

Regioselective Synthesis of 5-Substituted 3-(β -D-Glycopyranosyl)isoxazoles and -isoxazolines by 1,3-Dipolar Cycloaddition as Potential Anticancer Agents and Glycogen Phosphorylase Inhibitors

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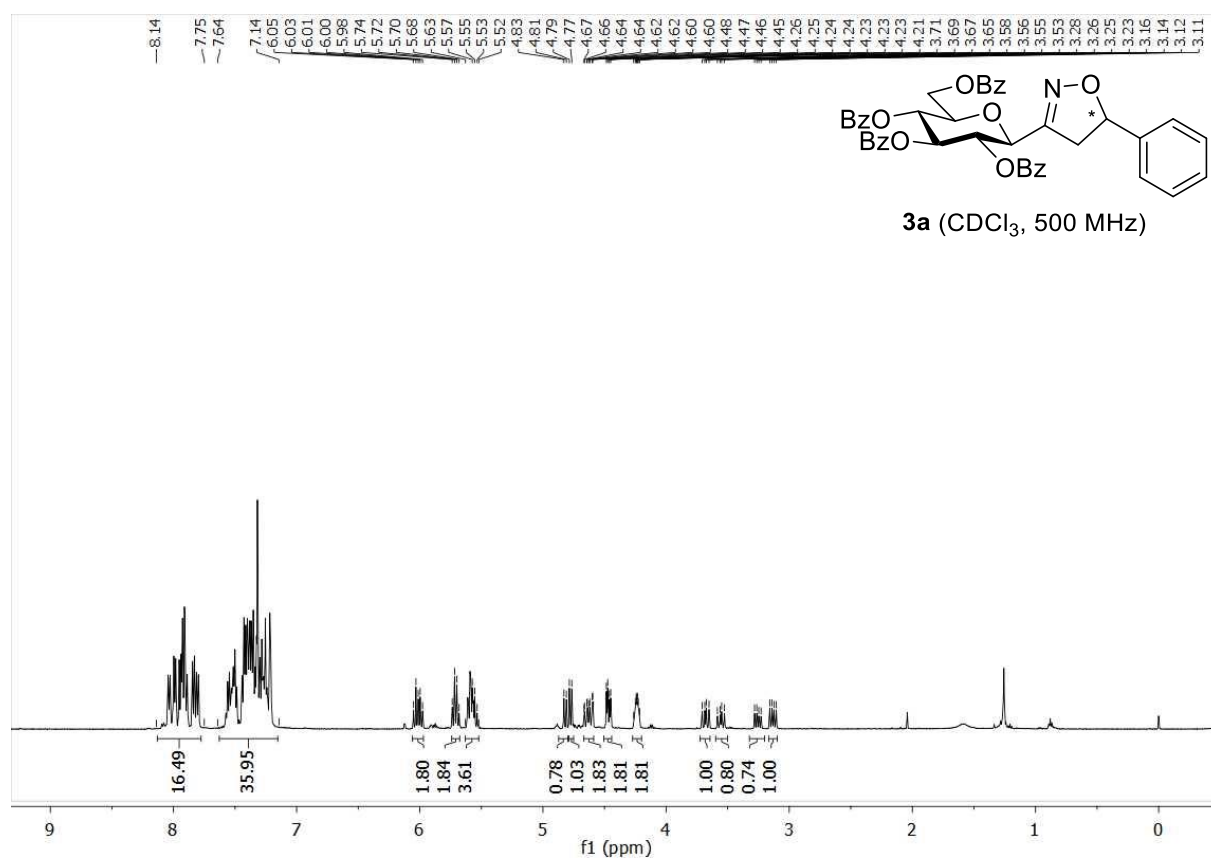


