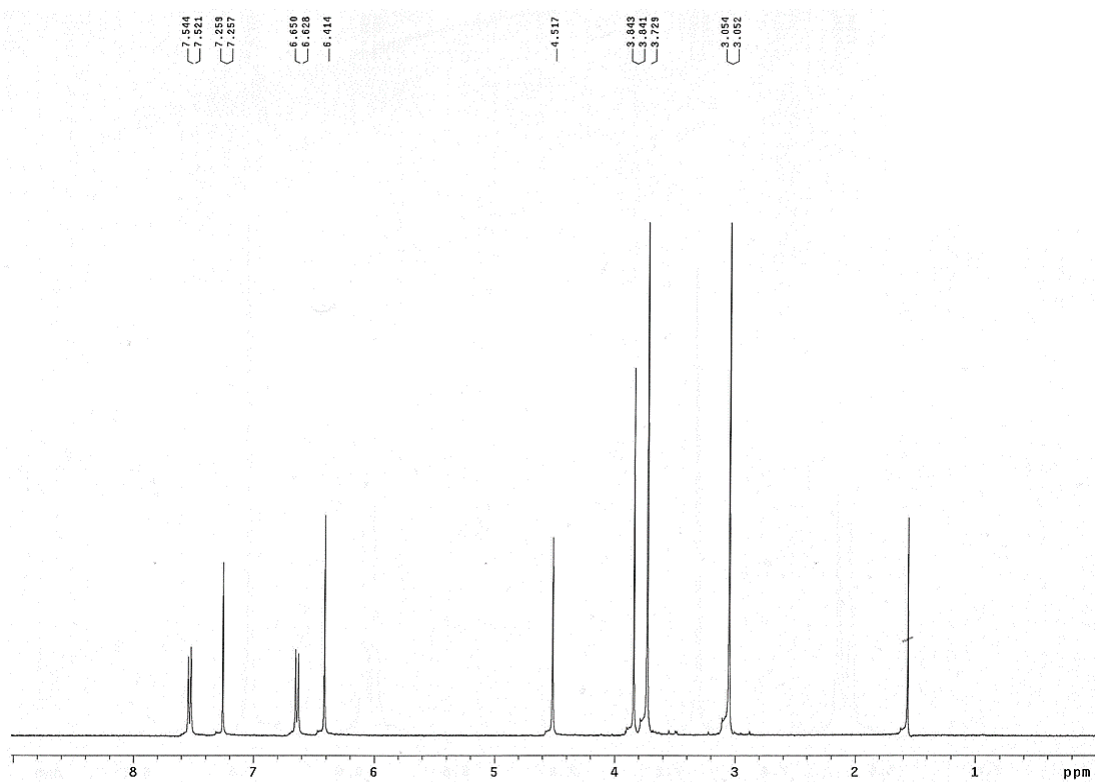
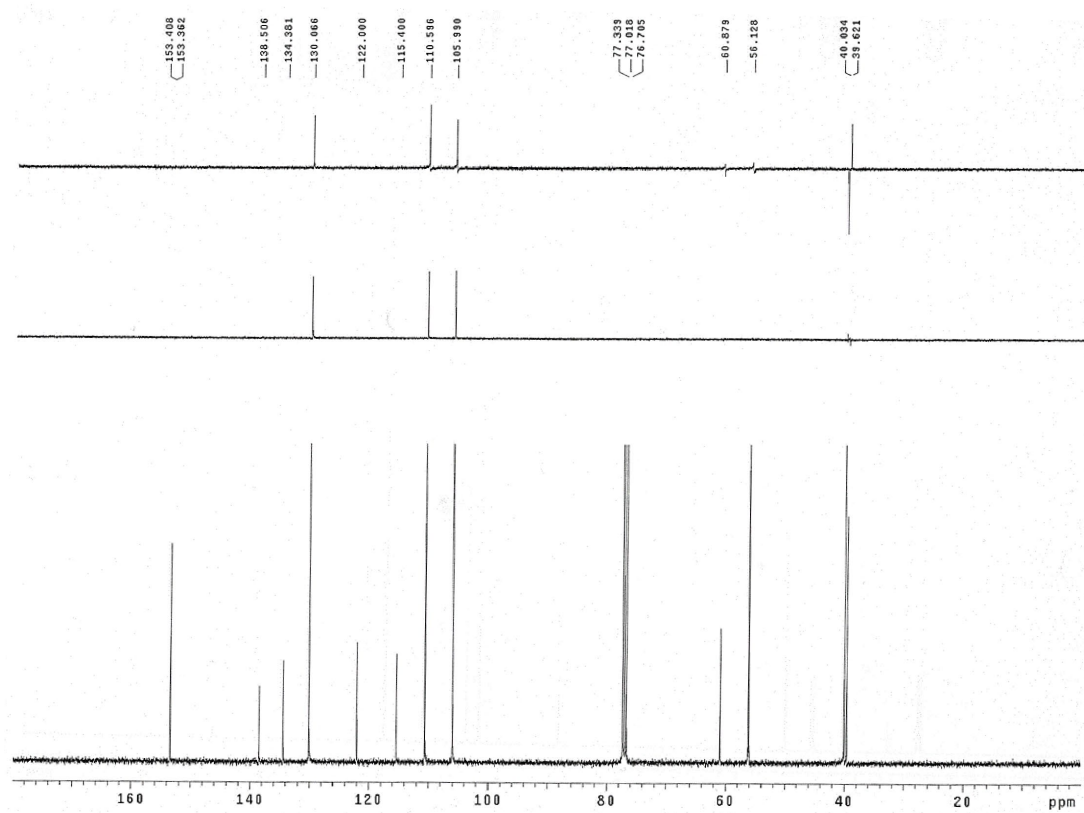


Fig. 34b: Compound **31** ^{13}C NMR spectra.

Fig. 35a: Compound **32** ¹H NMR spectra.Fig. 35b: Compound **32** ¹³C NMR spectra.

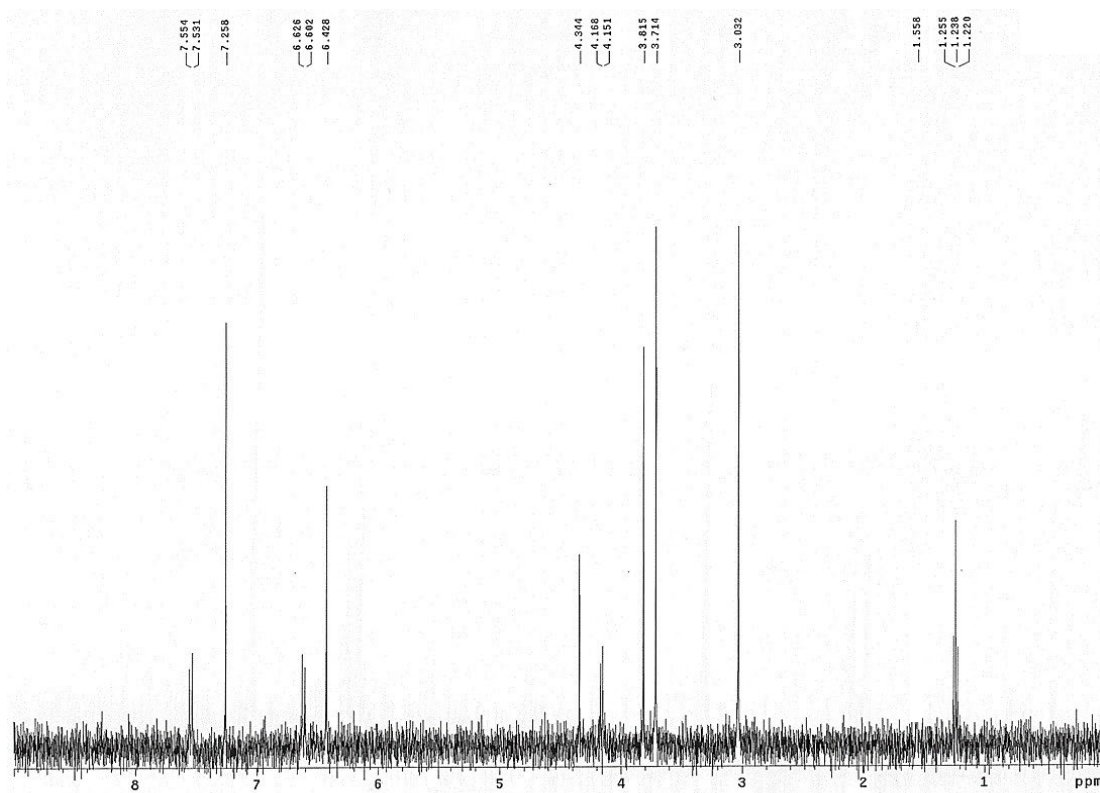


Fig. 36a: Compound **33** ^1H NMR spectra.

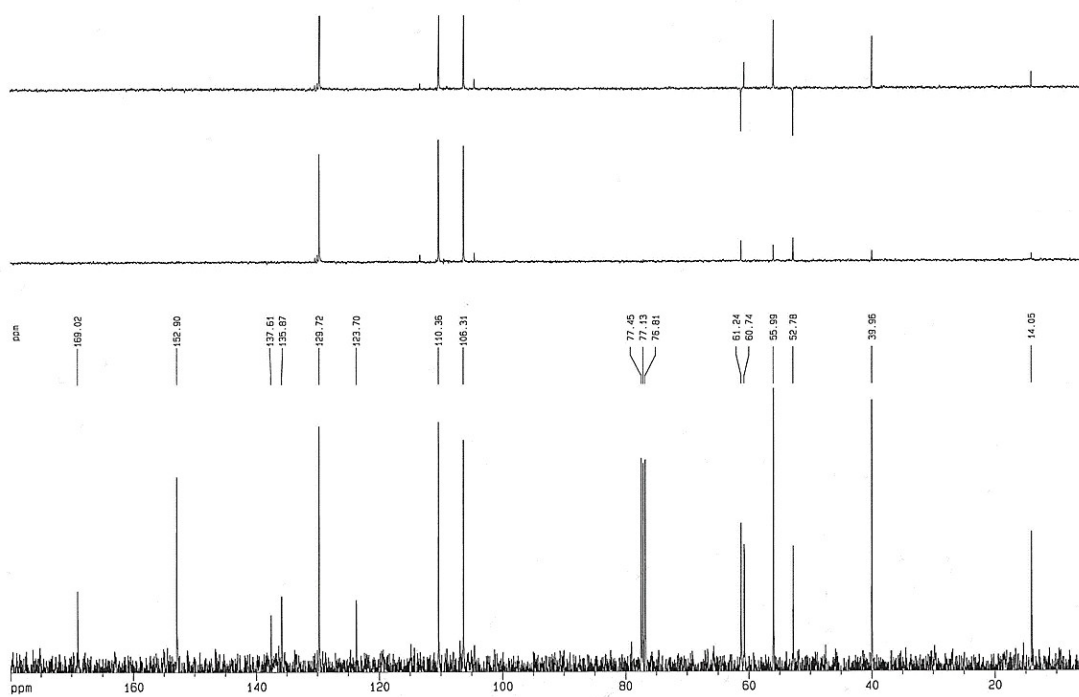


Fig. 36b: Compound **33** ^{13}C NMR spectra.

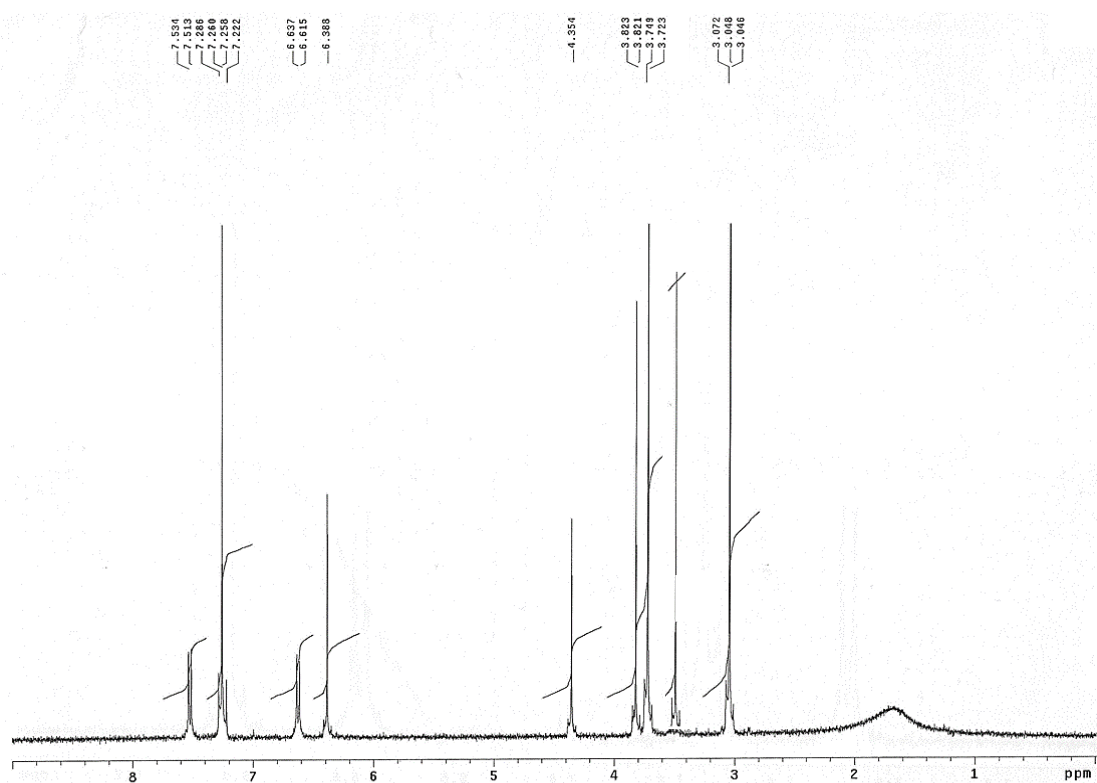


Fig. 37a: Compound **34** ^1H NMR spectra.

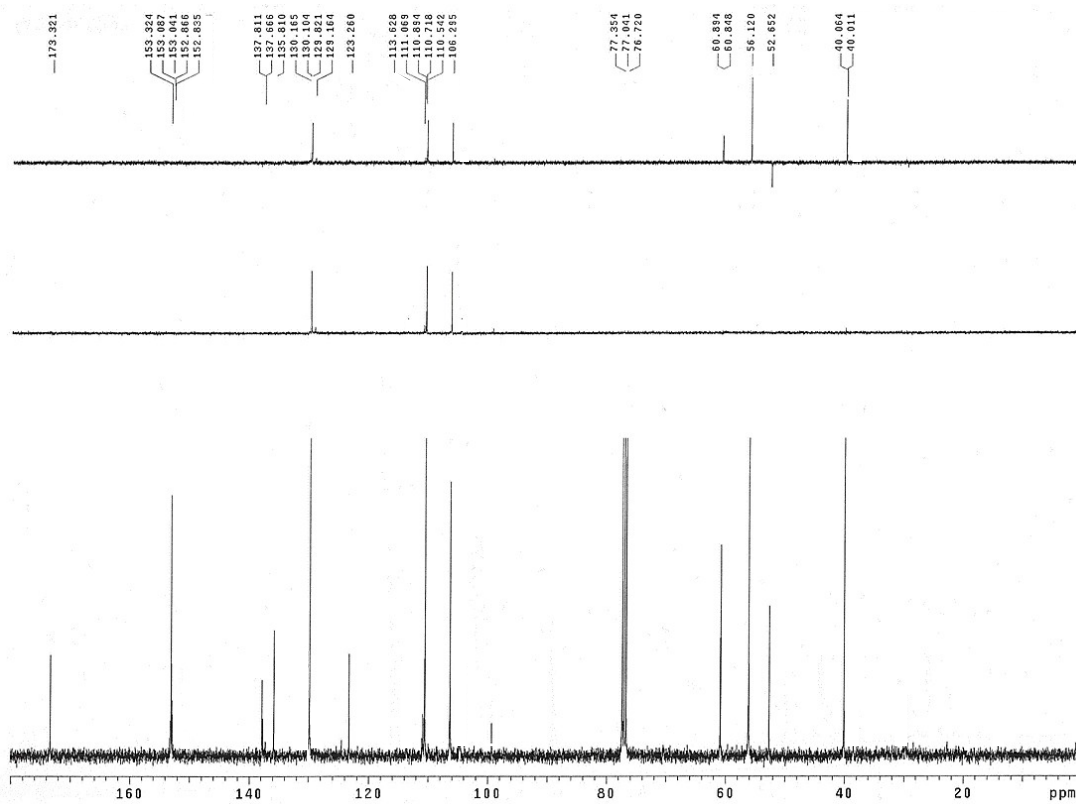


Fig. 37b: Compound **34** ^{13}C NMR spectra.

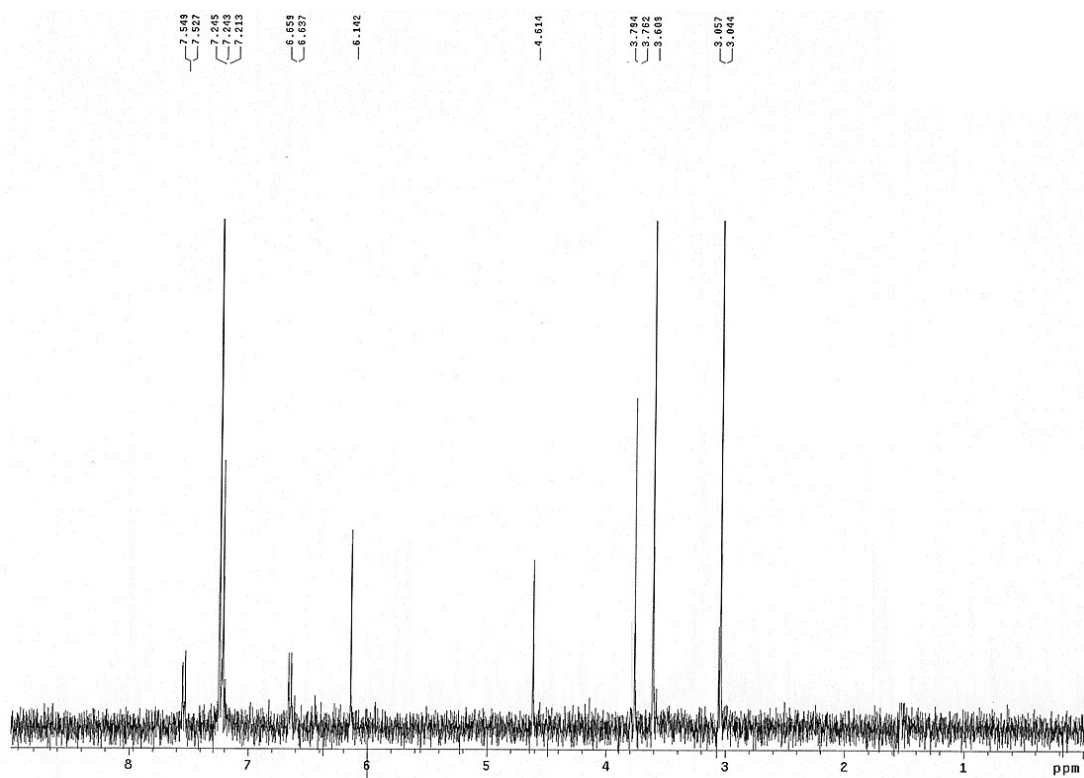


Fig. 38a: Compound **35a** ^1H NMR spectra.

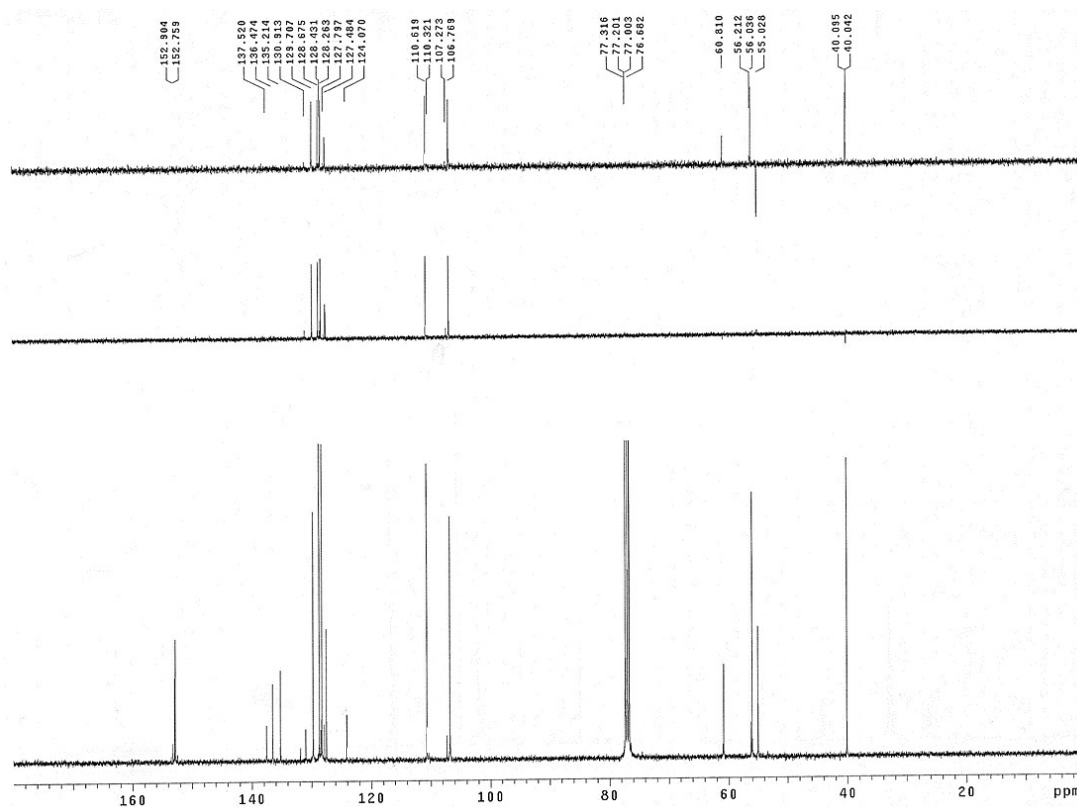


Fig. 38b: Compound **35a** ^{13}C NMR spectra.

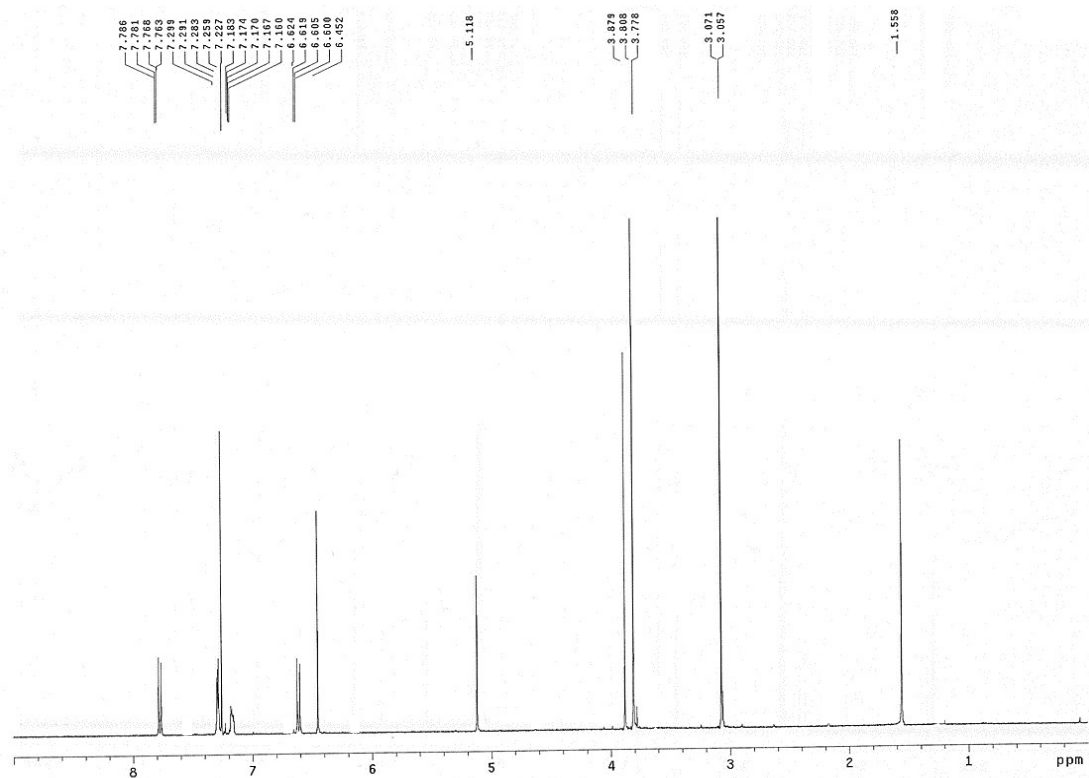


Fig. 39a: Compound **35b** ^1H NMR spectra.

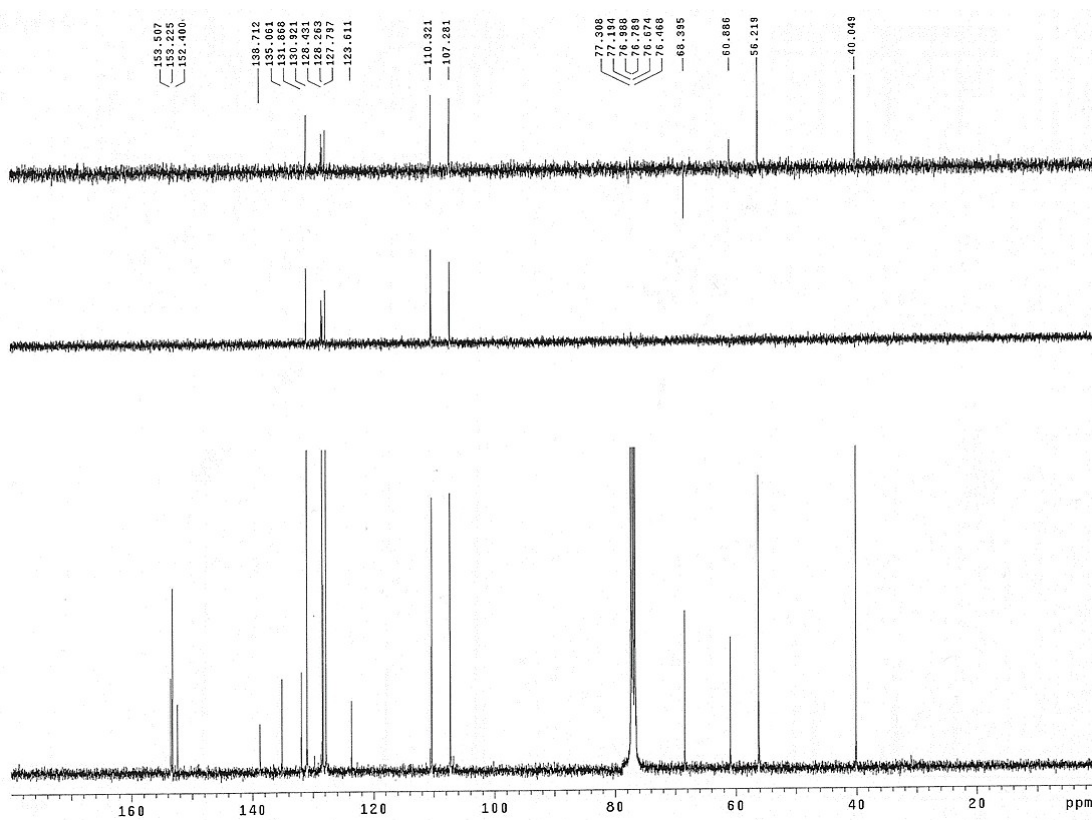


Fig. 39b: Compound **35b** ^{13}C NMR spectra.

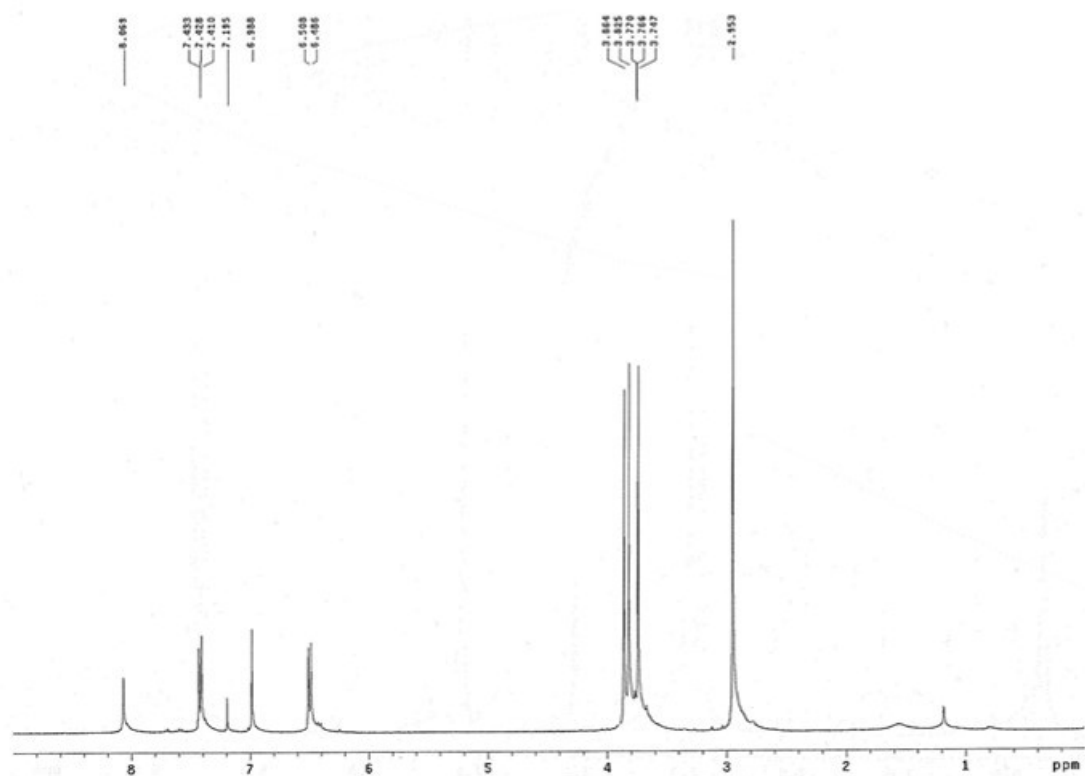


Fig. 40a: Compound **36** ^1H NMR spectra.

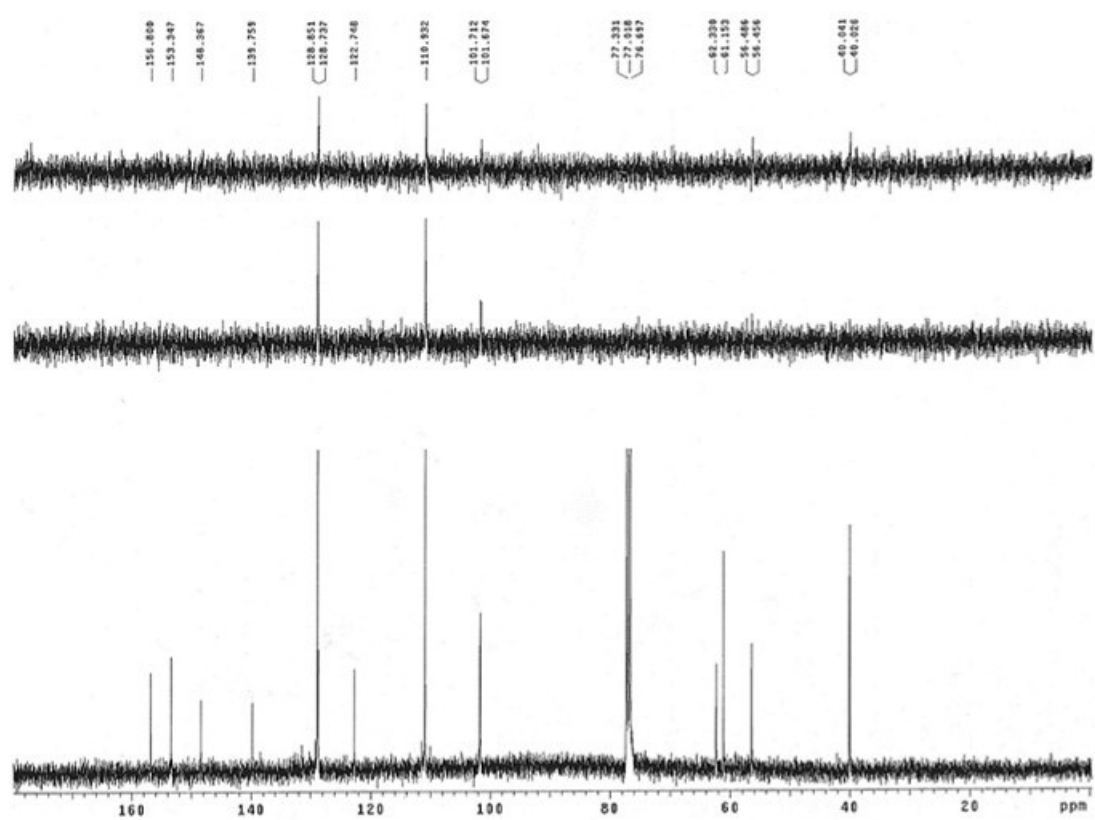


Fig. 40b: Compound **36** ^{13}C NMR spectra.

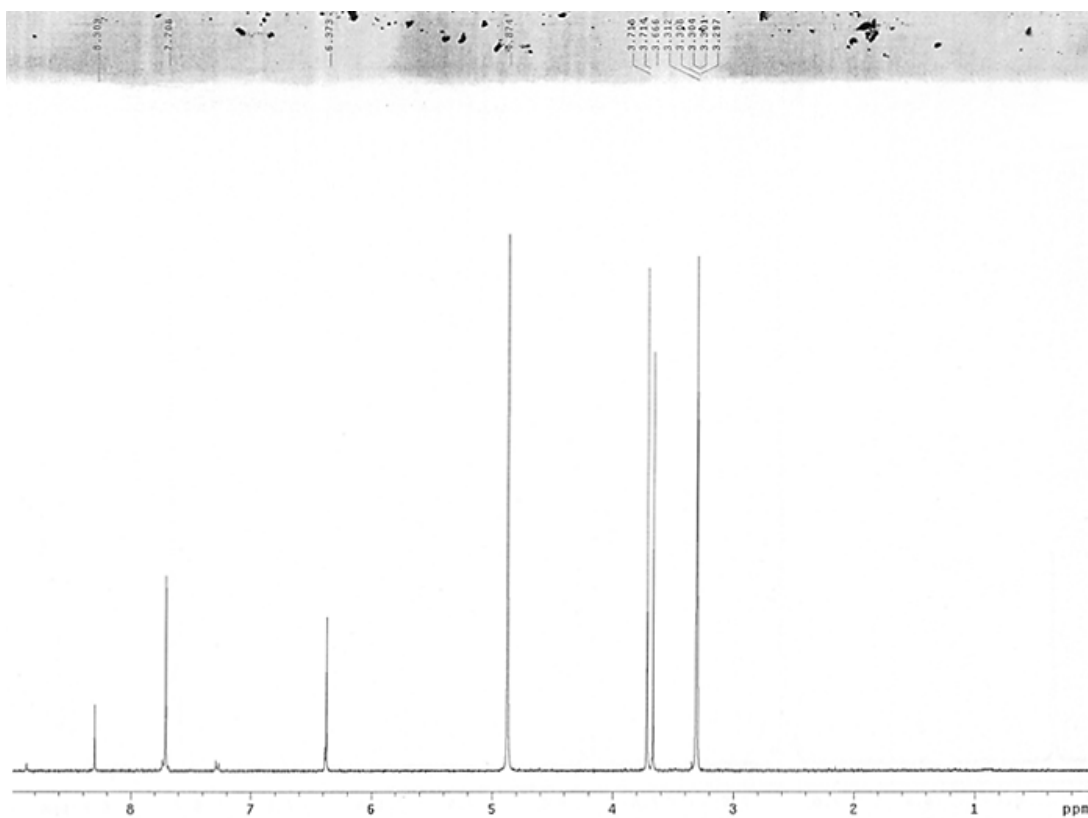


Fig. 41a: Compound **37** ^1H NMR spectra.

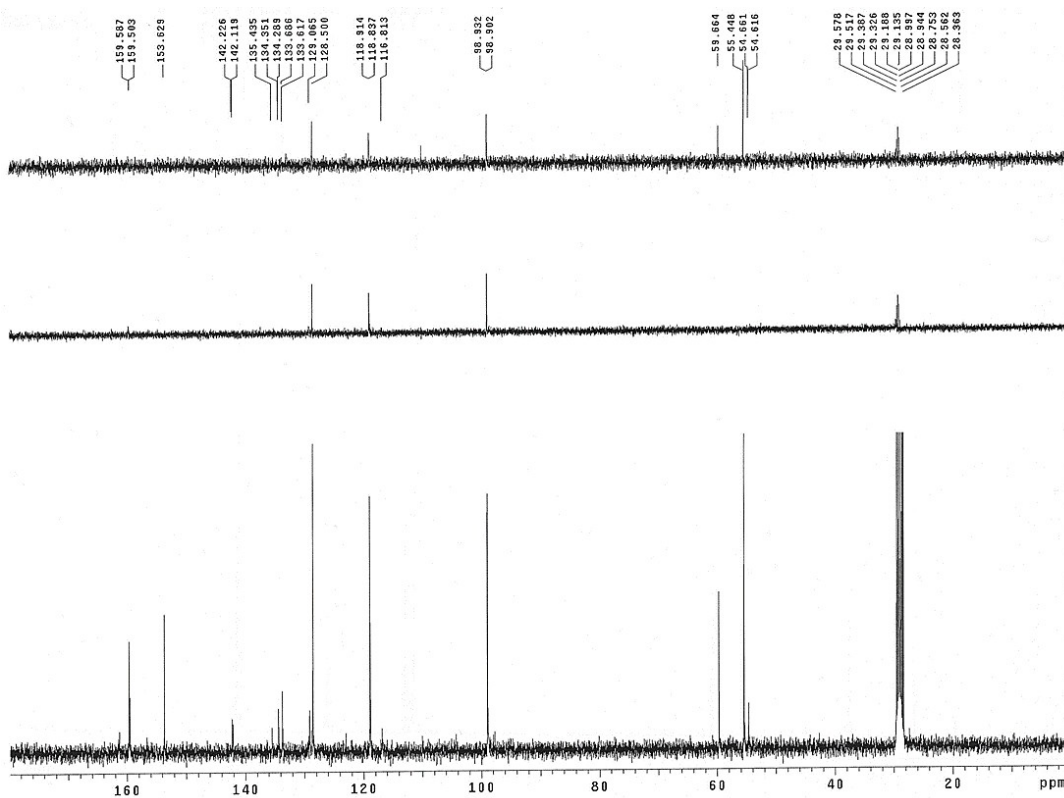


Fig. 41b: Compound **37** ^{13}C NMR spectra.

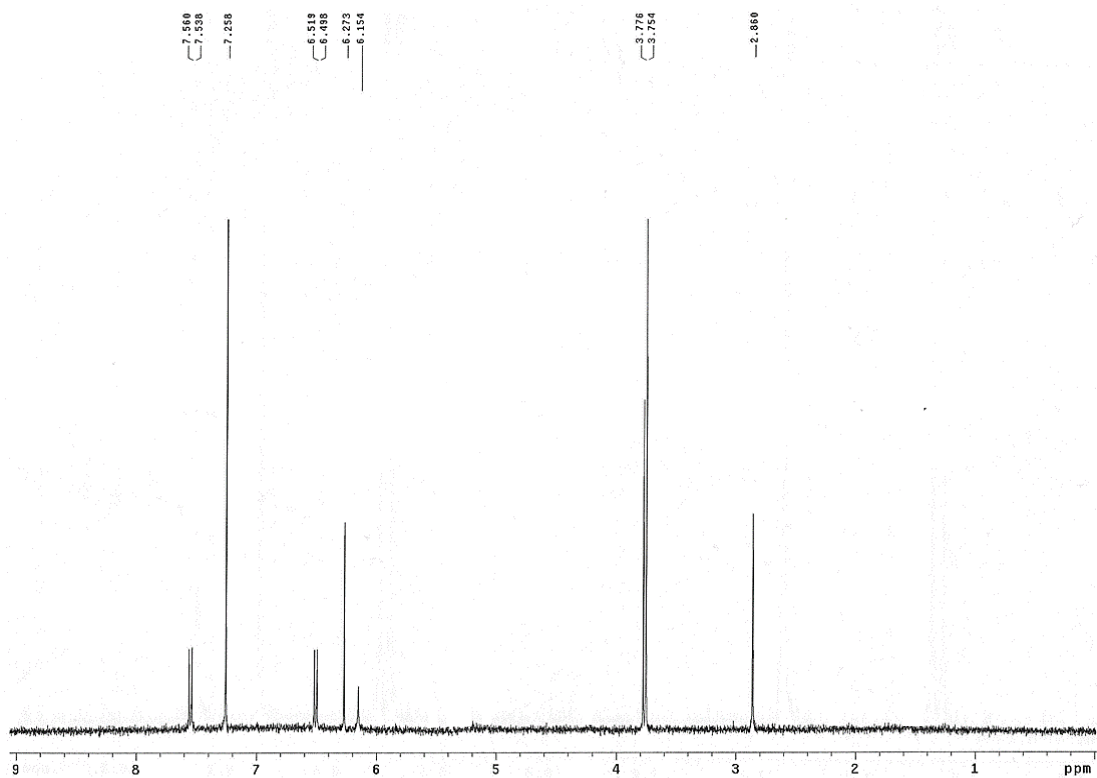


Fig. 42a: Compound 38 ¹H NMR spectra.

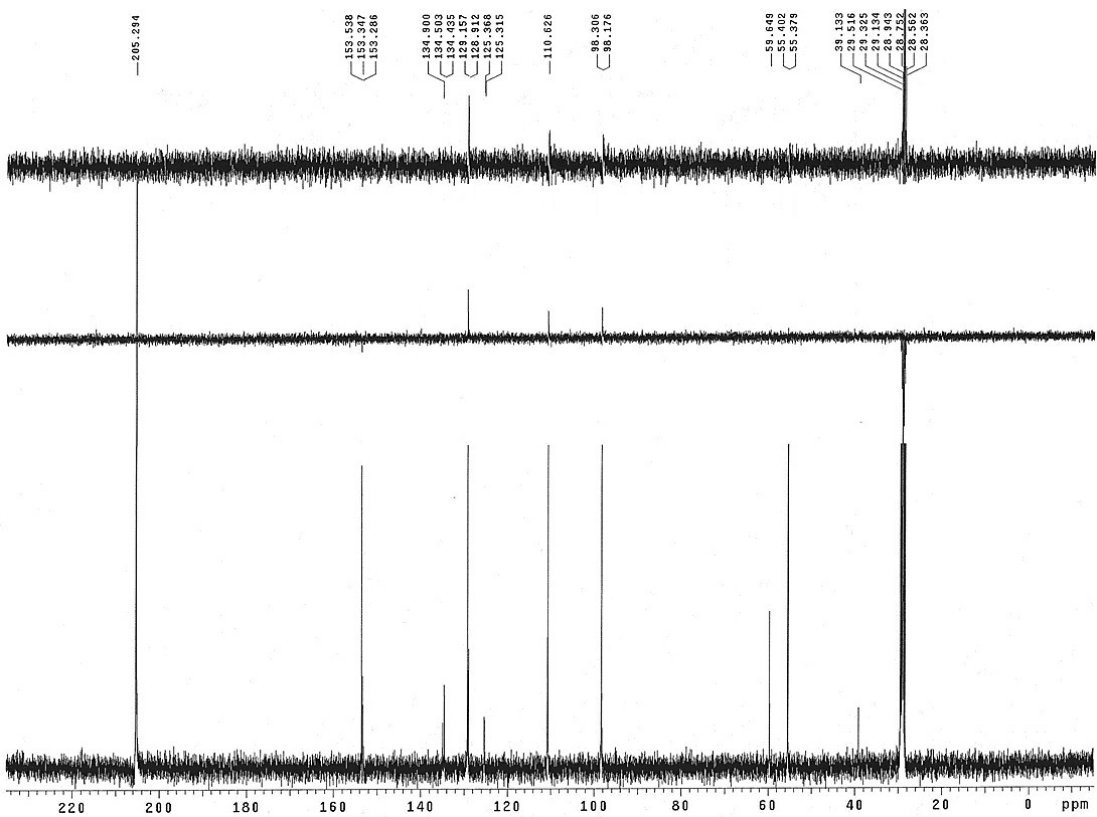


Fig. 42b: Compound 38 ¹³C NMR spectra.

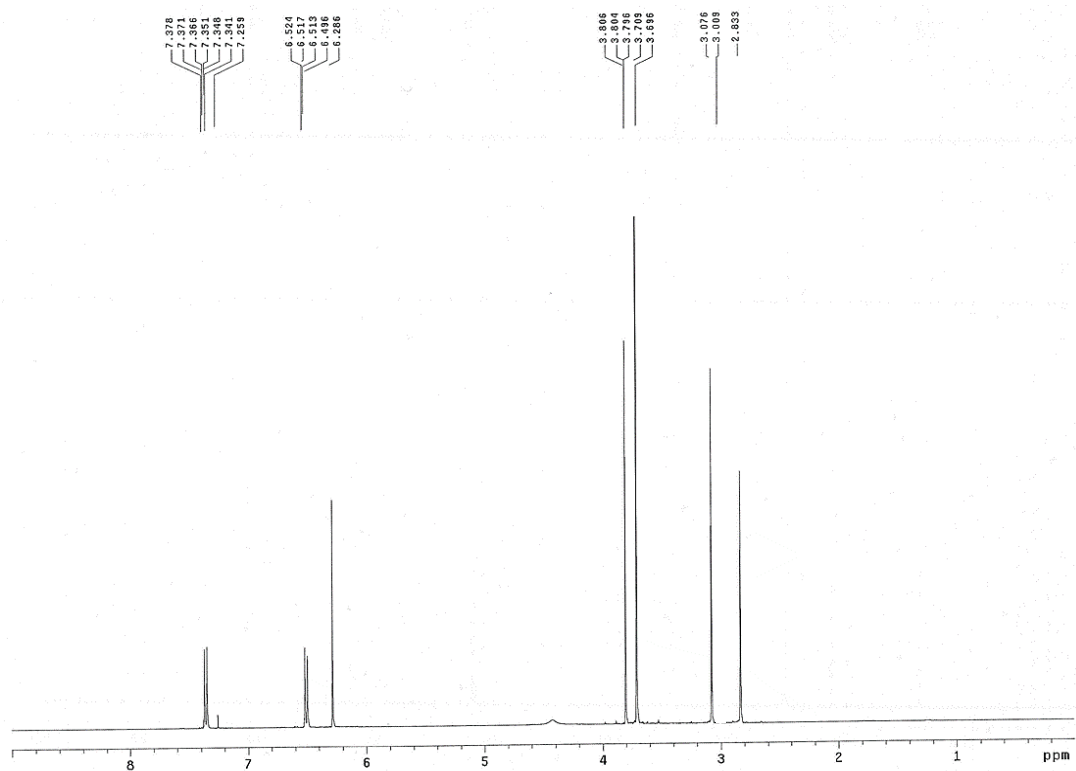


Fig. 43a: Compound **39** ^1H NMR spectra.

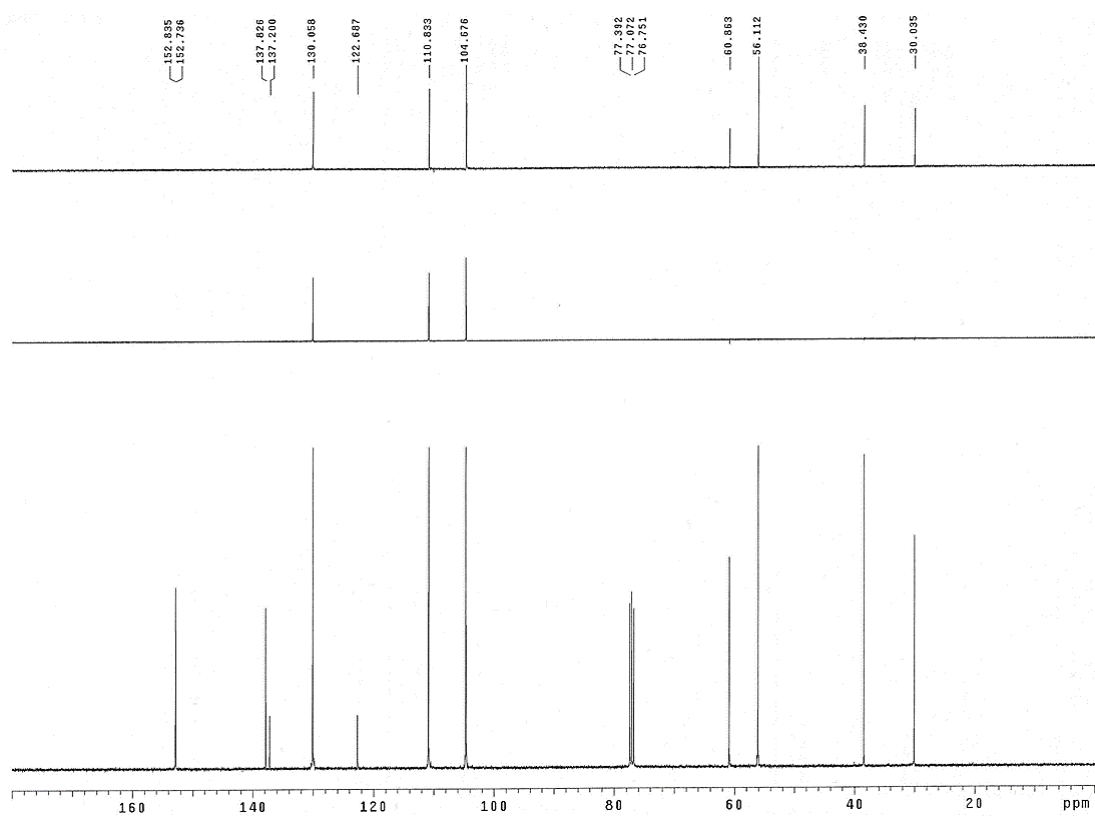


Fig. 43b: Compound **39** ^{13}C NMR spectra.

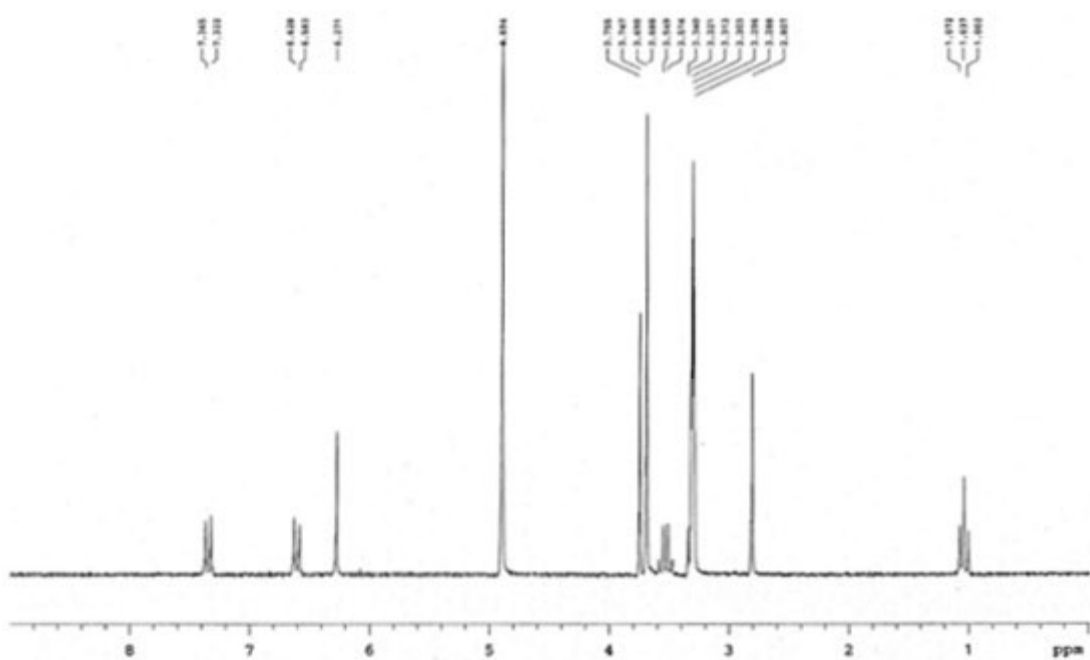


Fig. 44a: Compound **40** ^1H NMR spectra.

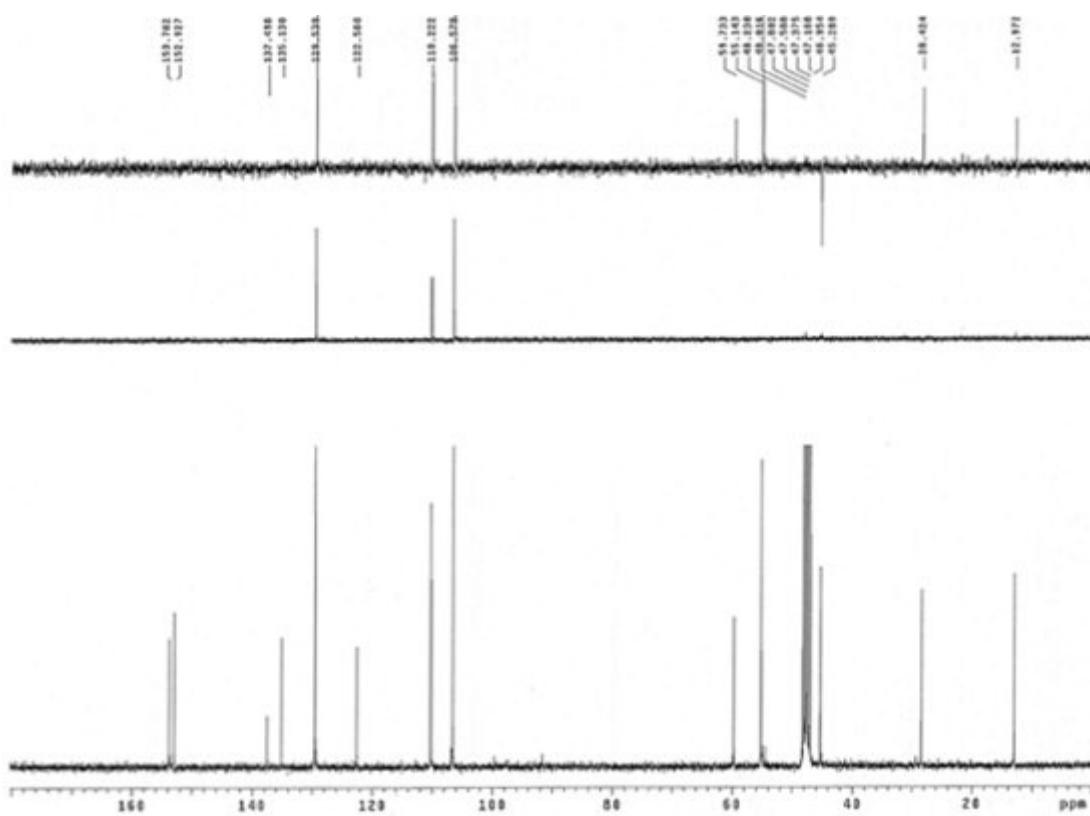


Fig. 44b: Compound **40** ^{13}C NMR spectra.

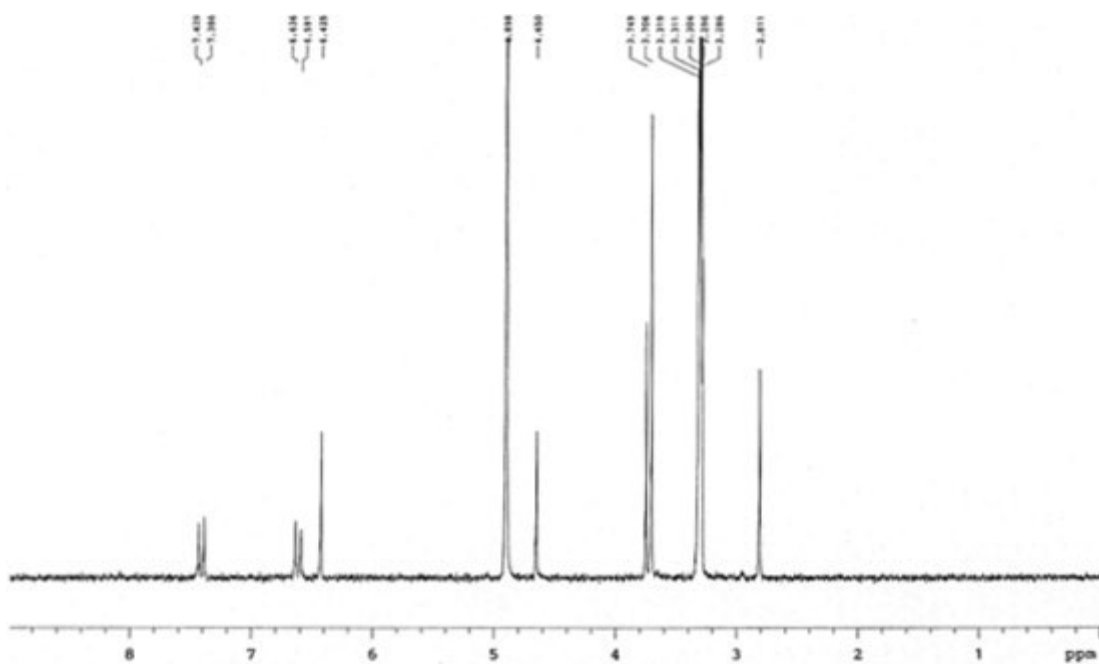


Fig. 45a: Compound **41** ^1H NMR spectra.

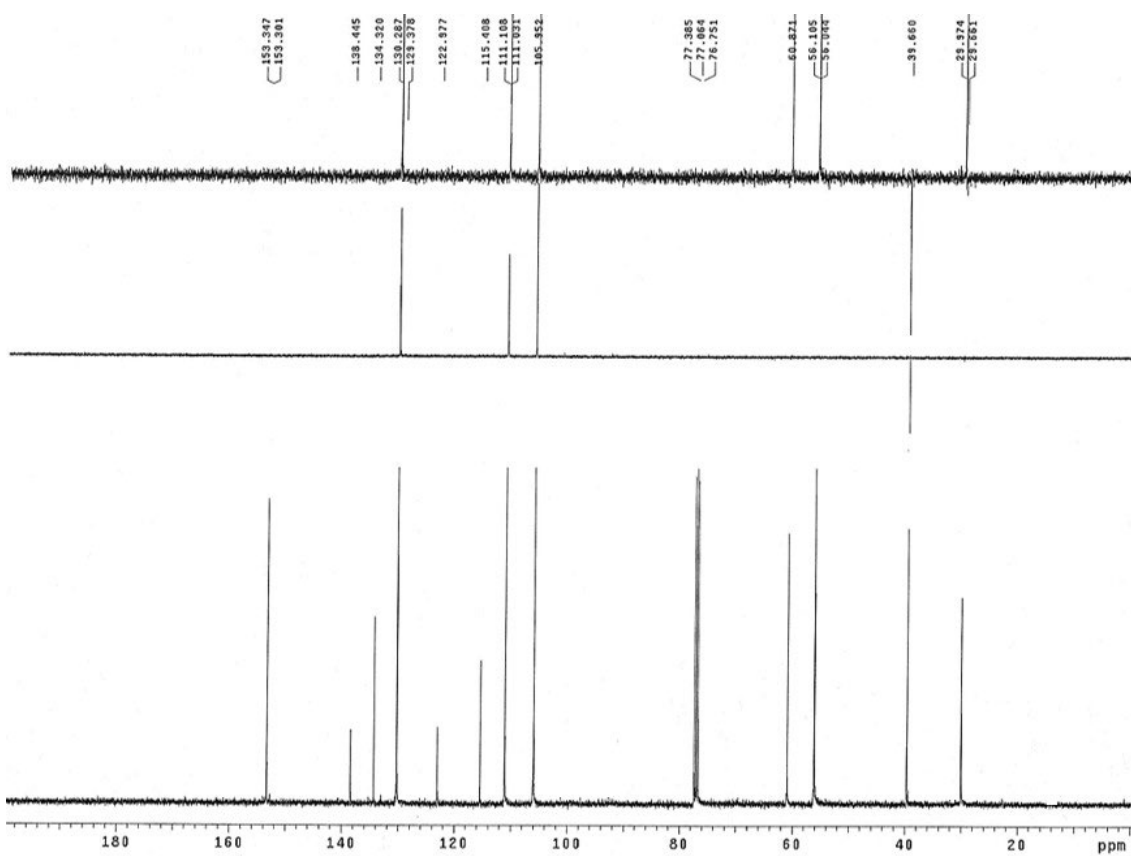


Fig. 45b: Compound **41** ^{13}C NMR spectra.

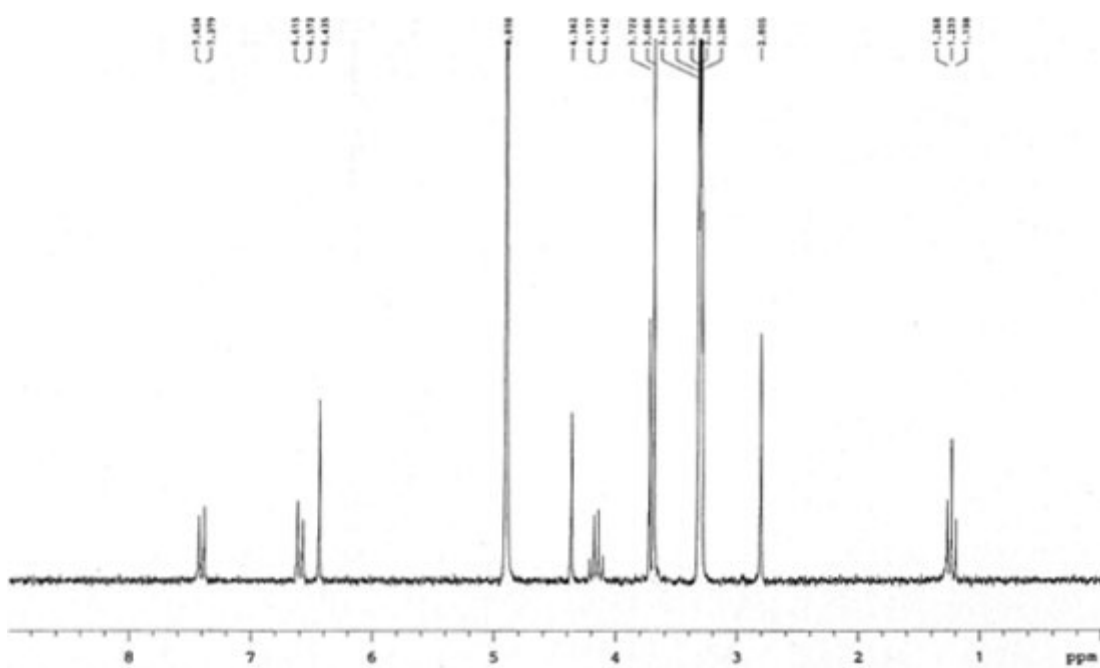


Fig. 46a: Compound **42** ^1H NMR spectra.

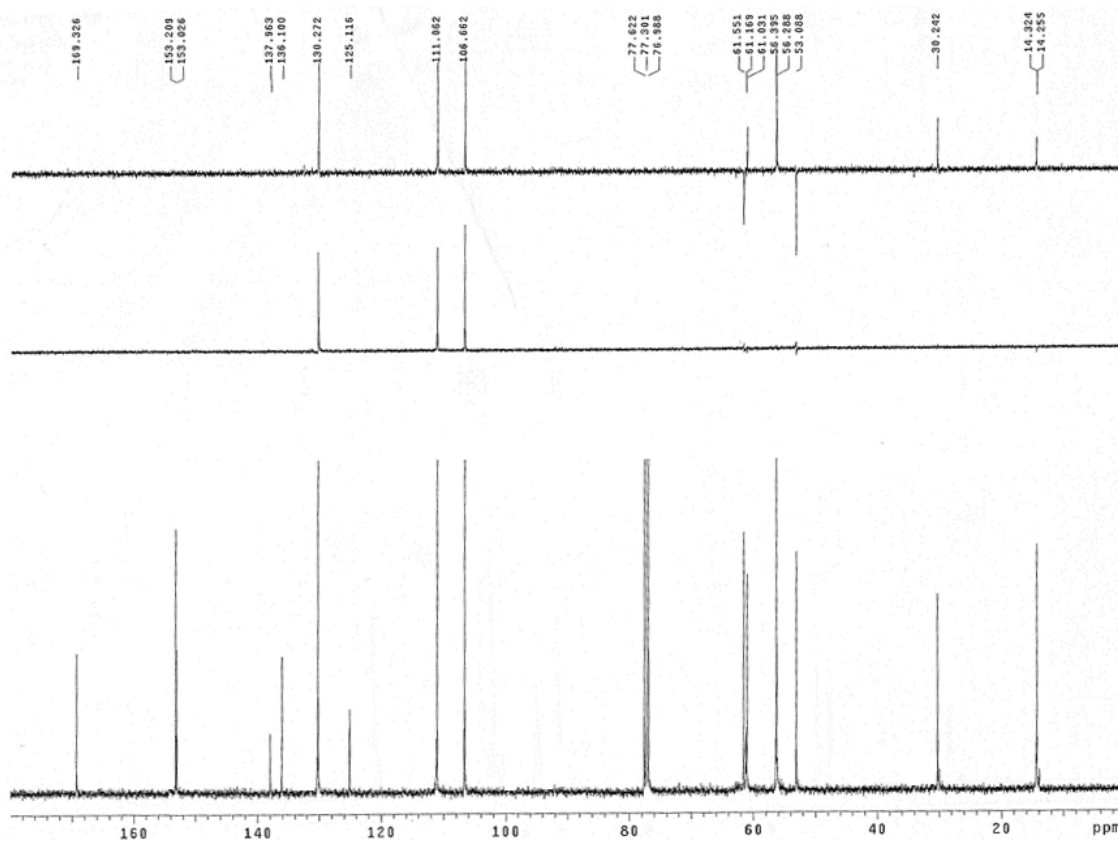


Fig. 46b: Compound **42** ^{13}C NMR spectra.

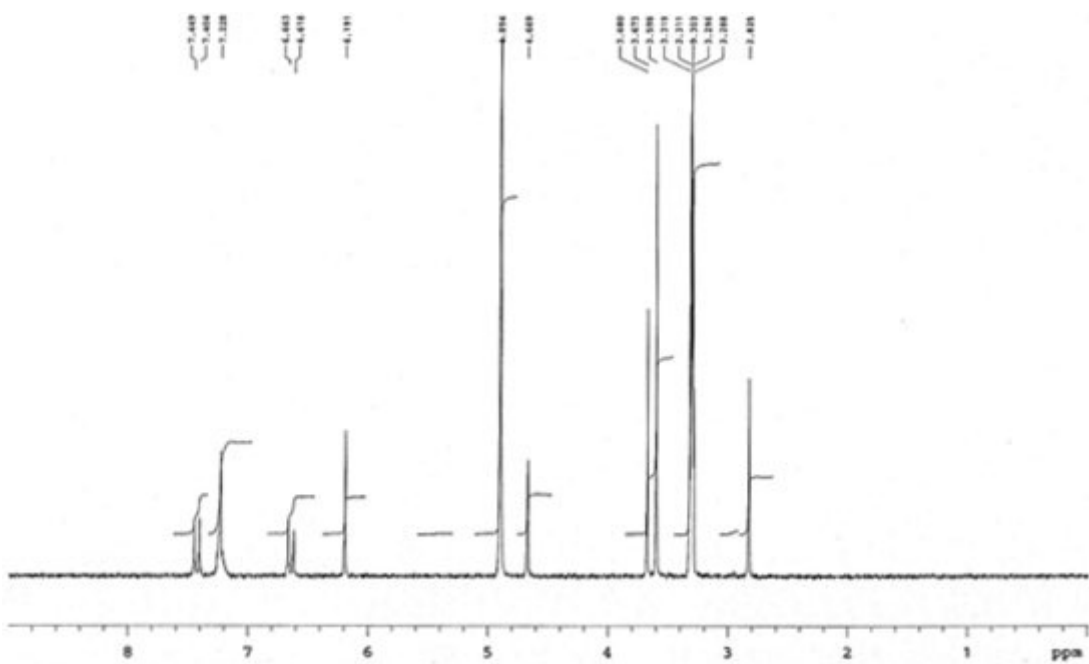


Fig. 47a: Compound **43** ^1H NMR spectra.

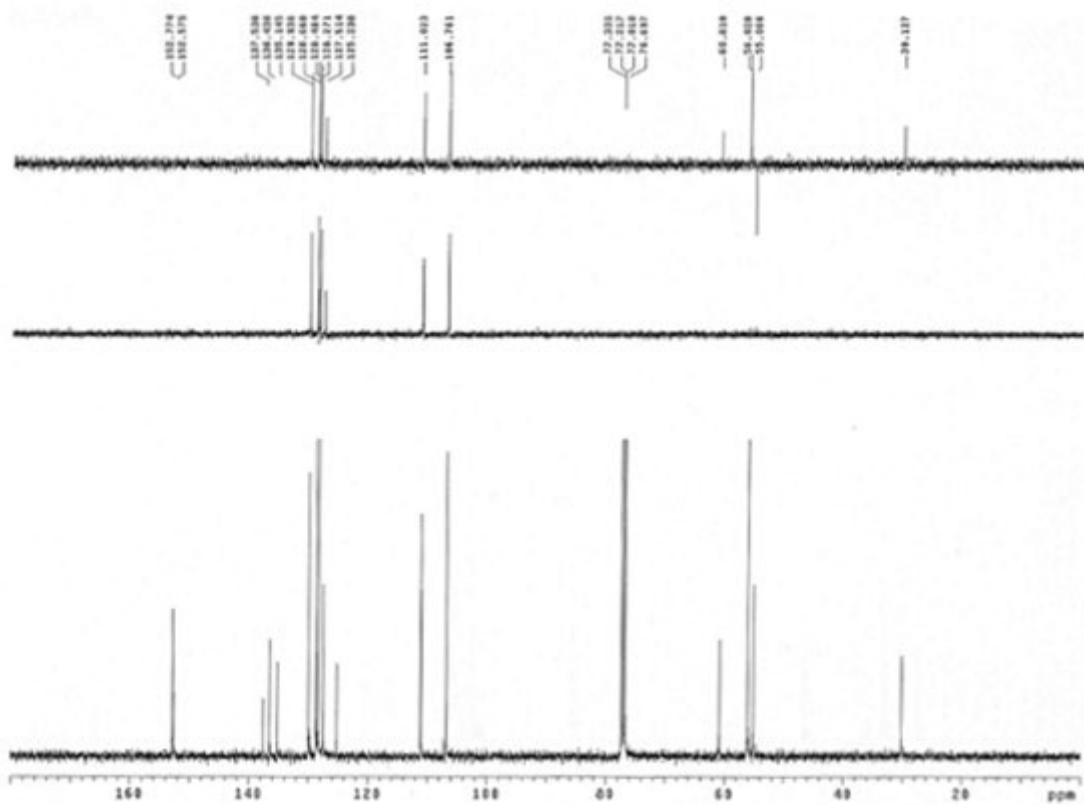


Fig. 47b: Compound **43** ^{13}C NMR spectra.

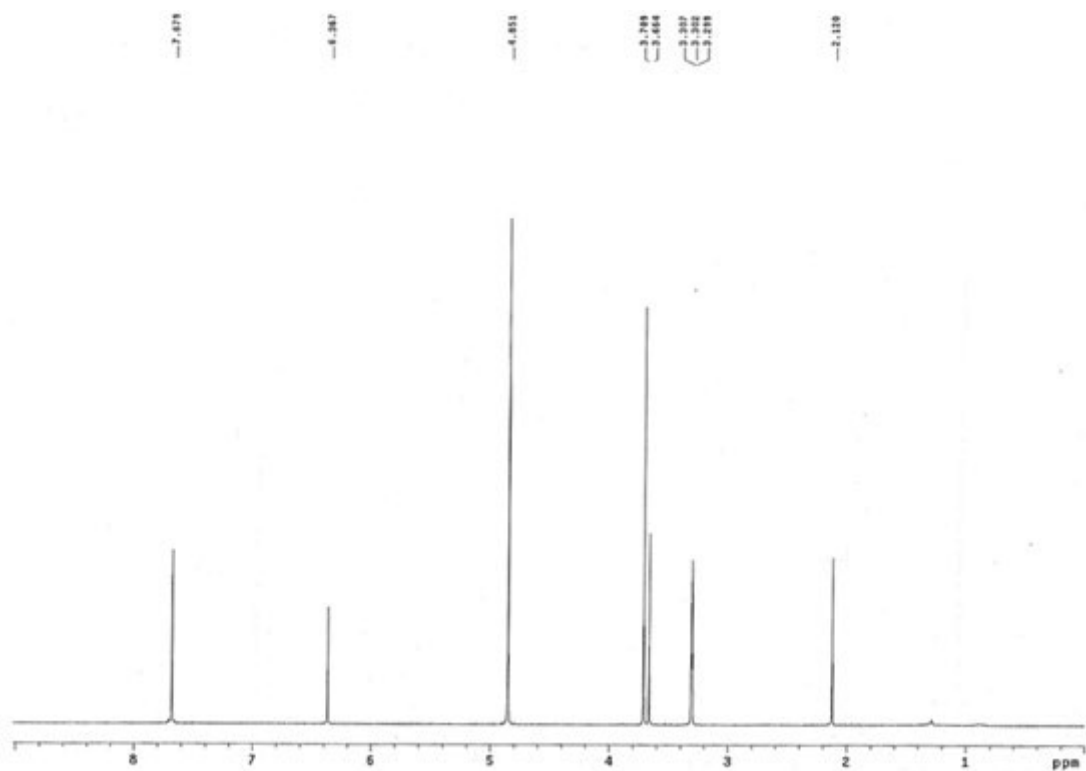


Fig. 48a: Compound **44a** ¹H NMR spectra.

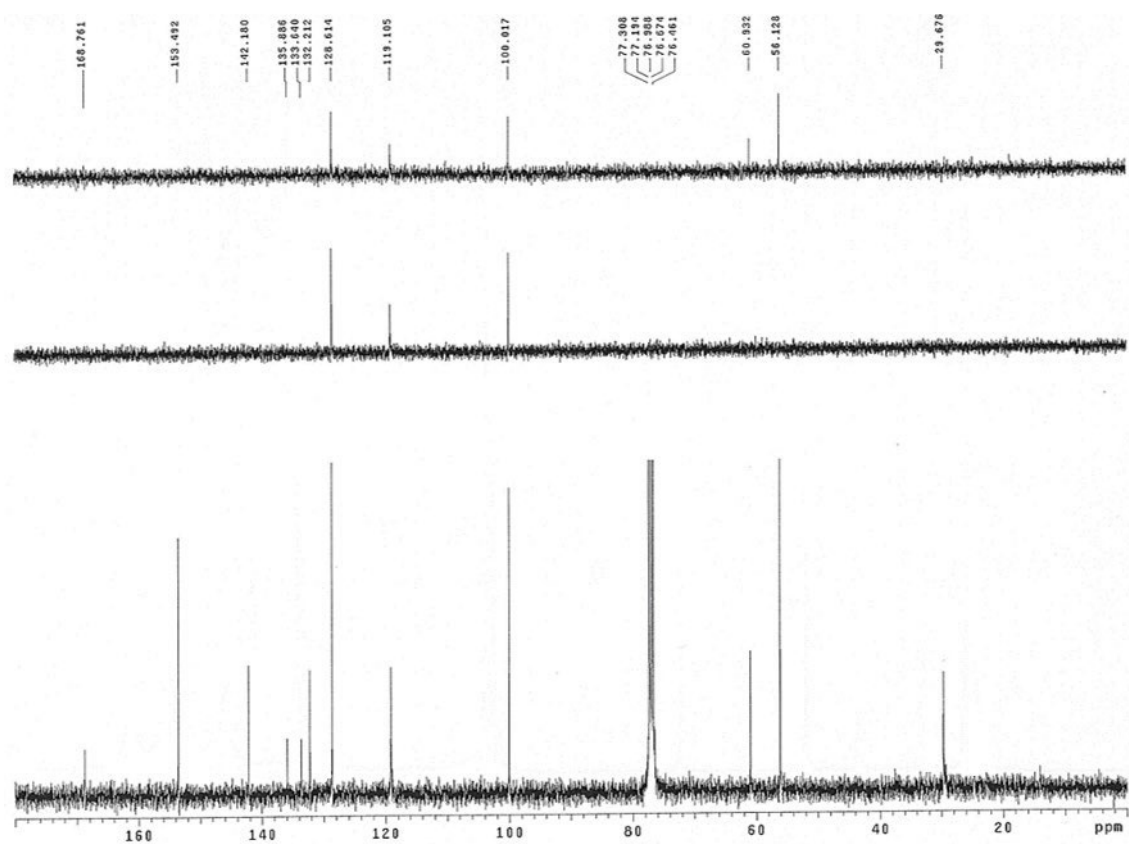


Fig. 48b: Compound **44a** ¹³C NMR spectra.

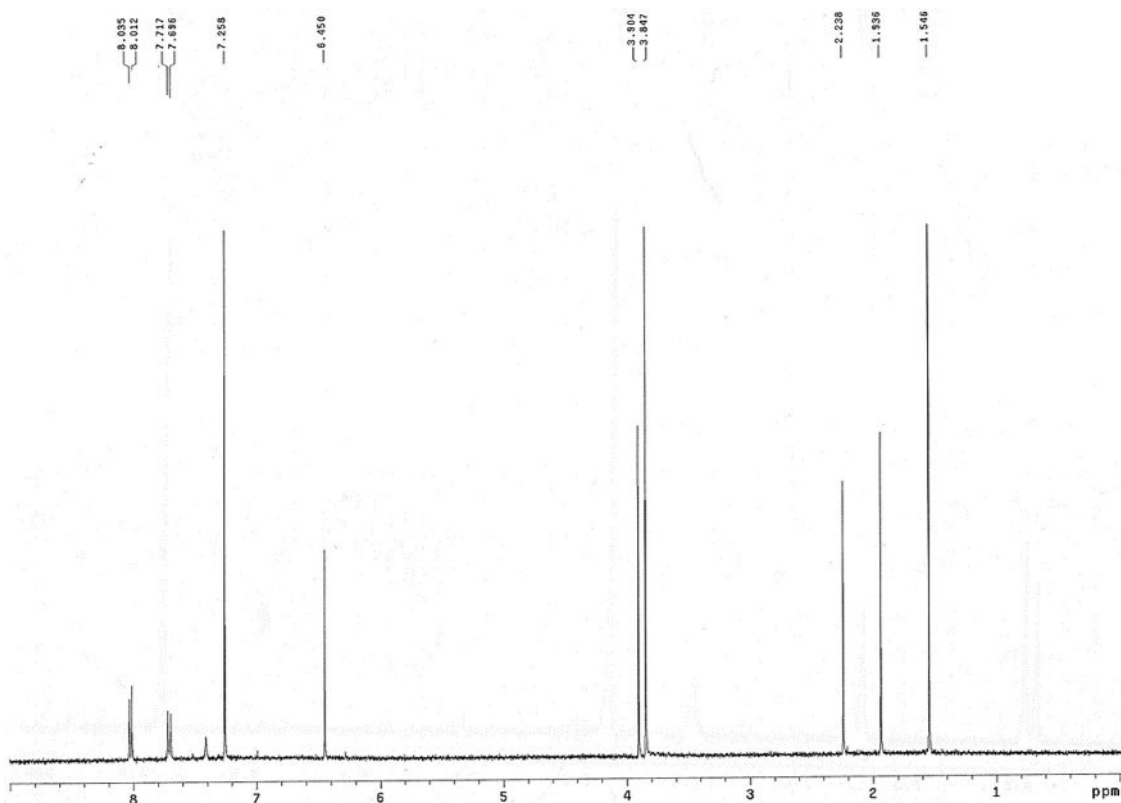


Fig. 49a: Compound **44b** ^1H NMR spectra.

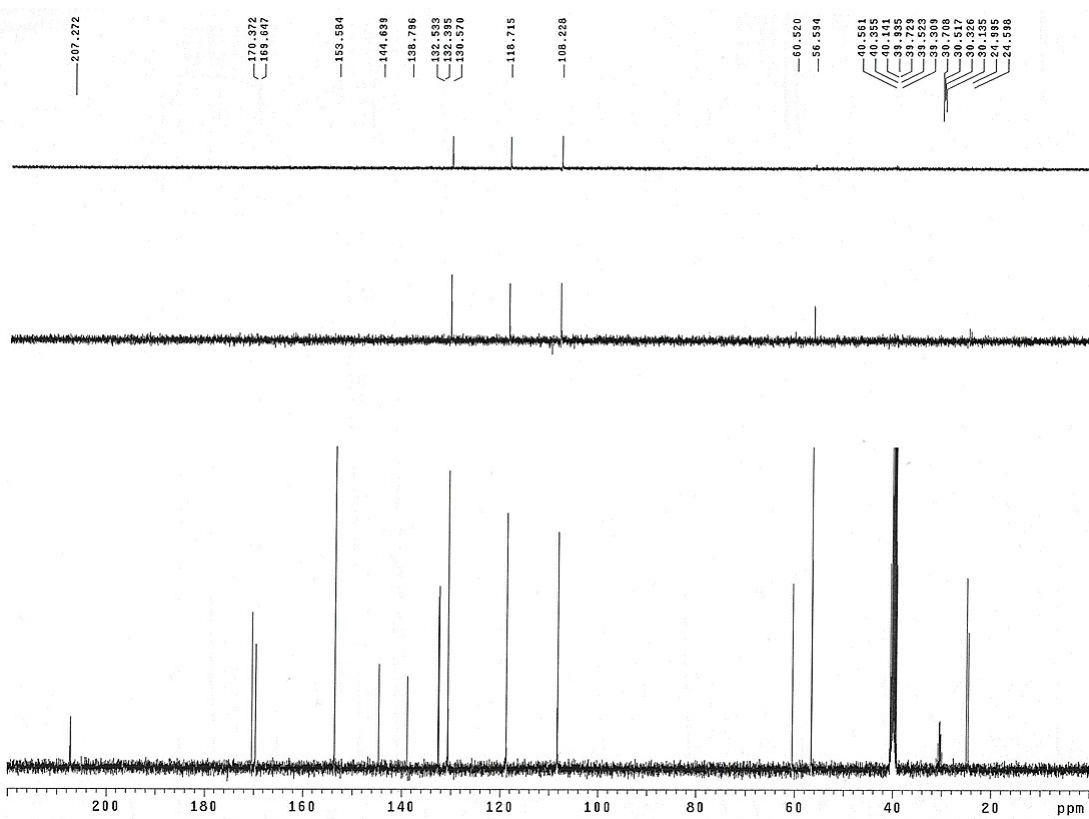


Fig. 49b: Compound **44b** ^{13}C NMR spectra.

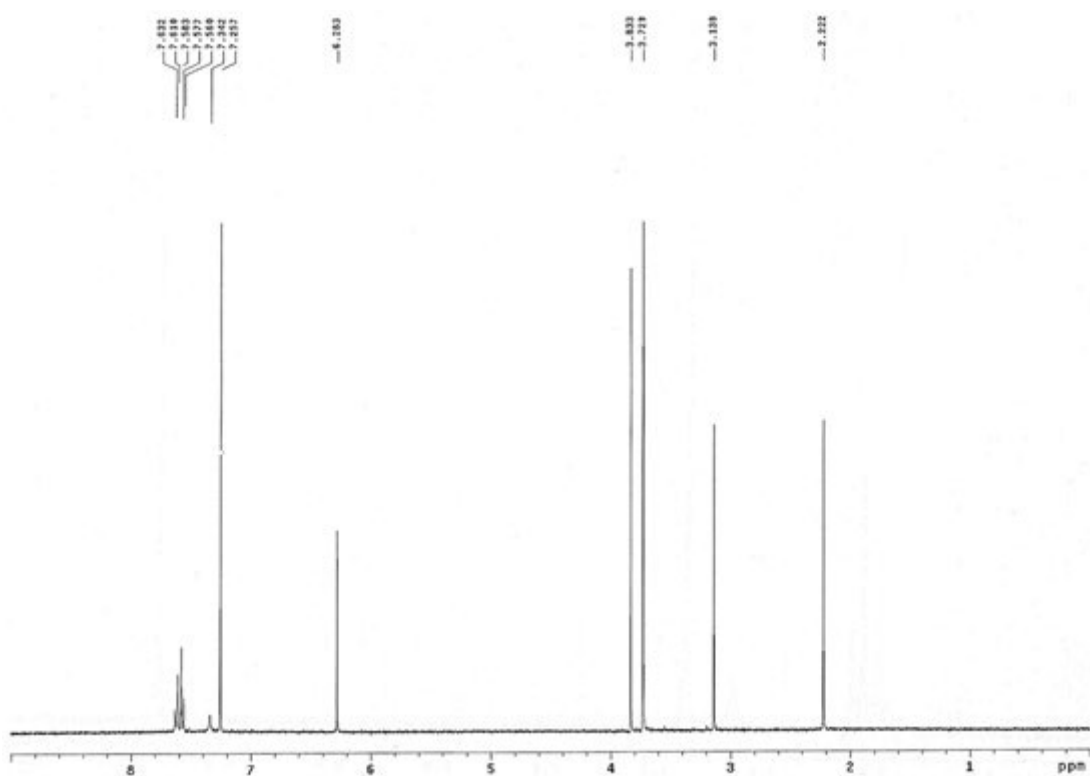


Fig. 50a: Compound **45** ^1H NMR spectra.

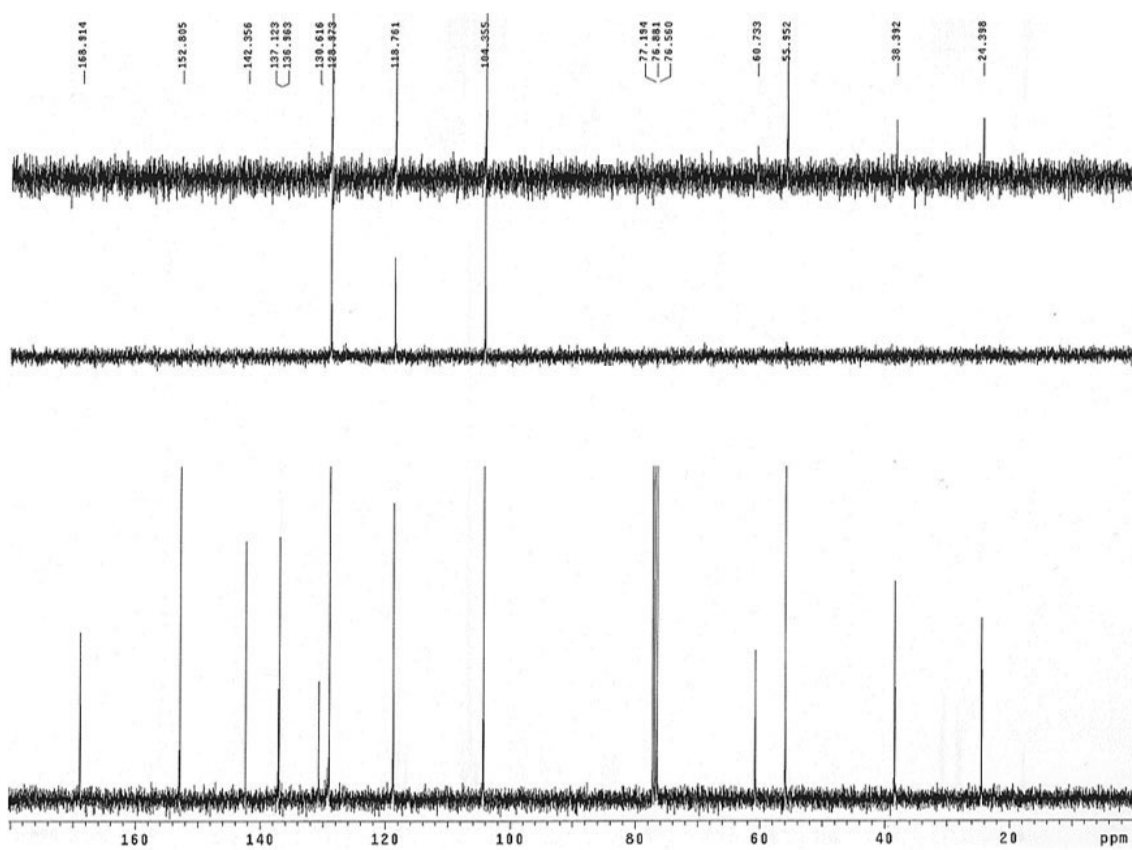


Fig. 50b: Compound **45** ^{13}C NMR spectra.

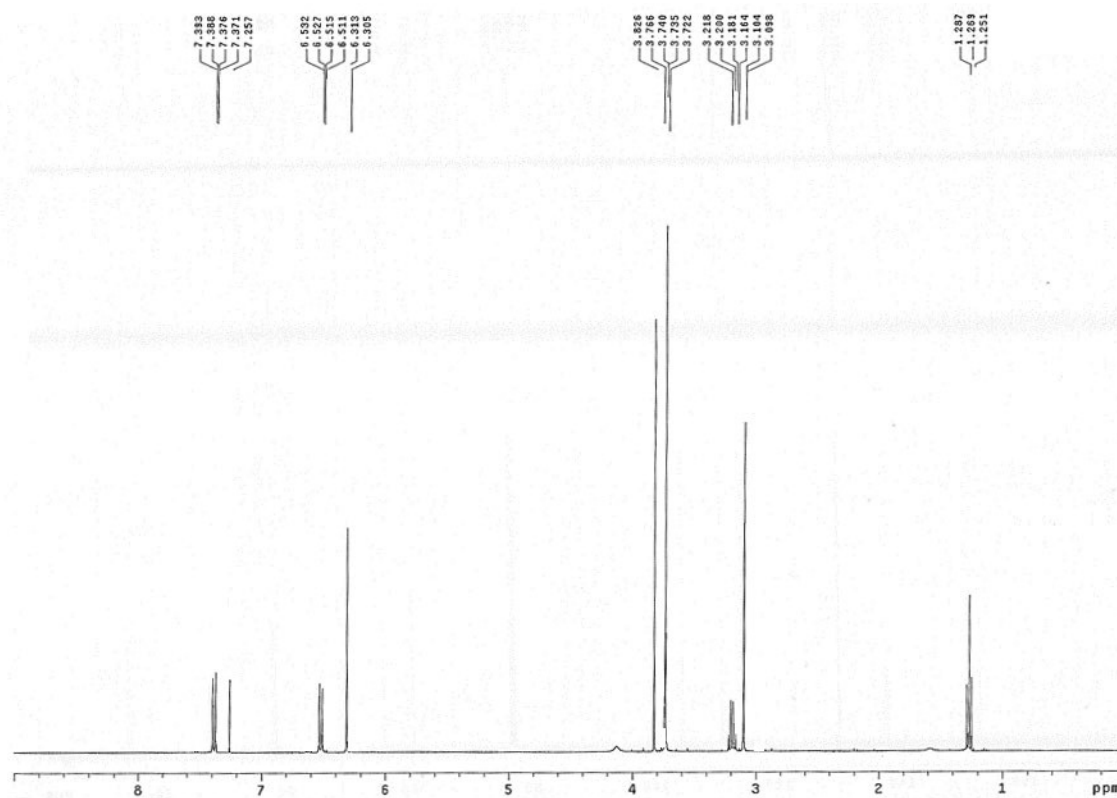


Fig. 51a: Compound **46** ^1H NMR spectra.

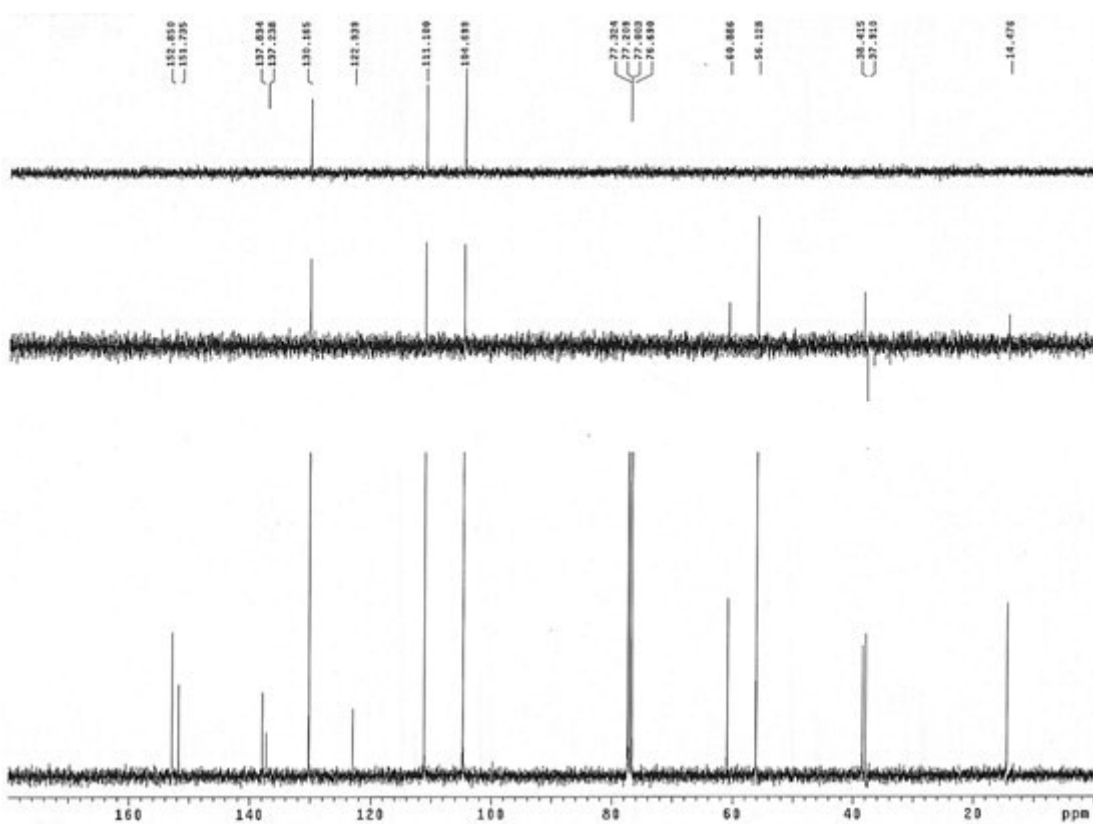


Fig. 51b: Compound **46** ^{13}C NMR spectra.

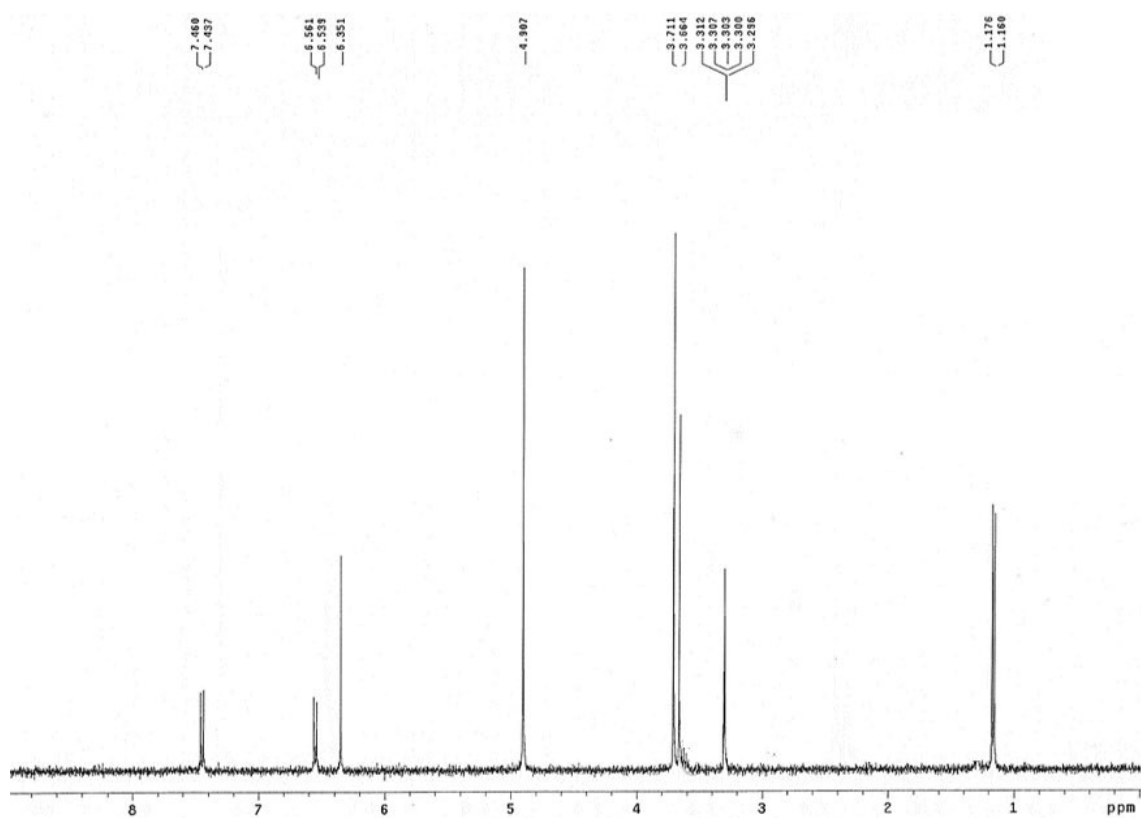


Fig. 52a: Compound 47 ¹H NMR spectra.

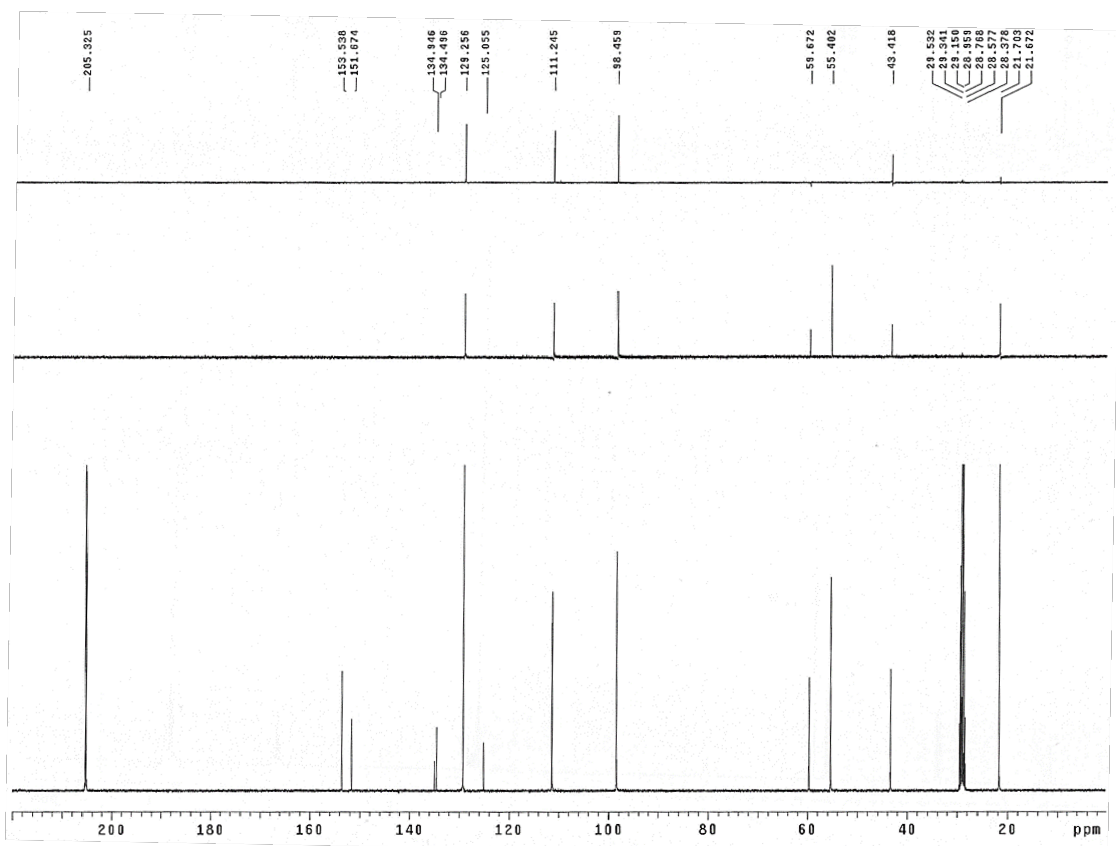


Fig. 52b: Compound 47 ¹³C NMR spectra.

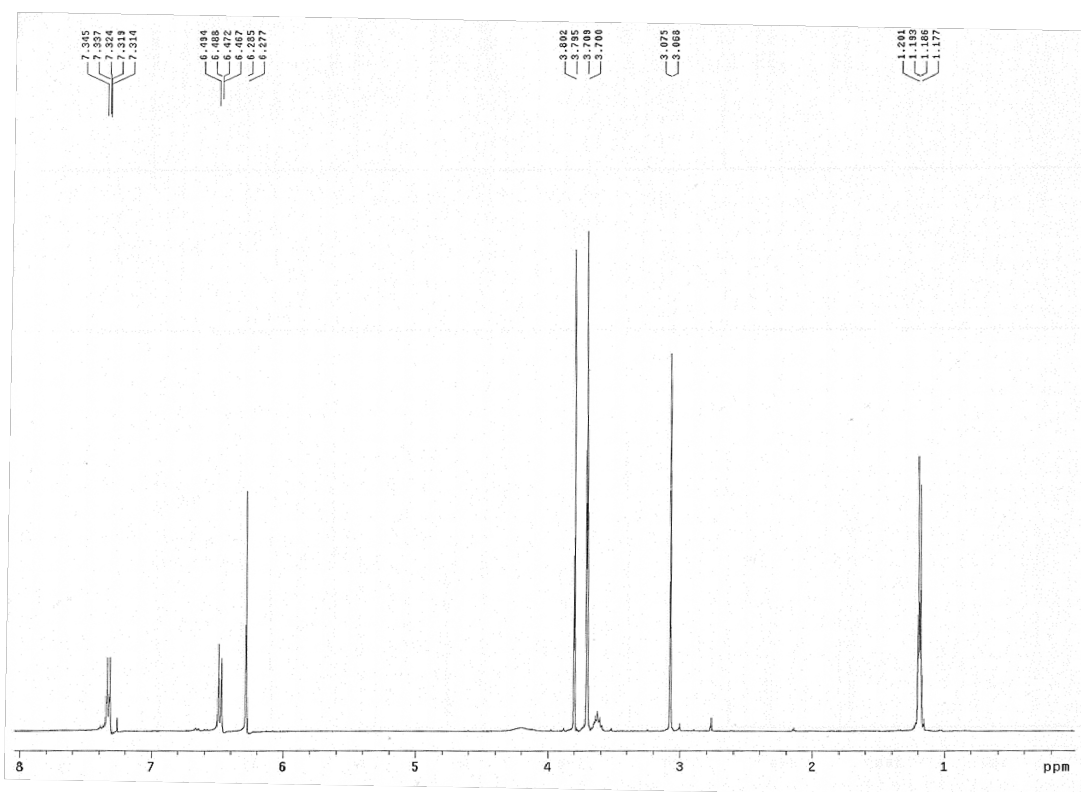


Fig. 53a: Compound **48** ^1H NMR spectra.

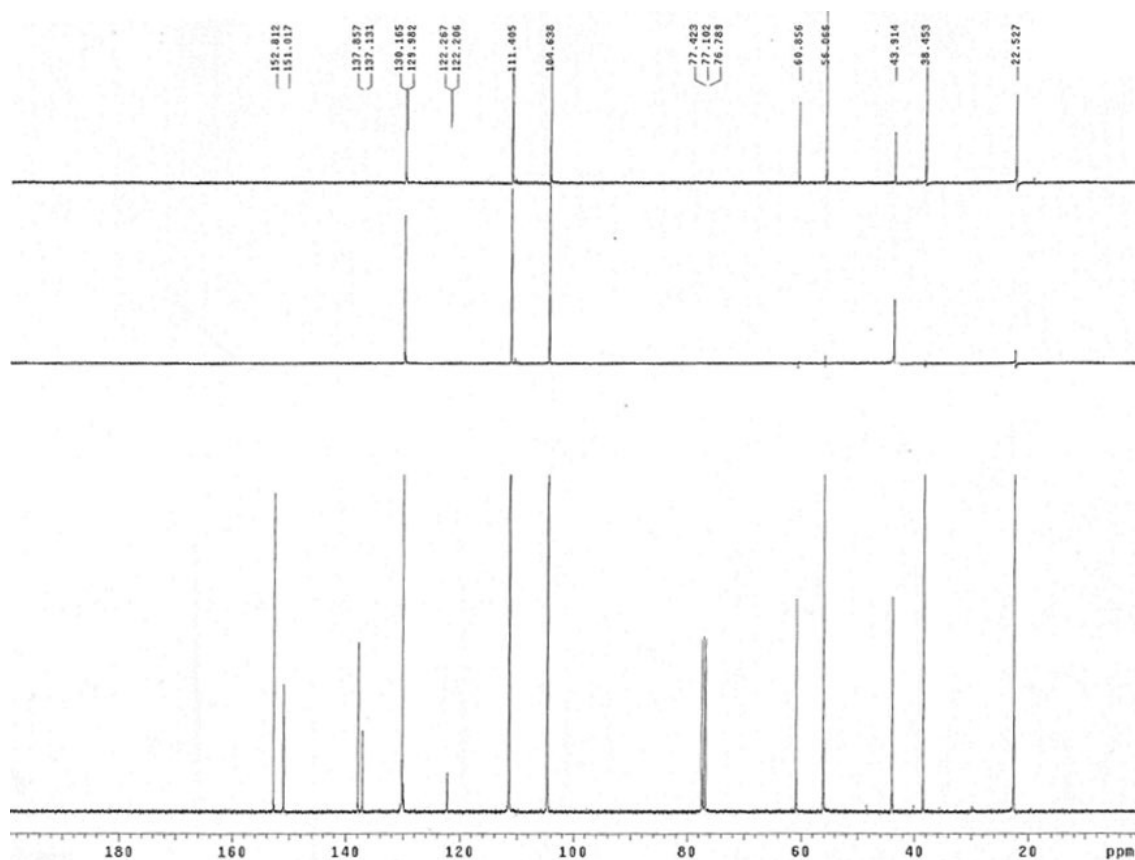


Fig. 53b: Compound **48** ^{13}C NMR spectra.

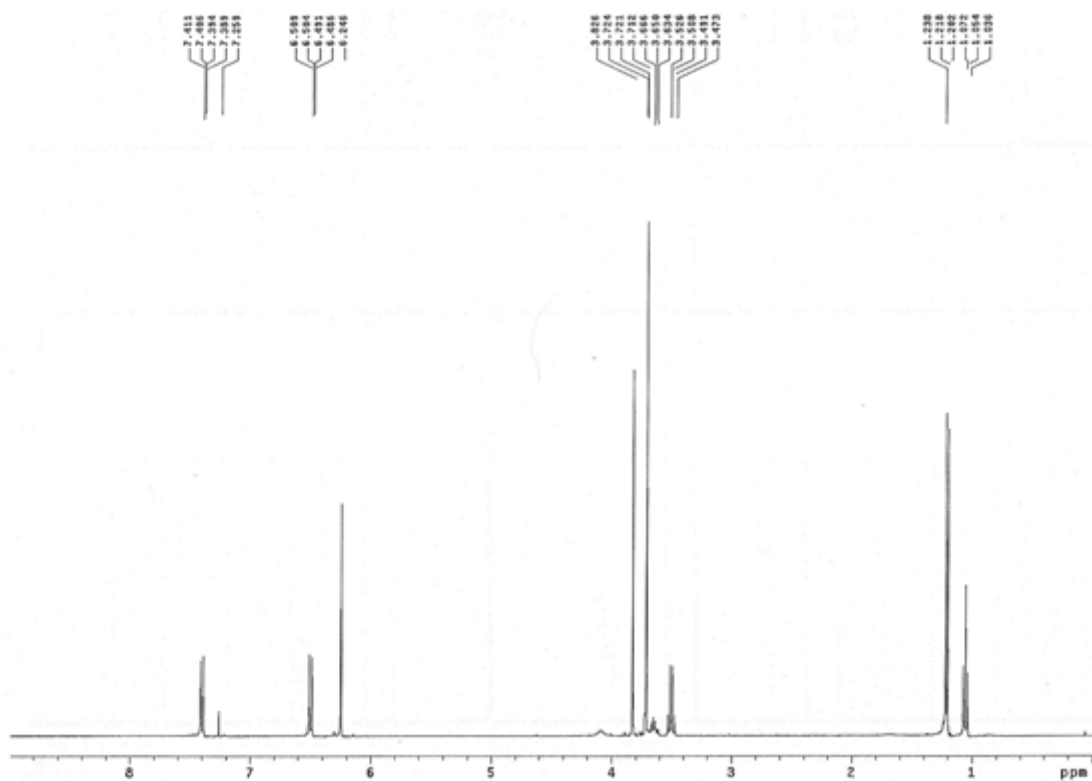


Fig. 54a: Compound **49** ^1H NMR spectra.

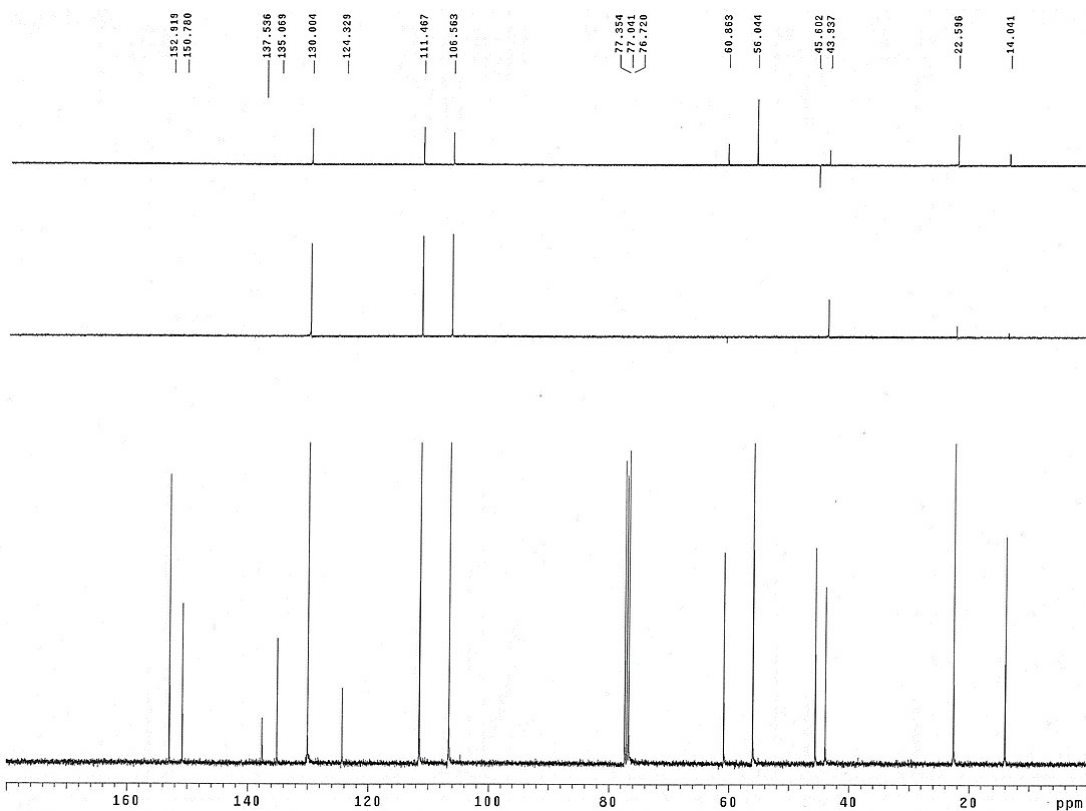


Fig. 54b: Compound **49** ^{13}C NMR spectra.

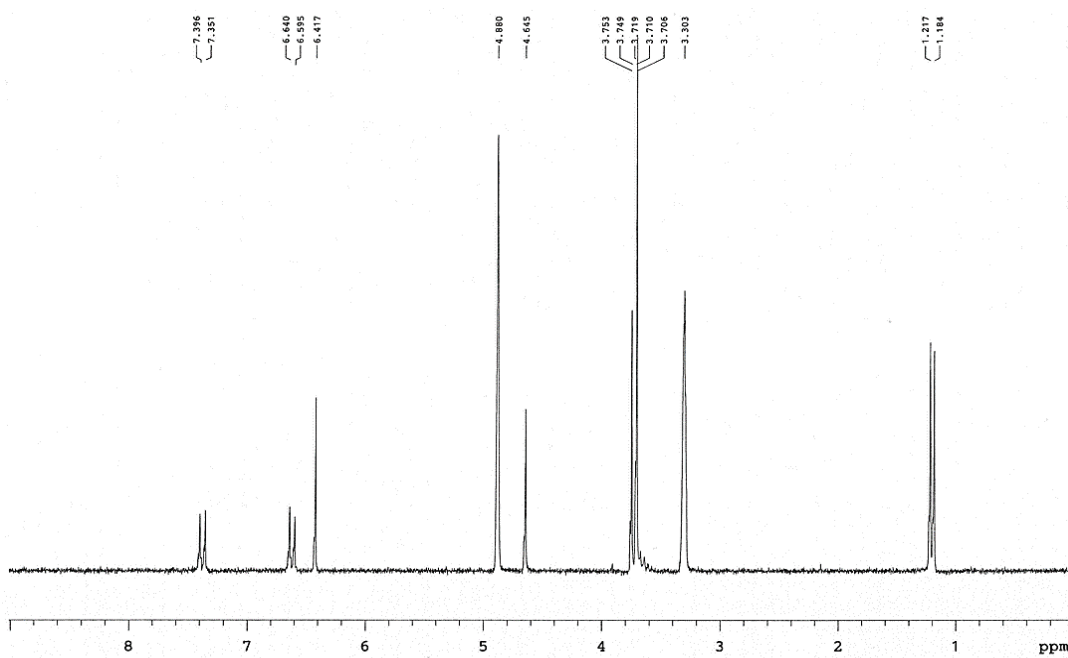


Fig. 55a: Compound **50** ^1H NMR spectra.

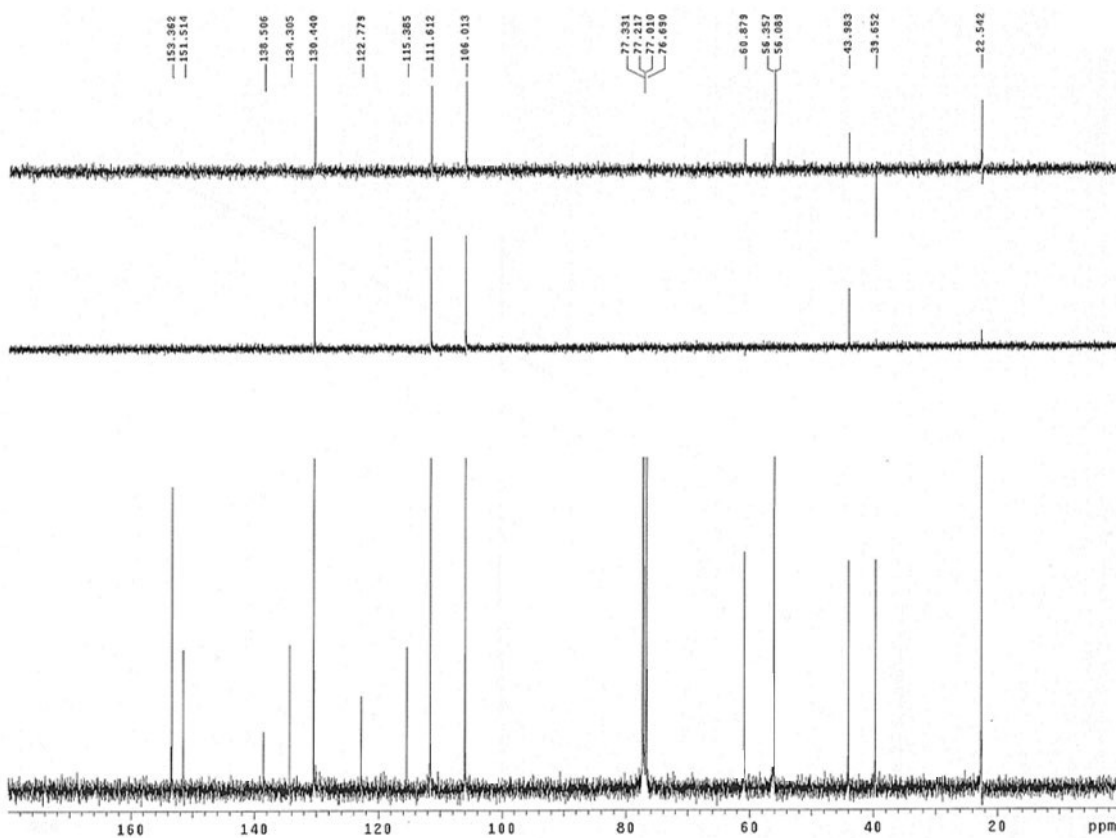


Fig. 55b: Compound **50** ^{13}C NMR spectra.

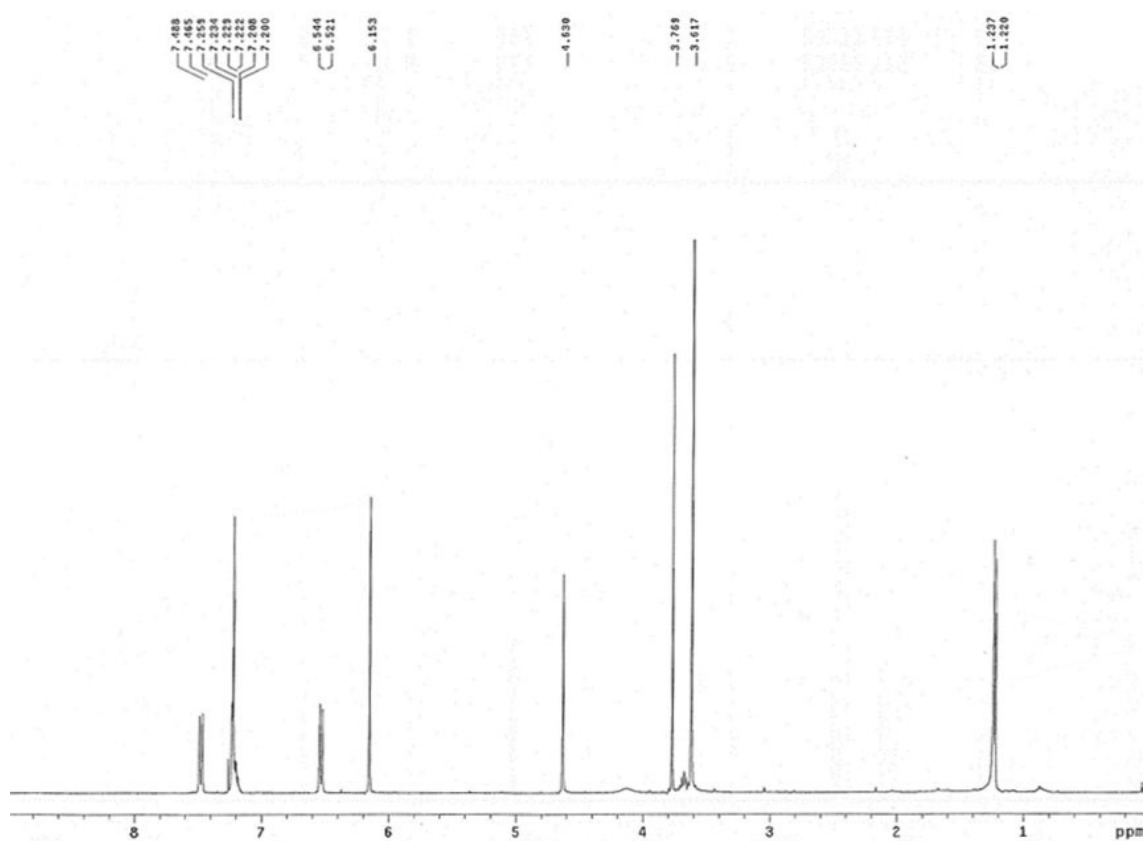


Fig. 56a: Compound **51** ^1H NMR spectra.

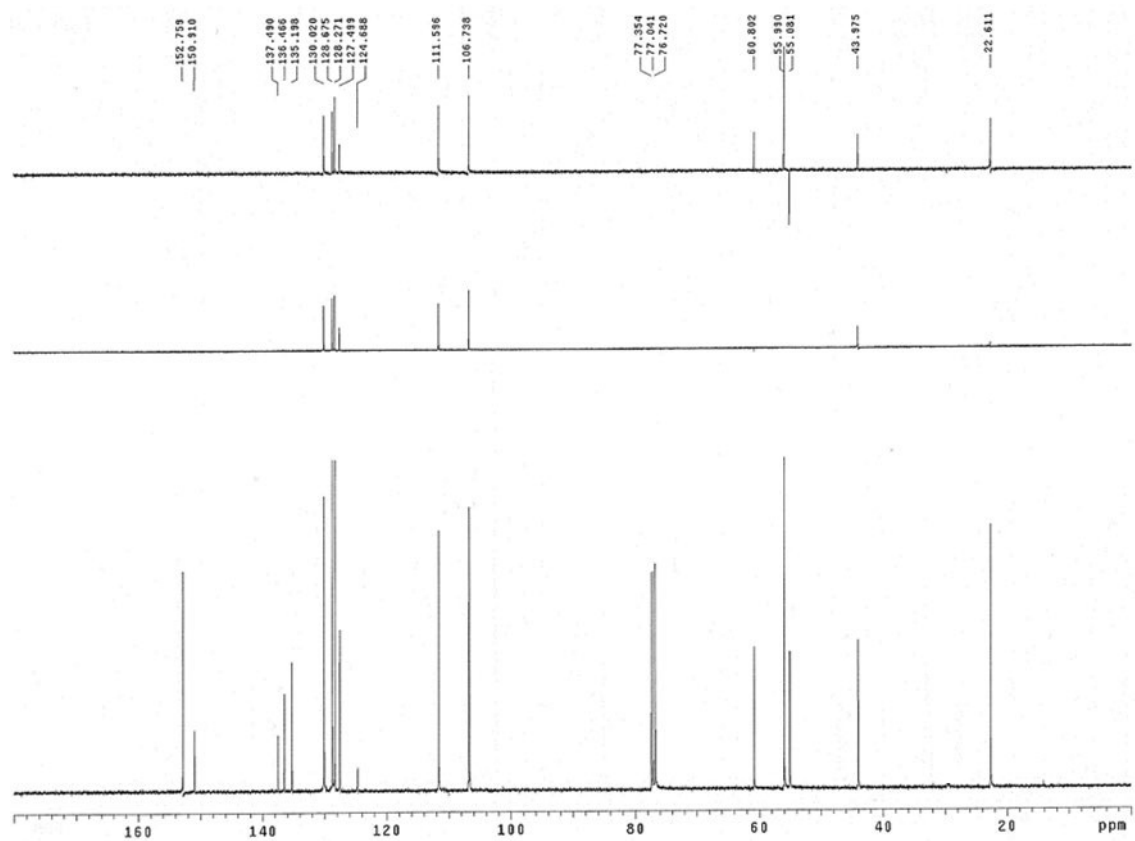


Fig. 56b: Compound **51** ^{13}C NMR spectra.

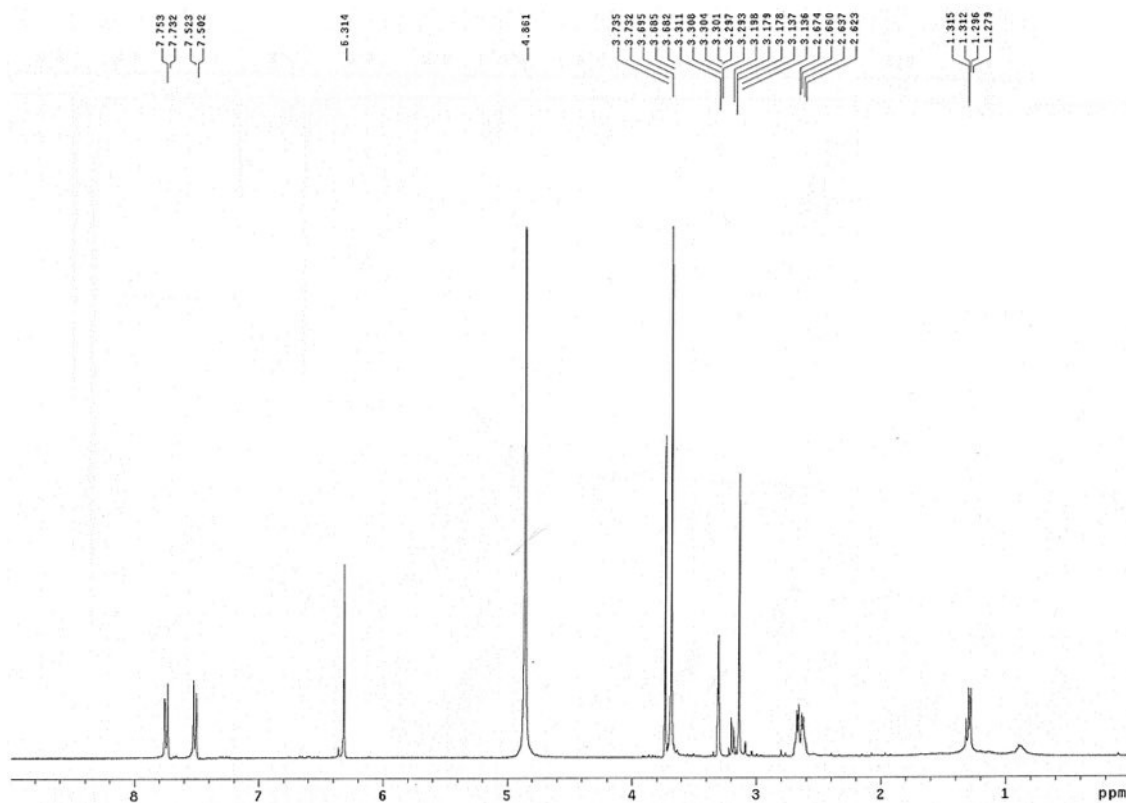


Fig. 57a: Compound **52** ^1H NMR spectra.

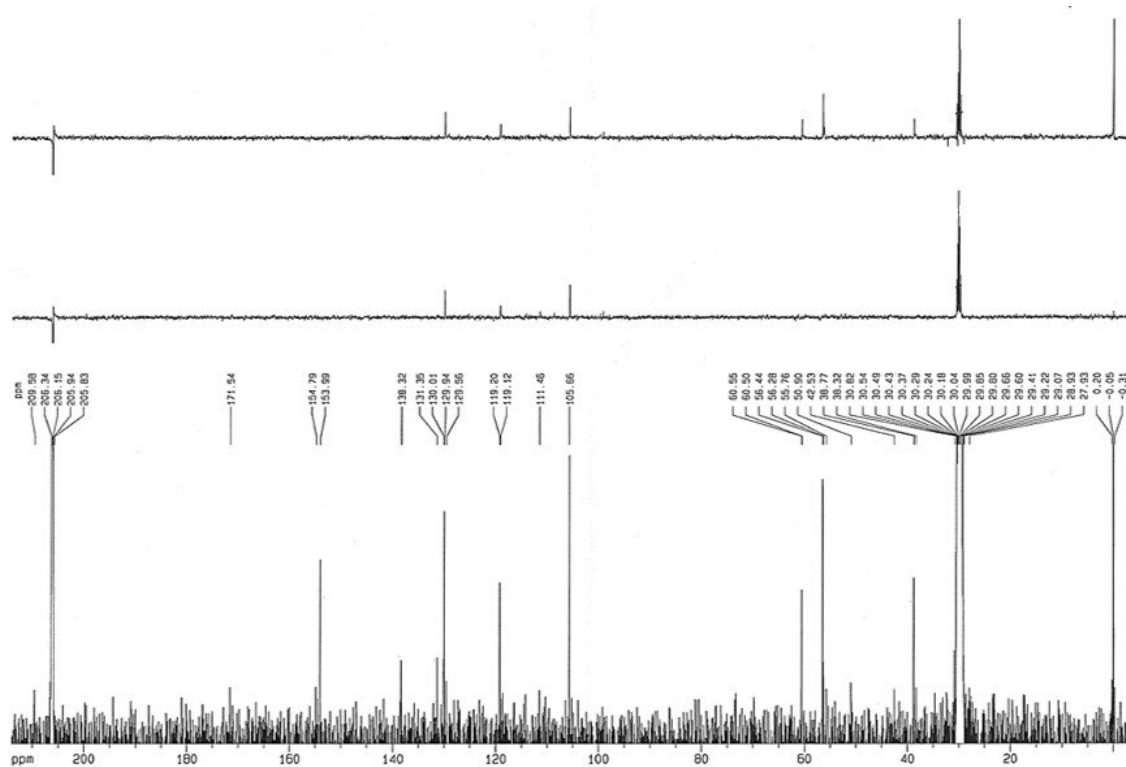


Fig. 57b: Compound **52** ^{13}C NMR spectra.

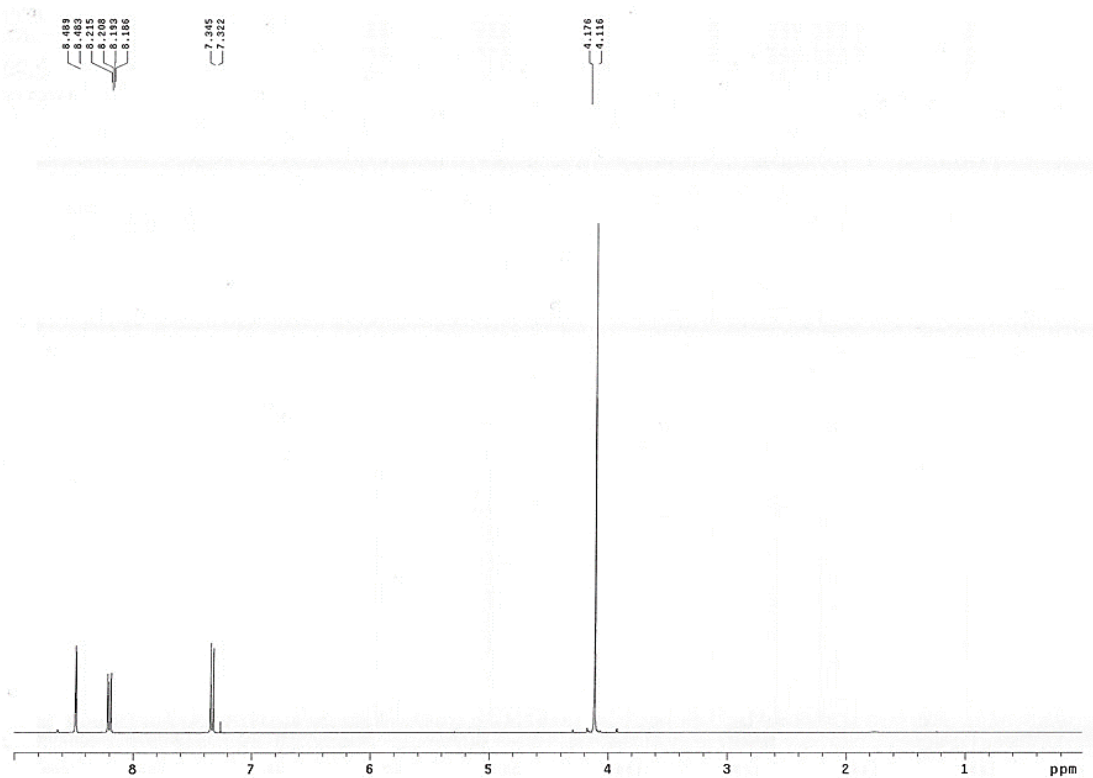


Fig. 58a: Compound **53** ^1H NMR spectra.

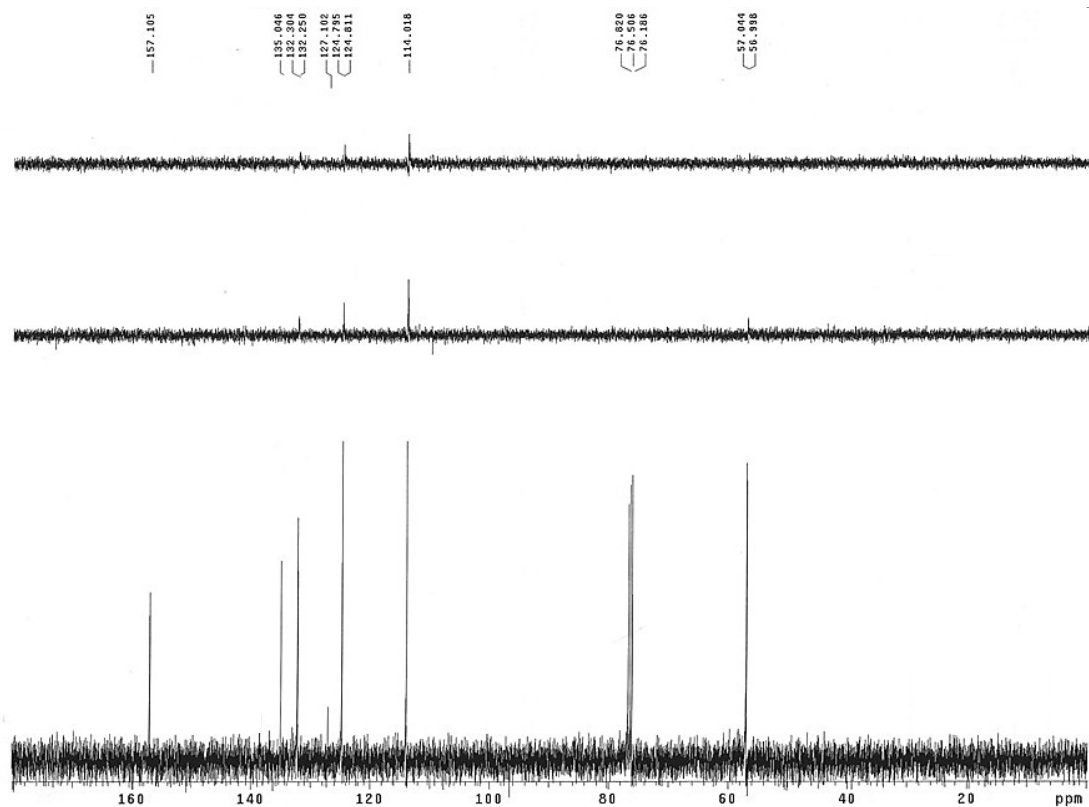


Fig. 58b: Compound **53** ^{13}C NMR spectra.

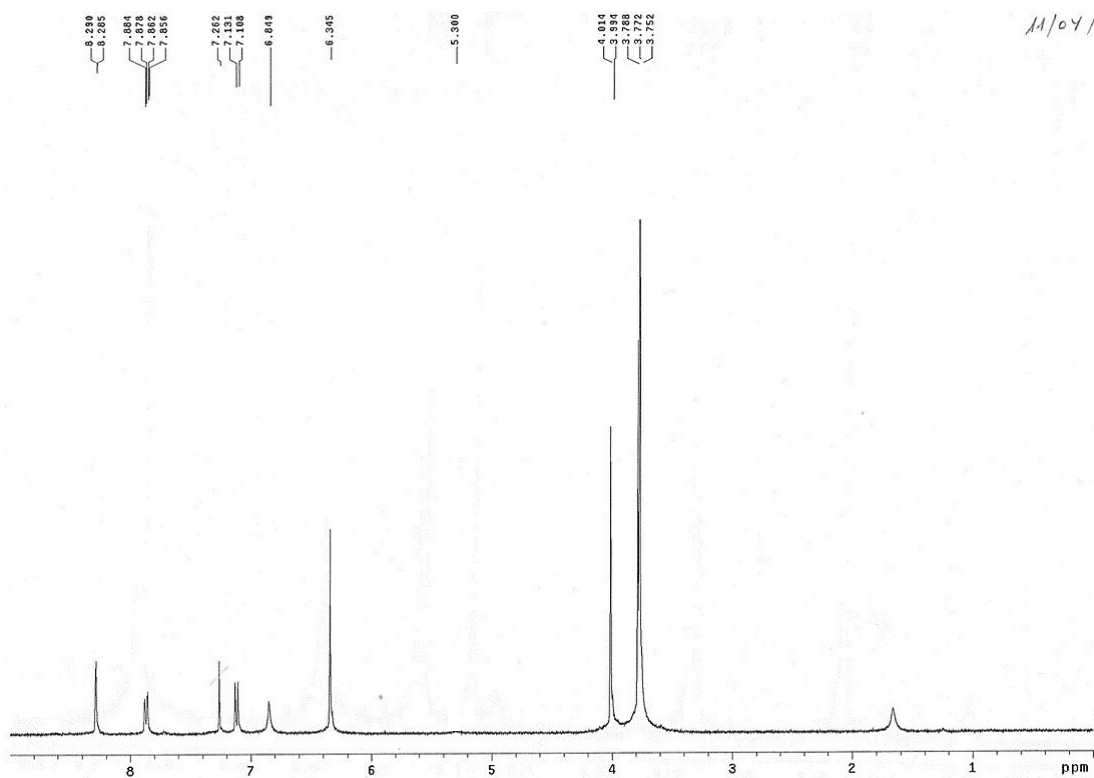


Fig. 59a: Compound **54** ^1H NMR spectra.

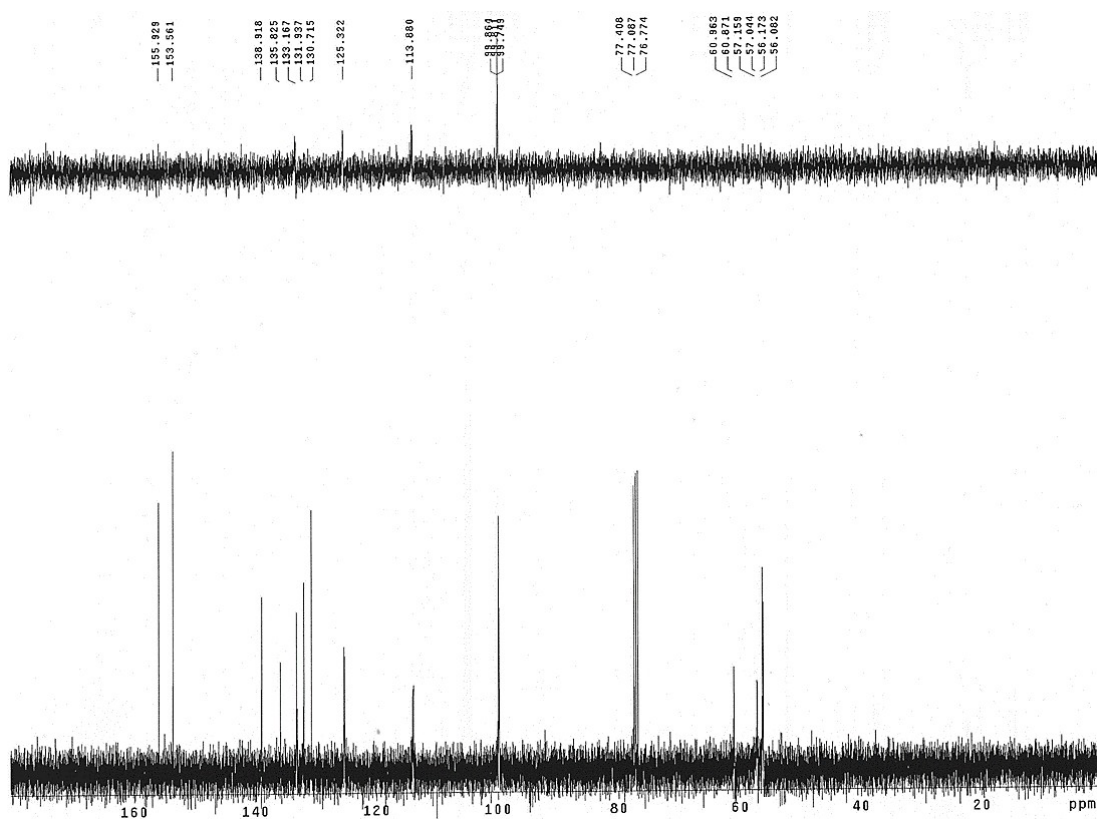


Fig. 59b: Compound **54** ^{13}C NMR spectra.

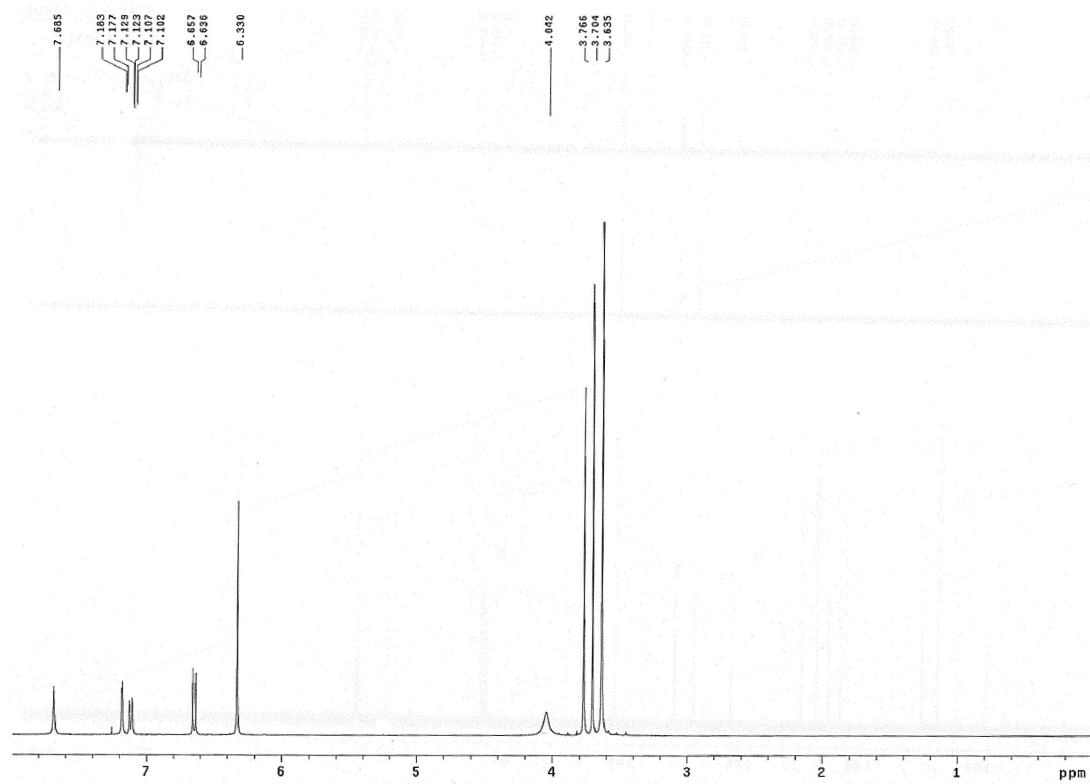


Fig. 60a: Compound **55** ^1H NMR spectra.

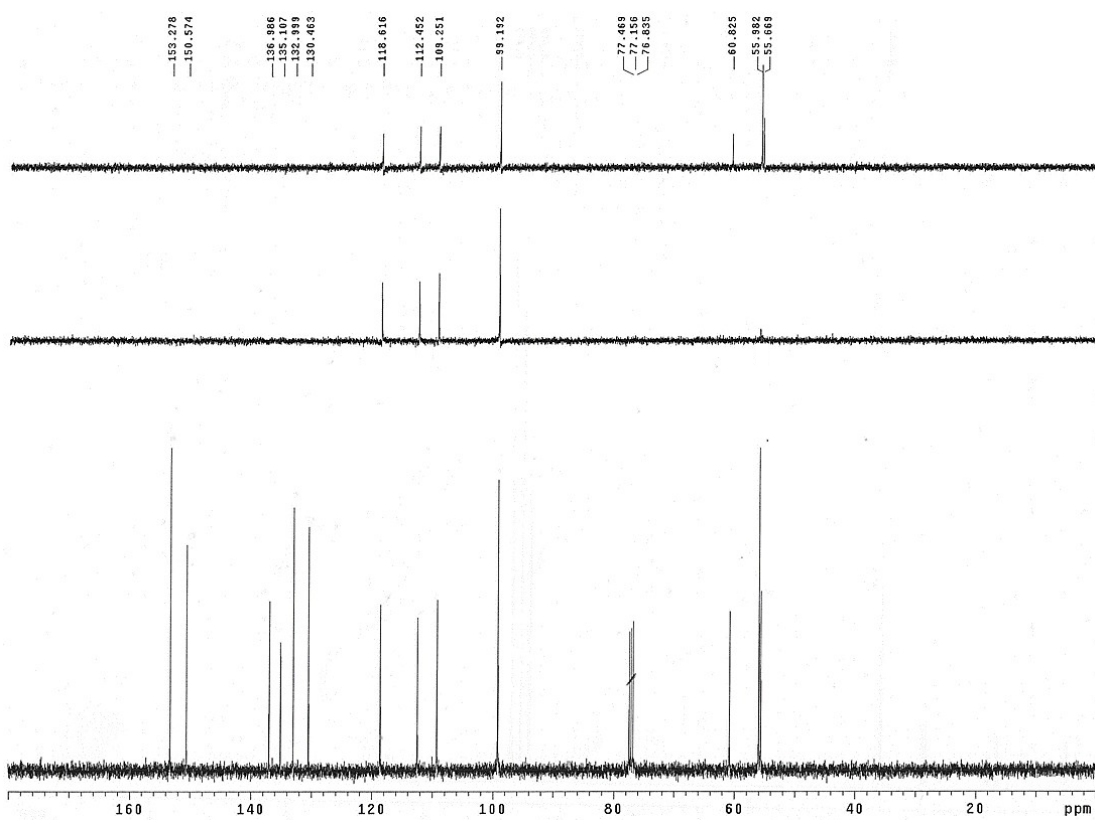


Fig. 60b: Compound **55** ^{13}C NMR spectra.

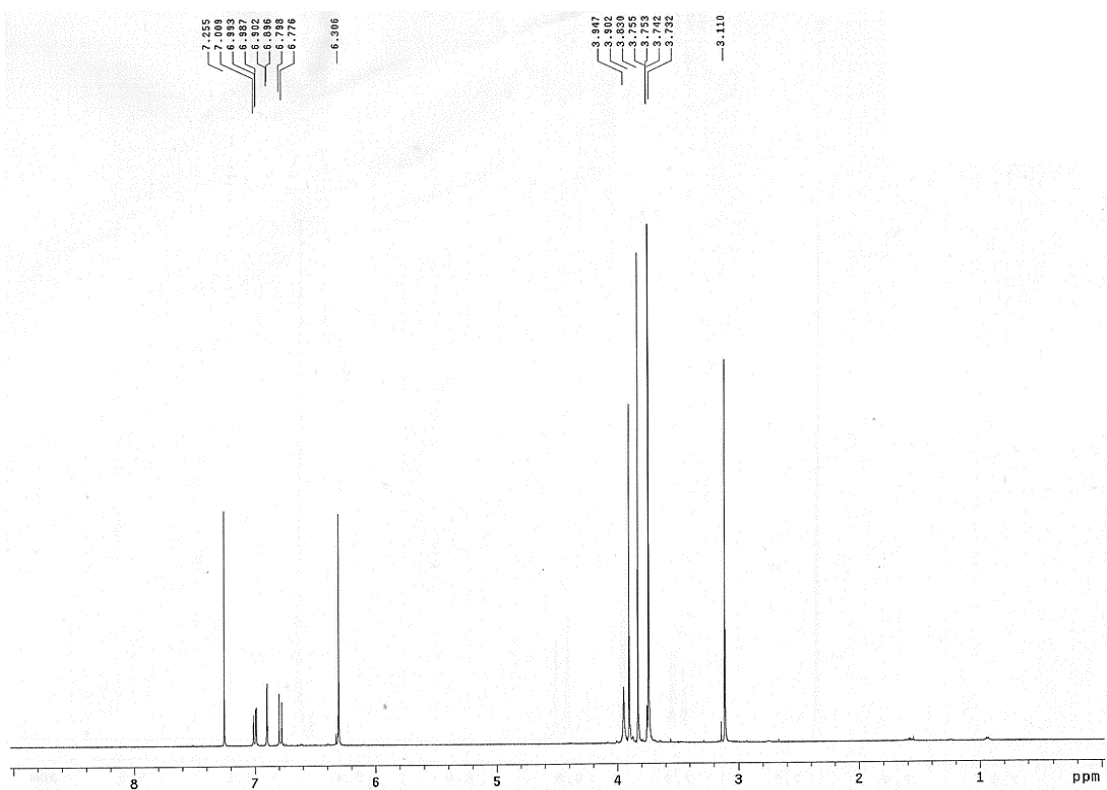


Fig. 61a: Compound **56** ^1H NMR spectra.

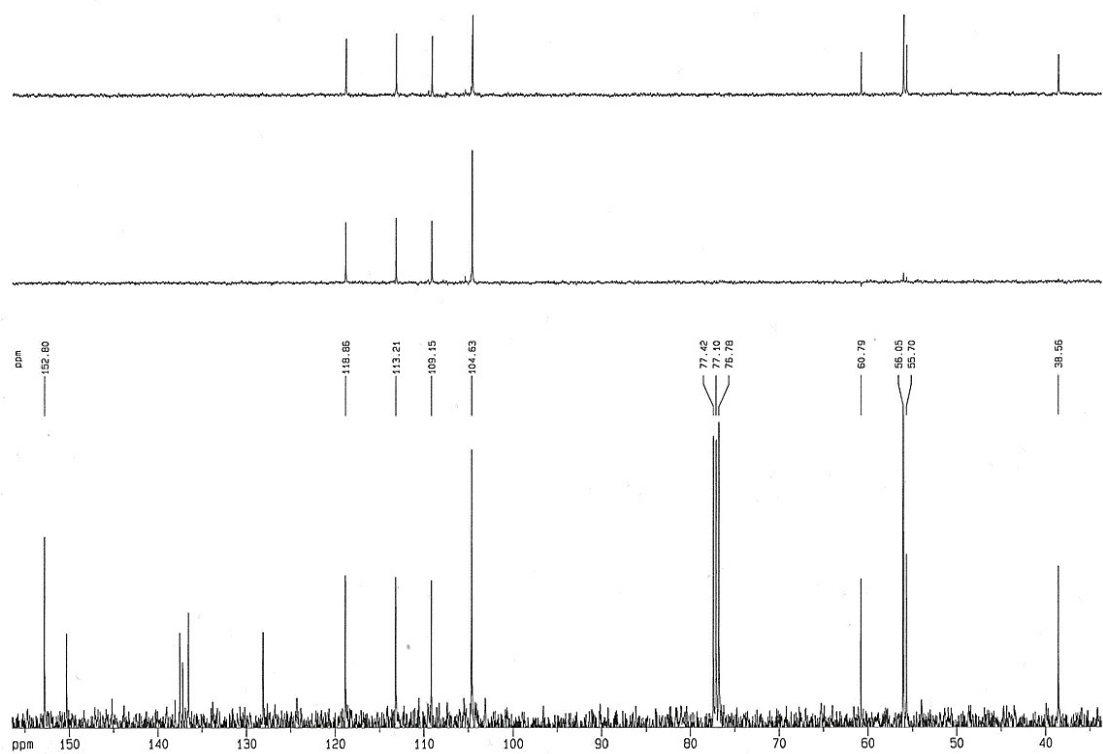


Fig. 61b: Compound **56** ^{13}C NMR spectra.

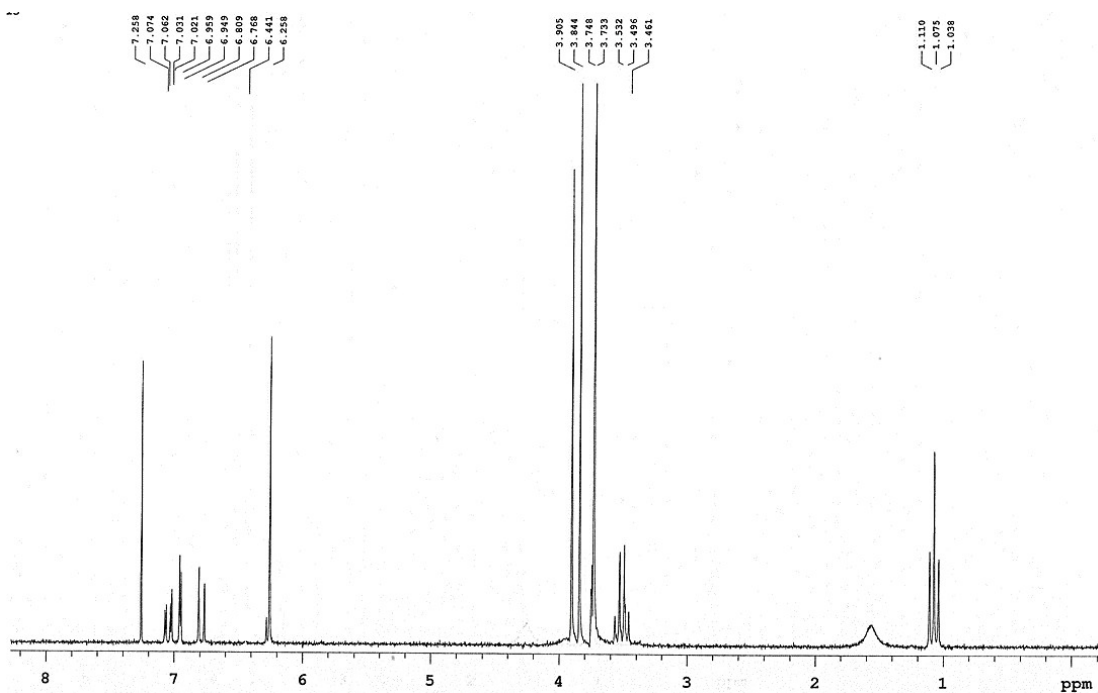


Fig. 62a: Compound **57** ^1H NMR spectra.

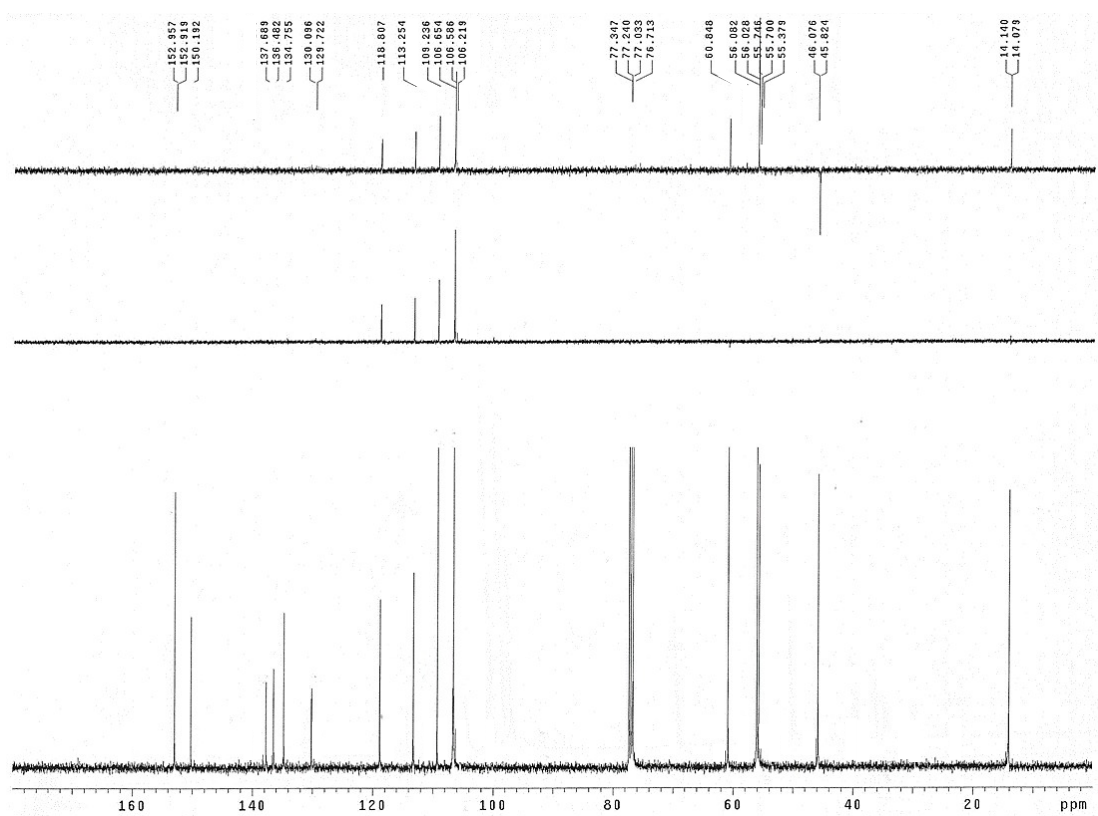


Fig. 62b: Compound **57** ^{13}C NMR spectra.

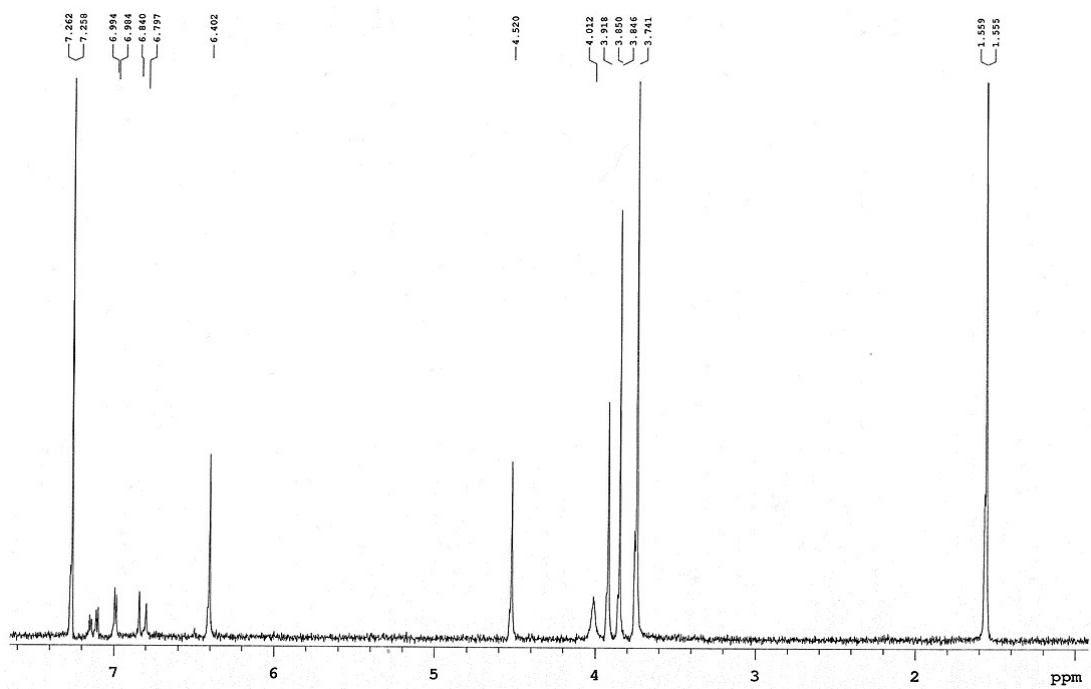


Fig. 63a: Compound **58** ^1H NMR spectra.

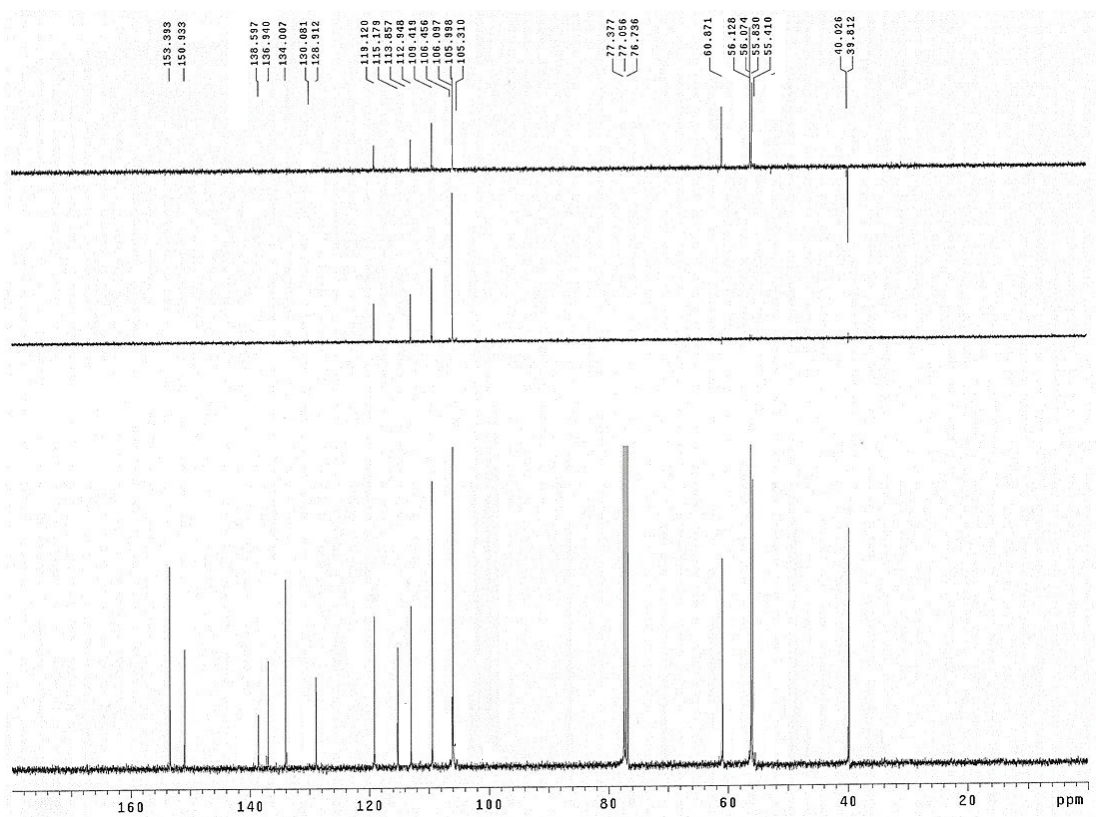


Fig. 63b: Compound **58** ^{13}C NMR spectra.

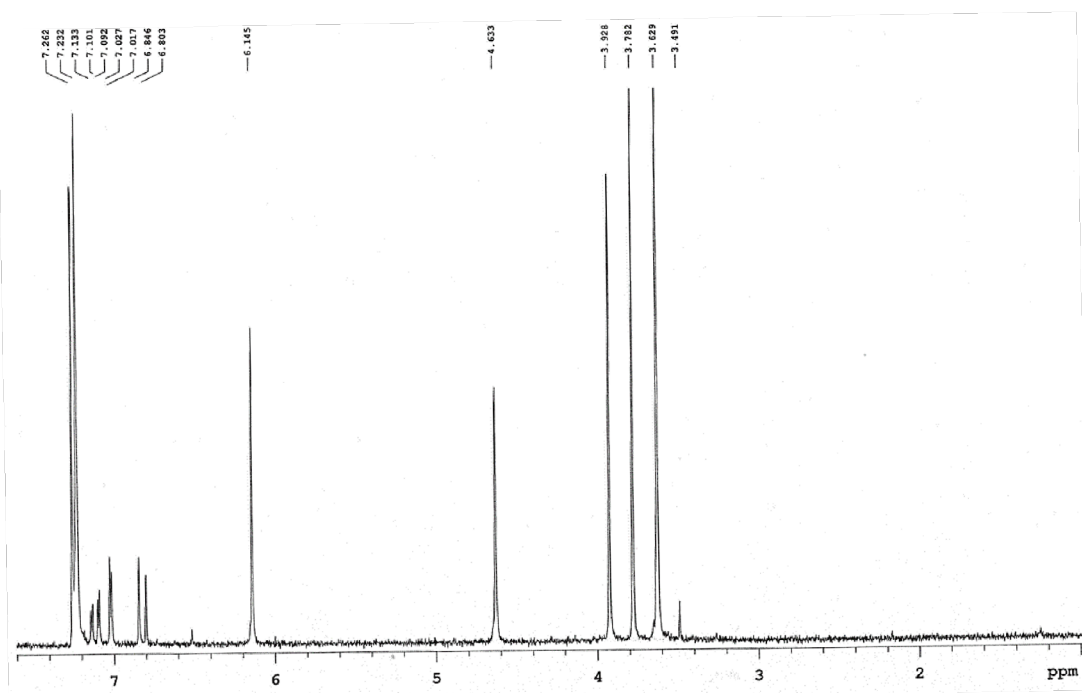


Fig. 64a: Compound **59** ^1H NMR spectra.

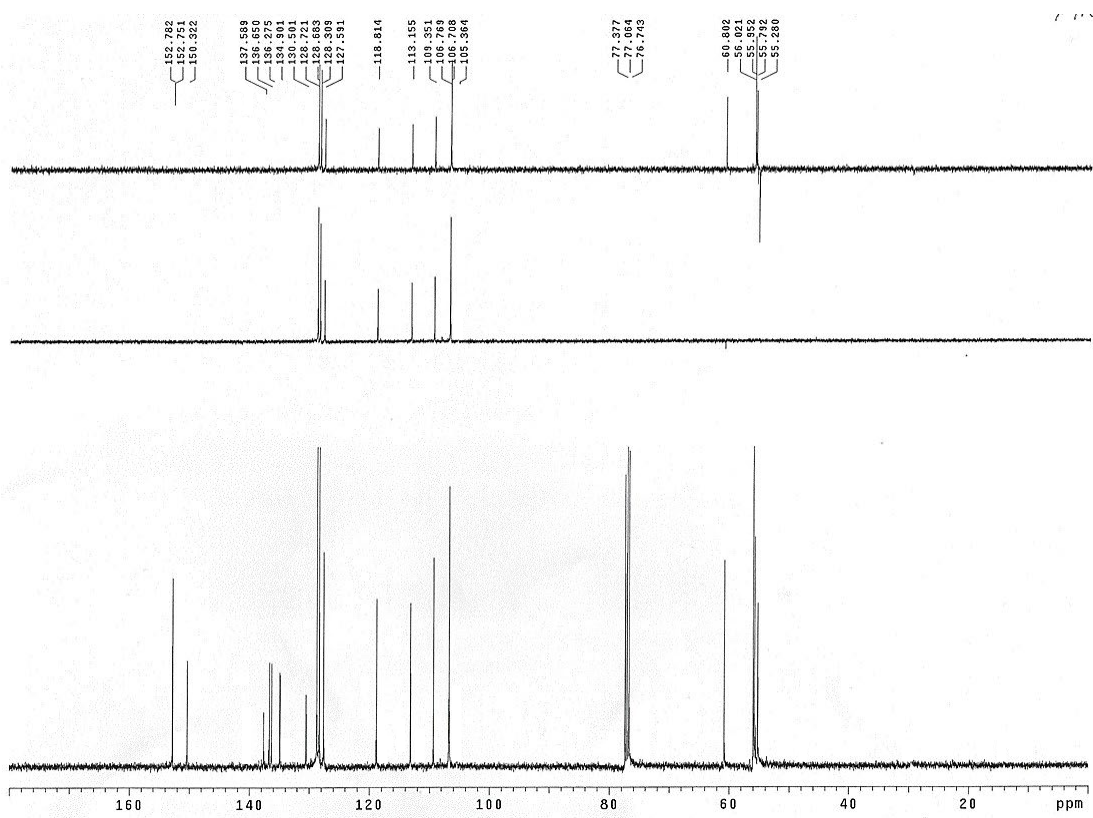


Fig. 64b: Compound **59** ^{13}C NMR spectra.

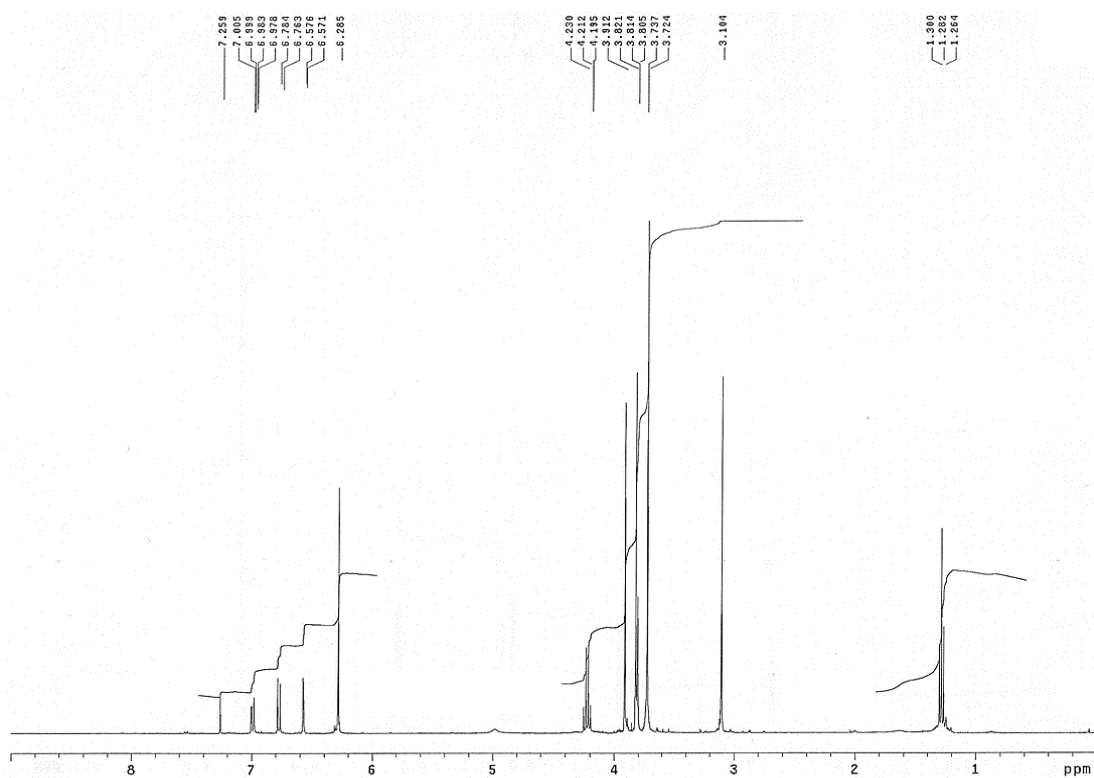


Fig. 65a: Compound **60** ^1H NMR spectra.

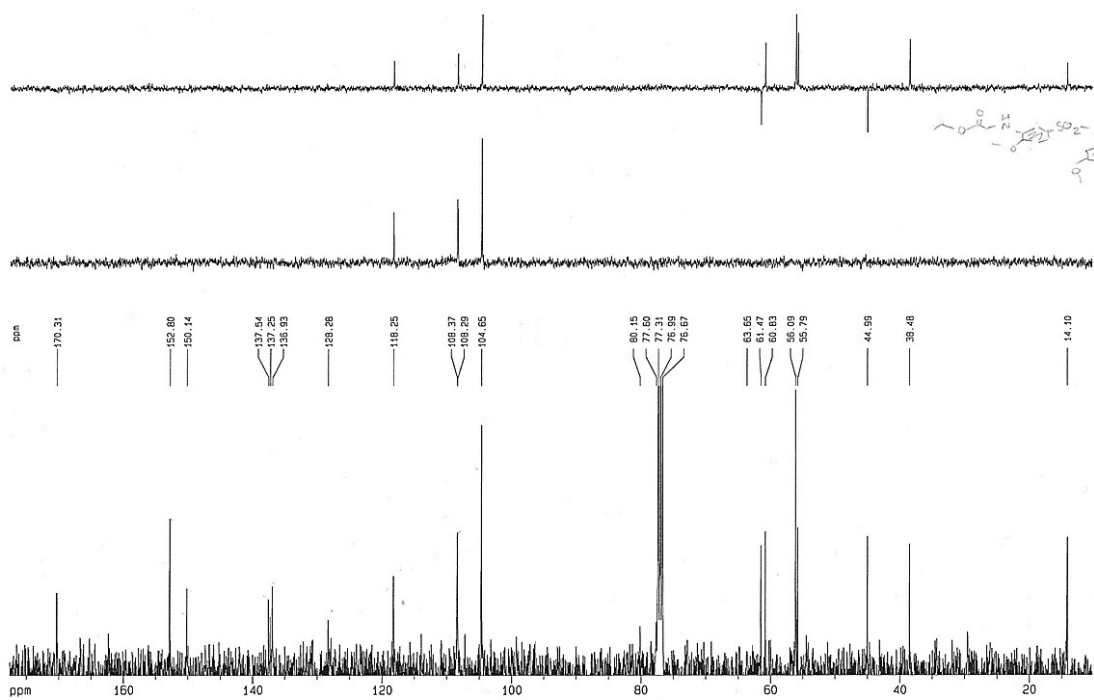


Fig. 65b: Compound **60** ^{13}C NMR spectra.

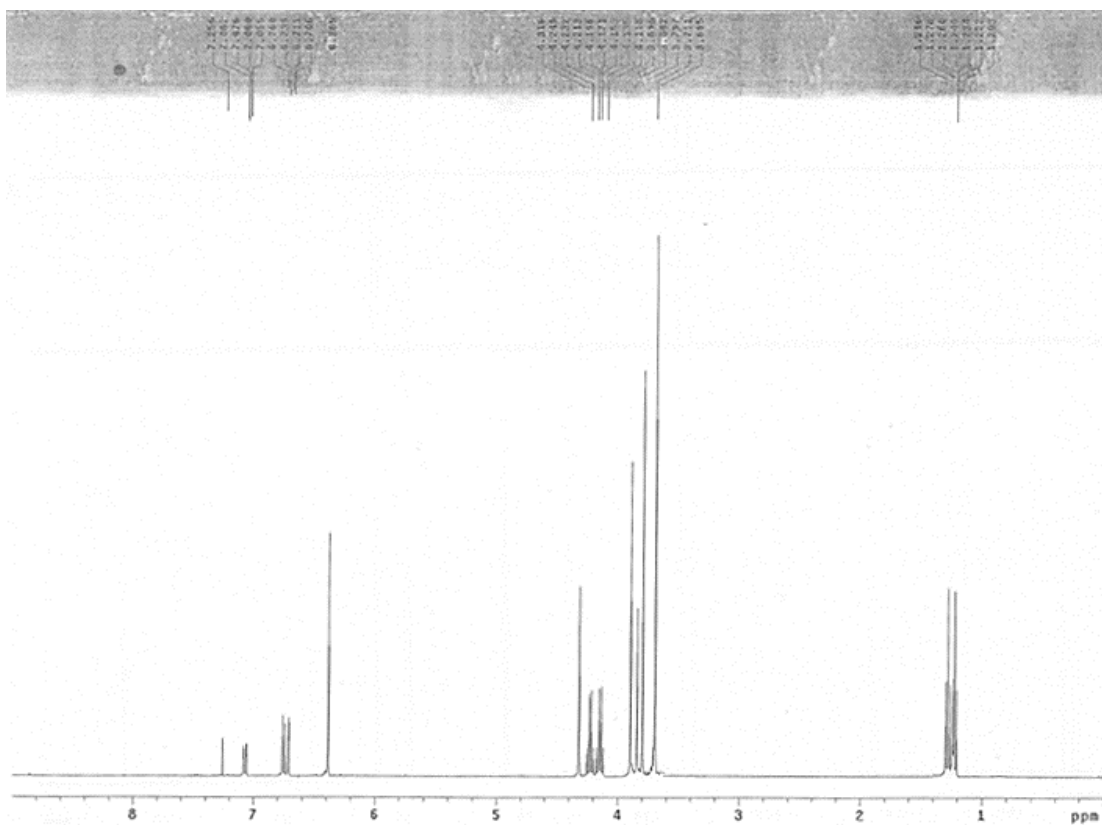


Fig. 66a: Compound **61** ^1H NMR spectra.

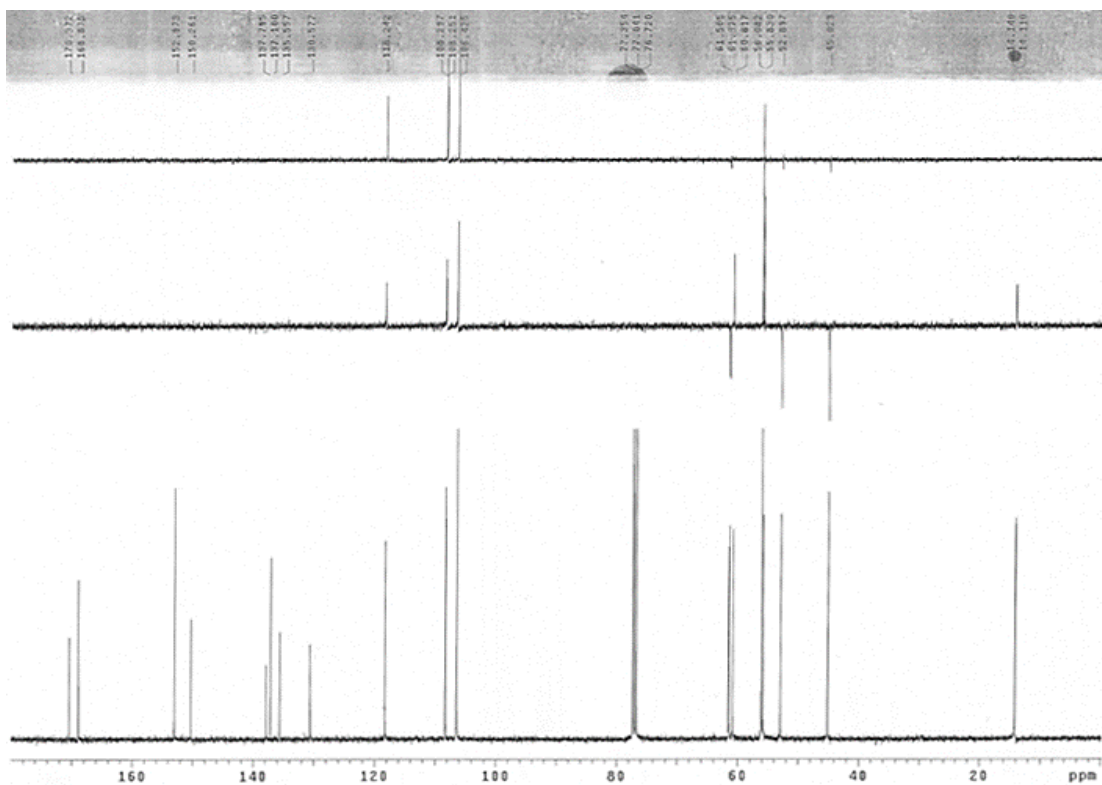


Fig. 66b: Compound **61** ^{13}C NMR spectra.

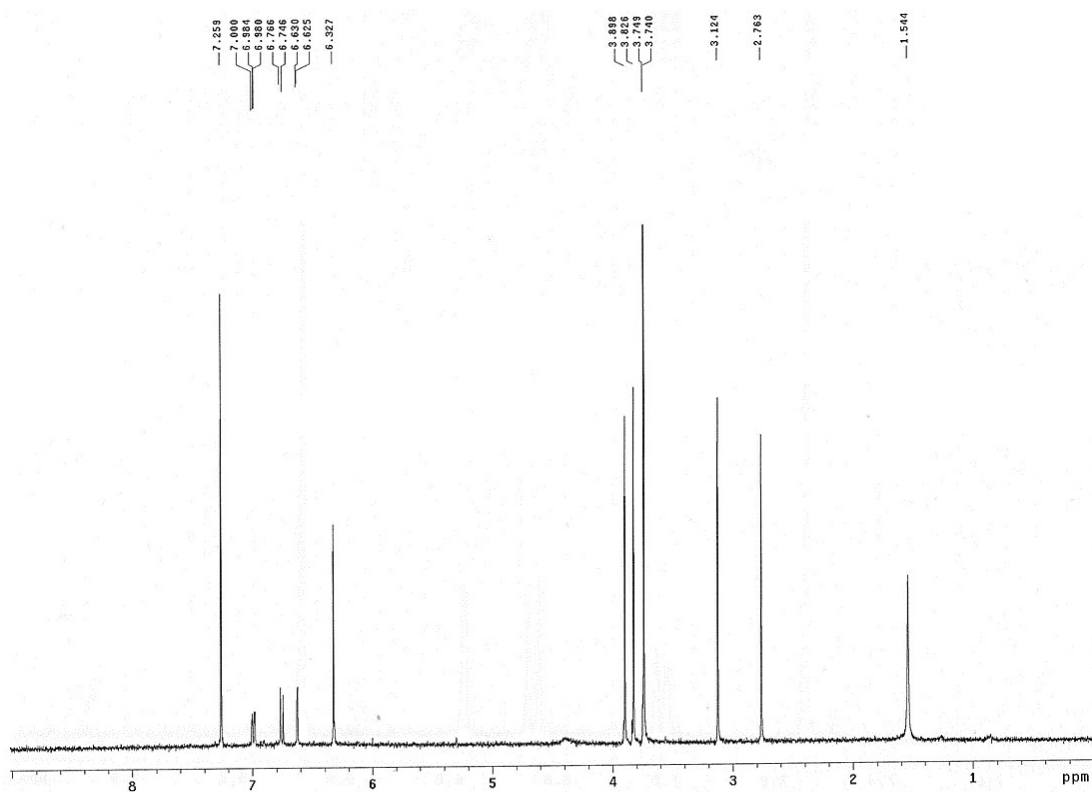


Fig. 67a: Compound **62** ^1H NMR spectra.

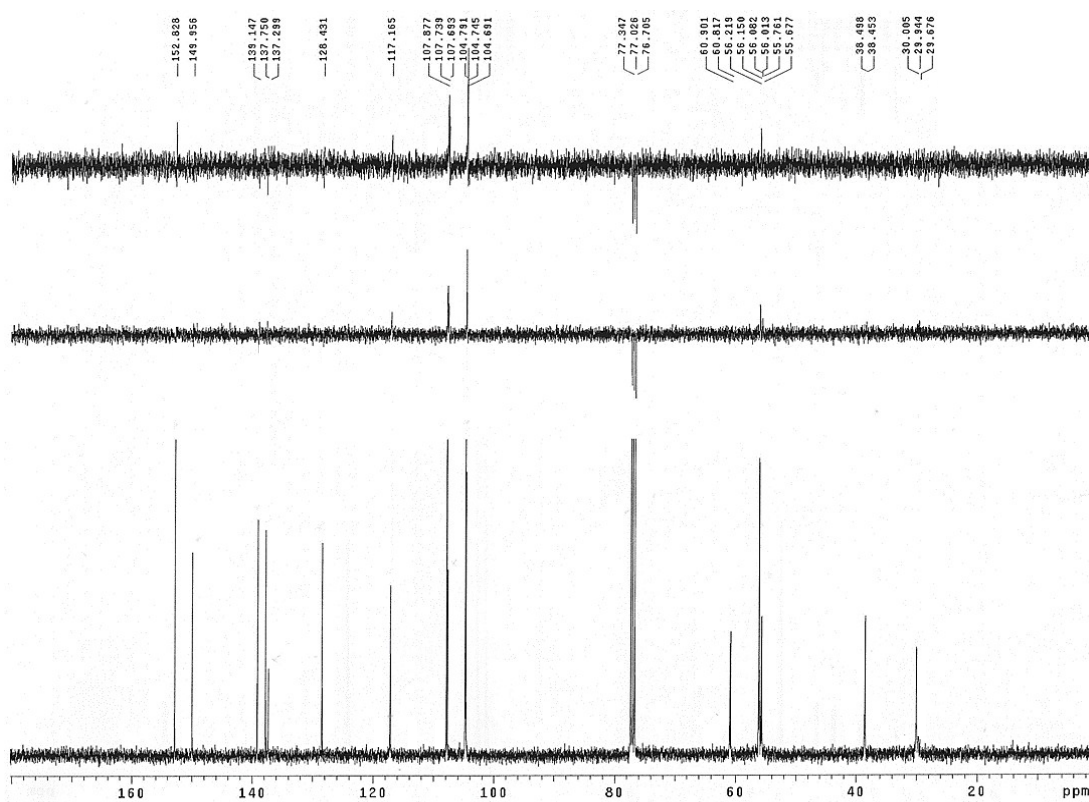


Fig. 67b: Compound **62** ^{13}C NMR spectra.

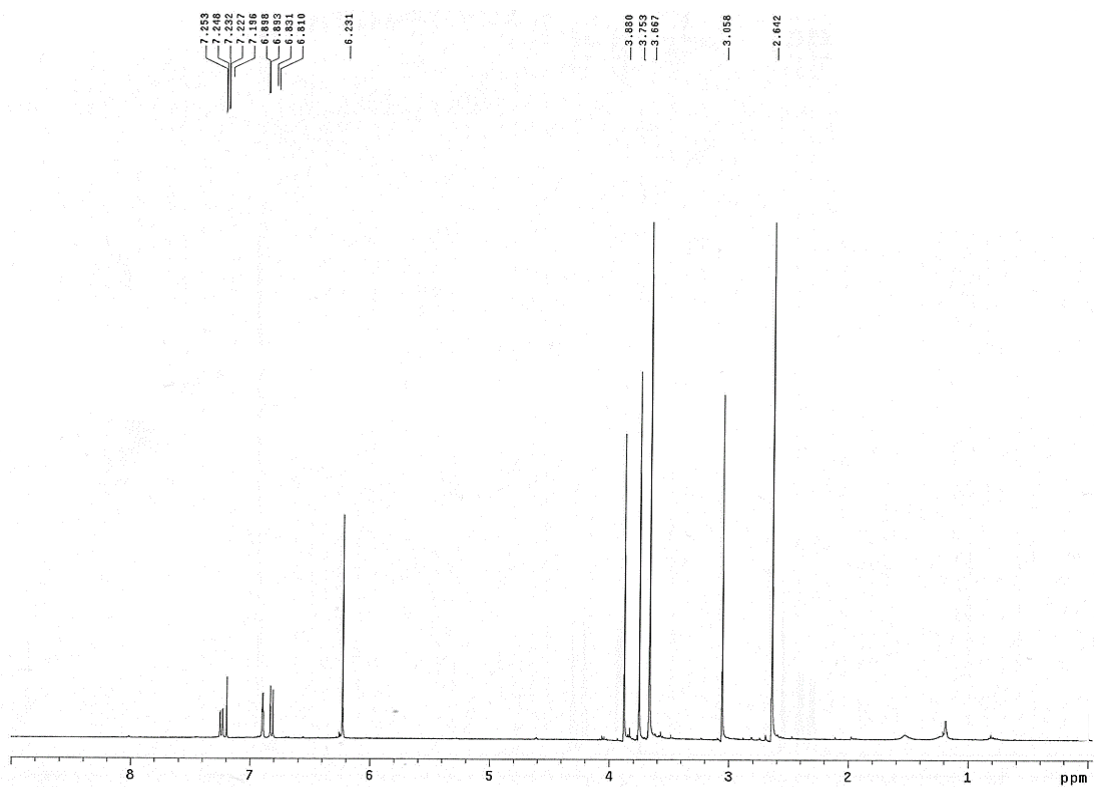


Fig. 68a: Compound **63** ^1H NMR spectra.

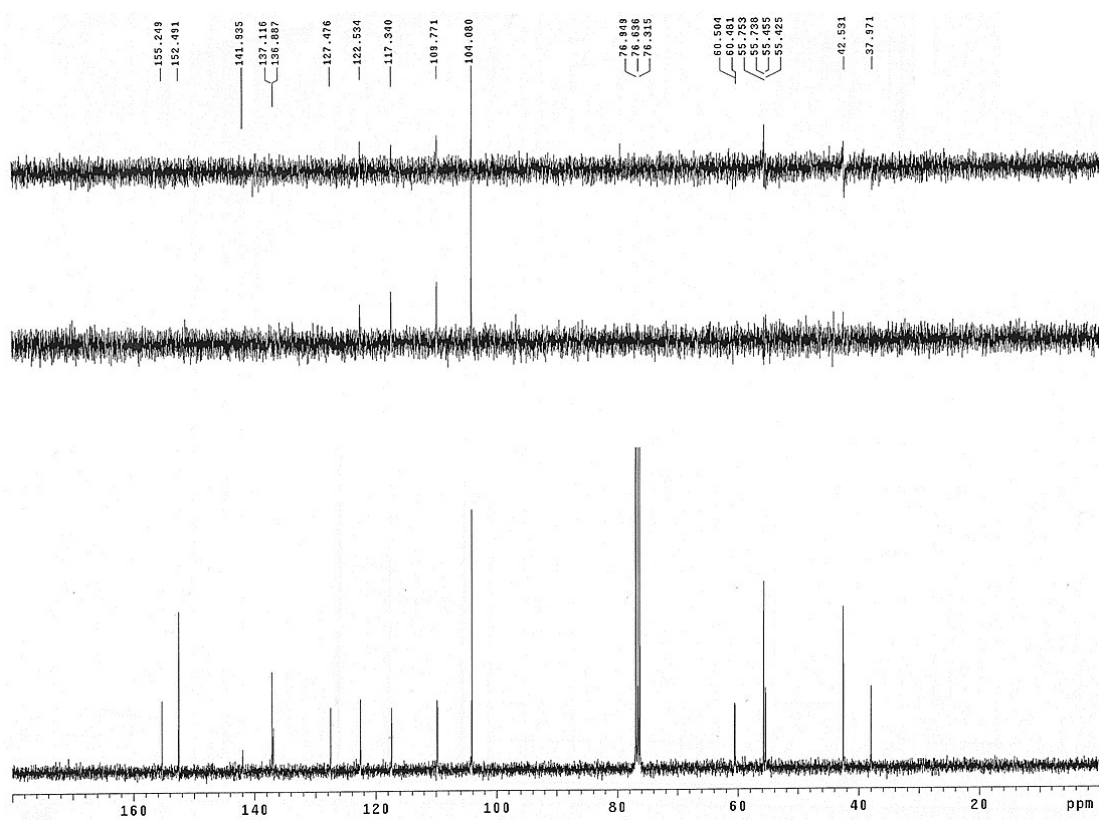


Fig. 68b: Compound **63** ^{13}C NMR spectra.

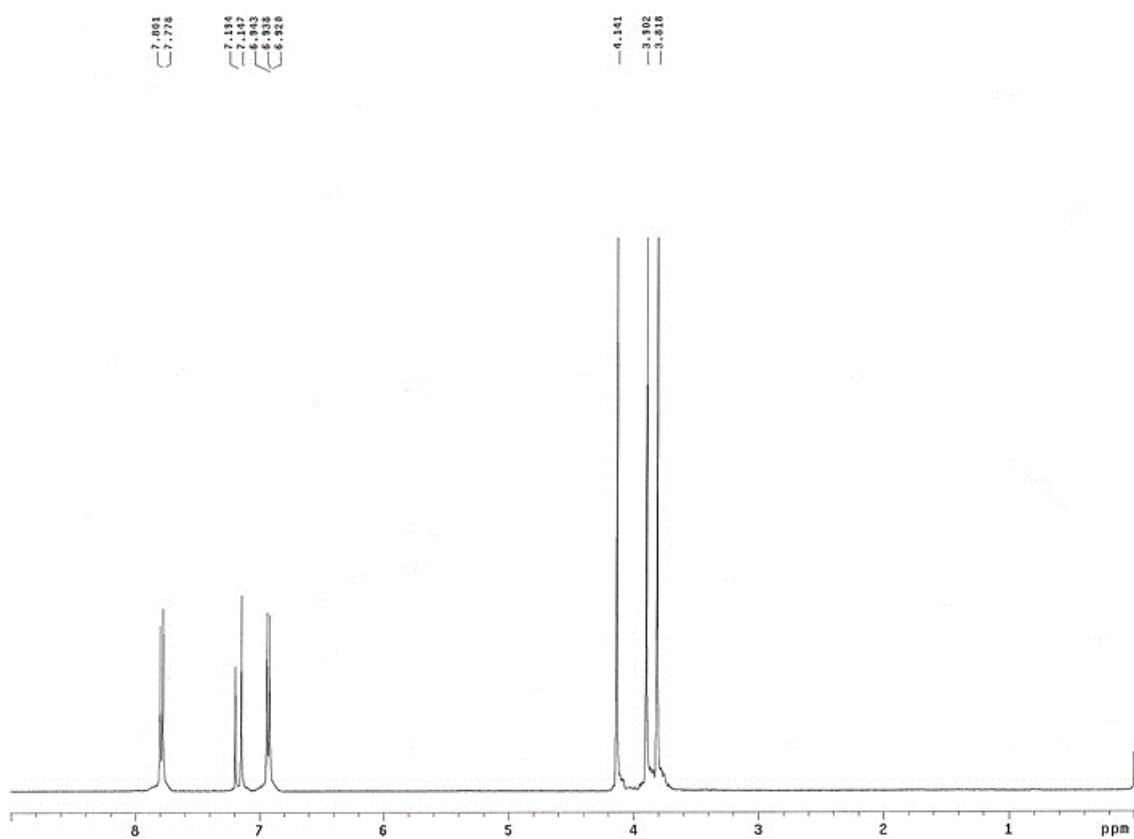


Fig. 69a: Compound **64a** ^1H NMR spectra.

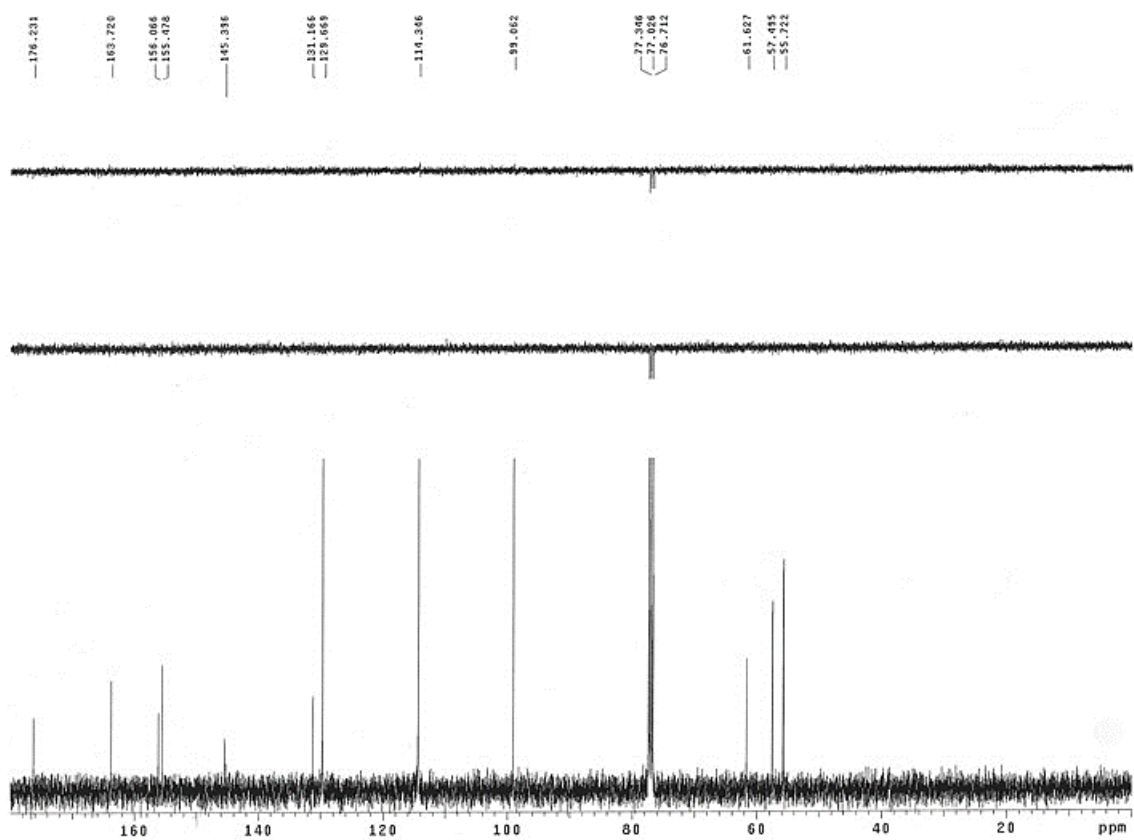


Fig. 69b: Compound **64a** ^{13}C NMR spectra.

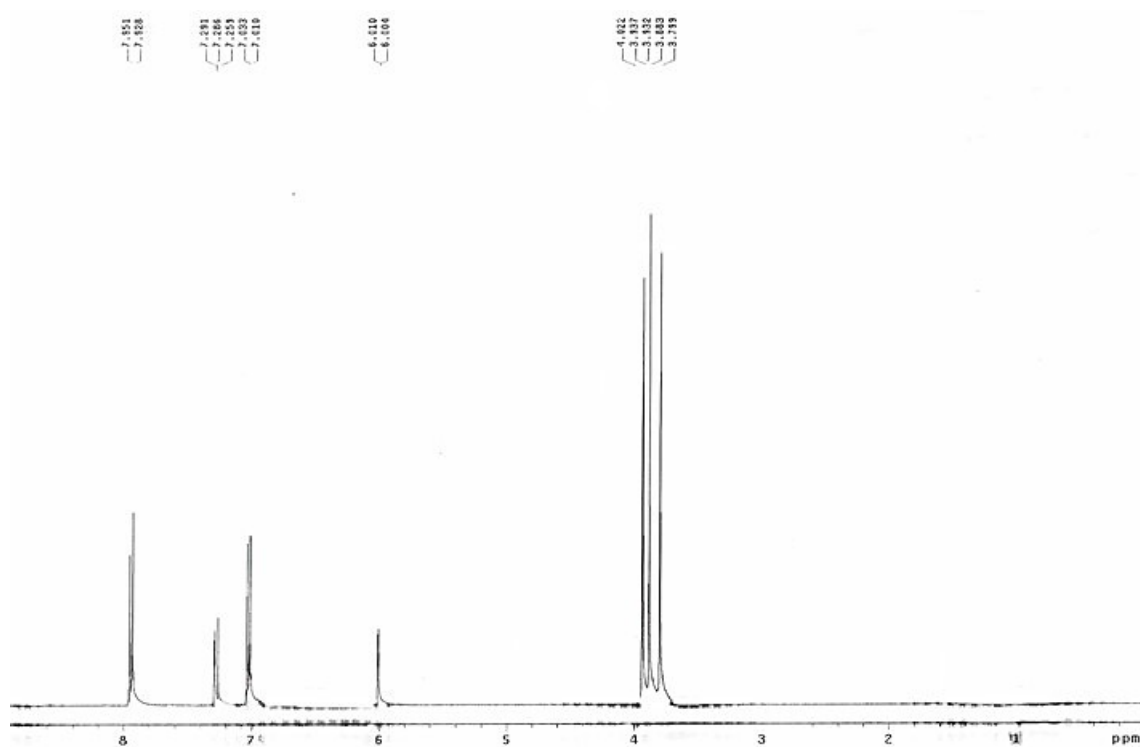


Fig. 70a: Compound **64b** ^1H NMR spectra.

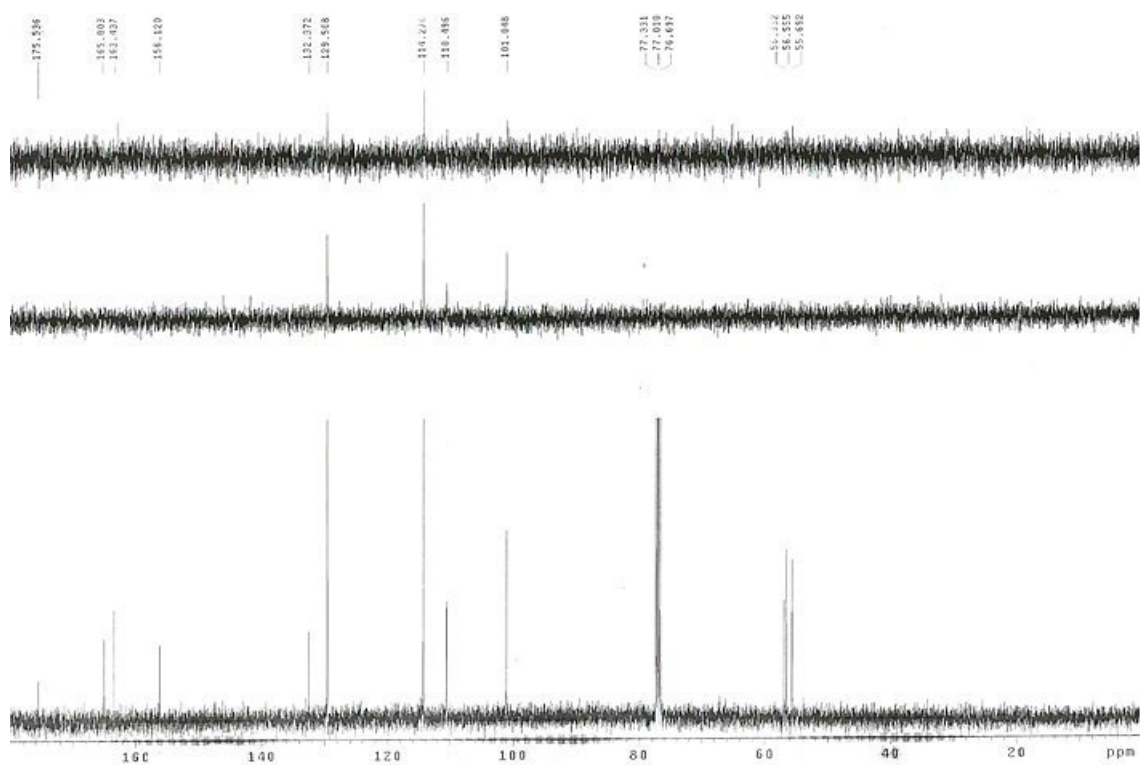


Fig. 70b: Compound **64b** ^{13}C NMR spectra.

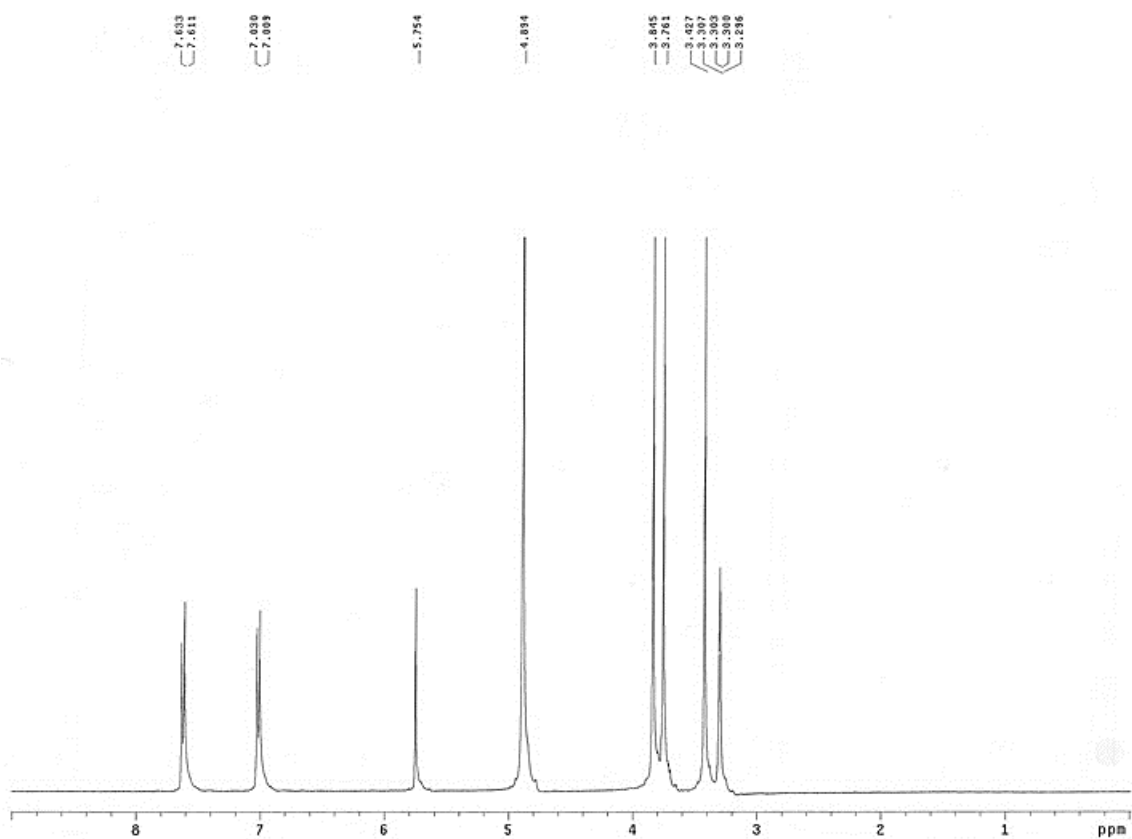


Fig. 71a: Compound **65** ^1H NMR spectra.

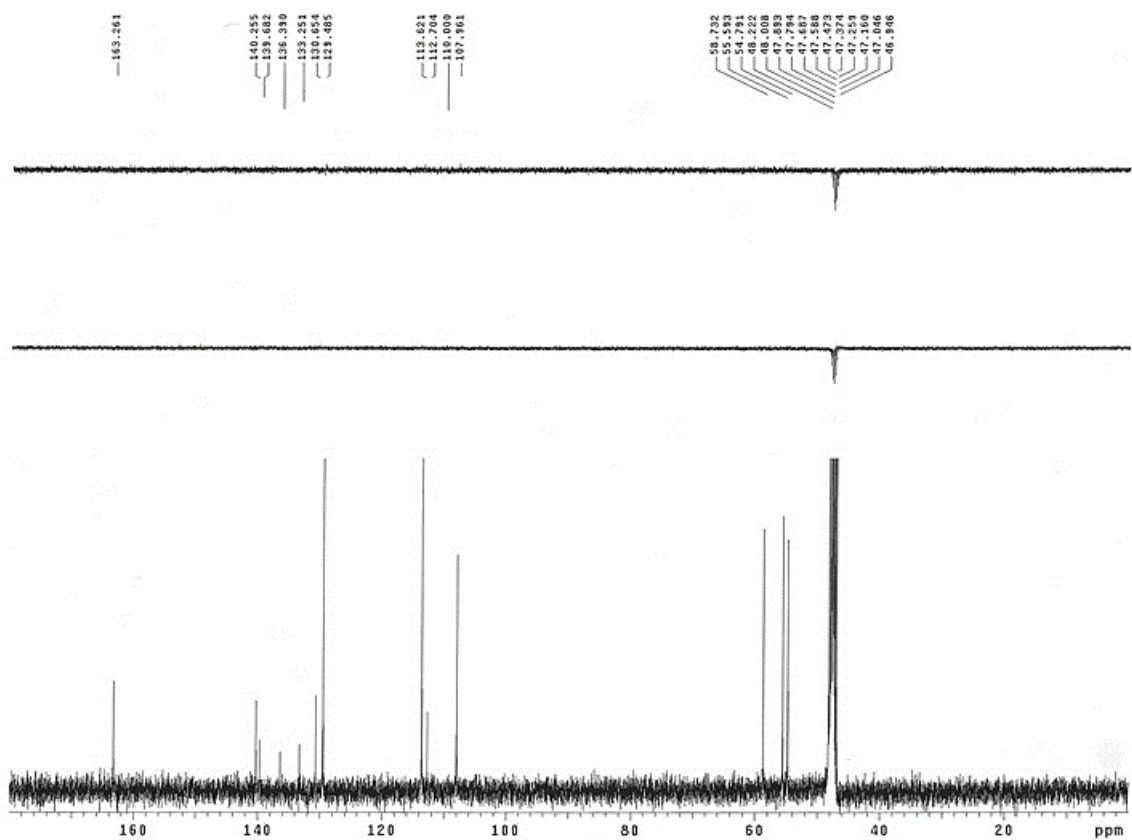


Fig. 71b: Compound **65** ^{13}C NMR spectra.

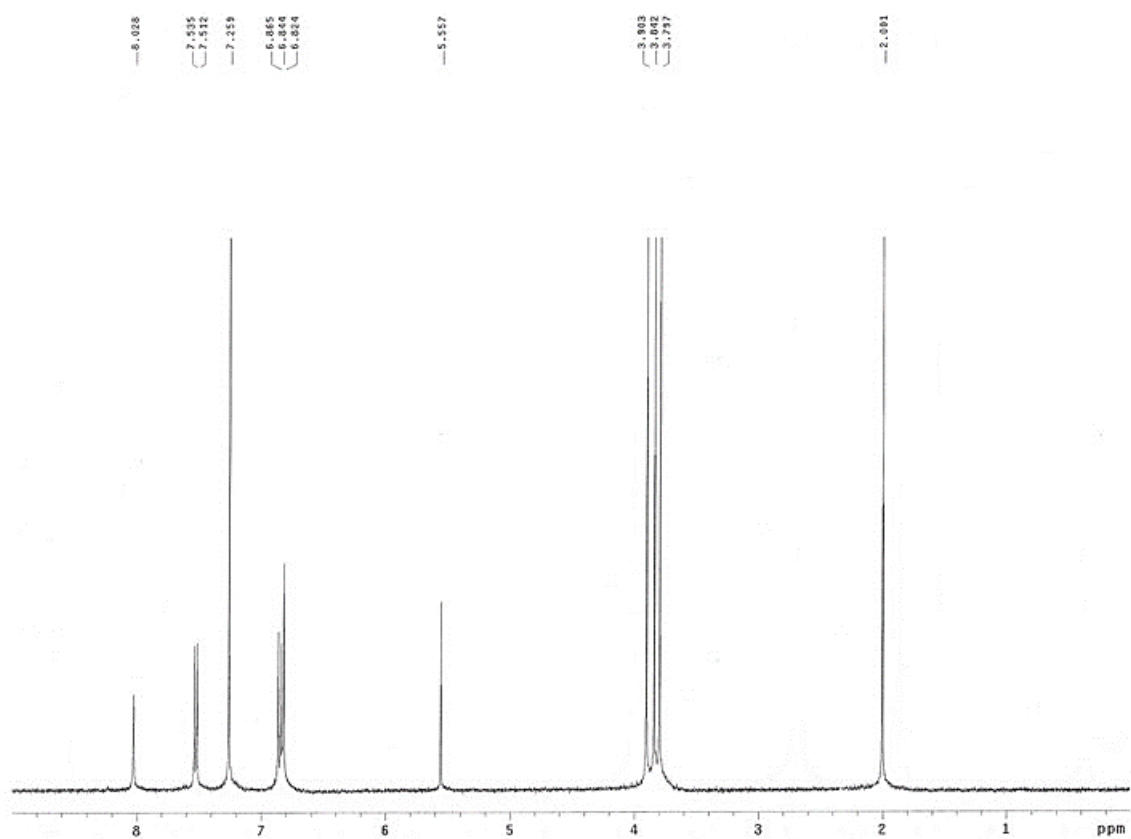


Fig. 72a: Compound **66a** ¹H NMR spectra.

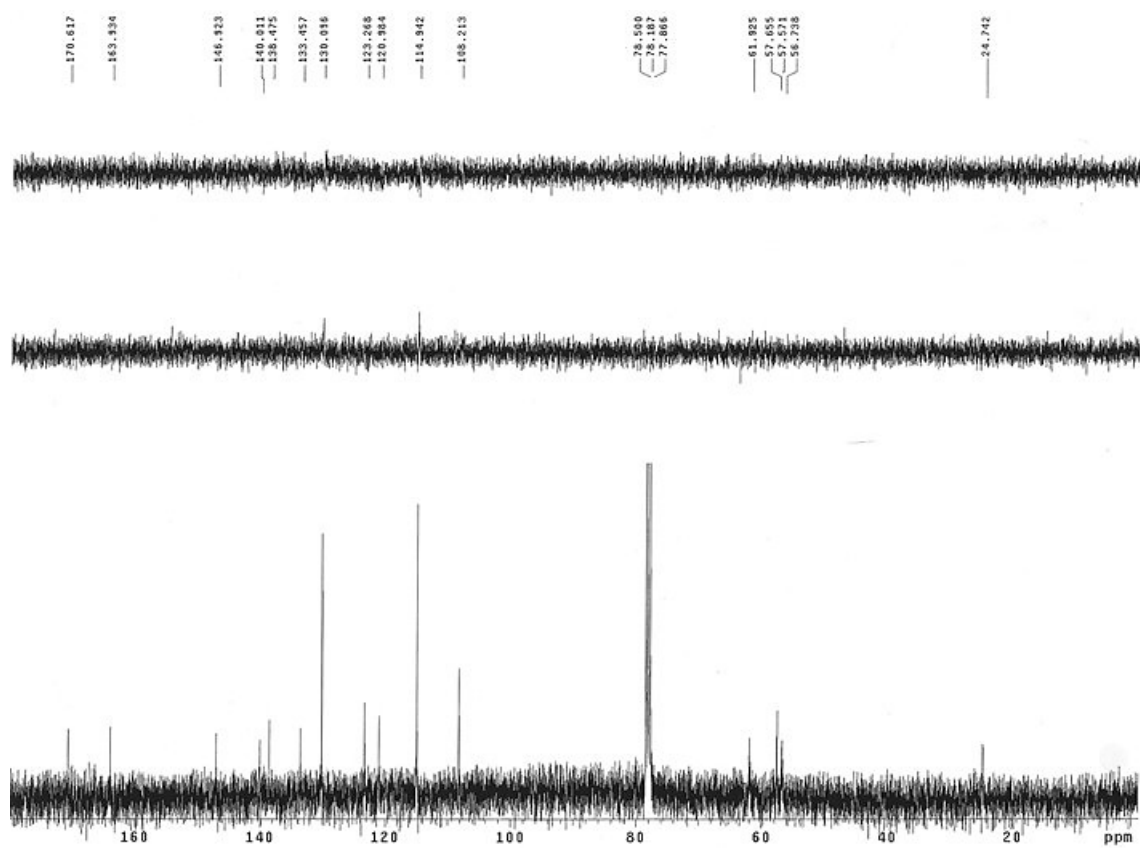


Fig. 72b: Compound **66a** ¹³C NMR spectra.

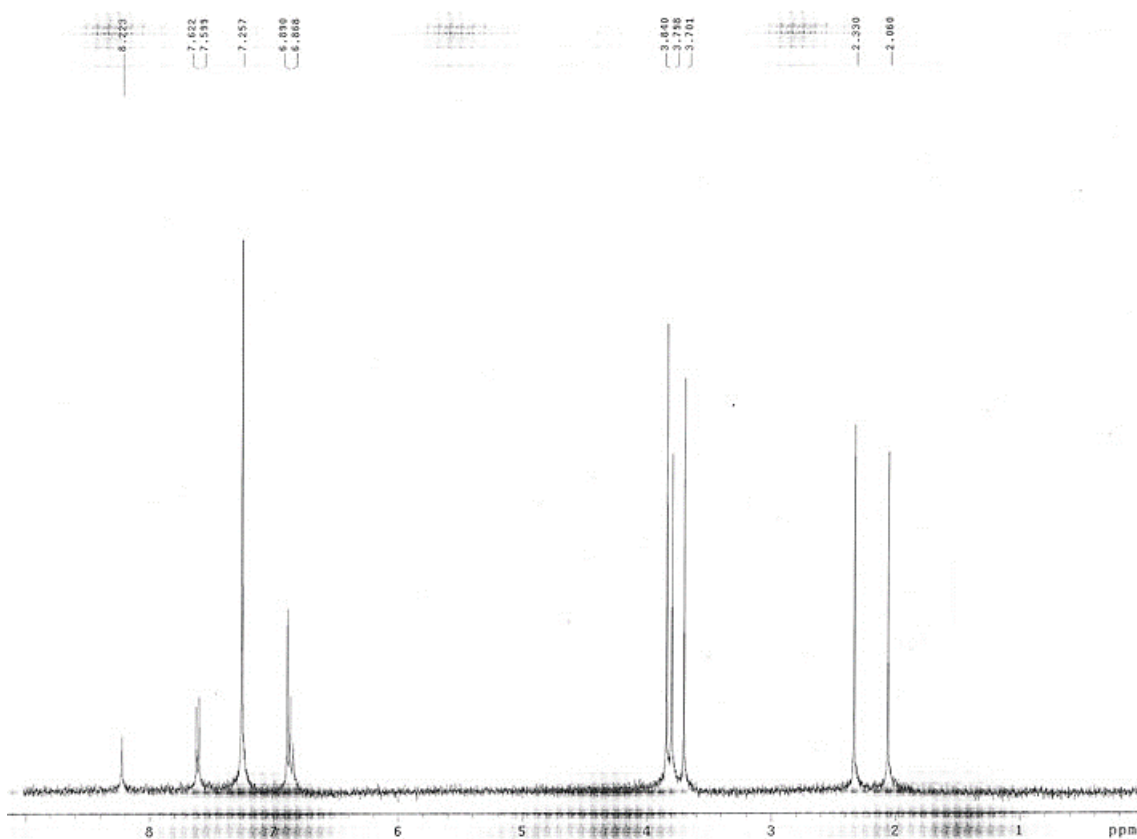


Fig. 73a: Compound **66b** ^1H NMR spectra.