Figure S1. ¹H NMR spectrum of **3a**

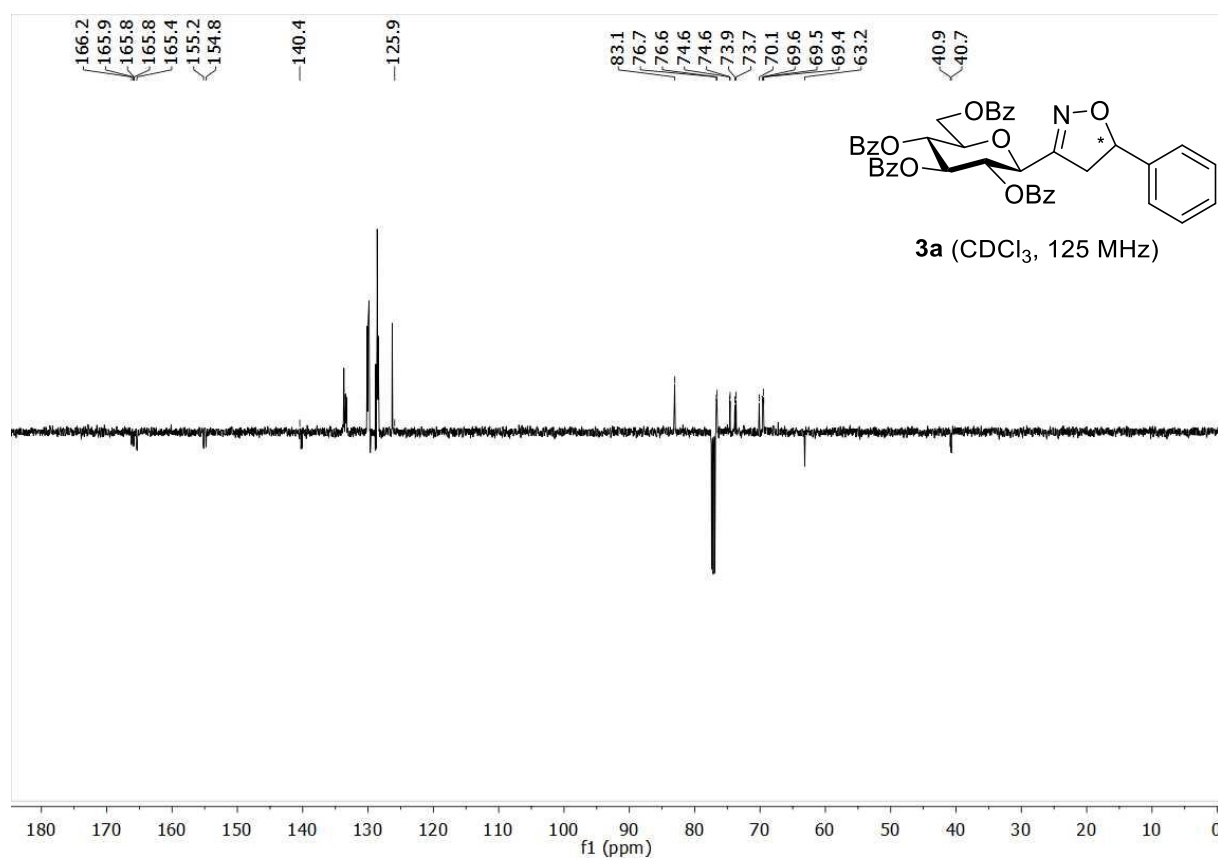
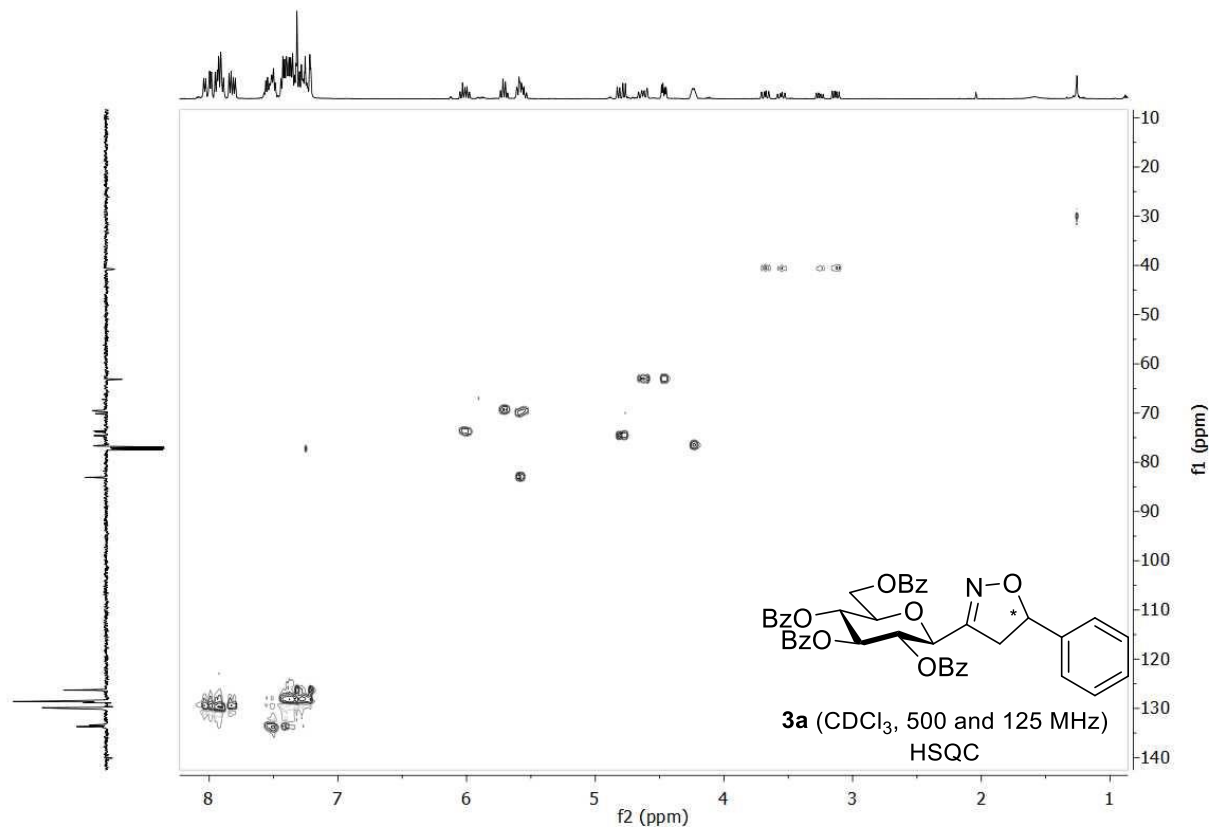
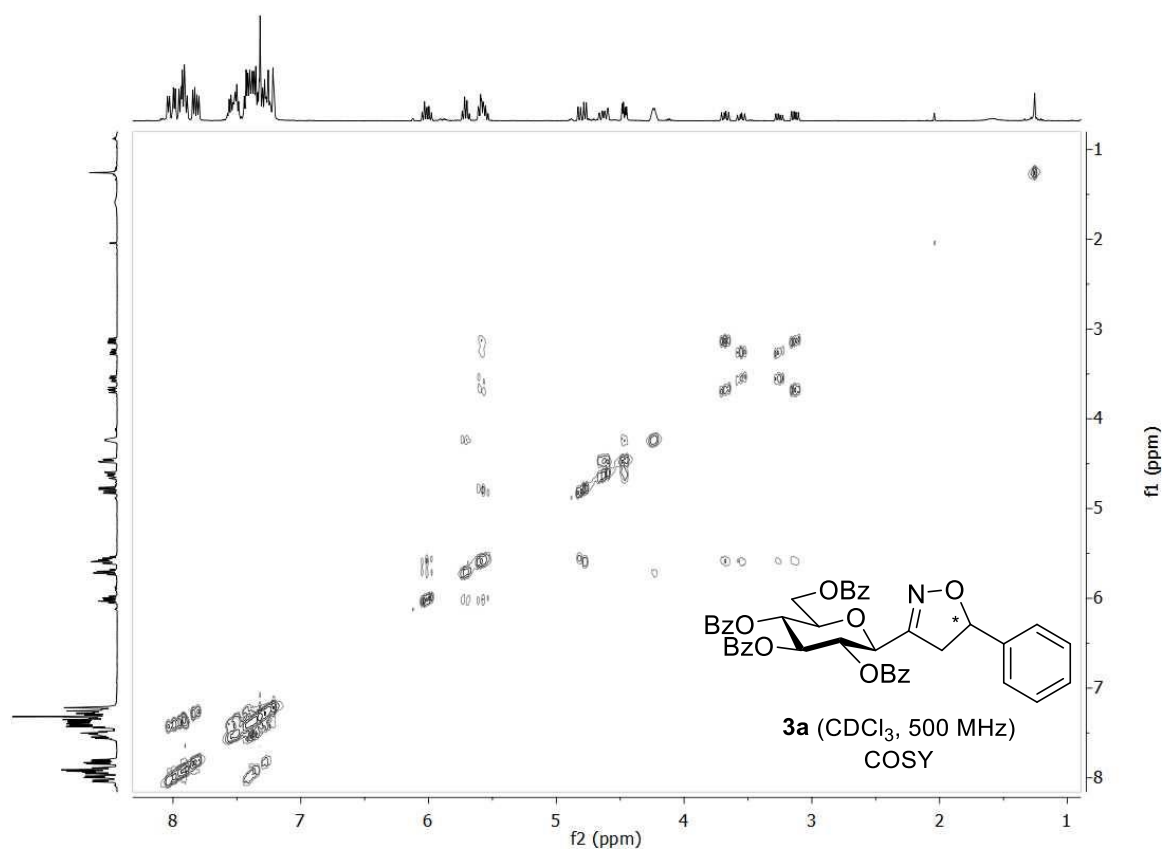


Figure S2. ¹³C NMR spectrum of **3a**



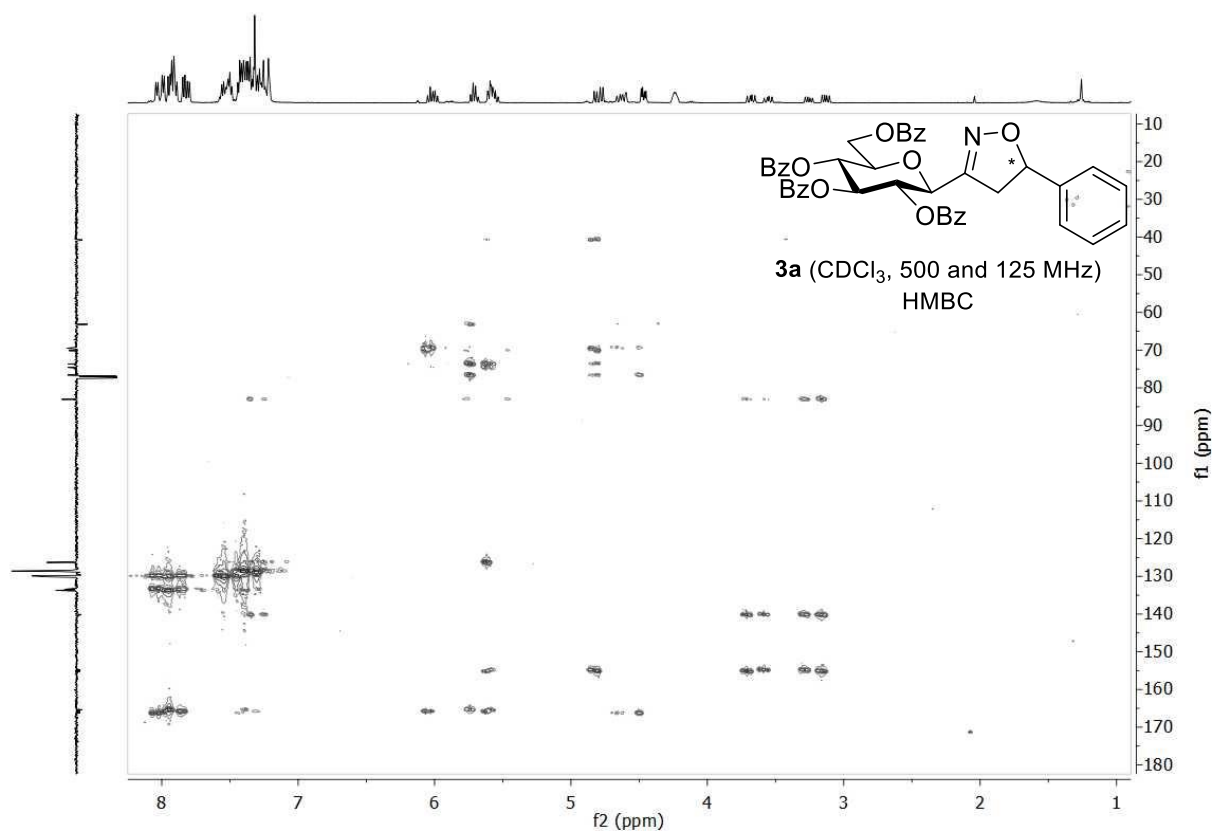


Figure S5. ^1H – ^{13}C HMBC spectrum of **3a**

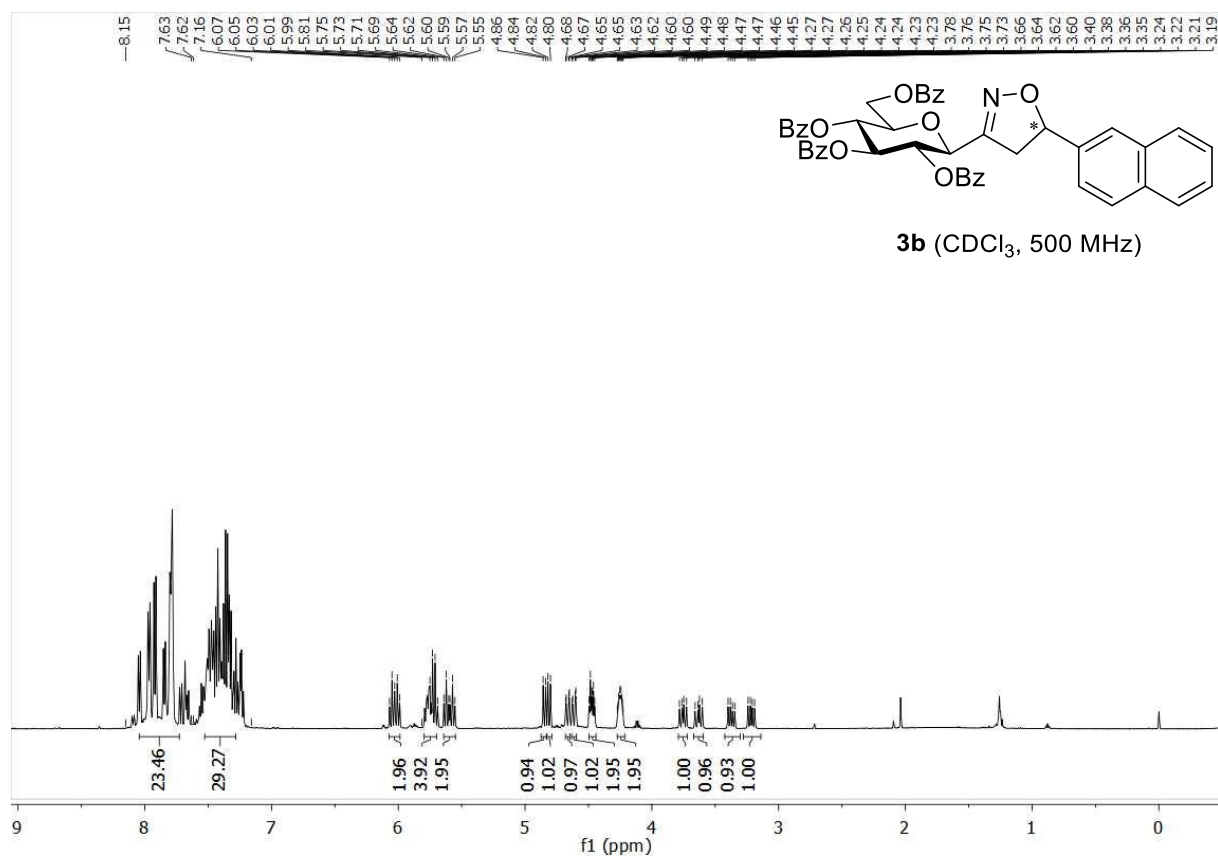