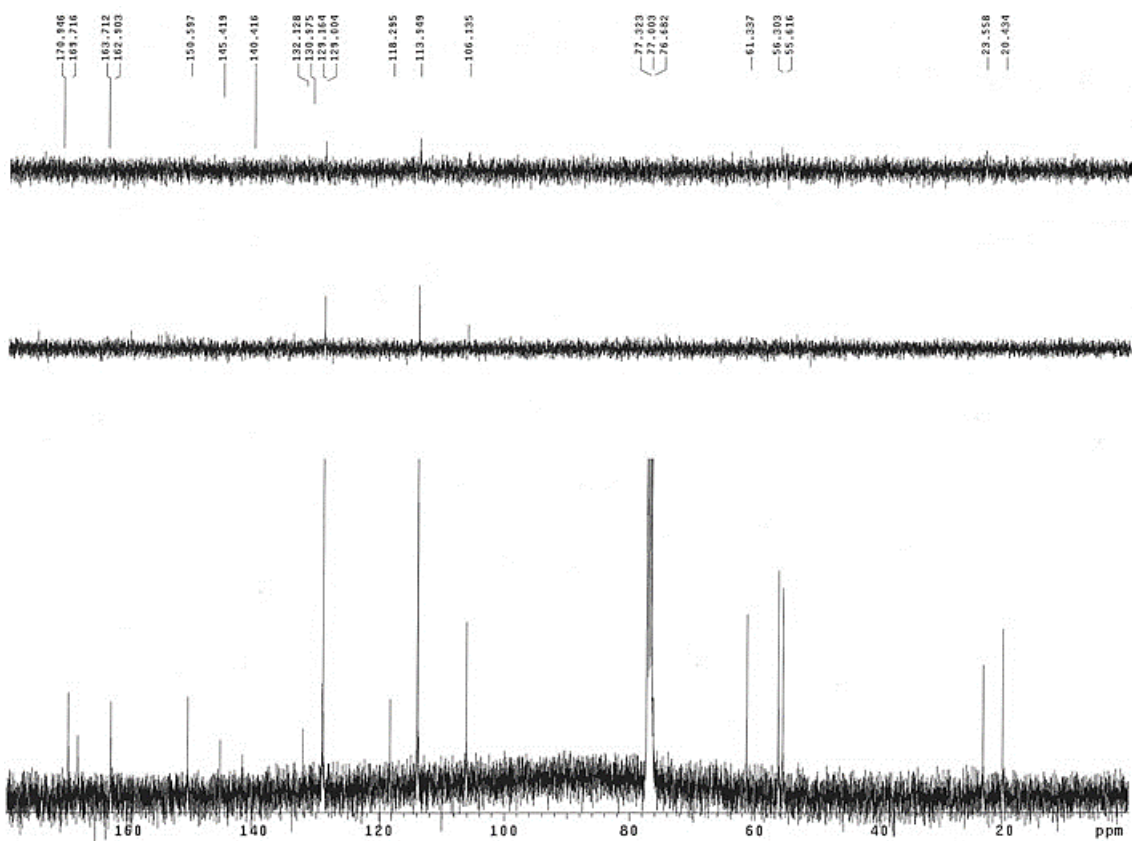


Fig. 73b: Compound **66b** ^{13}C NMR spectra.

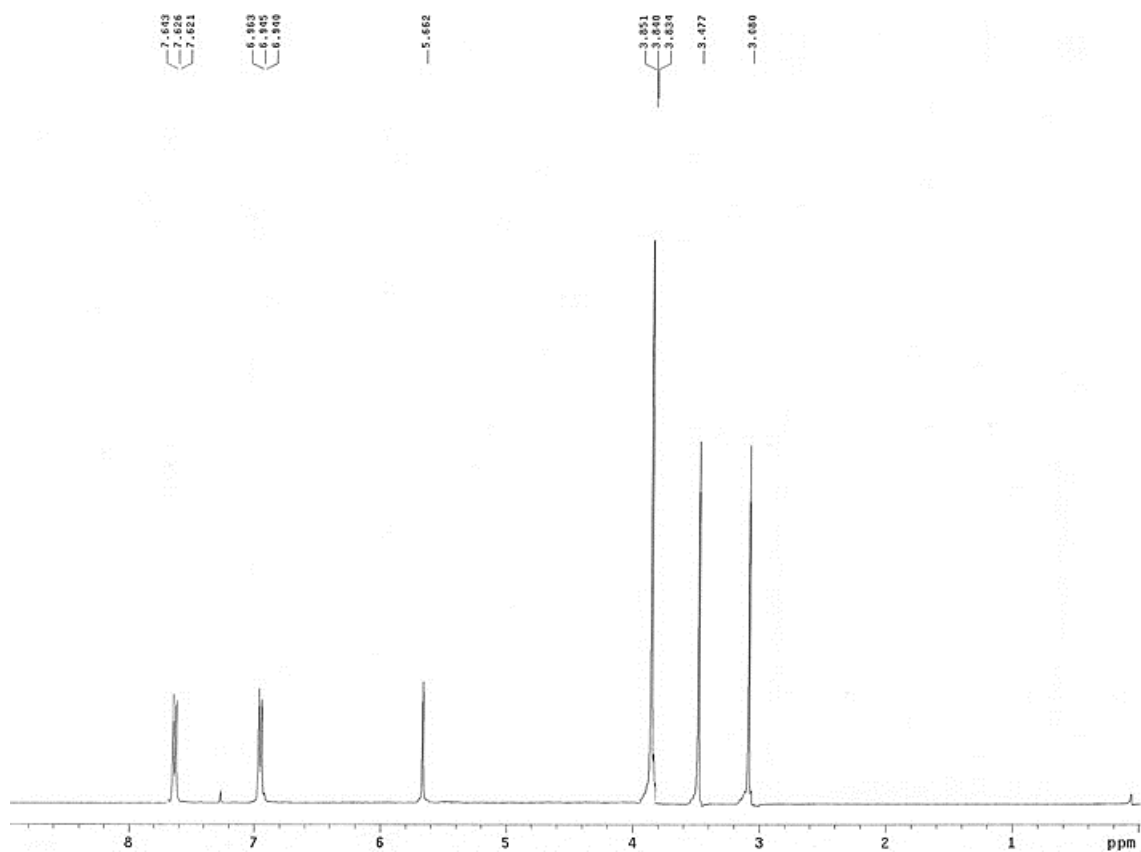


Fig. 74a: Compound **67** ¹H NMR spectra.

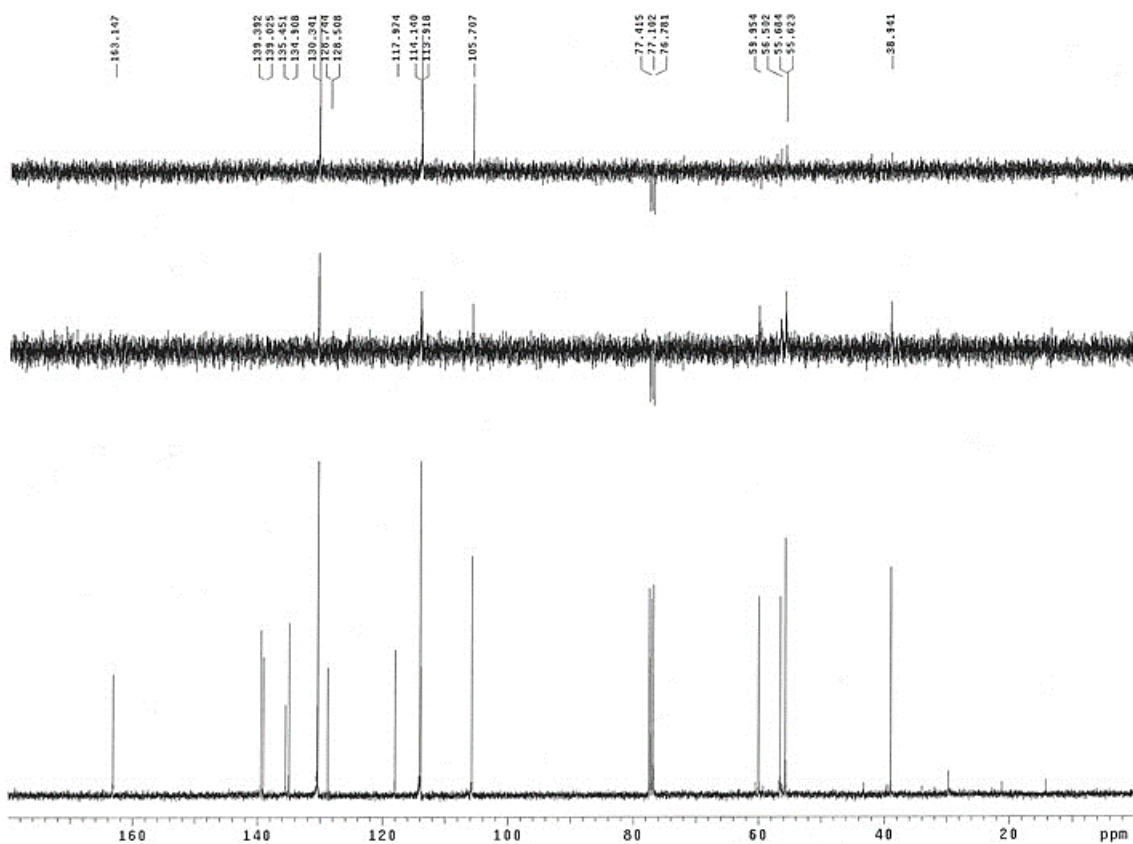


Fig. 74b: Compound **67** ¹³C NMR spectra.

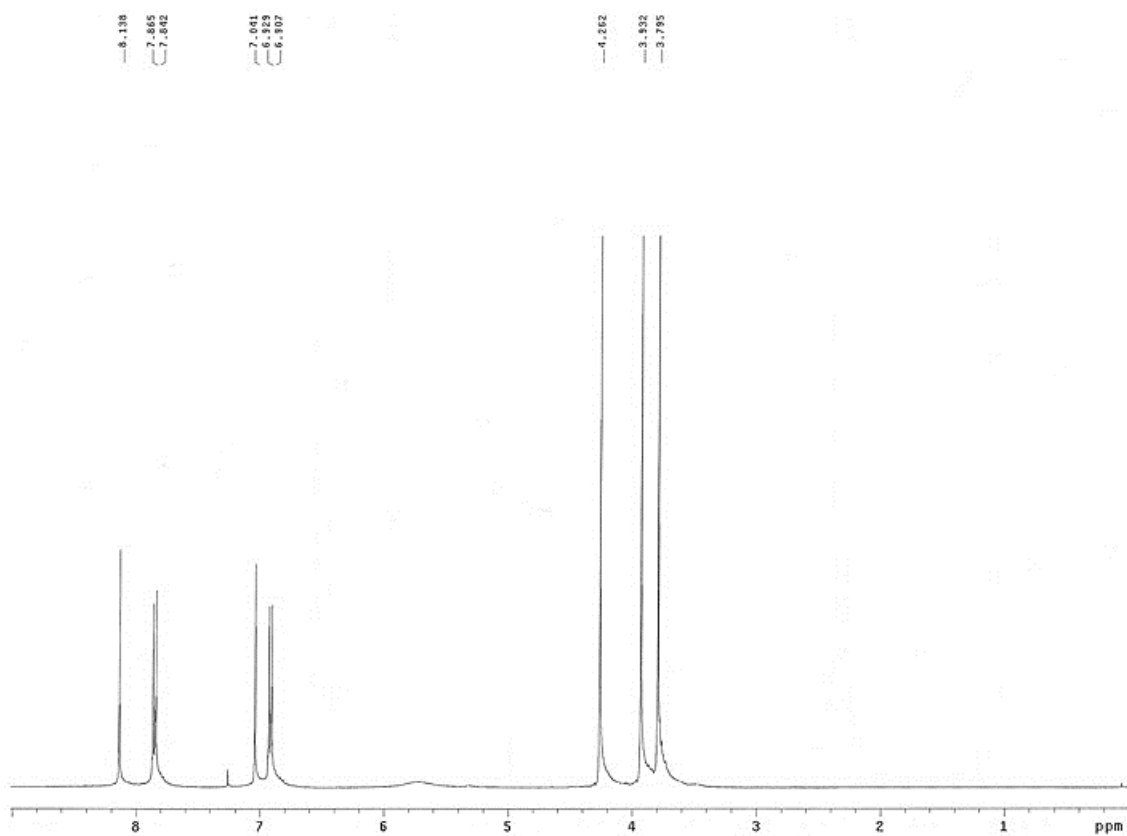


Fig. 75a: Compound **68** ^1H NMR spectra.

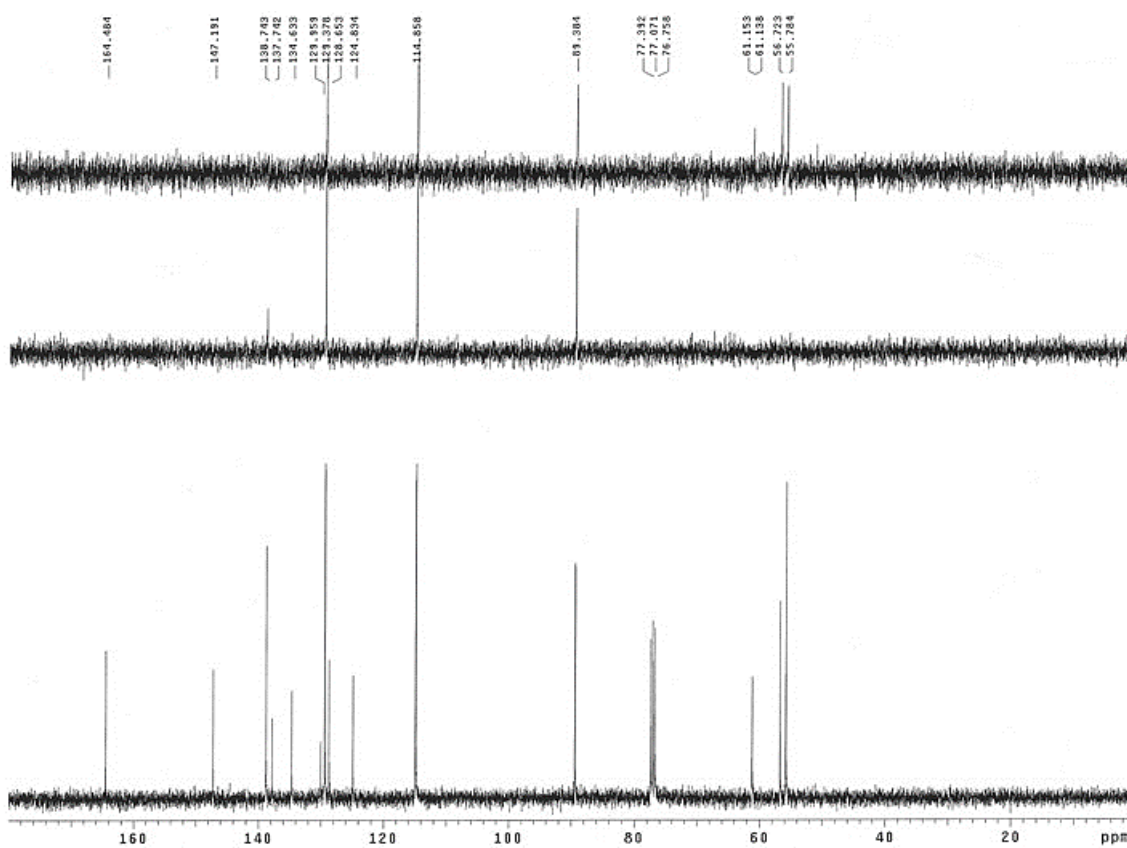


Fig. 75b: Compound **68** ^{13}C NMR spectra.

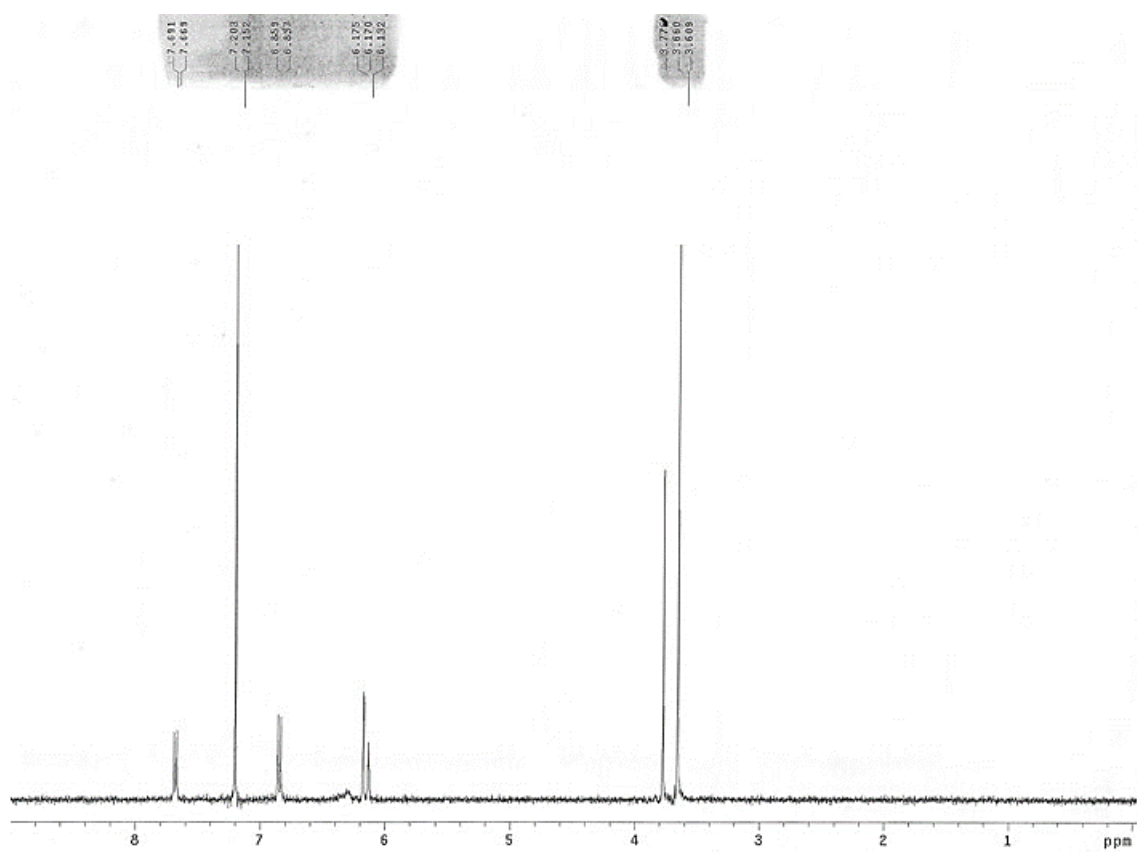


Fig. 76a: Compound 69 ¹H NMR spectra.

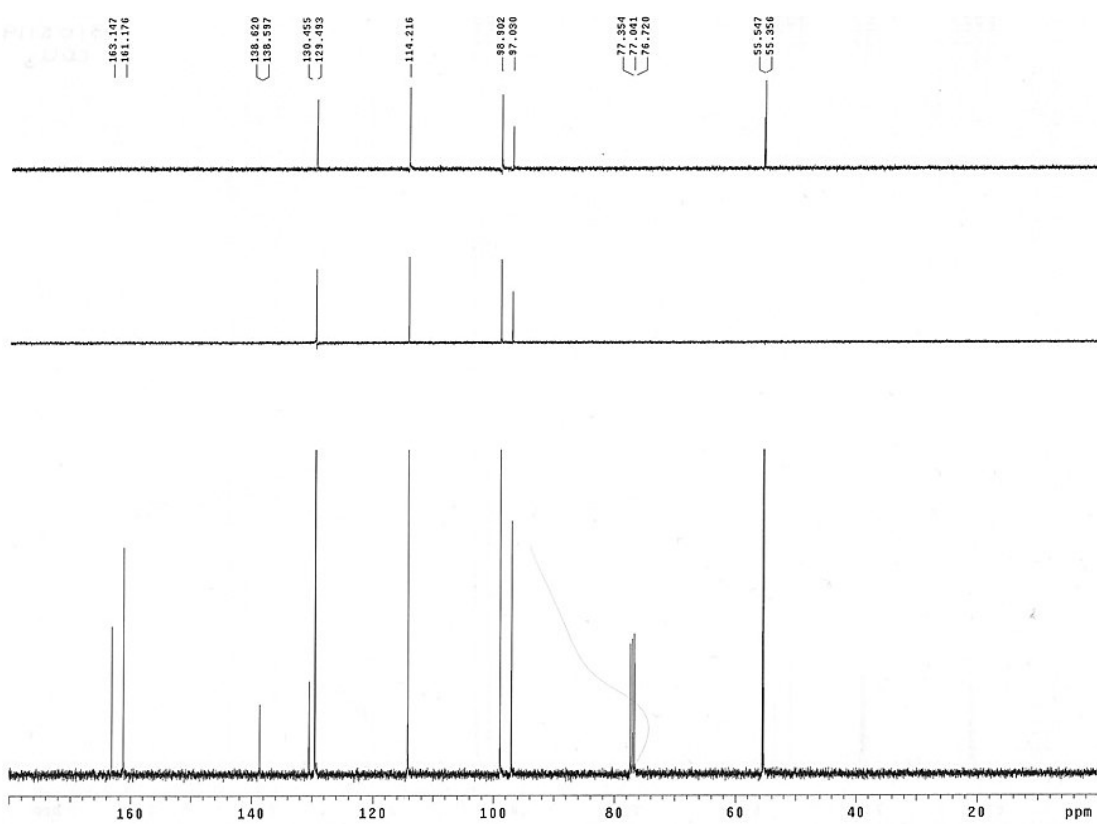


Fig. 76b: Compound 69 ¹³C NMR spectra.

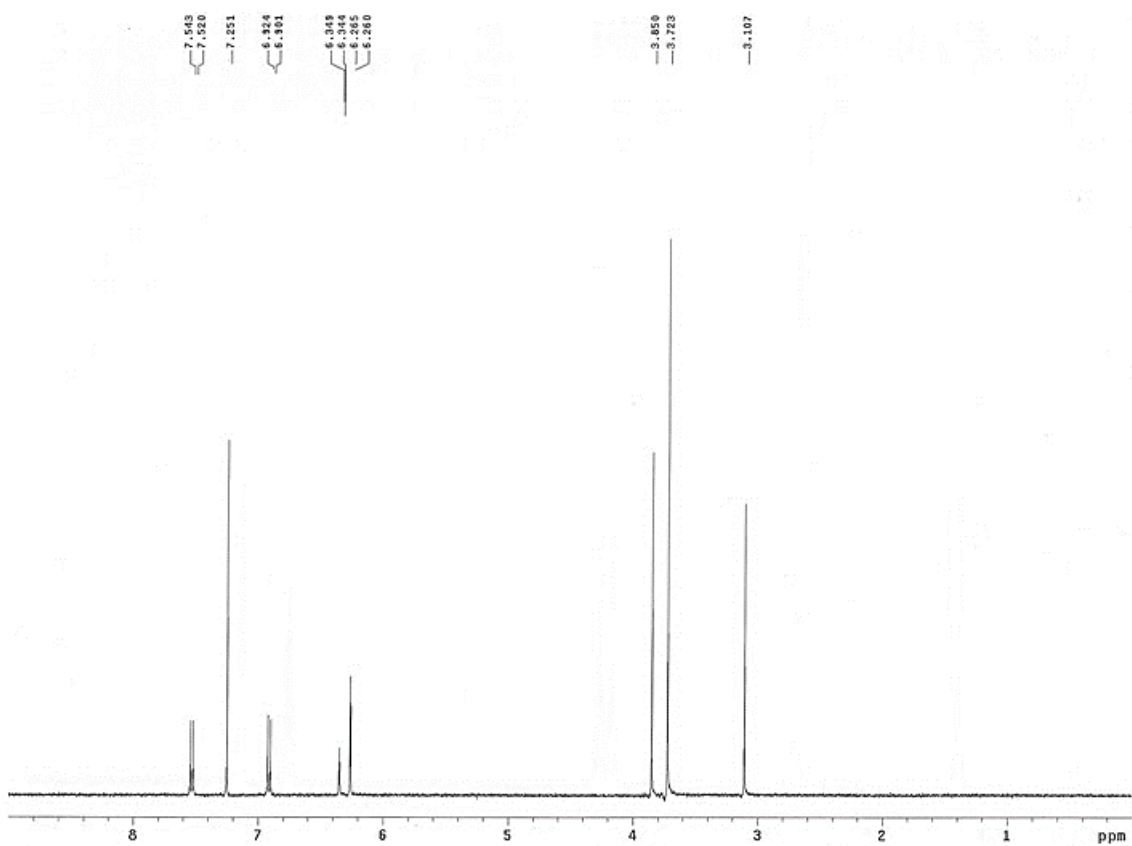


Fig. 77a: Compound **70** ^1H NMR spectra.

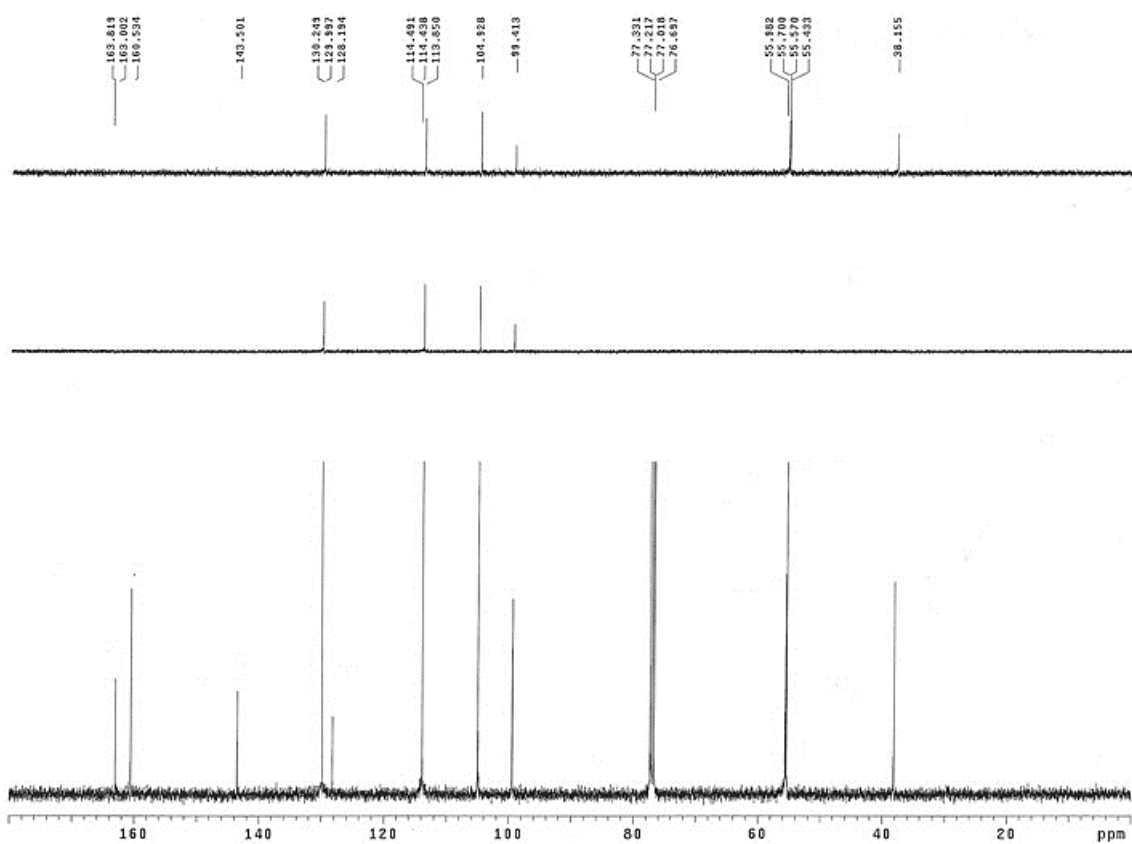


Fig. 77b: Compound **70** ^{13}C NMR spectra.

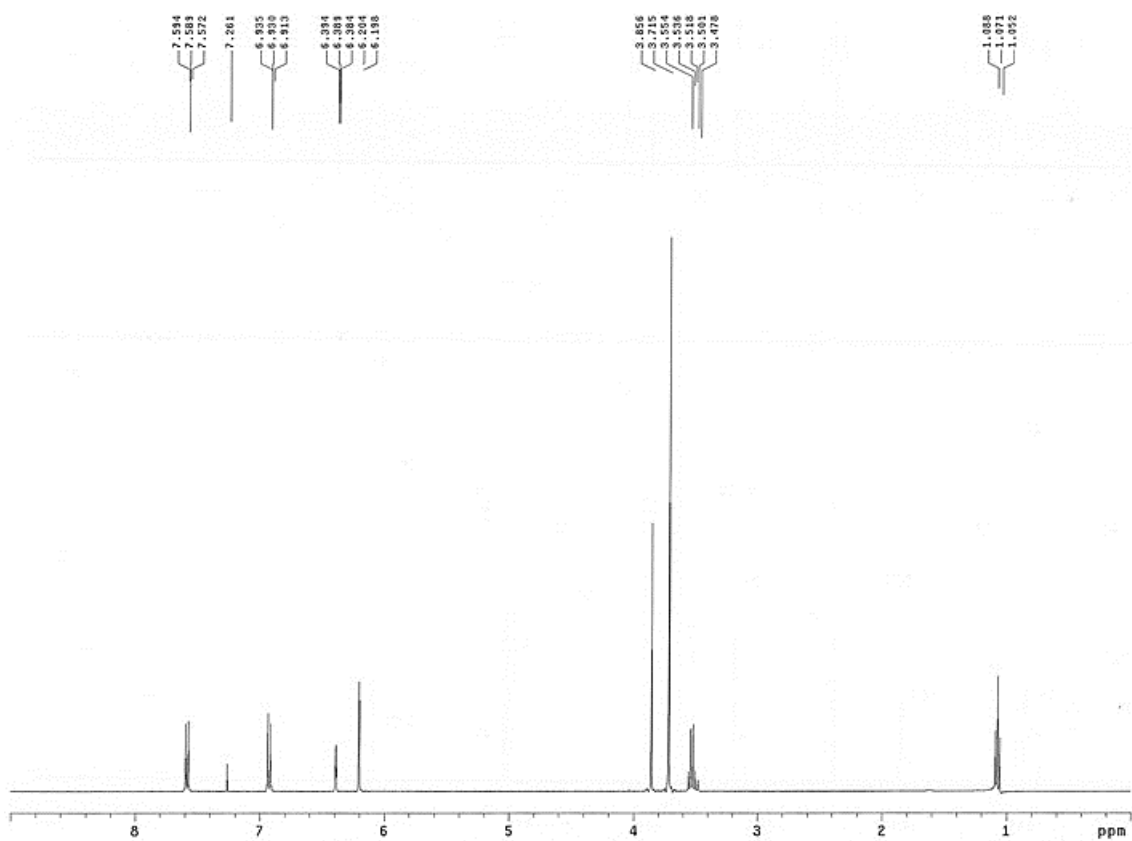


Fig. 78a: Compound **71** ^1H NMR spectra.

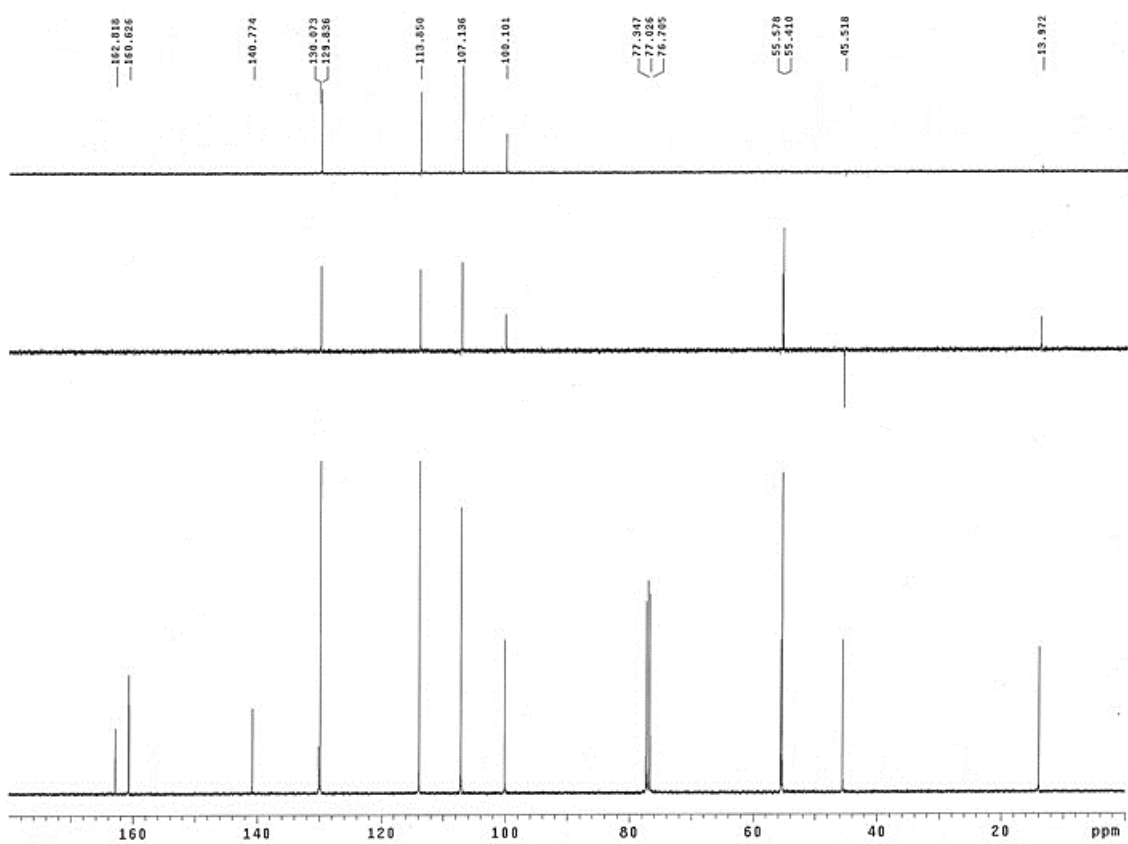


Fig. 78b: Compound **71** ^{13}C NMR spectra.

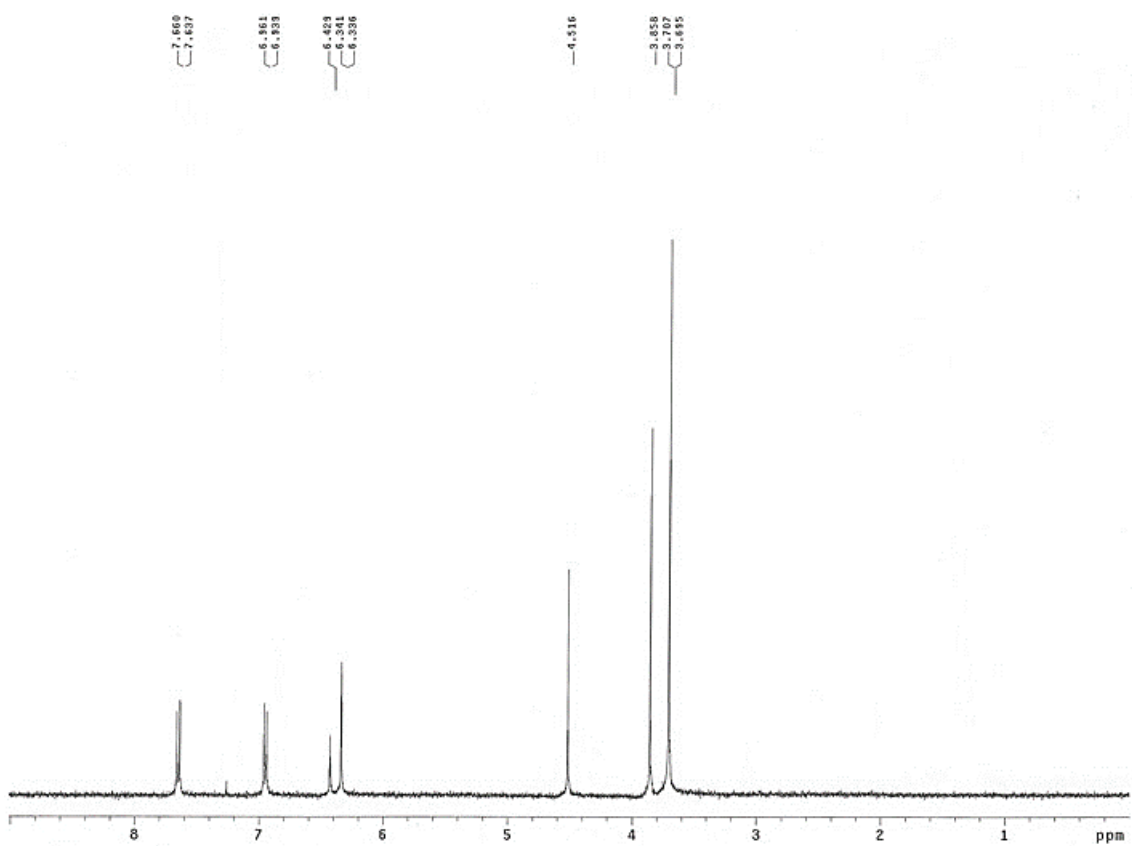


Fig. 79a: Compound **72** ^1H NMR spectra.

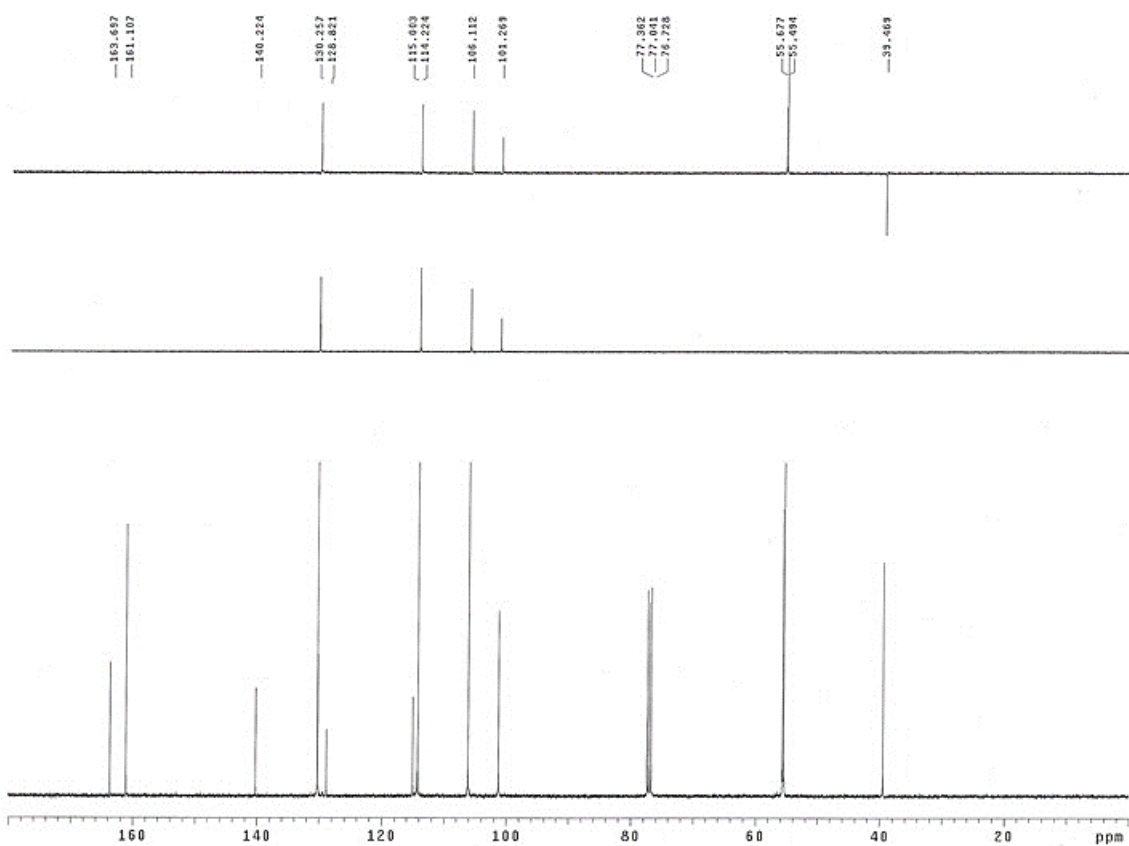


Fig. 79b: Compound **72** ^{13}C NMR spectra.

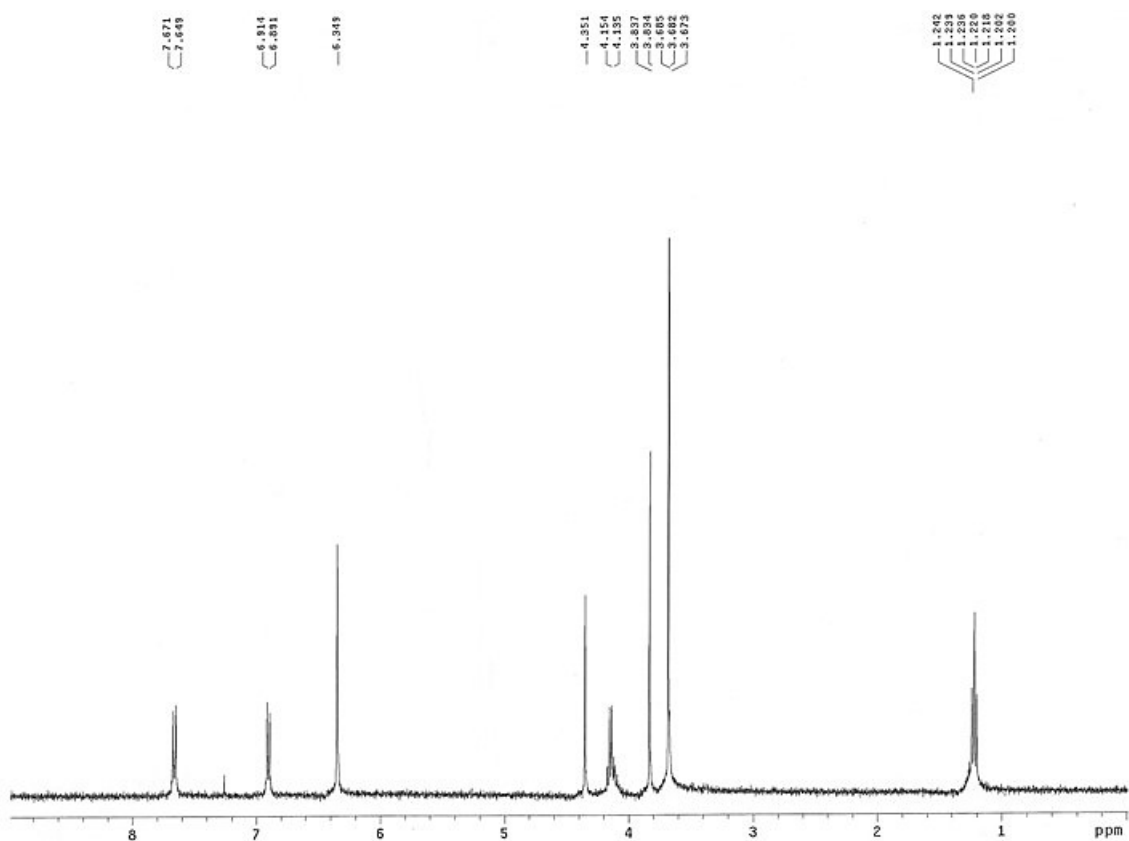


Fig. 80a: Compound **73** ^1H NMR spectra.

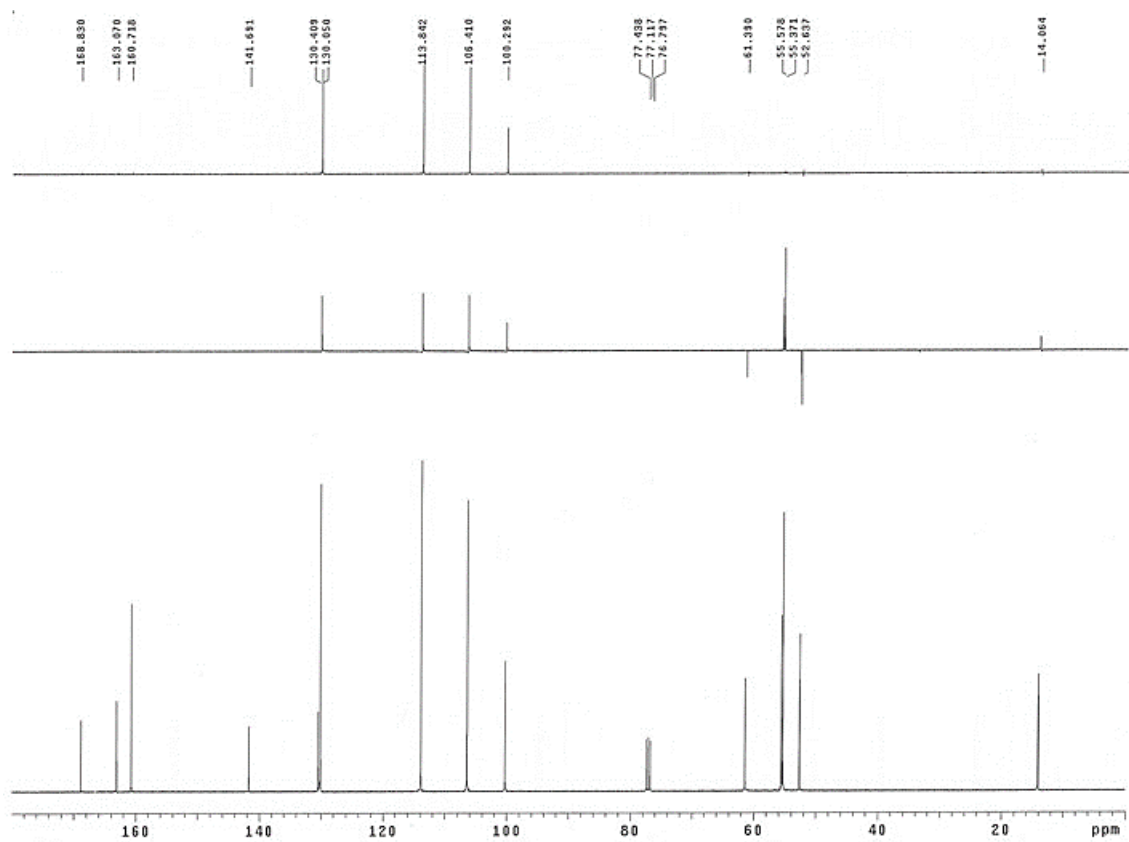


Fig. 80b: Compound **73** ^{13}C NMR spectra.

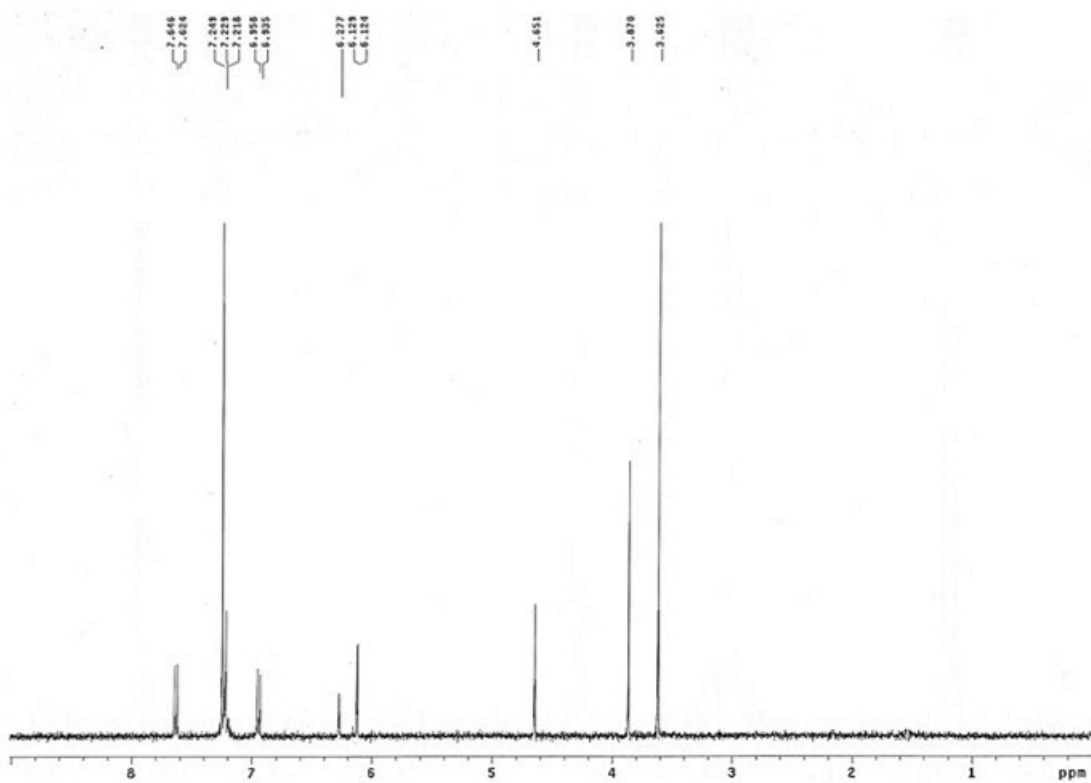


Fig. 81a: Compound **74** ^1H NMR spectra.

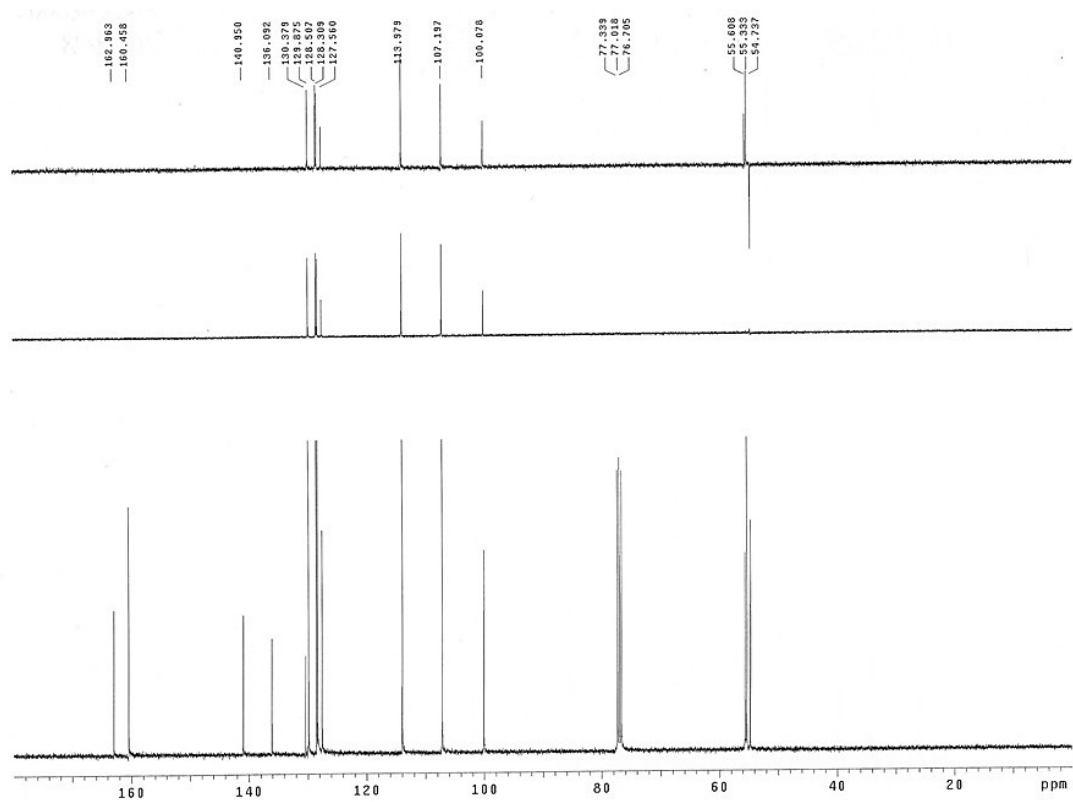


Fig. 81b: Compound **74** ^{13}C NMR spectra.

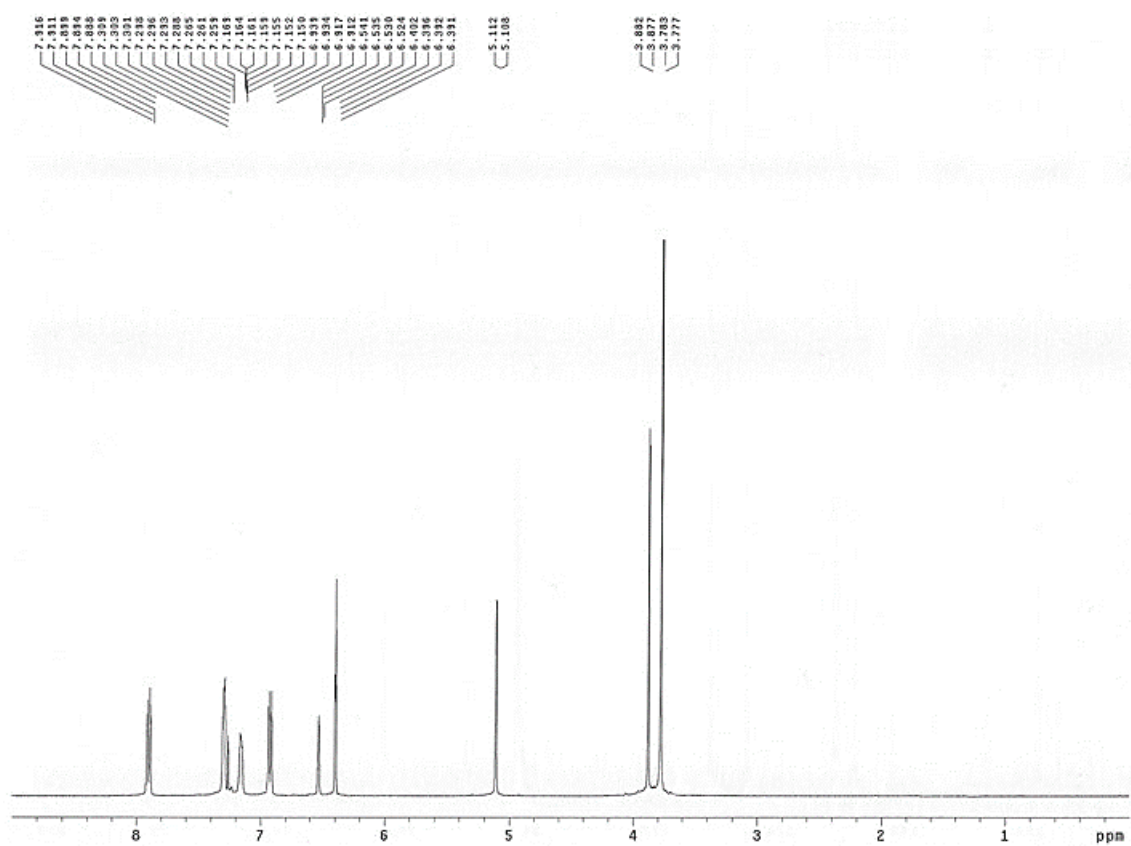


Fig. 82a: Compound 75 ^1H NMR spectra.

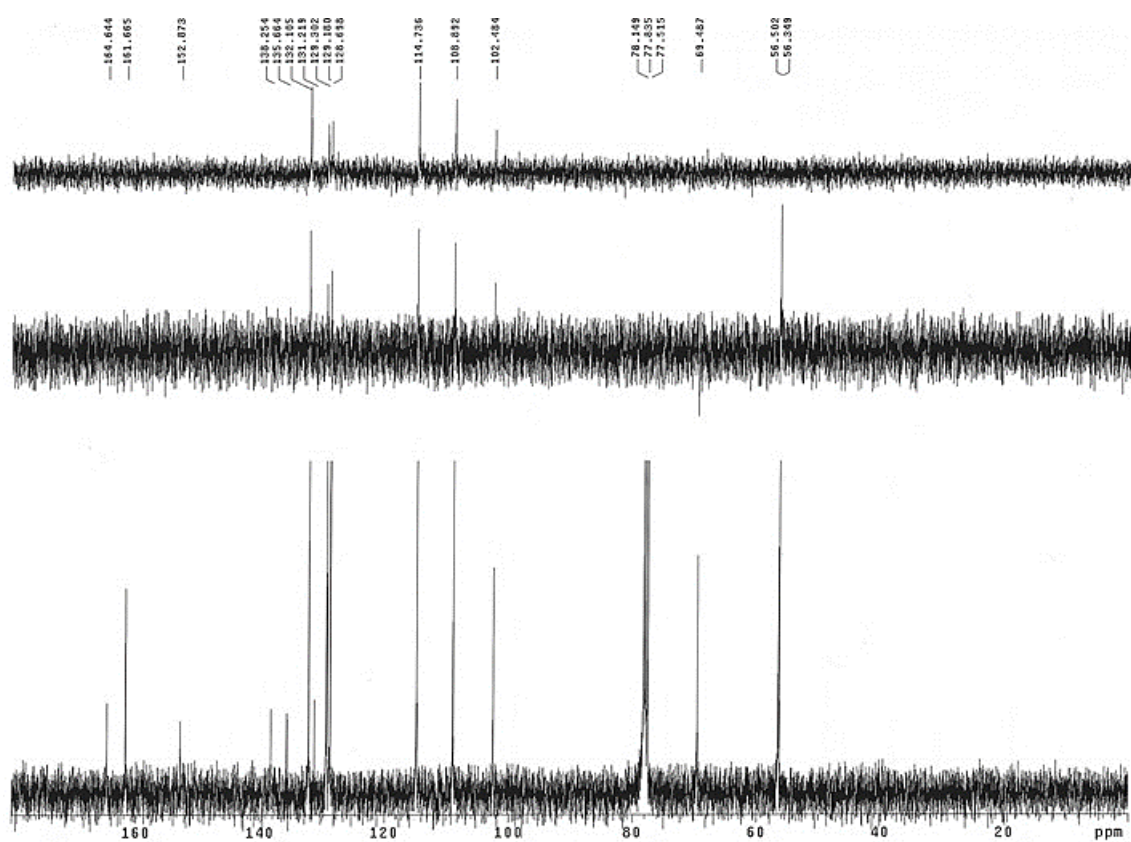


Fig. 82b: Compound 75 ^{13}C NMR spectra.

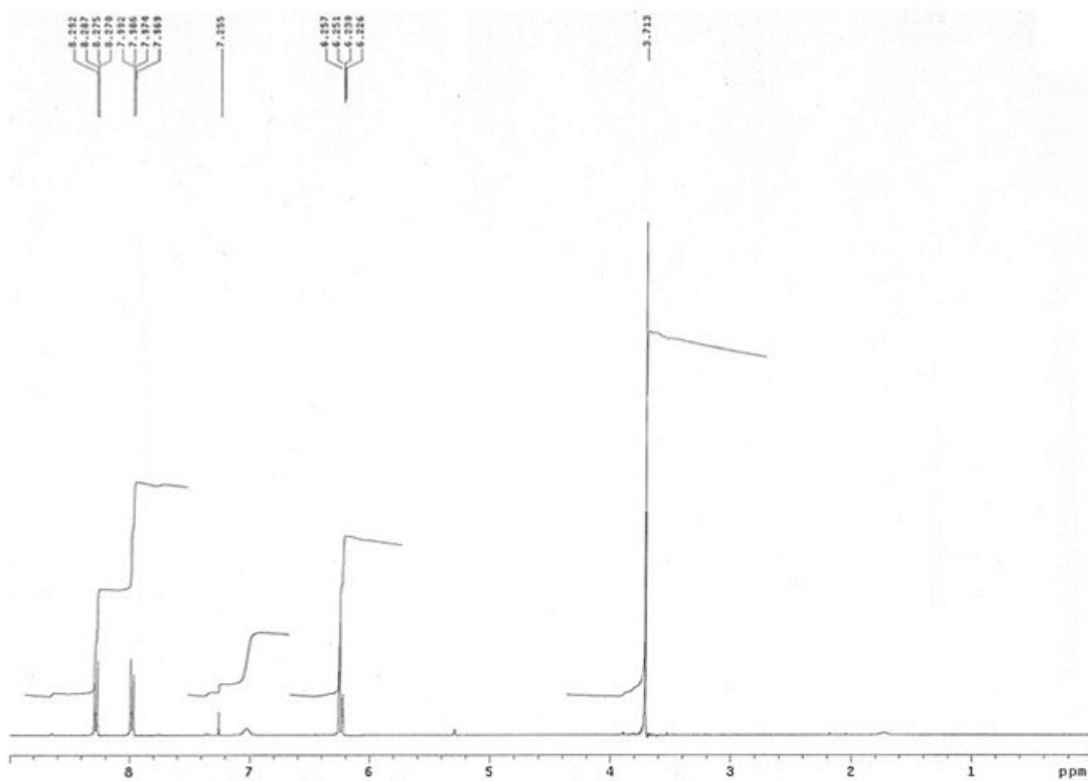


Fig. 83a: Compound **76** ^1H NMR spectra.

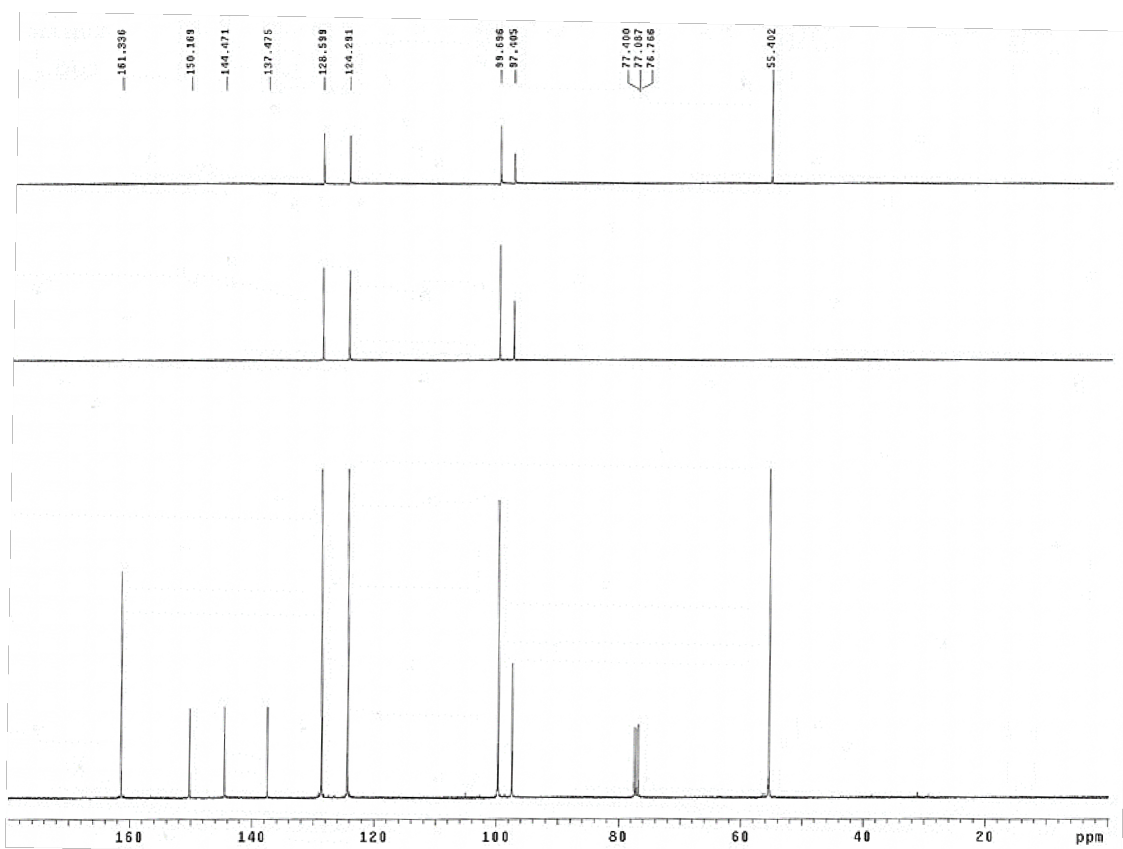


Fig. 83b: Compound **76** ^{13}C NMR spectra.

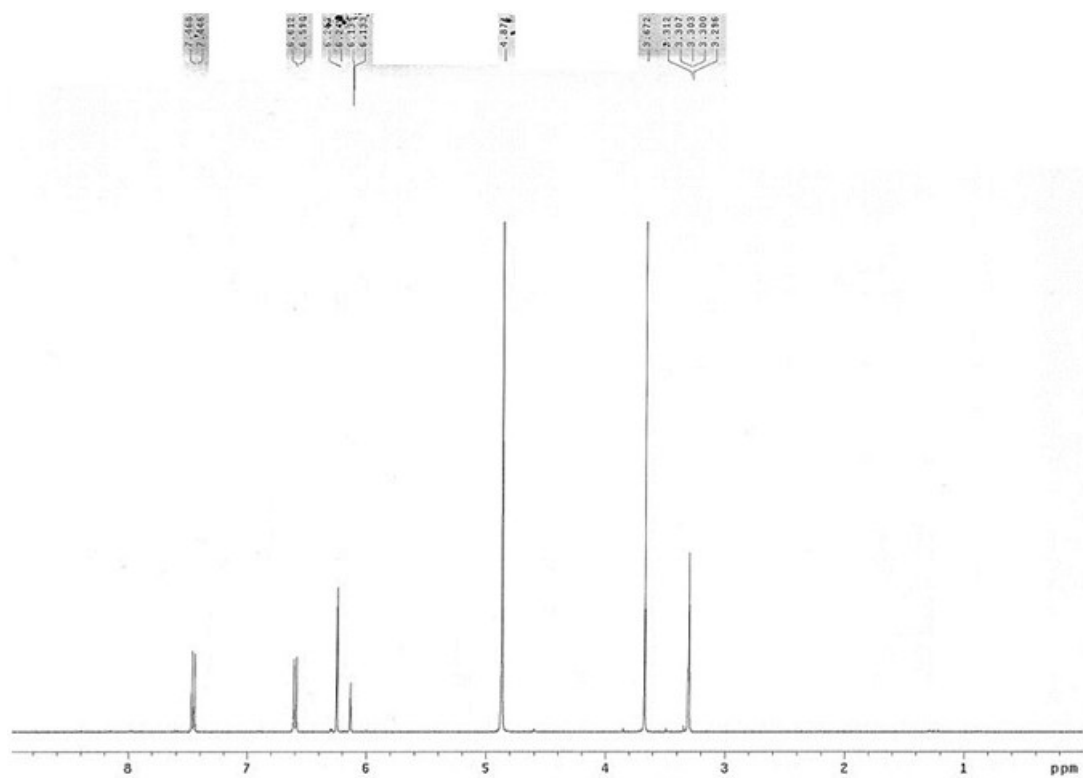


Fig. 84a: Compound **77** ^1H NMR spectra.

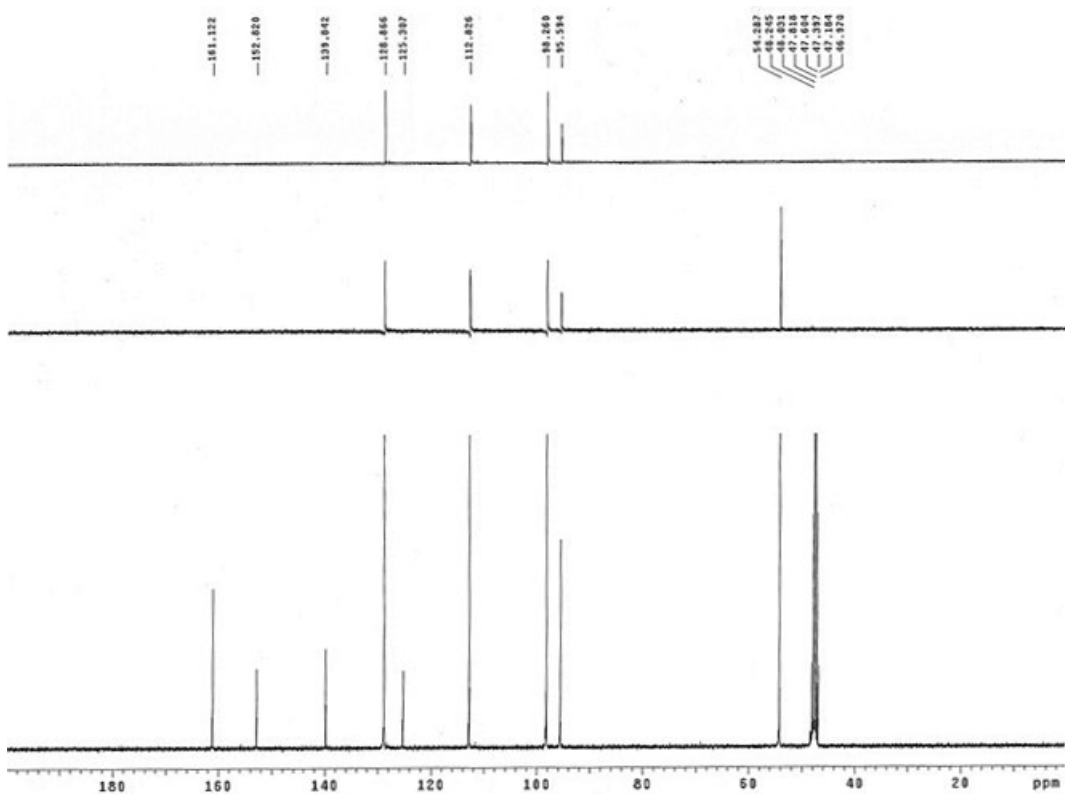


Fig. 84b: Compound **77** ^{13}C NMR spectra.

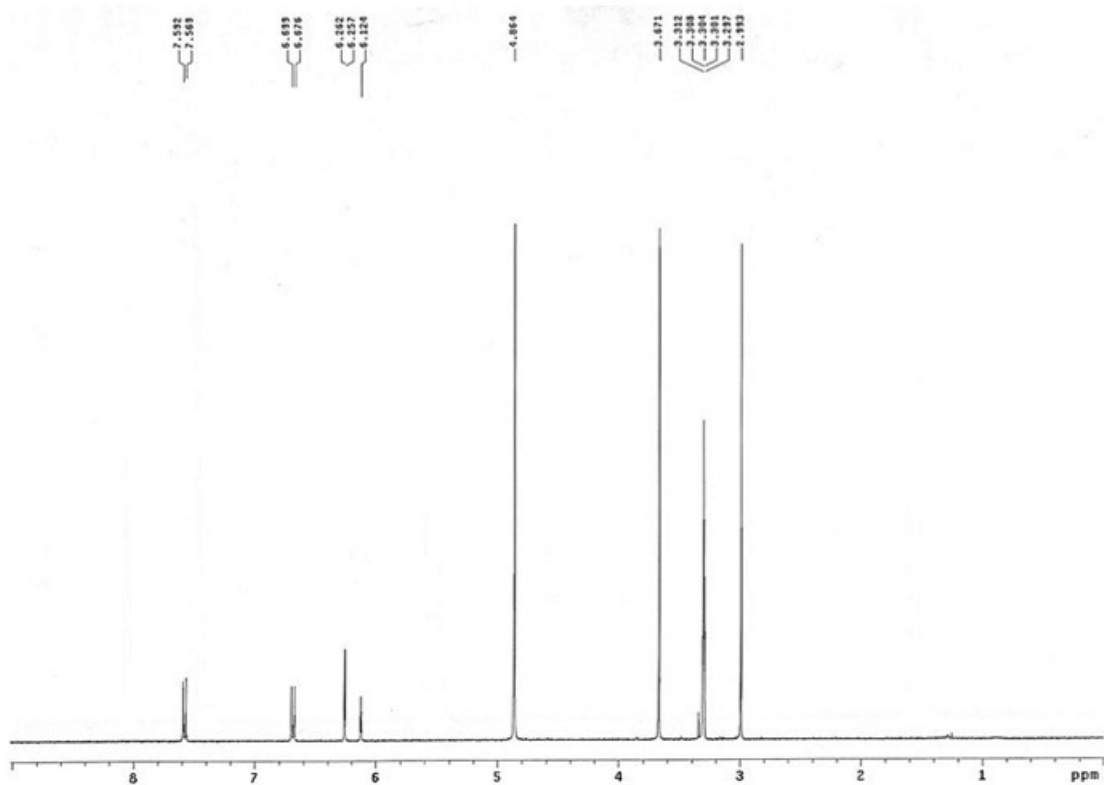


Fig. 85a: Compound **78** ^1H NMR spectra.

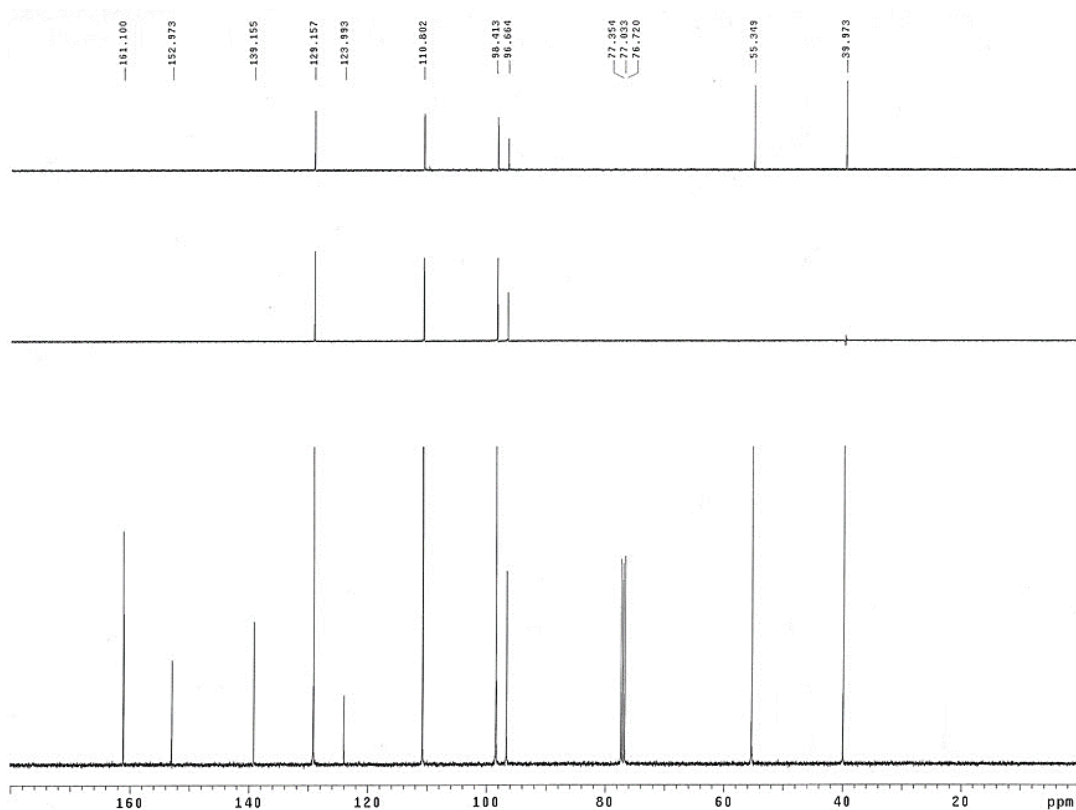


Fig. 85b: Compound **78** ^{13}C NMR spectra.

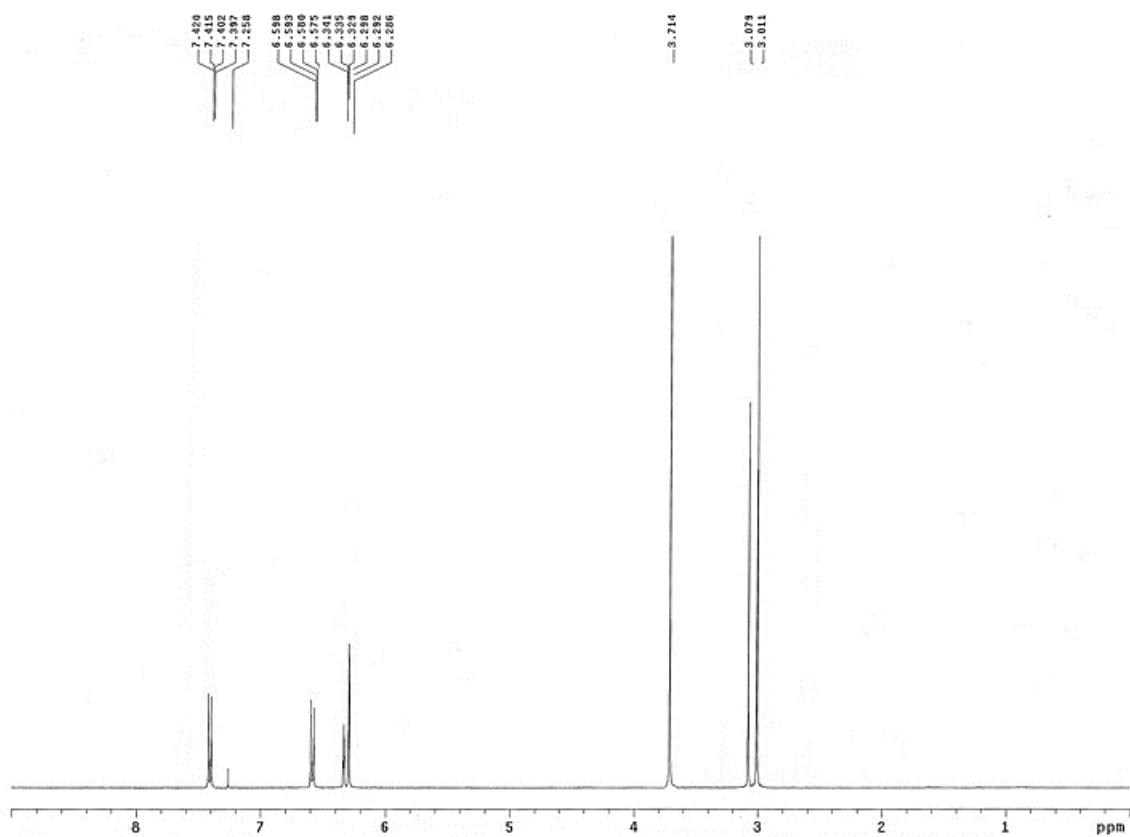


Fig. 86a: Compound **79** ^1H NMR spectra.

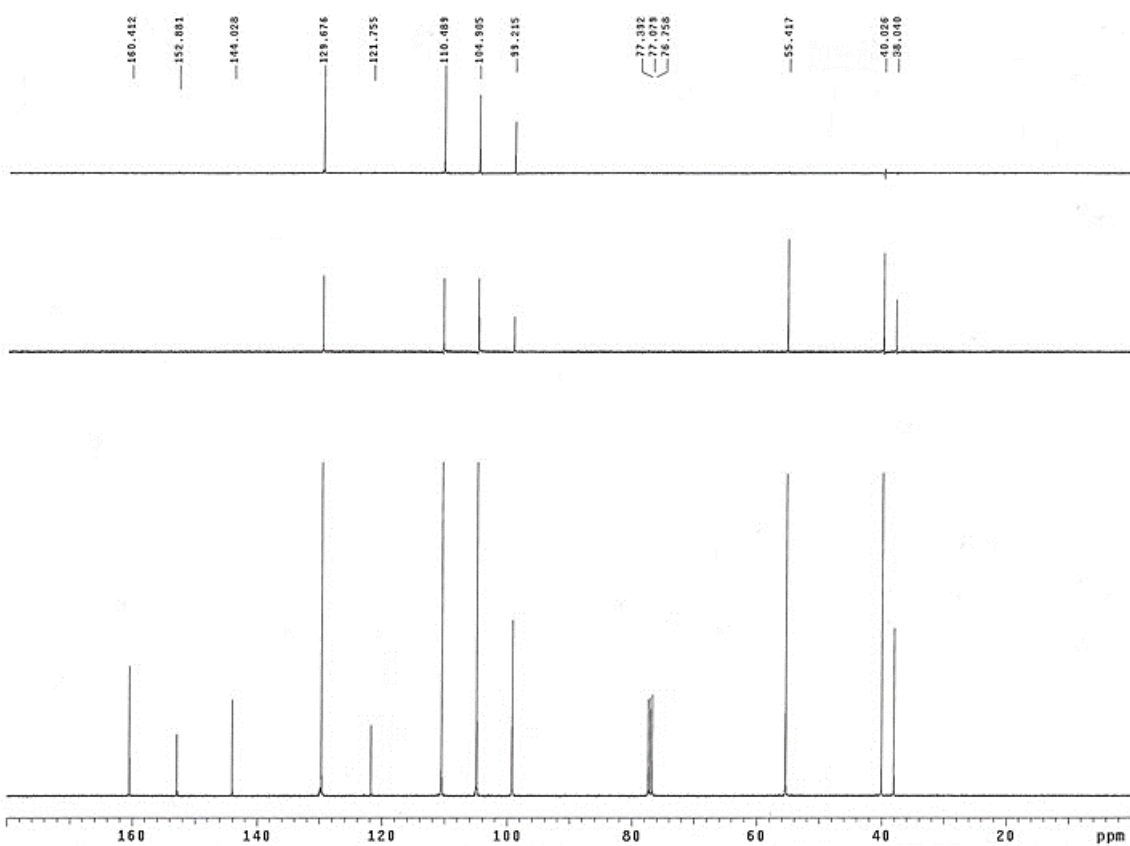


Fig. 86b: Compound **79** ^{13}C NMR spectra.

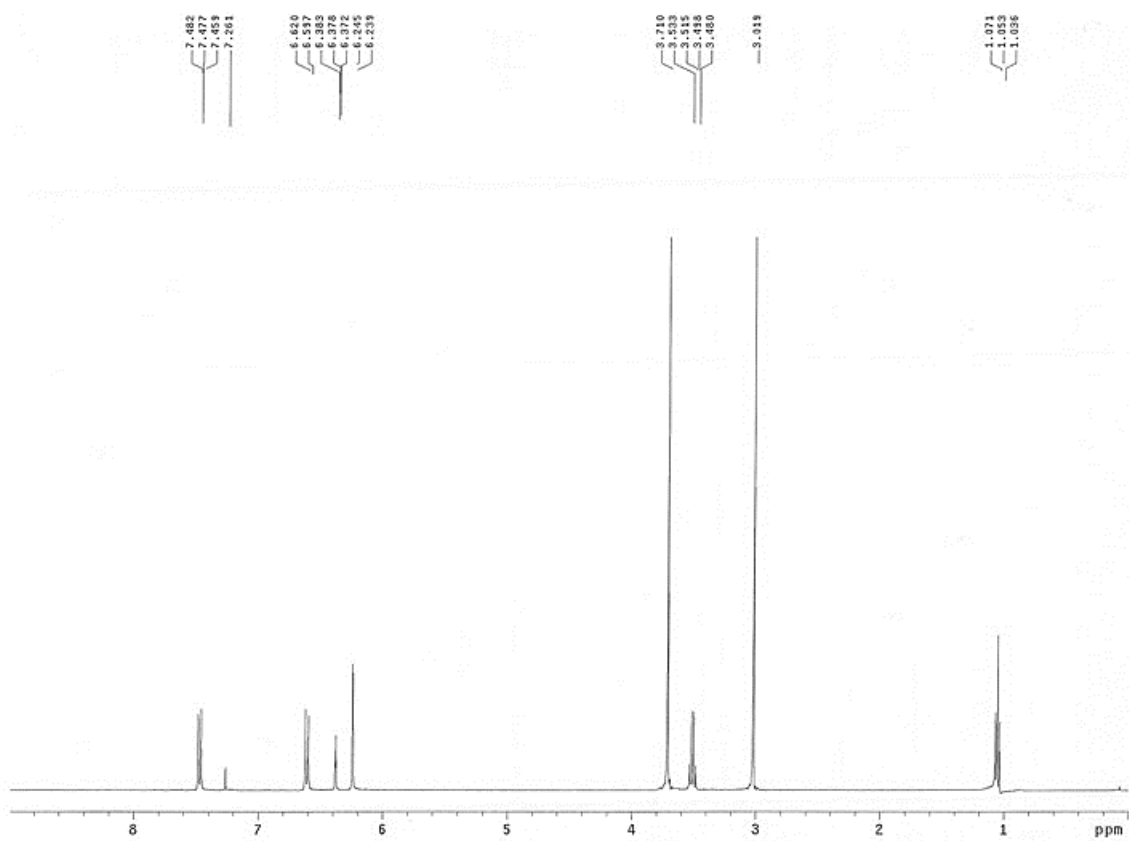


Fig. 87a: Compound **80** ^1H NMR spectra.

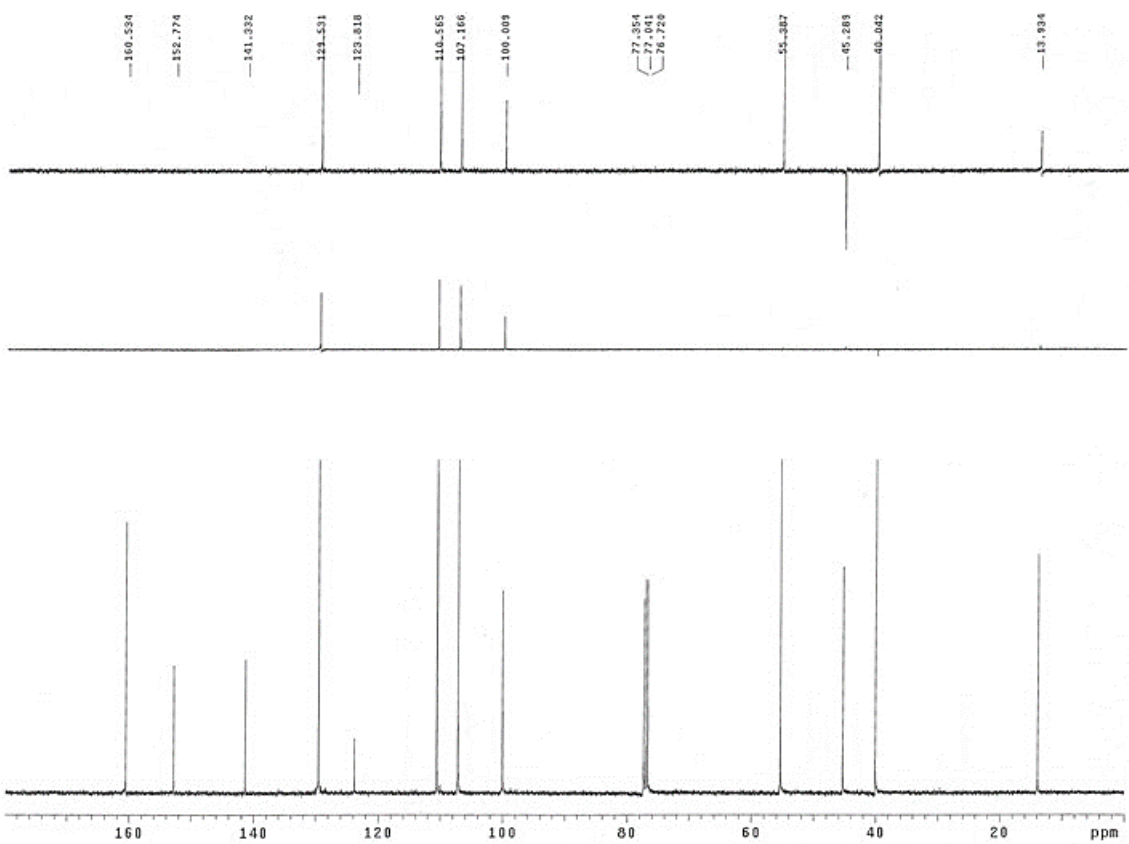


Fig. 87b: Compound **80** ^{13}C NMR spectra.

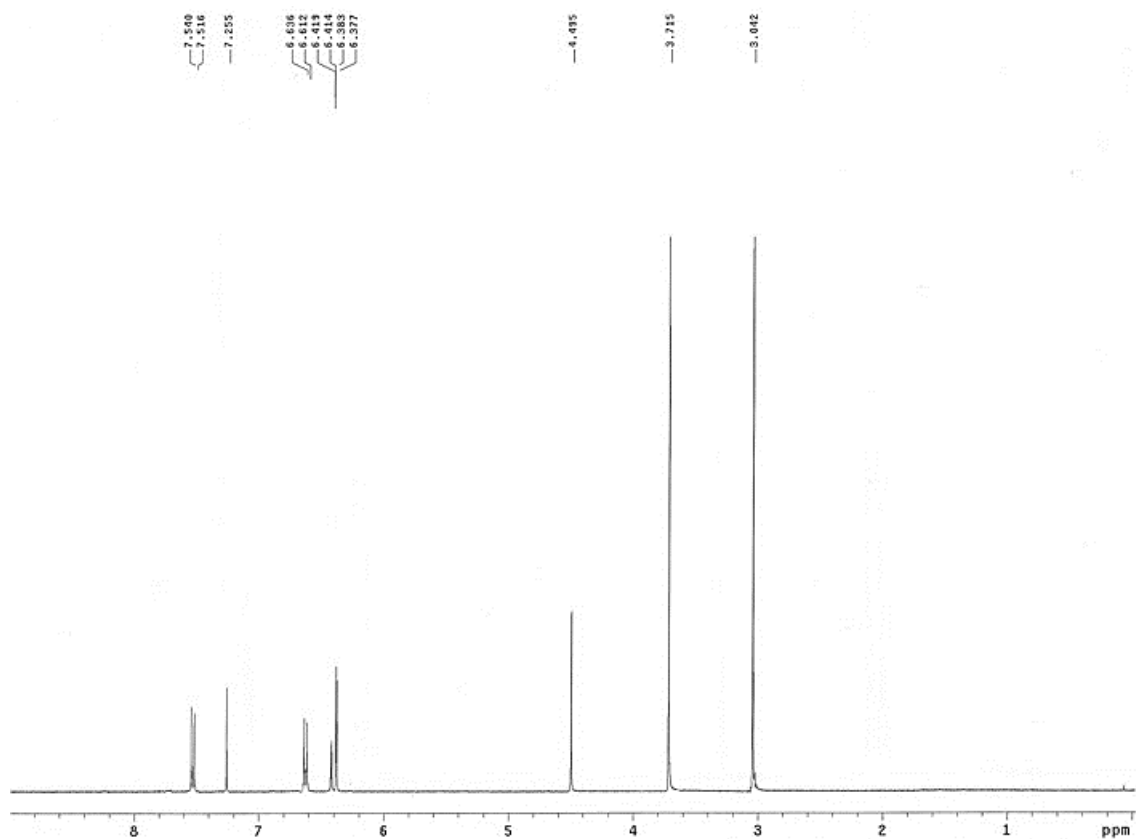


Fig. 88a: Compound **81** ¹H NMR spectra.

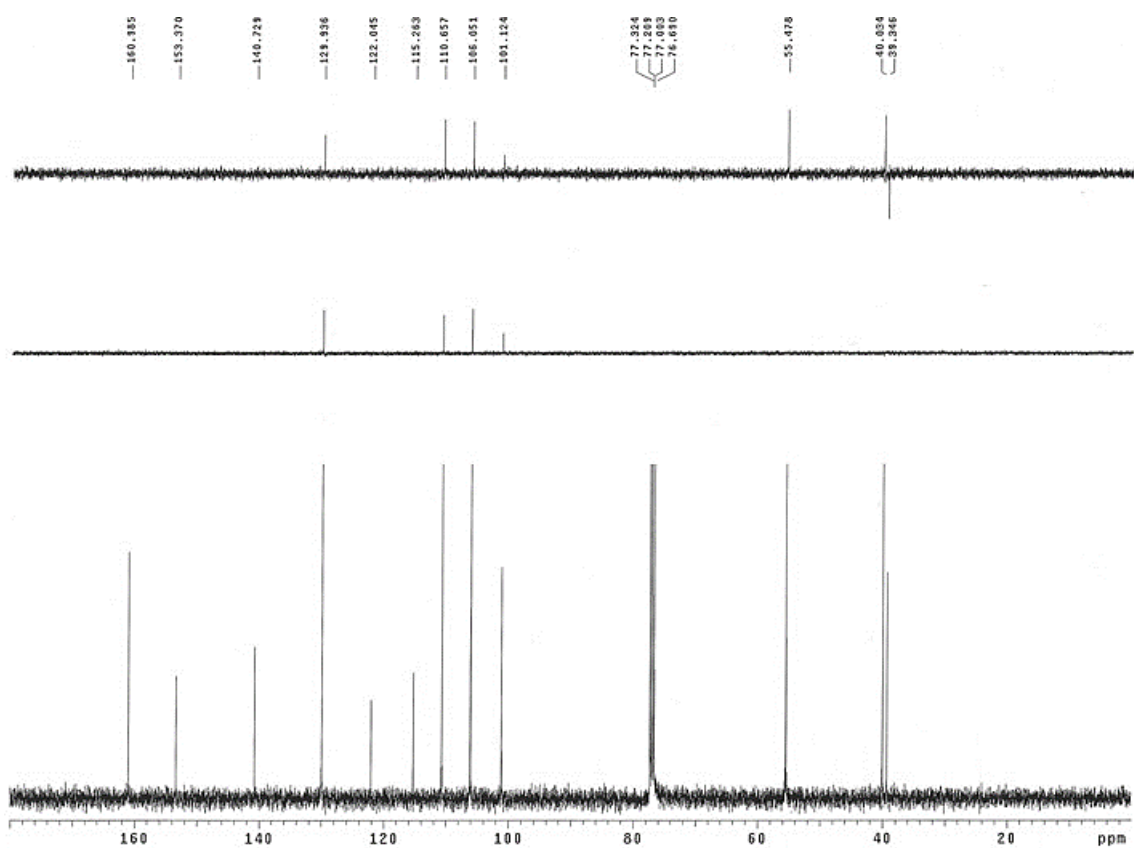


Fig. 88b: Compound **81** ¹³C NMR spectra.

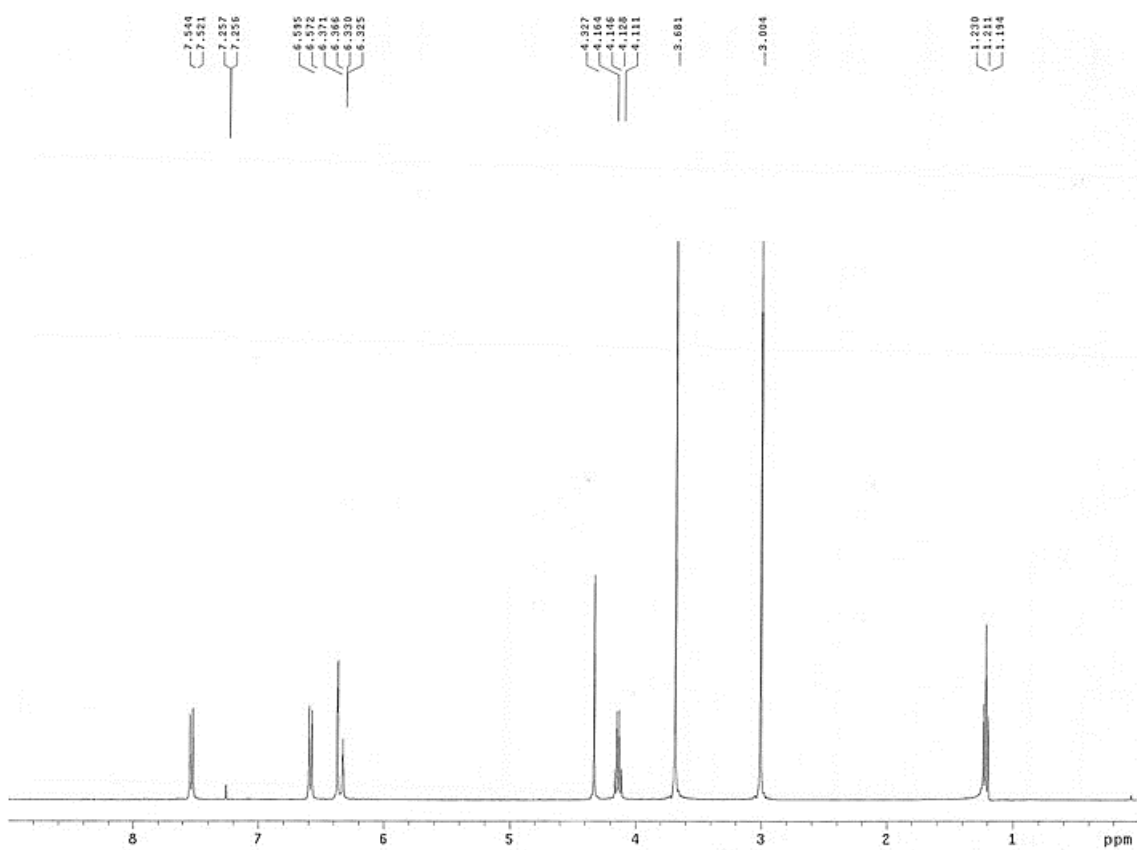


Fig. 89a: Compound **82** ^1H NMR spectra.

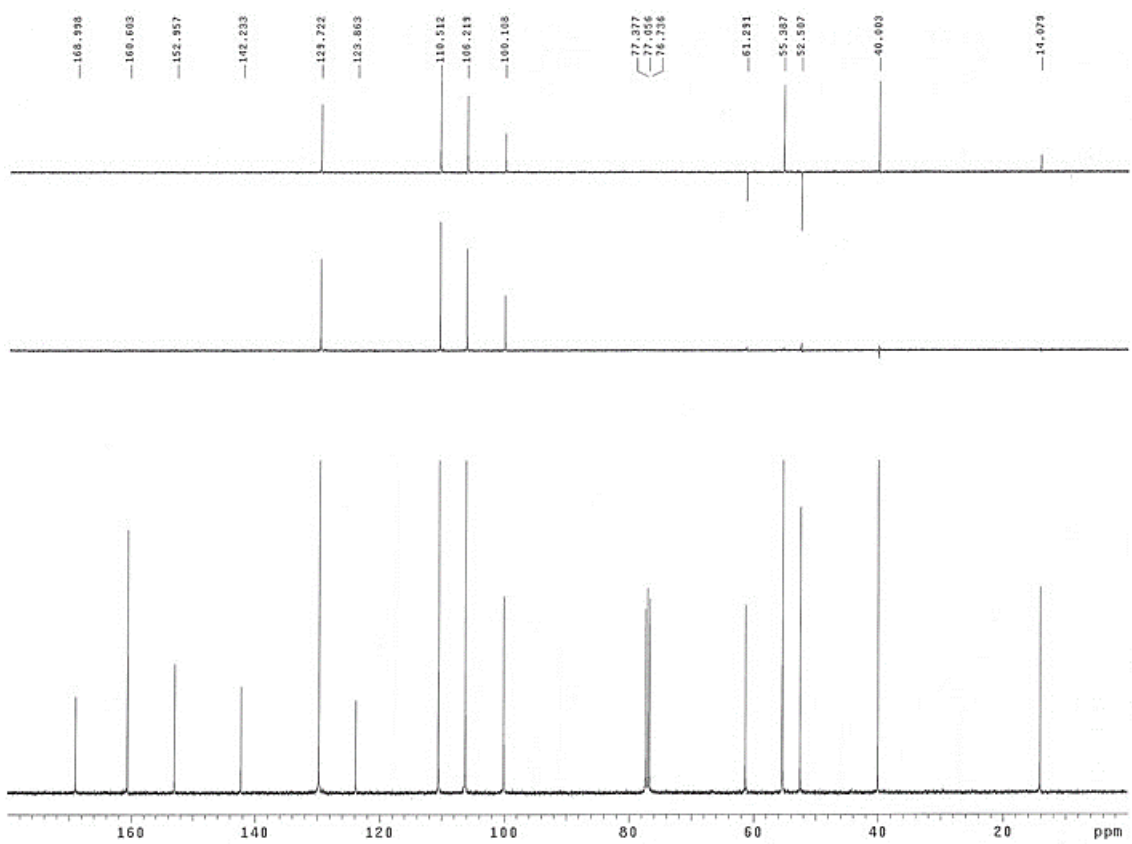


Fig. 89b: Compound **82** ^{13}C NMR spectra.

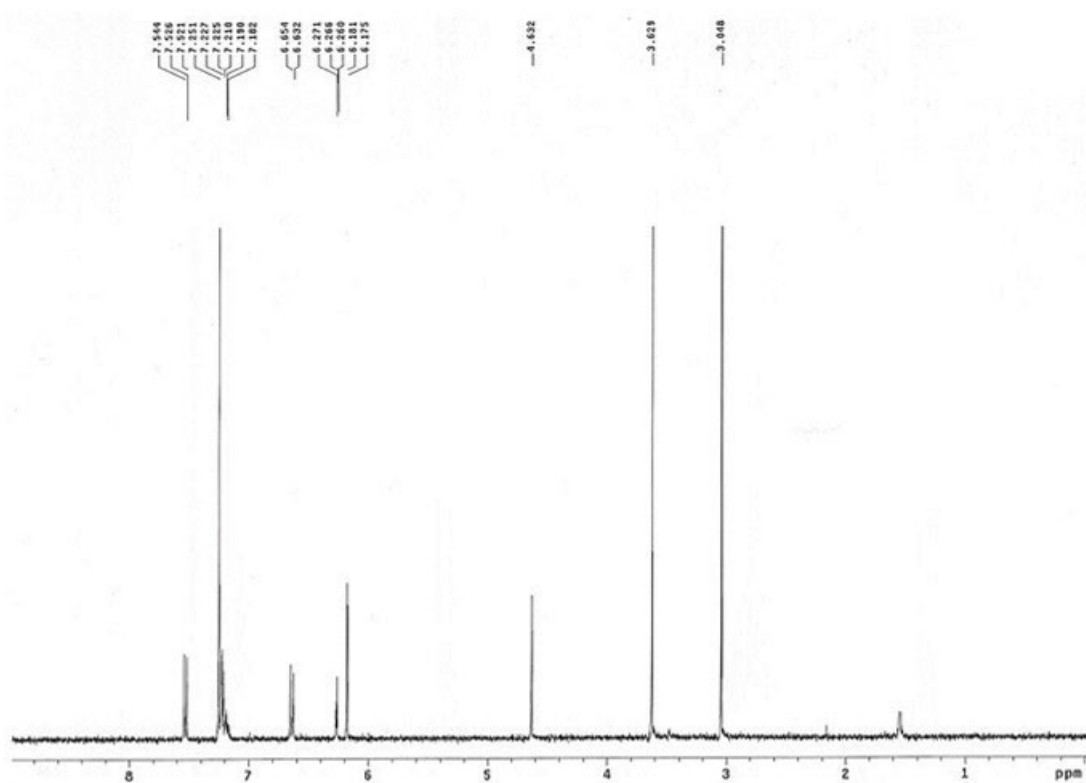


Fig. 90a: Compound **83** ^1H NMR spectra.

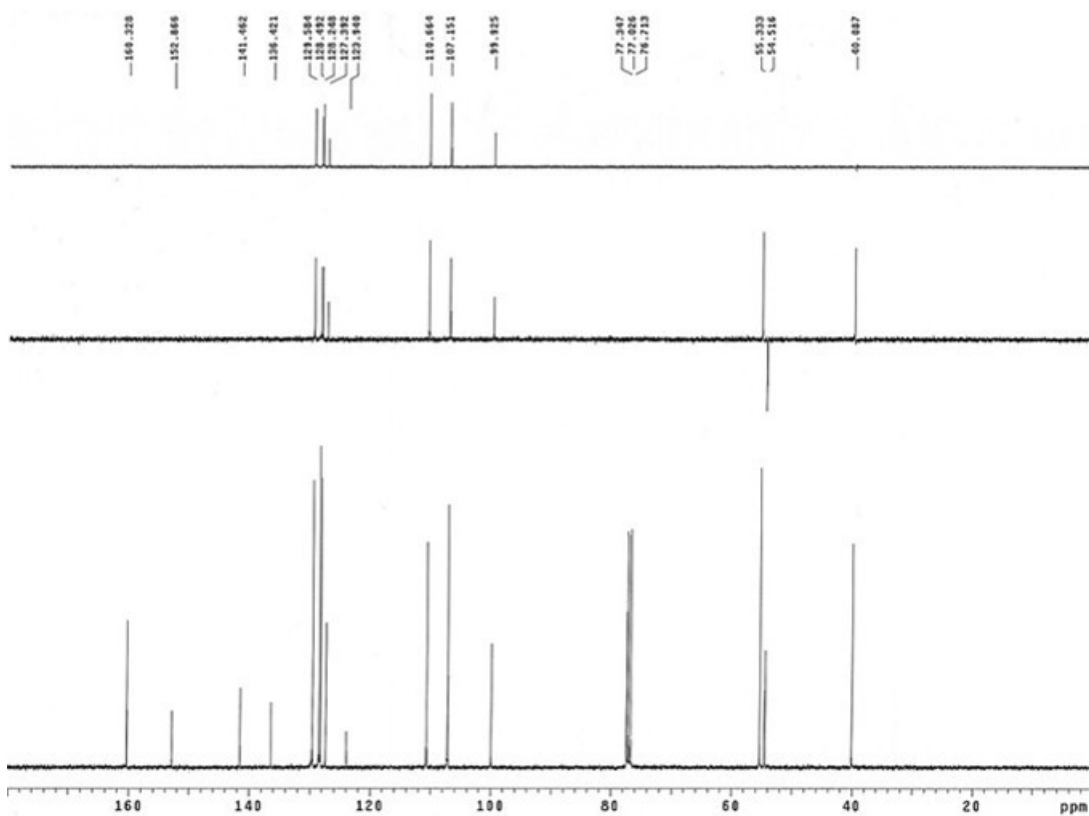


Fig. 90b: Compound **83** ^{13}C NMR spectra.

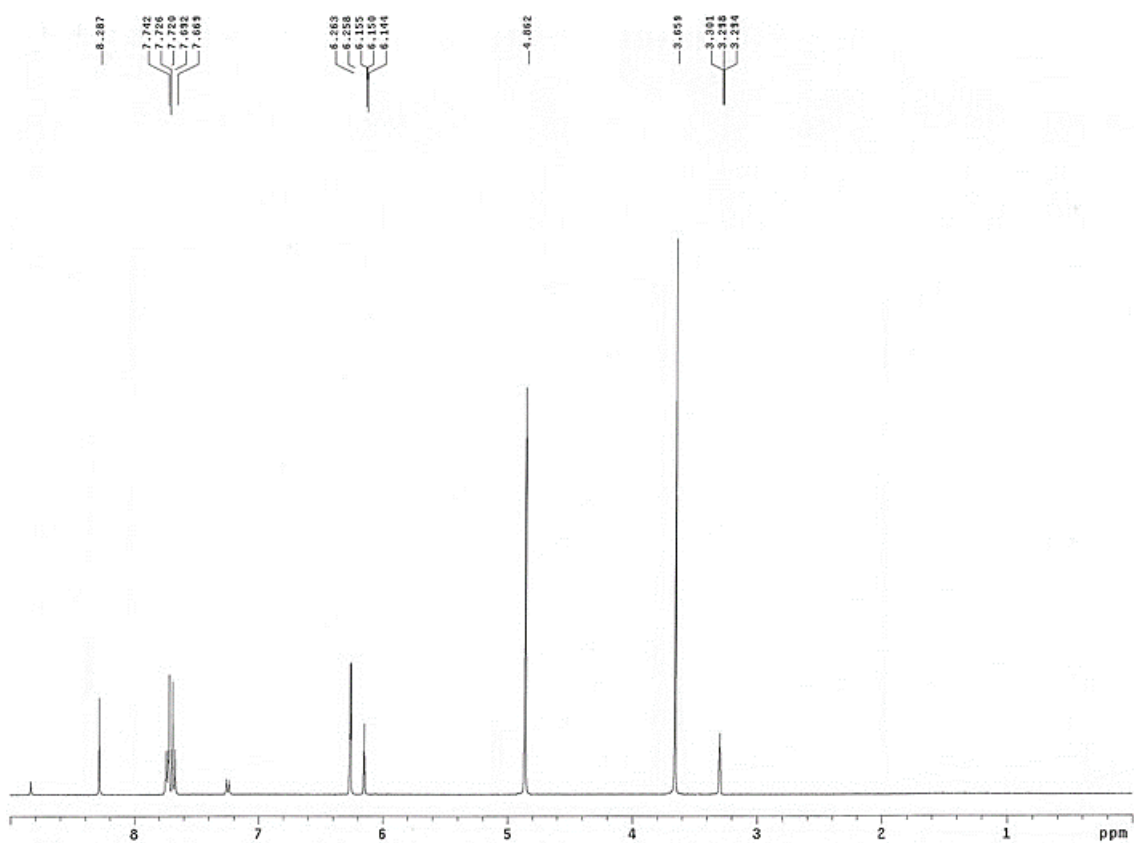


Fig. 91a: Compound **84** ^1H NMR spectra.

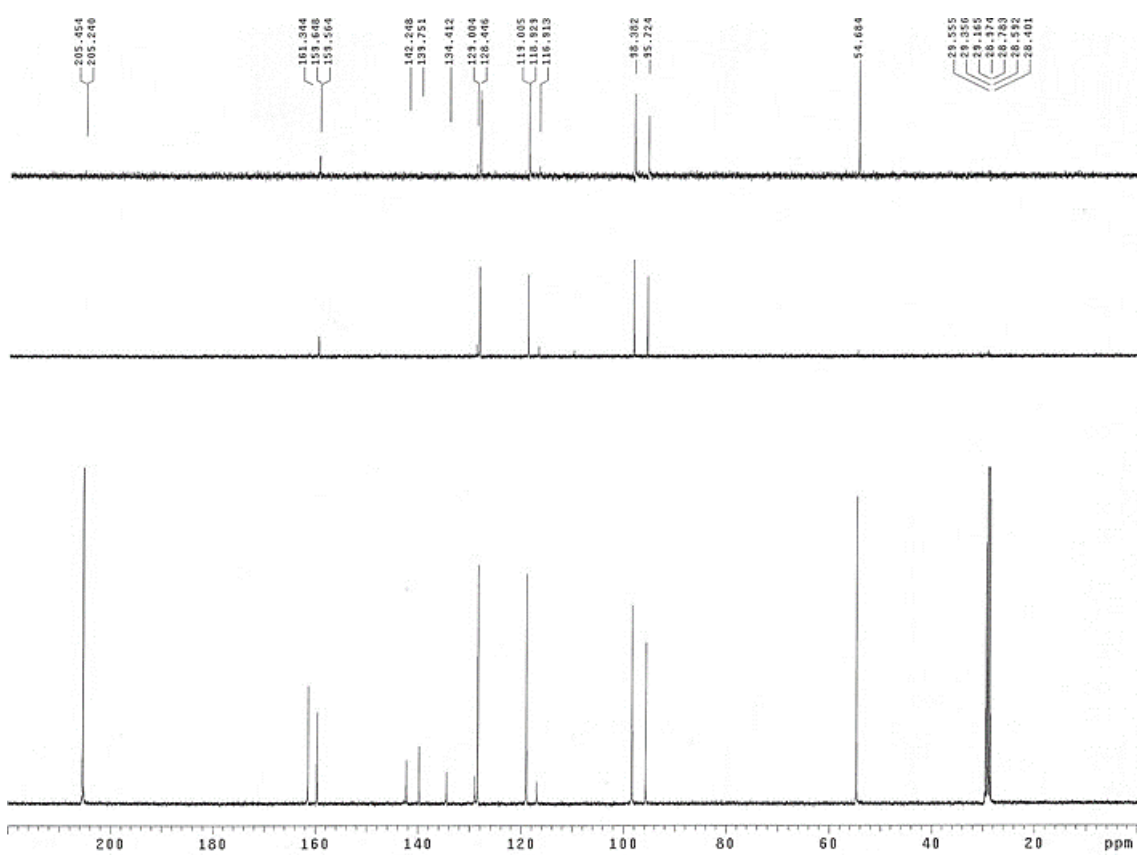


Fig. 91b: Compound **84** ^{13}C NMR spectra.

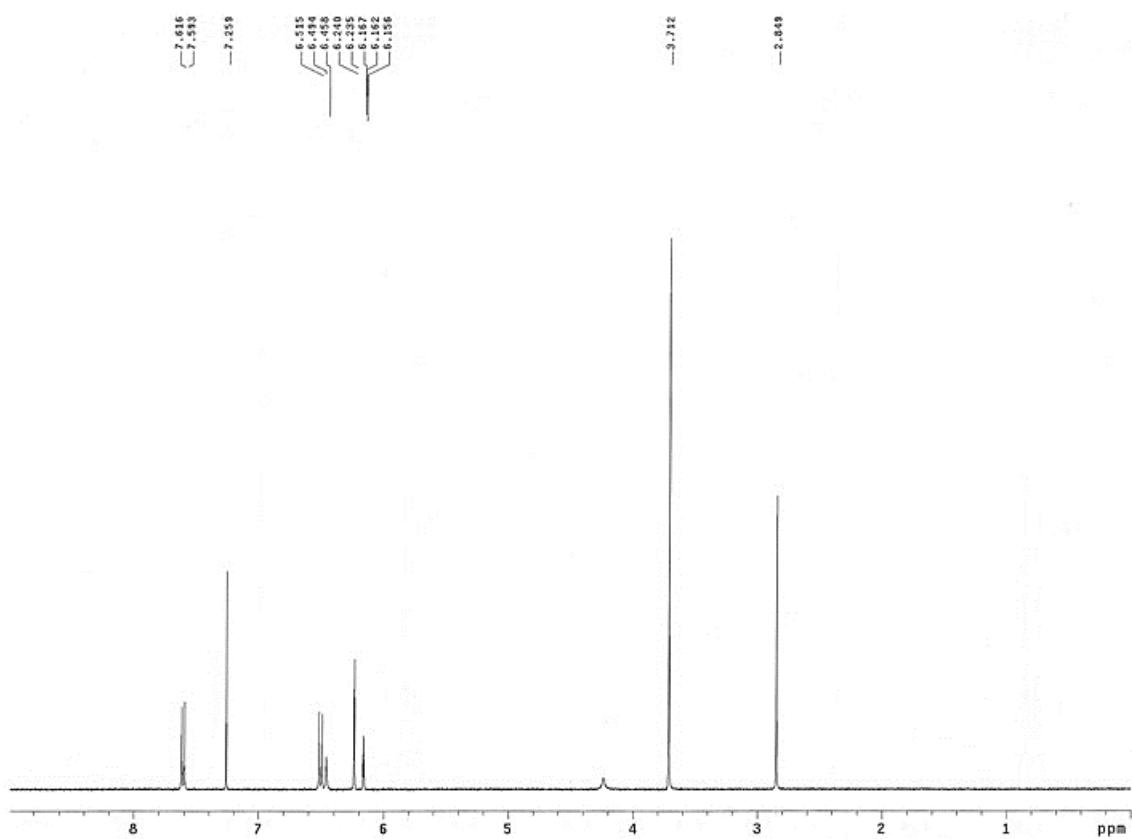


Fig. 92a: Compound **85** ¹H NMR spectra.

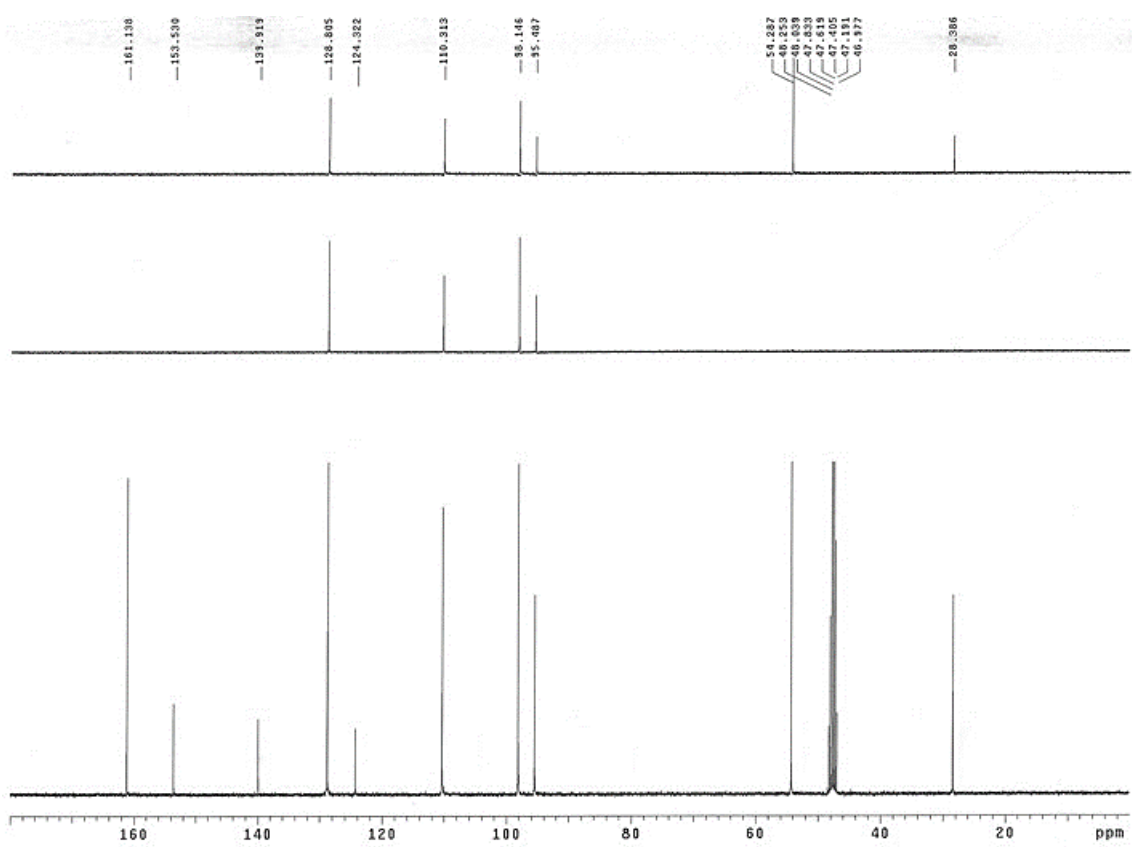


Fig. 92b: Compound **85** ¹³C NMR spectra.

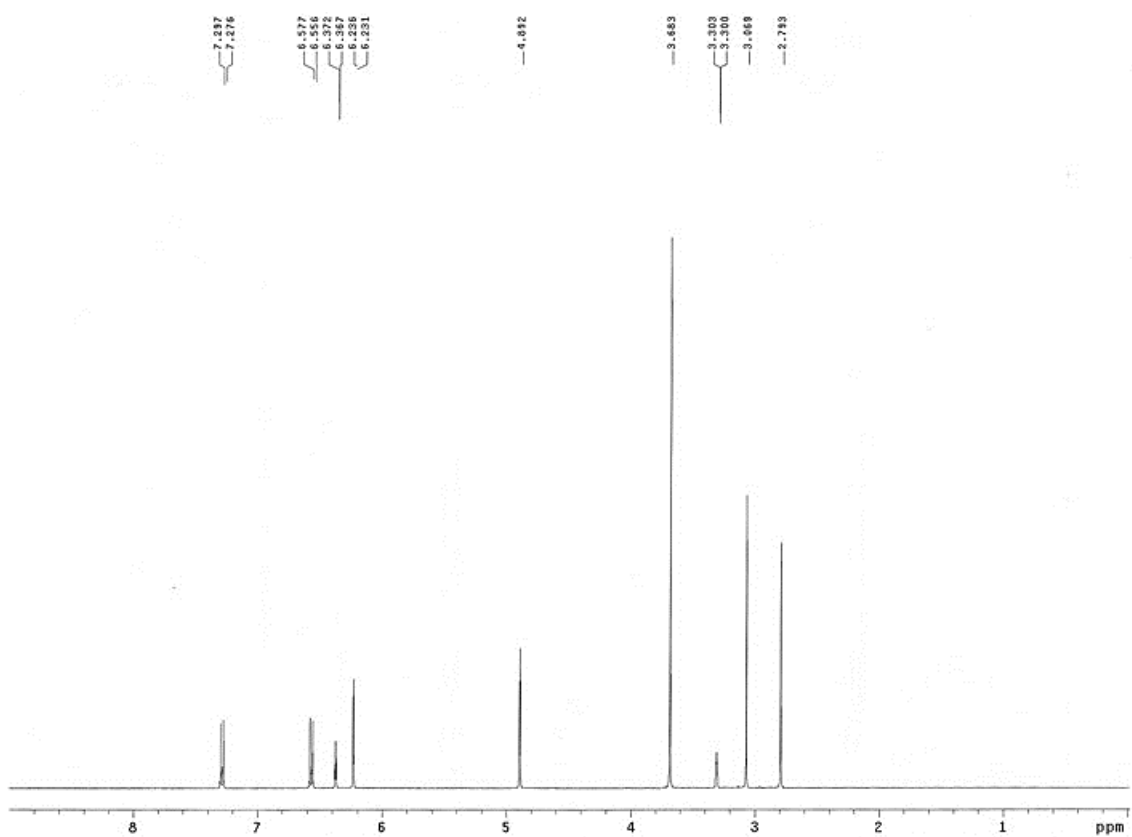


Fig. 93a: Compound **86** ^1H NMR spectra.

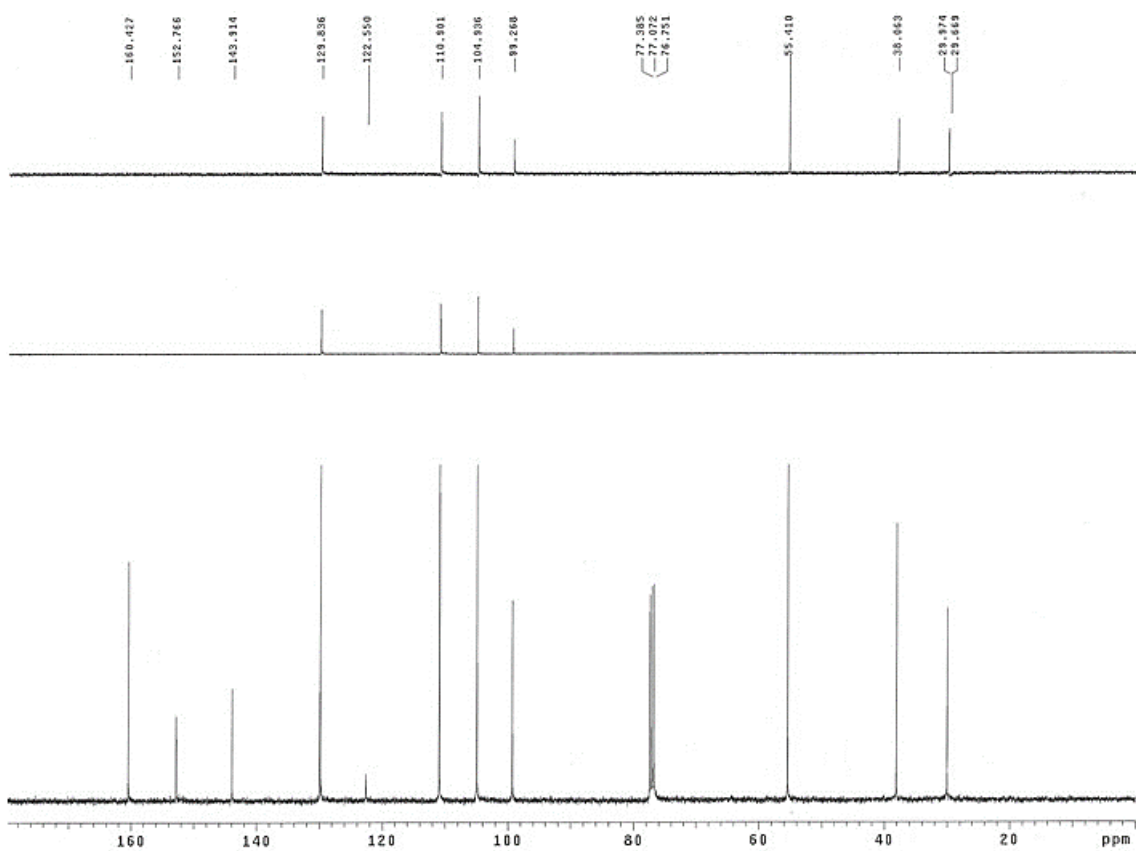


Fig. 93b: Compound **86** ^{13}C NMR spectra.

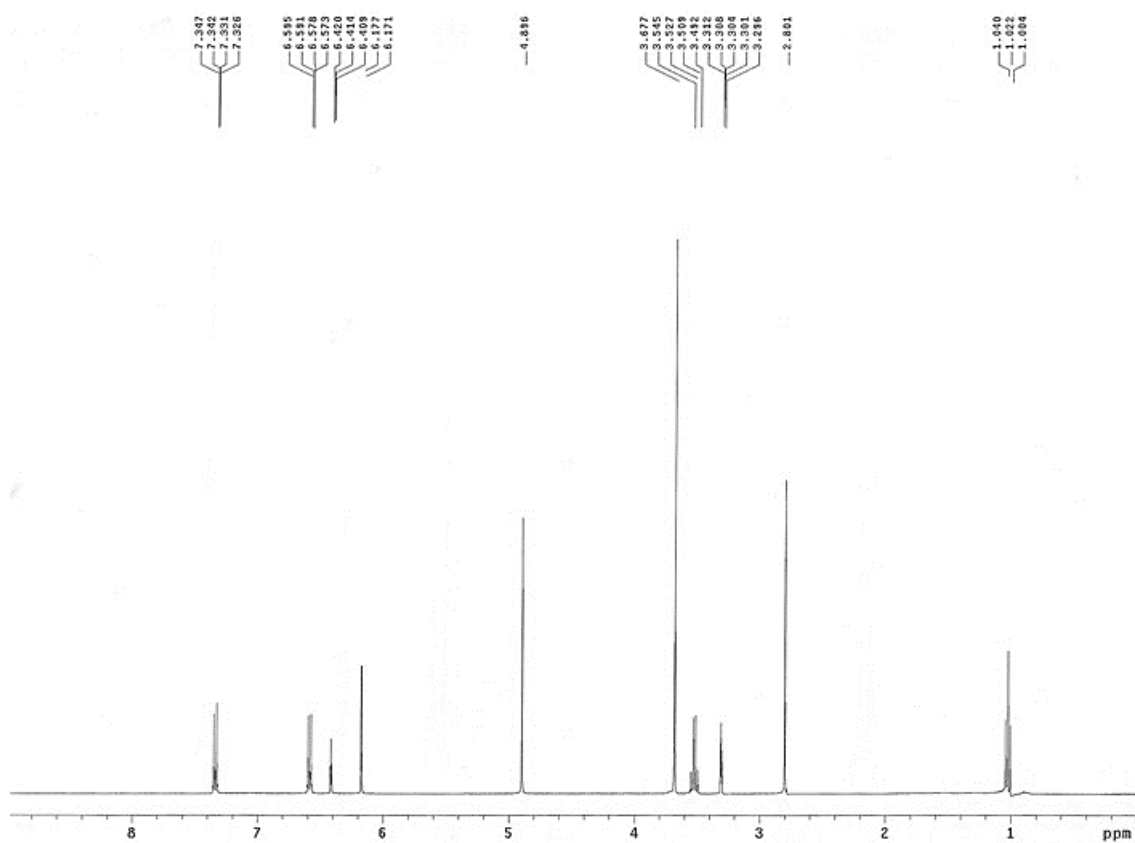


Fig. 94a: Compound **87** ^1H NMR spectra.

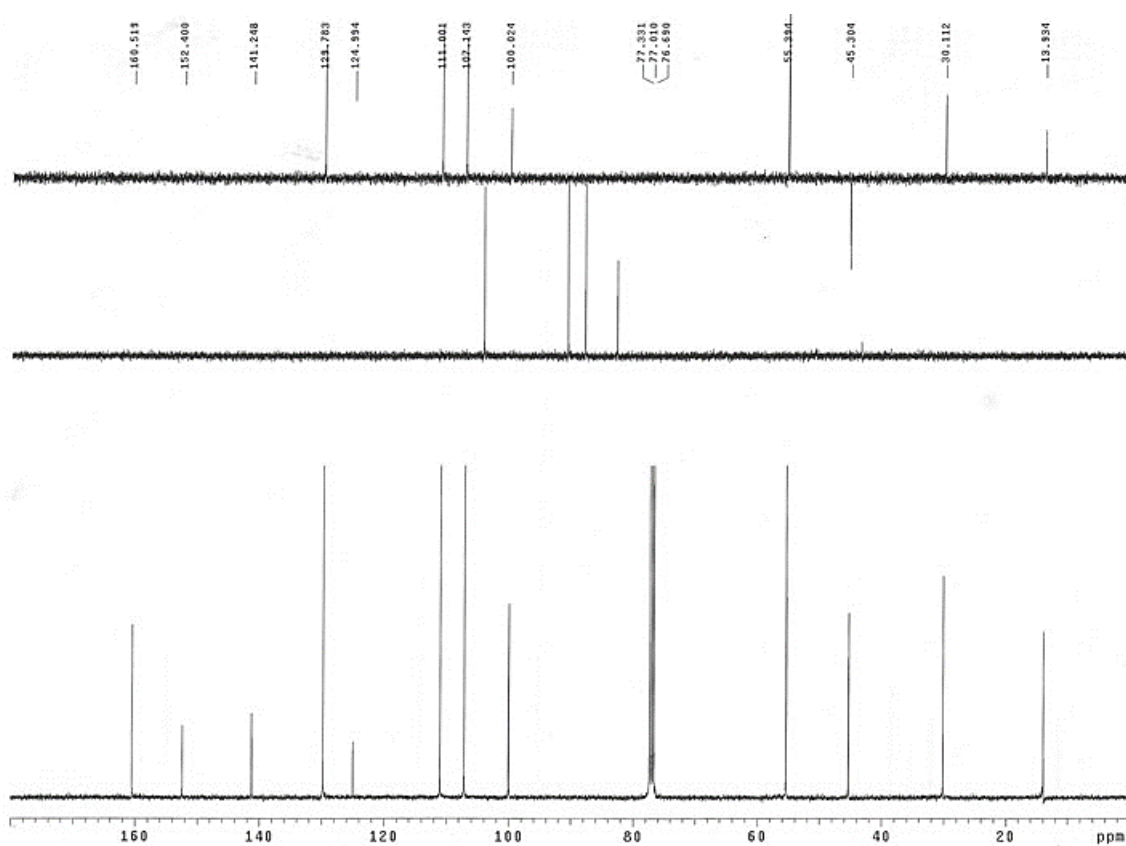


Fig. 94b: Compound **87** ^{13}C NMR spectra.

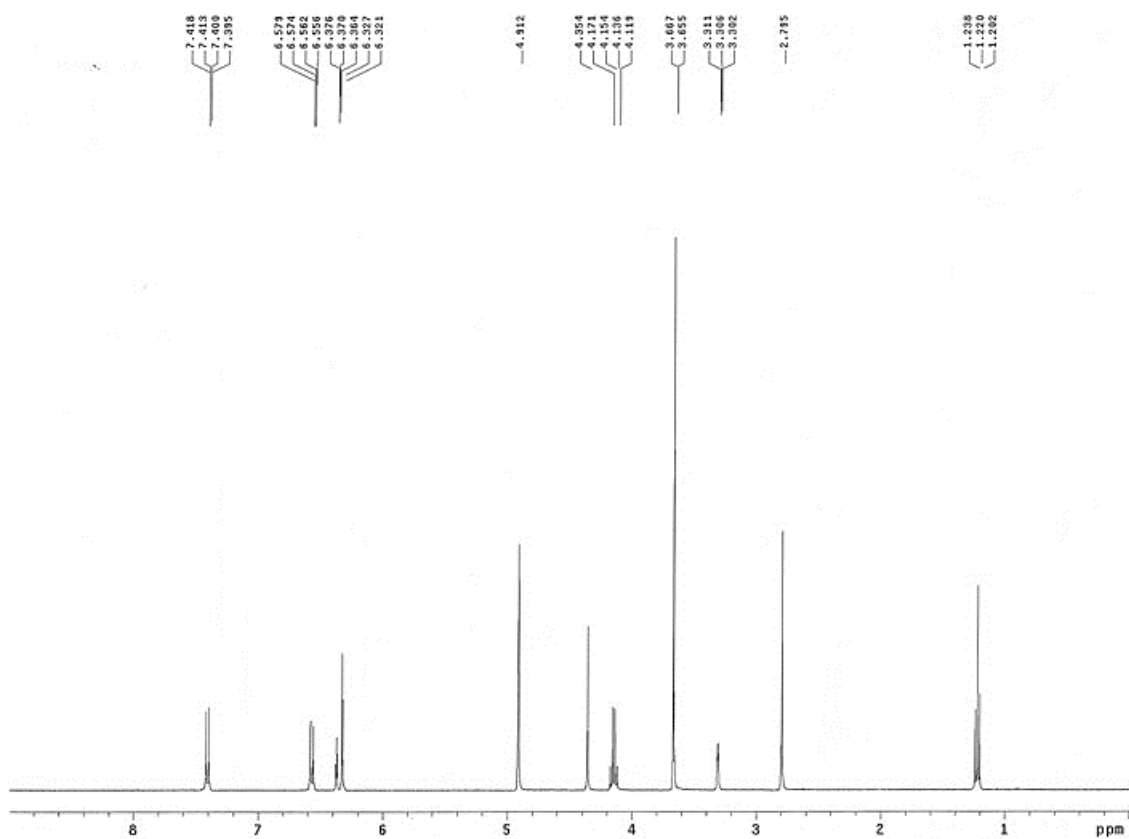


Fig. 95a: Compound **88** ^1H NMR spectra.

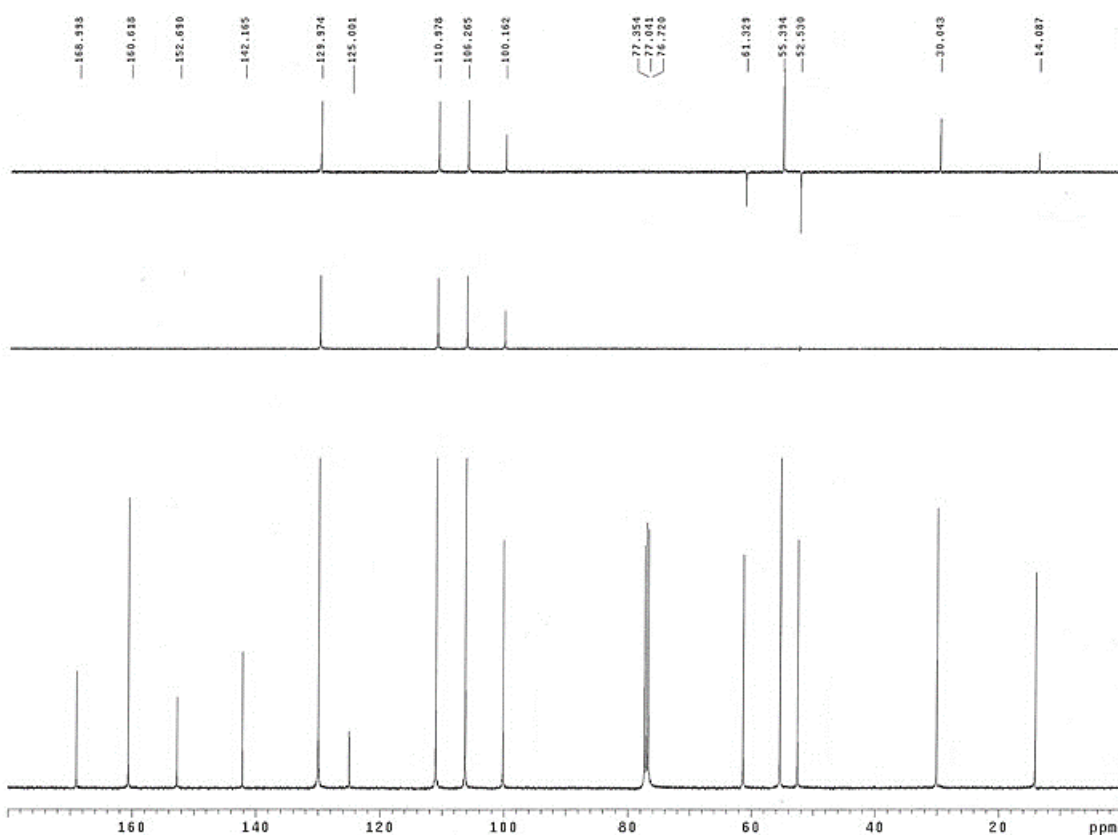


Fig. 95b: Compound **88** ^{13}C NMR spectra.

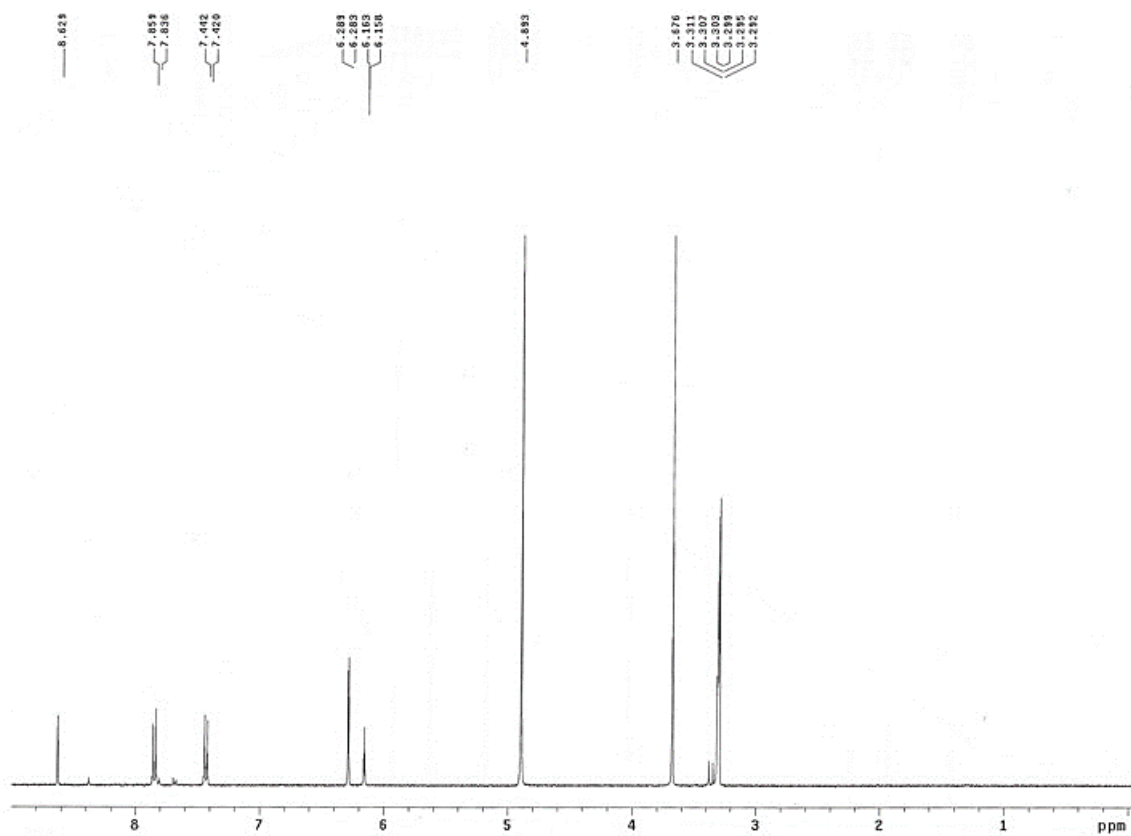


Fig. 96a: Compound **89** ^1H NMR spectra.

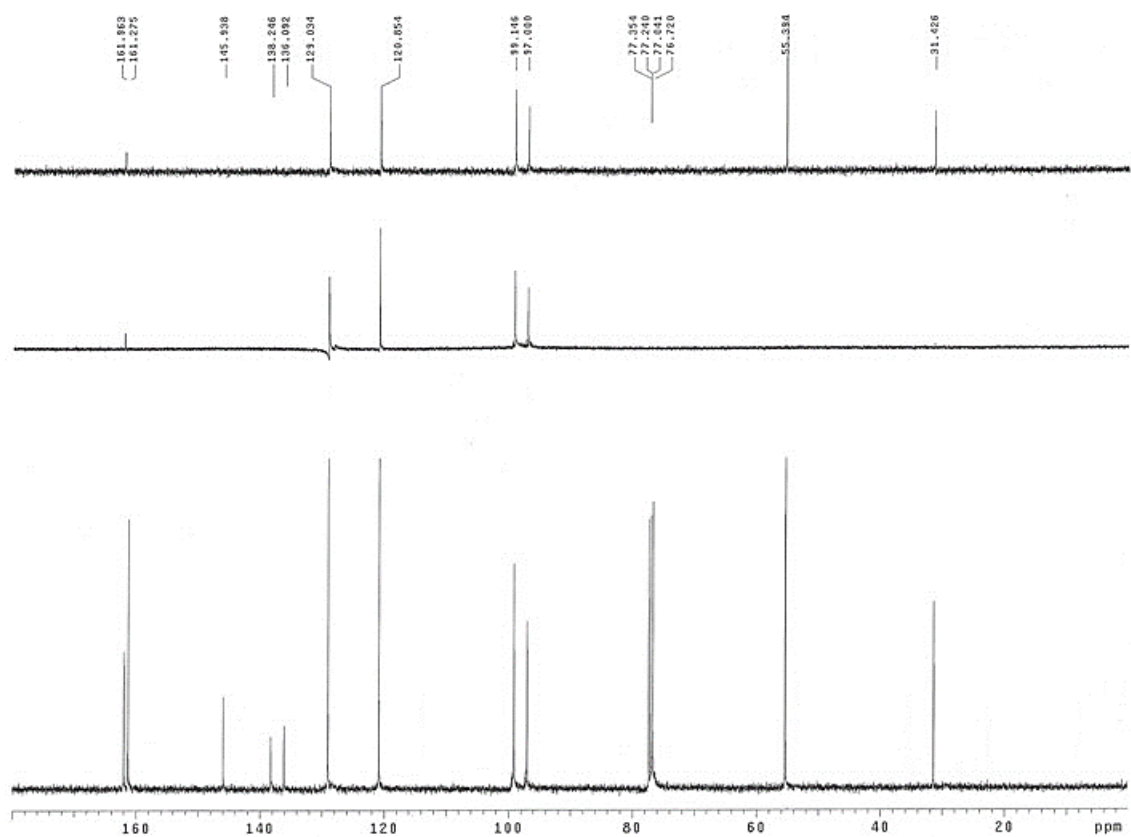


Fig. 96b: Compound **89** ^{13}C NMR spectra.

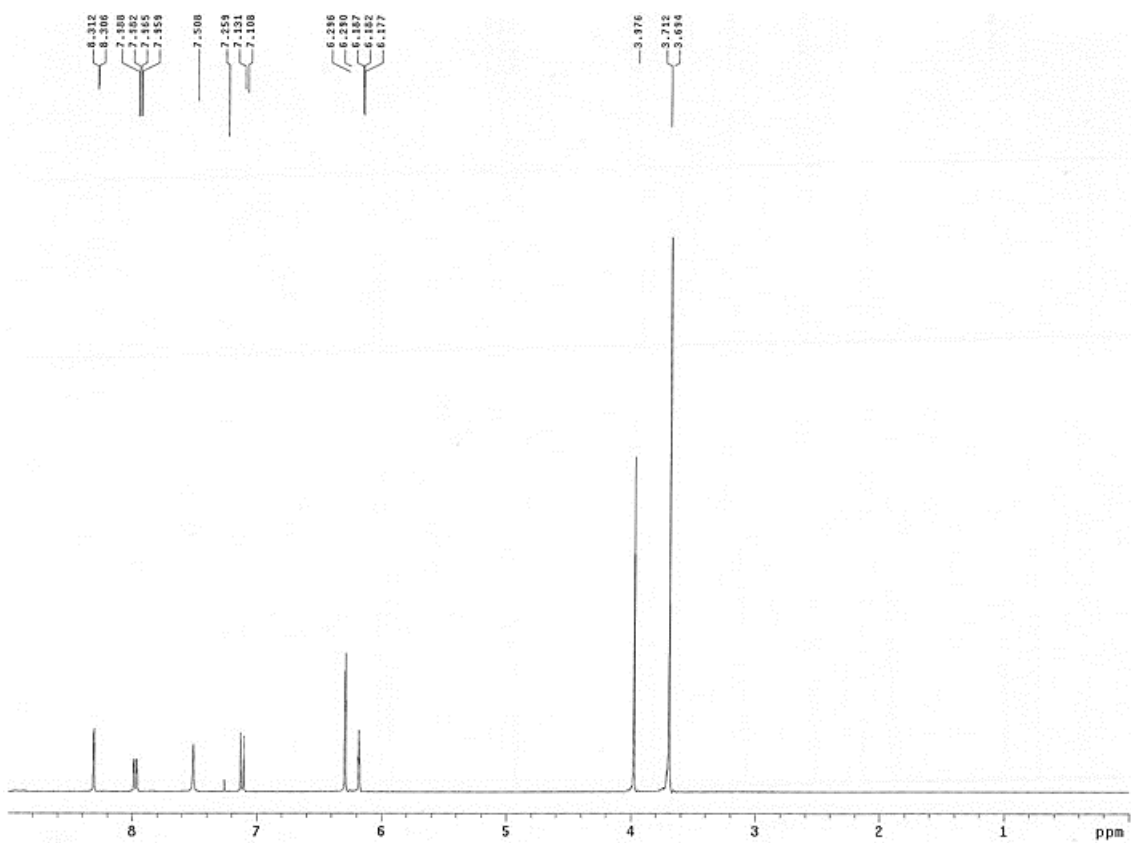


Fig. 97a: Compound **90** ^1H NMR spectra.

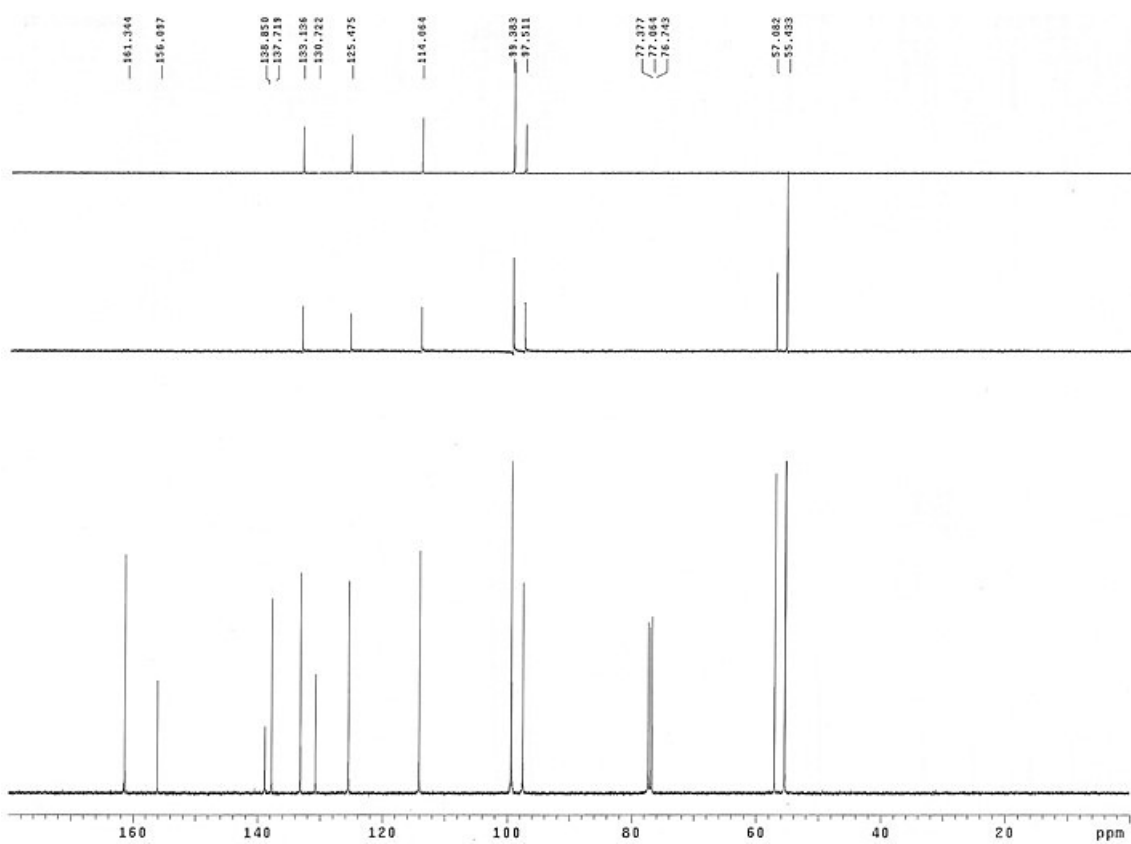


Fig. 97b: Compound **90** ^{13}C NMR spectra.

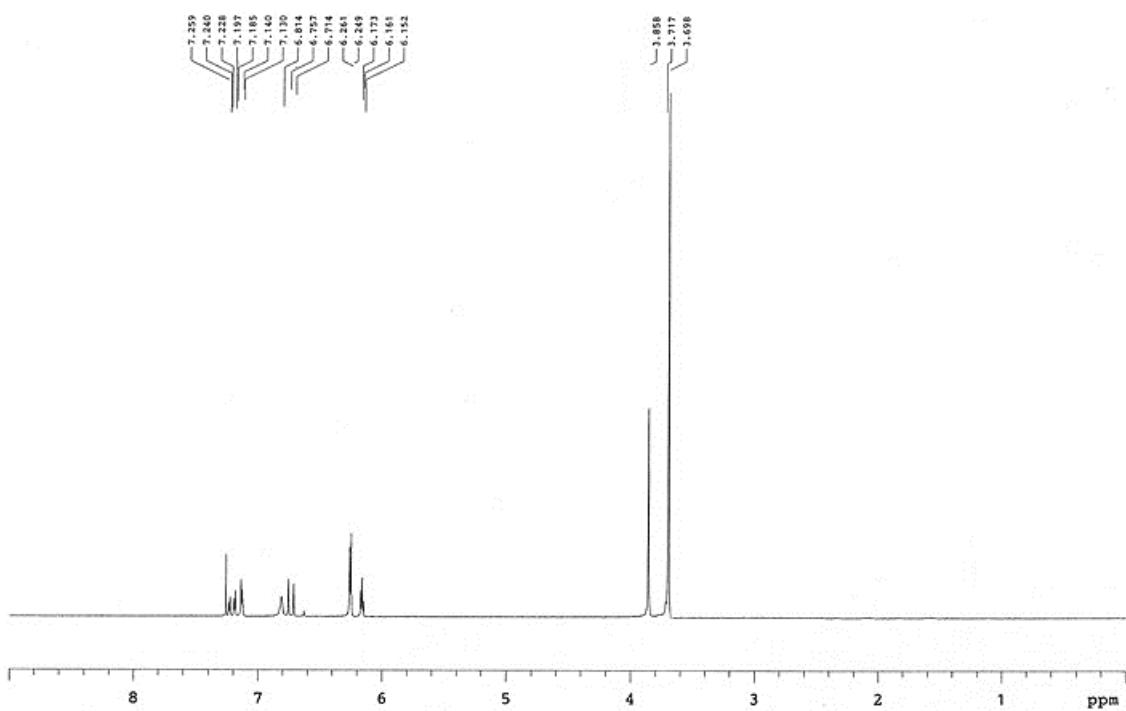


Fig. 98a: Compound 91 ¹H NMR spectra.

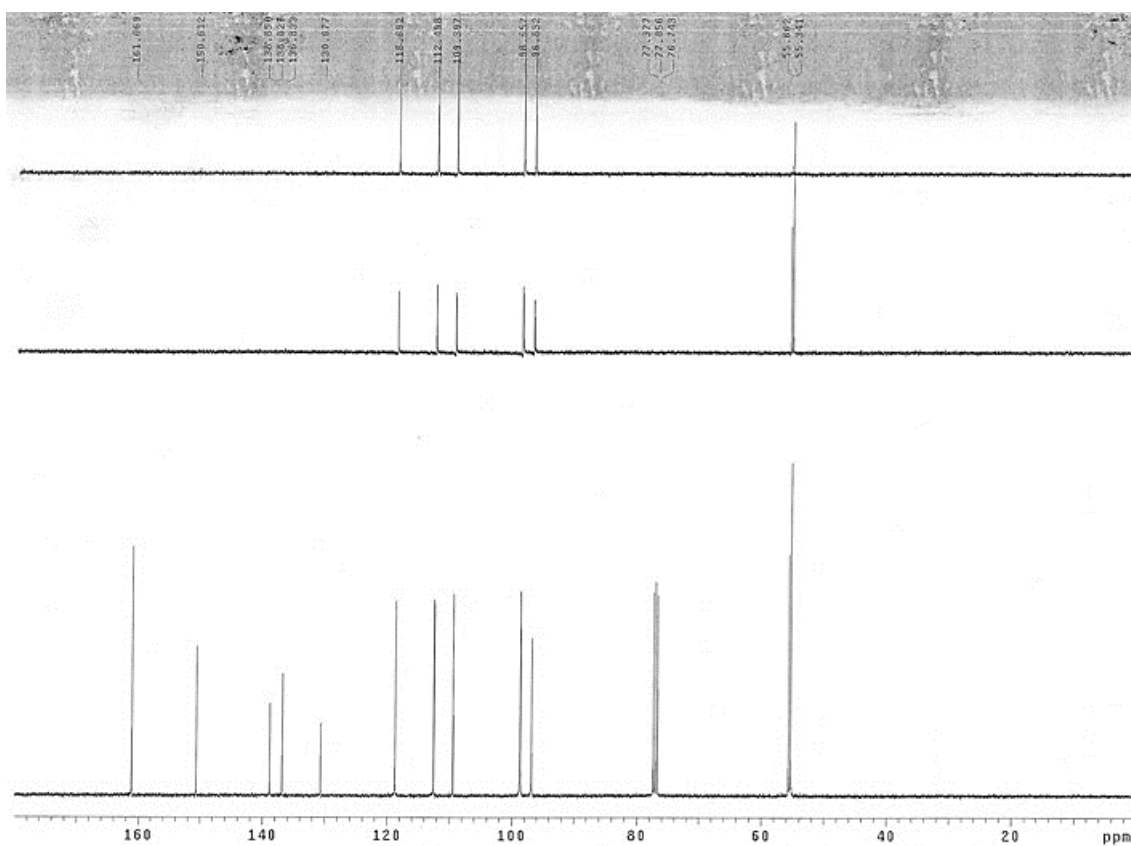


Fig. 98b: Compound 91 ¹³C NMR spectra.

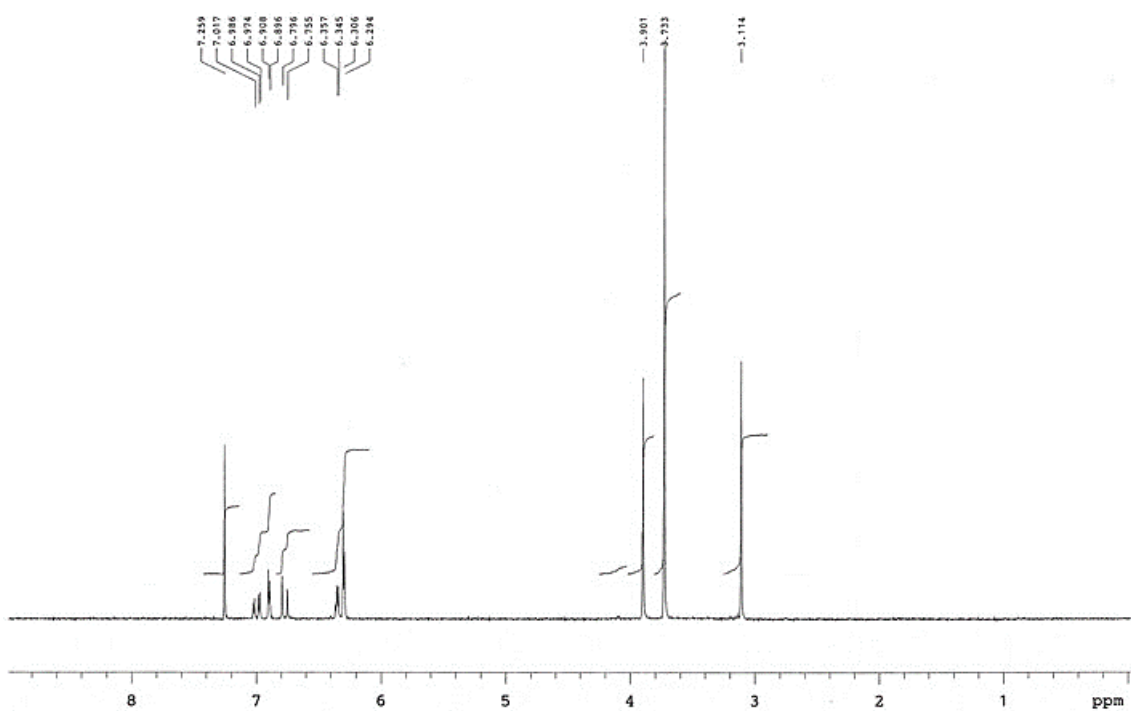


Fig. 99a: Compound **92** ^1H NMR spectra.

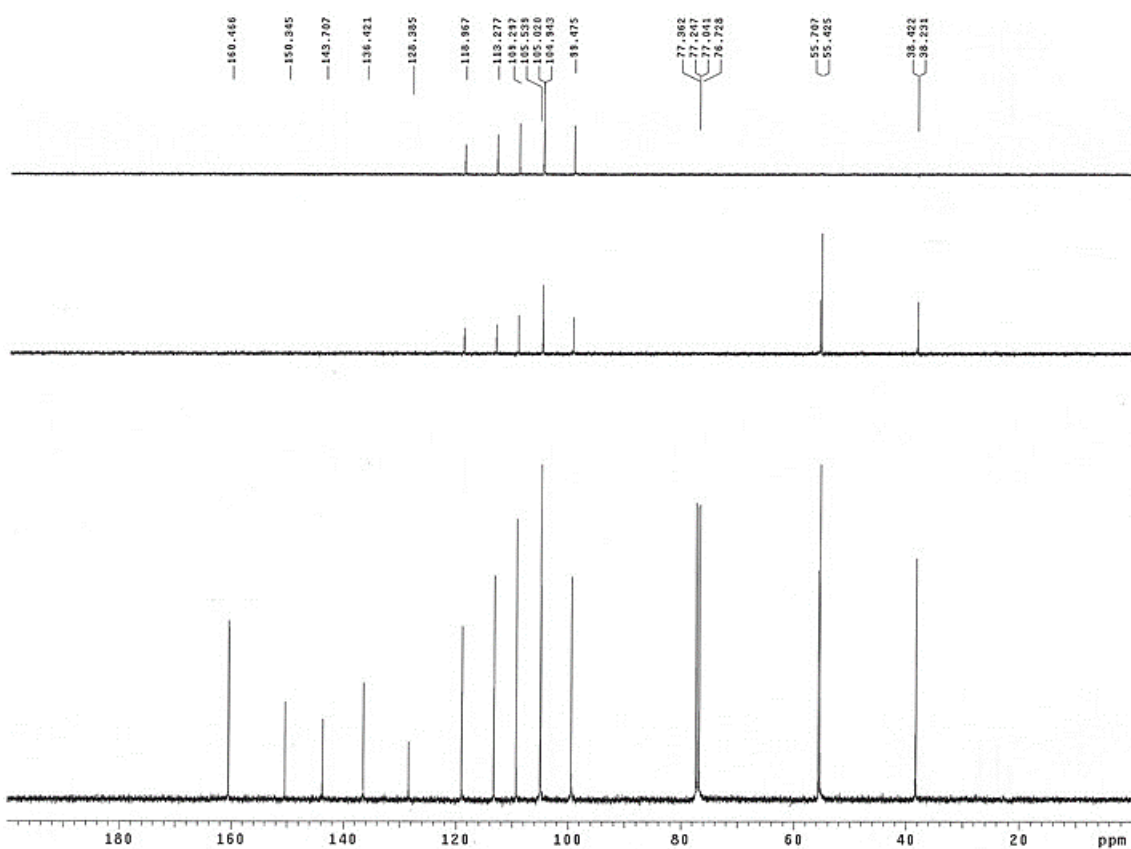


Fig. 99b: Compound **92** ^{13}C NMR spectra.

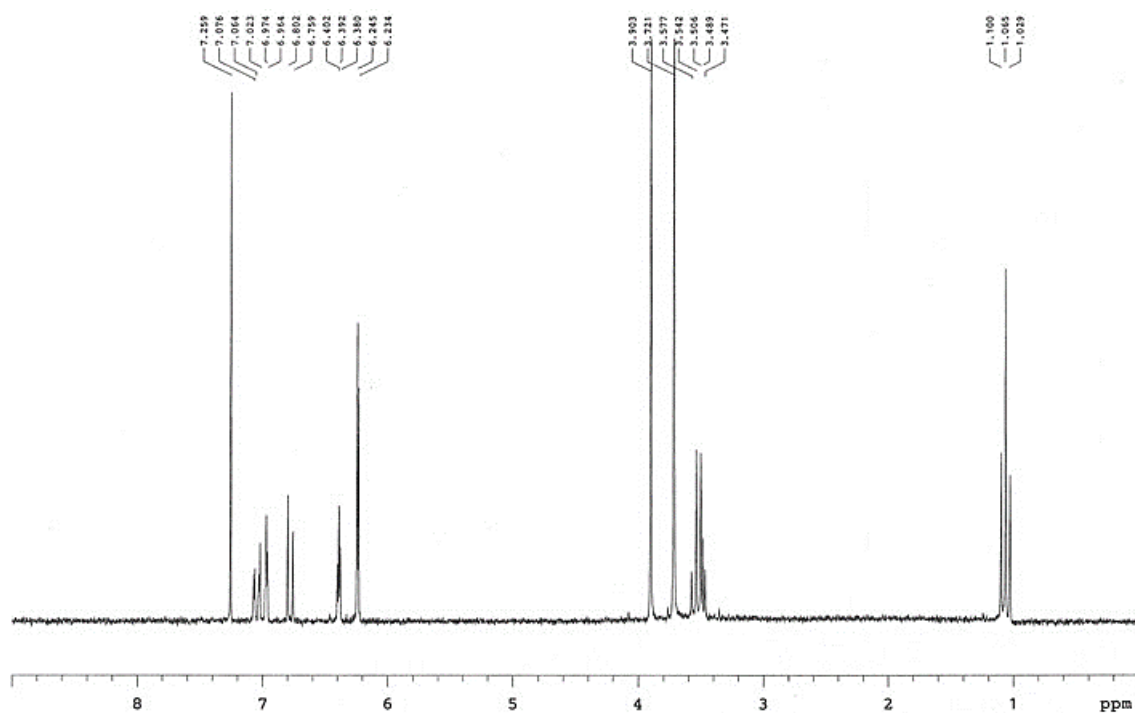


Fig. 100a: Compound **93** ¹H NMR spectra.

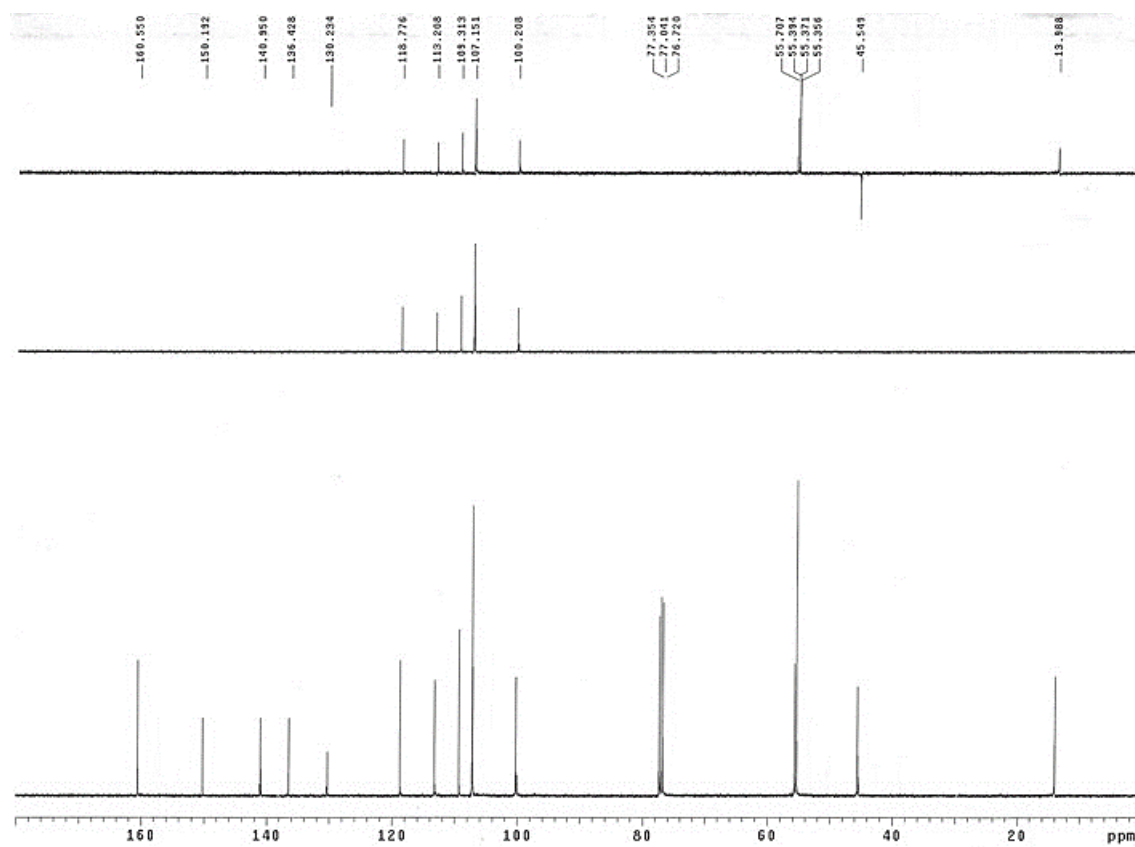


Fig. 100b: Compound **93** ¹³C NMR spectra.

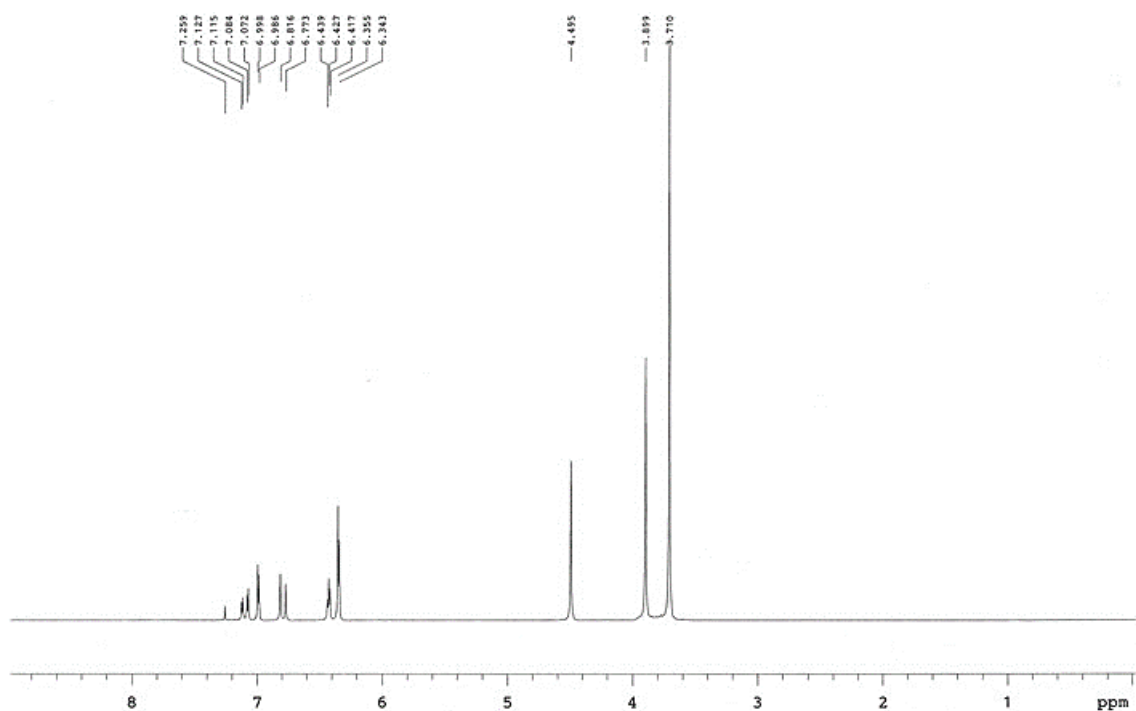


Fig. 101a: Compound **94** ^1H NMR spectra.

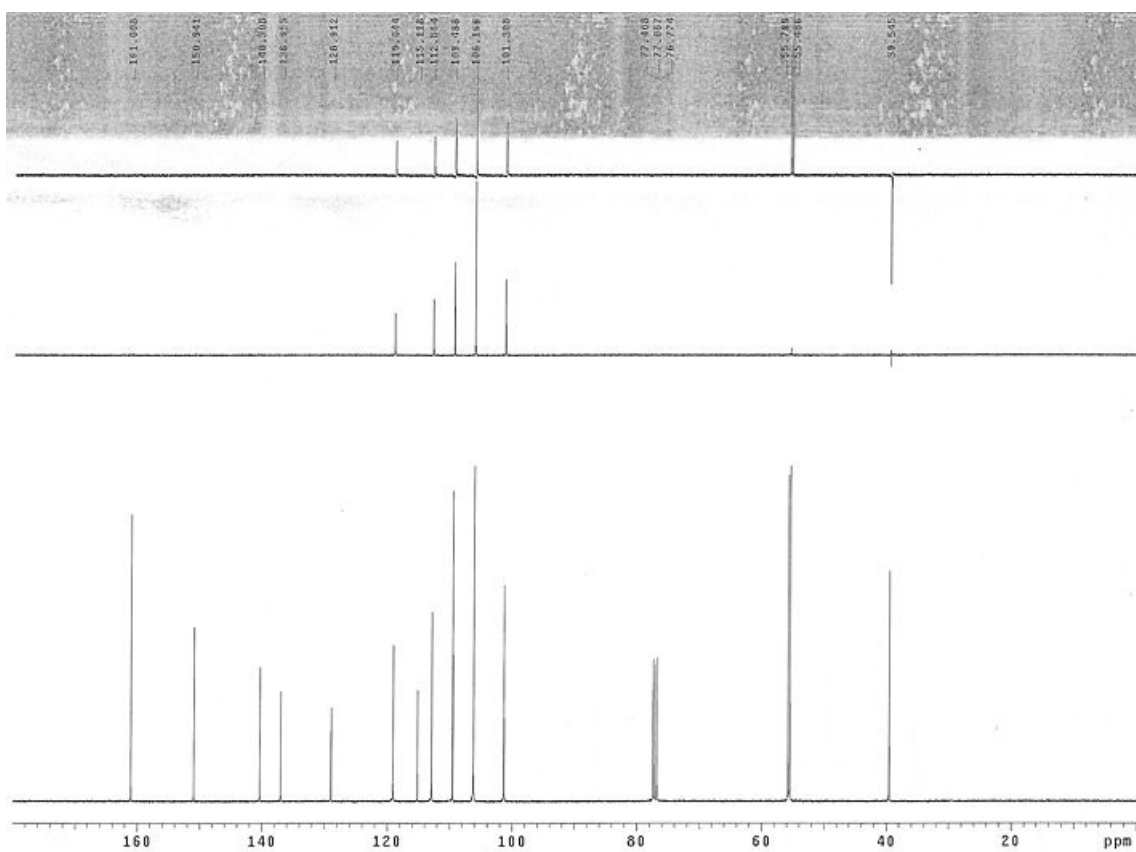


Fig. 101b: Compound **94** ^{13}C NMR spectra.

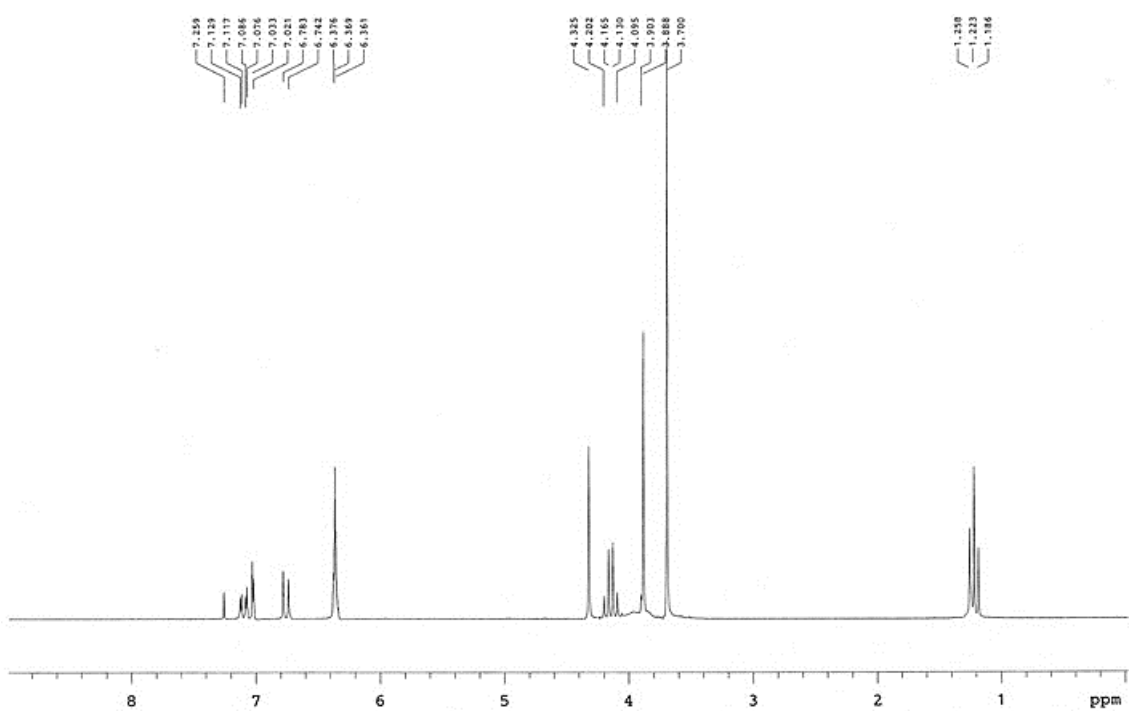


Fig. 102a: Compound **95a** ¹H NMR spectra.

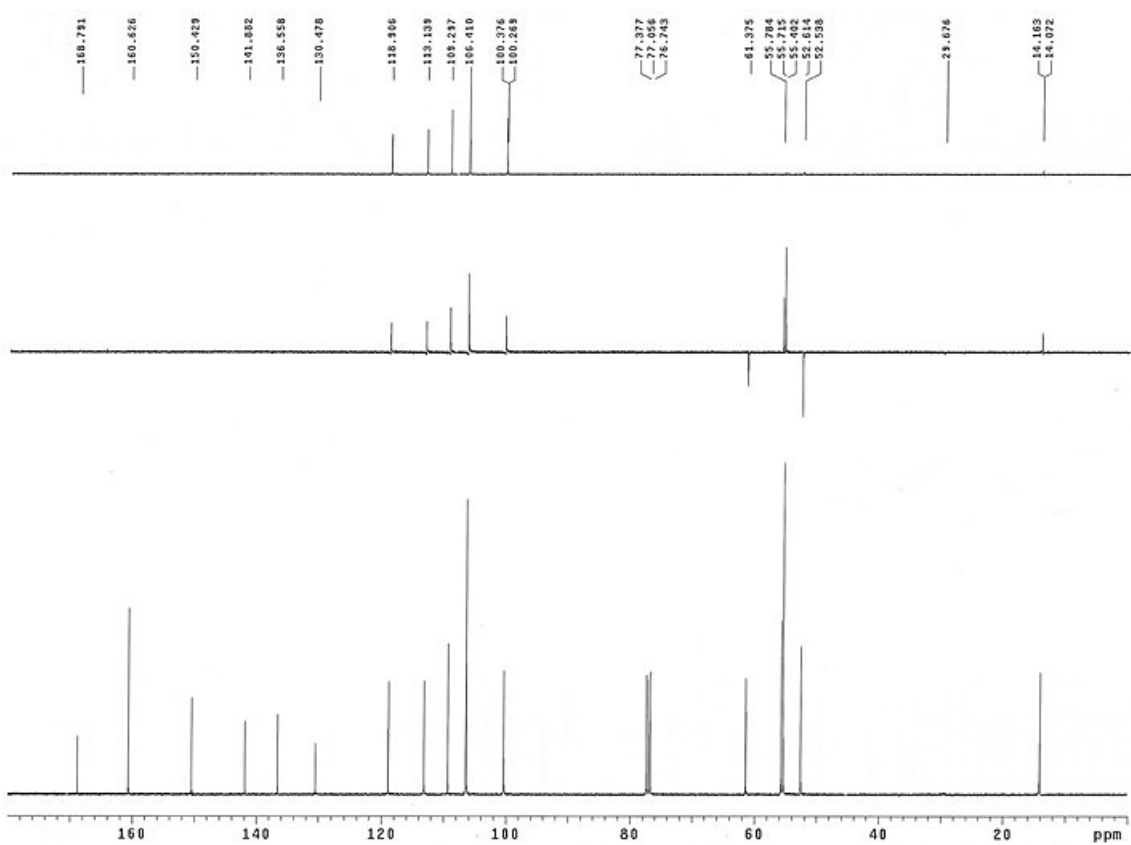


Fig. 102b: Compound **95a** ¹³C NMR spectra.

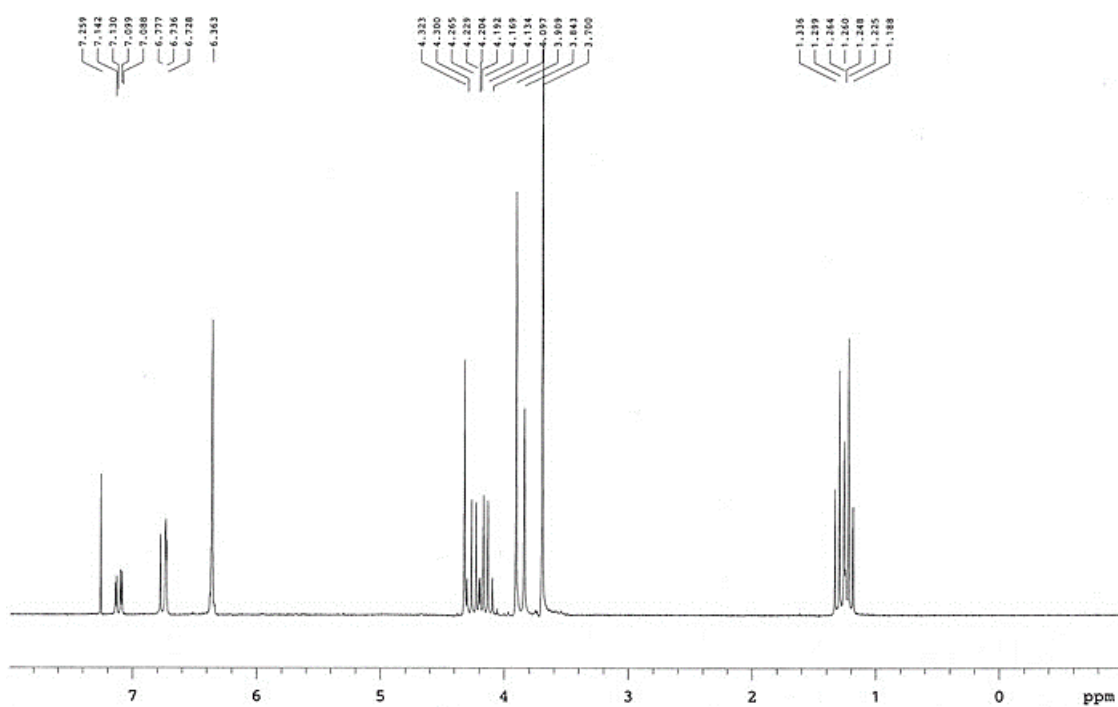


Fig. 103a: Compound **95b** ^1H NMR spectra.

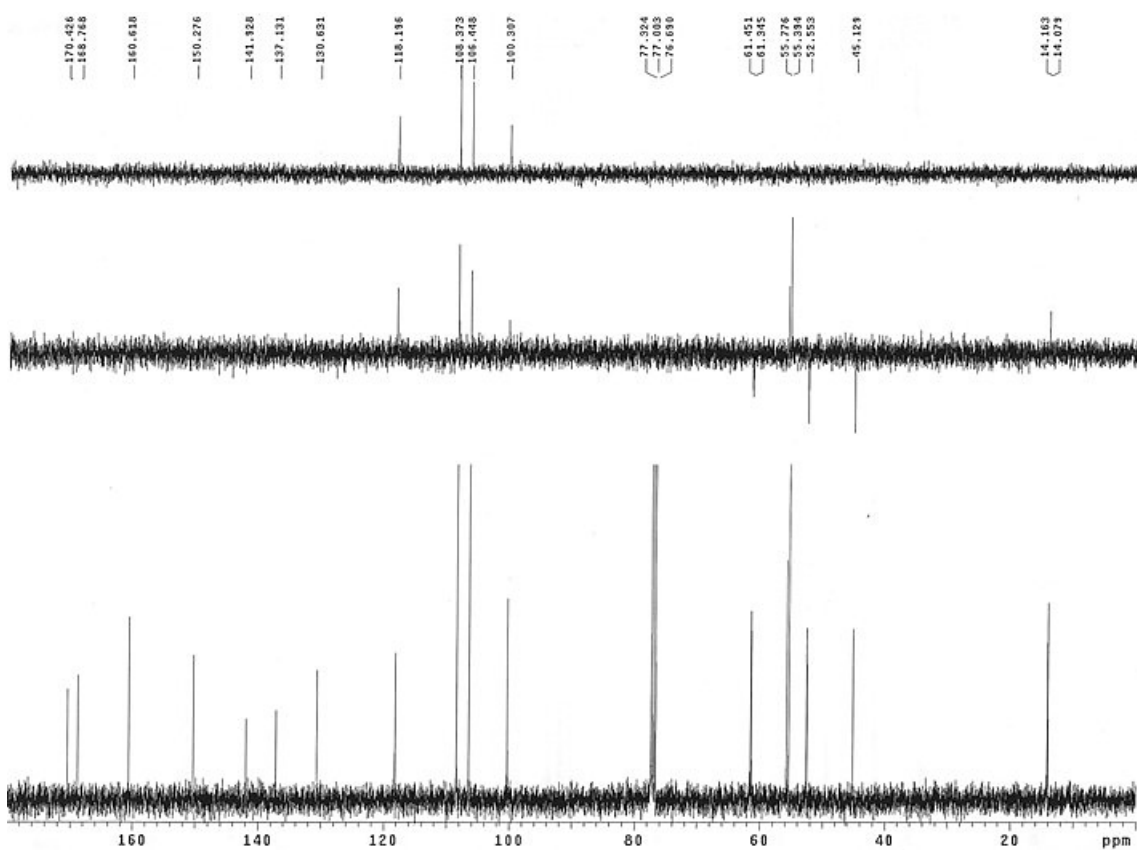


Fig. 103b: Compound **95b** ^{13}C NMR spectra.

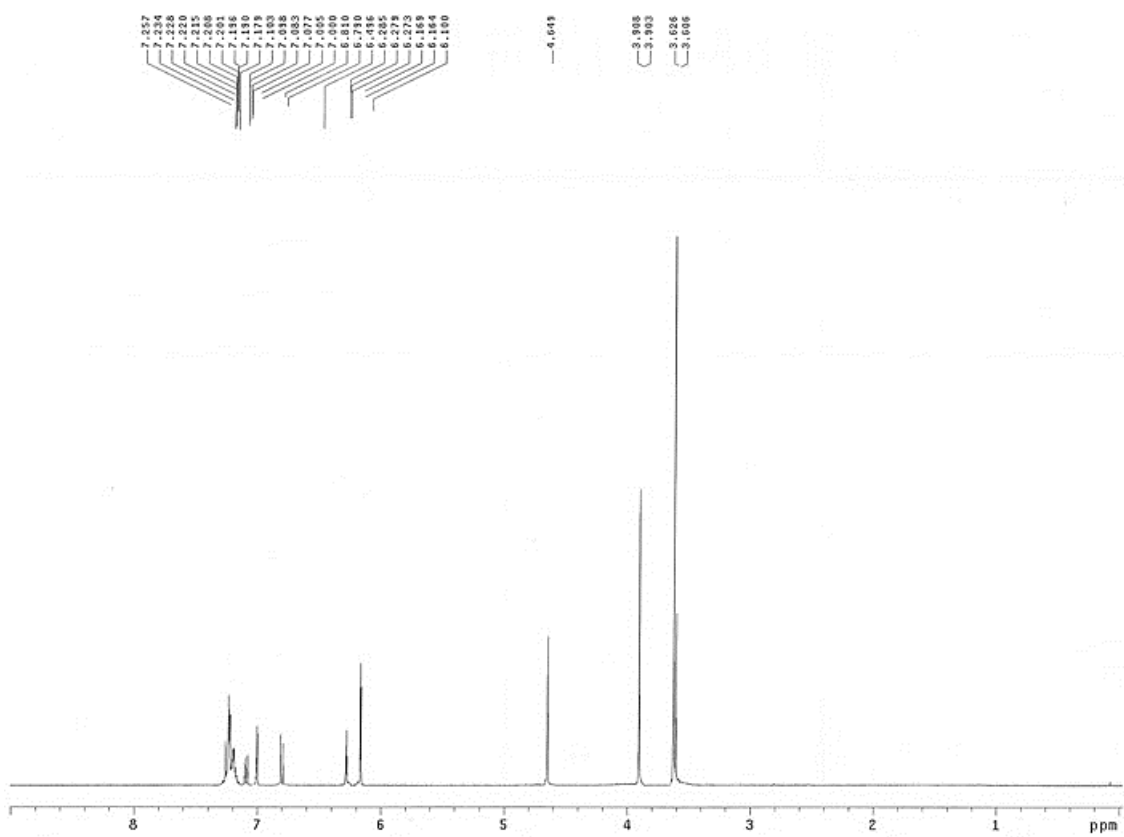


Fig. 104a: Compound **96** ^1H NMR spectra.

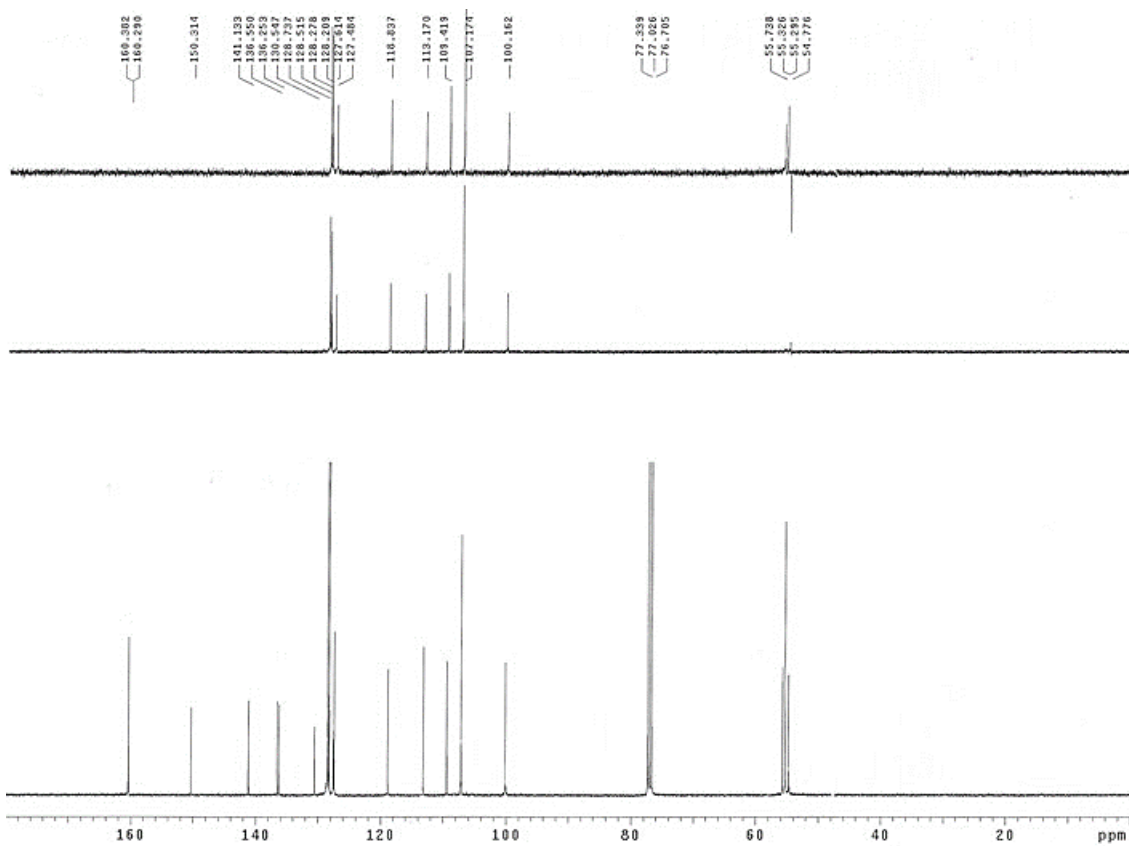


Fig. 104b: Compound **96** ^{13}C NMR spectra.

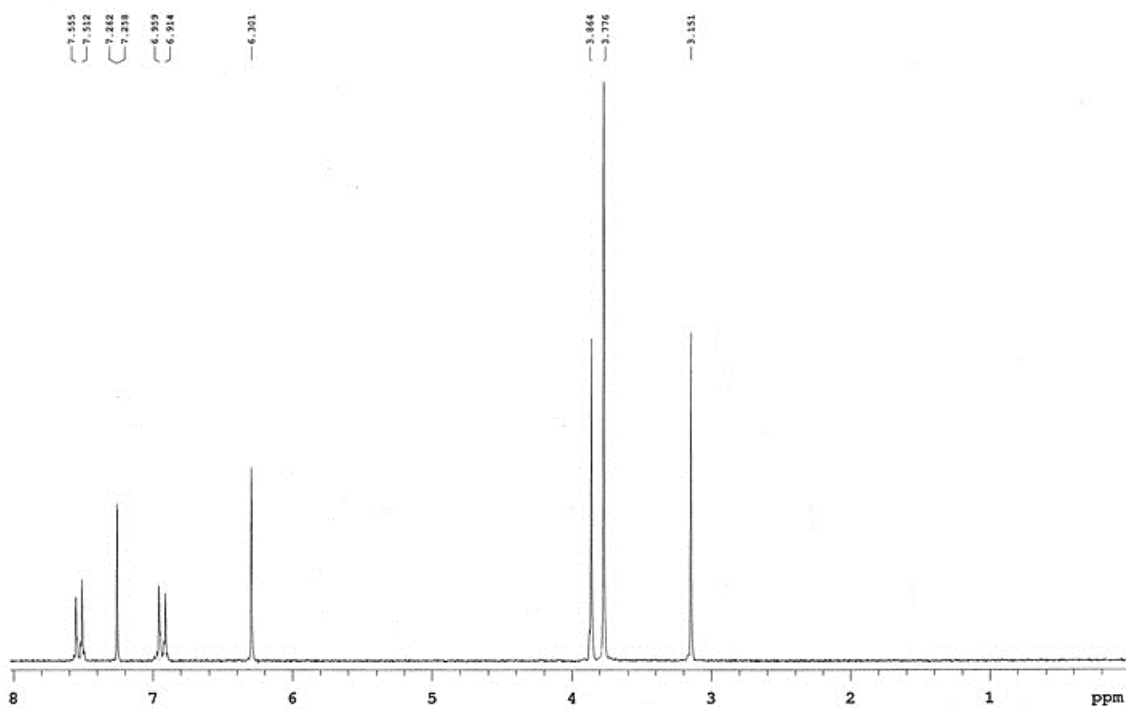


Fig. 105a: Compound **97a** ^1H NMR spectra.

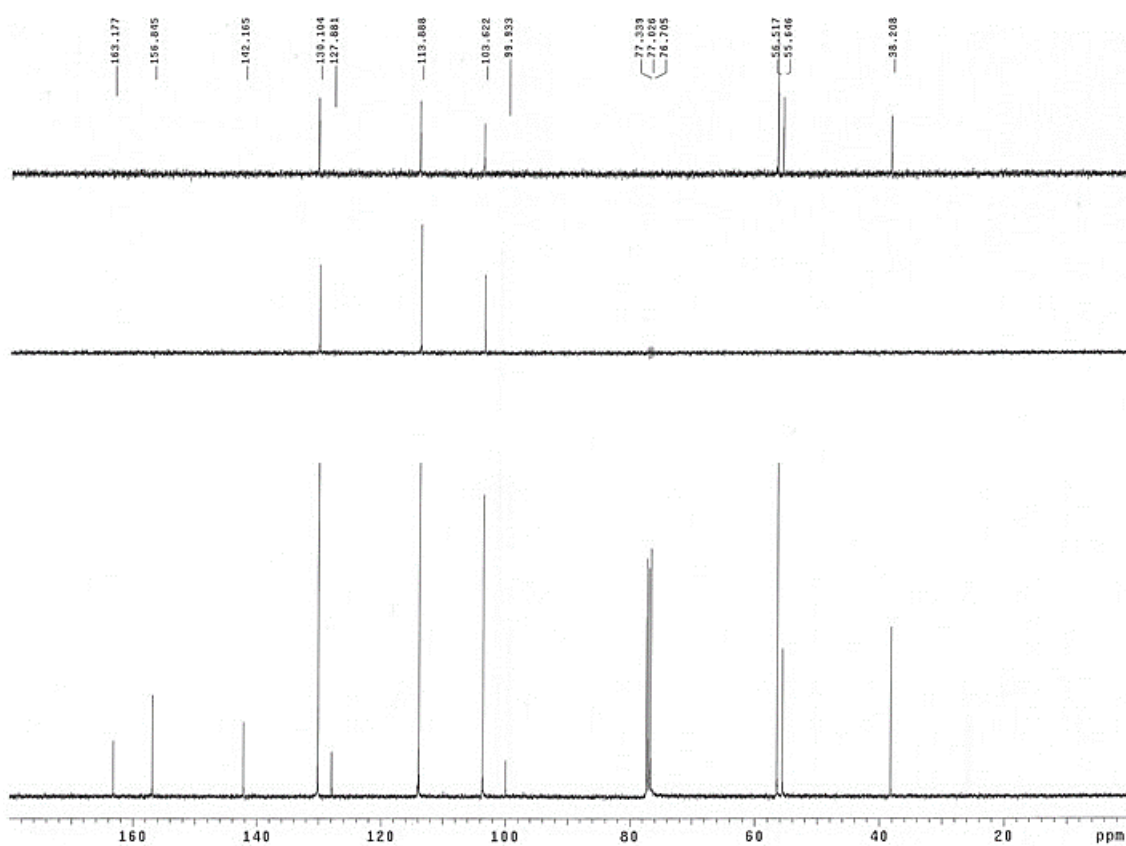


Fig. 105b: Compound **97a** ^{13}C NMR spectra.

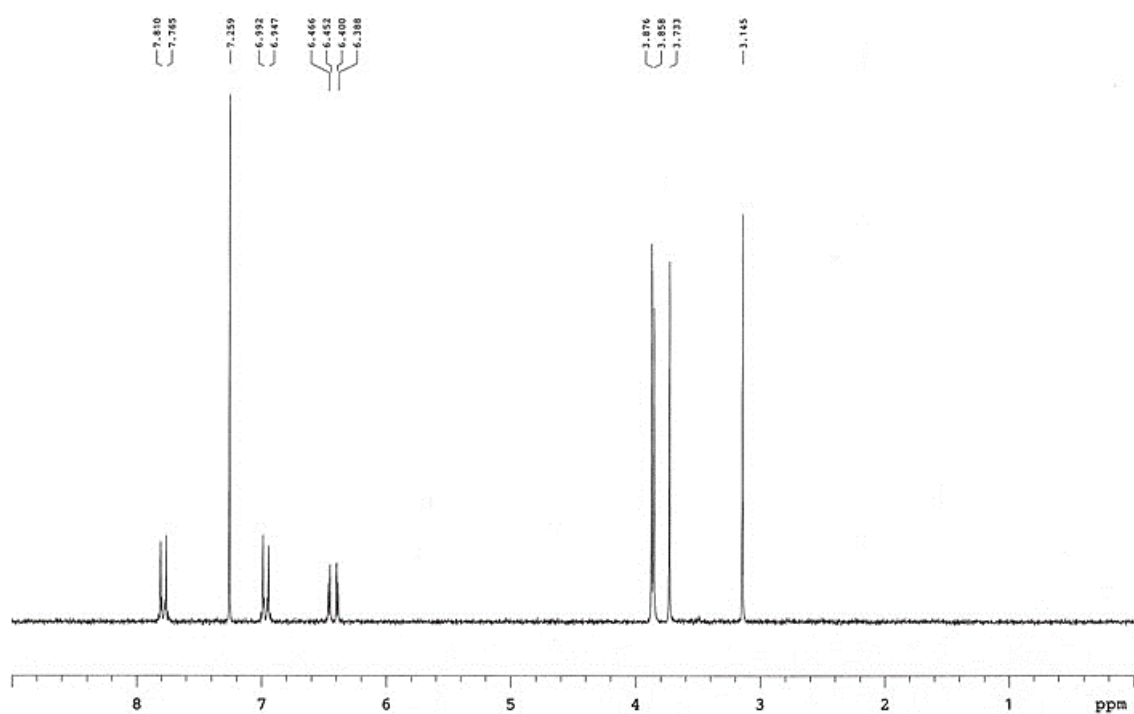


Fig. 106a: Compound **97b** ^1H NMR spectra.

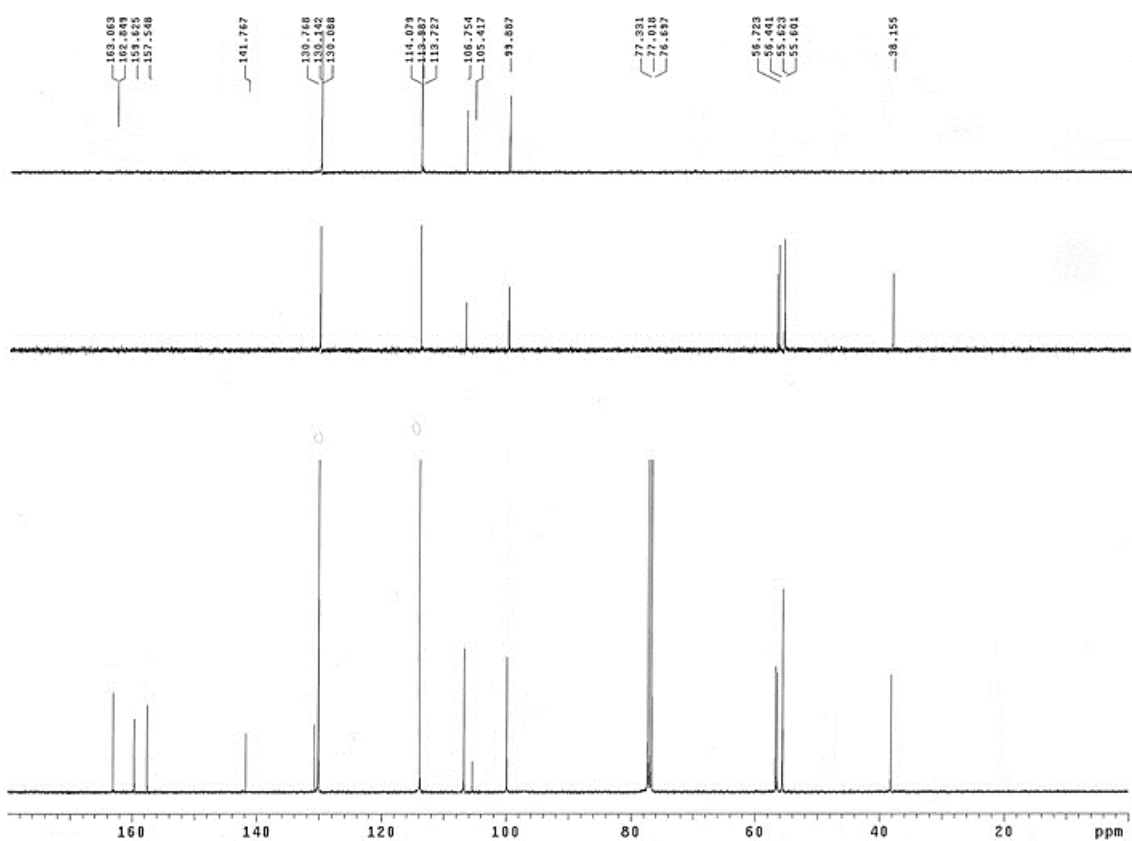


Fig. 106b: Compound **97b** ^{13}C NMR spectra.

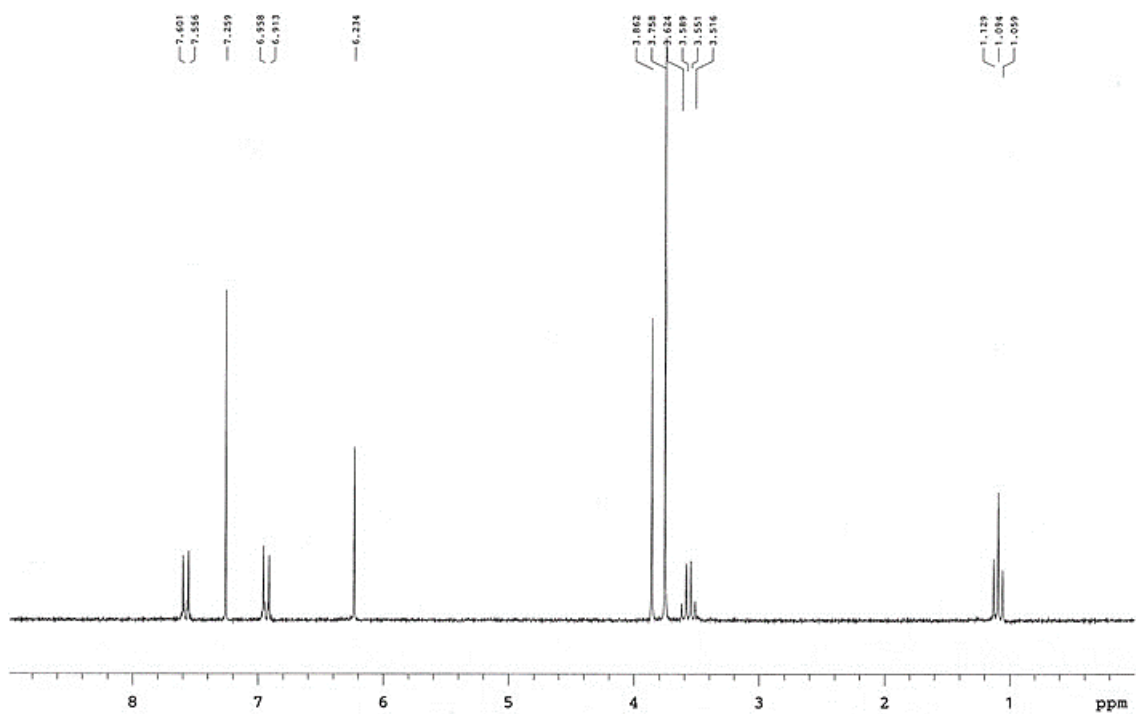


Fig. 107a: Compound **98a** ^1H NMR spectra.

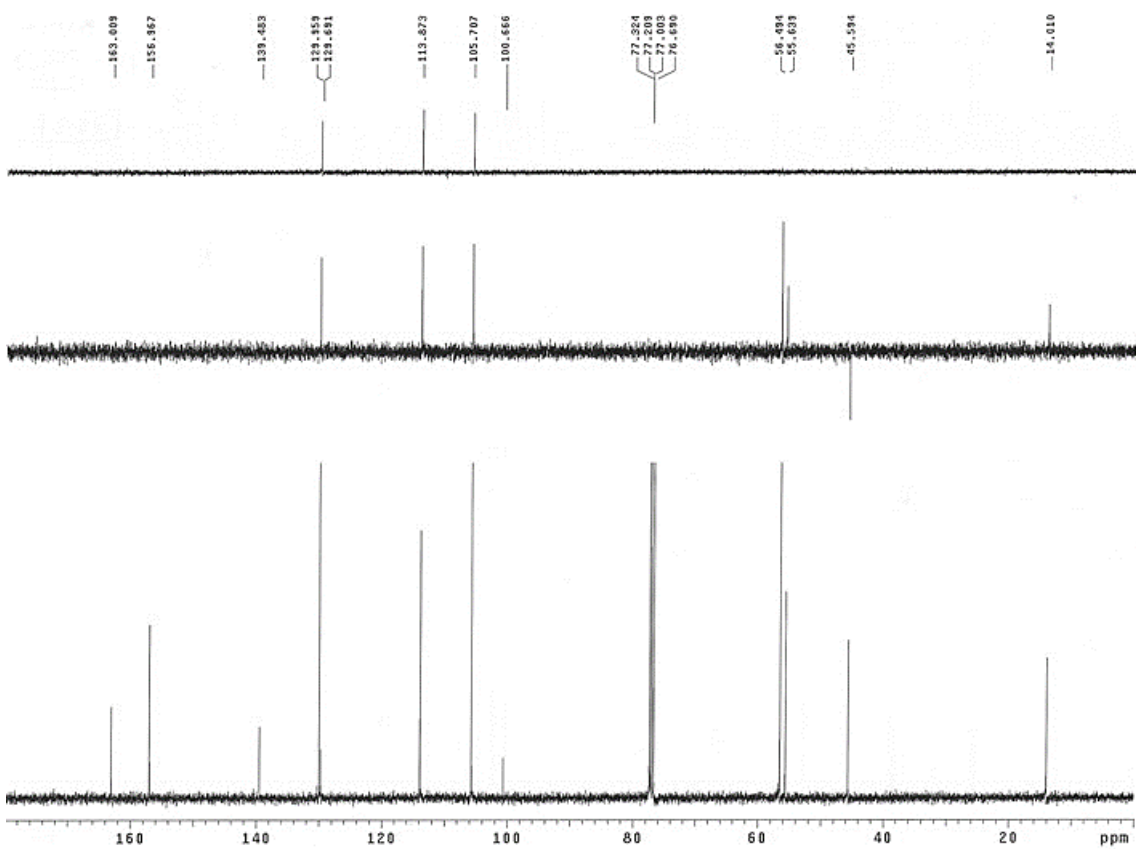


Fig. 107b: Compound **98a** ^{13}C NMR spectra.

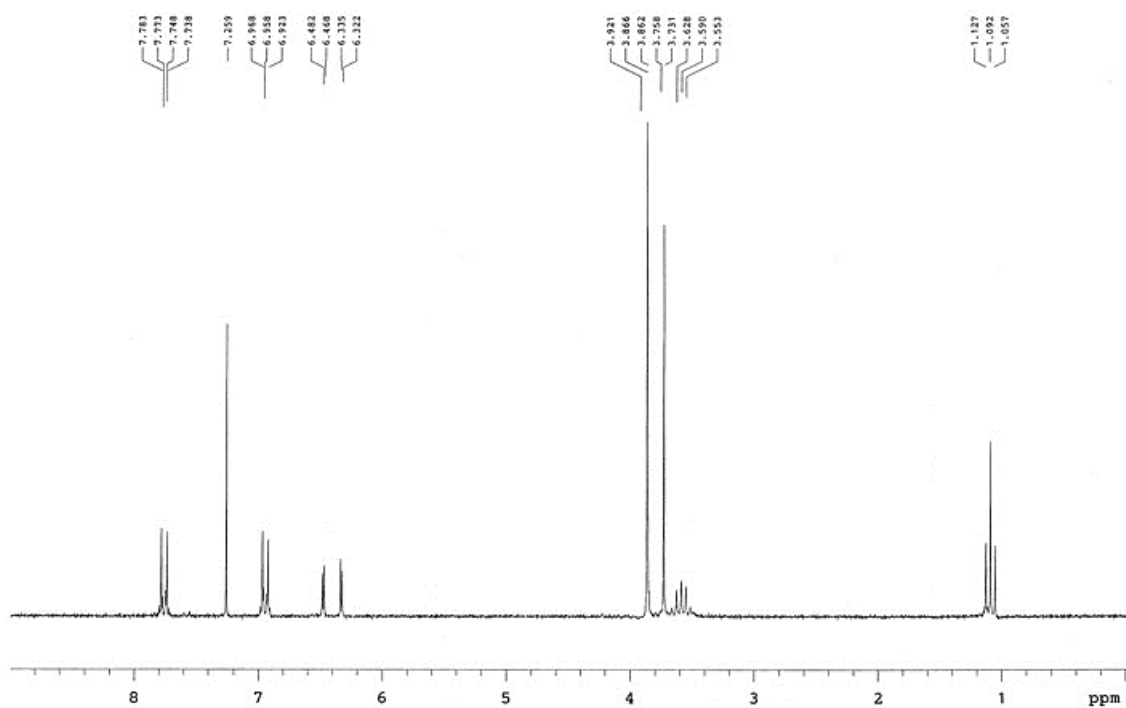


Fig. 108a: Compound **98b** ¹H NMR spectra.

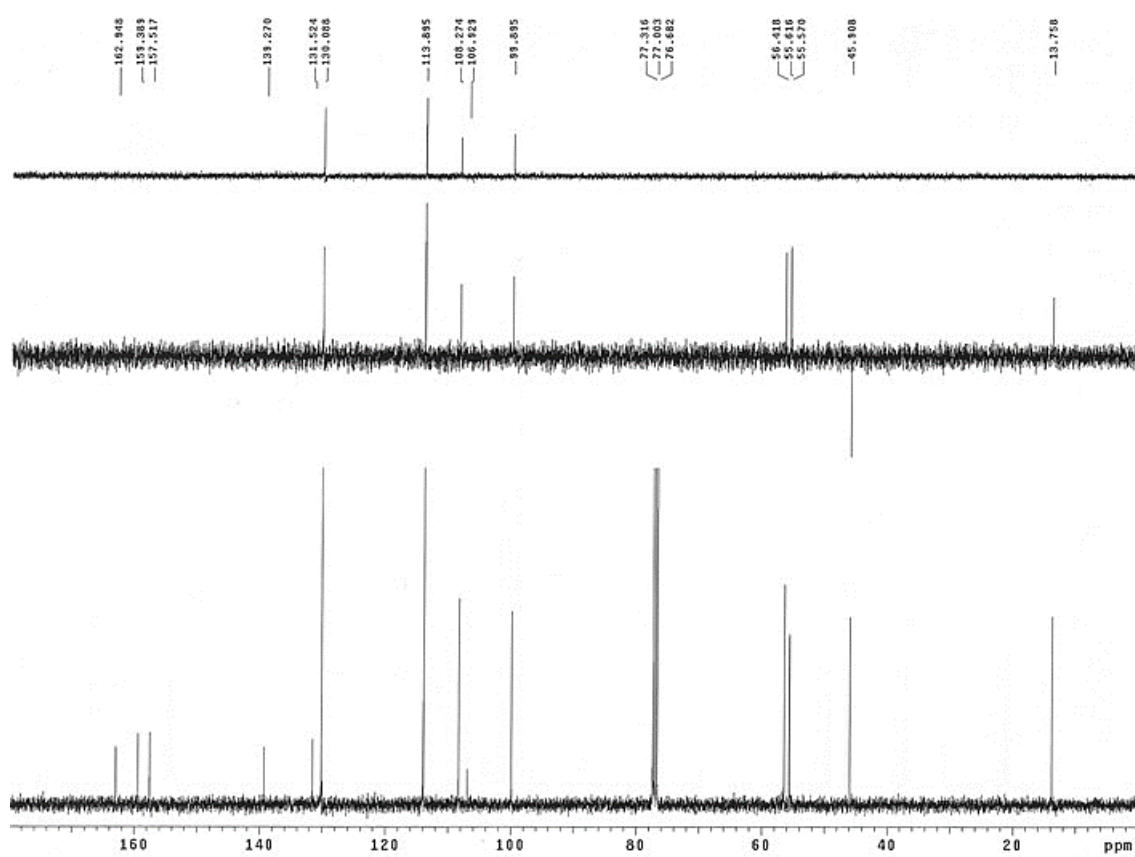


Fig. 108b: Compound **98b** ¹³C NMR spectra.

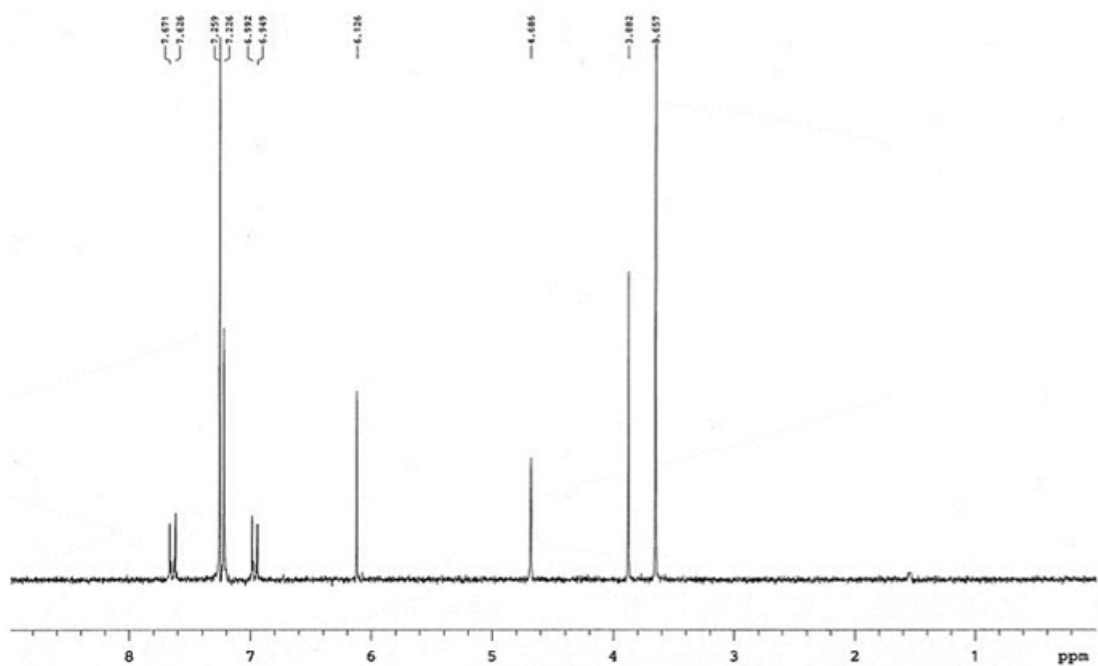


Fig. 109a: Compound **99a** ^1H NMR spectra.

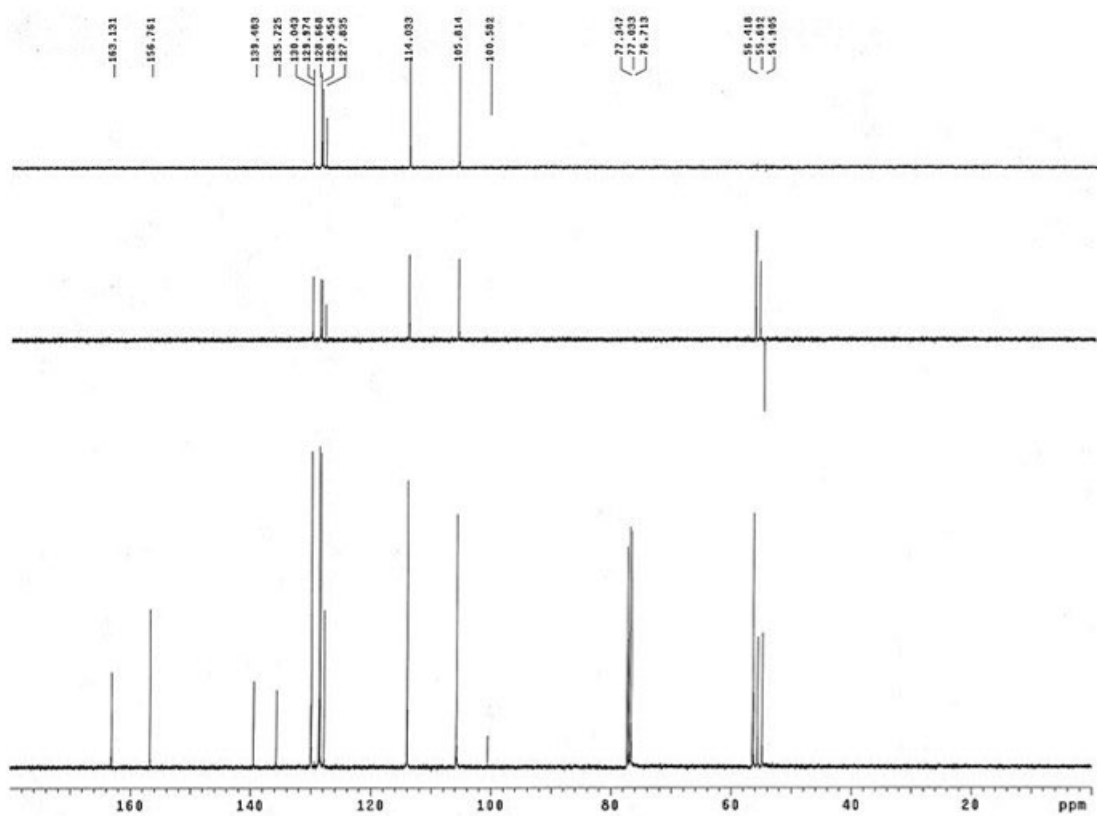


Fig. 109b: Compound **99a** ^{13}C NMR spectra.

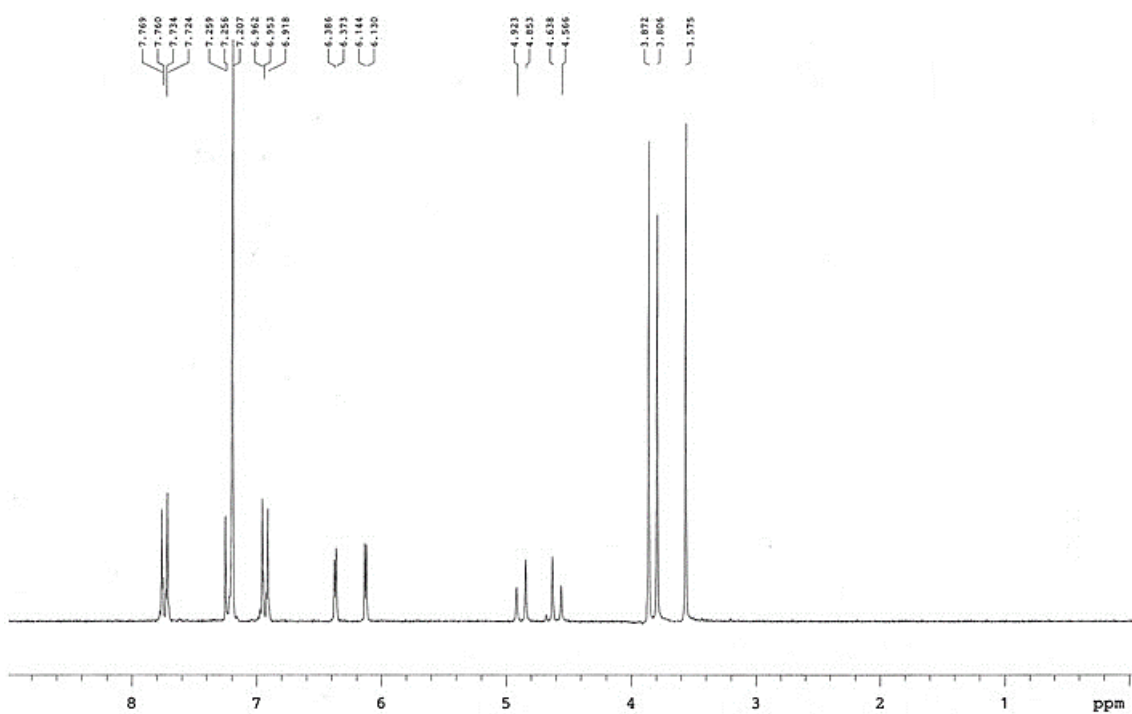


Fig. 110a: Compound **99b** ¹H NMR spectra.