Figure S6. ¹H NMR spectrum of **3b**

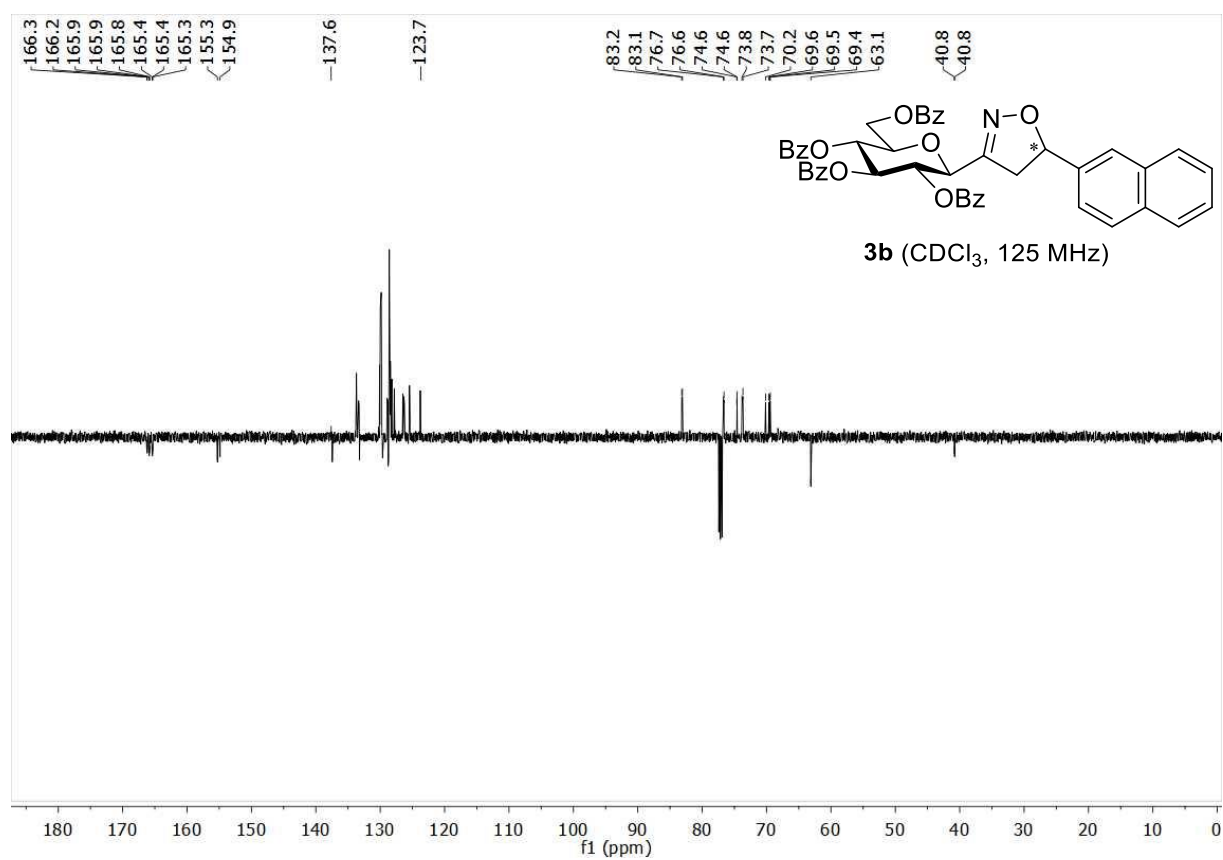


Figure S7. ¹³C NMR spectrum of **3b**

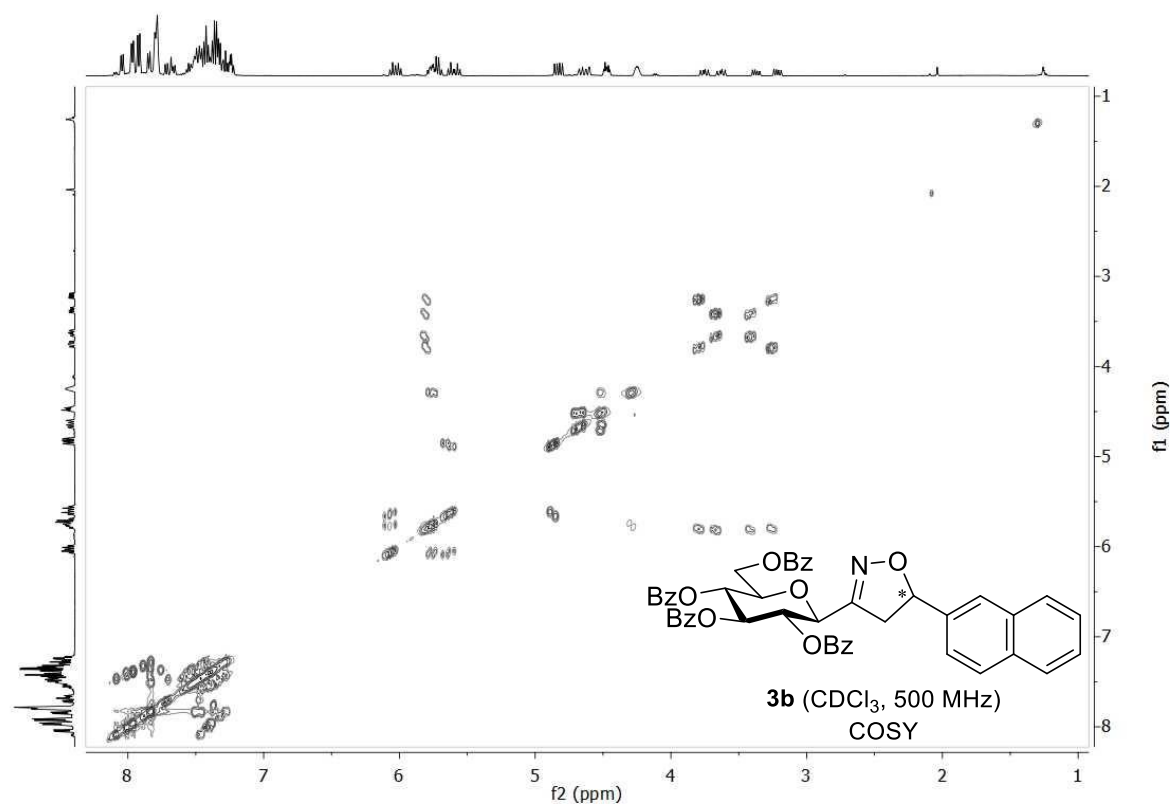