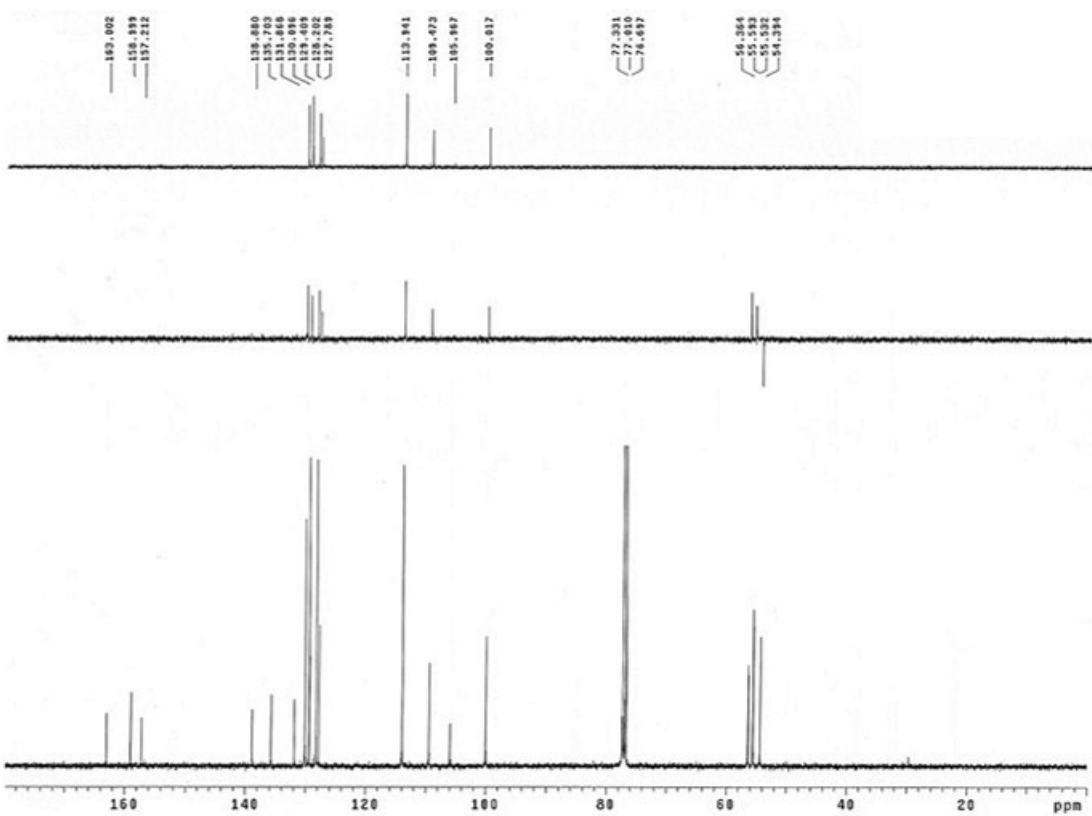


Fig. 110b: Compound **99b** ¹³C NMR spectra.

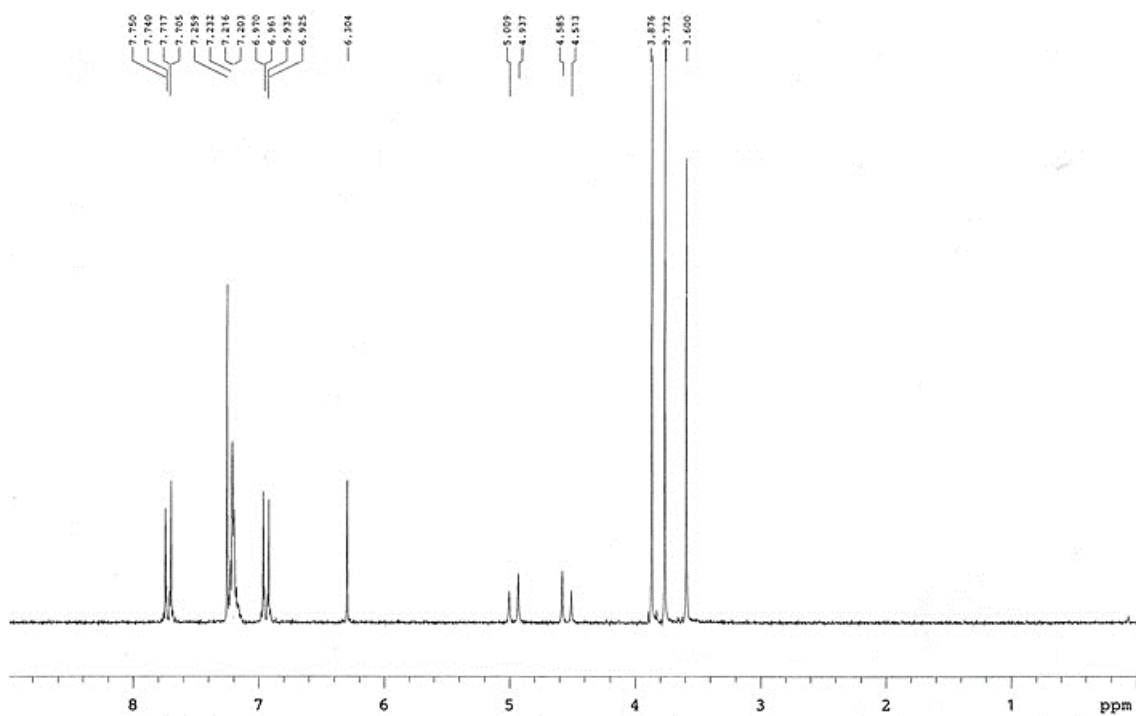


Fig. 111a: Compound **99c** ^1H NMR spectra.

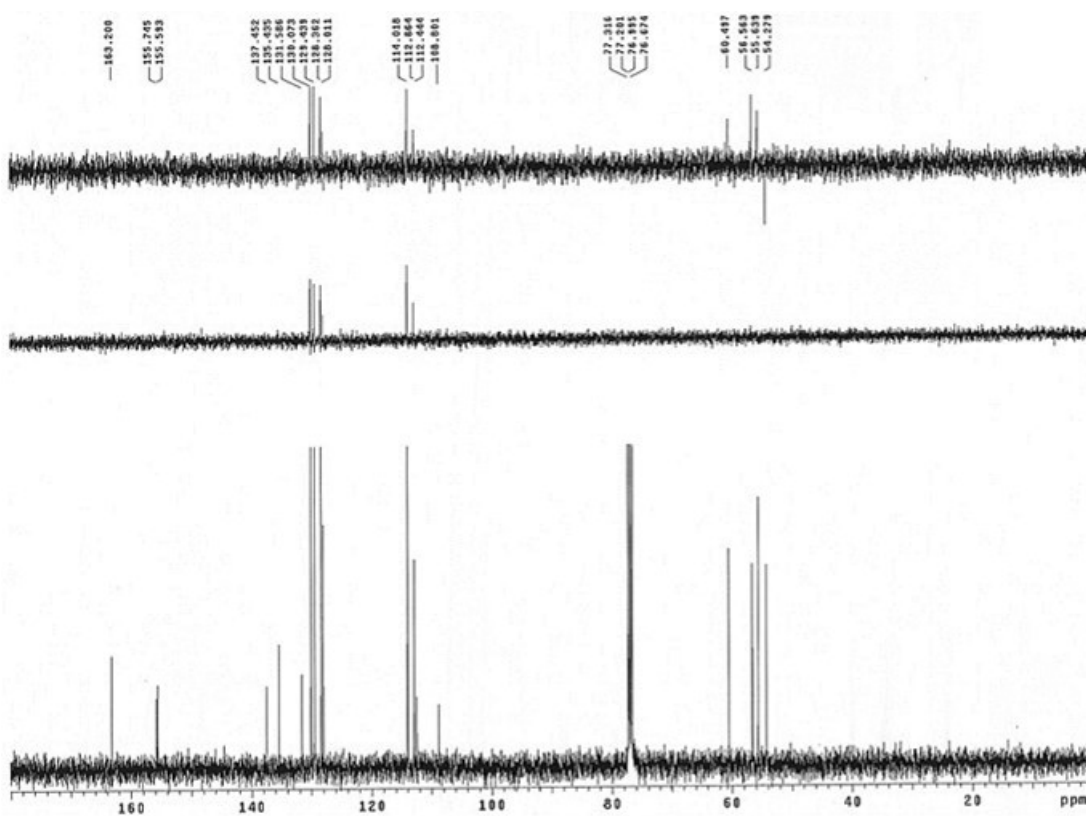


Fig. 111b: Compound **99c** ^{13}C NMR spectra.

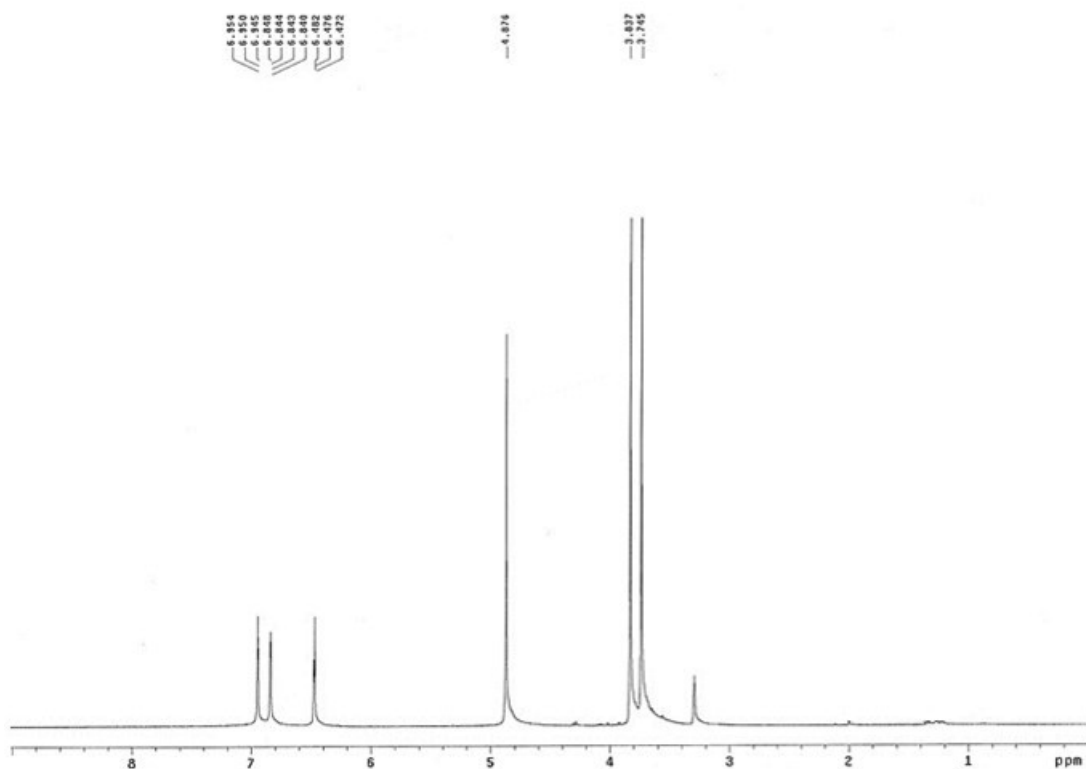


Fig. 112a: Compound **100** ¹H NMR spectra.

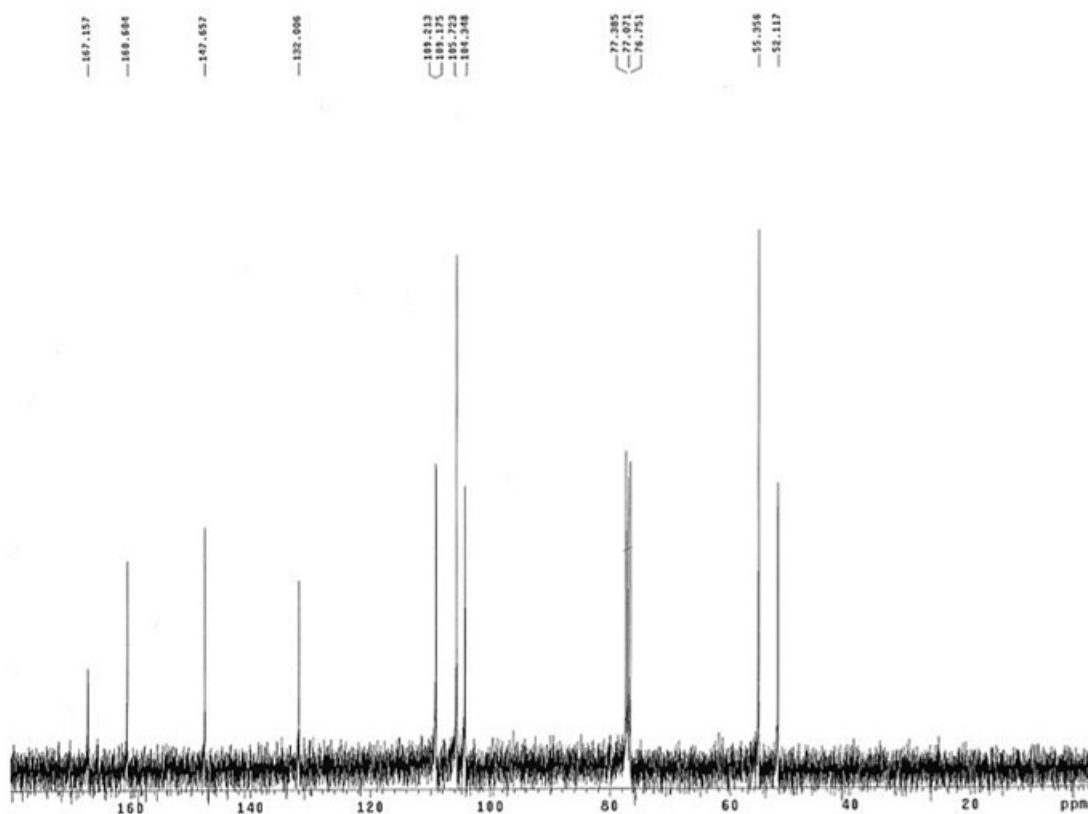


Fig. 112b: Compound **100** ¹³C NMR spectra.

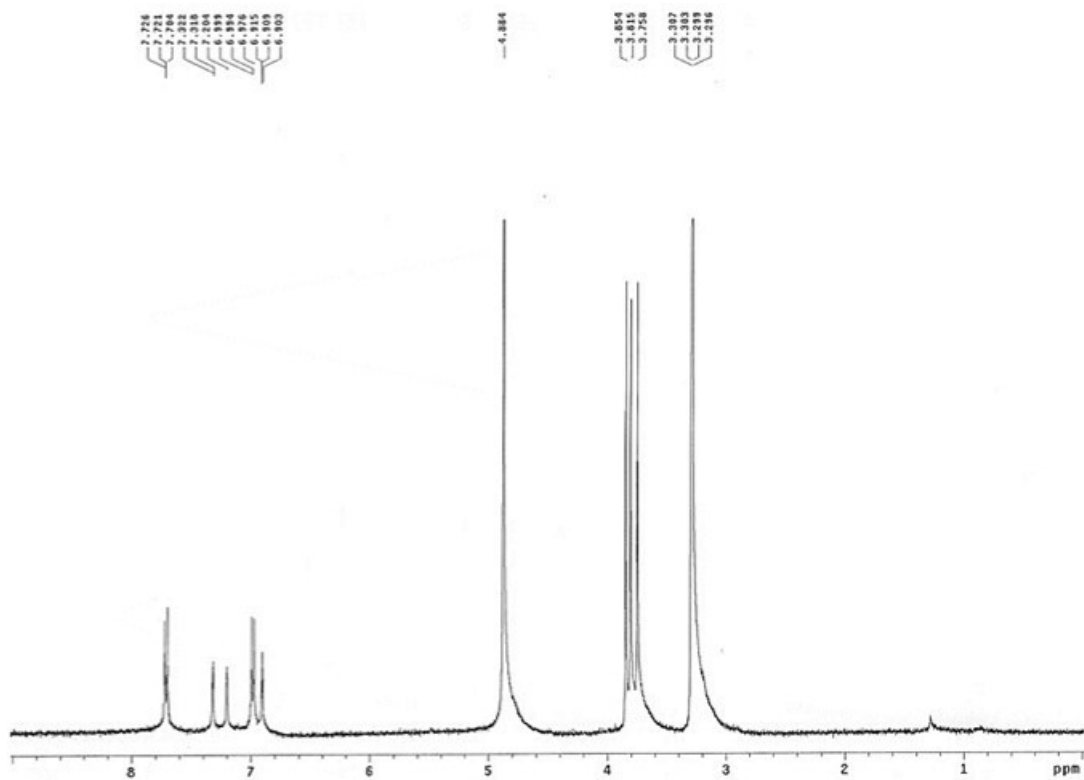


Fig. 113a: Compound **101** ^1H NMR spectra.

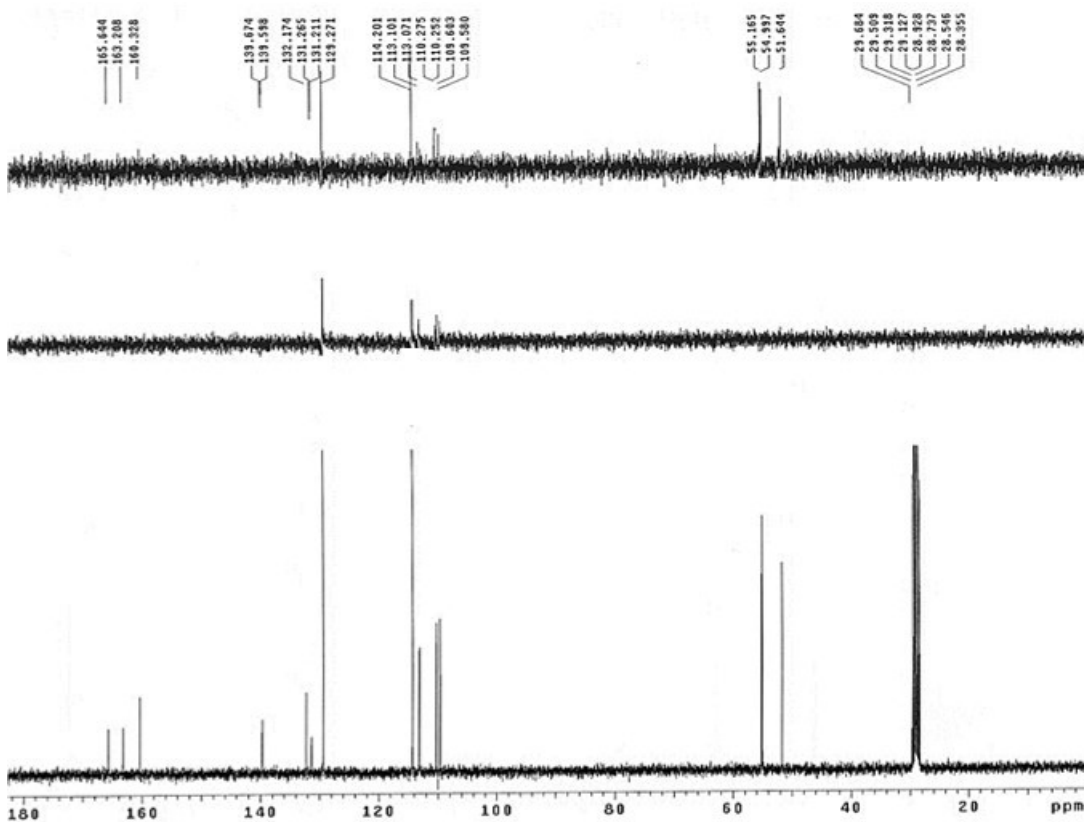


Fig. 113b: Compound **101** ^{13}C NMR spectra.

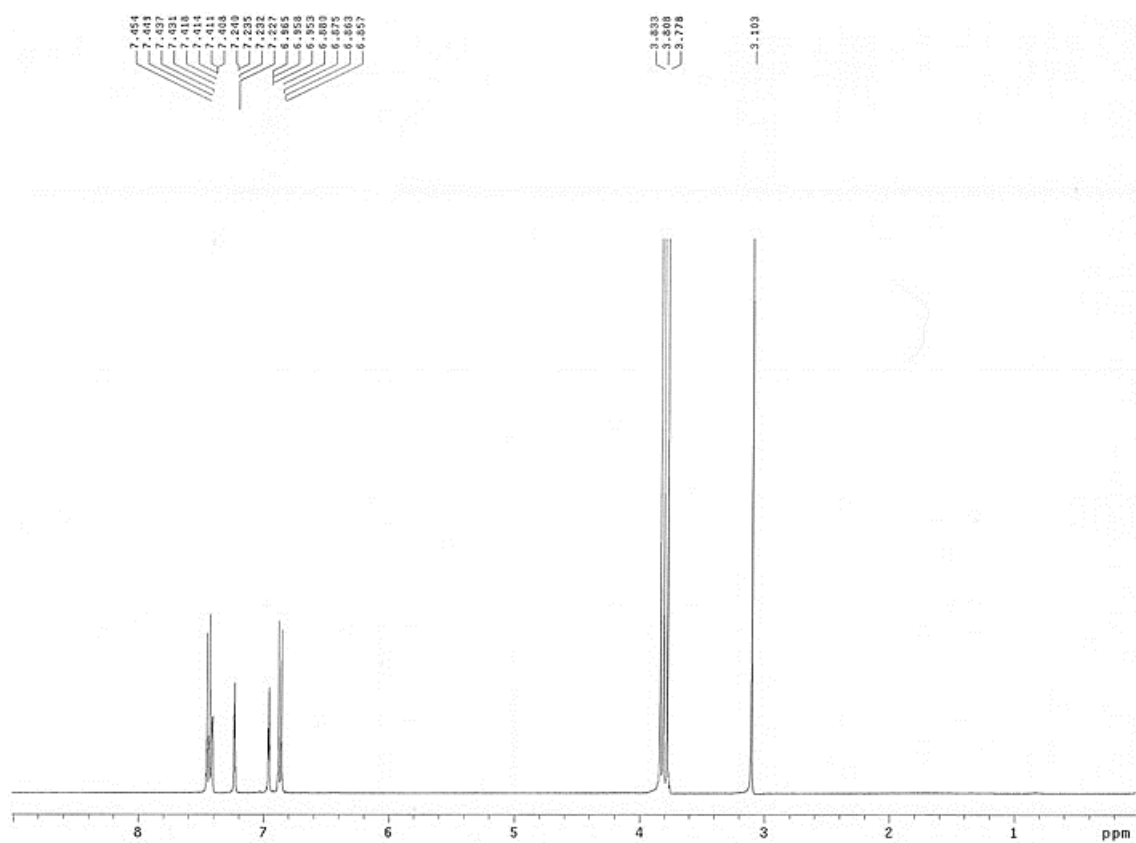


Fig. 114a: Compound **102** ^1H NMR spectra.

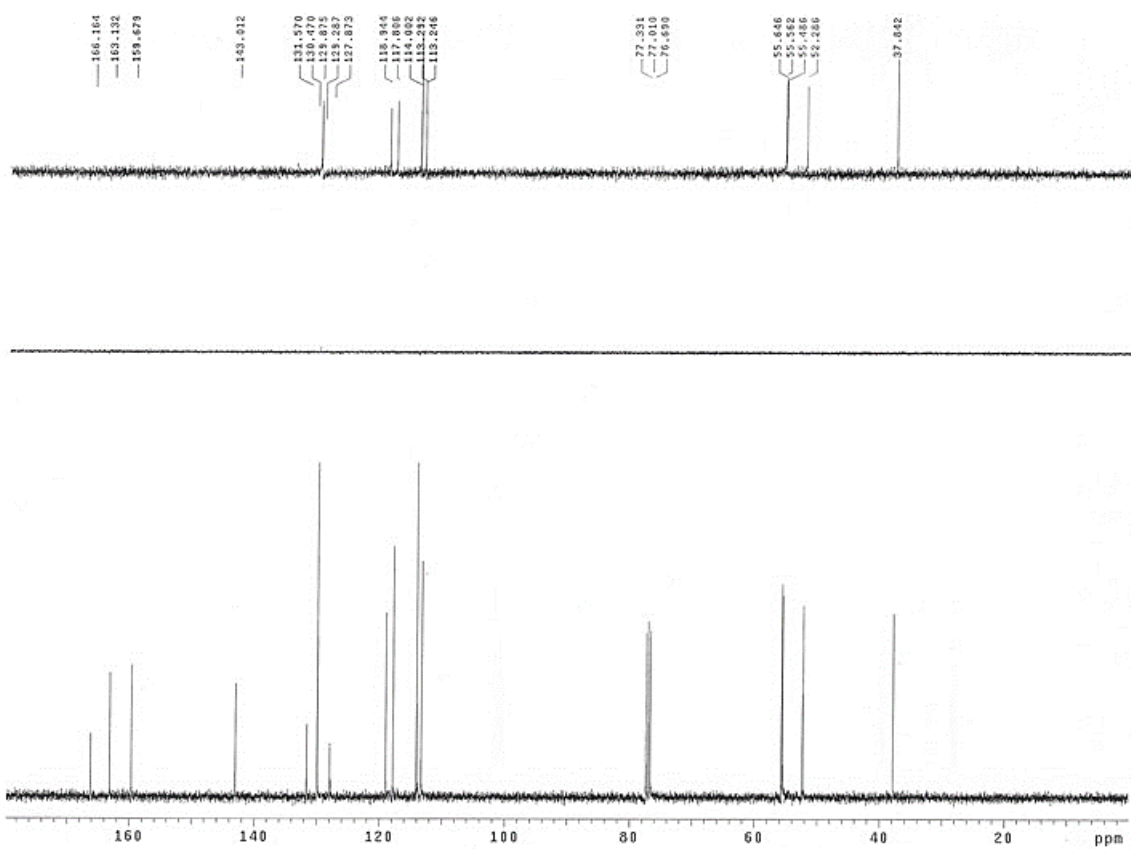


Fig. 114b: Compound **102** ^{13}C NMR spectra.

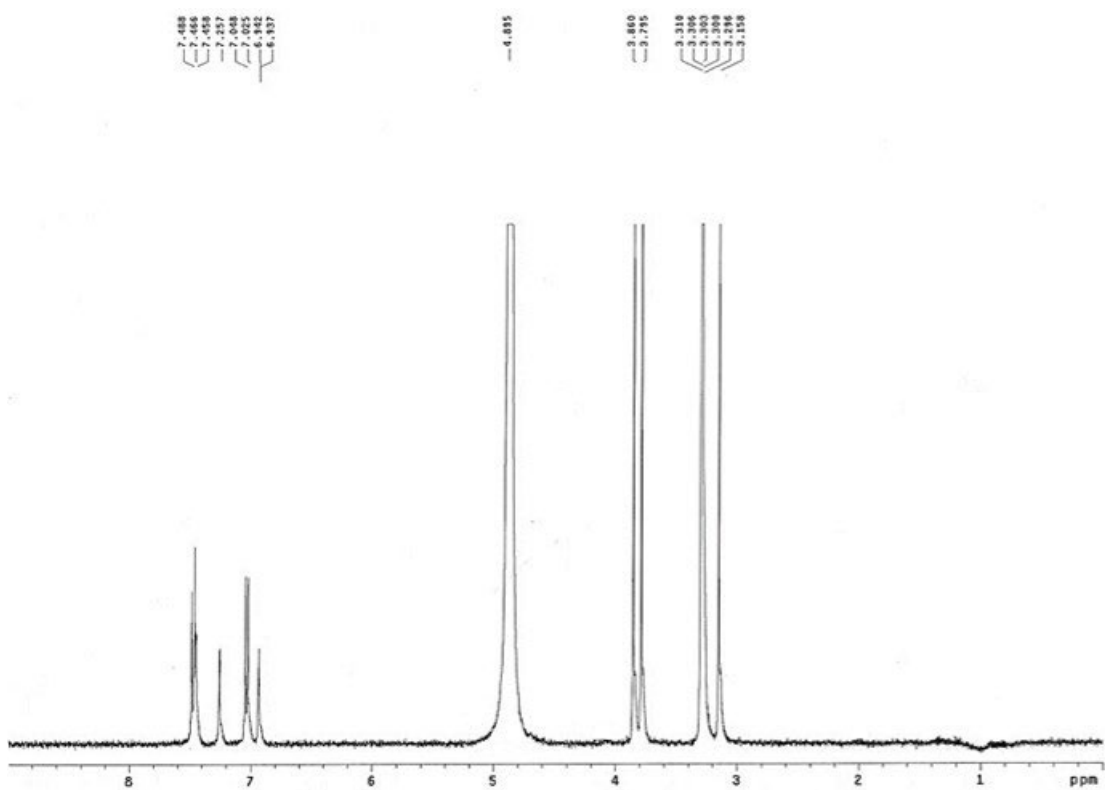


Fig. 115a: Compound **103** ^1H NMR spectra.

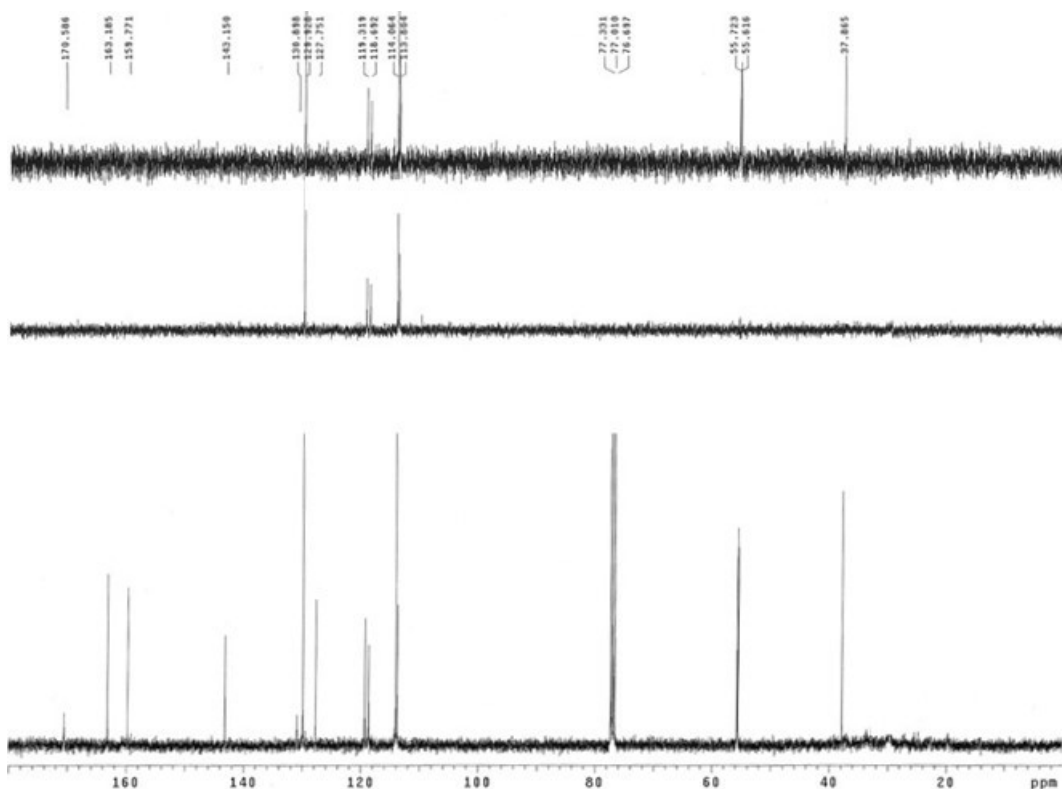


Fig. 115b: Compound **103** ^{13}C NMR spectra.

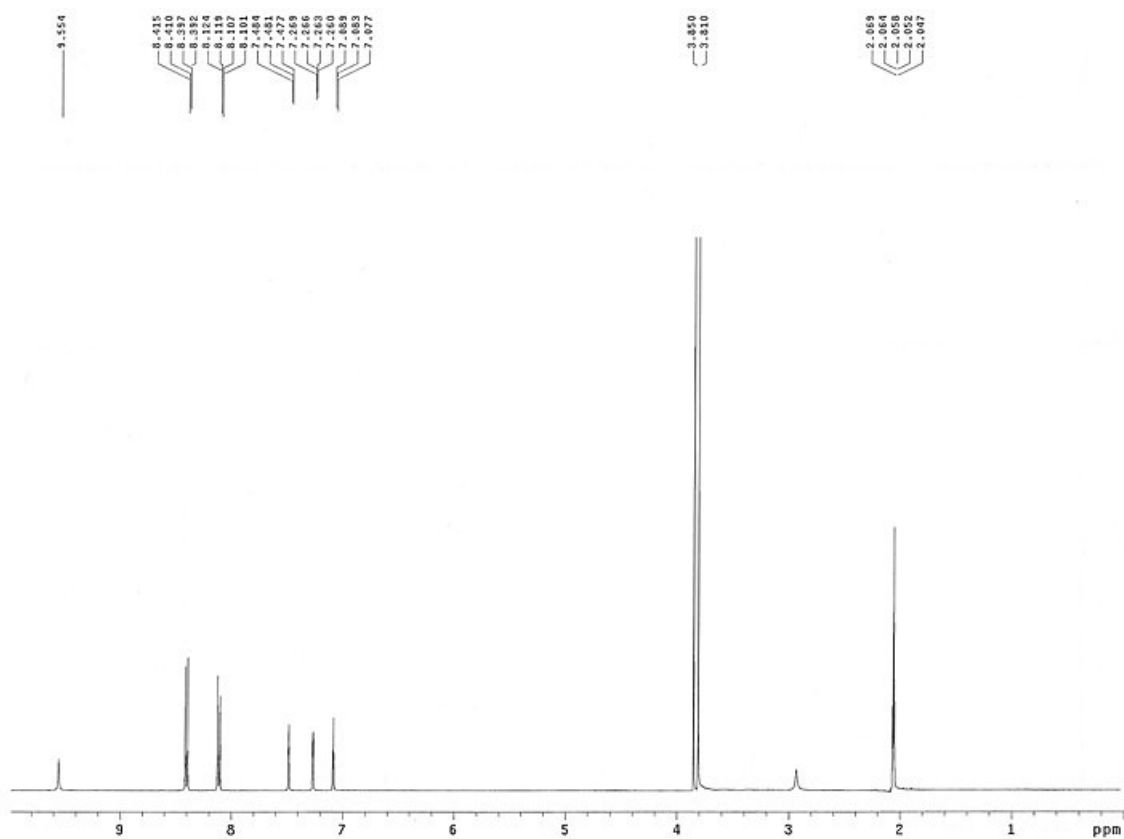


Fig. 116a: Compound **104** ^1H NMR spectra.

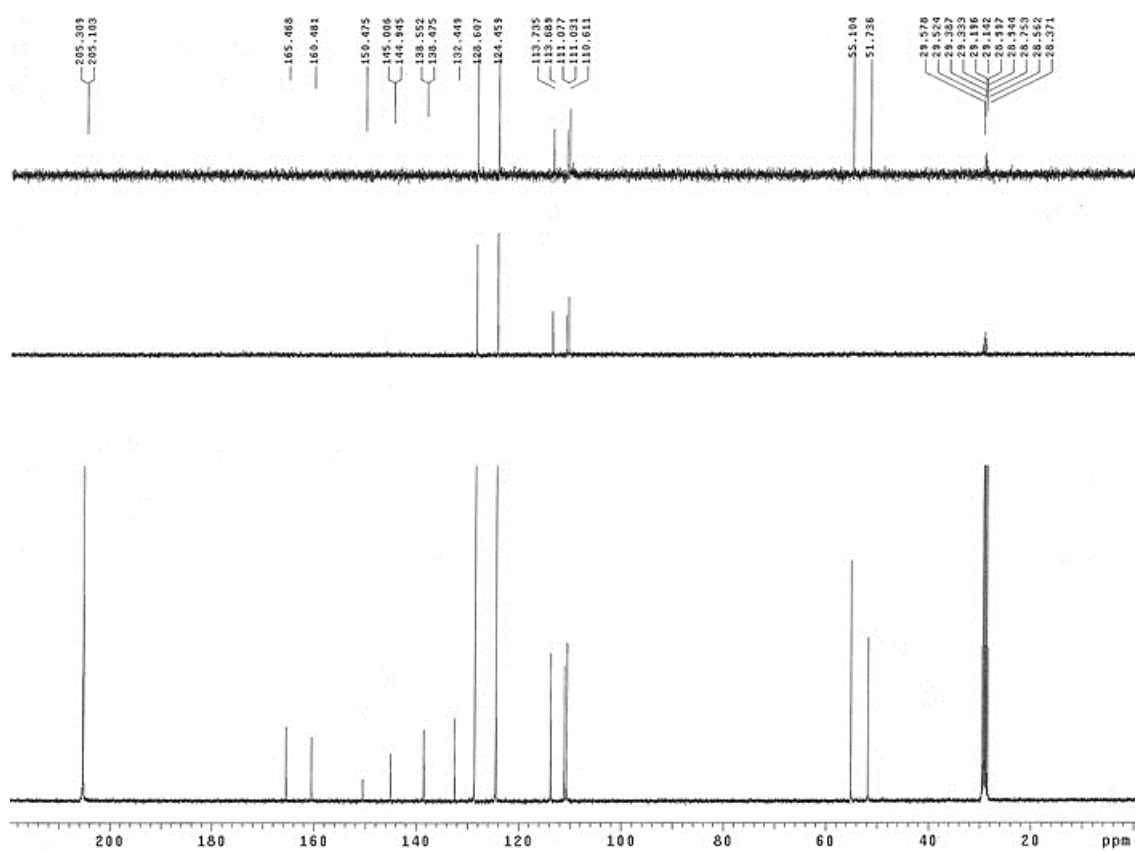


Fig. 116b: Compound **104** ^{13}C NMR spectra.

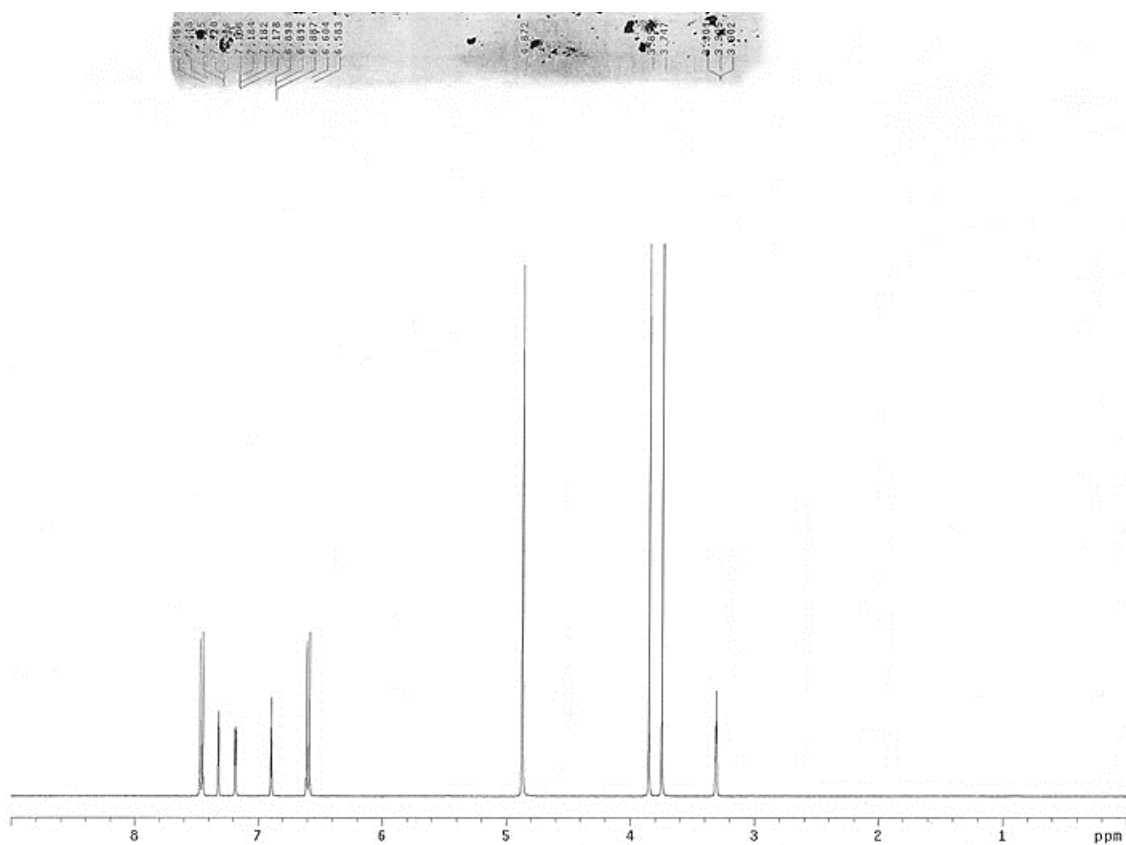


Fig. 117a: Compound **105** ^1H NMR spectra.

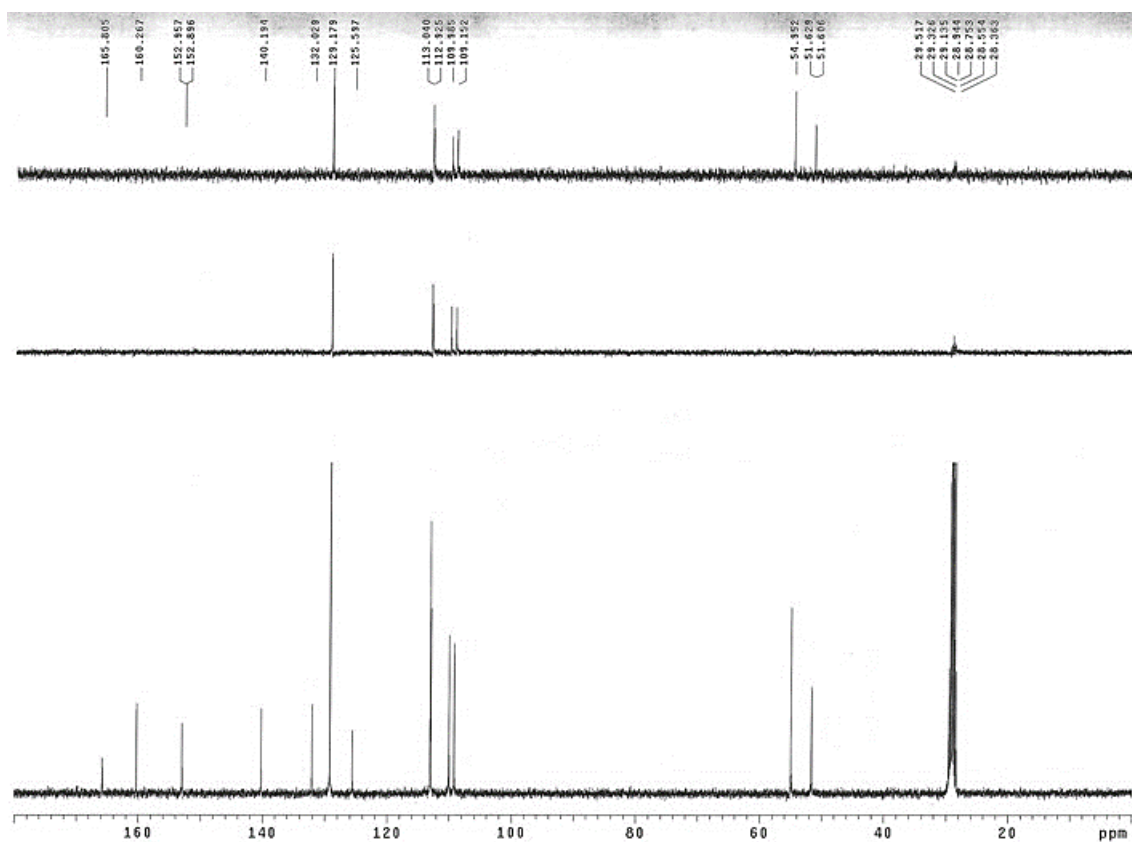


Fig. 117b: Compound **105** ^{13}C NMR spectra.

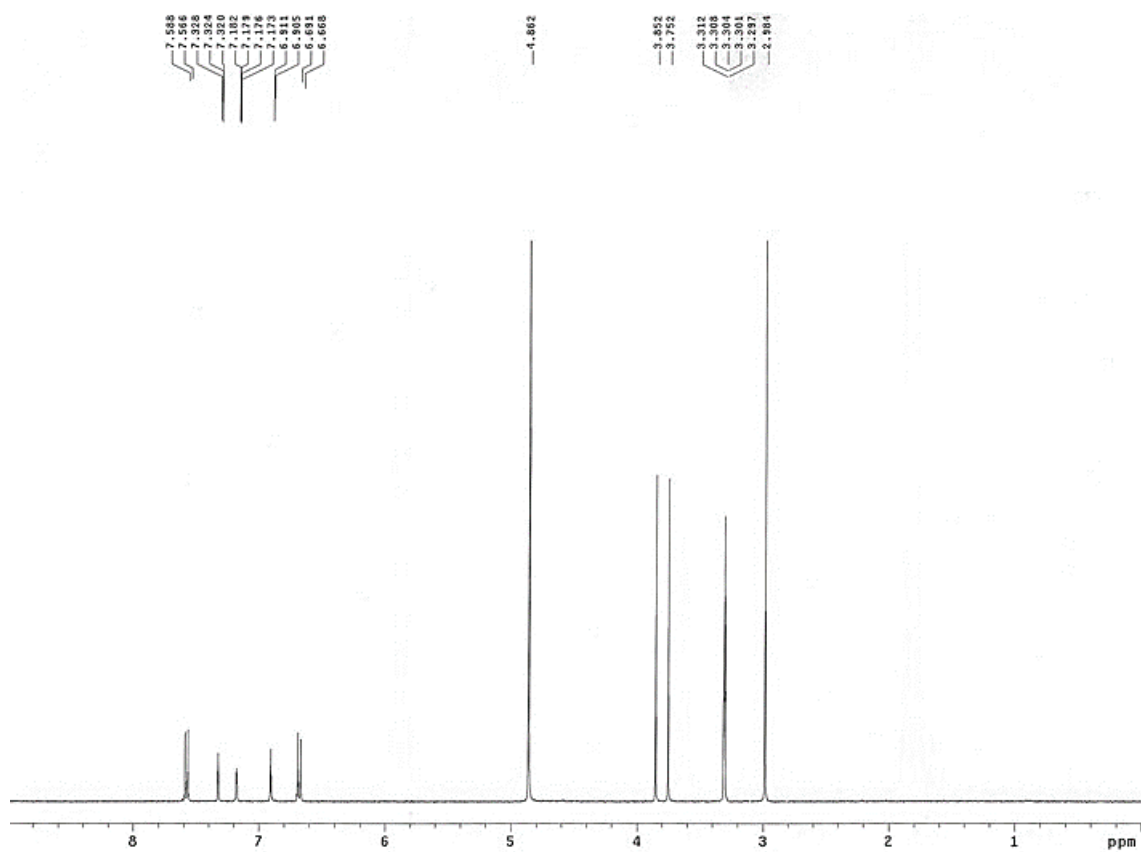


Fig. 118a: Compound **106** ^1H NMR spectra.

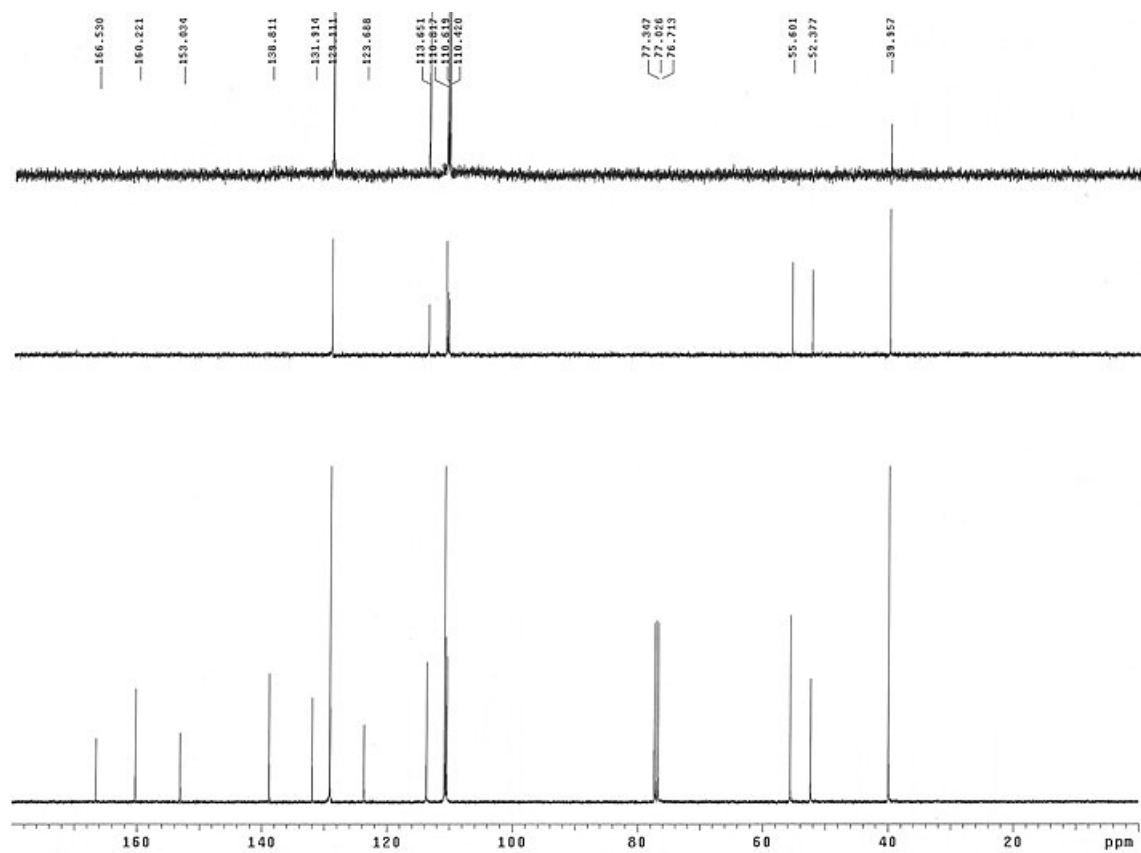


Fig. 118b: Compound **106** ^{13}C NMR spectra.

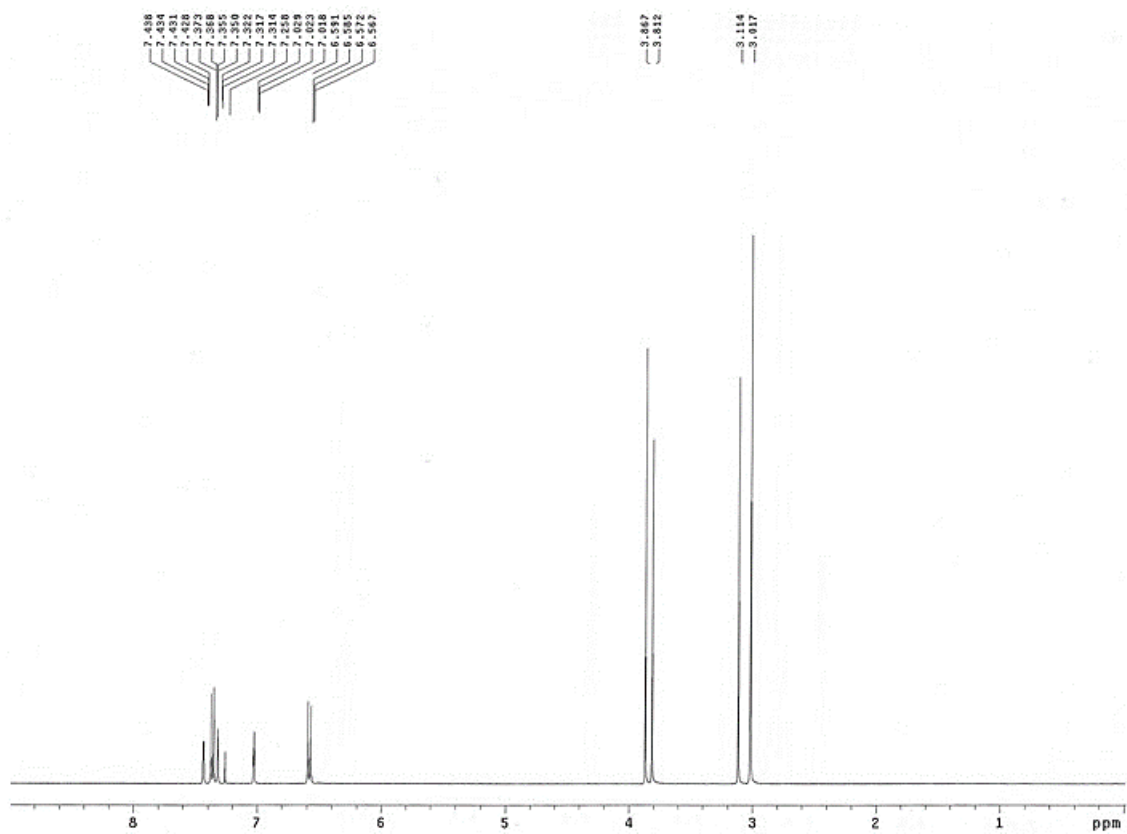


Fig. 119a: Compound **107** ^1H NMR spectra.

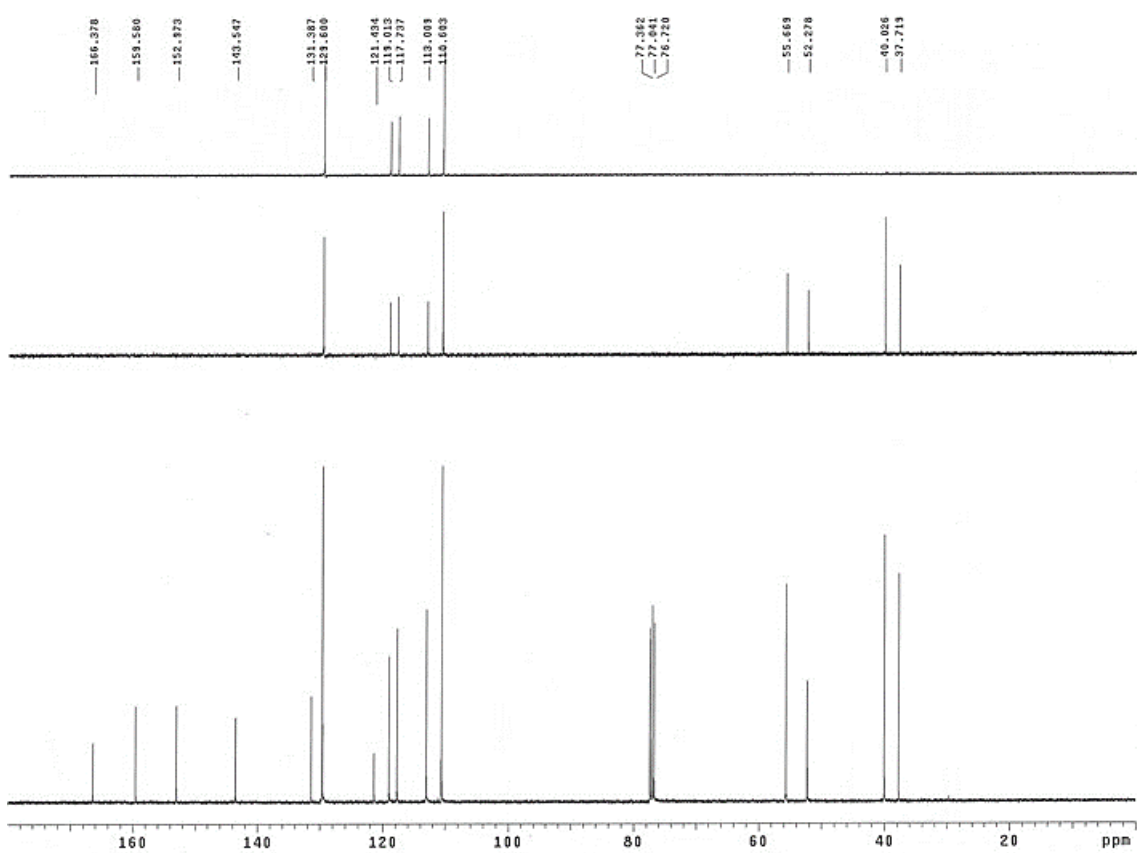


Fig. 119b: Compound **107** ^{13}C NMR spectra.

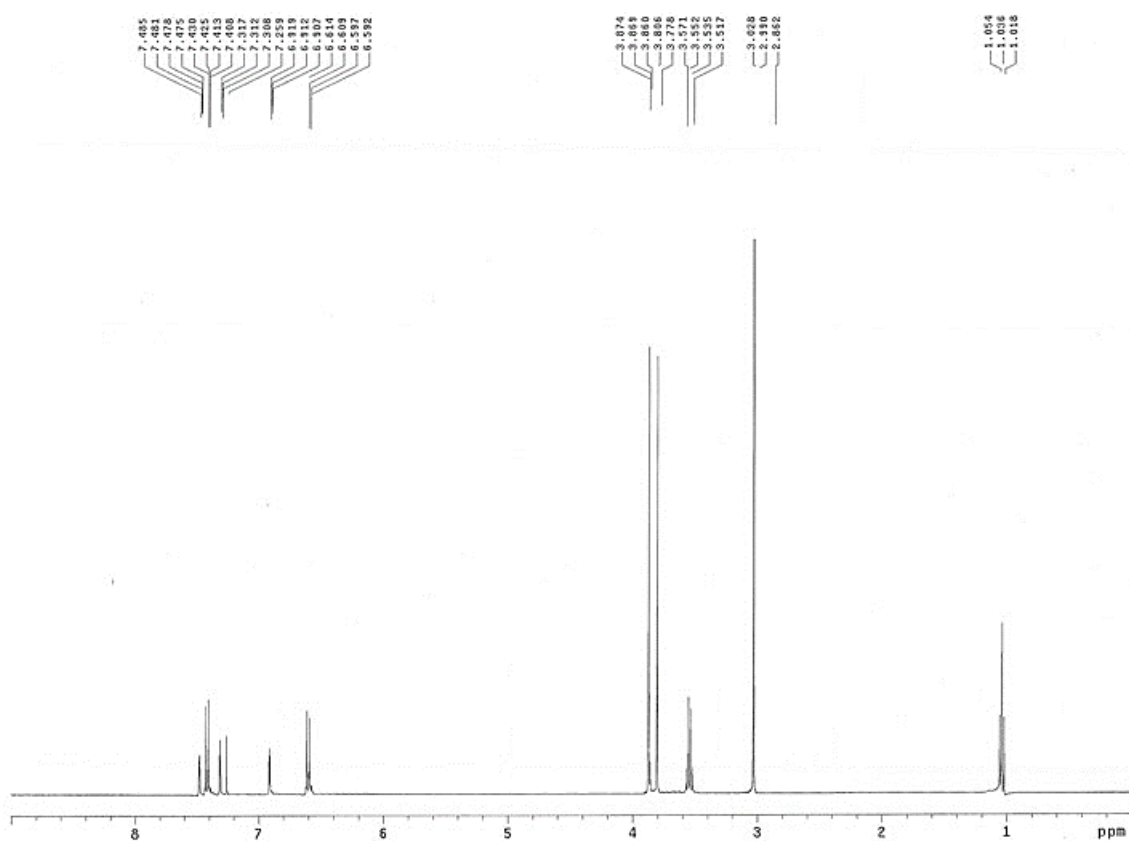


Fig. 120a: Compound **108** ^1H NMR spectra.

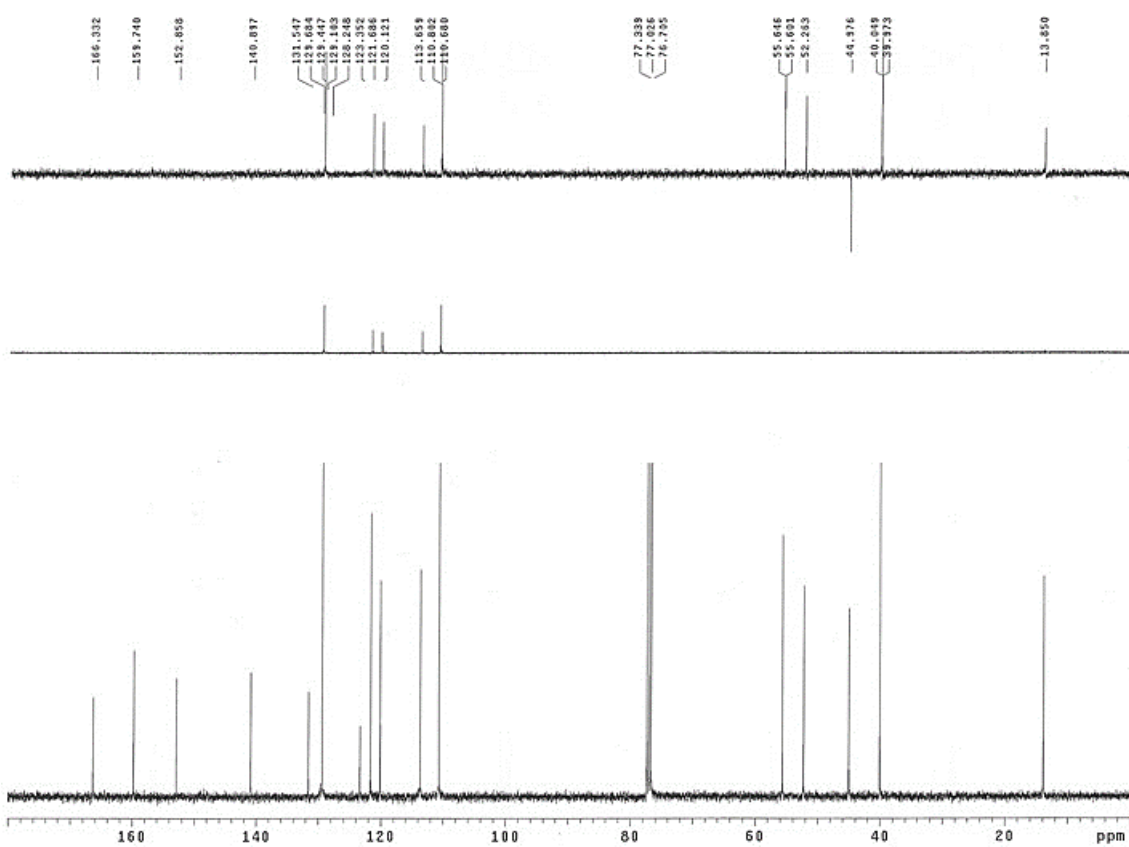


Fig. 120b: Compound **108** ^{13}C NMR spectra.

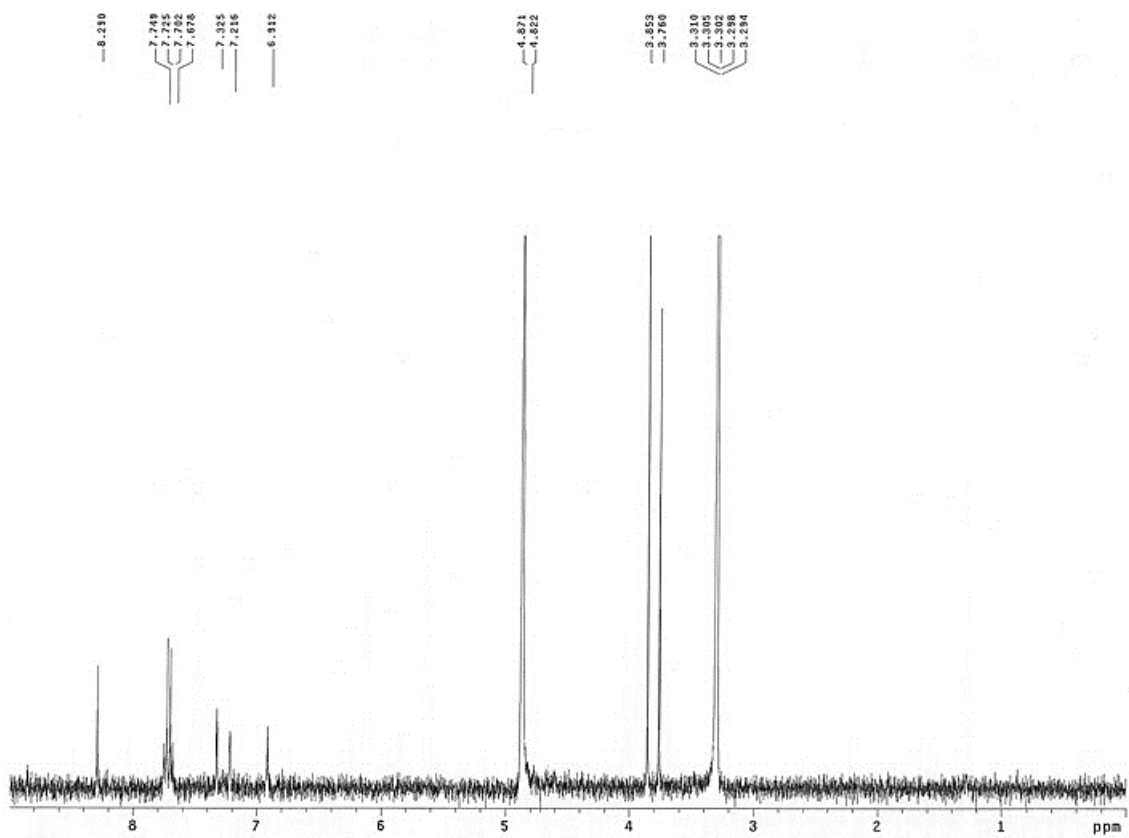


Fig. 121a: Compound **109** ^1H NMR spectra.

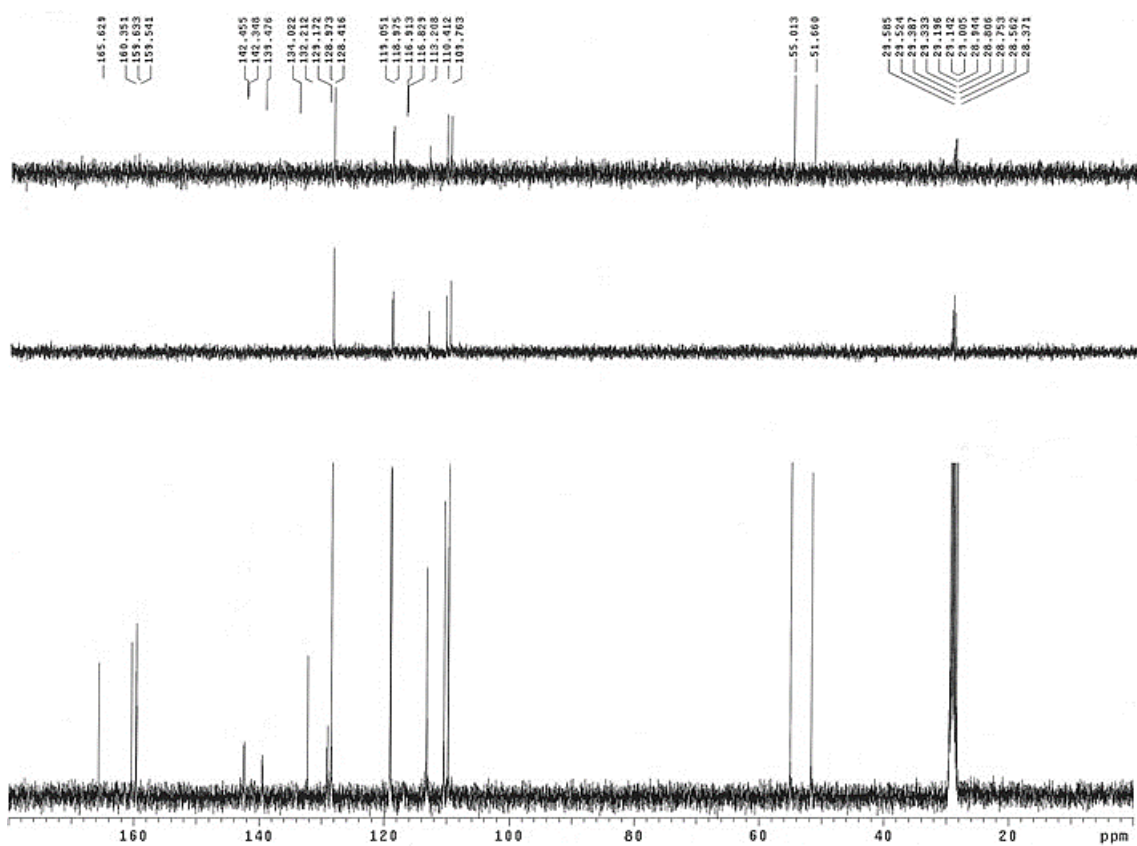


Fig. 121b: Compound **109** ^{13}C NMR spectra.

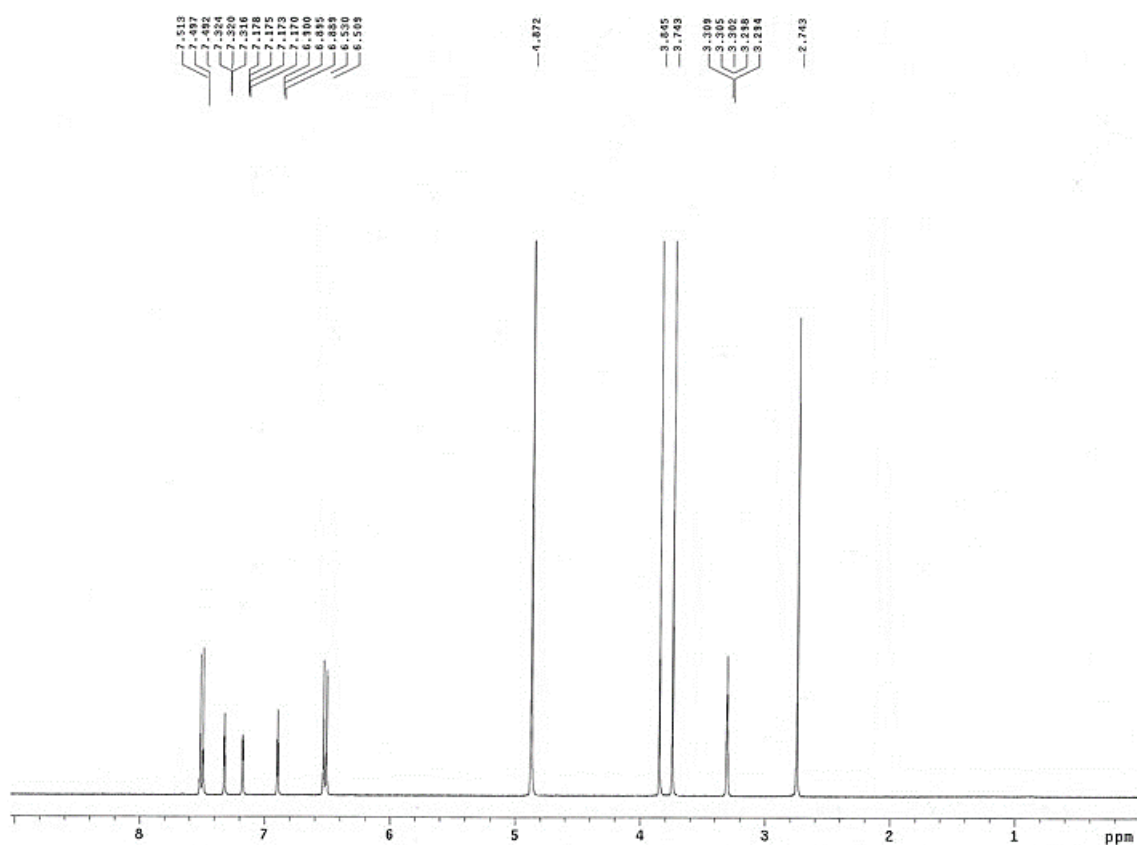


Fig. 122a: Compound **110** ^1H NMR spectra.

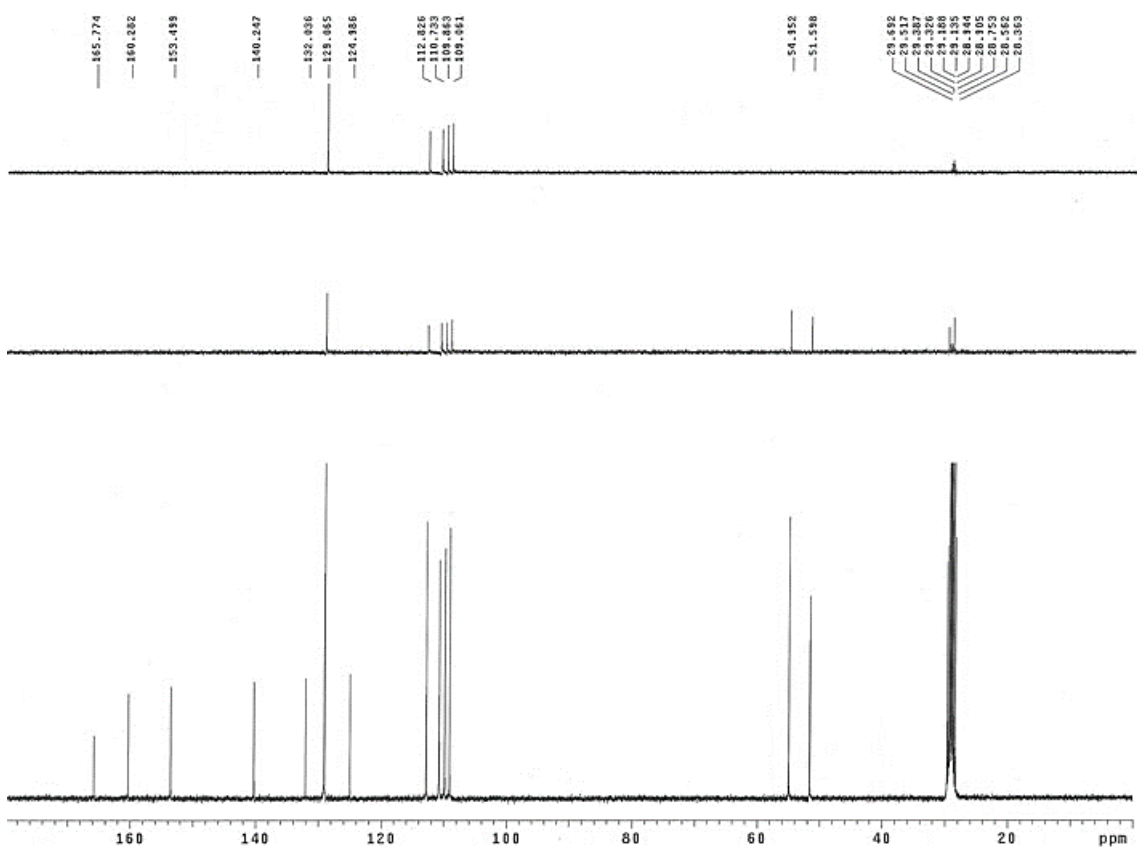


Fig. 122b: Compound **110** ^{13}C NMR spectra.

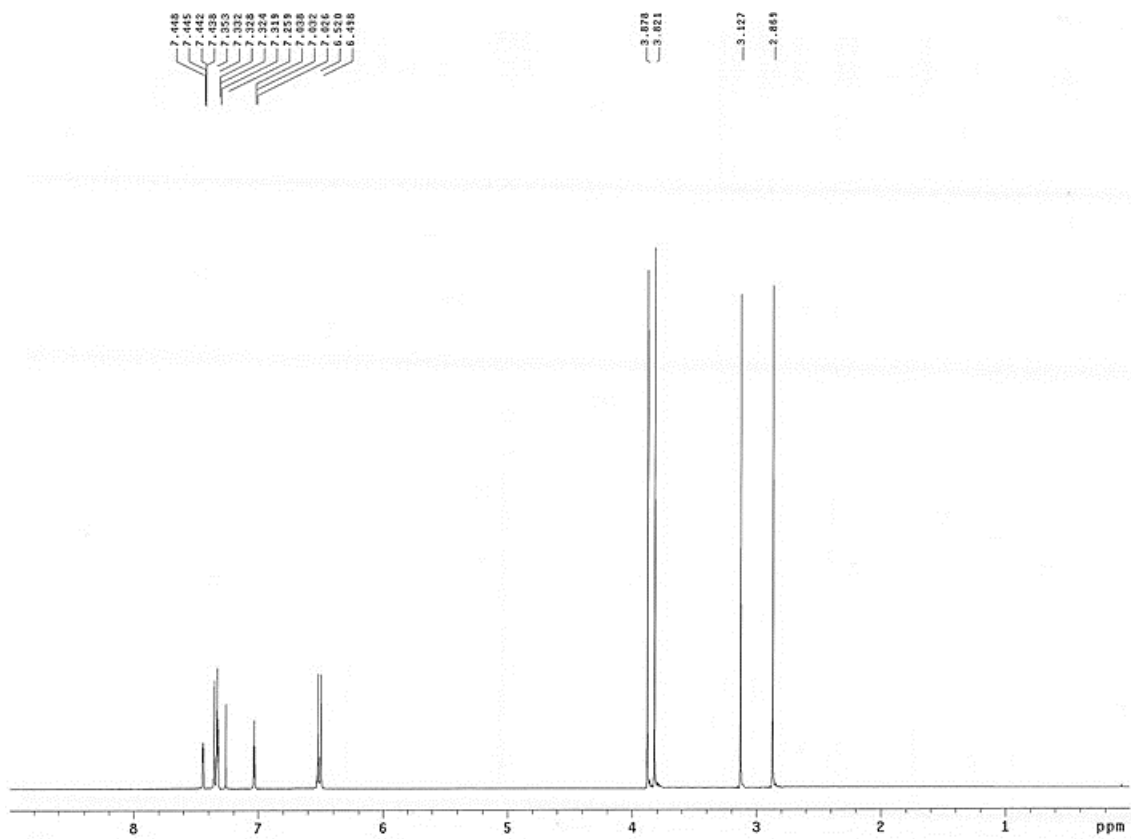


Fig. 123a: Compound **111** ^1H NMR spectra.

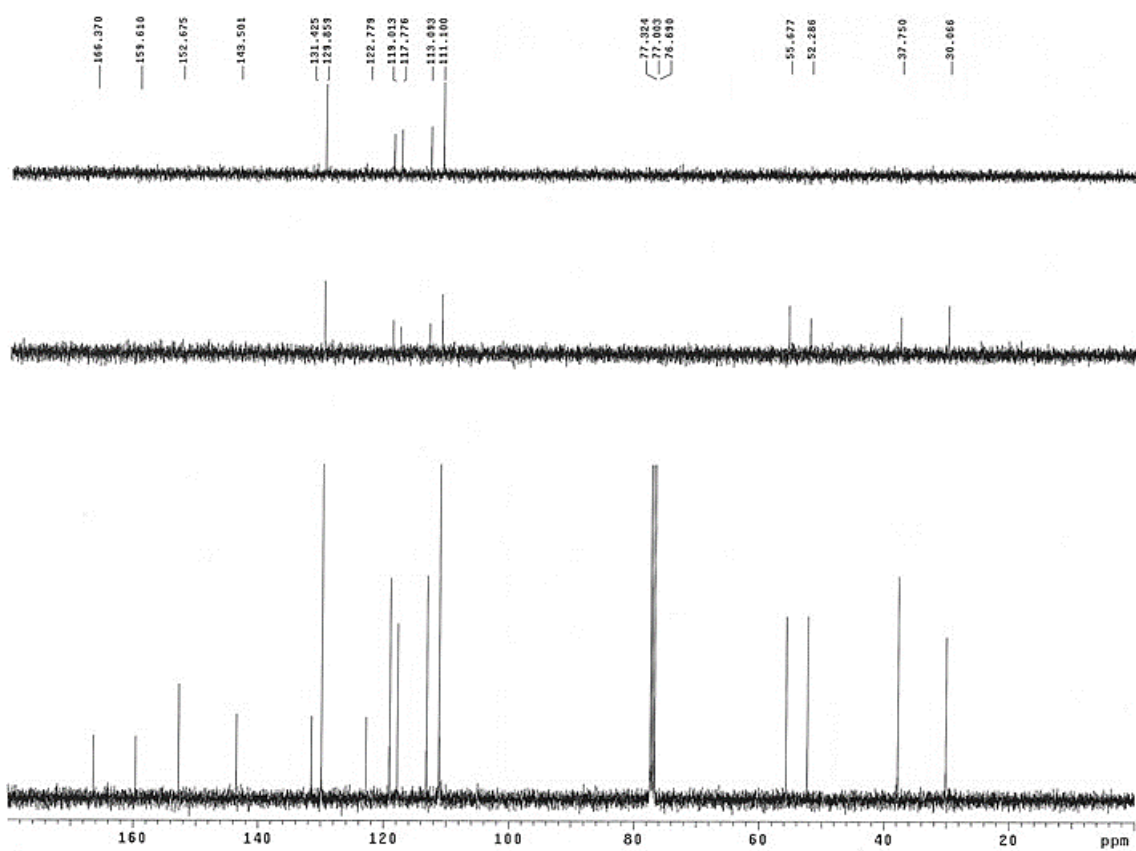


Fig. 123b: Compound **111** ^{13}C NMR spectra.

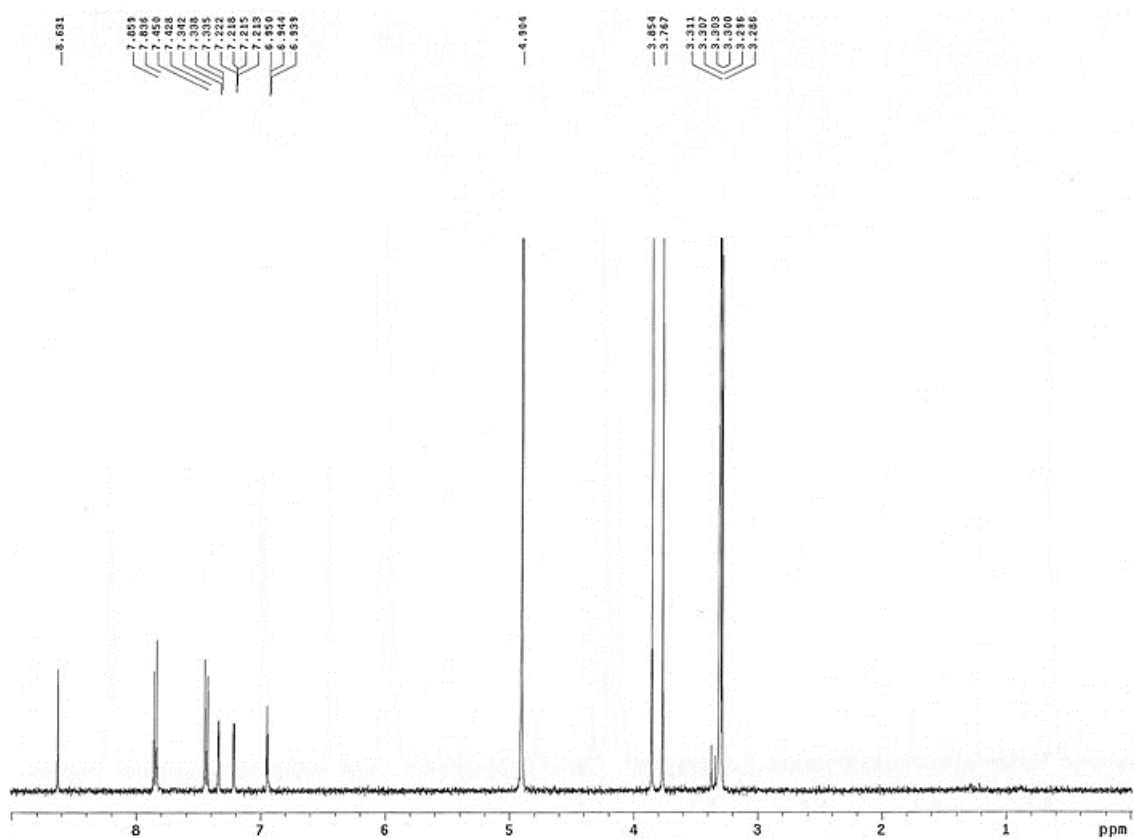


Fig. 124a: Compound **112** ^1H NMR spectra.

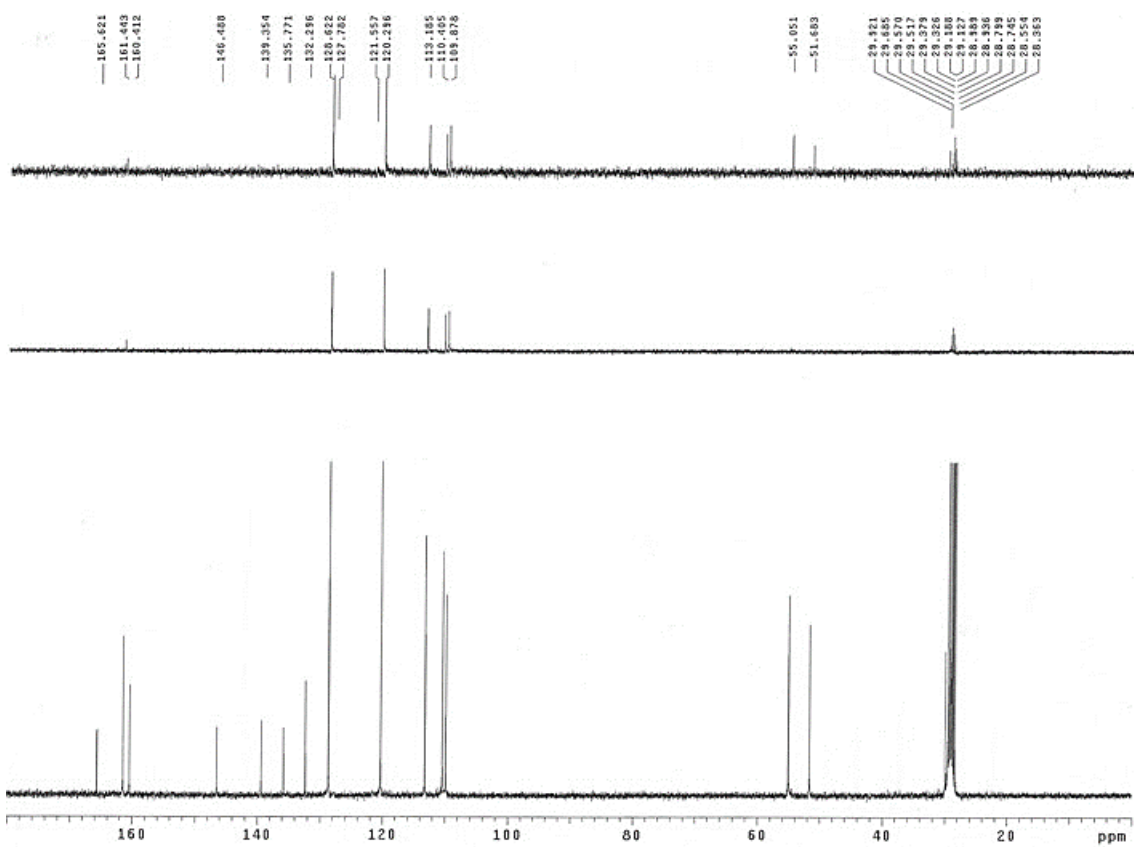


Fig. 124b: Compound **112** ^{13}C NMR spectra.

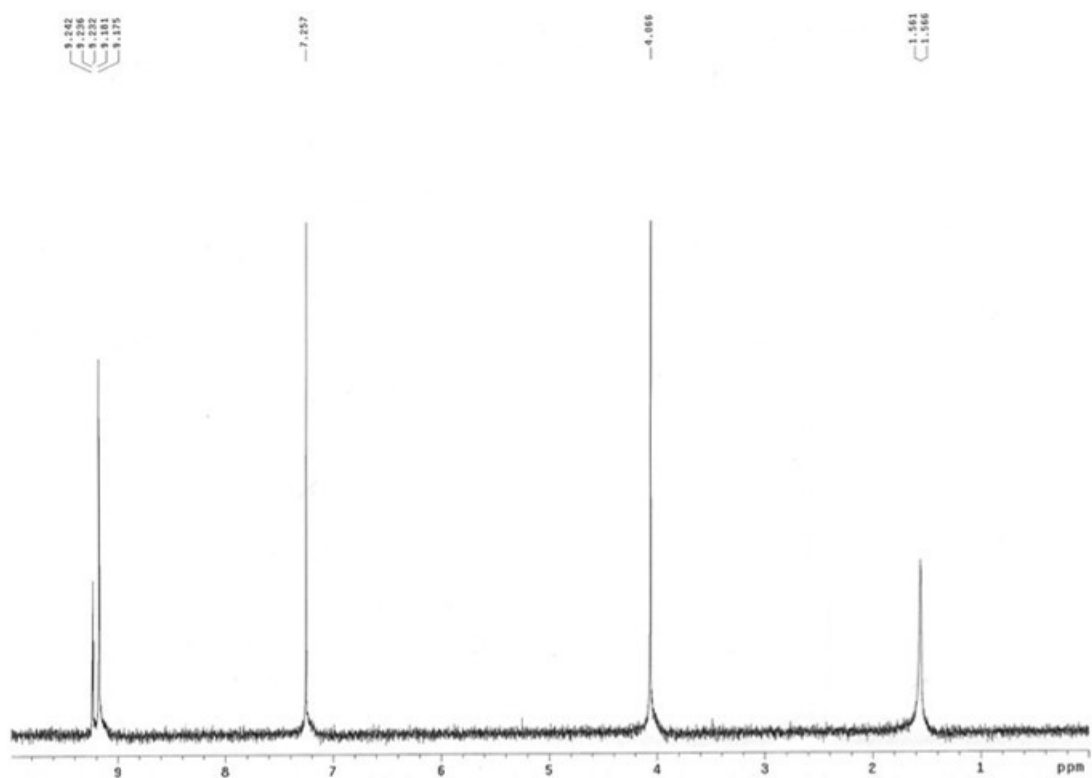


Fig. 125a: Compound **113** ¹H NMR spectra.

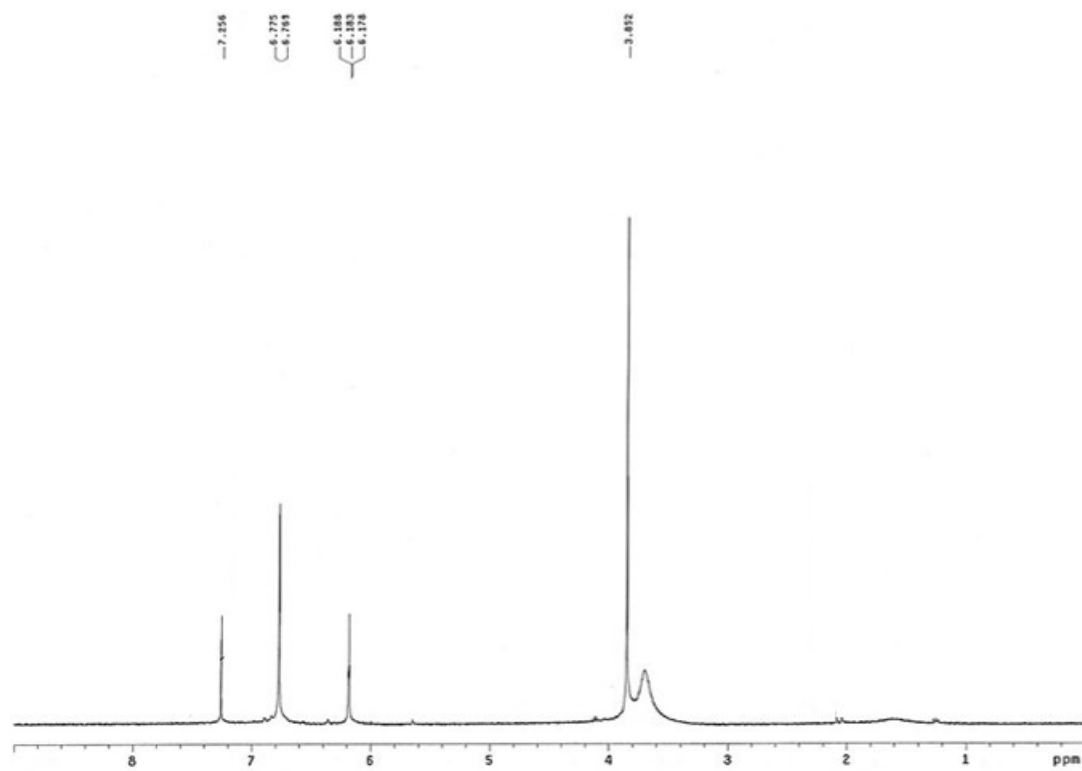


Fig. 126a: Compound **114** ¹H NMR spectra.

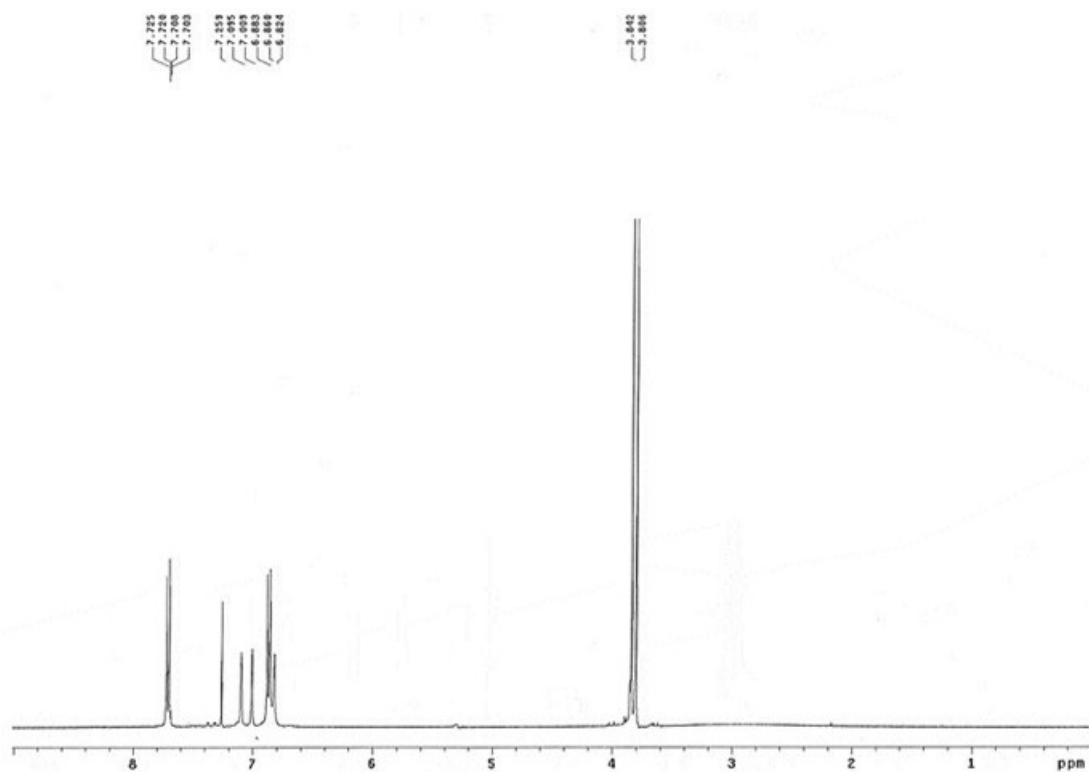


Fig. 127a: Compound **115a** ^1H NMR spectra.

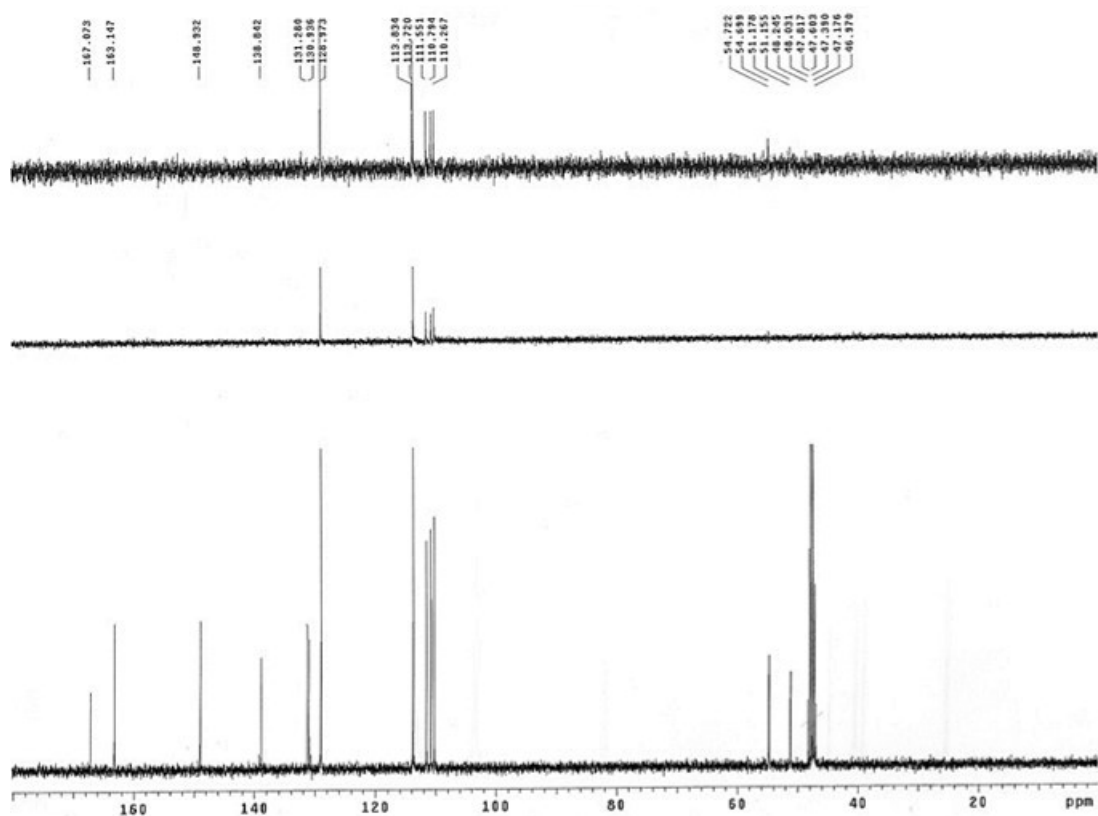


Fig. 127b: Compound **115a** ^{13}C NMR spectra.

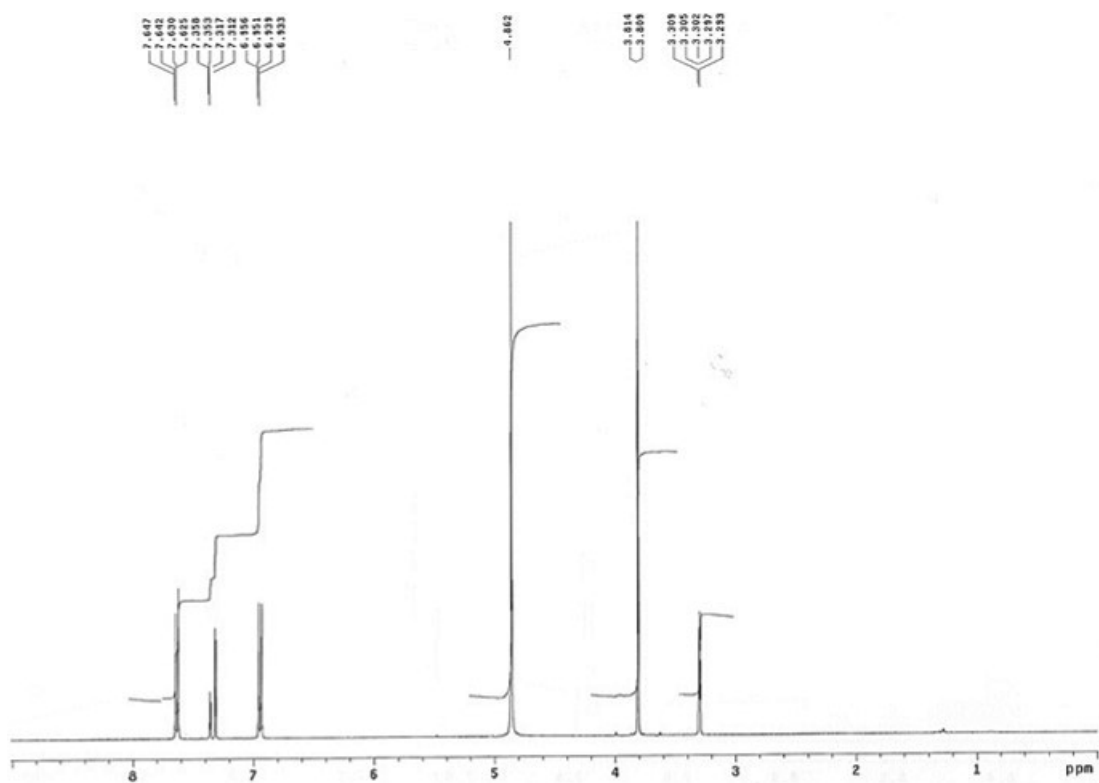


Fig. 128a: Compound **115b** ^1H NMR spectra.

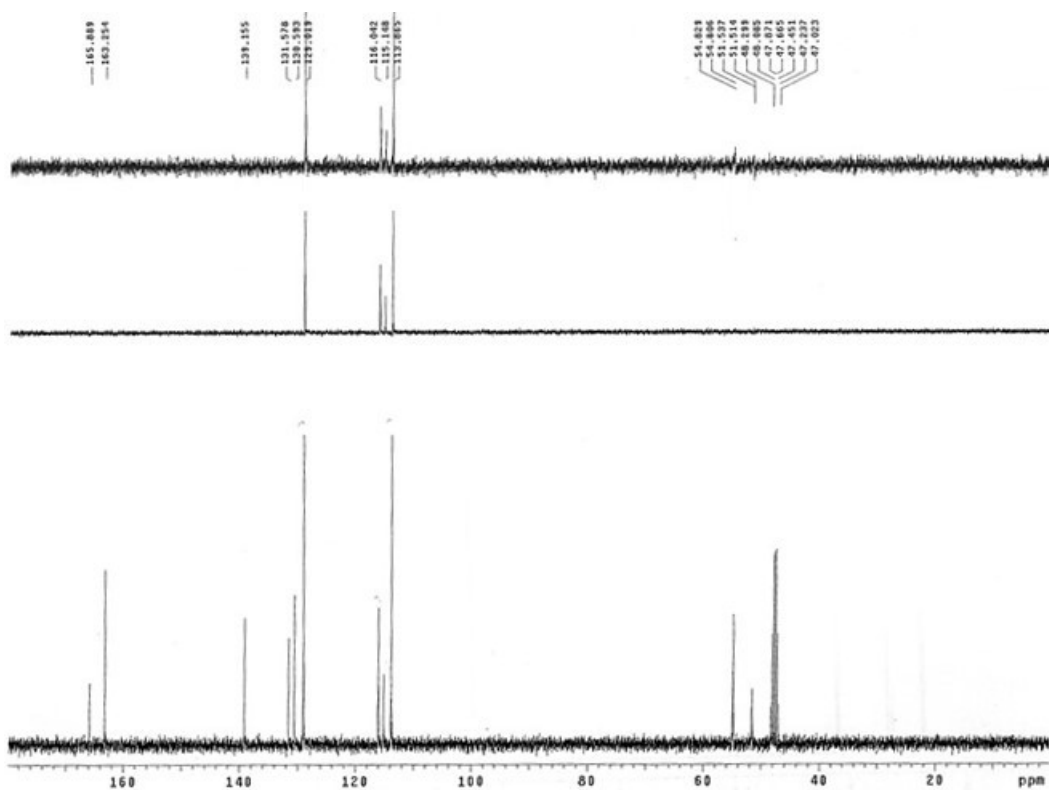


Fig. 128b: Compound **115b** ^{13}C NMR spectra.

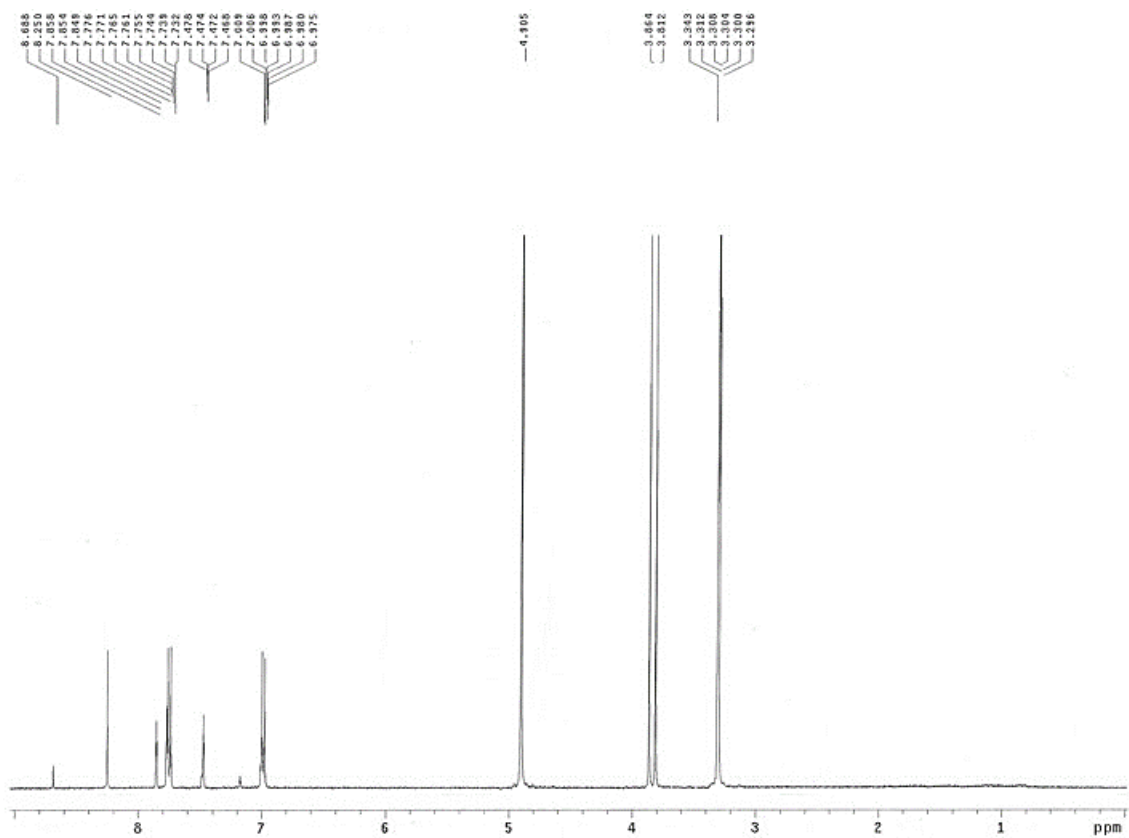


Fig. 129a: Compound **116** ^1H NMR spectra.

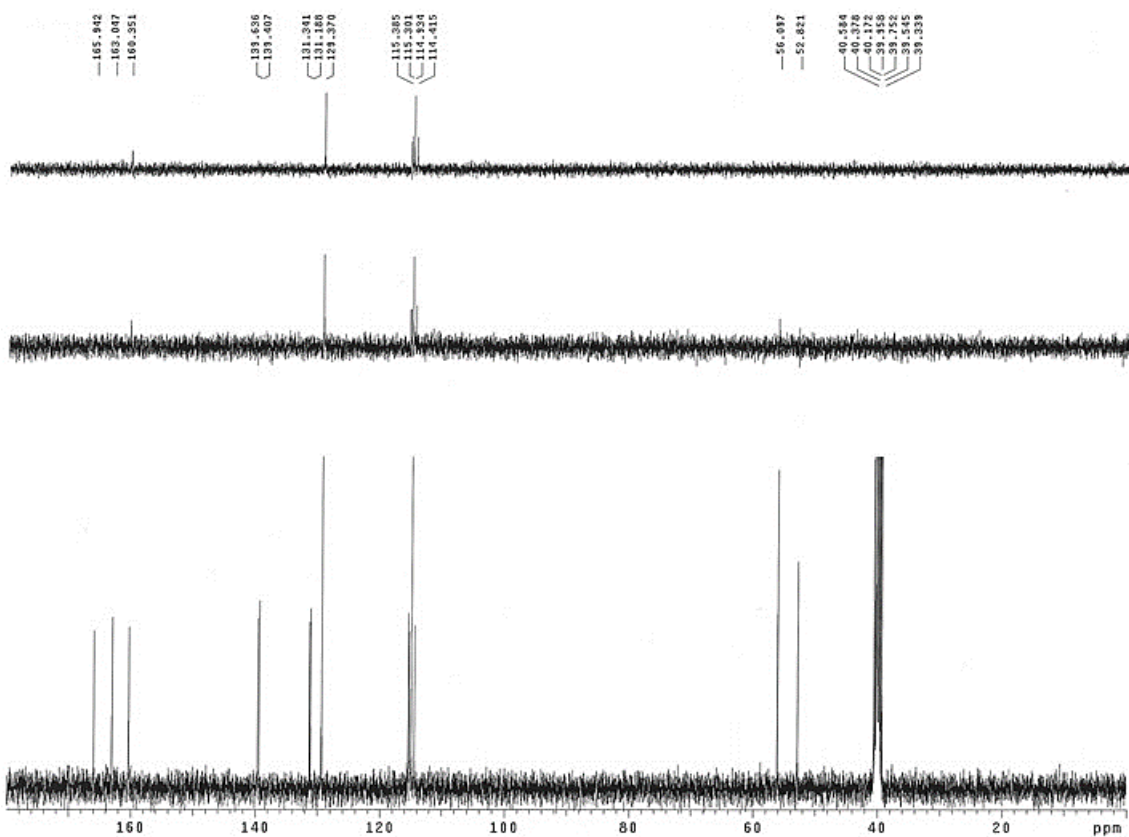


Fig. 129b: Compound **116** ^{13}C NMR spectra.

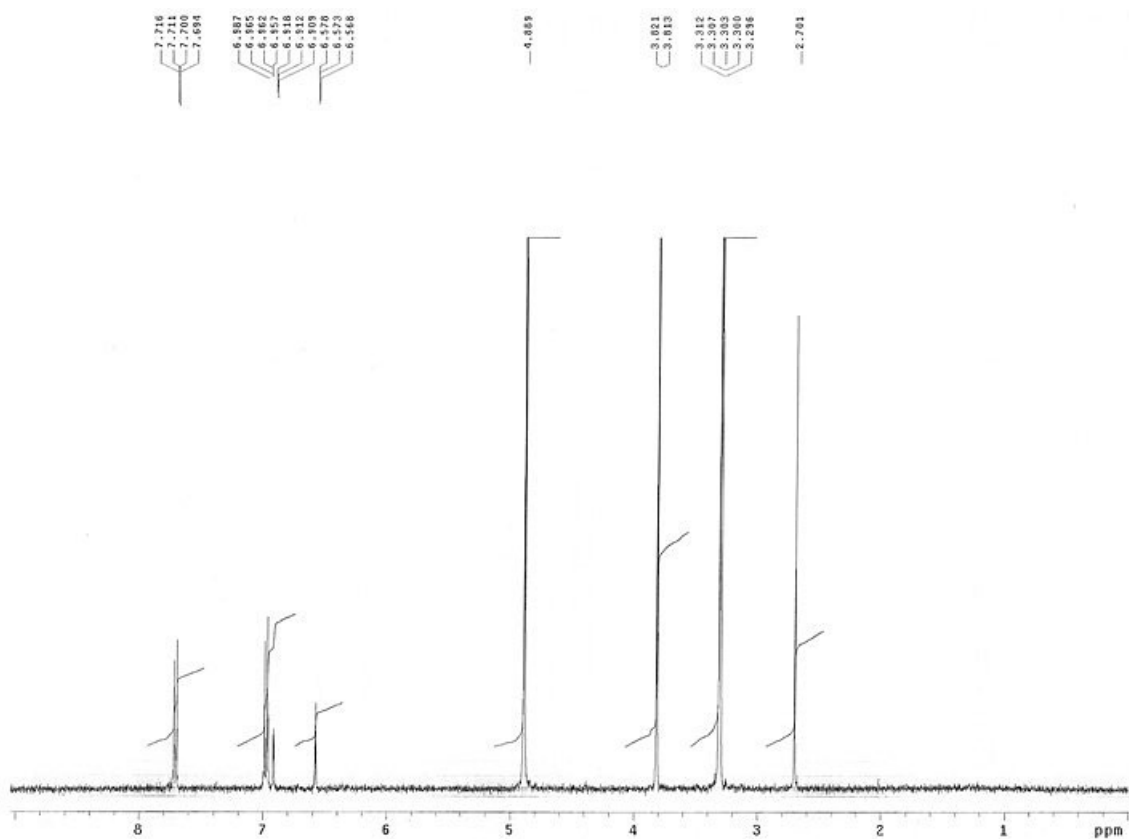


Fig. 130a: Compound **117** ^1H NMR spectra.

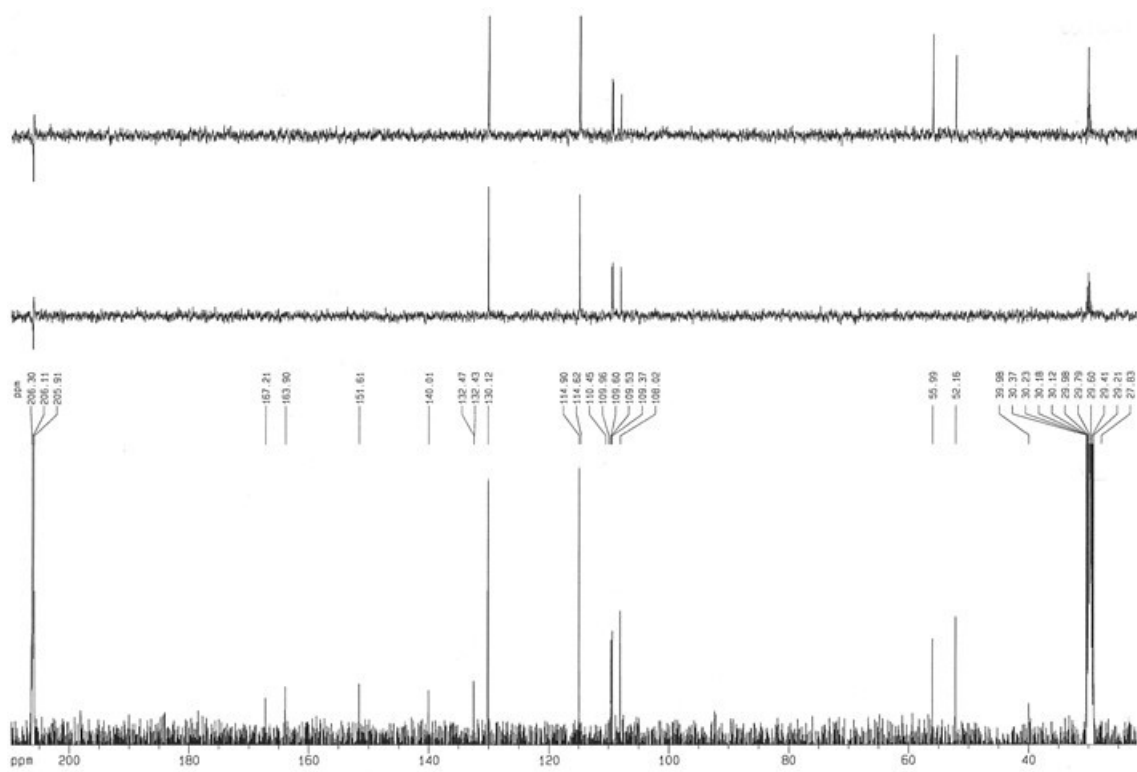


Fig. 130b: Compound **117** ^{13}C NMR spectra.

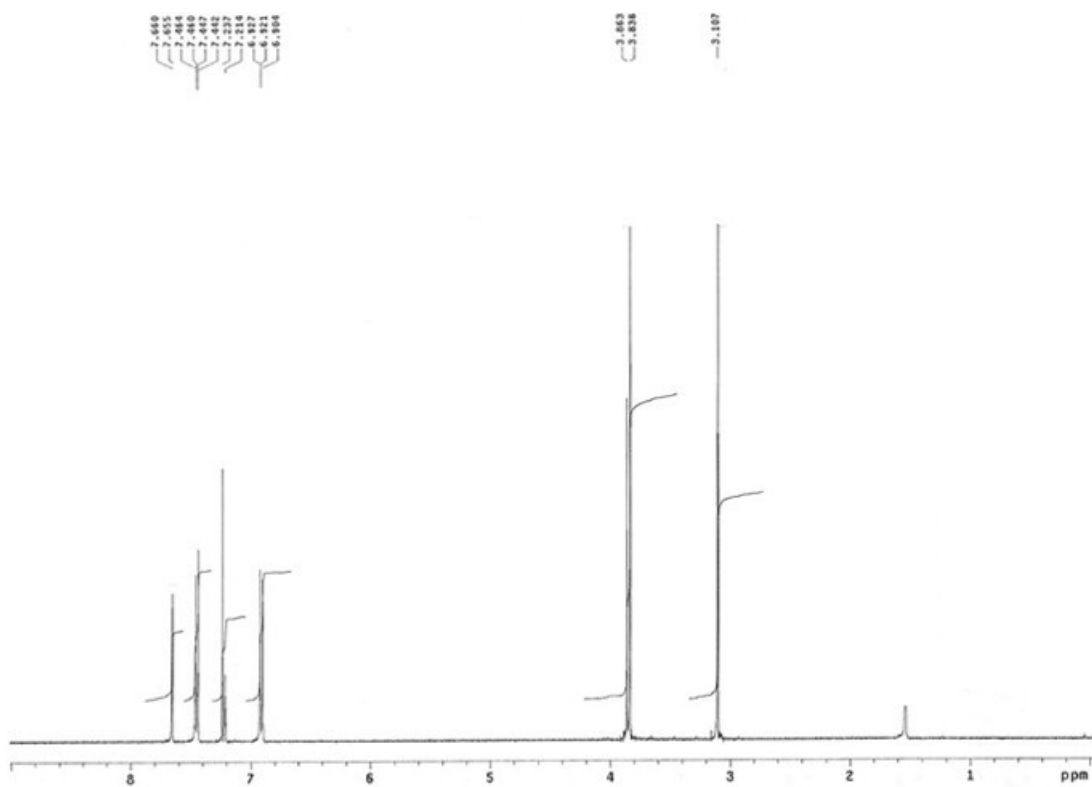


Fig. 131a: Compound **118** ^1H NMR spectra.

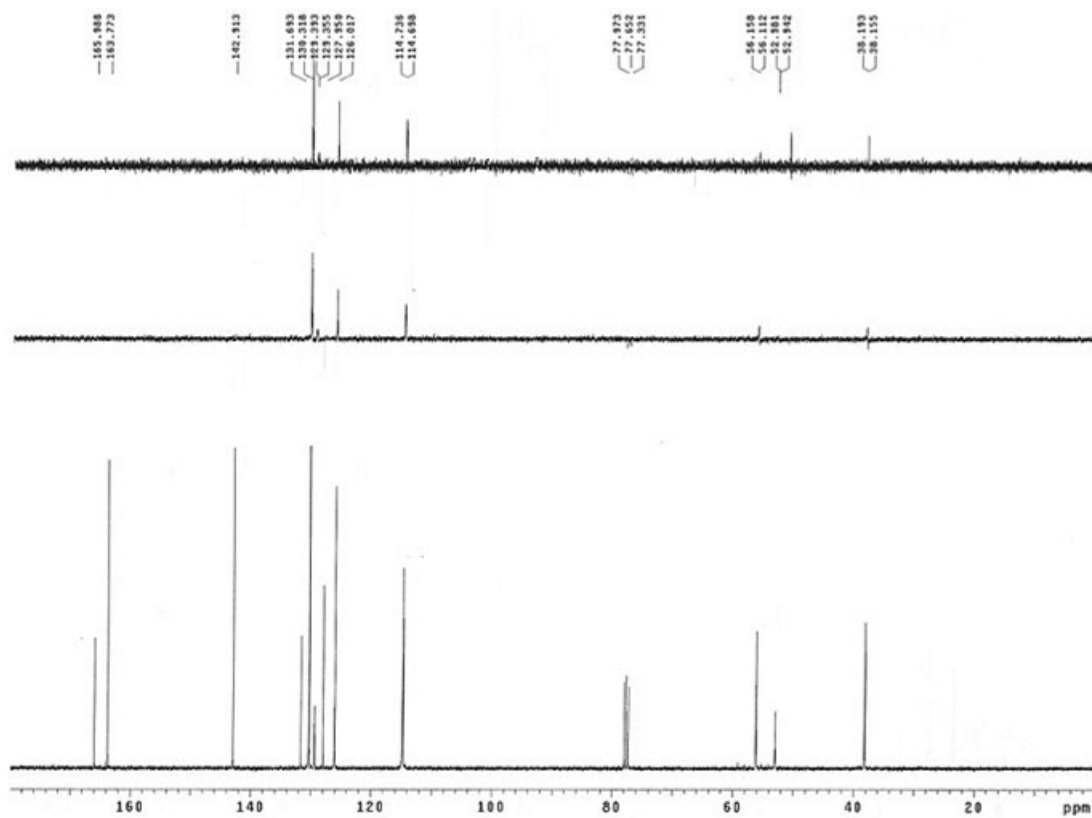


Fig. 131b: Compound **118** ^{13}C NMR spectra.

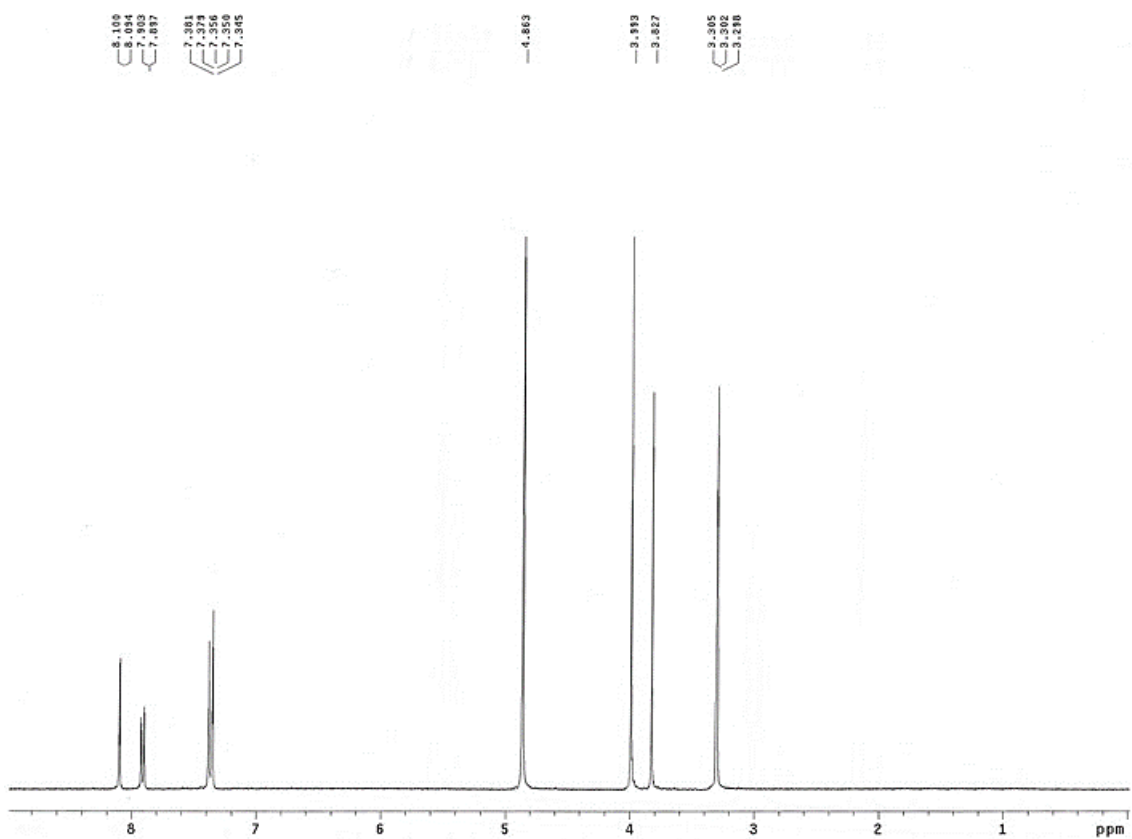


Fig. 132a: Compound **119** ^1H NMR spectra.

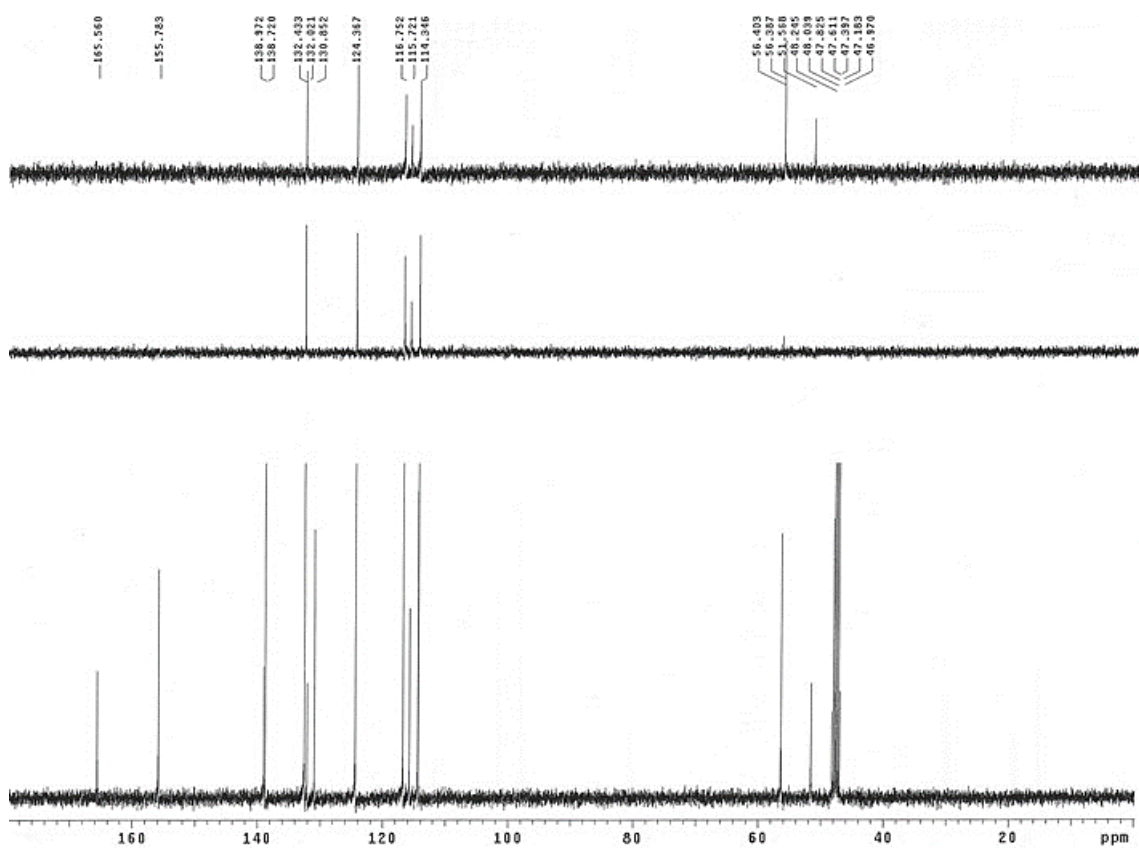


Fig. 132b: Compound **119** ^{13}C NMR spectra.

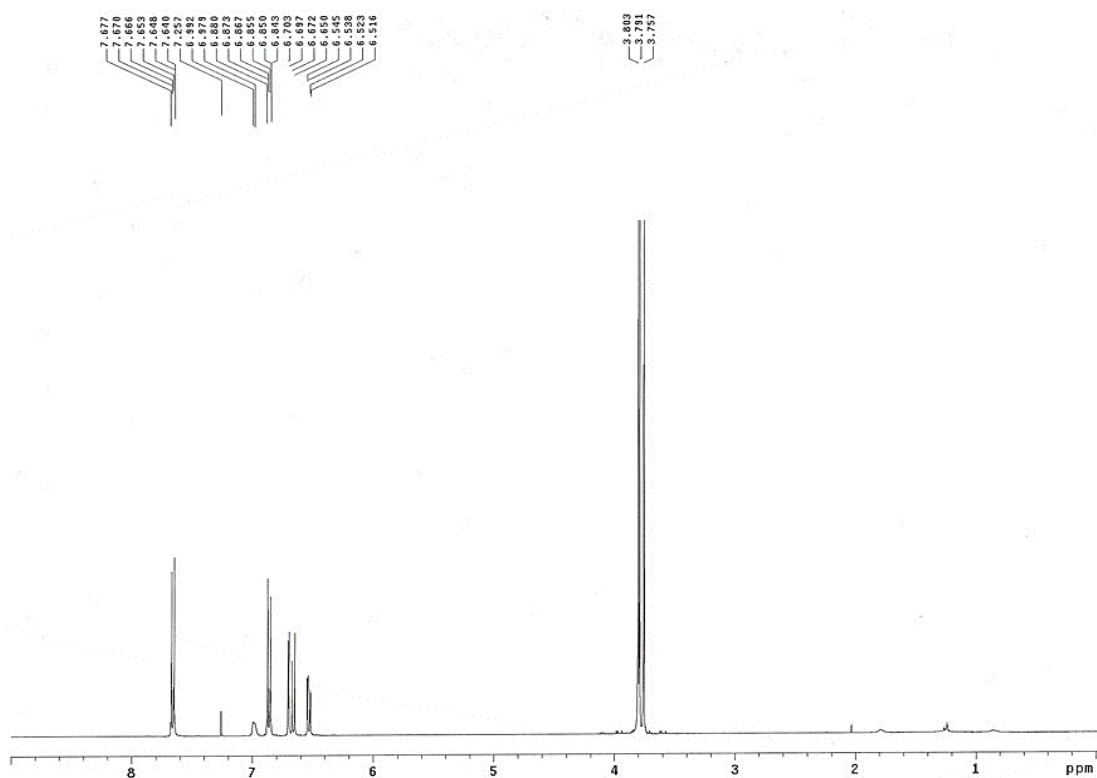


Fig. 133a: Compound **120** ¹H NMR spectra.

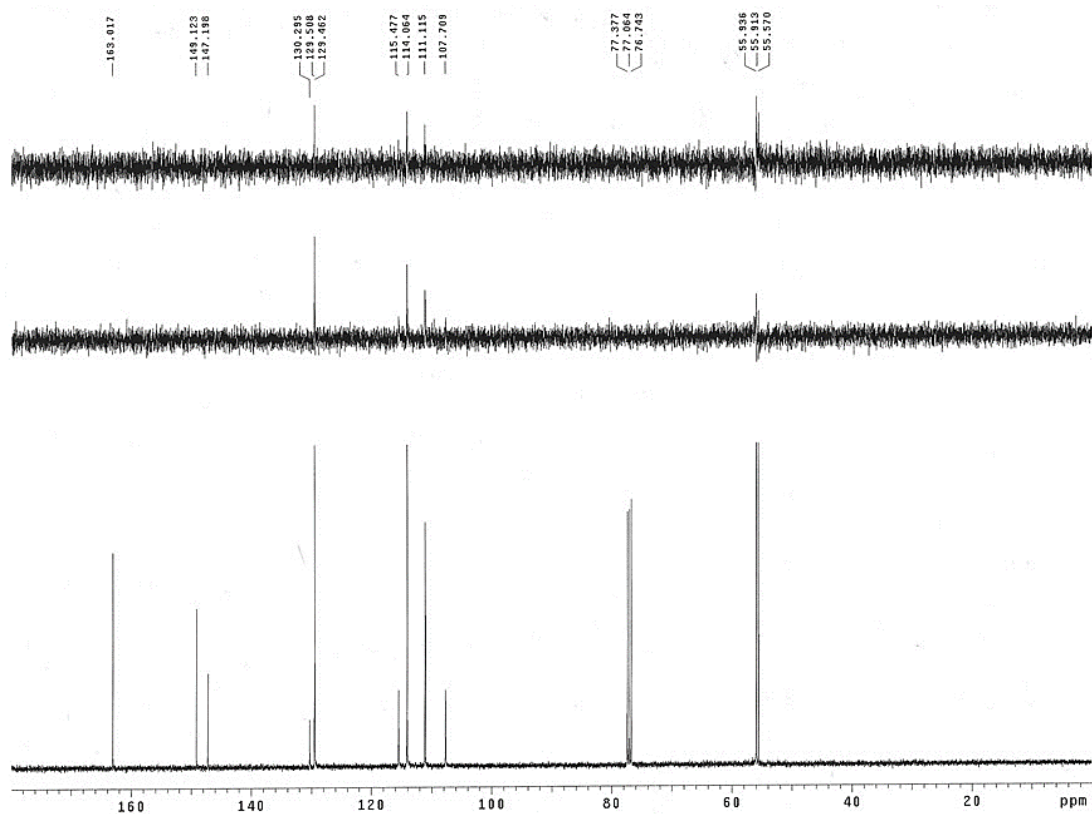


Fig. 133b: Compound **120** ¹³C NMR spectra.

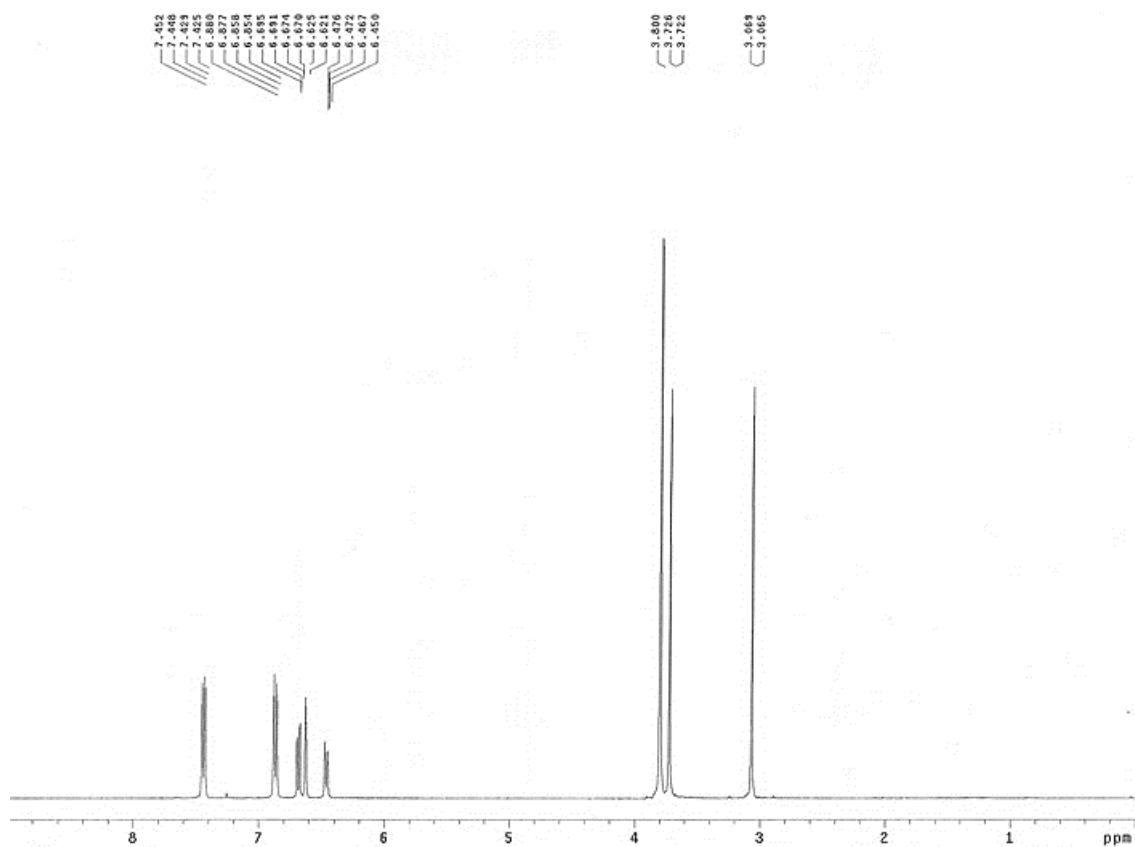


Fig. 134a: Compound **121a** ^1H NMR spectra.

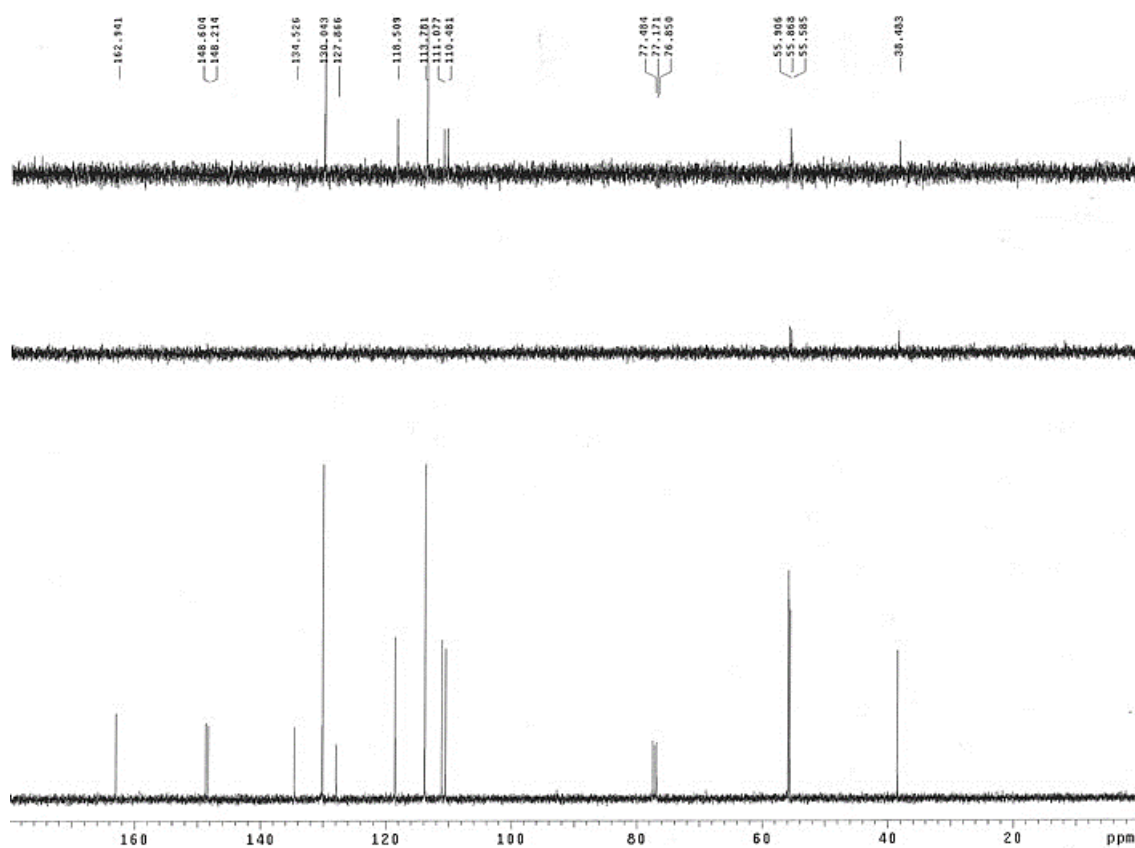


Fig. 134b: Compound **121a** ^{13}C NMR spectra.

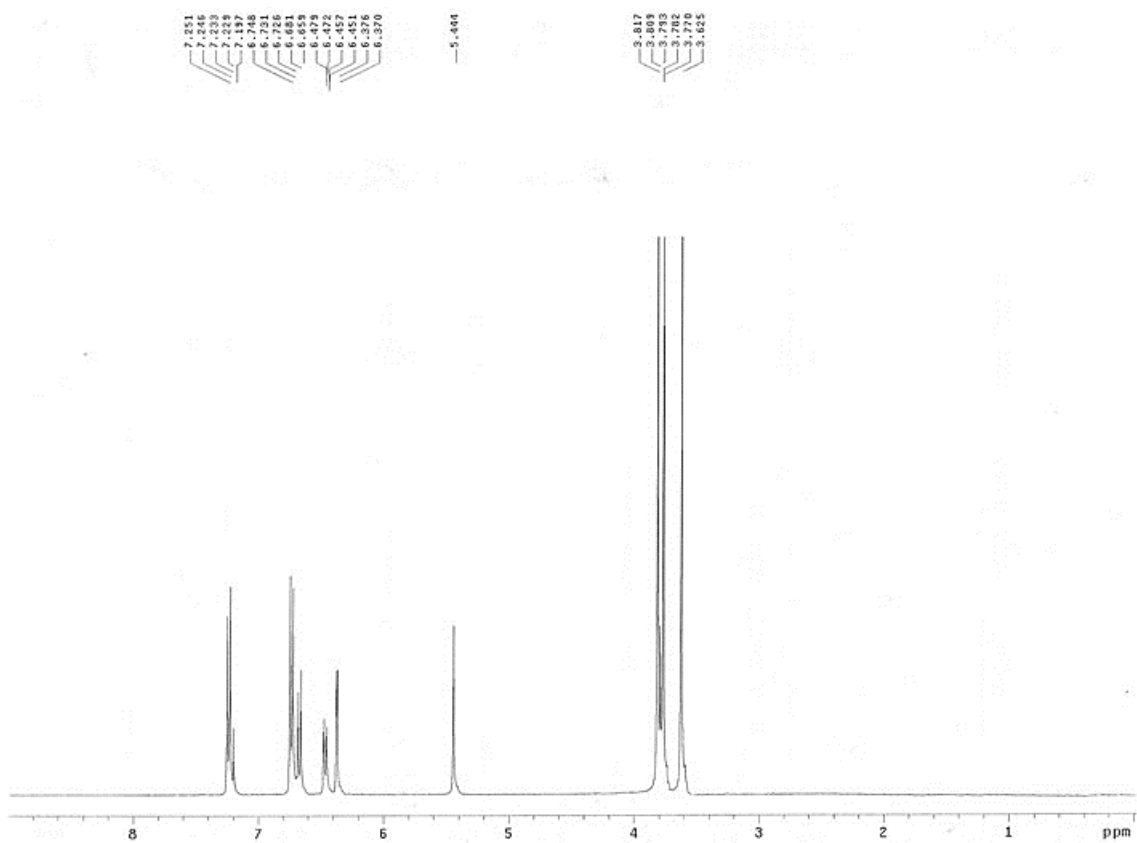


Fig. 135a: Compound **121b** ^1H NMR spectra.

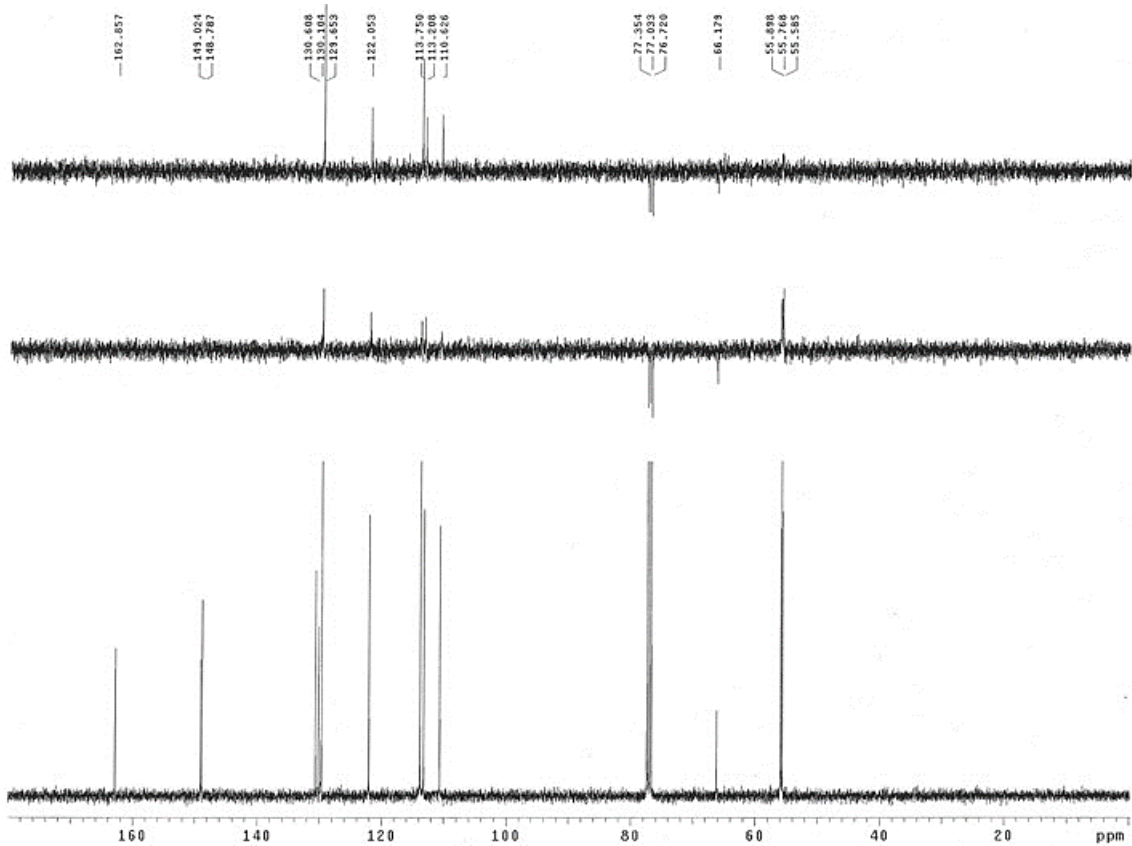


Fig. 135b: Compound **121b** ^{13}C NMR spectra.

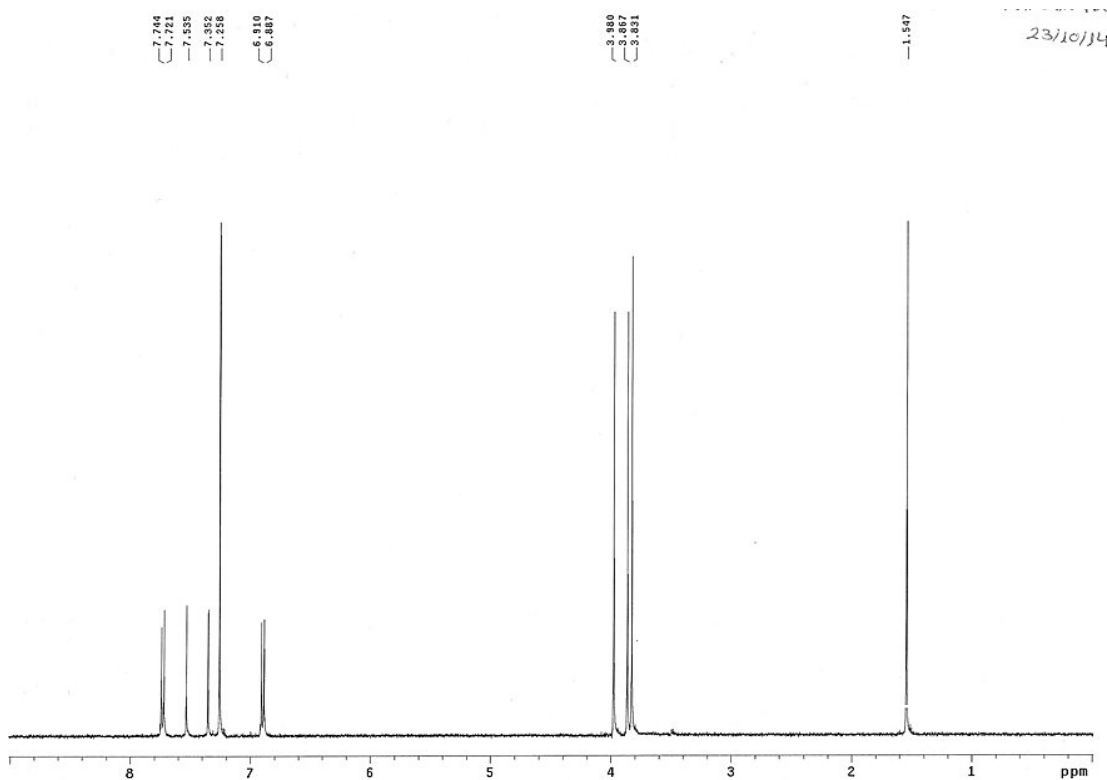


Fig. 136a: Compound **122** ^1H NMR spectra.

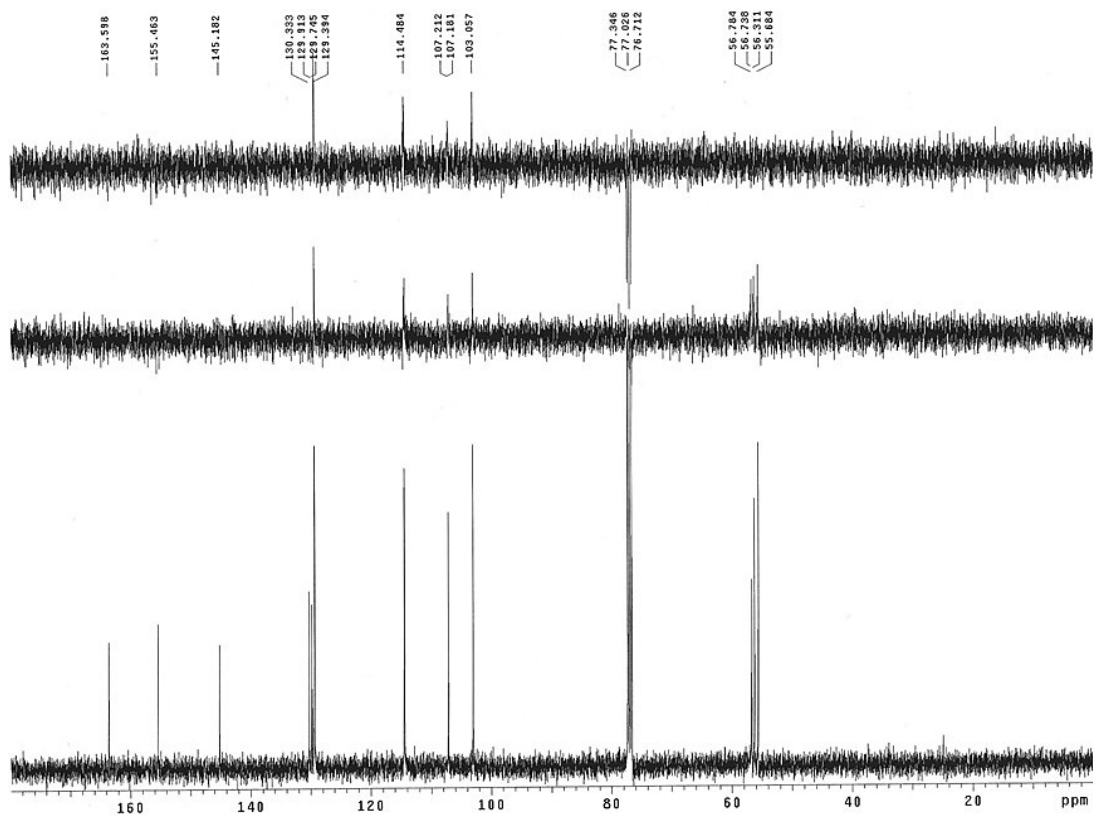


Fig. 136b: Compound **122** ^{13}C NMR spectra.

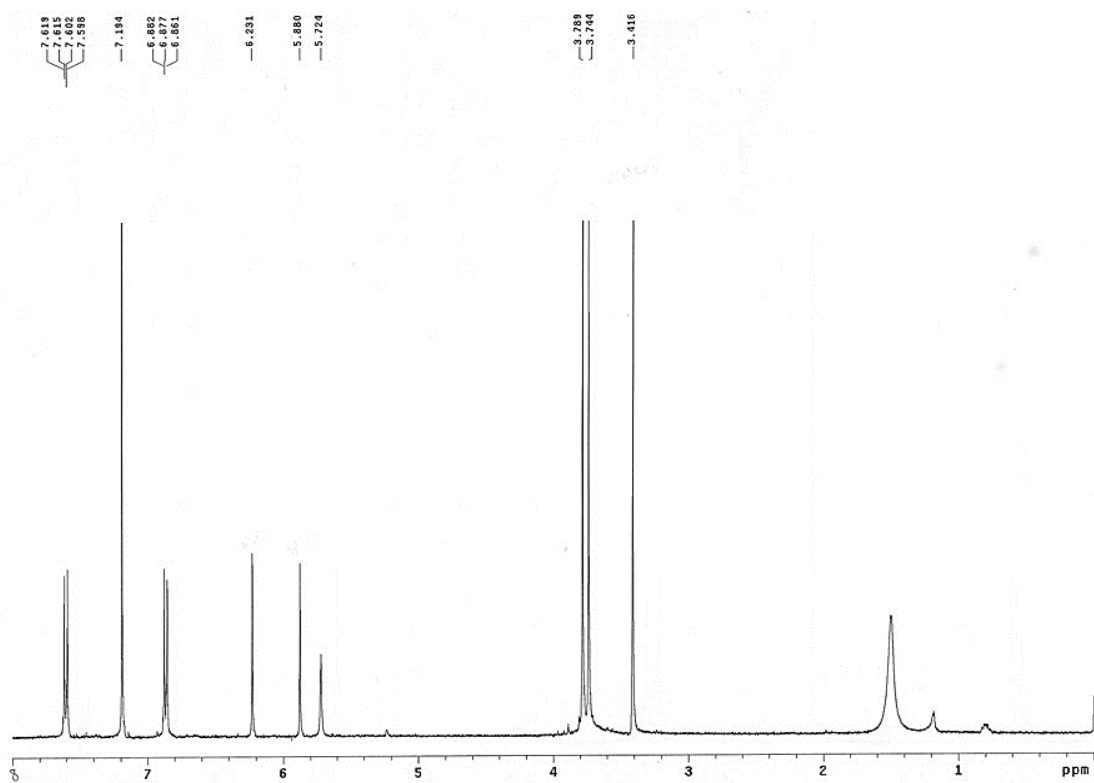


Fig. 137a: Compound **123** ^1H NMR spectra.

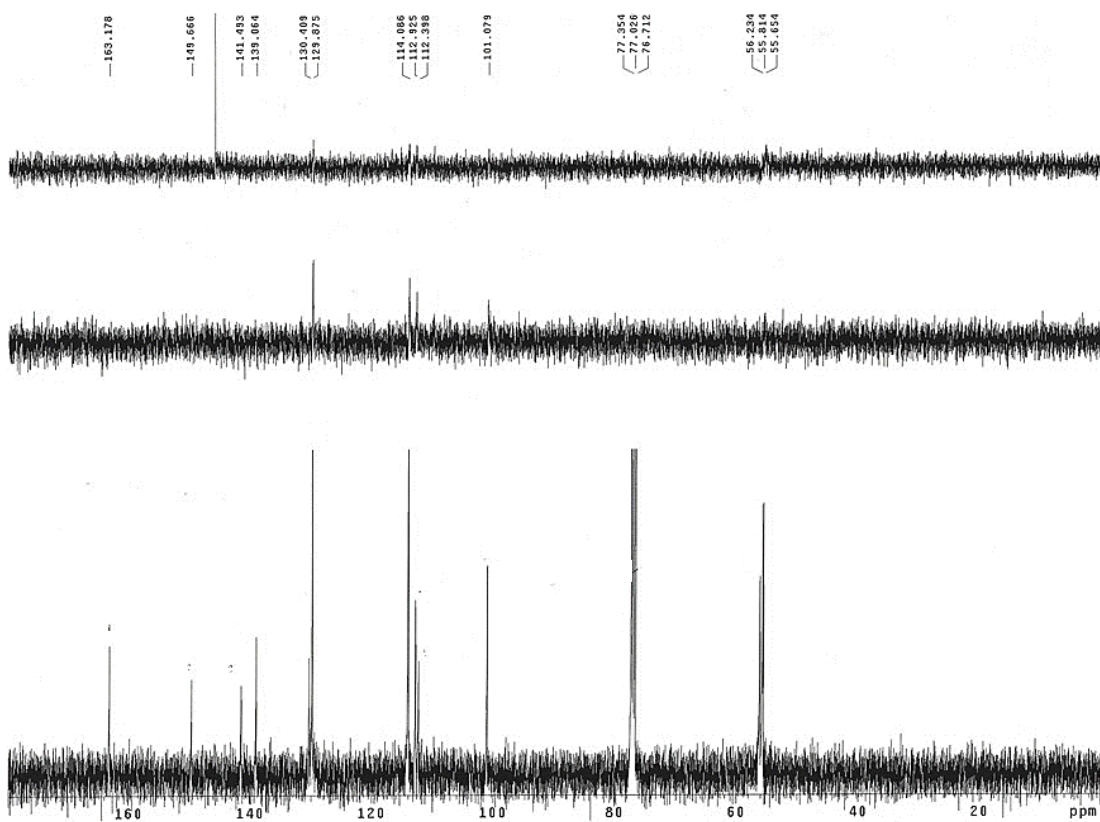


Fig. 137b: Compound **123** ^{13}C NMR spectra.

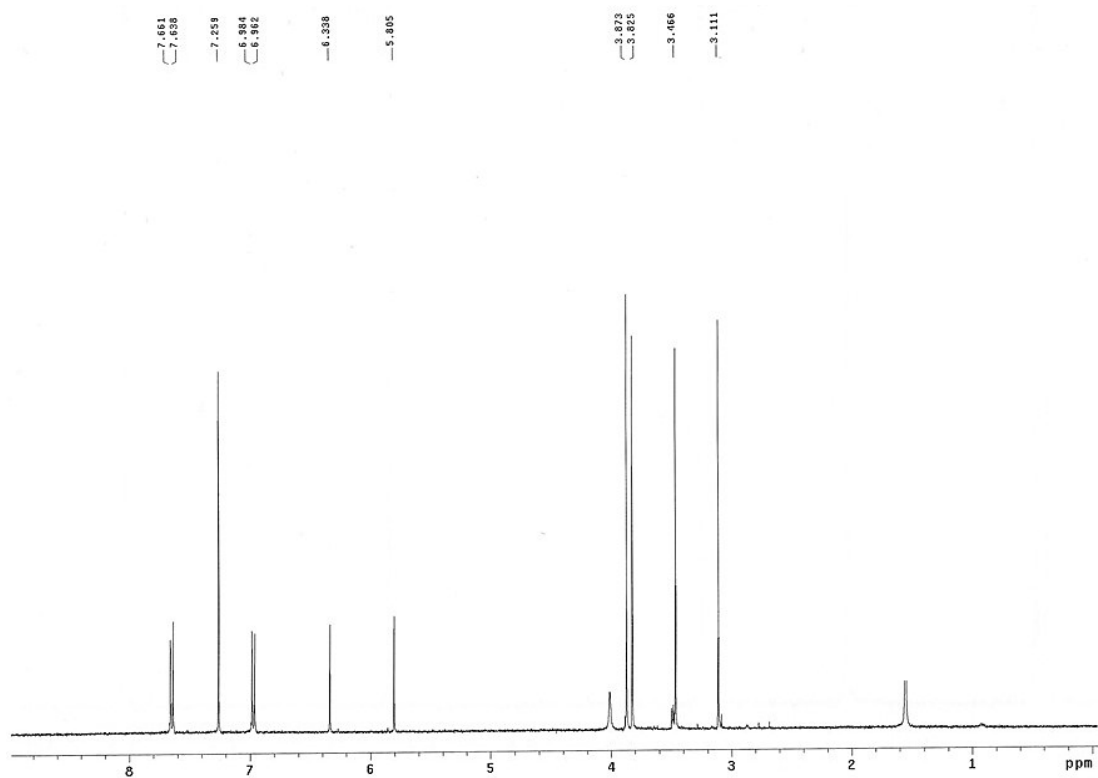


Fig. 138a: Compound **124** ^1H NMR spectra.

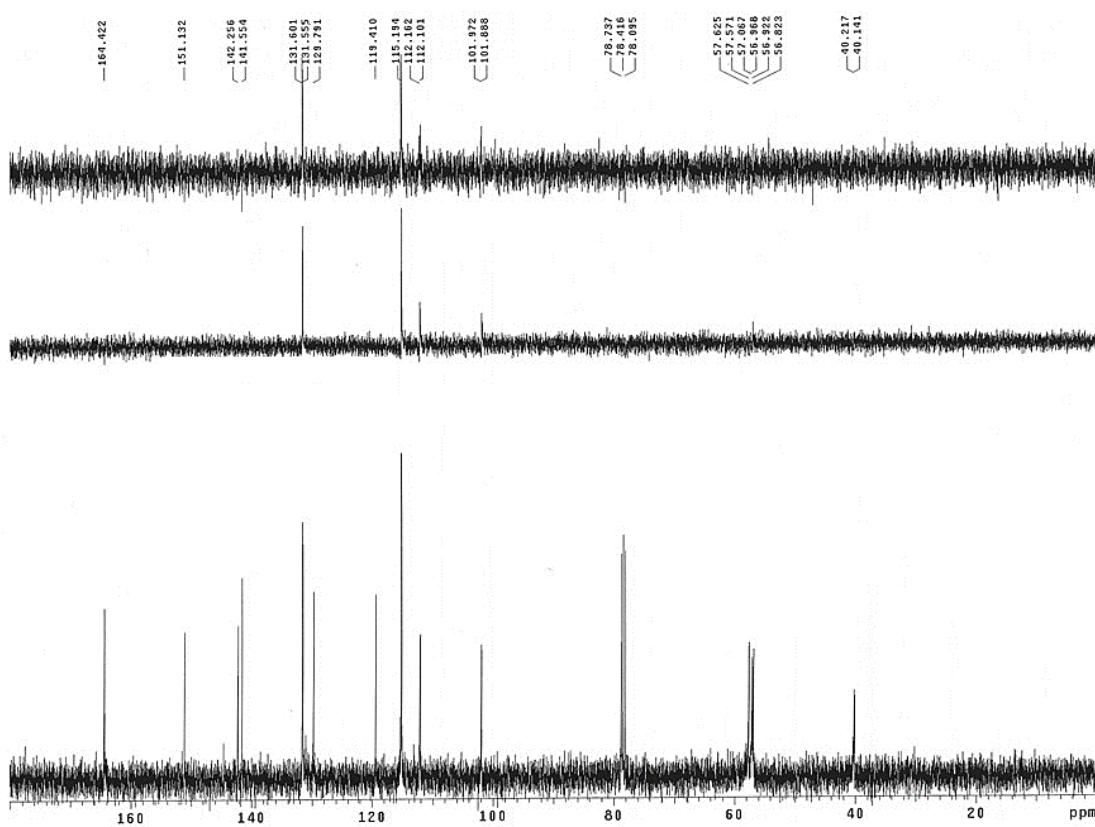


Fig. 138b: Compound **124** ^{13}C NMR spectra.

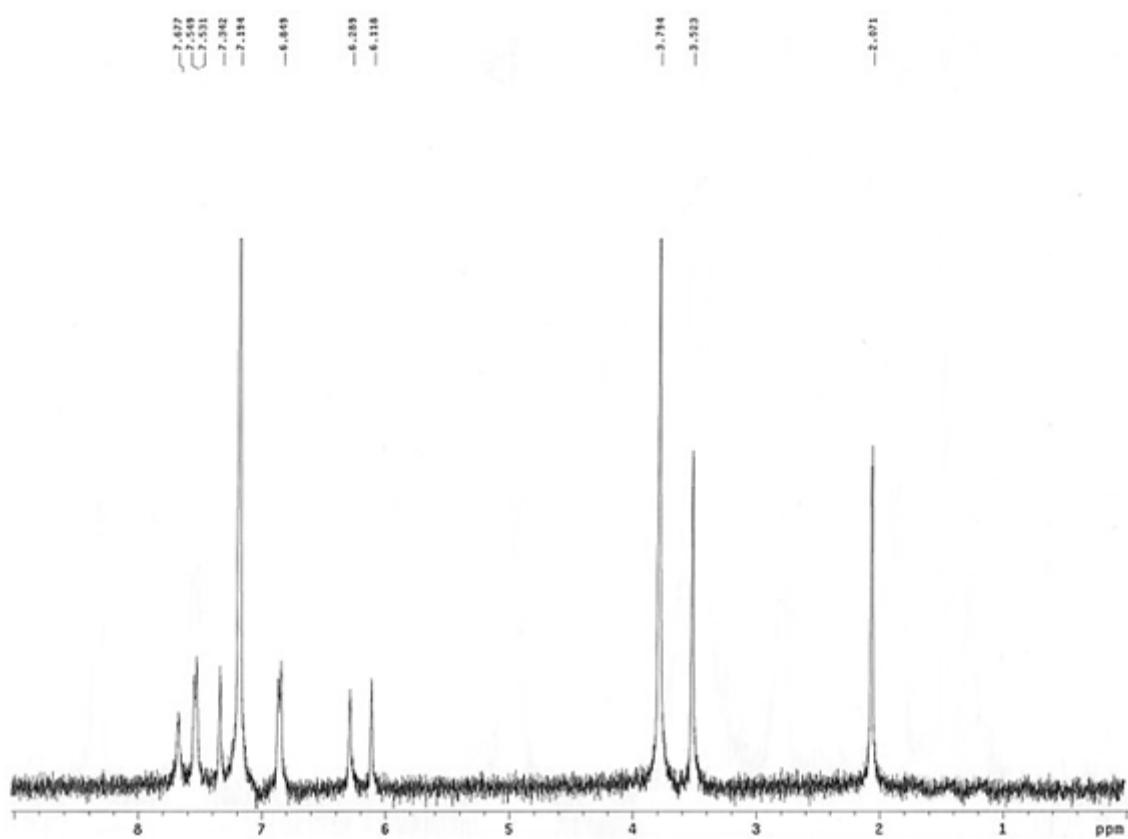


Fig. 139a: Compound **125a** ¹H NMR spectra.

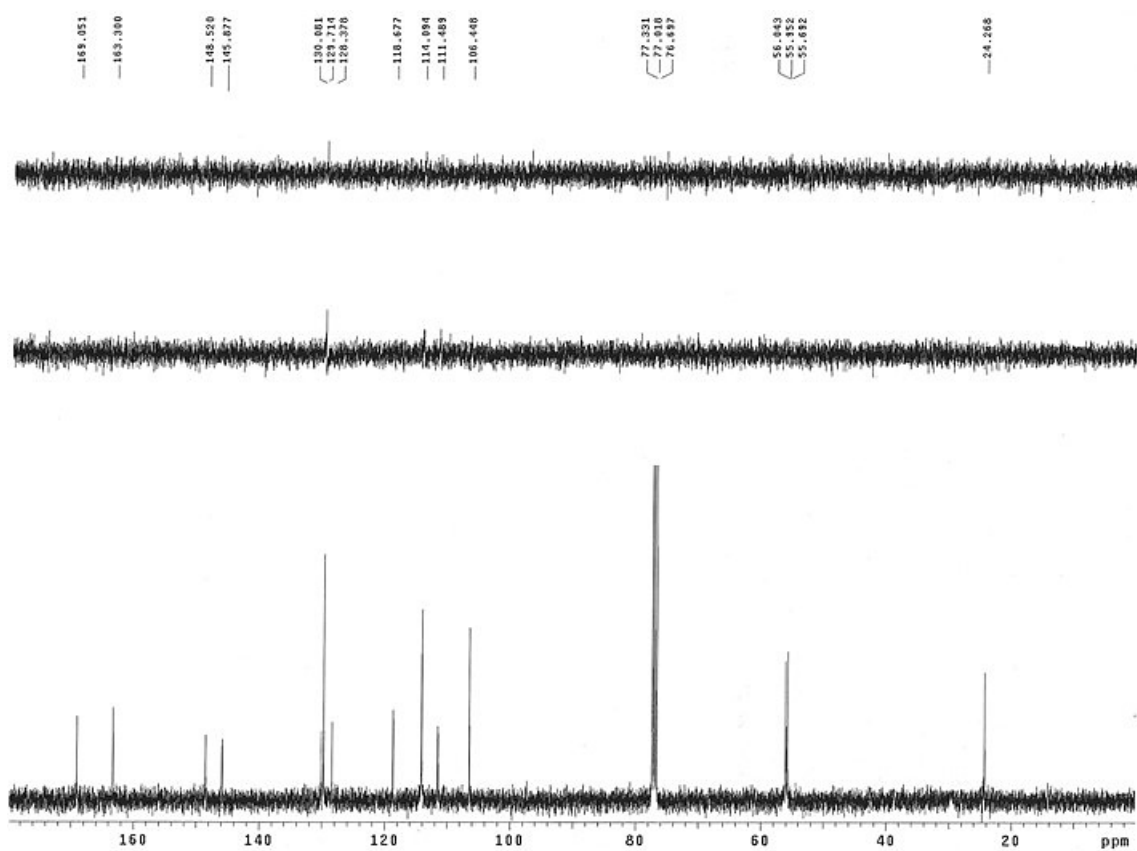


Fig. 139b: Compound **125a** ¹³C NMR spectra.

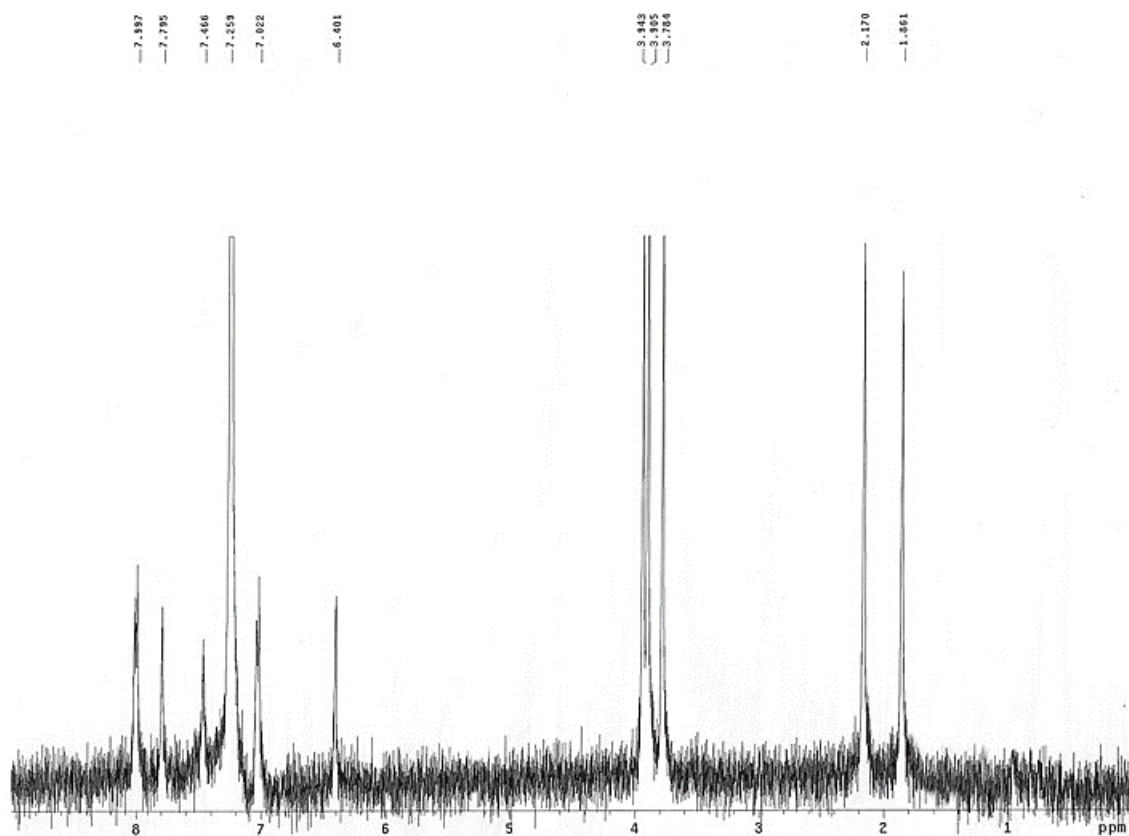


Fig. 140a: Compound **125b** ^1H NMR spectra.

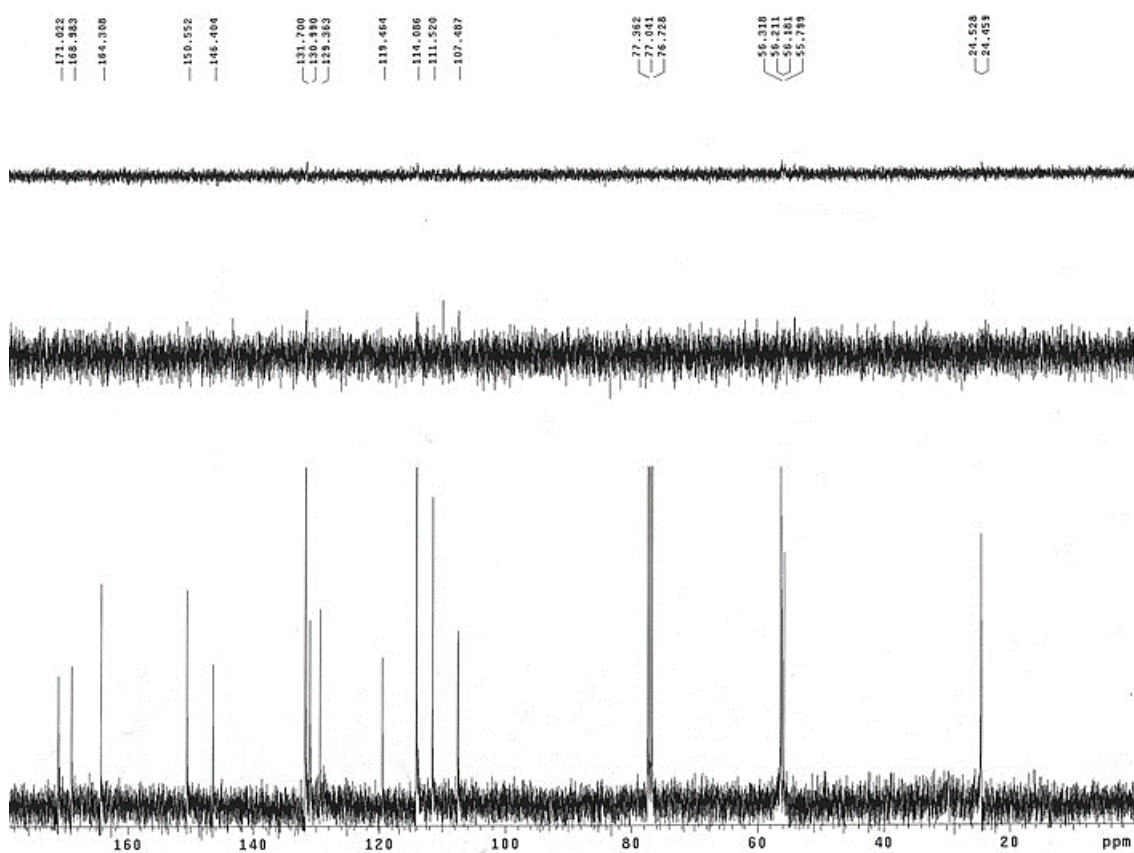


Fig. 140b: Compound **125b** ^{13}C NMR spectra.

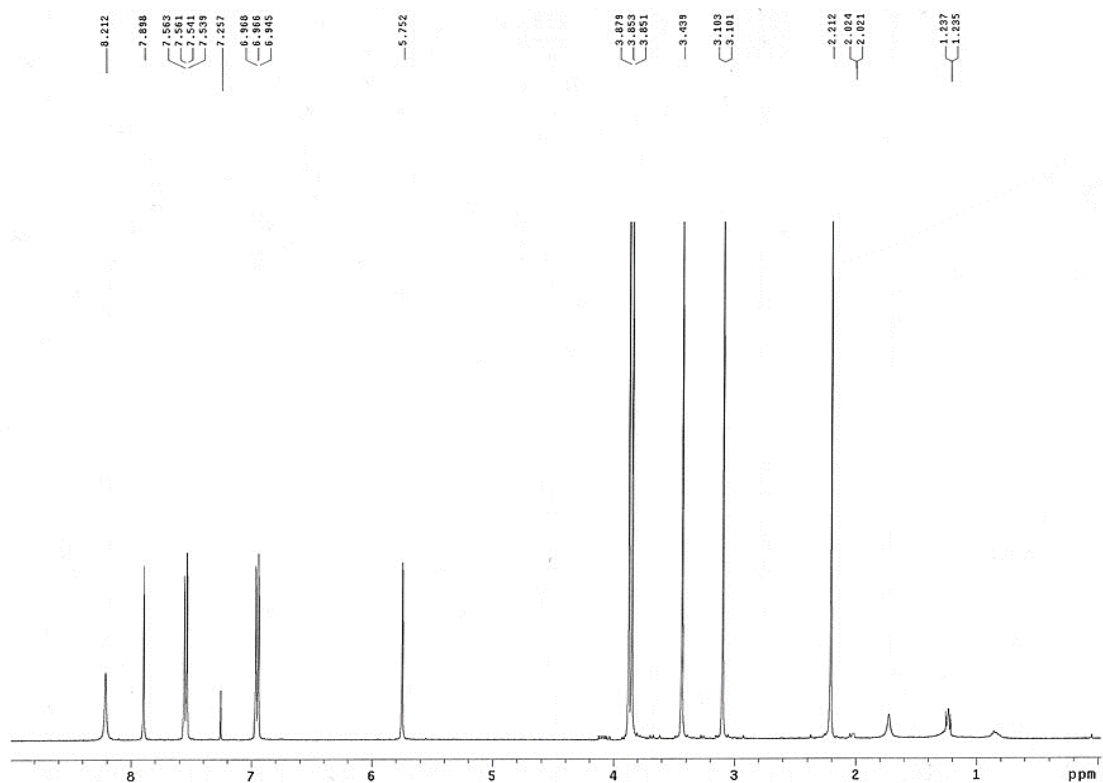


Fig. 141a: Compound **126** ^1H NMR spectra.

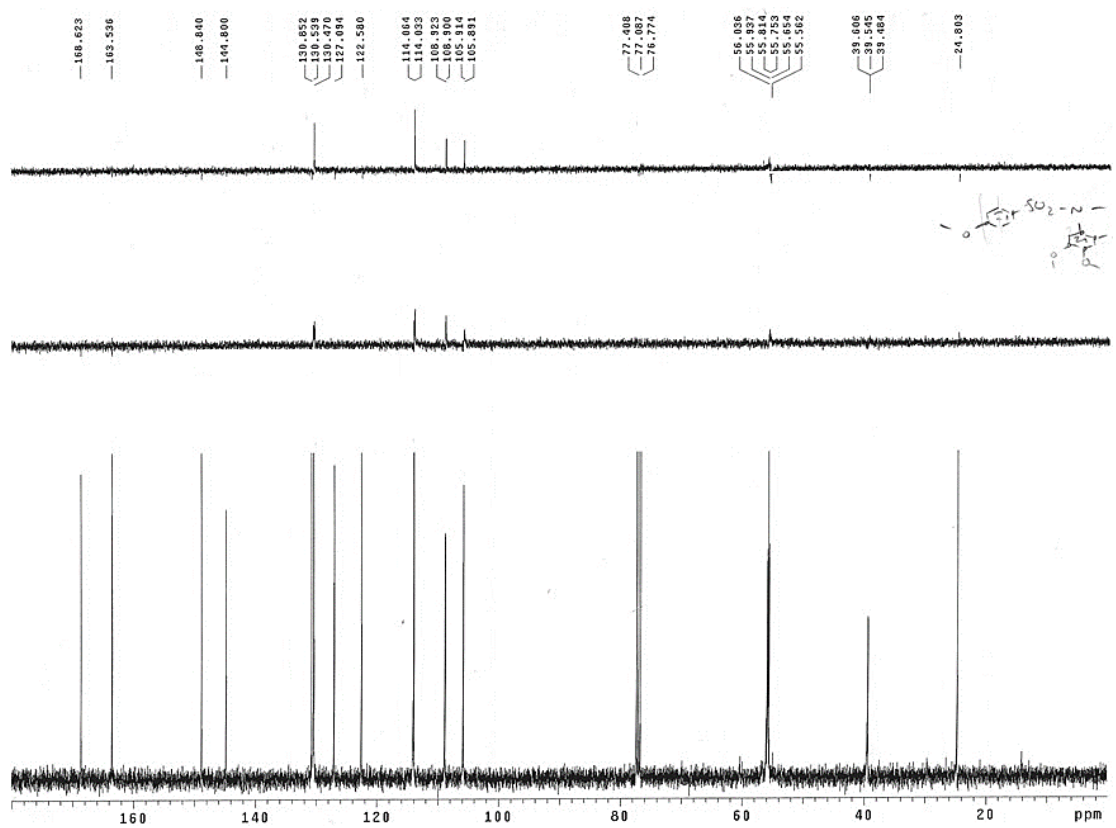


Fig. 141b: Compound **126** ^{13}C NMR spectra.

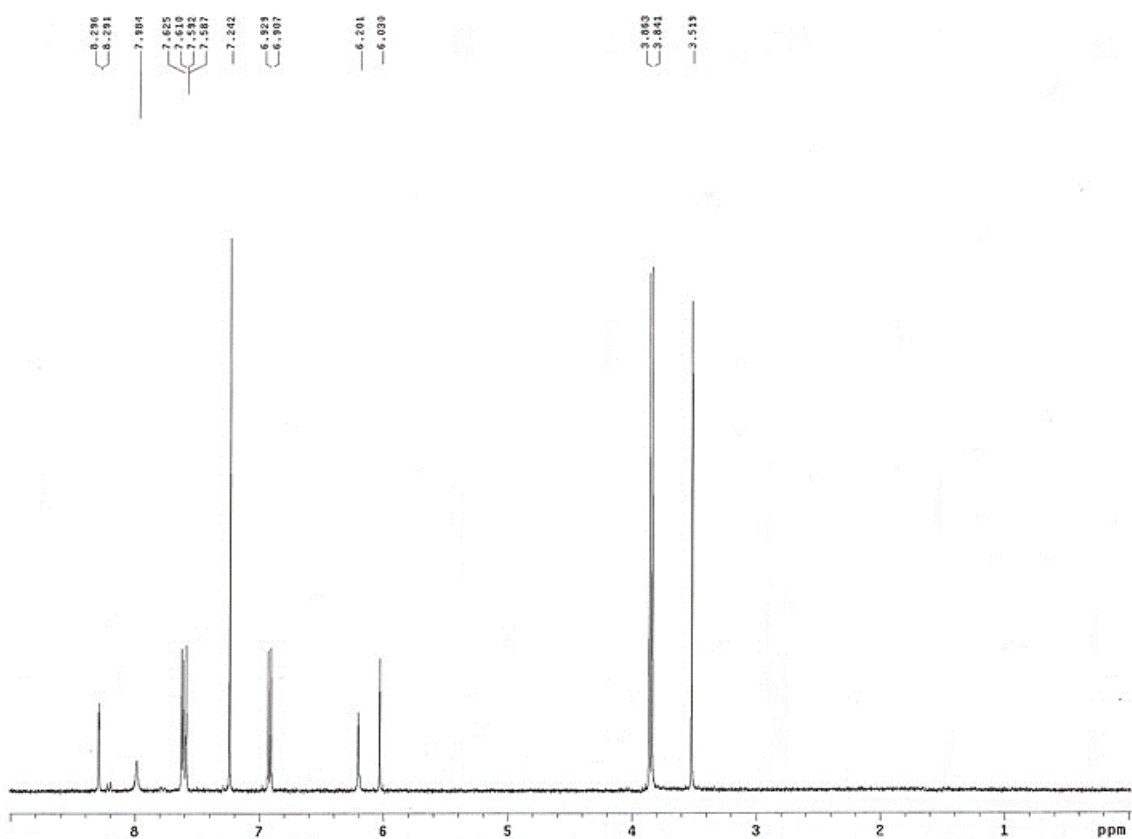


Fig. 142a: Compound **127** ^1H NMR spectra.

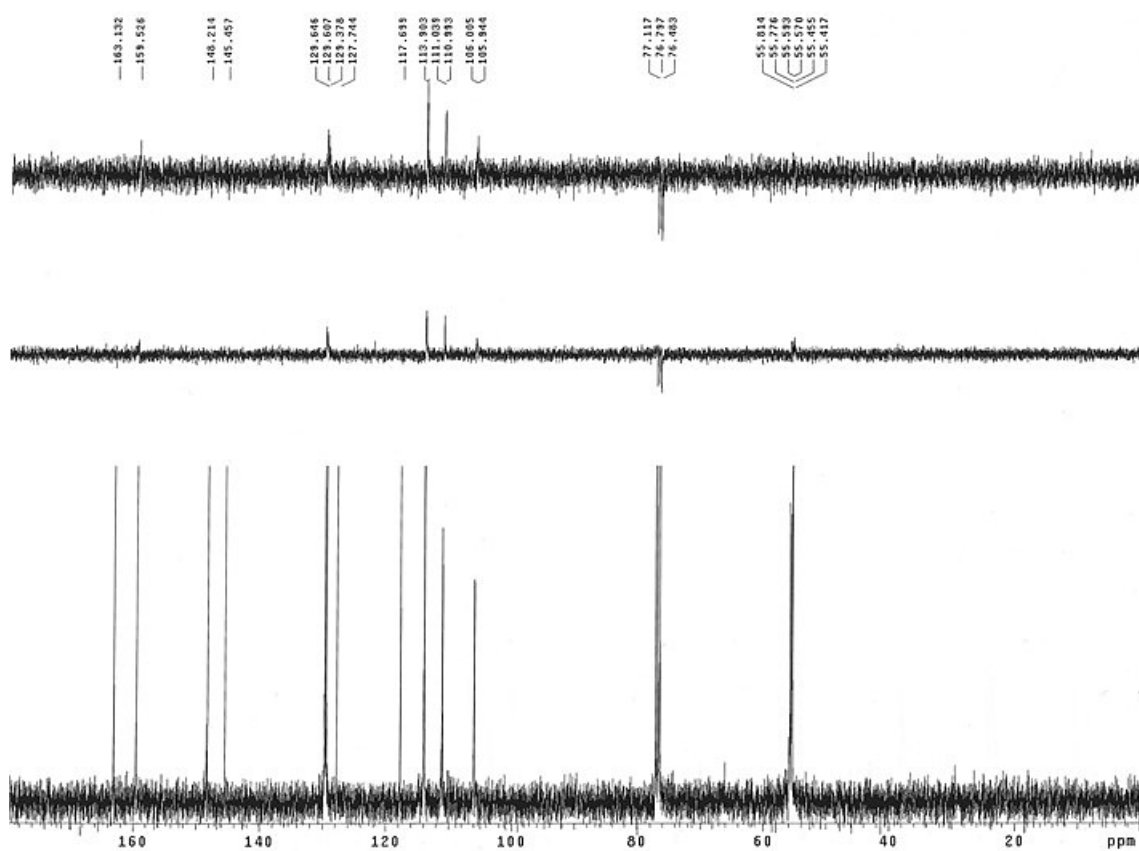


Fig. 142b: Compound **127** ^{13}C NMR spectra.

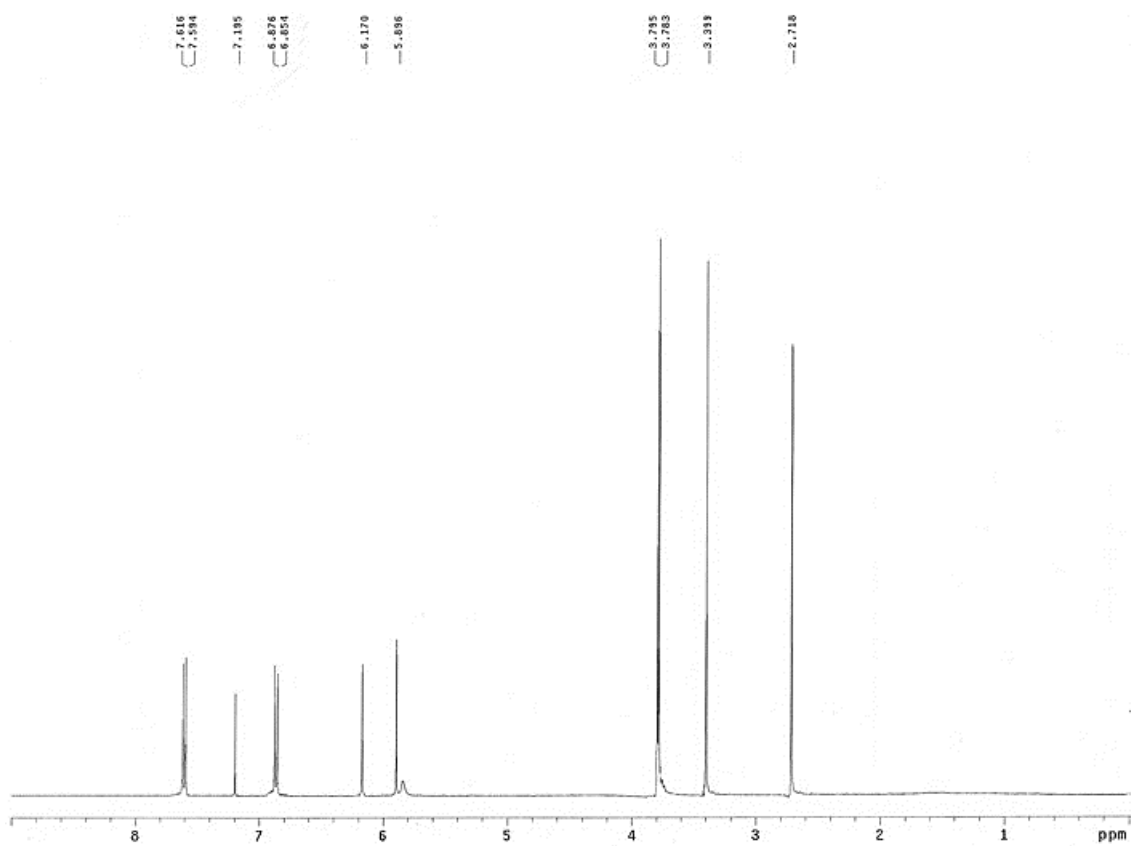


Fig. 143a: Compound **128** ¹H NMR spectra.

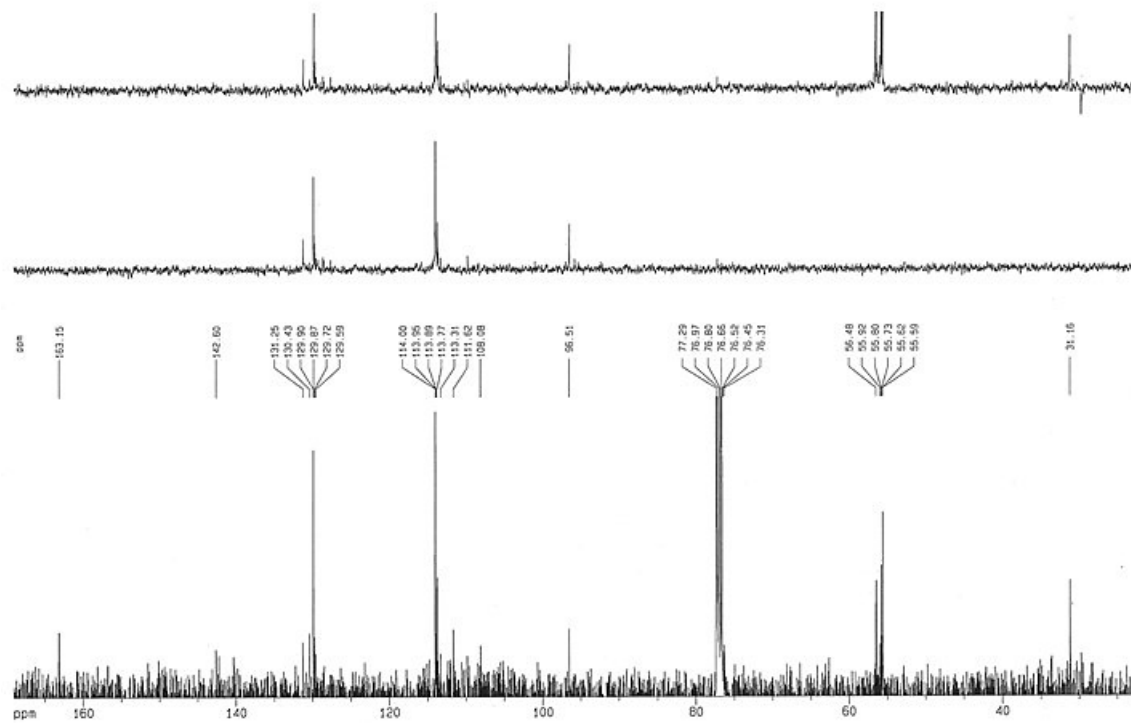


Fig. 143b: Compound **128** ¹³C NMR spectra.

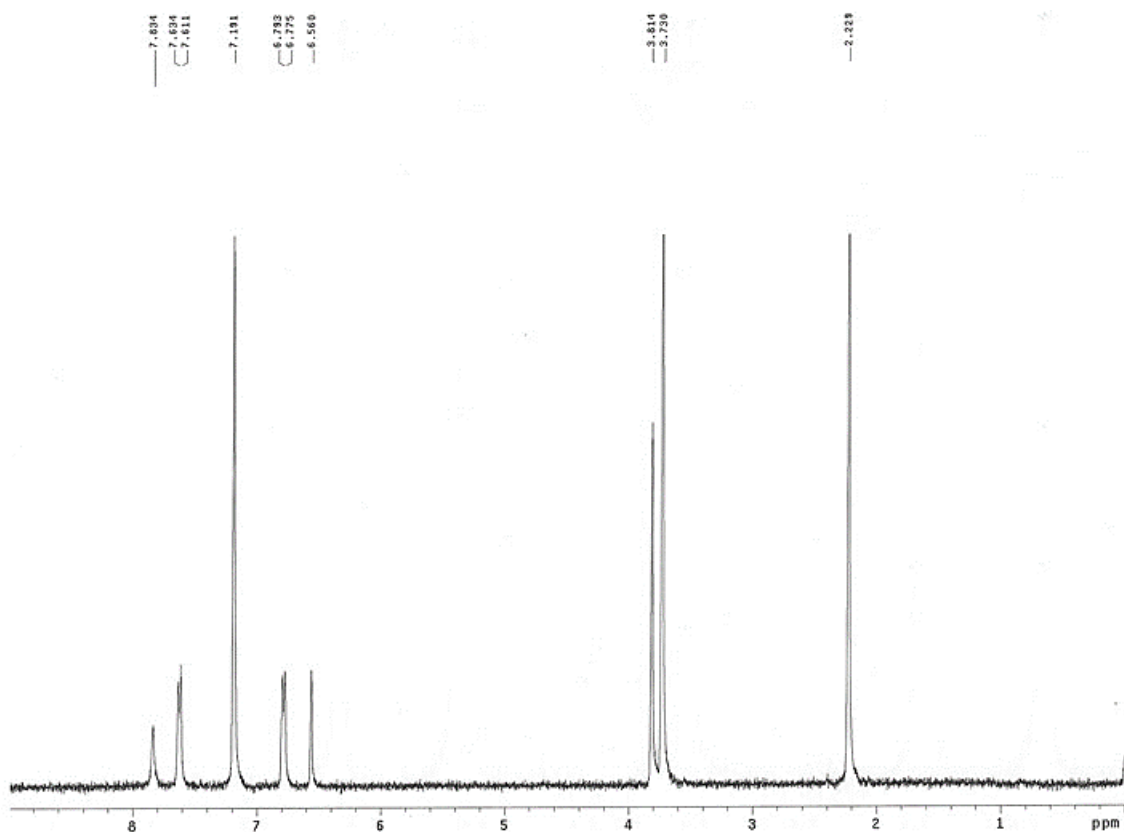


Fig. 144a: Compound **129** ^1H NMR spectra.

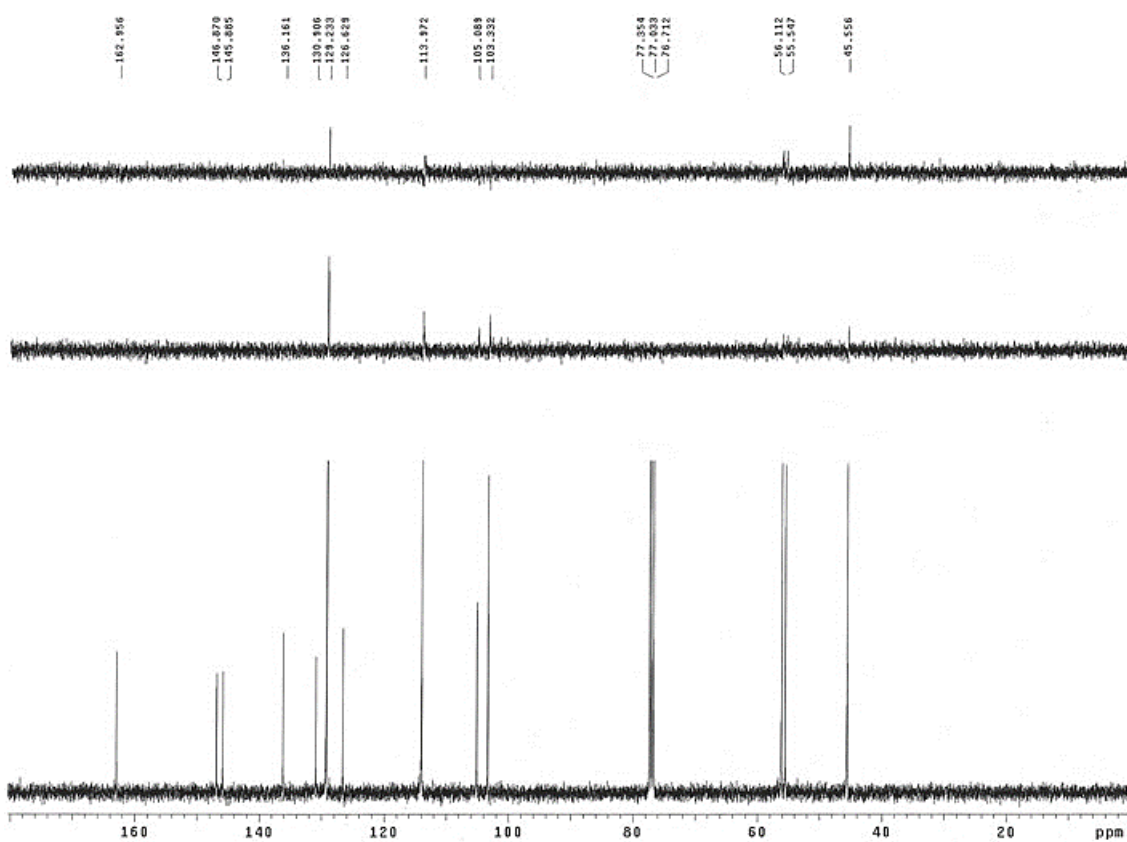


Fig. 144b: Compound **129** ^{13}C NMR spectra.

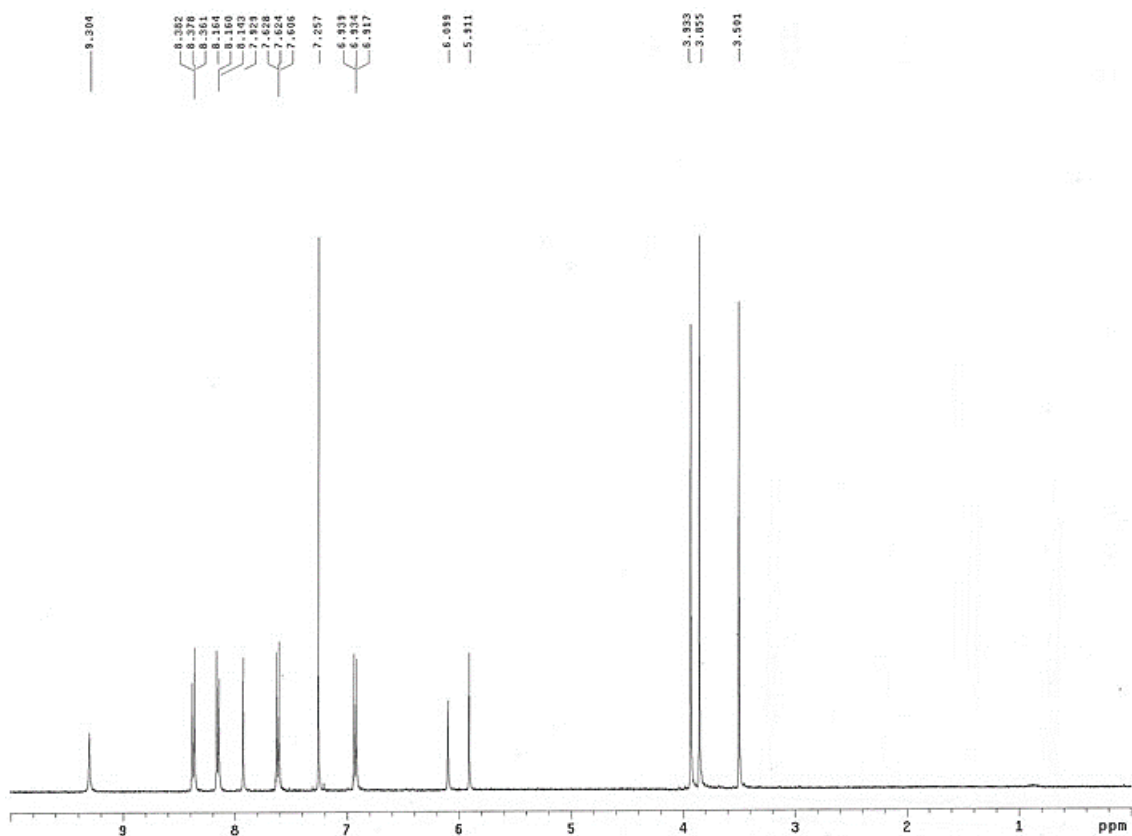


Fig. 145a: Compound **130** ^1H NMR spectra.

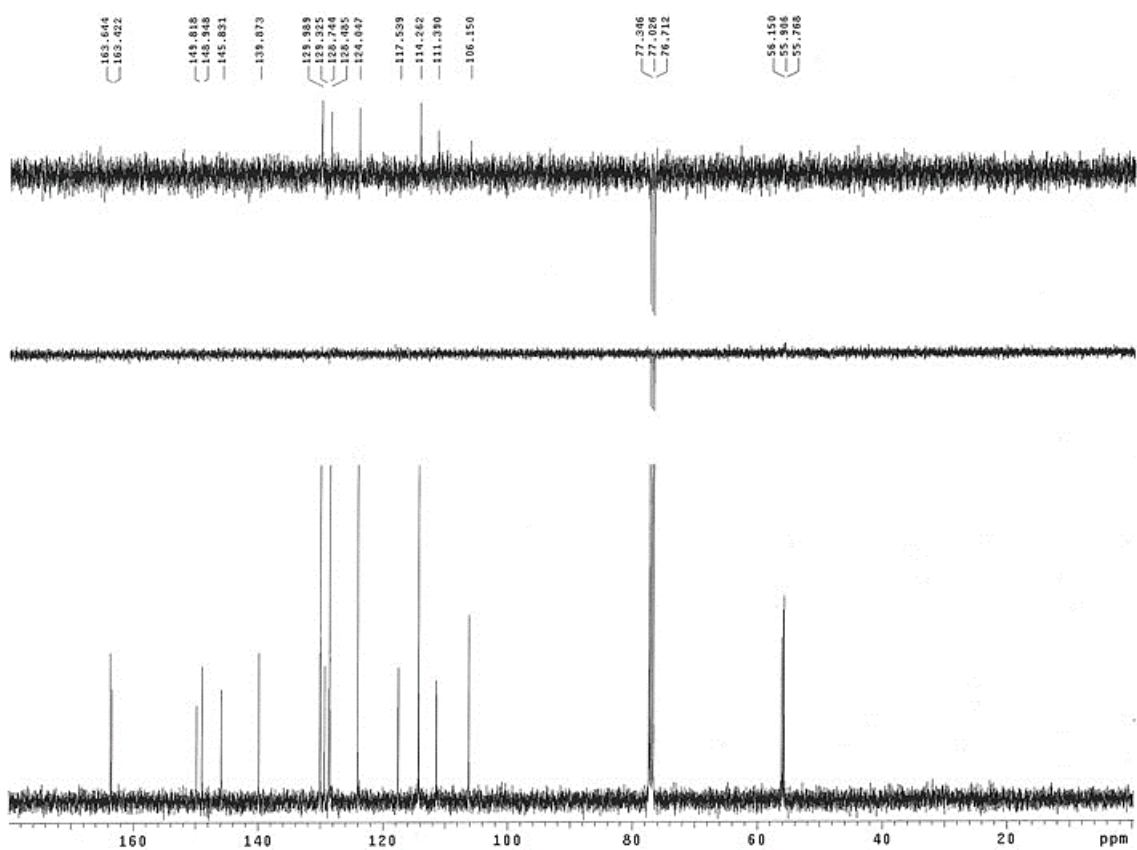


Fig. 145b: Compound **130** ^{13}C NMR spectra.

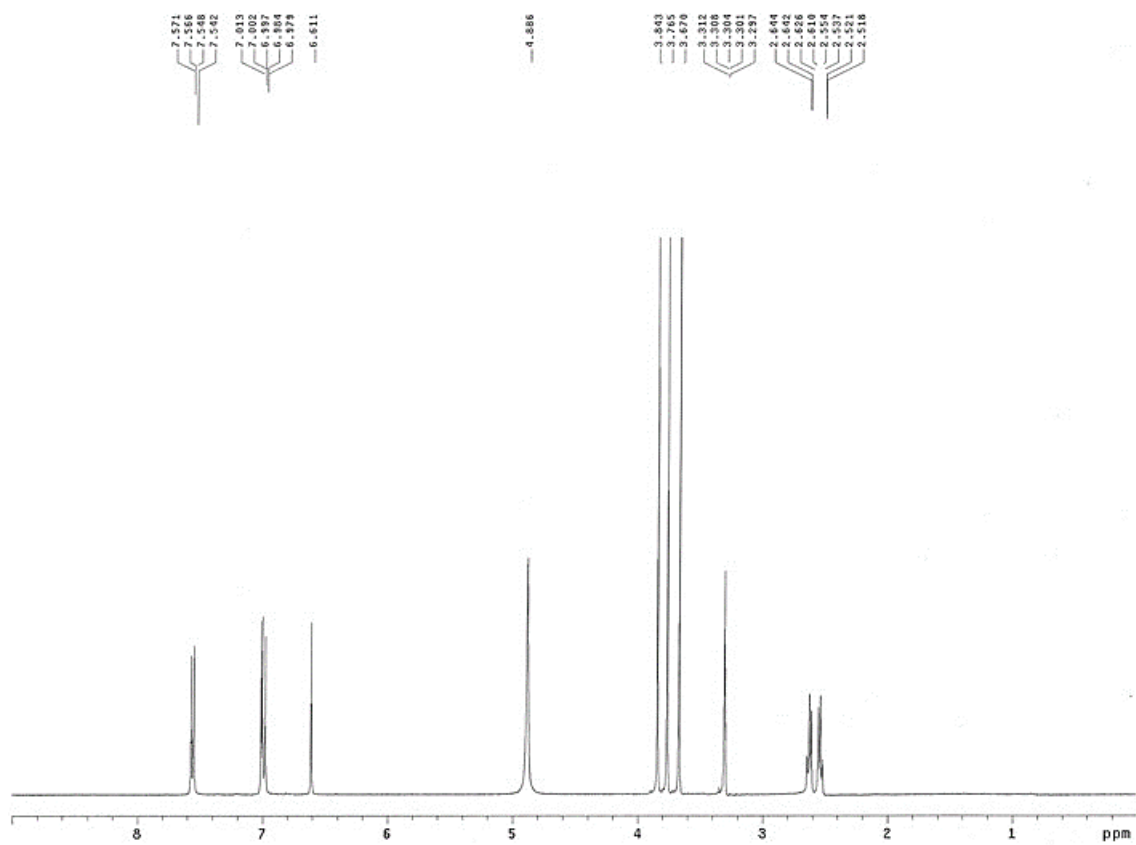


Fig. 146a: Compound **131** ^1H NMR spectra.

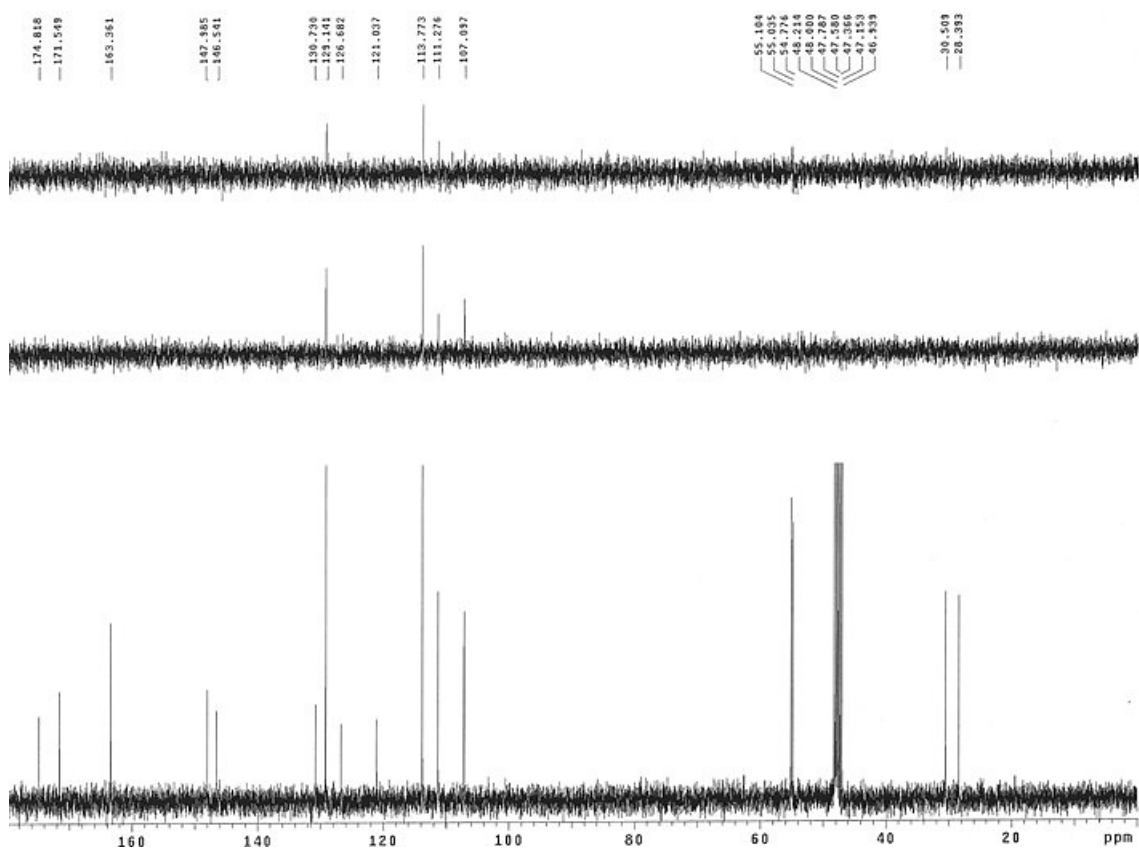


Fig. 146b: Compound **131** ^{13}C NMR spectra.

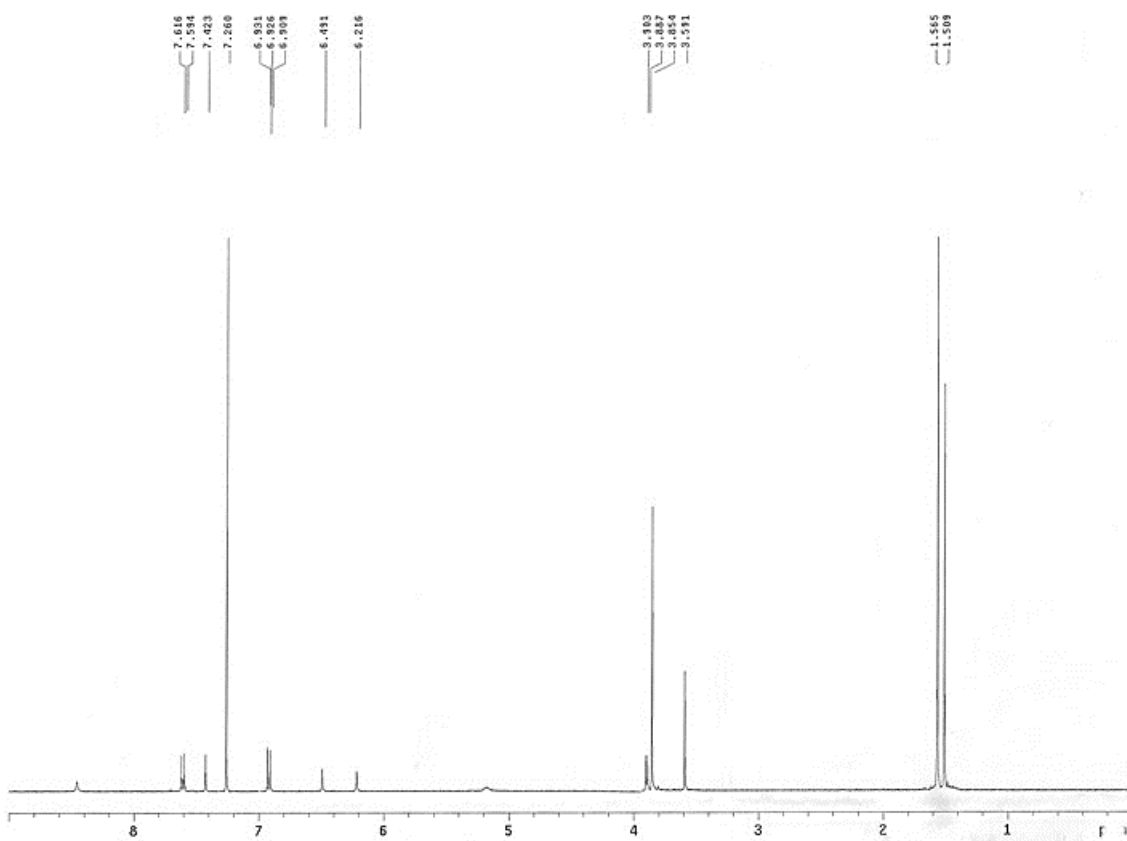


Fig. 147a: Compound **132** ^1H NMR spectra.

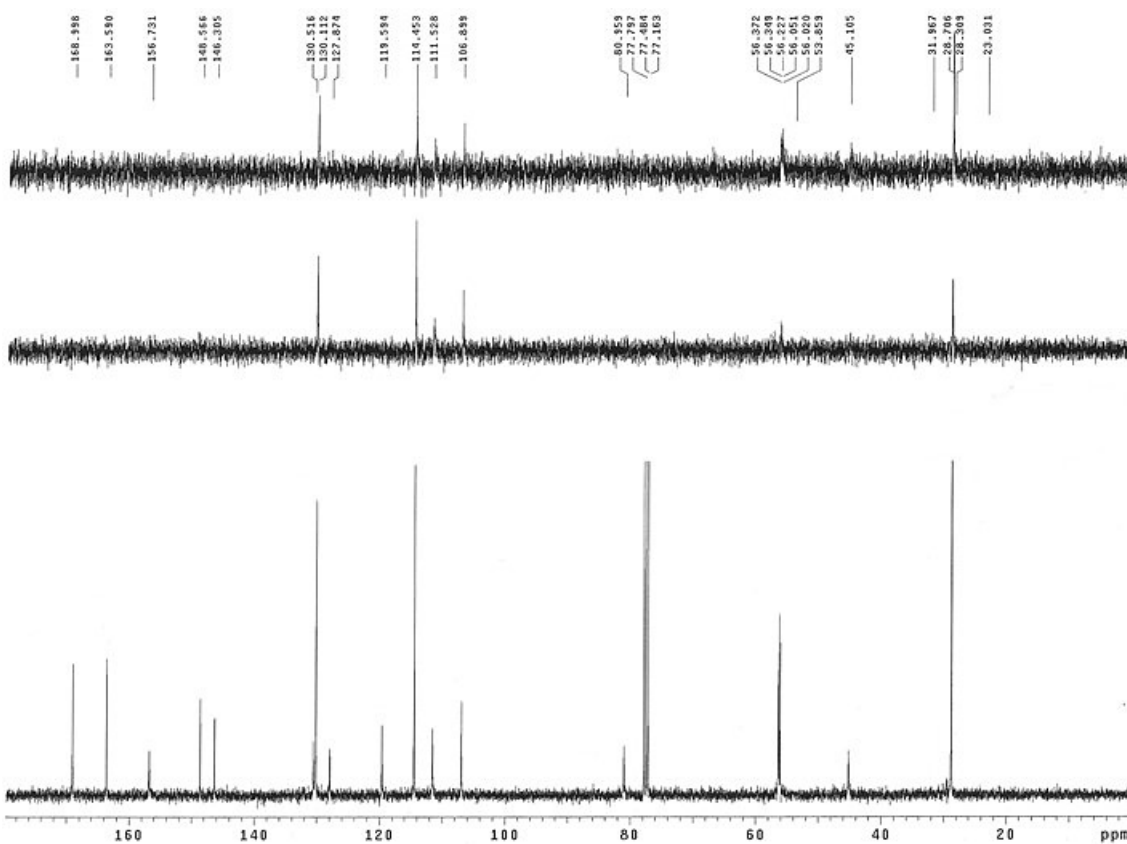


Fig. 147b: Compound **132** ^{13}C NMR spectra.