Figure S8. ^1H - ^1H COSY spectrum of **3b**

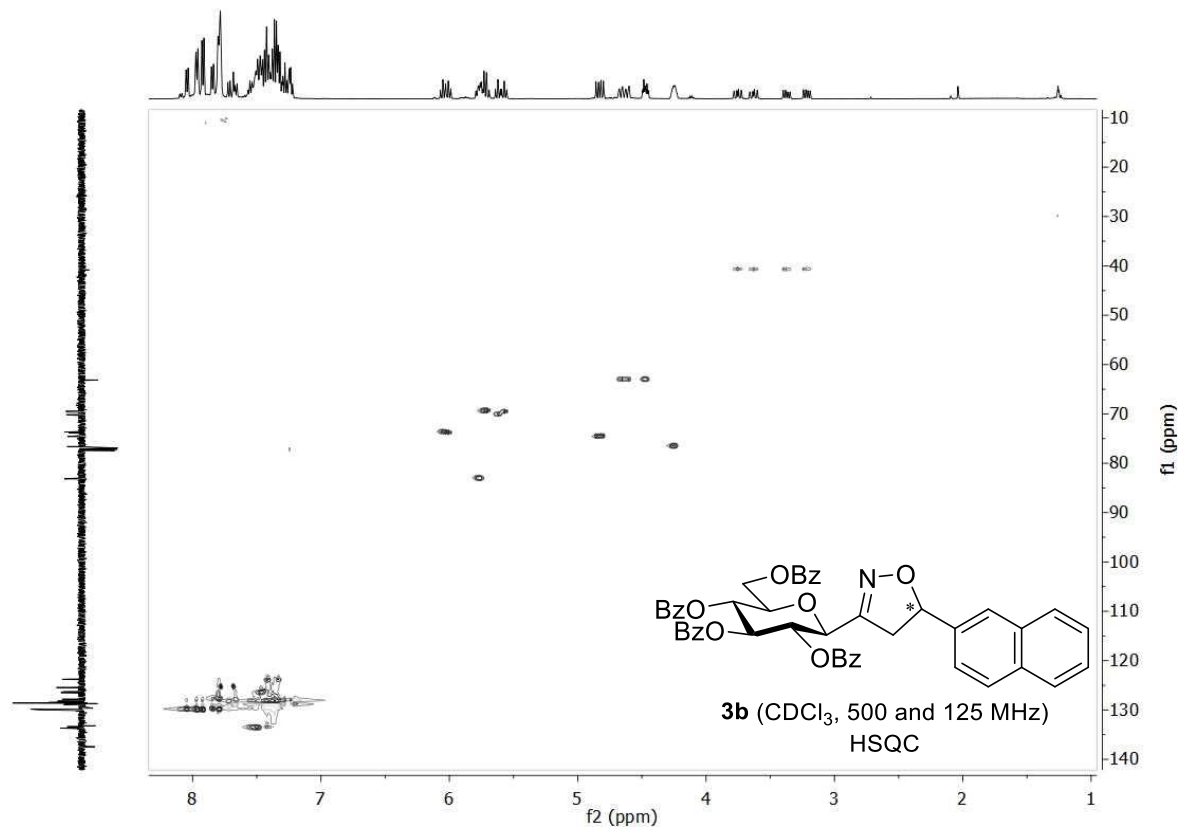


Figure S9. ^1H - ^{13}C HSQC spectrum of **3b**

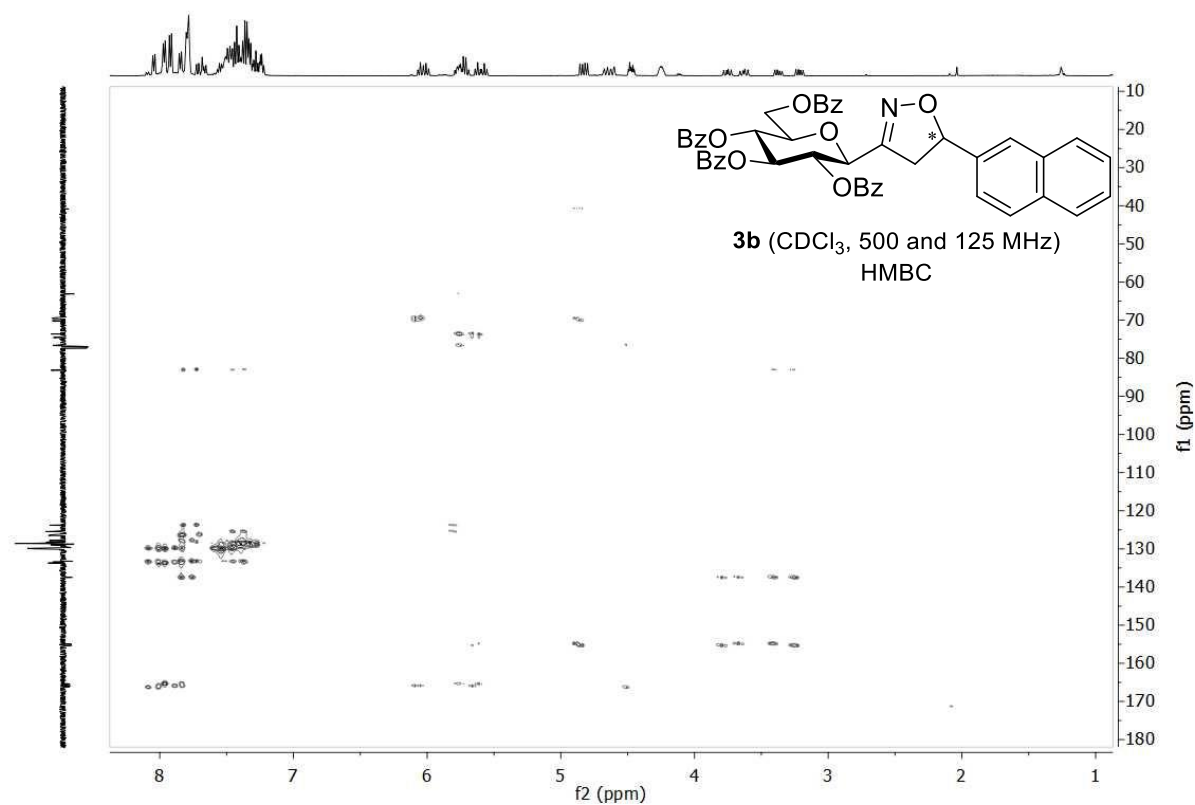


Figure S10. ^1H - ^{13}C HMBC spectrum of **3b**

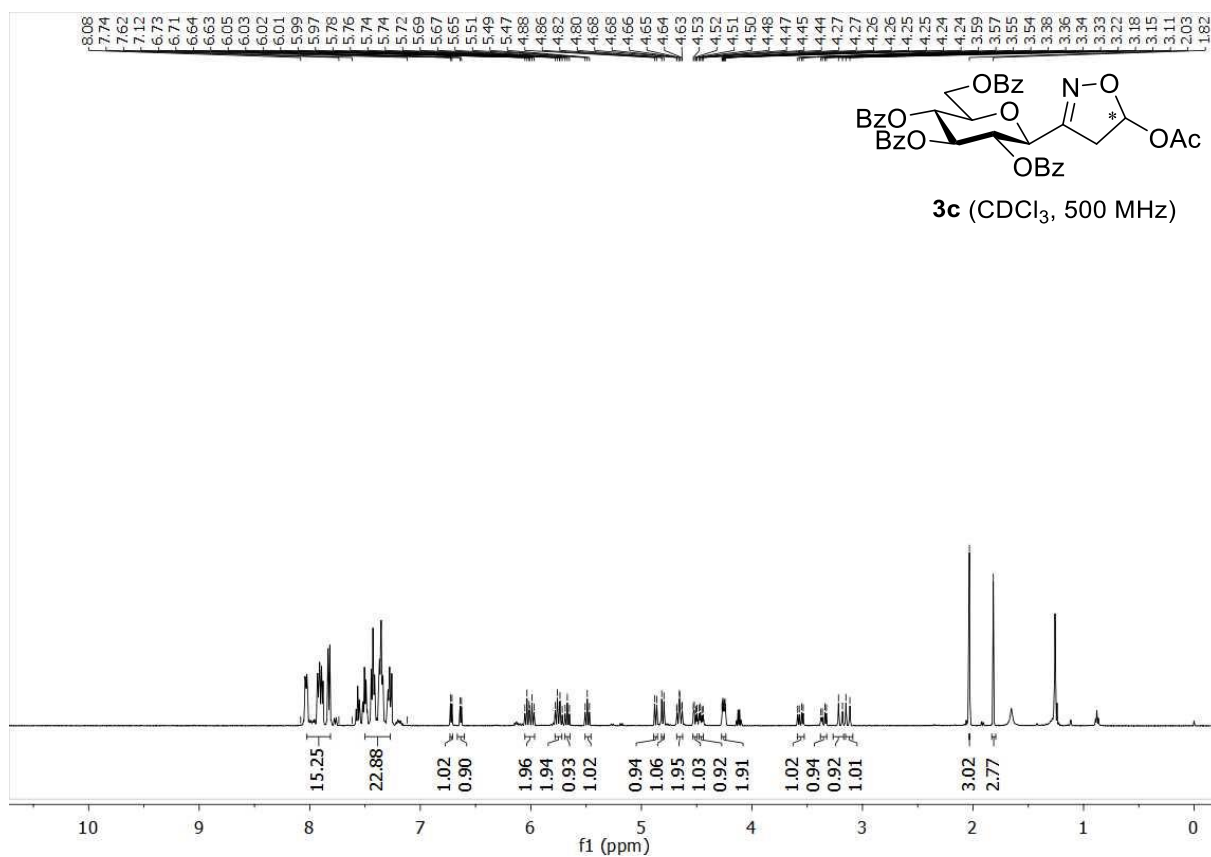


Figure S11. ¹H NMR spectrum of **3c**

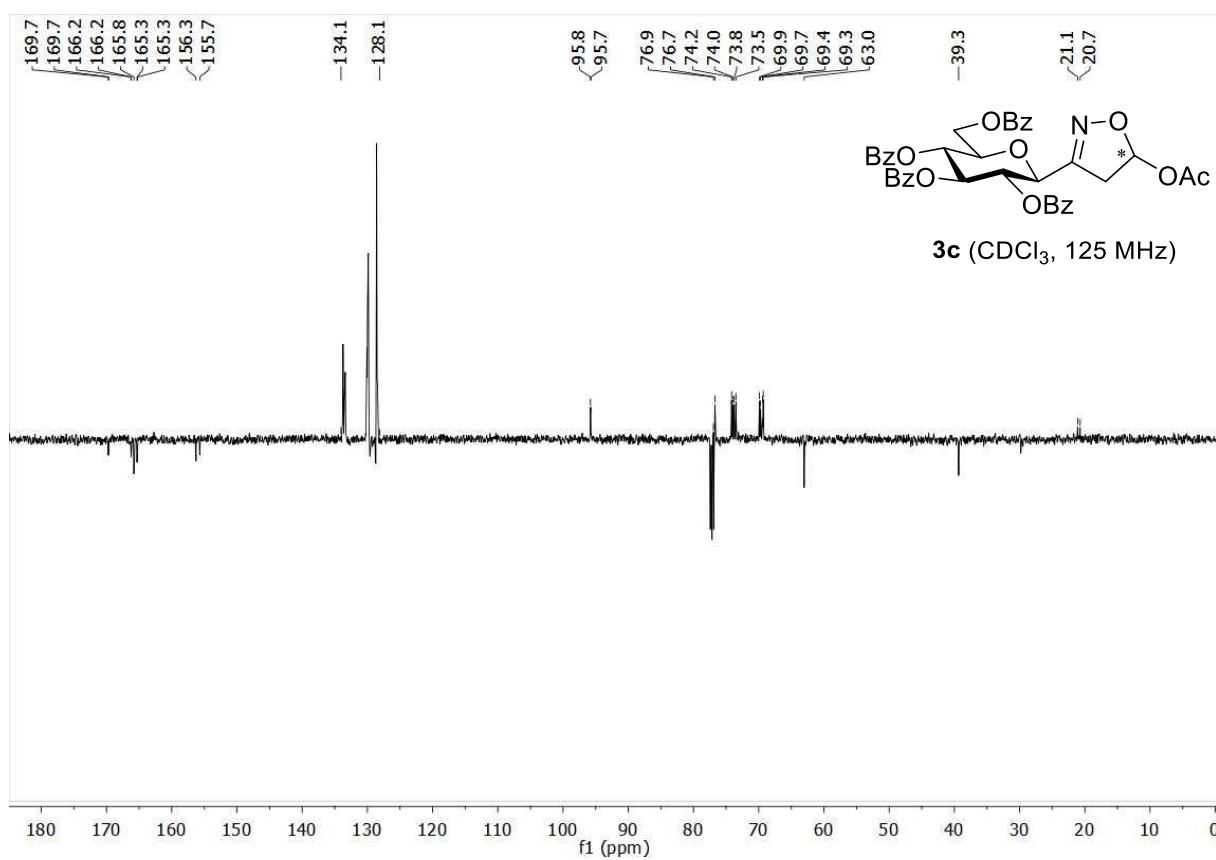