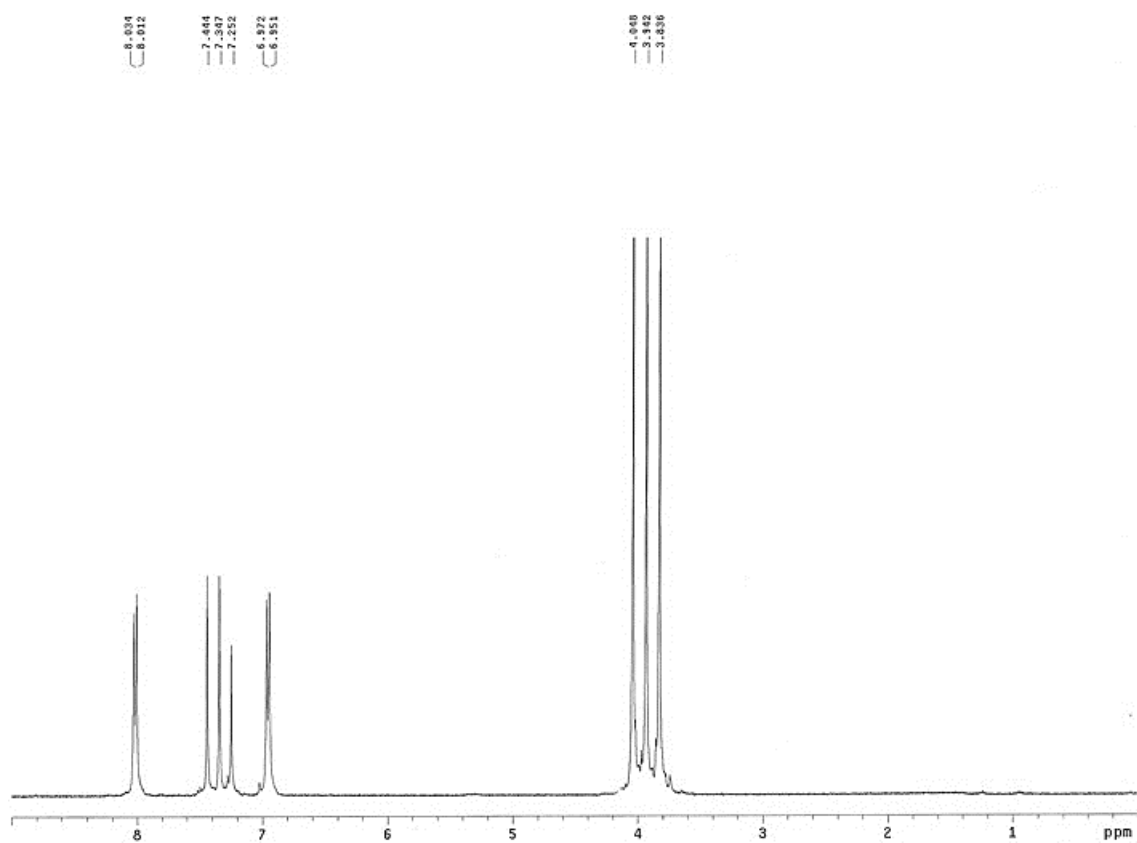


Fig. 148a: Compound **133** ^1H NMR spectra.

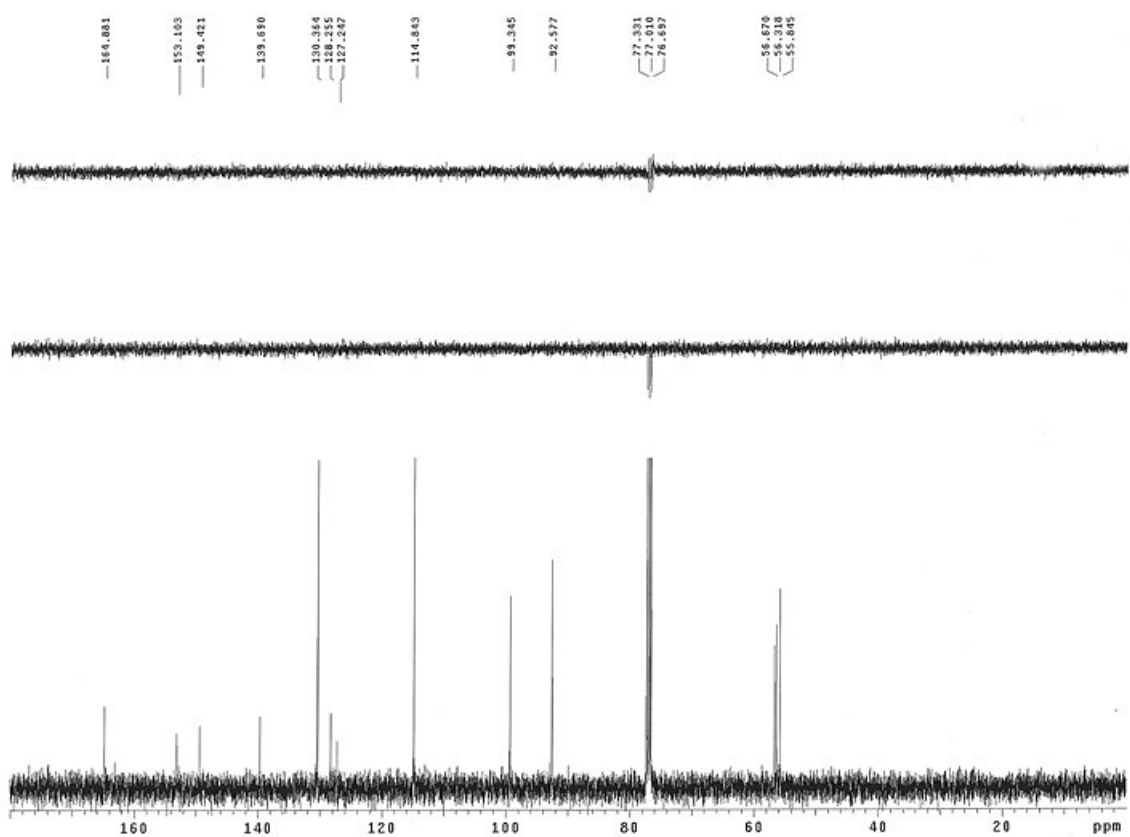


Fig. 148b: Compound **133** ^{13}C NMR spectra.

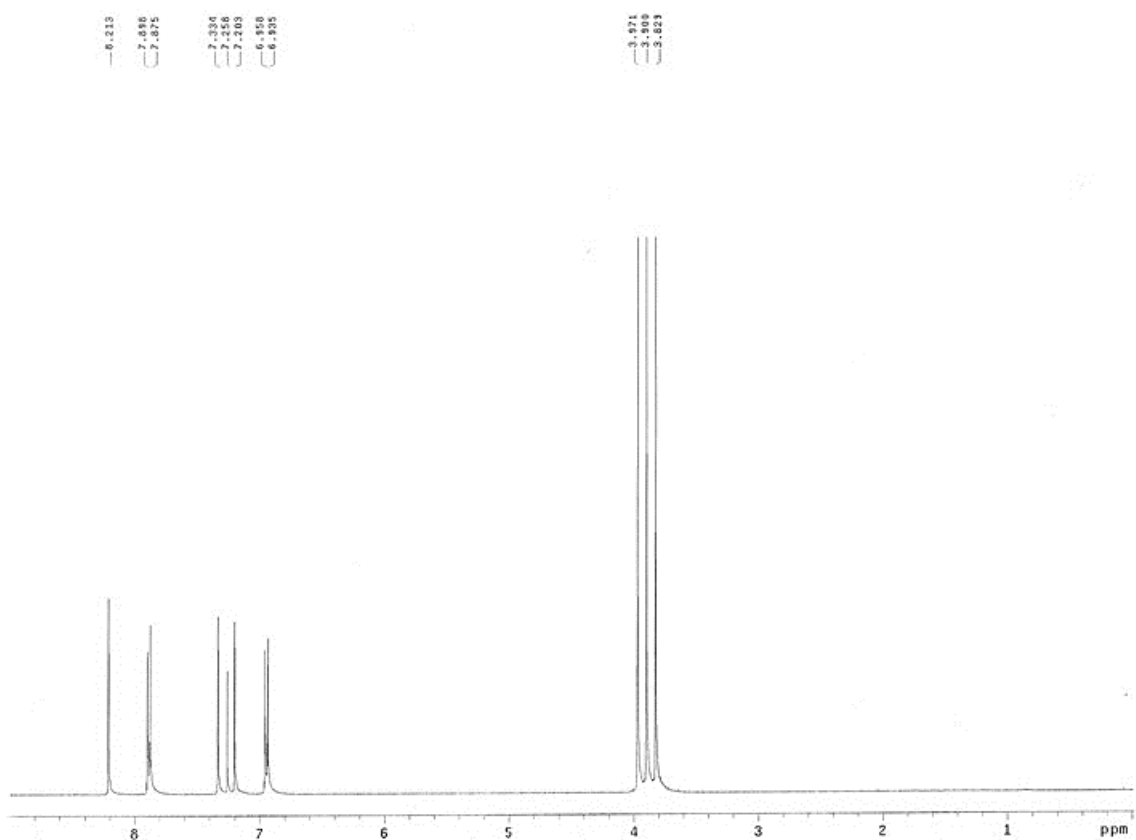


Fig. 149a: Compound **134** ^1H NMR spectra.

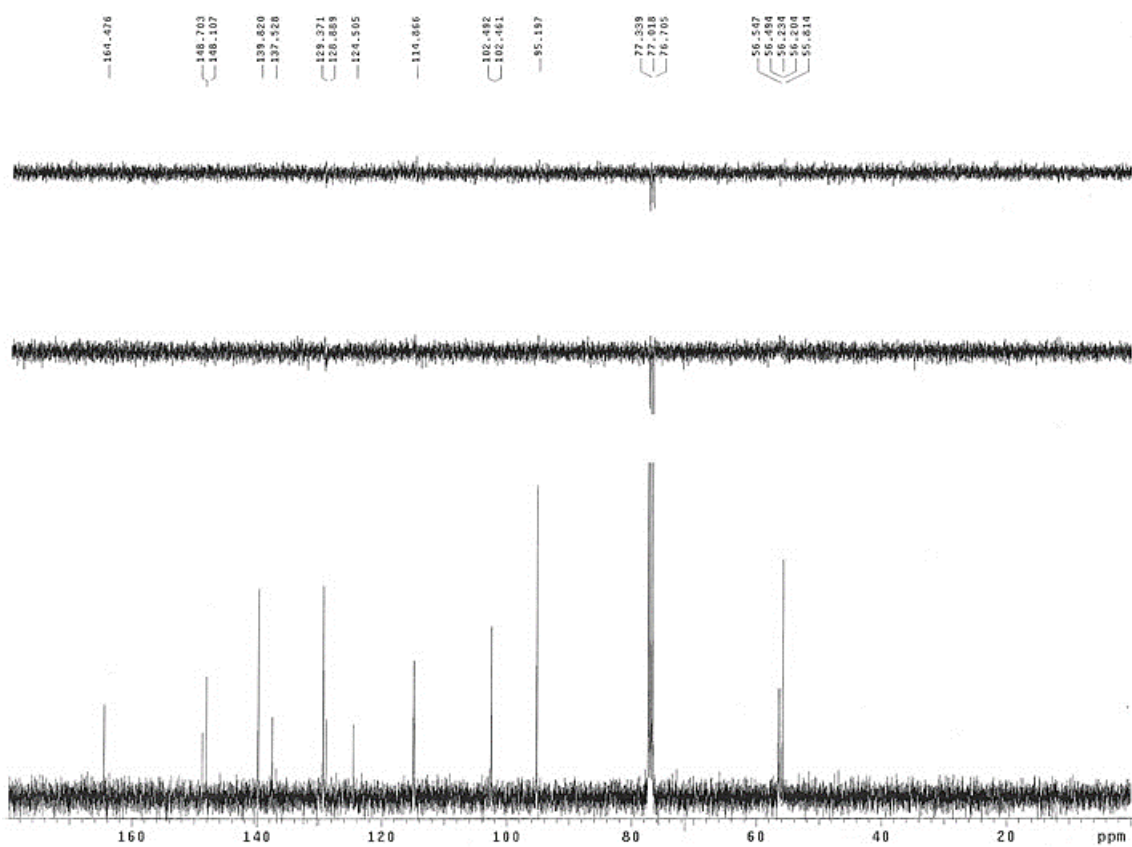


Fig. 149b: Compound **134** ^{13}C NMR spectra.

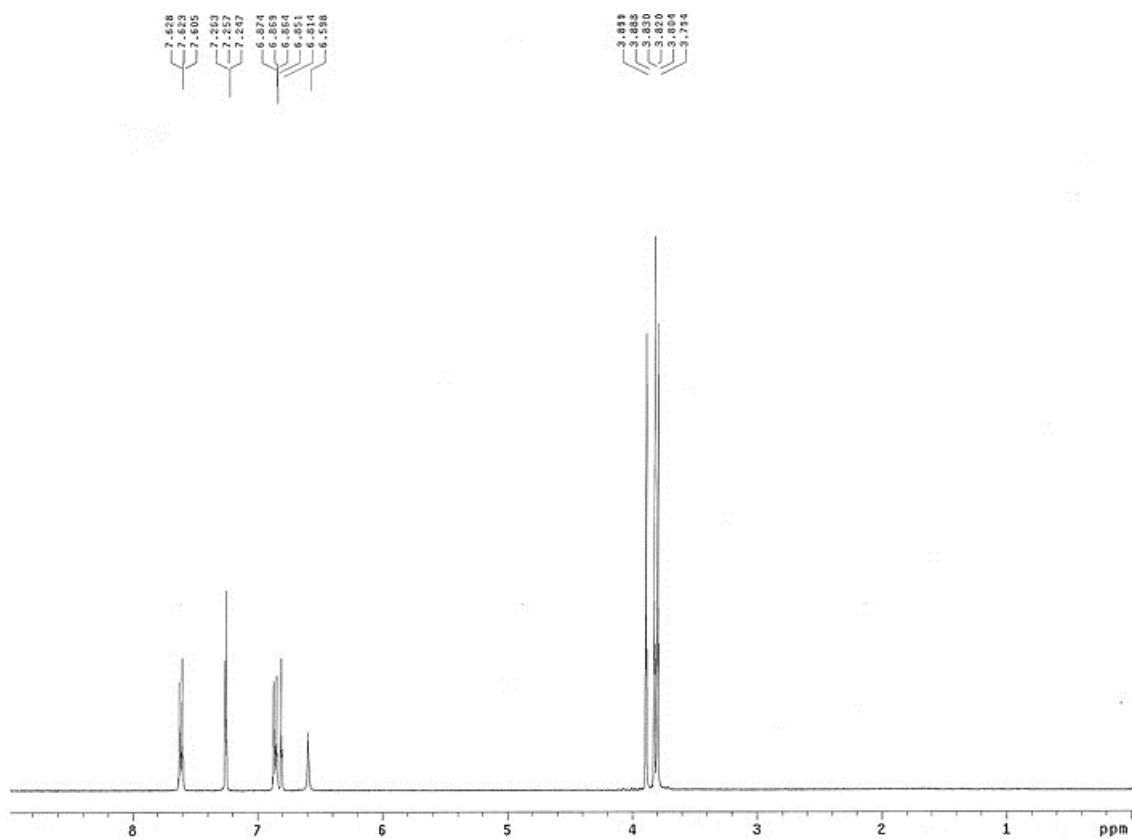


Fig. 150a: Compound **135** ^1H NMR spectra.

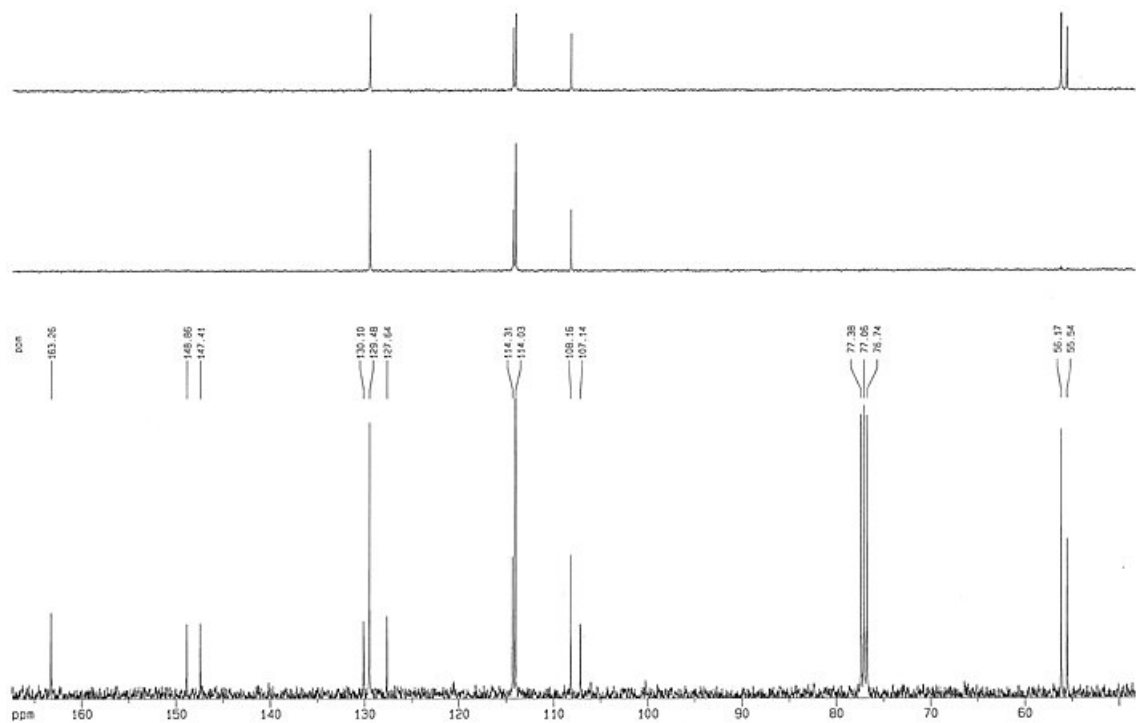


Fig. 150b: Compound **135** ^{13}C NMR spectra.

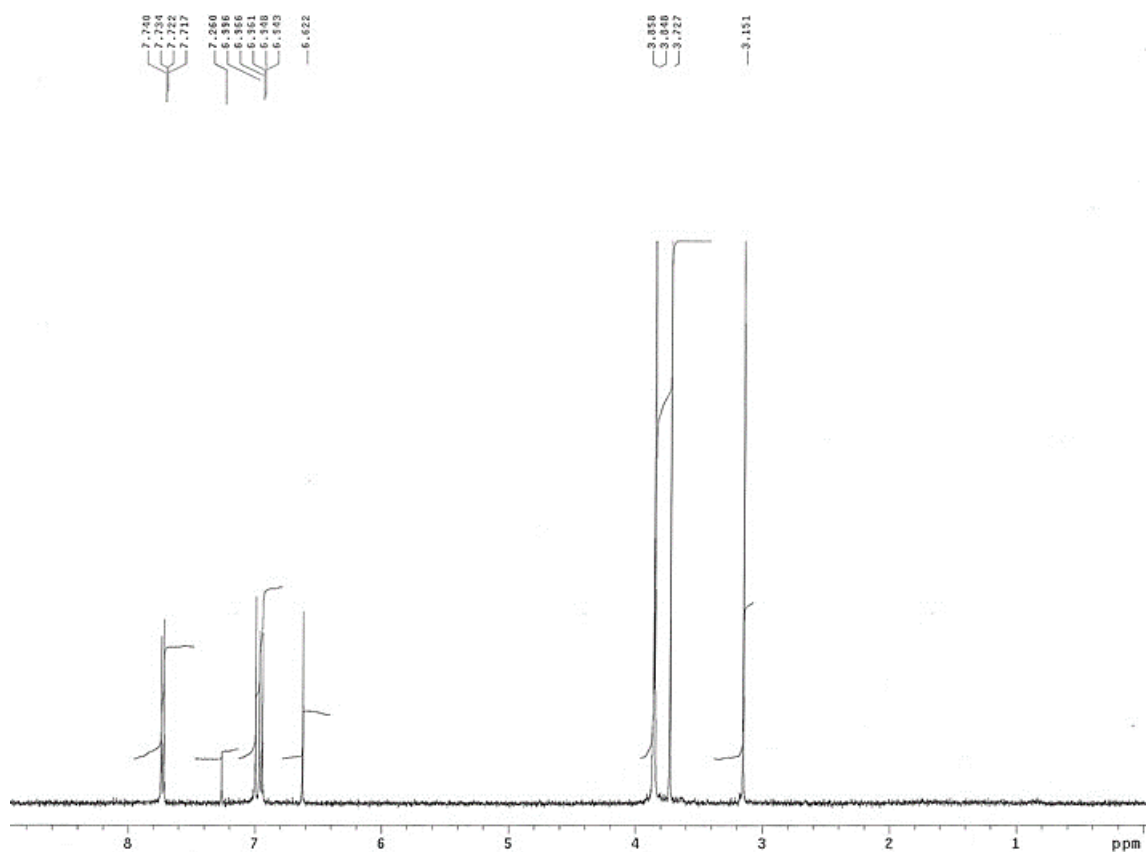


Fig. 151a: Compound **136** ^1H NMR spectra.

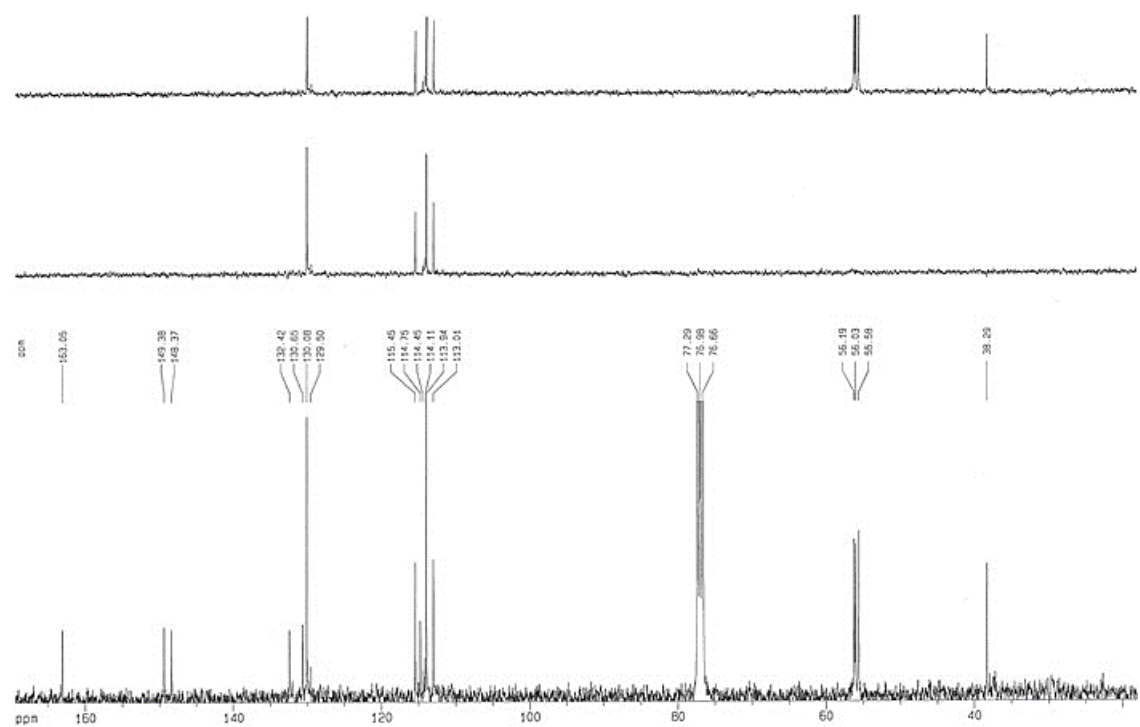


Fig. 151b: Compound **136** ^{13}C NMR spectra.

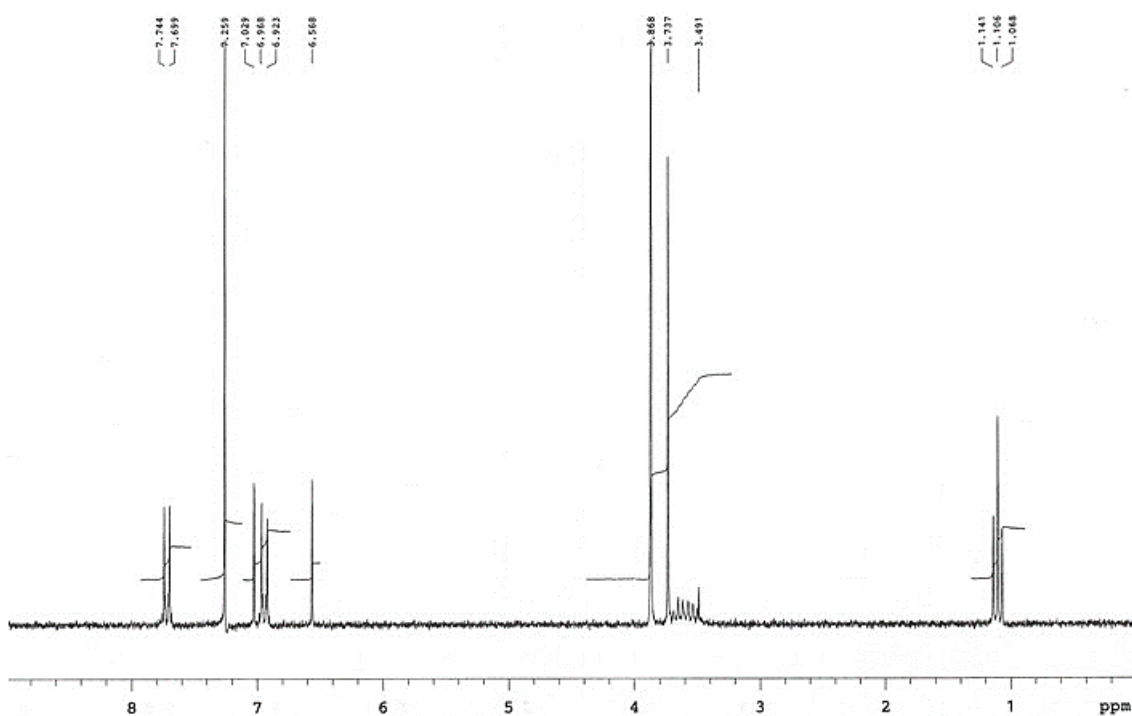


Fig. 152a: Compound **137** ^1H NMR spectra.

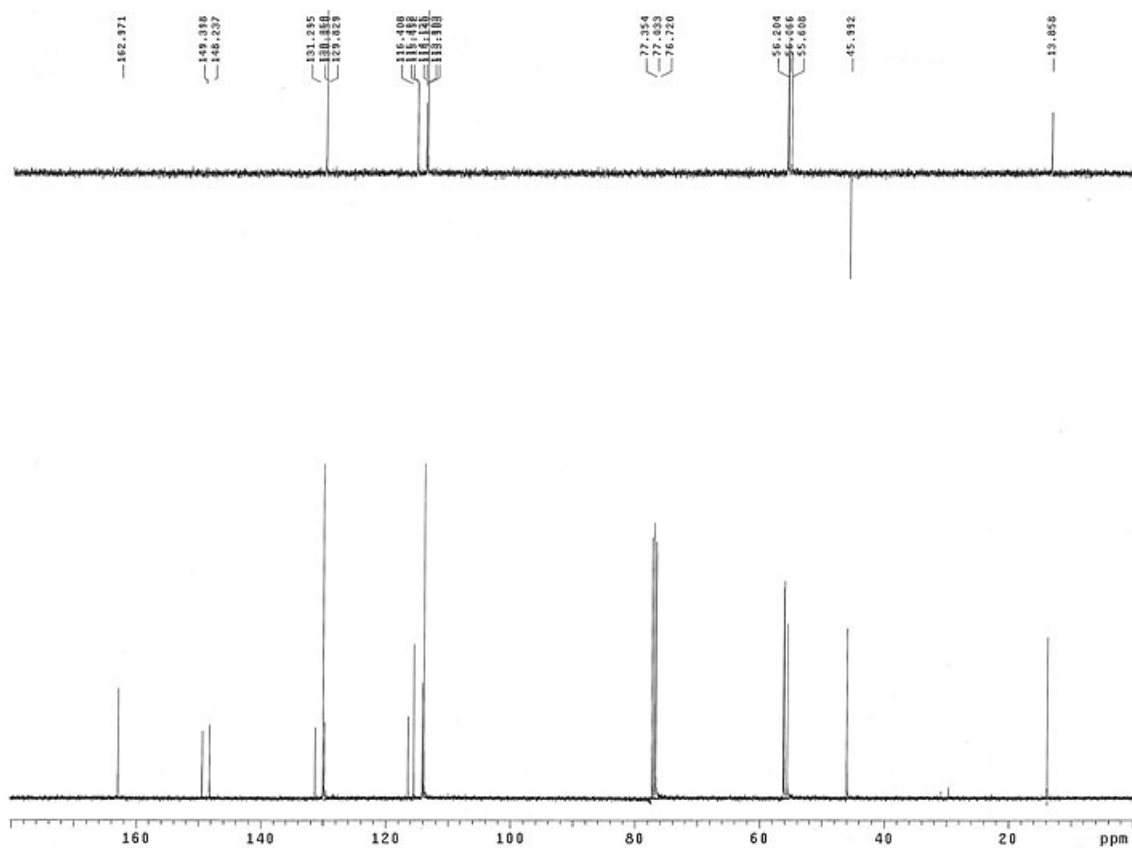


Fig. 152b: Compound **137** ^{13}C NMR spectra.

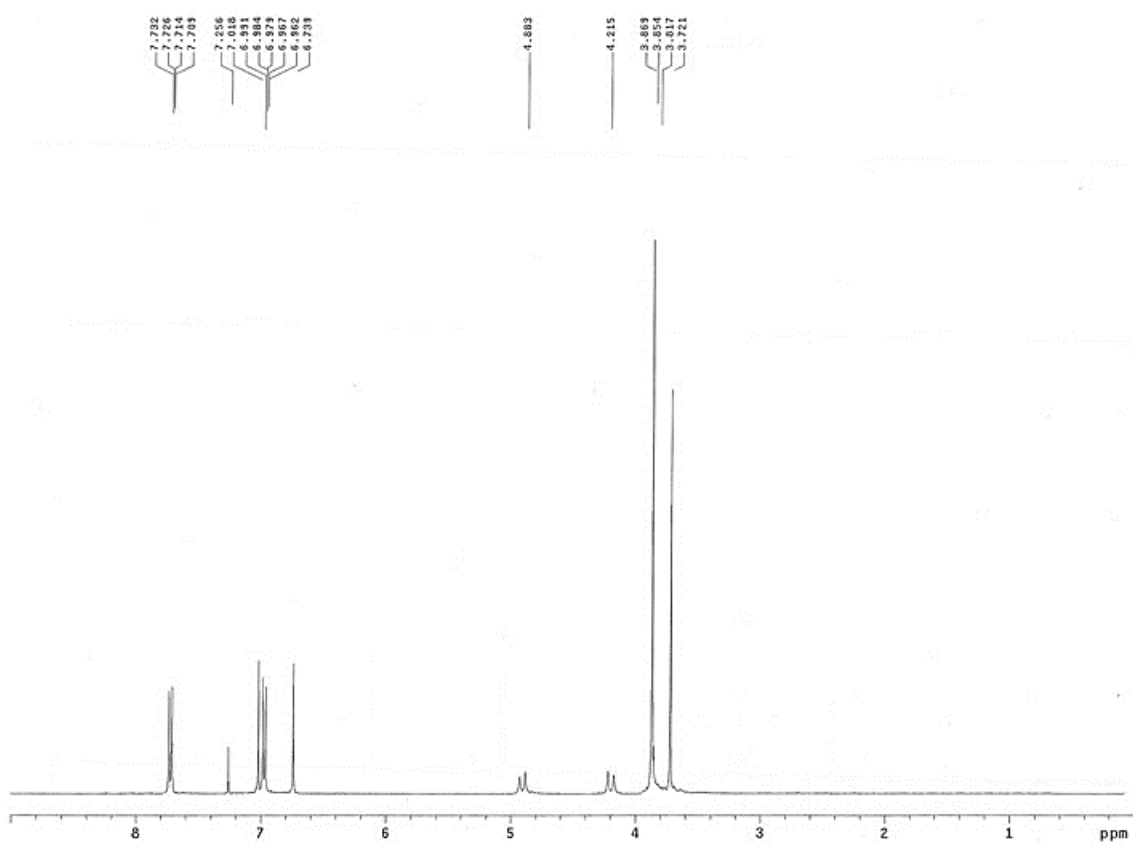


Fig. 153a: Compound **138** ^1H NMR spectra.

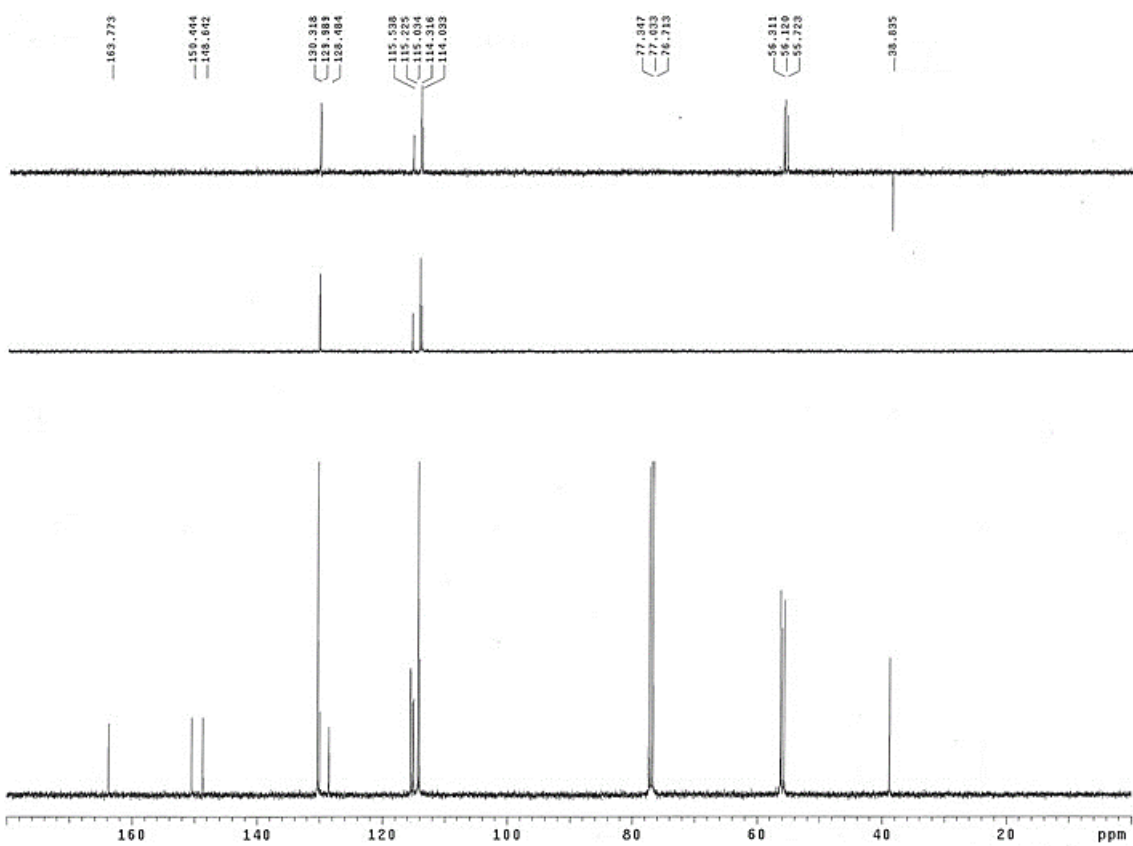


Fig. 153b: Compound **138** ^{13}C NMR spectra.

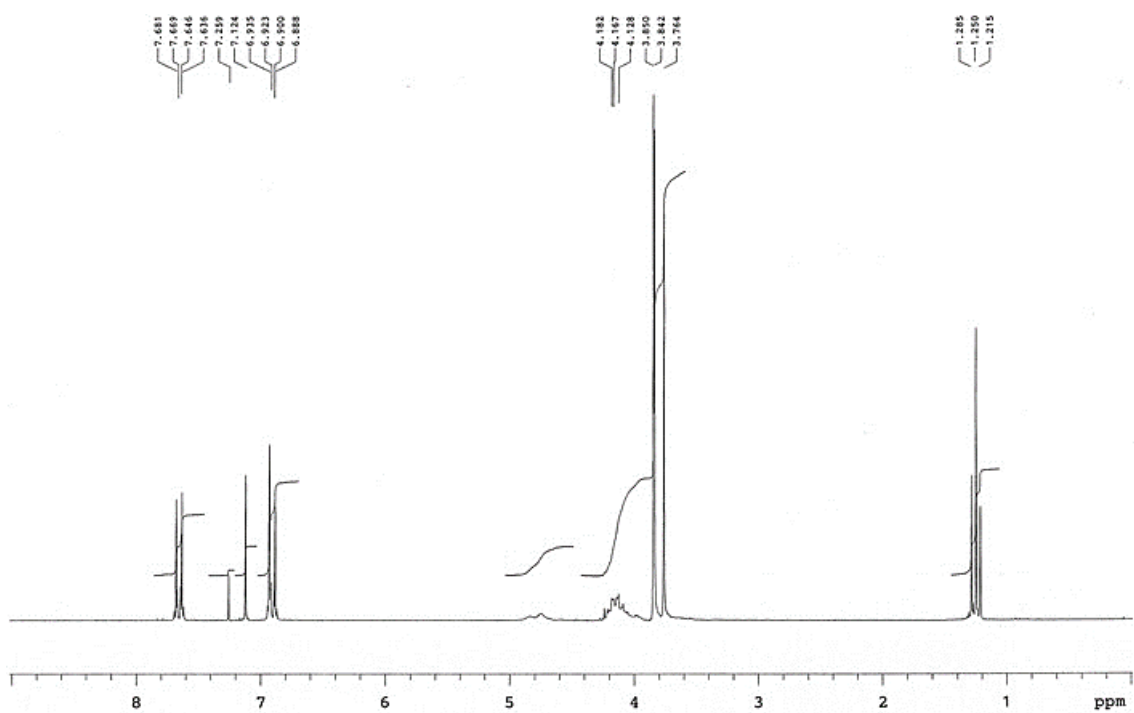


Fig. 154a: Compound **139** ^1H NMR spectra.

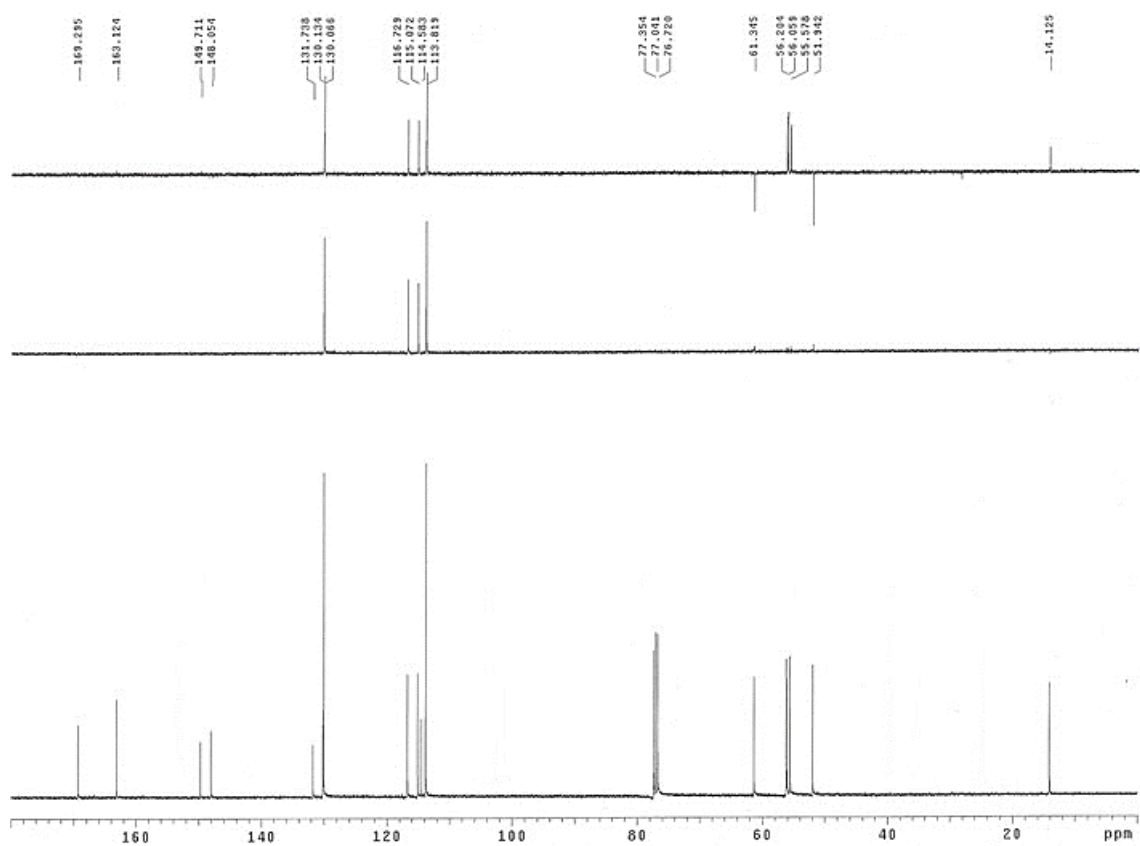


Fig. 154b: Compound **139** ^{13}C NMR spectra.

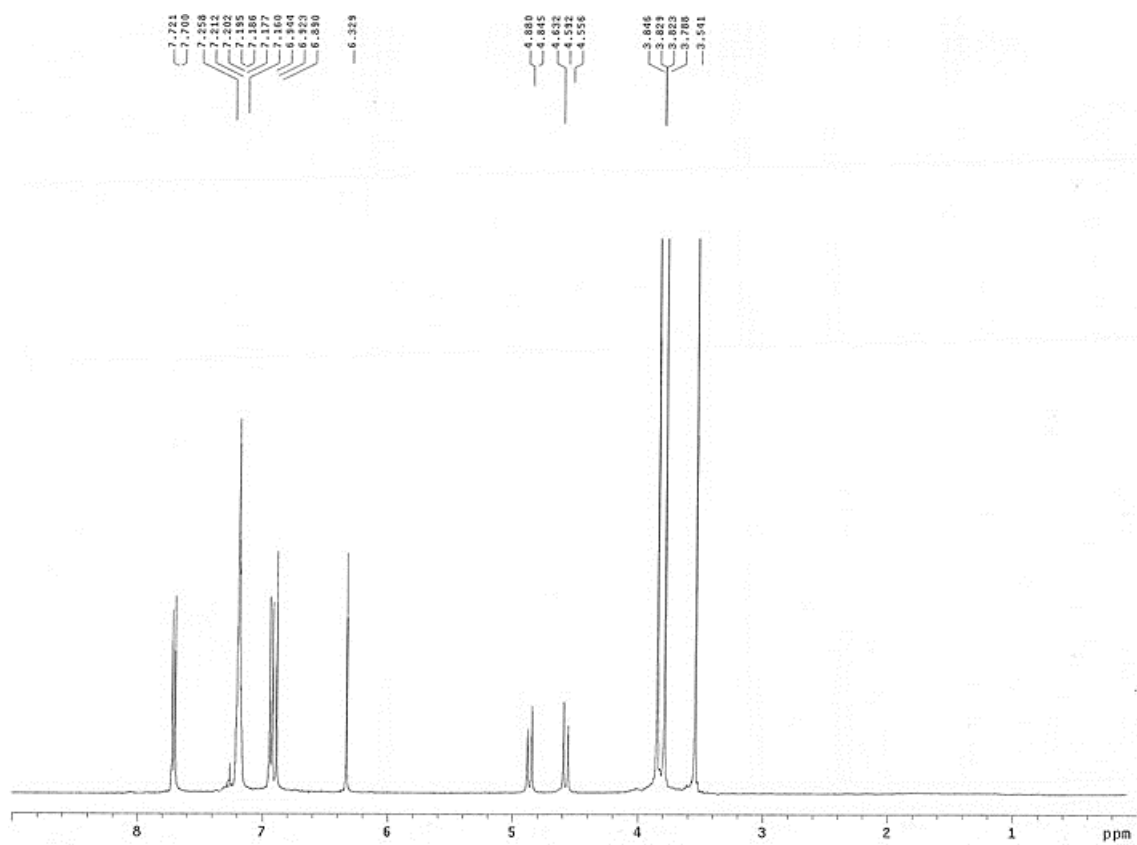


Fig. 155a: Compound **140** ^1H NMR spectra.

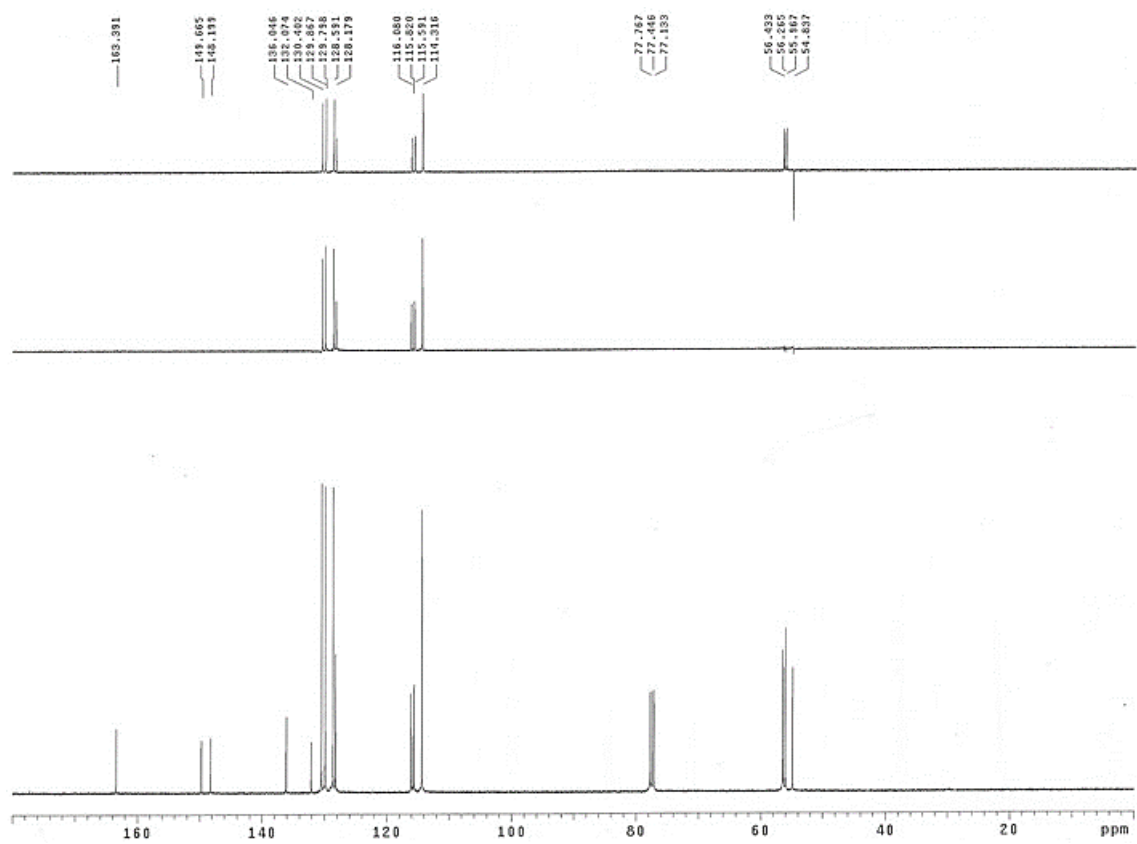


Fig. 155b: Compound **140** ^{13}C NMR spectra.

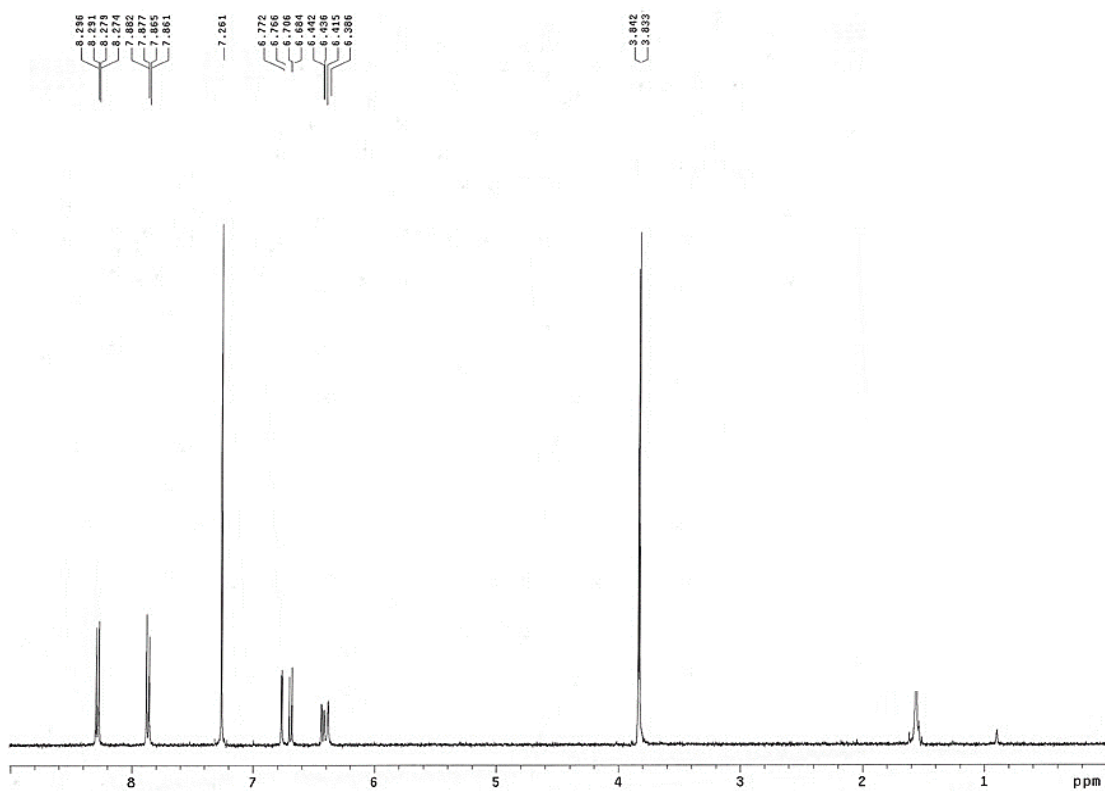


Fig. 156a: Compound **141** ^1H NMR spectra.

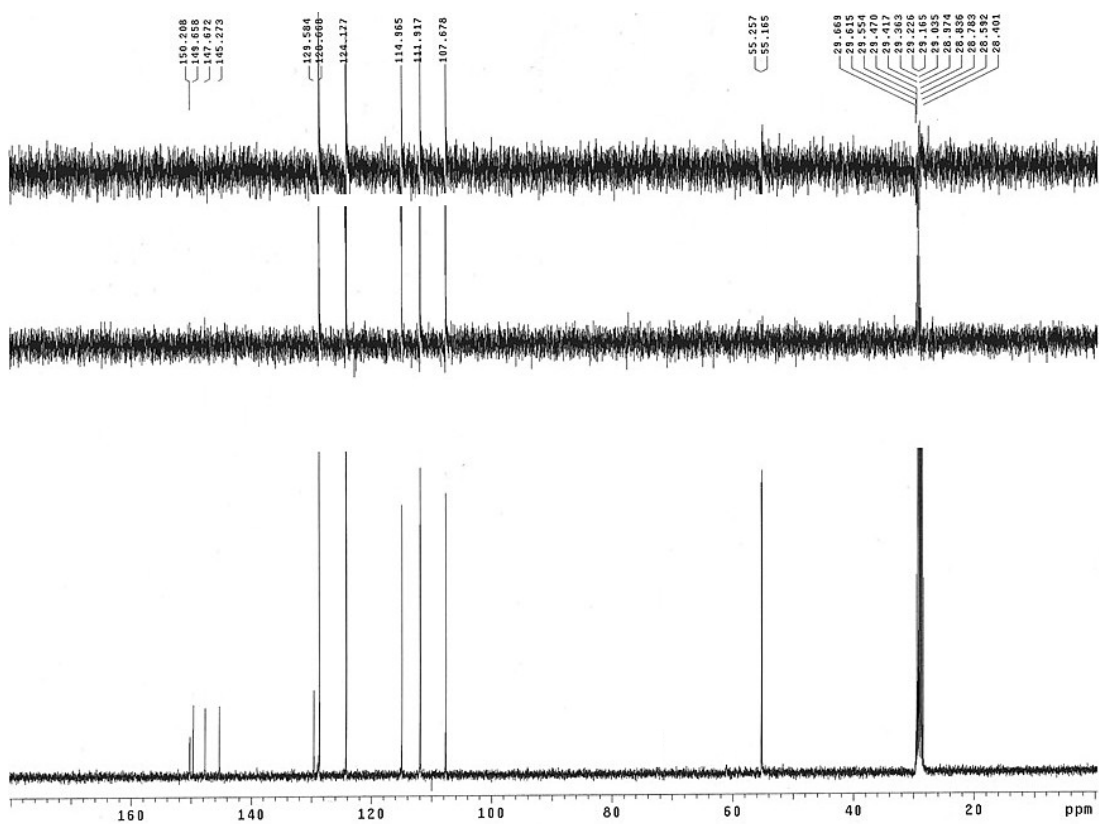


Fig. 156b: Compound **141** ^{13}C NMR spectra.

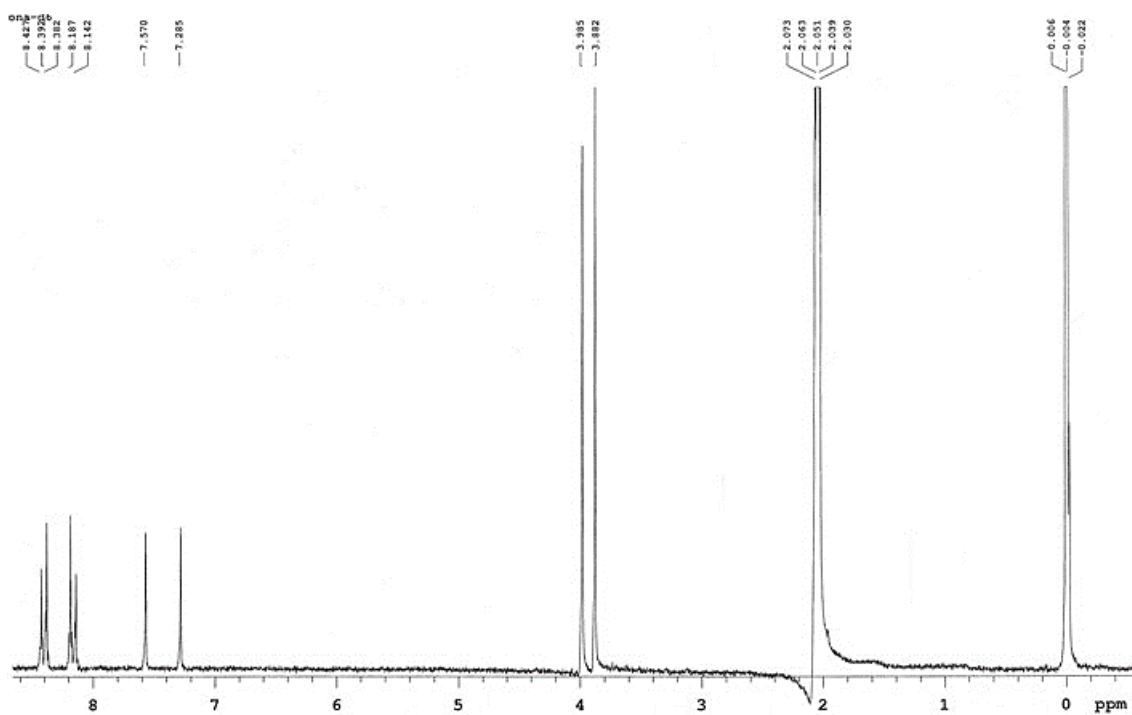


Fig. 157a: Compound **142** ^1H NMR spectra.

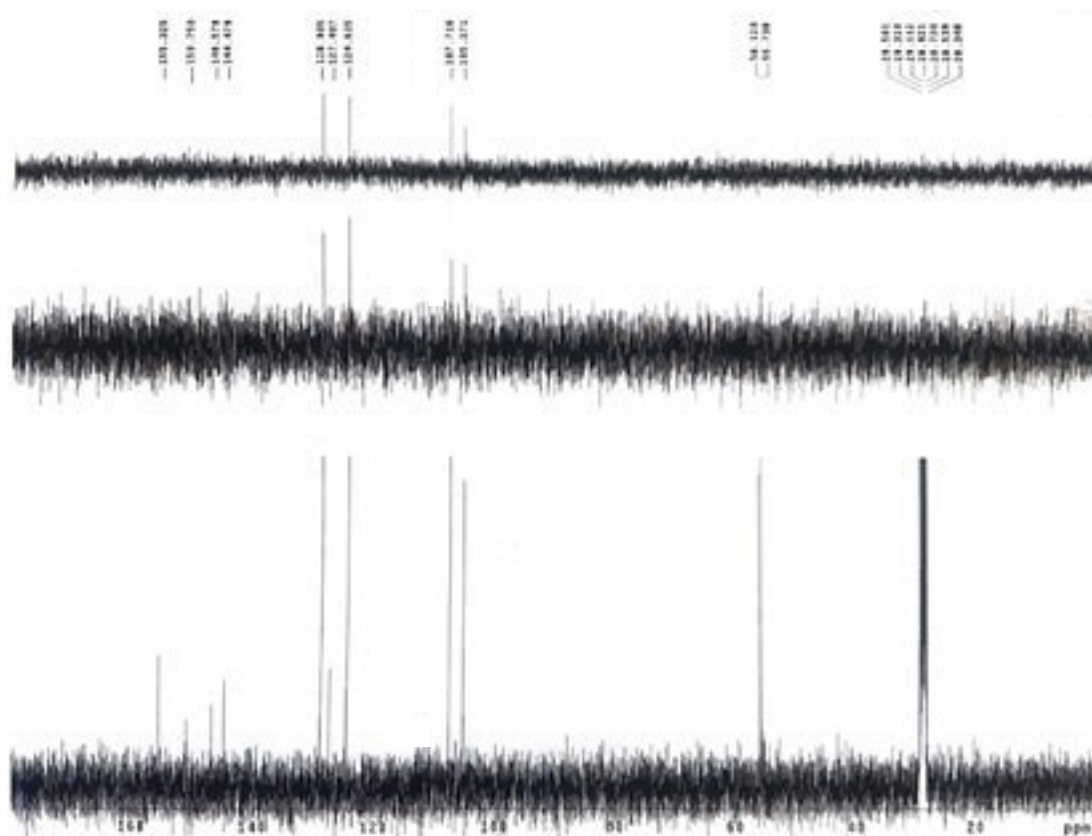


Fig. 157b: Compound **142** ^{13}C NMR spectra.

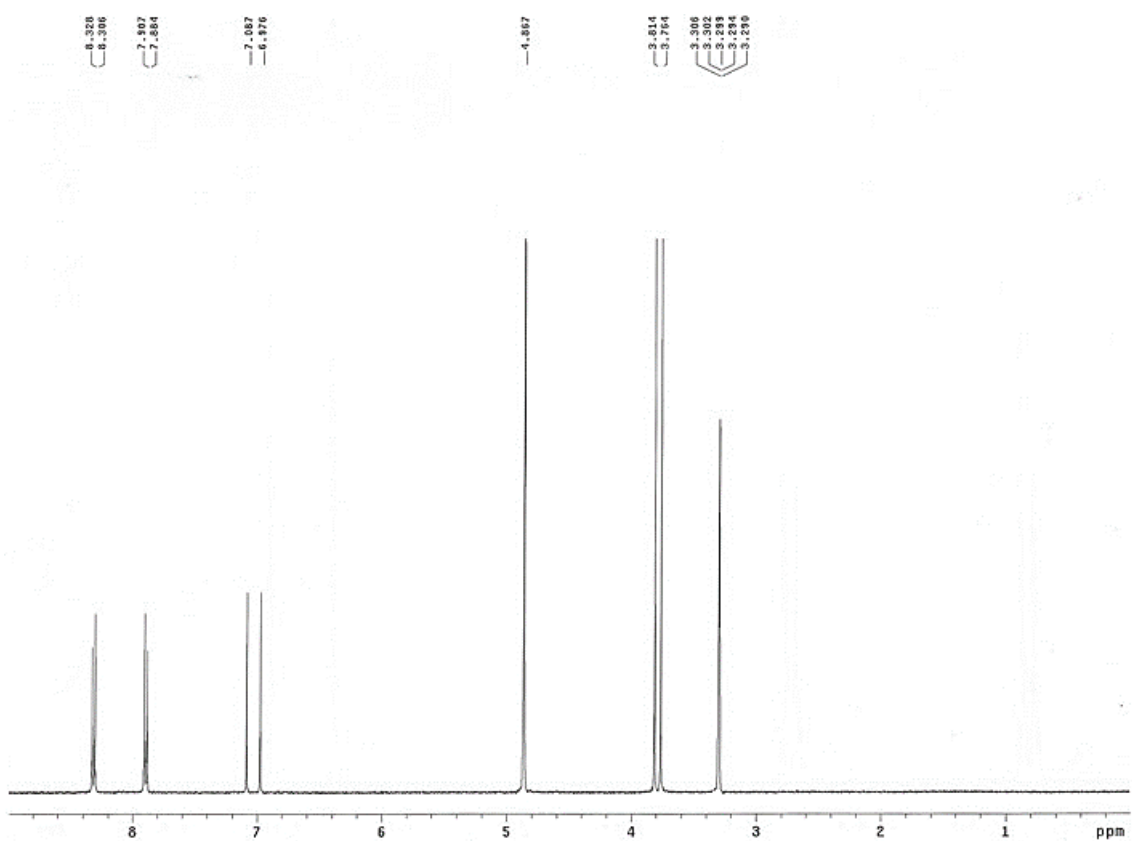


Fig. 158a: Compound **143** ^1H NMR spectra.

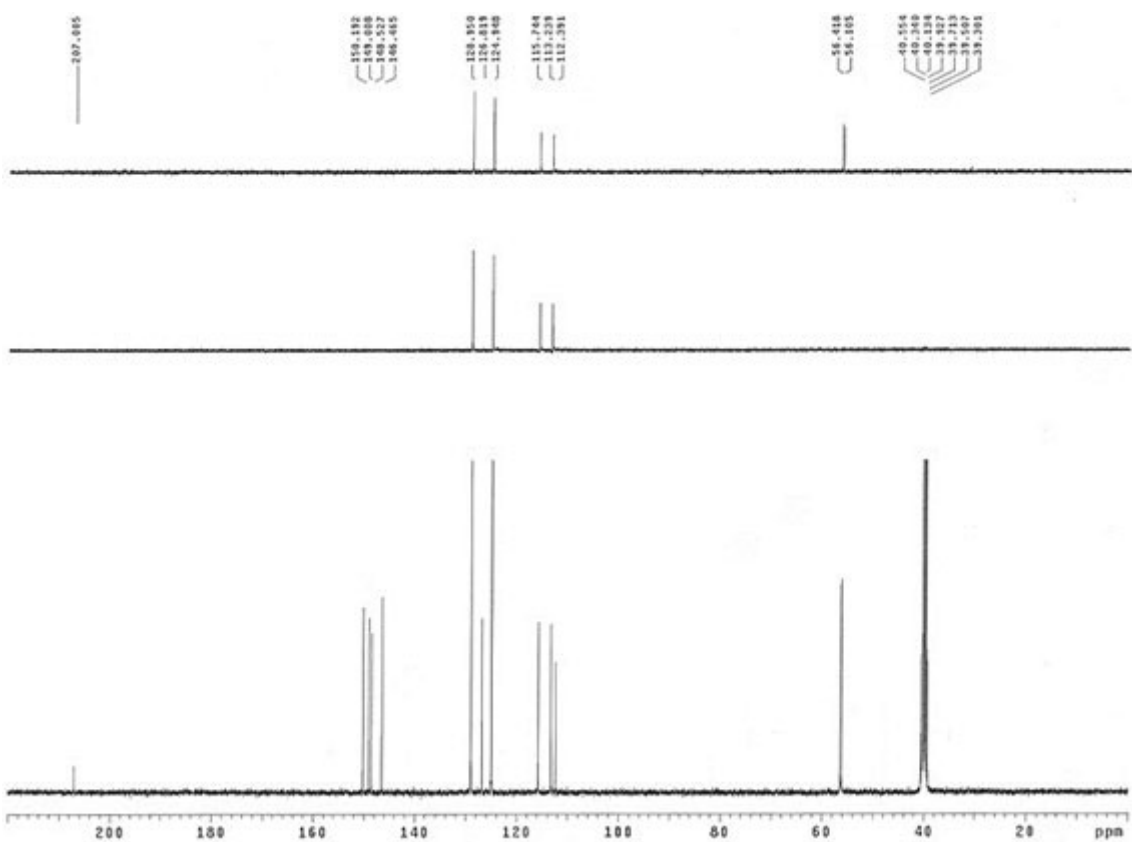


Fig. 158b: Compound **143** ^{13}C NMR spectra.

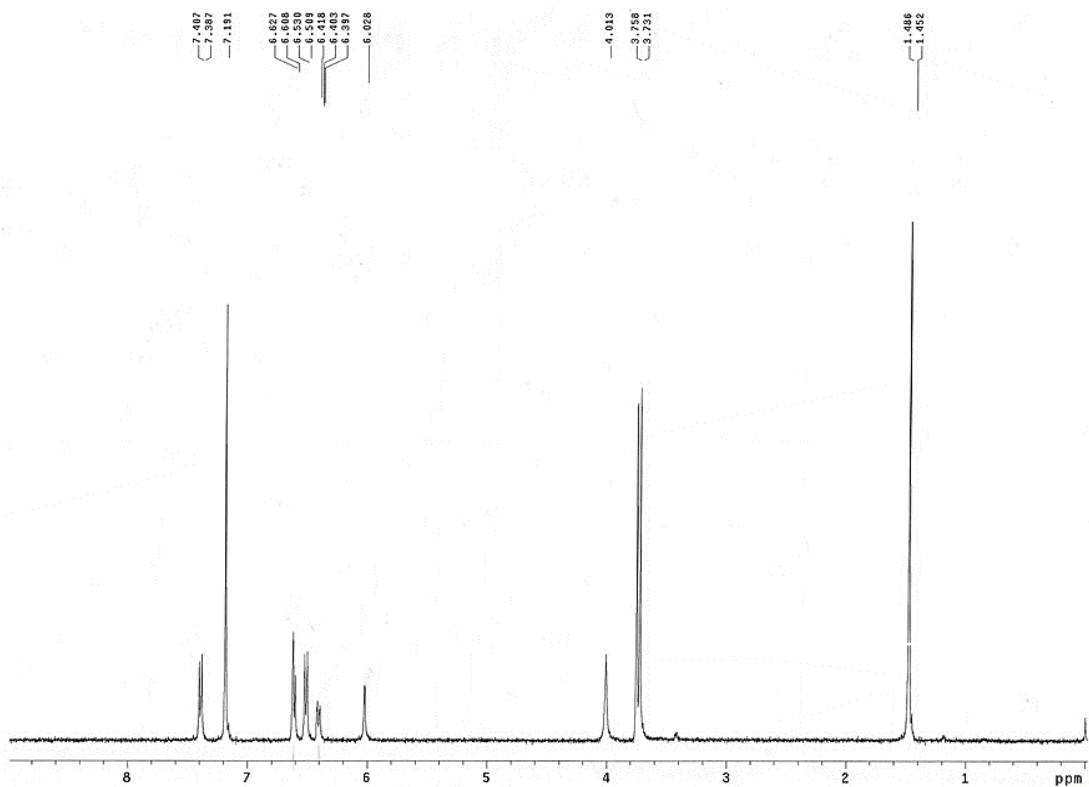


Fig. 159a: Compound **144** ^1H NMR spectra.

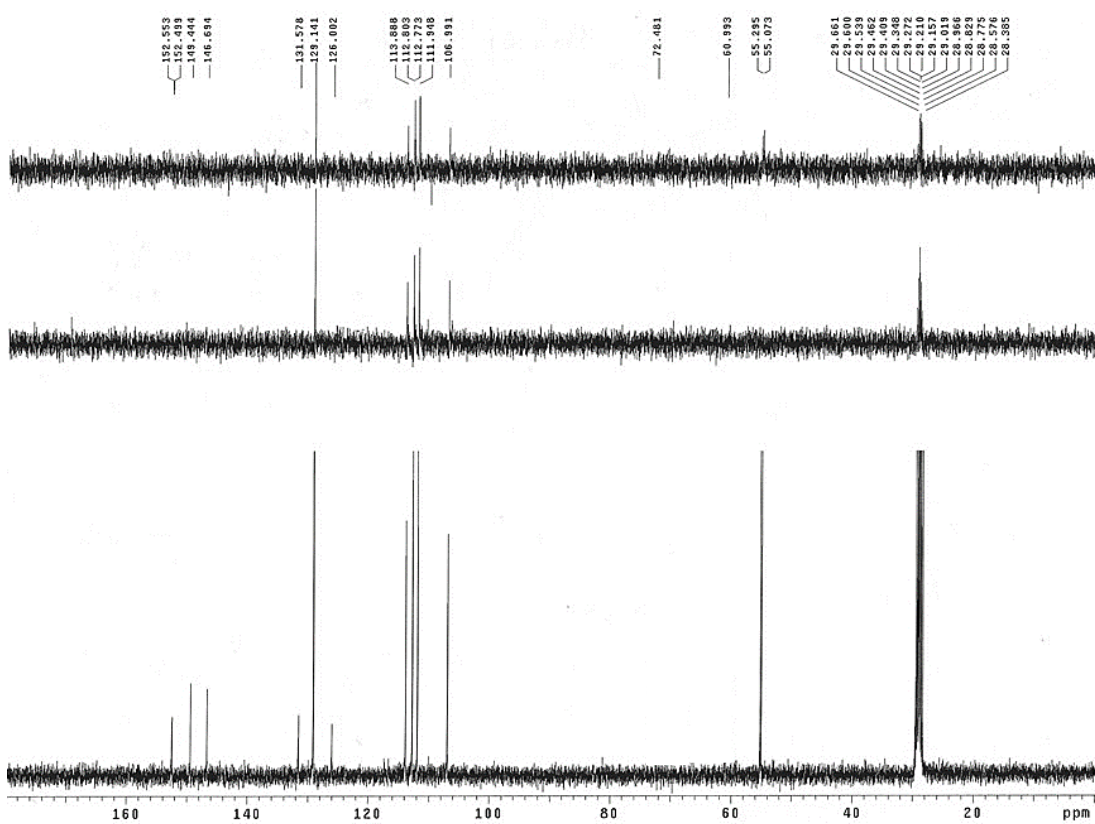


Fig. 159b: Compound **144** ^{13}C NMR spectra.

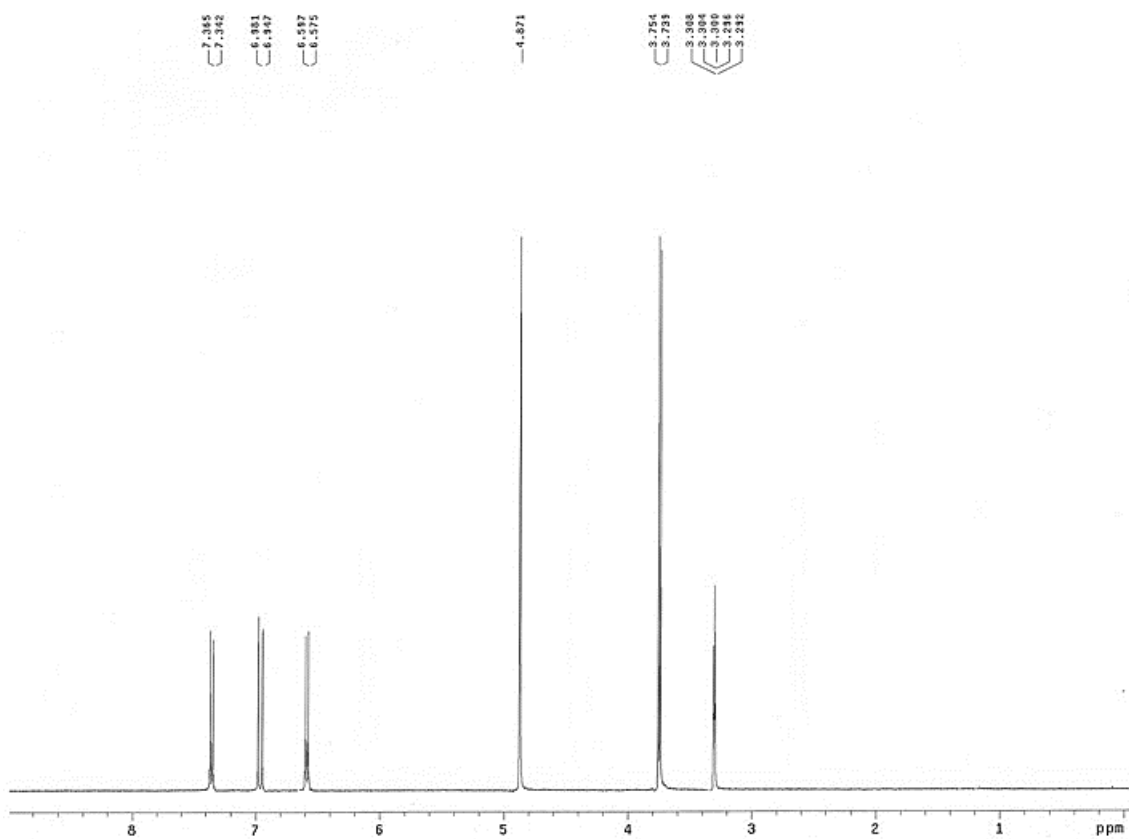


Fig. 160a: Compound **145** ^1H NMR spectra.

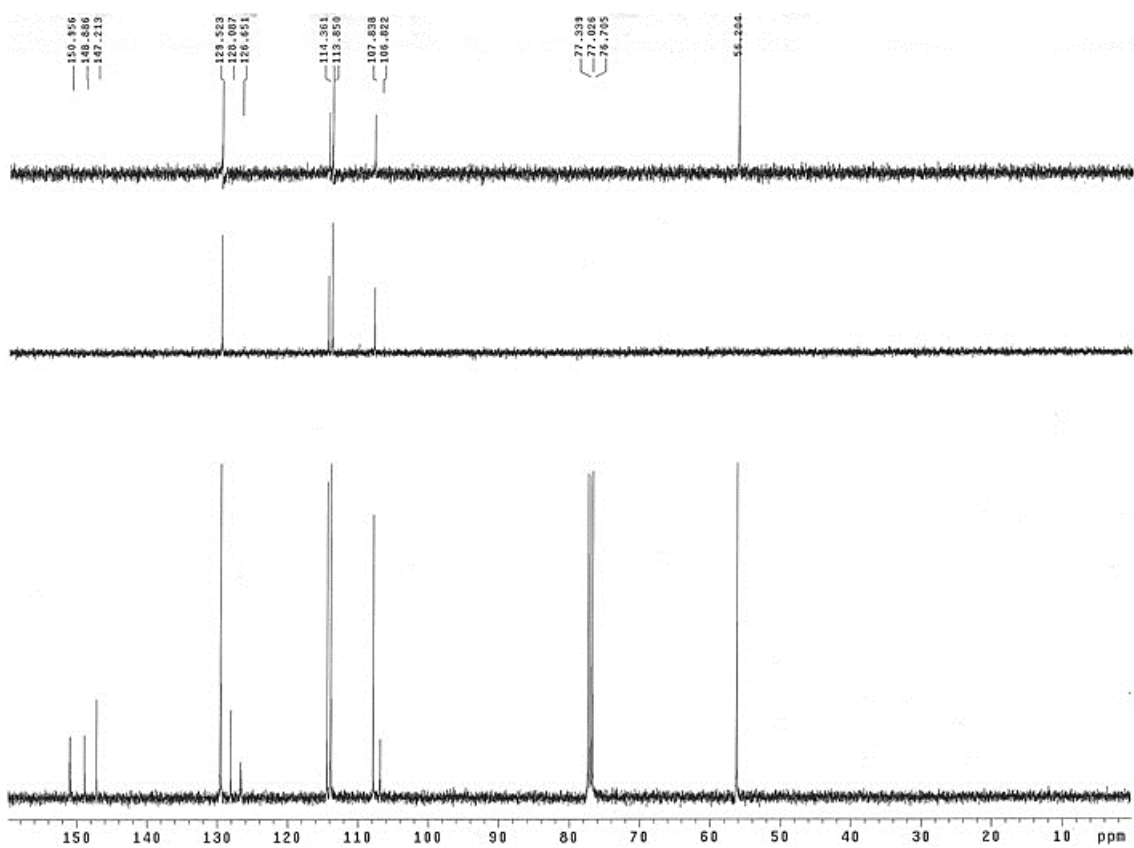


Fig. 160b: Compound **145** ^{13}C NMR spectra.

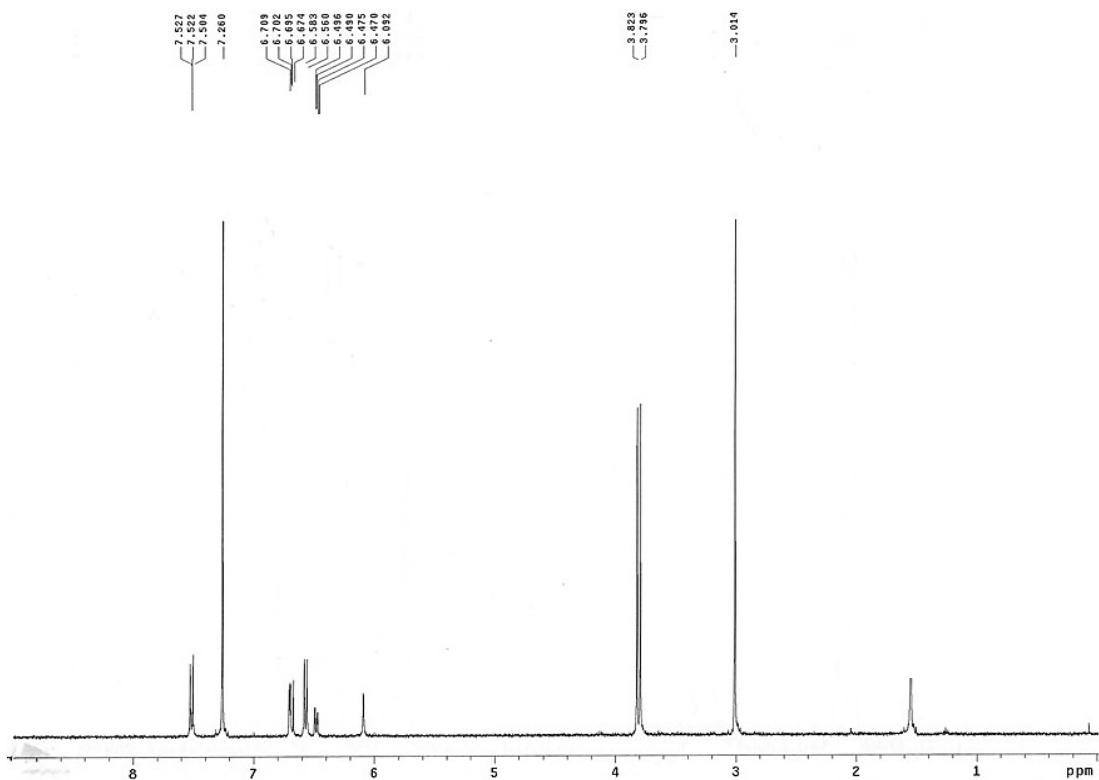


Fig. 161a: Compound **146** ^1H NMR spectra.

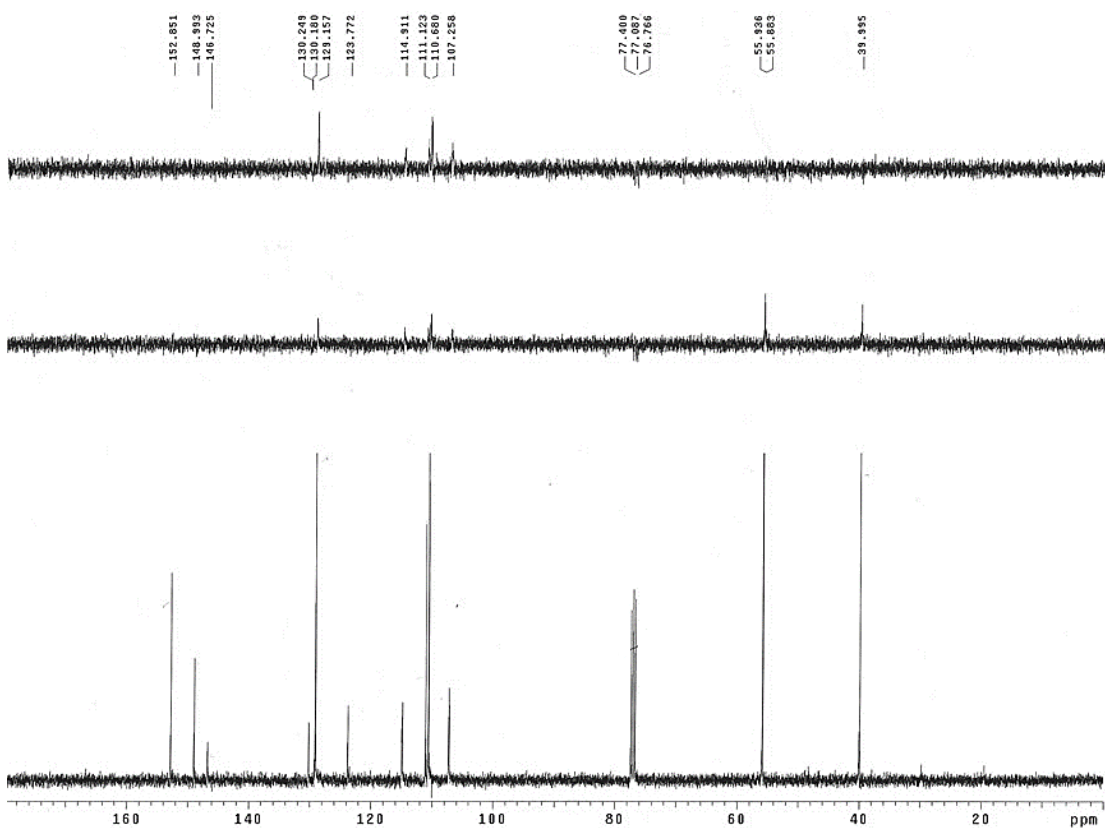


Fig. 161b: Compound **146** ^{13}C NMR spectra.

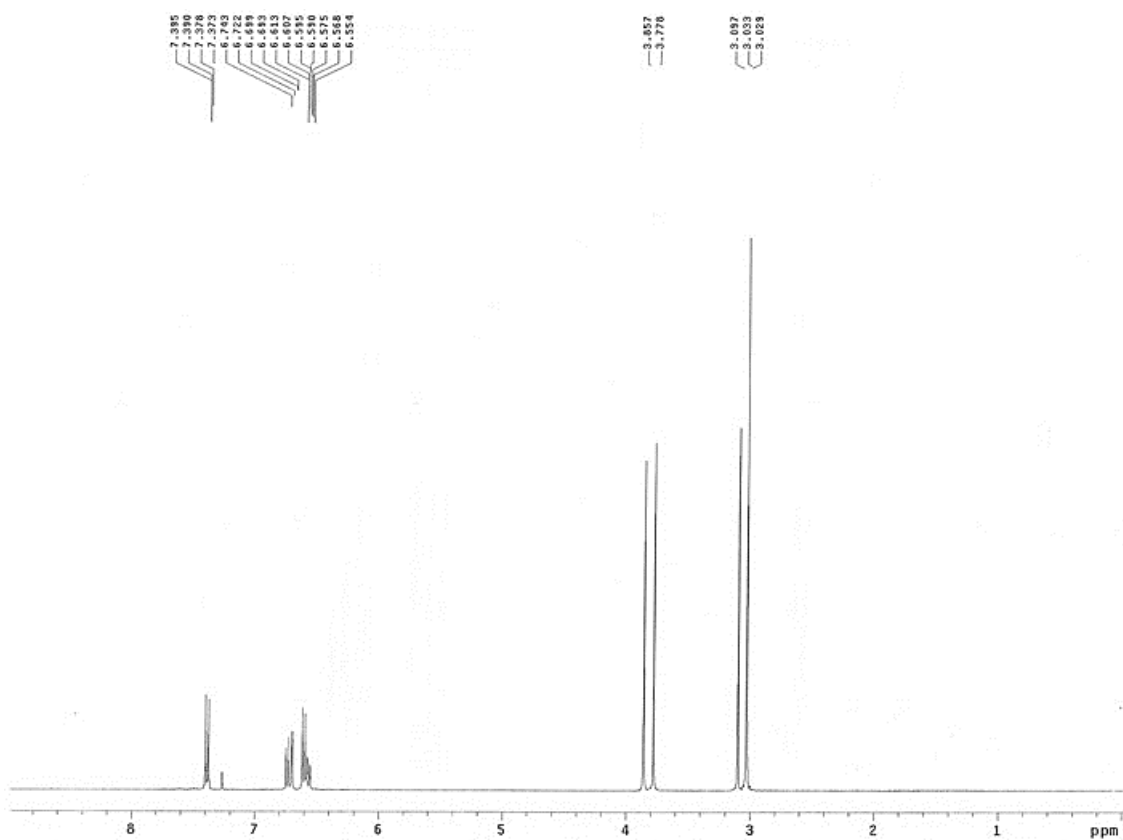


Fig. 162a: Compound **147a** ^1H NMR spectra.

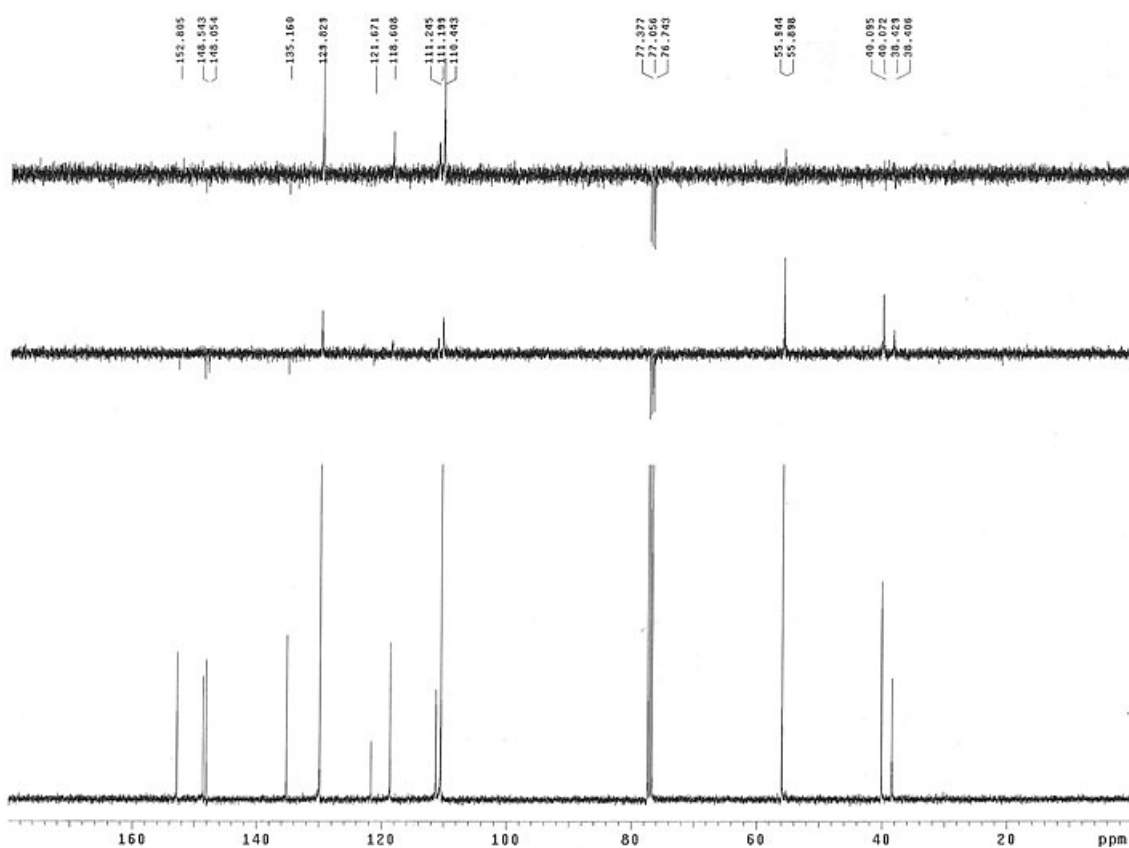


Fig. 162b: Compound **147a** ^{13}C NMR spectra.

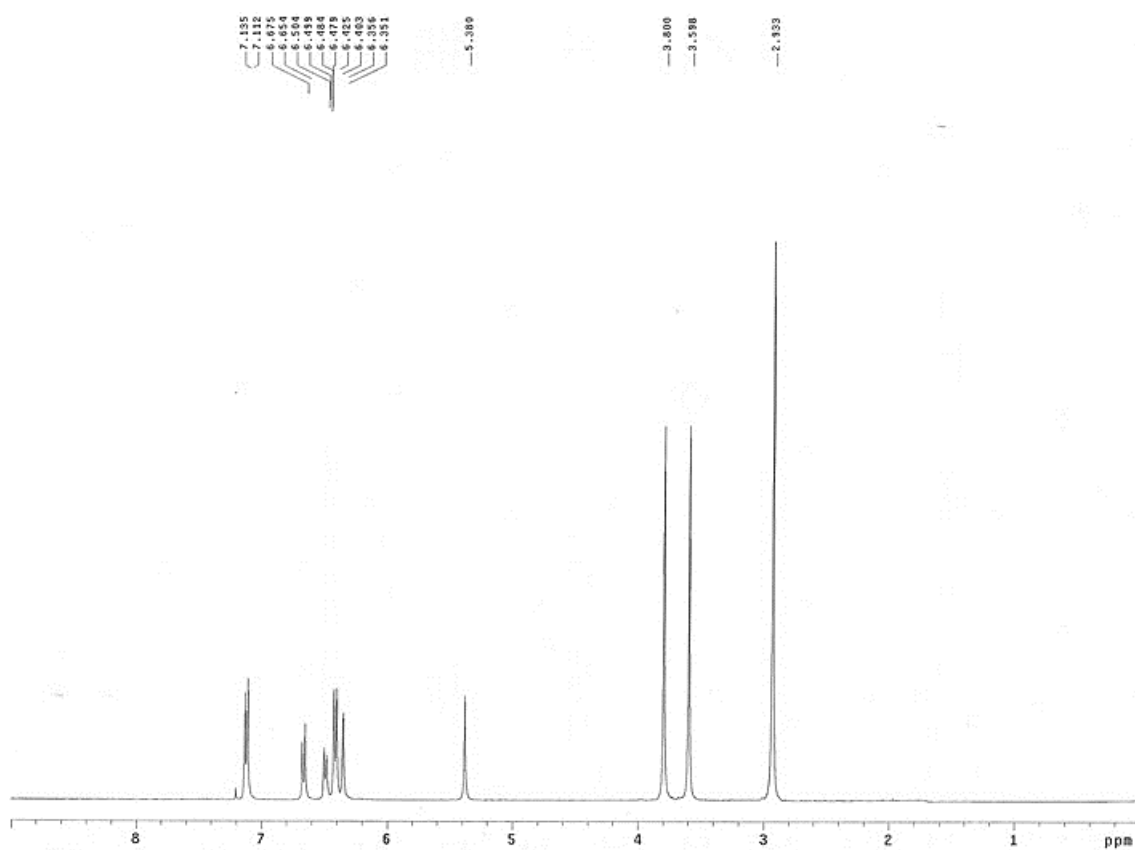


Fig. 163a: Compound **147b** ^1H NMR spectra.

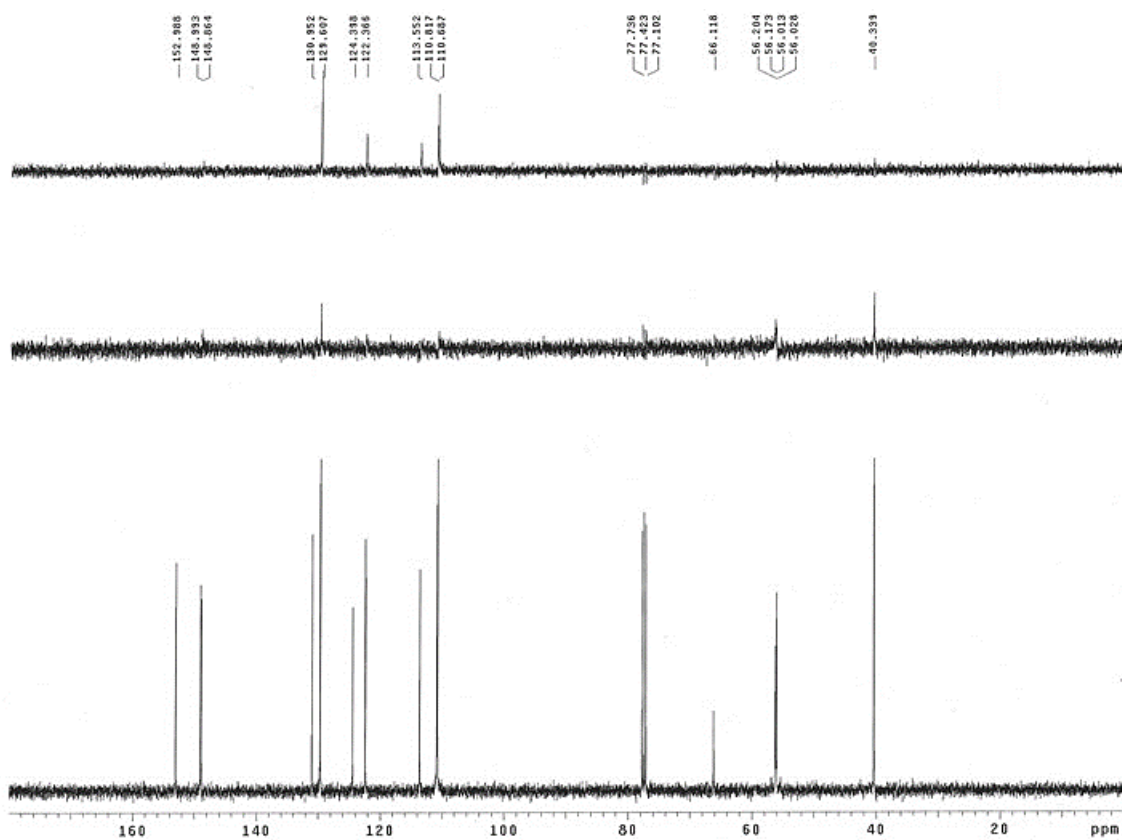


Fig. 163b: Compound **147b** ^{13}C NMR spectra.

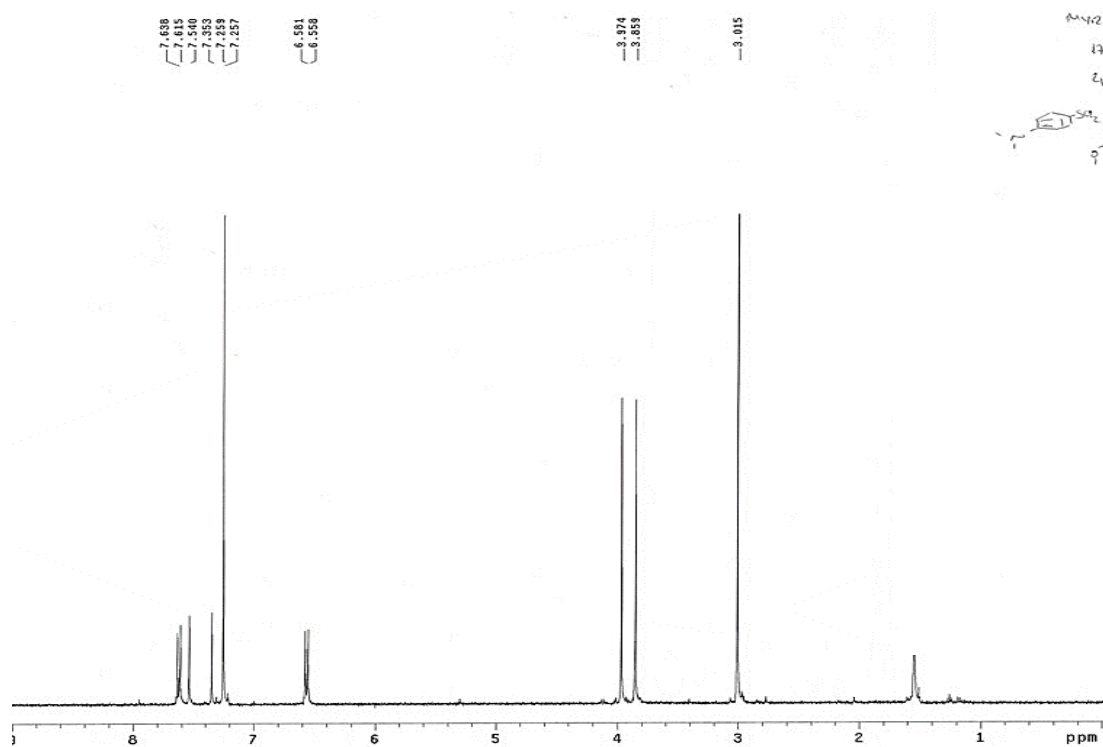


Fig. 164a: Compound **148** ^1H NMR spectra.

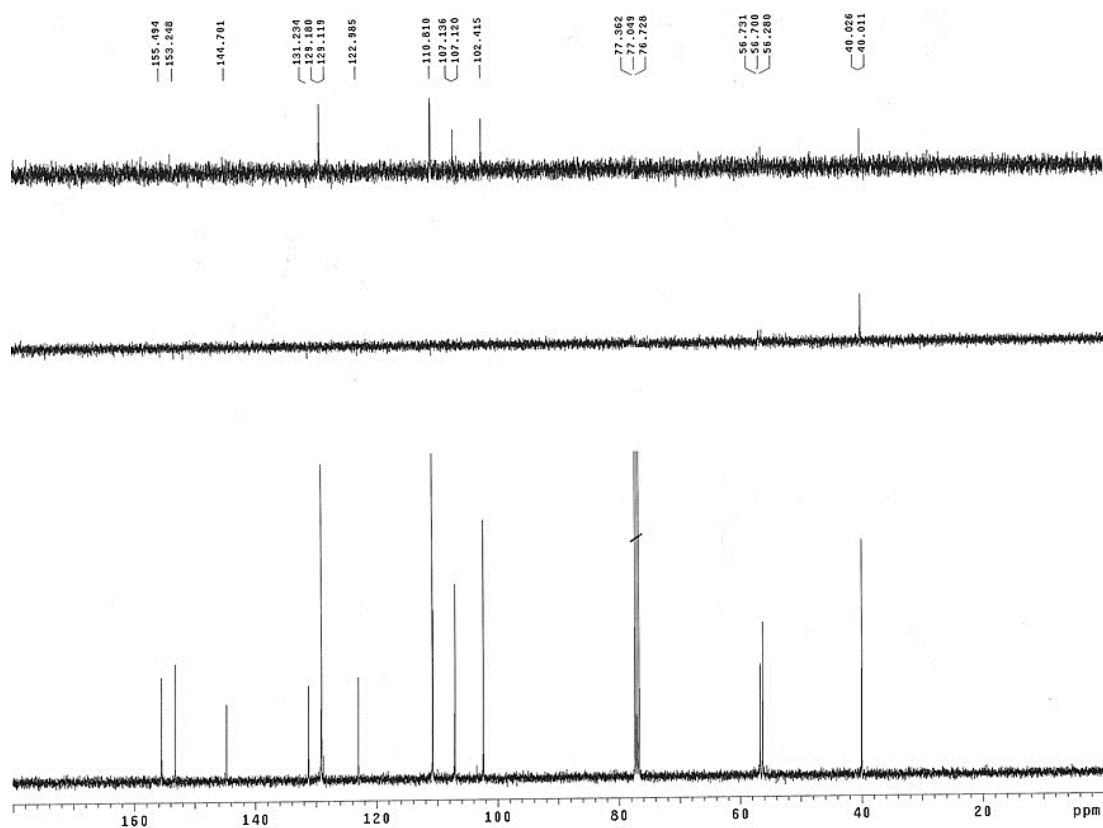


Fig. 164b: Compound **148** ^{13}C NMR spectra.

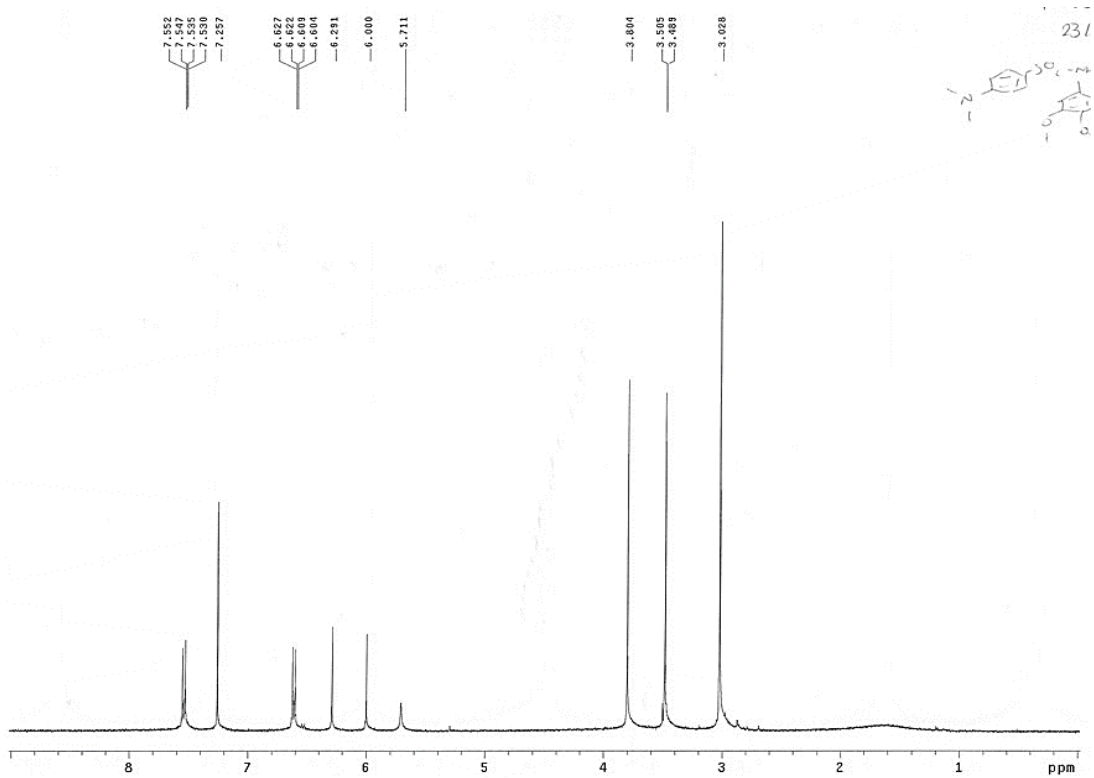


Fig. 165a: Compound **149** ^1H NMR spectra.

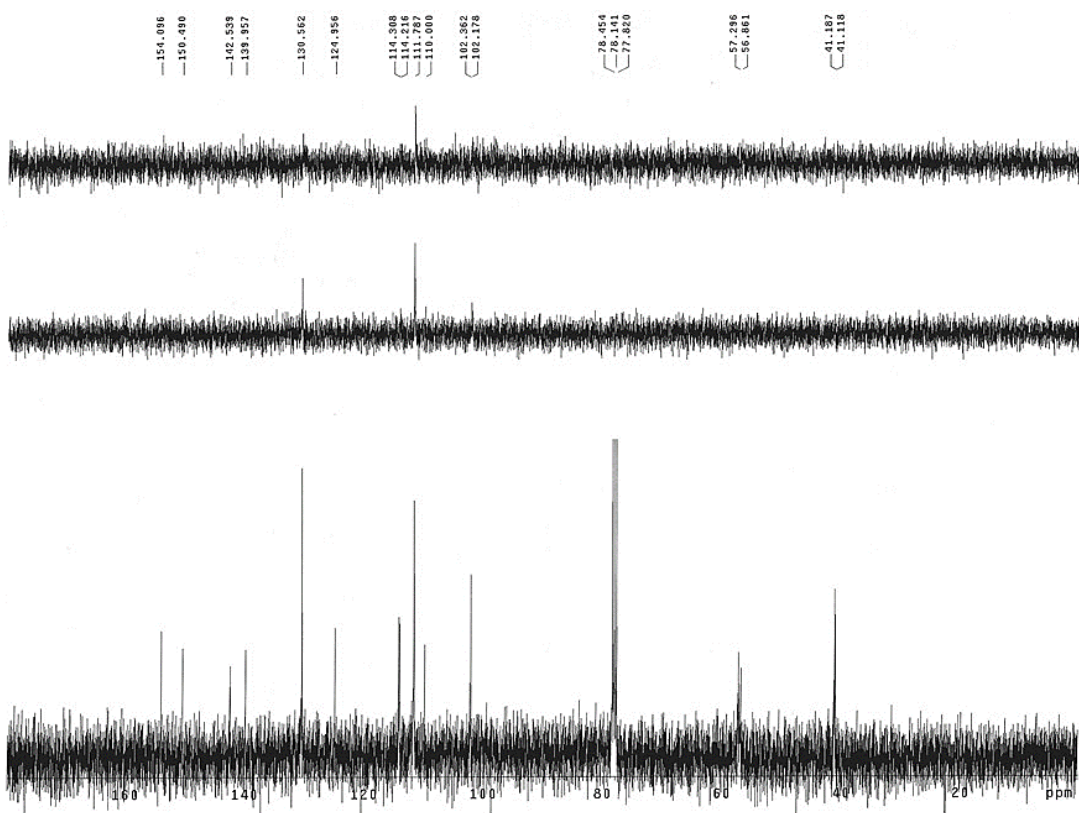


Fig. 165b: Compound **149** ^{13}C NMR spectra.

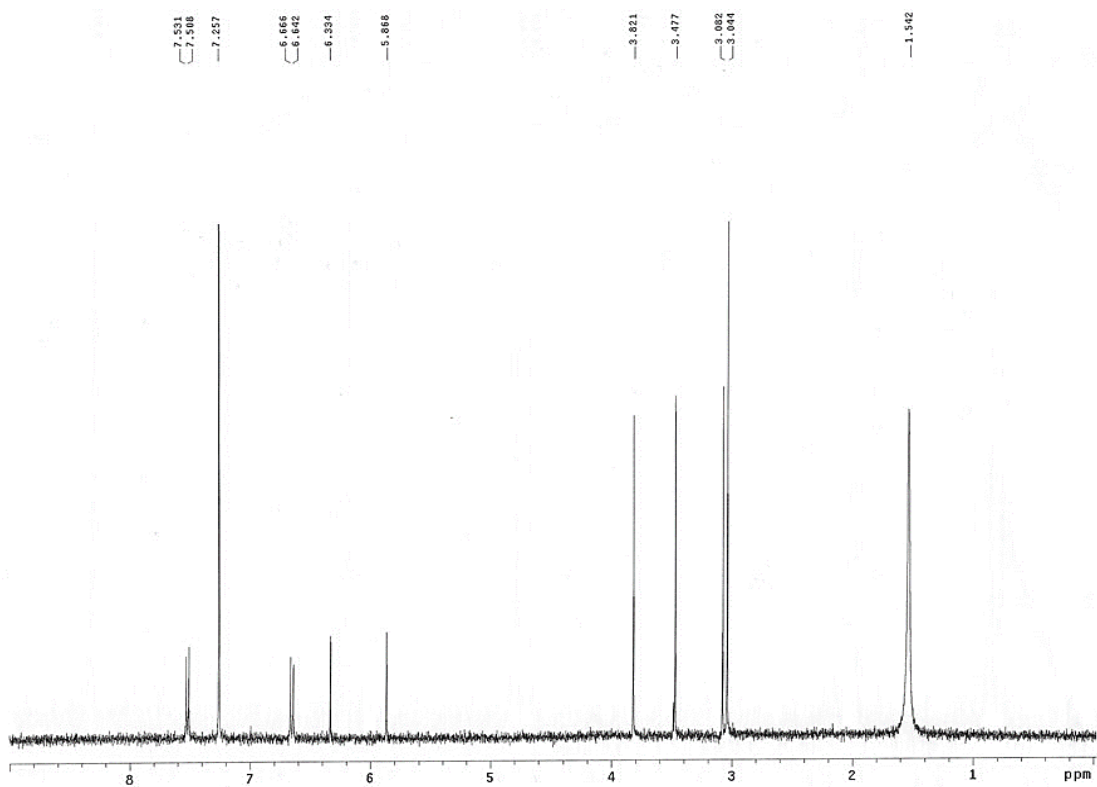


Fig. 166a: Compound **150** ^1H NMR spectra.

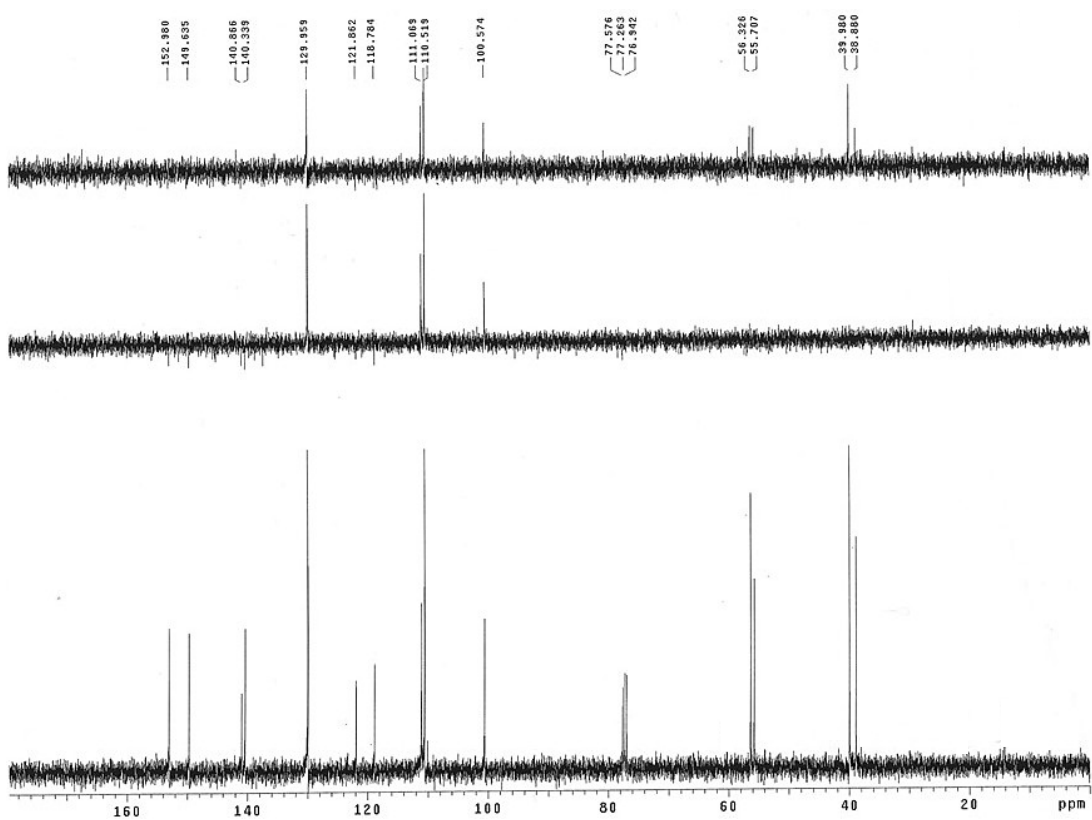


Fig. 166b: Compound **150** ^{13}C NMR spectra.

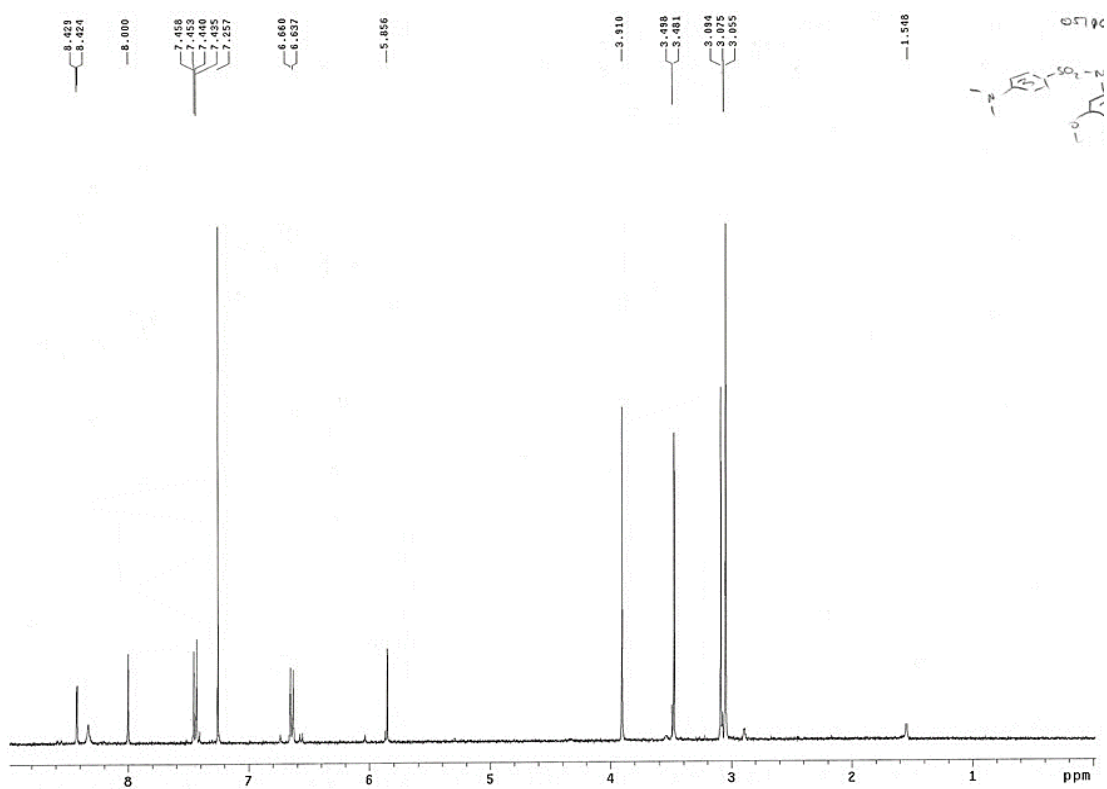


Fig. 167a: Compound **151** ^1H NMR spectra.

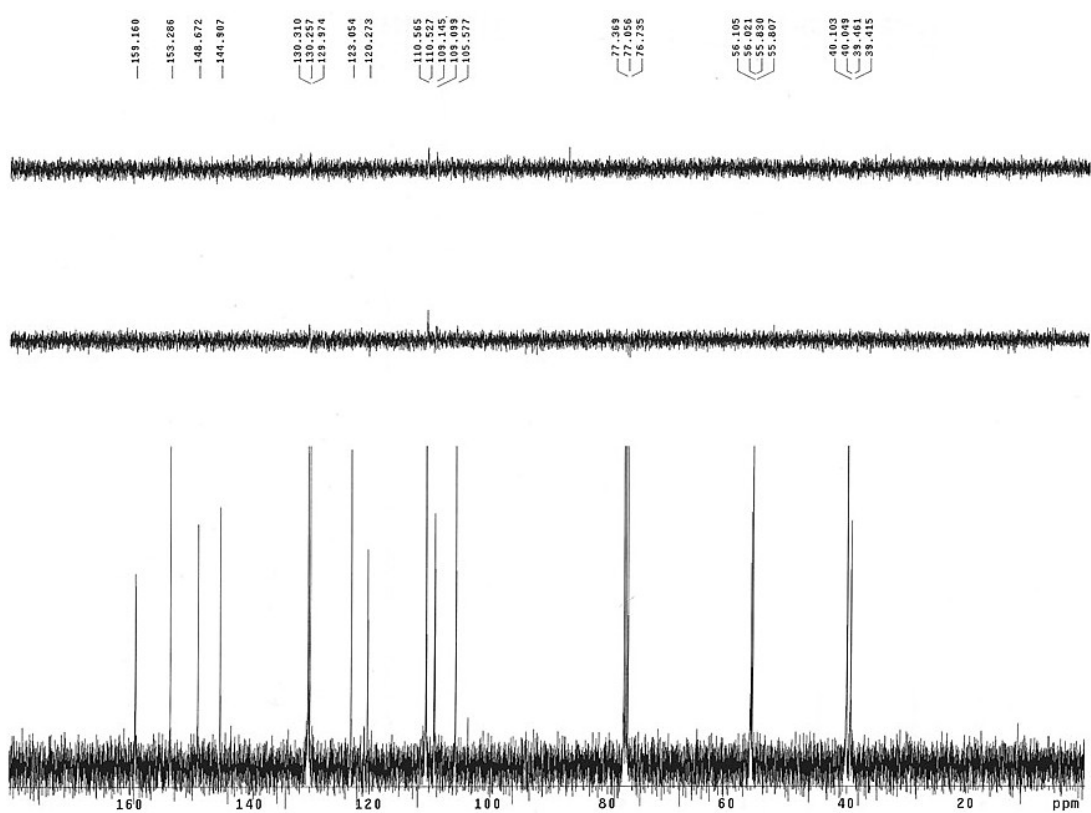


Fig. 167b: Compound **151** ^{13}C NMR spectra.

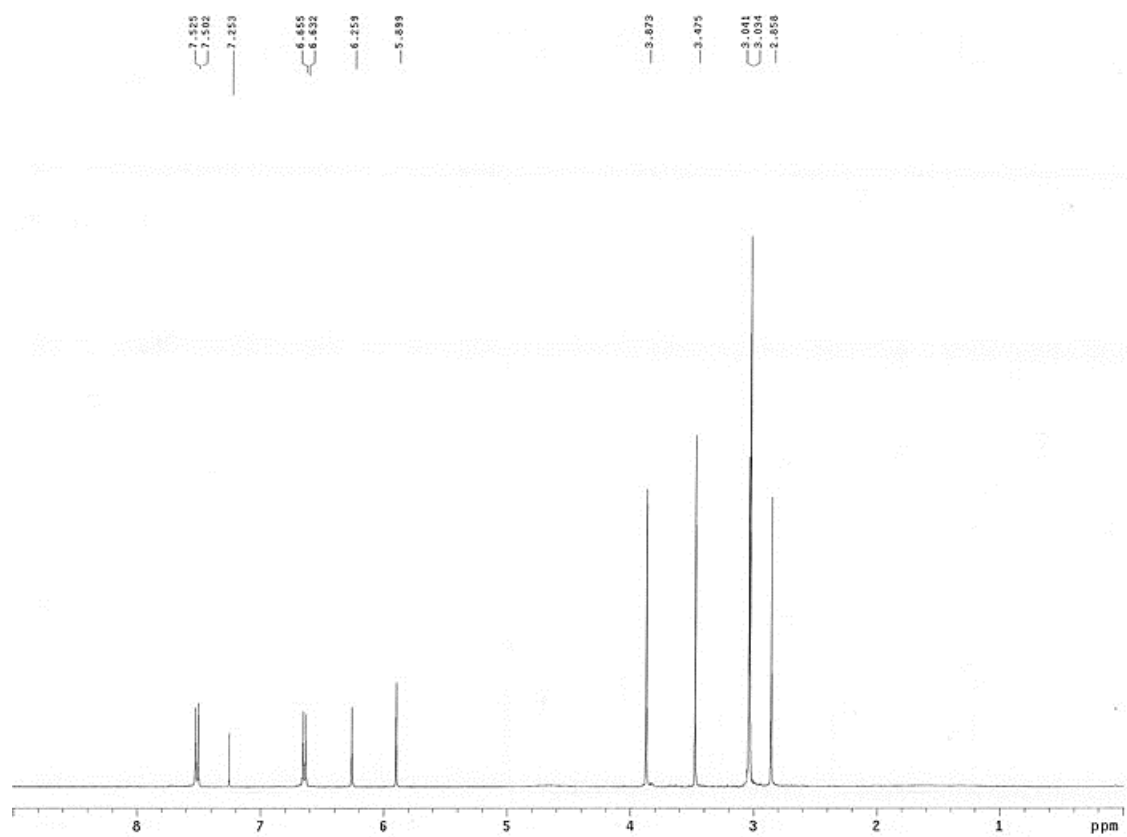


Fig. 168a: Compound **152a** ^1H NMR spectra.

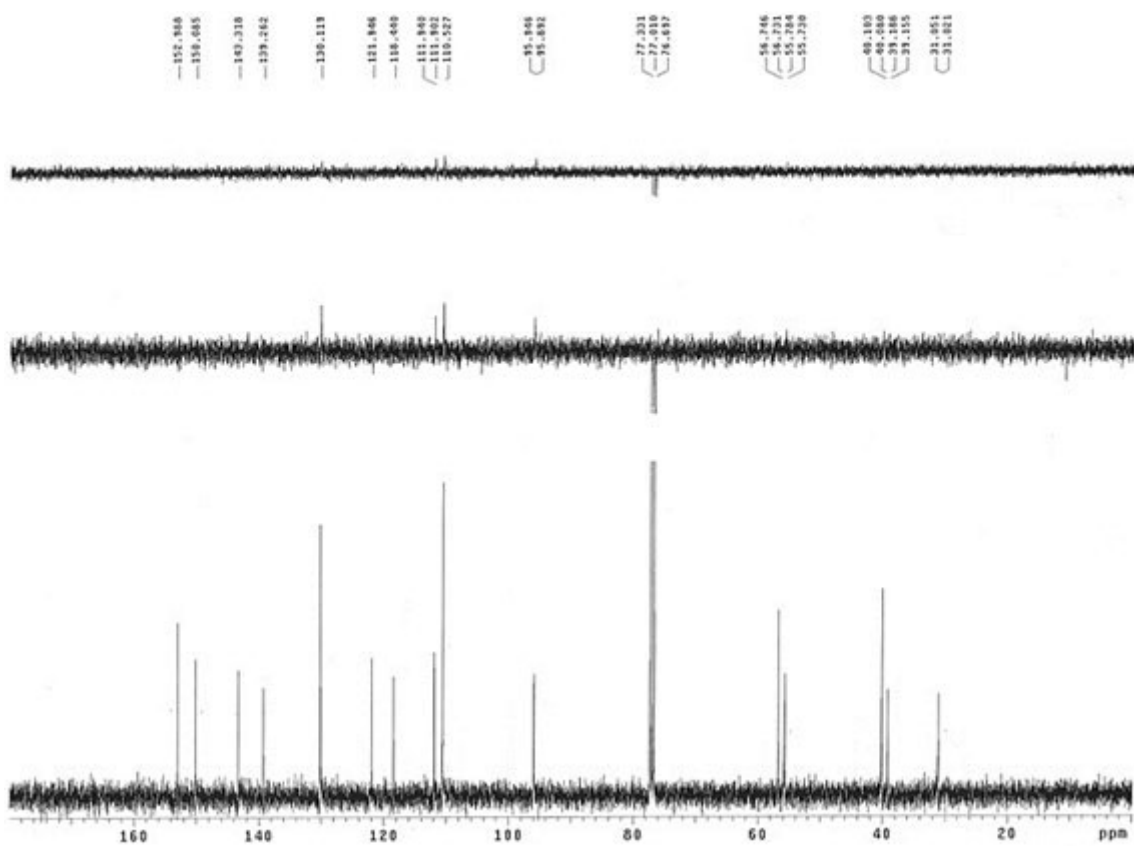


Fig. 168b: Compound **152a** ^{13}C NMR spectra.

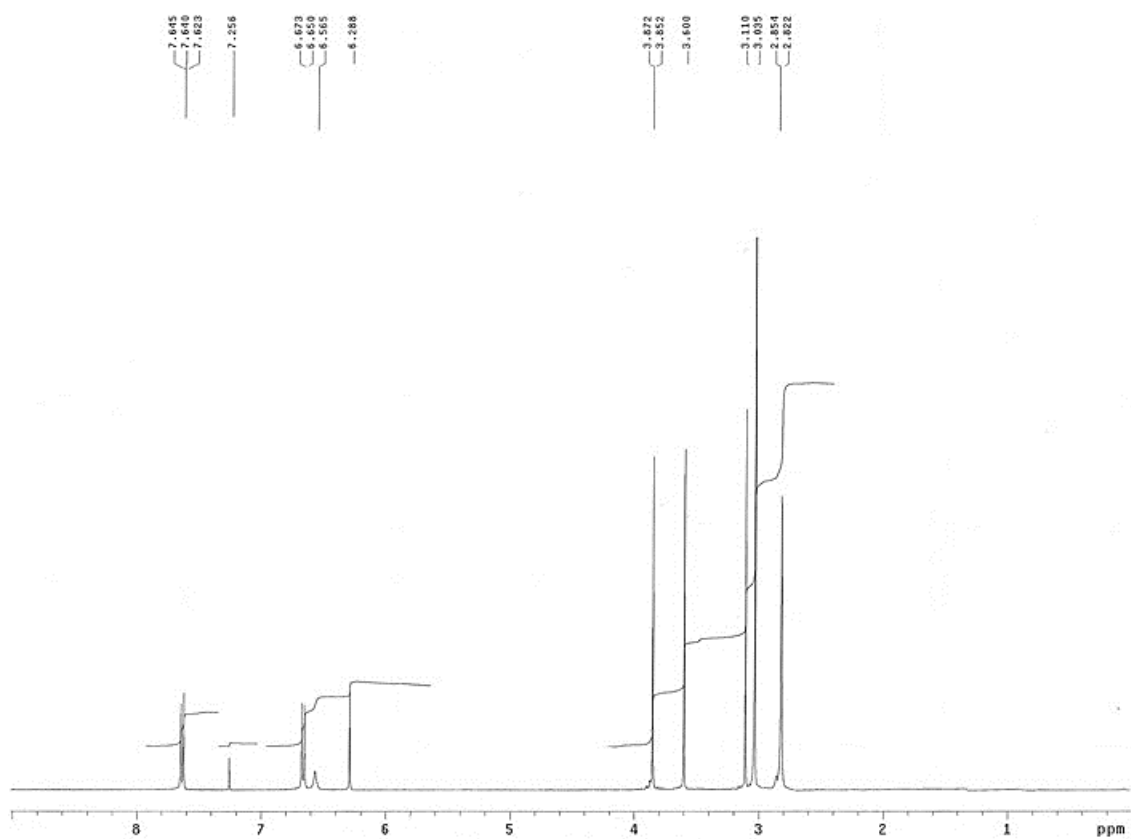


Fig. 169a: Compound **152b** ^1H NMR spectra.

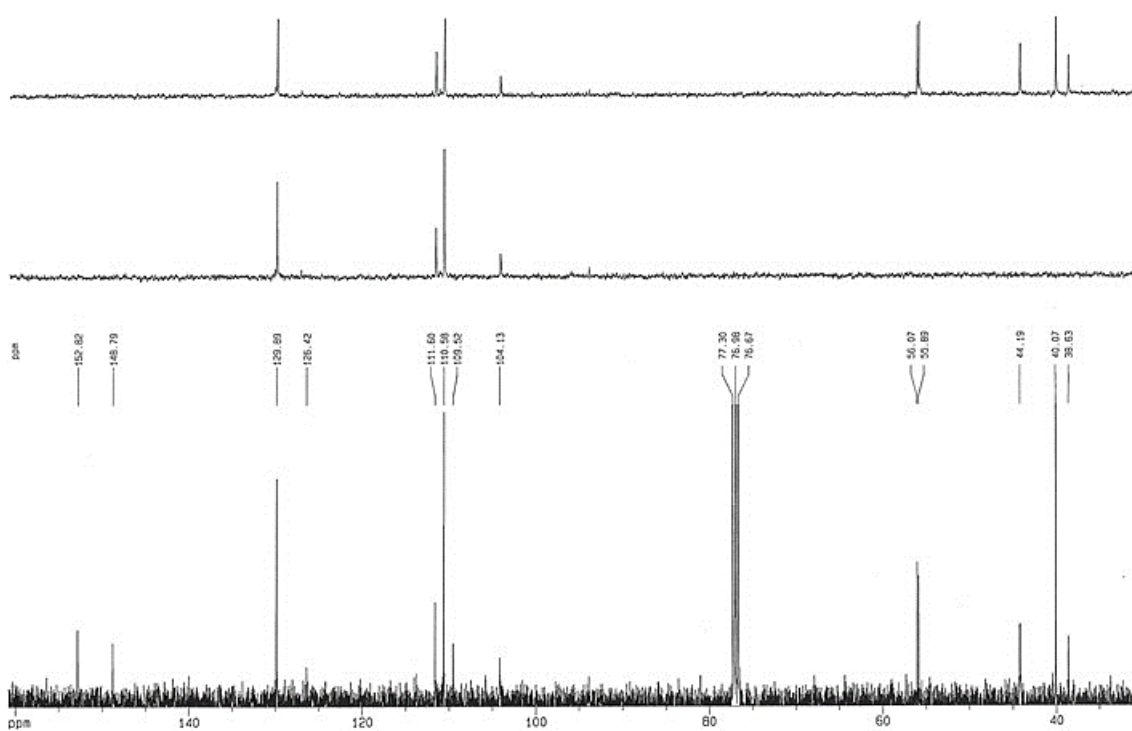


Fig. 169b: Compound **152b** ^{13}C NMR spectra.

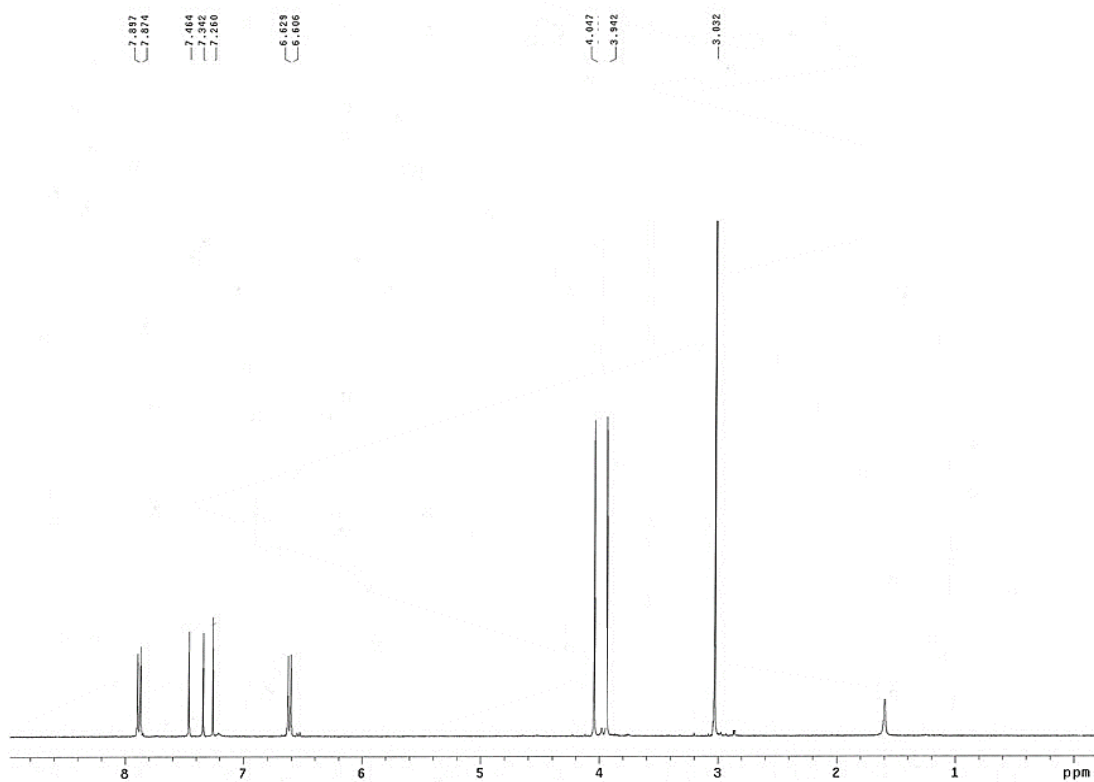


Fig. 170a: Compound **153** ^1H NMR spectra.

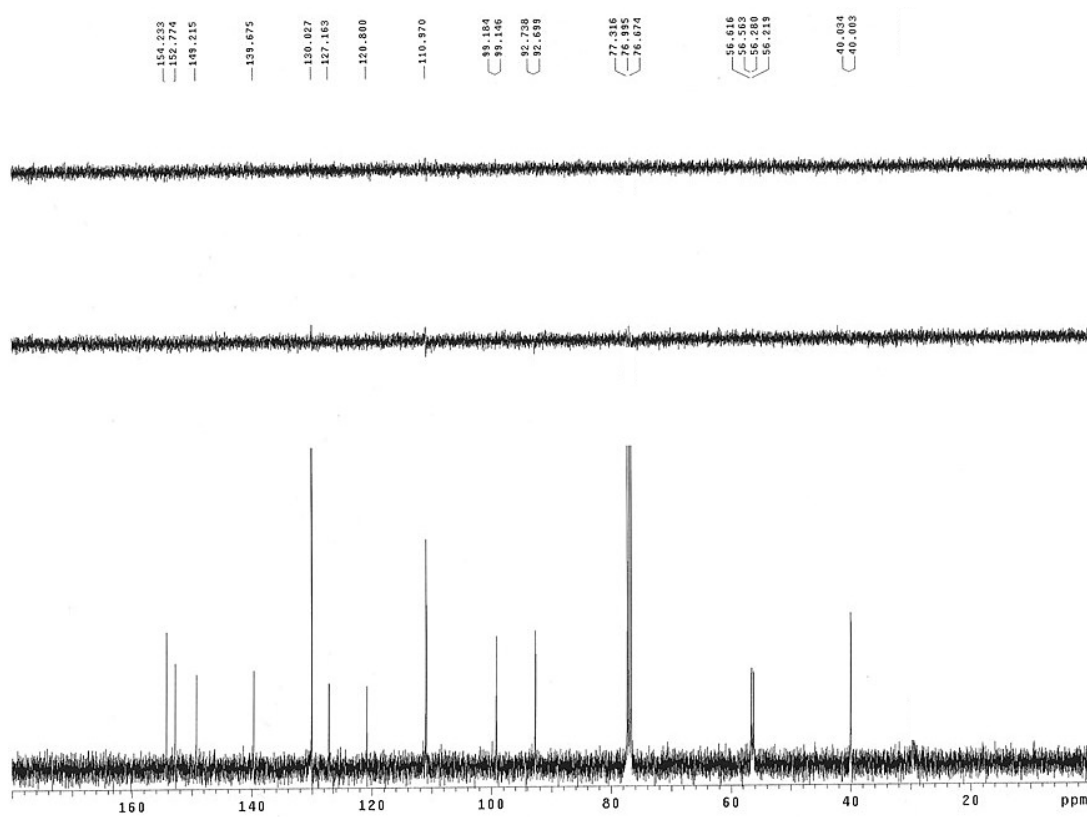


Fig. 170b: Compound **153** ^{13}C NMR spectra.

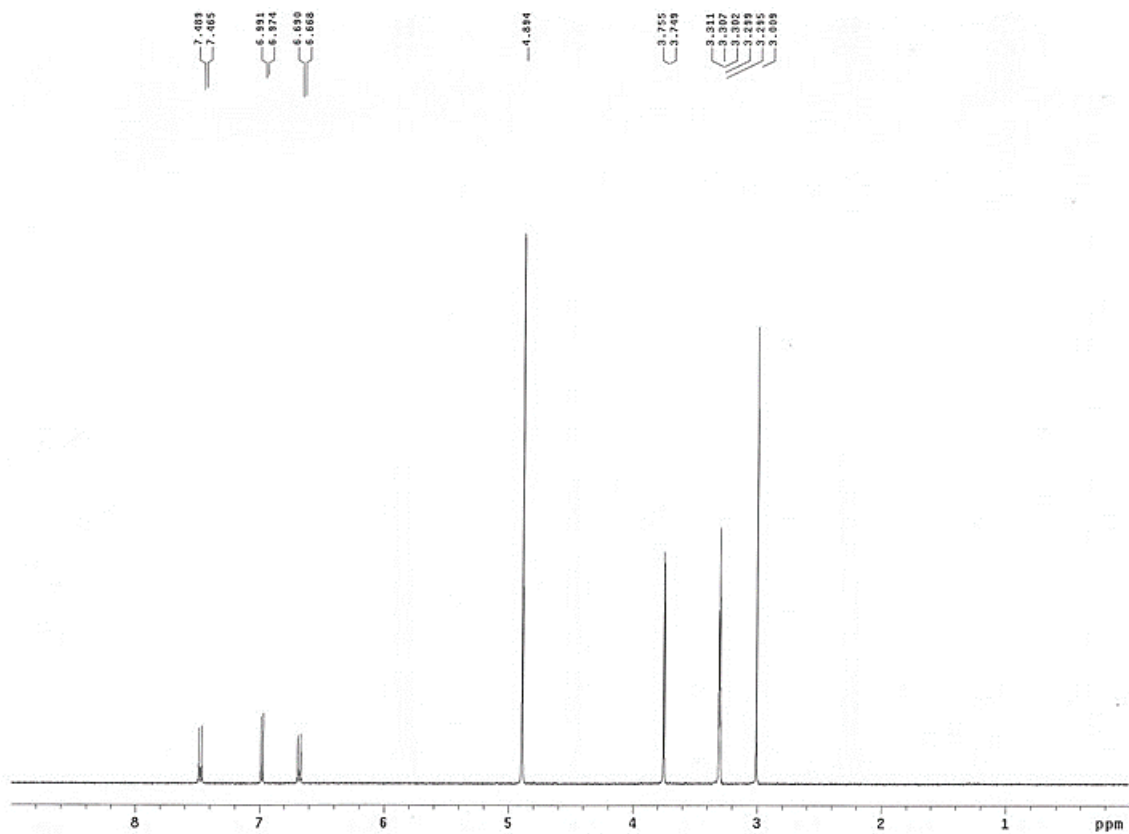


Fig. 171a: Compound **154** ^1H NMR spectra.

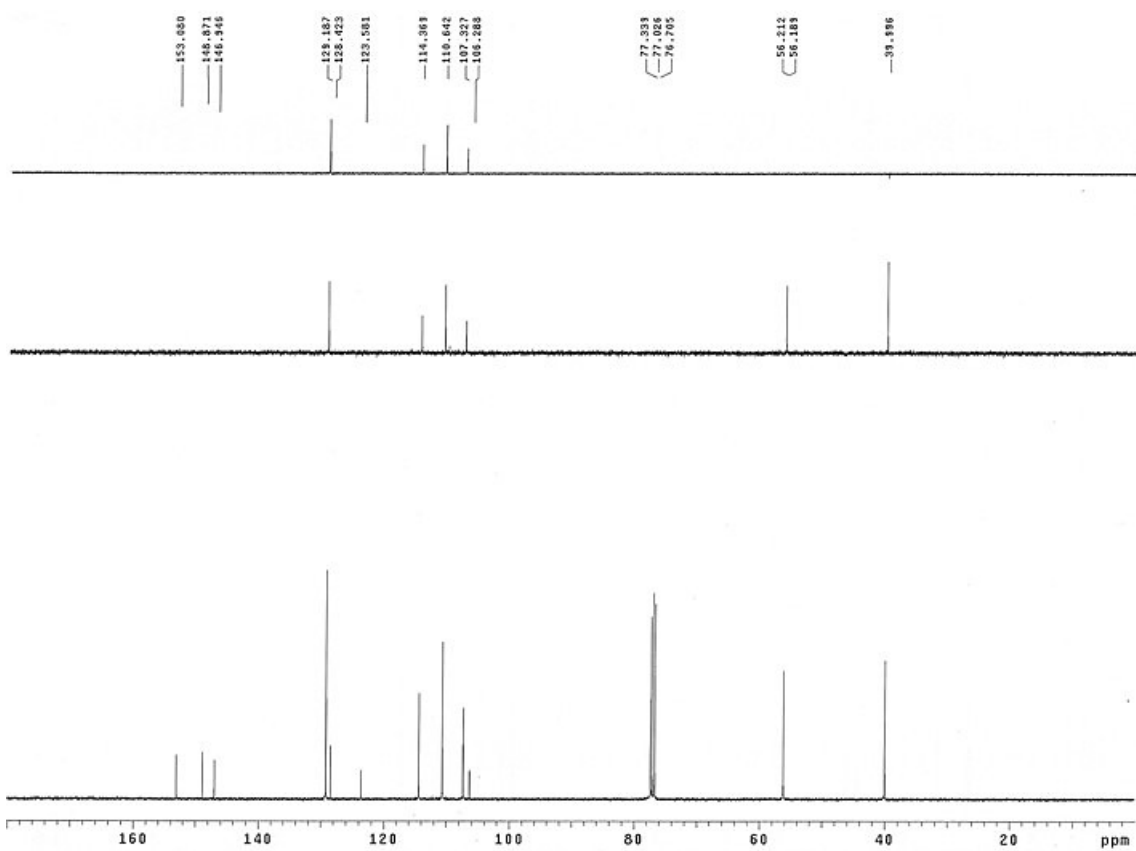


Fig. 171b: Compound **154** ^{13}C NMR spectra.

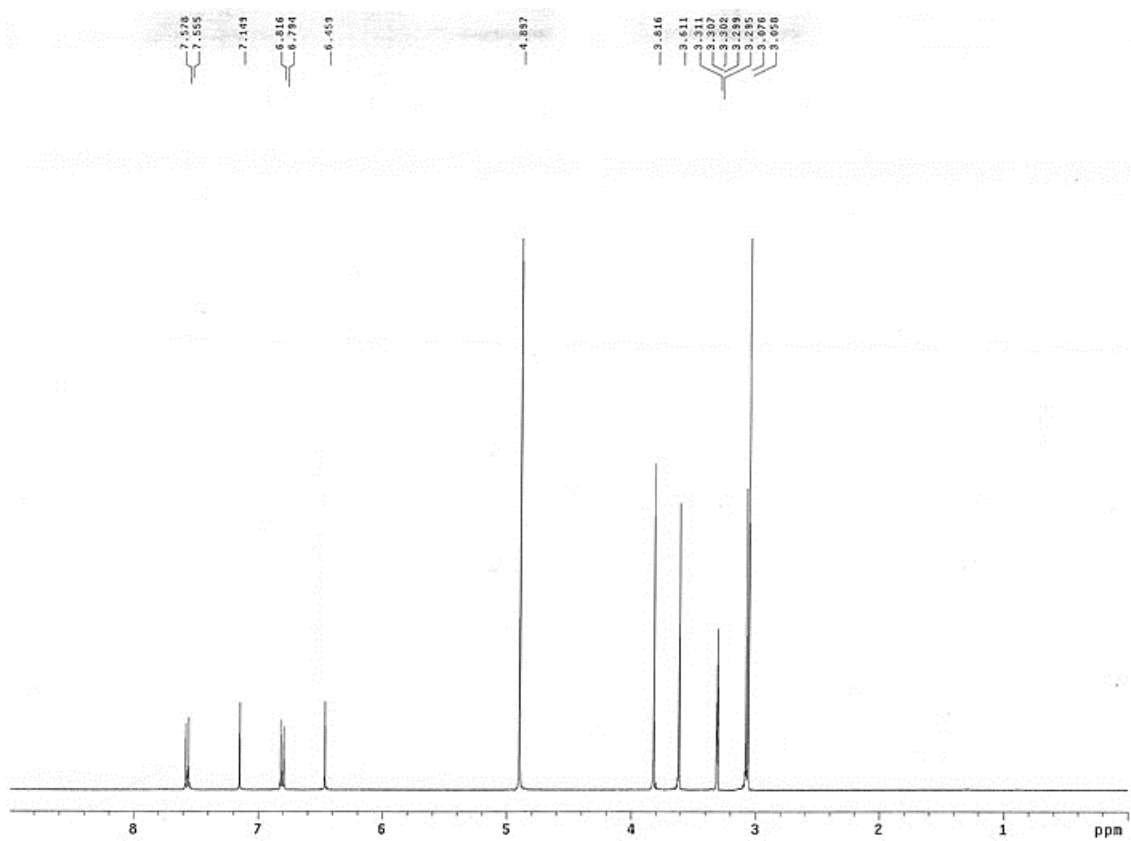


Fig. 172a: Compound **155** ^1H NMR spectra.

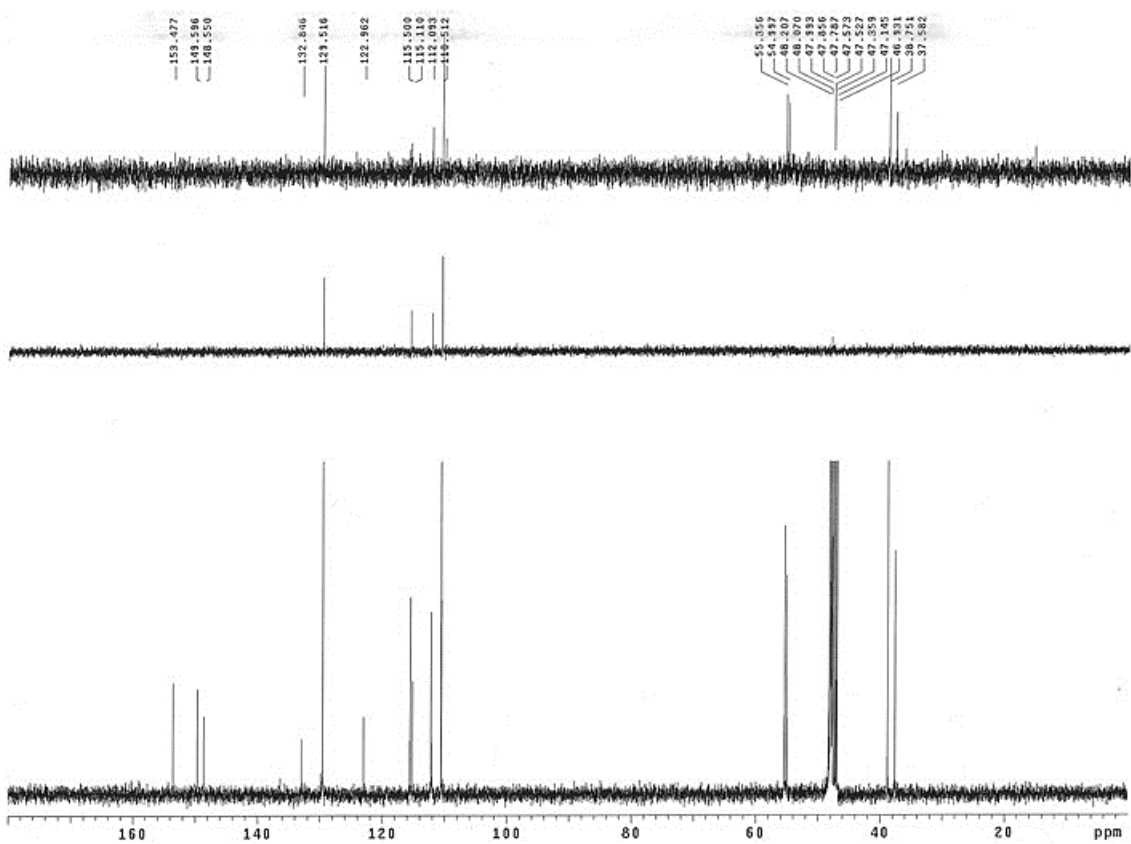


Fig. 172b: Compound **155** ^{13}C NMR spectra.

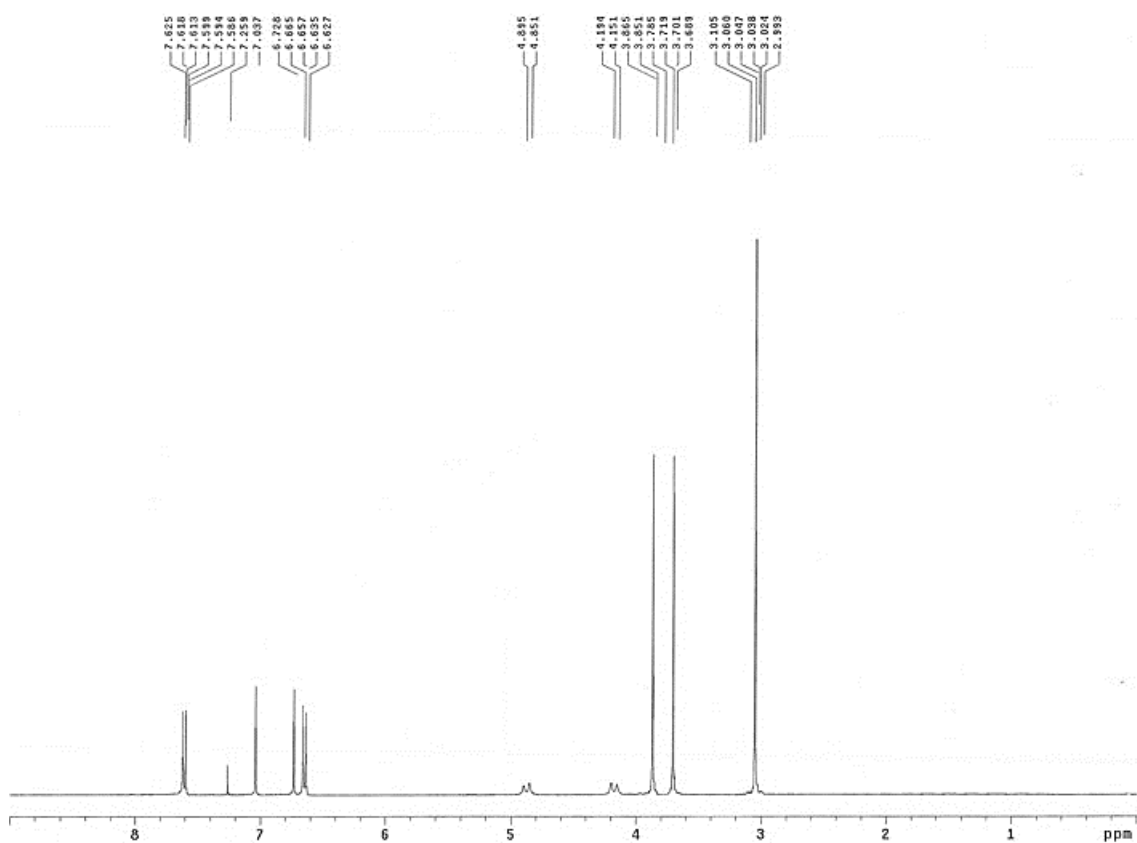


Fig. 173a: Compound **156** ^1H NMR spectra.

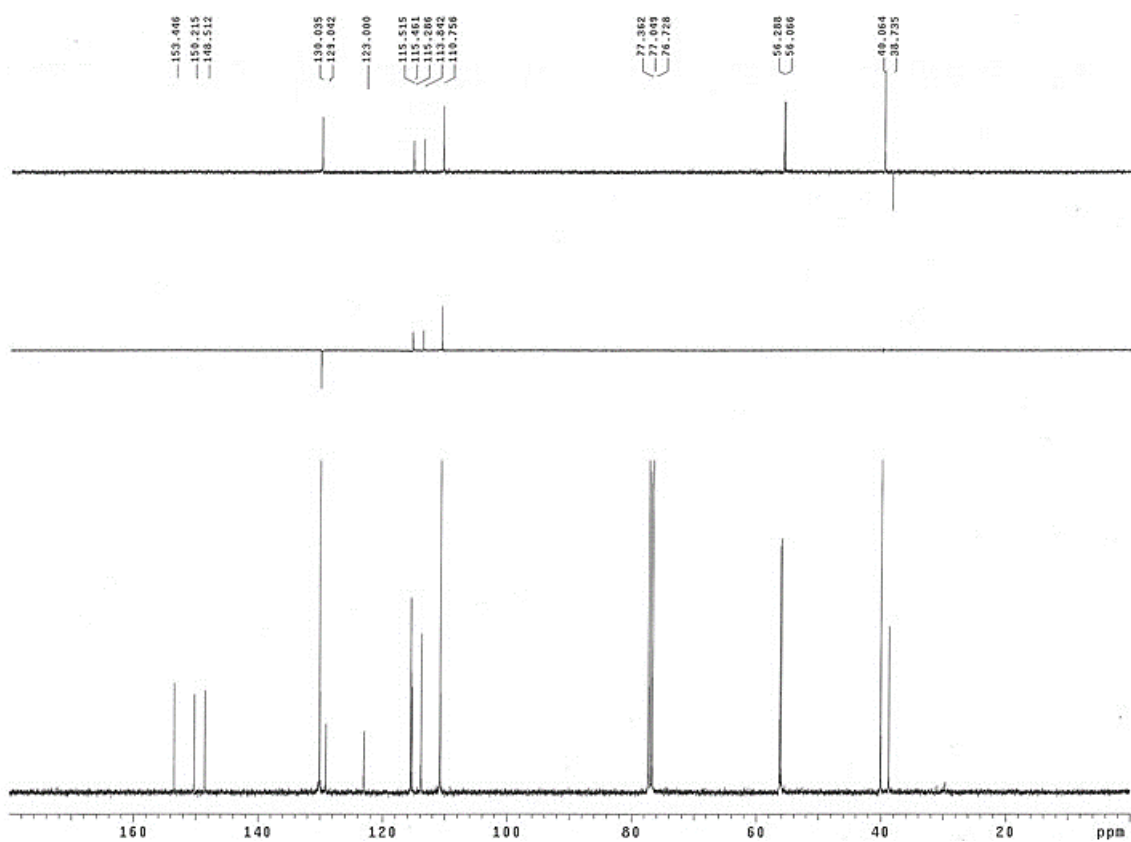


Fig. 173b: Compound **156** ^{13}C NMR spectra.

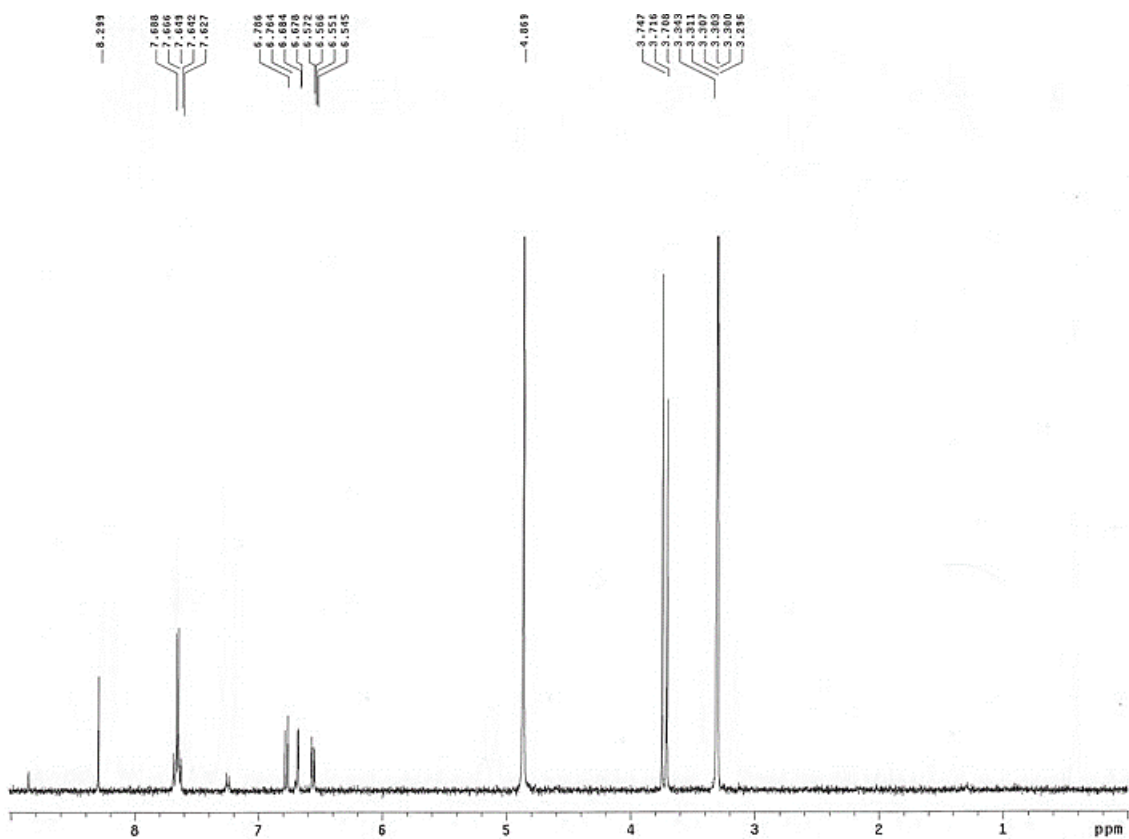


Fig. 174a: Compound **157** ^1H NMR spectra.

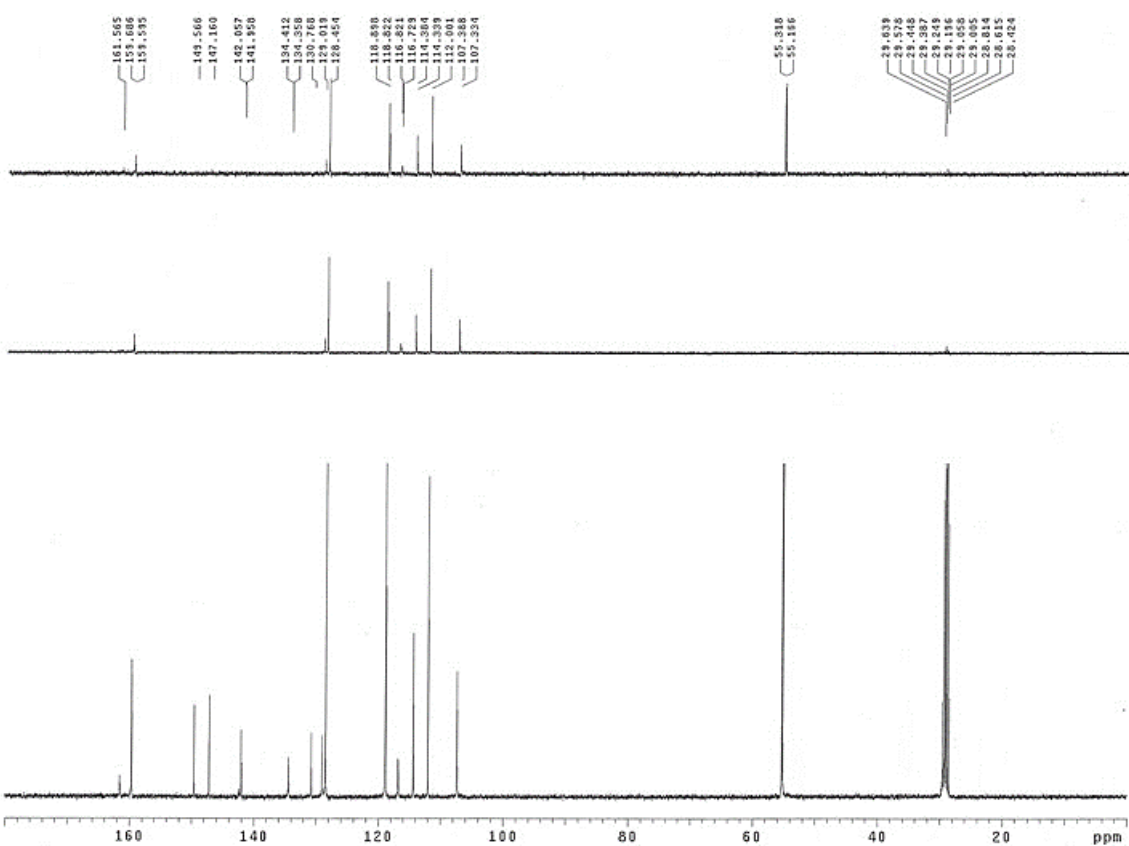


Fig. 174b: Compound **157** ^{13}C NMR spectra.

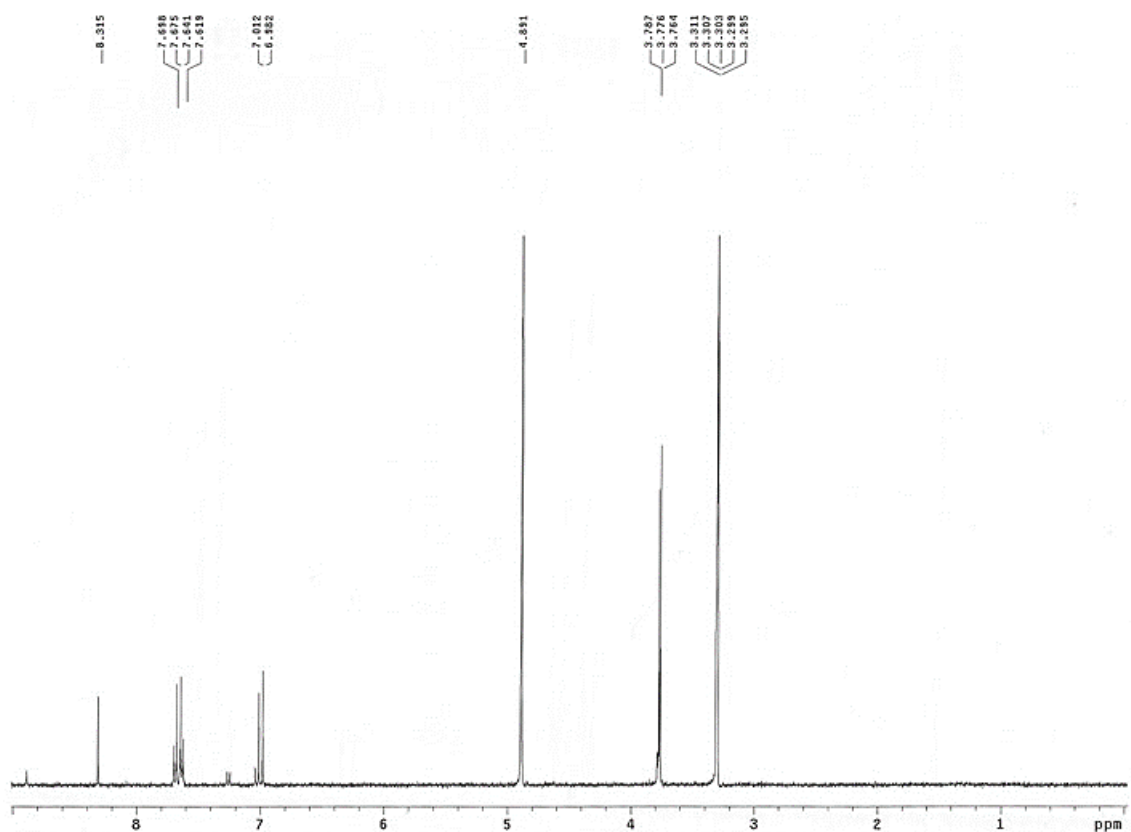


Fig. 175a: Compound **158** ^1H NMR spectra.

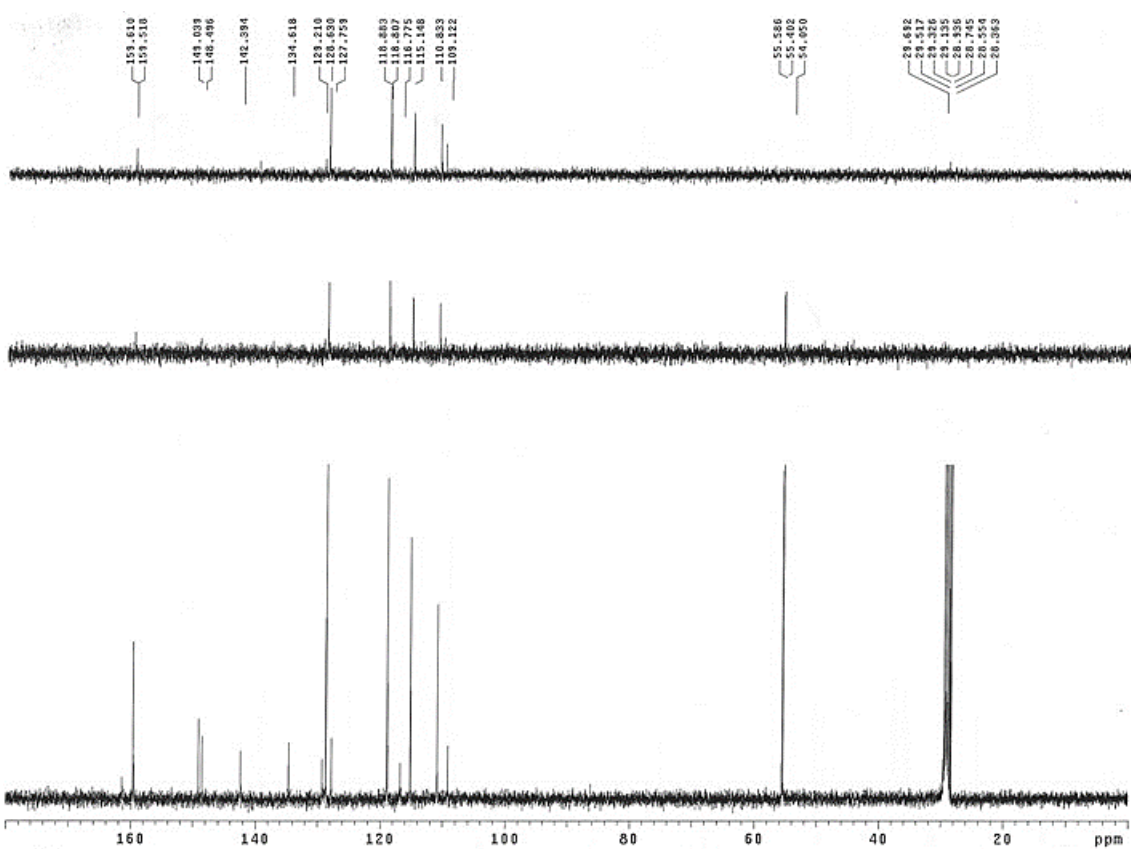


Fig. 175b: Compound **158** ^{13}C NMR spectra.

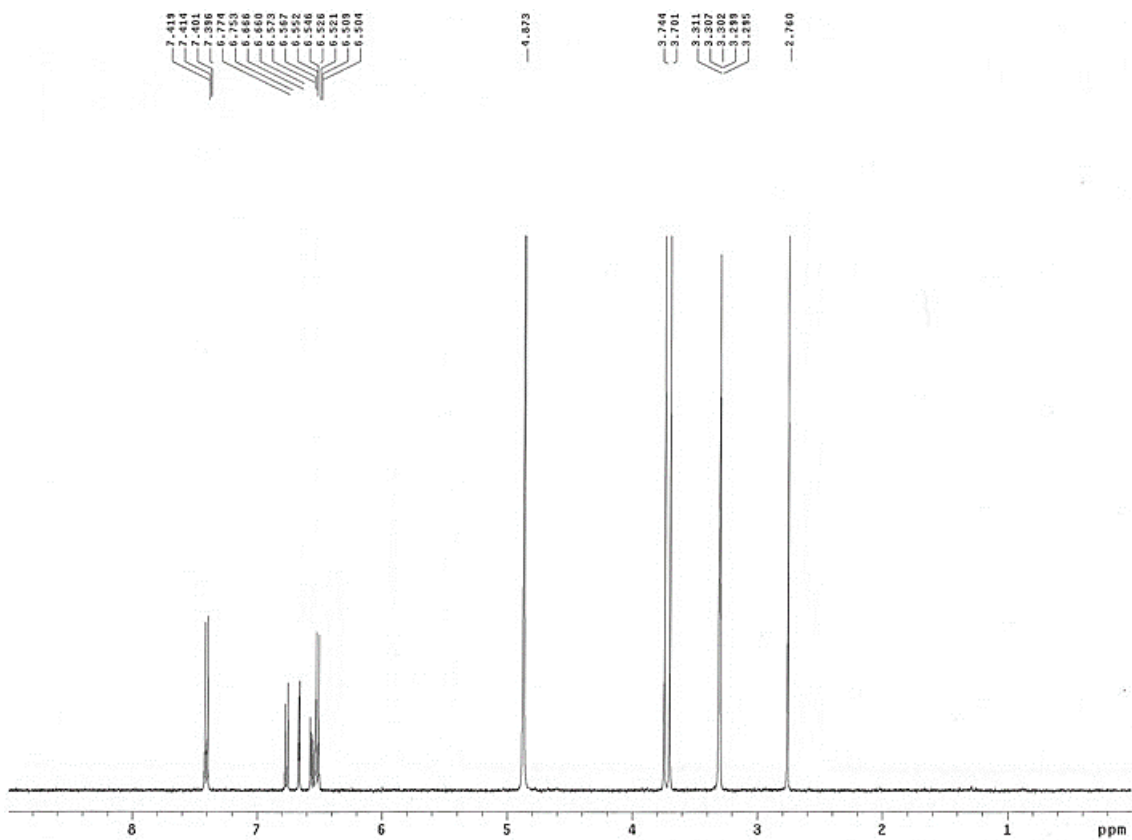


Fig. 176a: Compound **159** ^1H NMR spectra.

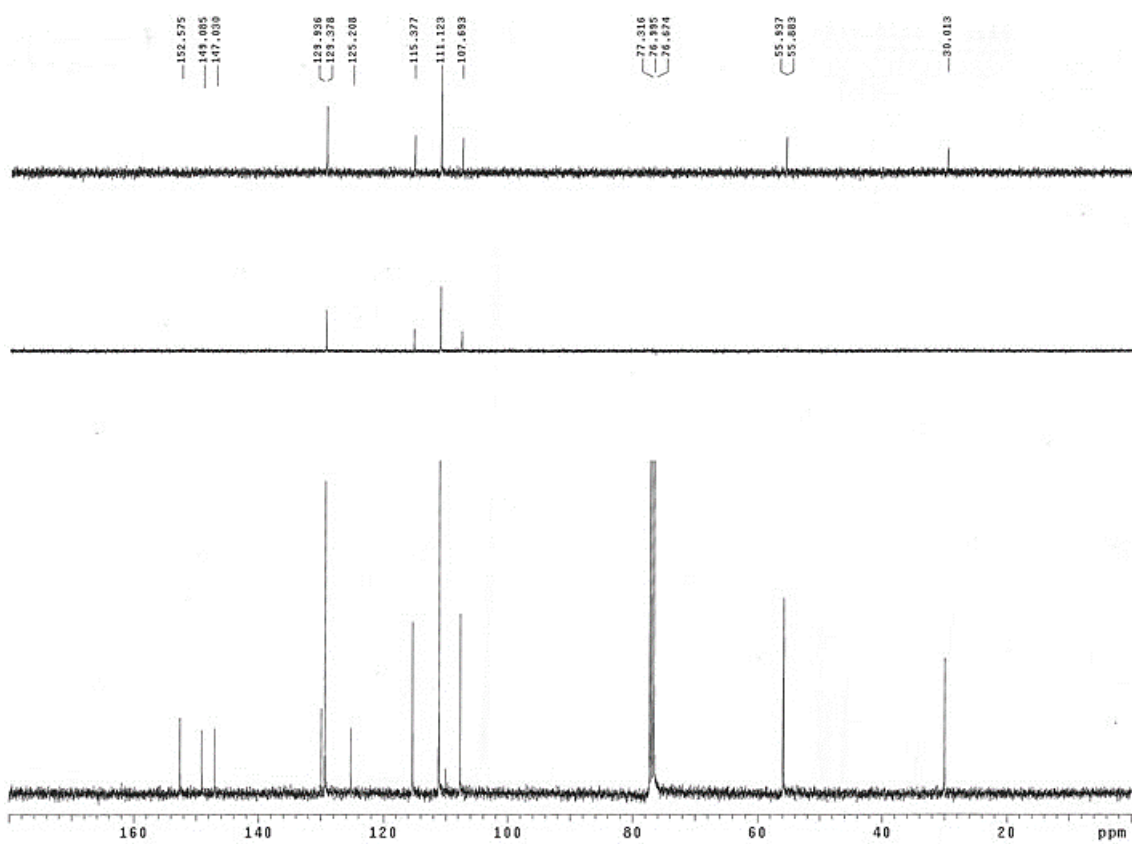


Fig. 176b: Compound **159** ^{13}C NMR spectra.

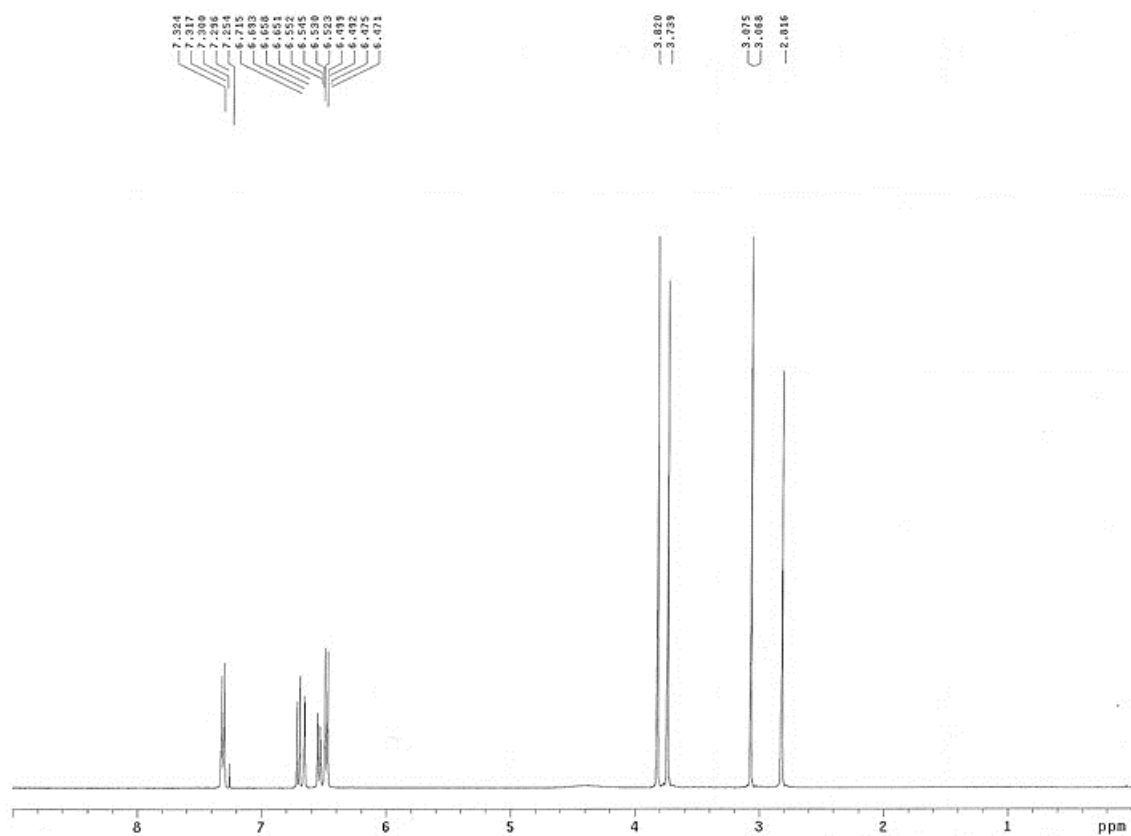


Fig. 177a: Compound **160** ^1H NMR spectra.

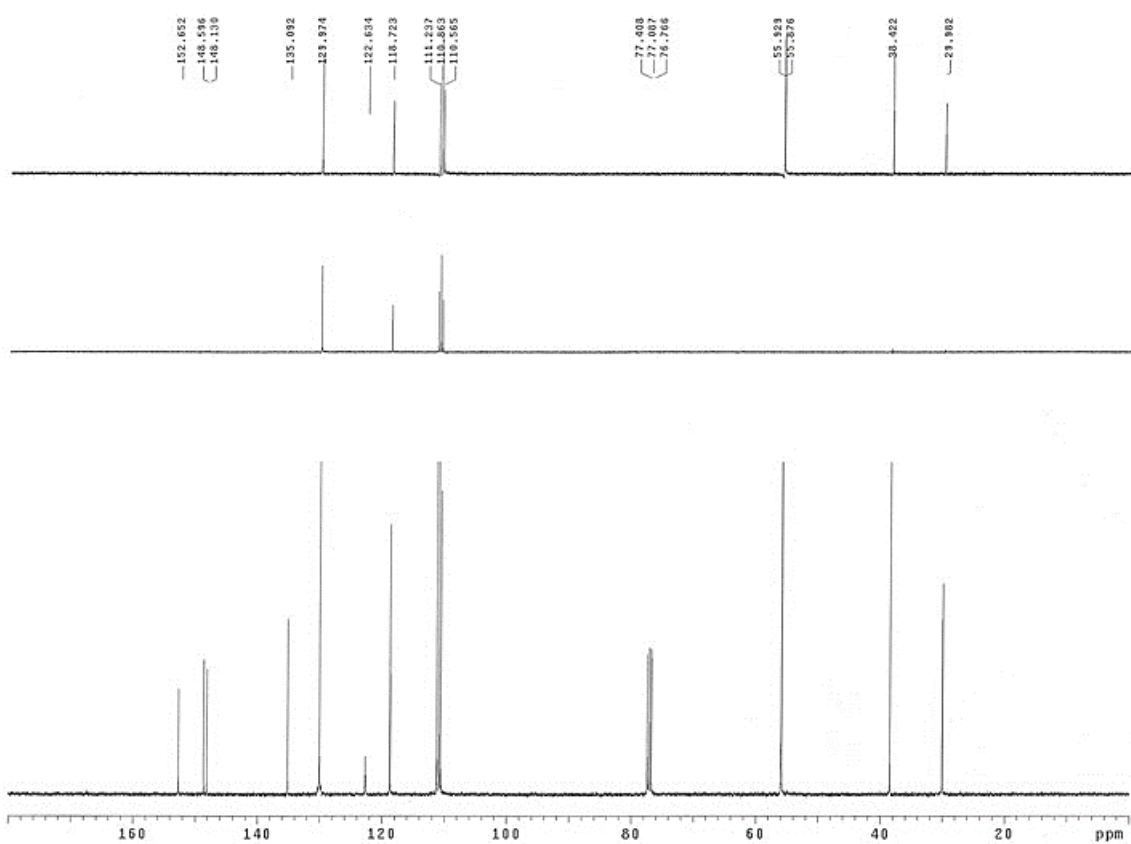


Fig. 177b: Compound **160** ^{13}C NMR spectra.

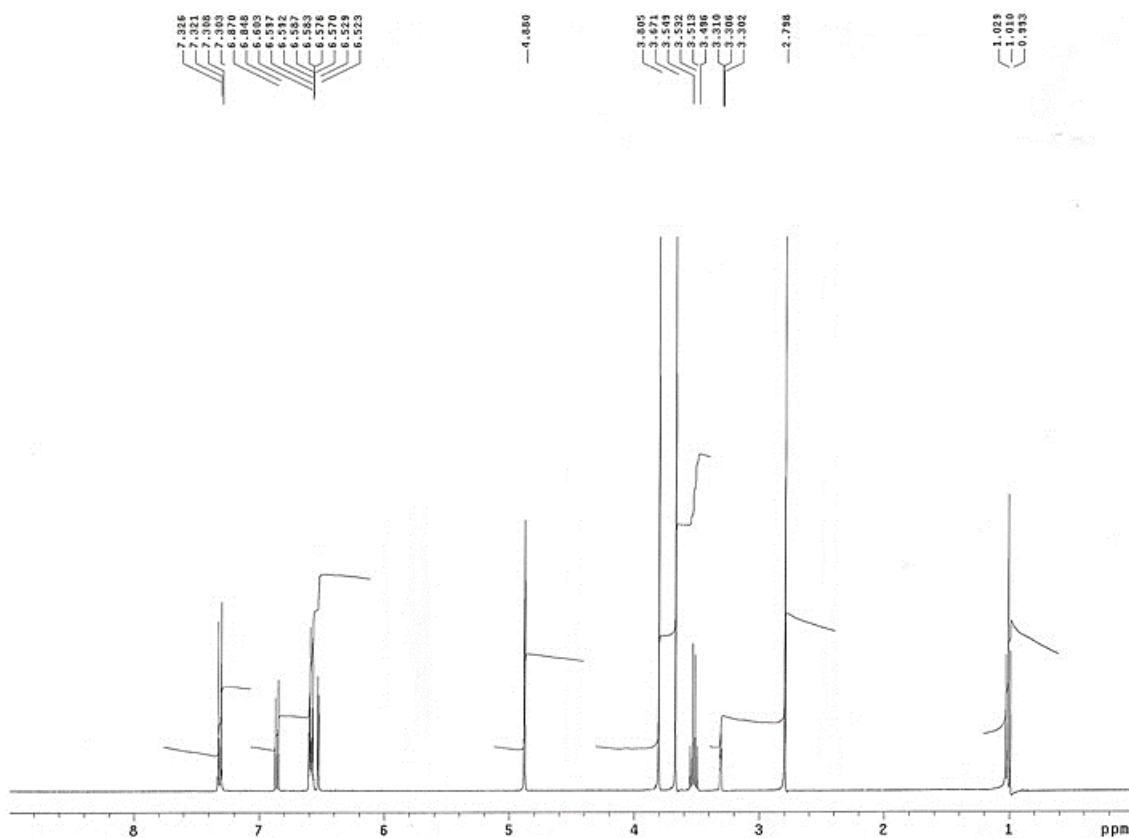


Fig. 178a: Compound **161** ^1H NMR spectra.

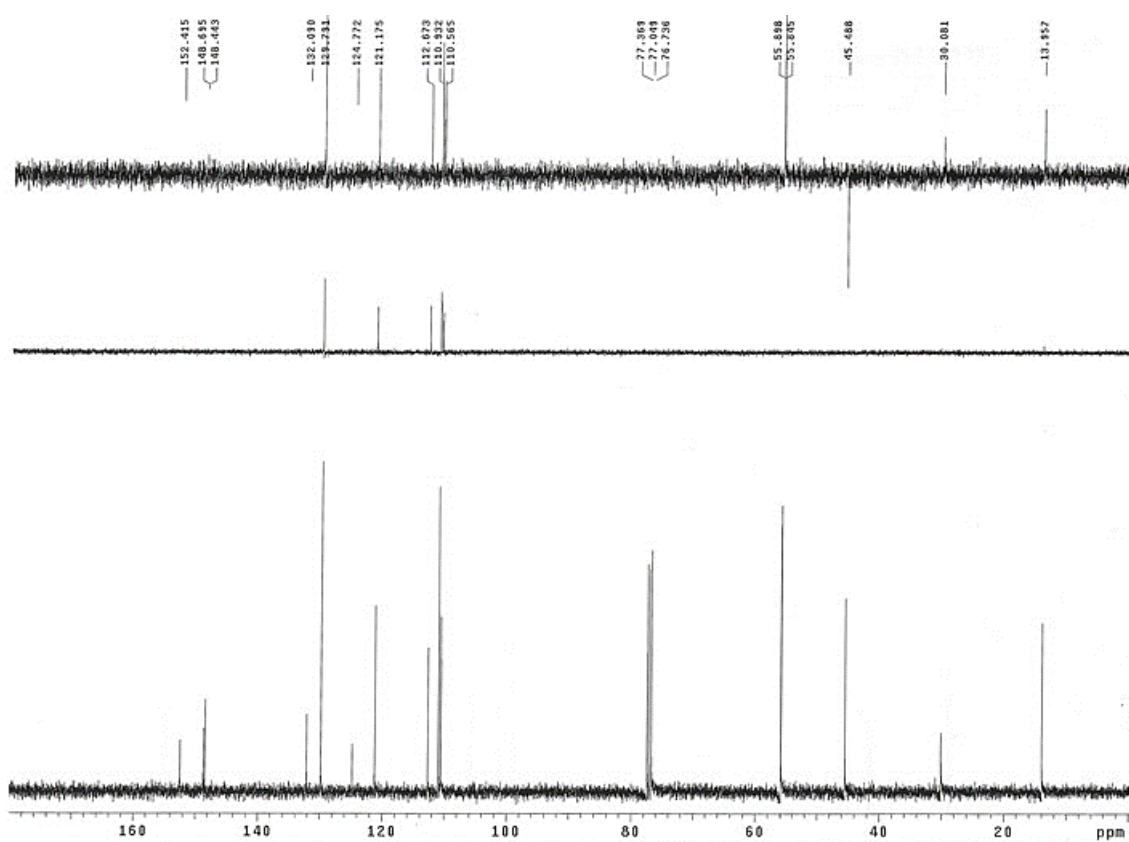


Fig. 178b: Compound **161** ^{13}C NMR spectra.

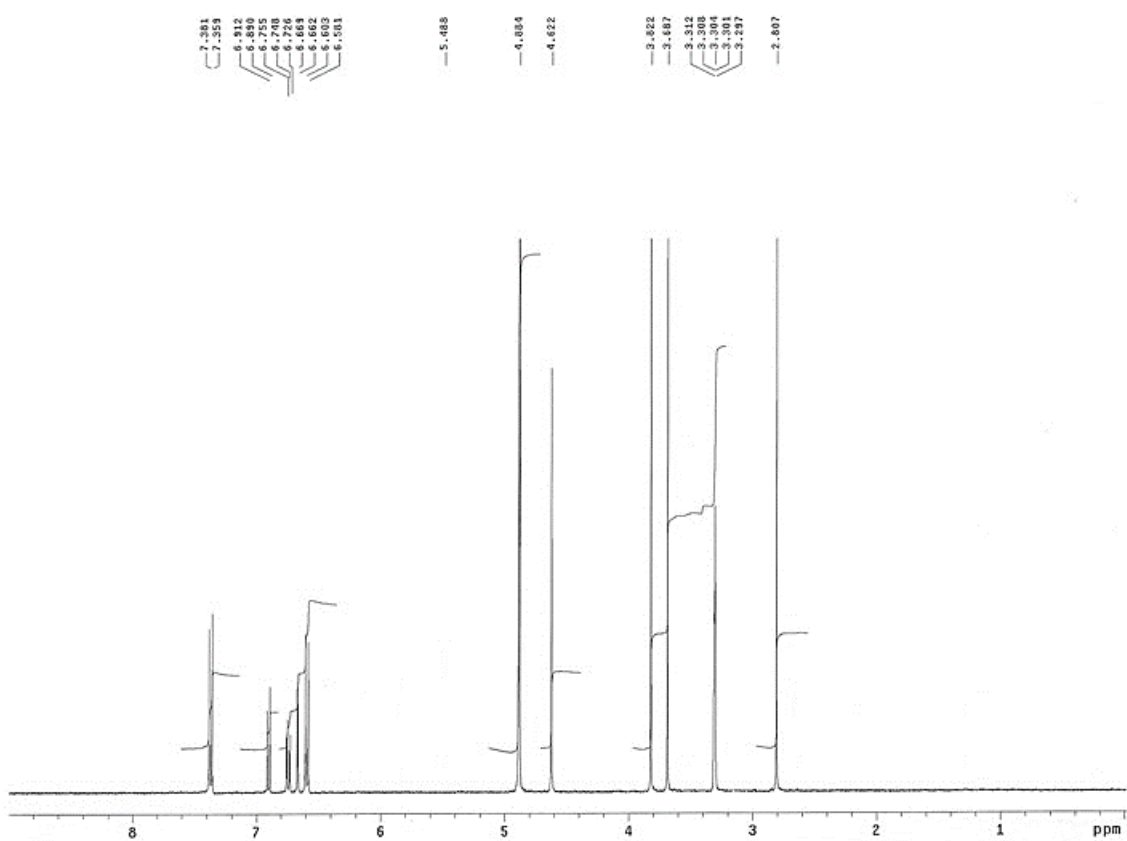


Fig. 179a: Compound **162** ^1H NMR spectra.

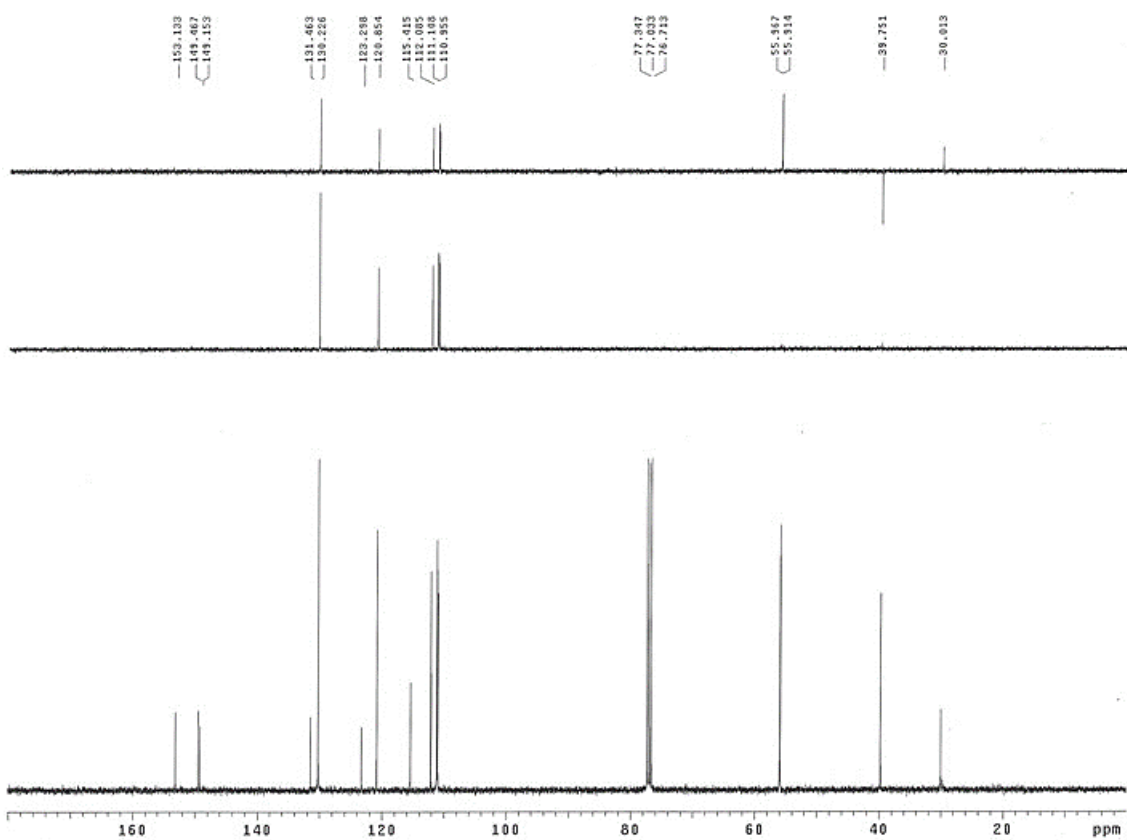


Fig. 179b: Compound **162** ^{13}C NMR spectra.

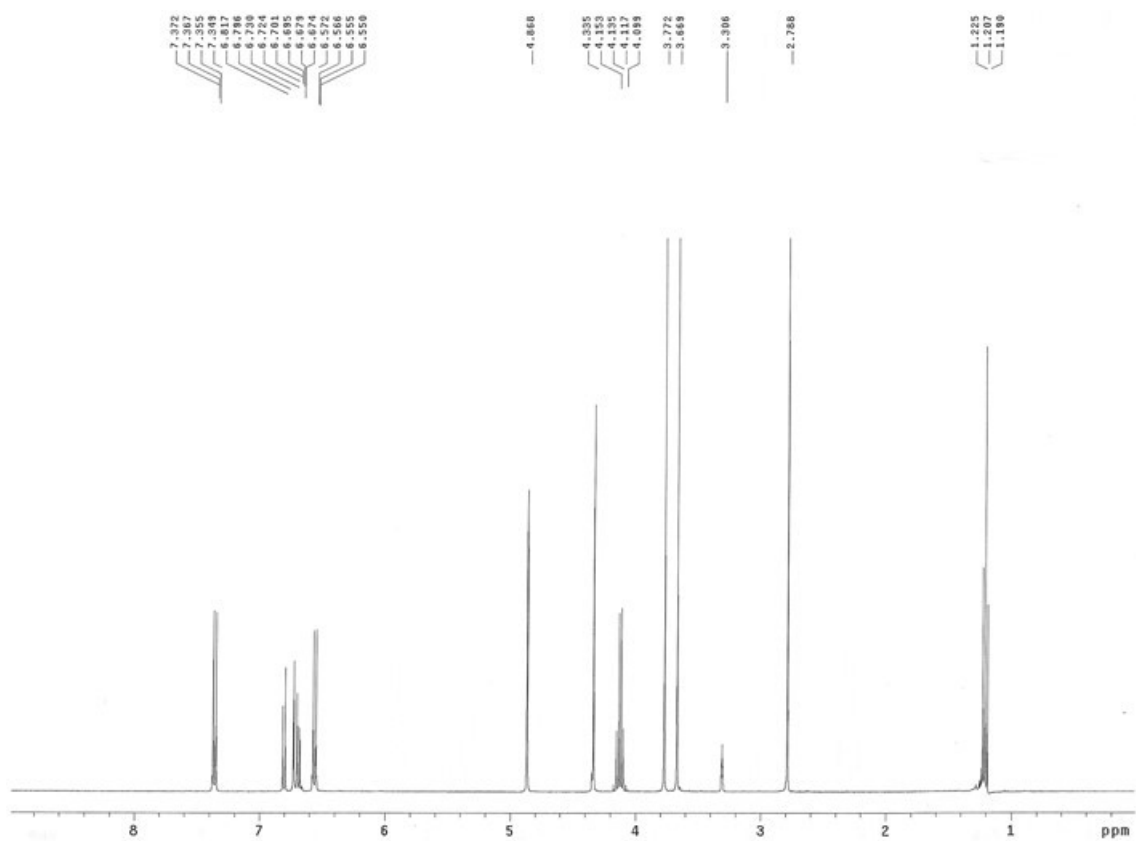


Fig. 180a: Compound **163** ^1H NMR spectra.

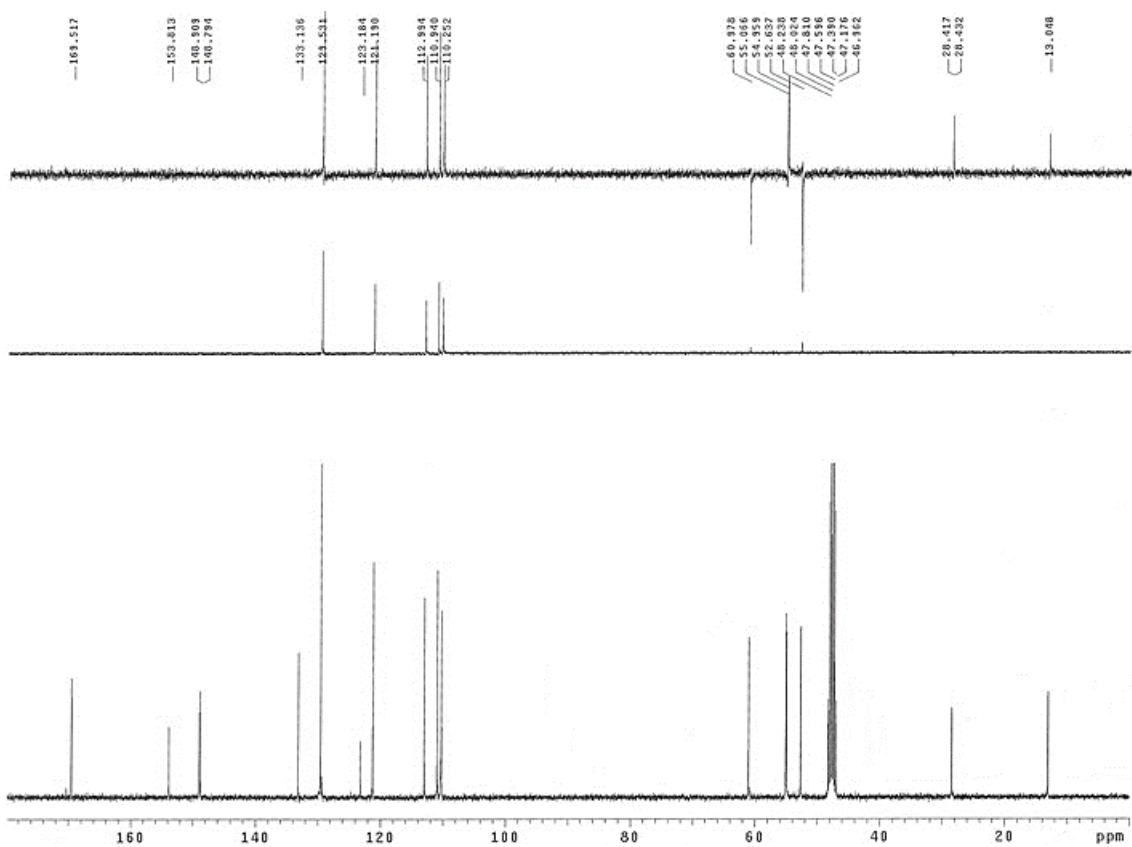


Fig. 180b: Compound **163** ^{13}C NMR spectra.

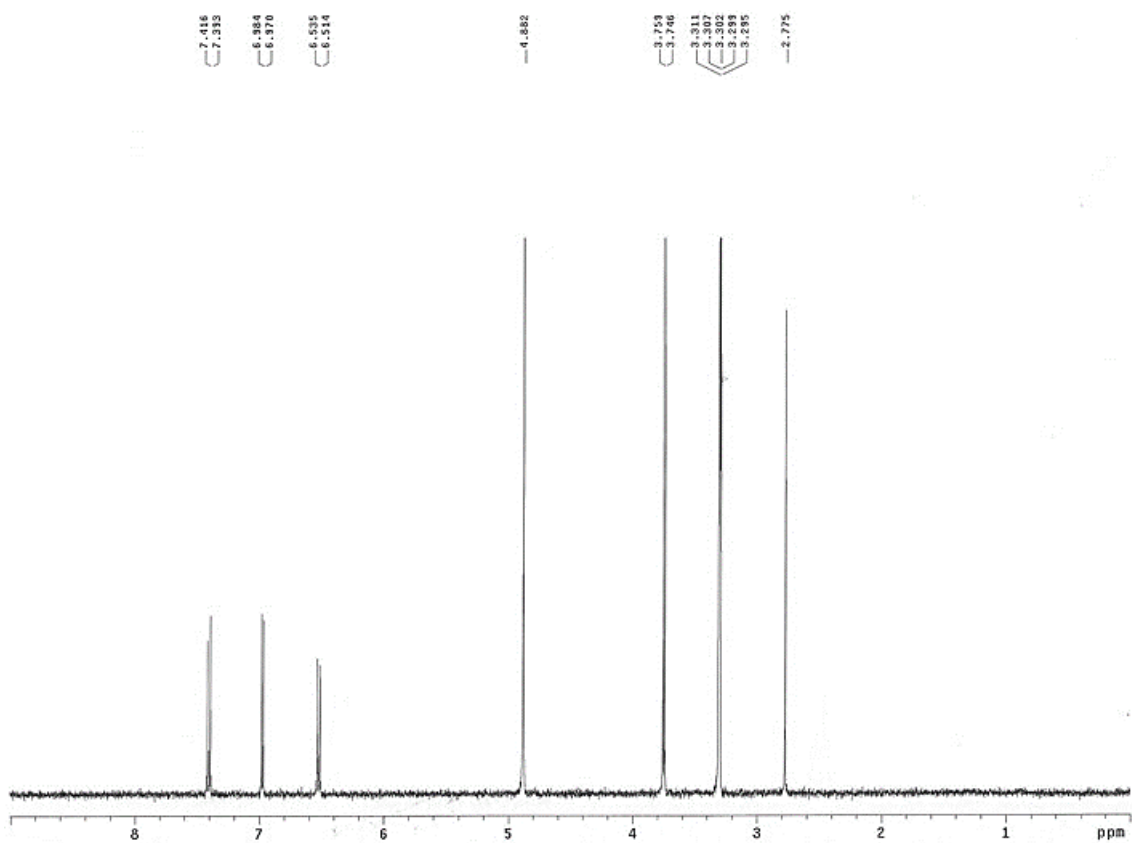


Fig. 181a: Compound **164** ^1H NMR spectra.

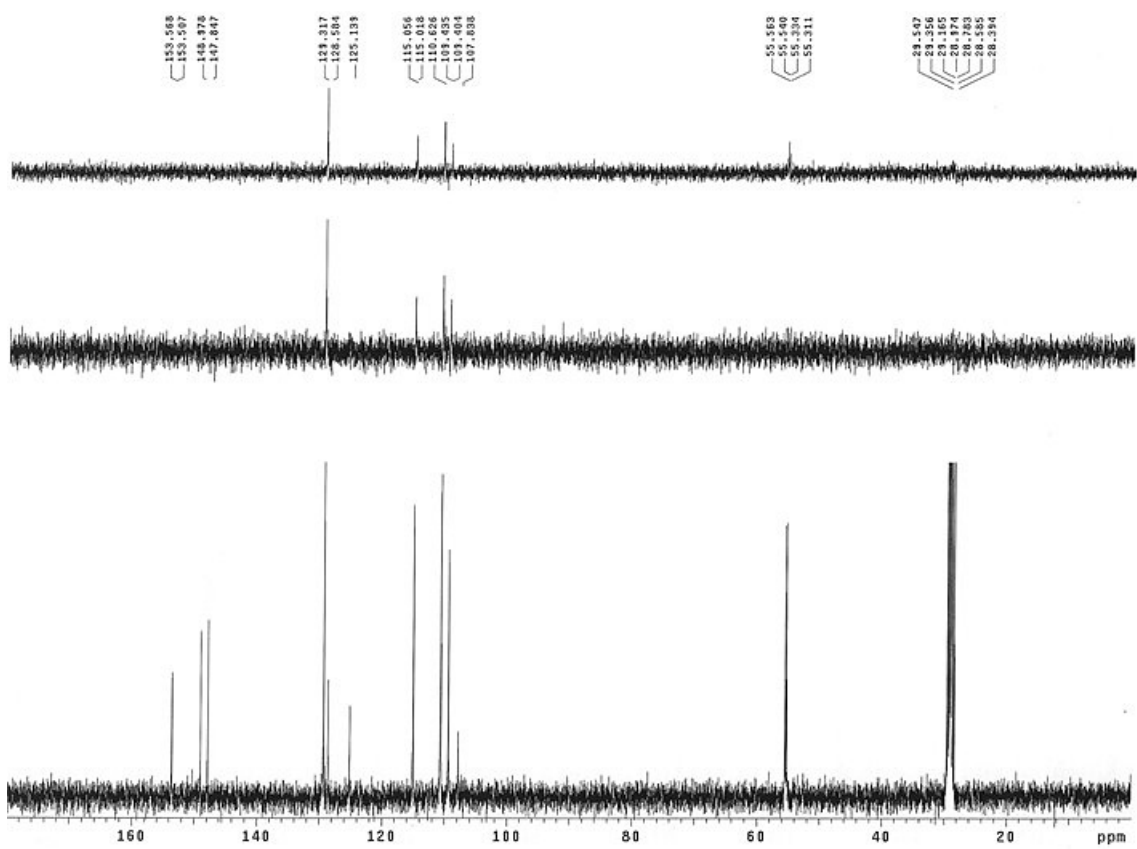


Fig. 181b: Compound **164** ^{13}C NMR spectra.

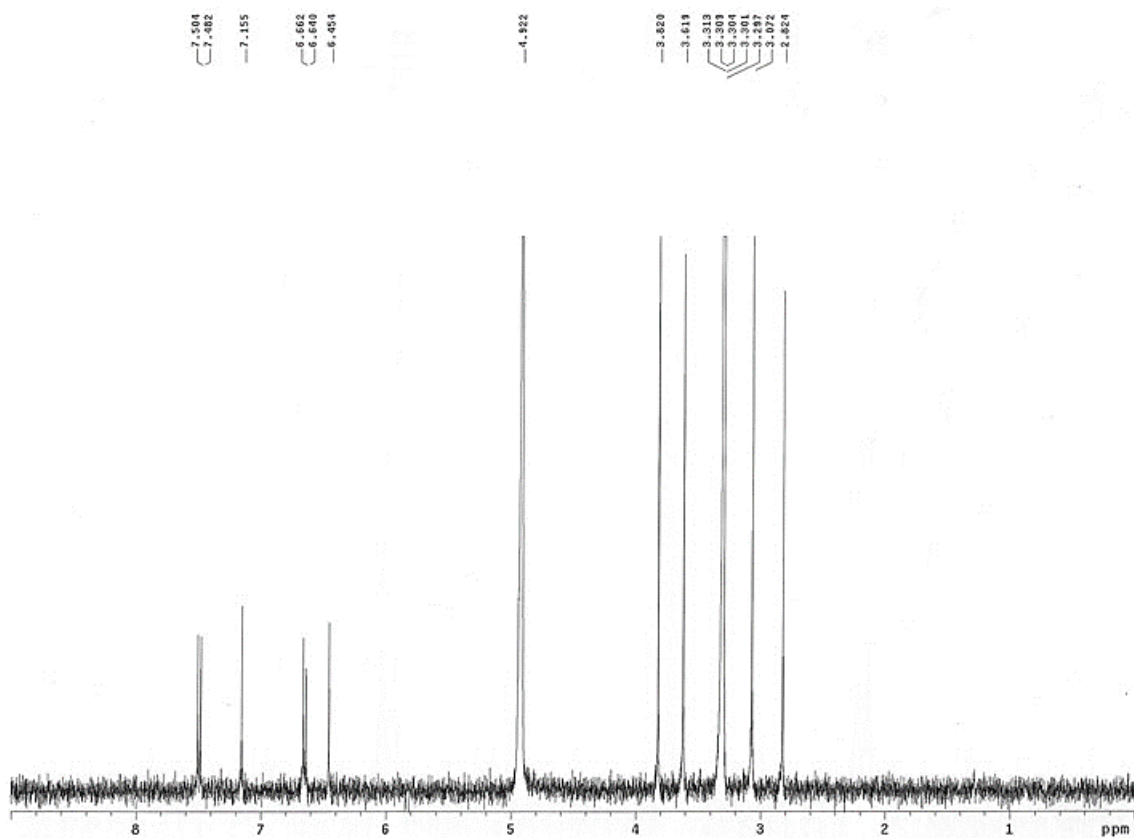


Fig. 182a: Compound 165 ^1H NMR spectra.

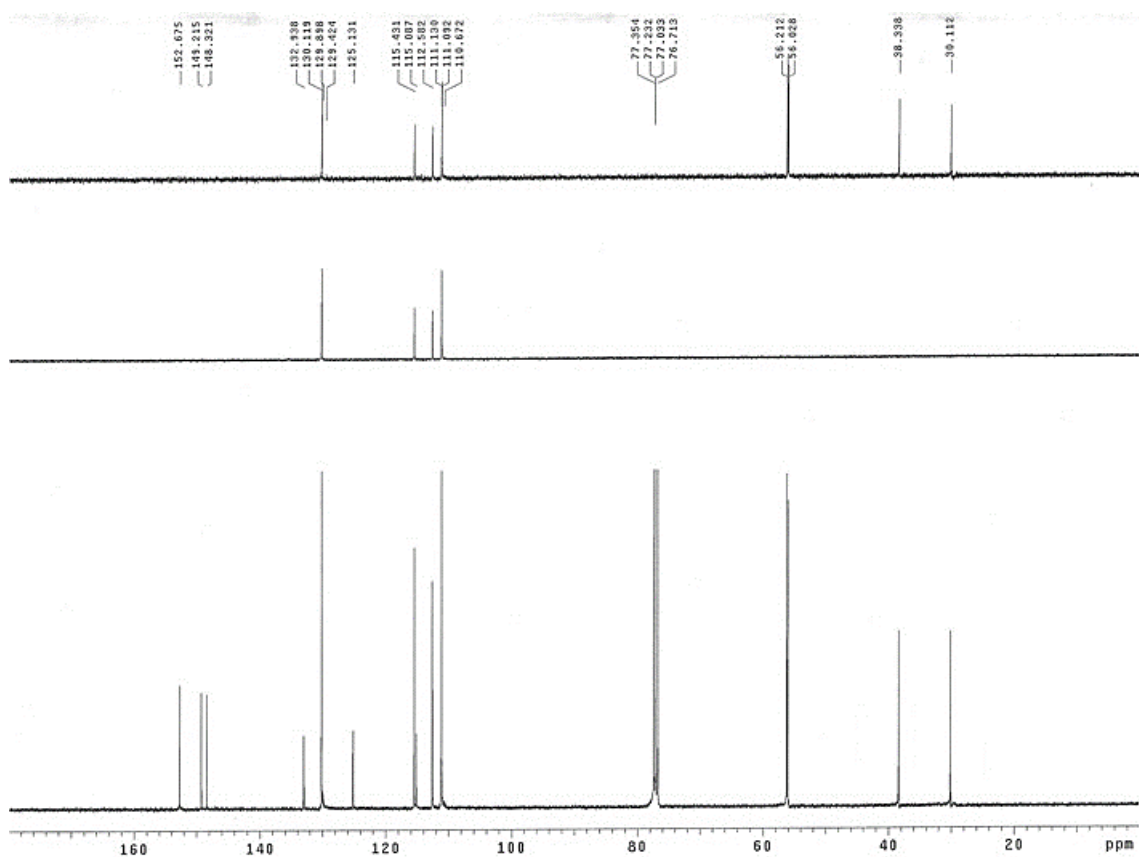


Fig. 182b: Compound 165 ^{13}C NMR spectra.

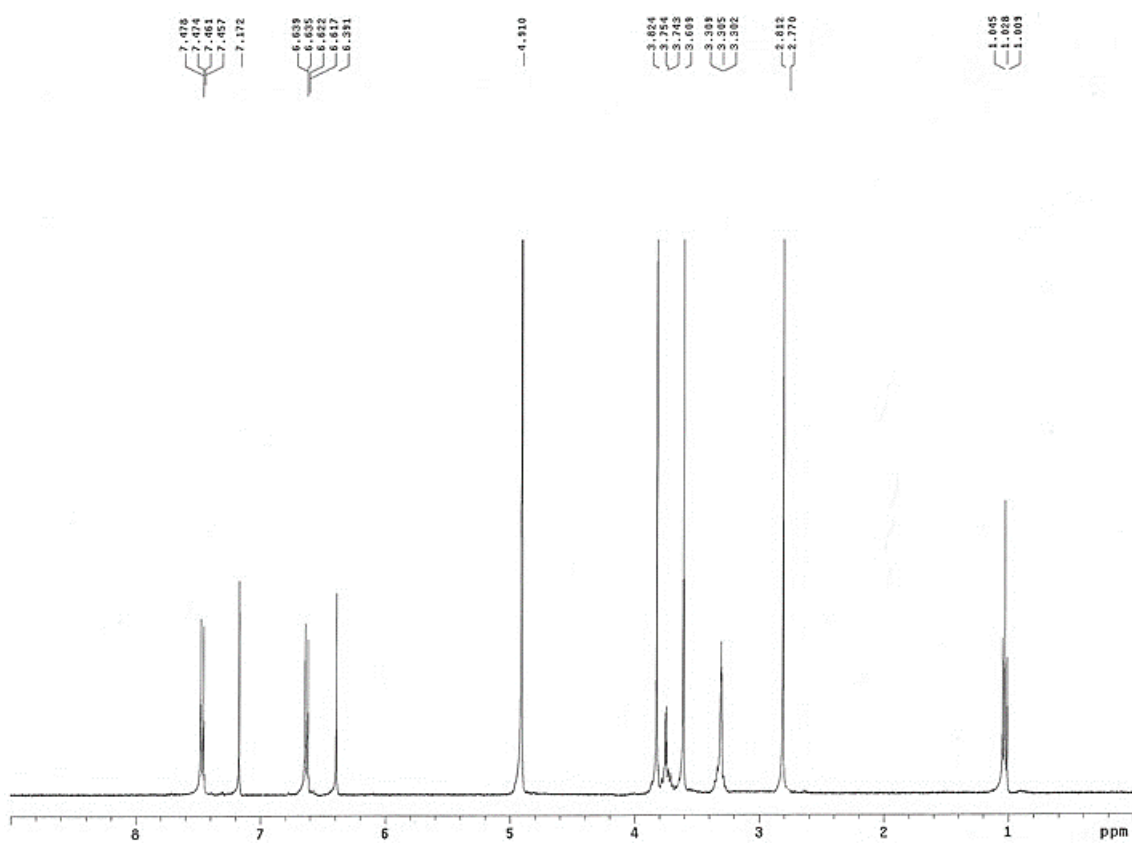


Fig. 183a: Compound **166** ^1H NMR spectra.

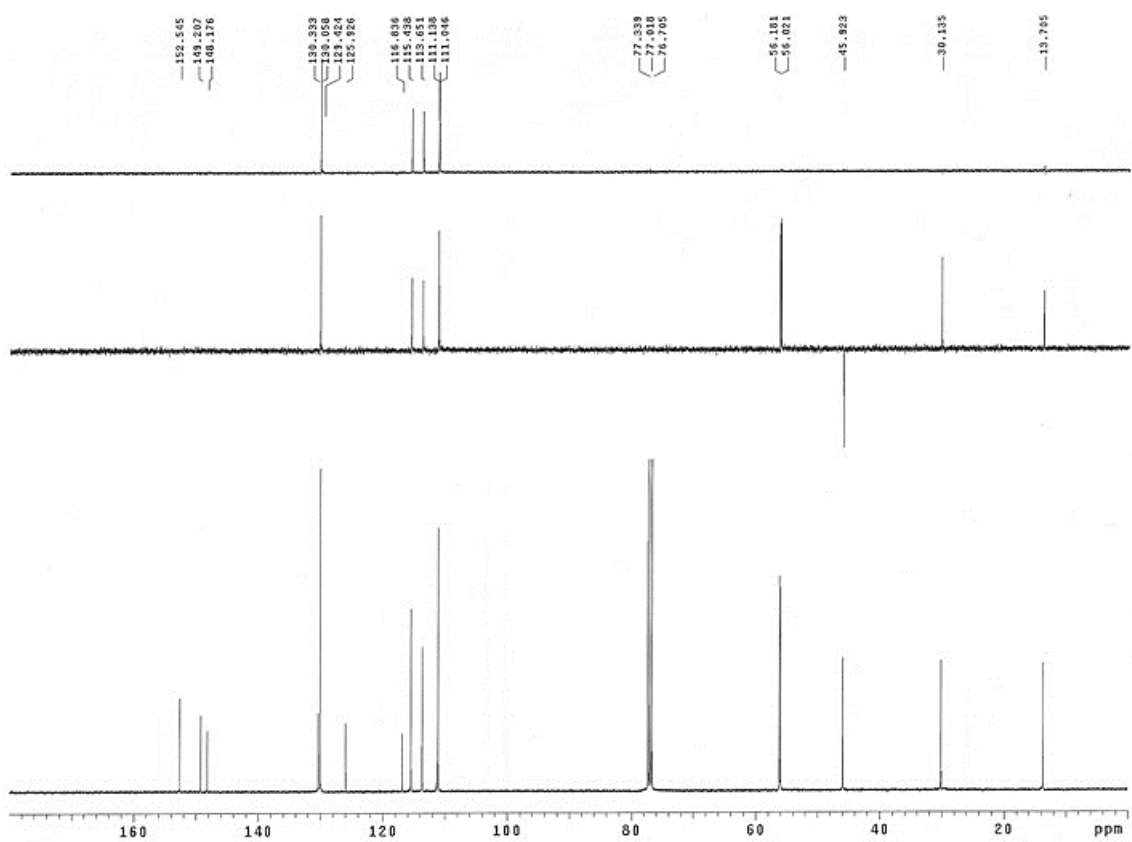


Fig. 183b: Compound **166** ^{13}C NMR spectra.

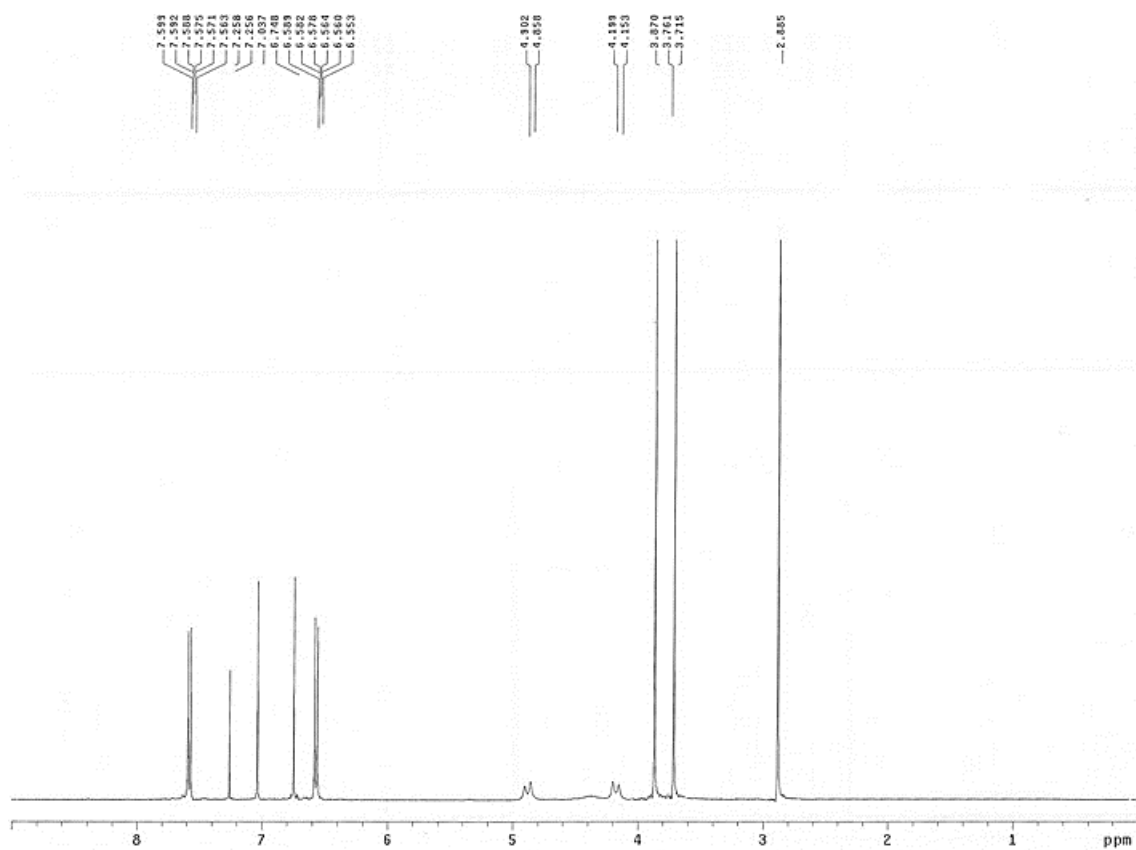


Fig. 184a: Compound **167** ^1H NMR spectra.