Figure S12. ¹³C NMR spectrum of **3c**

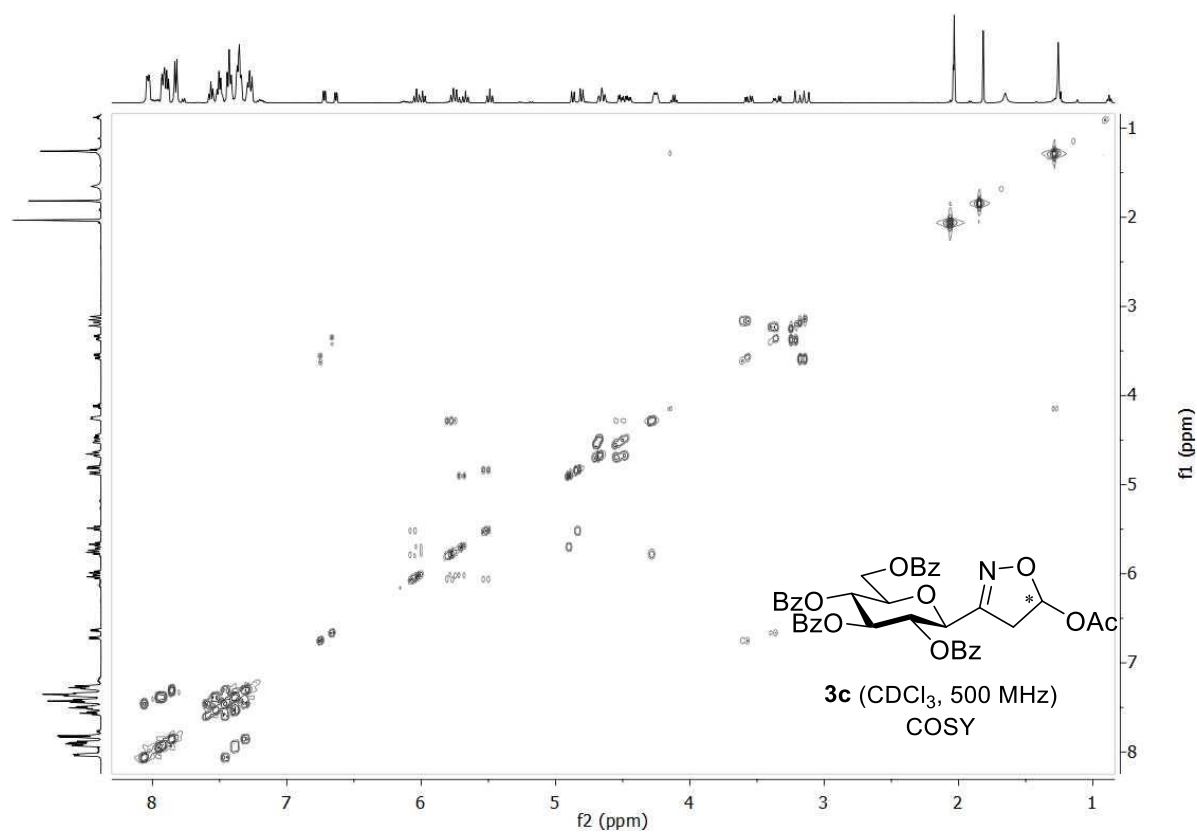


Figure S13. ^1H - ^1H COSY spectrum of **3c**