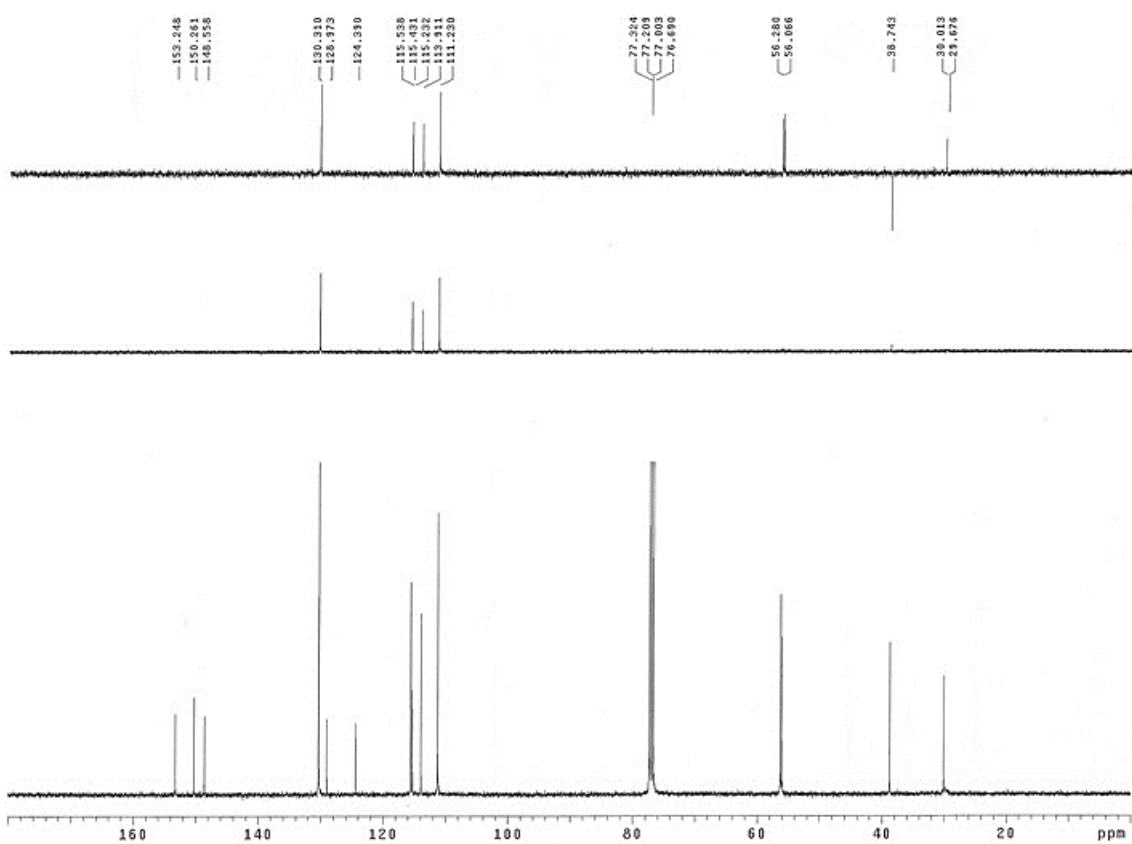


Fig. 184b: Compound **167** ^{13}C NMR spectra.

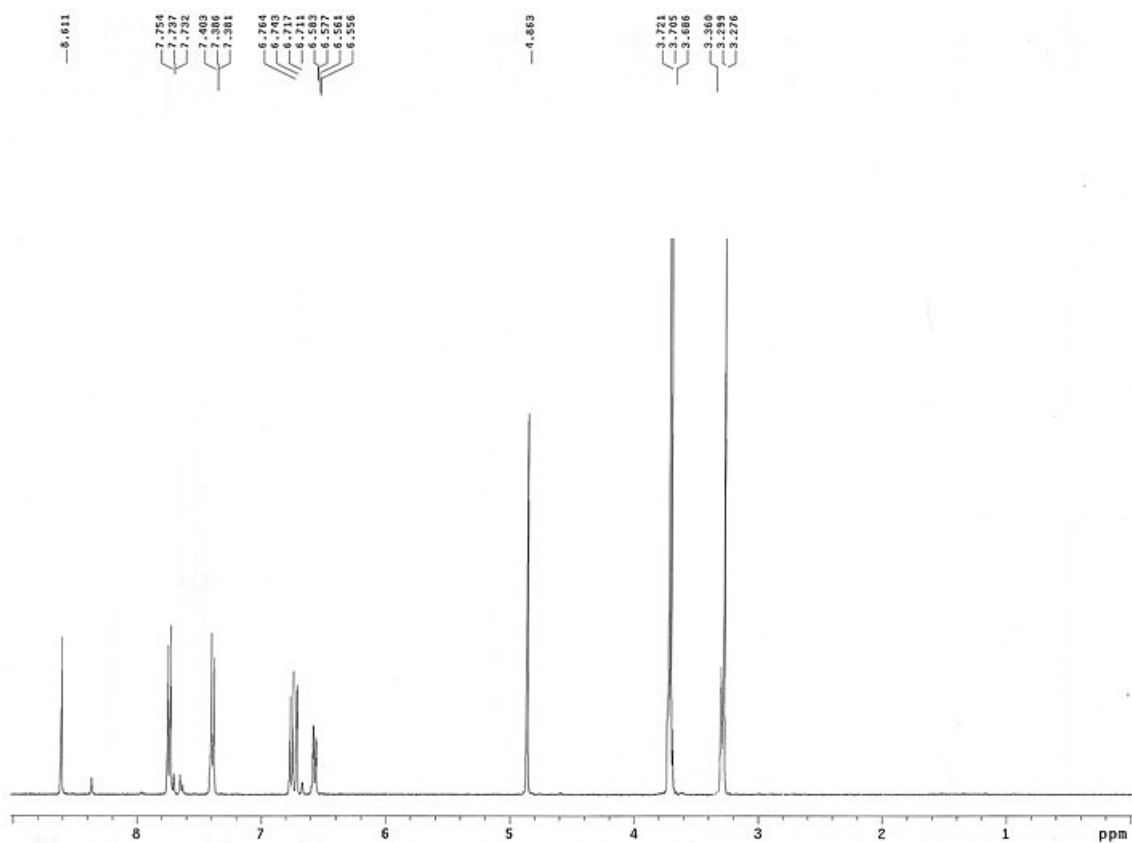


Fig. 185a: Compound **168** ^1H NMR spectra.

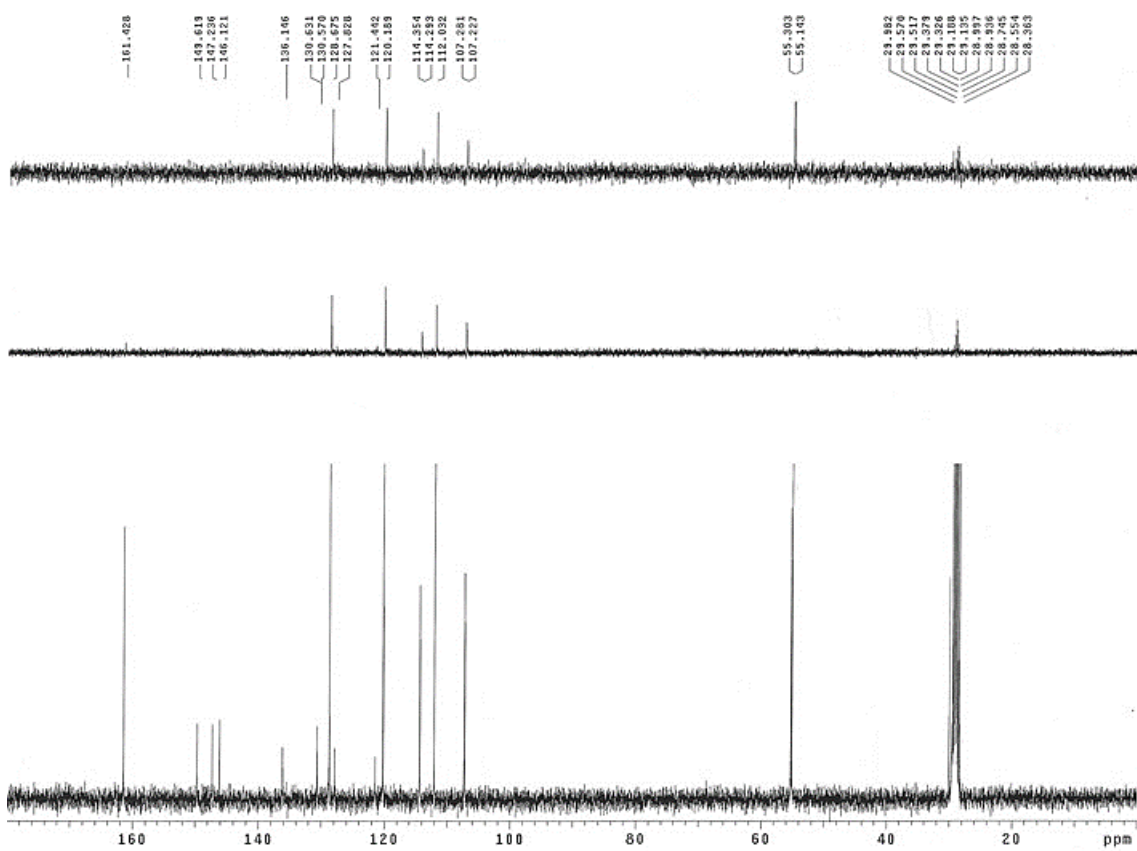


Fig. 185b: Compound **168** ^{13}C NMR spectra.

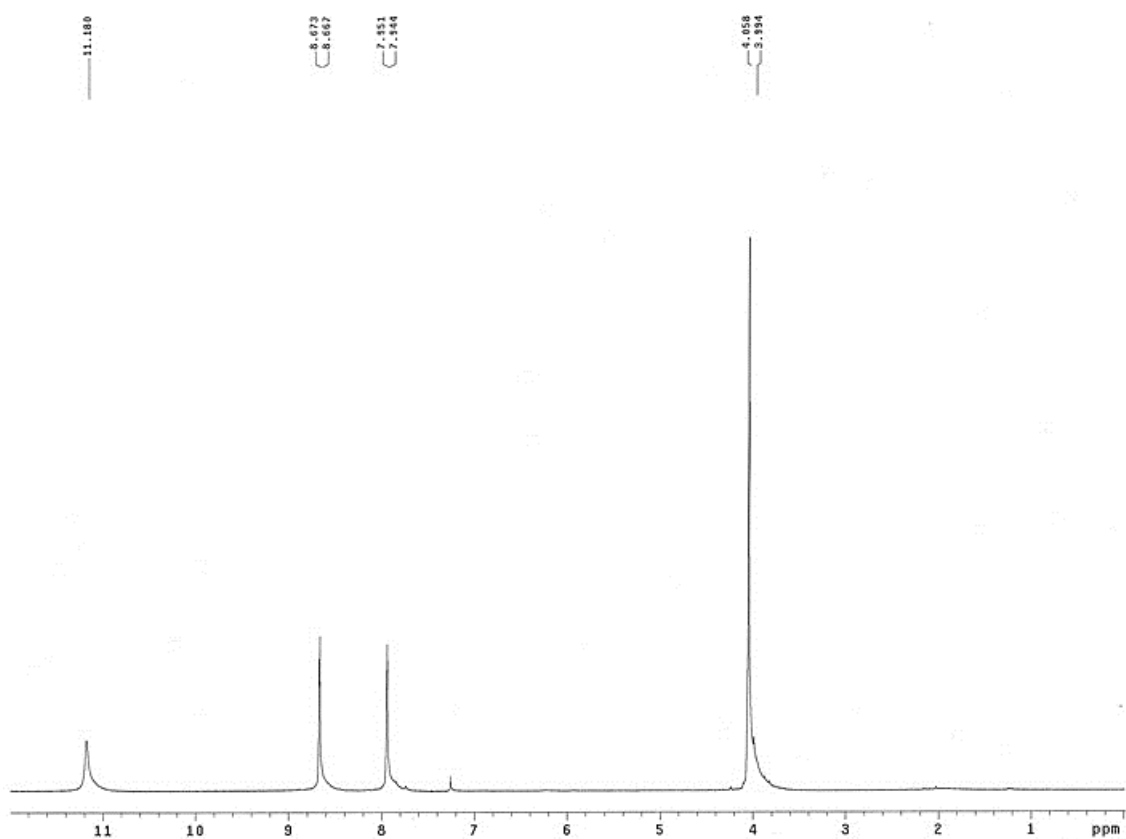


Fig. 186a: Compound **169** ^1H NMR spectra.

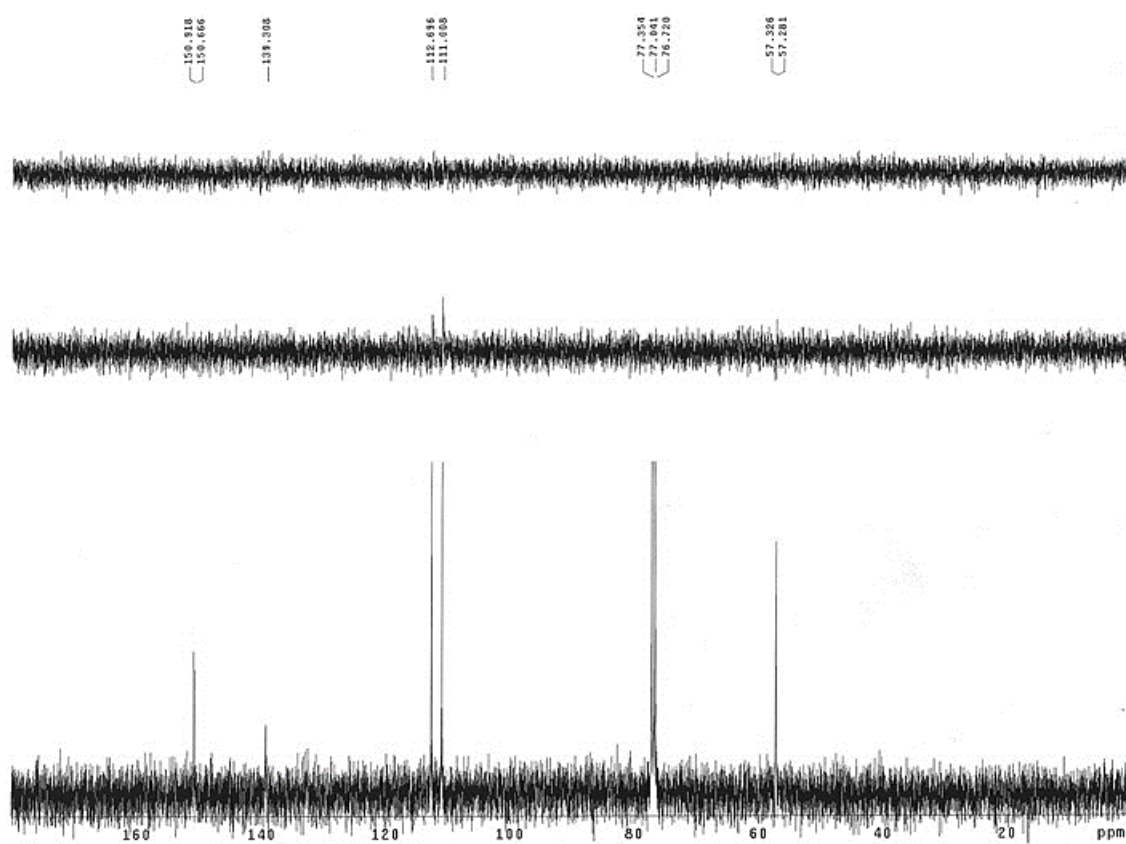


Fig. 186b: Compound **169** ^{13}C NMR spectra.

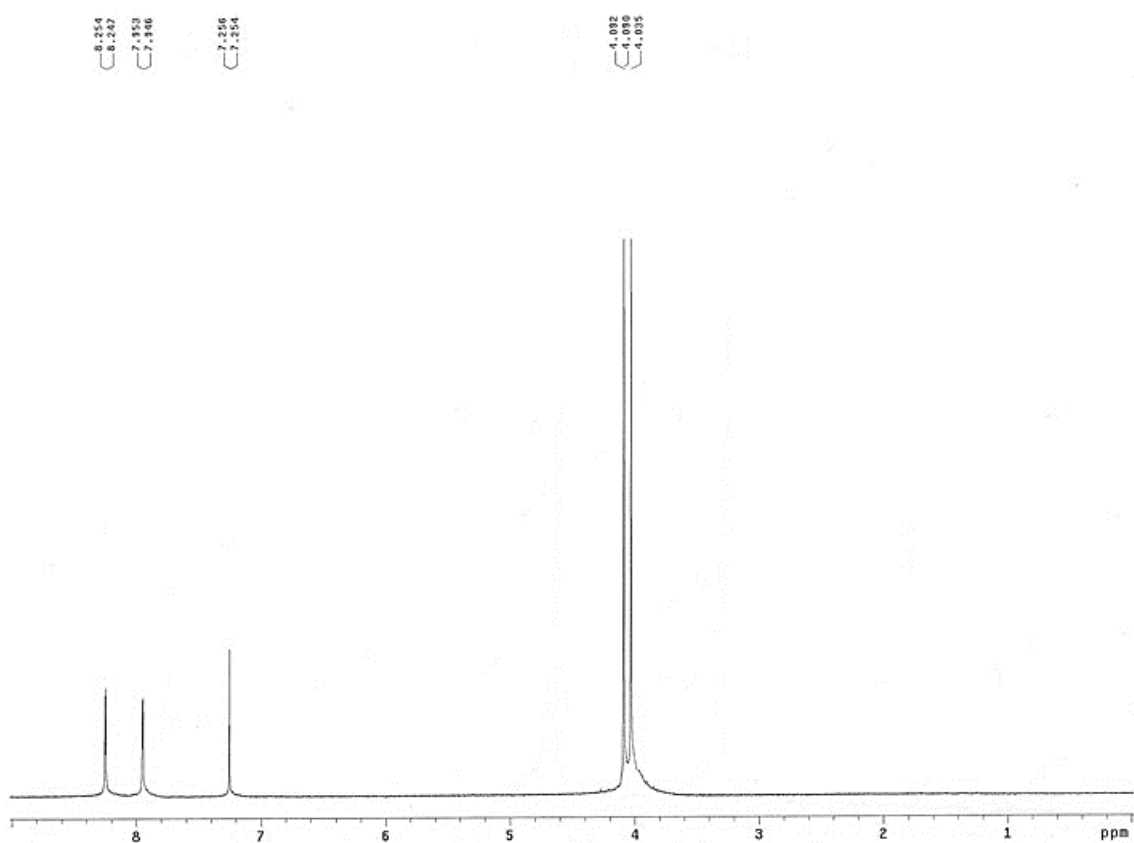


Fig. 187a: Compound **170** ^1H NMR spectra.

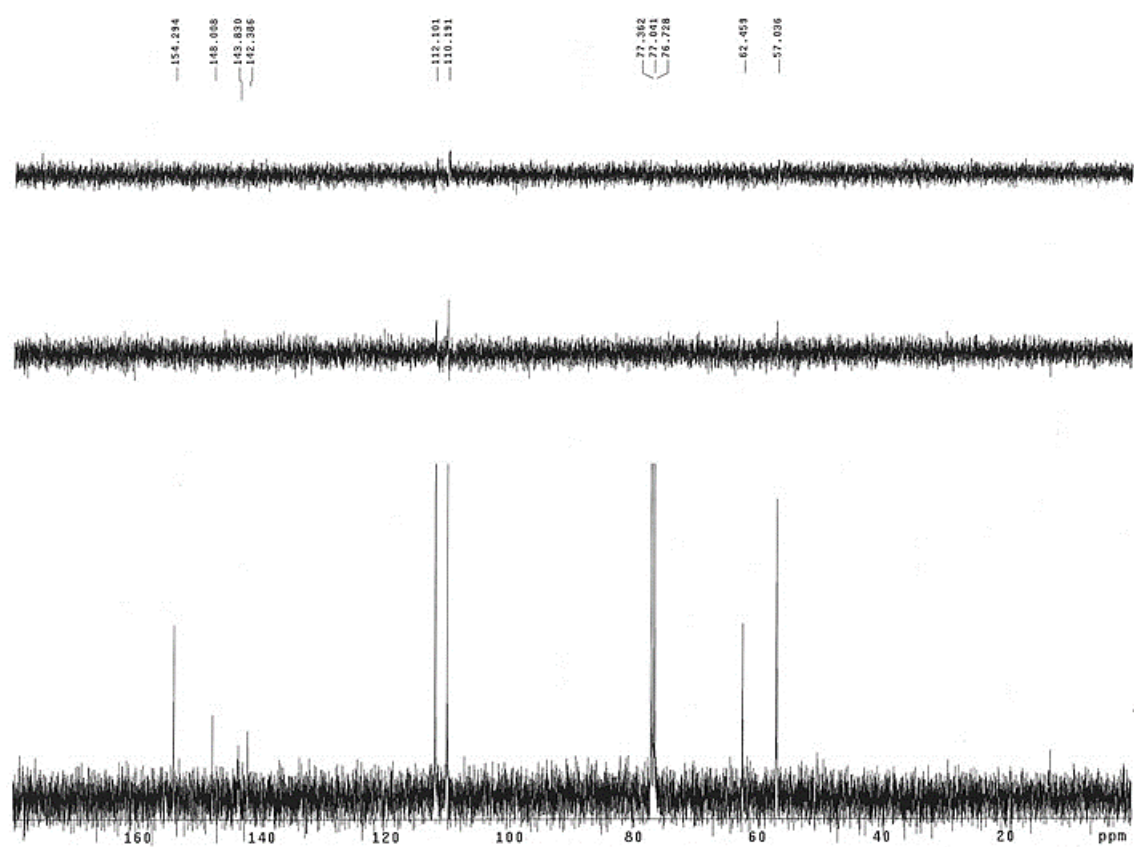


Fig. 187b: Compound **170** ^{13}C NMR spectra.

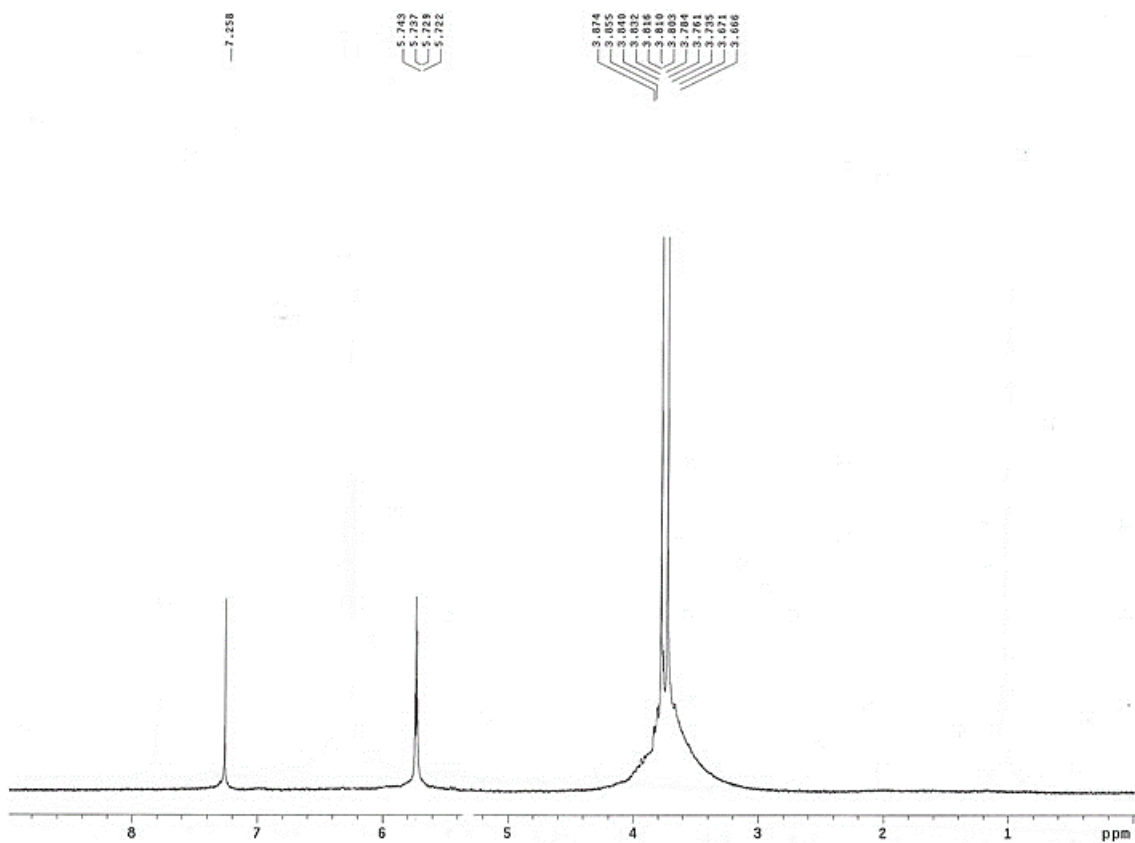


Fig. 188a: Compound **171** ^1H NMR spectra.

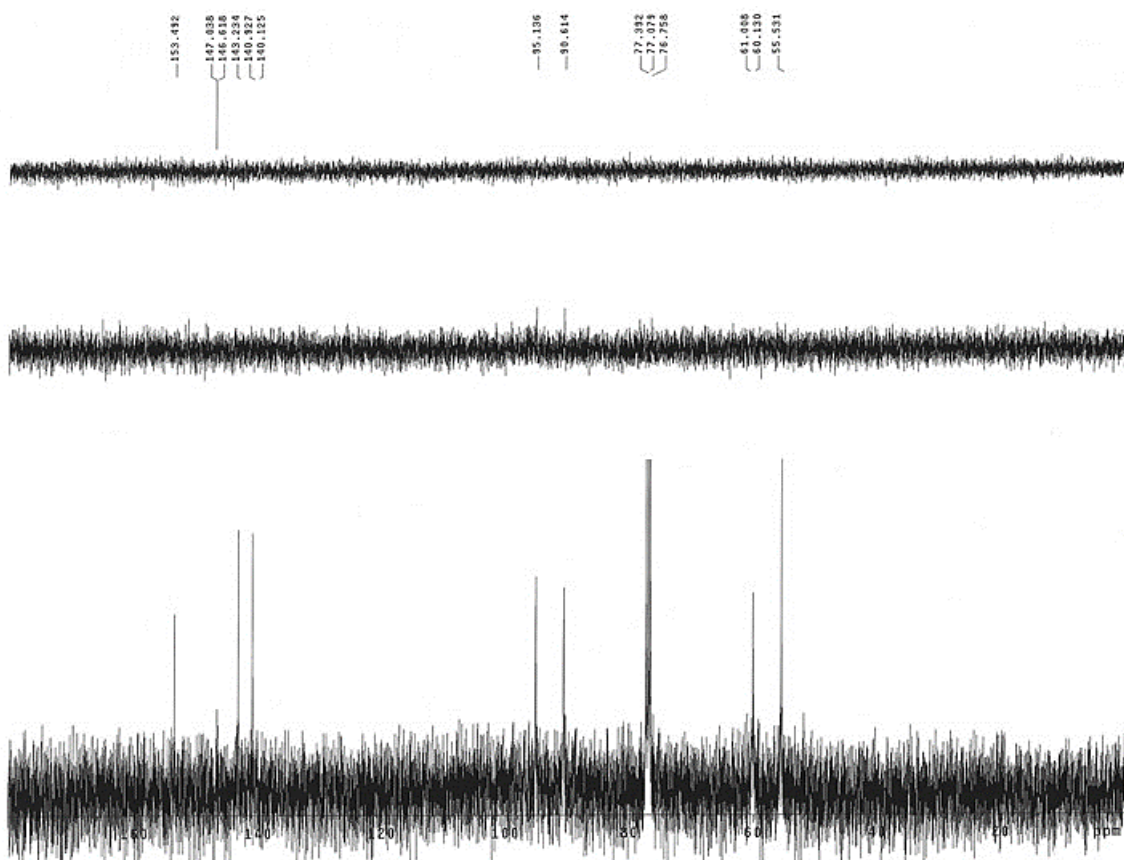


Fig. 188b: Compound **171** ^{13}C NMR spectra.

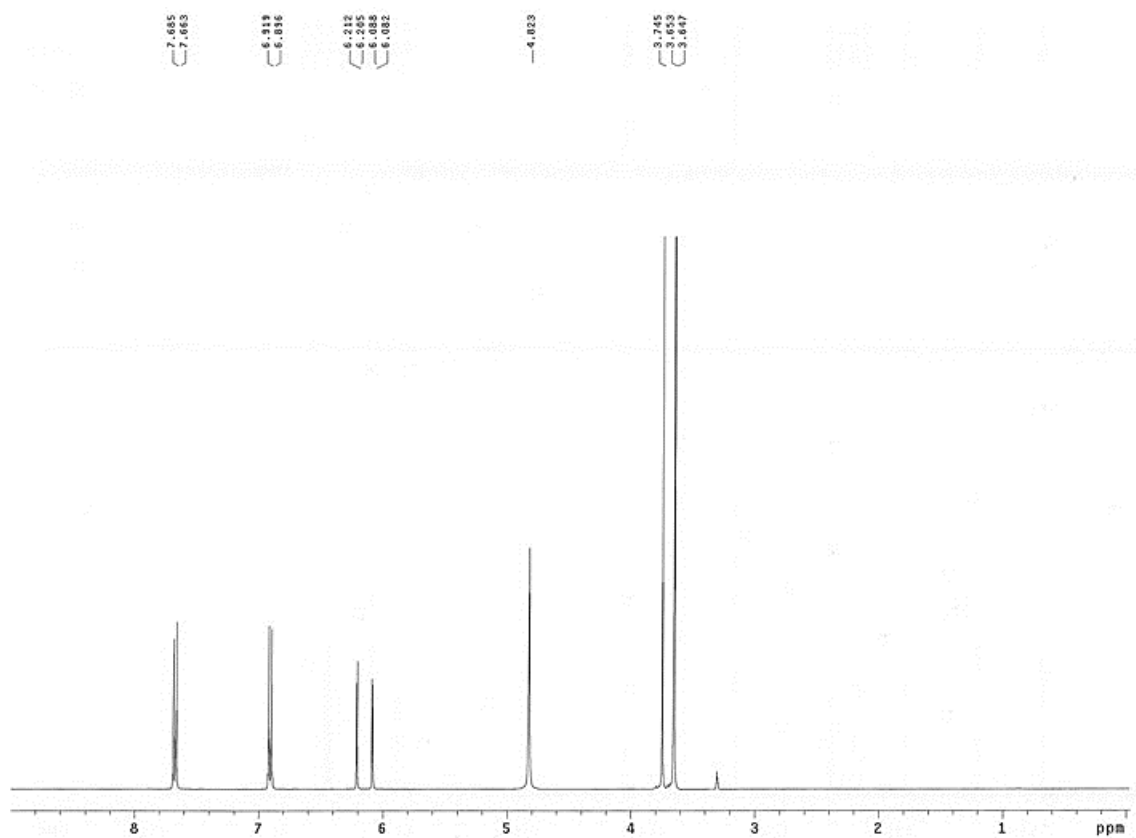


Fig. 189a: Compound **172** ^1H NMR spectra.

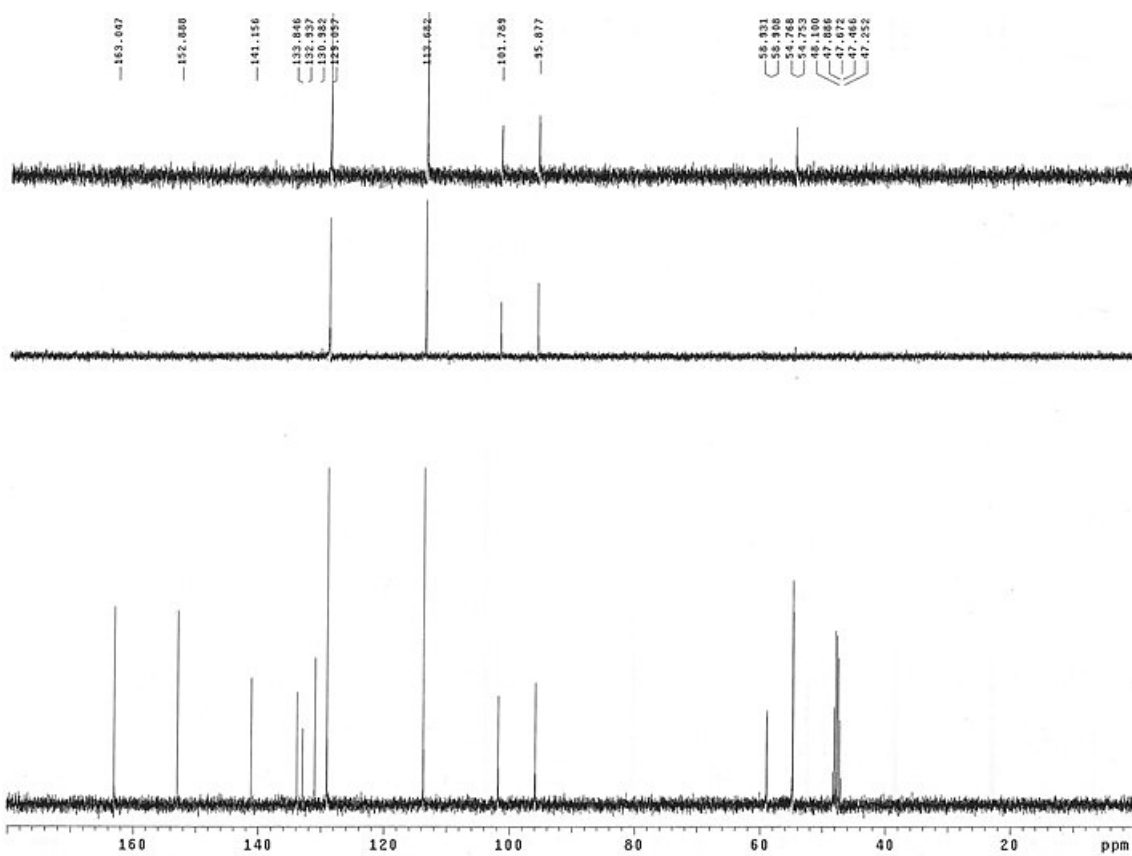


Fig. 189b: Compound **172** ^{13}C NMR spectra.

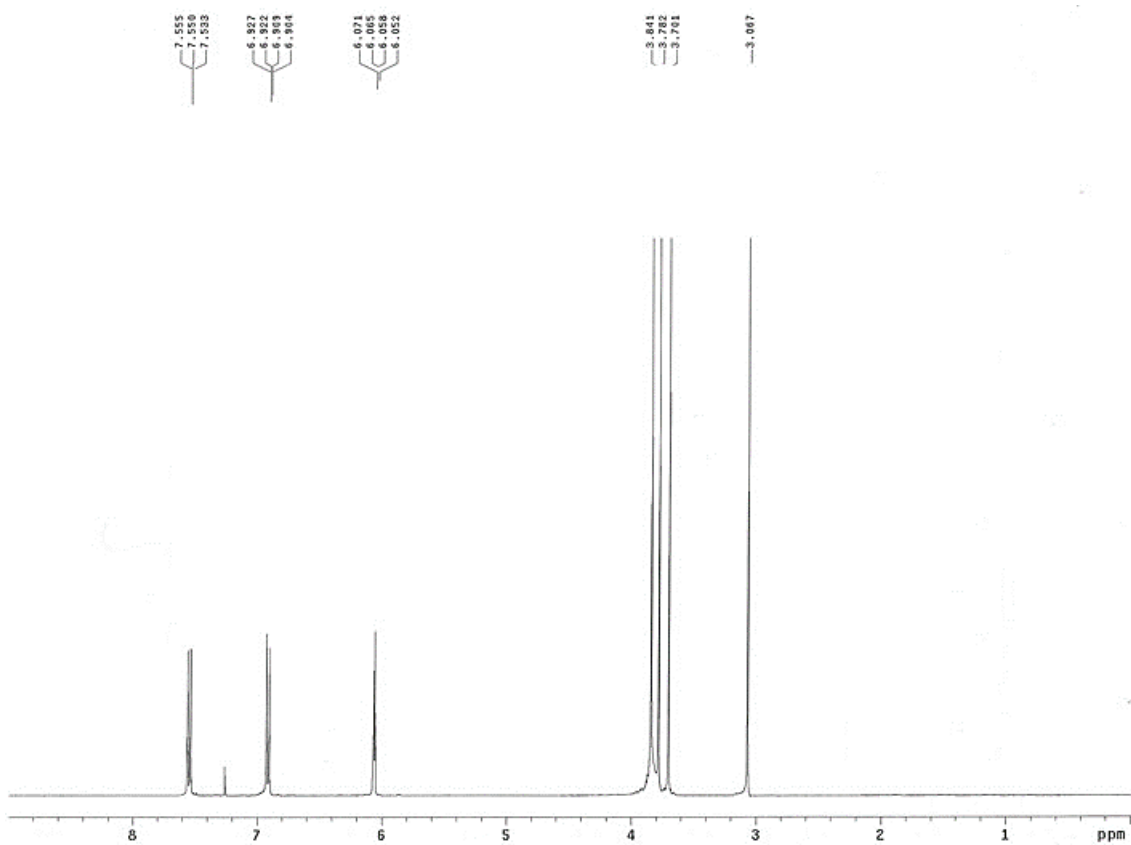


Fig. 190a: Compound **173** ^1H NMR spectra.

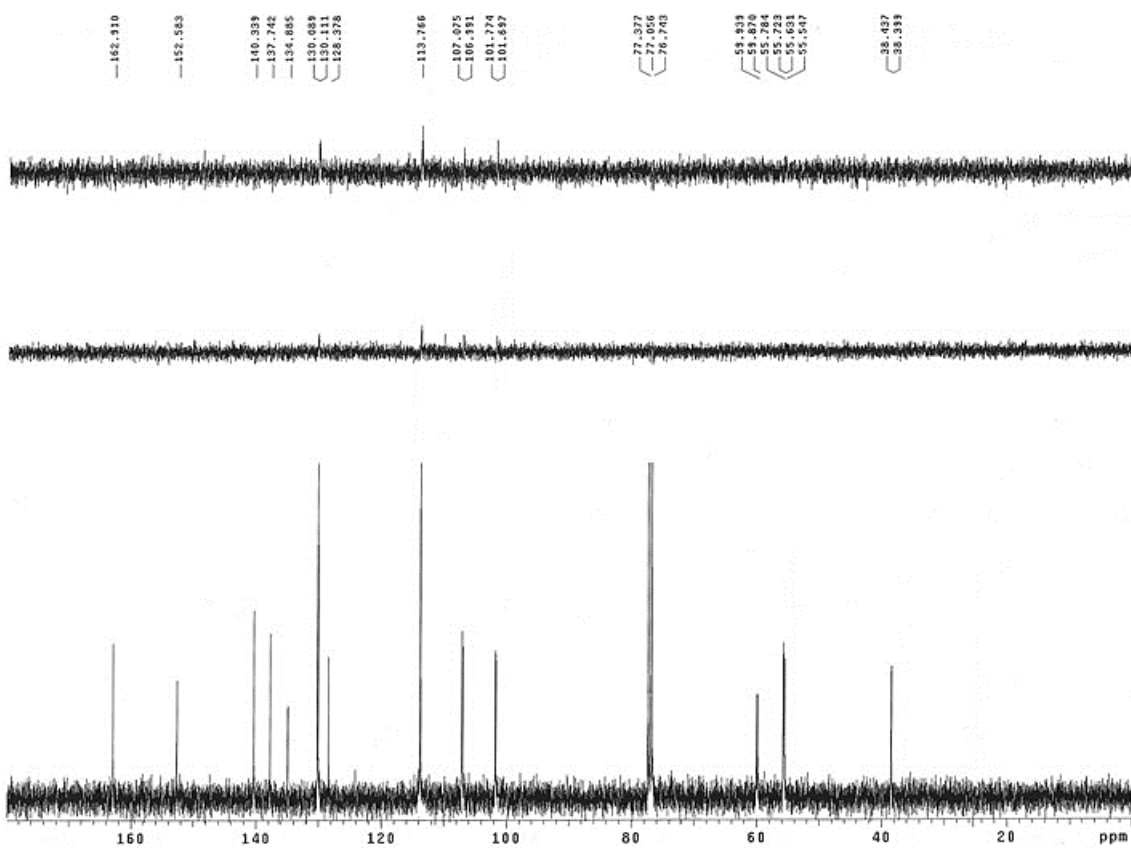


Fig. 190b: Compound **173** ^{13}C NMR spectra.

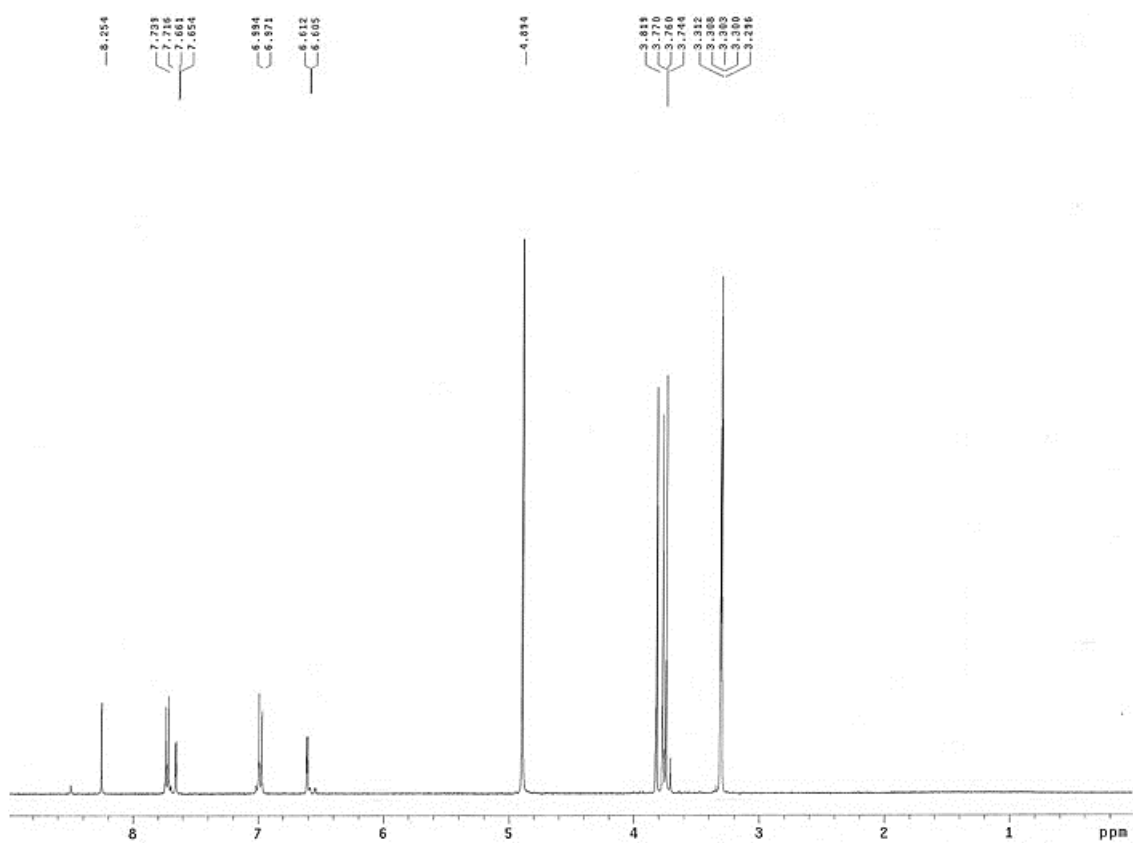


Fig. 191a: Compound **174** ^1H NMR spectra.

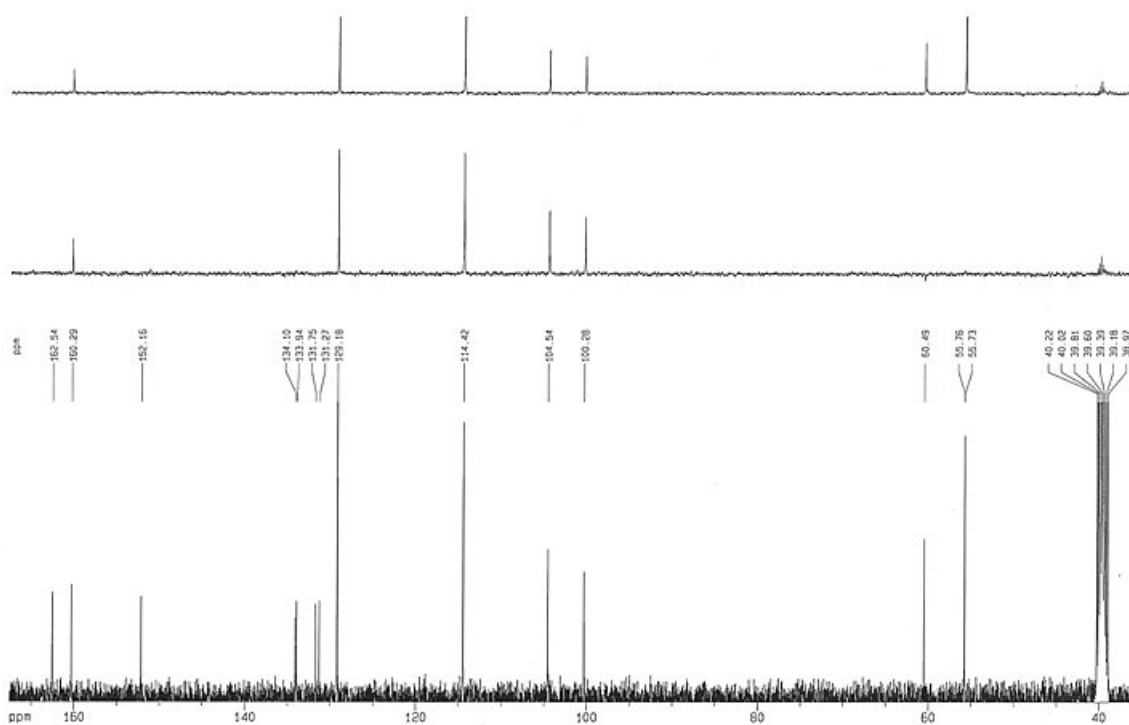


Fig. 191b: Compound **174** ^{13}C NMR spectra.

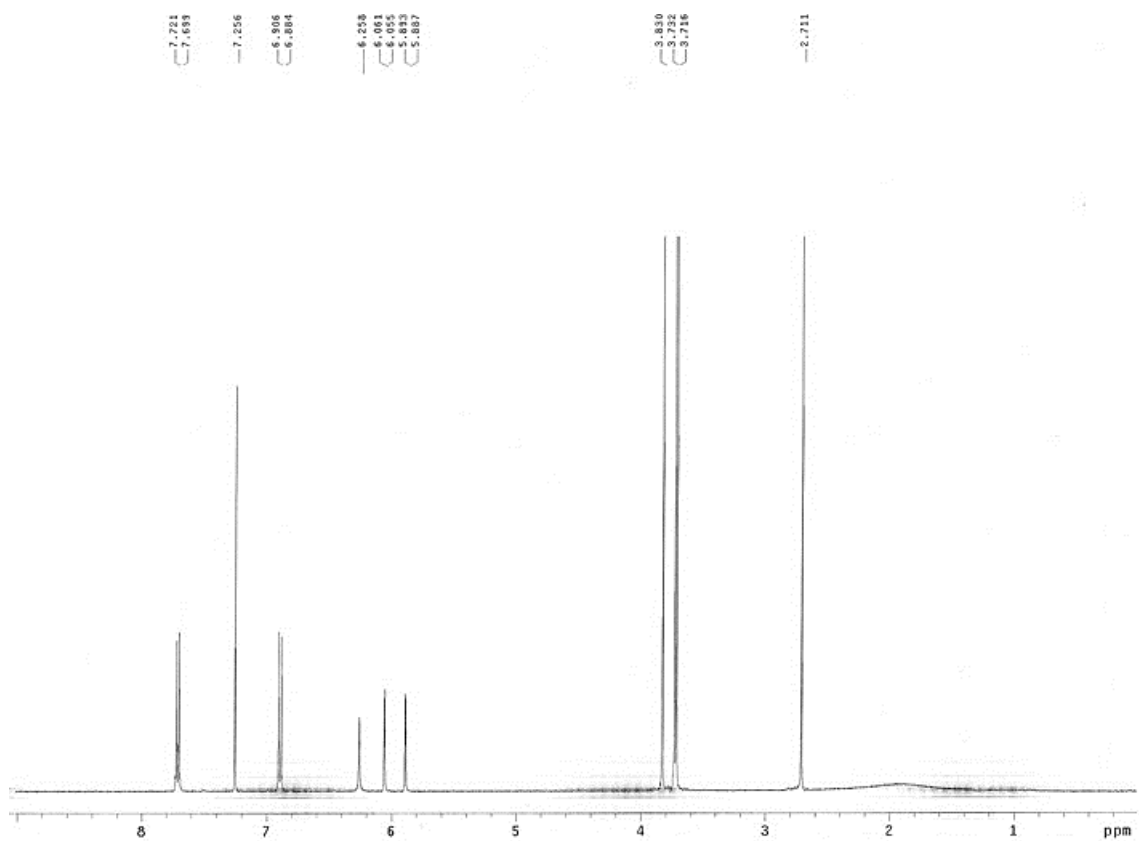


Fig. 192a: Compound **175** ^1H NMR spectra.

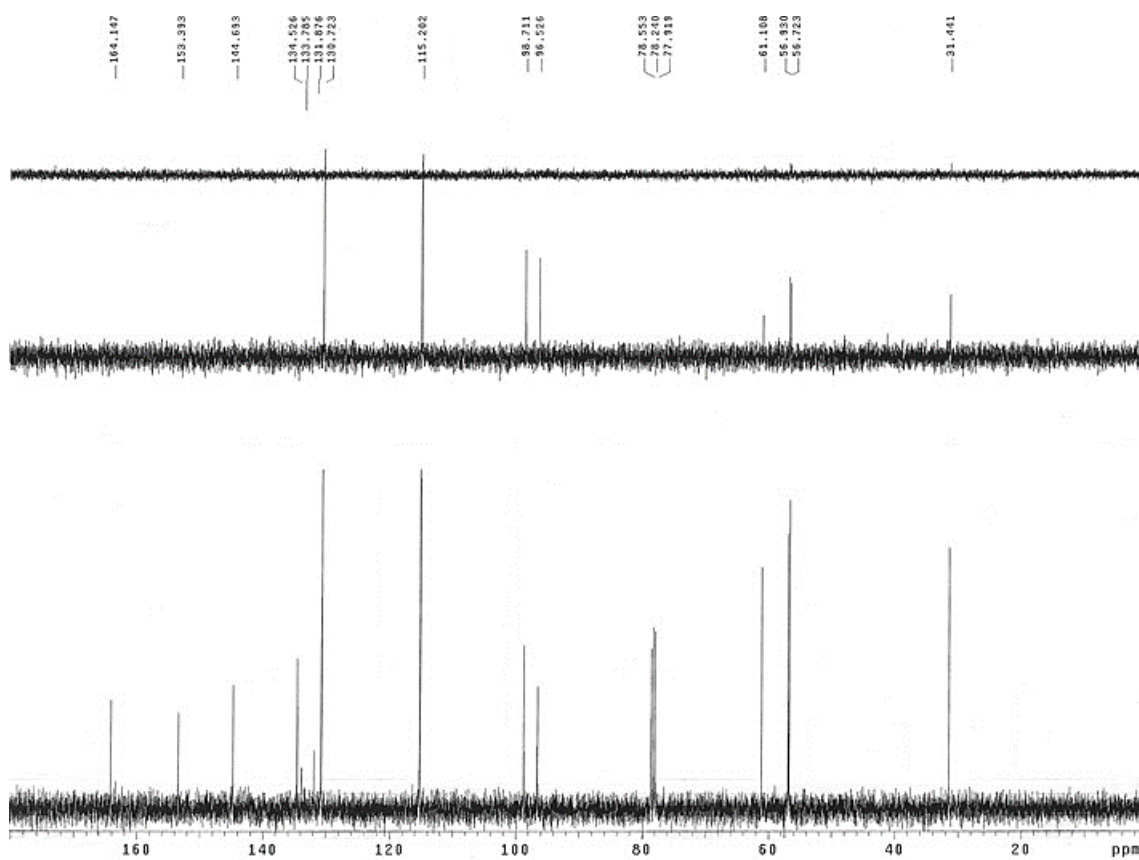


Fig. 192b: Compound **175** ^{13}C NMR spectra.

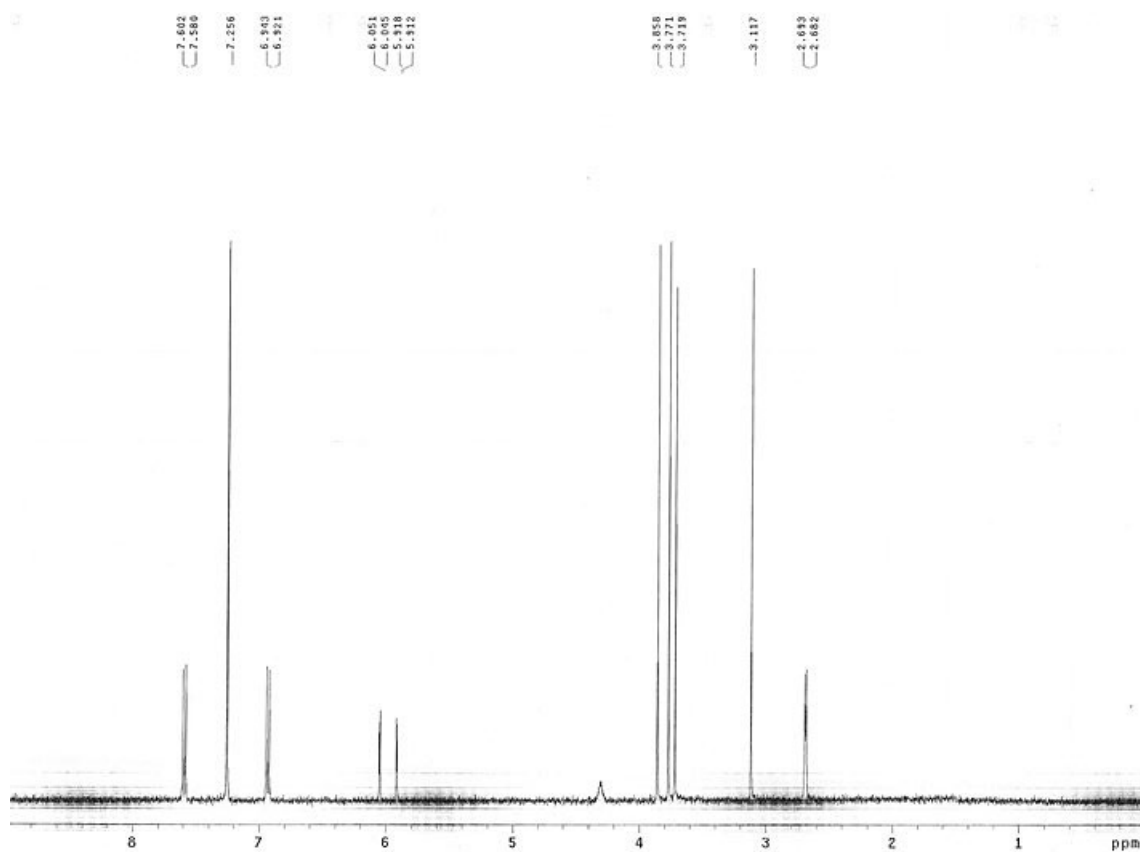


Fig. 193a: Compound **176** ^1H NMR spectra.

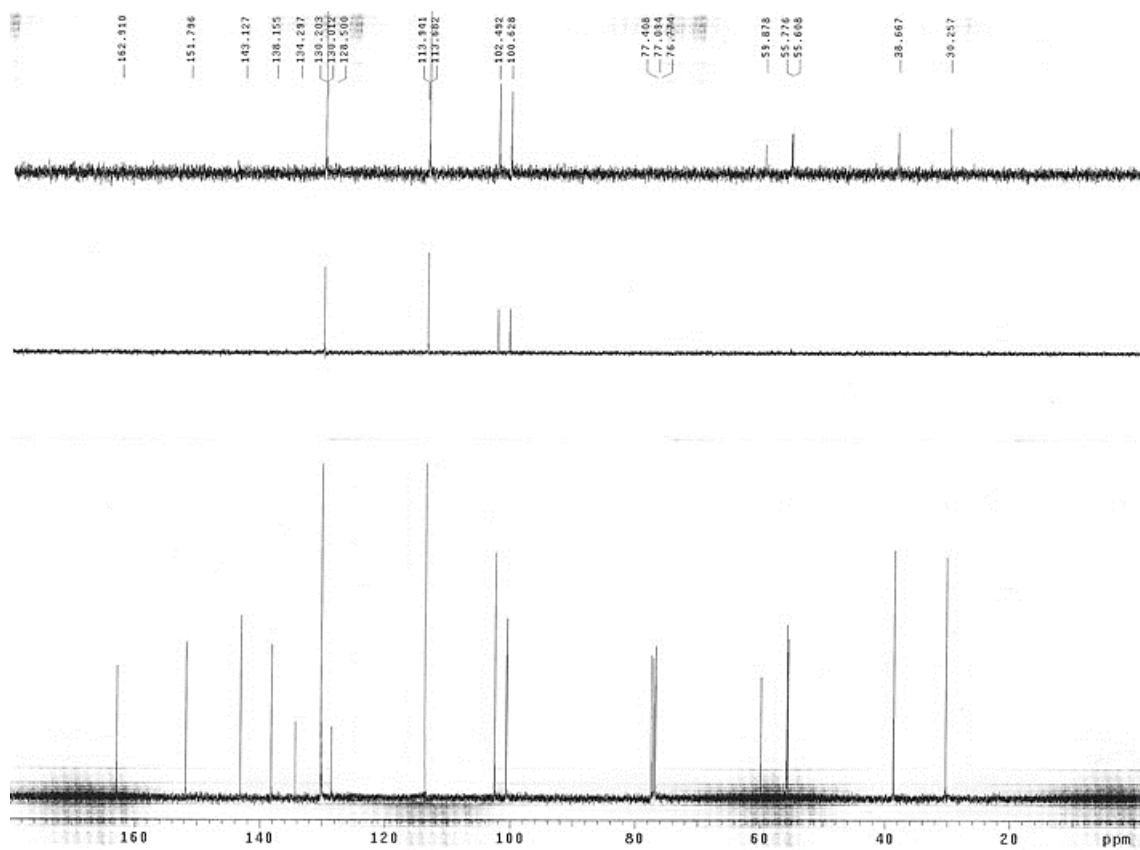


Fig. 193b: Compound **176** ^{13}C NMR spectra.

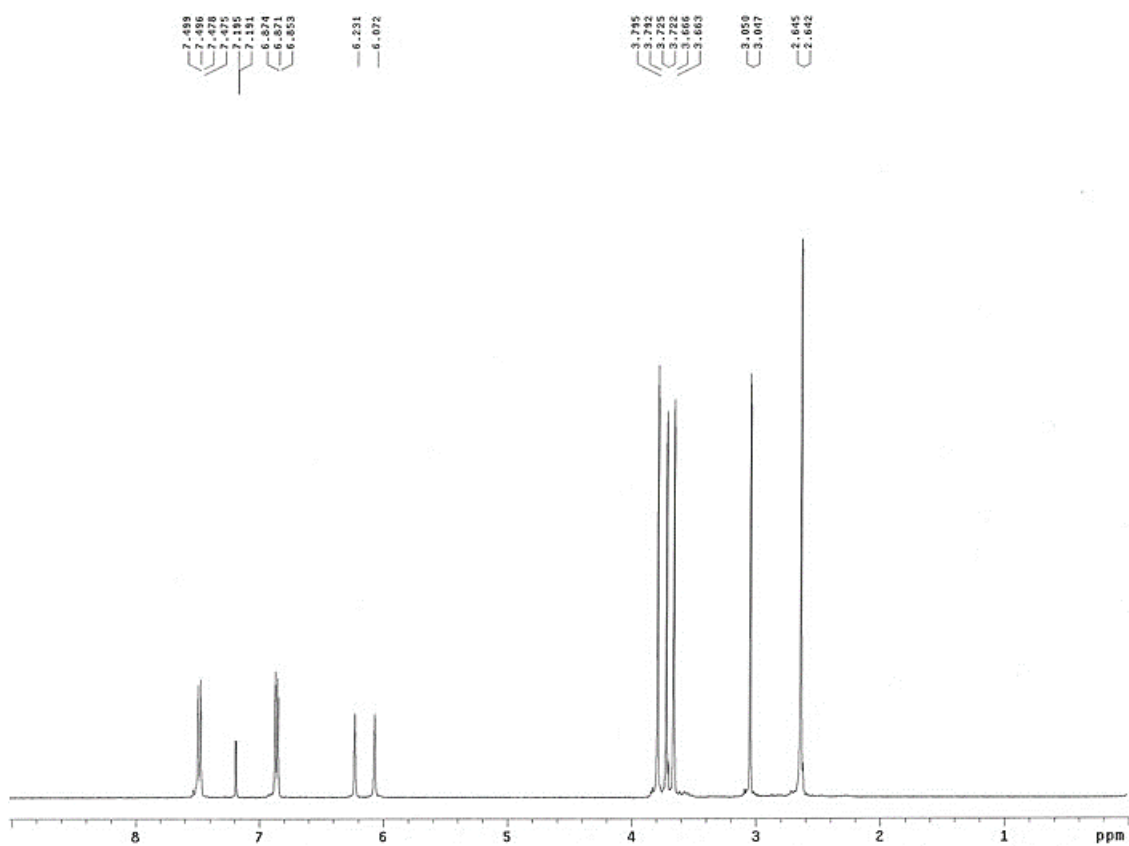


Fig. 194a: Compound **177** ^1H NMR spectra.

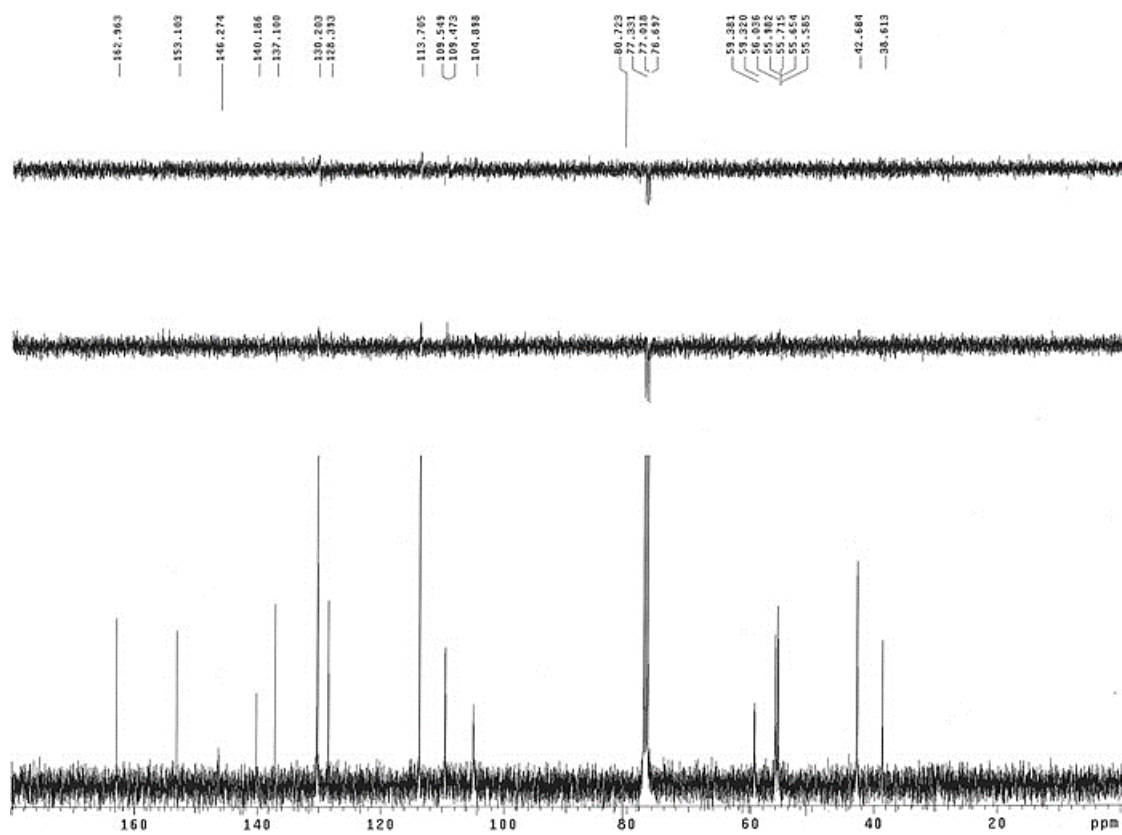


Fig. 194b: Compound **177** ^{13}C NMR spectra.

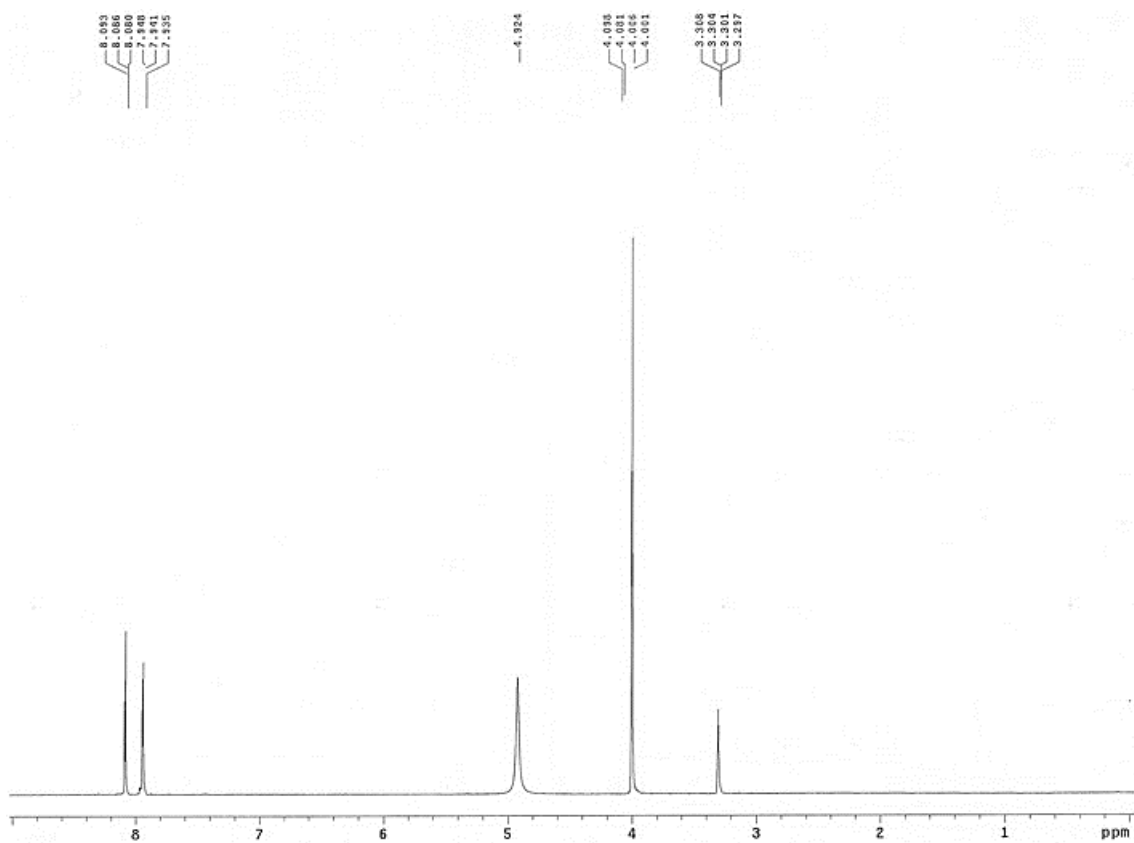


Fig. 195a: Compound **178** ¹H NMR spectra.

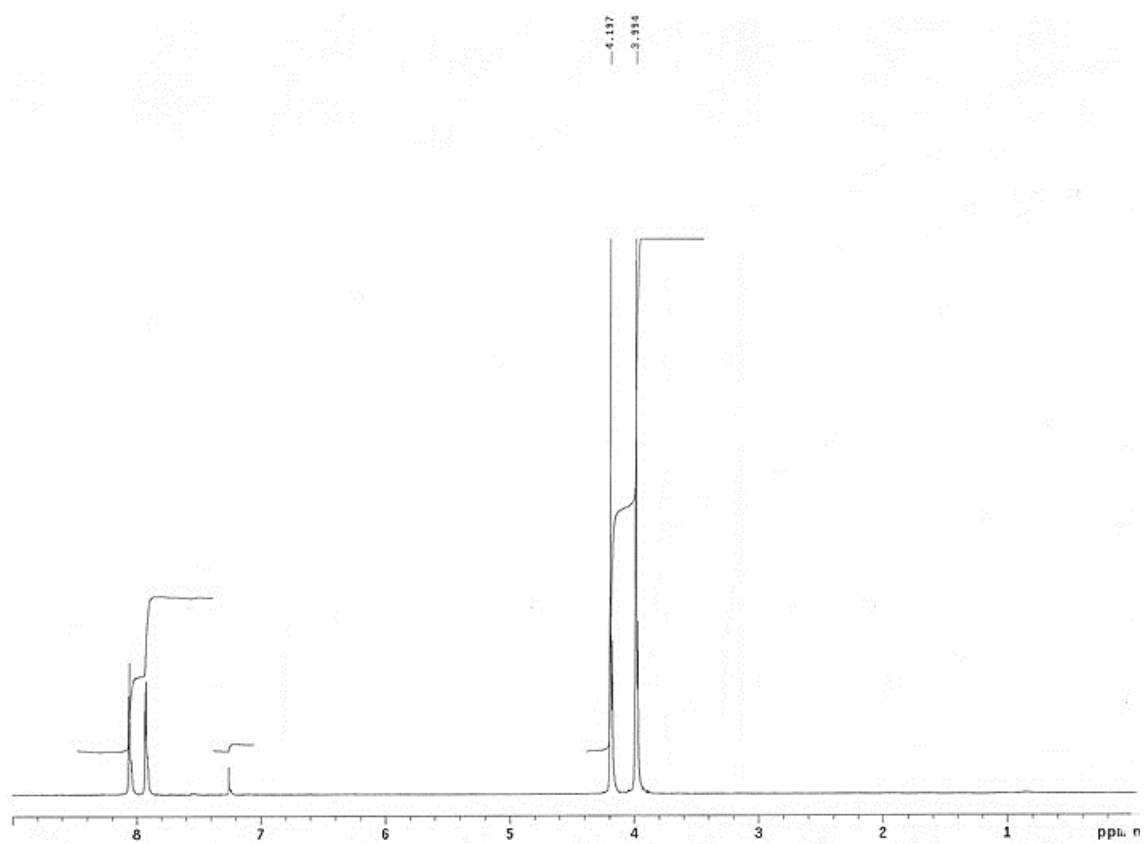


Fig. 196a: Compound **179** ¹H NMR spectra.

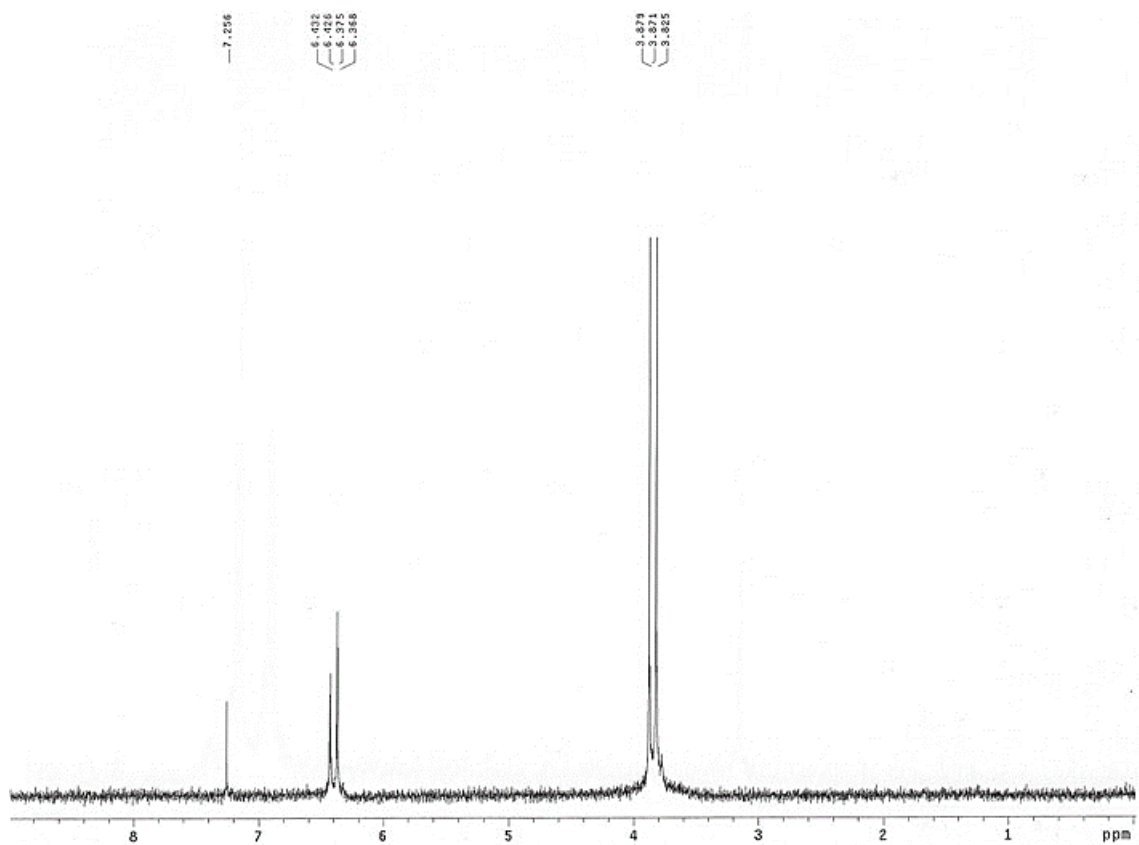


Fig. 197a: Compound **180** ¹H NMR spectra.

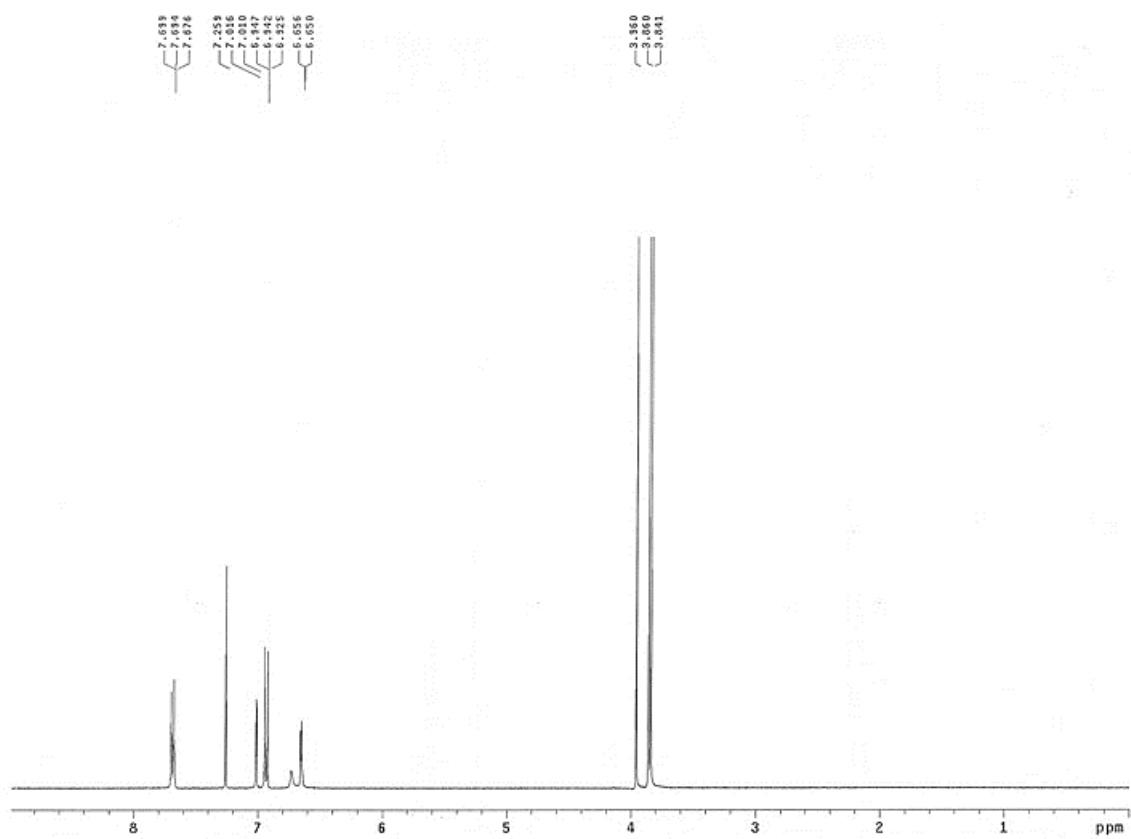


Fig. 198a: Compound **181** ^1H NMR spectra.

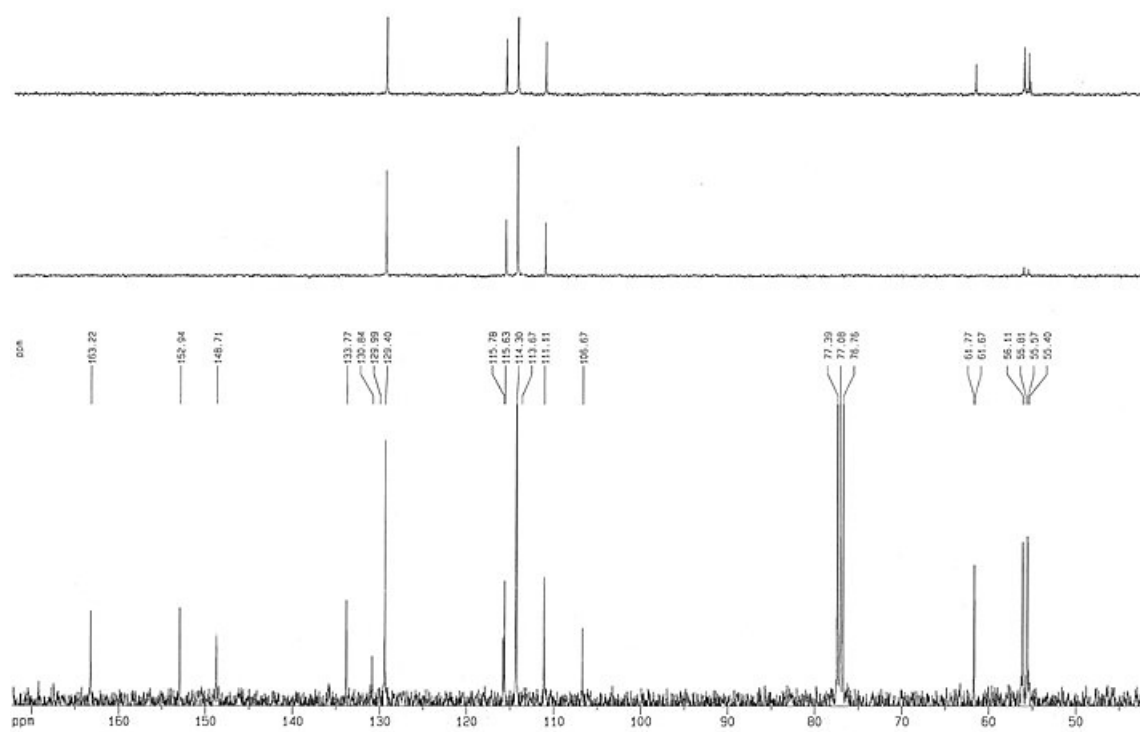


Fig. 198b: Compound **181** ^{13}C NMR spectra.

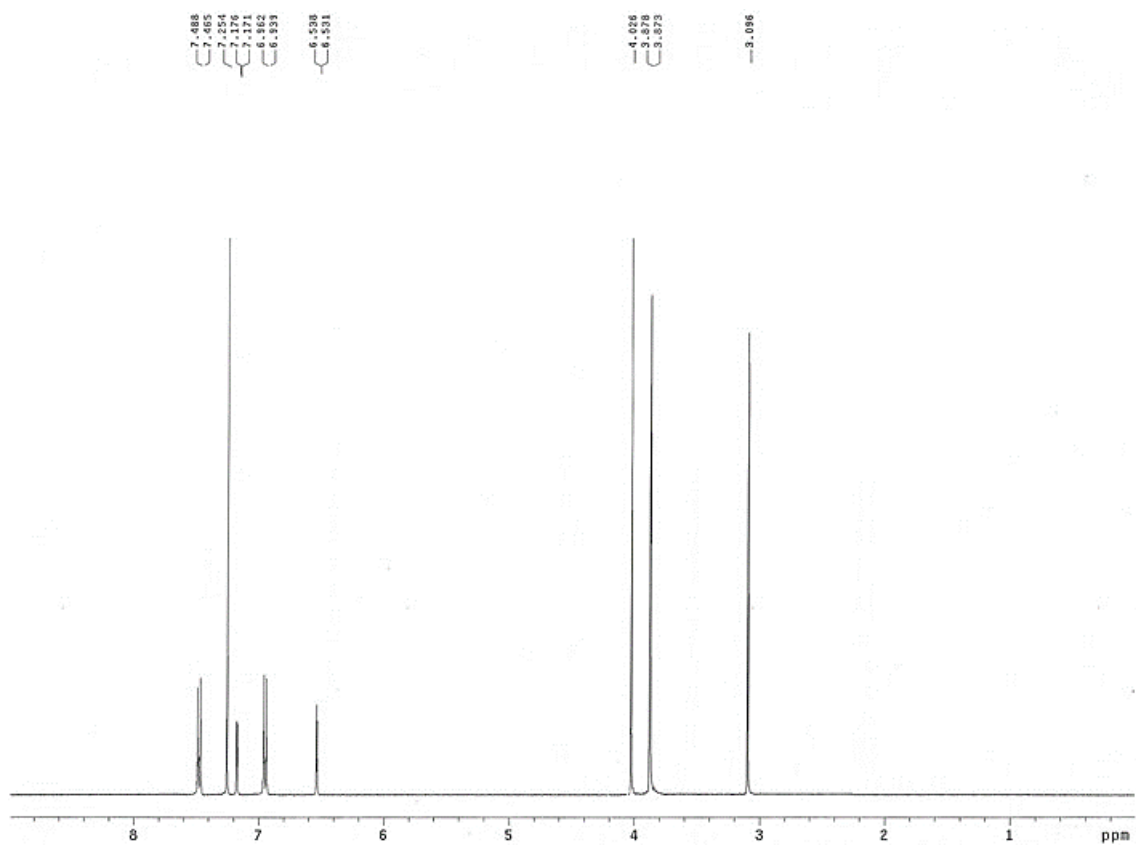


Fig. 199a: Compound **182** ^1H NMR spectra.

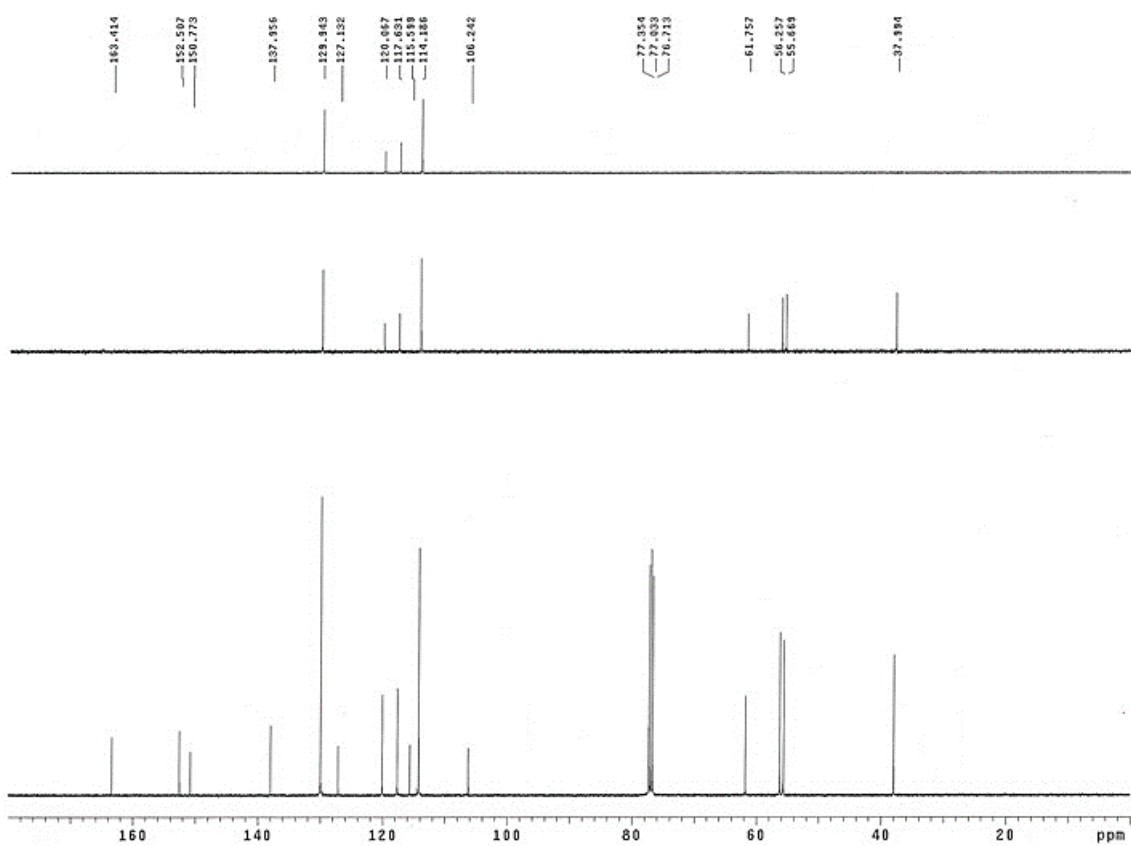


Fig. 199b: Compound **182** ^{13}C NMR spectra.

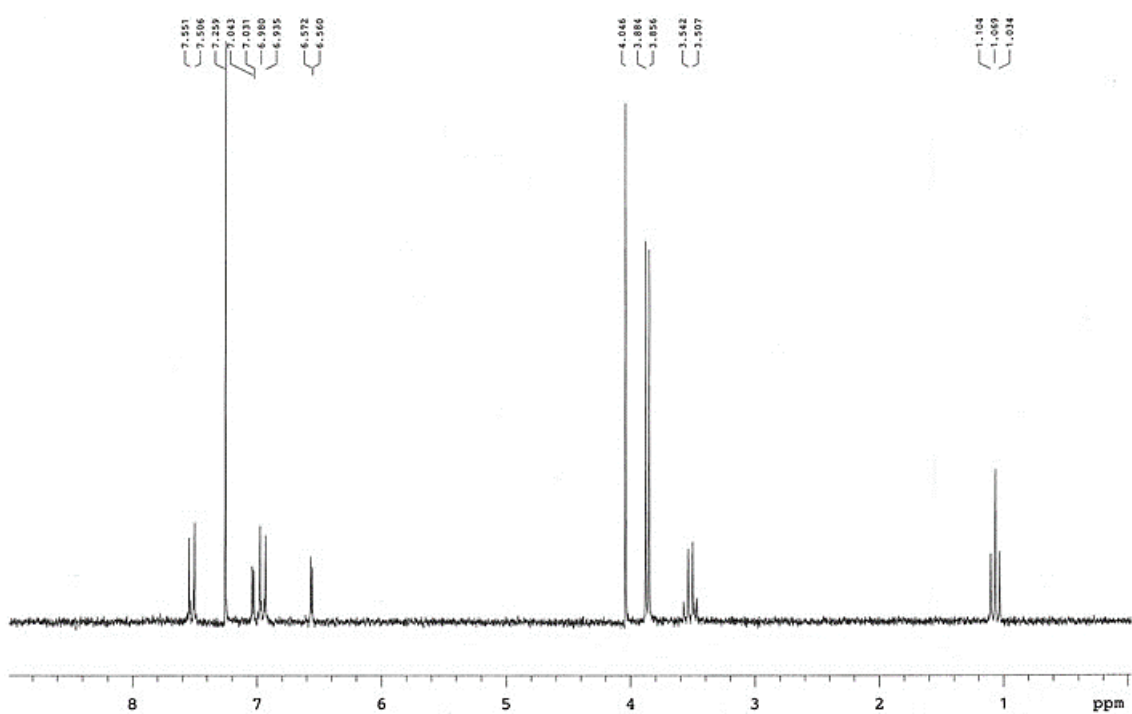


Fig. 200a: Compound **183** ^1H NMR spectra.

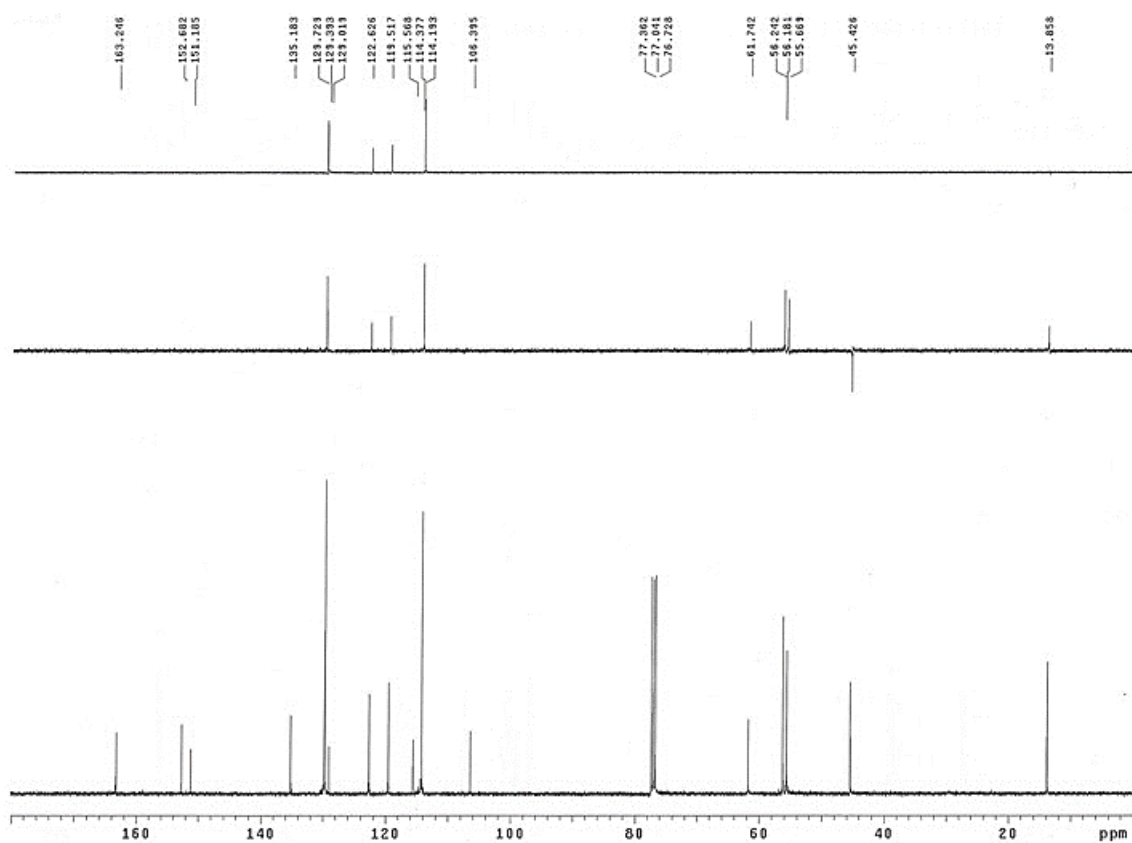


Fig. 200b: Compound **183** ^{13}C NMR spectra.

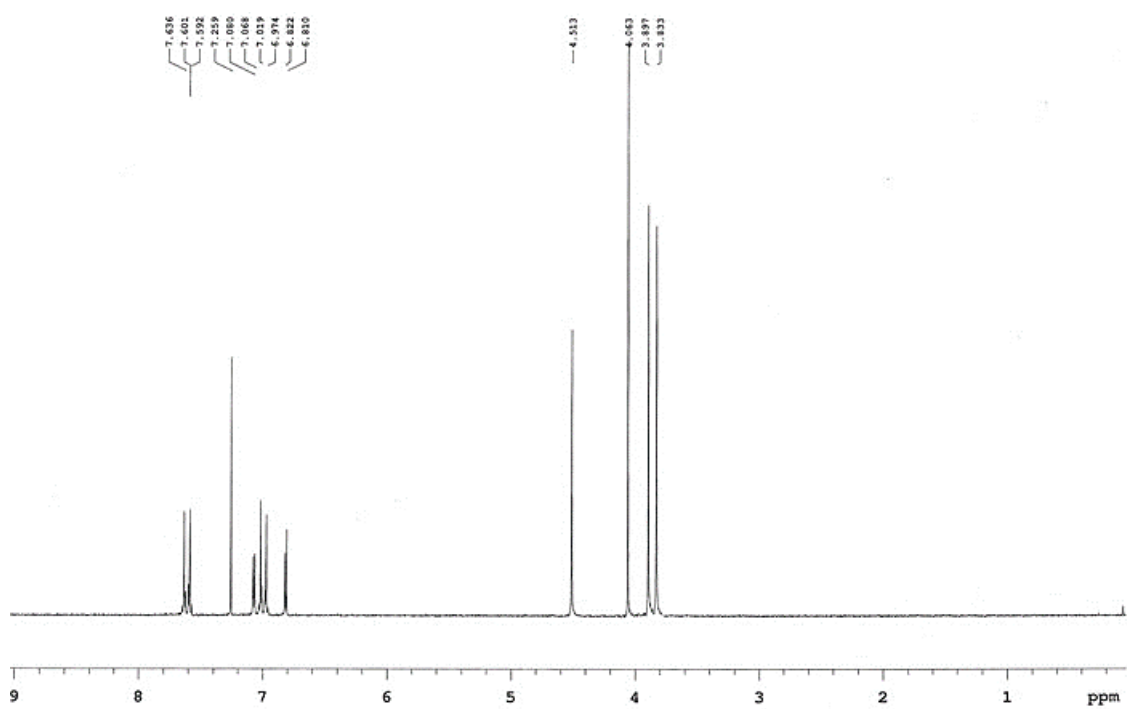


Fig. 201a: Compound **184** ^1H NMR spectra.

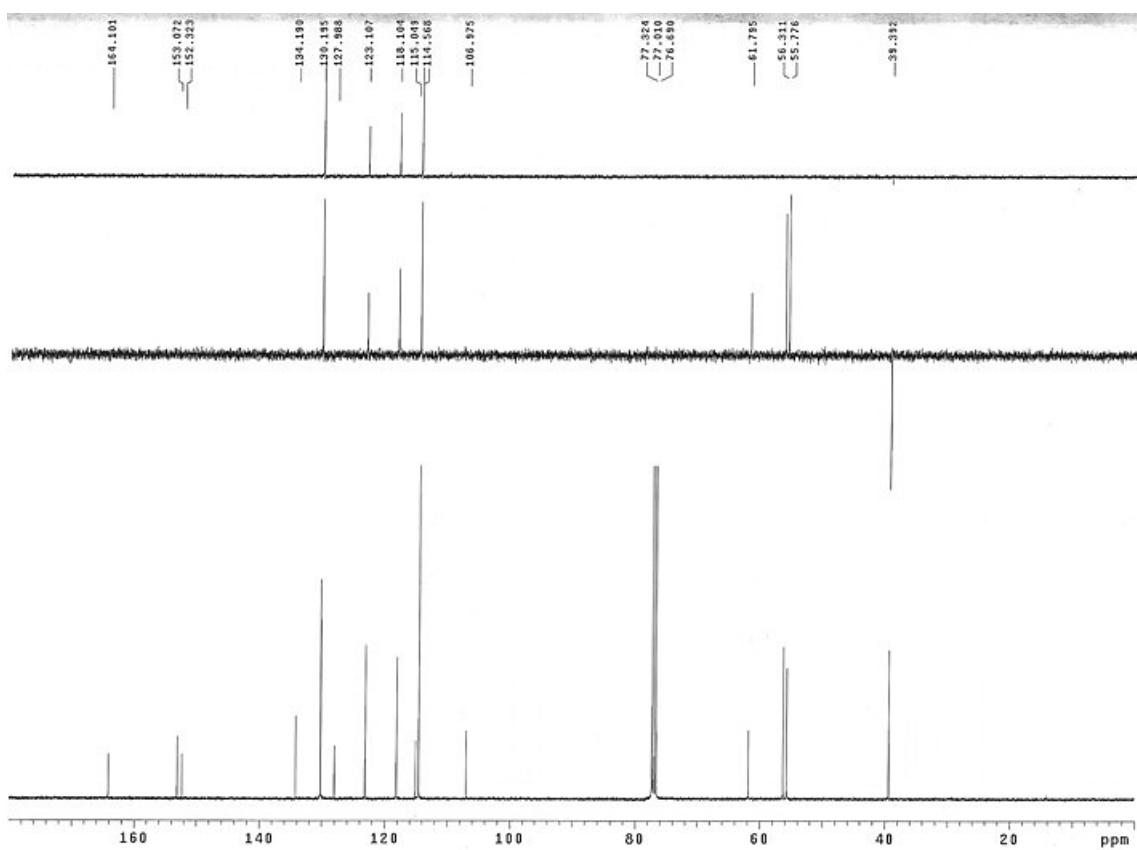


Fig. 201b: Compound **184** ^{13}C NMR spectra.

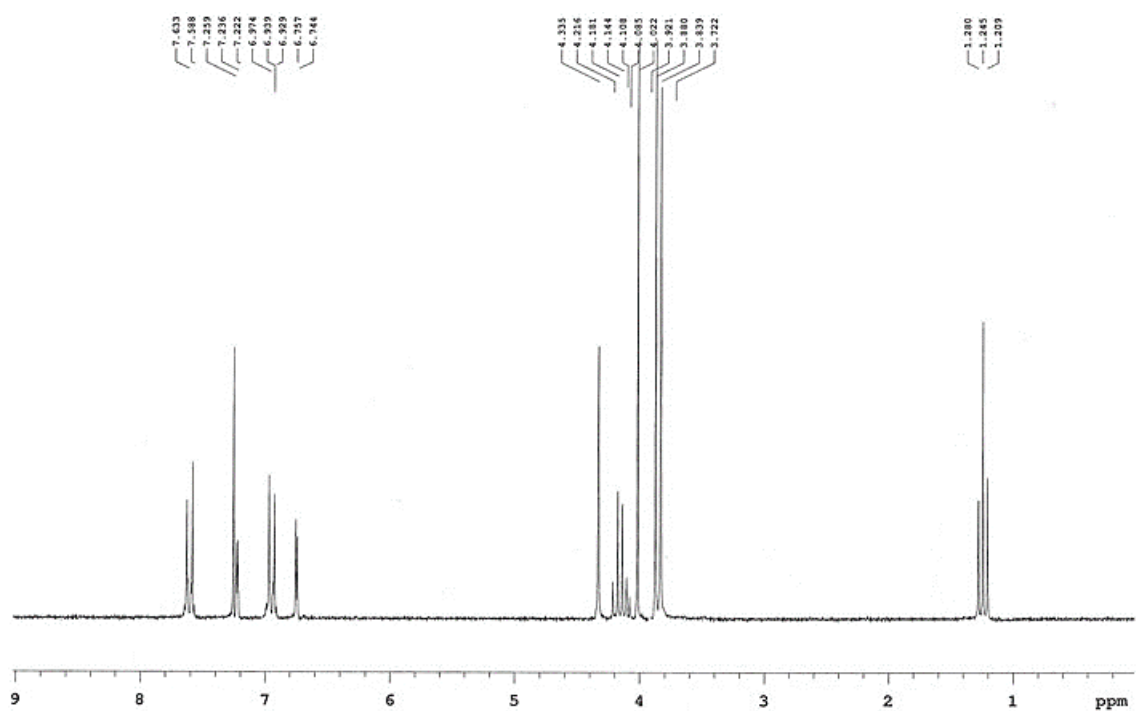


Fig. 202a: Compound **185** ^1H NMR spectra.

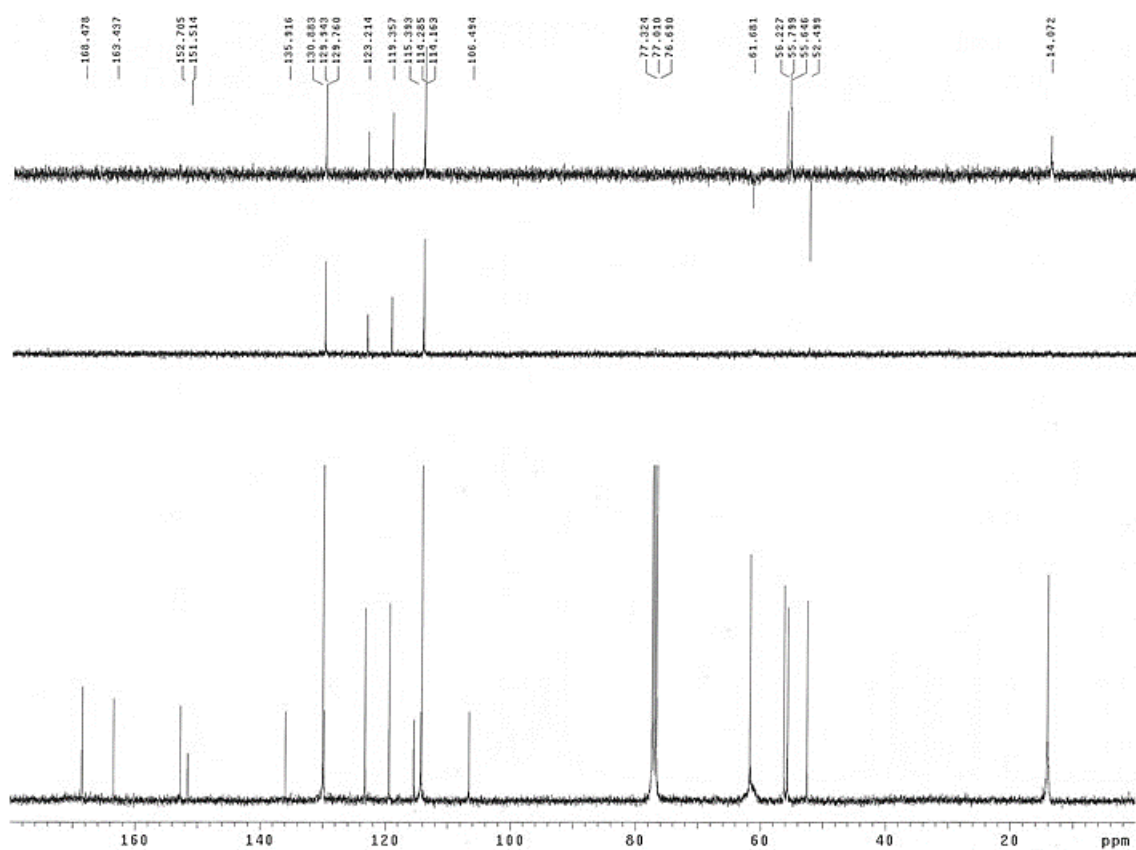


Fig. 202b: Compound **185** ^{13}C NMR spectra.

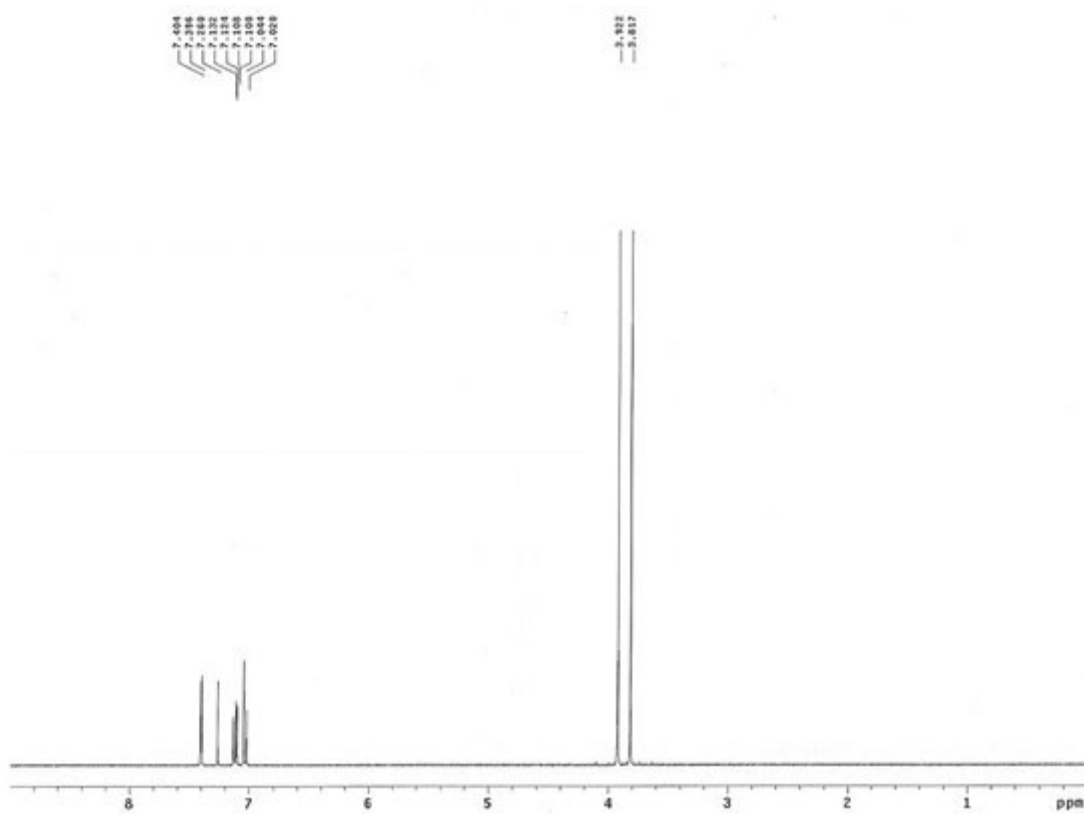


Fig. 203a: Compound **186** ¹H NMR spectra.

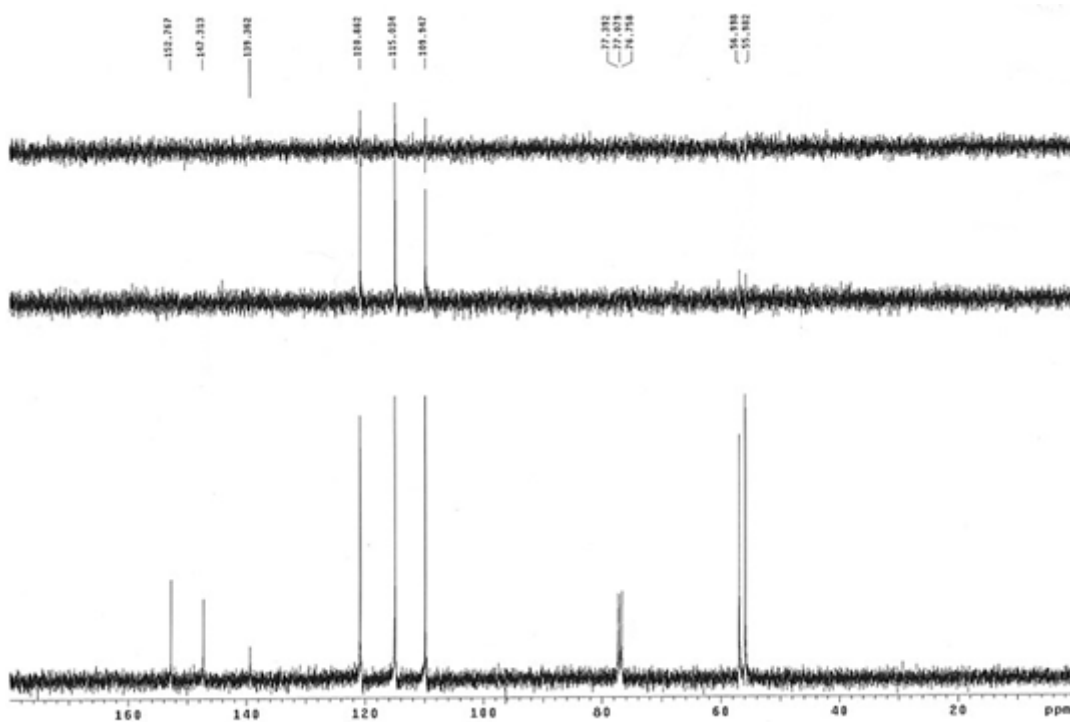


Fig. 203b: Compound **186** ¹³C NMR spectra.

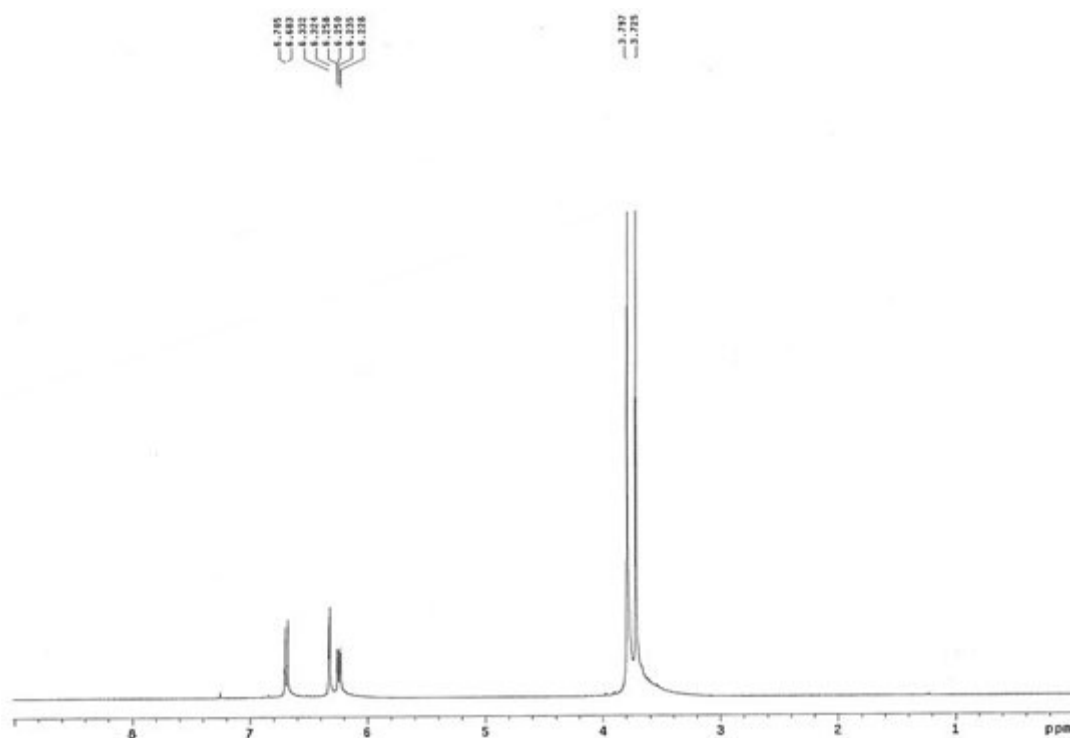


Fig. 204a: Compound **187** ^1H NMR spectra.

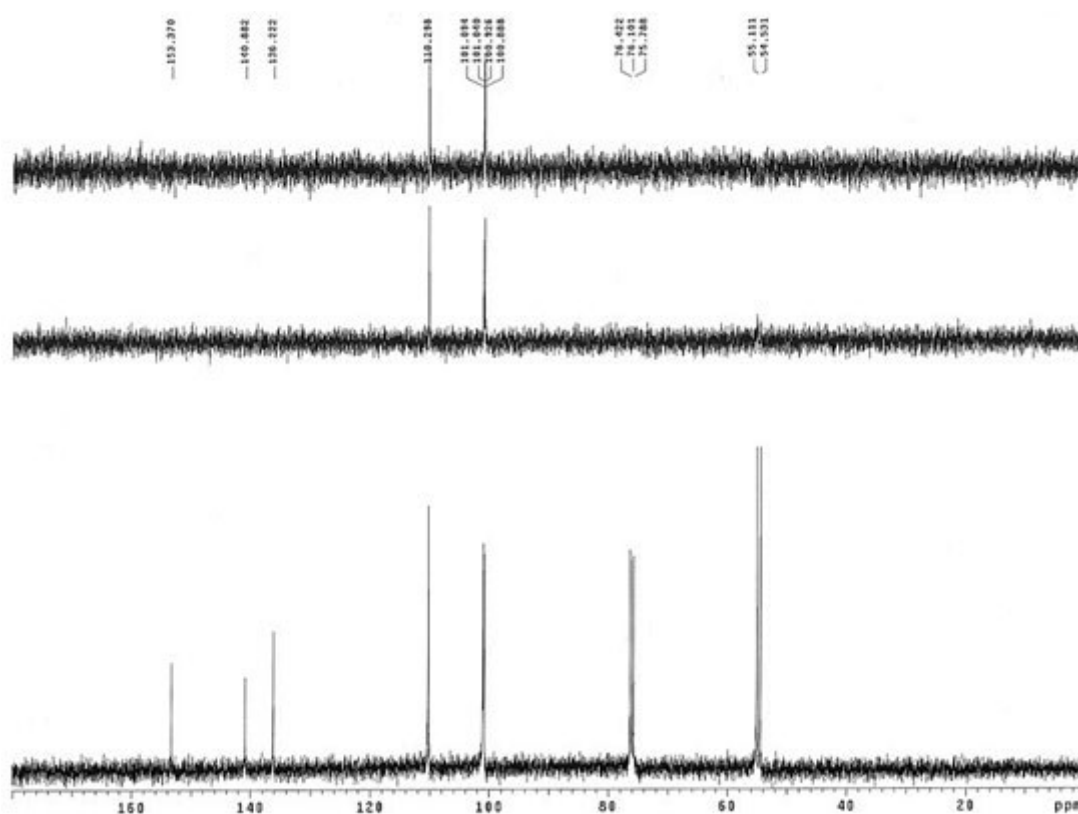


Fig. 204b: Compound **187** ^{13}C NMR spectra.

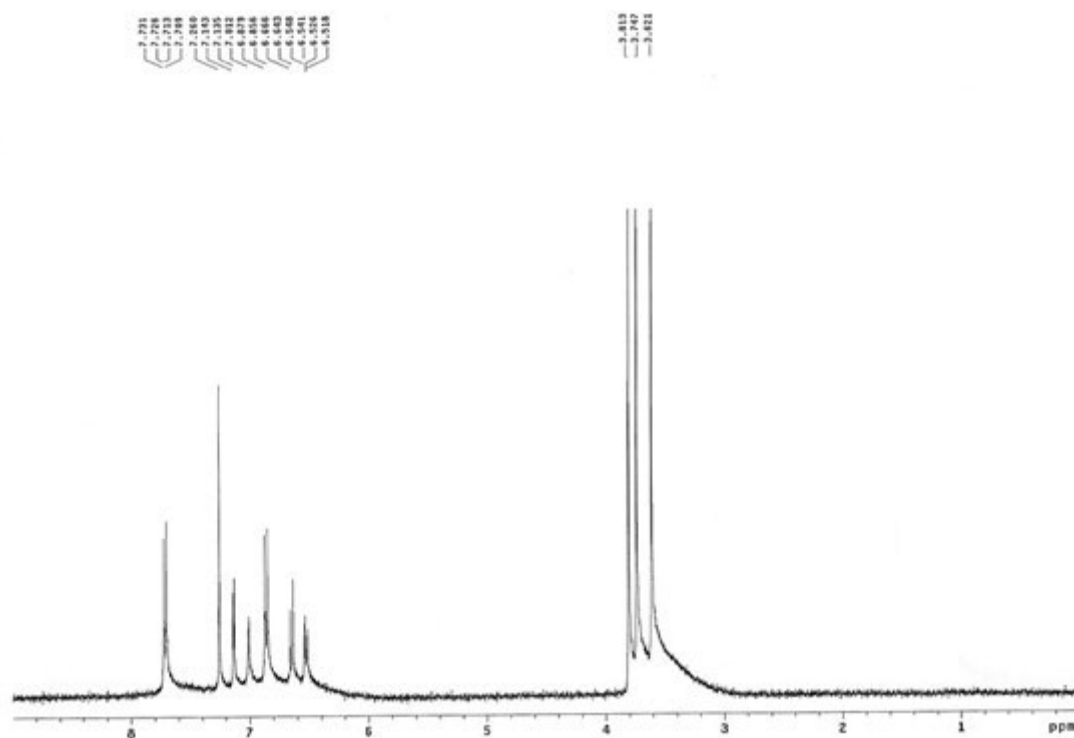


Fig. 205a: Compound **188** ^1H NMR spectra.

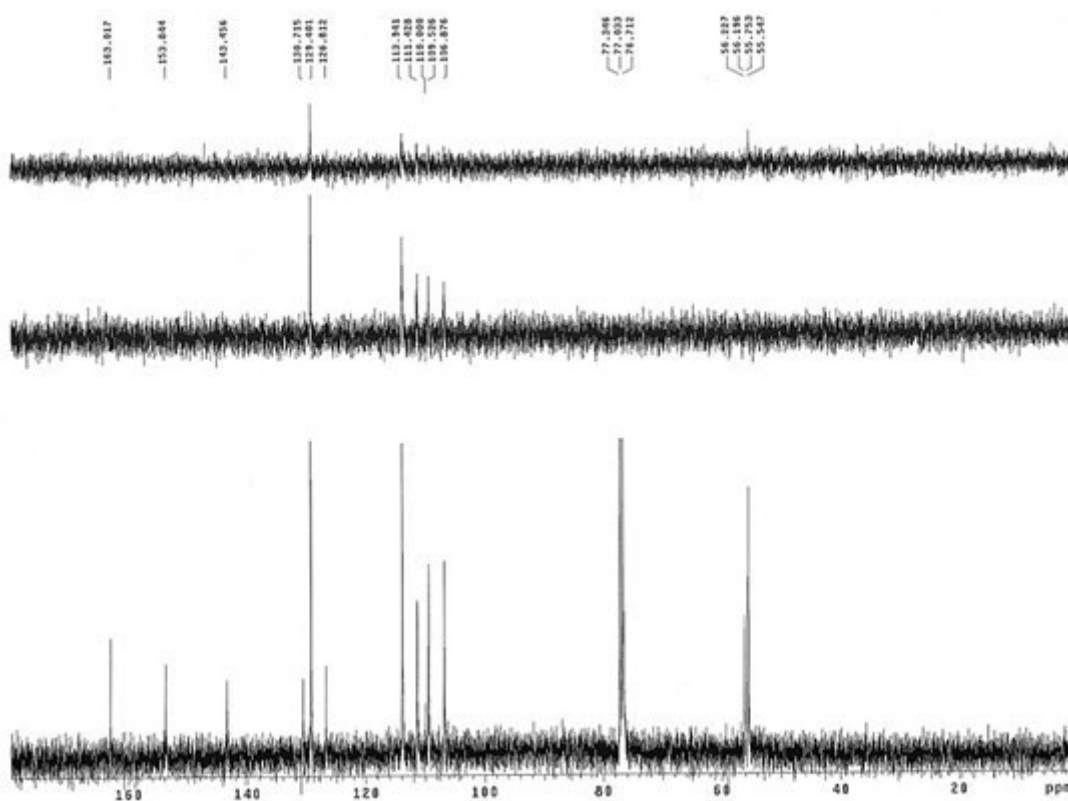


Fig. 205b: Compound **188** ^{13}C NMR spectra.

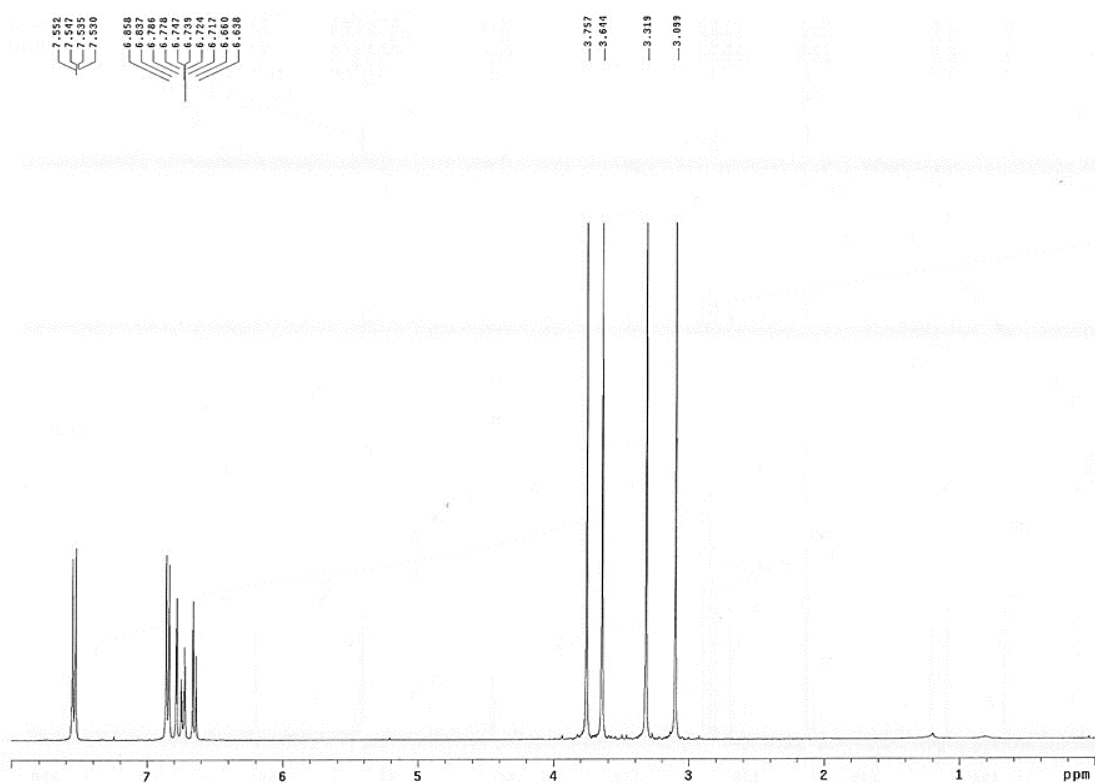


Fig. 206a: Compound **189** ^1H NMR spectra.

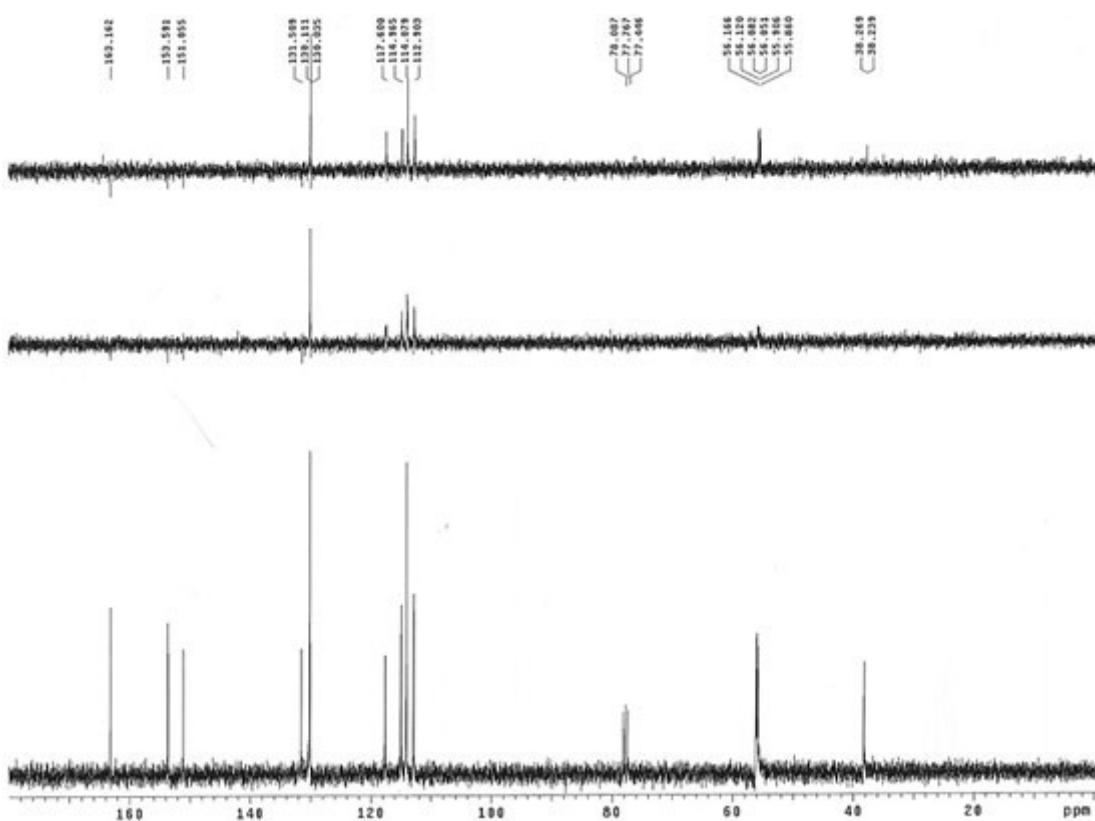


Fig. 206b: Compound **189** ^{13}C NMR spectra.

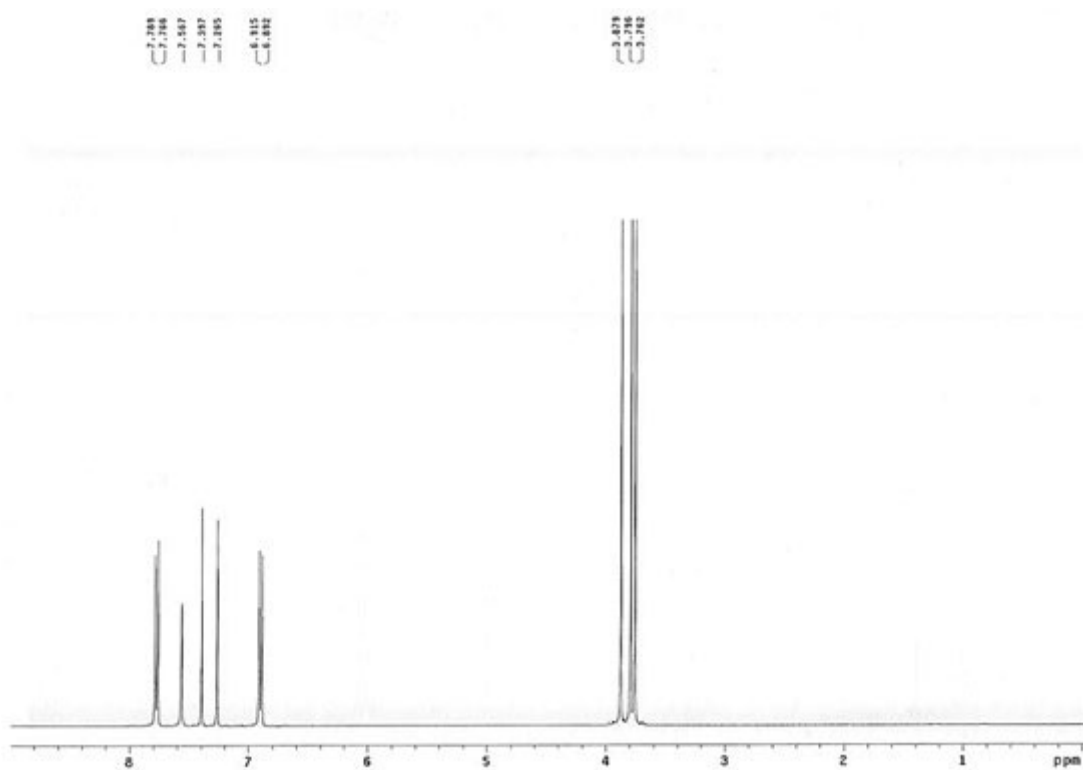


Fig. 207a: Compound **190** ^1H NMR spectra.

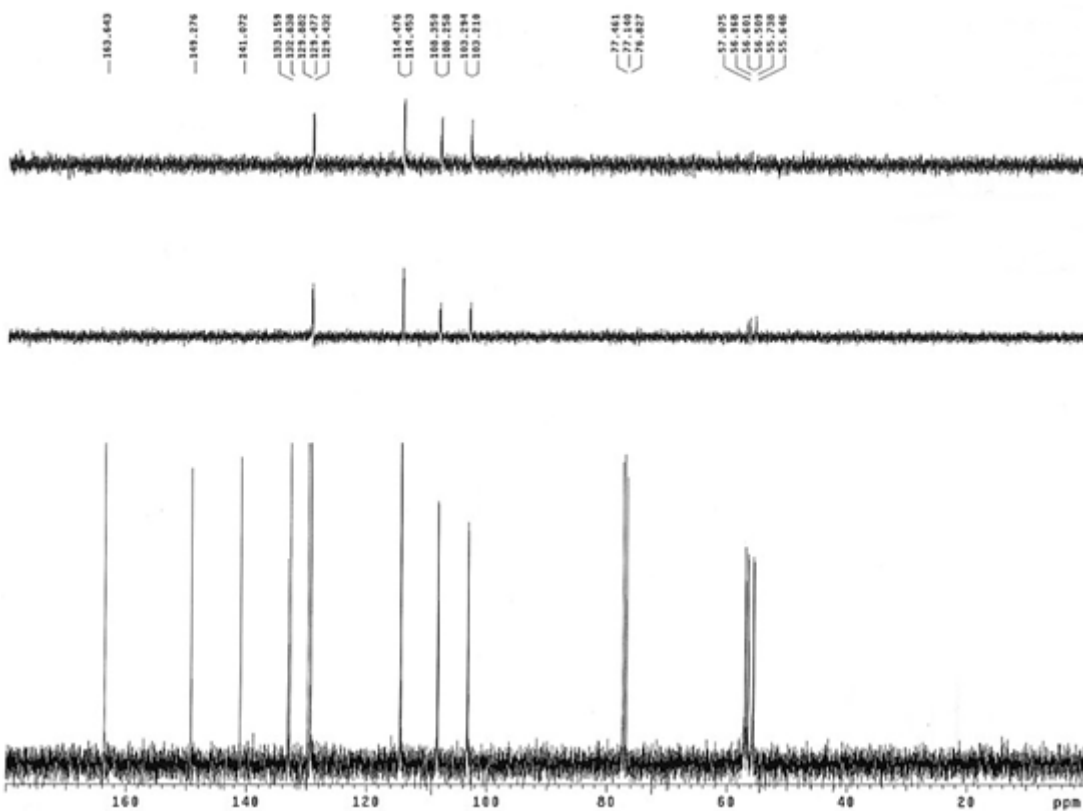


Fig. 207b: Compound **190** ^{13}C NMR spectra.

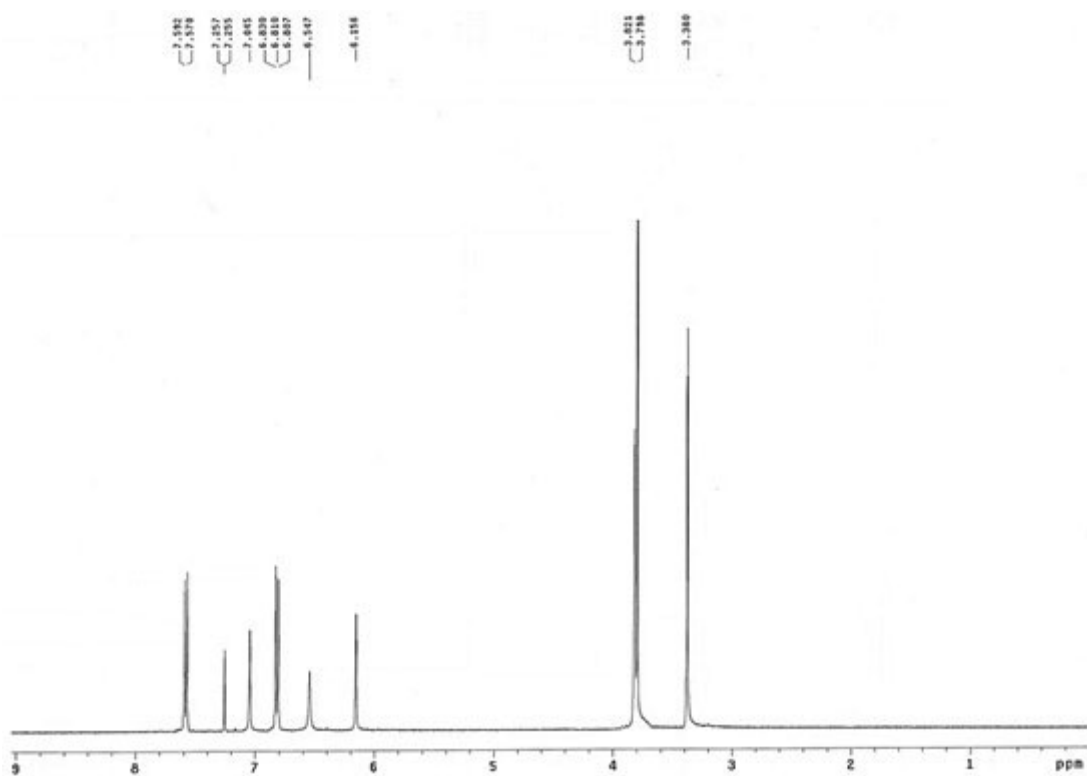


Fig. 208a: Compound **191** ^1H NMR spectra.

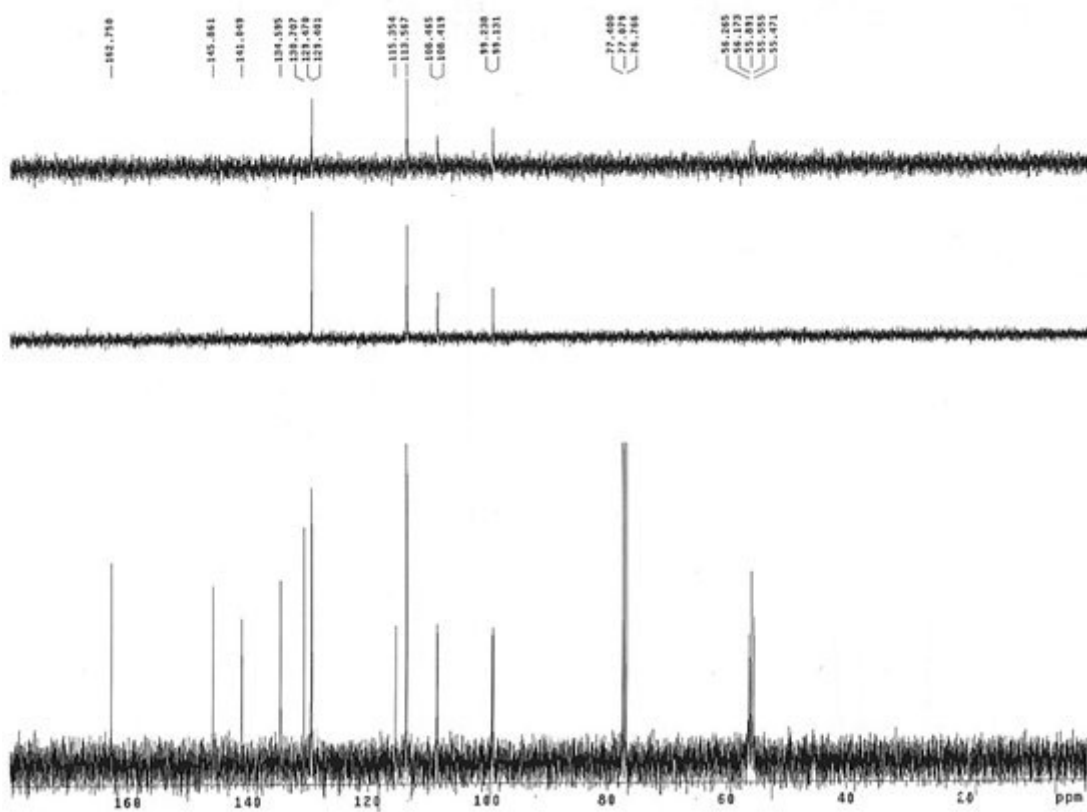


Fig. 208b: Compound **191** ^{13}C NMR spectra.

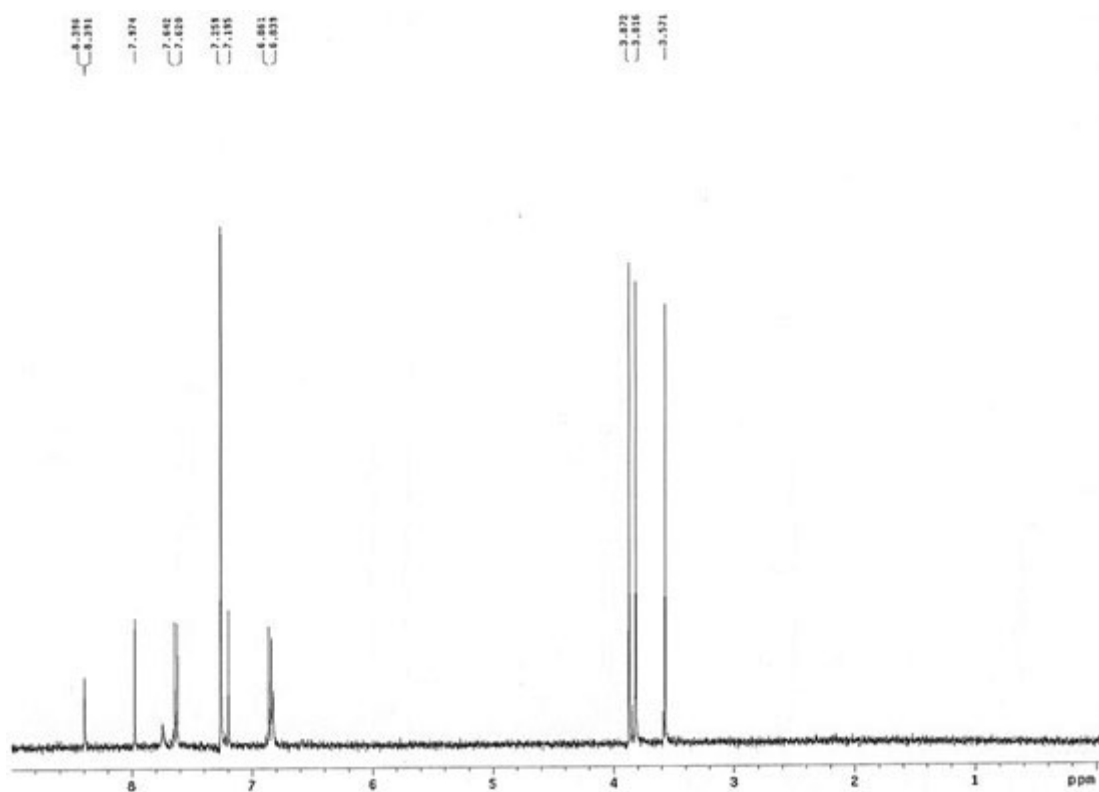


Fig. 209a: Compound **192** ^1H NMR spectra.

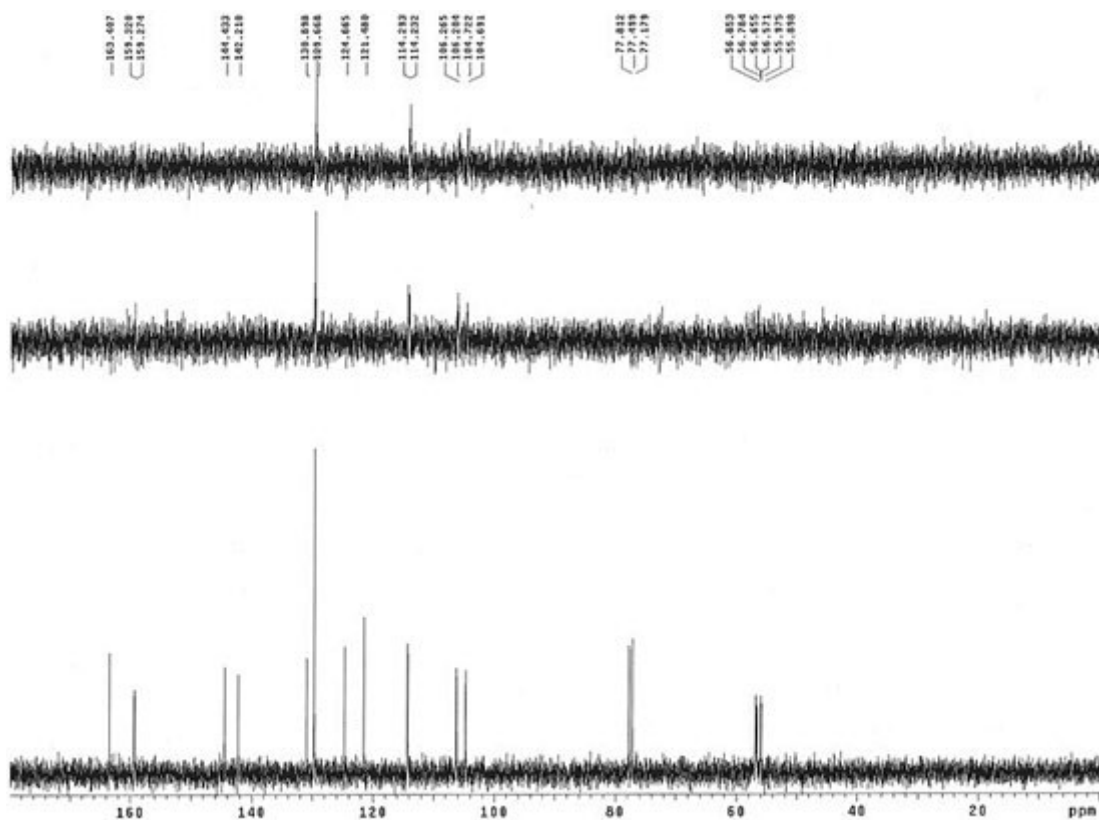


Fig. 209b: Compound **192** ^{13}C NMR spectra.

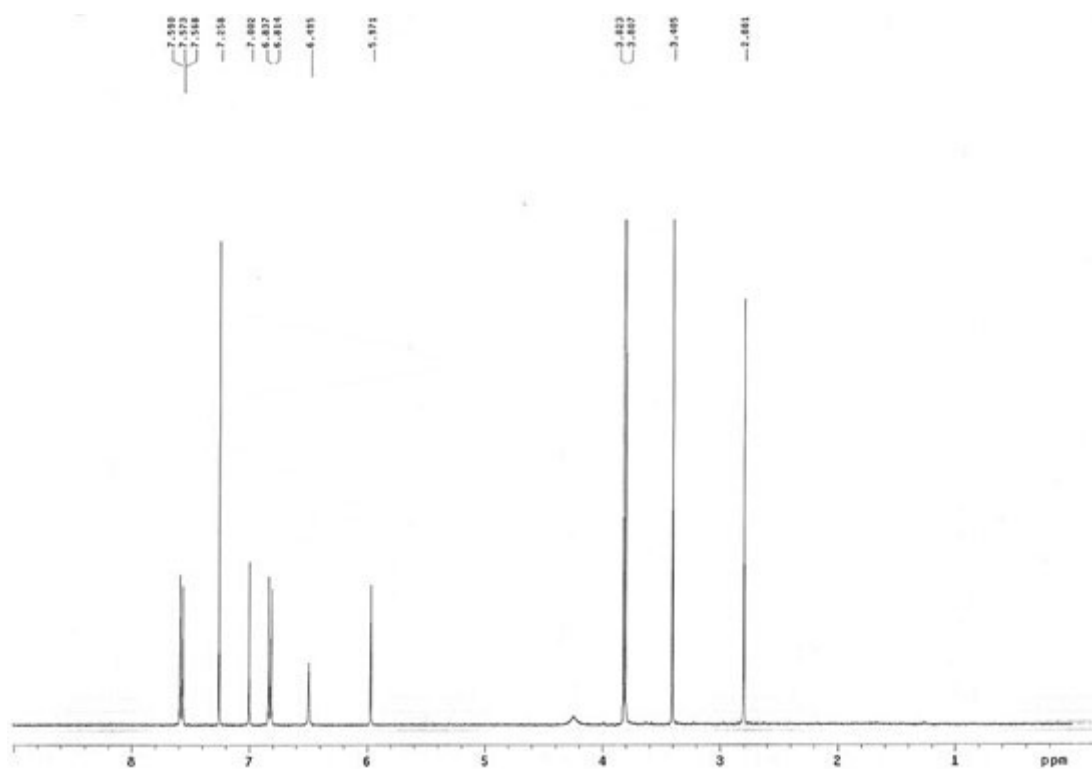


Fig. 210a: Compound **193** ¹H NMR spectra.

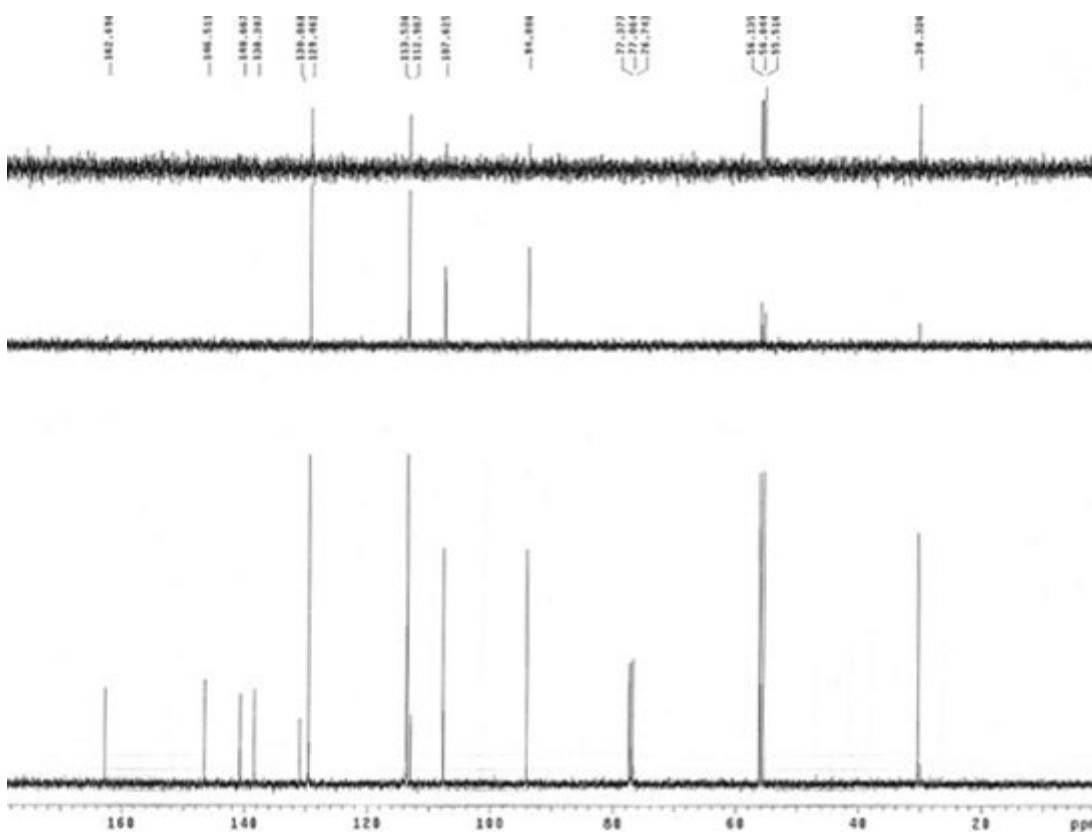


Fig. 210b: Compound **193** ¹³C NMR spectra.

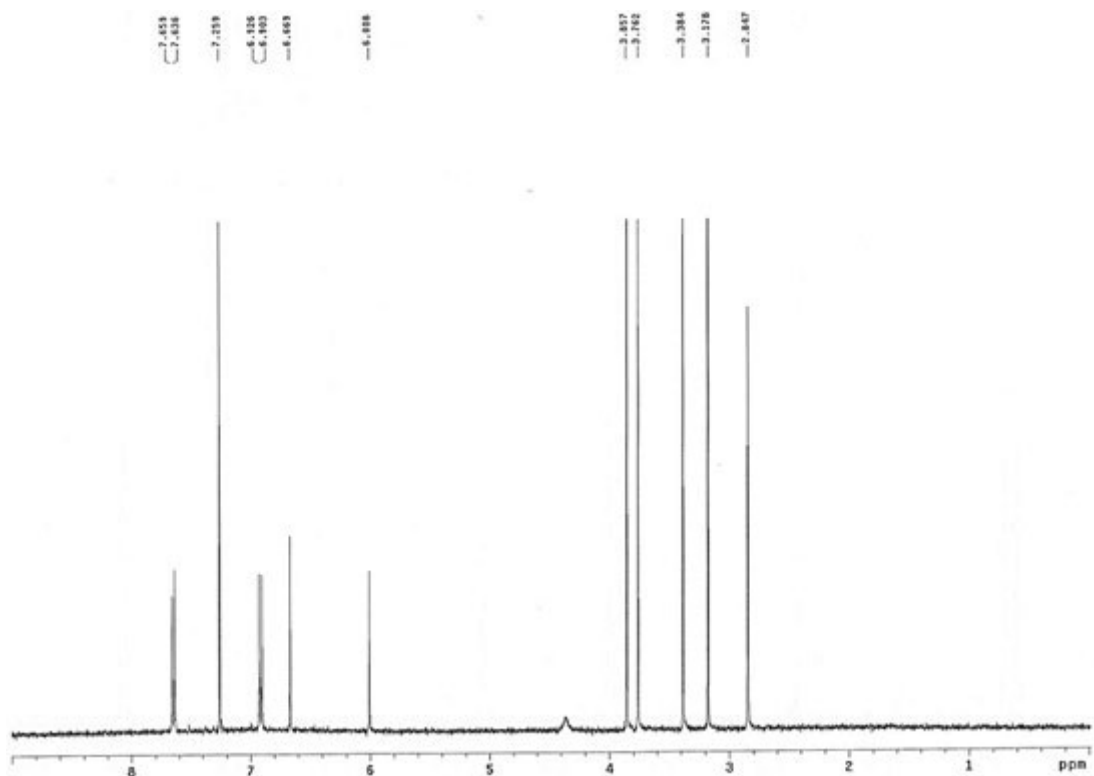


Fig. 211a: Compound **194** ^1H NMR spectra.

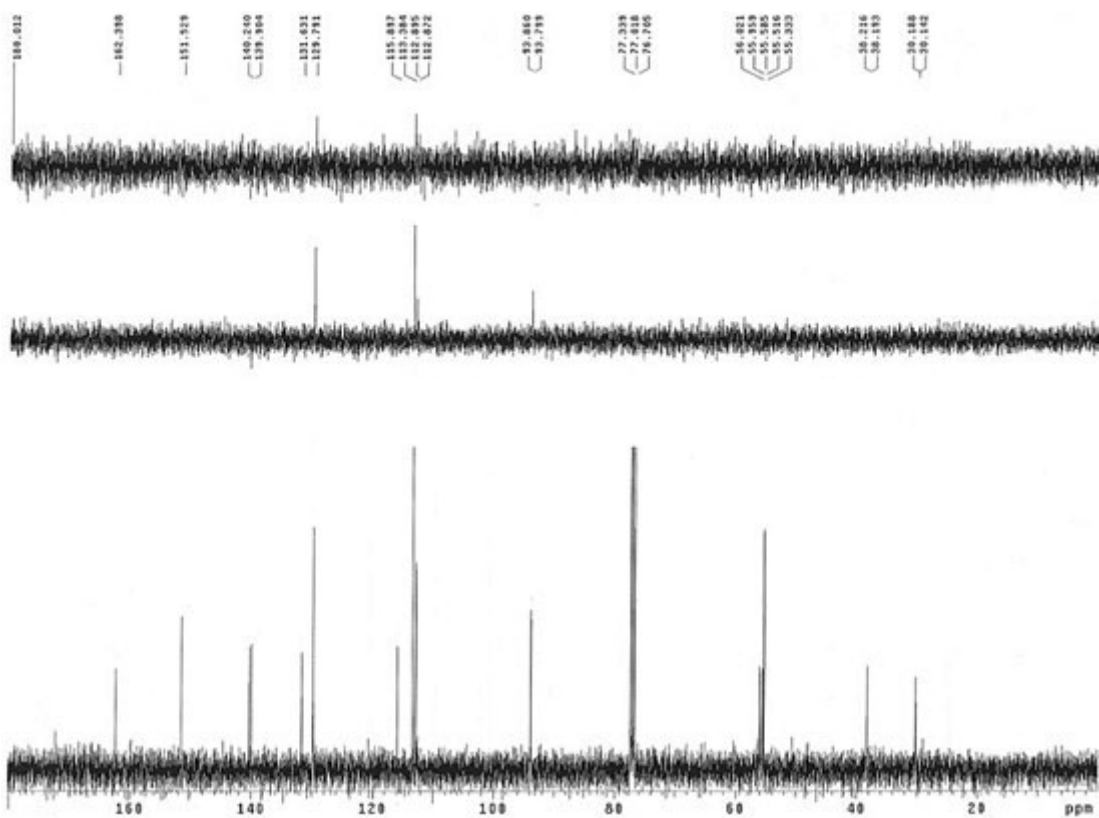


Fig. 211b: Compound **194** ^{13}C NMR spectra.

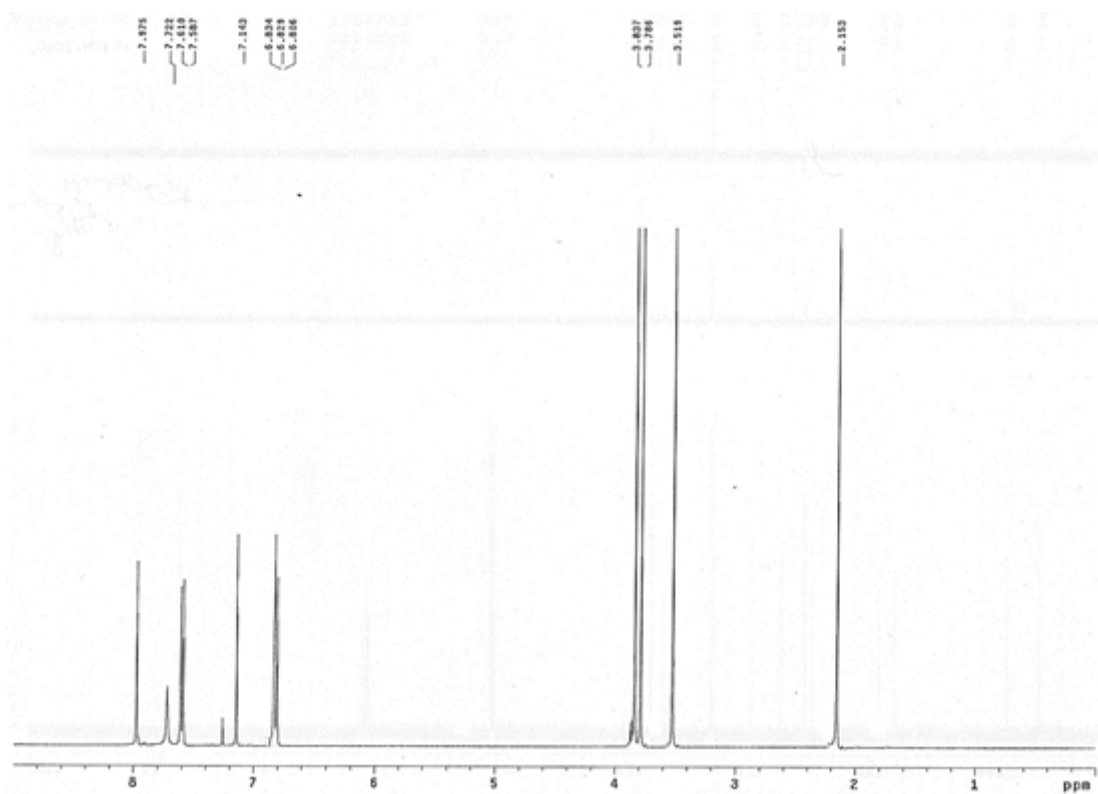


Fig. 212a: Compound **195** ^1H NMR spectra.

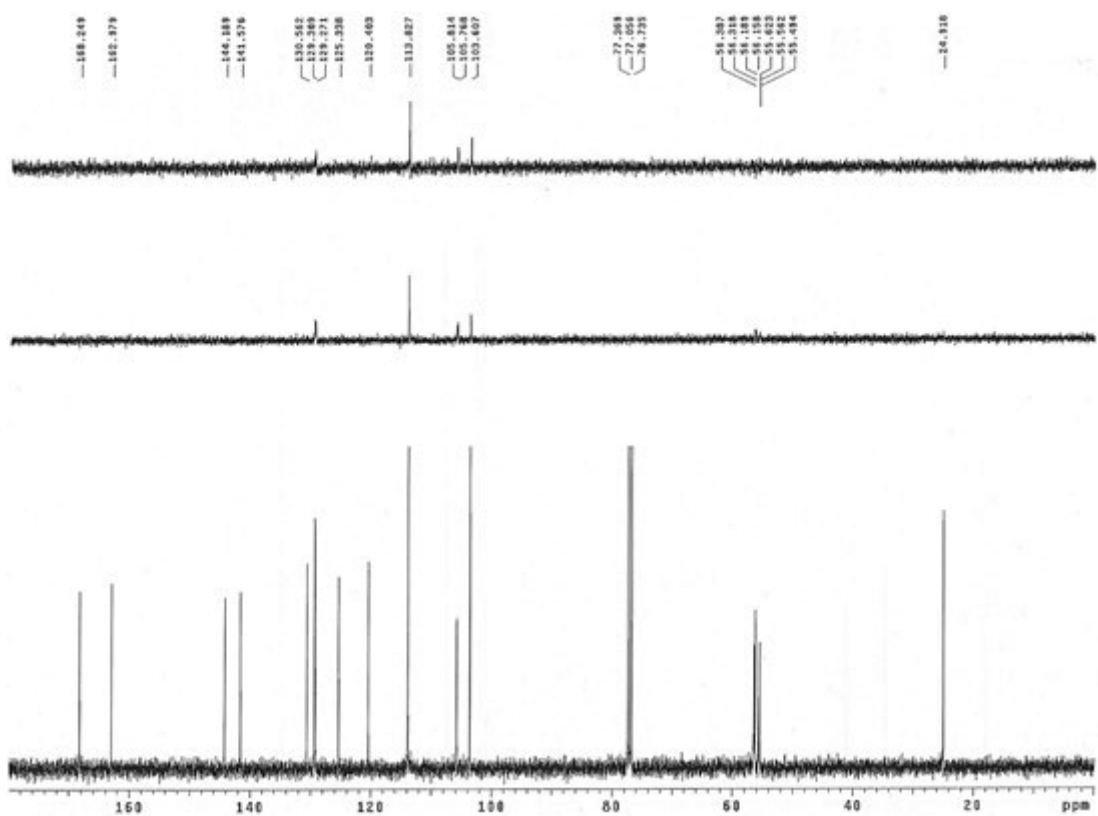


Fig. 212b: Compound **195** ^{13}C NMR spectra.

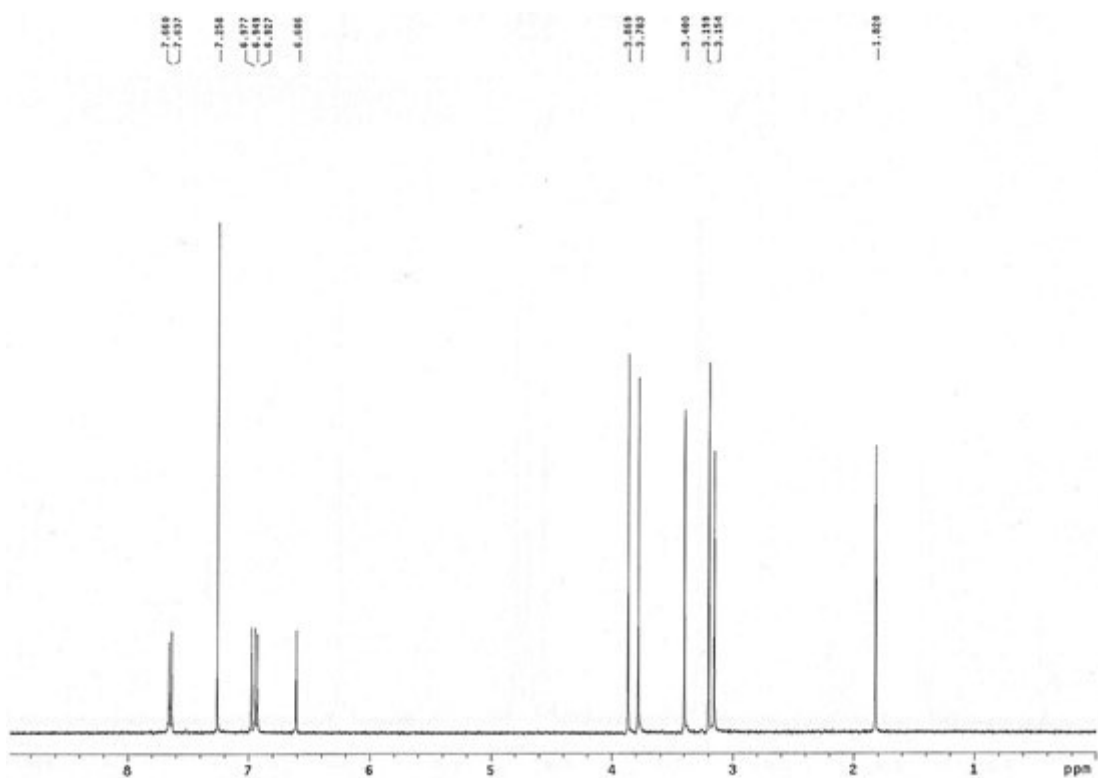


Fig. 213a: Compound **196** ^1H NMR spectra.

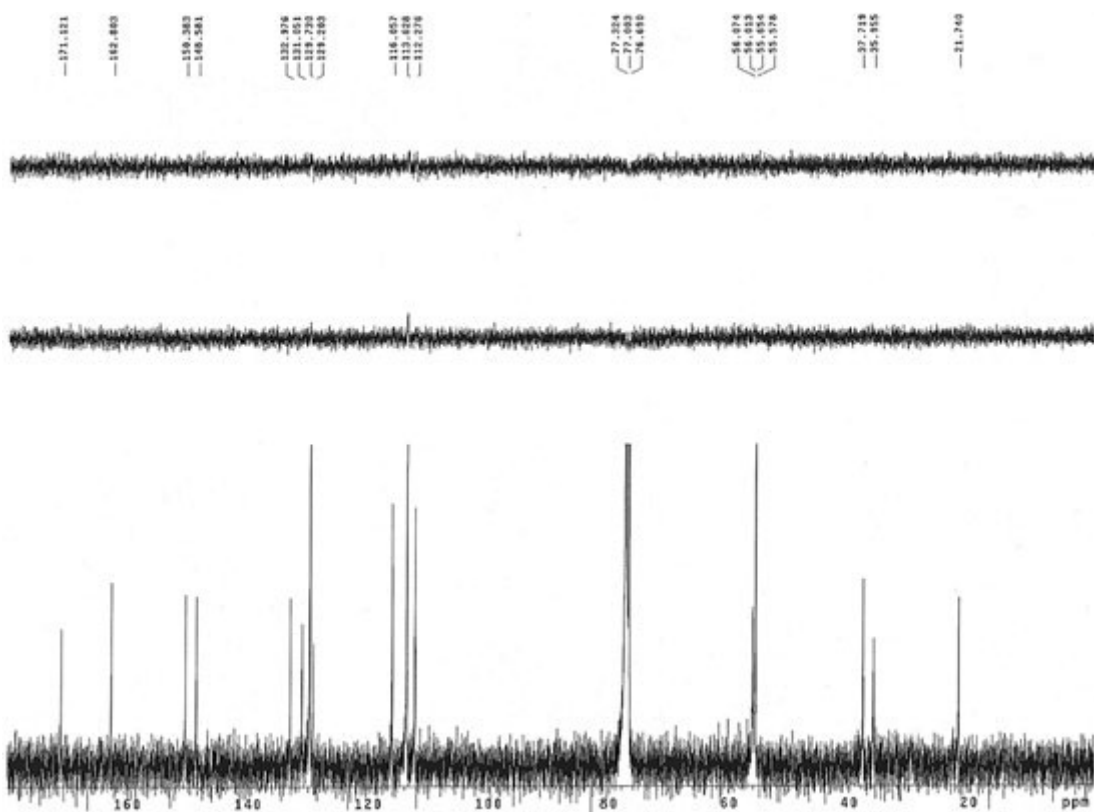


Fig. 213b: Compound **196** ^{13}C NMR spectra.

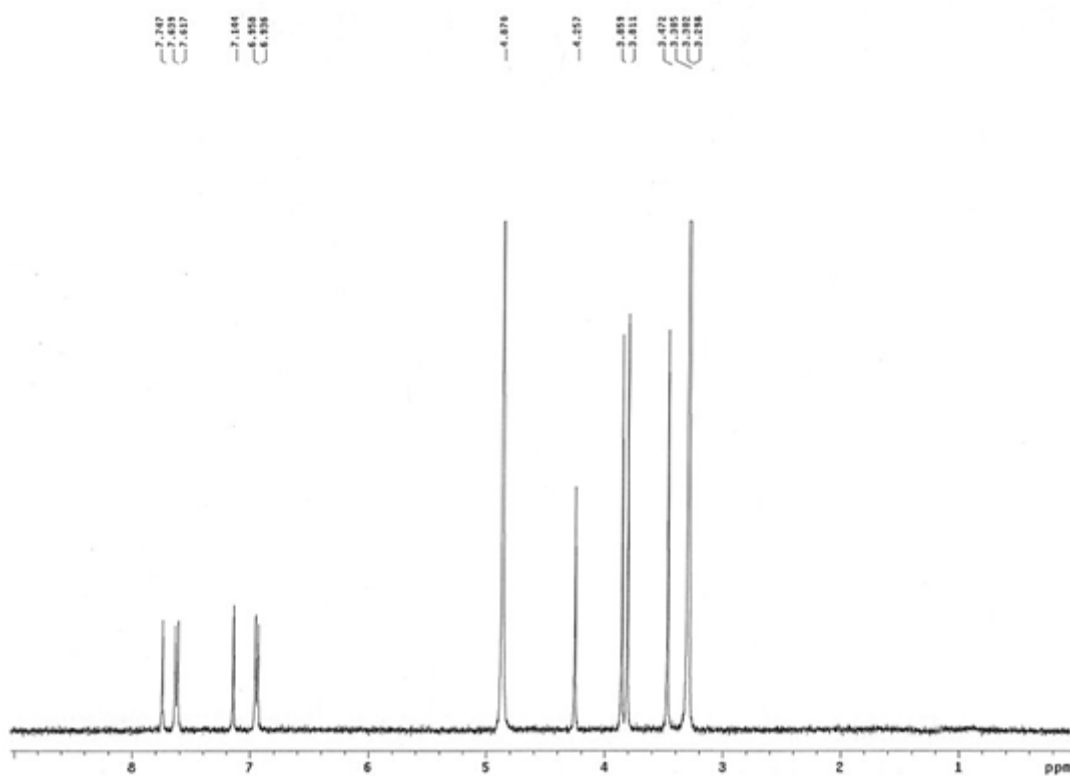


Fig. 214a: Compound **197** ^1H NMR spectra.

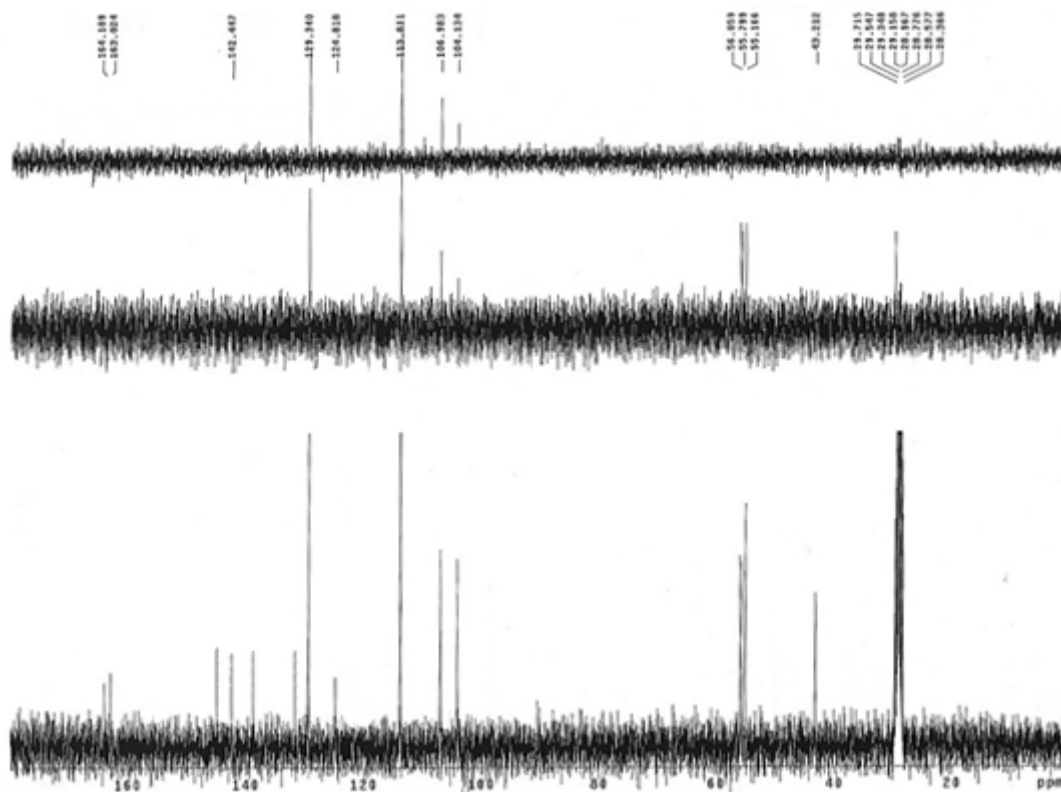


Fig. 214b: Compound **197** ^{13}C NMR spectra.

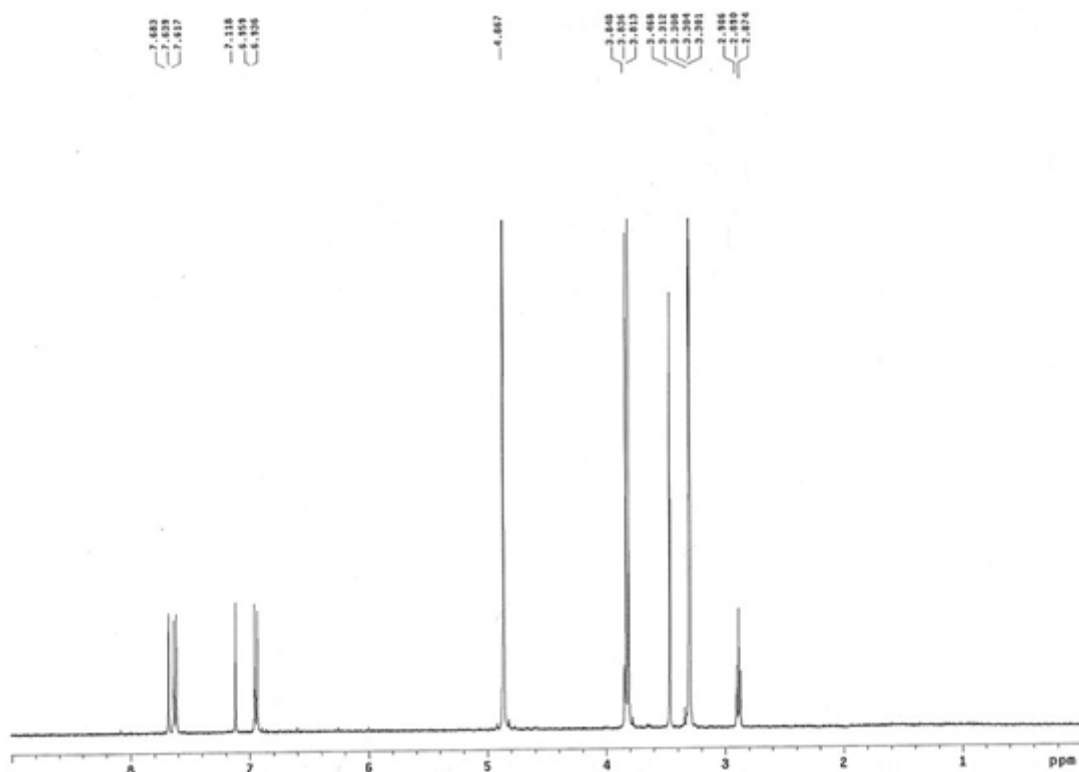


Fig. 215a: Compound **198** ^1H NMR spectra.

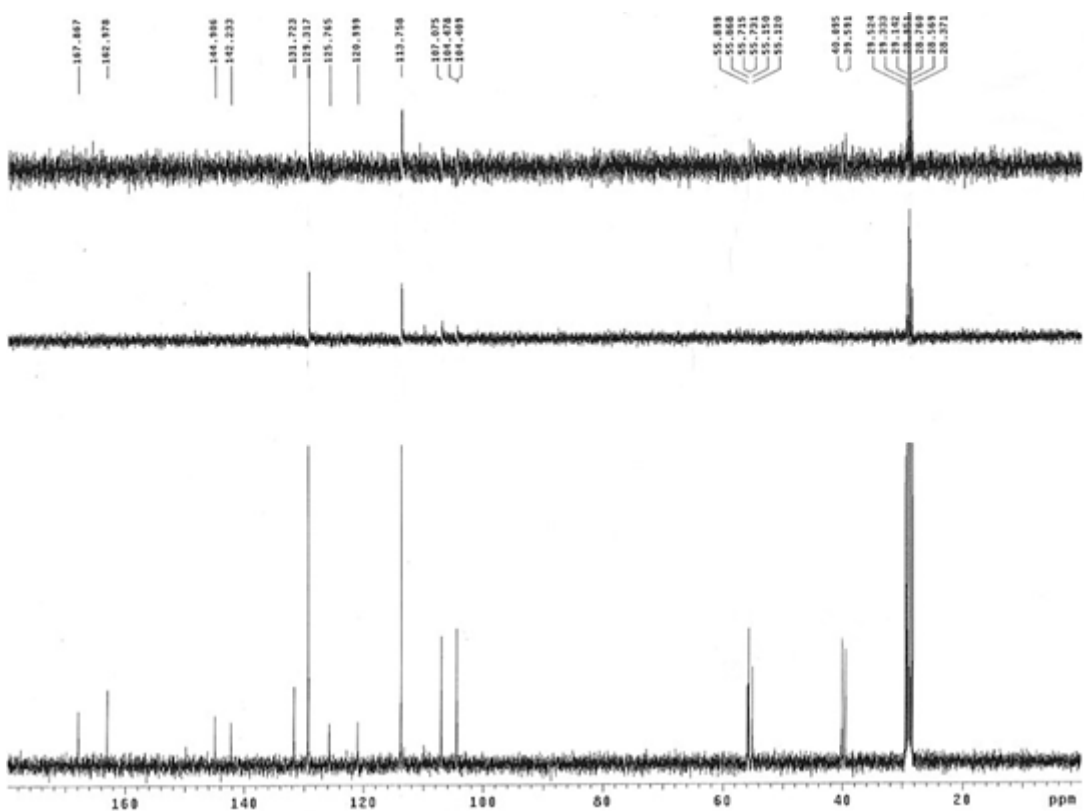


Fig. 215b: Compound **198** ^{13}C NMR spectra.

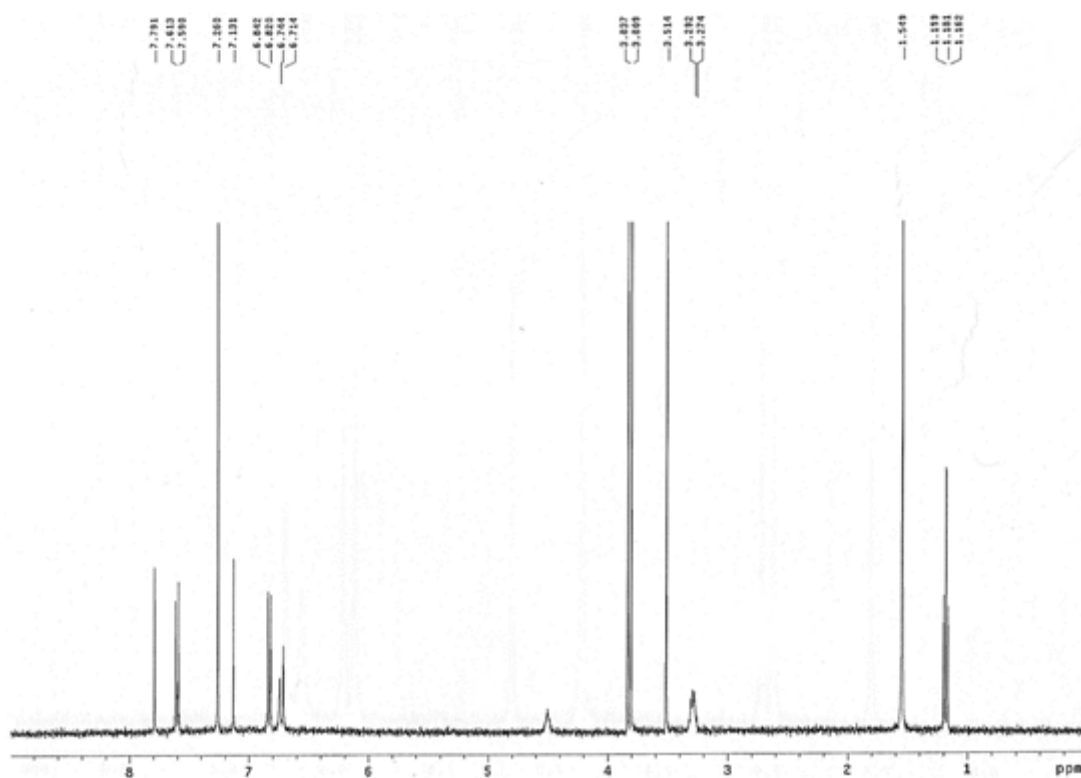


Fig. 216a: Compound **199** ^1H NMR spectra.

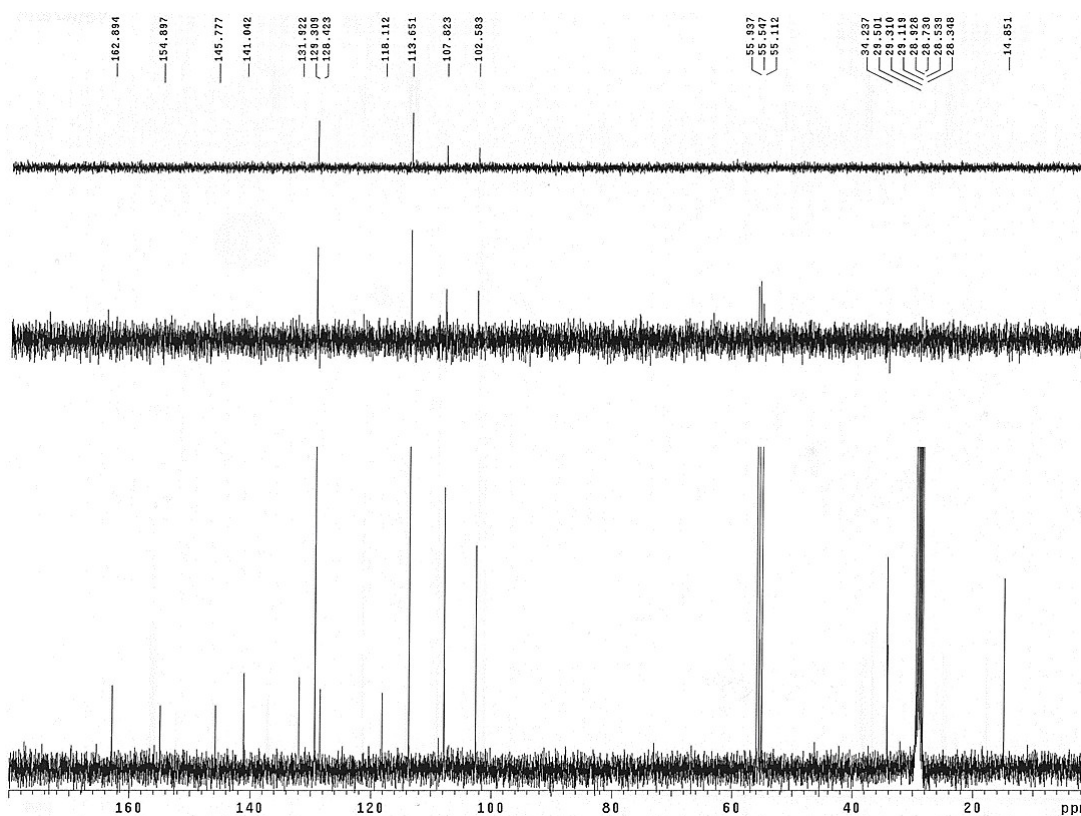


Fig. 216b: Compound **199** ^{13}C NMR spectra.

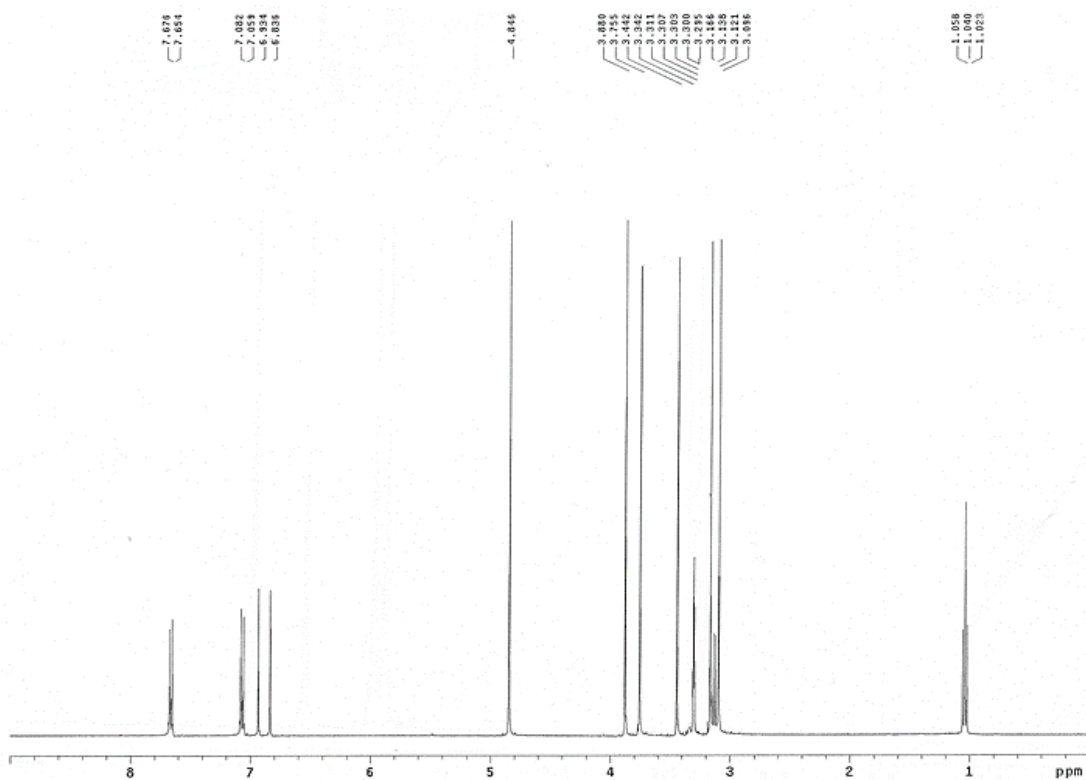


Fig. 217a: Compound **200** ^1H NMR spectra.

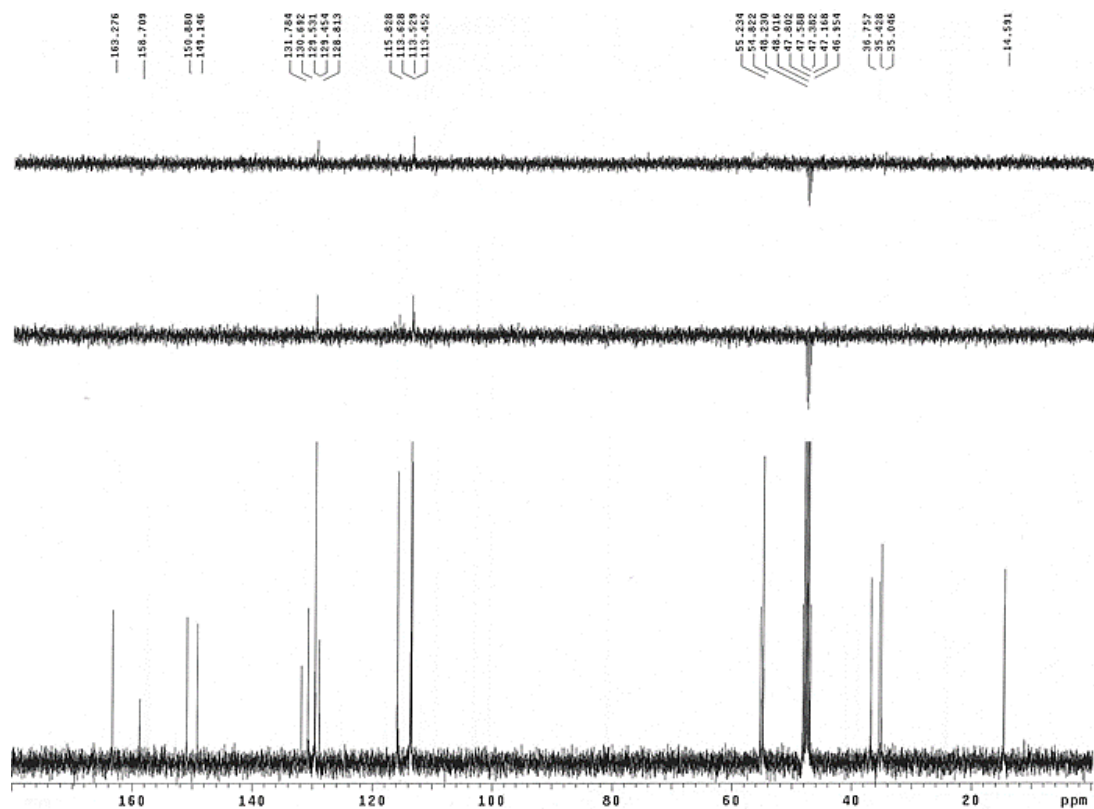


Fig. 217b: Compound **200** ^{13}C NMR spectra.

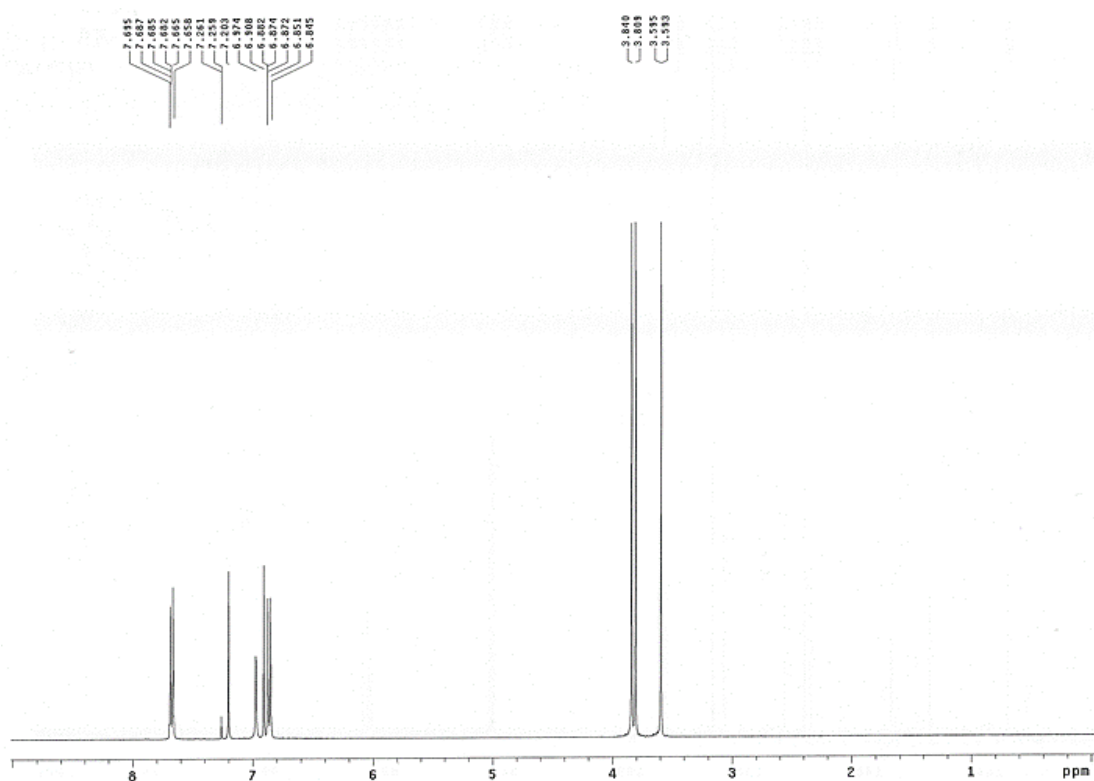


Fig. 218a: Compound **201** ^1H NMR spectra.

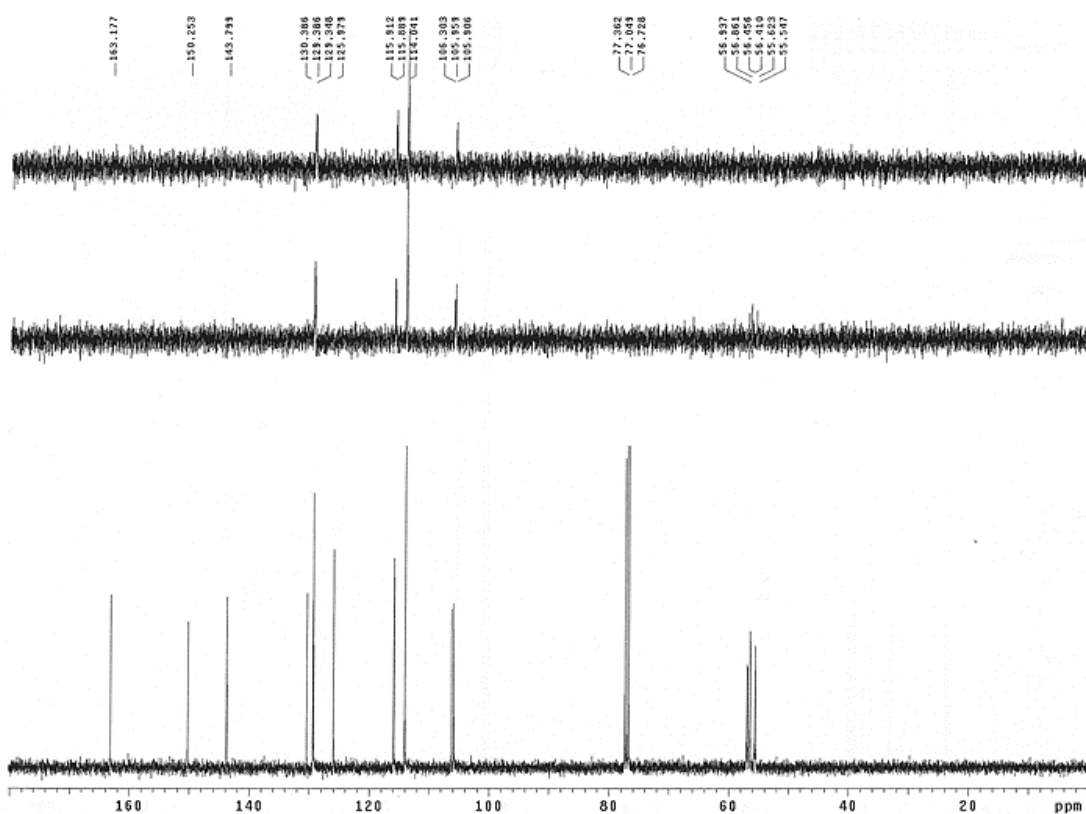


Fig. 218b: Compound **201** ^{13}C NMR spectra.

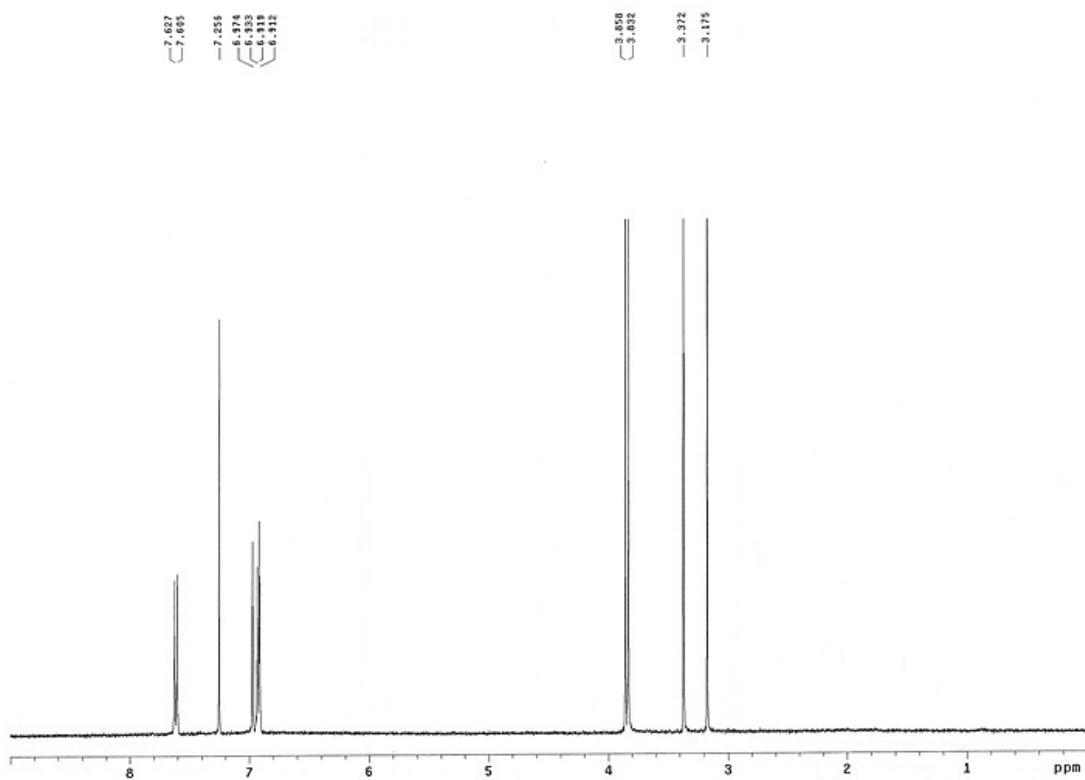


Fig. 219a: Compound **202** ^1H NMR spectra.

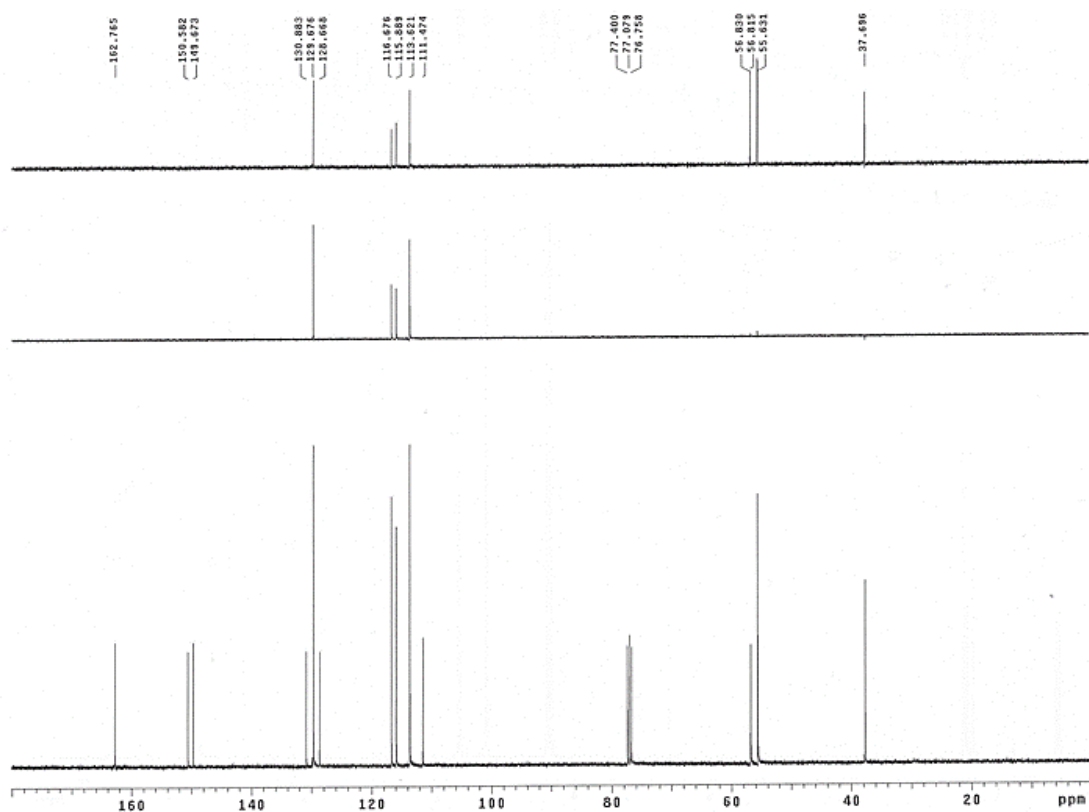


Fig. 219b: Compound **202** ^{13}C NMR spectra.

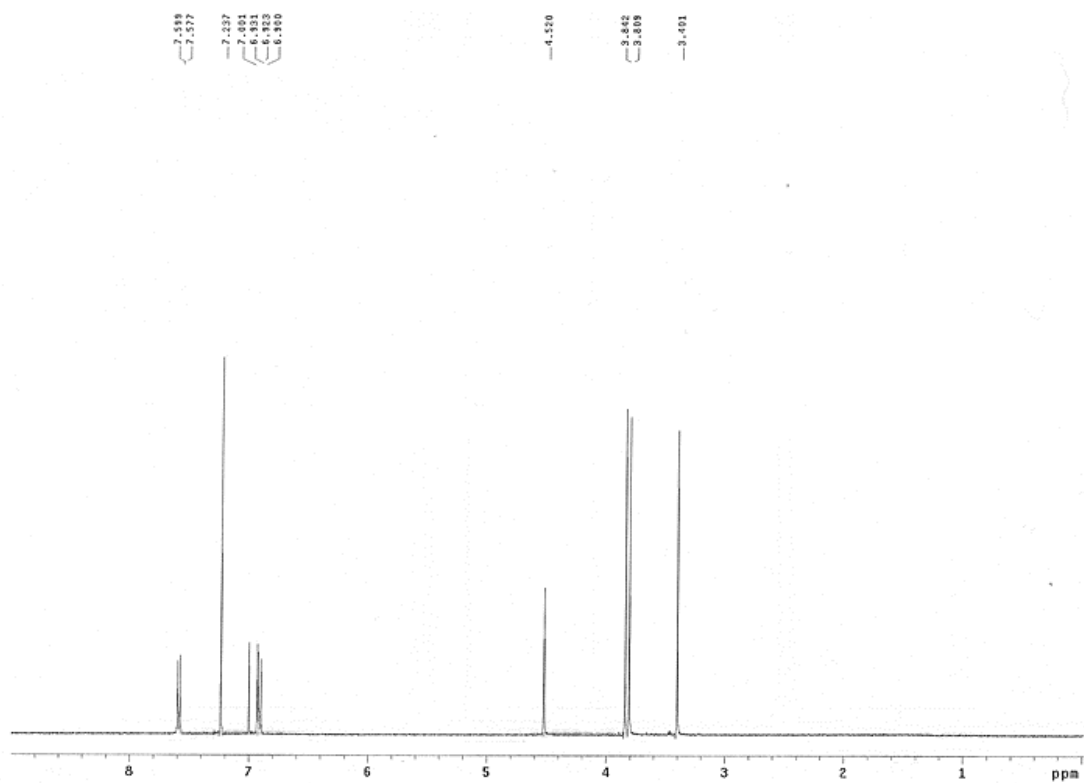


Fig. 220a: Compound **203** ^1H NMR spectra.

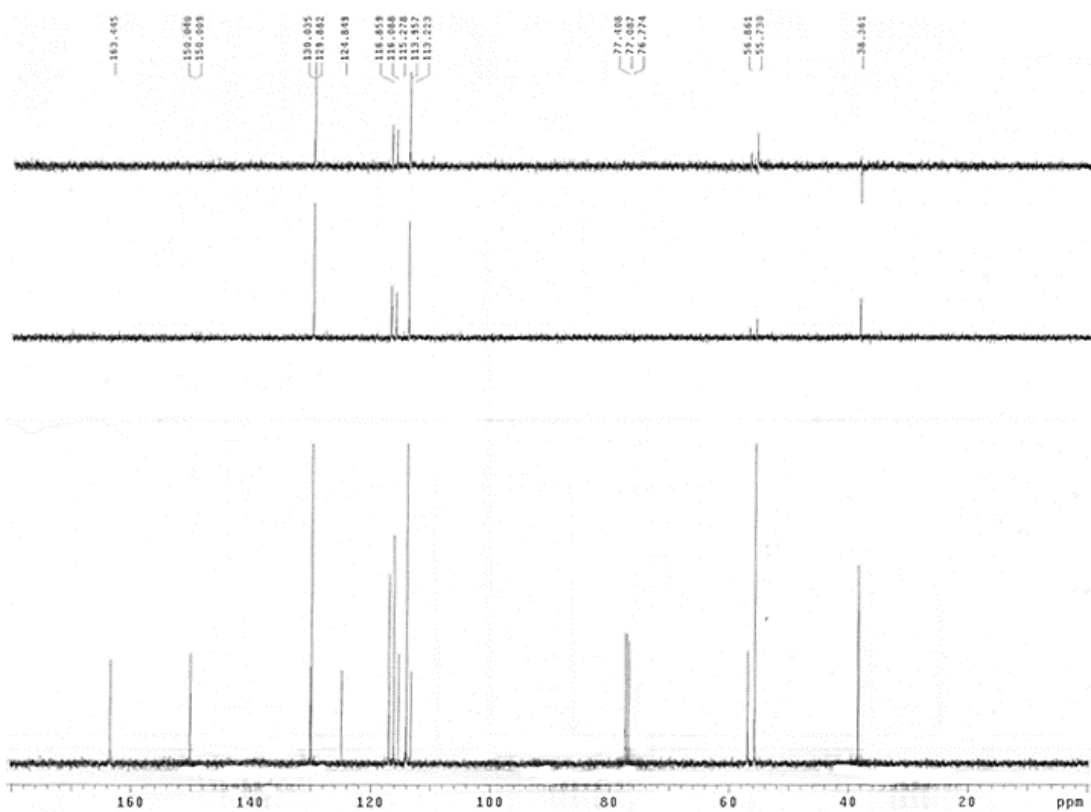


Fig. 220b: Compound **203** ^{13}C NMR spectra.

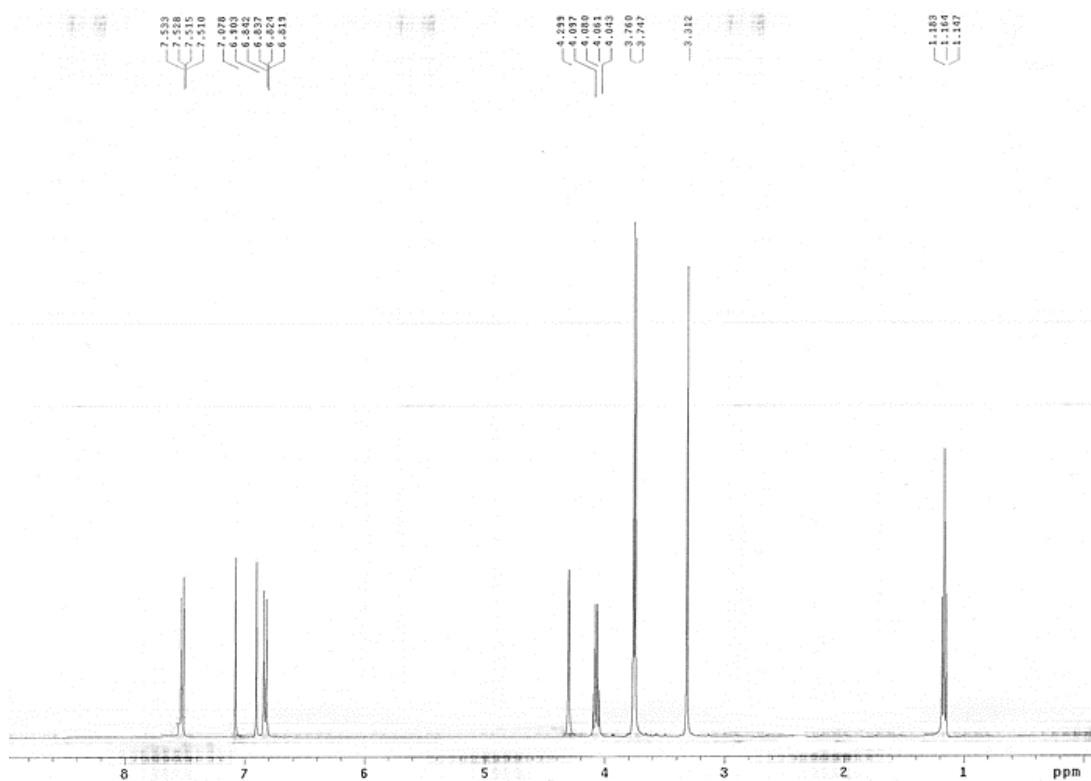


Fig. 221a: Compound **204** ^1H NMR spectra.

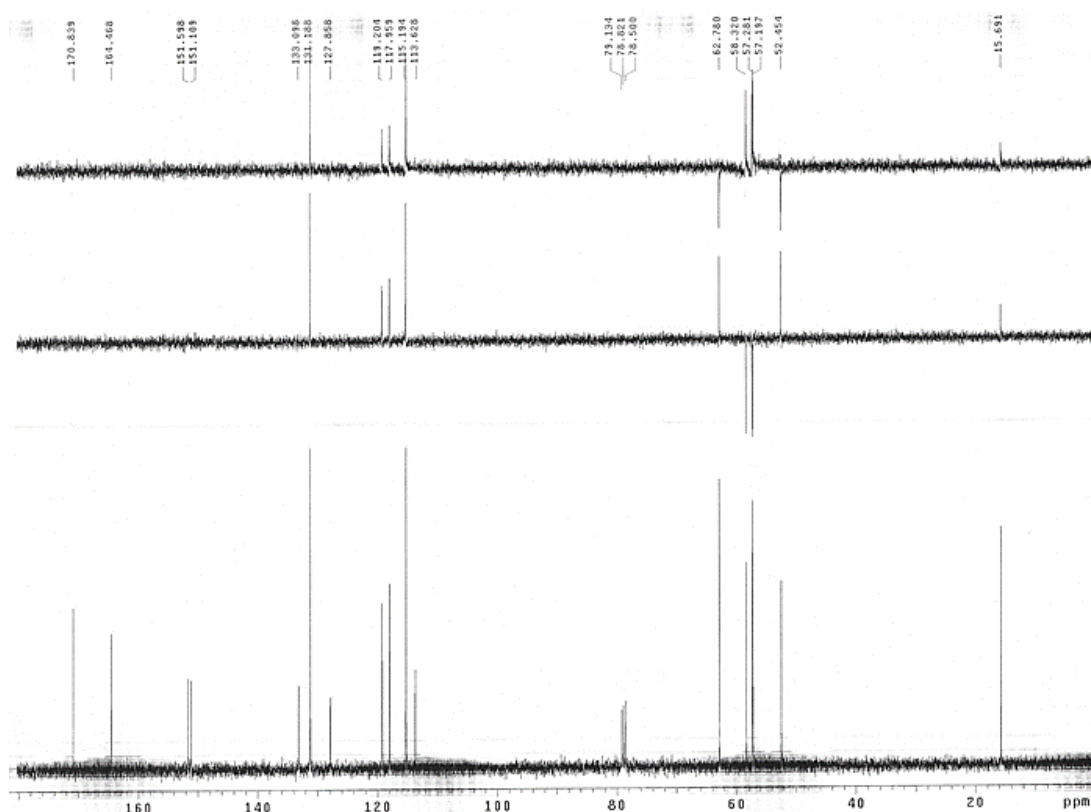


Fig. 221b: Compound **204** ^{13}C NMR spectra.

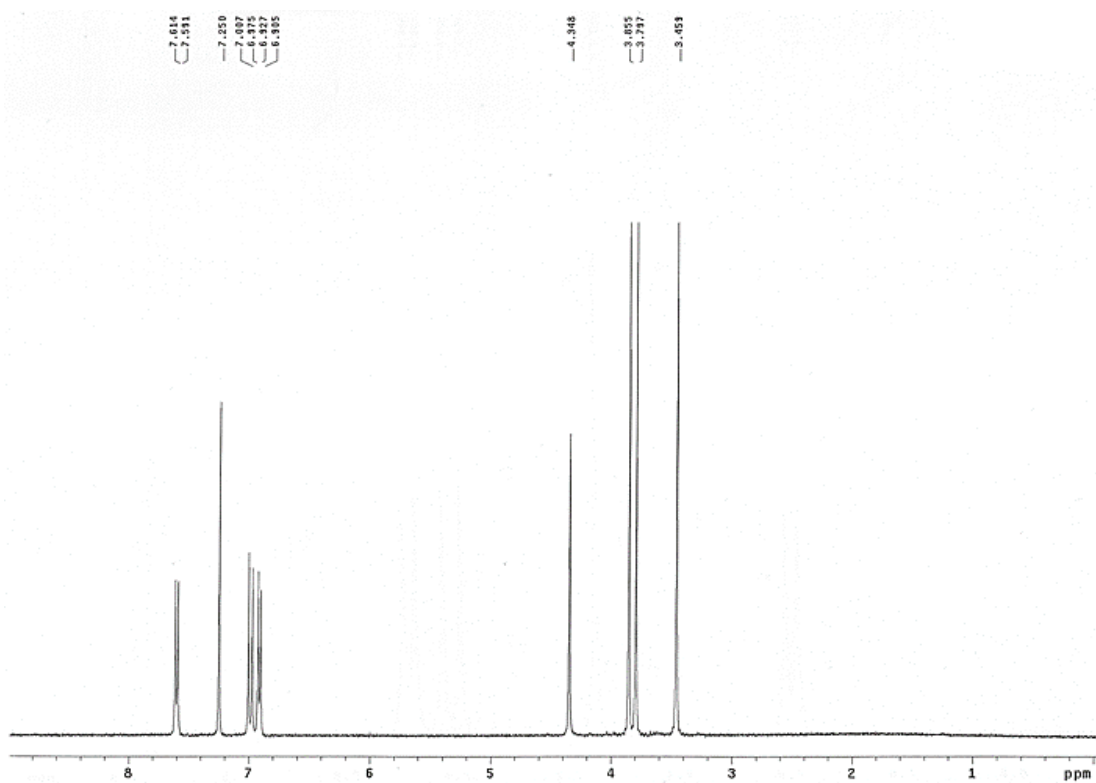


Fig. 222a: Compound **205** ^1H NMR spectra.

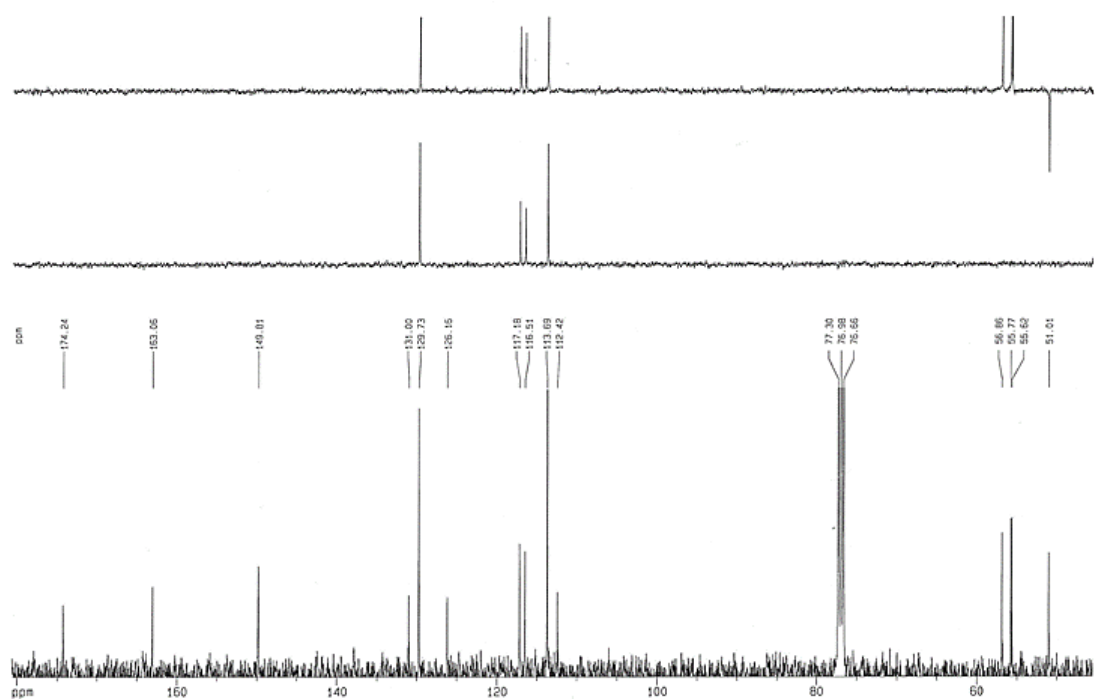


Fig. 222b: Compound **205** ^{13}C NMR spectra.

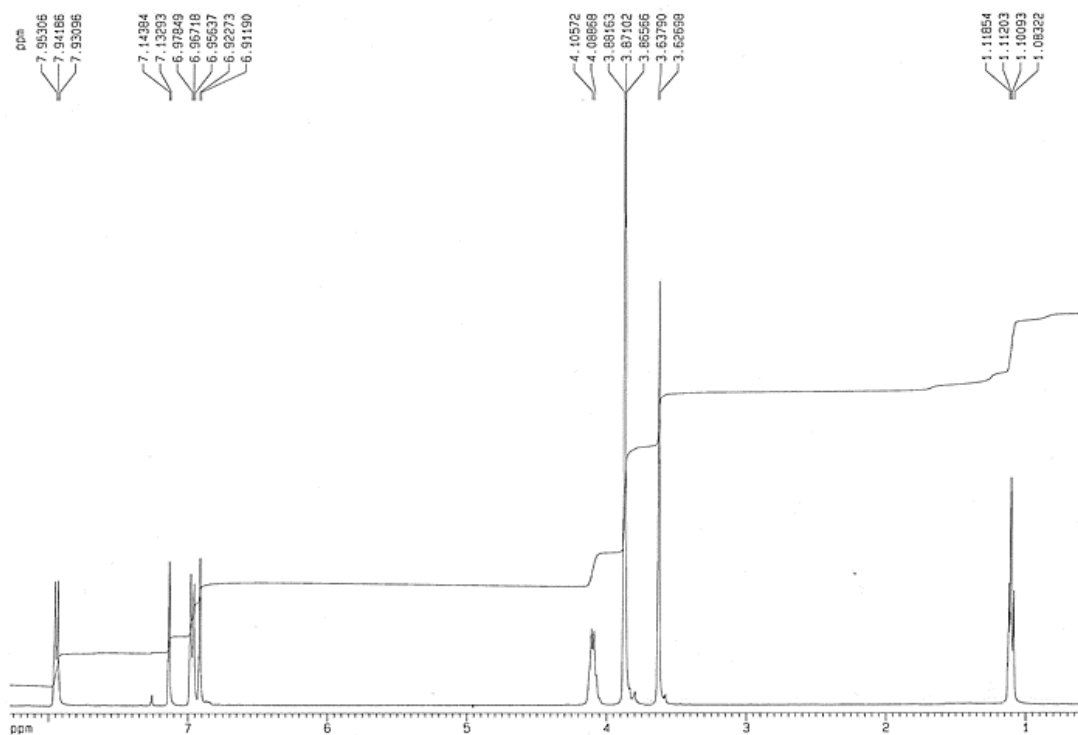


Fig. 223a: Compound **206** ^1H NMR spectra.

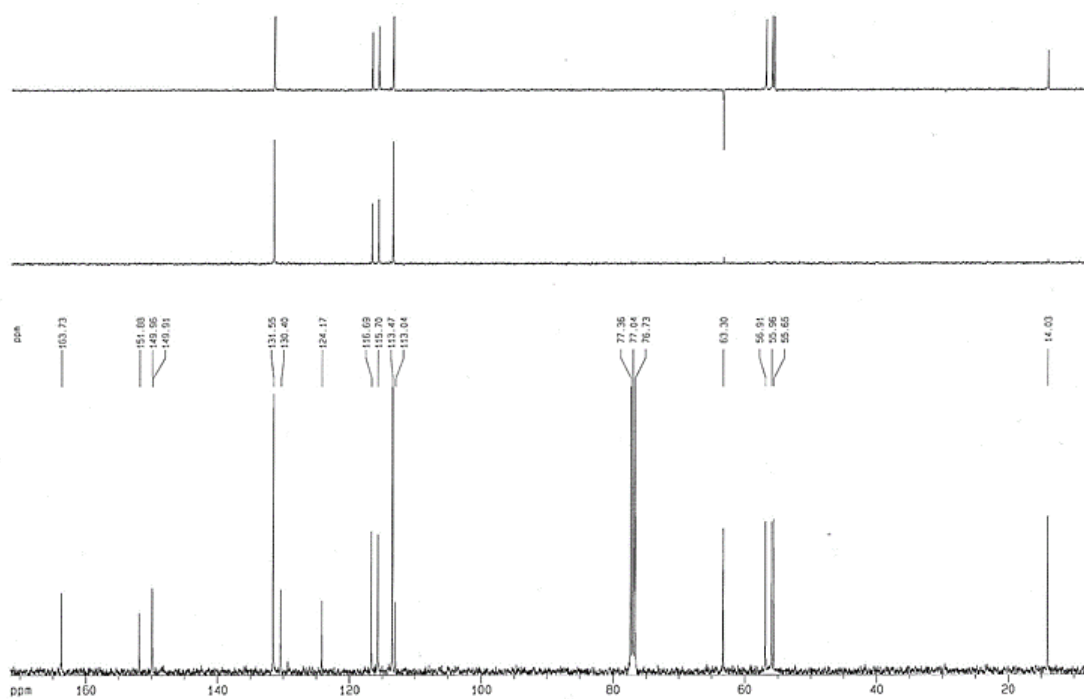


Fig. 223b: Compound **206** ^{13}C NMR spectra.

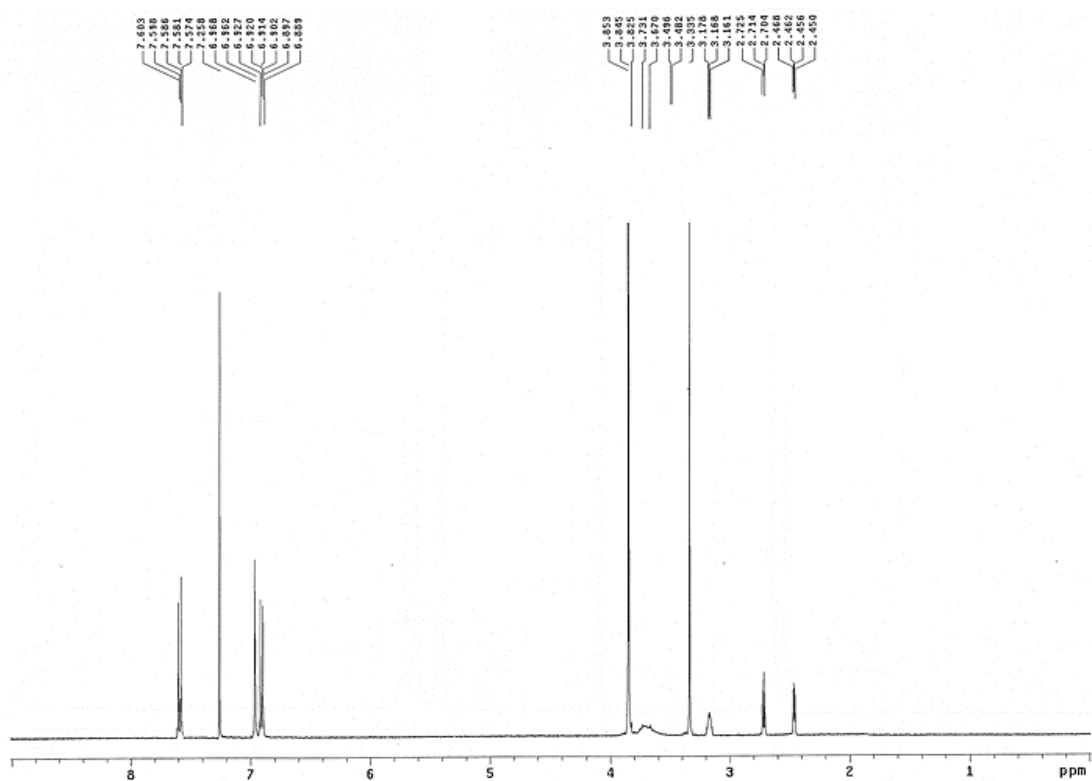


Fig. 224a: Compound **207** ^1H NMR spectra.

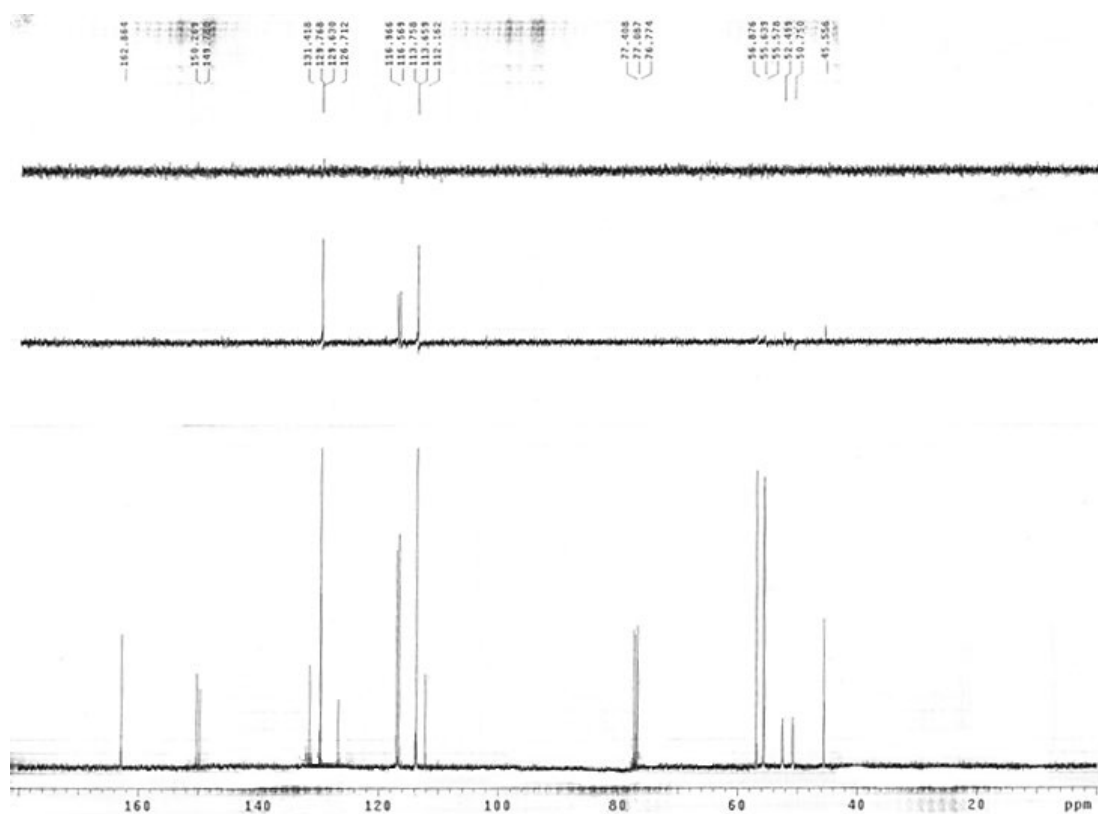


Fig. 224b: Compound **207** ^{13}C NMR spectra.

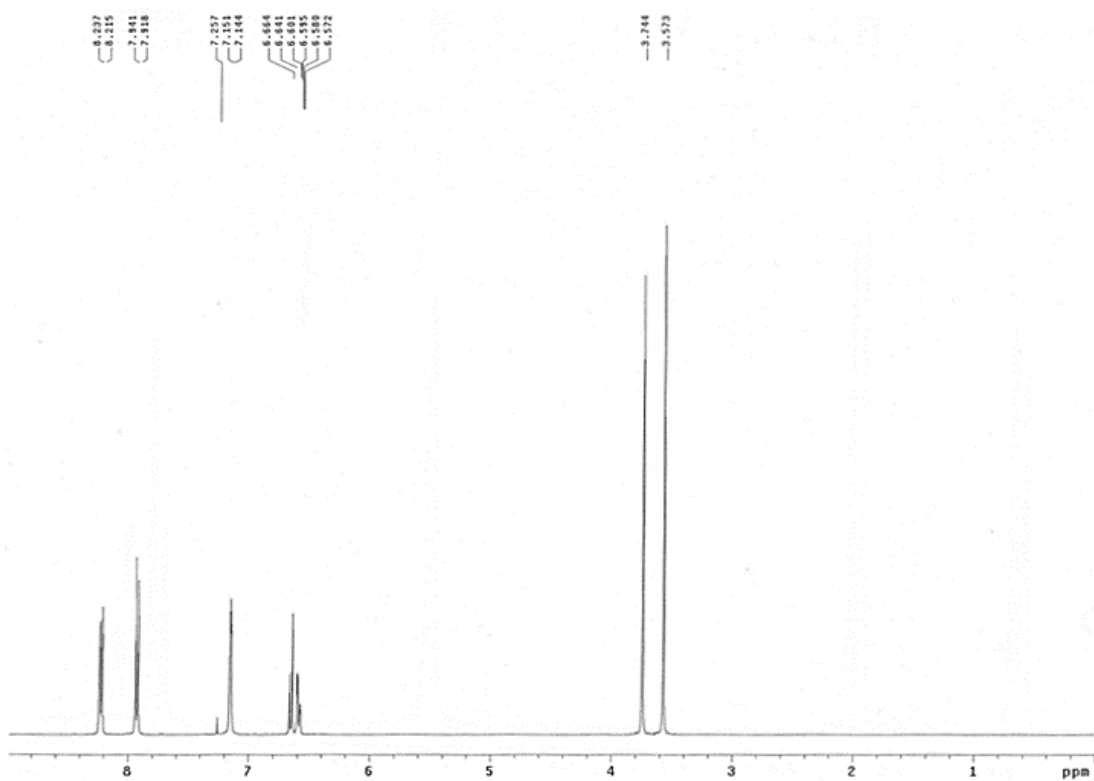


Fig.225a: Compound **208** ^1H NMR spectra.

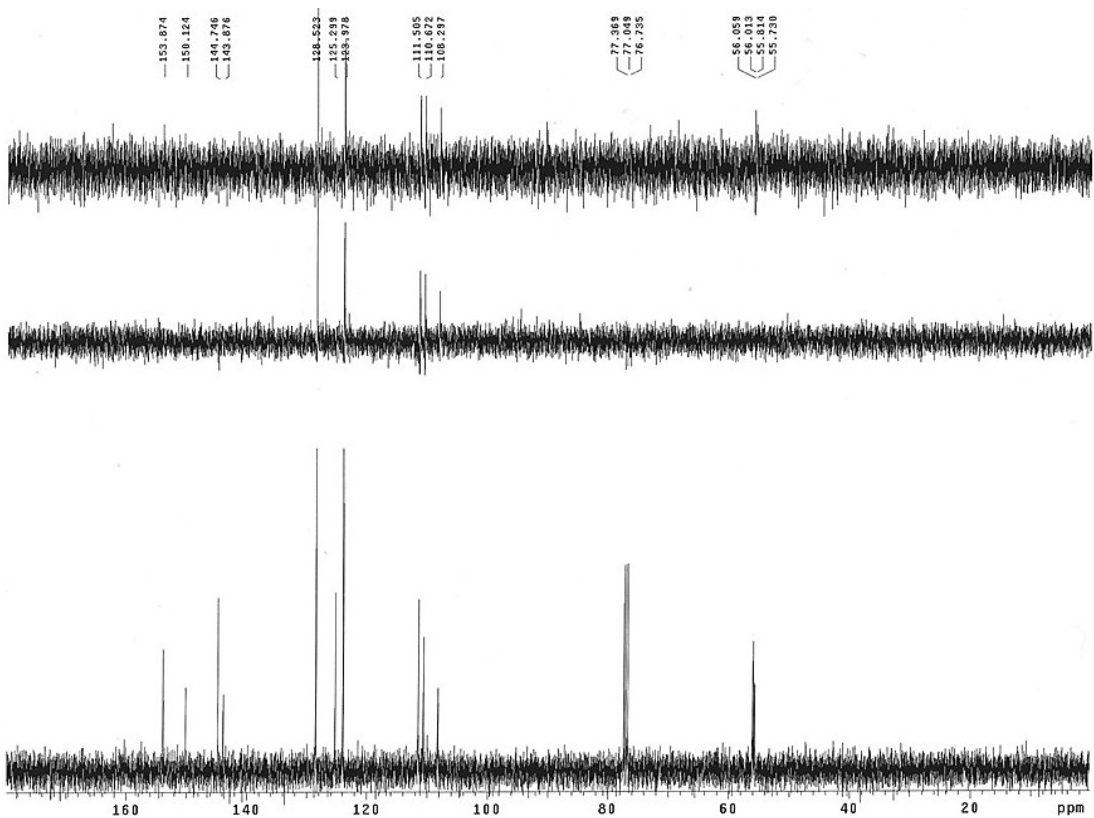


Fig. 225b: Compound **208** ^{13}C NMR spectra.

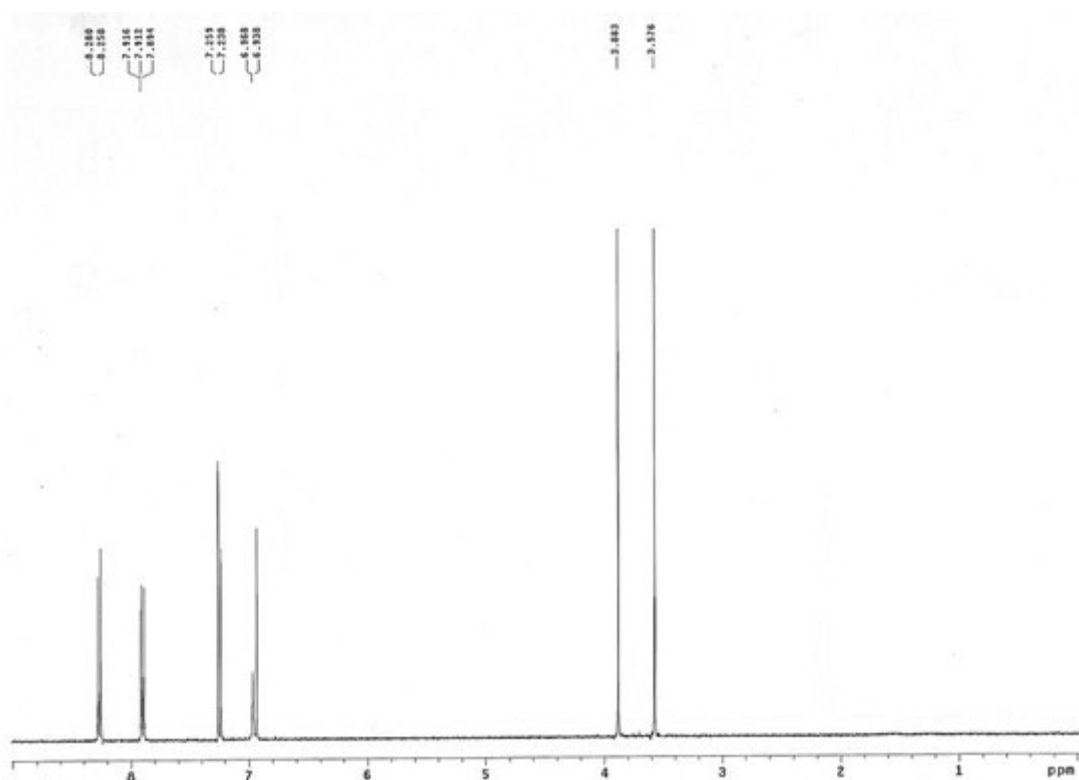


Fig. 226a: Compound **209** ^1H NMR spectra.

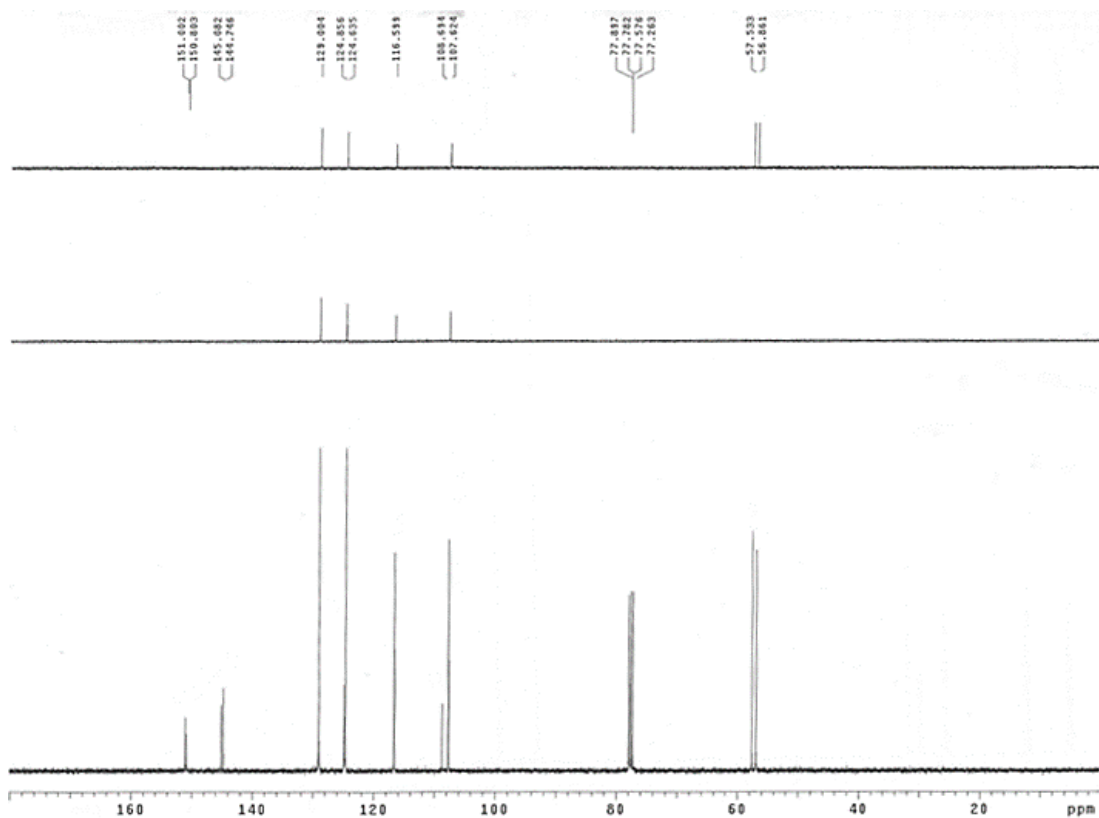


Fig. 226b: Compound **209** ^{13}C NMR spectra.

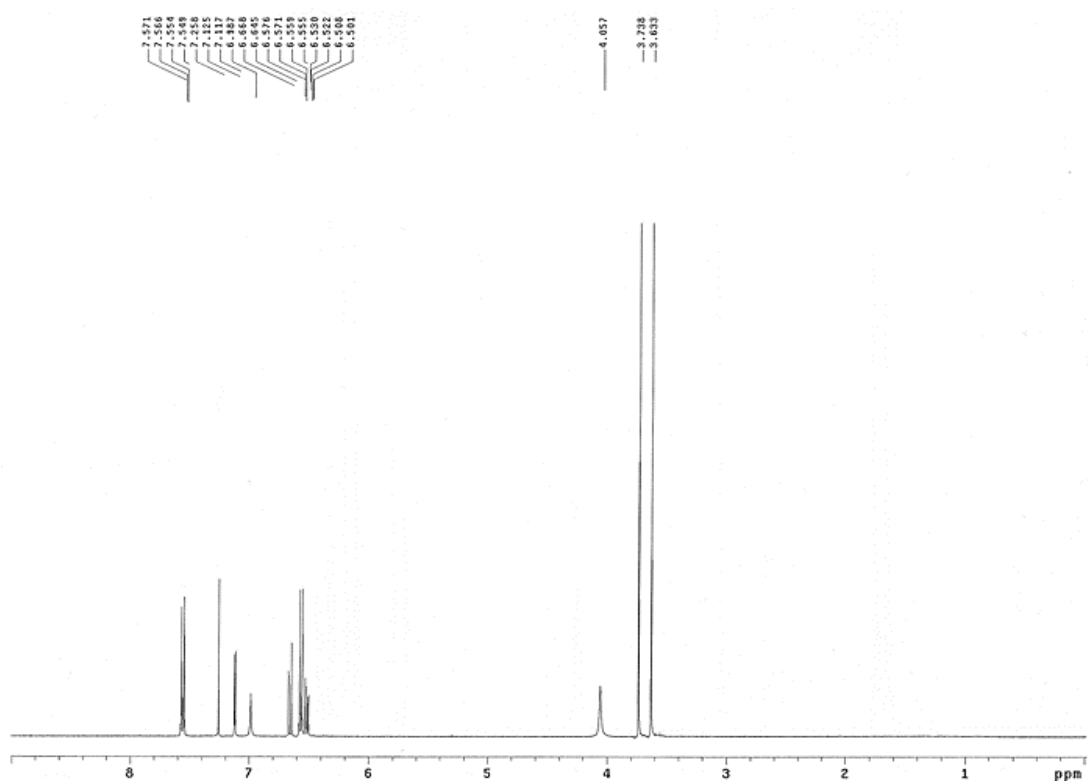


Fig. 227a: Compound **210** ^1H NMR spectra.

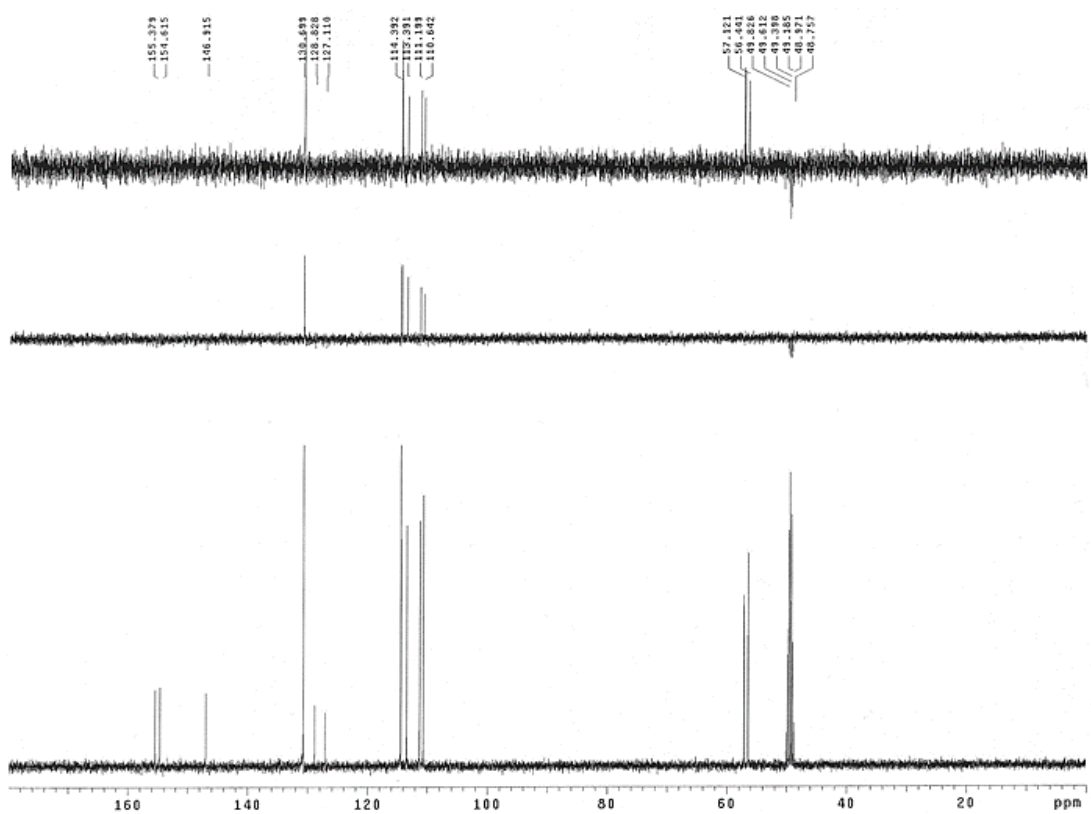


Fig. 227b: Compound **210** ^{13}C NMR spectra.

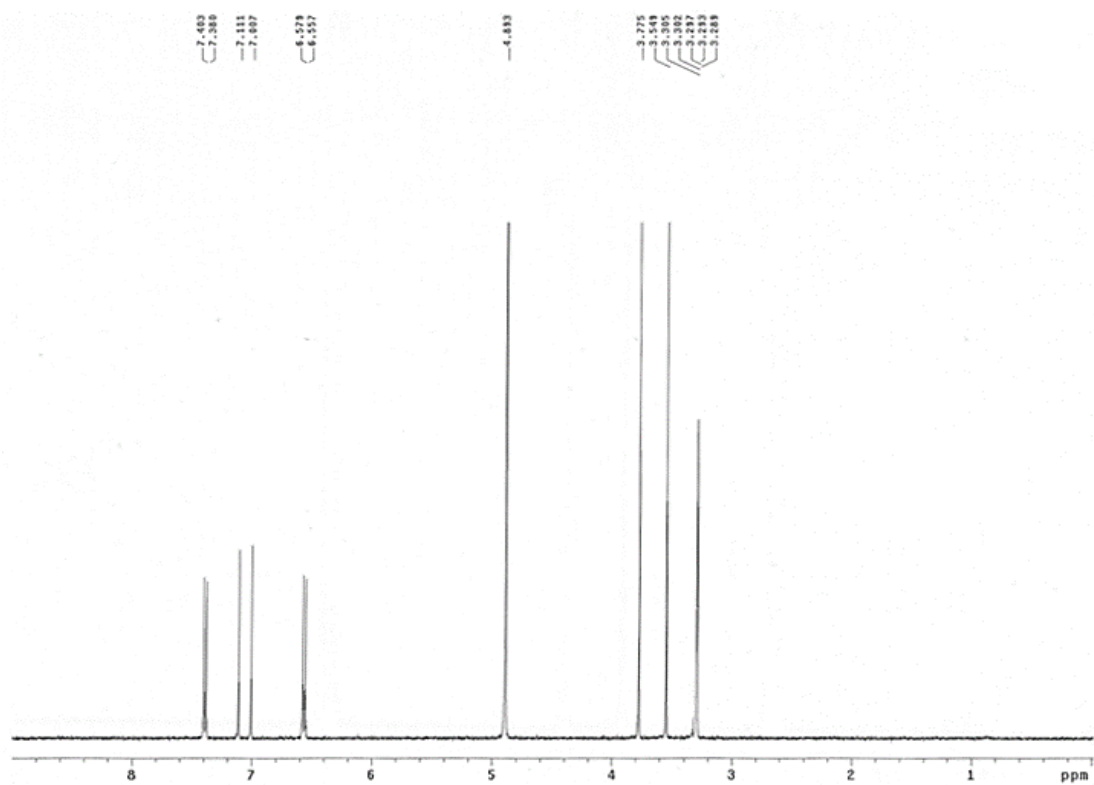


Fig. 228a: Compound **211** ^1H NMR spectra.

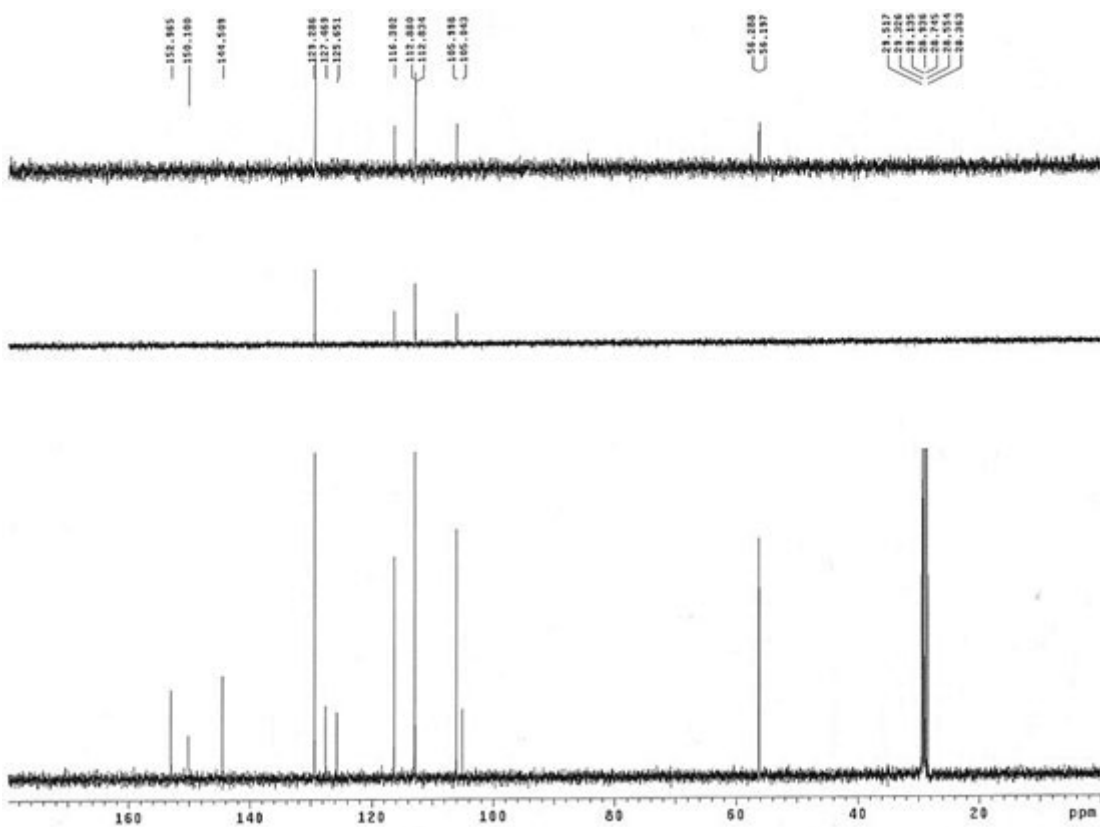


Fig. 228b: Compound **211** ^{13}C NMR spectra.

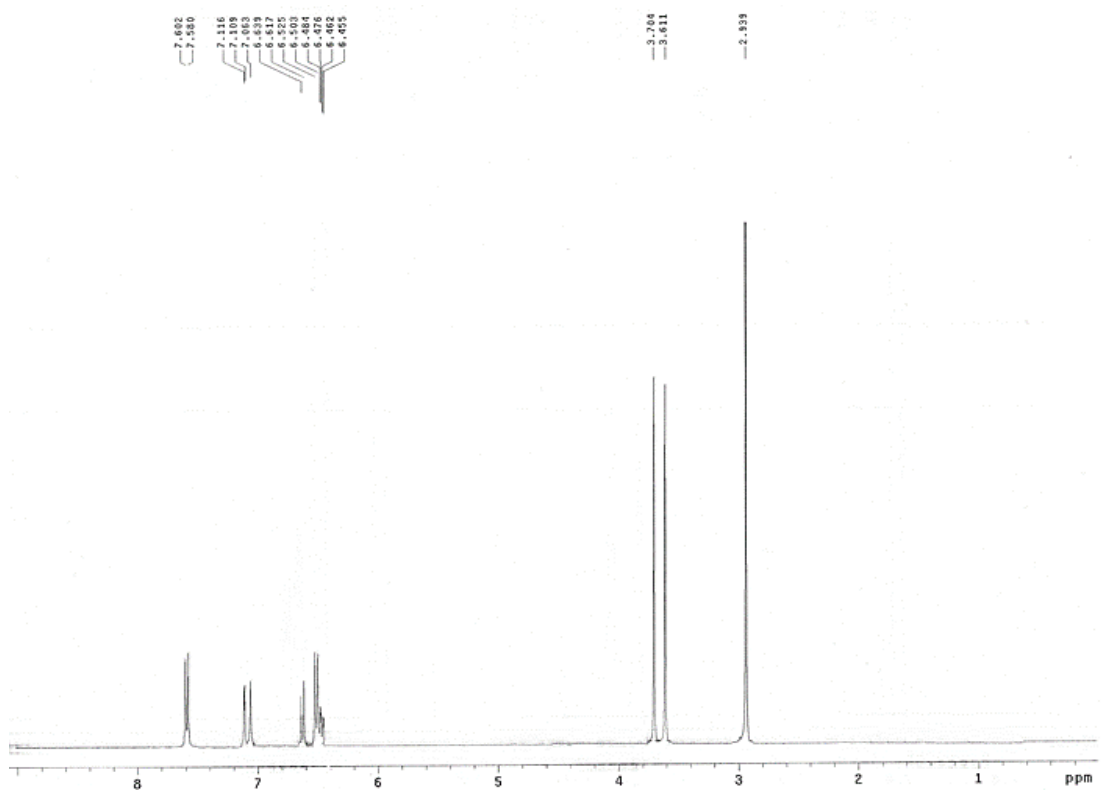


Fig. 229a: Compound **212** ^1H NMR spectra.

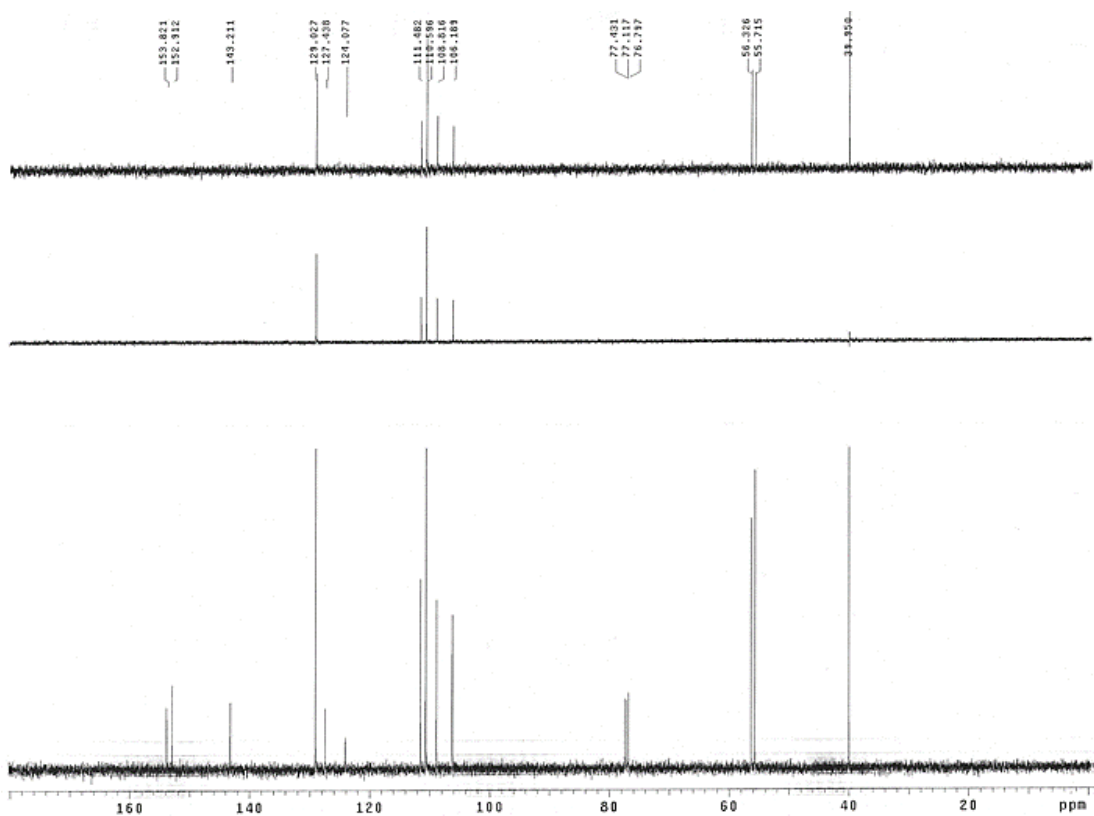


Fig. 229b: Compound **212** ^{13}C NMR spectra.

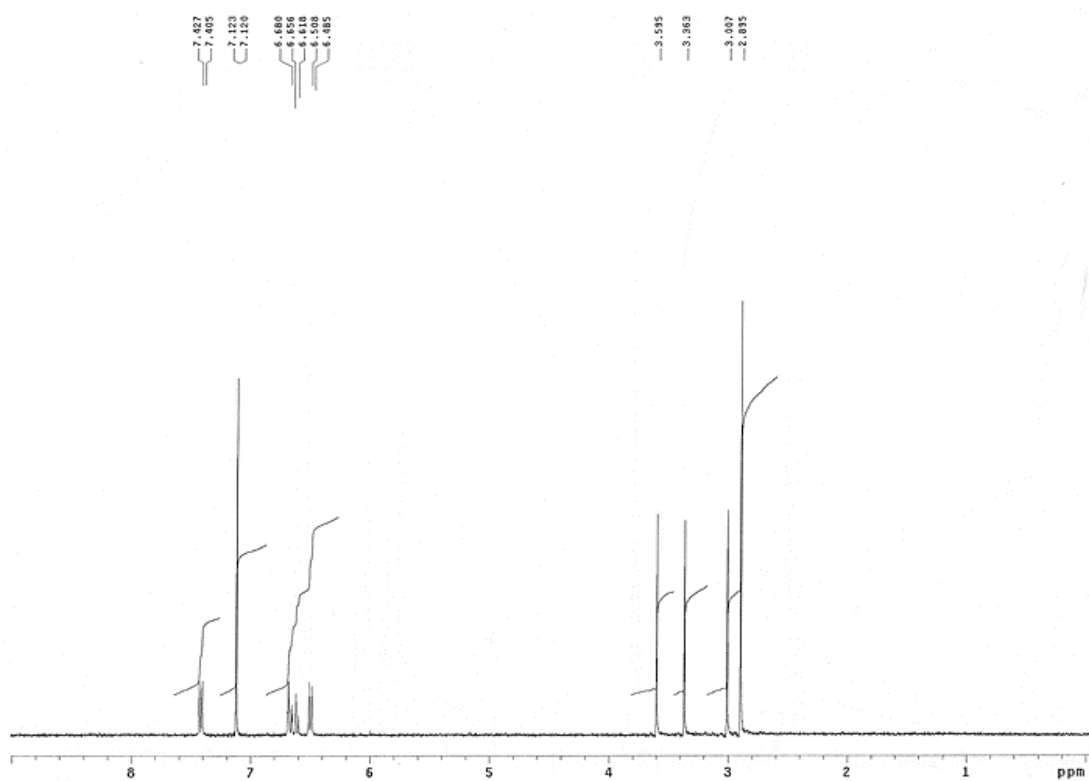


Fig. 230a: Compound **213** ^1H NMR spectra.

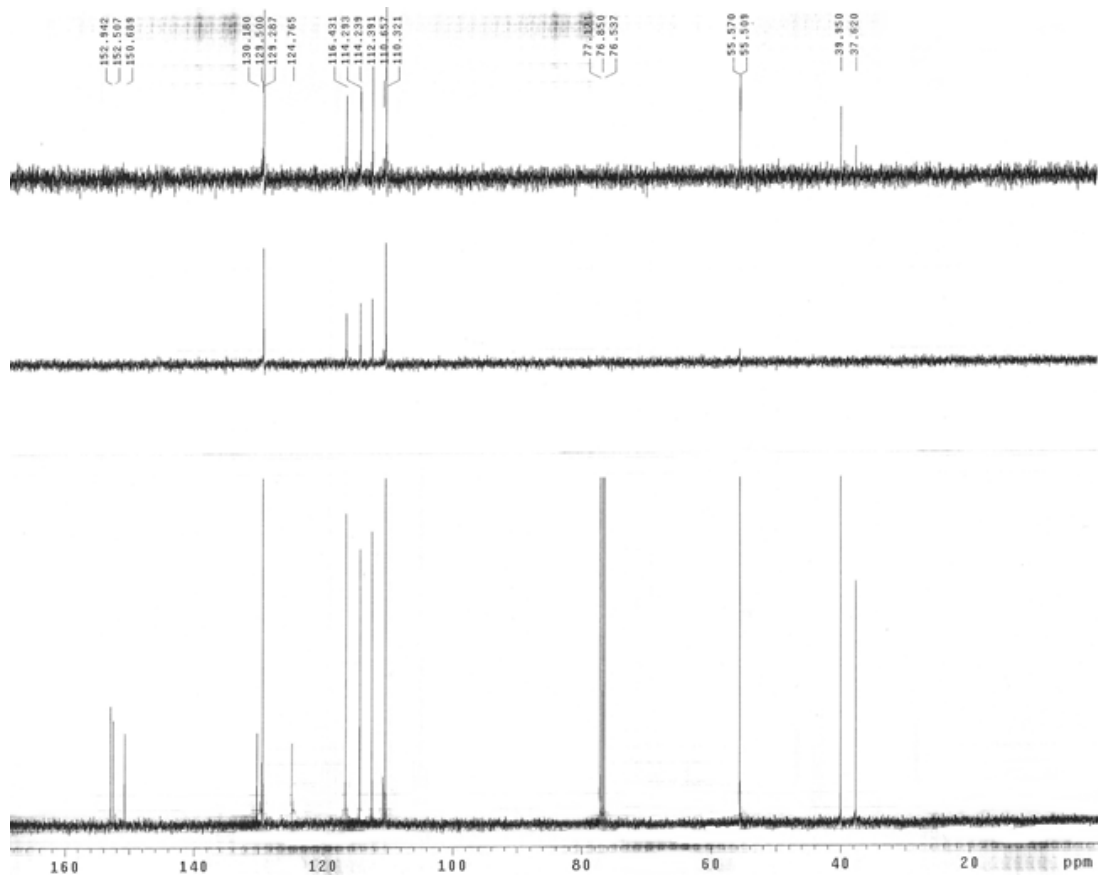


Fig. 230b: Compound **213** ^{13}C NMR spectra.

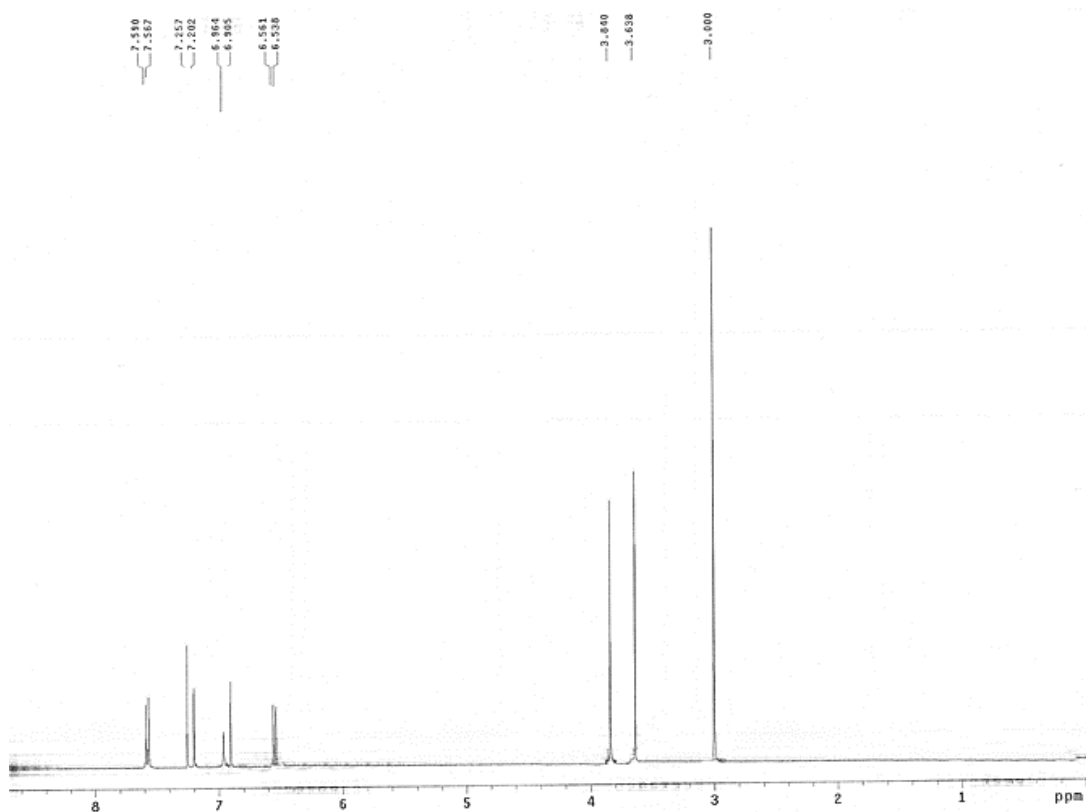


Fig. 231a: Compound **214** ^1H NMR spectra.

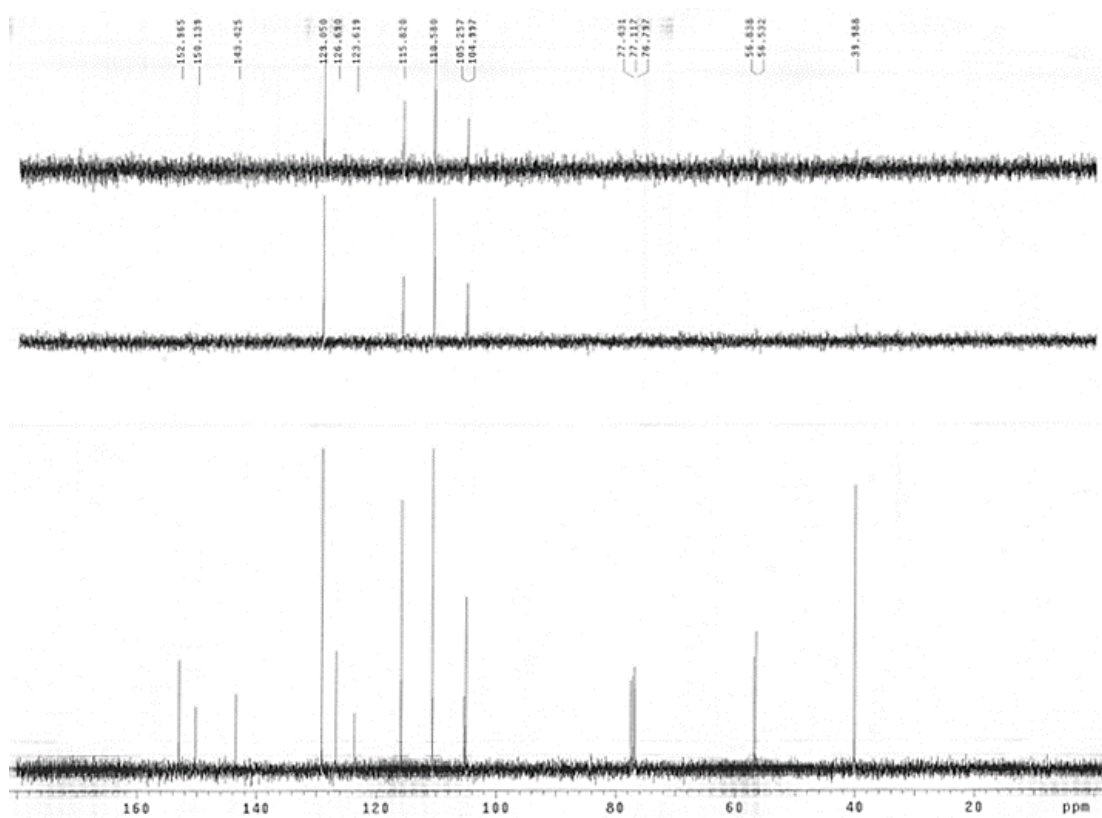


Fig. 231b: Compound **214** ^{13}C NMR spectra.

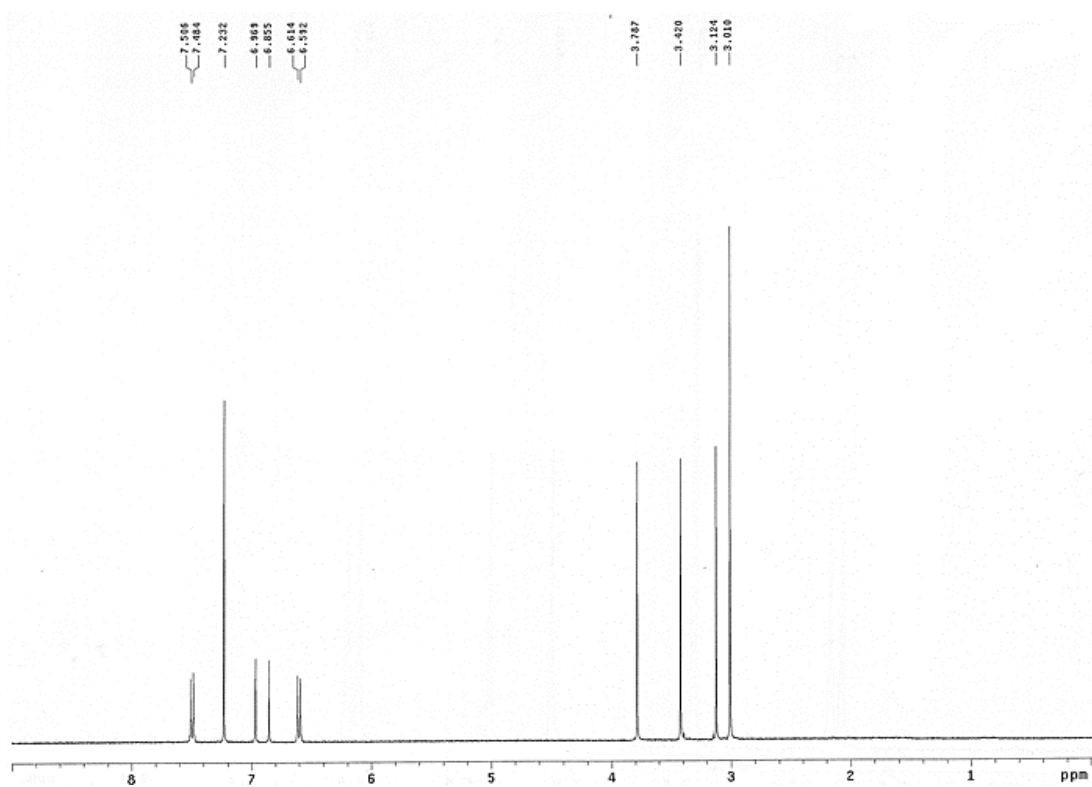


Fig. 232a: Compound **215** ¹H NMR spectra.

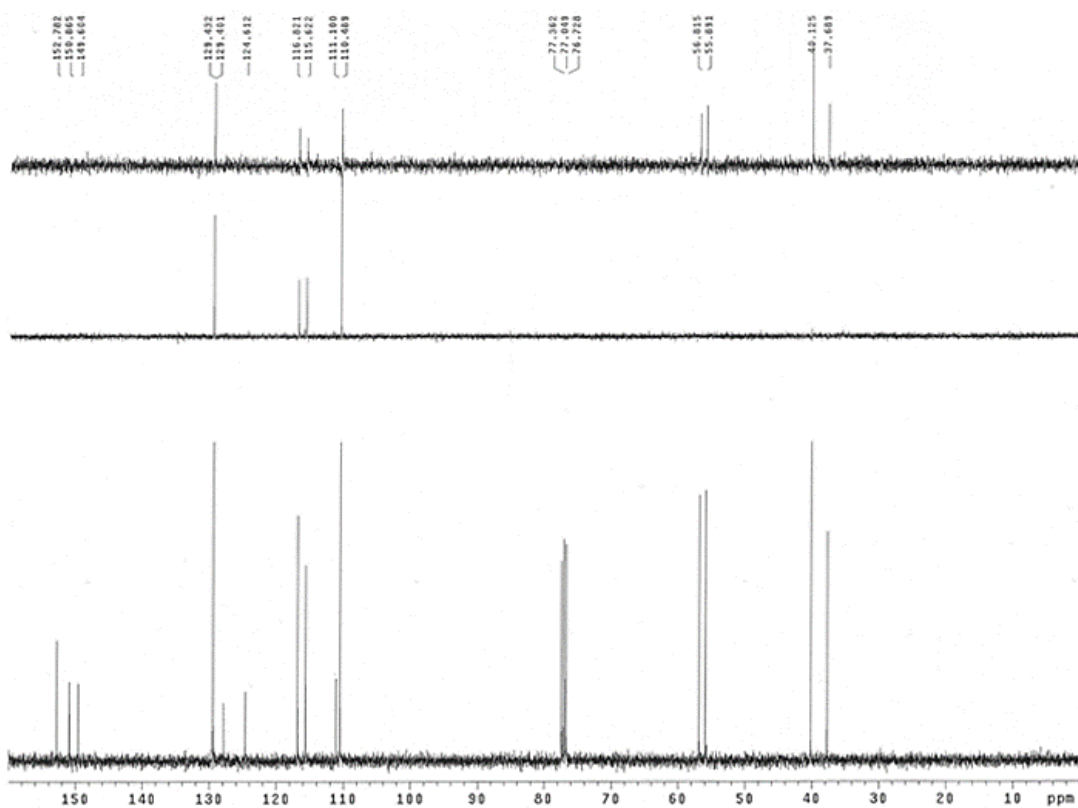


Fig. 232b: Compound **215** ¹³C NMR spectra.

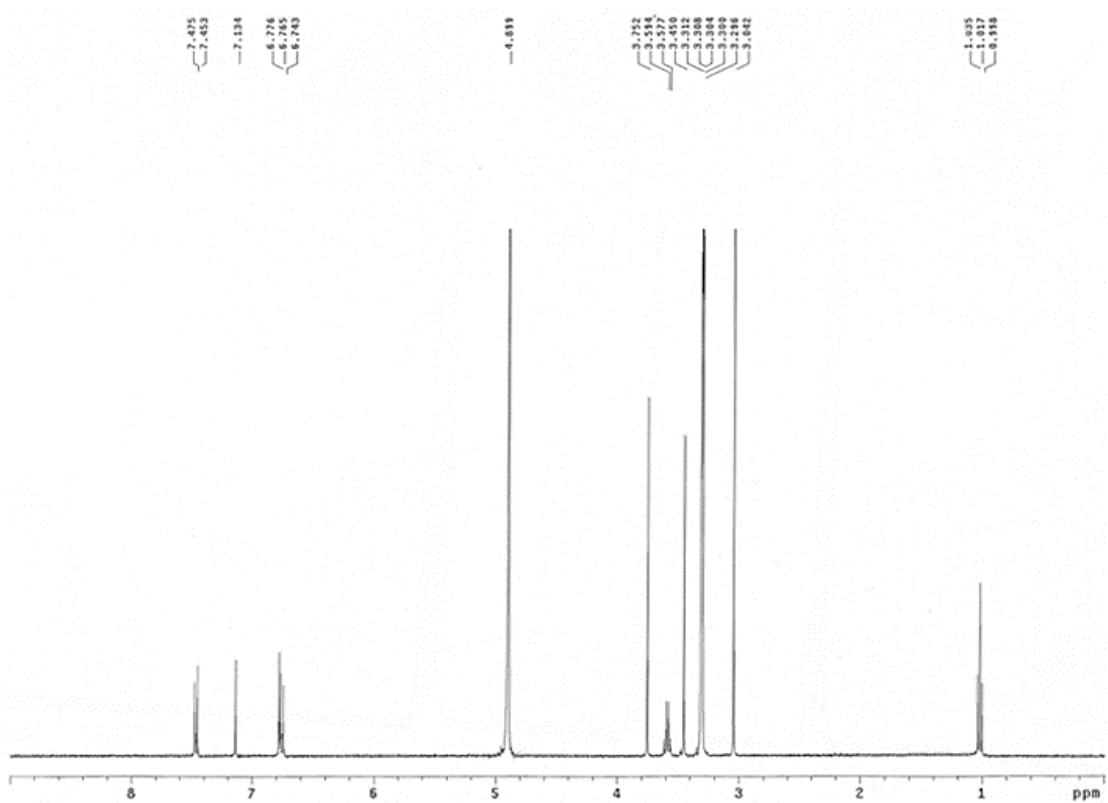


Fig. 233a: Compound **216** ^1H NMR spectra.

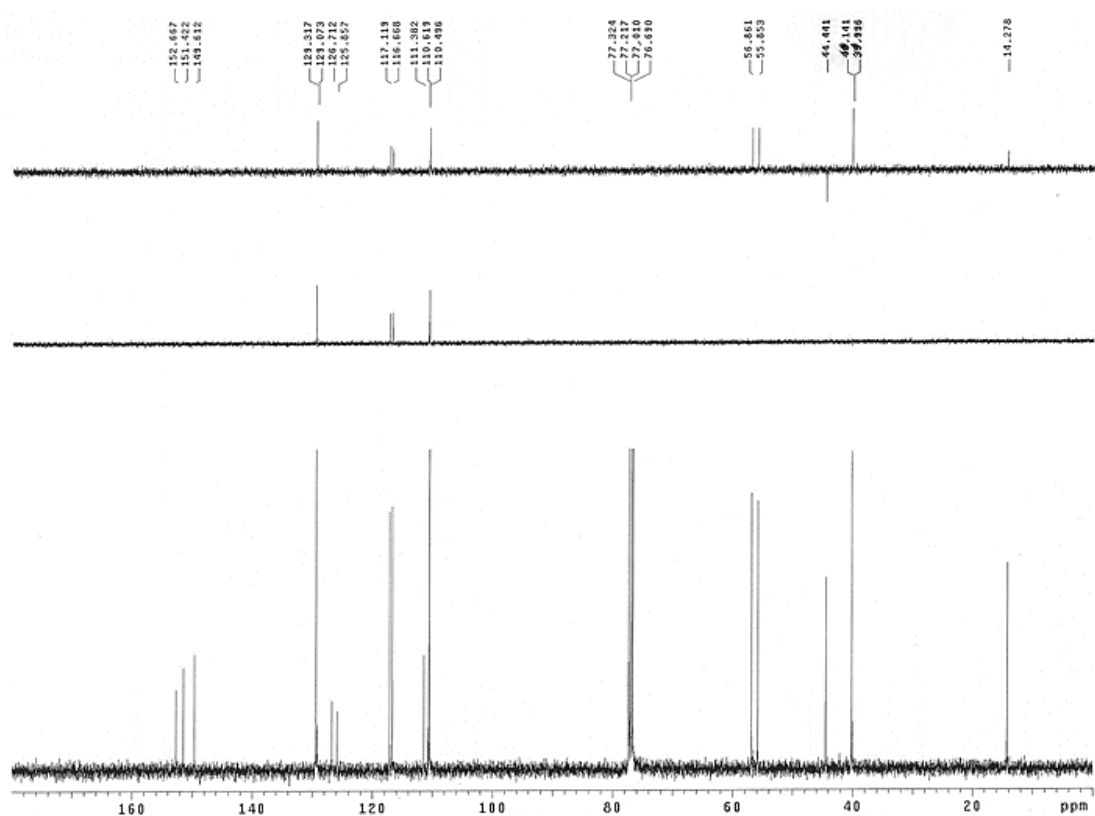


Fig. 233b: Compound **216** ^{13}C NMR spectra.

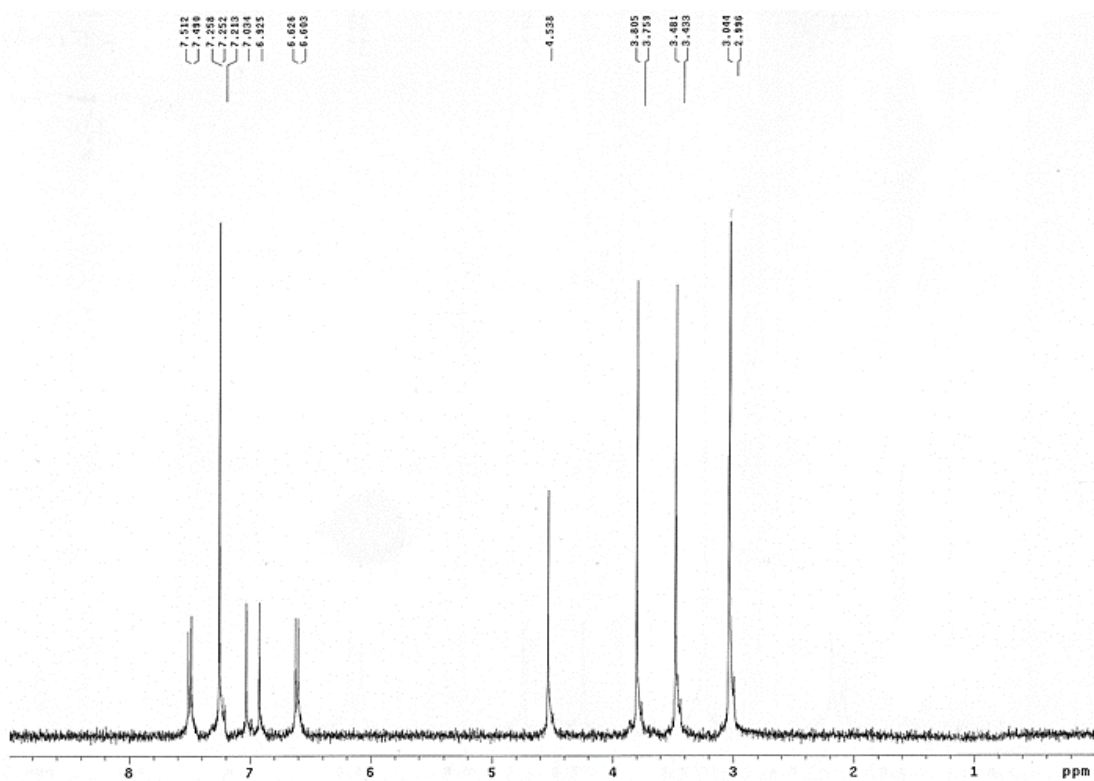


Fig. 234a: Compound **217** ^1H NMR spectra.

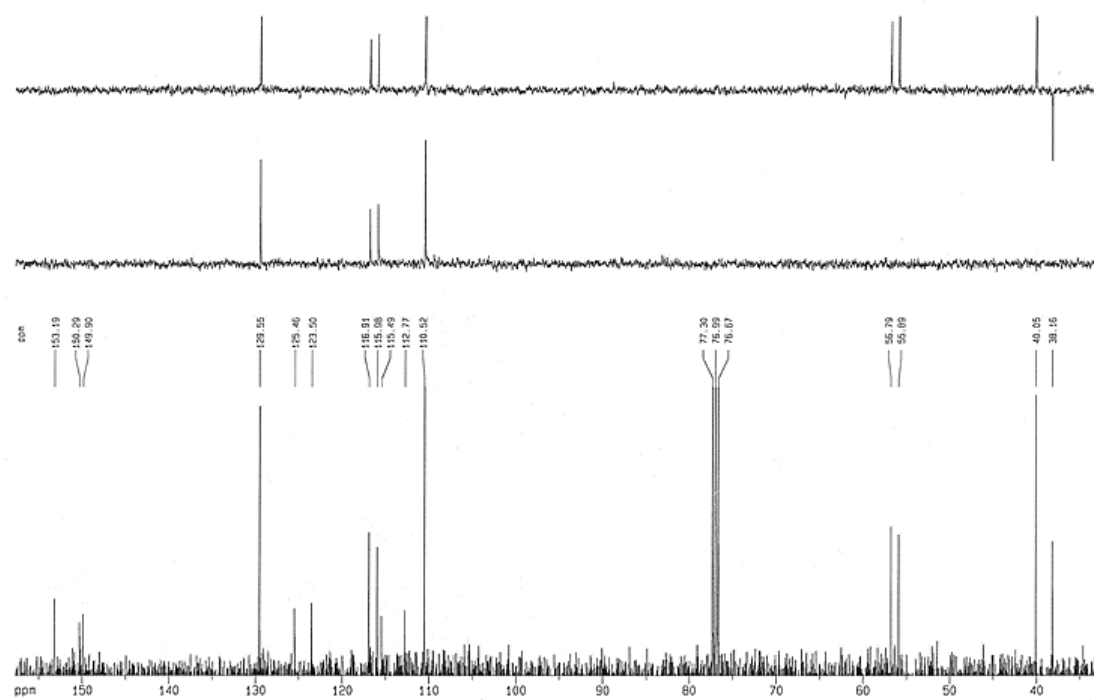


Fig. 234b: Compound **217** ^{13}C NMR spectra.

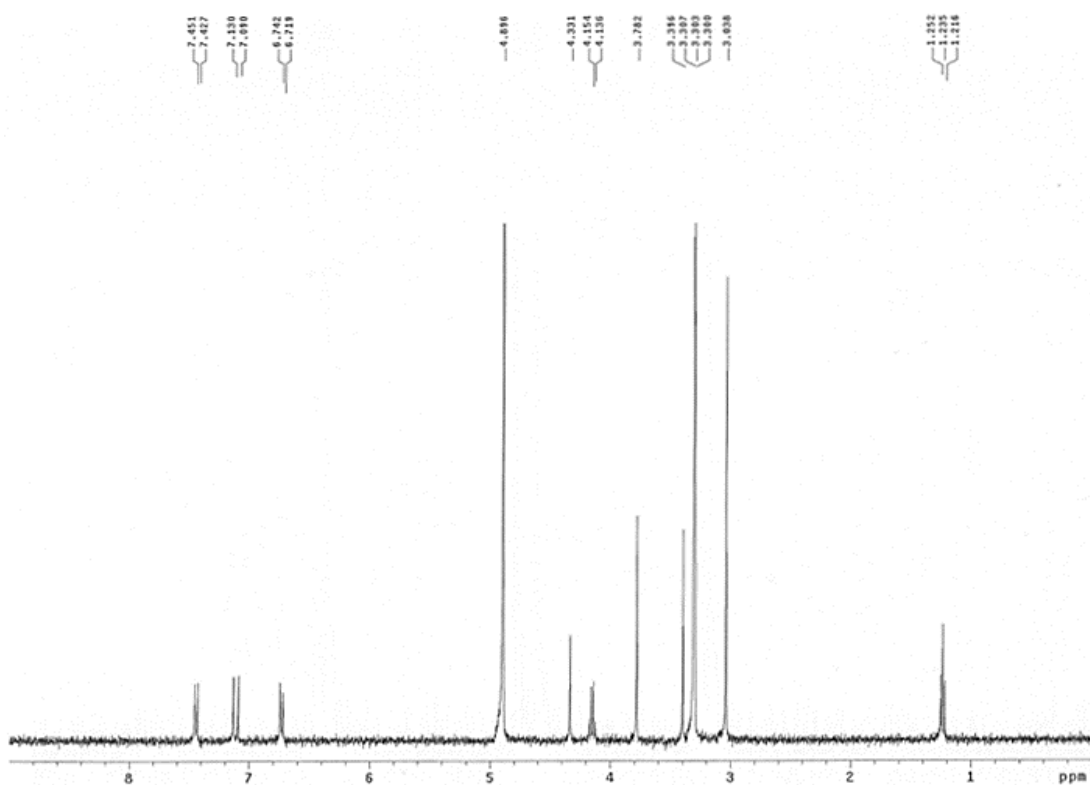


Fig. 235a: Compound **218** ^1H NMR spectra.

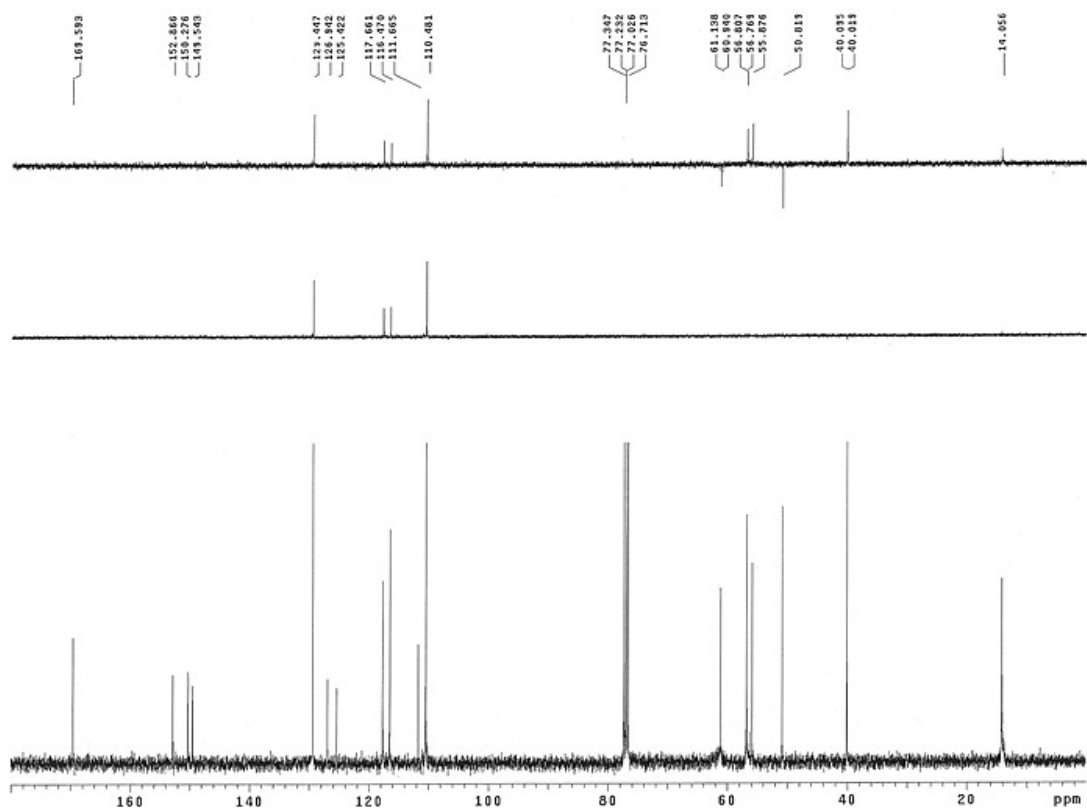


Fig. 235b: Compound **218** ^{13}C NMR spectra.

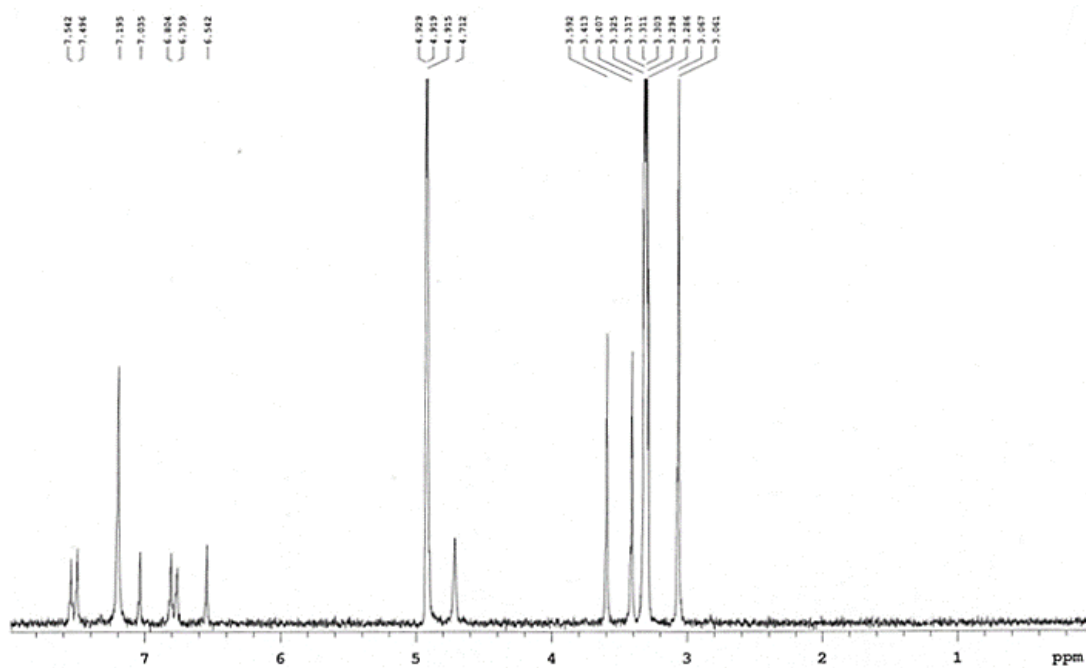


Fig. 236a: Compound **219** ^1H NMR spectra.

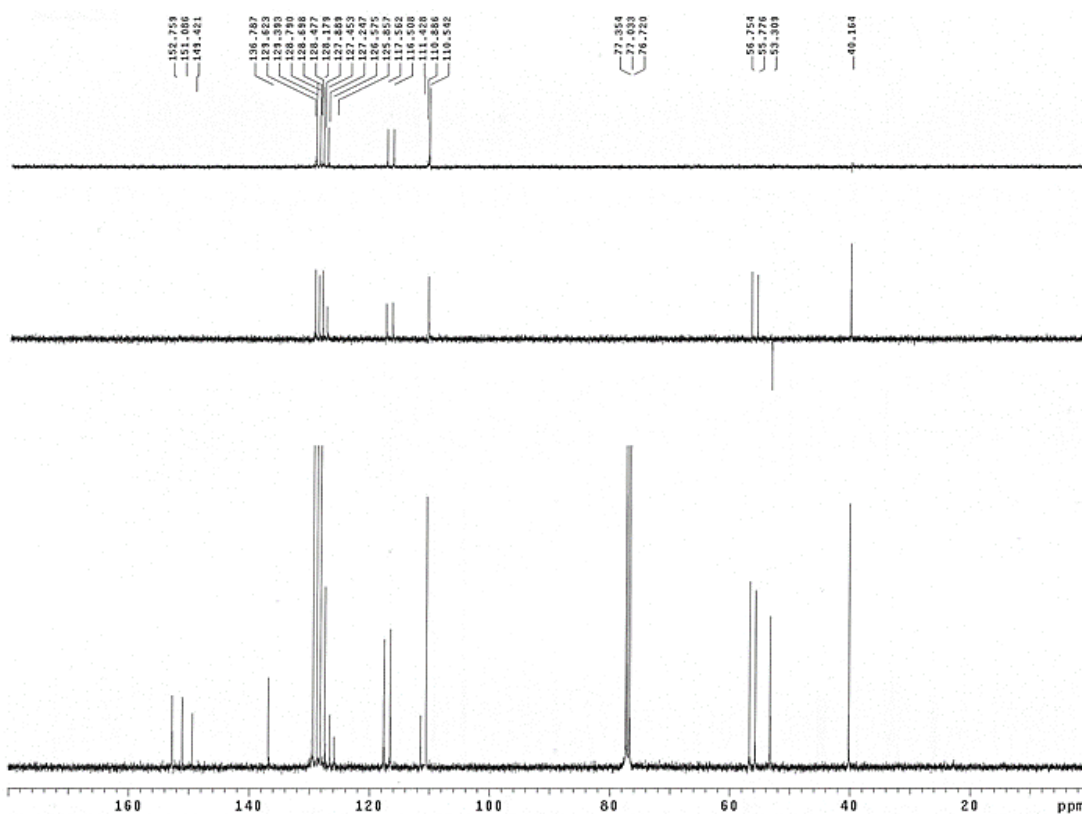


Fig. 236b: Compound **219** ^{13}C NMR spectra.

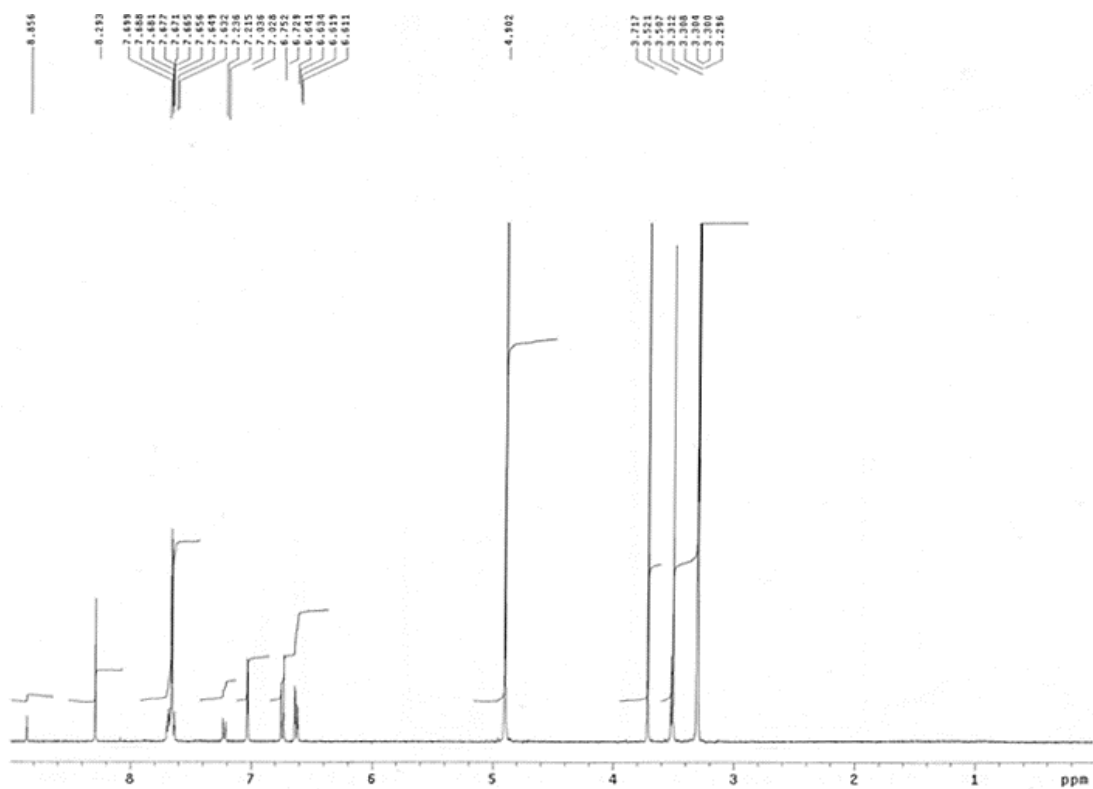


Fig. 237a: Compound **220** ^1H NMR spectra.

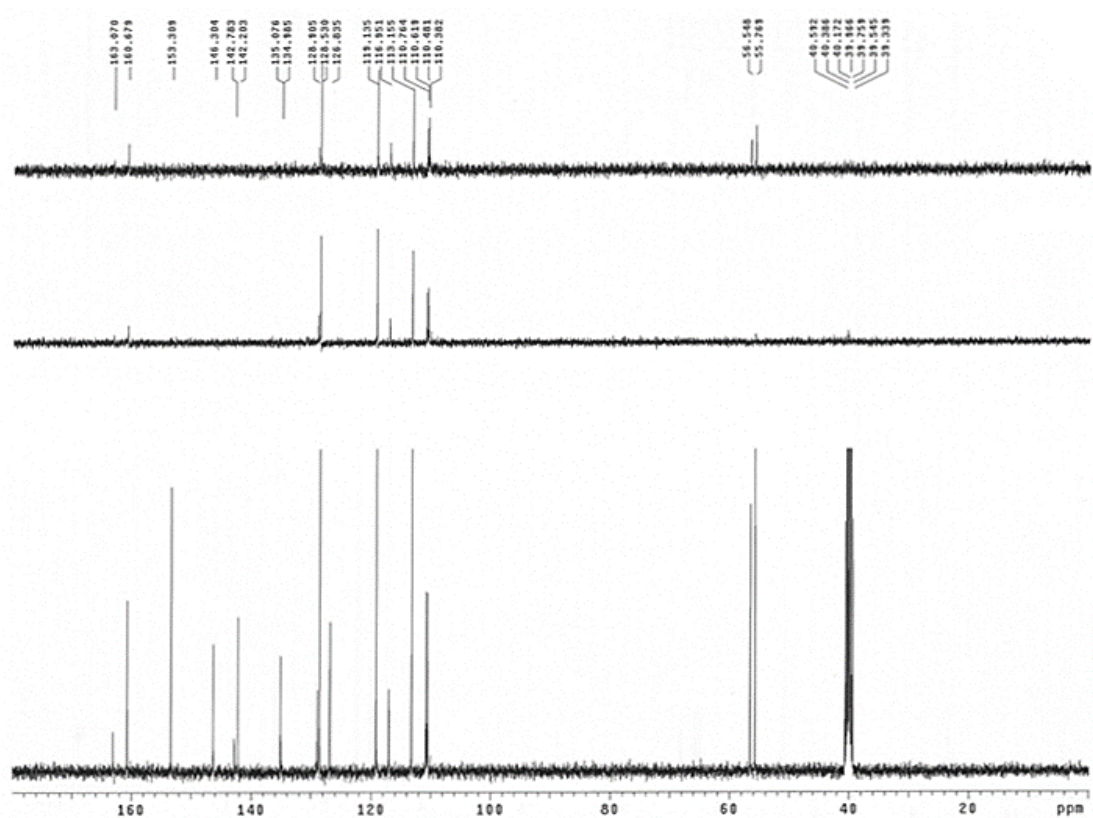


Fig. 237b: Compound **220** ^{13}C NMR spectra.

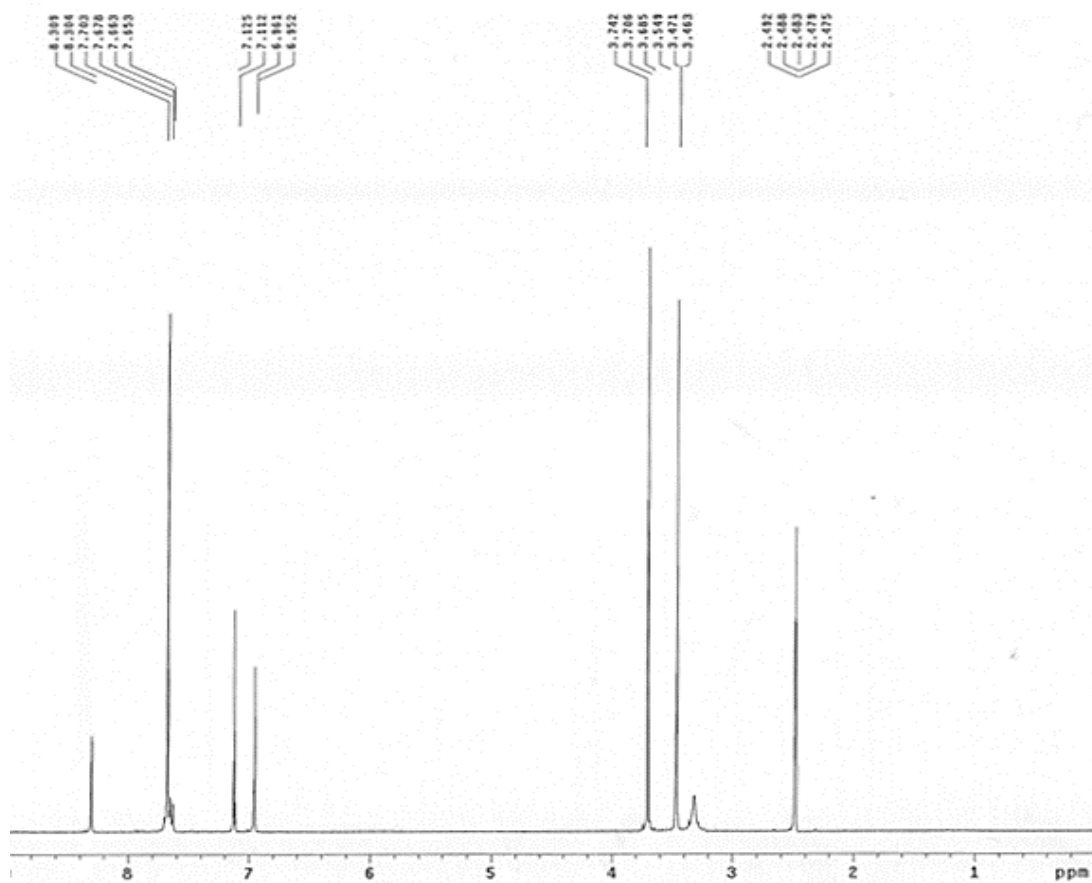


Fig. 238a: Compound **221** ^1H NMR spectra.

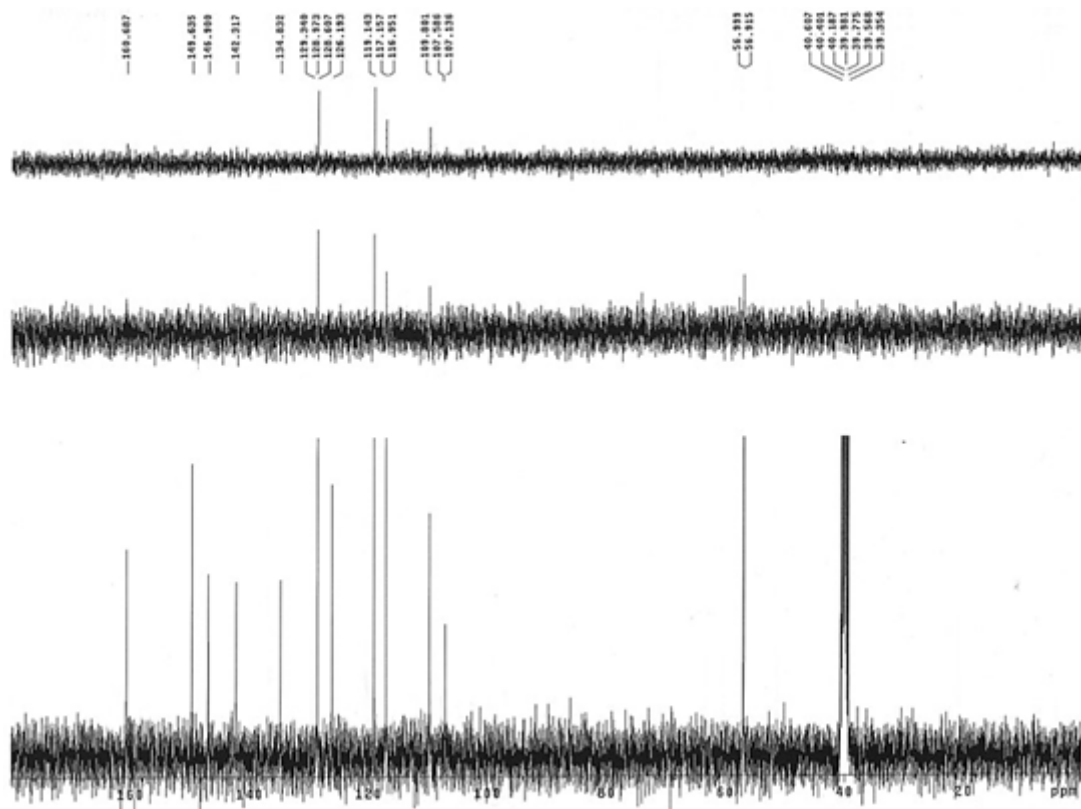


Fig. 238b: Compound **221** ^{13}C NMR spectra.

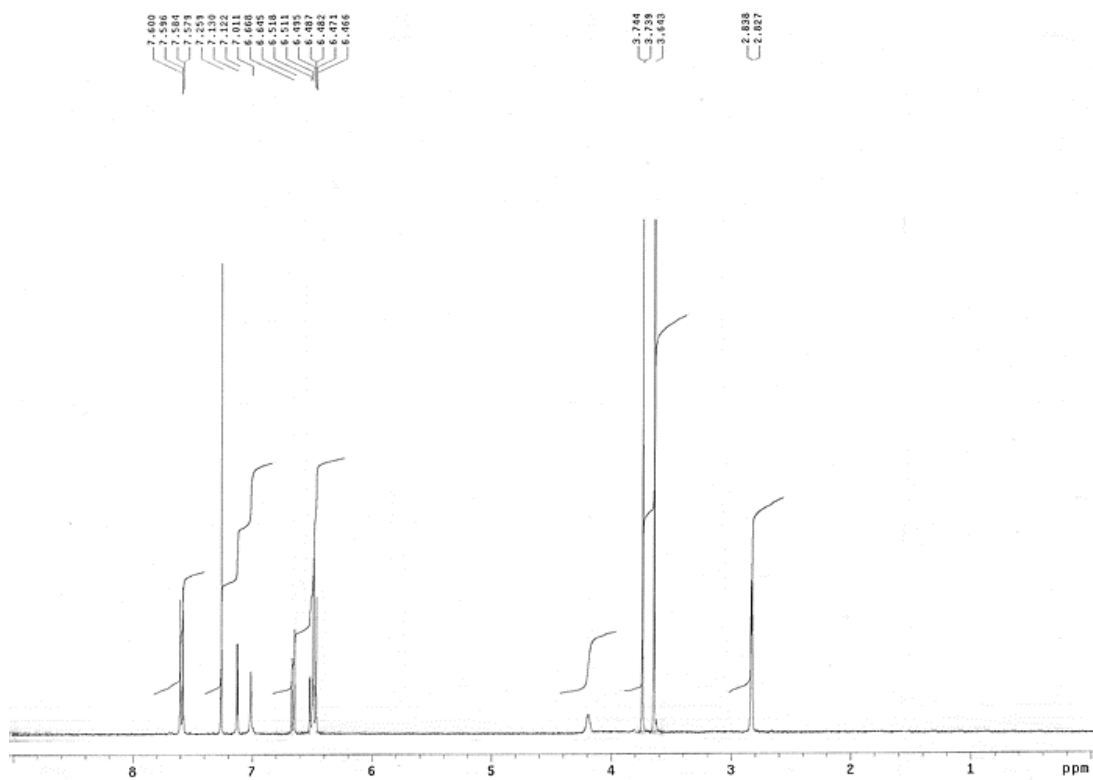


Fig. 239a: Compound **222** ^1H NMR spectra.

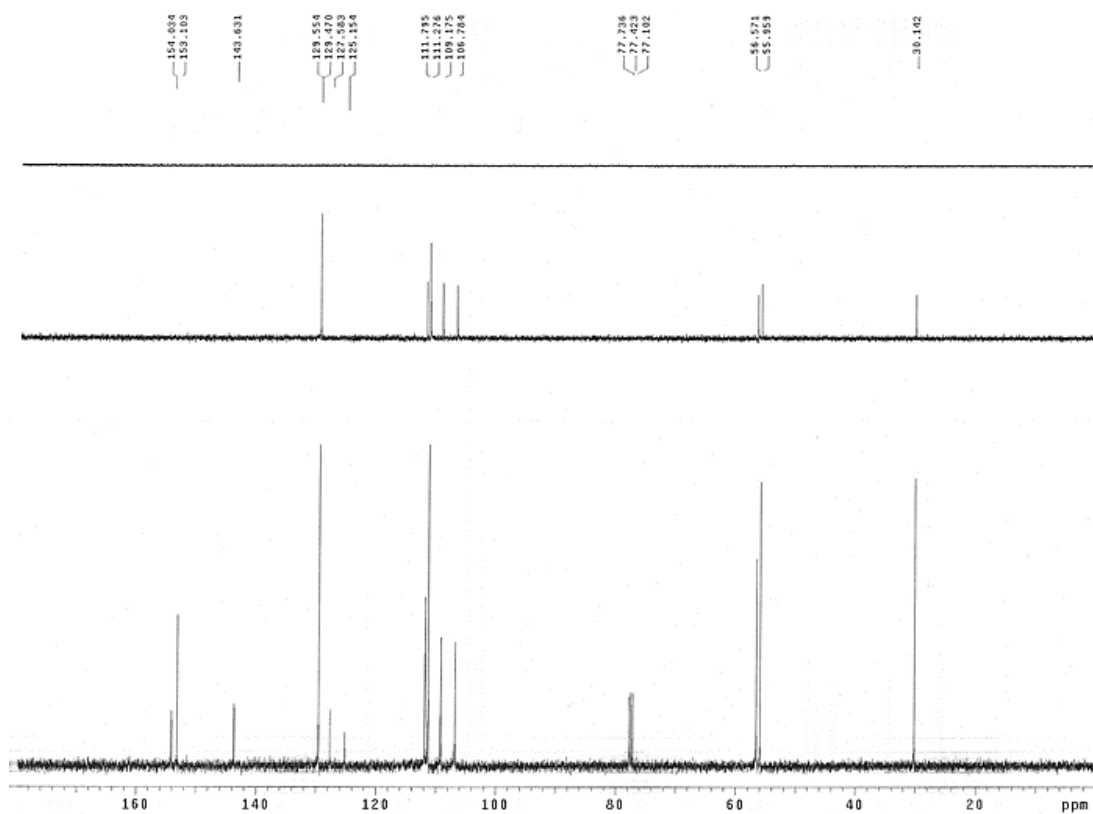


Fig. 239b: Compound **222** ^{13}C NMR spectra.

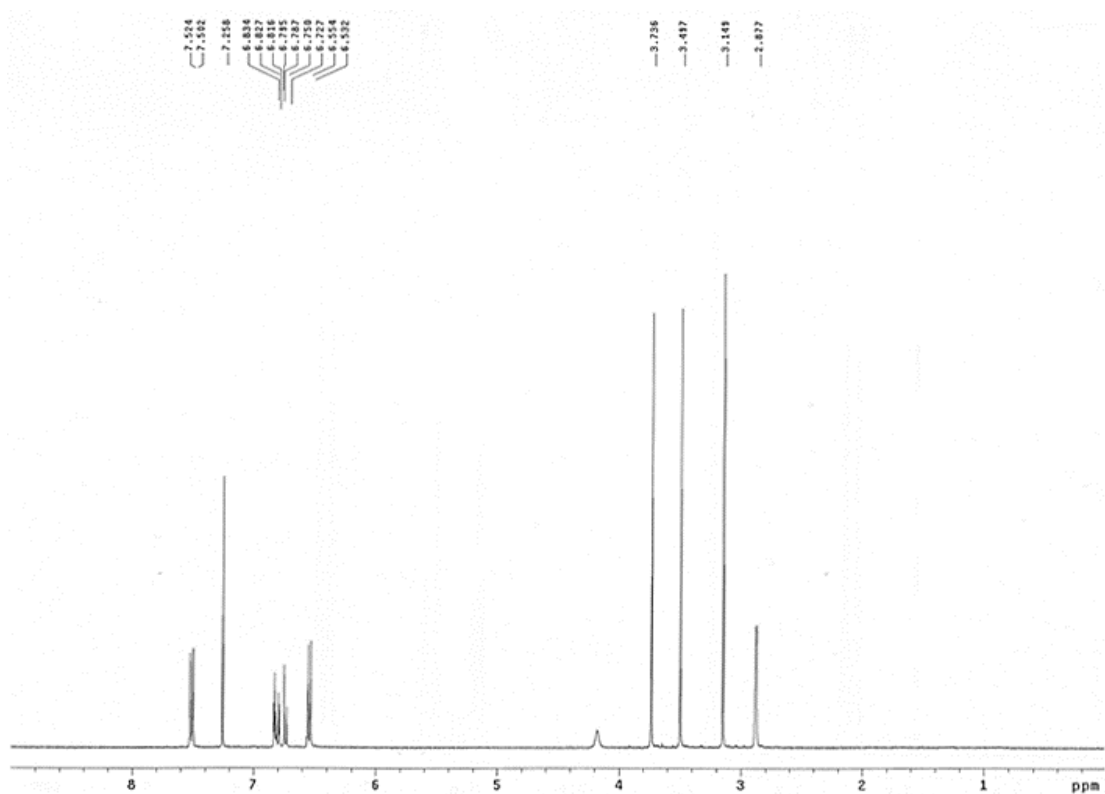


Fig. 240a: Compound **223** ^1H NMR spectra.

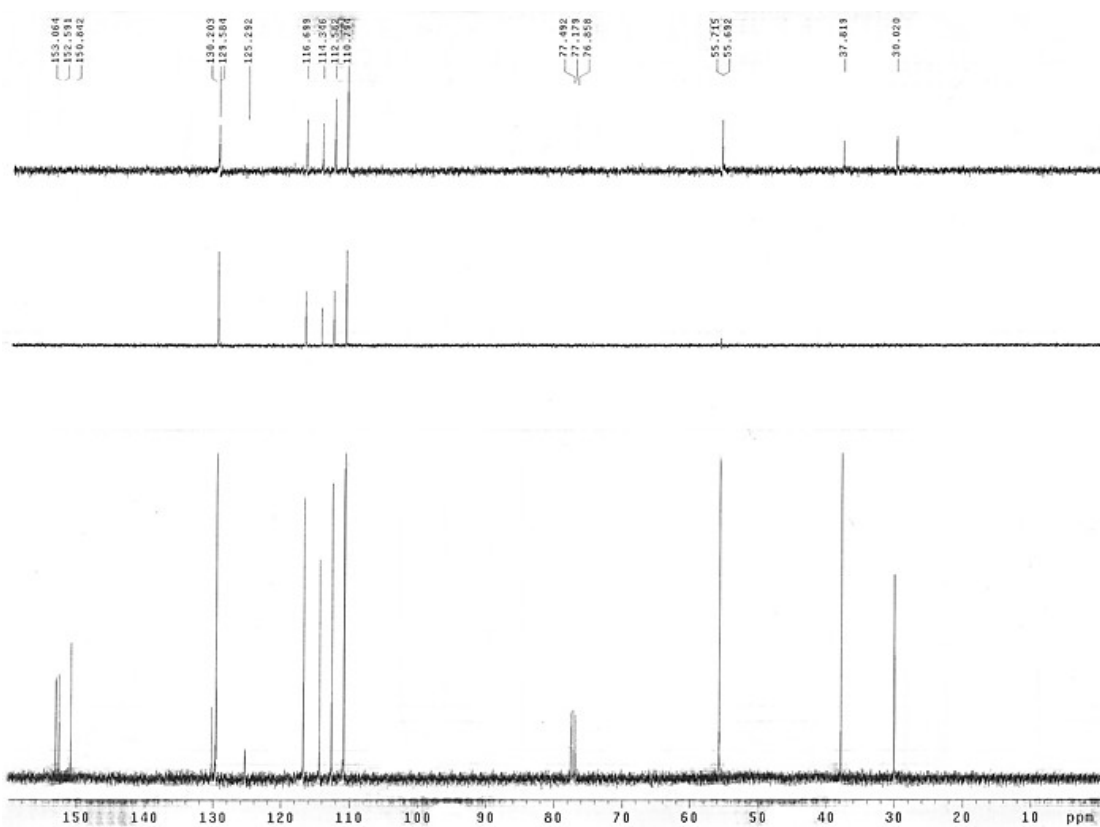


Fig. 240b: Compound **223** ^{13}C NMR spectra.

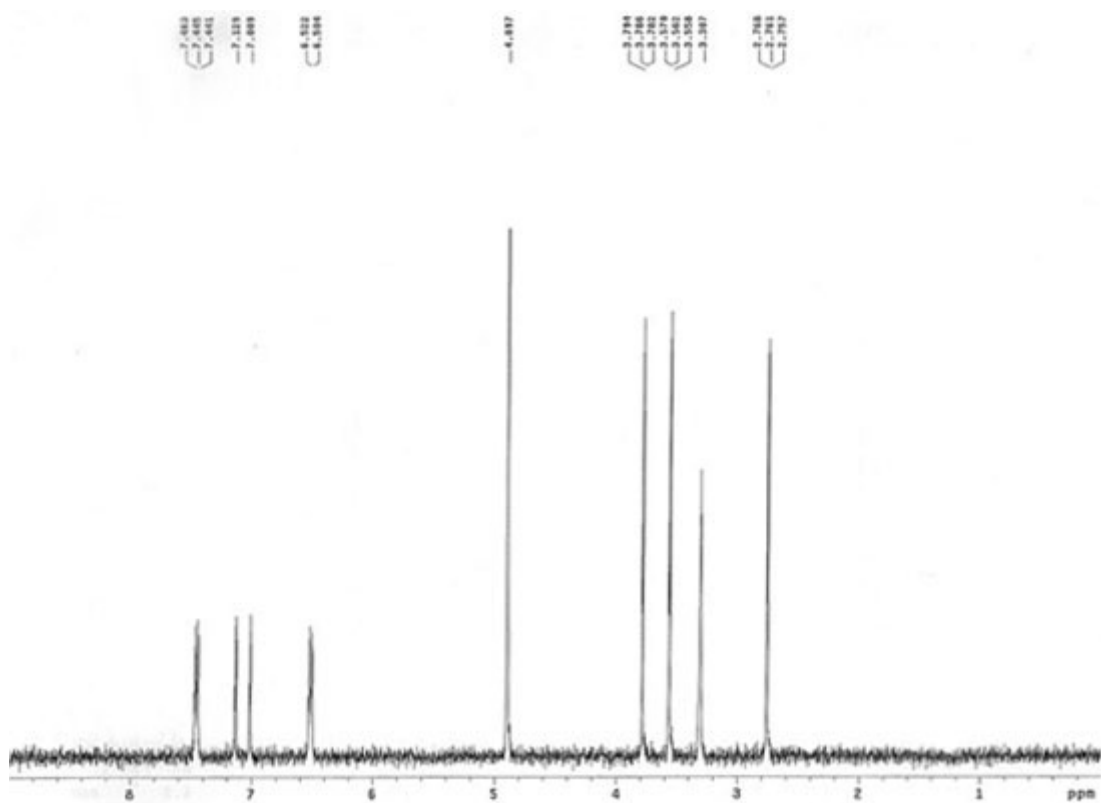


Fig. 241a: Compound **224** ^1H NMR spectra.

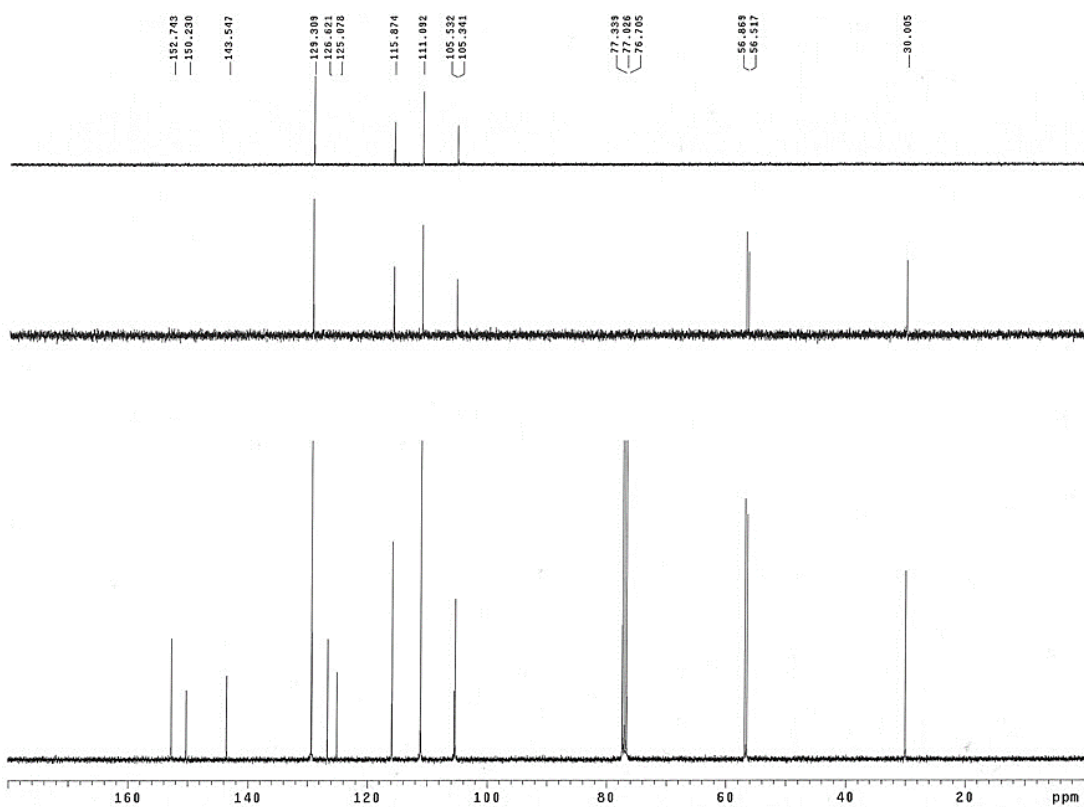


Fig. 241b: Compound **224** ^{13}C NMR spectra.

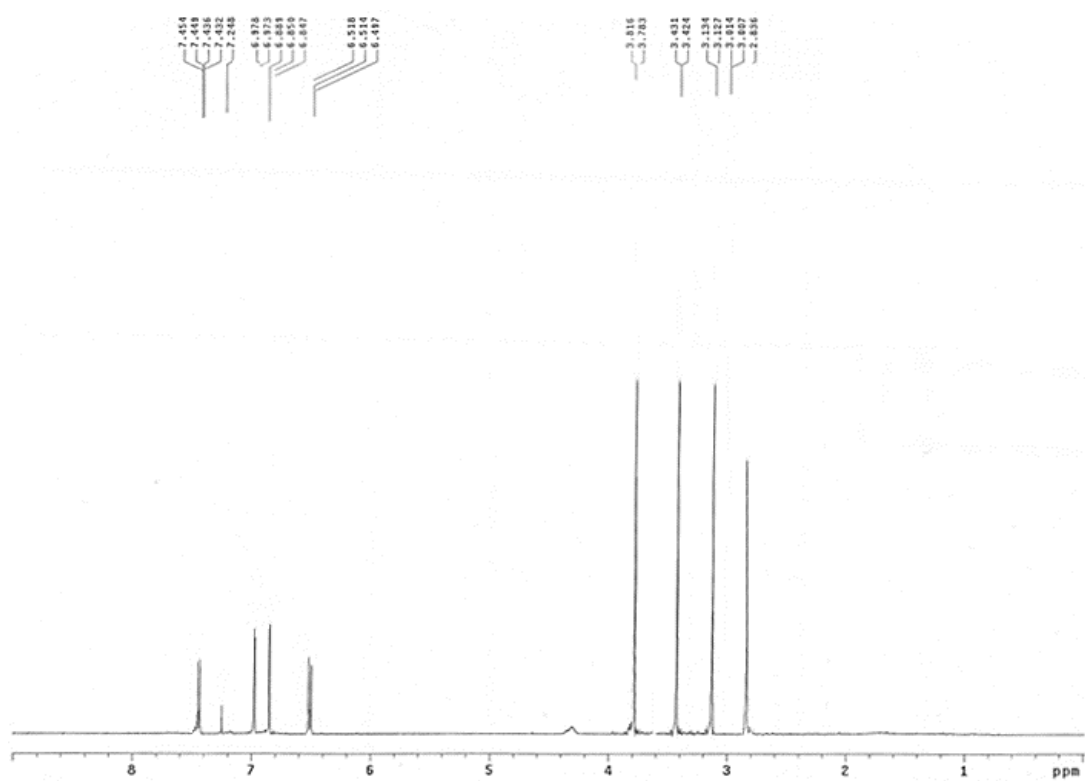


Fig. 242a: Compound **225** ¹H NMR spectra.

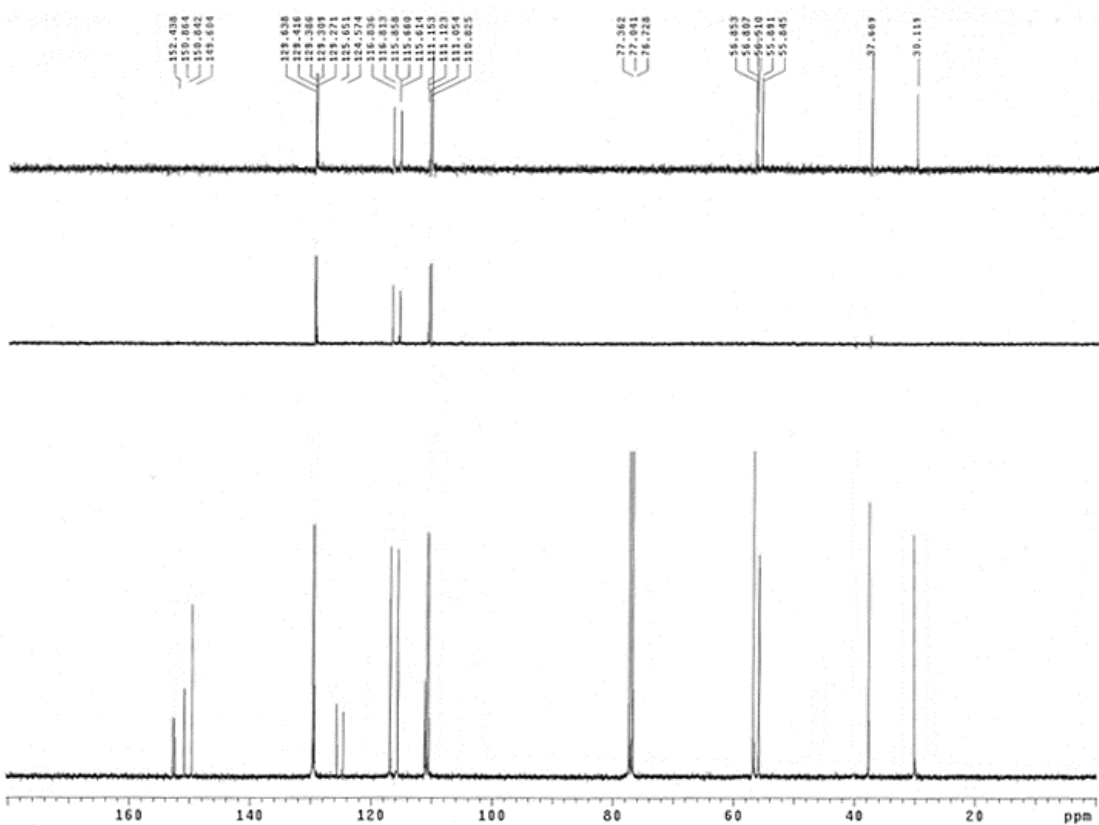


Fig. 242b: Compound **225** ¹³C NMR spectra.

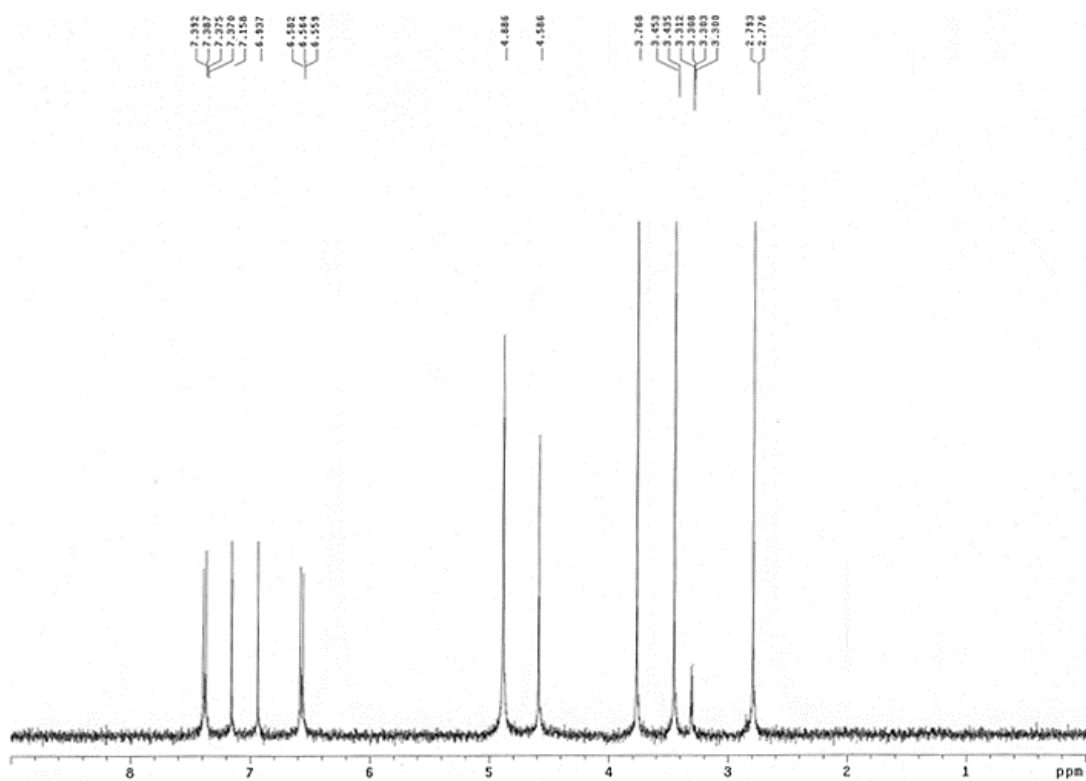


Fig. 243a: Compound **226** ^1H NMR spectra.

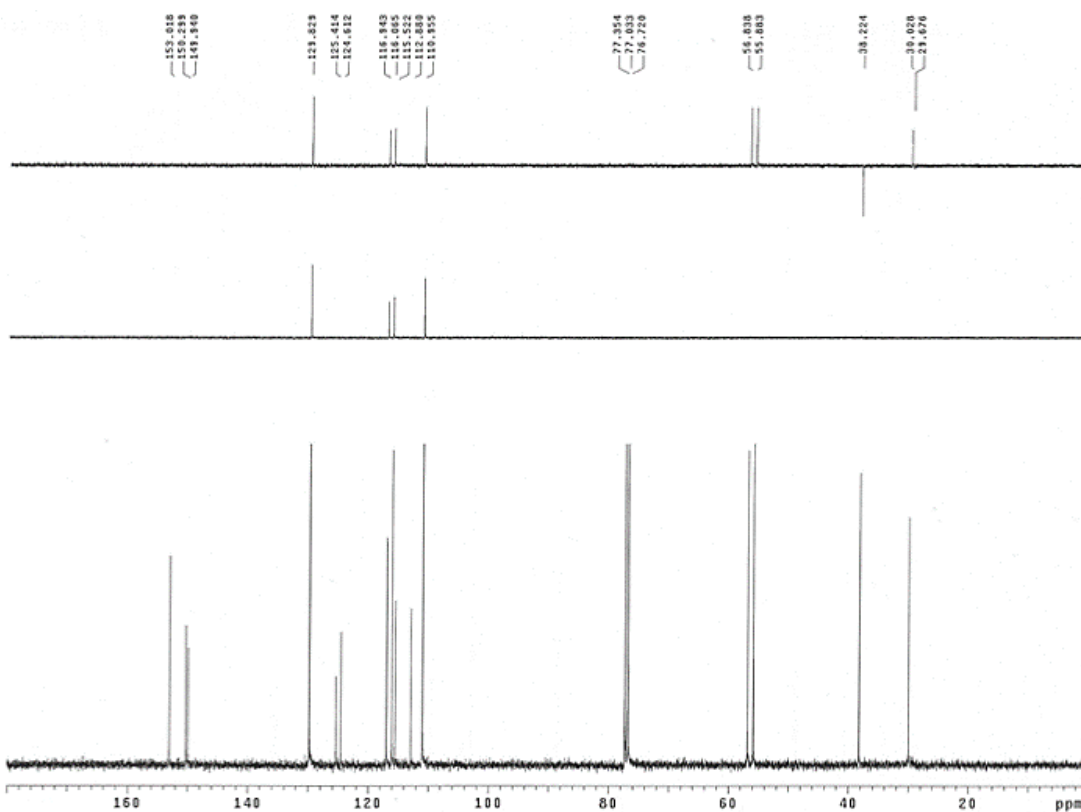


Fig. 243b: Compound **226** ^{13}C NMR spectra.

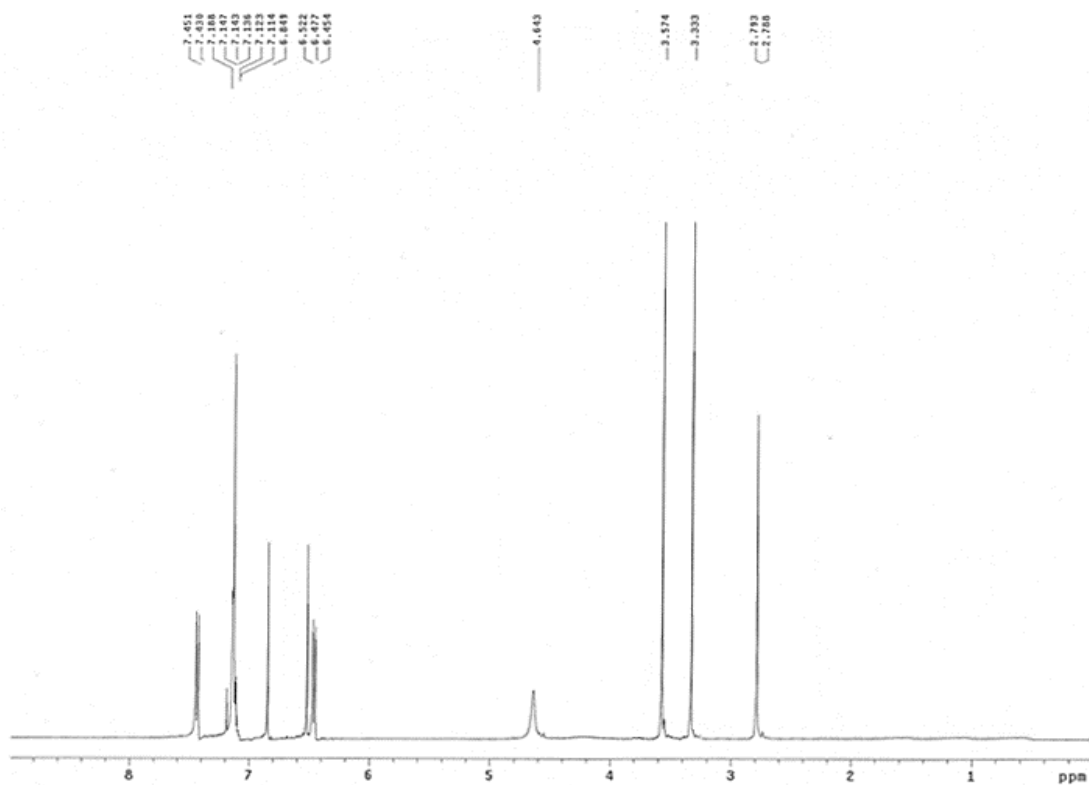


Fig. 244a: Compound **227** ^1H NMR spectra.

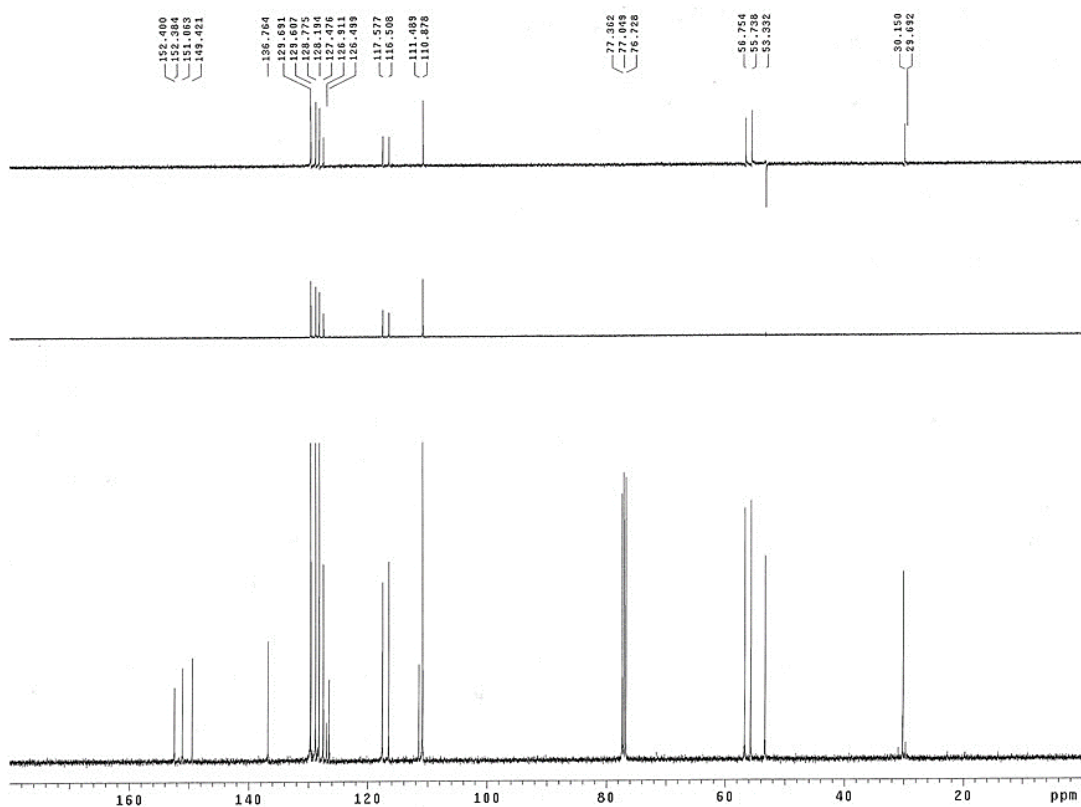


Fig. 244b: Compound **227** ^{13}C NMR spectra.

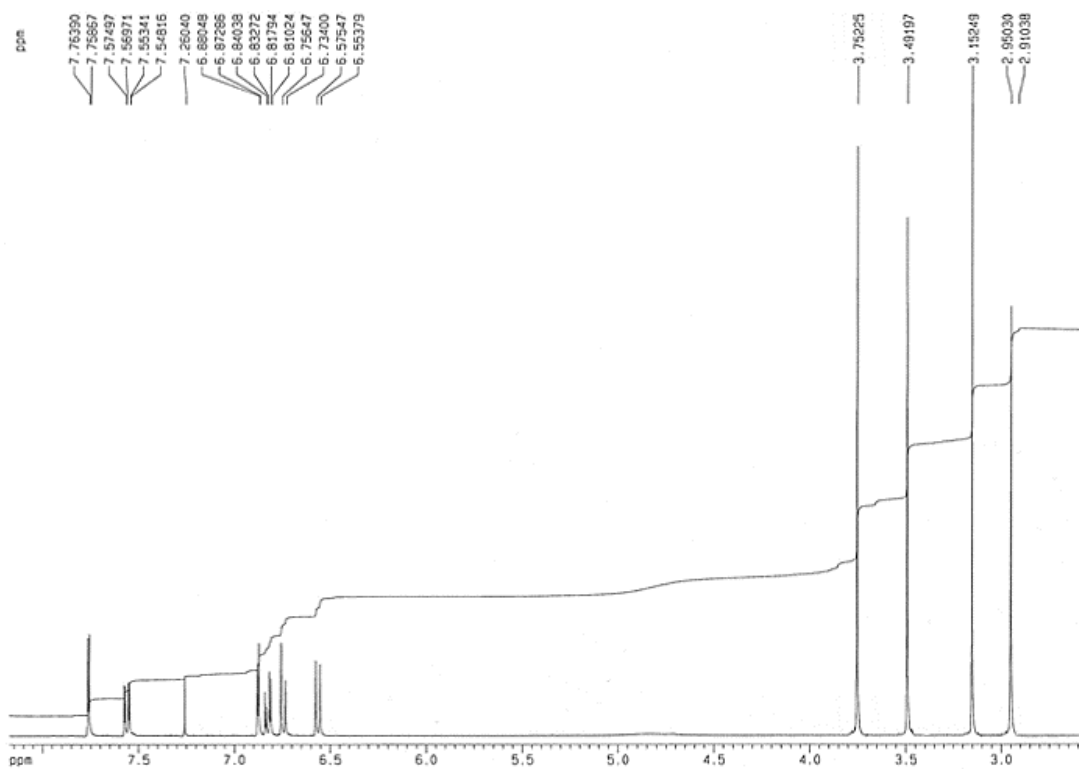


Fig. 245a: Compound **228a** ^1H NMR spectra.

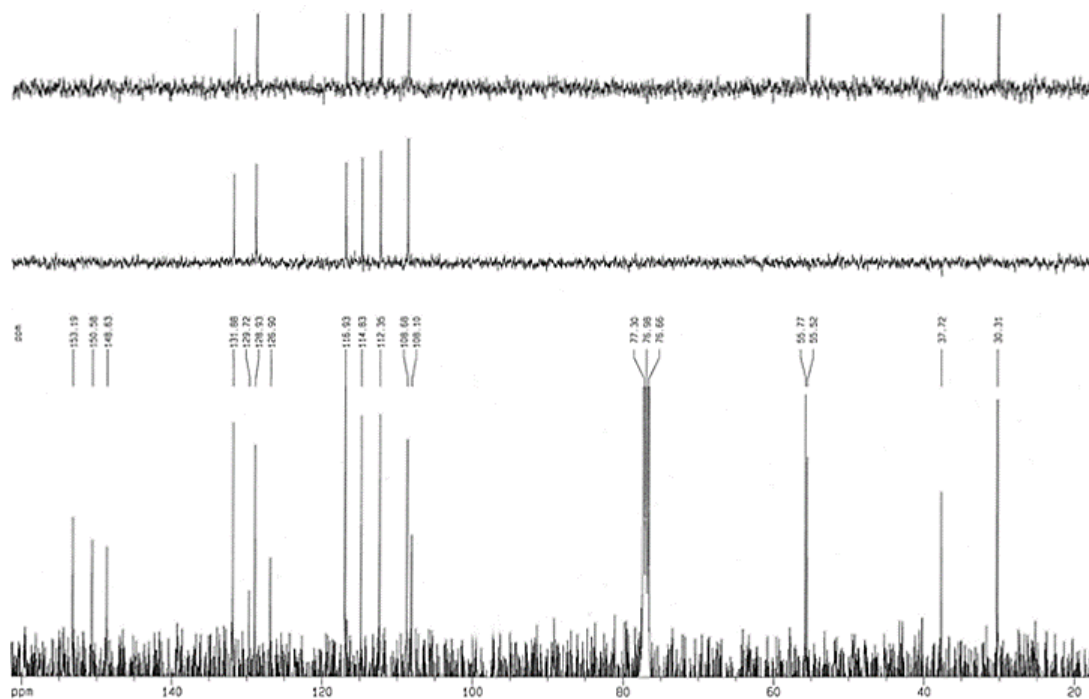


Fig. 245b: Compound **228a** ^{13}C NMR spectra.

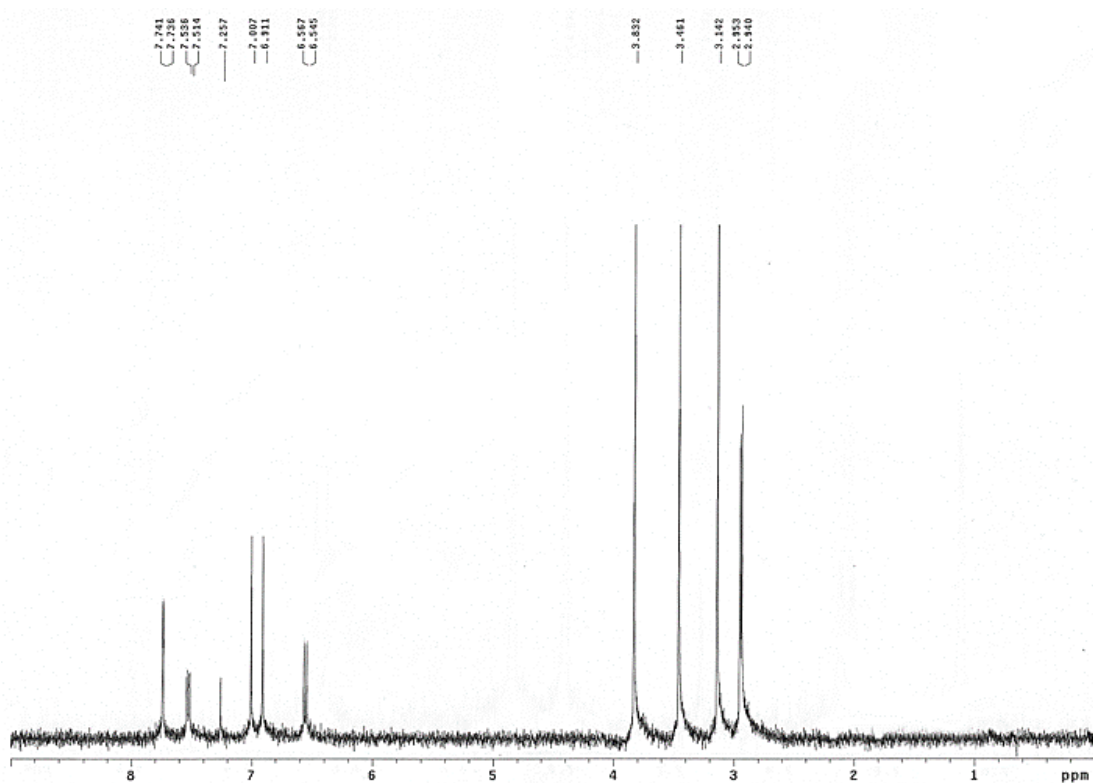


Fig. 246a: Compound **228b** ^1H NMR spectra.

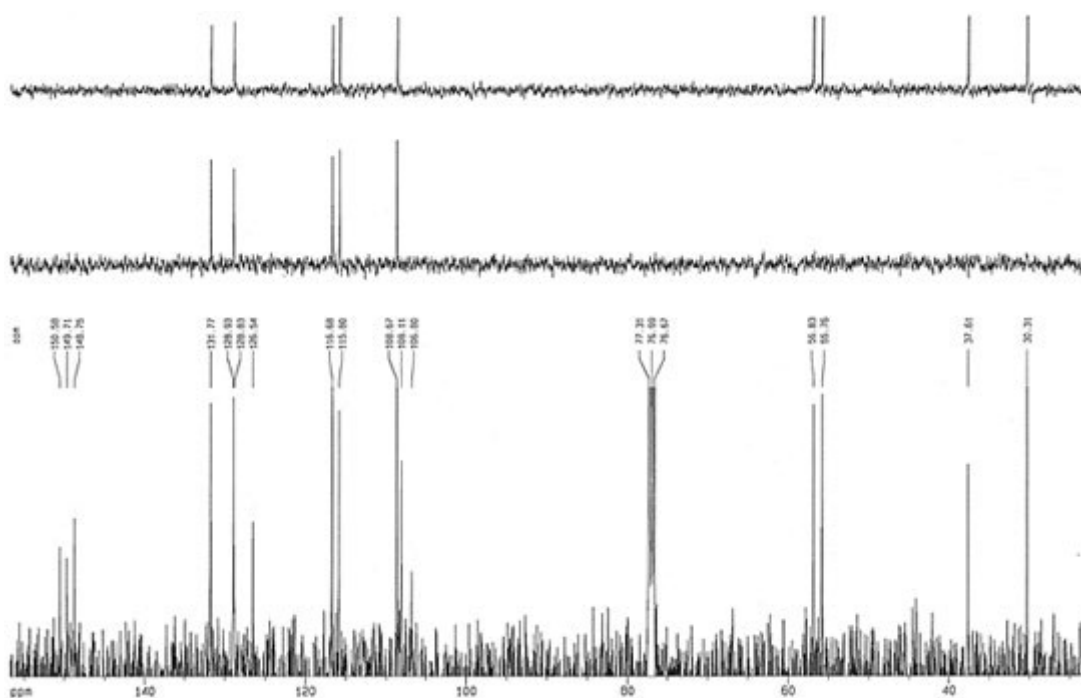


Fig. 246b: Compound **228b** ^{13}C NMR spectra.

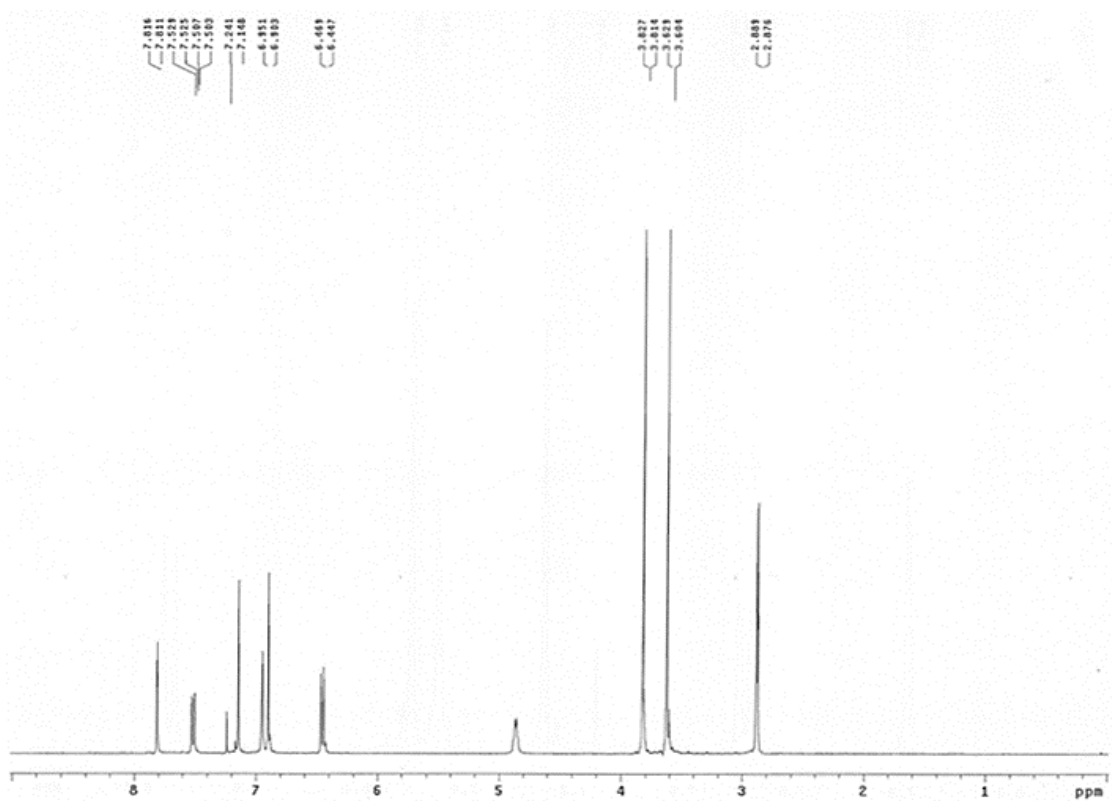


Fig. 247a: Compound **229** ^1H NMR spectra.

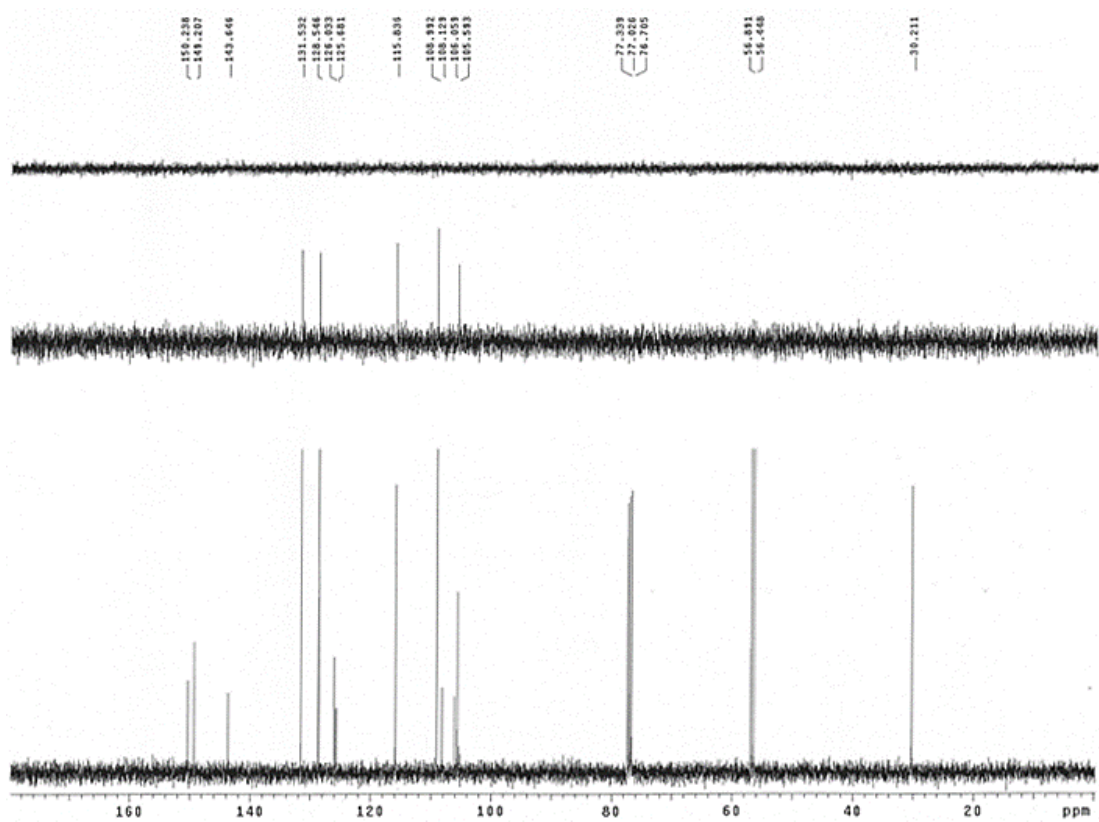


Fig. 247b: Compound **229** ^{13}C NMR spectra.

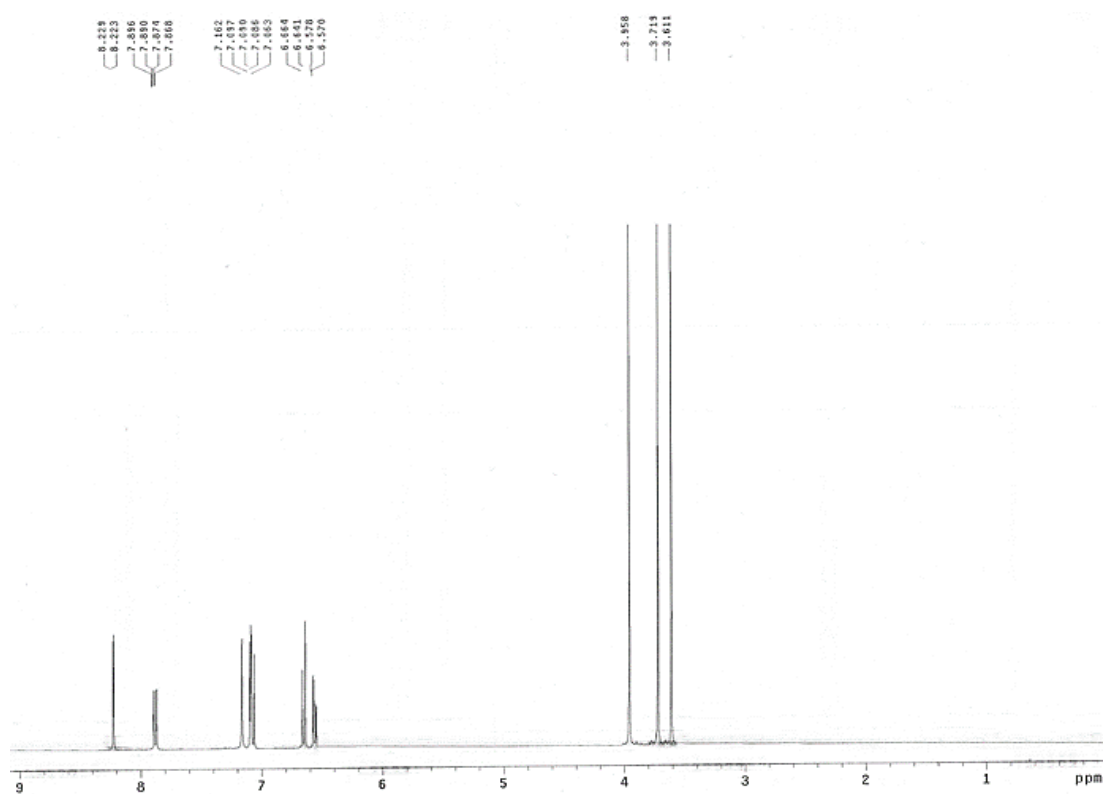


Fig. 248a: Compound **230** ^1H NMR spectra.

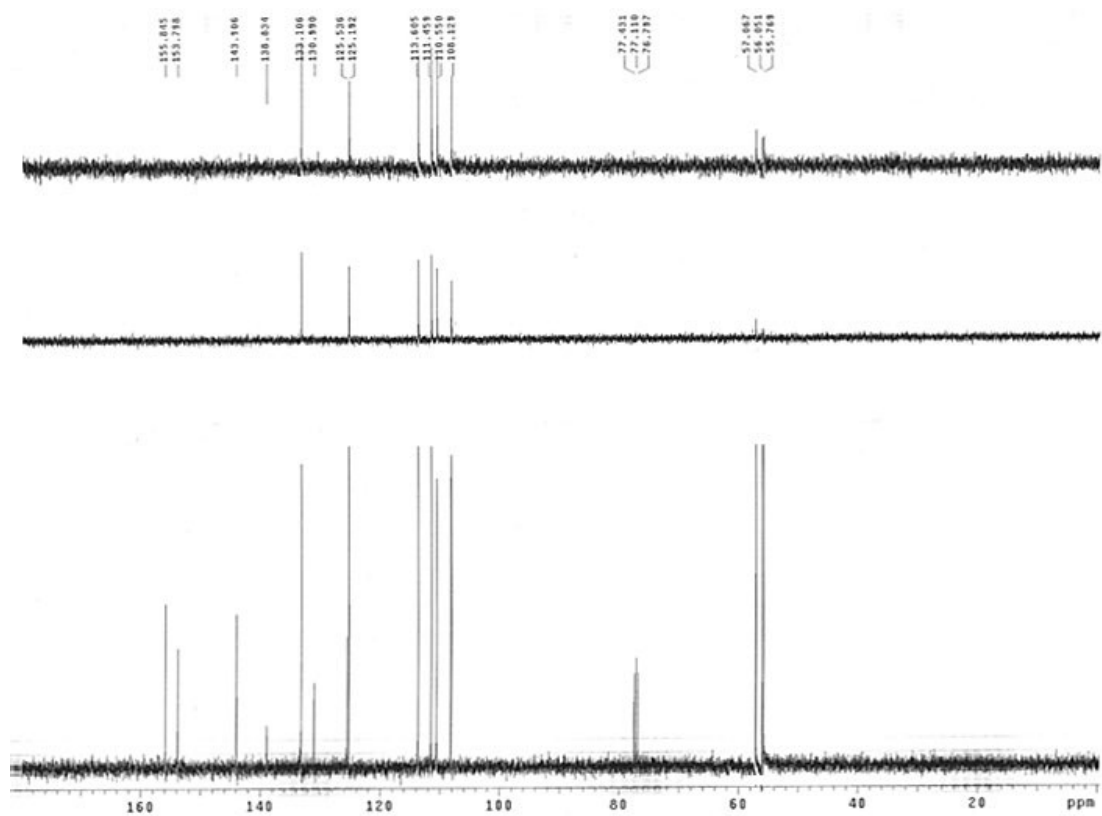


Fig. 248b: Compound **230** ^{13}C NMR spectra.

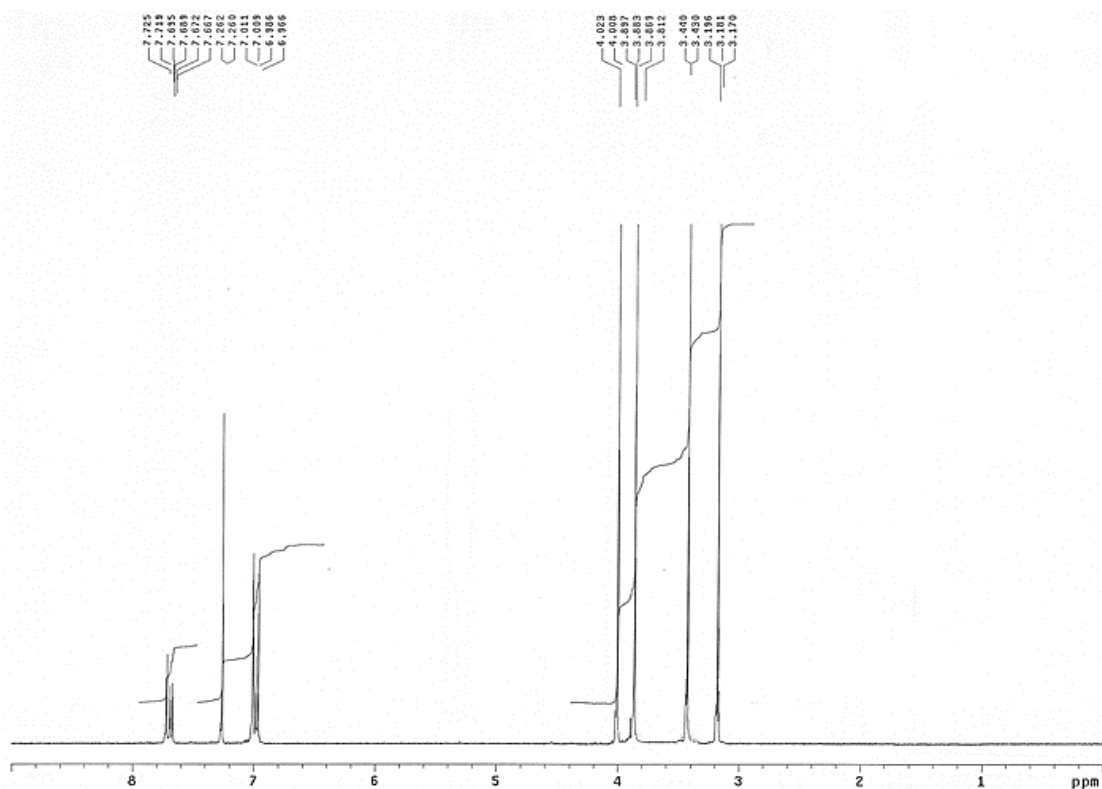


Fig. 249a: Compound **231** ^1H NMR spectra.

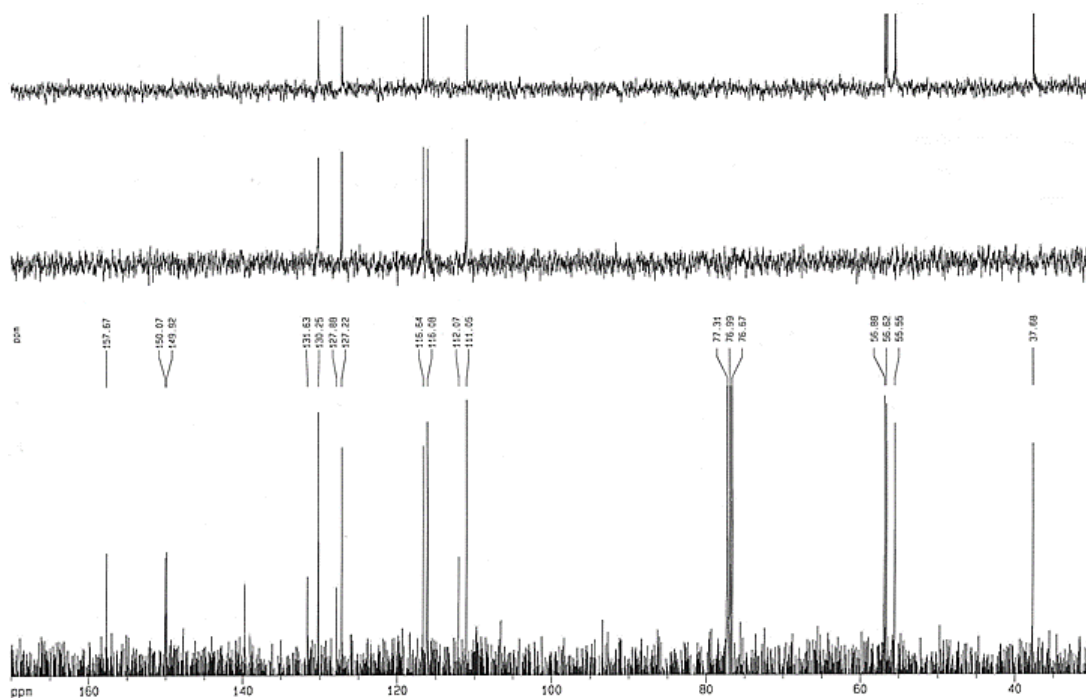


Fig. 249b: Compound **231** ^{13}C NMR spectra.

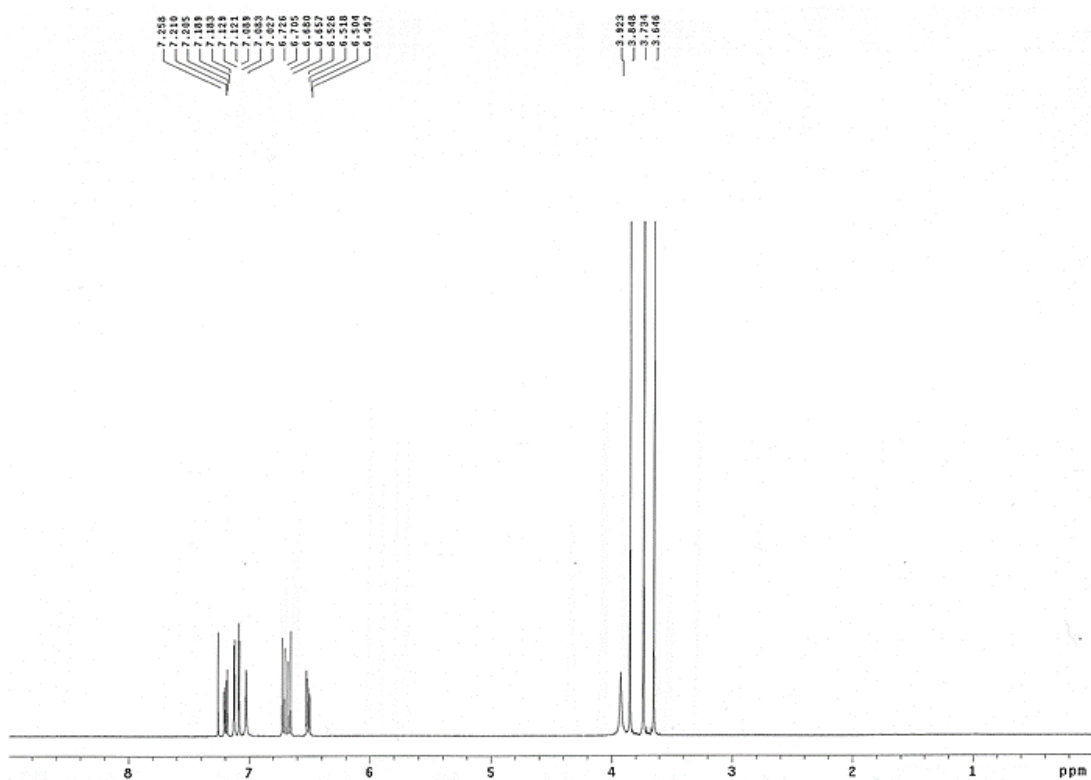


Fig. 250a: Compound **232** ¹H NMR spectra.

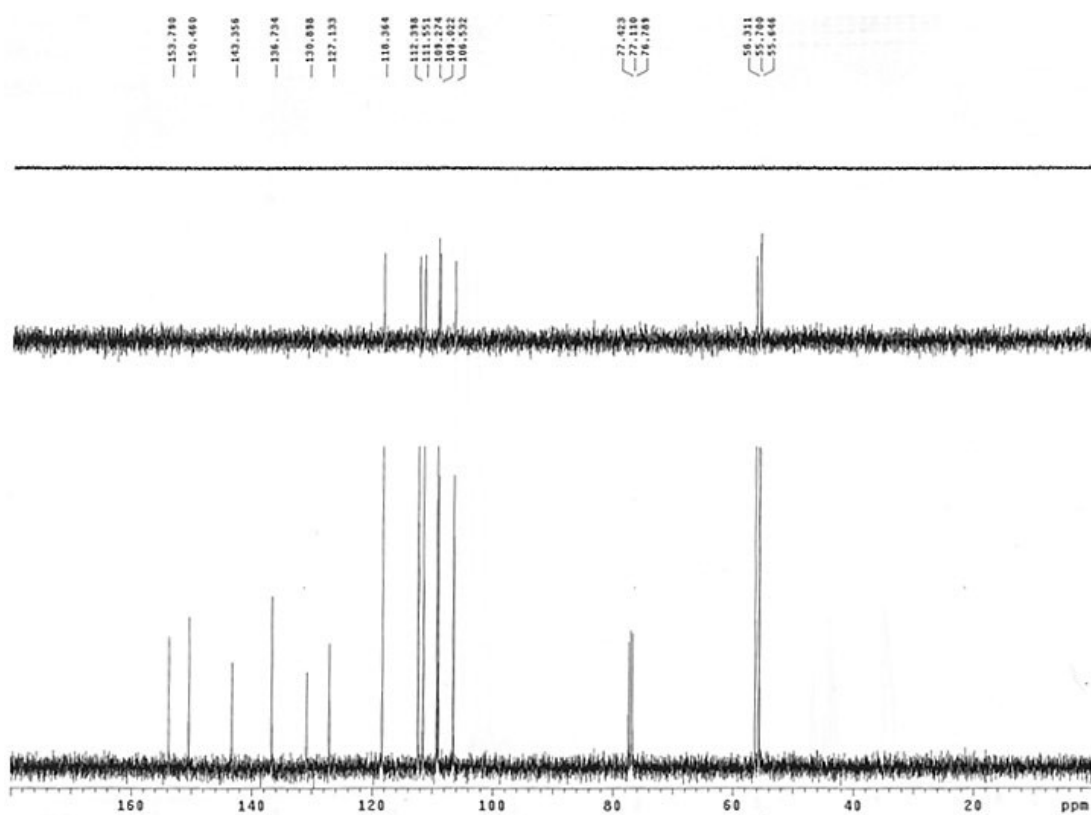


Fig. 250b: Compound **232** ¹³C NMR spectra.

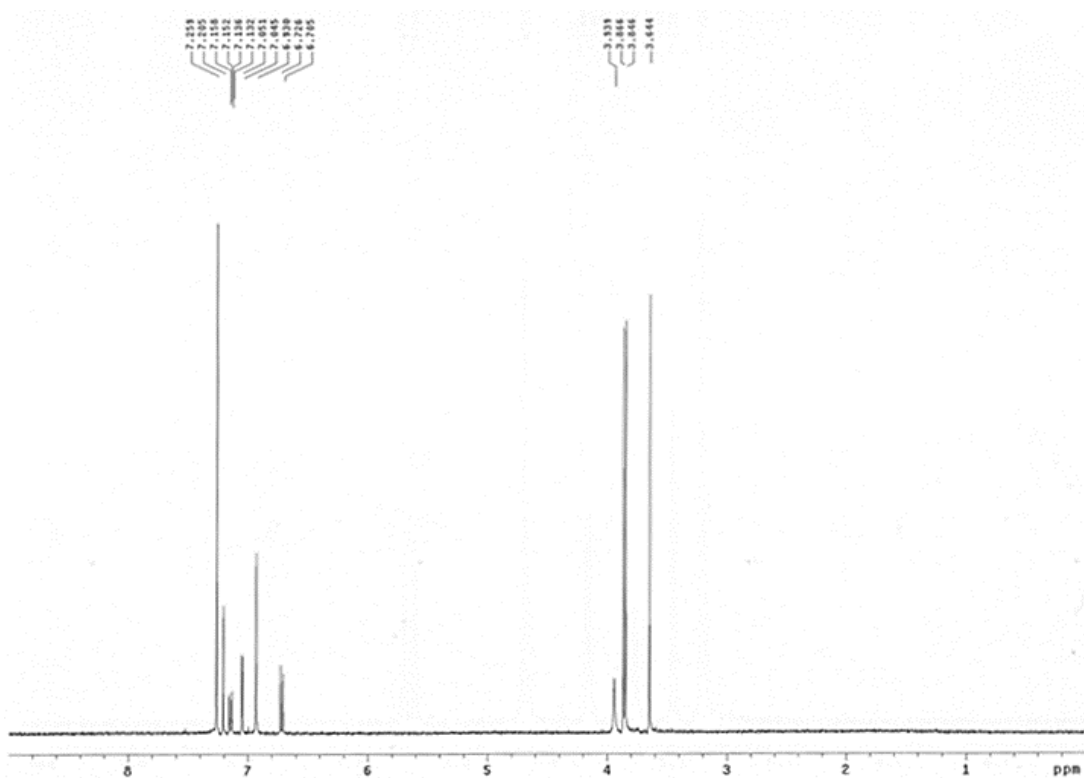


Fig. 251a: Compound **233** ^1H NMR spectra.

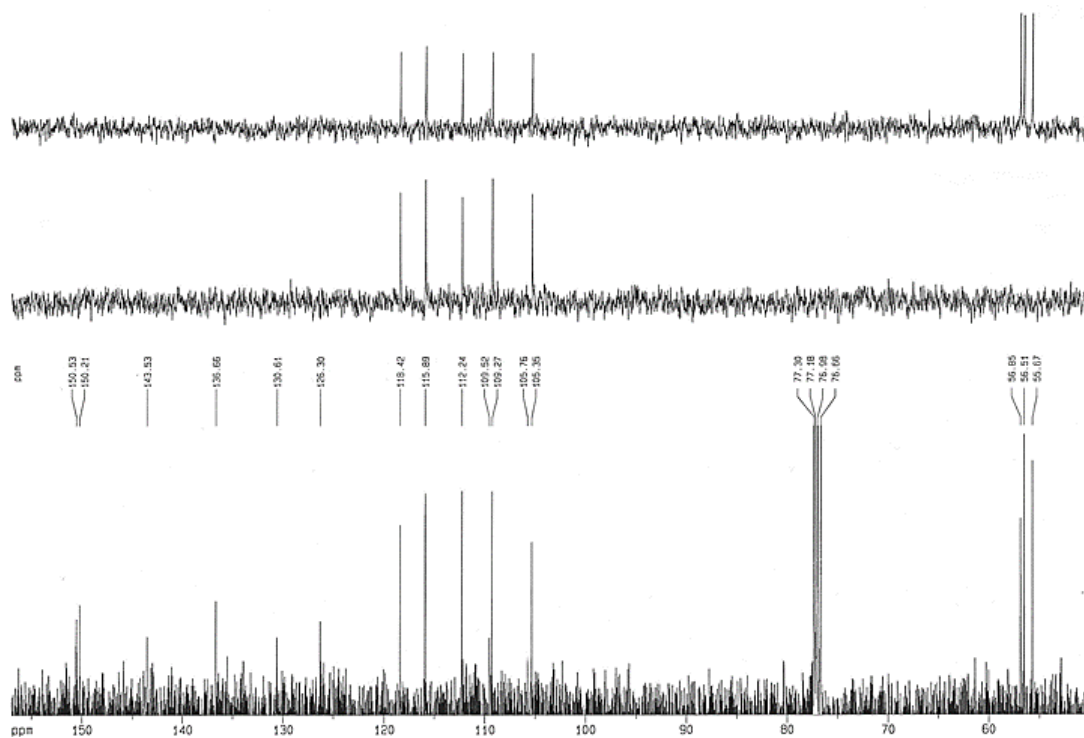


Fig. 251b: Compound **233** ^{13}C NMR spectra.

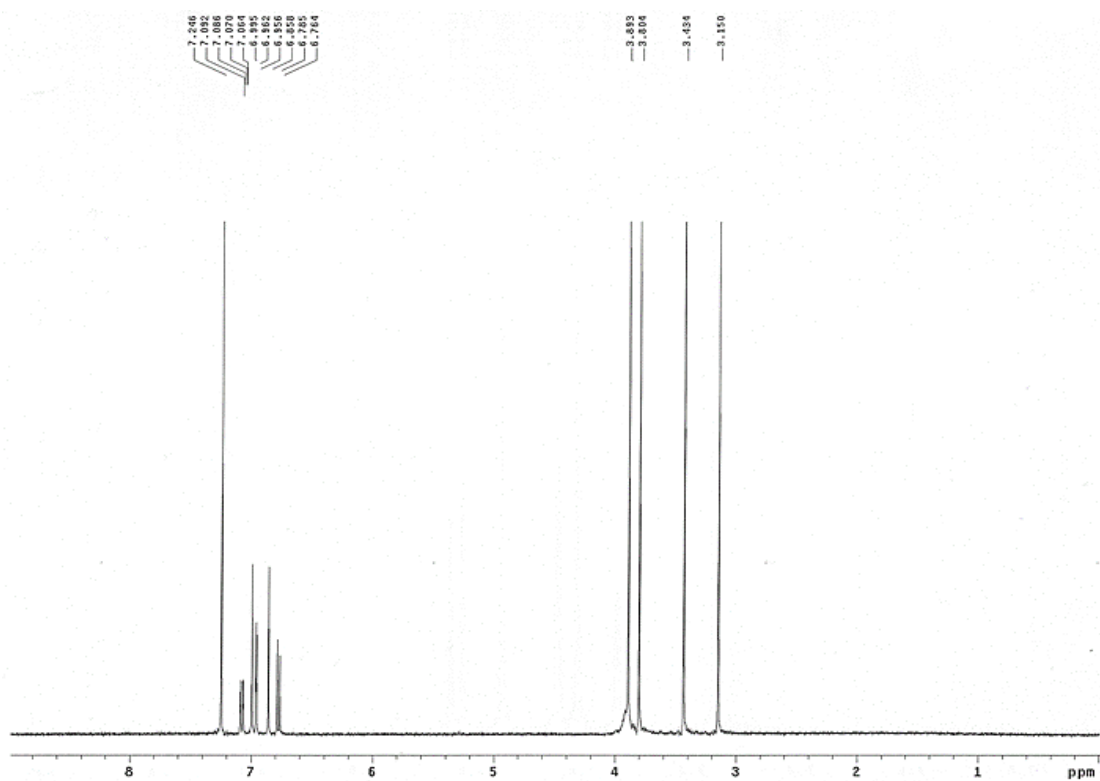


Fig. 252a: Compound **234** ^1H NMR spectra.

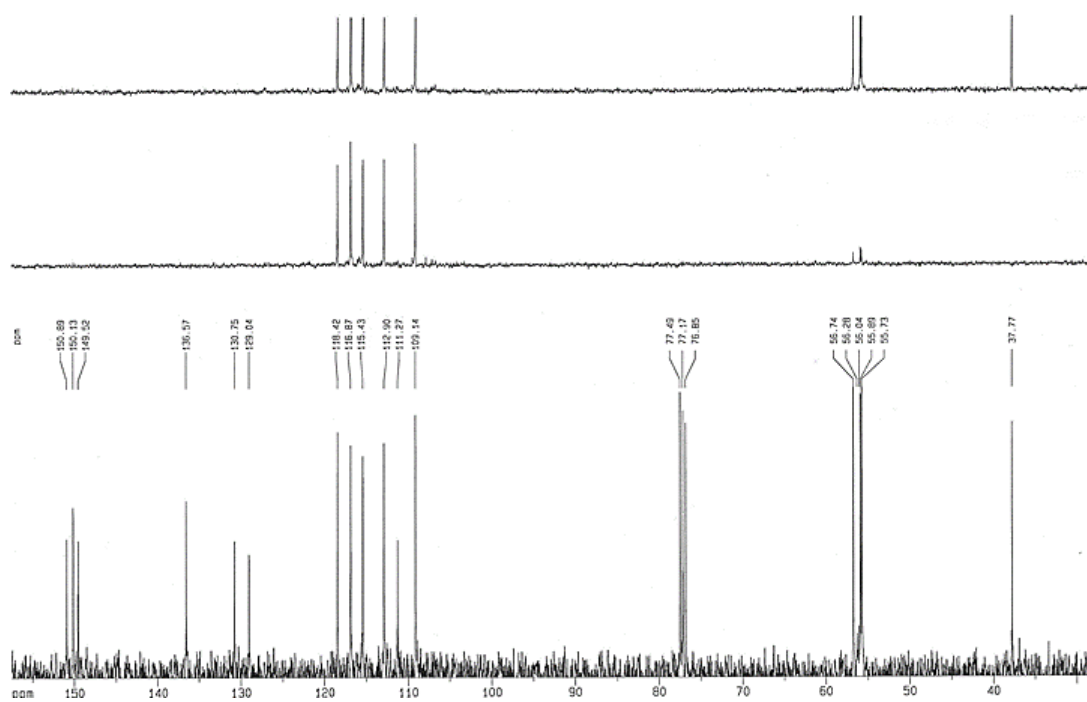


Fig. 252b: Compound **234** ^{13}C NMR spectra.

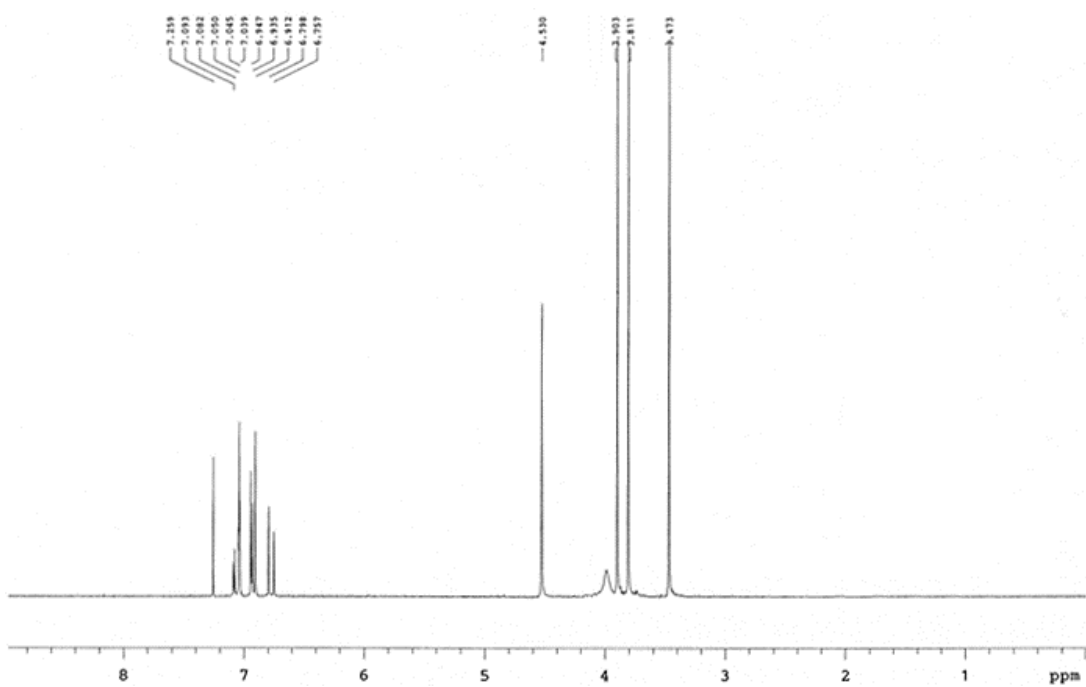


Fig. 253a: Compound **235** ^1H NMR spectra.

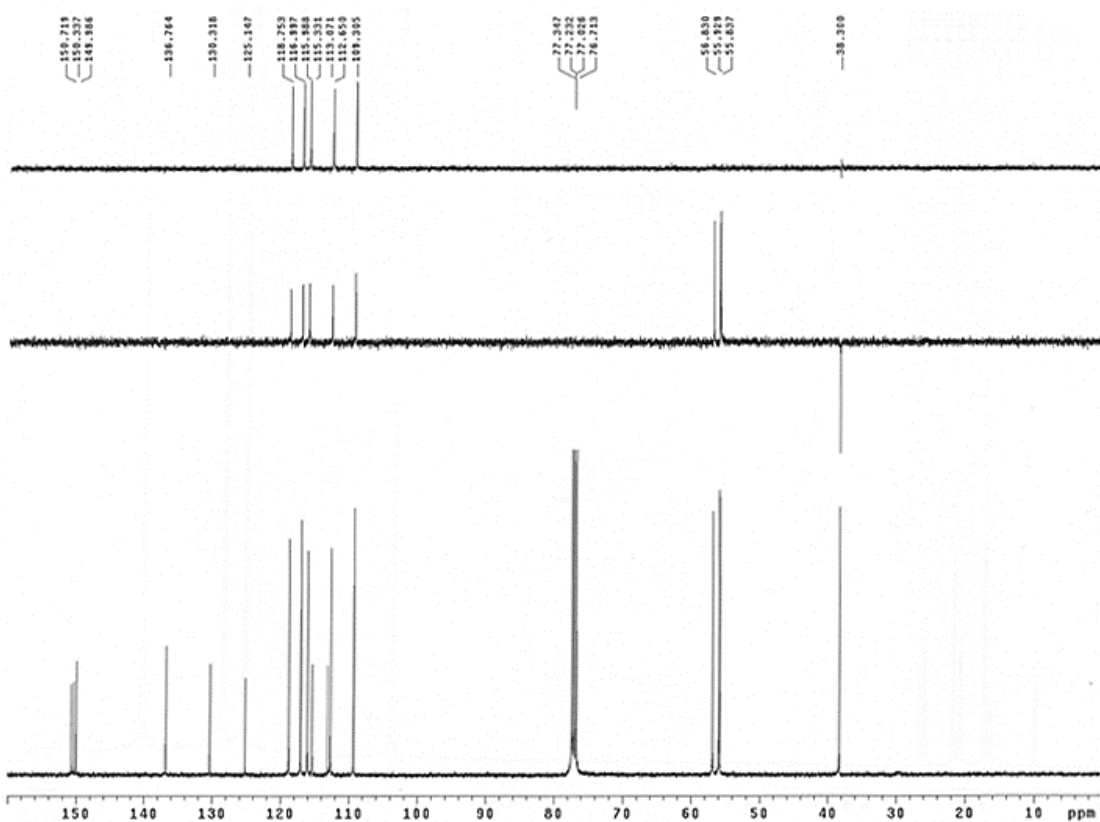


Fig. 253b: Compound **235** ^{13}C NMR spectra.

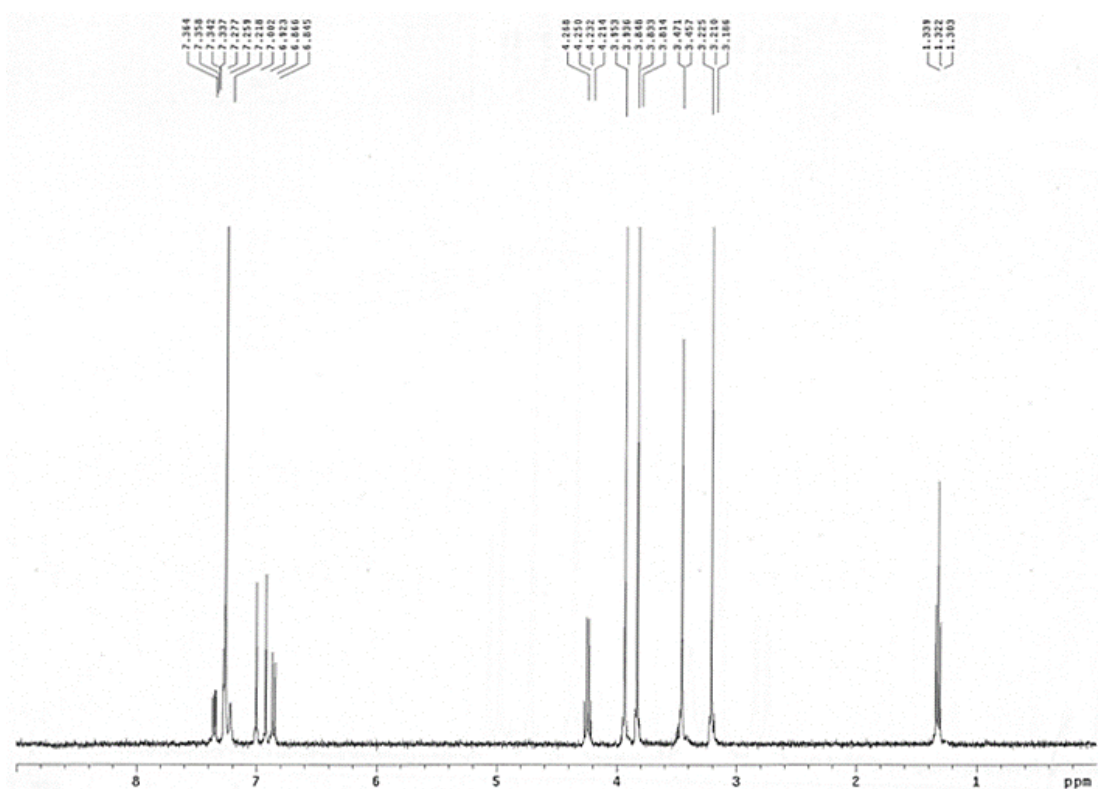


Fig. 254a: Compound **236** ^1H NMR spectra.

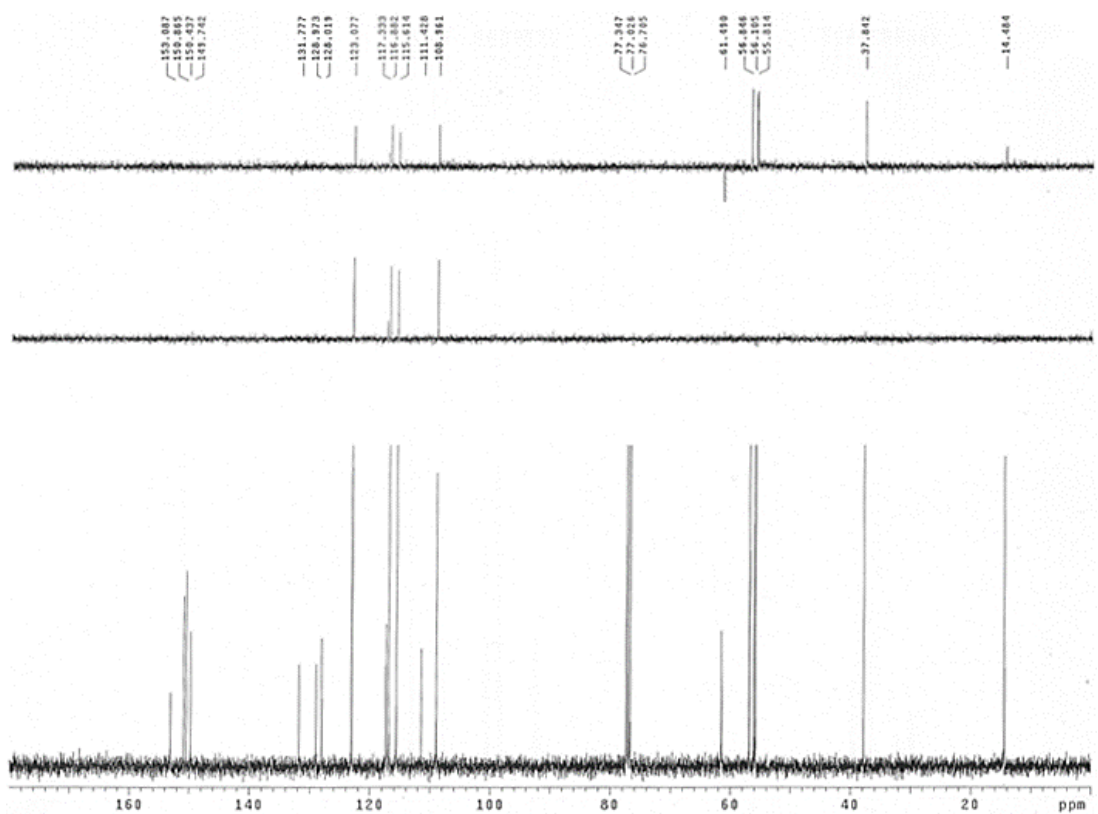


Fig. 254b: Compound **236** ^{13}C NMR spectra.

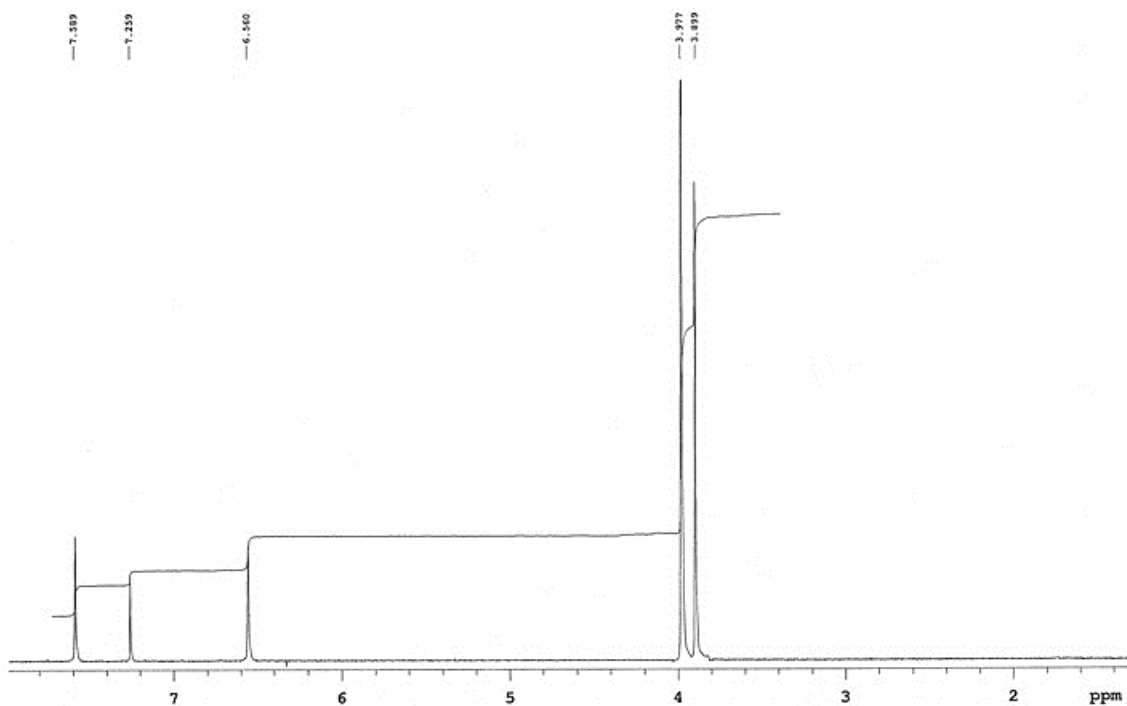


Fig. 255a: Compound **237** ¹H NMR spectra.

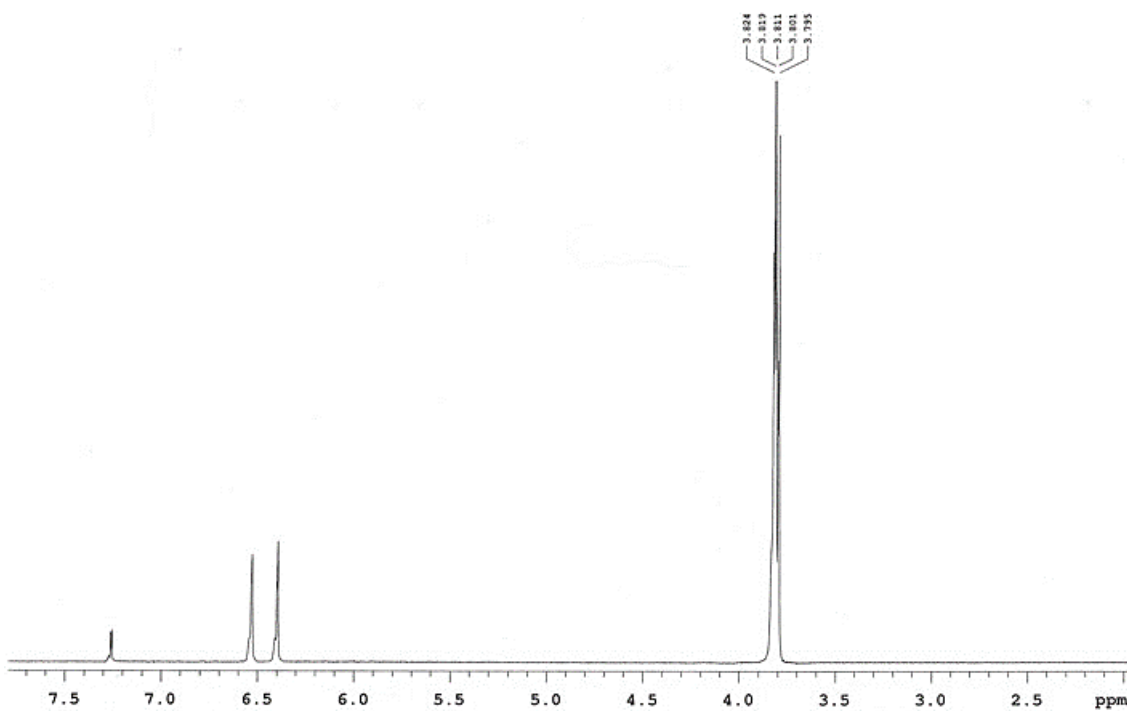


Fig. 256a: Compound **238** ¹H NMR spectra.

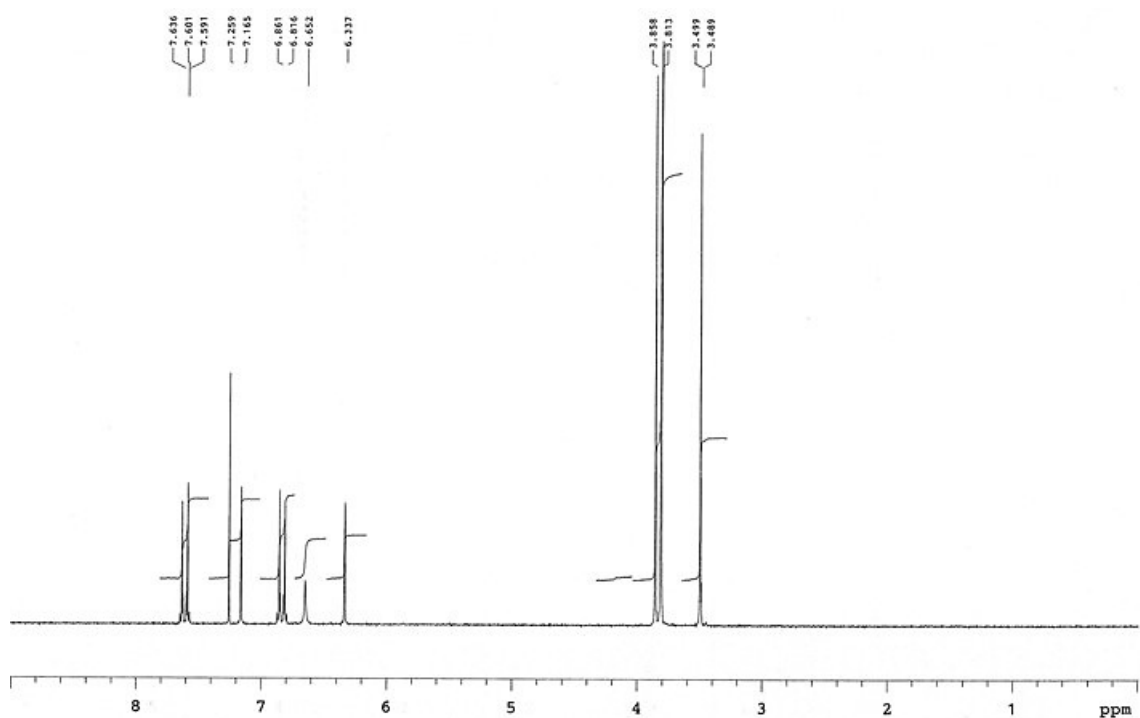


Fig. 257a: Compound **239** ^1H NMR spectra.

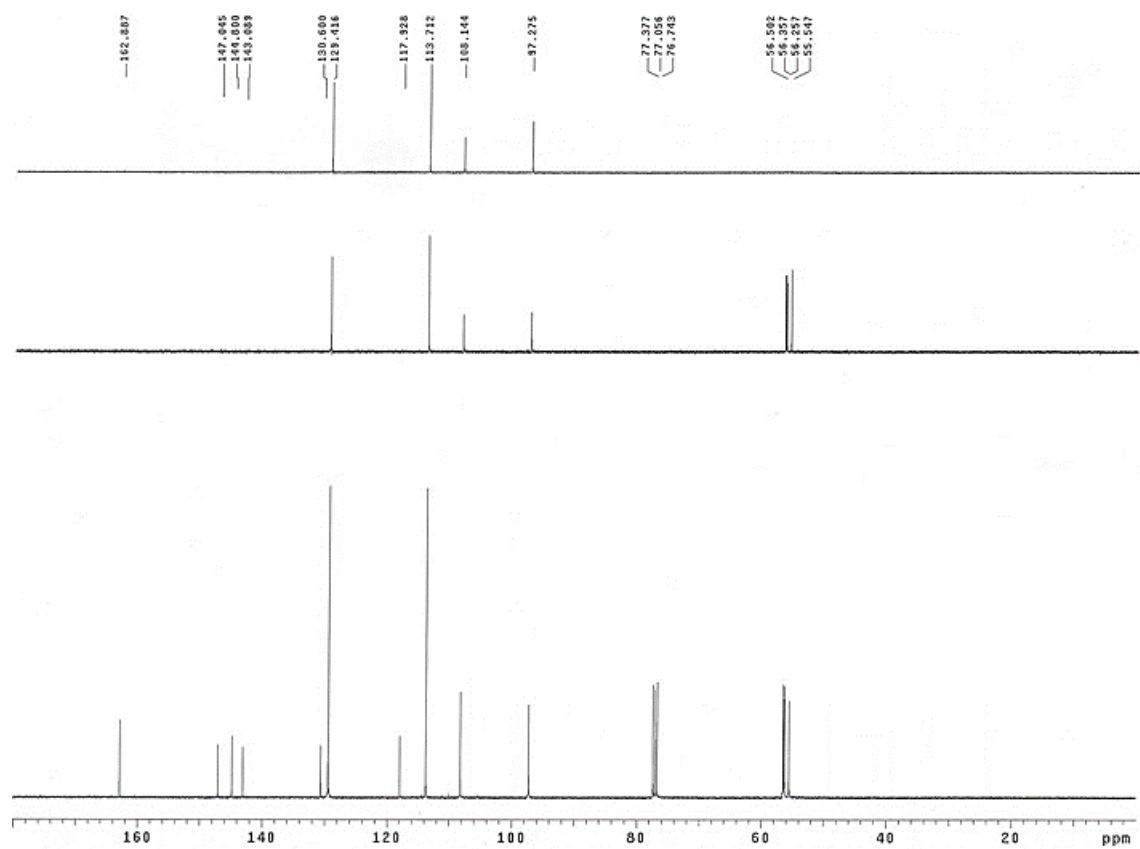


Fig. 257b: Compound **239** ^{13}C NMR spectra.

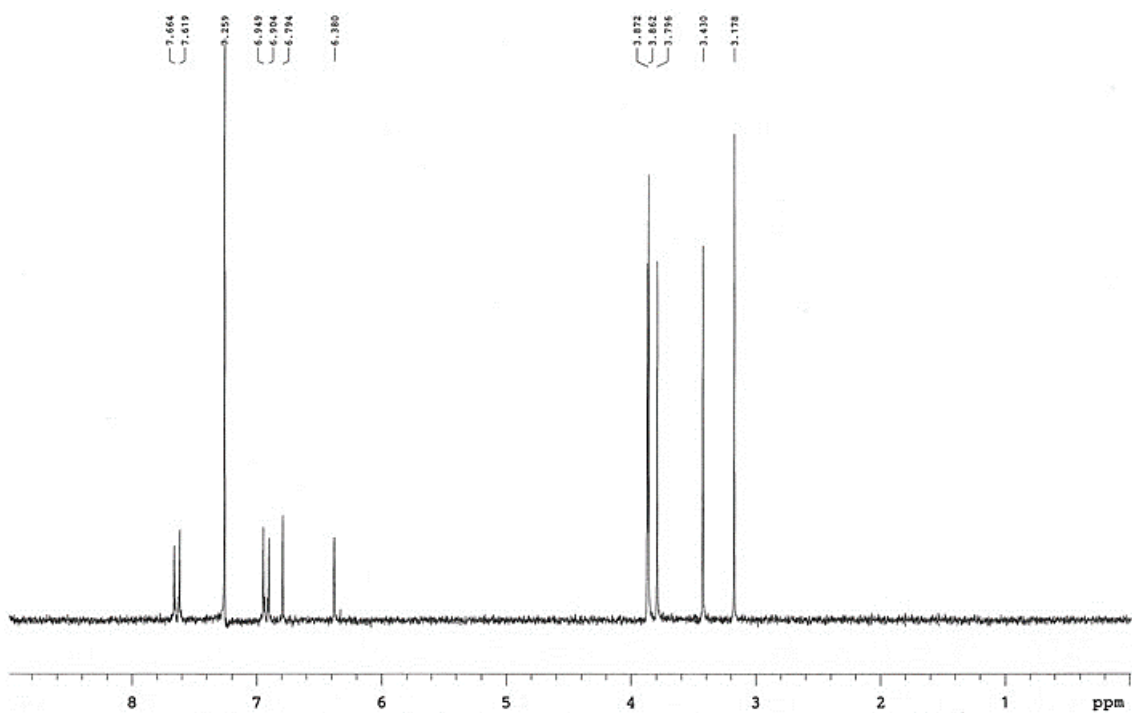


Fig. 258a: Compound **240** ^1H NMR spectra.

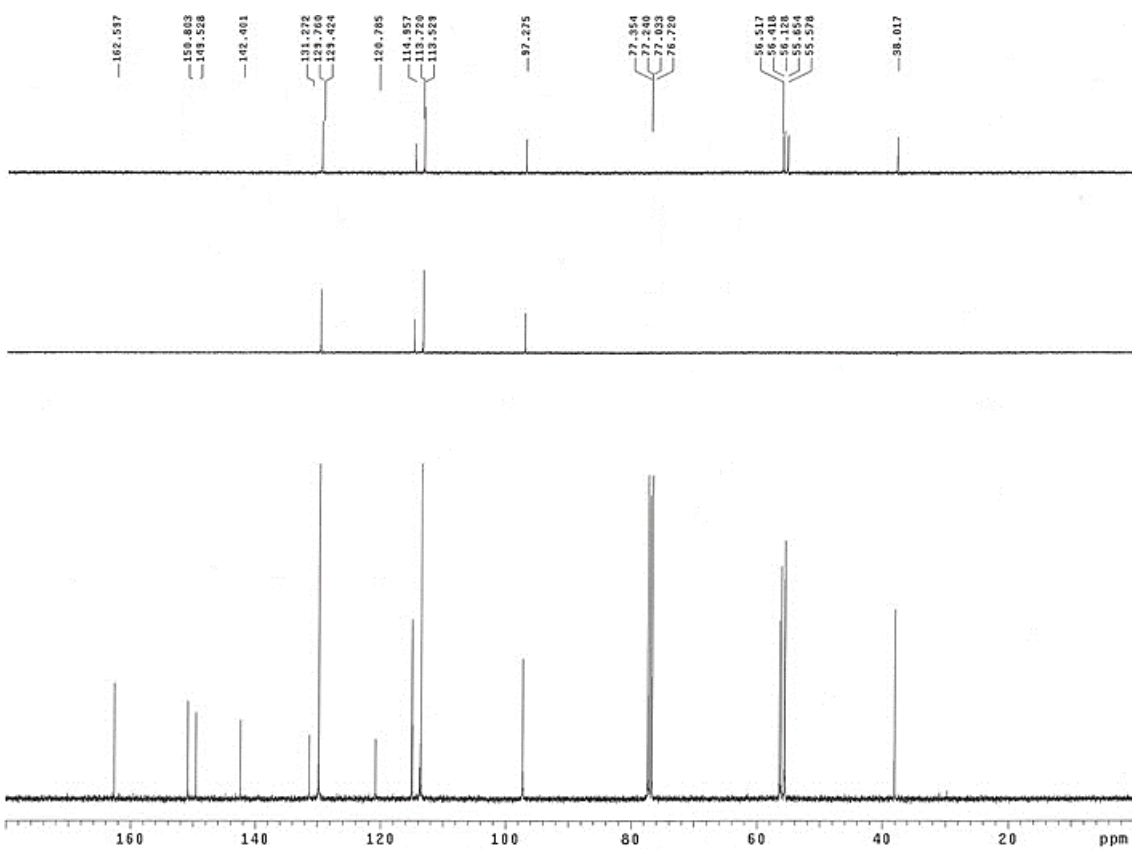


Fig. 258b: Compound **240** ^{13}C NMR spectra.

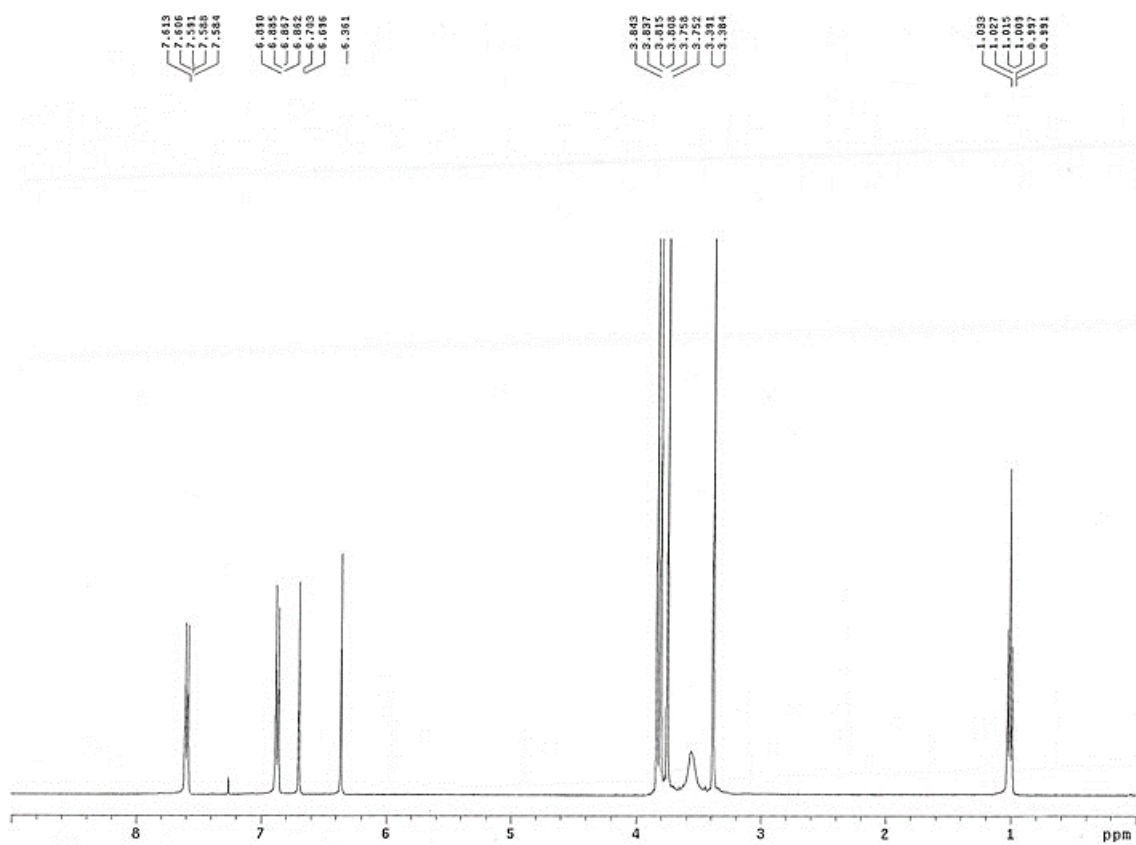


Fig. 259a: Compound **241** ^1H NMR spectra.

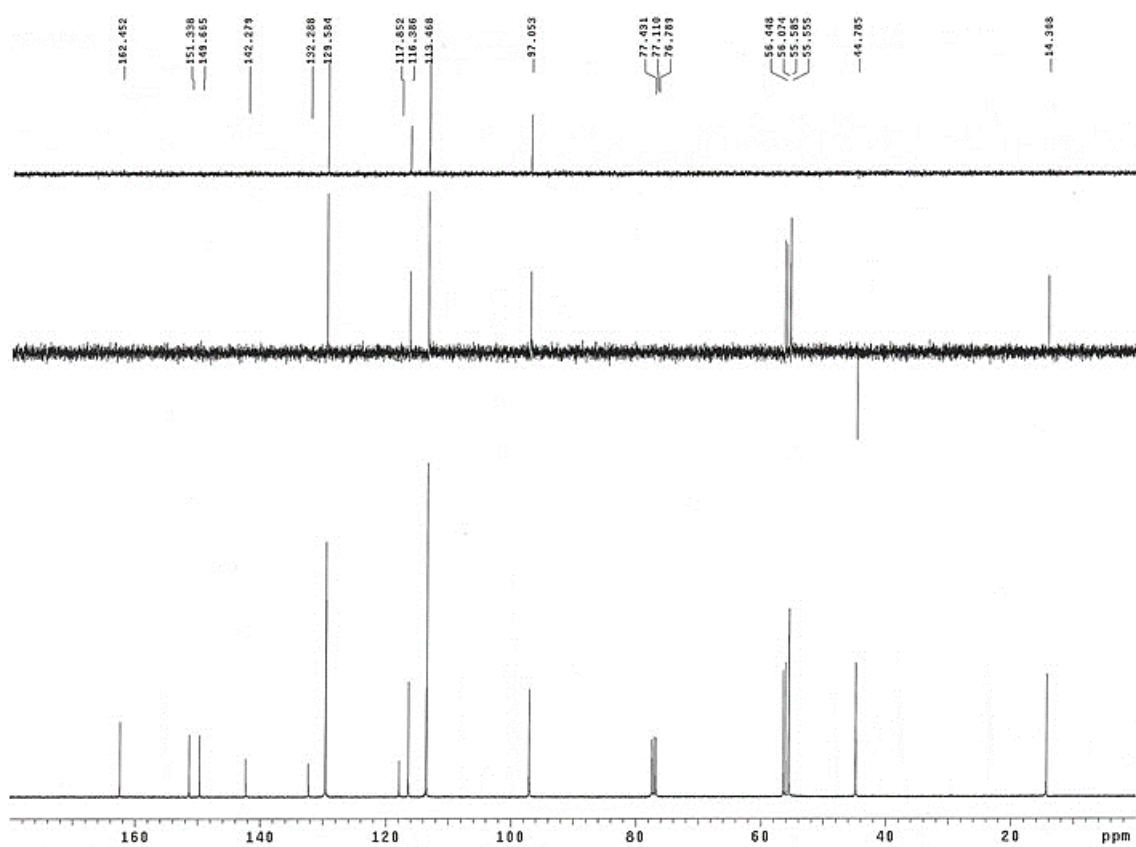


Fig. 259b: Compound **241** ^{13}C NMR spectra.

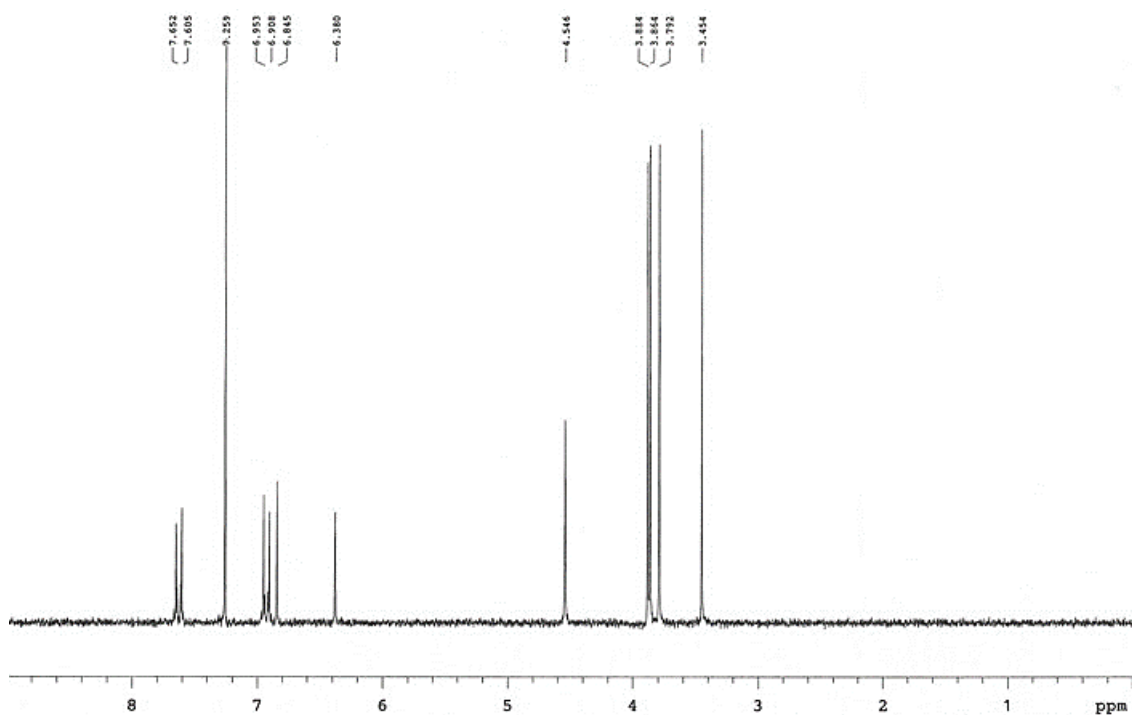


Fig. 260a: Compound **242** ^1H NMR spectra.

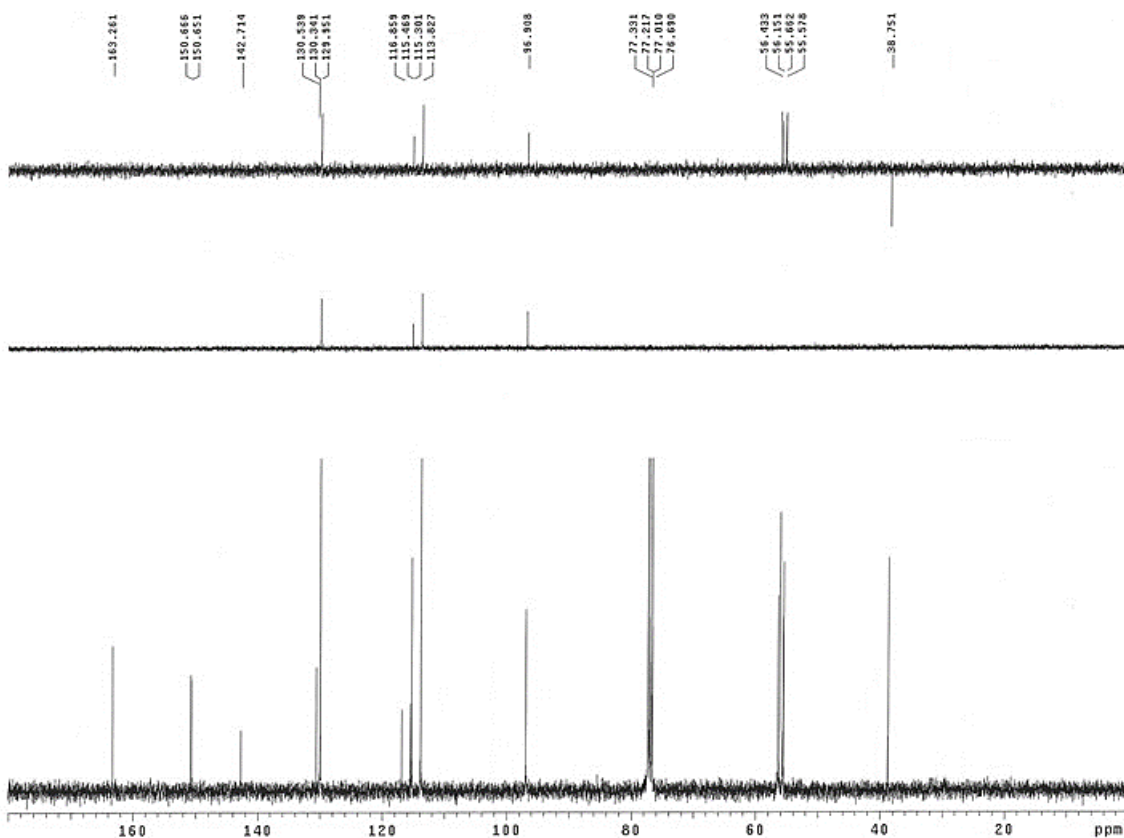


Fig. 260b: Compound **242** ^{13}C NMR spectra.

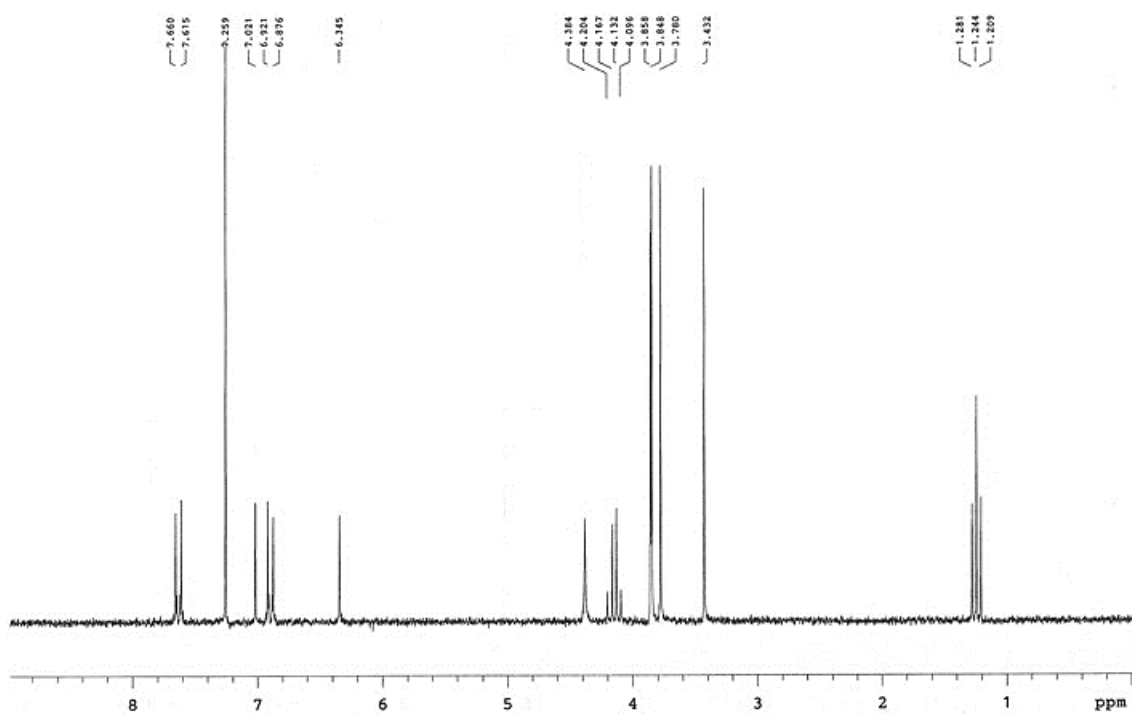


Fig. 261a: Compound **243** ^1H NMR spectra.

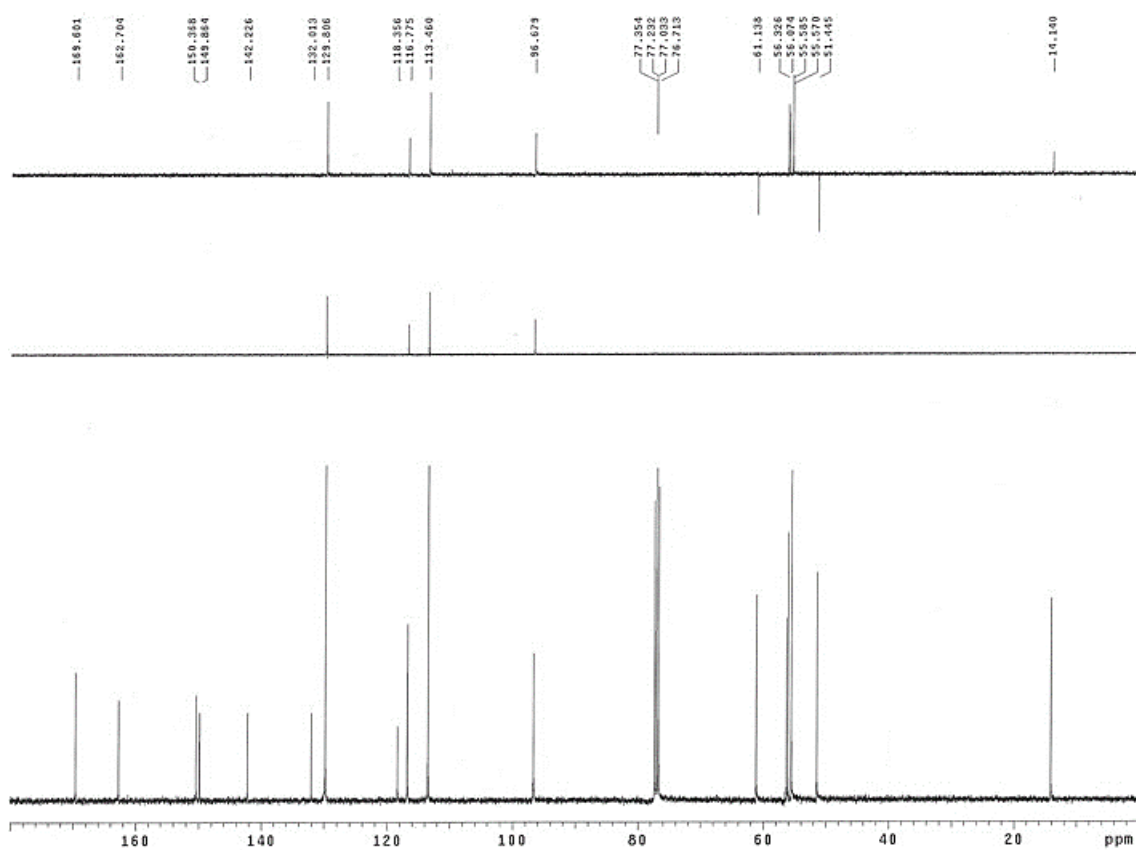


Fig. 261b: Compound **243** ^{13}C NMR spectra.

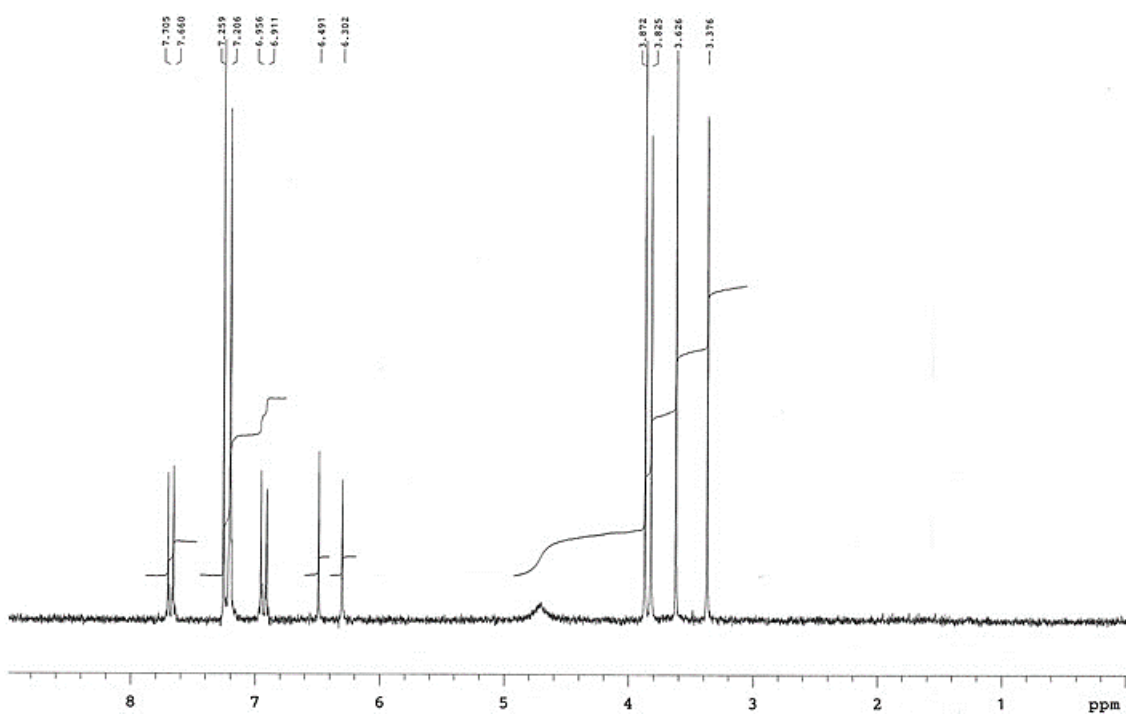


Fig. 262a: Compound **244** ^1H NMR spectra.

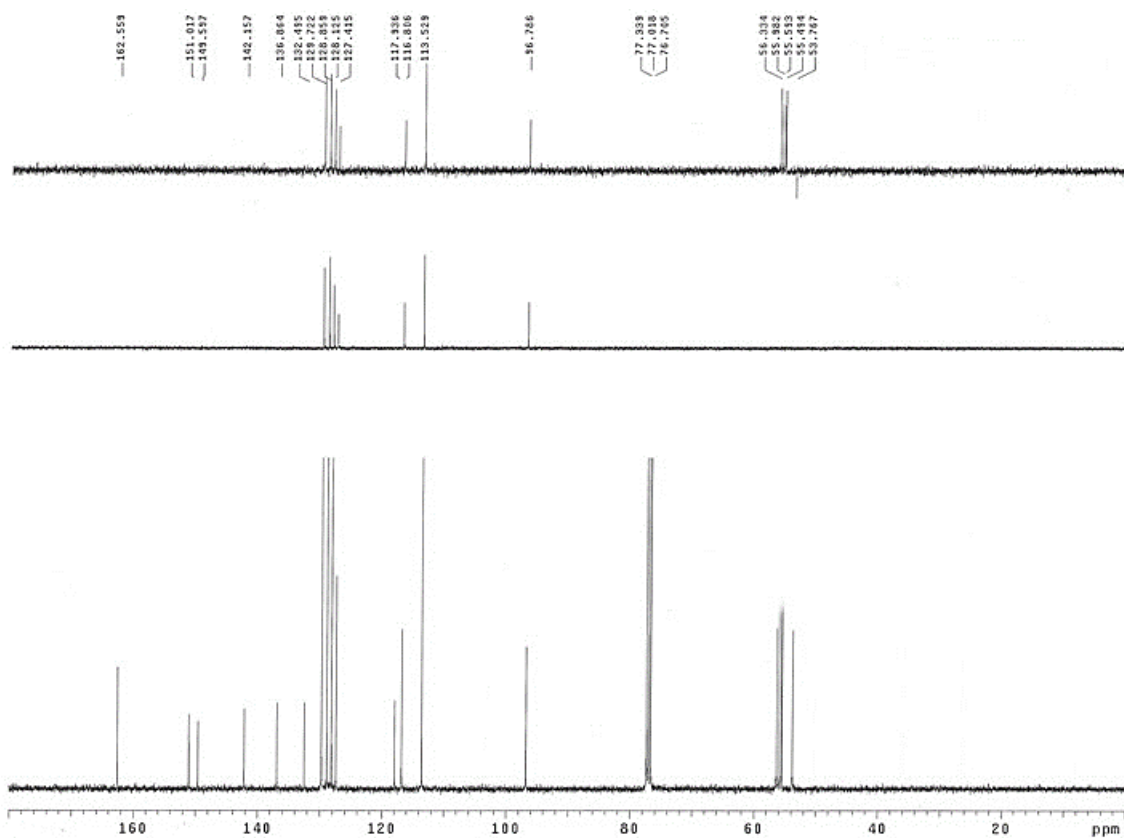


Fig. 262b: Compound **244** ^{13}C NMR spectra.

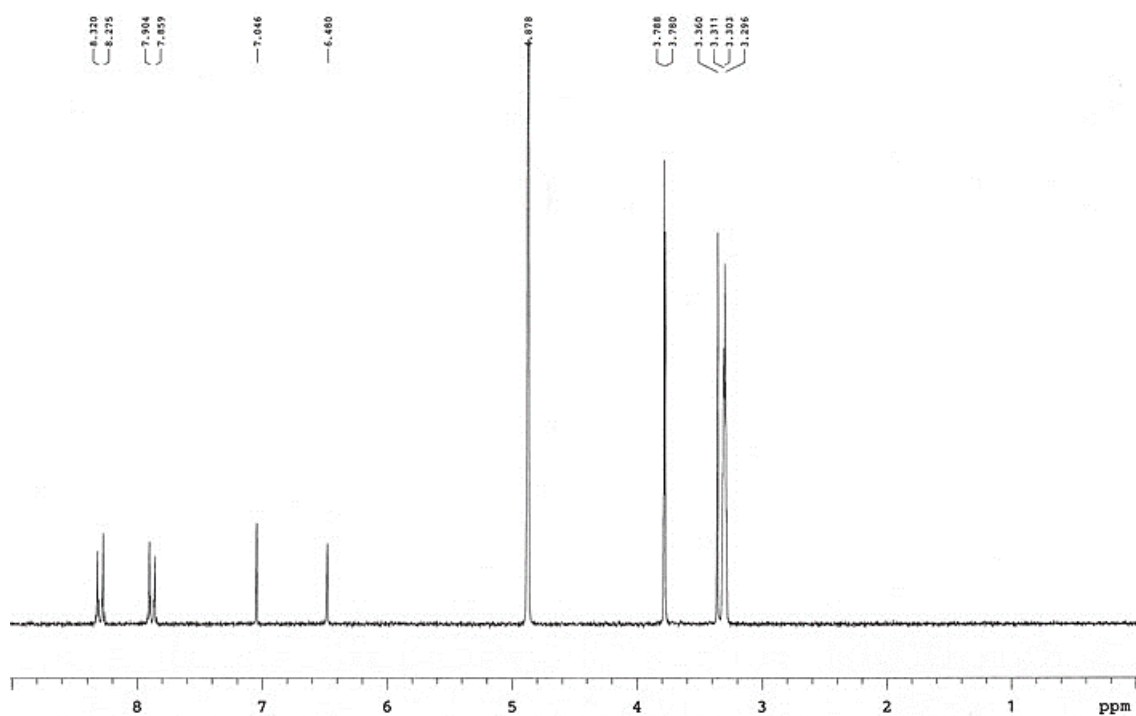


Fig. 263a: Compound **245** ^1H NMR spectra.

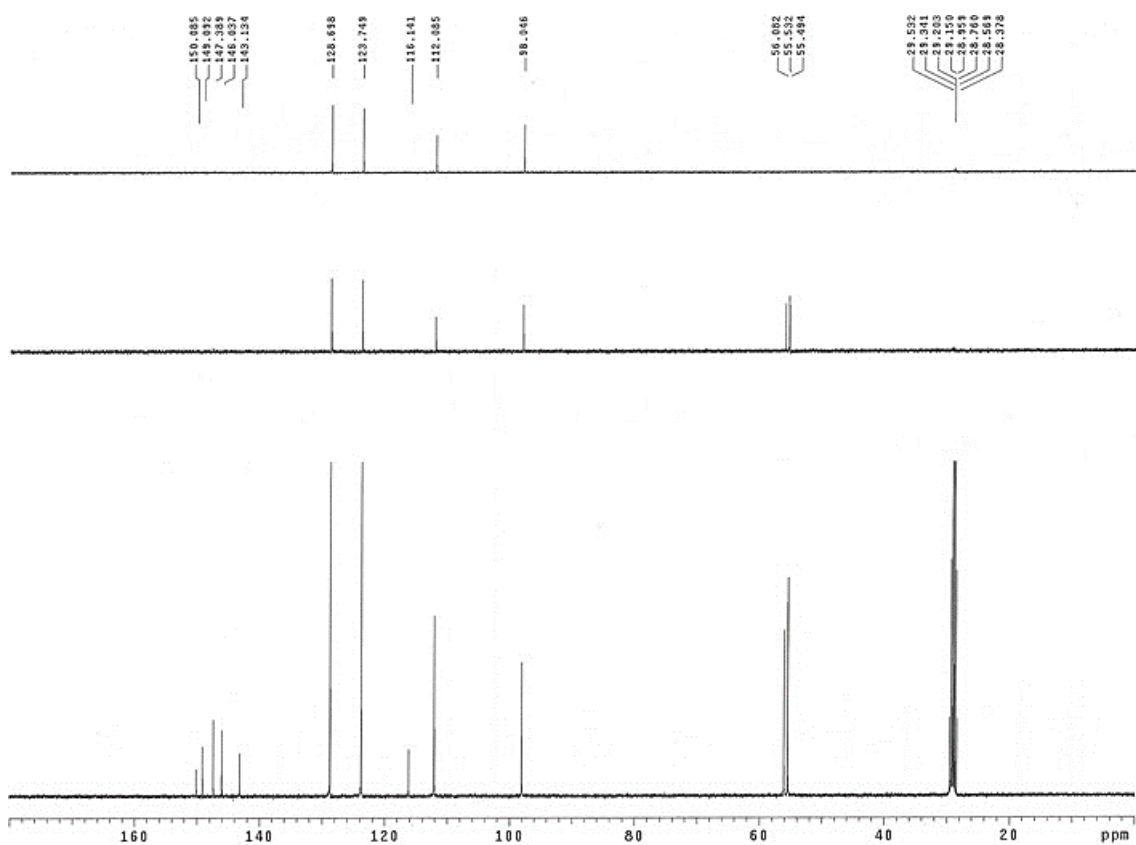


Fig. 263b: Compound **245** ^{13}C NMR spectra.

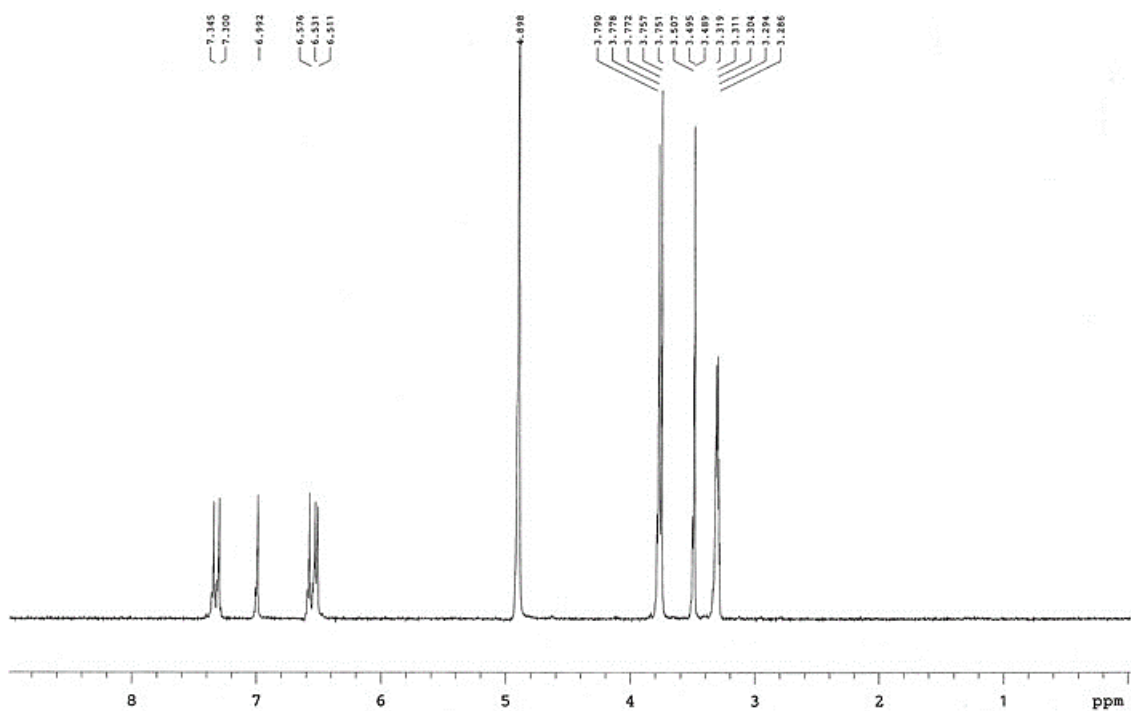


Fig. 264a: Compound **246** ^1H NMR spectra.

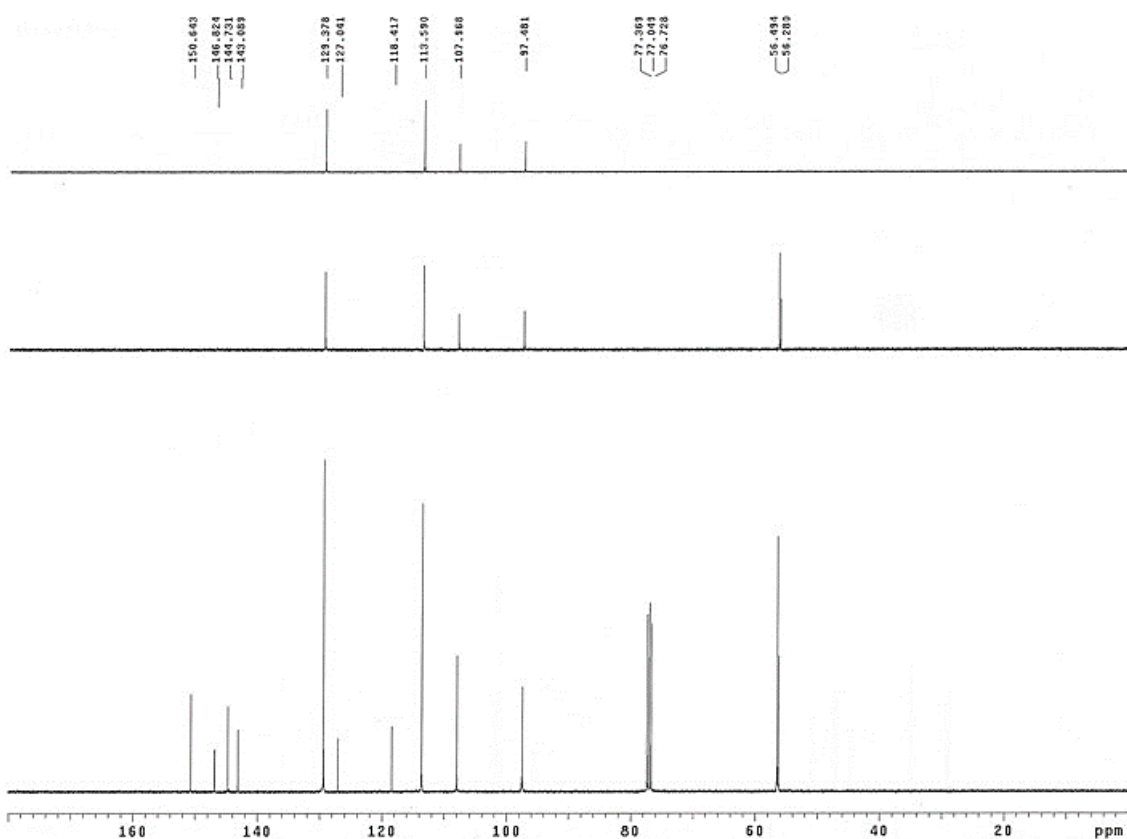


Fig. 264b: Compound **246** ^{13}C NMR spectra.

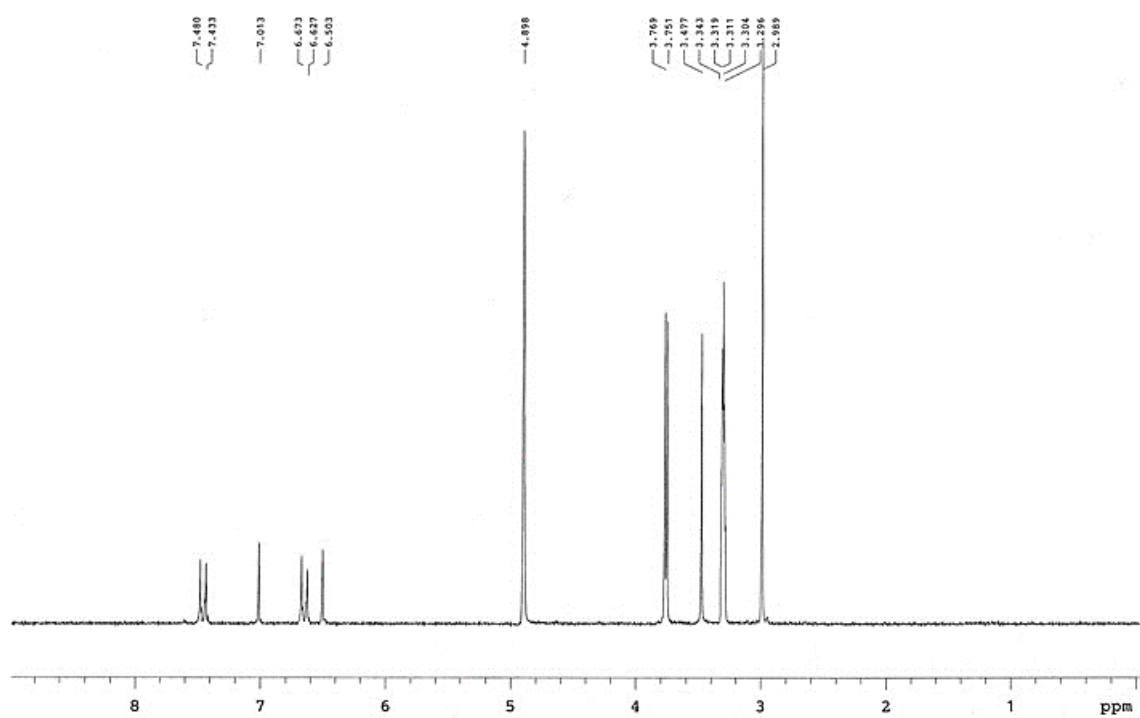


Fig. 265a: Compound **247** ^1H NMR spectra.

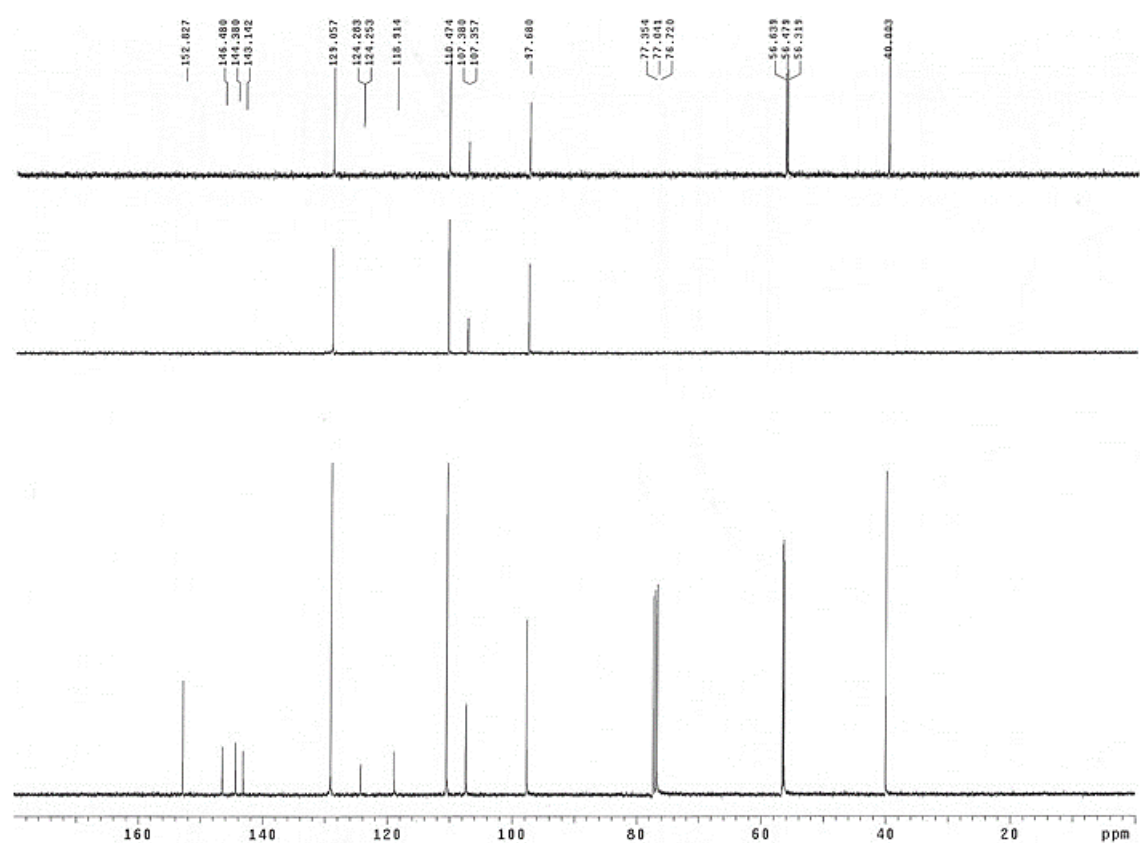


Fig. 265b: Compound **247** ^{13}C NMR spectra.

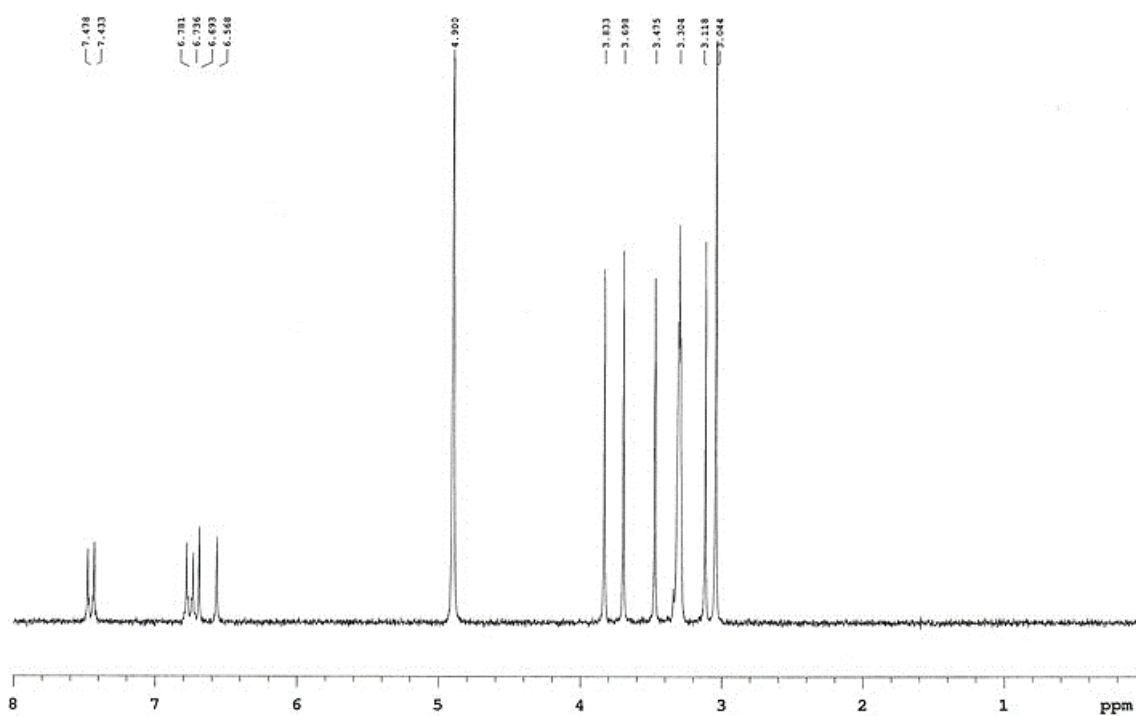


Fig. 266a: Compound **248** ^1H NMR spectra.

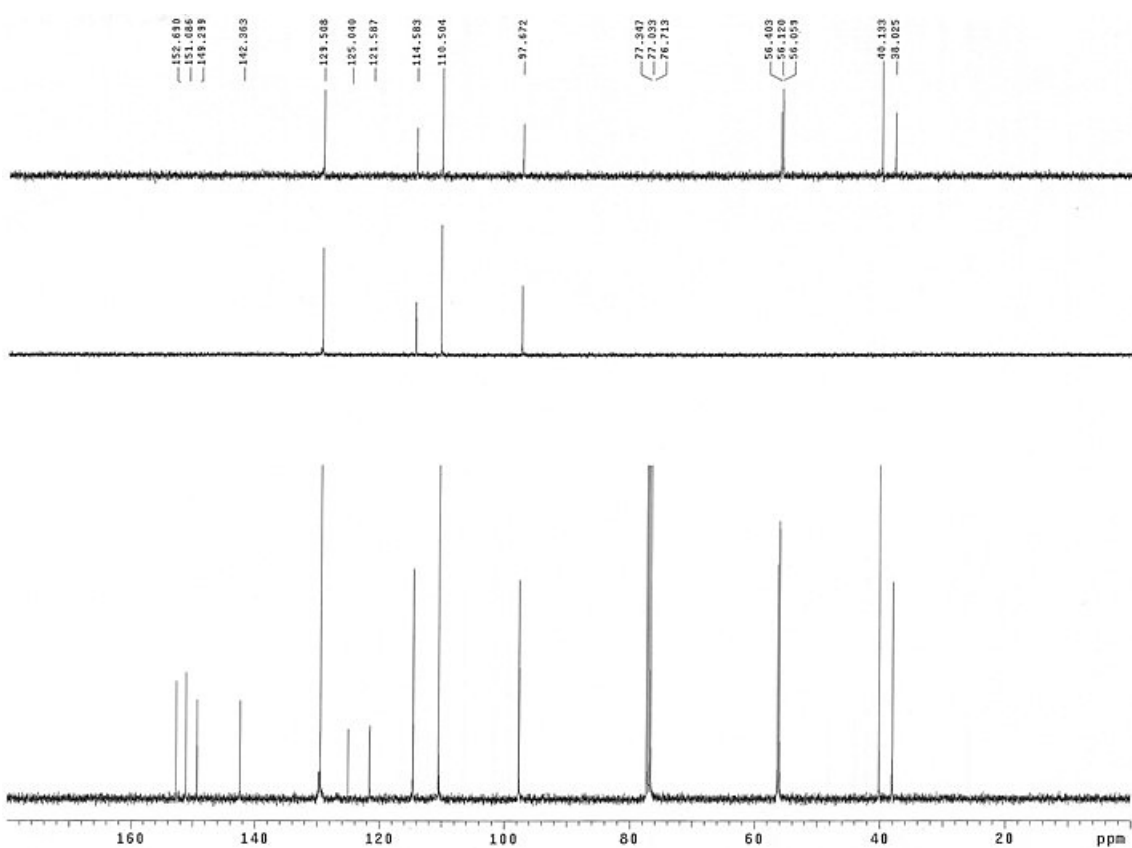


Fig. 266b: Compound **248** ^{13}C NMR spectra.

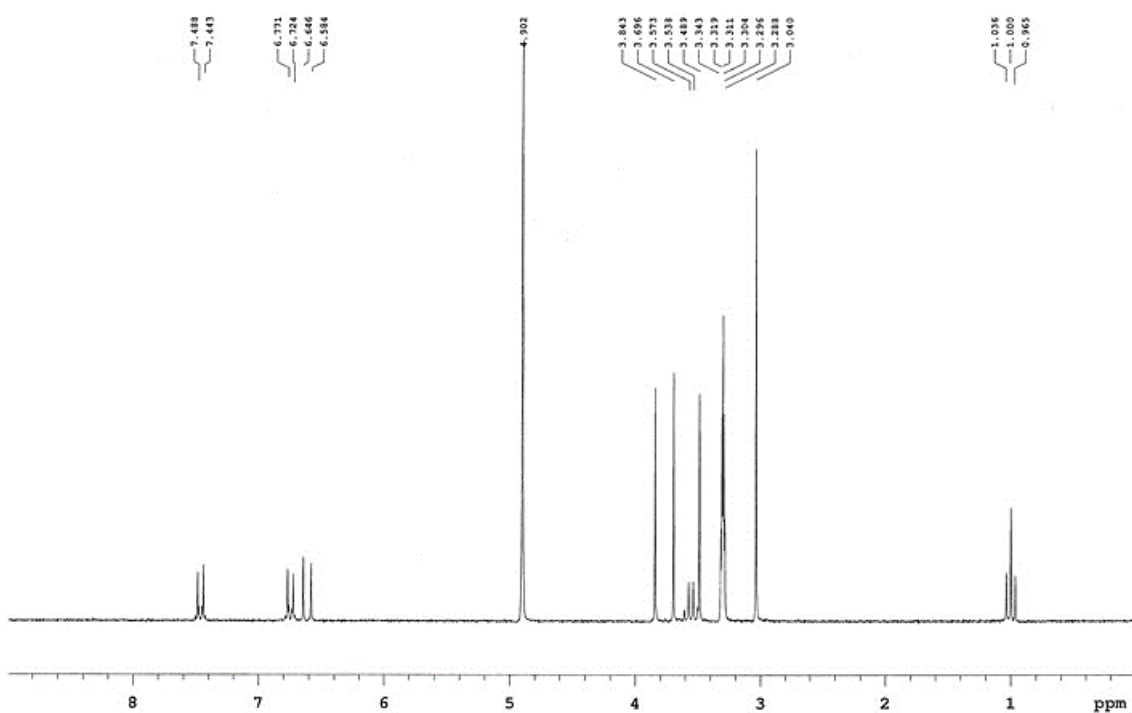


Fig. 267a: Compound **249** ^1H NMR spectra.

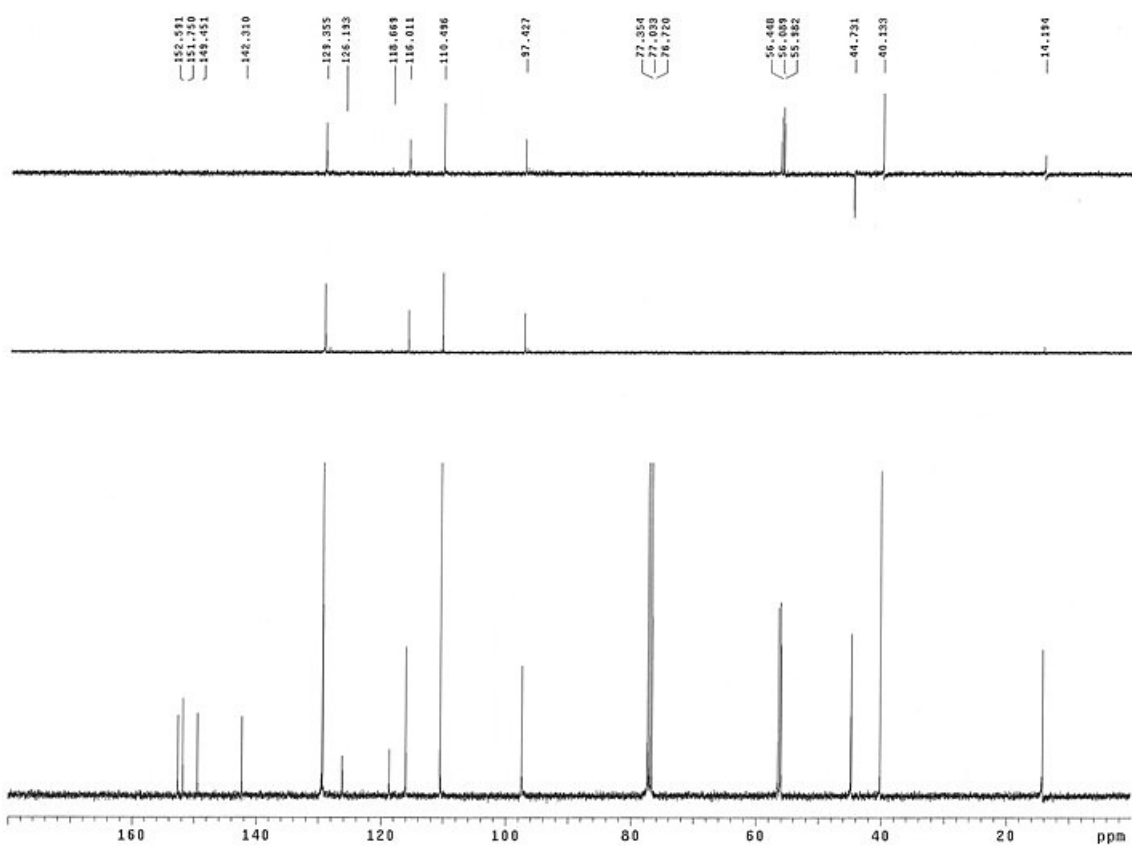


Fig. 267b: Compound **249** ^{13}C NMR spectra.

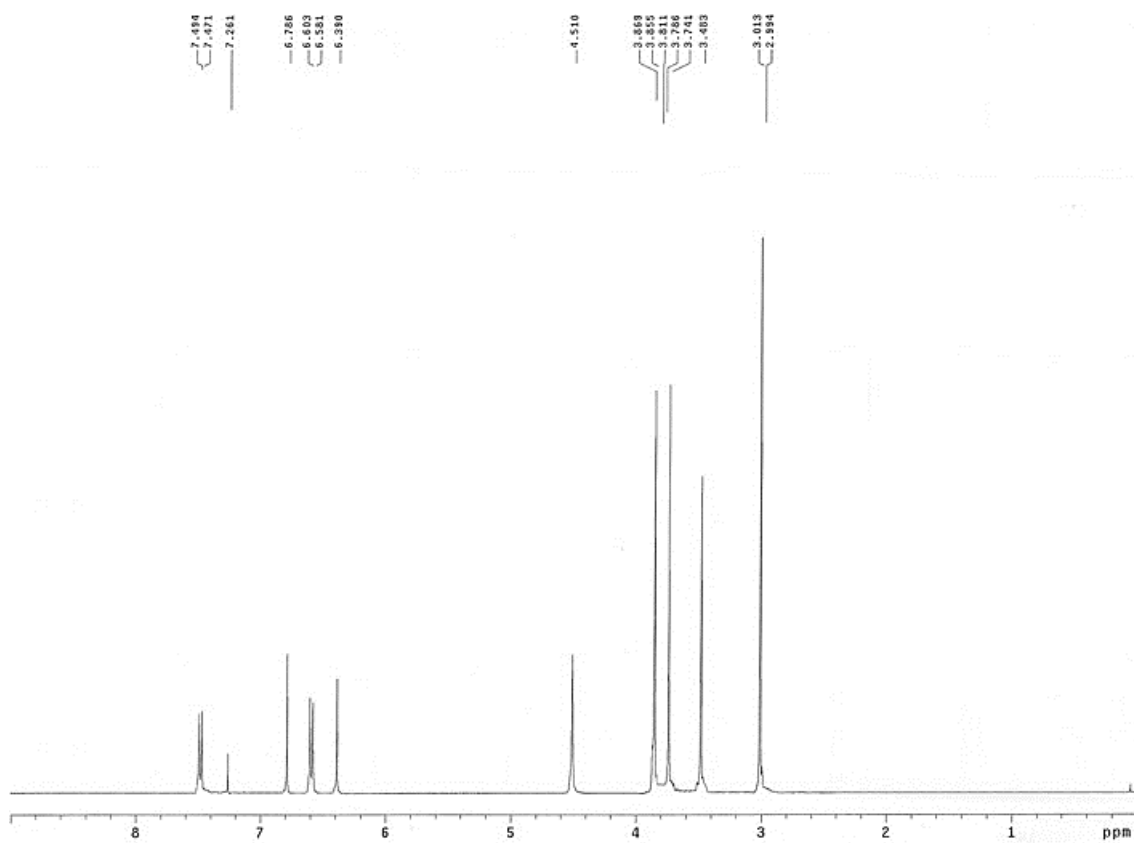


Fig. 268a: Compound **250** ^1H NMR spectra.

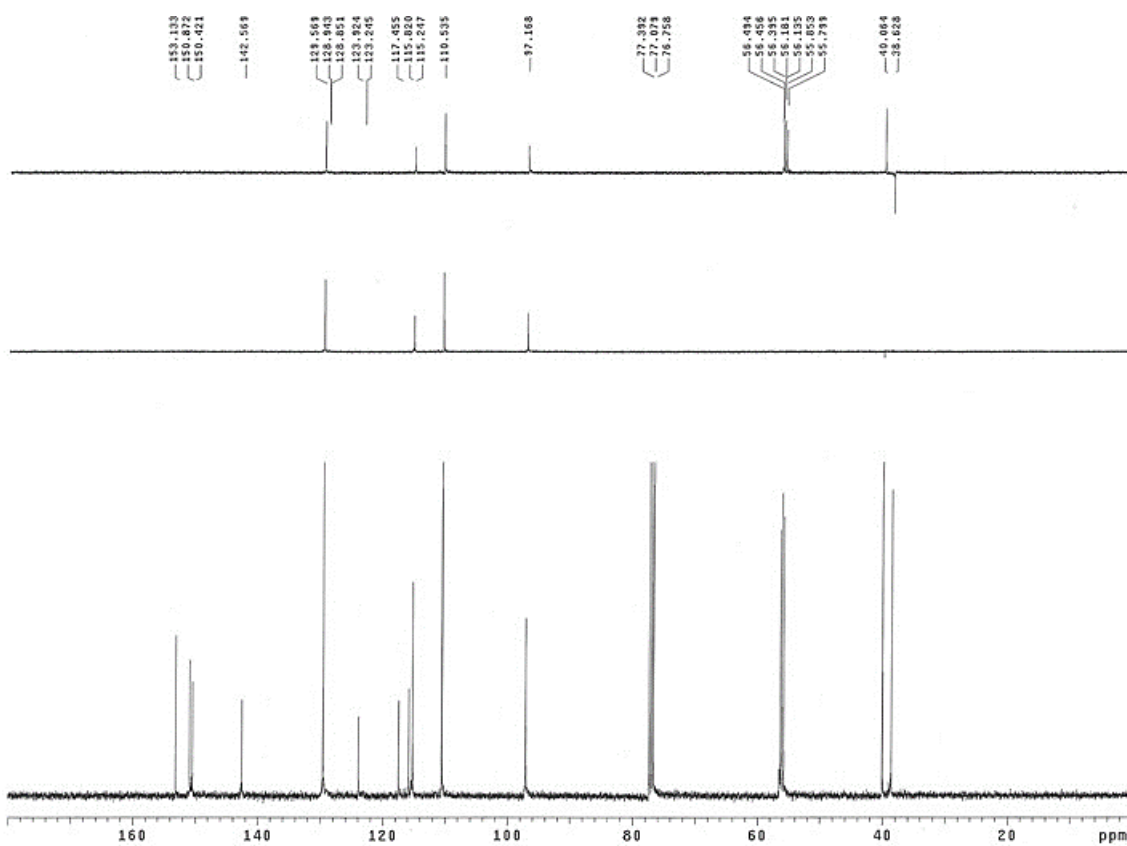


Fig. 268b: Compound **250** ^{13}C NMR spectra.

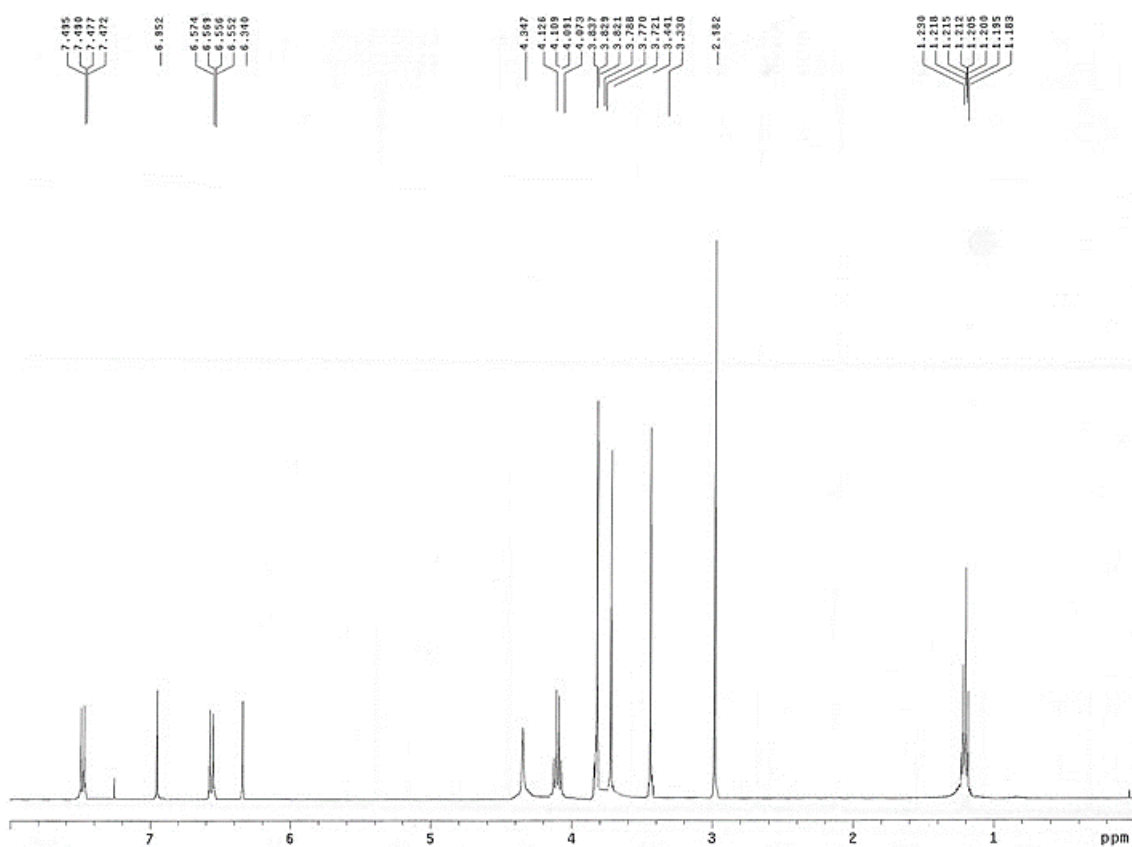


Fig. 269a: Compound **251** ^1H NMR spectra.

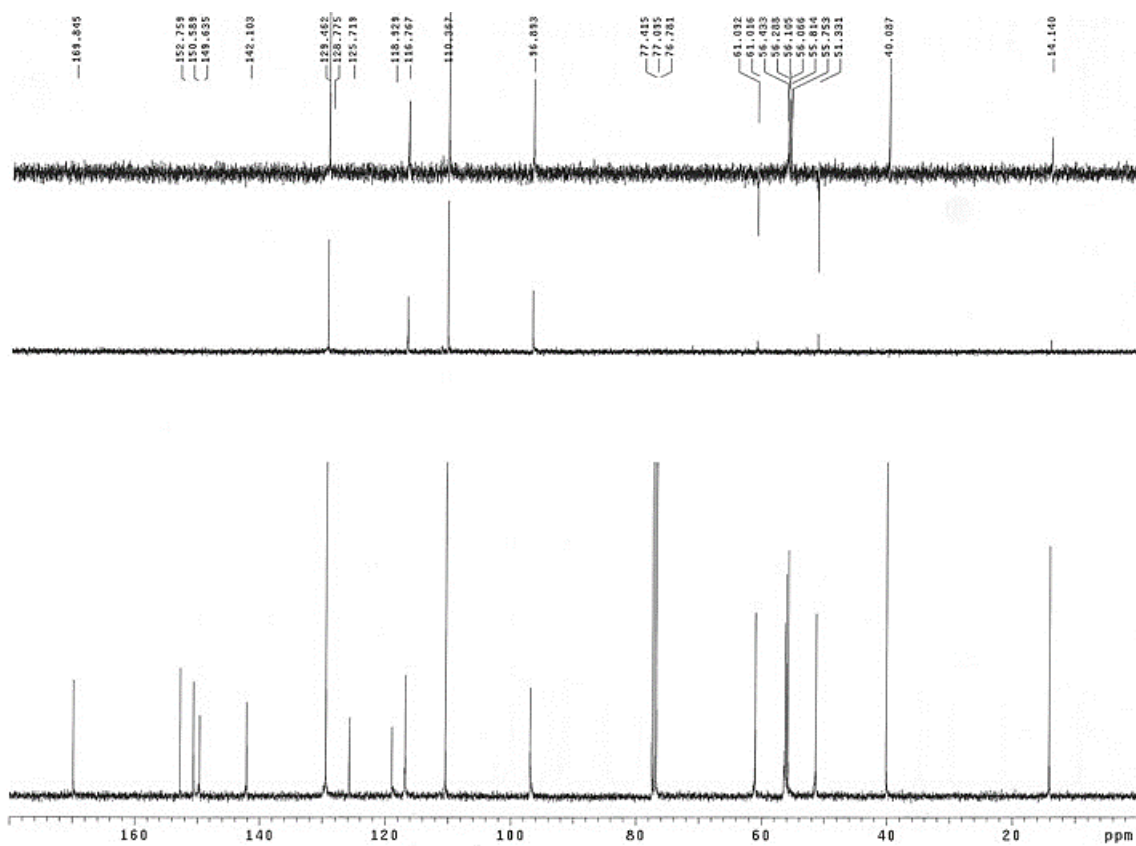


Fig. 269b: Compound **251** ^{13}C NMR spectra.

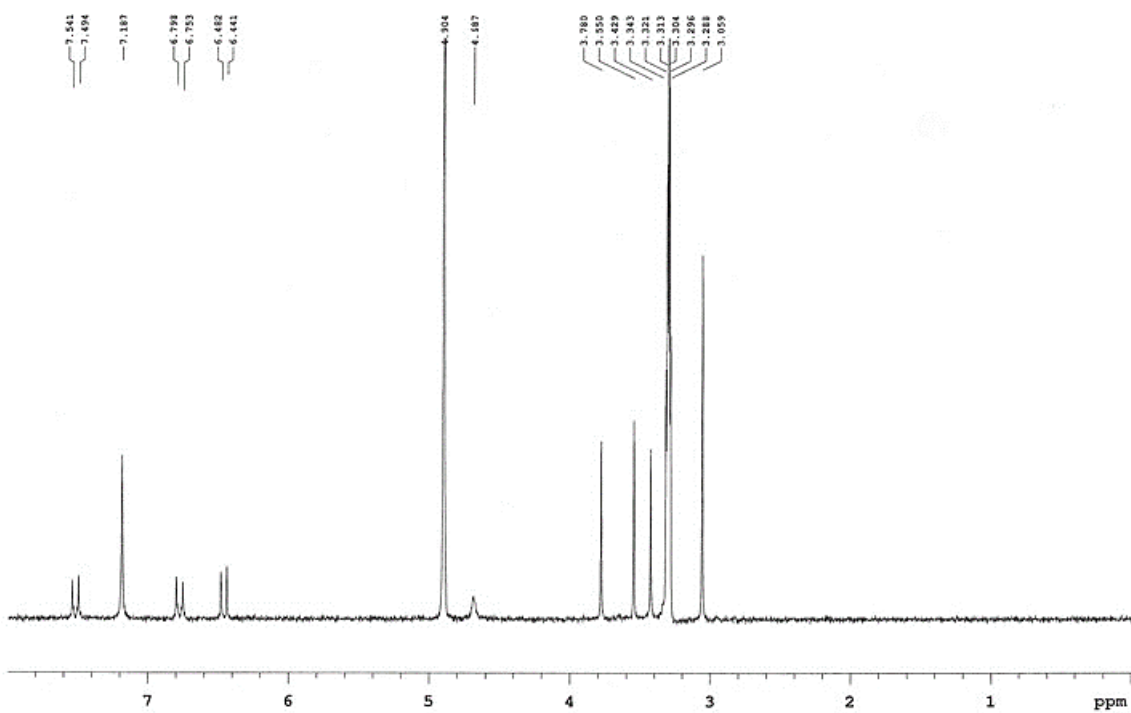


Fig. 270a: Compound **252** ^1H NMR spectra.

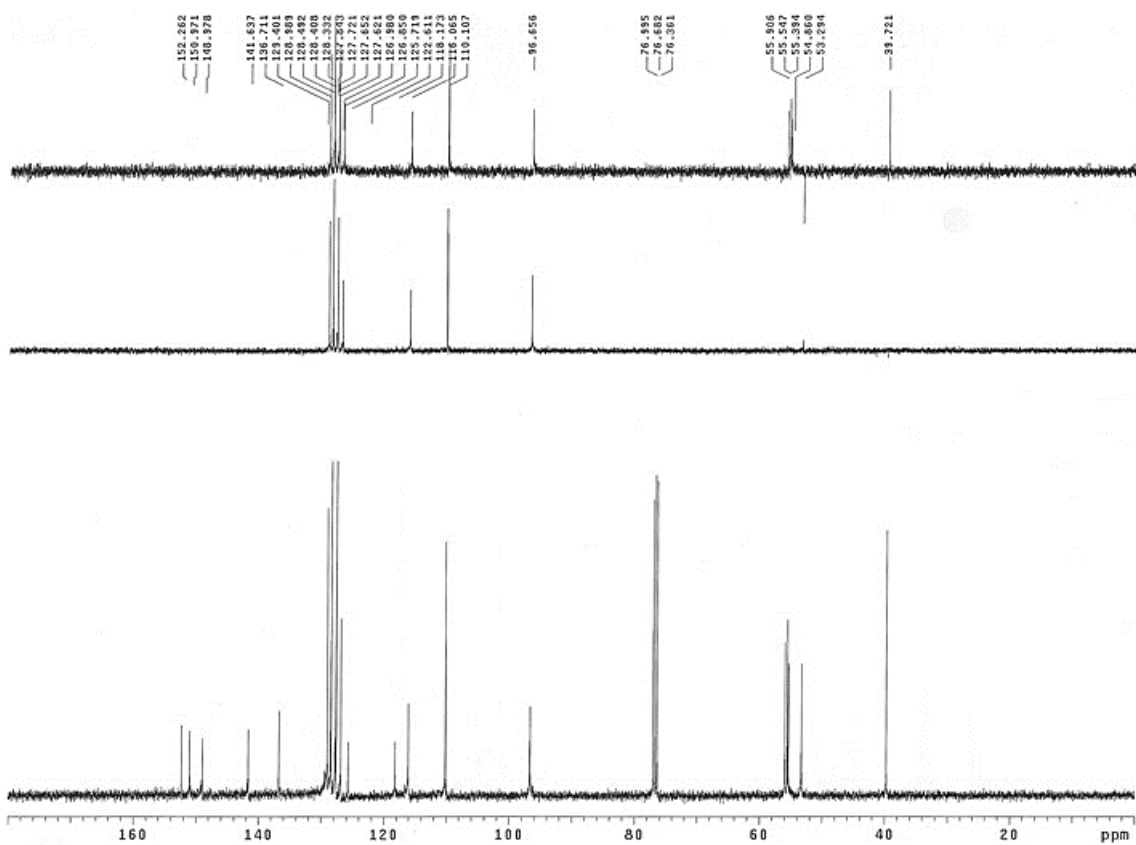


Fig. 270b: Compound **252** ^{13}C NMR spectra.

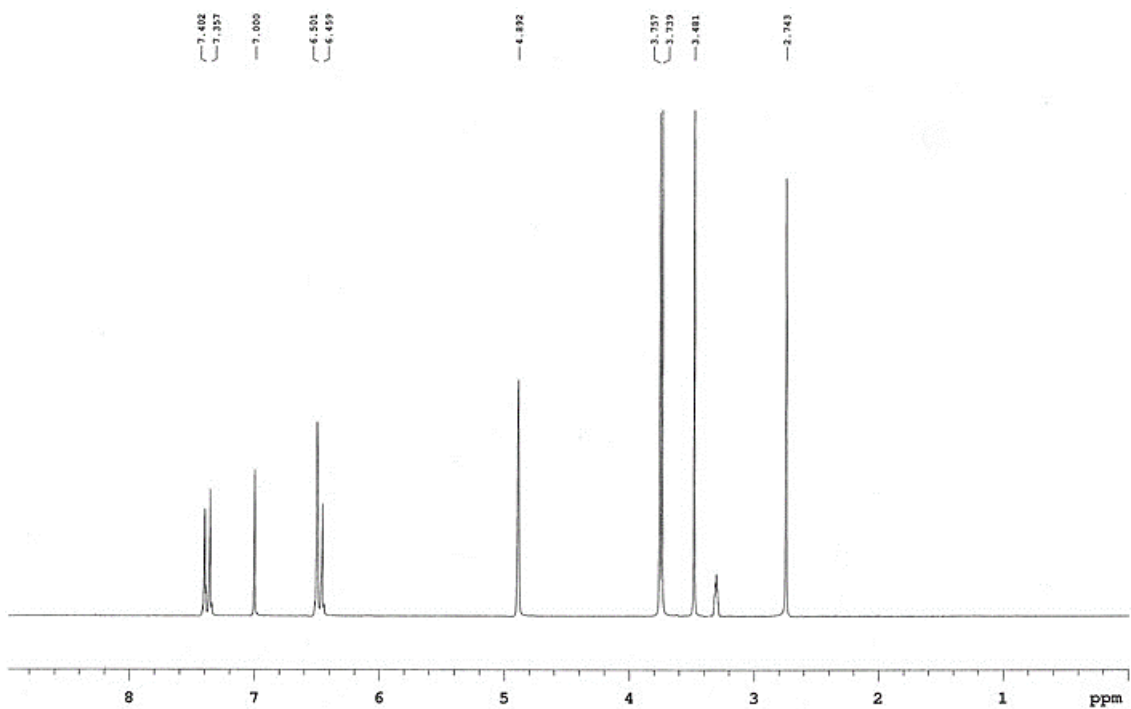


Fig. 272a: Compound **254** ^1H NMR spectra.

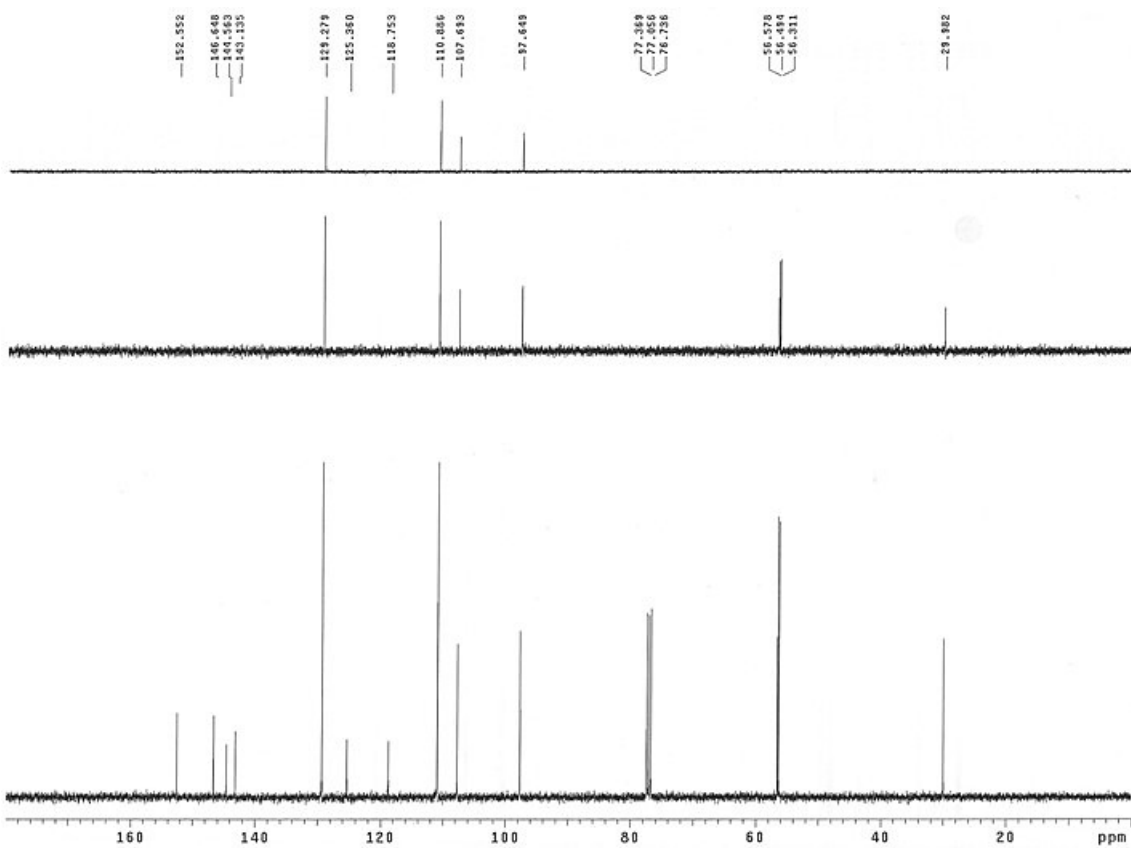


Fig. 272b: Compound **254** ^{13}C NMR spectra.

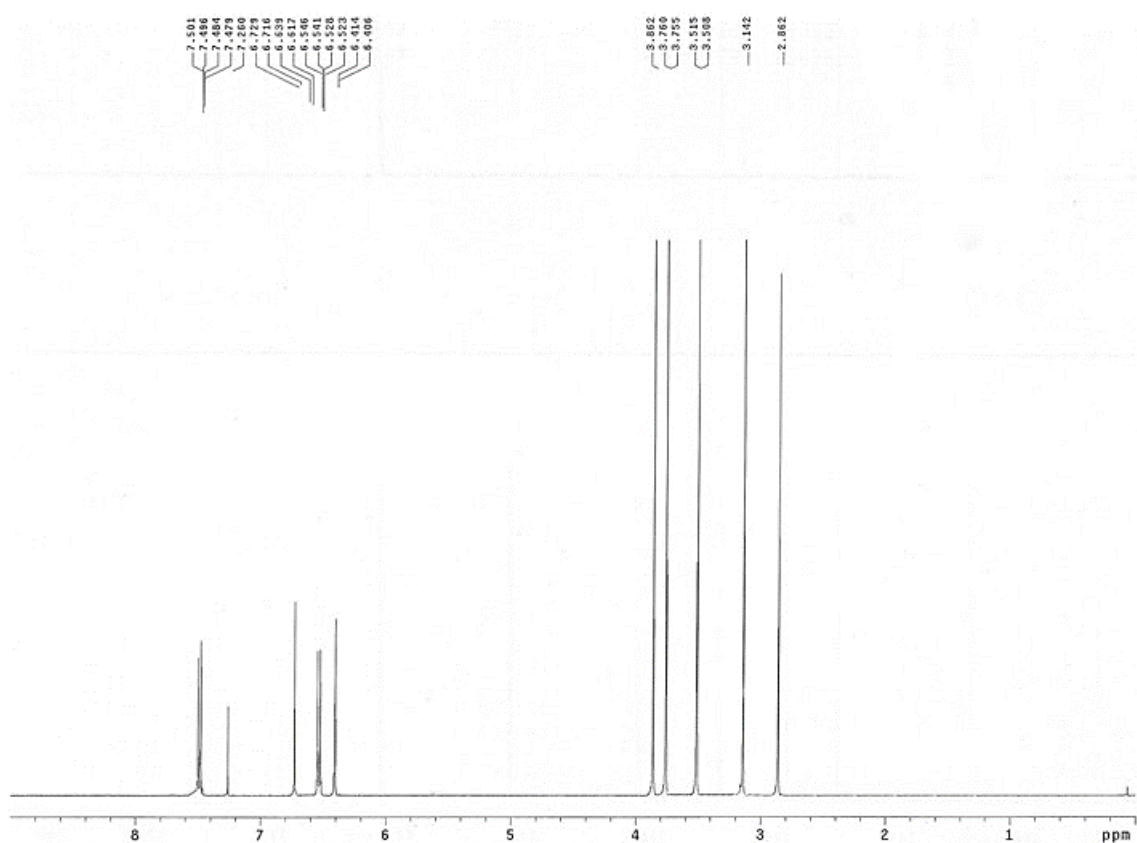


Fig. 273a: Compound 255 ^1H NMR spectra.

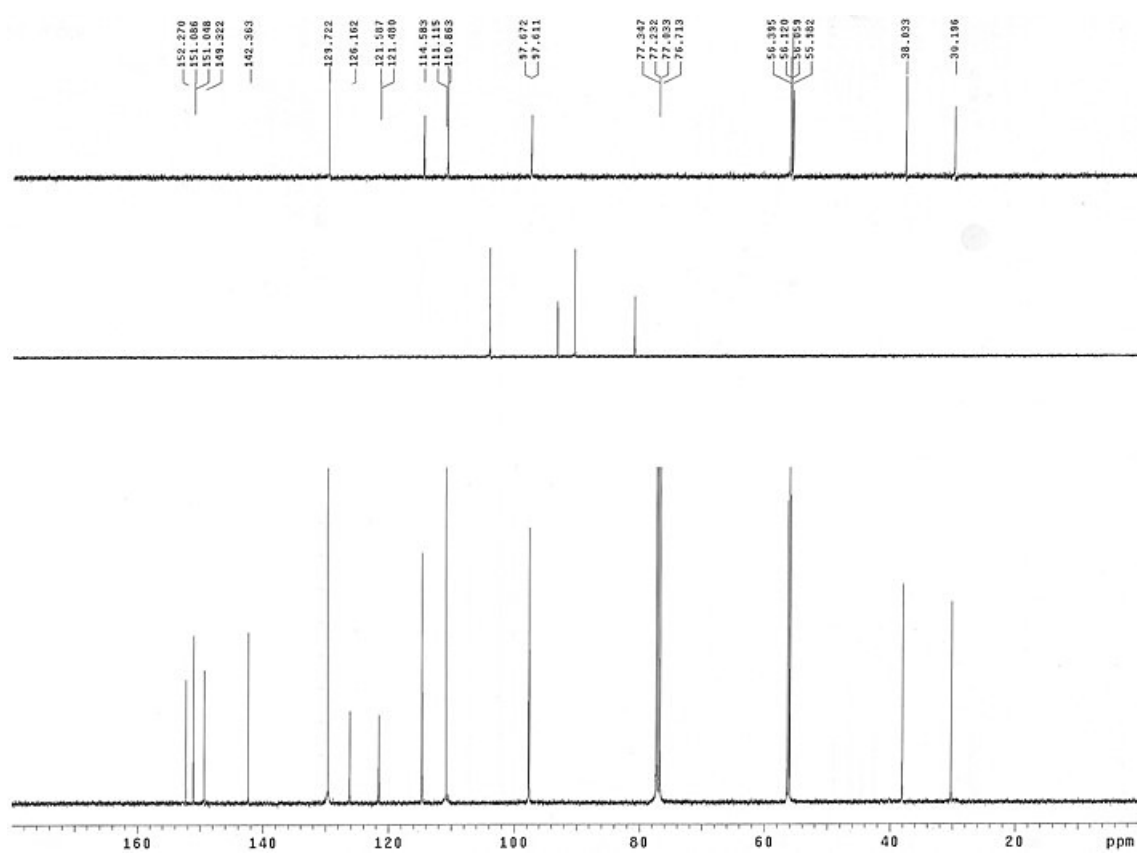


Fig. 273b: Compound 255 ^{13}C NMR spectra.

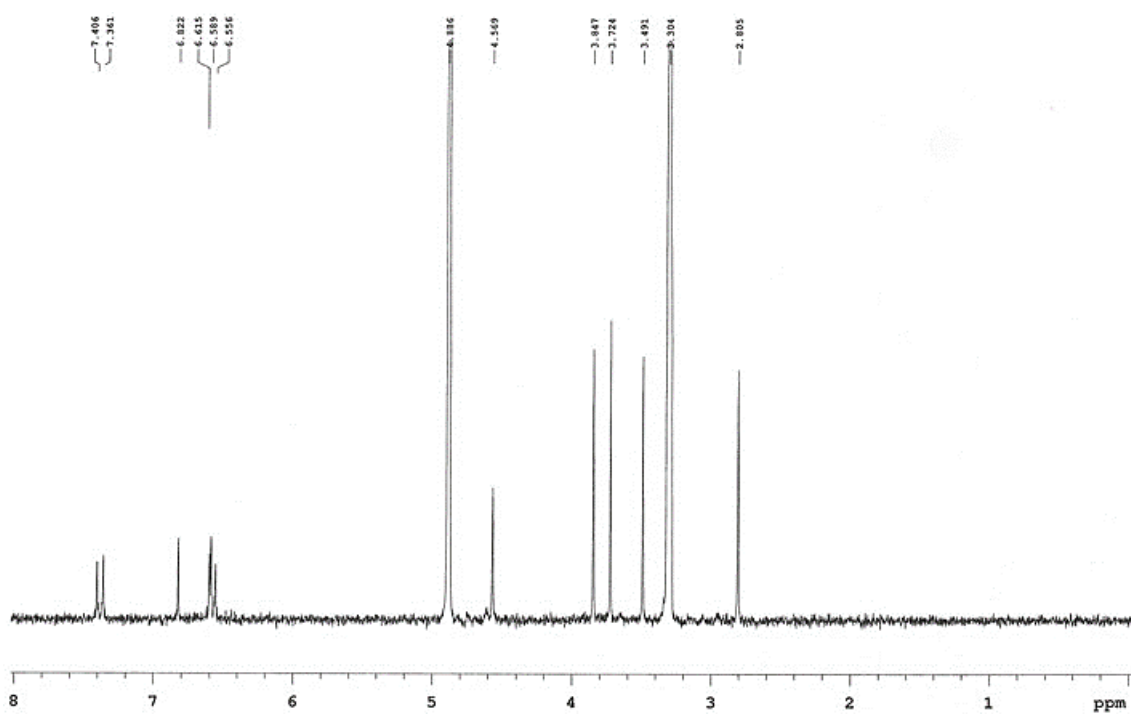


Fig. 274a: Compound **256** ^1H NMR spectra.

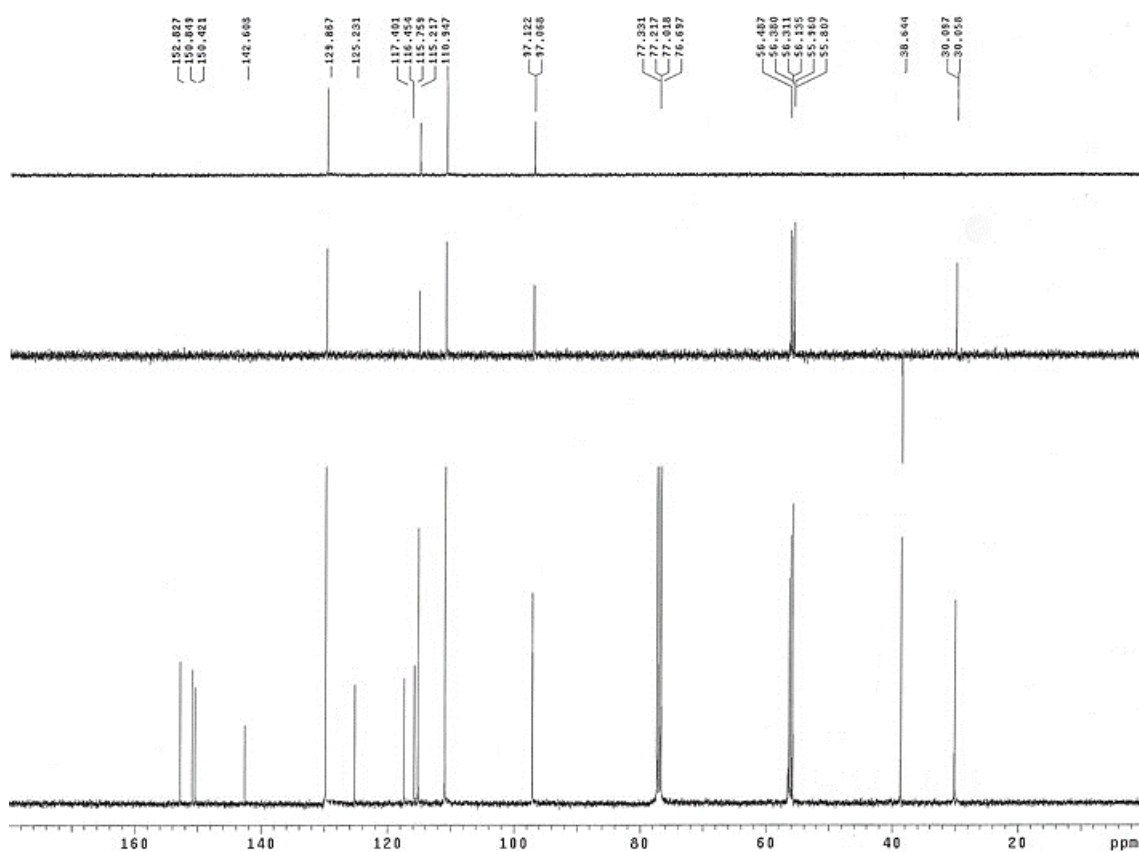


Fig. 274b: Compound **256** ^{13}C NMR spectra.

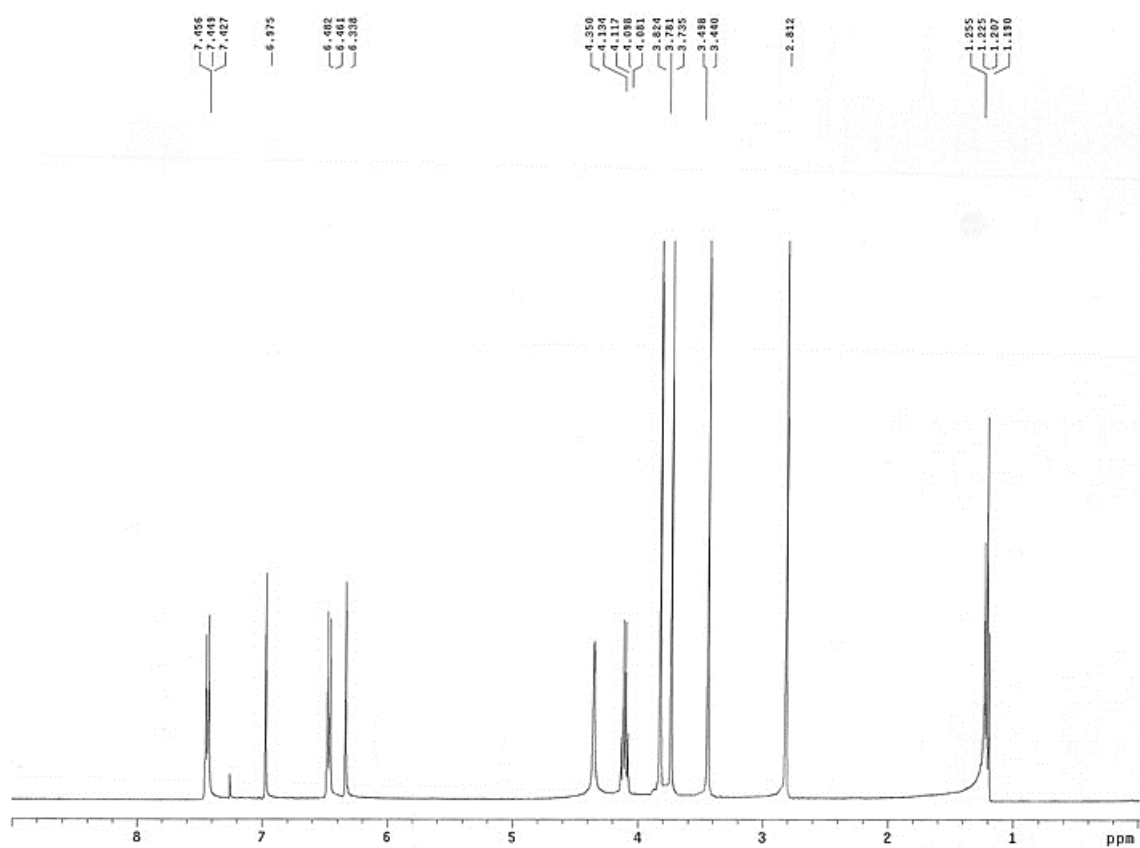


Fig. 275a: Compound **257** ^1H NMR spectra.

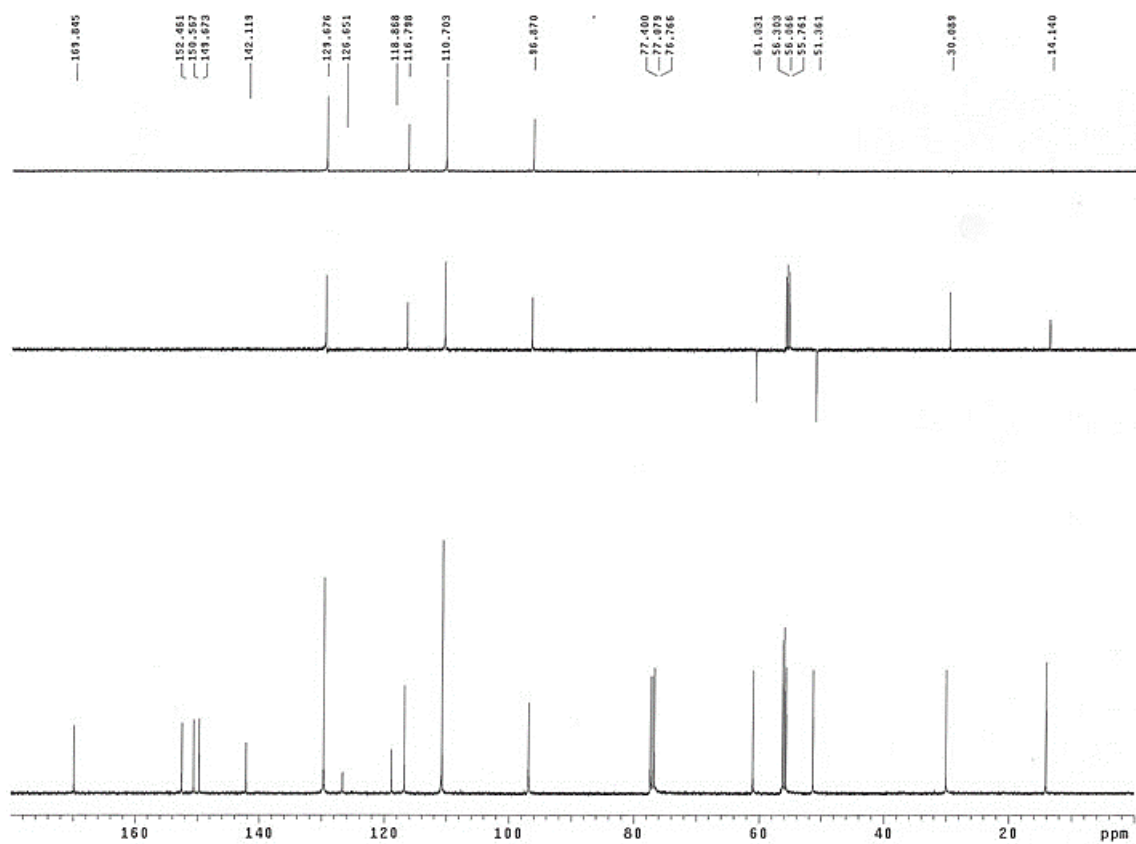


Fig. 275b: Compound **257** ^{13}C NMR spectra.

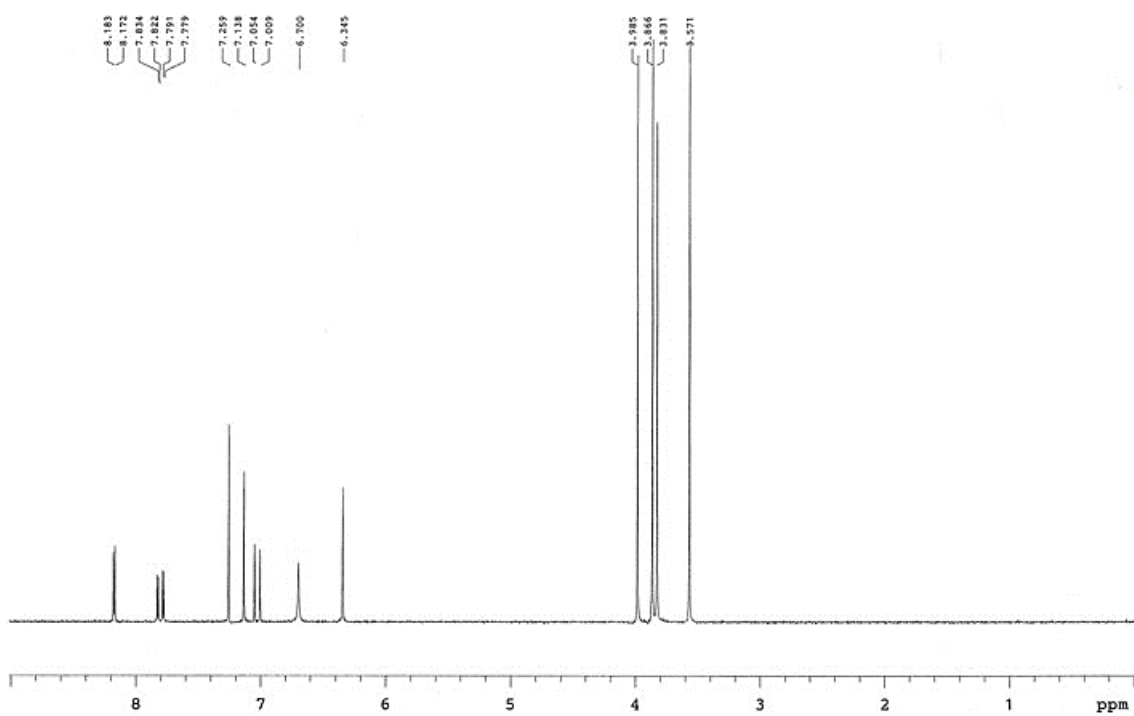


Fig. 276a: Compound **258** ^1H NMR spectra.

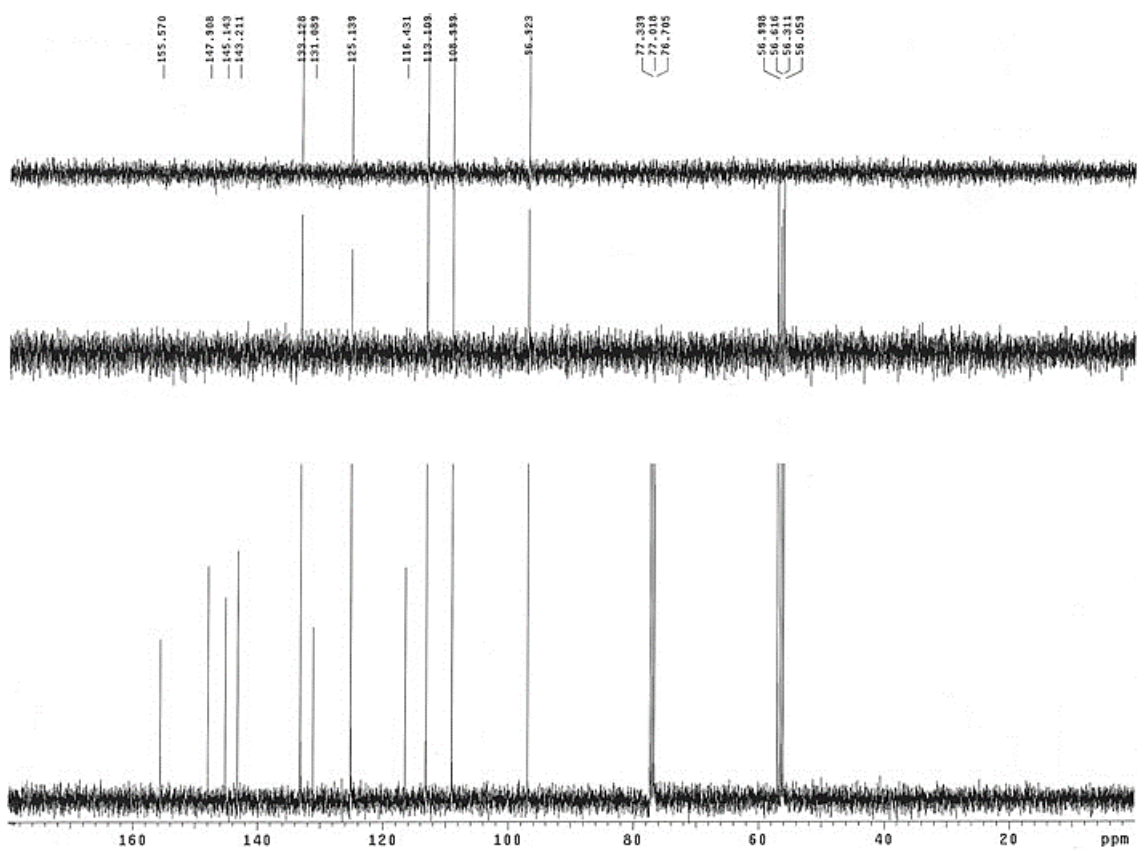


Fig. 276b: Compound **258** ^{13}C NMR spectra.

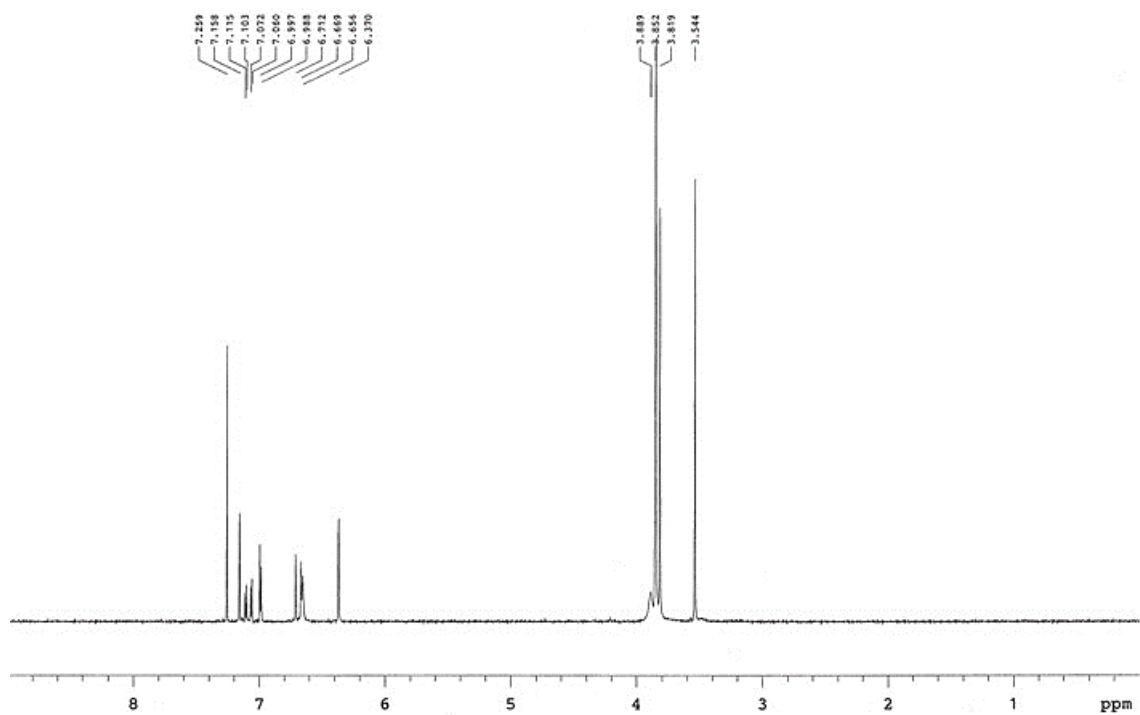


Fig. 277a: Compound **259** ^1H NMR spectra.

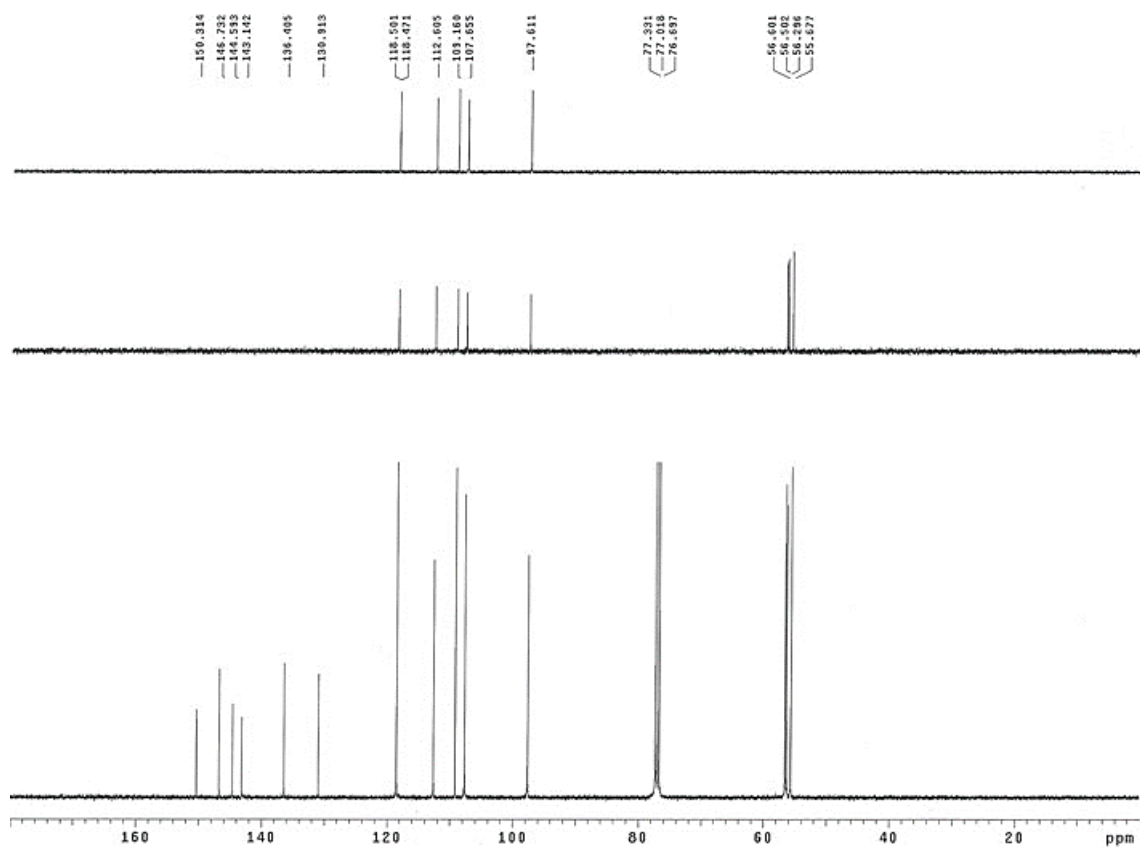


Fig. 277b: Compound **259** ^{13}C NMR spectra.

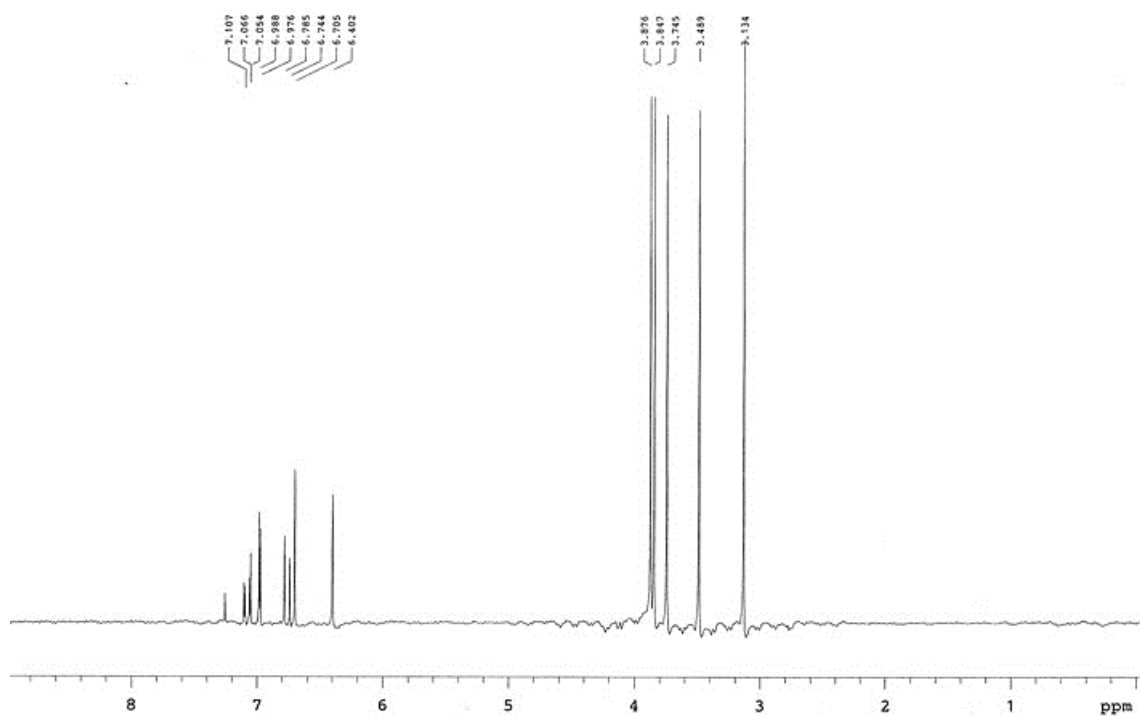


Fig. 278a: Compound **260** ^1H NMR spectra.

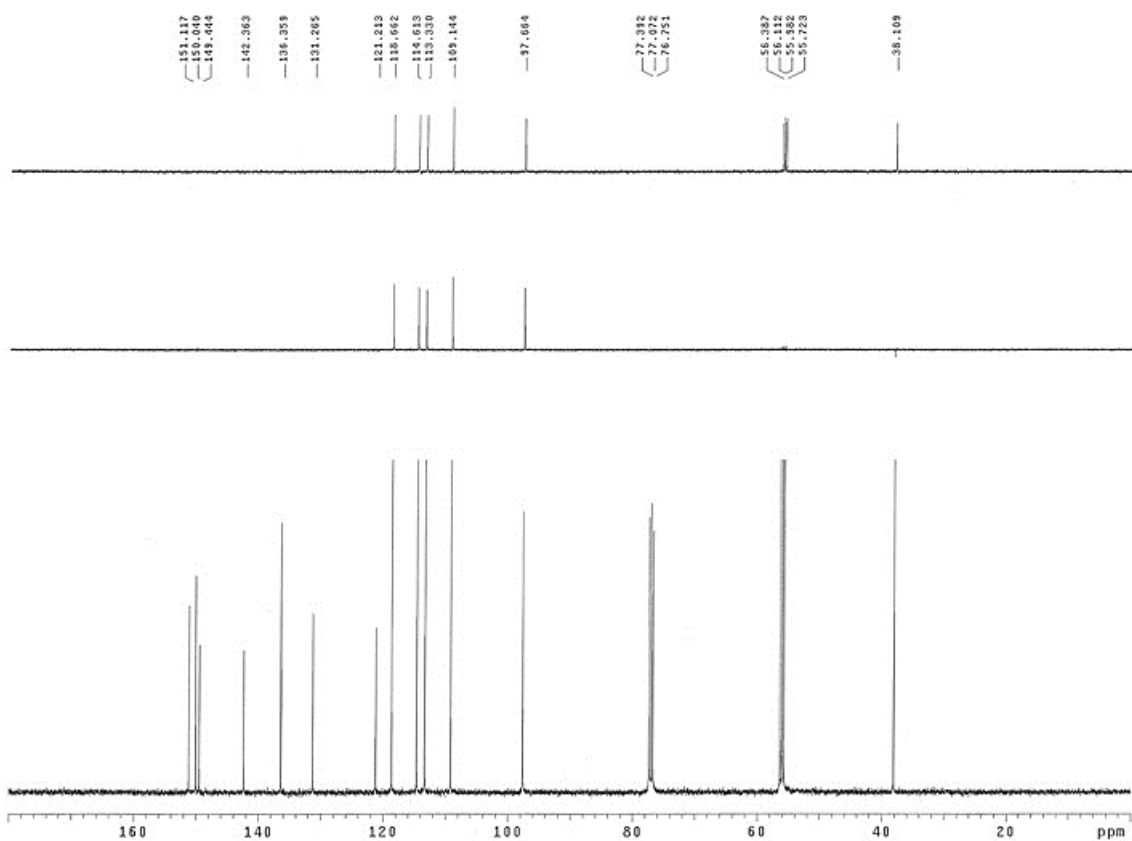


Fig. 278b: Compound **260** ^{13}C NMR spectra.

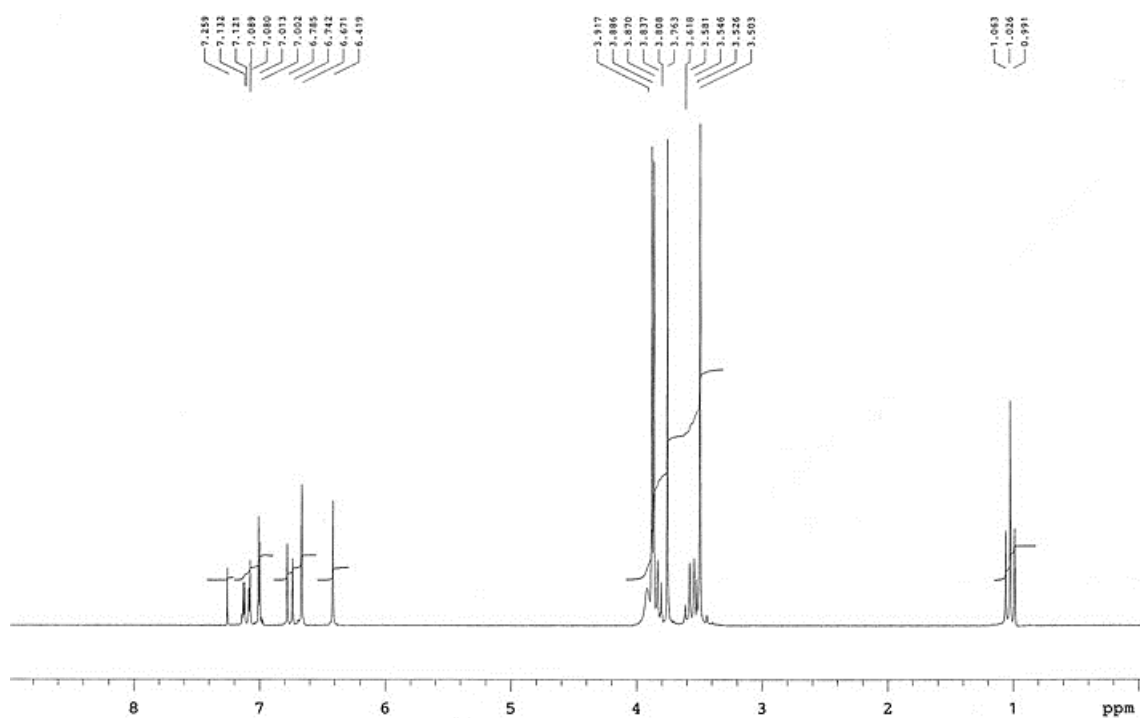


Fig. 279a: Compound **261** ^1H NMR spectra.

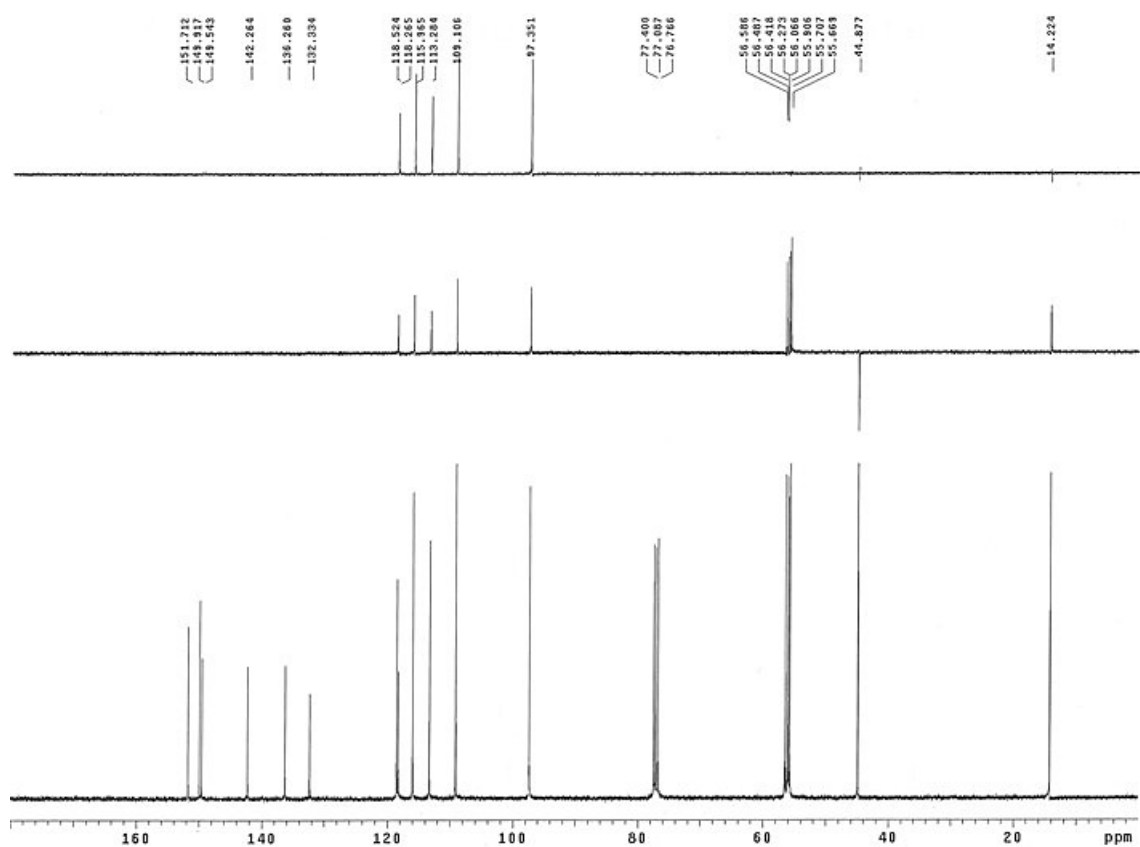


Fig. 279b: Compound **261** ^{13}C NMR spectra.

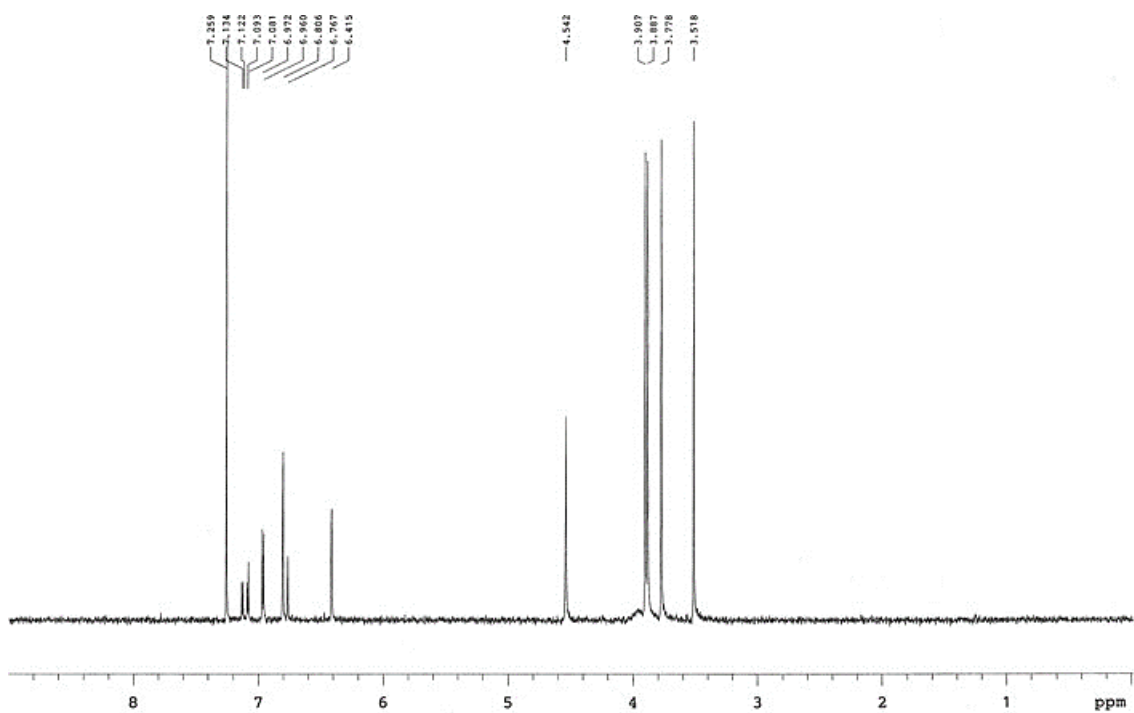


Fig. 280a: Compound **262** ^1H NMR spectra.

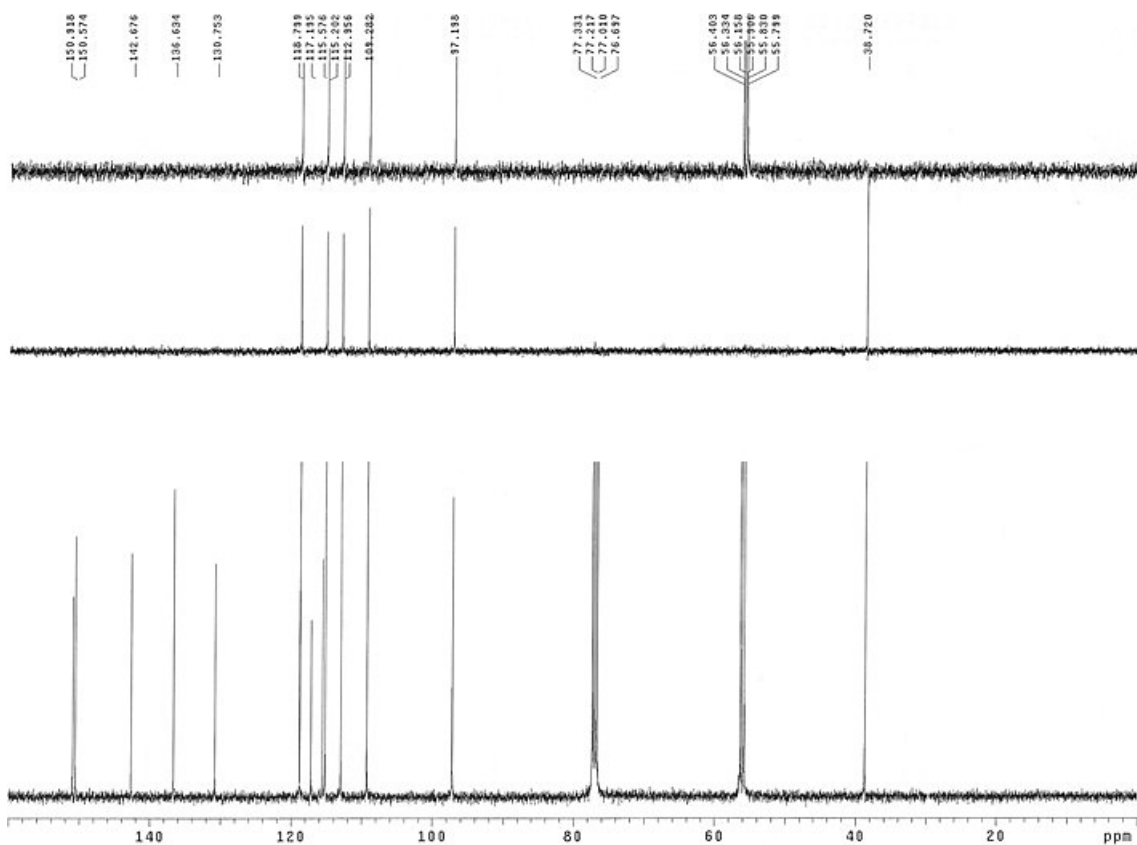


Fig. 280b: Compound **262** ^{13}C NMR spectra.

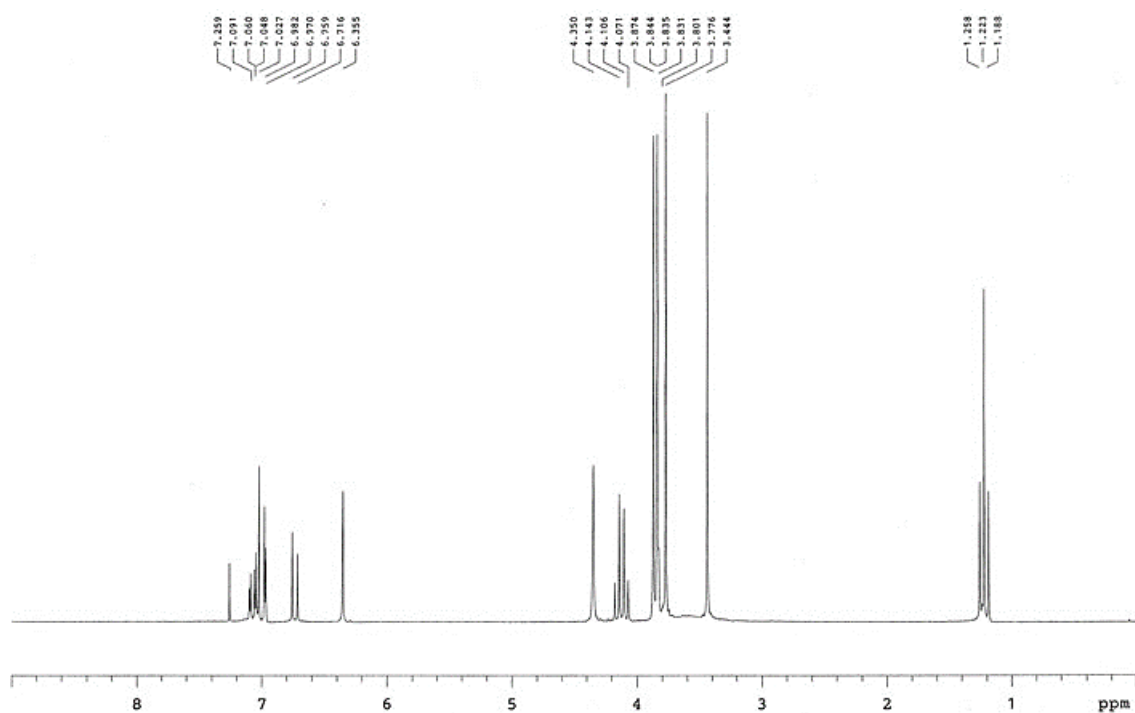


Fig. 281a: Compound **263a** ¹H NMR spectra.

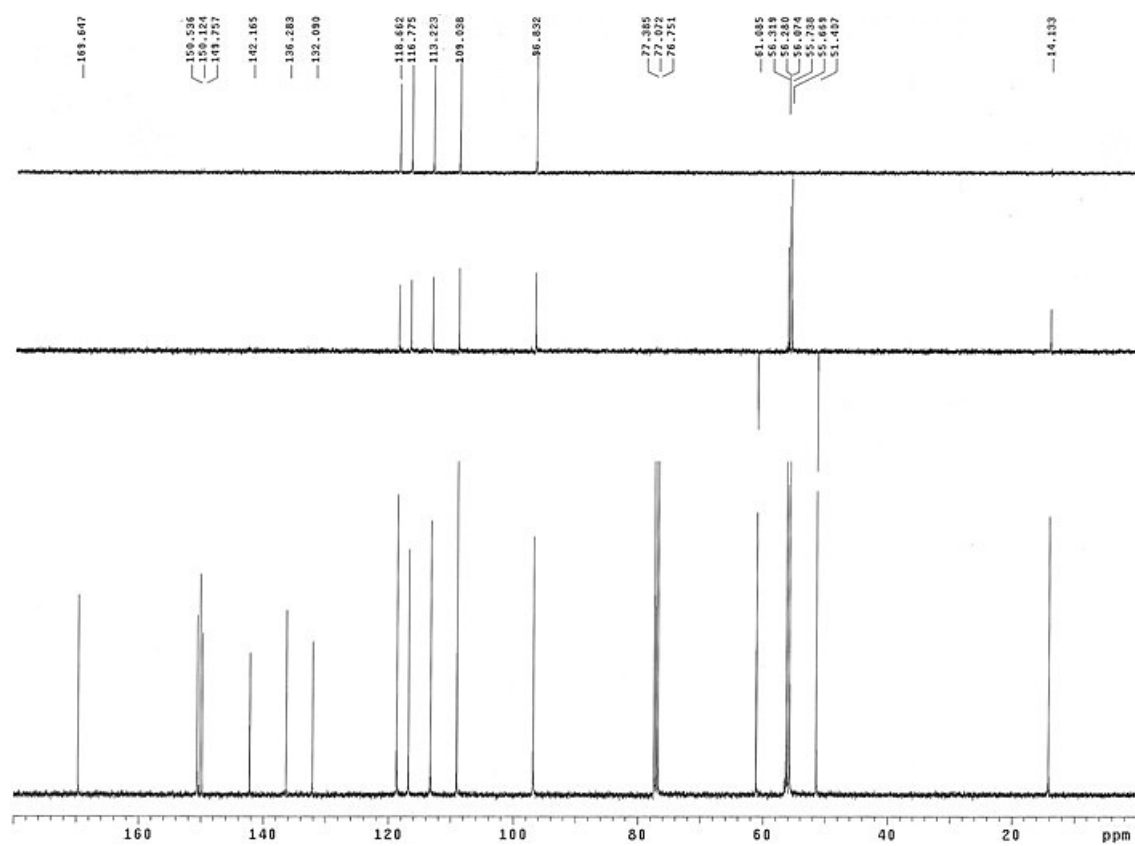


Fig. 281b: Compound **263a** ¹³C NMR spectra.

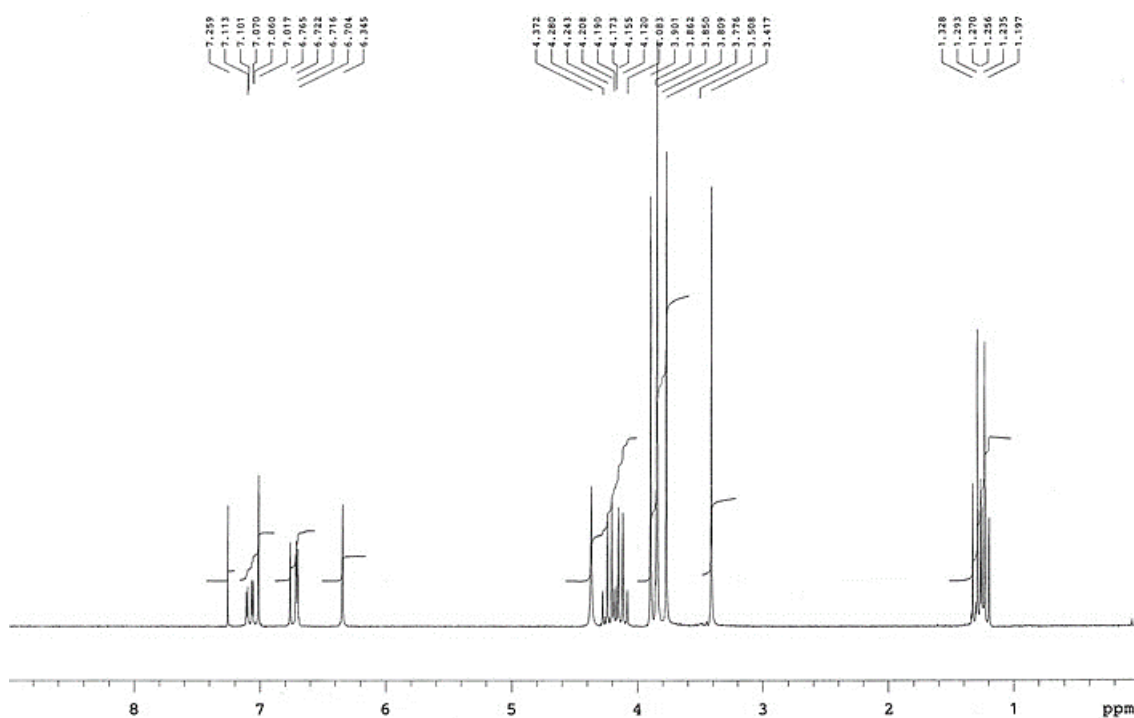


Fig. 282a: Compound **263b** ^1H NMR spectra.

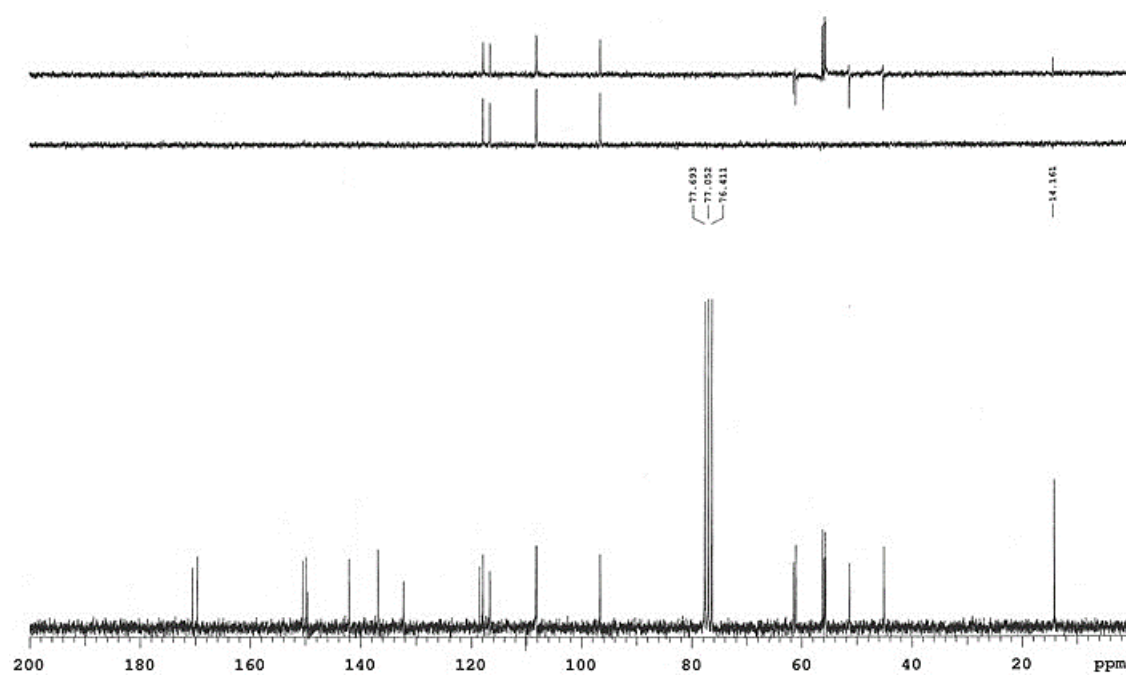


Fig. 282b: Compound **263b** ^{13}C NMR spectra.

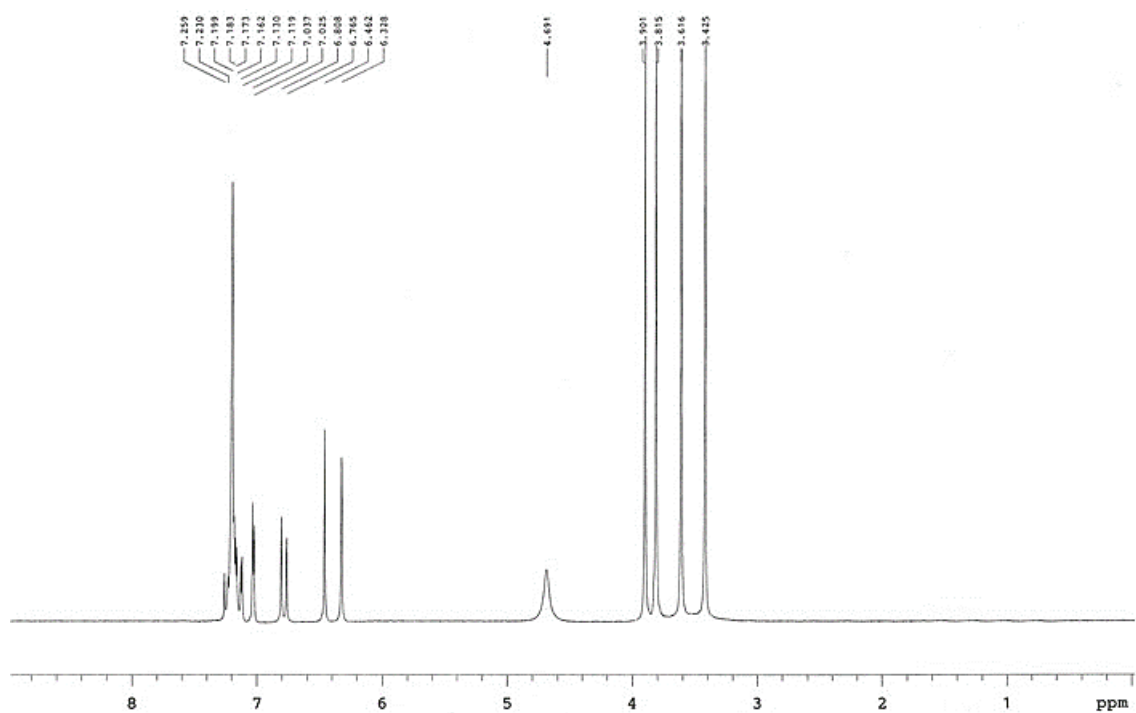


Fig. 283a: Compound **264** ^1H NMR spectra.

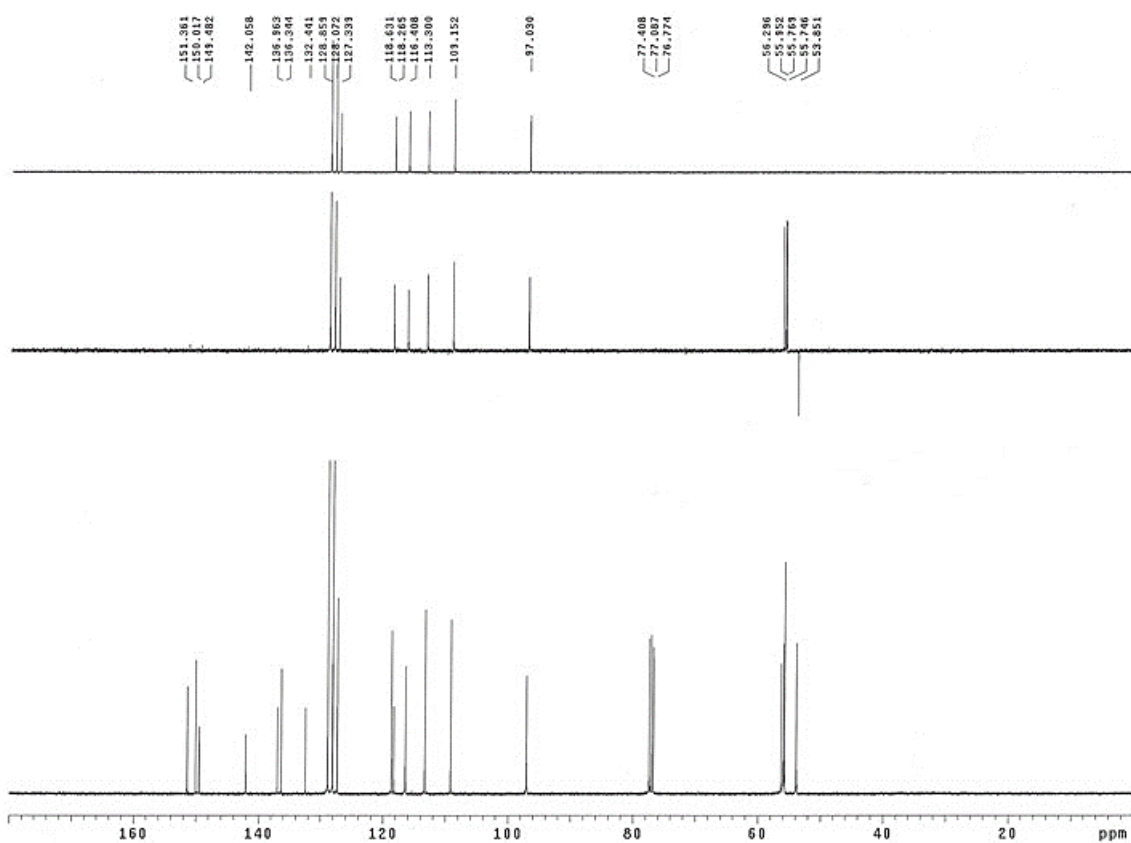


Fig. 283b: Compound **264** ^{13}C NMR spectra.

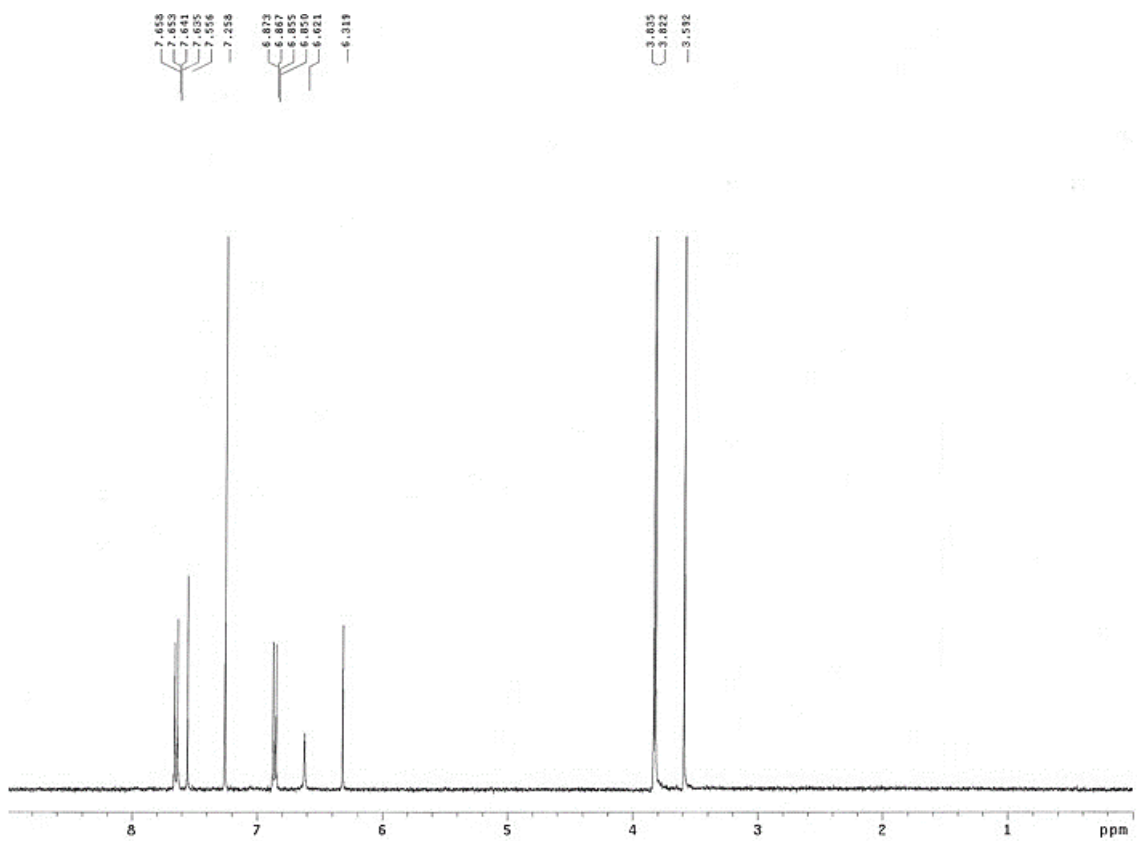


Fig. 284a: Compound **265** ^1H NMR spectra.

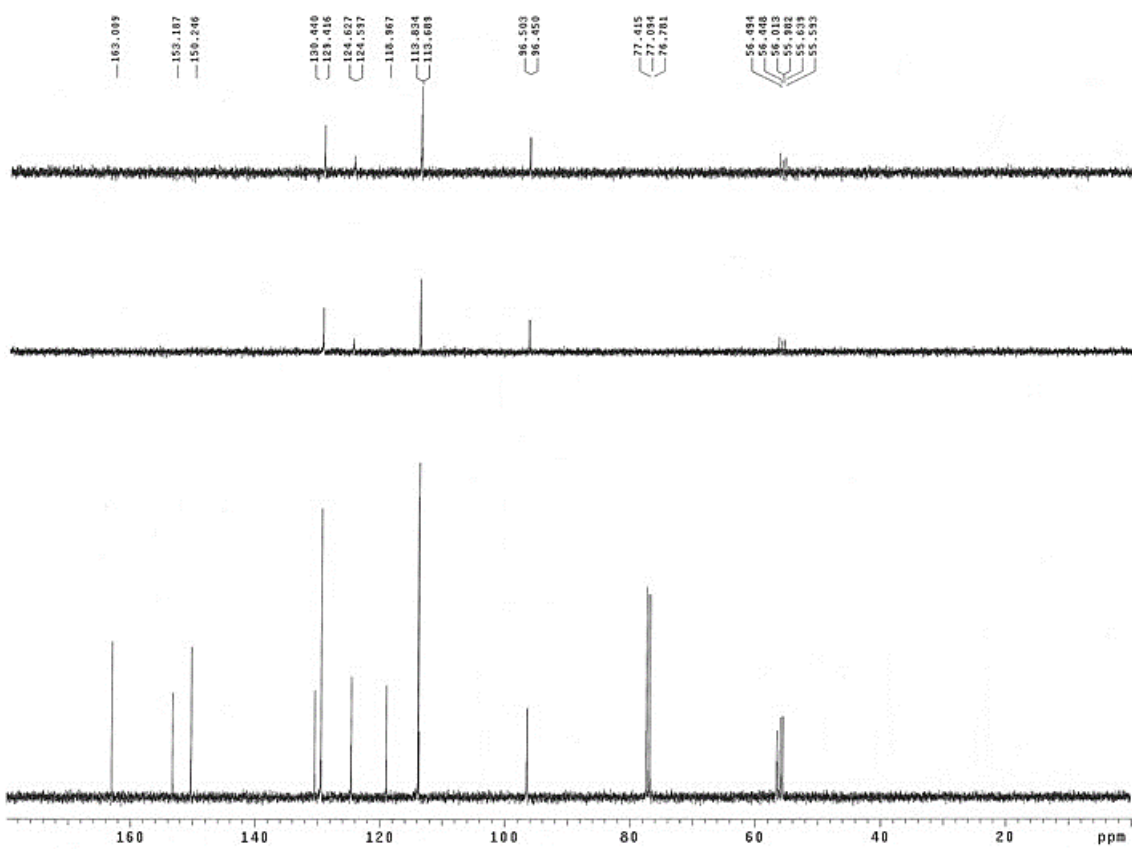


Fig. 284b: Compound **265** ^{13}C NMR spectra.

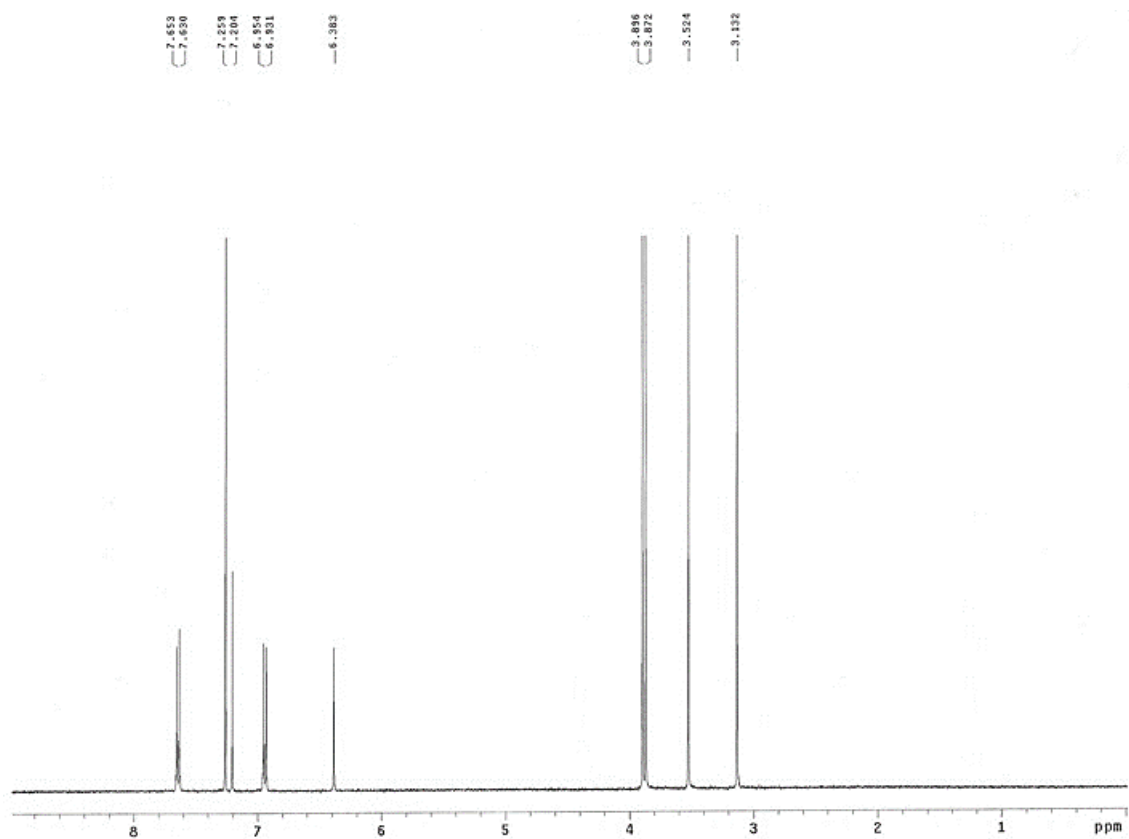


Fig. 285a: Compound **266** ^1H NMR spectra.

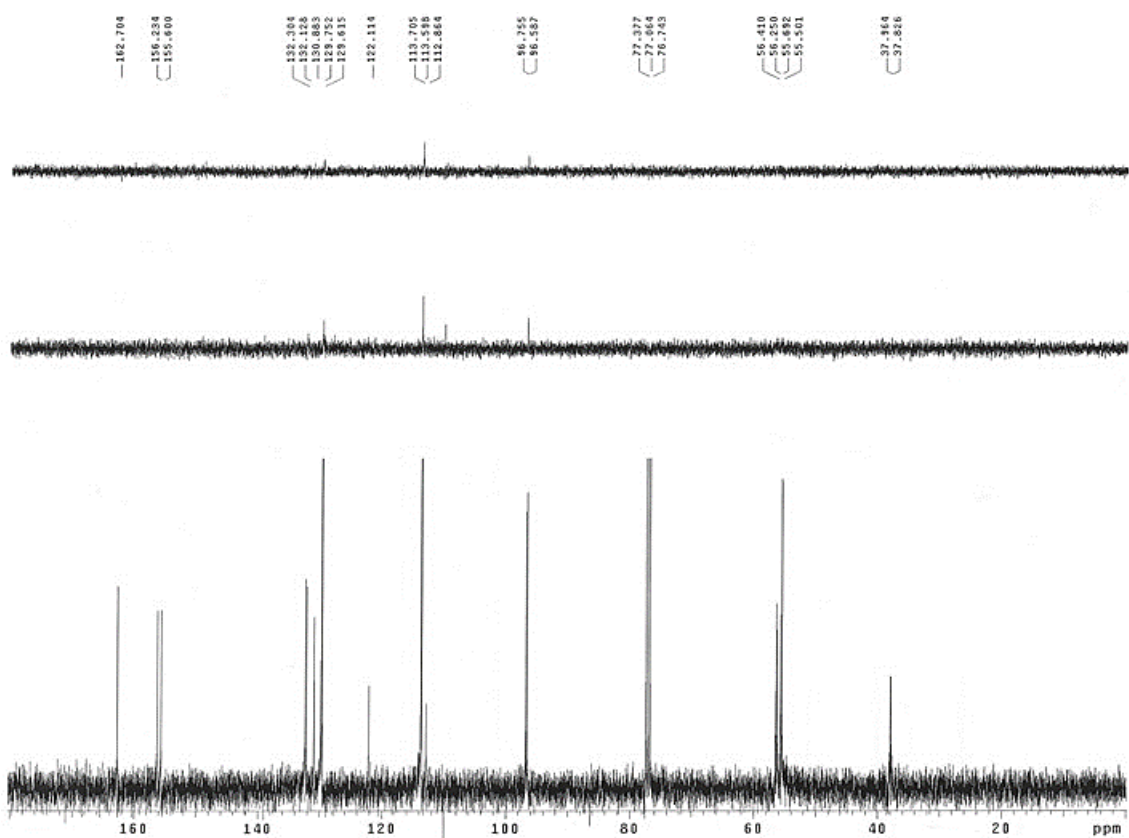


Fig. 285b: Compound **266** ^{13}C NMR spectra.

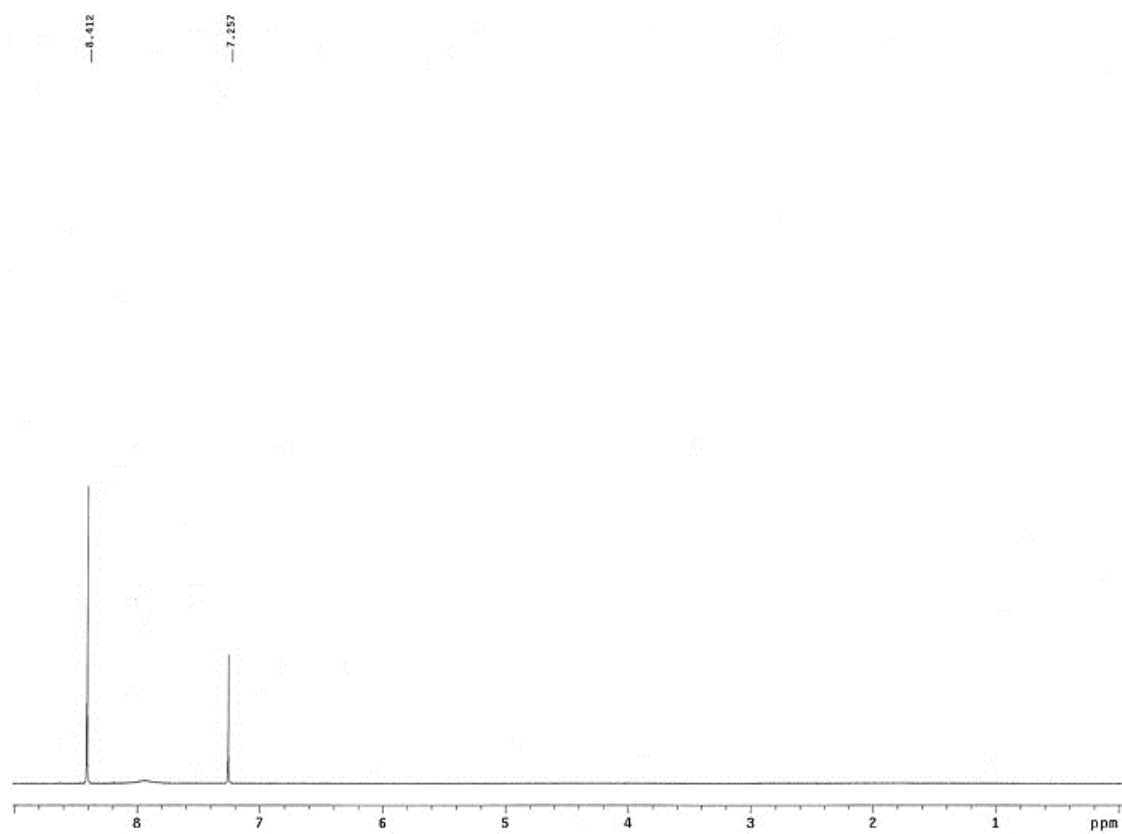


Fig. 286a: Compound **267** ¹H NMR spectra.

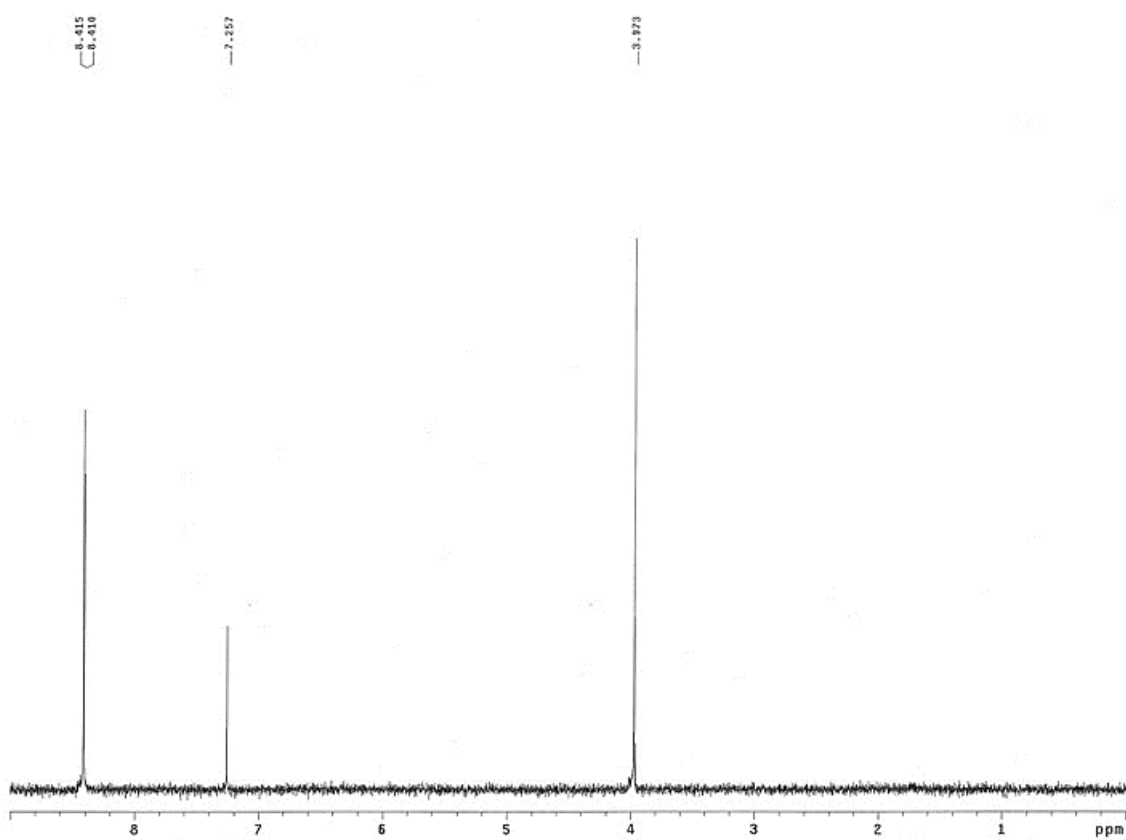


Fig. 287a: Compound **268** ¹H NMR spectra.

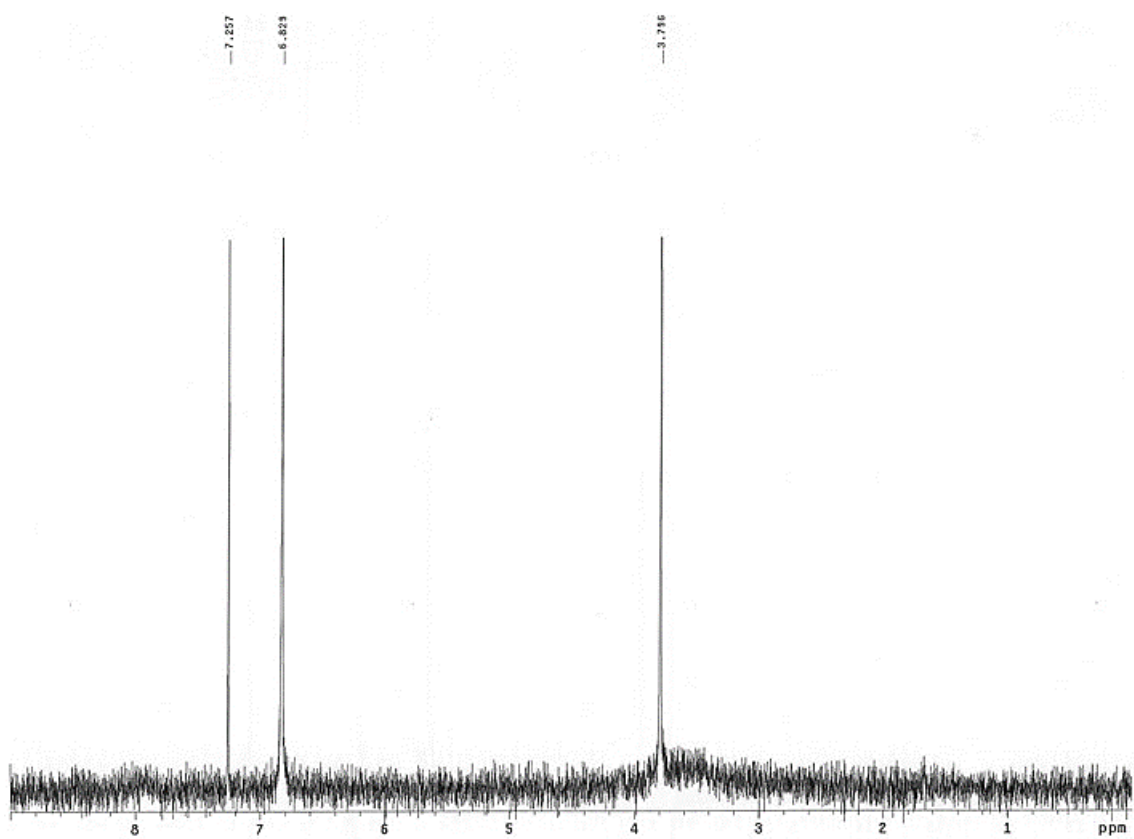


Fig. 288a: Compound **269** ^1H NMR spectra.

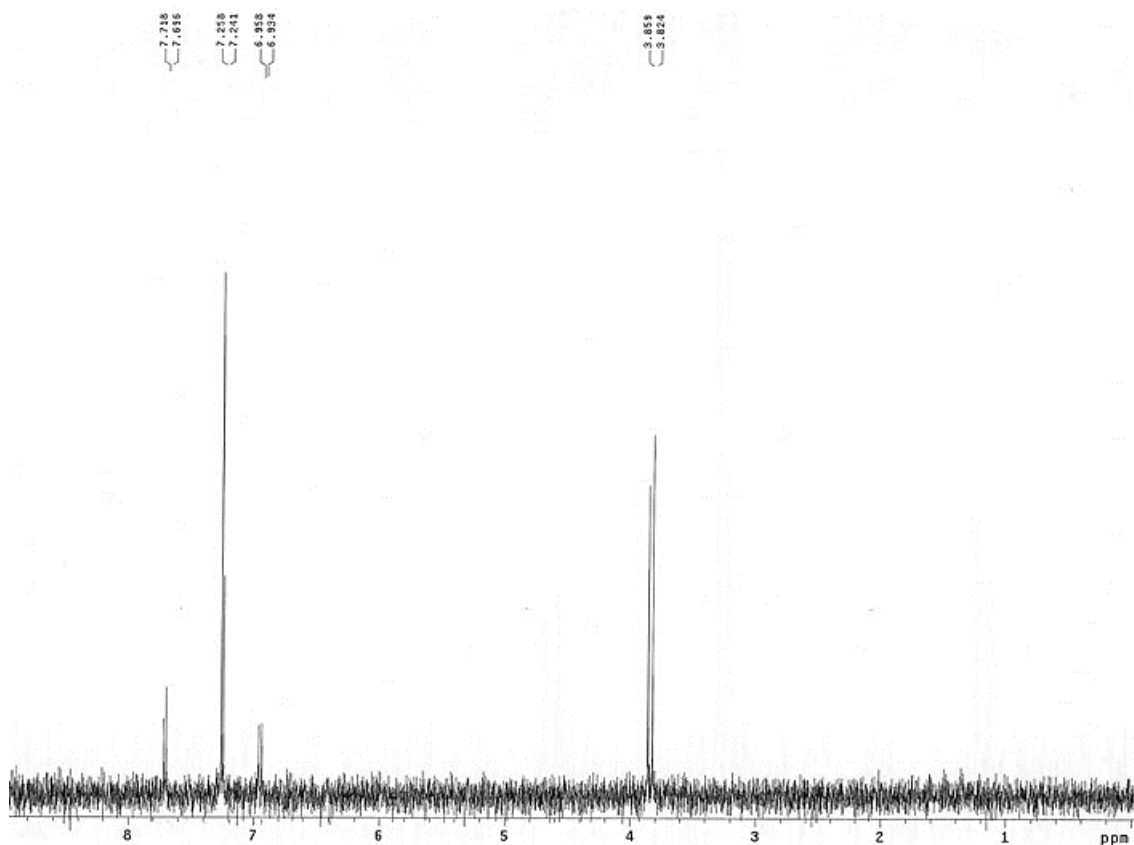


Fig. 289a: Compound **270** ^1H NMR spectra.

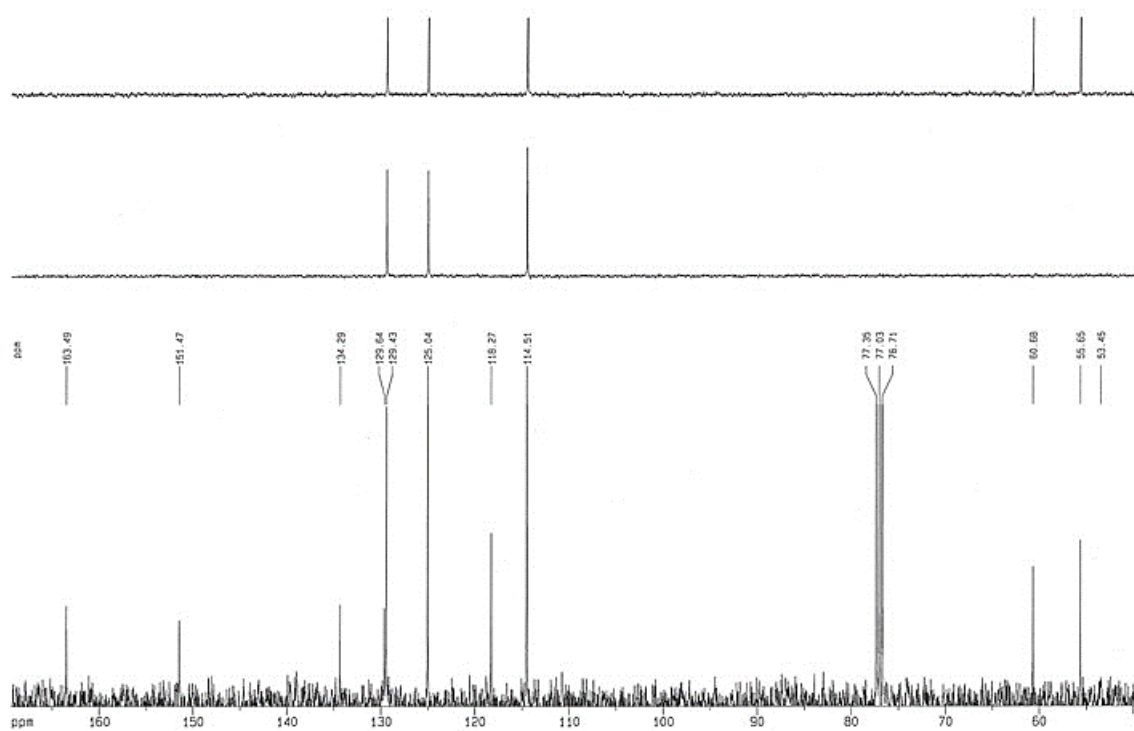


Fig. 289b: Compound **270** ^{13}C NMR spectra.

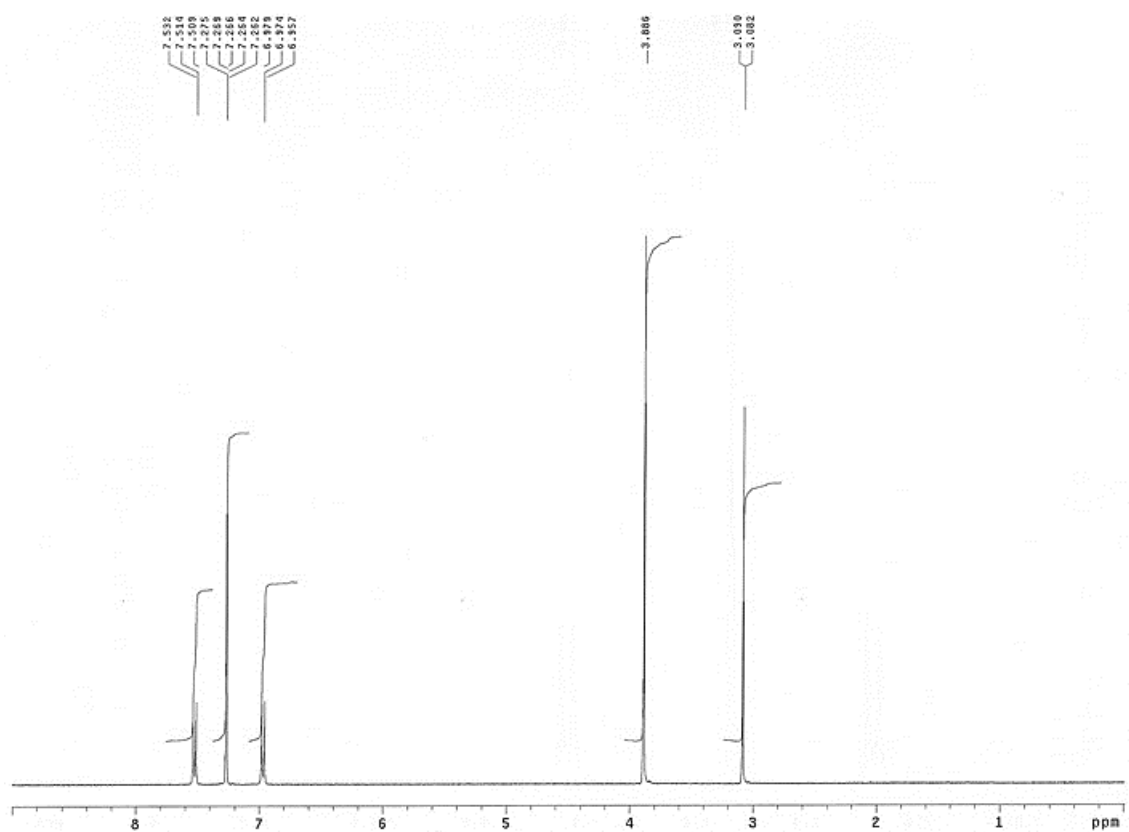


Fig. 290a: Compound **271** ^1H NMR spectra.

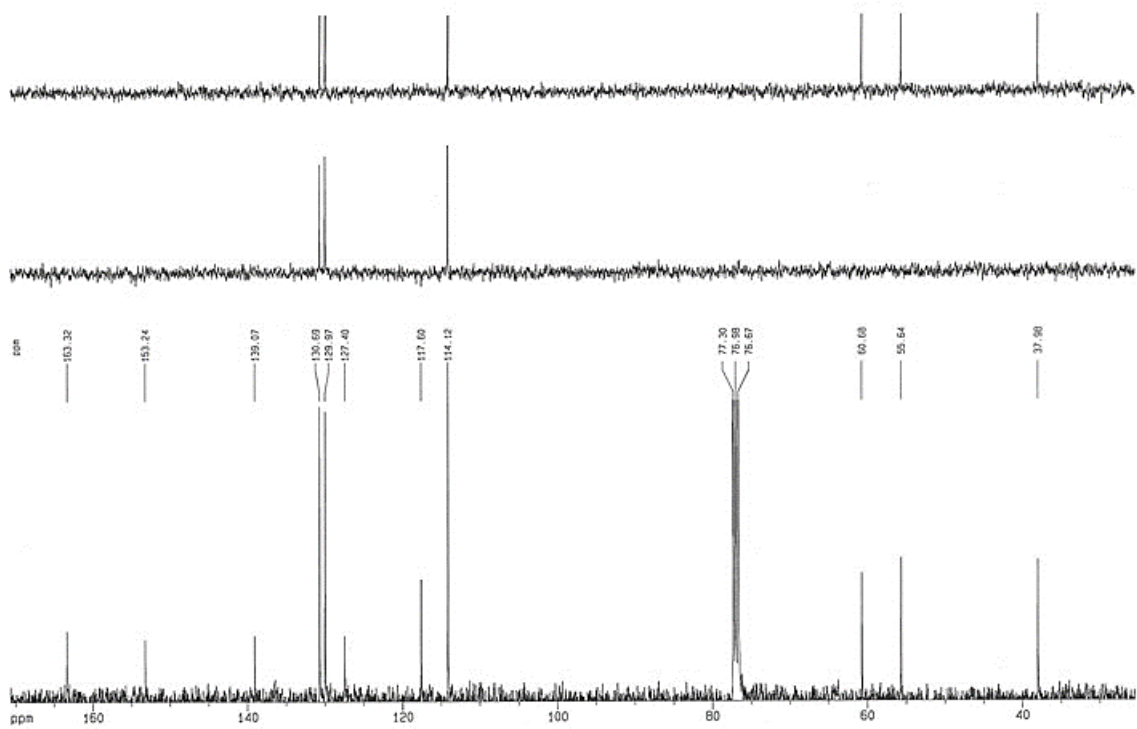
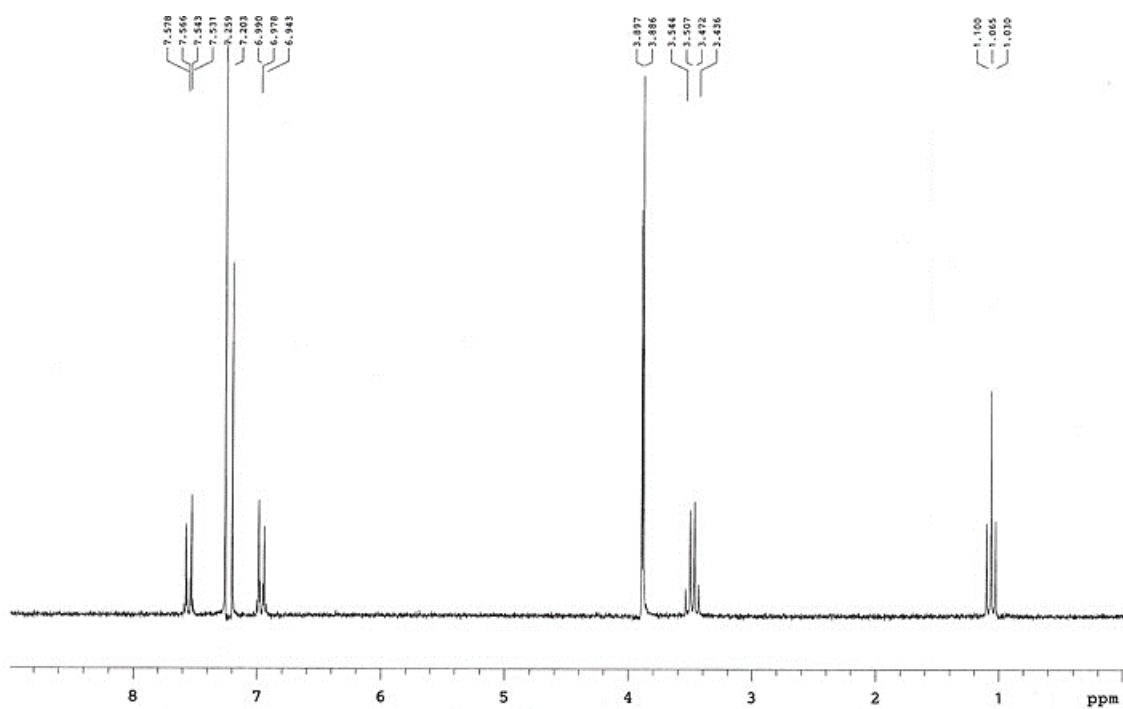
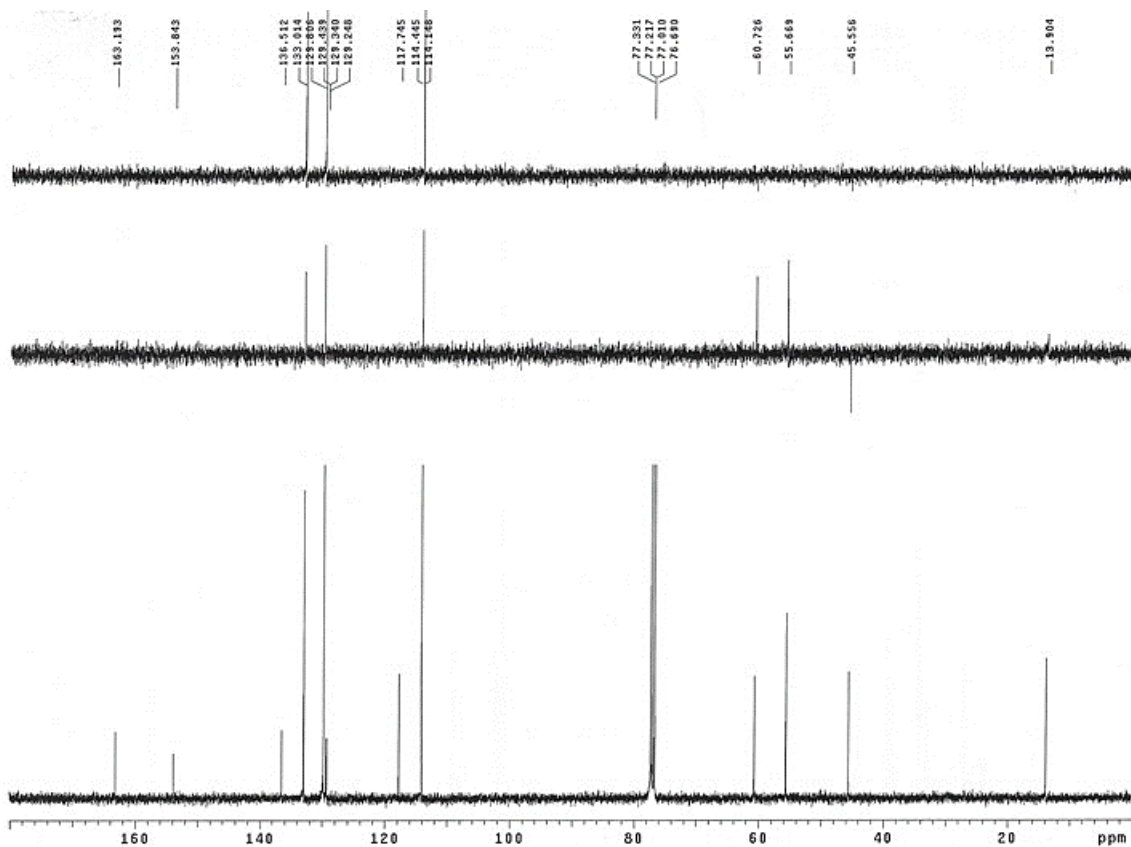


Fig. 290b: Compound **271** ^{13}C NMR spectra.

Fig. 291a: Compound **272** ^1H NMR spectra.Fig. 291b: Compound **272** ^{13}C NMR spectra.

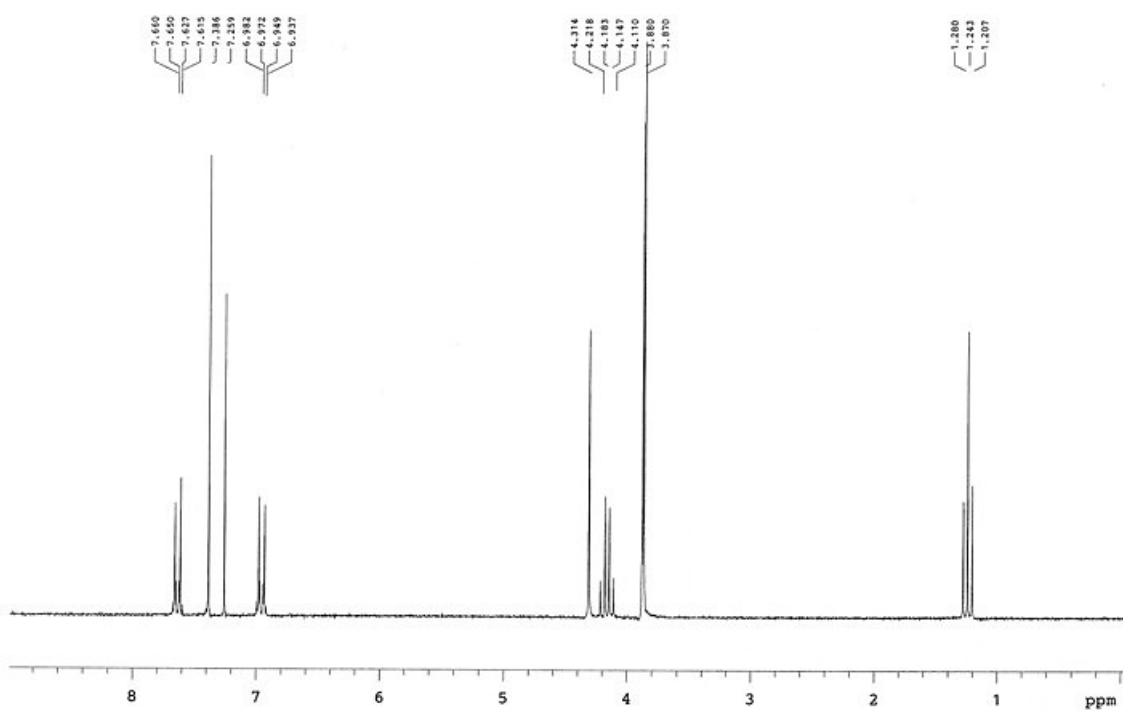


Fig. 292a: Compound **273** ^1H NMR spectra.

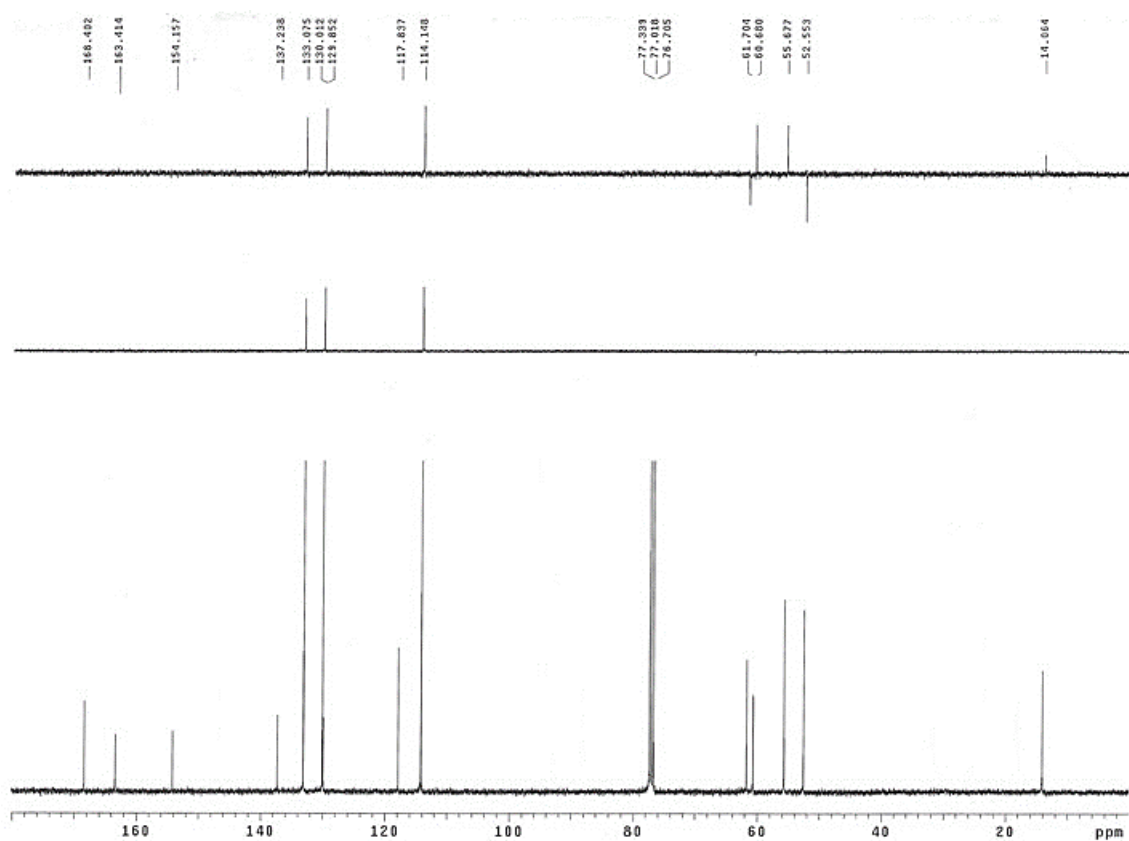


Fig. 292b: Compound **273** ^{13}C NMR spectra.

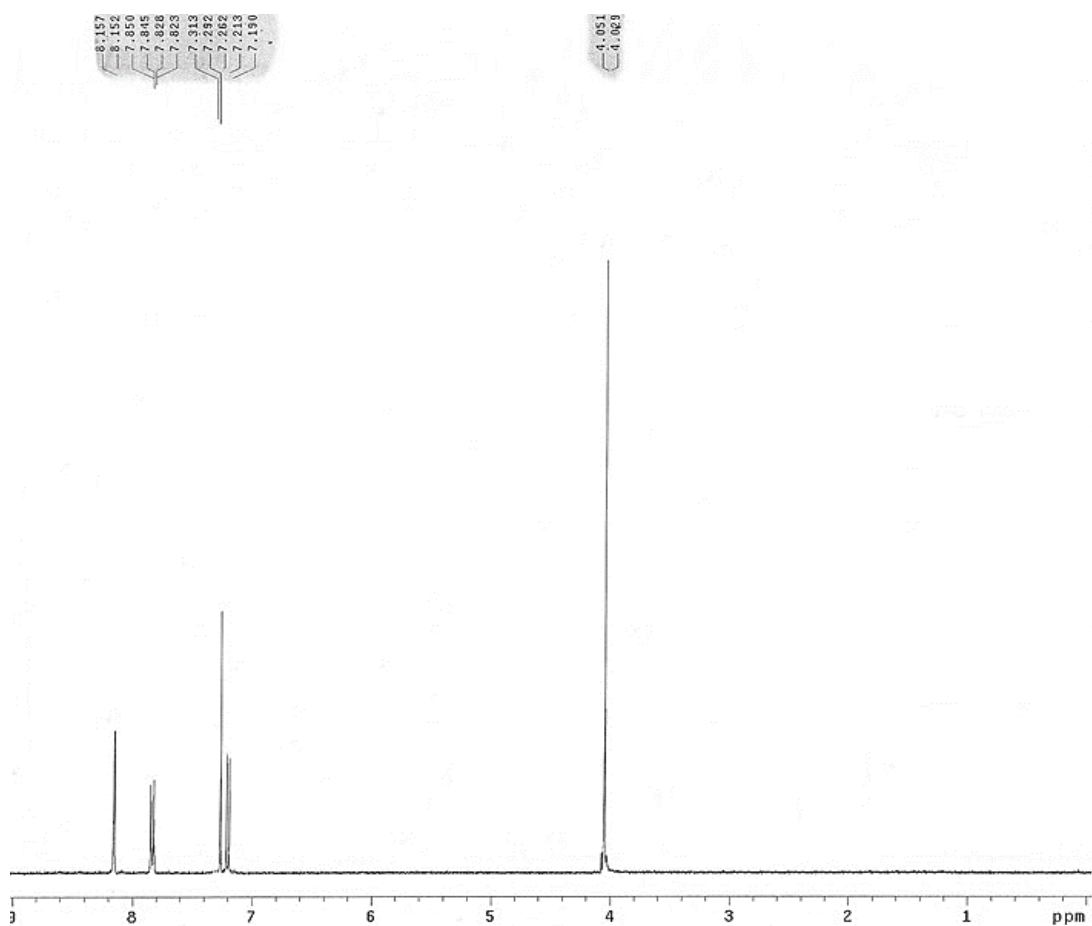


Fig. 293a: Compound **274** ^1H NMR spectra.

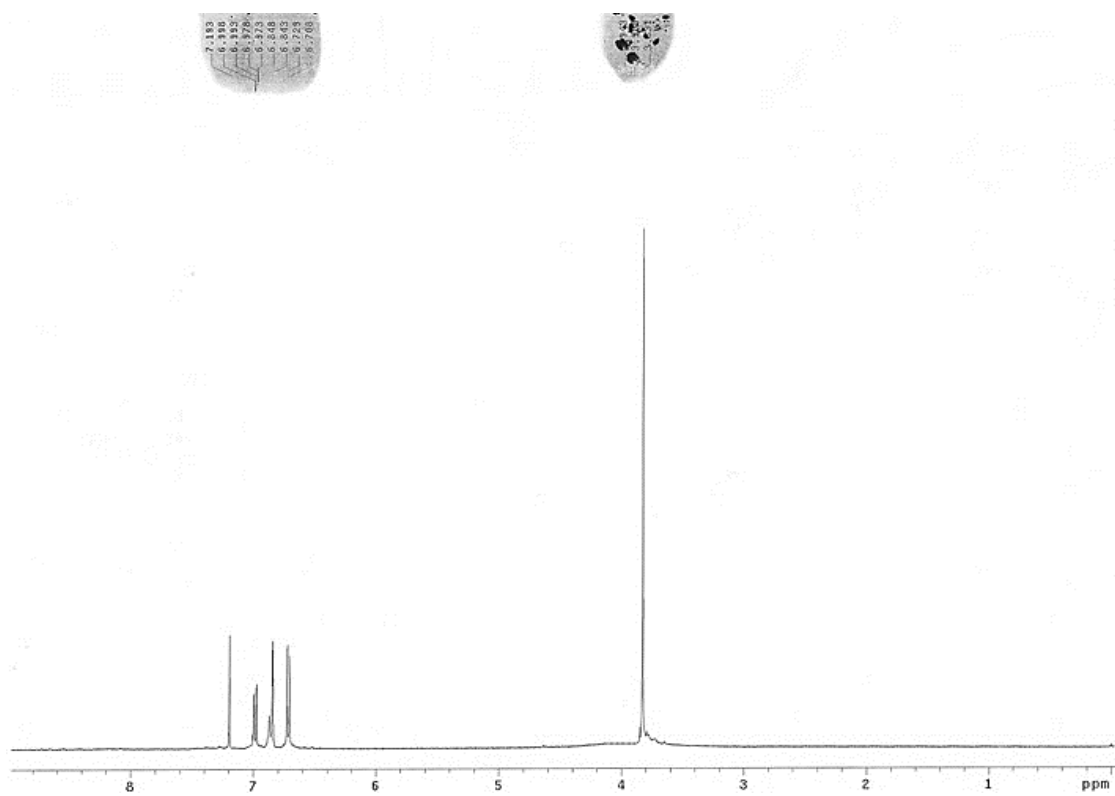


Fig. 294a: Compound **275** ^1H NMR spectra.

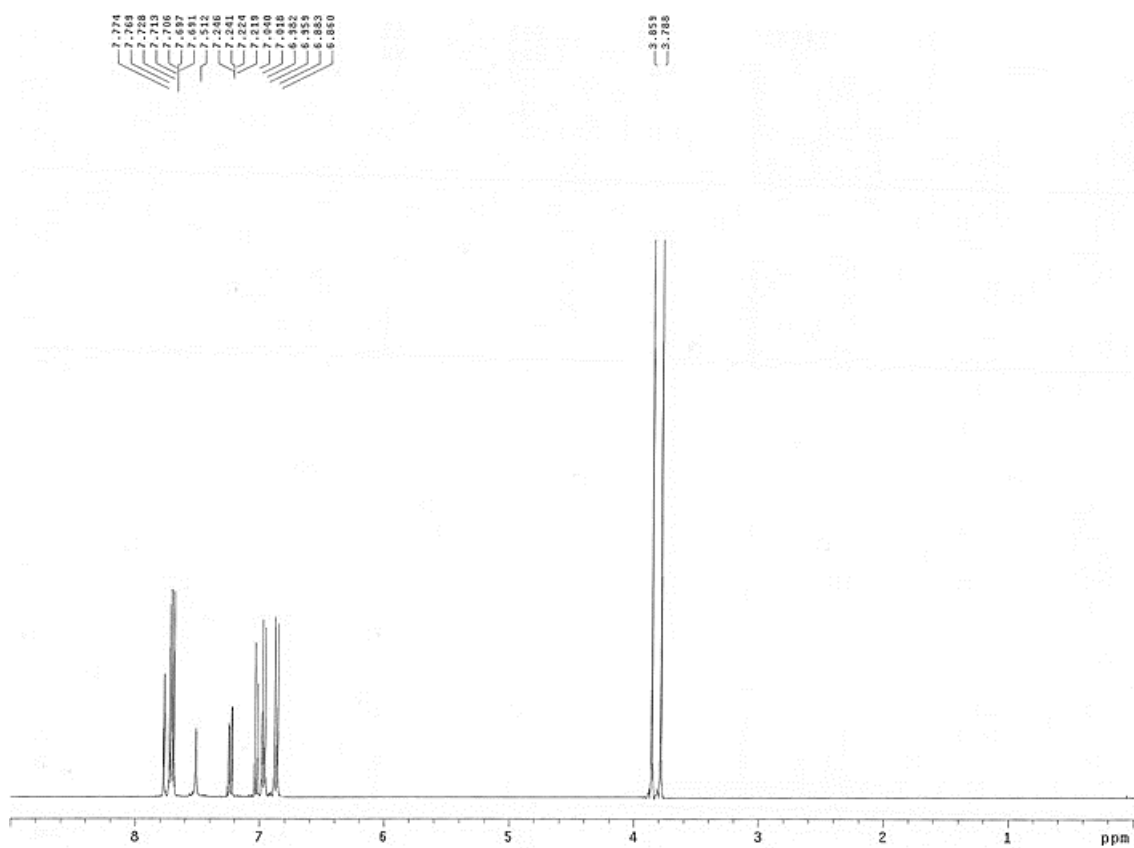


Fig. 296a: Compound **276b** ^1H NMR spectra.

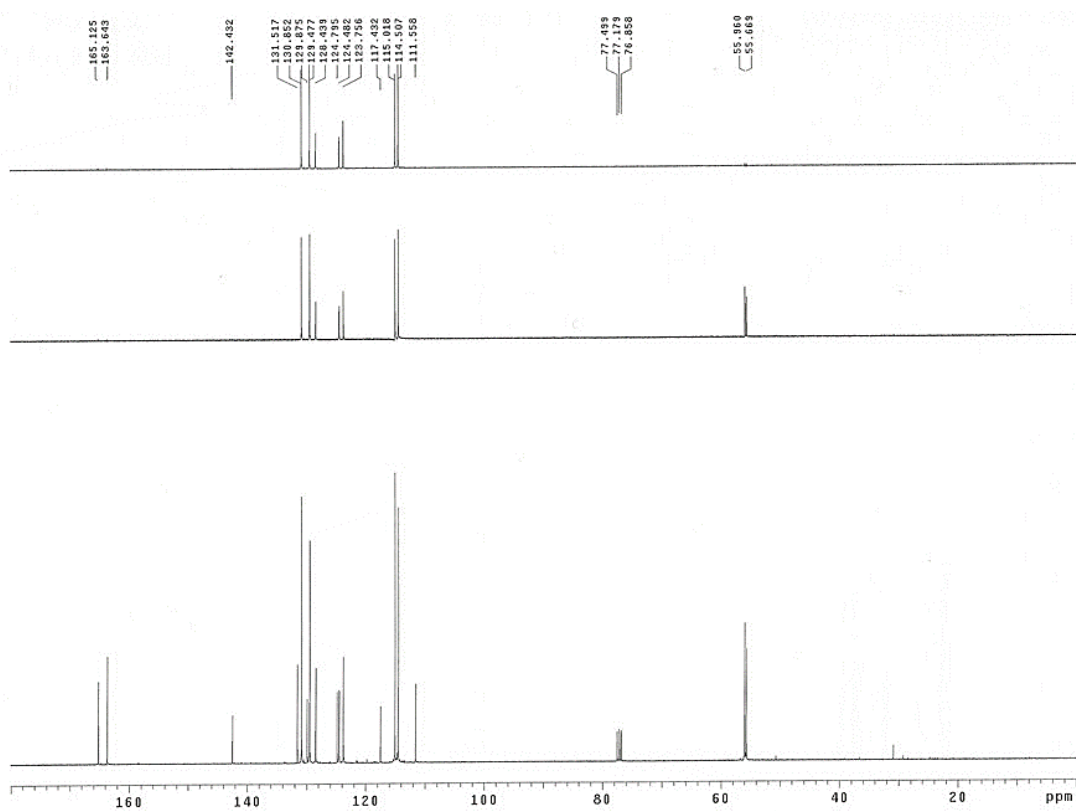


Fig. 296b: Compound **276b** ^{13}C NMR spectra.

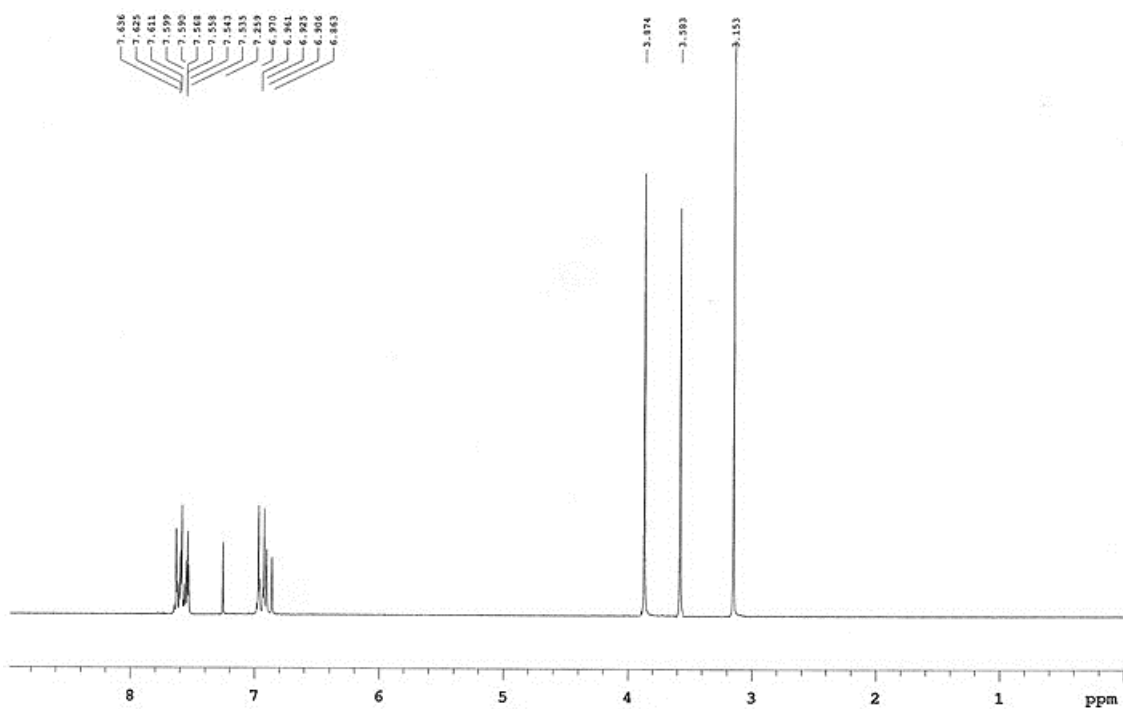


Fig. 297a: Compound **277** ^1H NMR spectra.

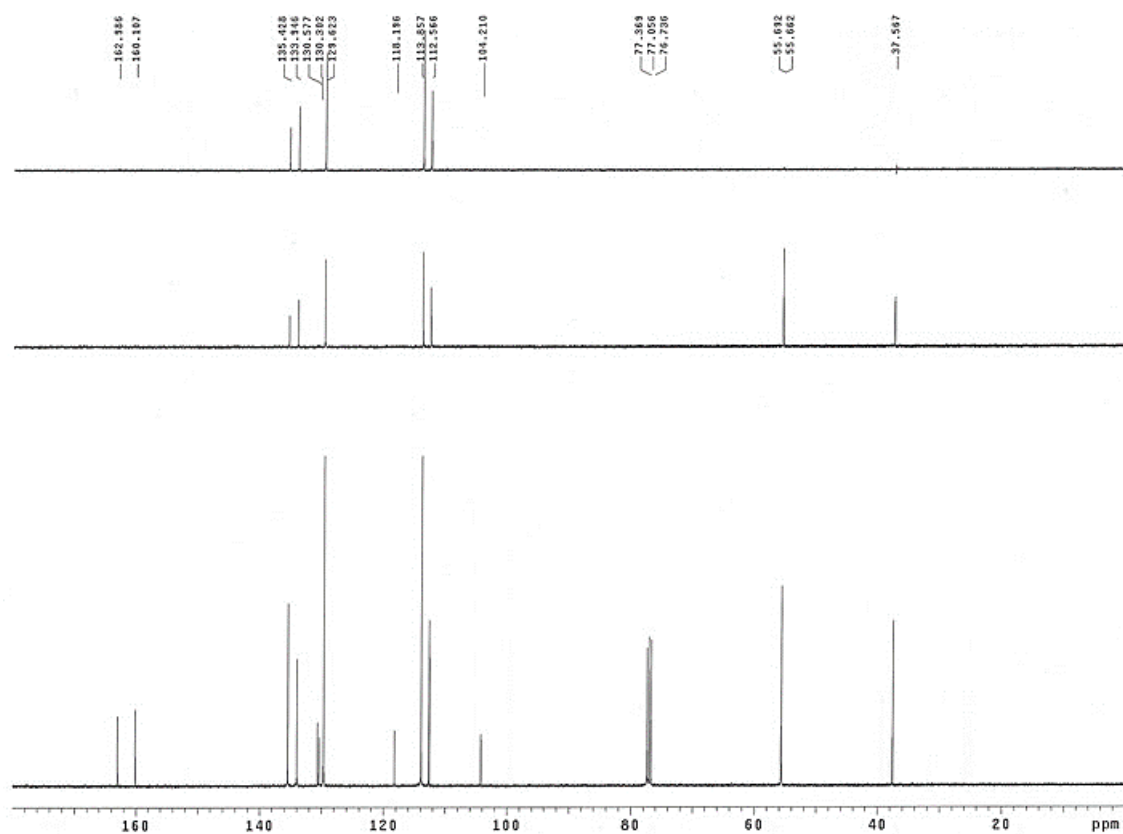


Fig. 297b: Compound **277** ^{13}C NMR spectra.

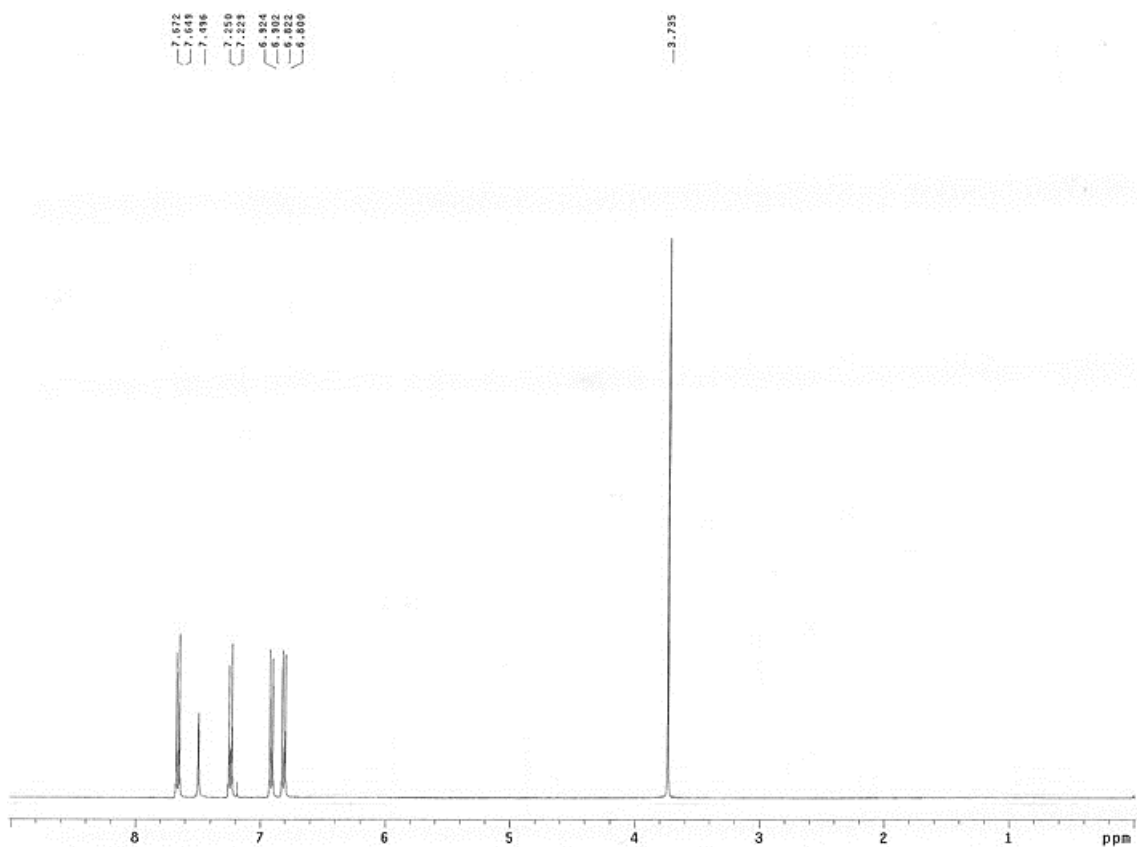


Fig. 298a: Compound **278** ^1H NMR spectra.

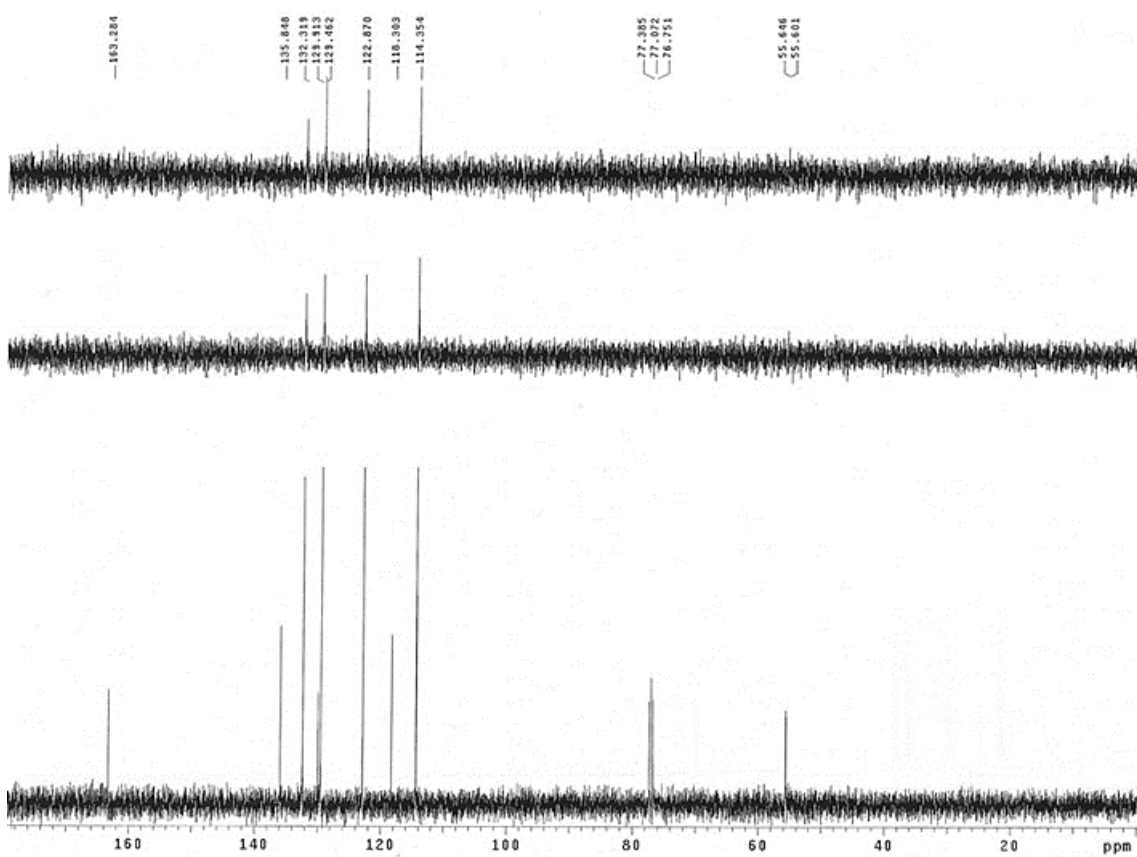


Fig. 298b: Compound **278** ^{13}C NMR spectra.

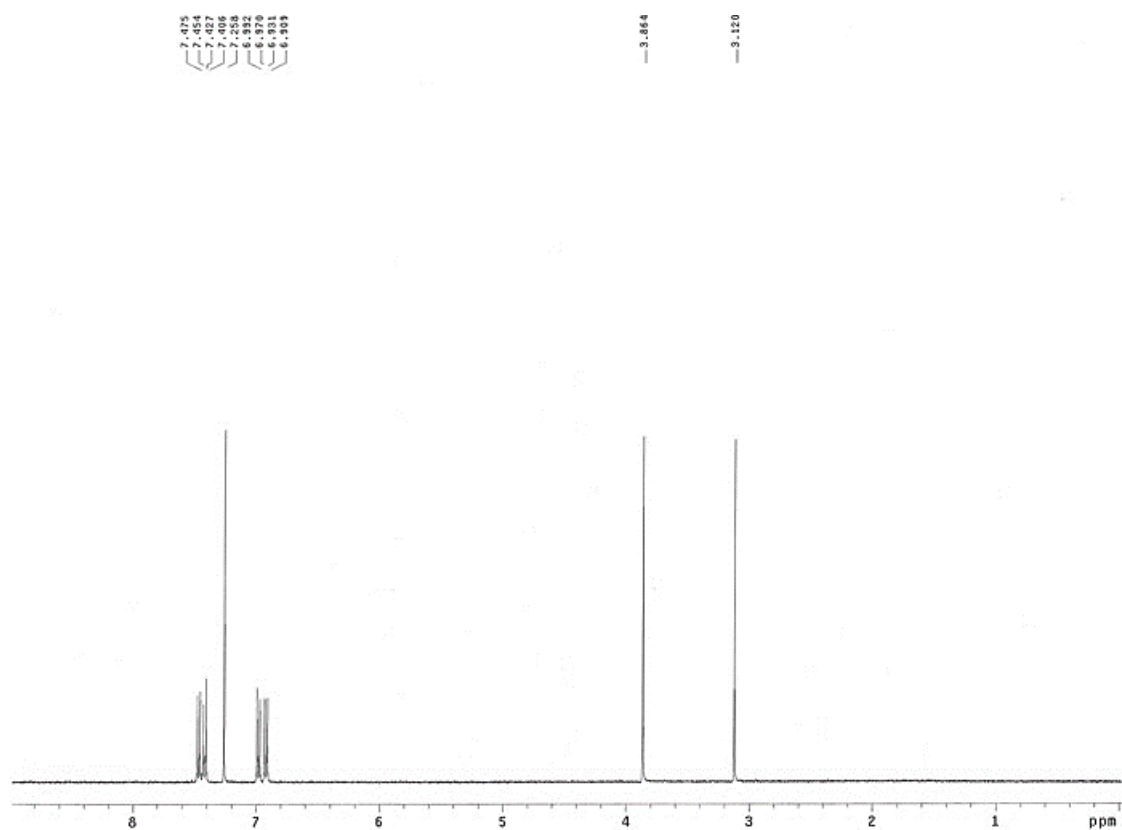


Fig. 299a: Compound **279** ¹H NMR spectra.

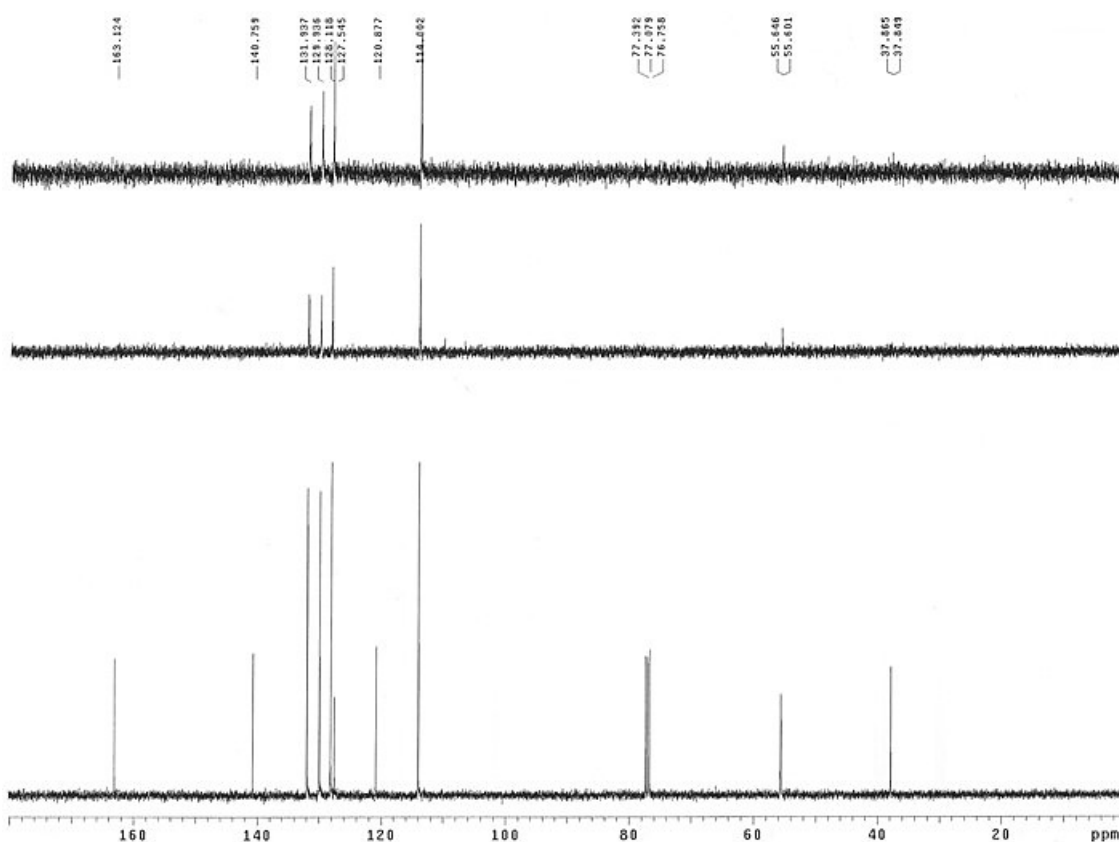


Fig. 299b: Compound **279** ¹³C NMR spectra.

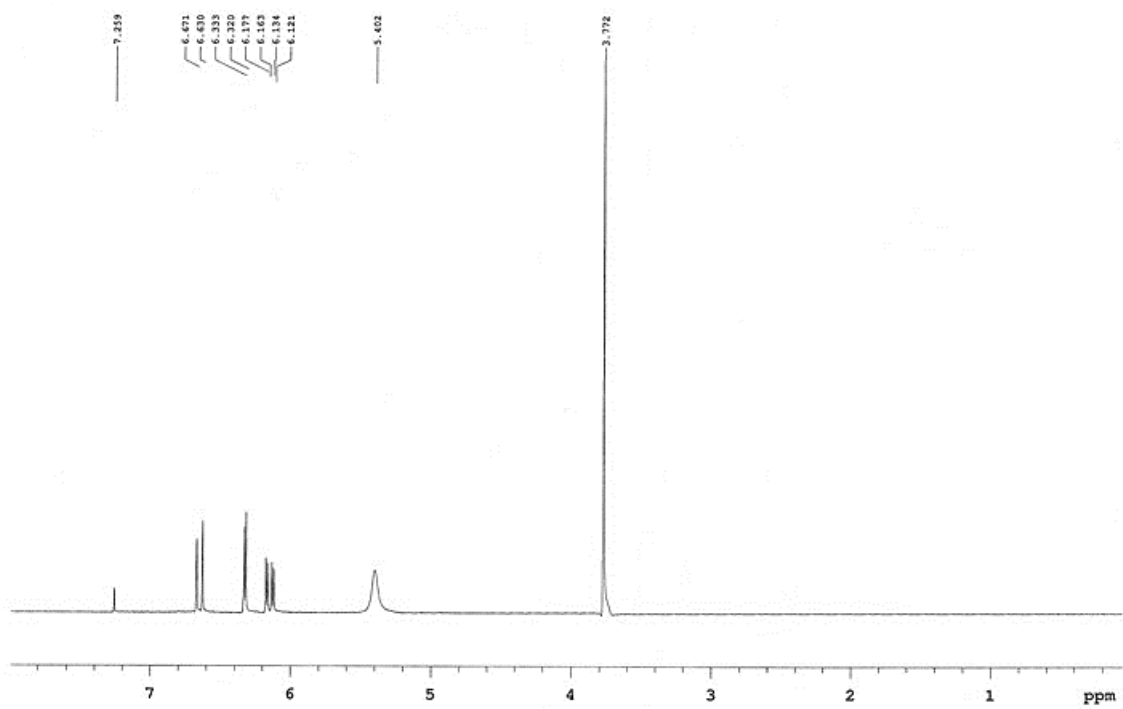


Fig. 300a: Compound **280** ^1H NMR spectra.

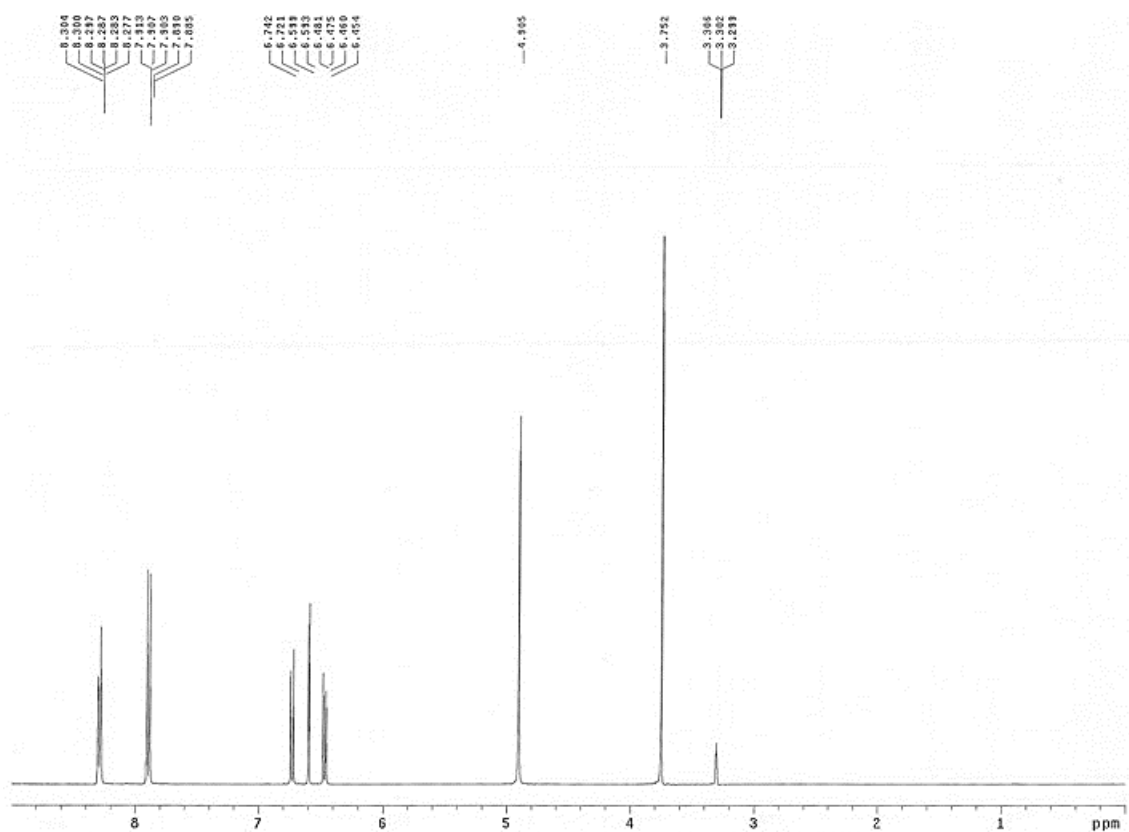


Fig. 301a: Compound **281** ^1H NMR spectra.

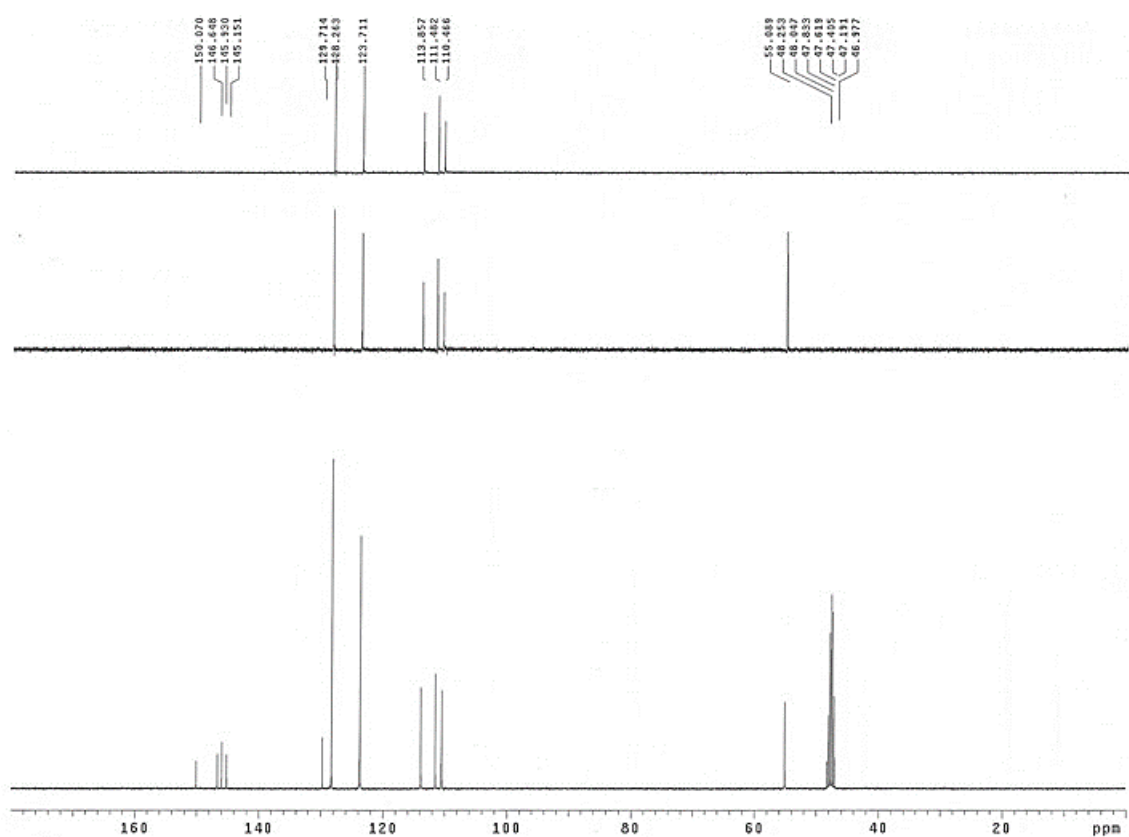


Fig. 301b: Compound **281** ^{13}C NMR spectra.

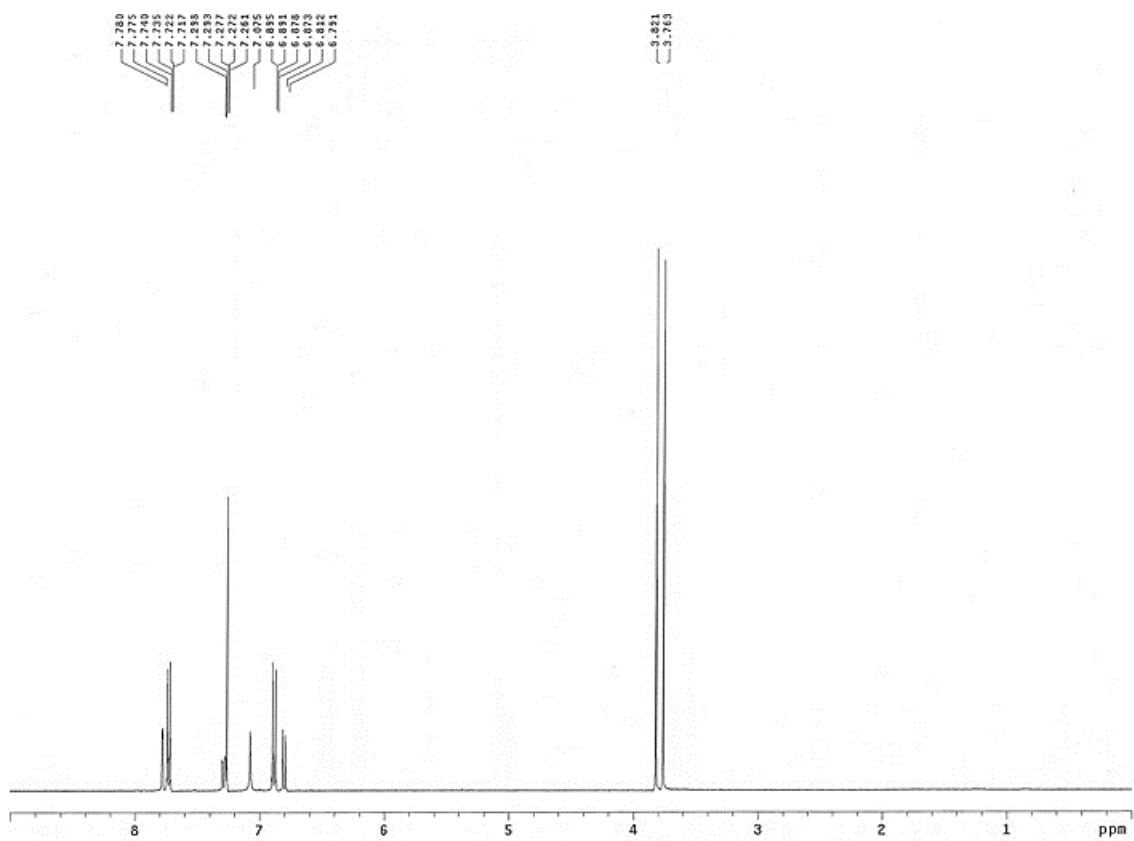


Fig. 302a: Compound **282** ^1H NMR spectra.

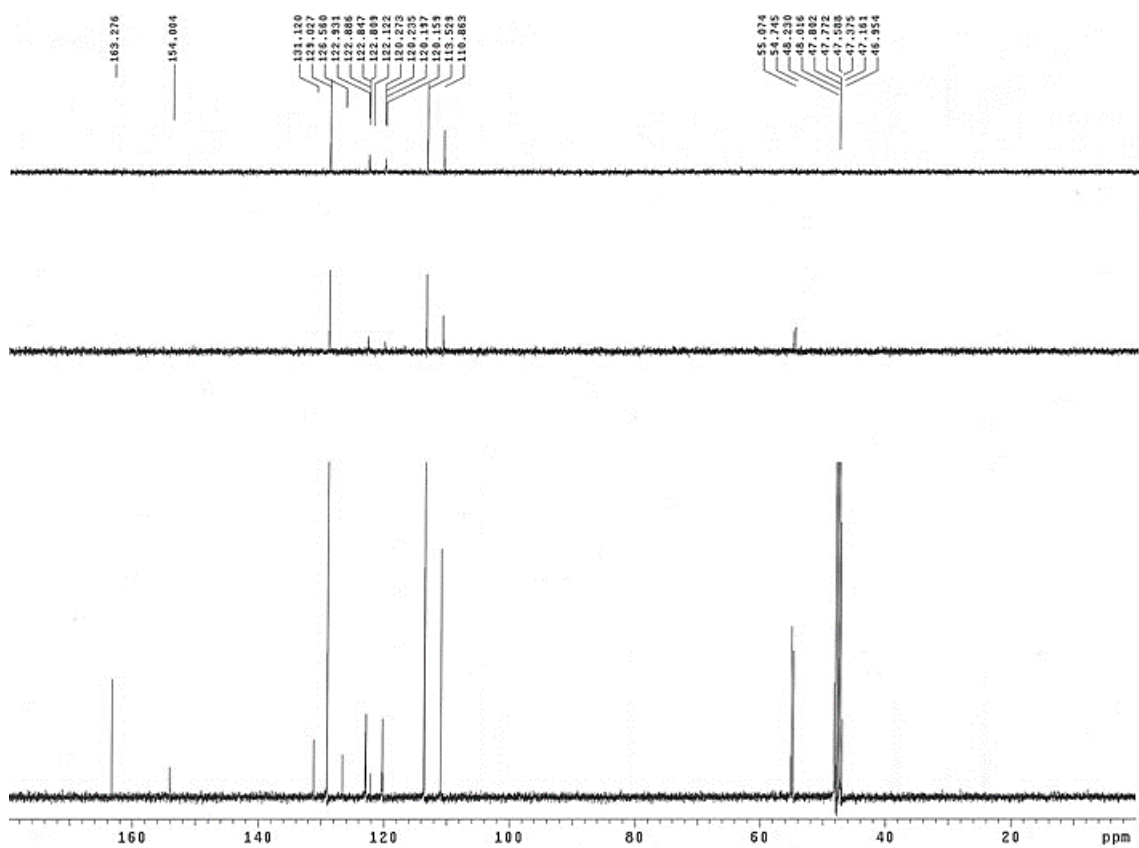


Fig. 302b: Compound **282** ^{13}C NMR spectra.

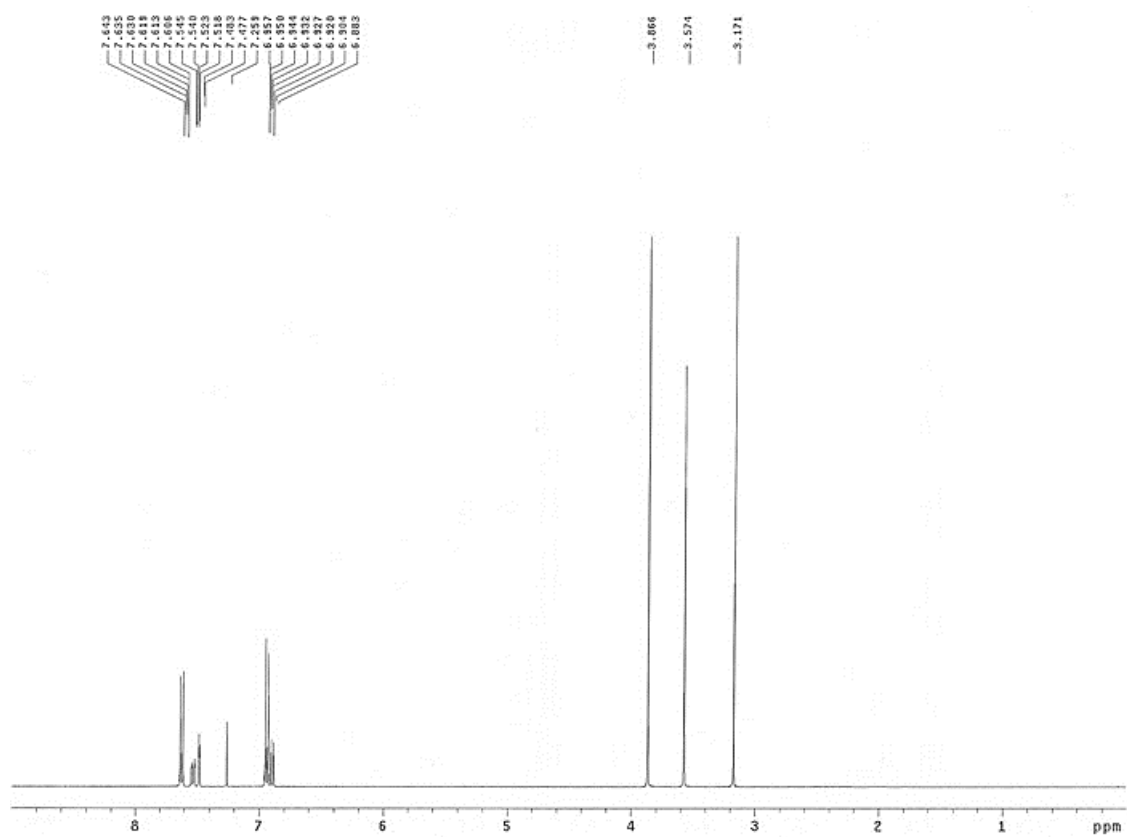


Fig. 303a: Compound **283** ^1H NMR spectra.

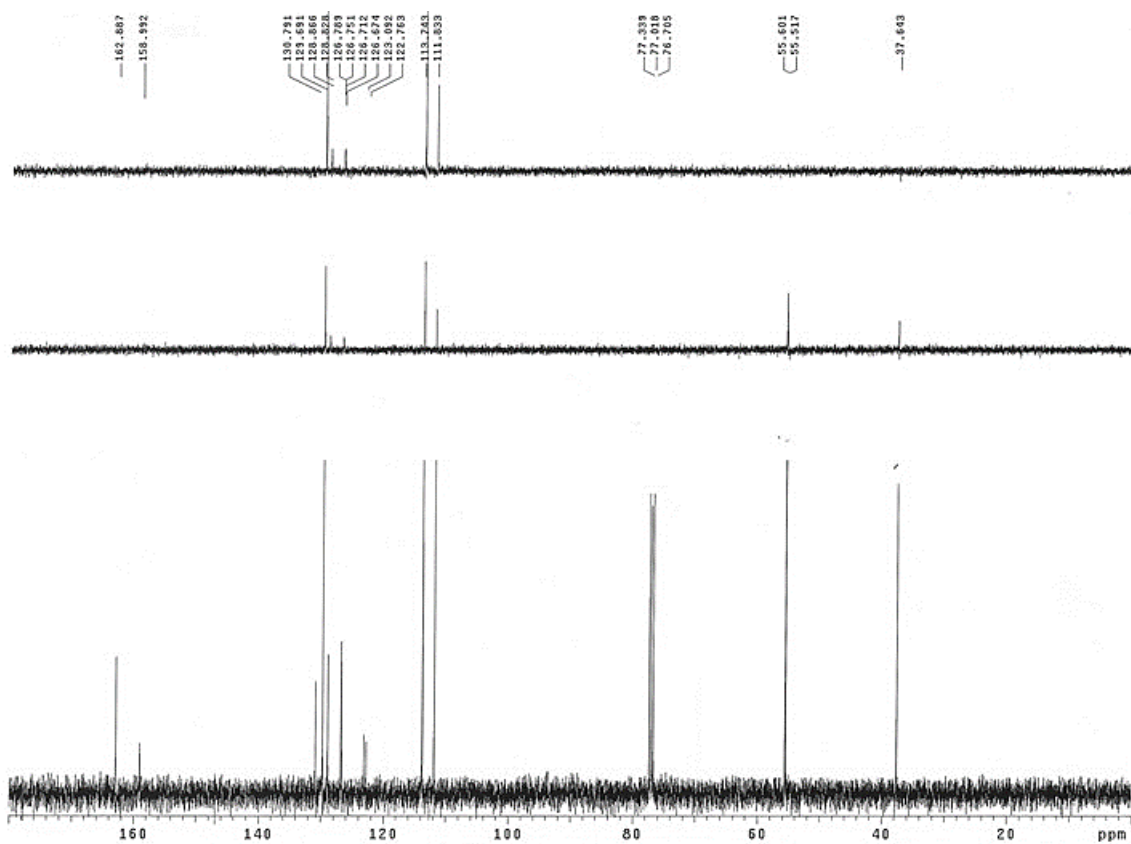


Fig. 303b: Compound **283** ^{13}C NMR spectra.

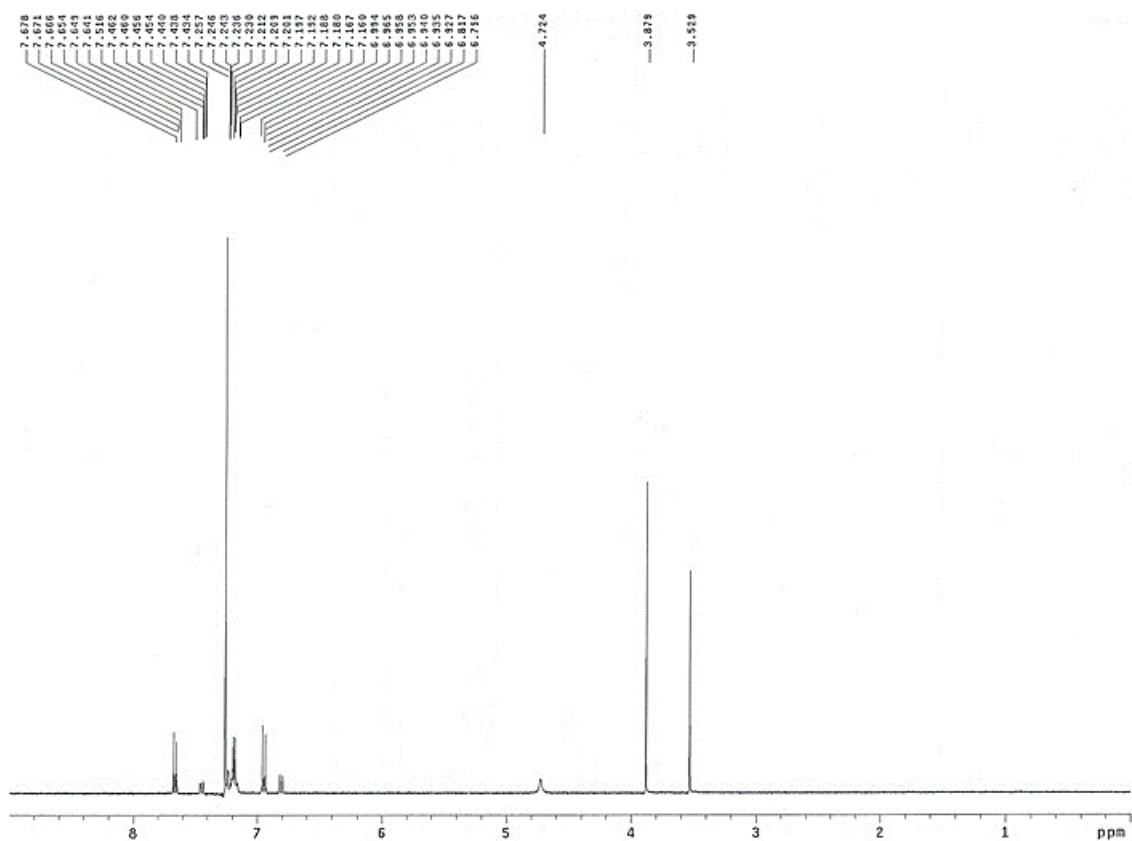


Fig. 304a: Compound **284** ^1H NMR spectra.

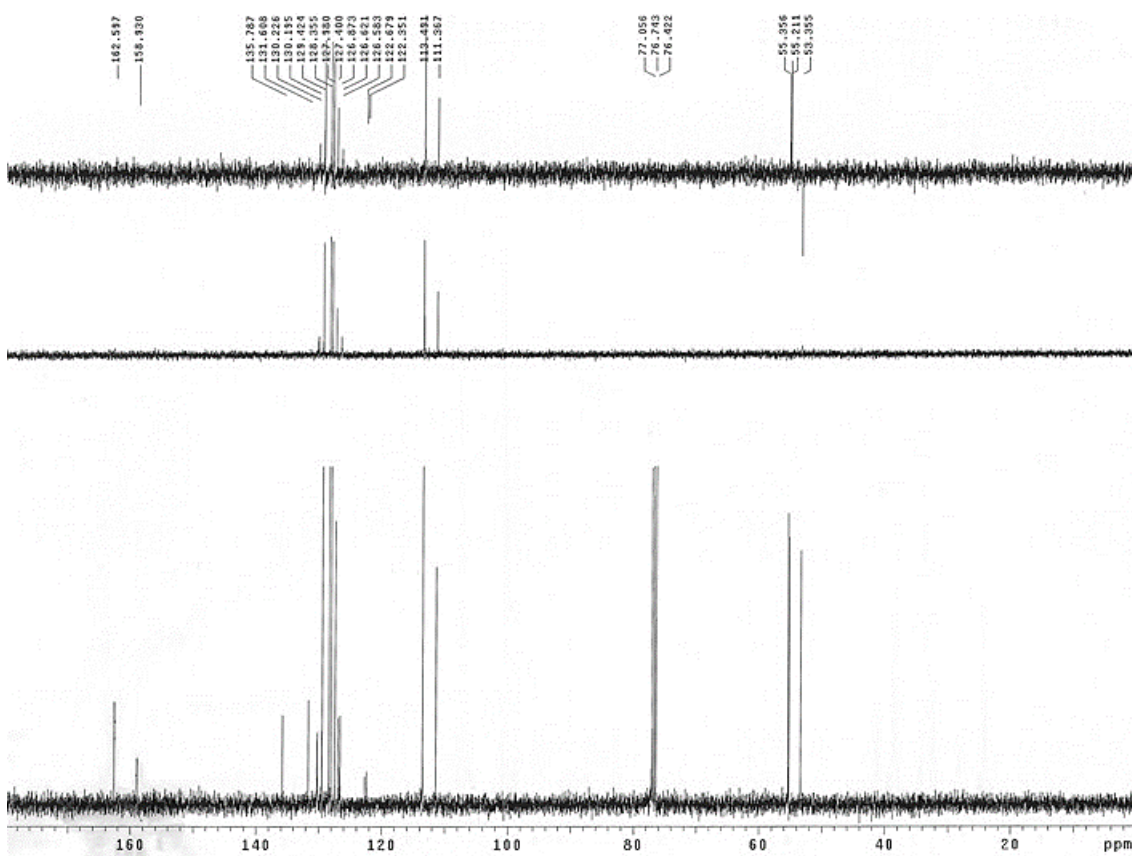


Fig. 304b: Compound **284** ^{13}C NMR spectra.

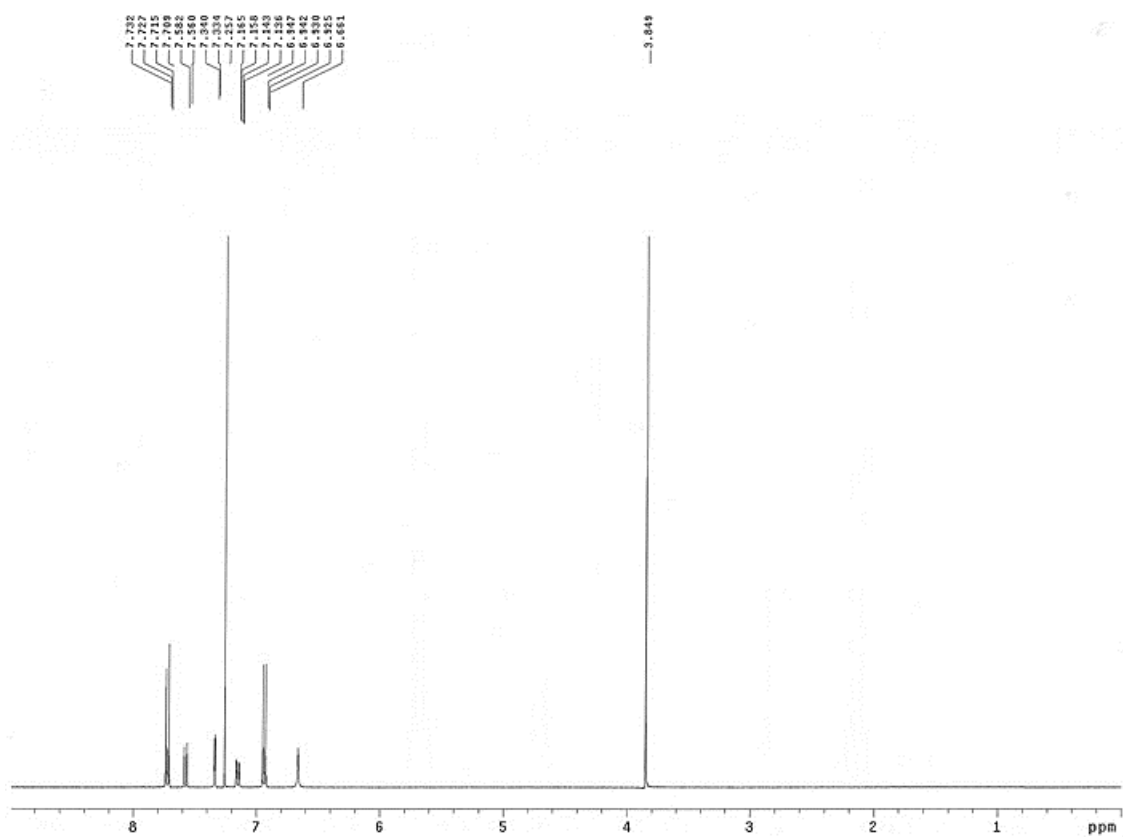


Fig. 305a: Compound **285** ^1H NMR spectra.

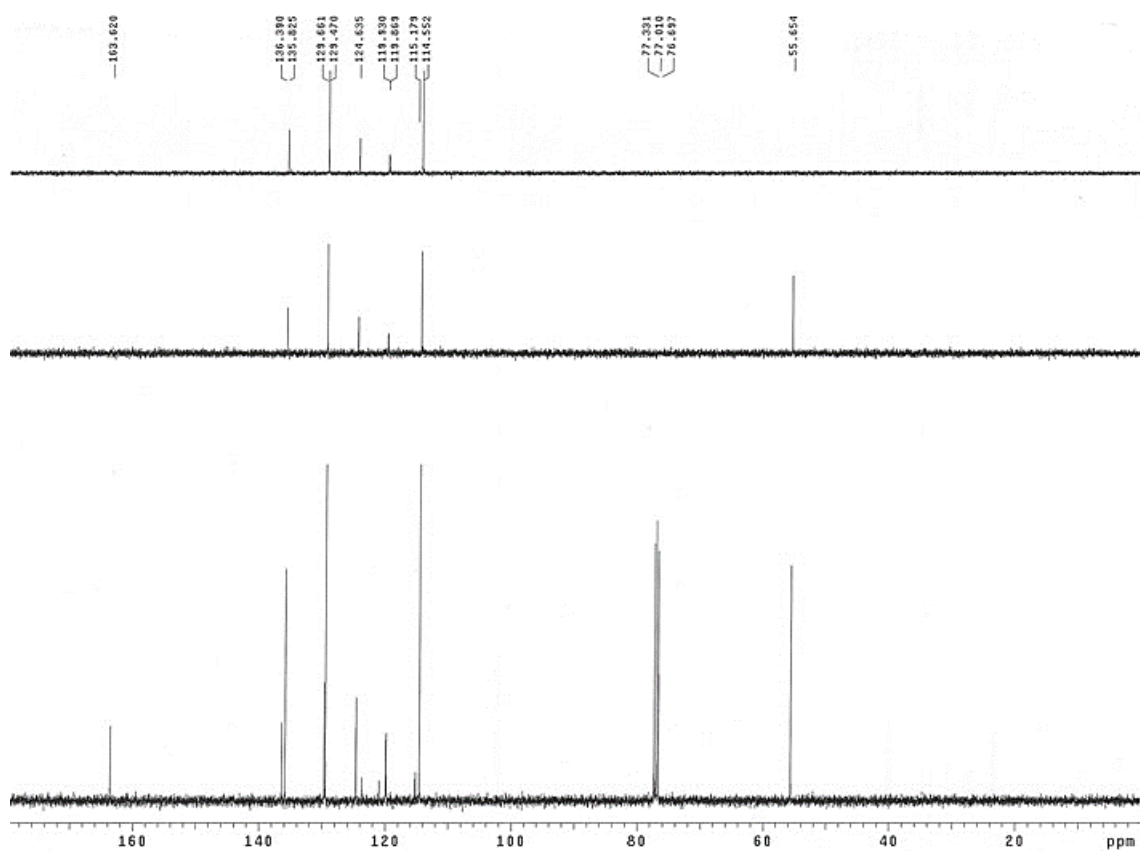


Fig. 305b: Compound **285** ^{13}C NMR spectra.

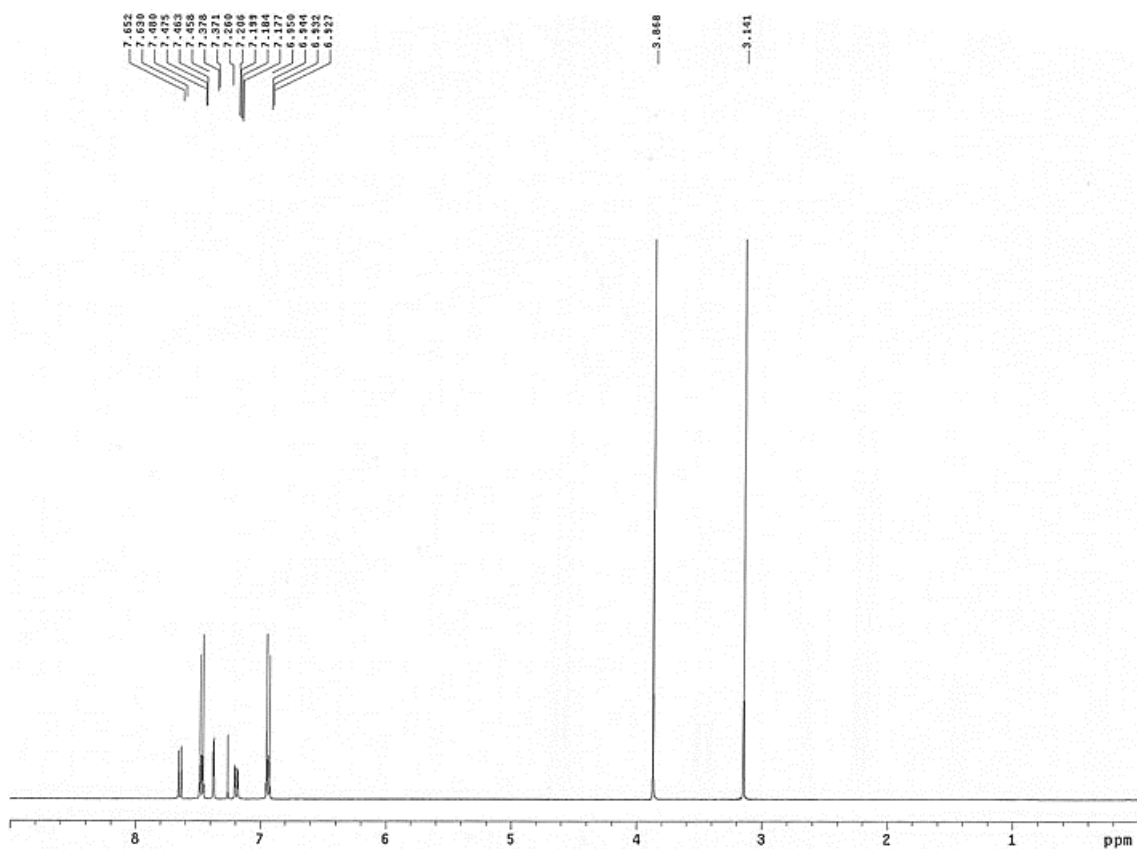


Fig. 306a: Compound **286** ^1H NMR spectra.

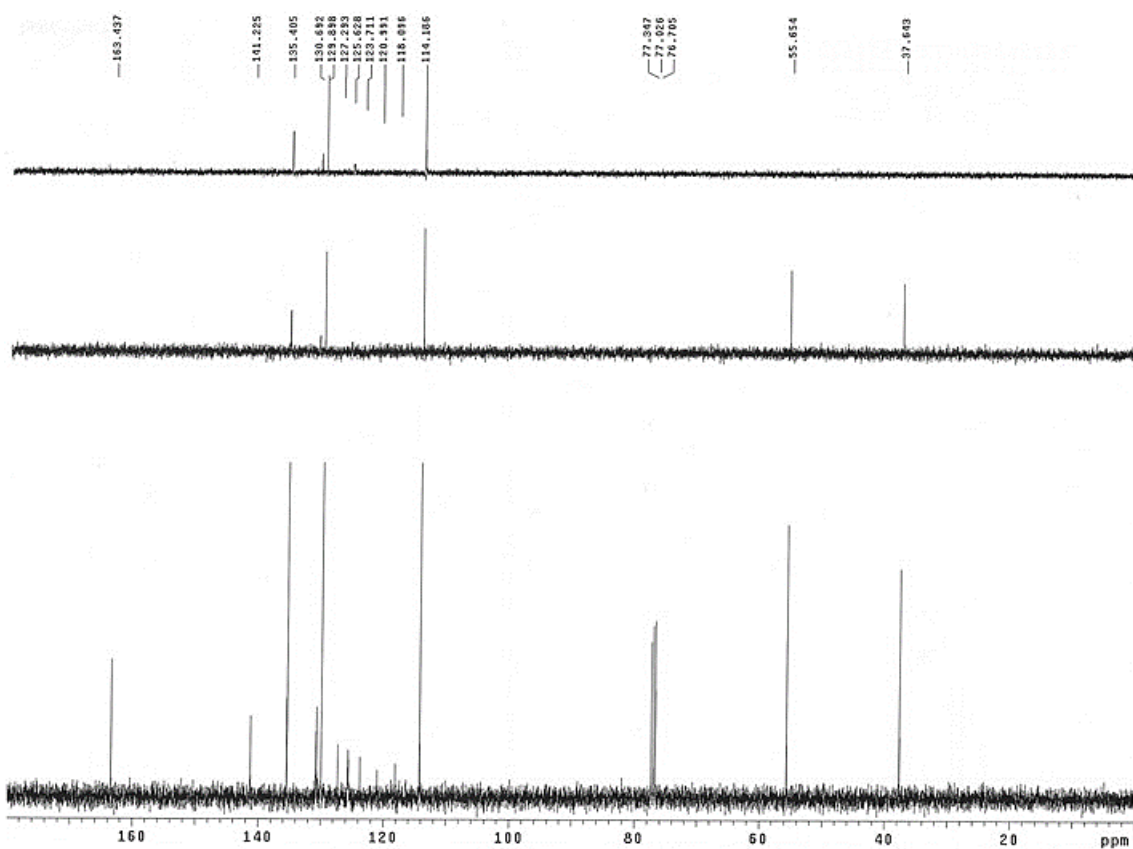


Fig. 306b: Compound **286** ^{13}C NMR spectra.

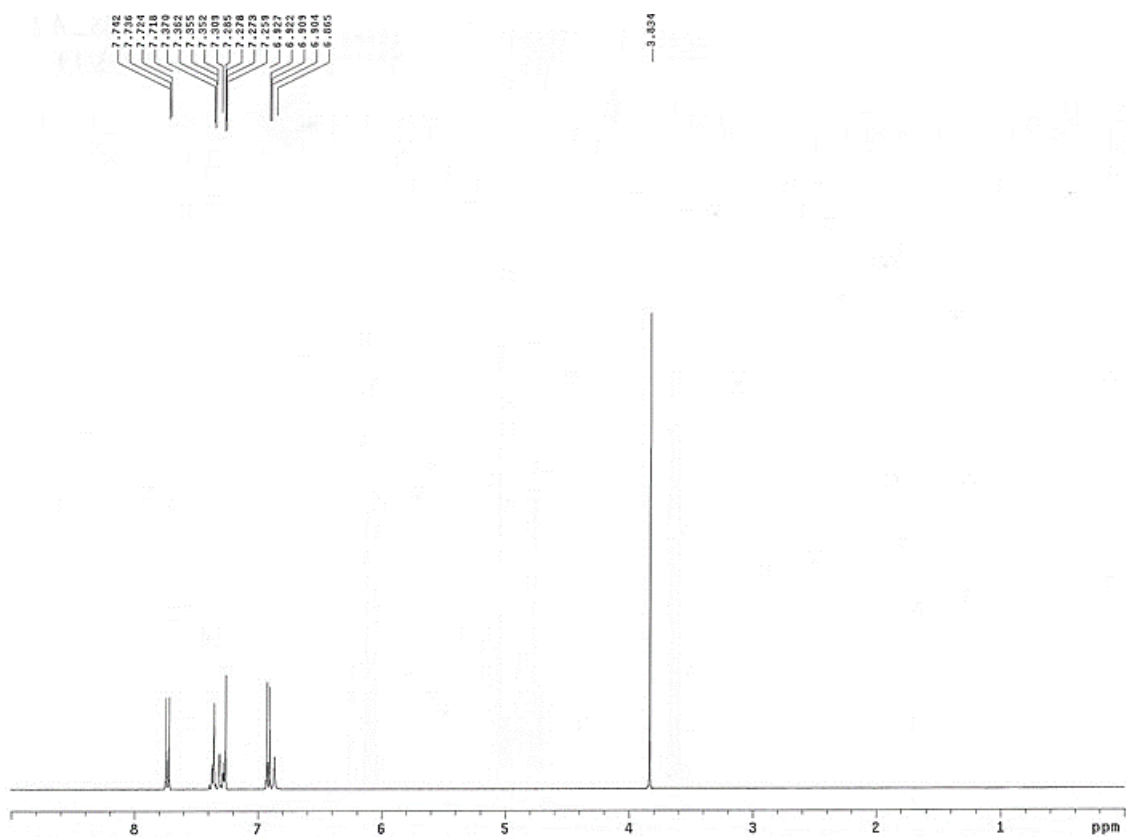


Fig. 307a: Compound **287** ^1H NMR spectra.

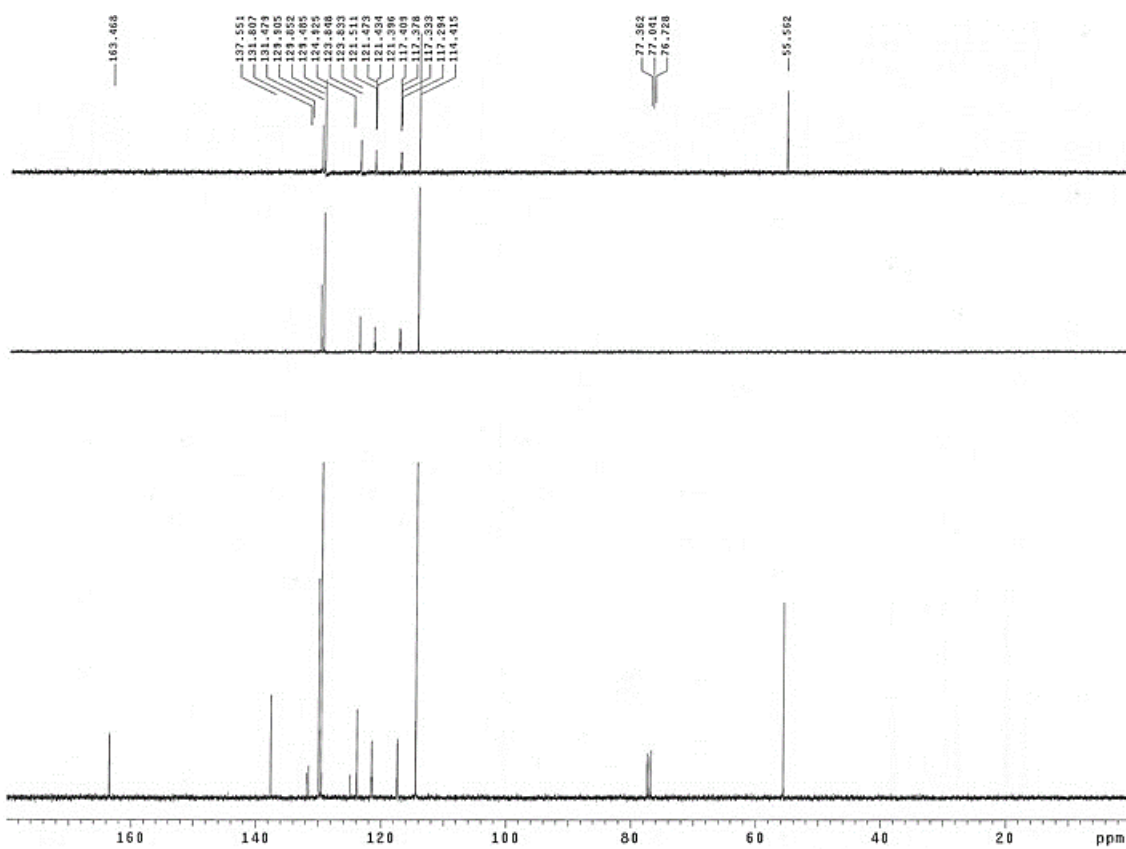


Fig. 307b: Compound **287** ^{13}C NMR spectra.

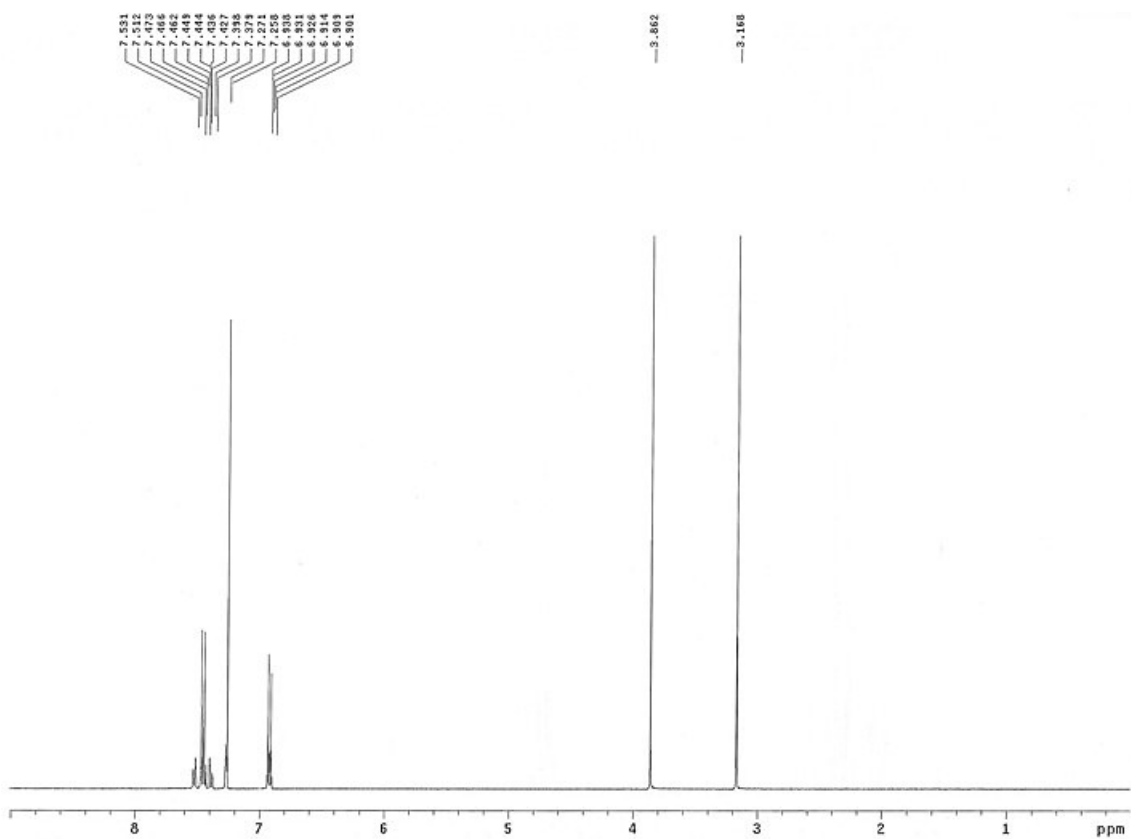


Fig. 308a: Compound **288** ^1H NMR spectra.

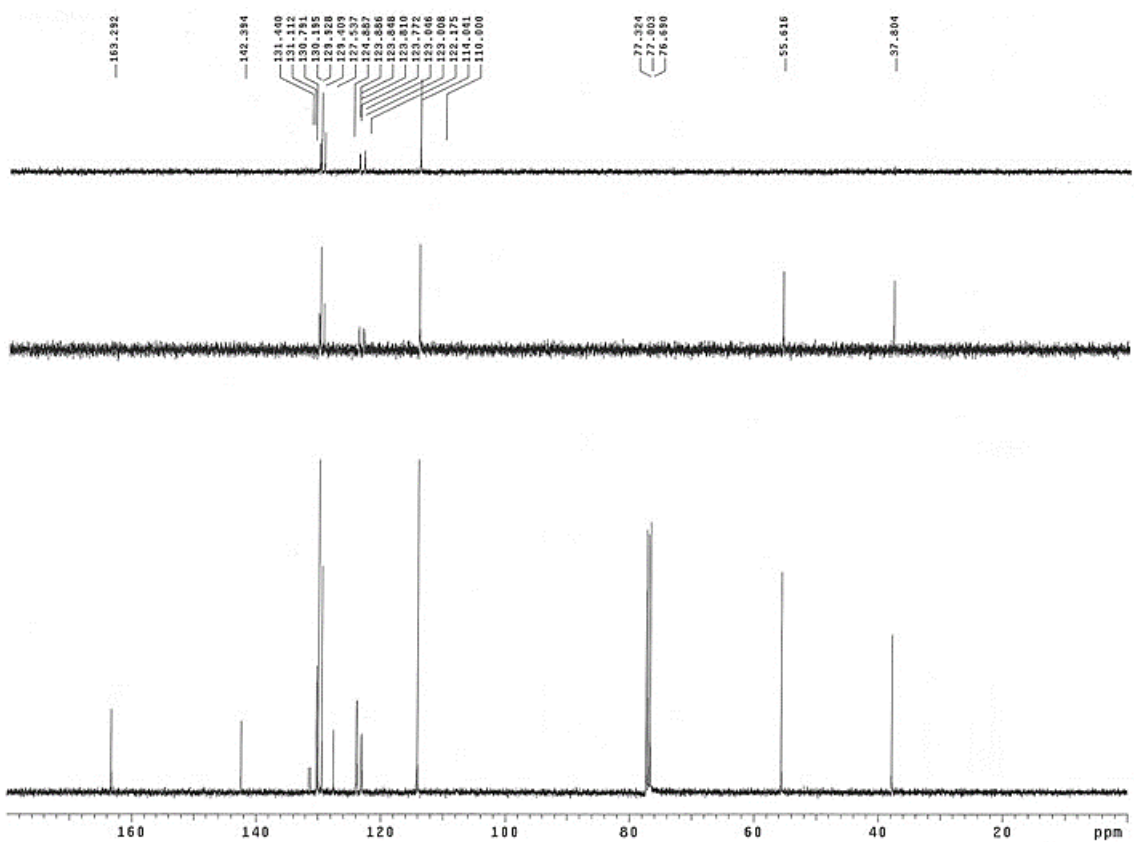


Fig. 308b: Compound **288** ^{13}C NMR spectra.

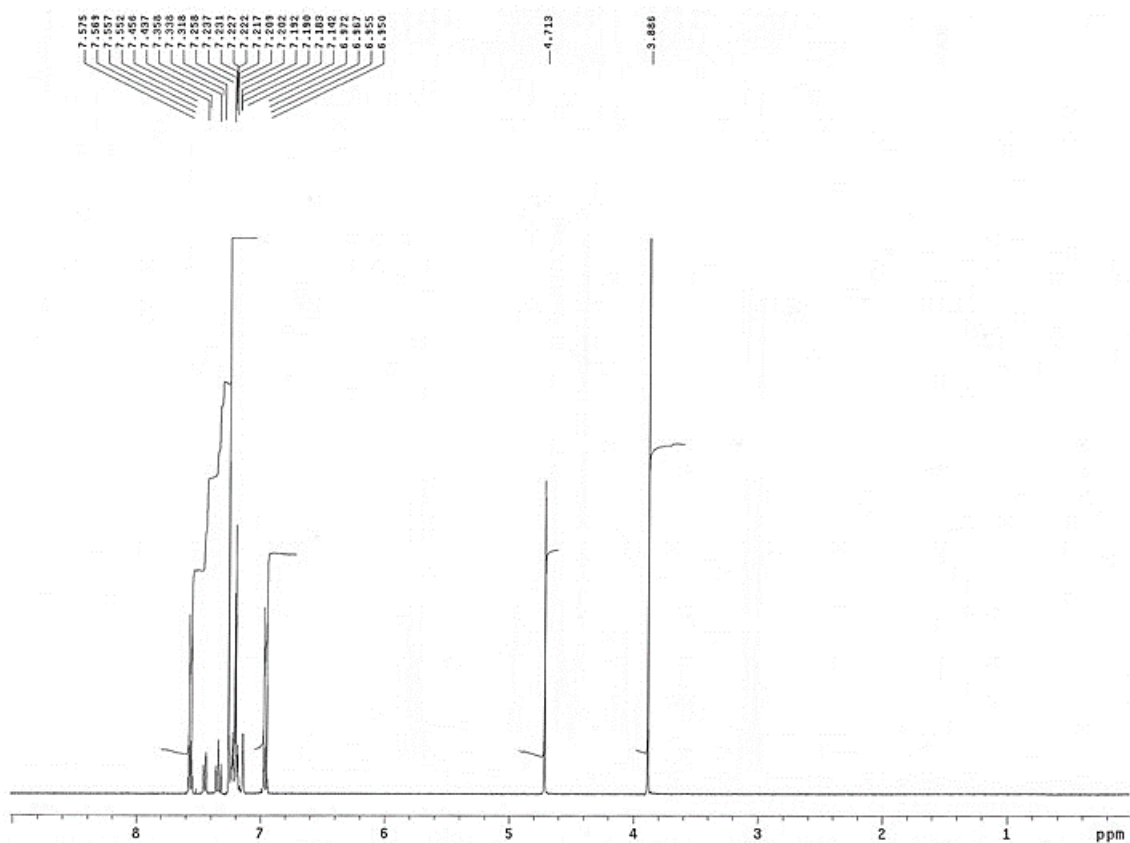


Fig. 309a: Compound **289** ^1H NMR spectra.

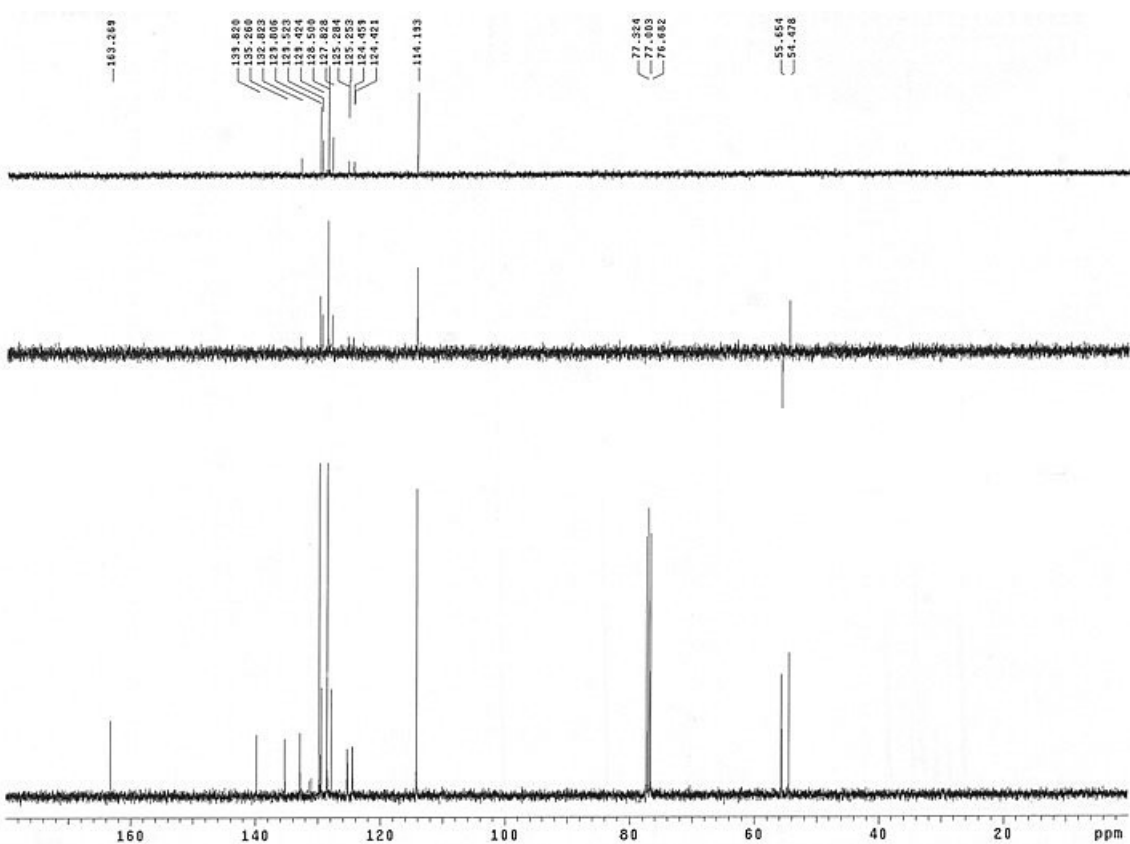


Fig. 309b: Compound **289** ^{13}C NMR spectra.

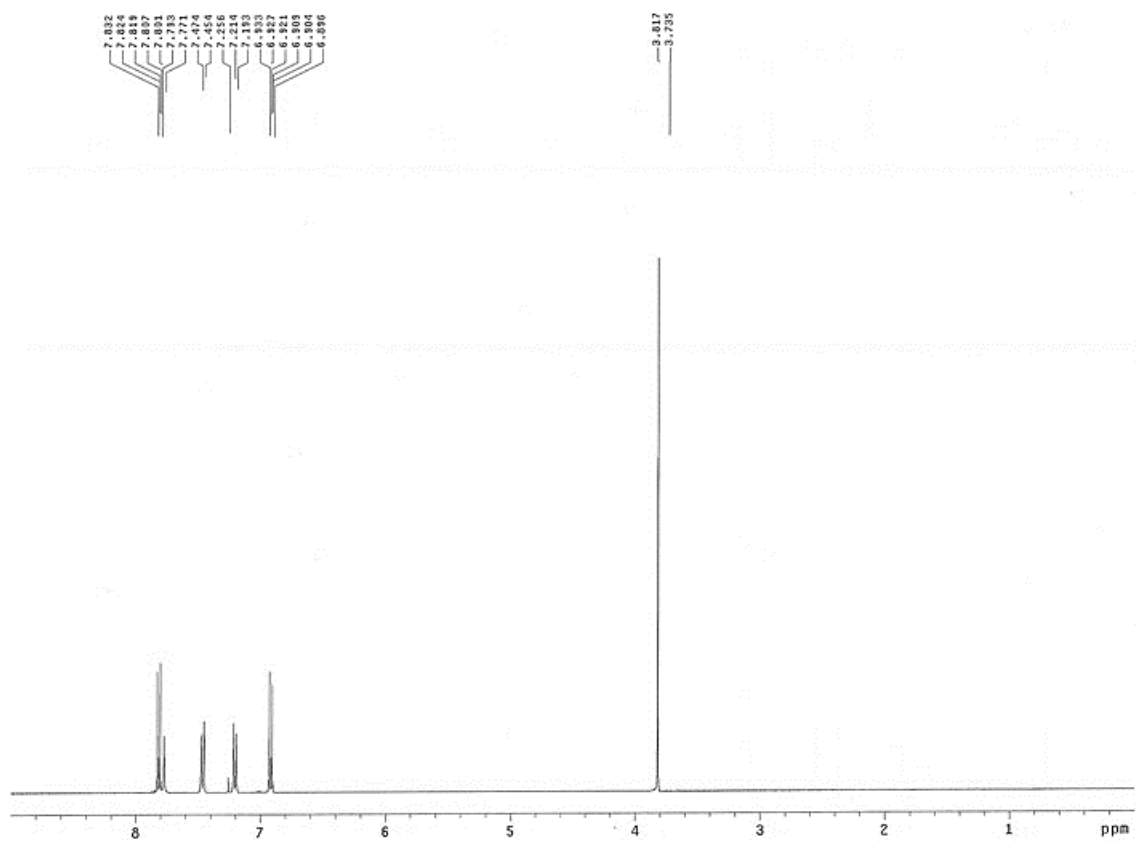


Fig. 310a: Compound **290** ^1H NMR spectra.

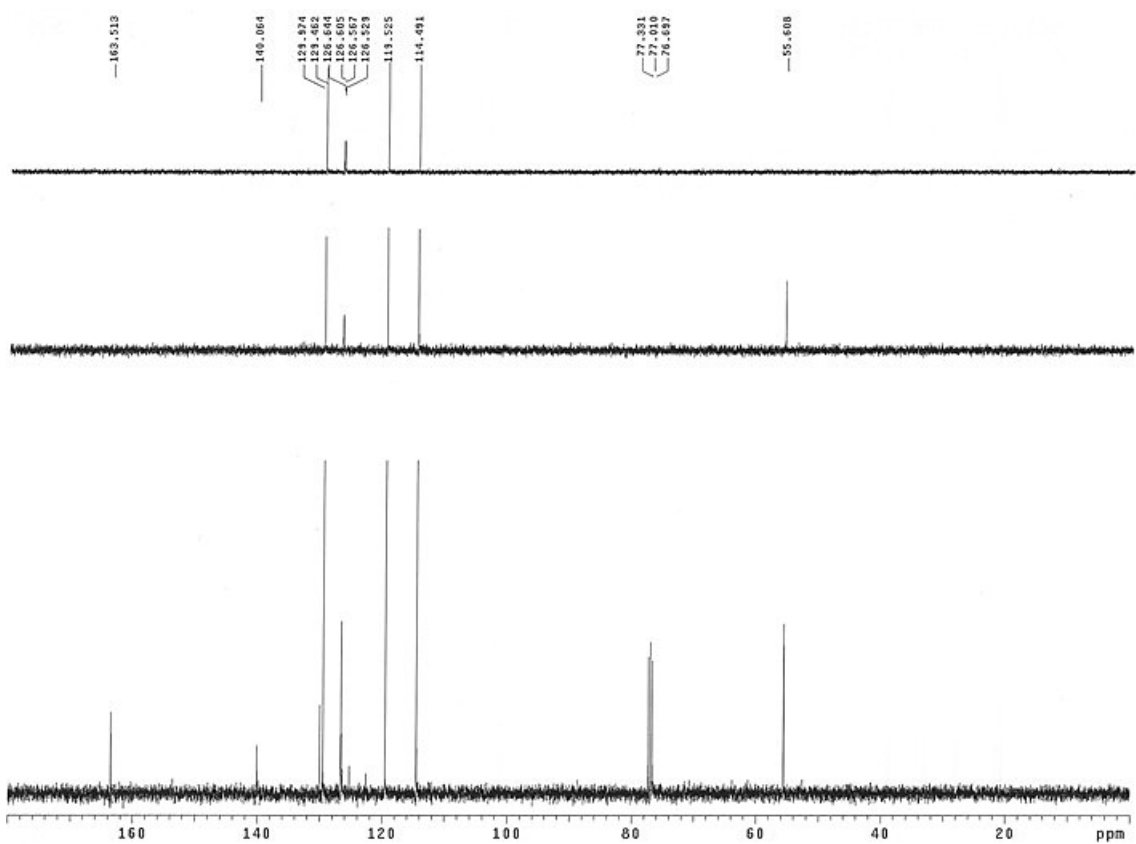


Fig. 310b: Compound **290** ^{13}C NMR spectra.

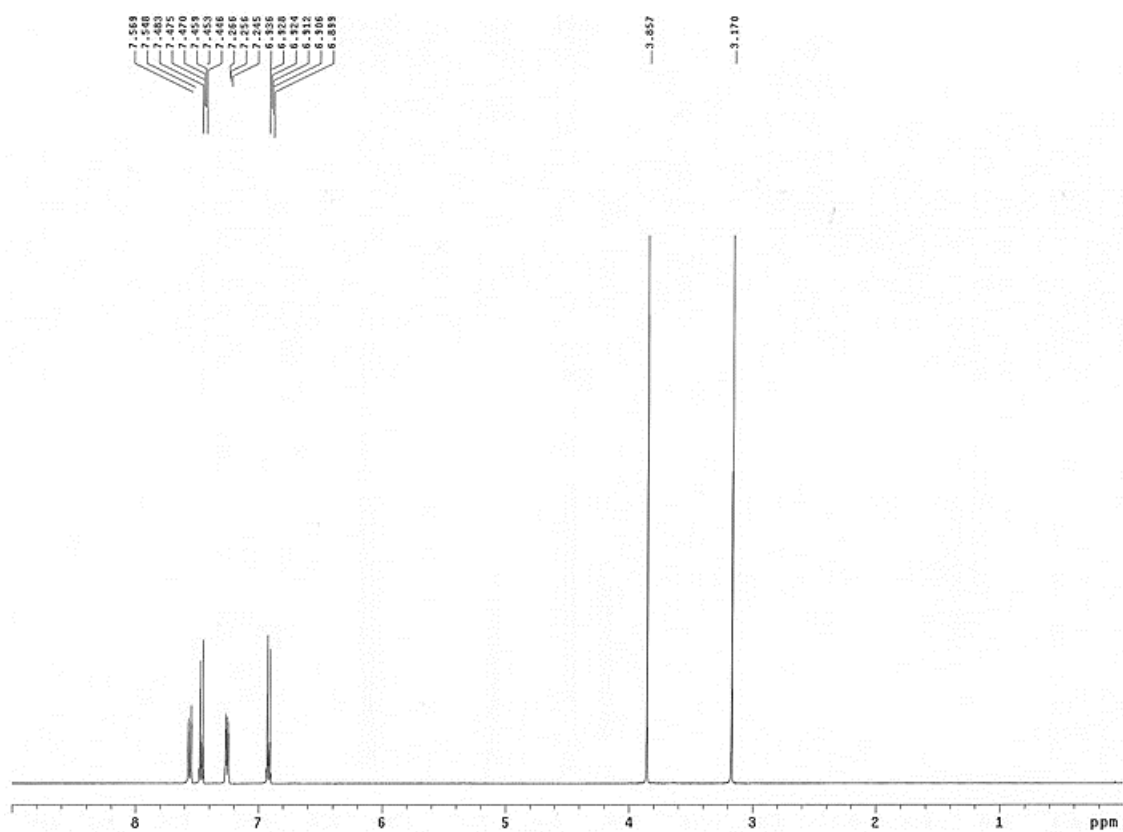


Fig. 311a: Compound 291 ¹H NMR spectra.

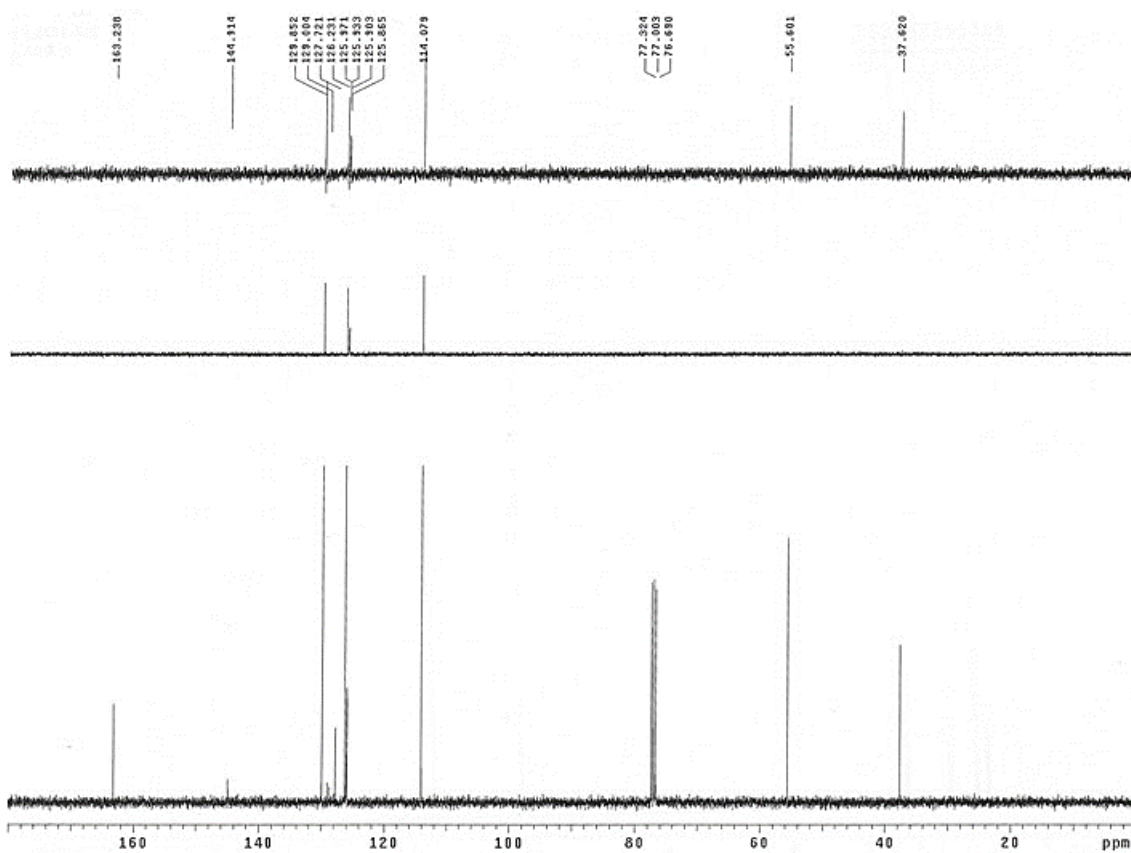


Fig. 311b: Compound 291 ¹³C NMR spectra.

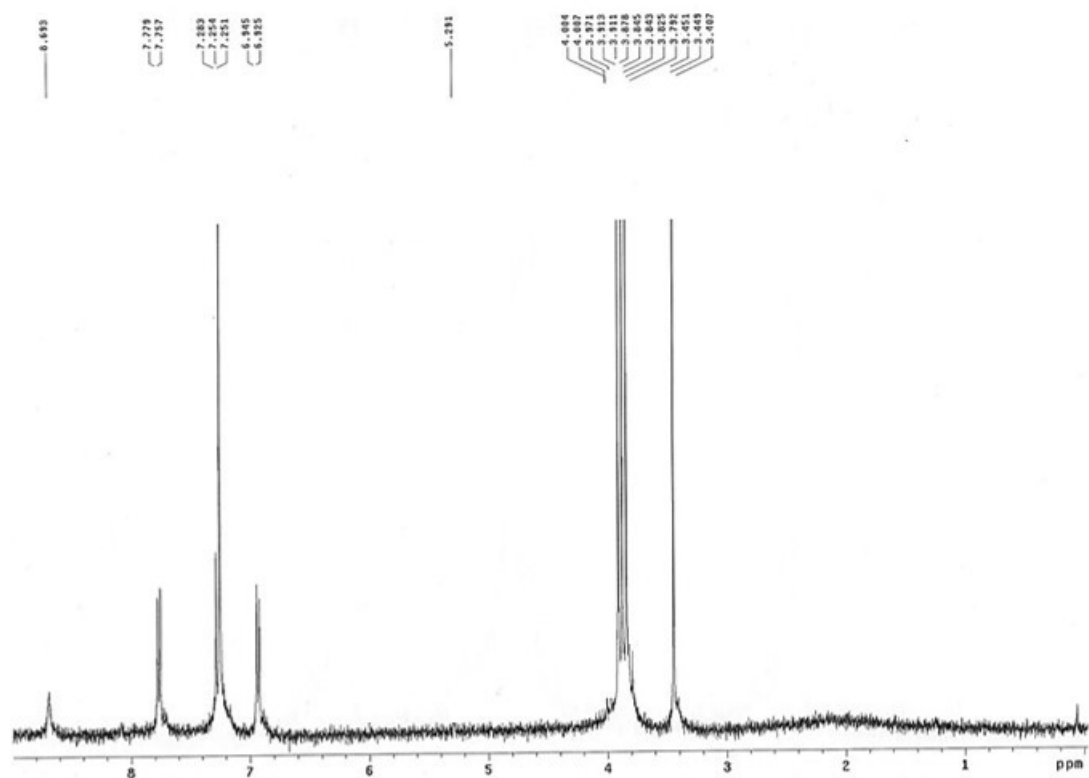


Fig. 313a: Compound **293a** ^1H NMR spectra.

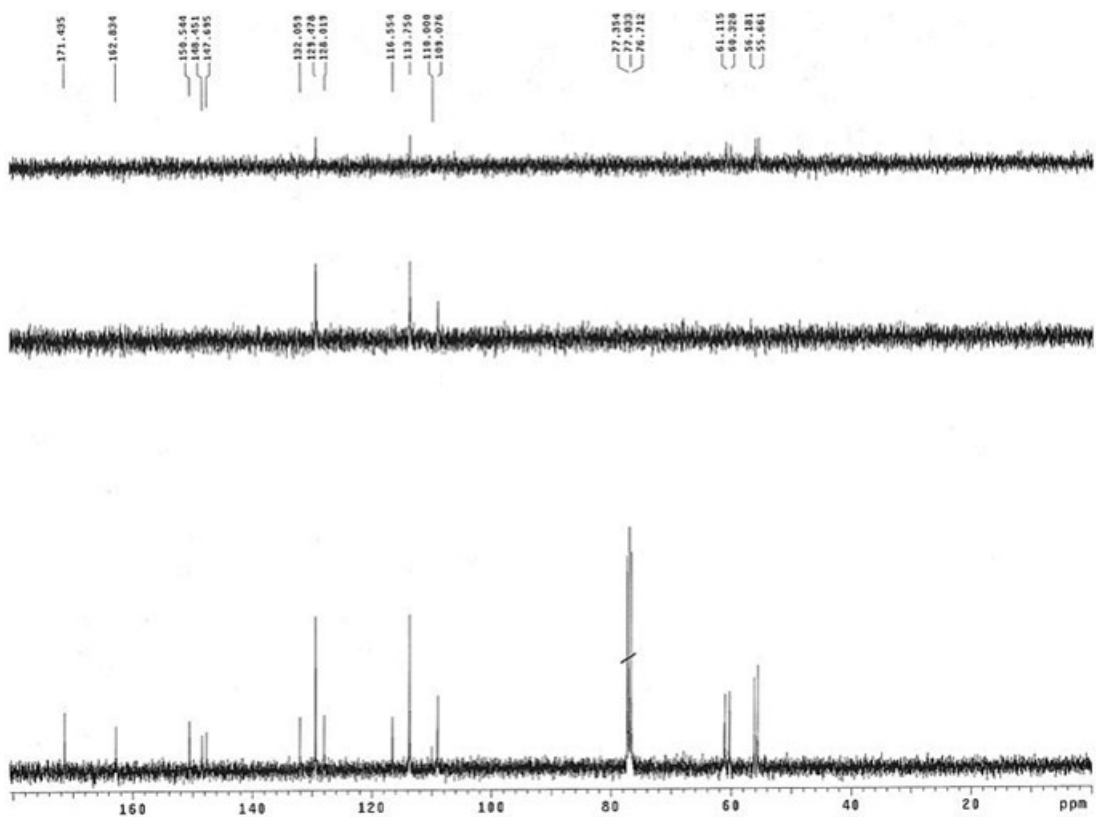


Fig. 313b: Compound **293a** ^{13}C NMR spectra.

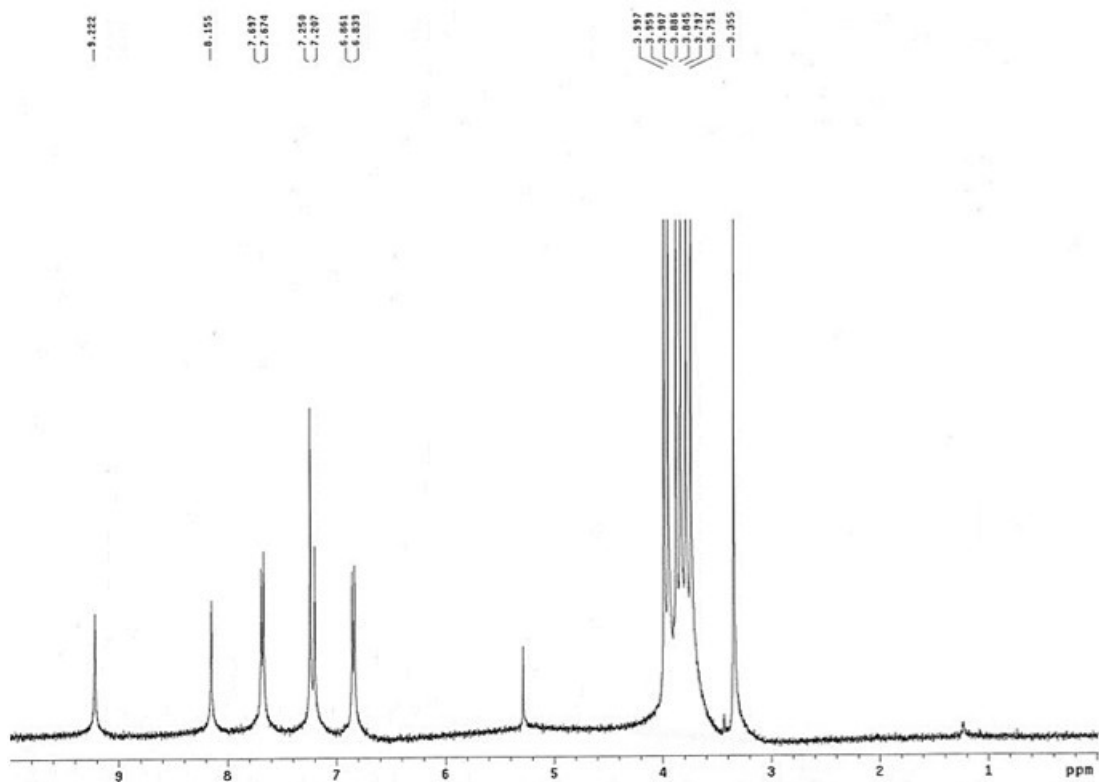


Fig. 314a: Compound **293b** ^1H NMR spectra.

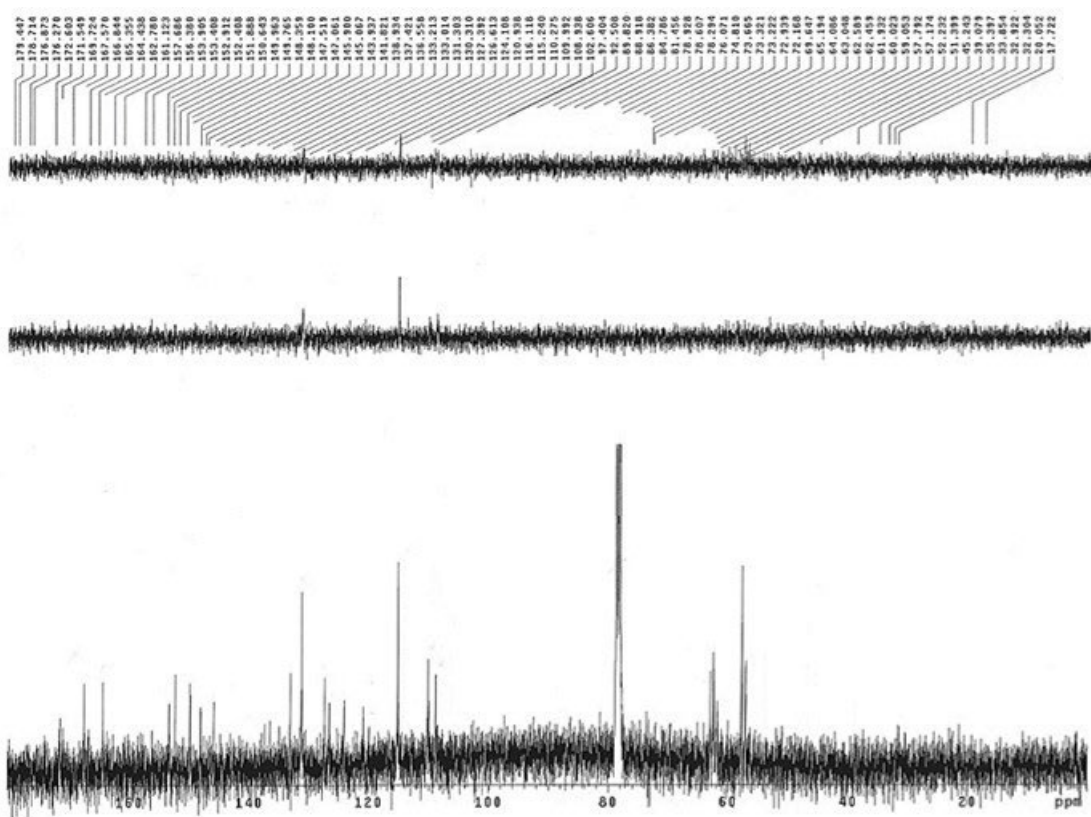


Fig. 314b: Compound **293b** ^{13}C NMR spectra.

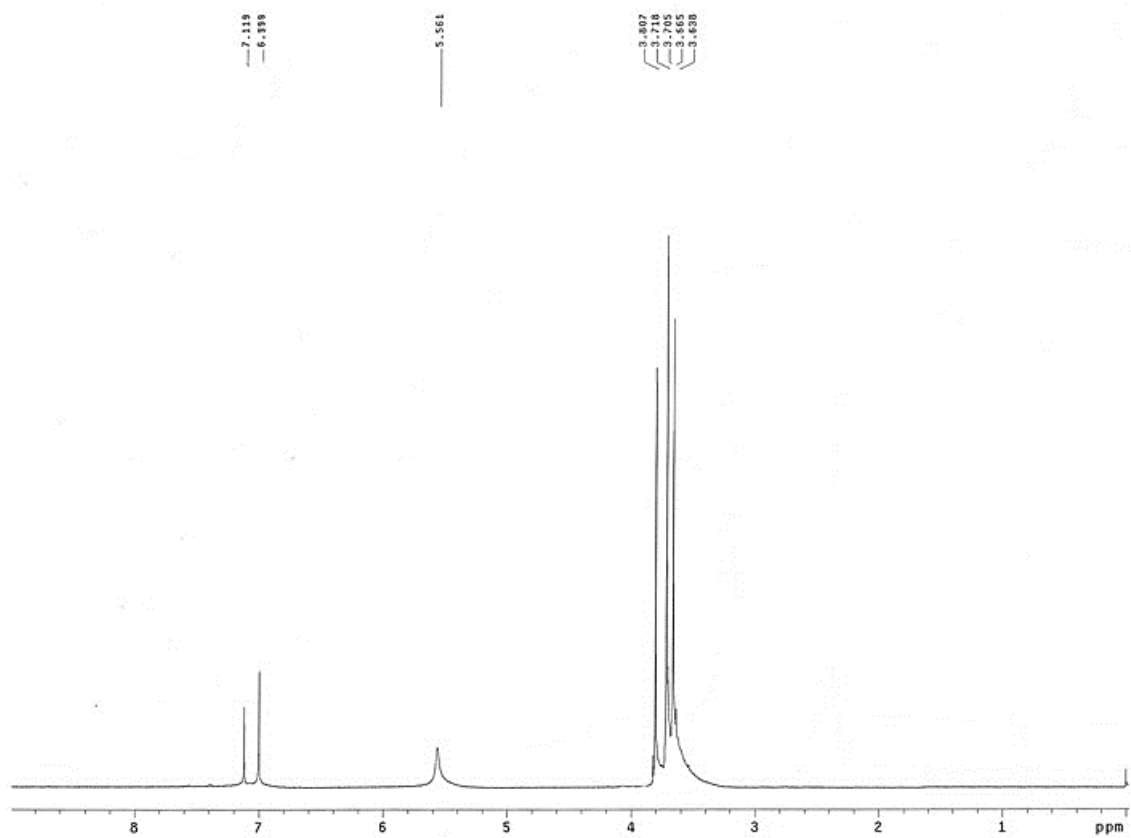


Fig. 315a: Compound **294** ^1H NMR spectra.

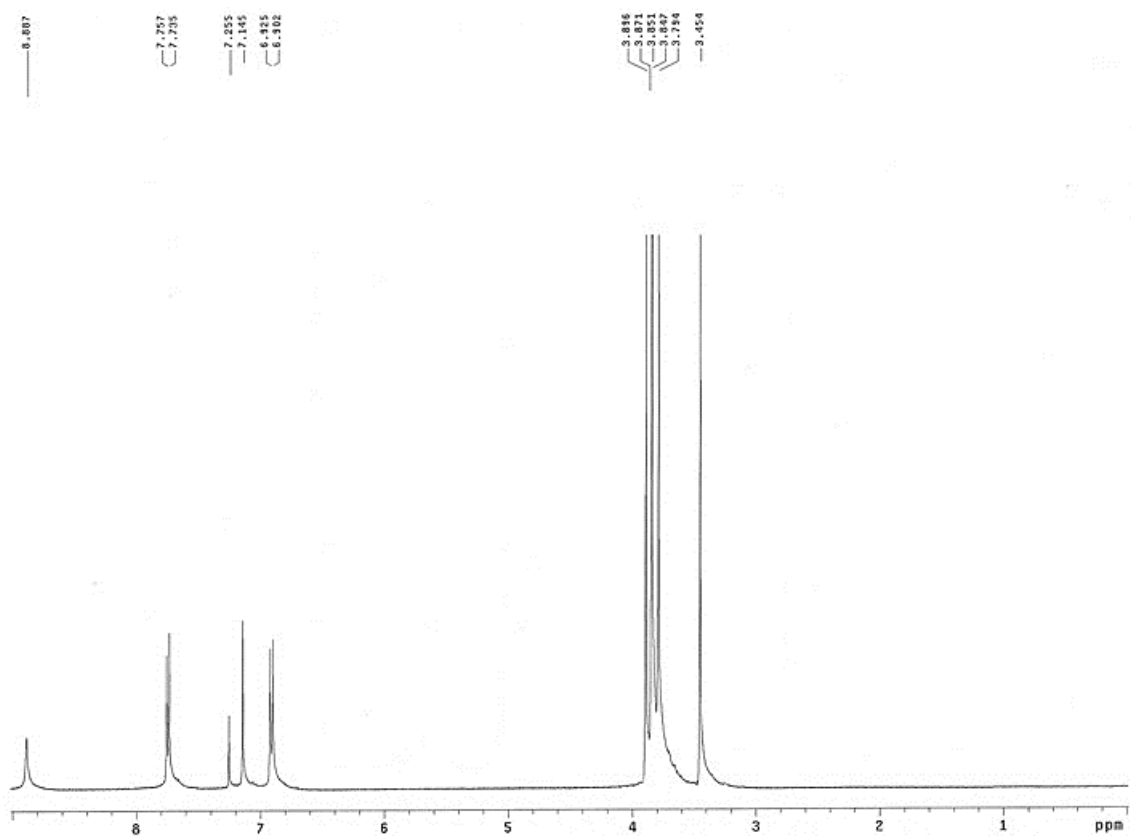


Fig. 316a: Compound **295** ^1H NMR spectra.

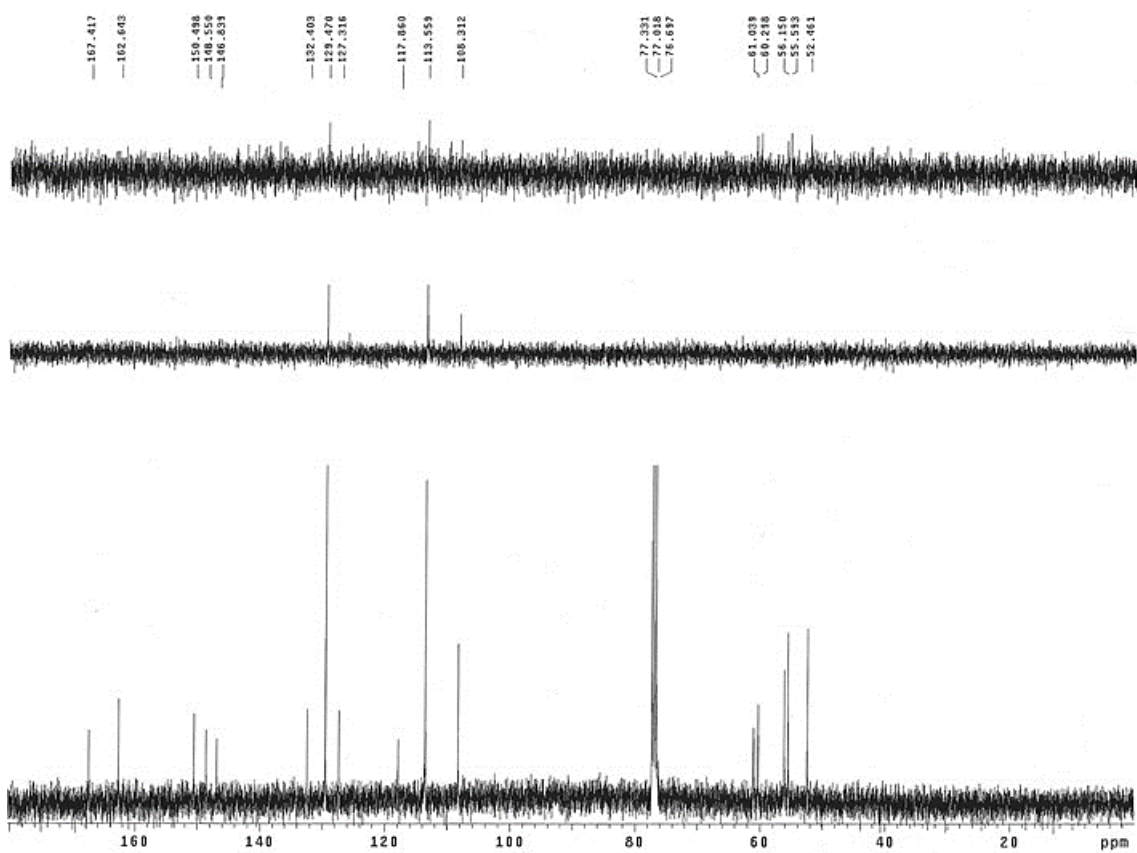


Fig. 316b: Compound **295** ^{13}C NMR spectra.

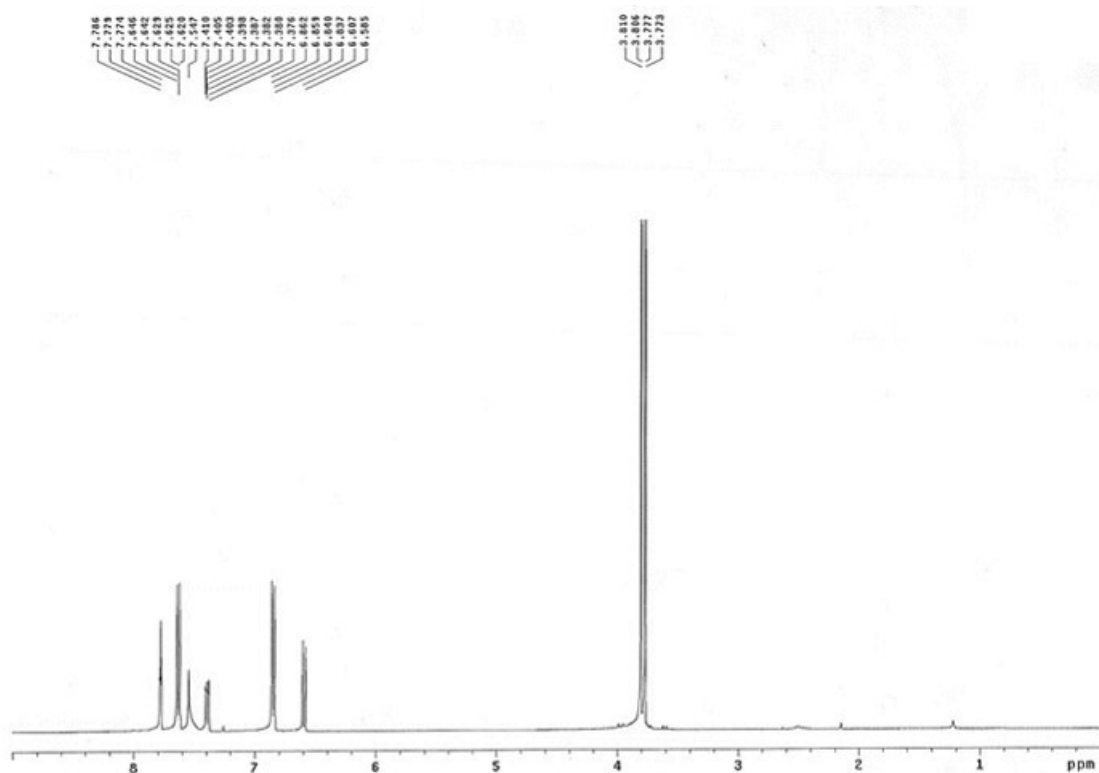


Fig. 317a: Compound 296 ^1H NMR spectra.

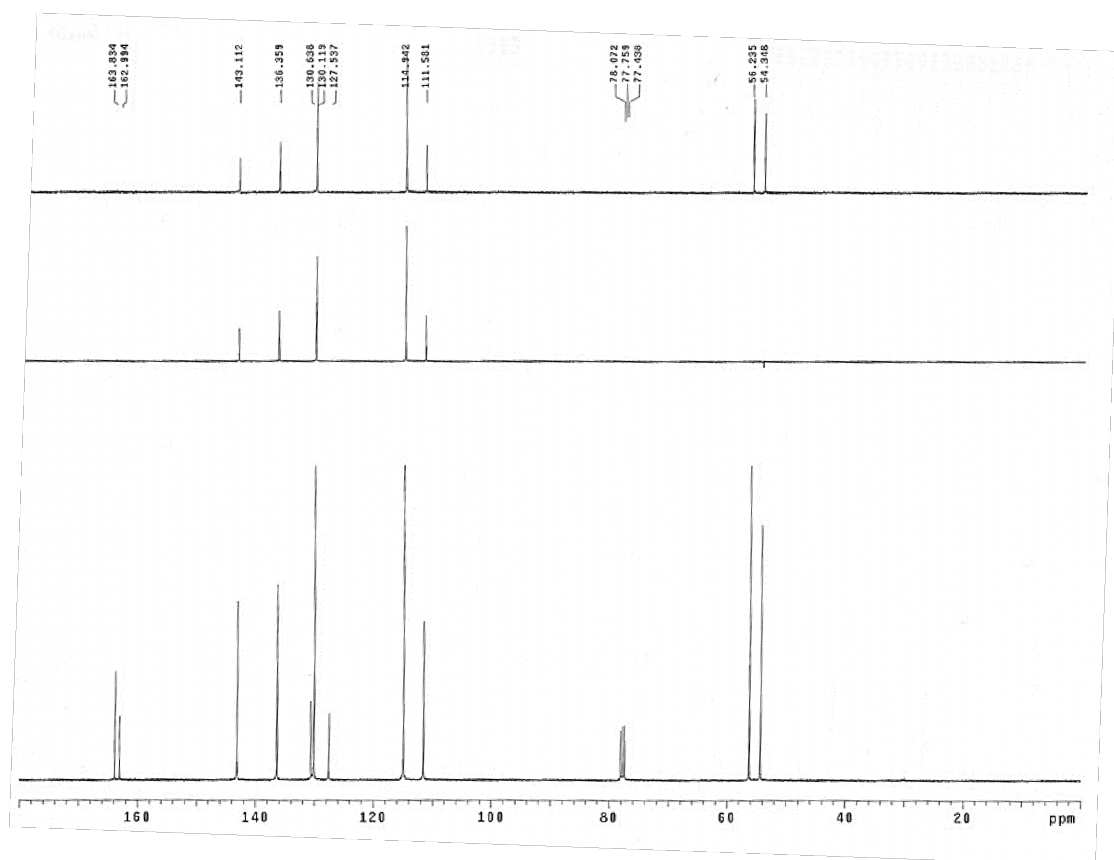


Fig. 317b: Compound 296 ^{13}C NMR spectra.

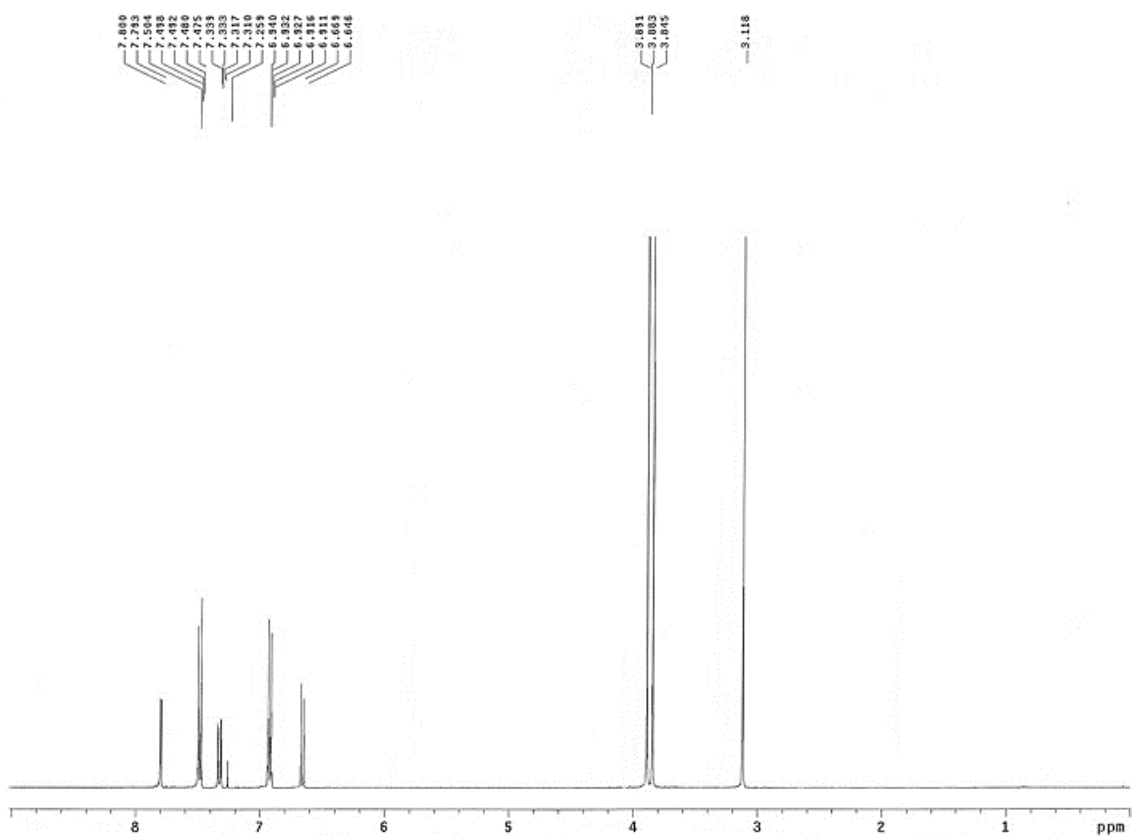


Fig. 318a: Compound **297** ^1H NMR spectra.

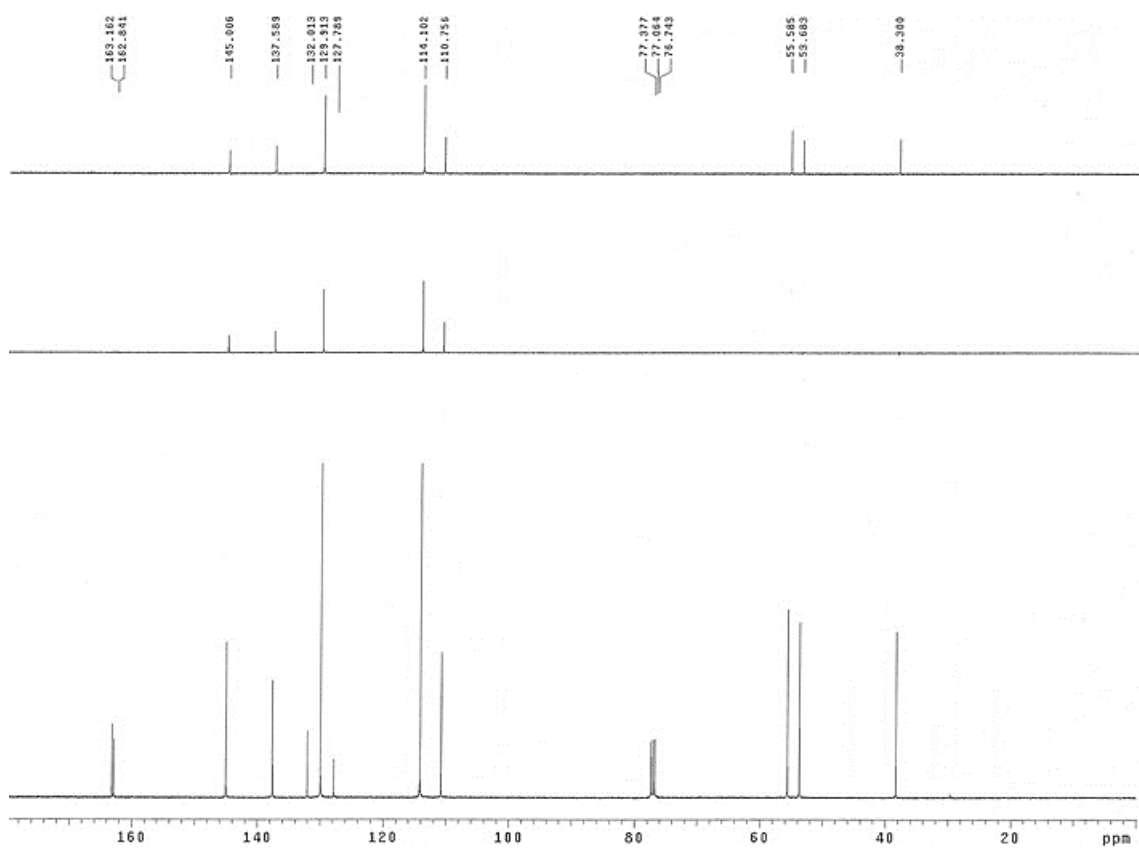


Fig. 318b: Compound **297** ^{13}C NMR spectra.

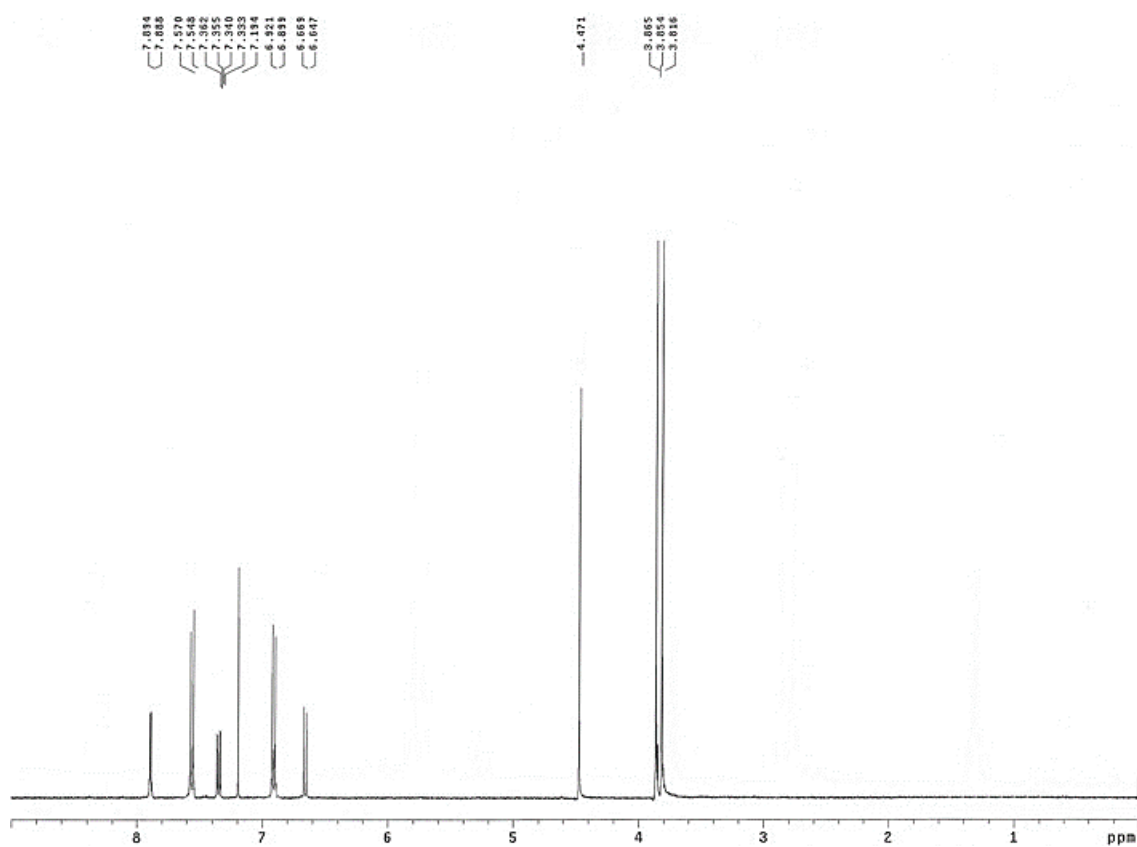


Fig. 319a: Compound **298** ^1H NMR spectra.

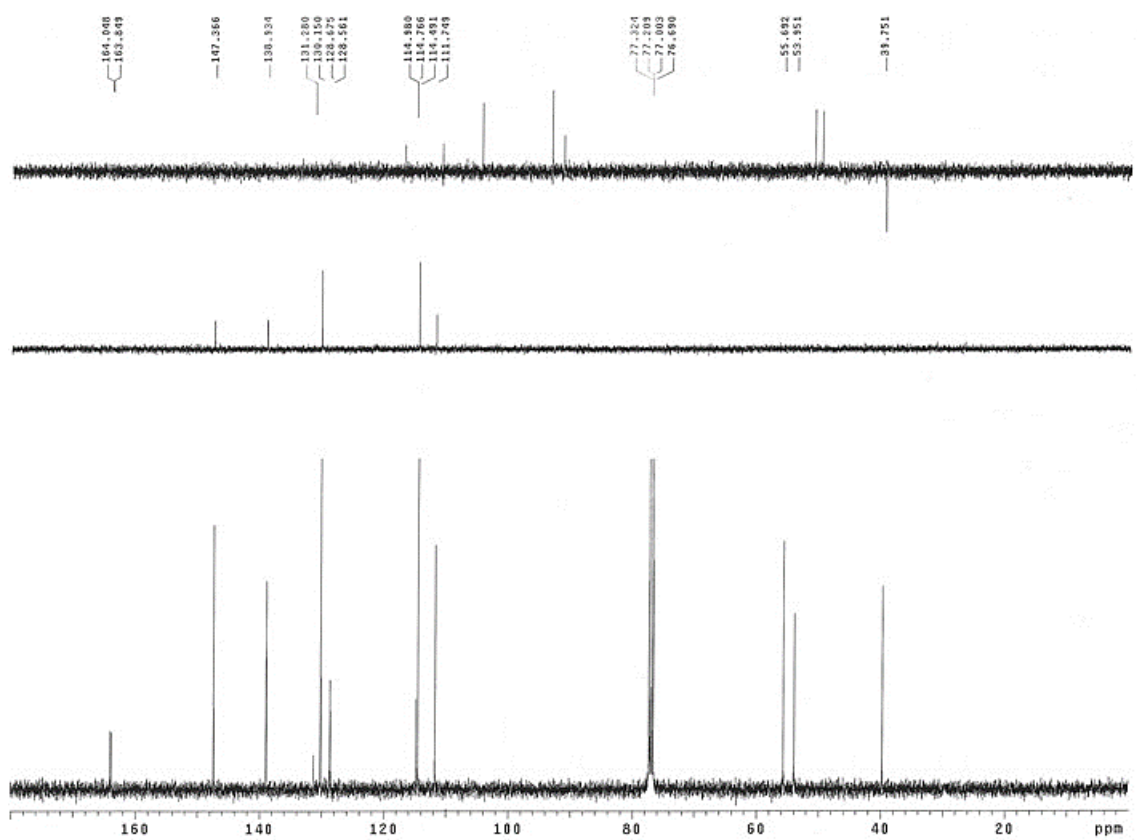


Fig. 319b: Compound **298** ^{13}C NMR spectra.

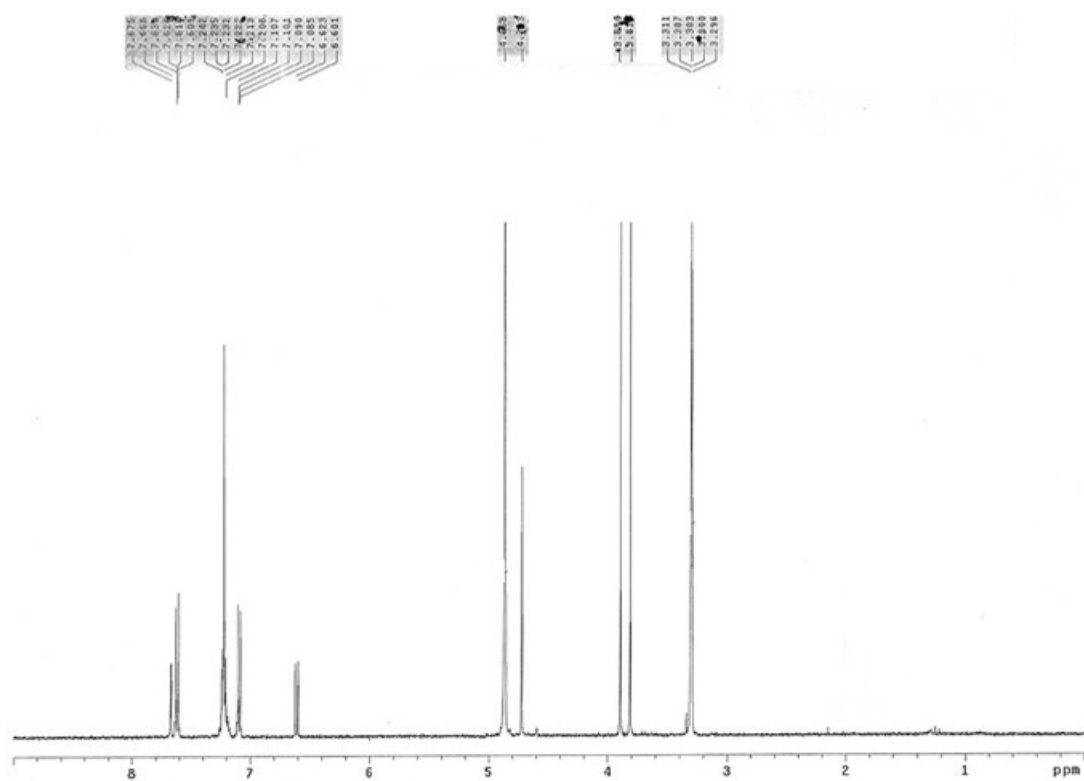


Fig. 320a: Compound **299** ^1H NMR spectra.

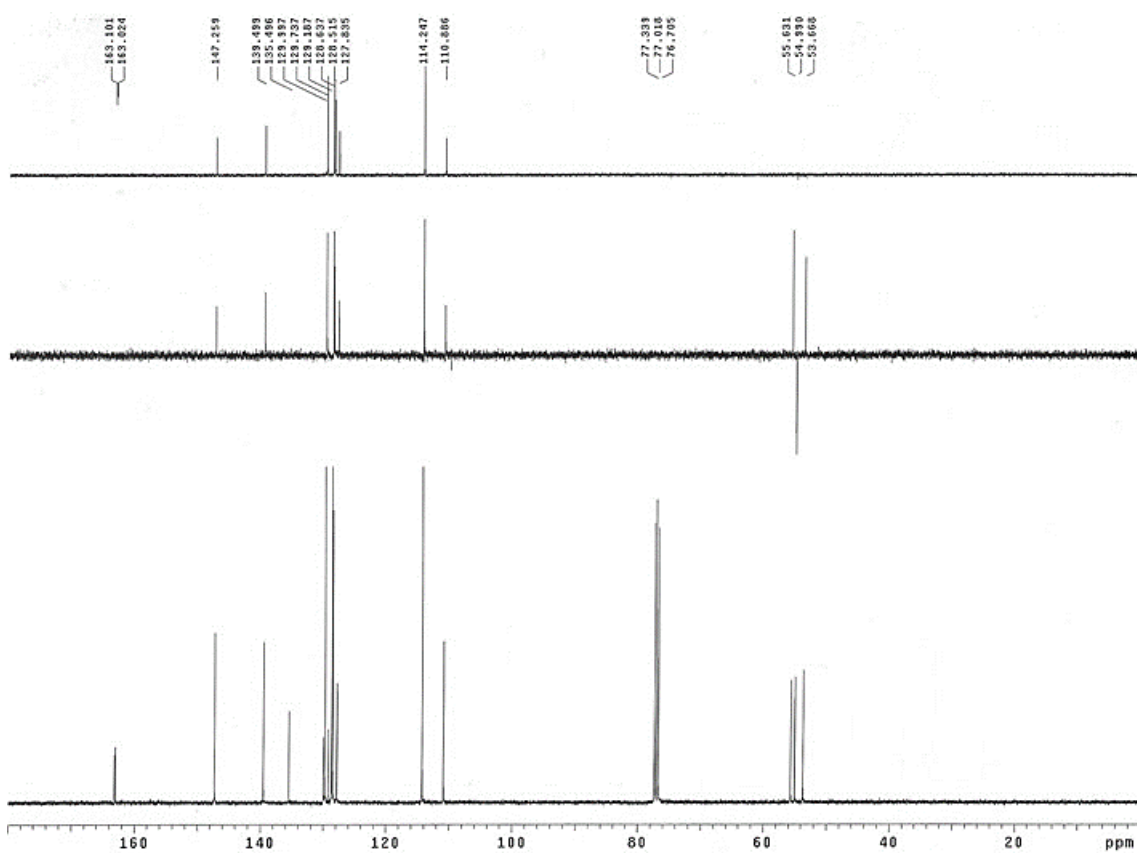


Fig. 320b: Compound **299** ^{13}C NMR spectra.

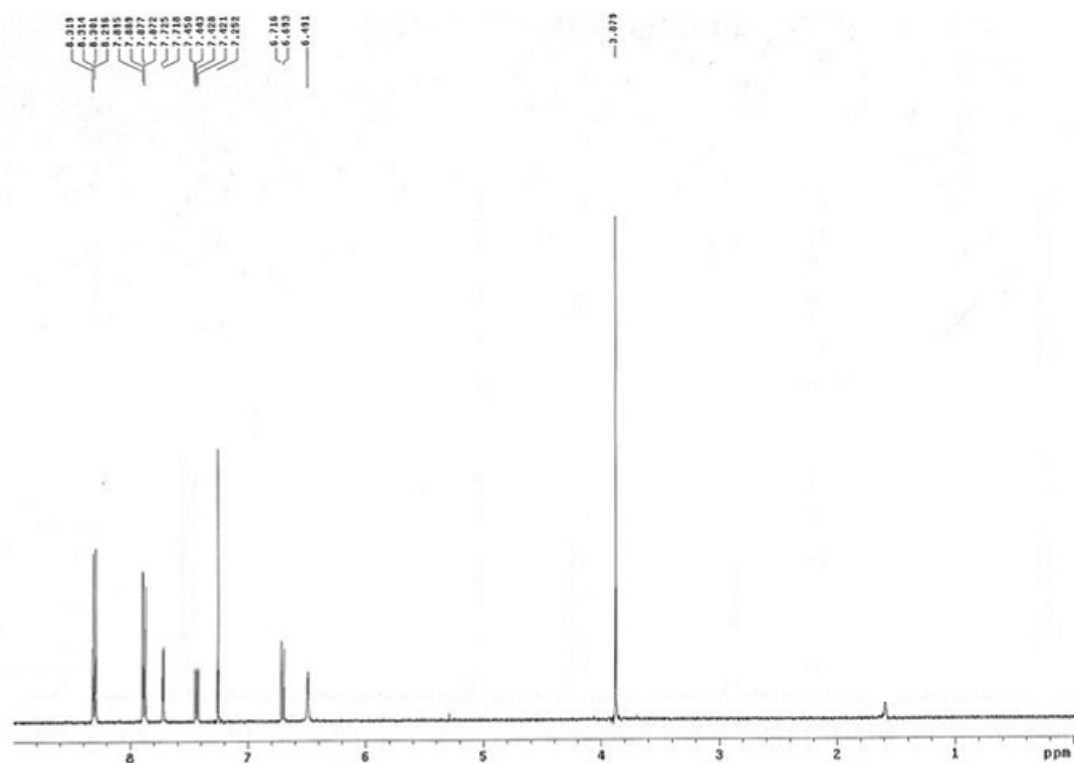


Fig. 321a: Compound **300** ^1H NMR spectra.

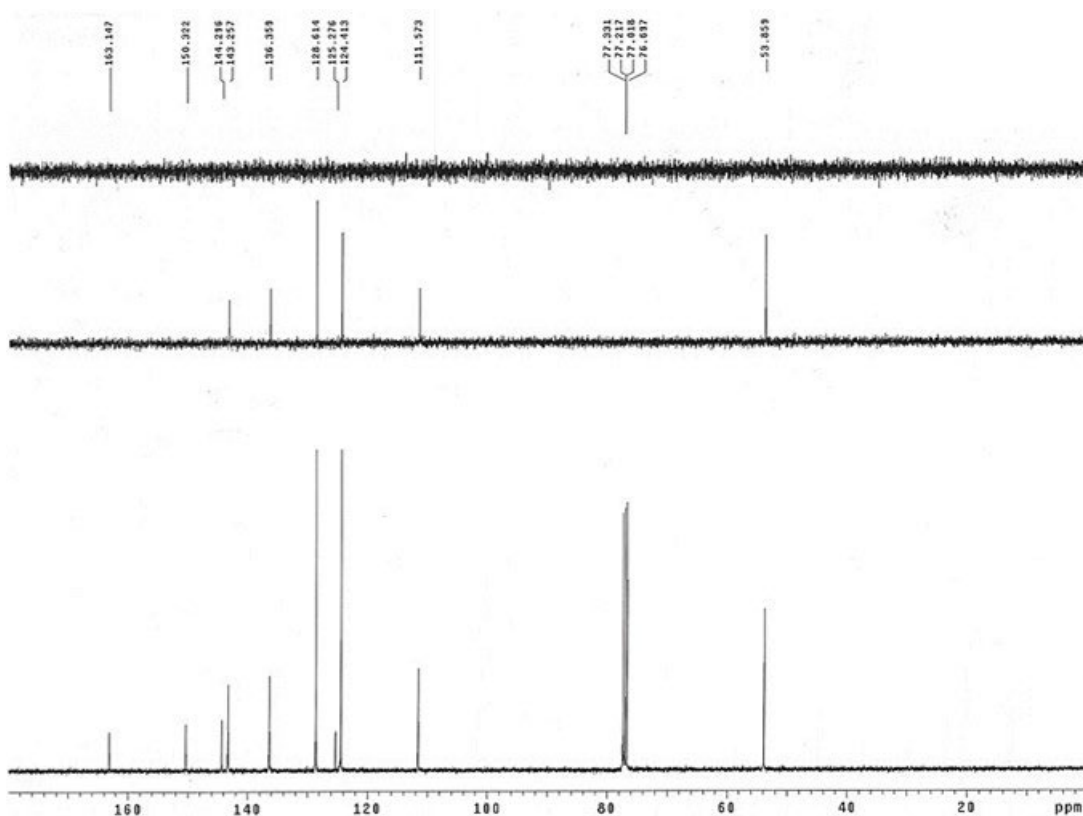


Fig. 321b: Compound **300** ^{13}C NMR spectra.

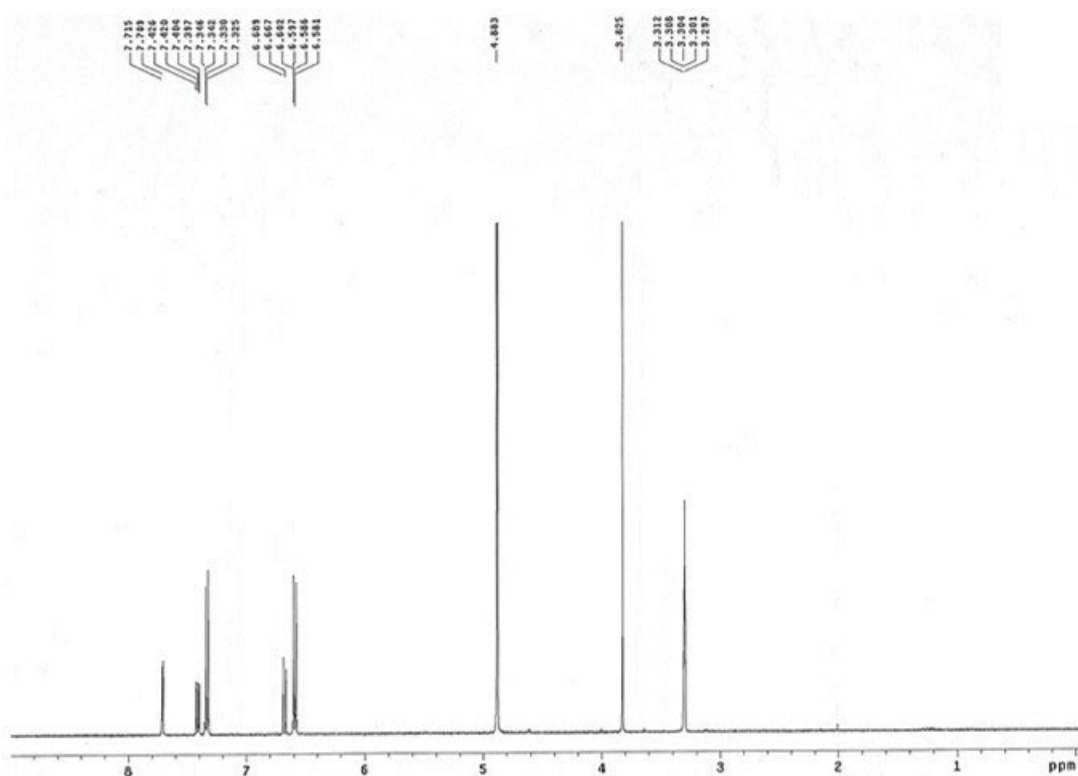


Fig. 322a: Compound **301** ^1H NMR spectra.

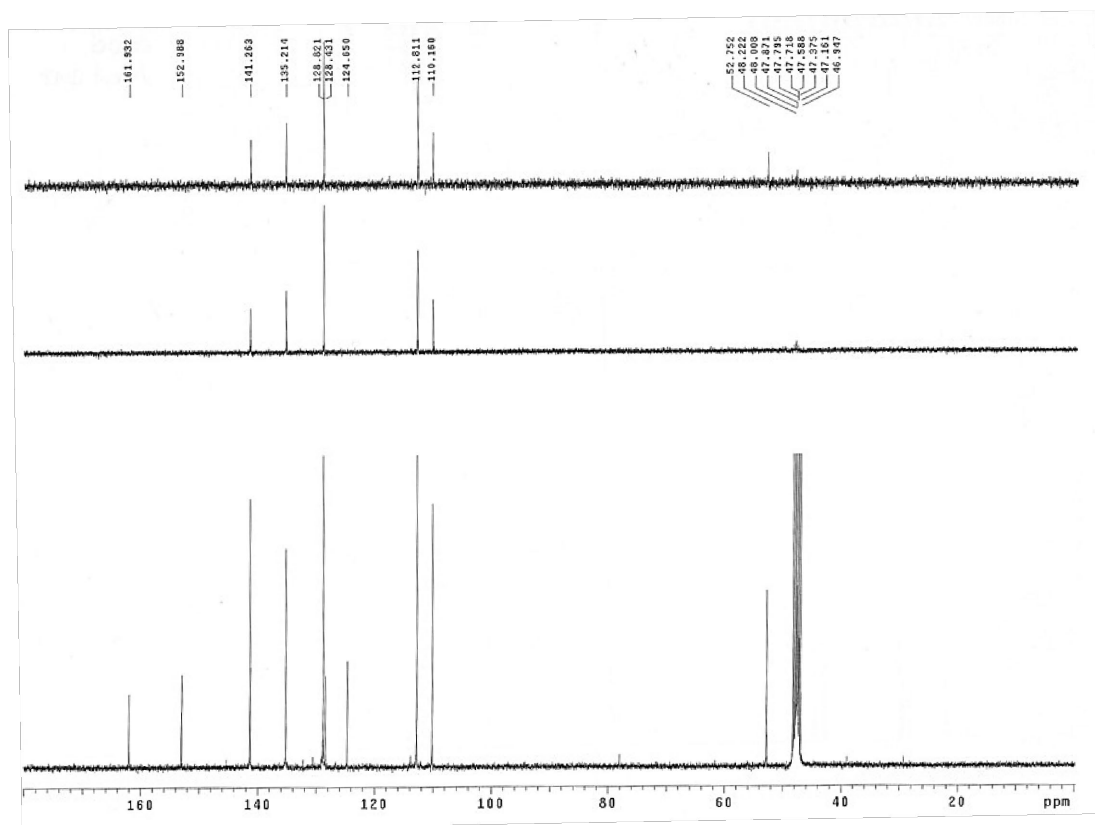


Fig. 322b: Compound **301** ^{13}C NMR spectra.

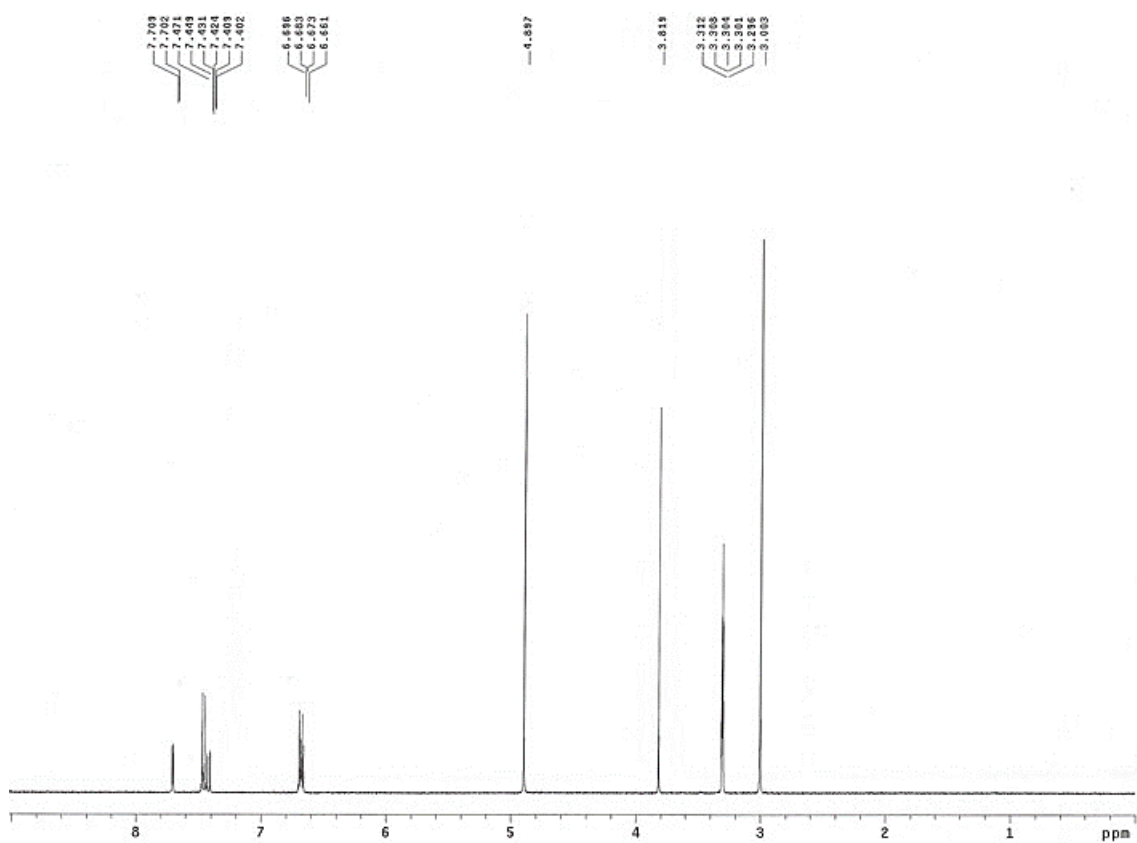


Fig. 323a: Compound **302** ^1H NMR spectra.

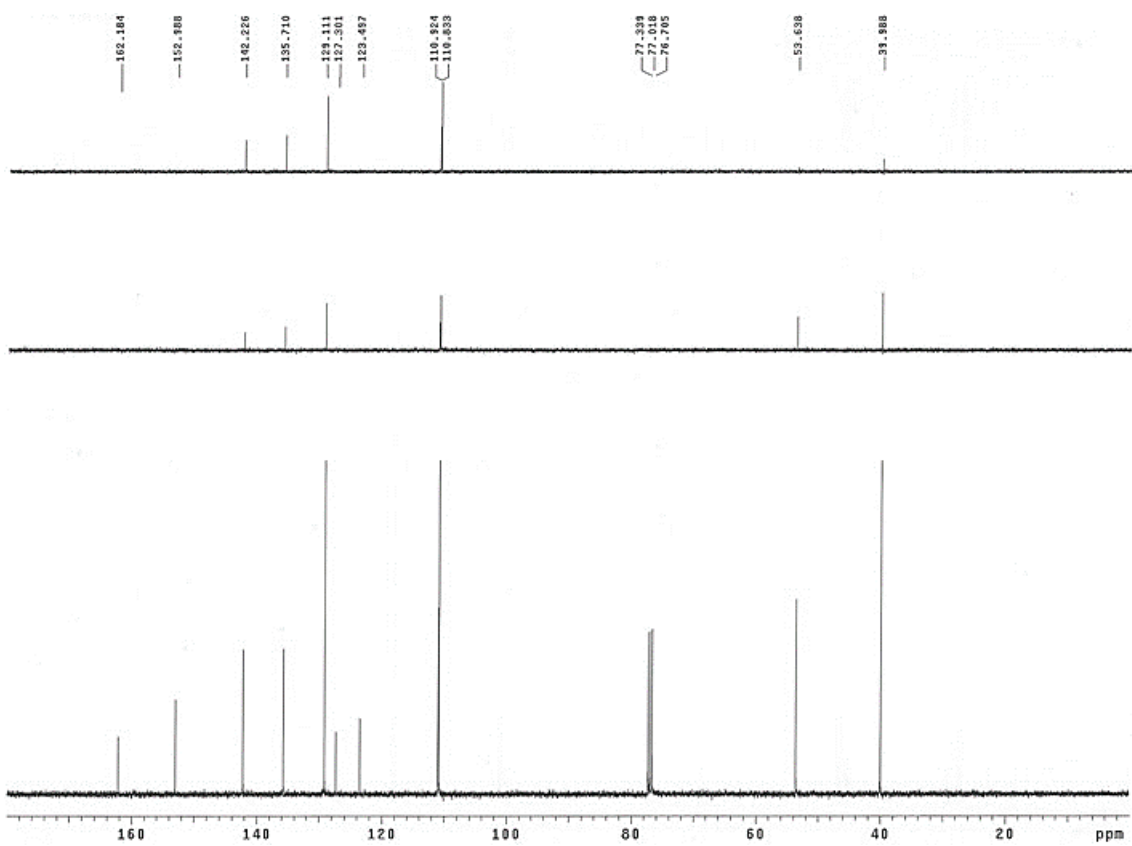


Fig. 323b: Compound **302** ^{13}C NMR spectra.

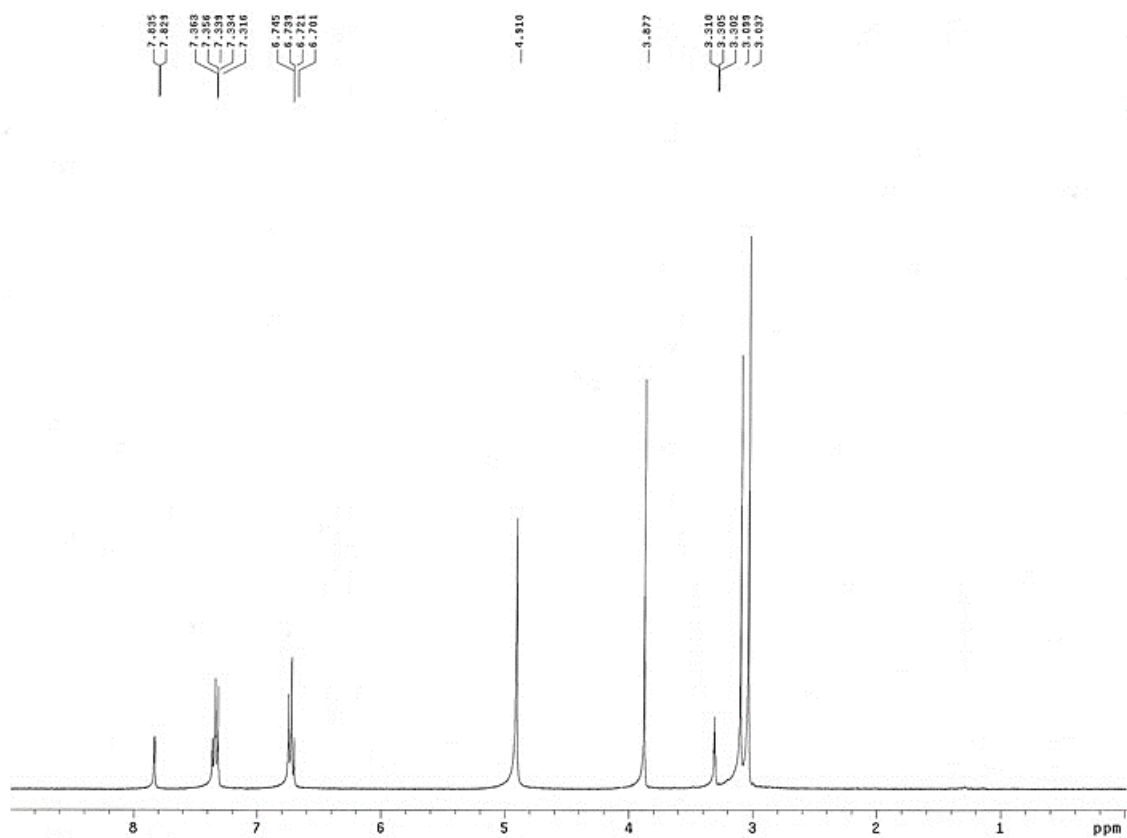


Fig. 324a: Compound **303** ^1H NMR spectra.

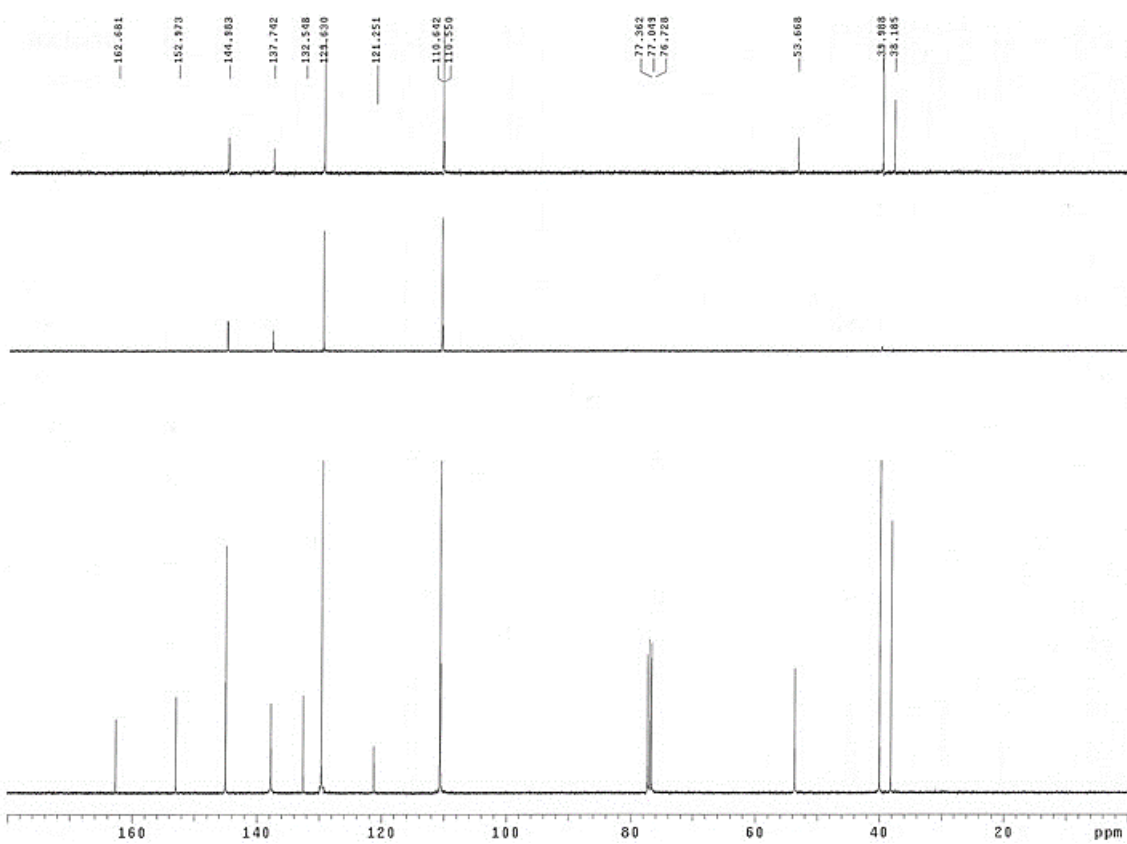


Fig. 324b: Compound **303** ^{13}C NMR spectra.

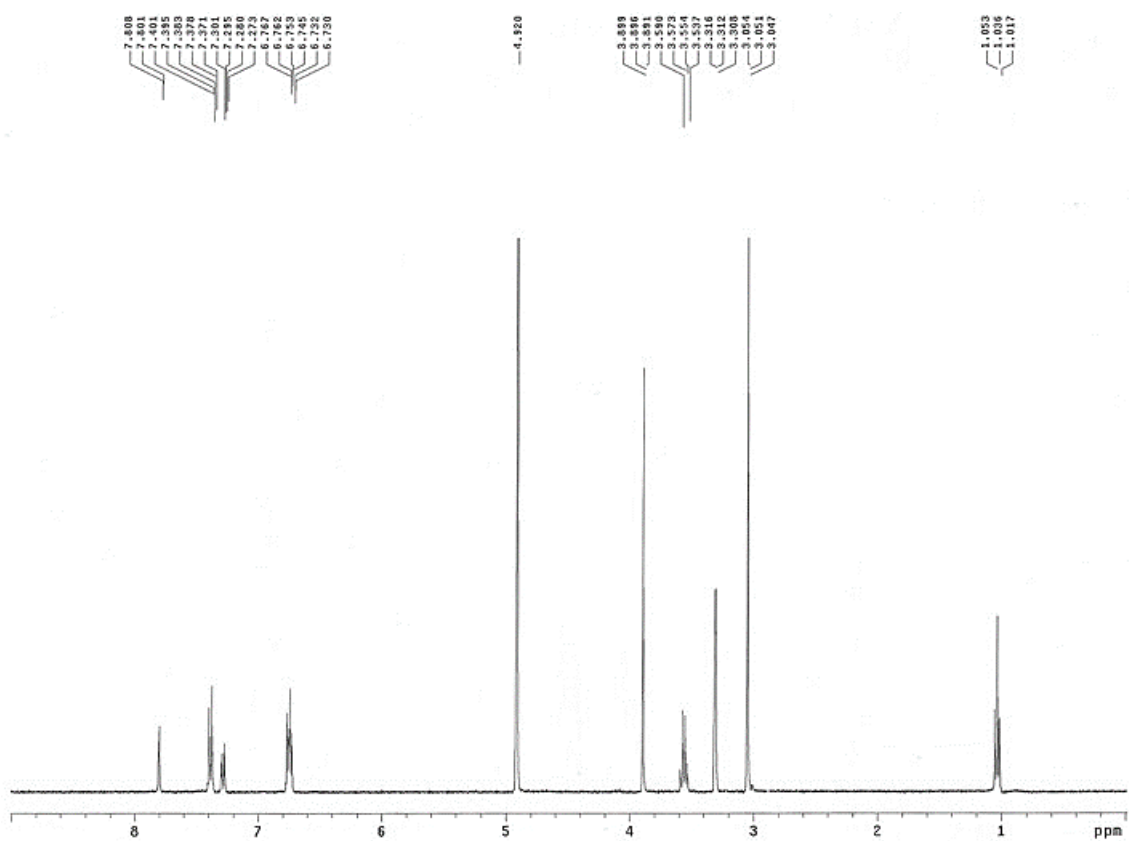


Fig. 325a: Compound **304** ^1H NMR spectra.

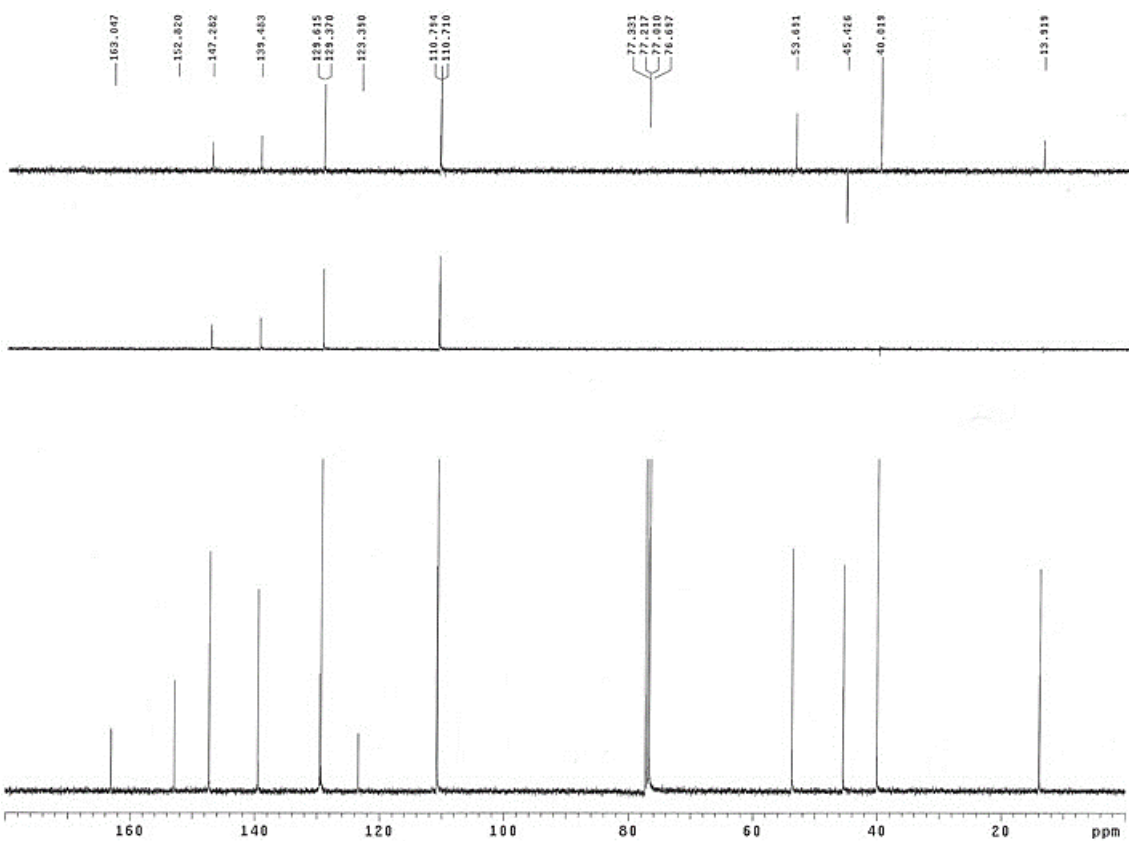


Fig. 325b: Compound **304** ^{13}C NMR spectra.

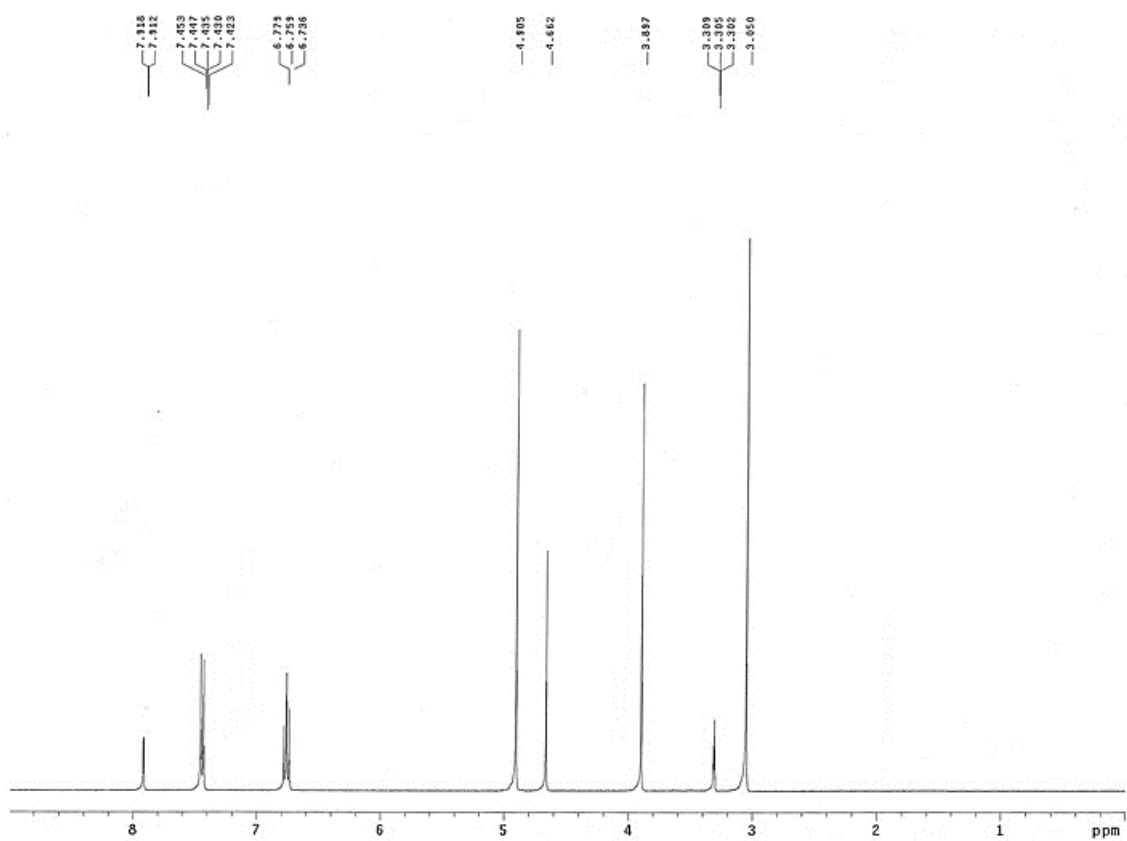


Fig. 326a: Compound **305** ^1H NMR spectra.

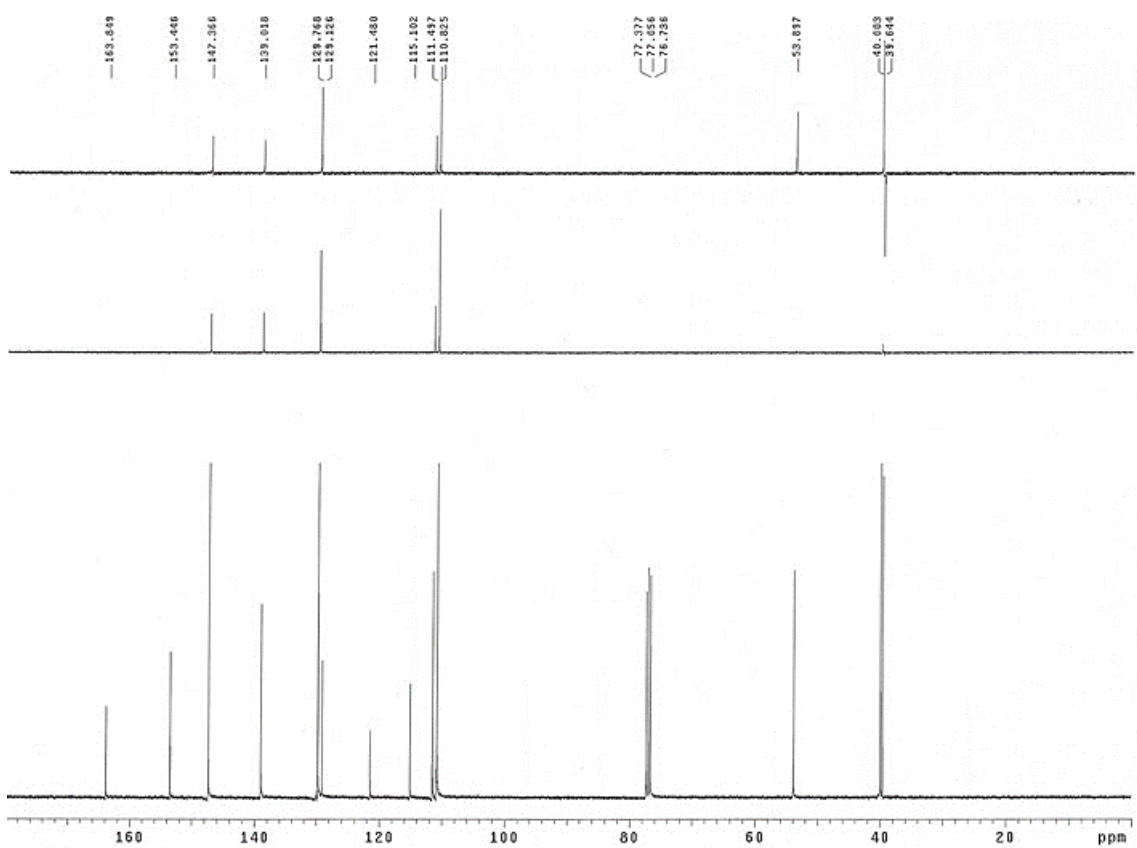


Fig. 326b: Compound **305** ^{13}C NMR spectra.

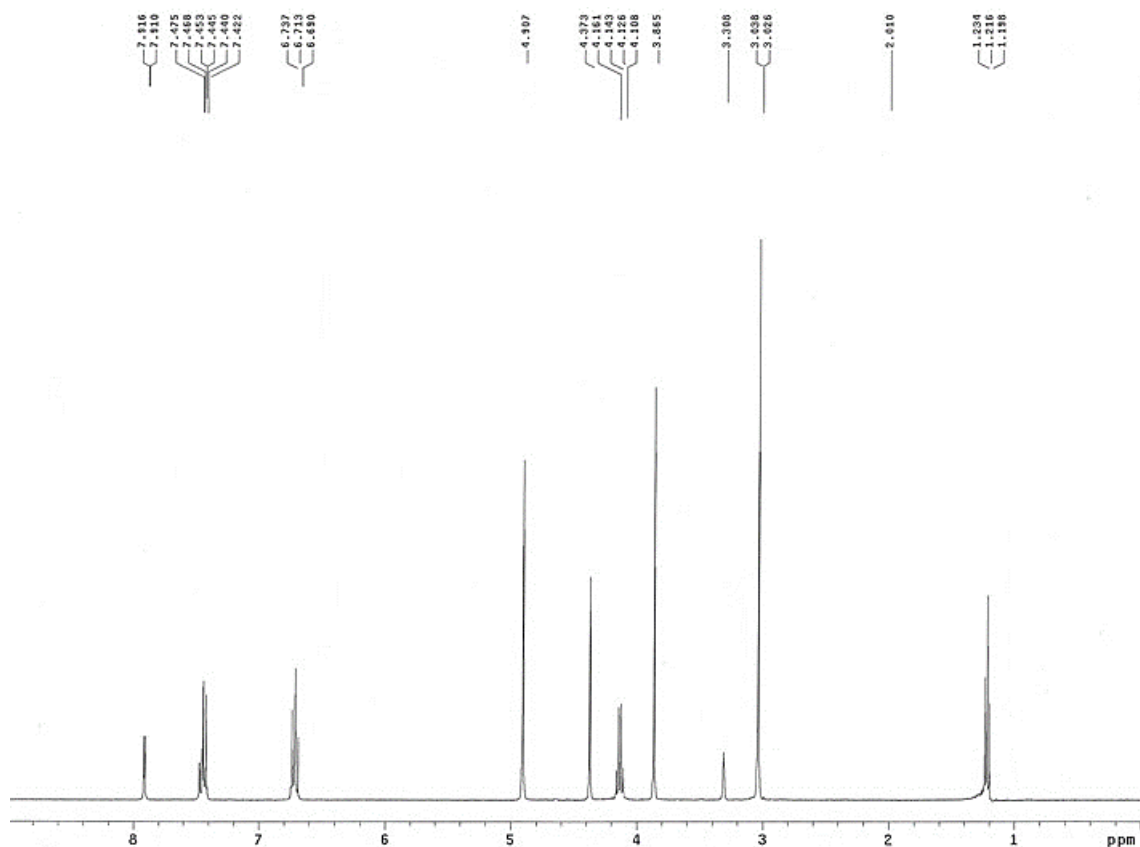


Fig. 327a: Compound **306** ^1H NMR spectra.

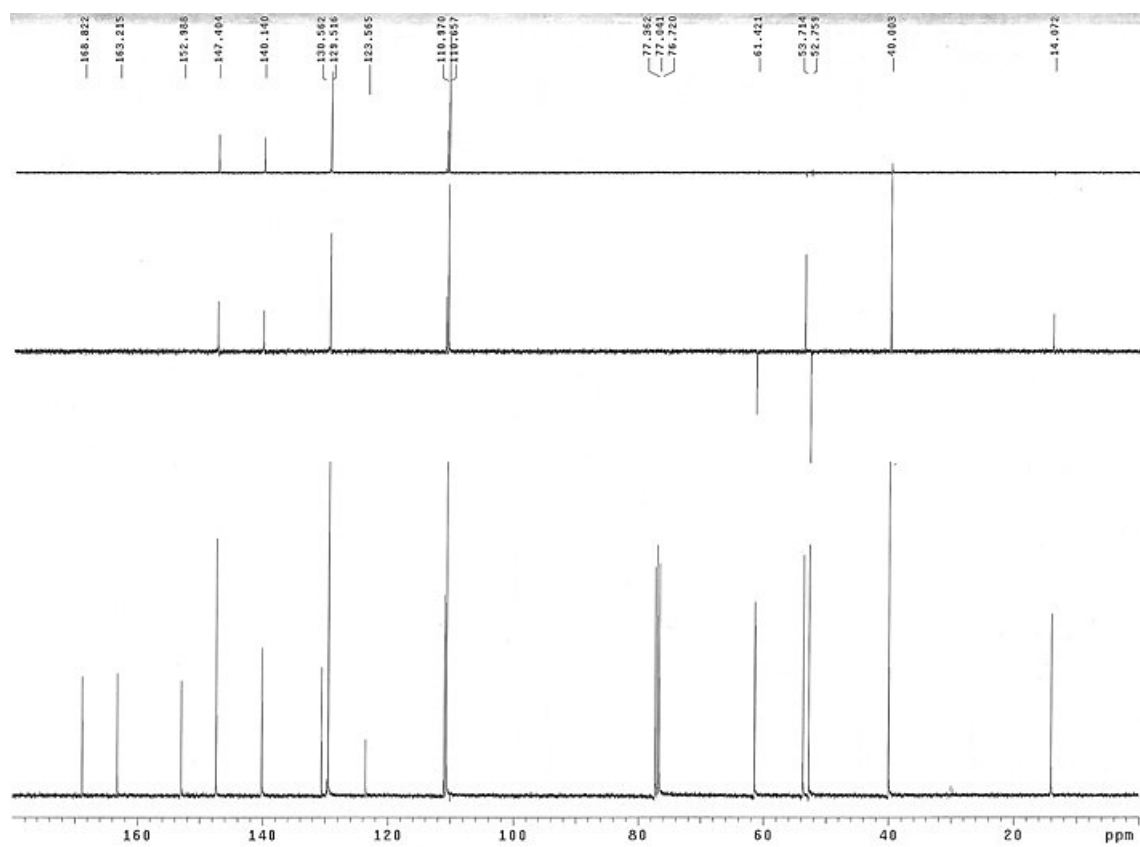


Fig. 327b: Compound **306** ^{13}C NMR spectra.

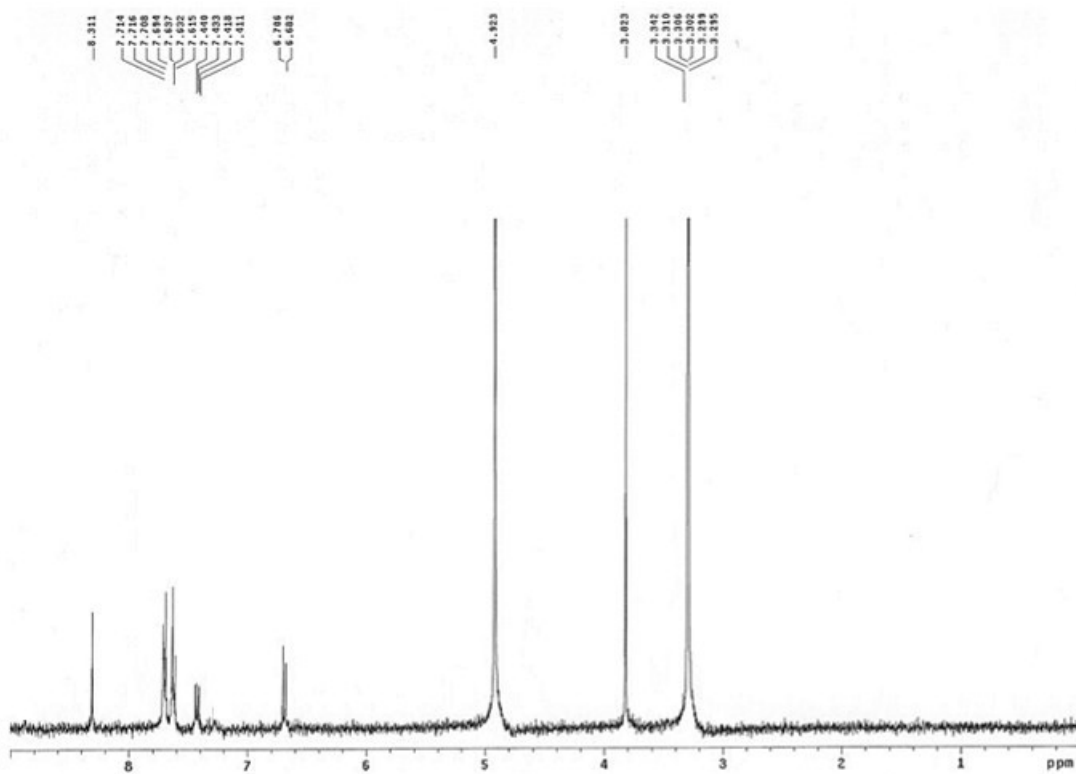


Fig. 328a: Compound **307** ^1H NMR spectra.

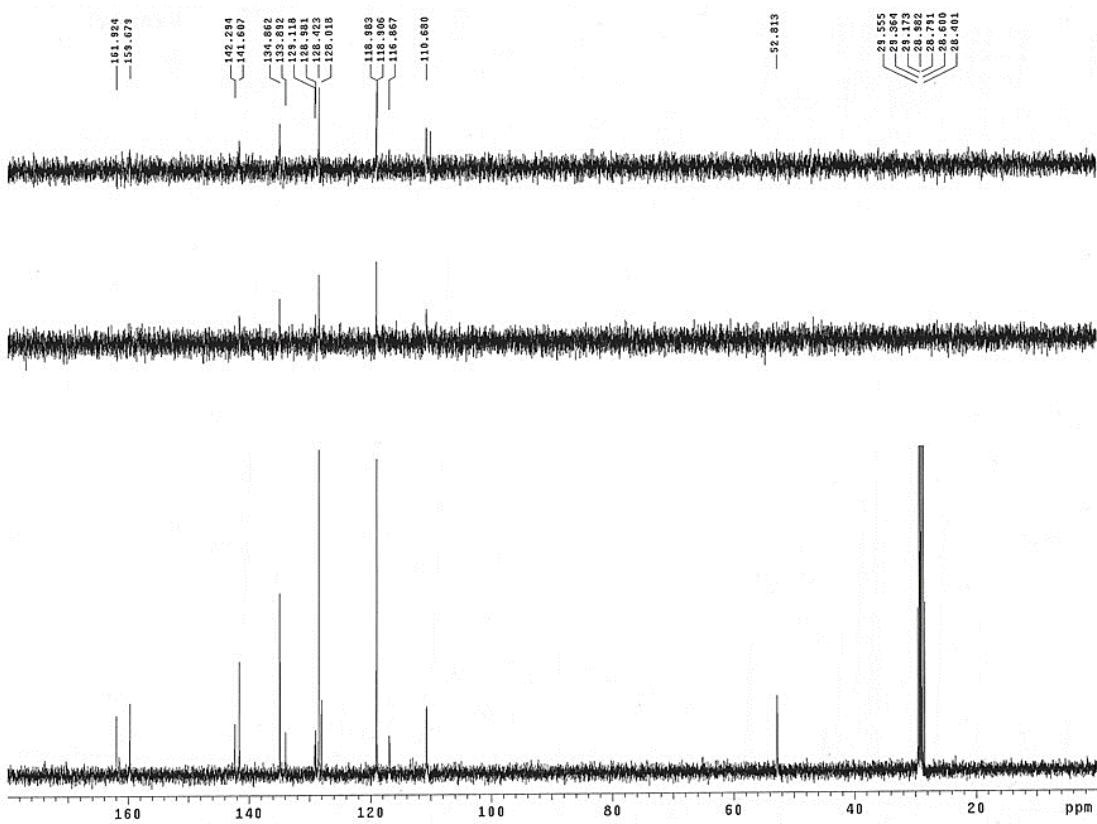


Fig. 328b: Compound **307** ^{13}C NMR spectra.

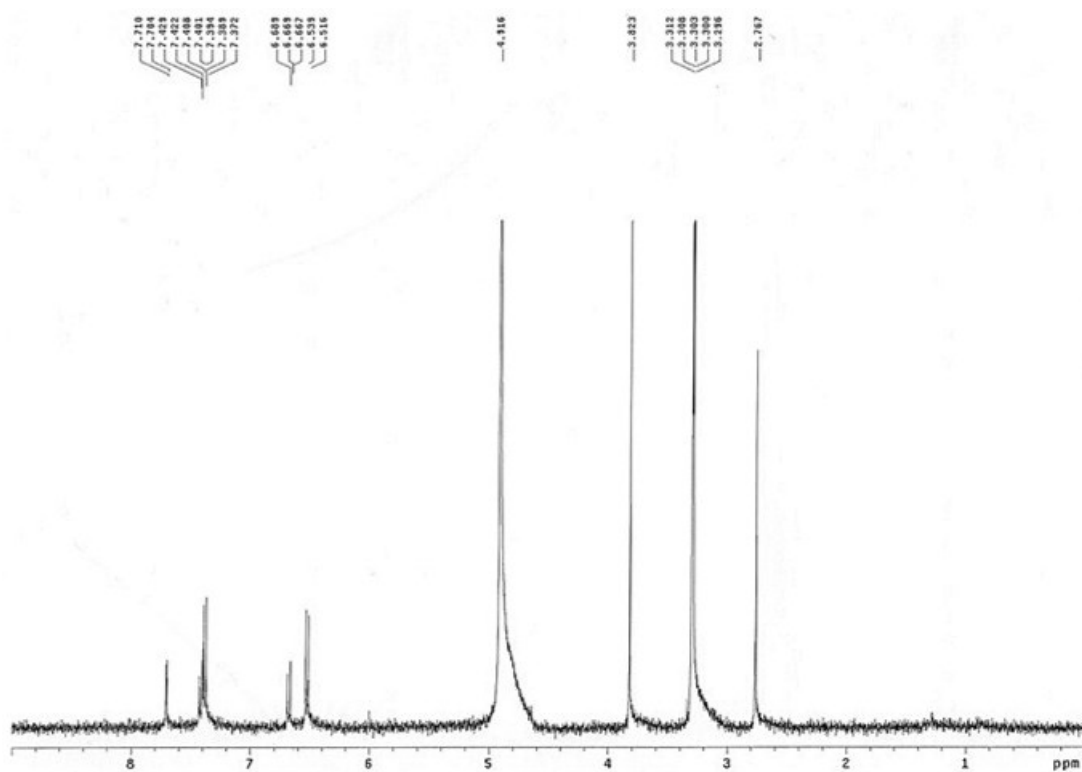


Fig. 329a: Compound **308** ^1H NMR spectra.

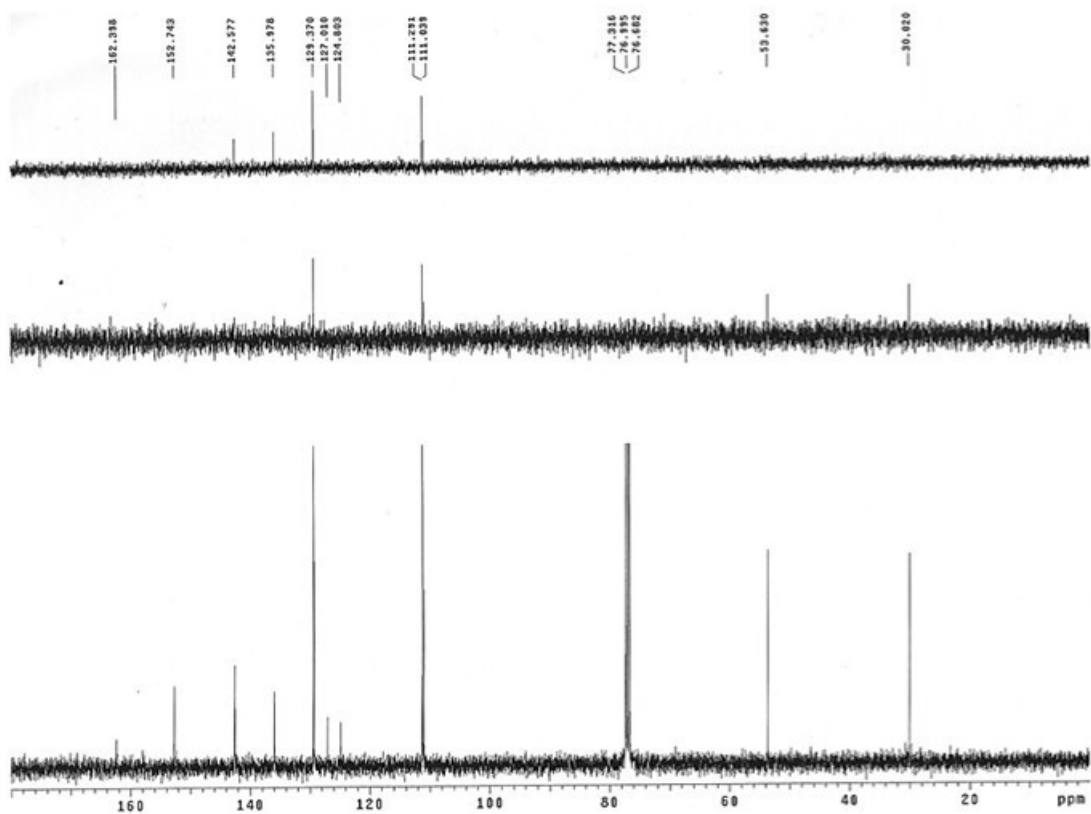


Fig. 329b: Compound **308** ^{13}C NMR spectra.

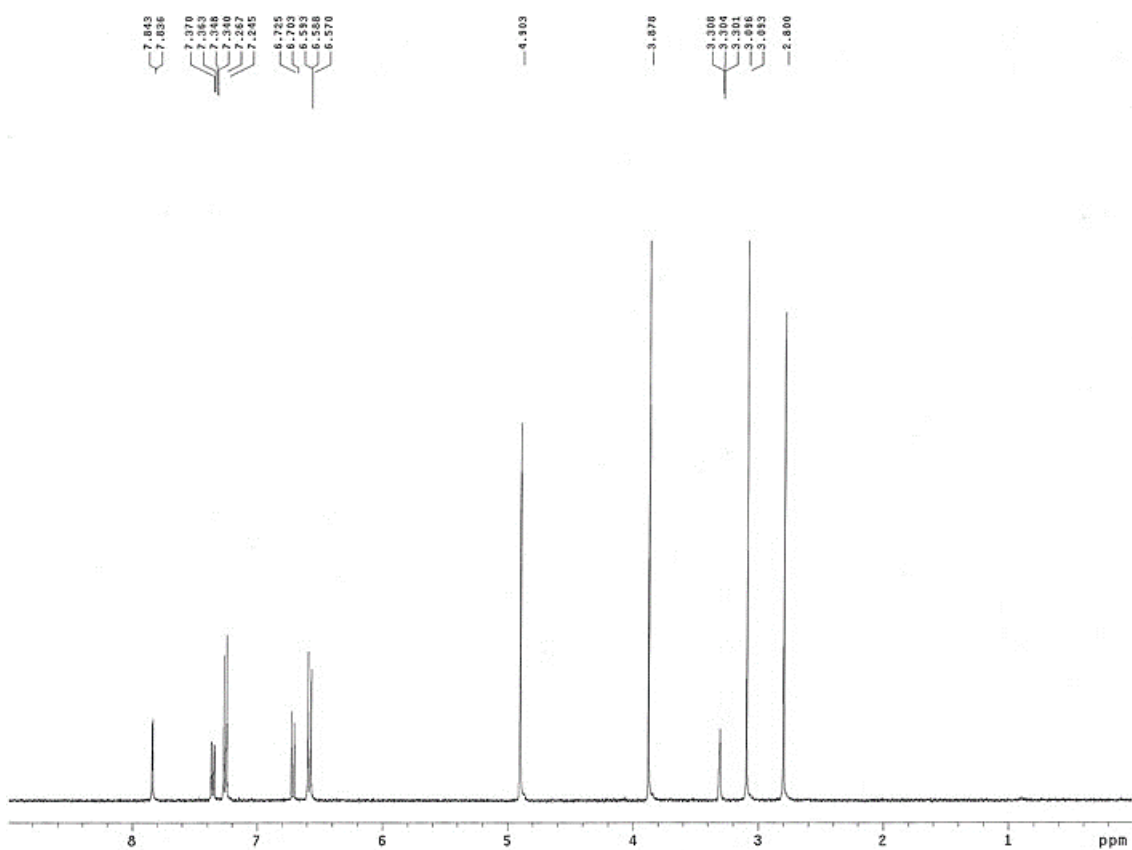


Fig. 330a: Compound **309** ^1H NMR spectra.

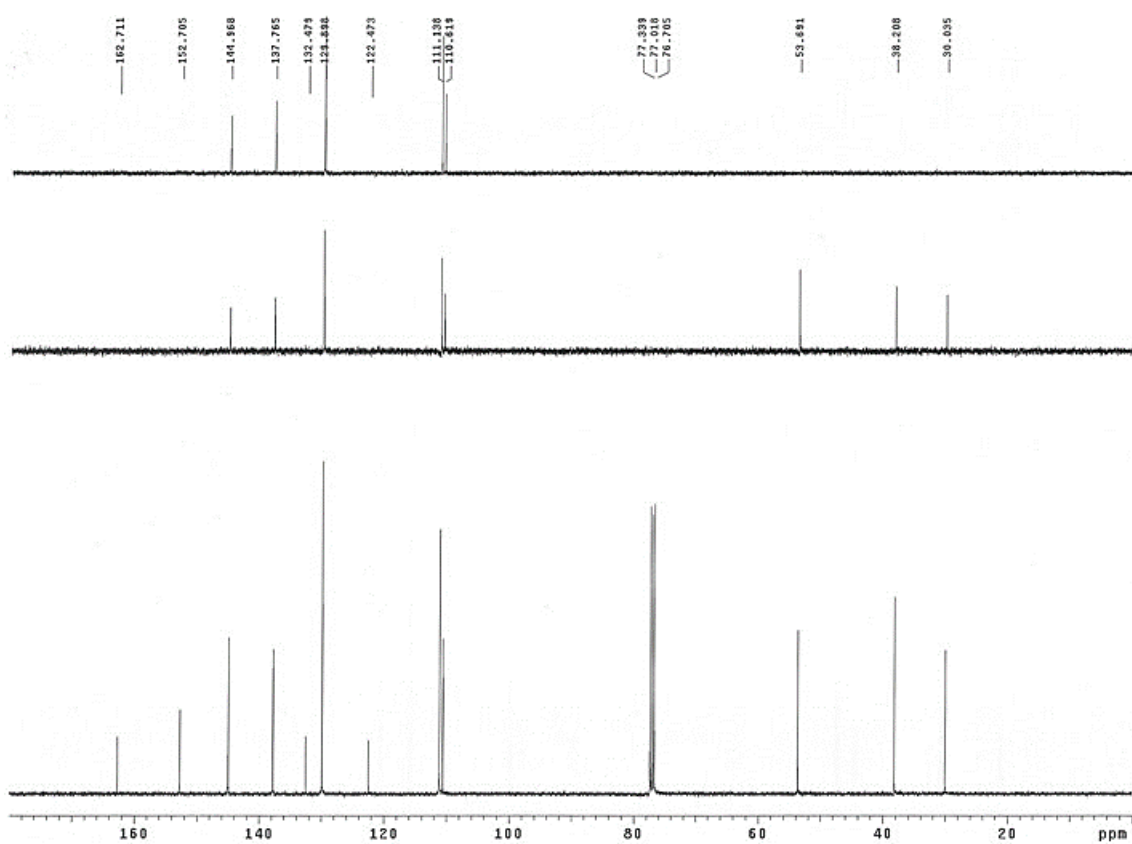


Fig. 330b: Compound **309** ^{13}C NMR spectra.

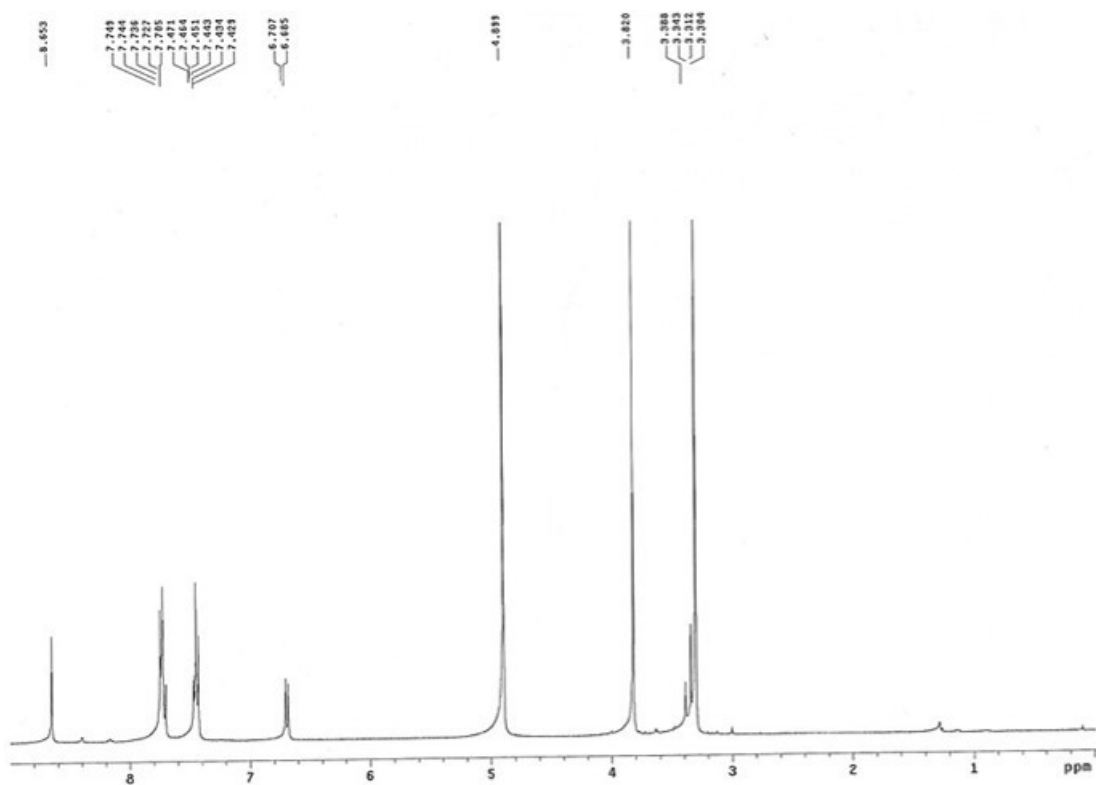


Fig. 332a: Compound **311** ^1H NMR spectra.

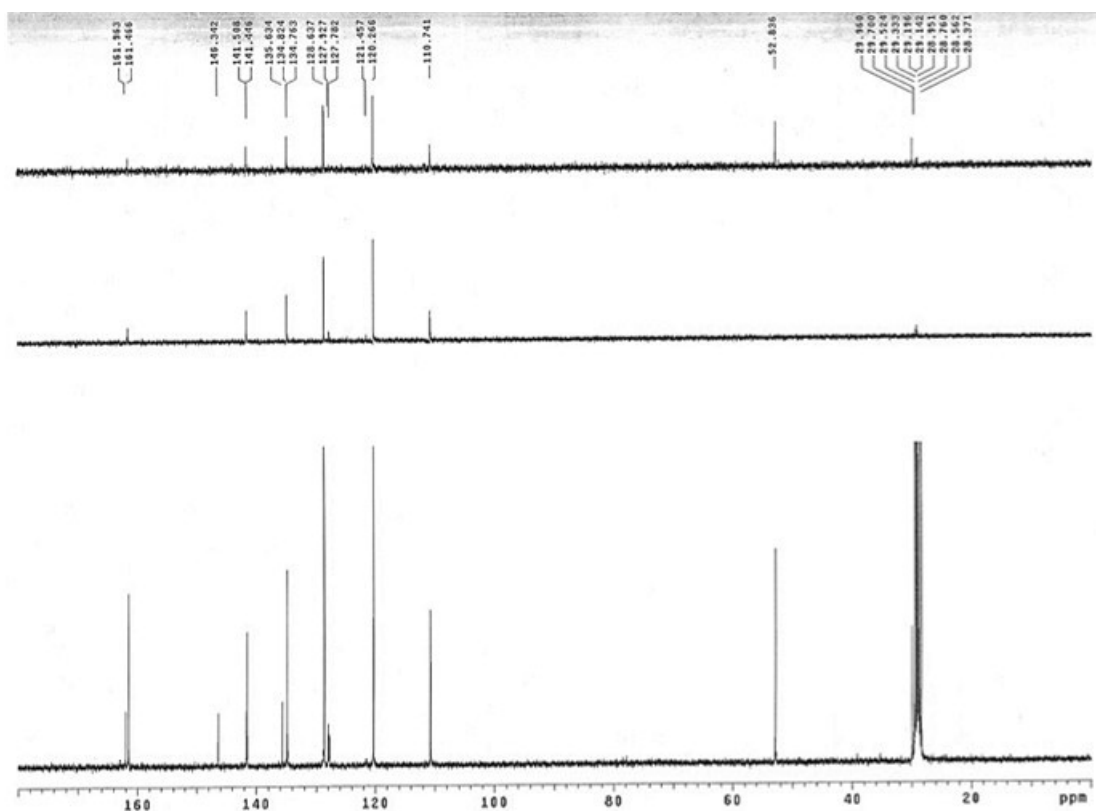


Fig. 332b: Compound **311** ^{13}C NMR spectra.

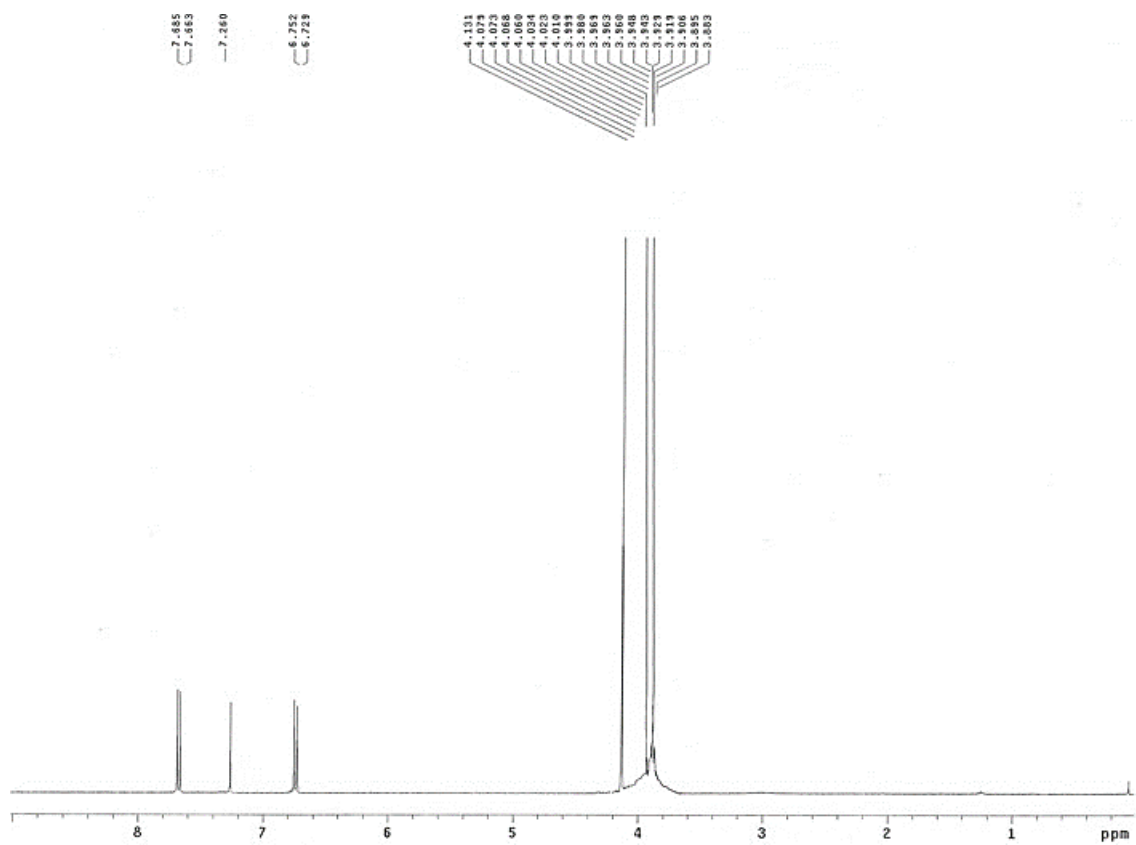


Fig. 333a: Compound 312 ¹H NMR spectra.

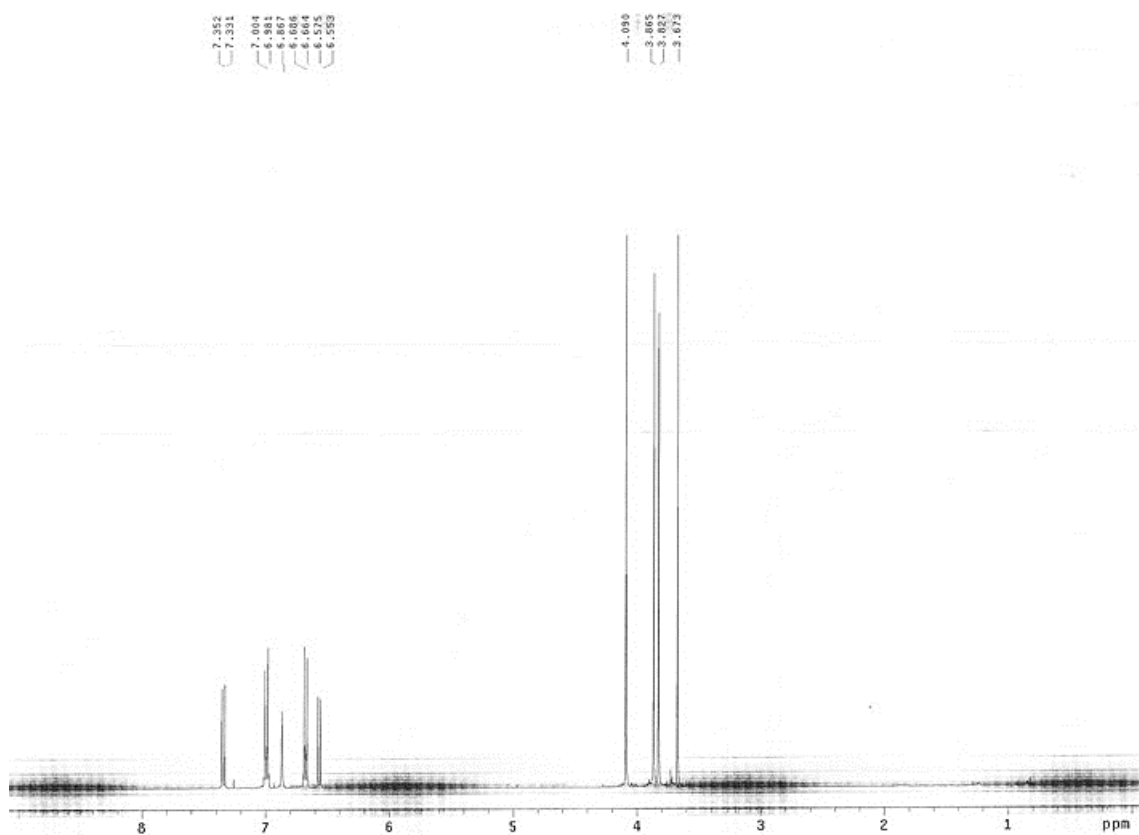


Fig. 334a: Compound **313** ^1H NMR spectra.

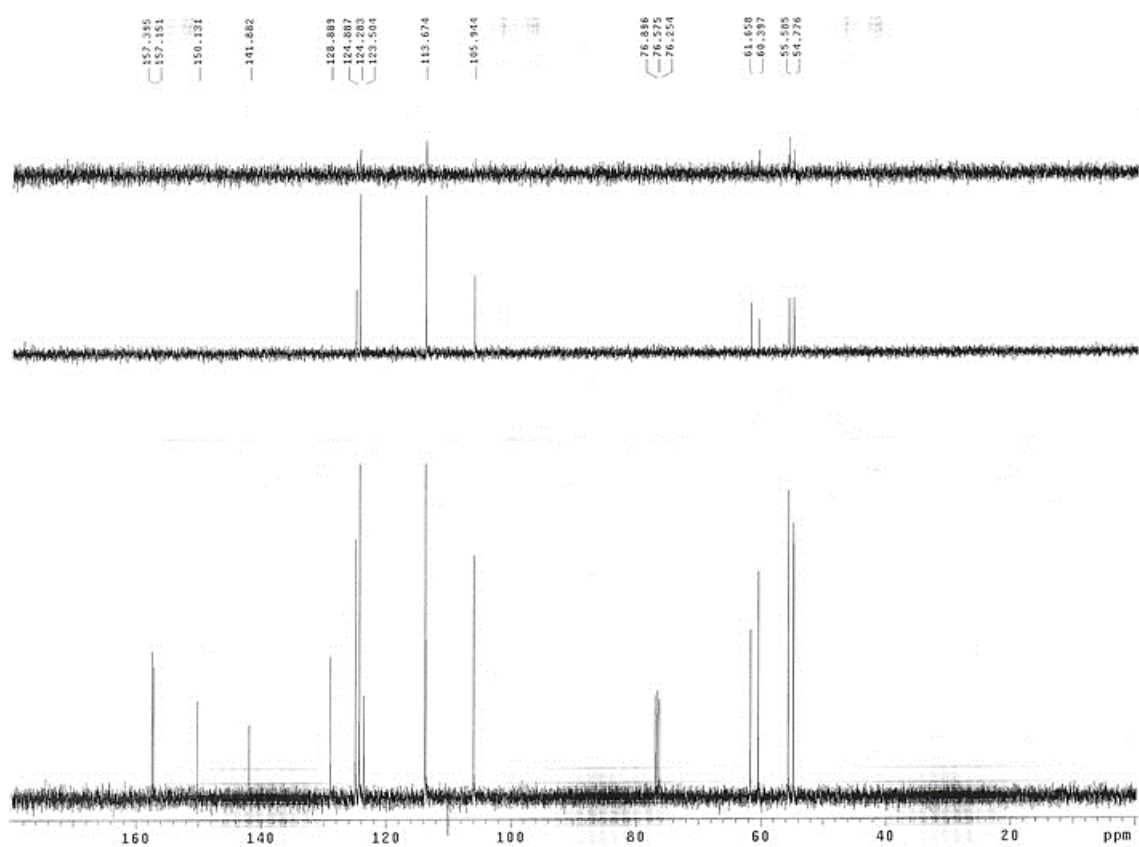


Fig. 334b: Compound **313** ^{13}C NMR spectra.

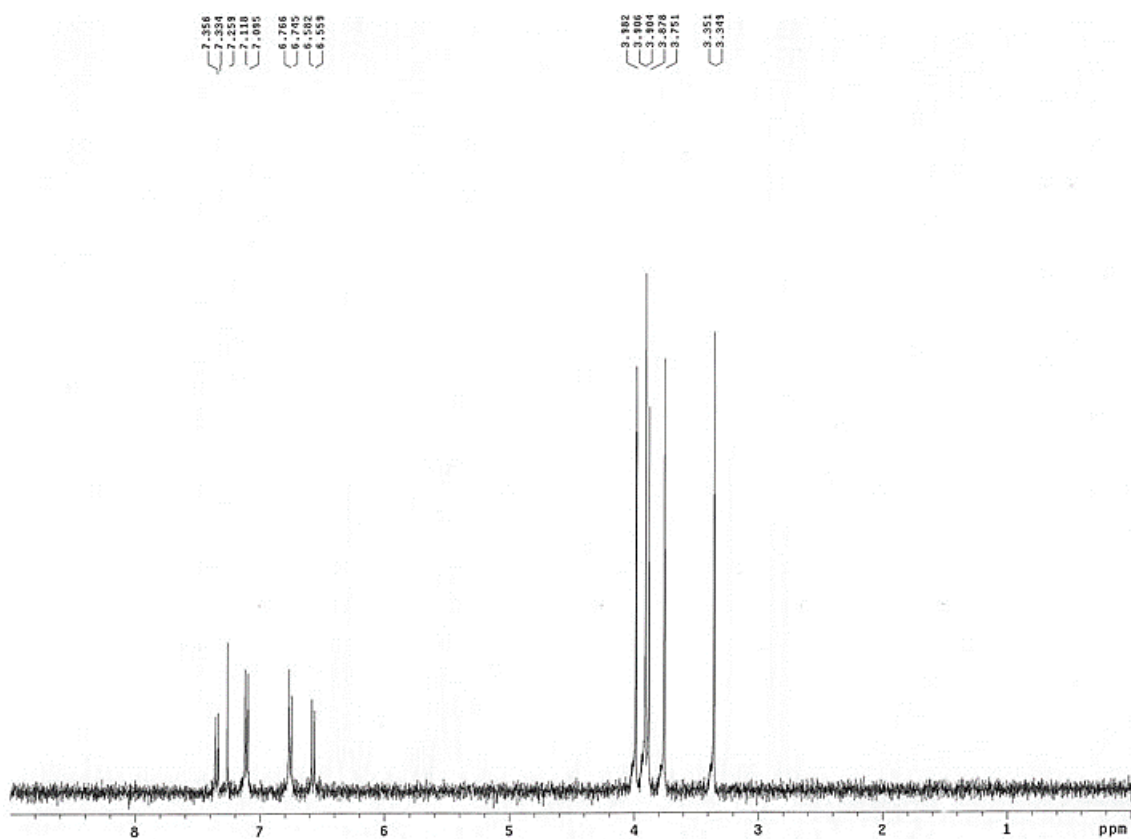


Fig. 335a: Compound **314** ^1H NMR spectra.

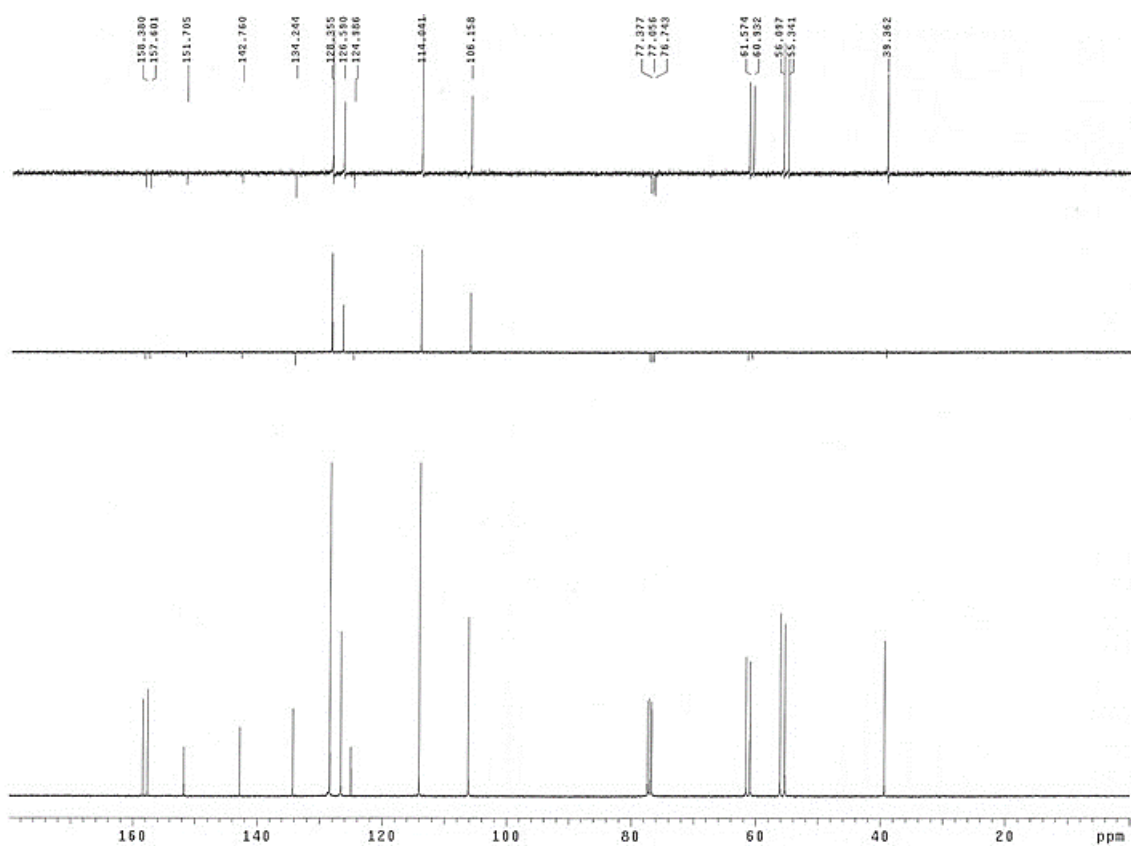


Fig. 335b: Compound **314** ^{13}C NMR spectra.

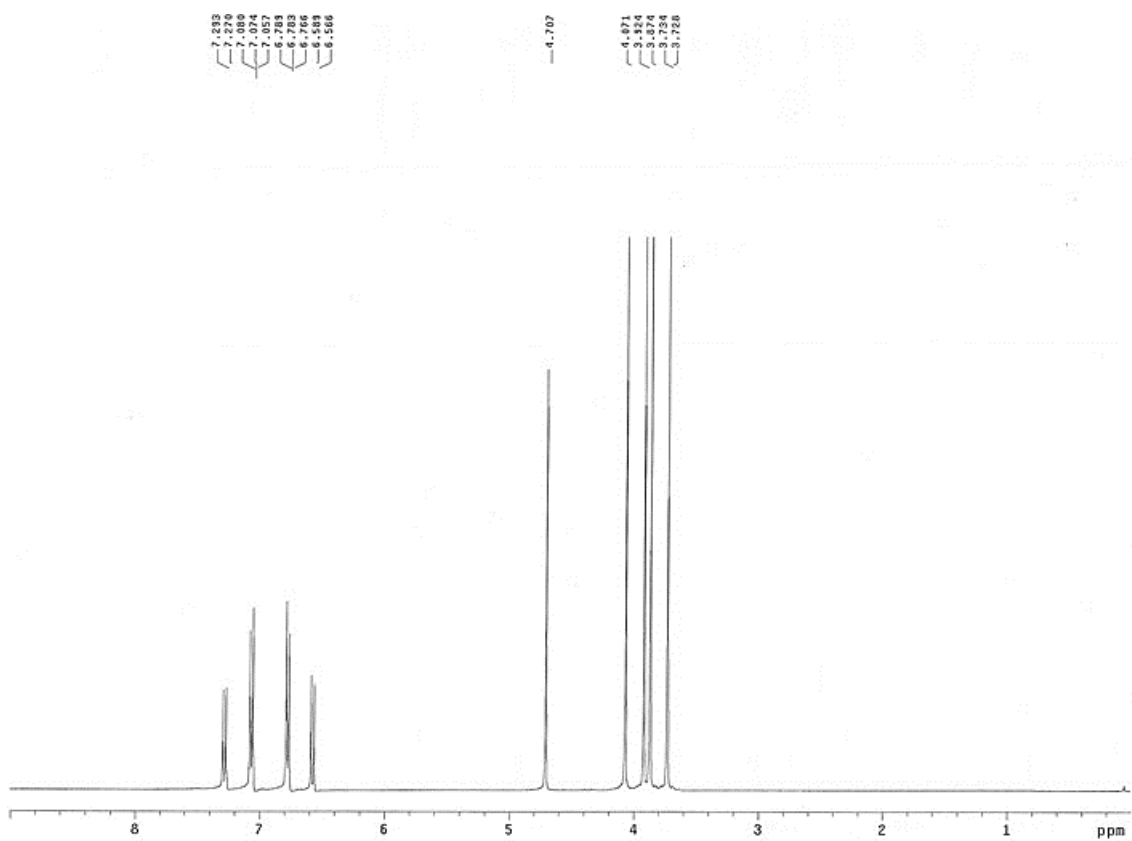


Fig. 336a: Compound **315** ^1H NMR spectra.

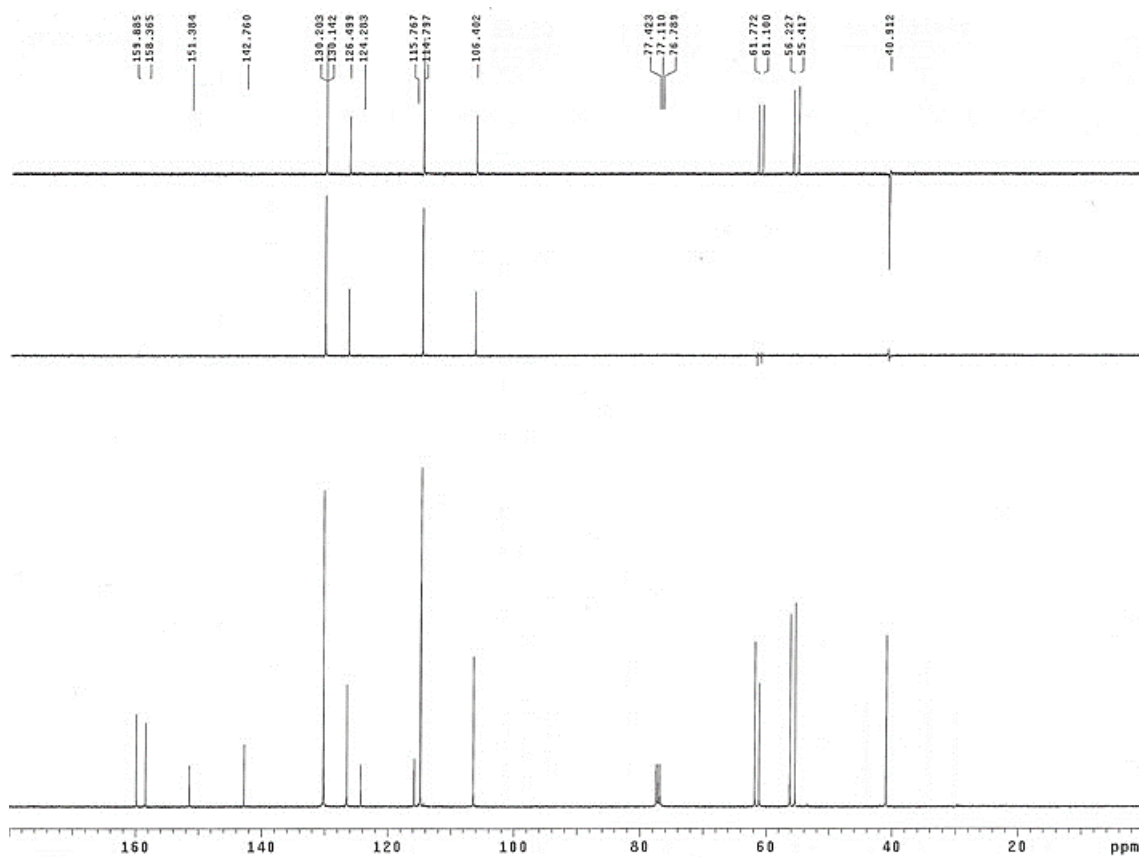


Fig. 336b: Compound **315** ^{13}C NMR spectra.

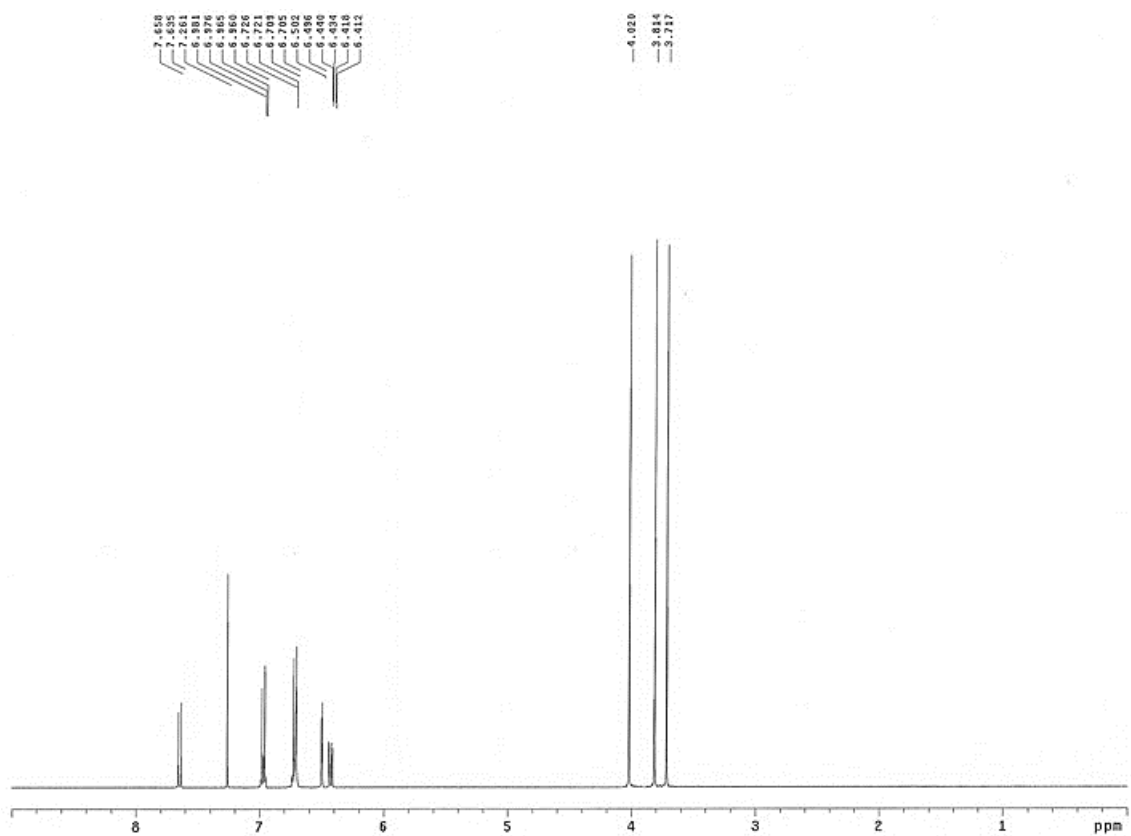


Fig. 337a: Compound **316** ^1H NMR spectra.

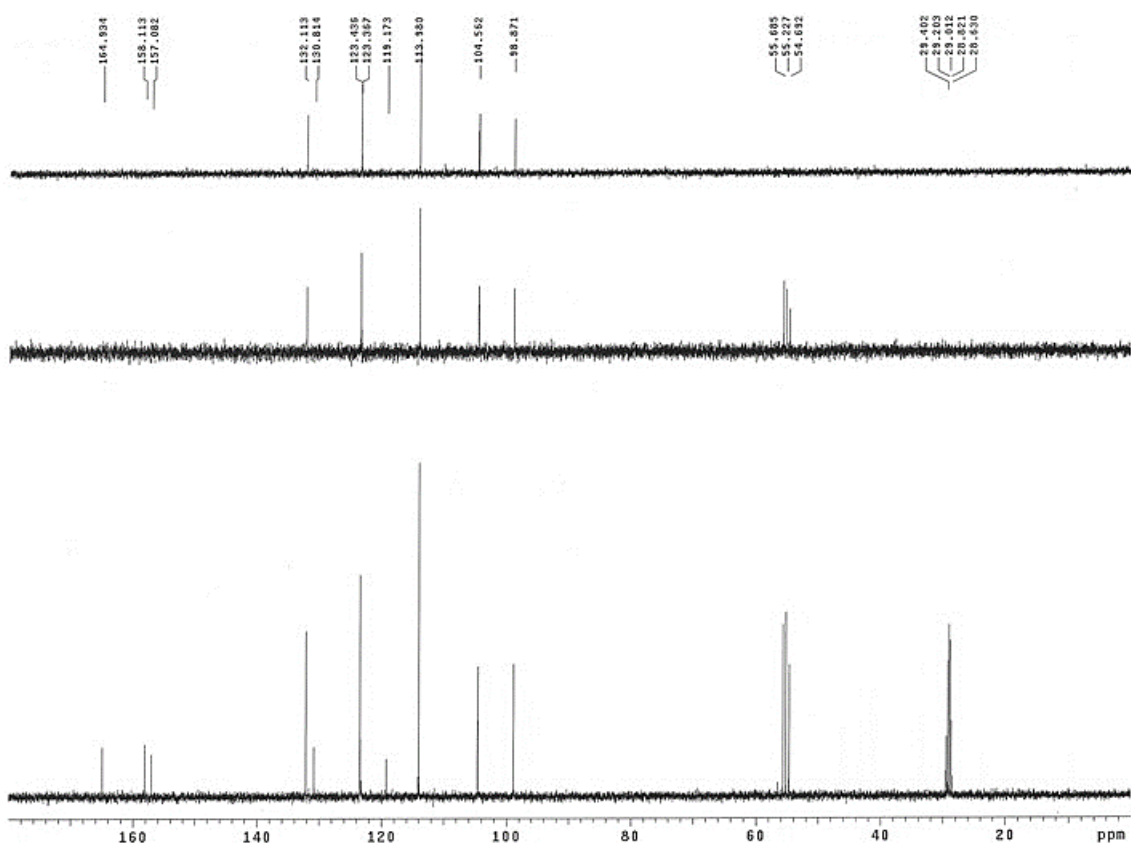


Fig. 337b: Compound **316** ^{13}C NMR spectra.

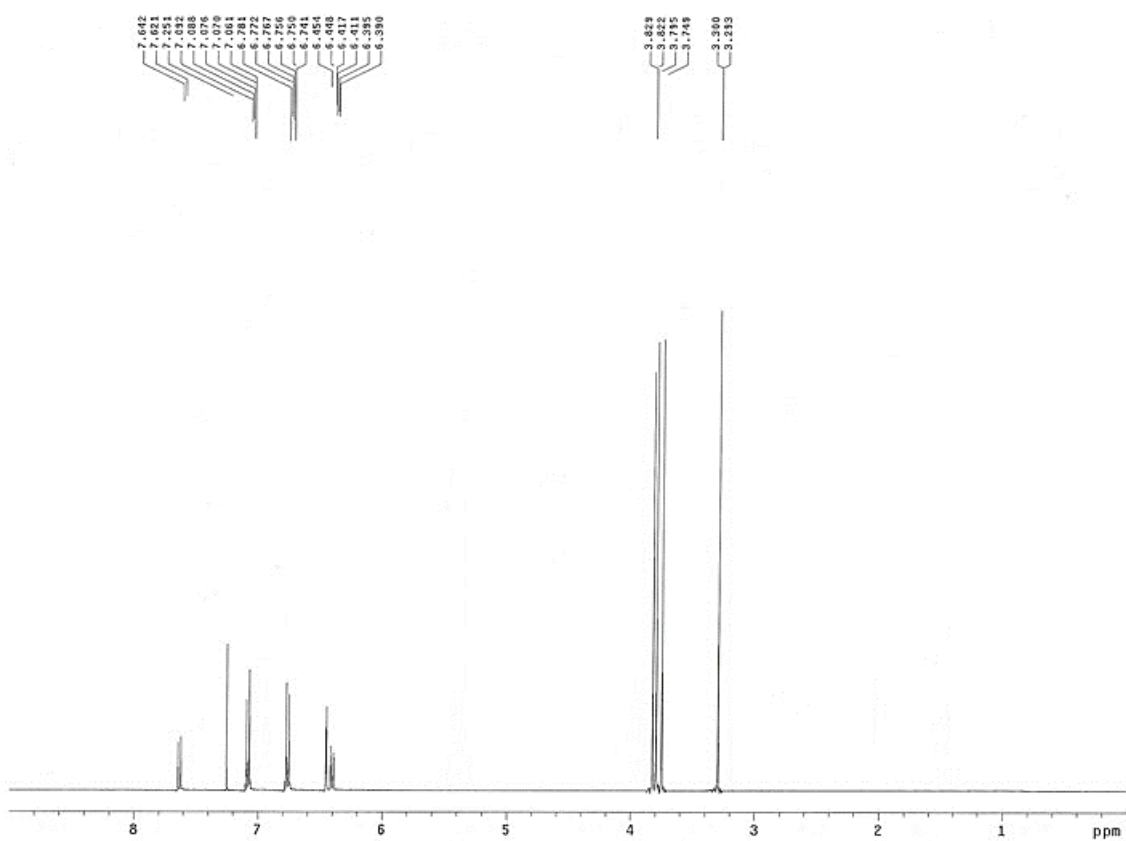


Fig. 338a: Compound **317** ^1H NMR spectra.

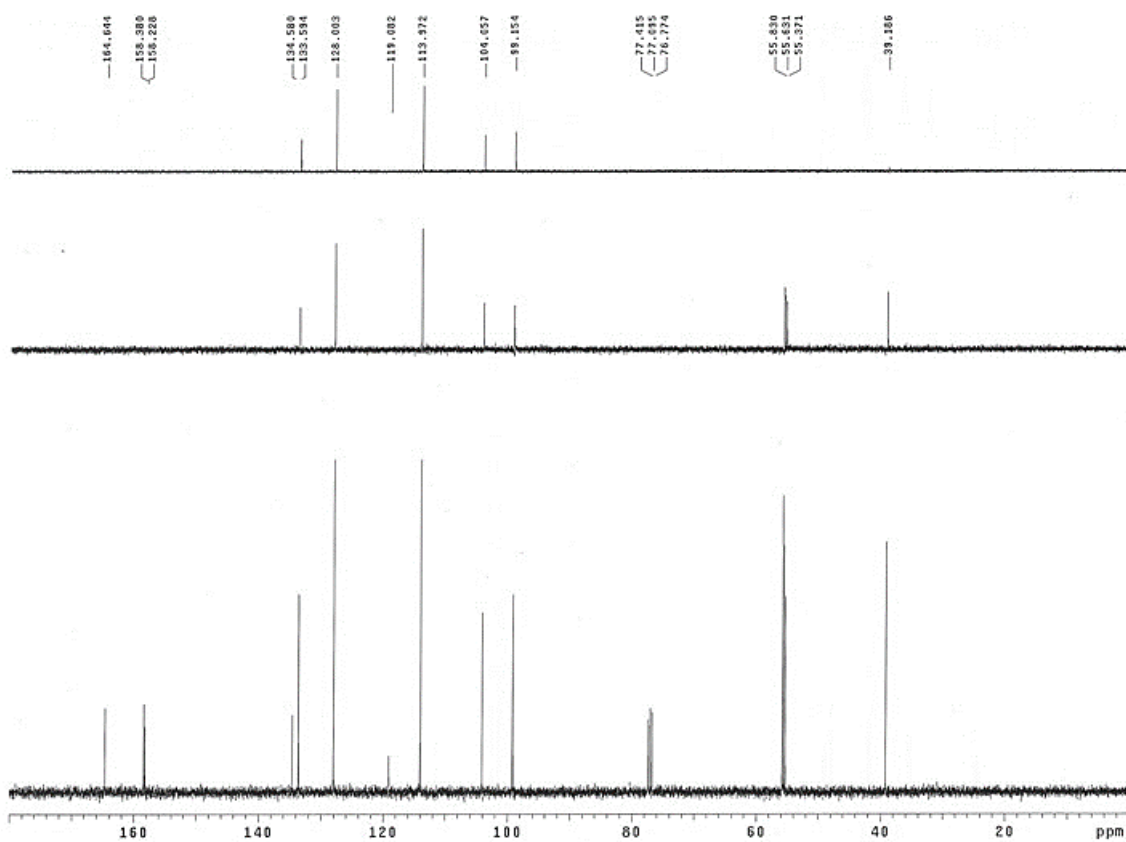


Fig. 338b: Compound **317** ^{13}C NMR spectra.

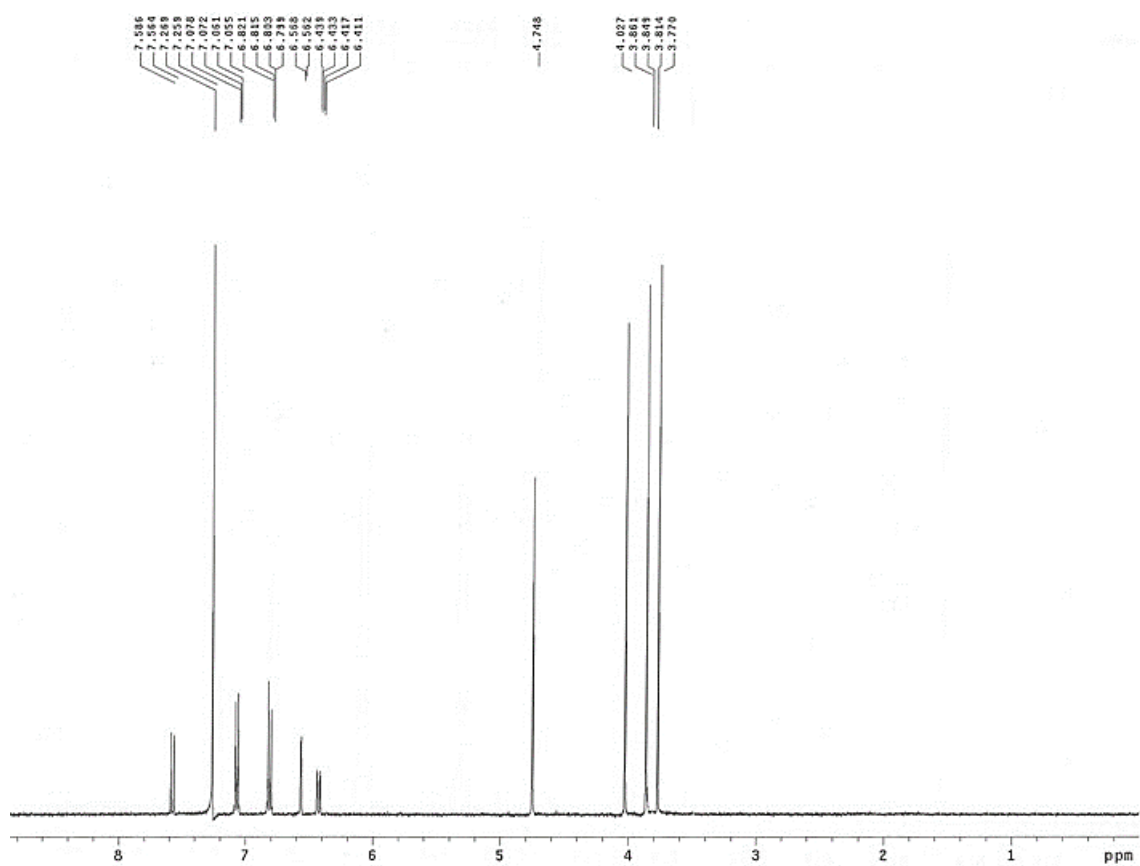


Fig. 339a: Compound **318** ^1H NMR spectra.

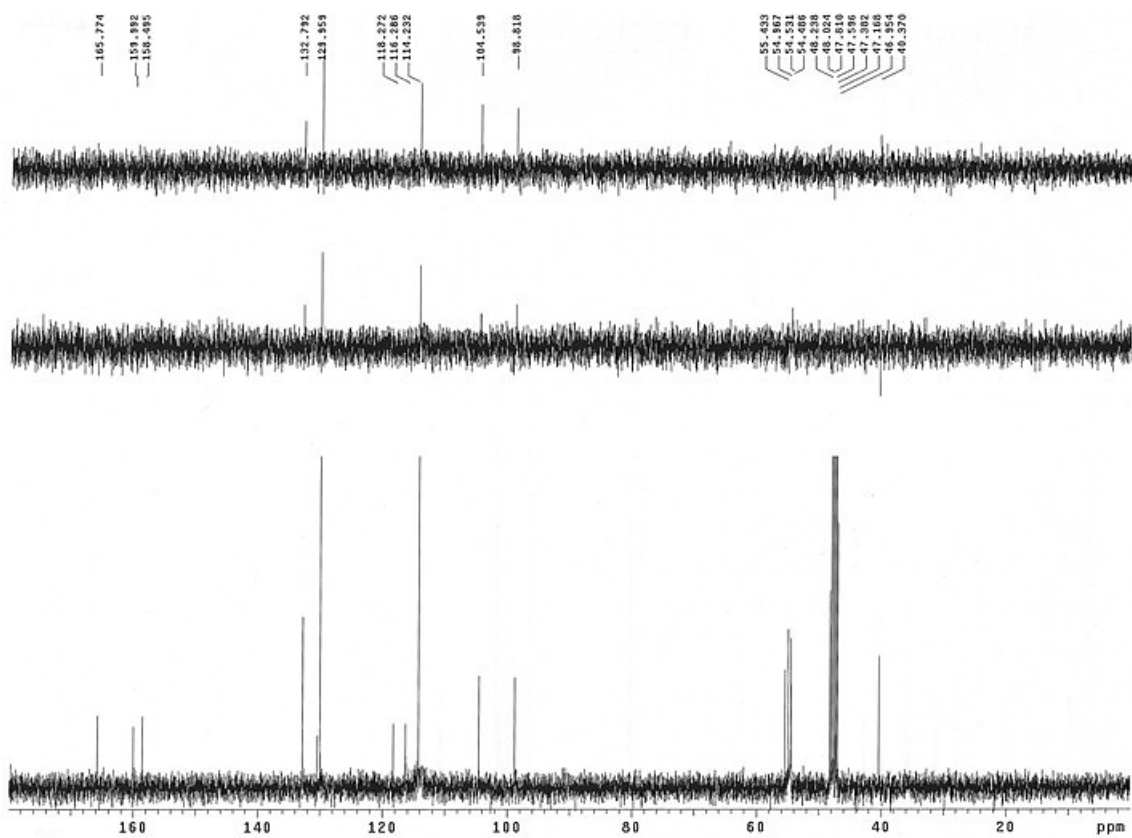


Fig. 339b: Compound **318** ^{13}C NMR spectra.

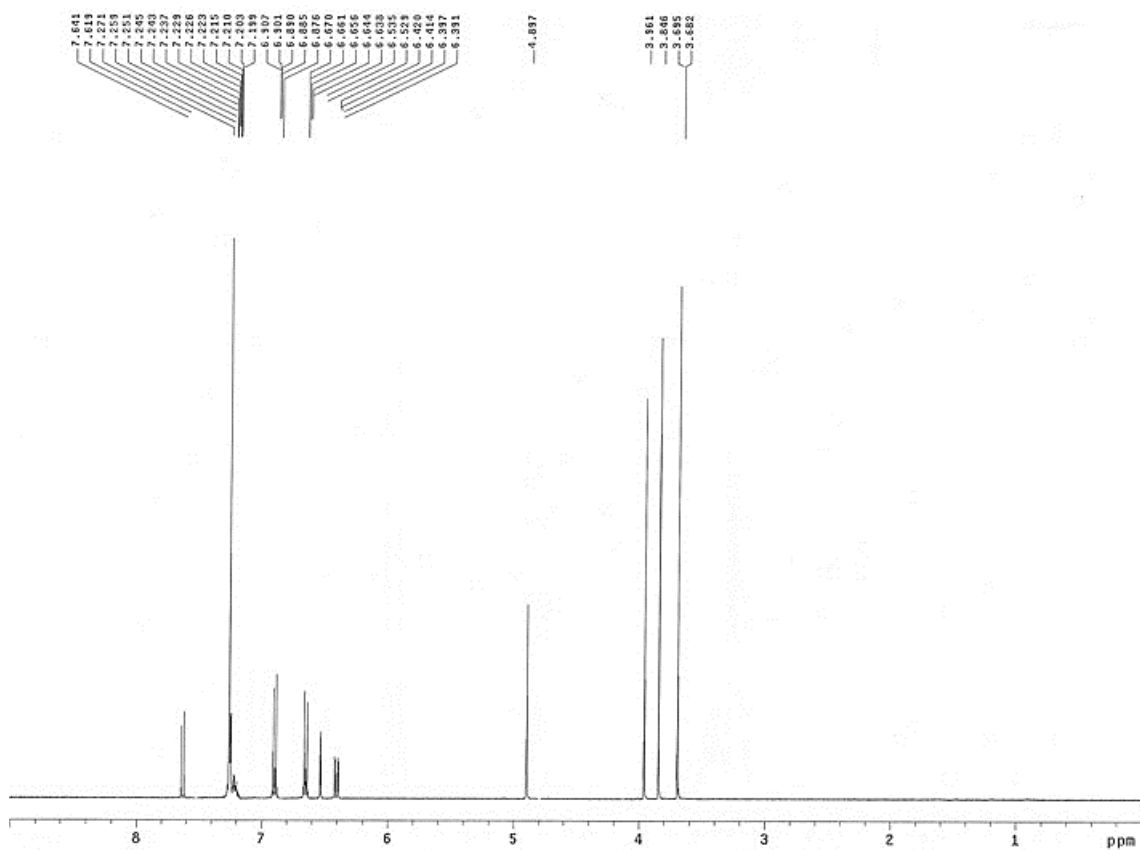


Fig. 340a: Compound **319** ^1H NMR spectra.

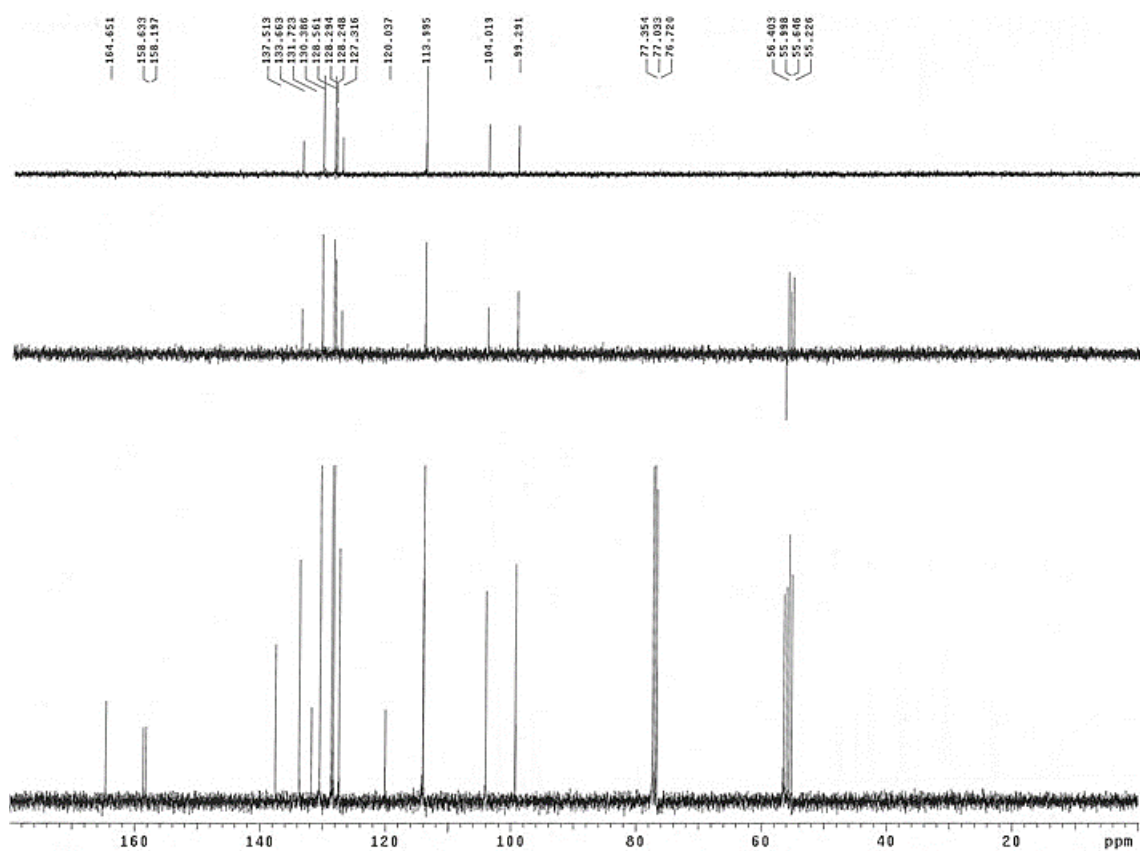


Fig. 340b: Compound **319** ^{13}C NMR spectra.

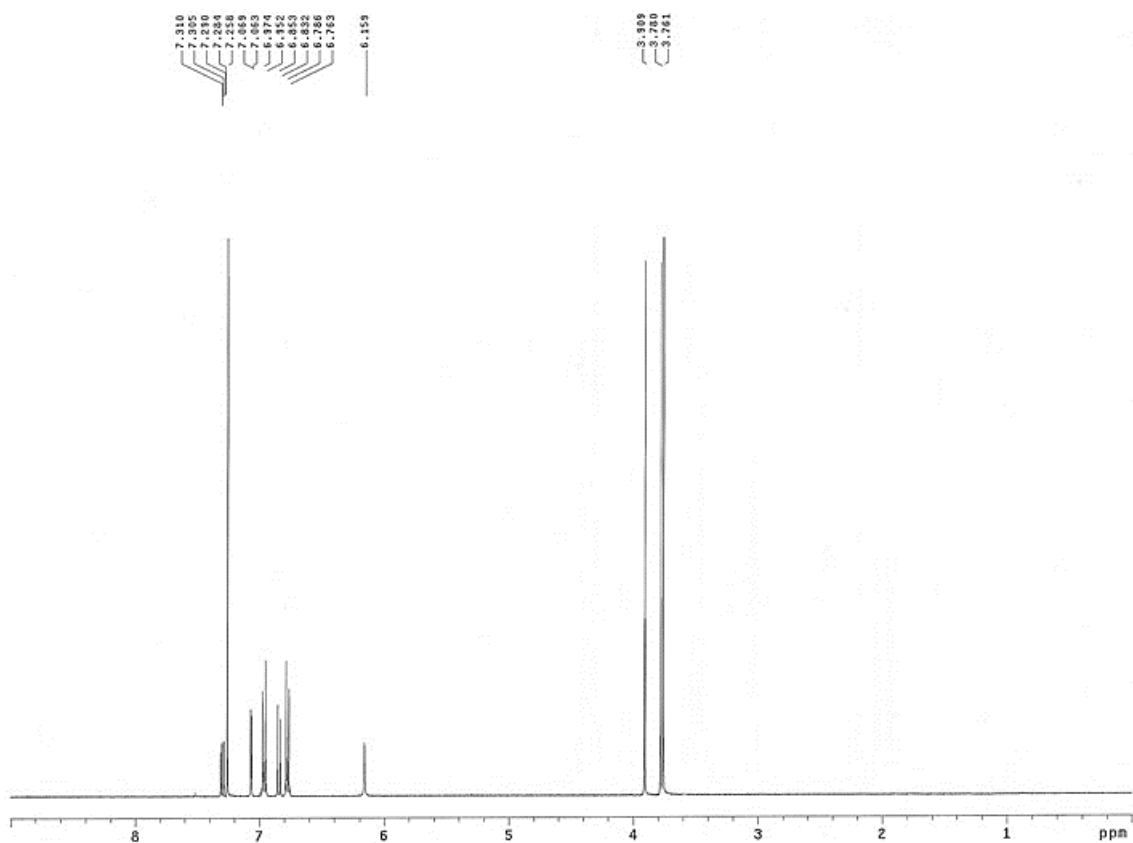


Fig. 341a: Compound **320** ^1H NMR spectra.

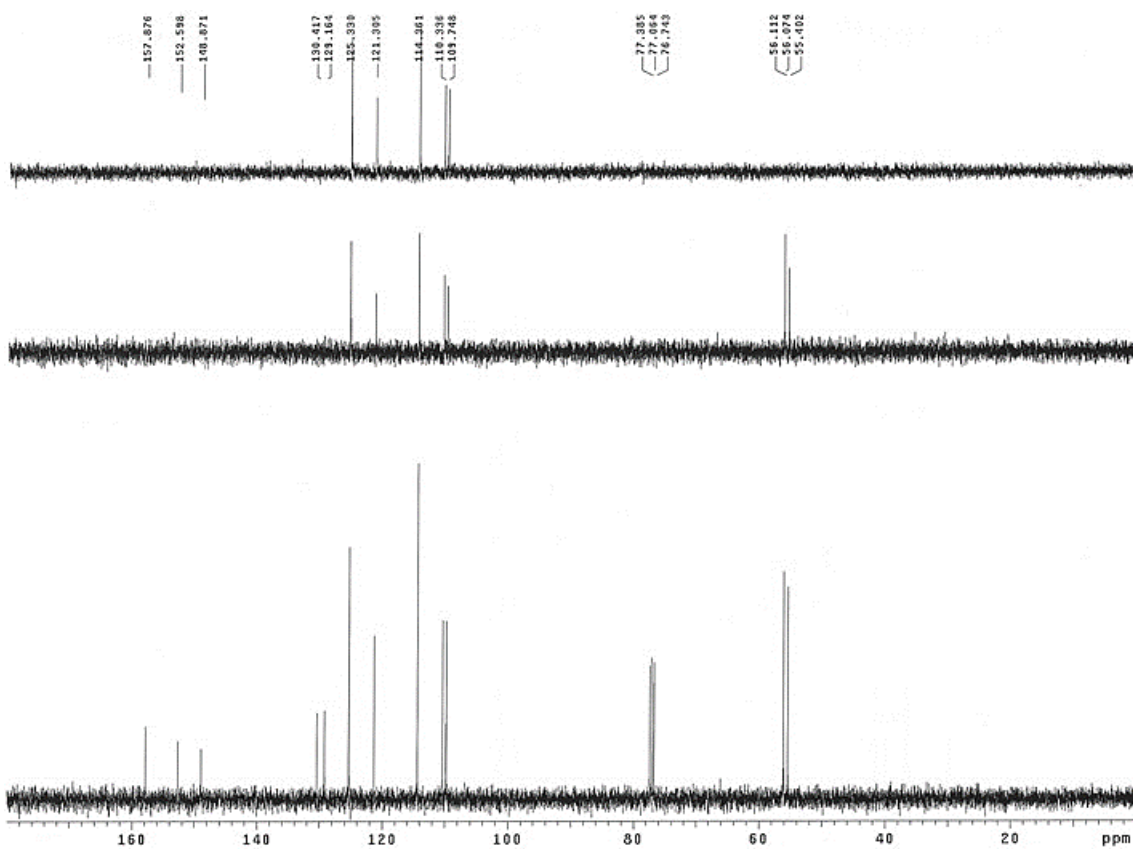


Fig. 341b: Compound **320** ^{13}C NMR spectra.

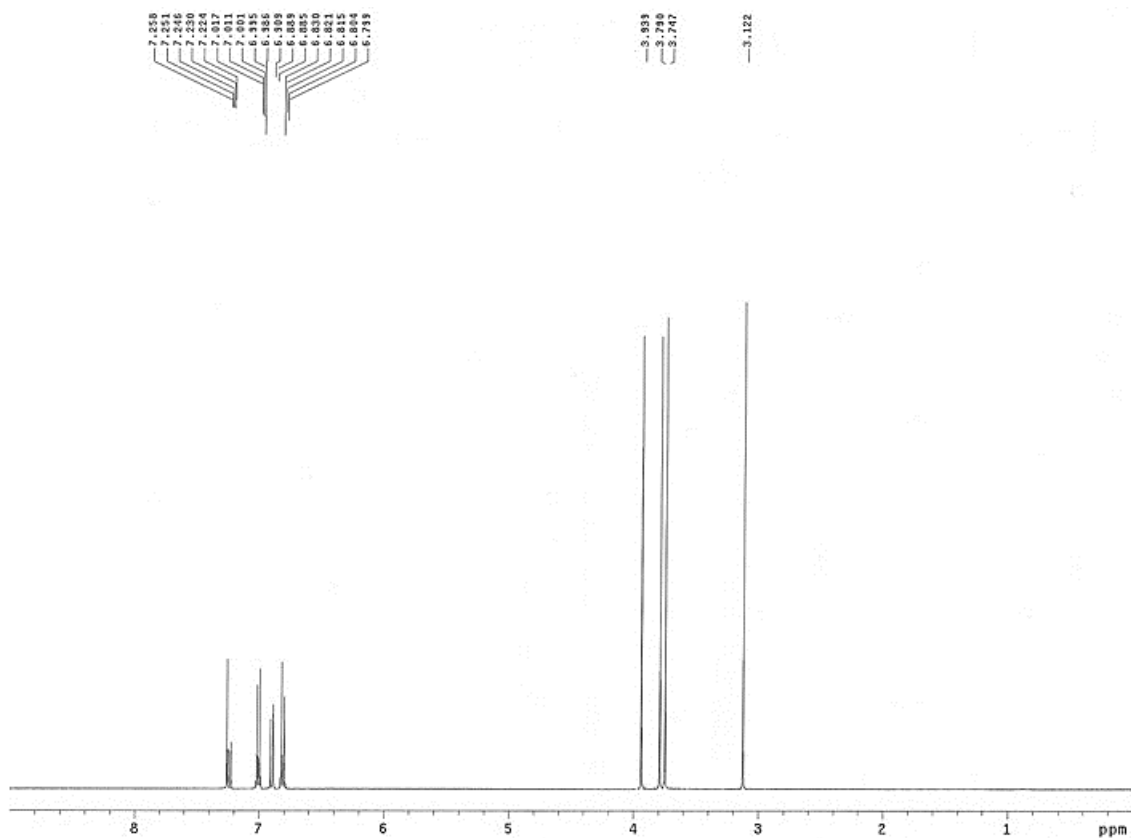


Fig. 342a: Compound **321** ^1H NMR spectra.

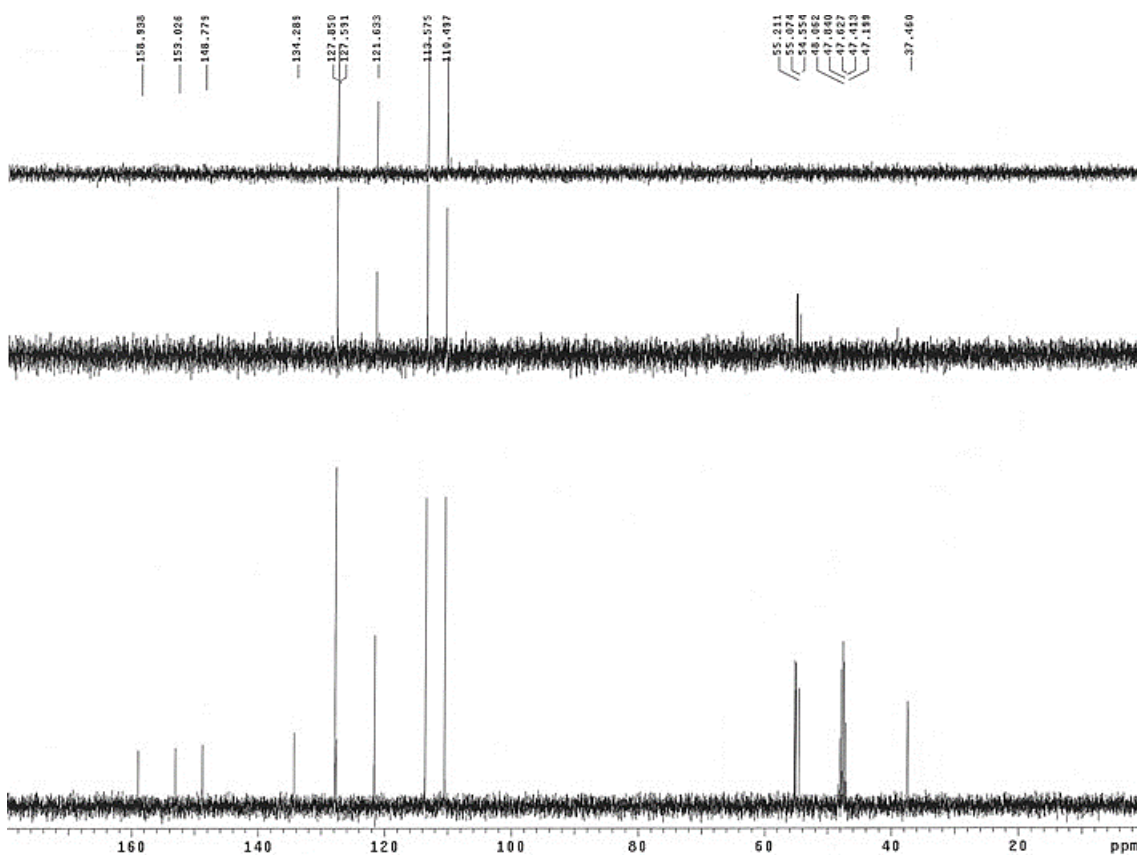


Fig. 342b: Compound **321** ^{13}C NMR spectra.

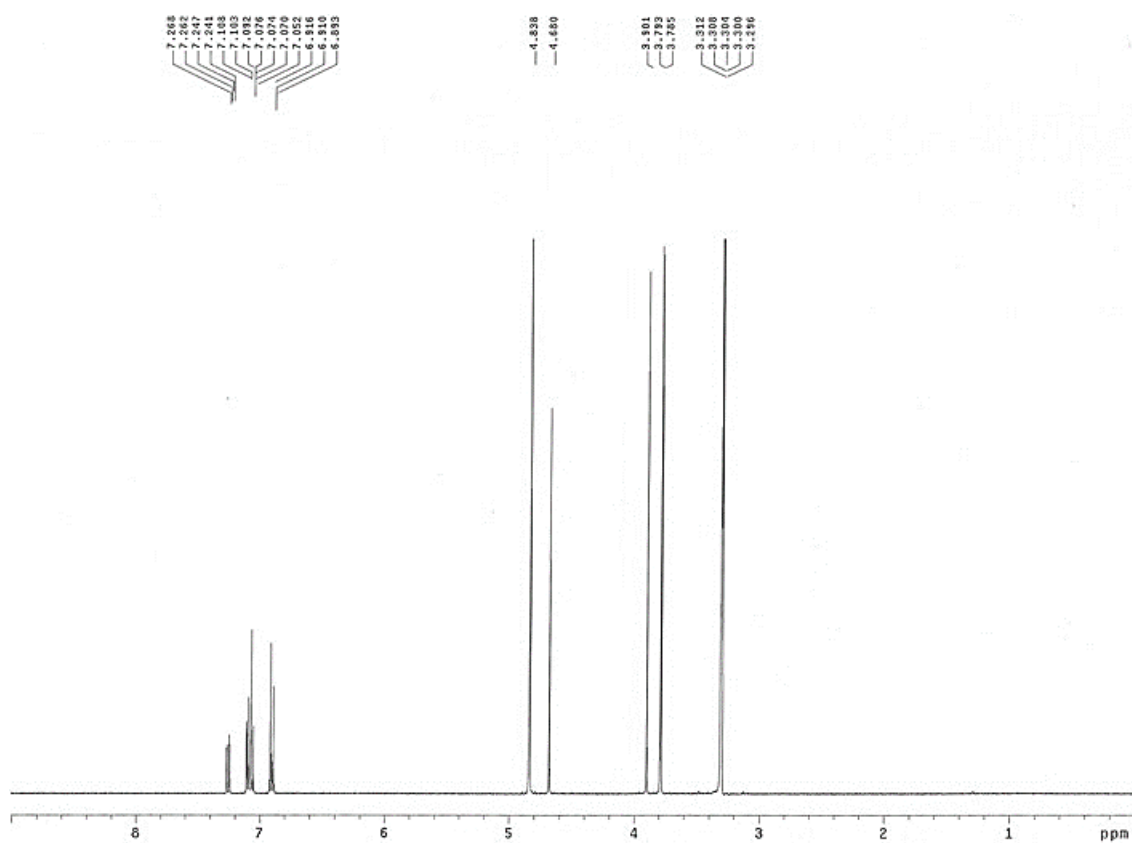


Fig. 343a: Compound **322** ^1H NMR spectra.

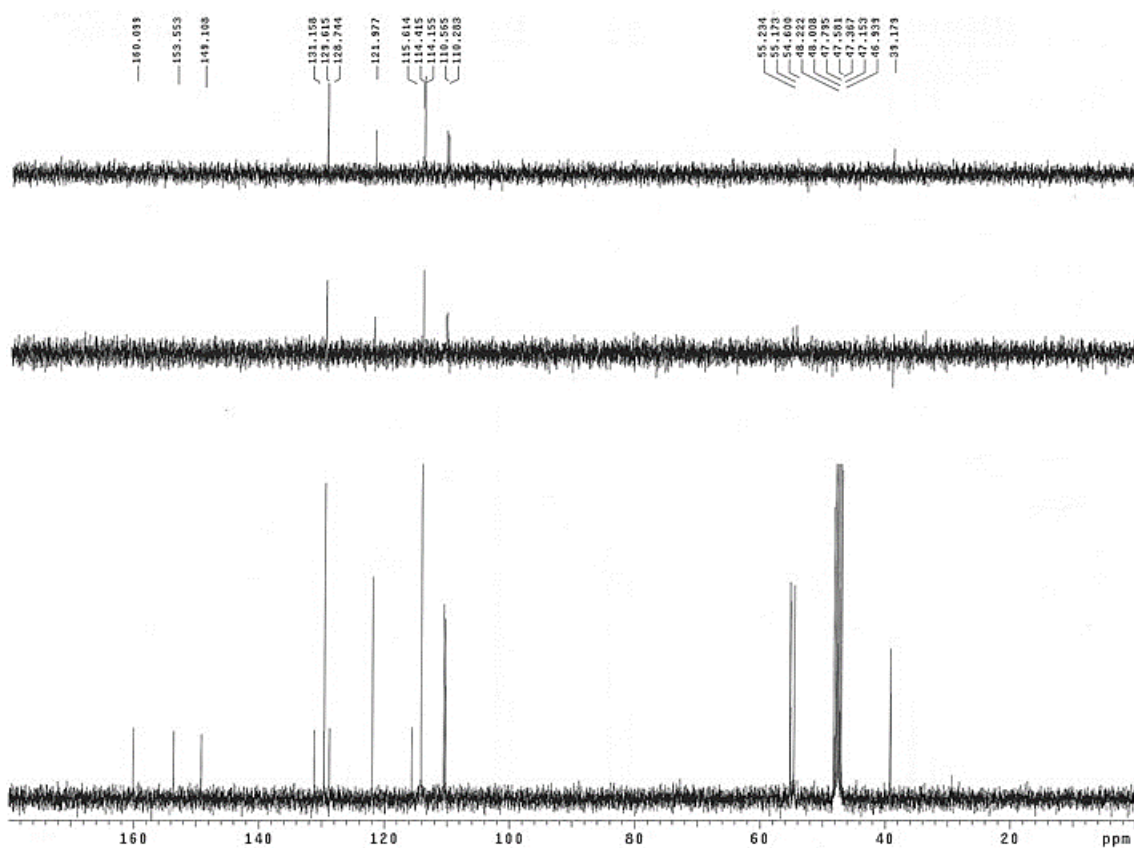


Fig. 343b: Compound **322** ^{13}C NMR spectra.

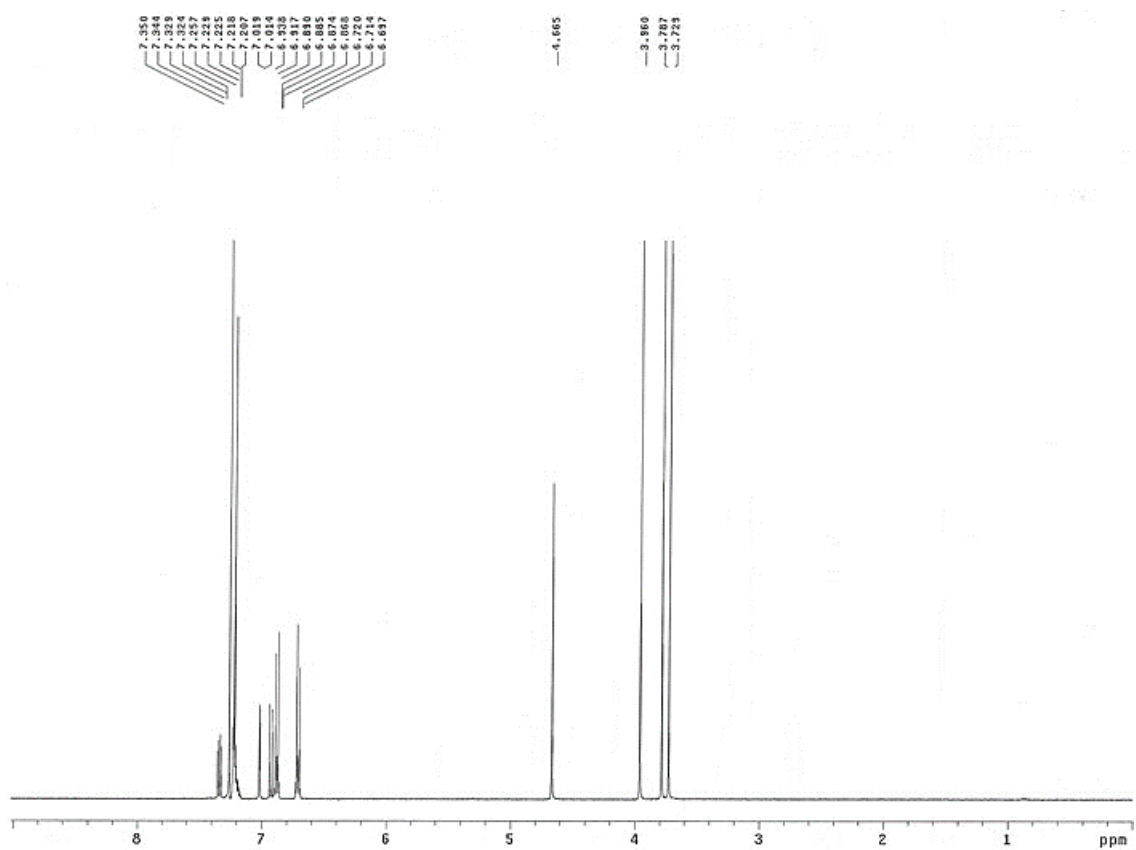


Fig. 344a: Compound **323** ^1H NMR spectra.

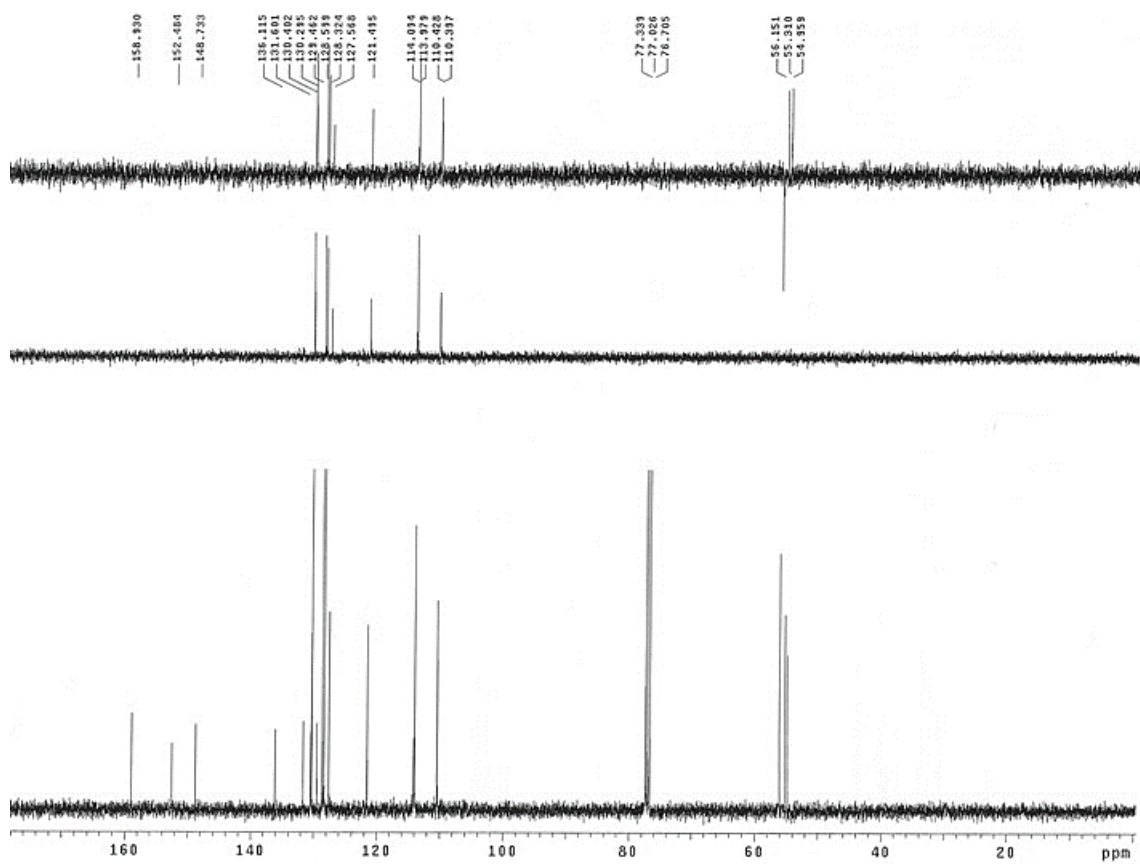


Fig. 344b: Compound **323** ^{13}C NMR spectra.