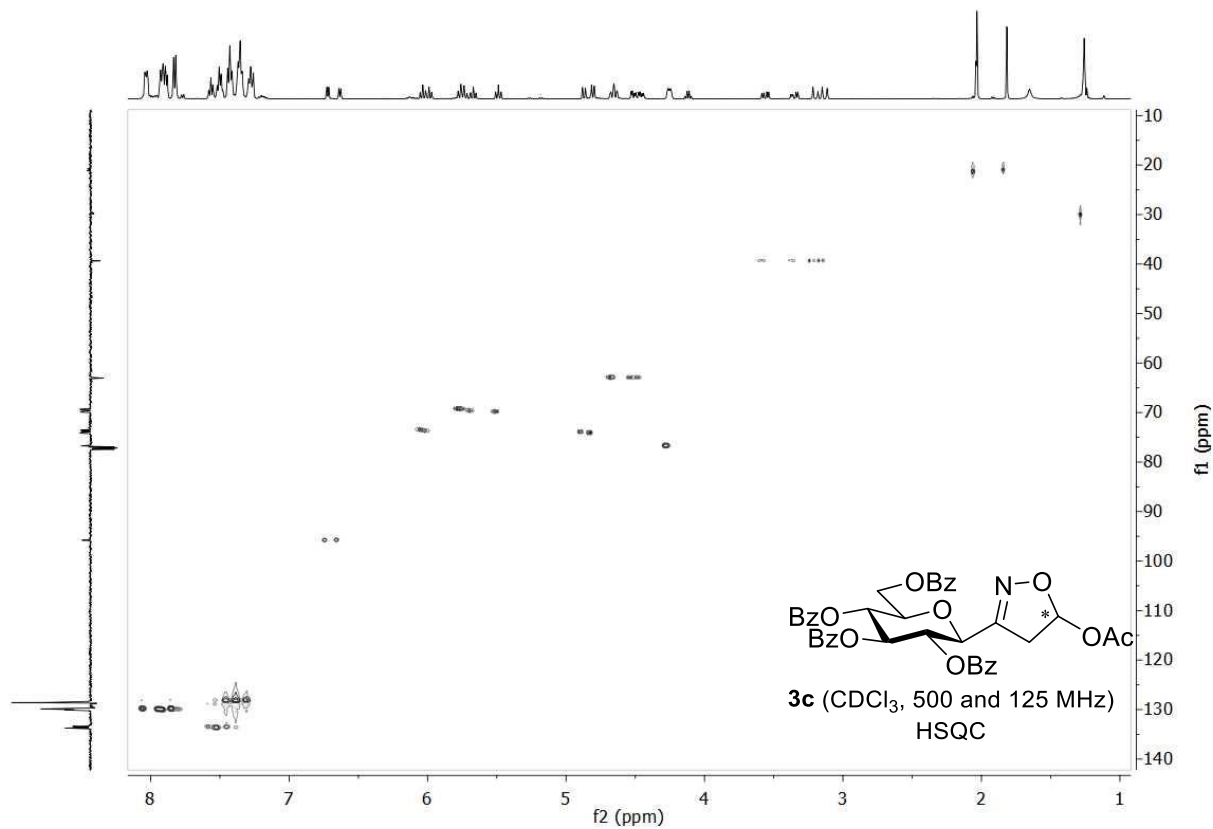


Figure S14. ^1H - ^{13}C HSQC spectrum of **3c**

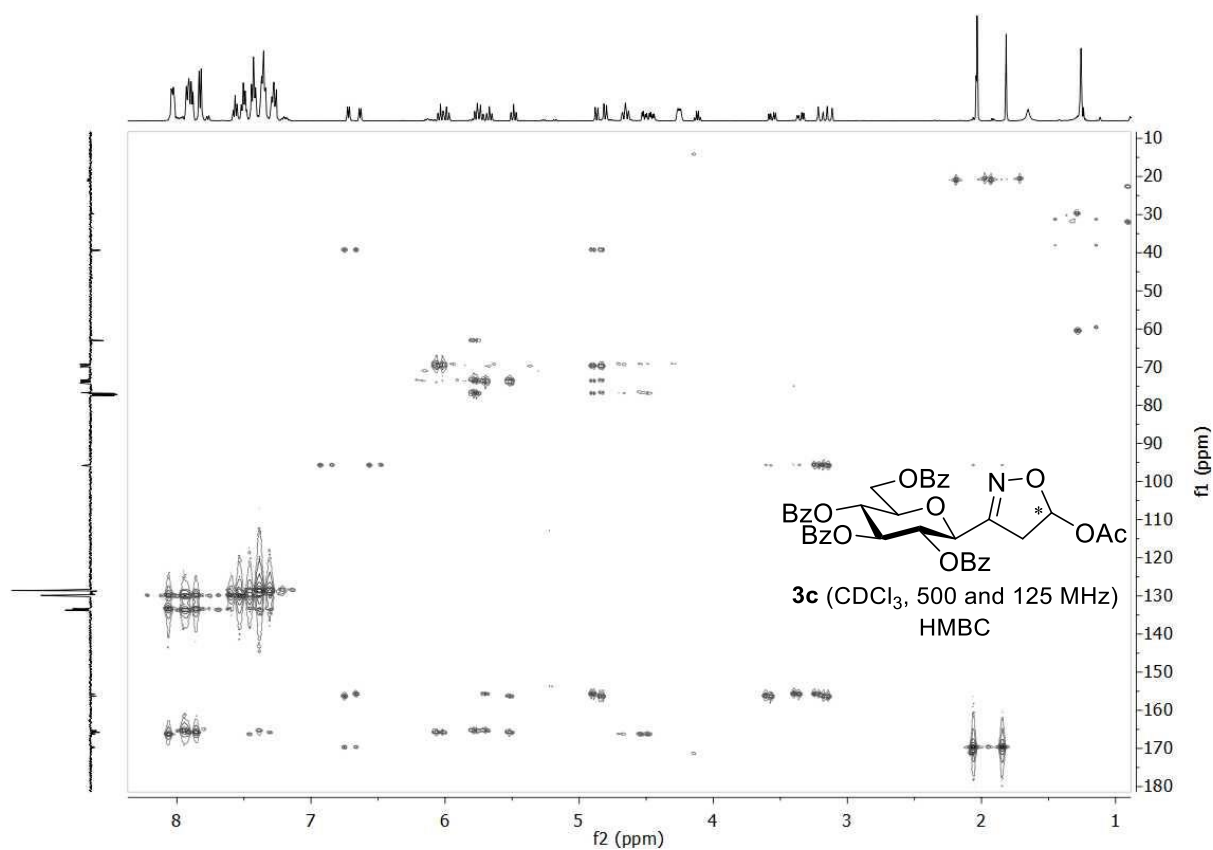


Figure S15. ^1H - ^{13}C HMBC spectrum of **3c**

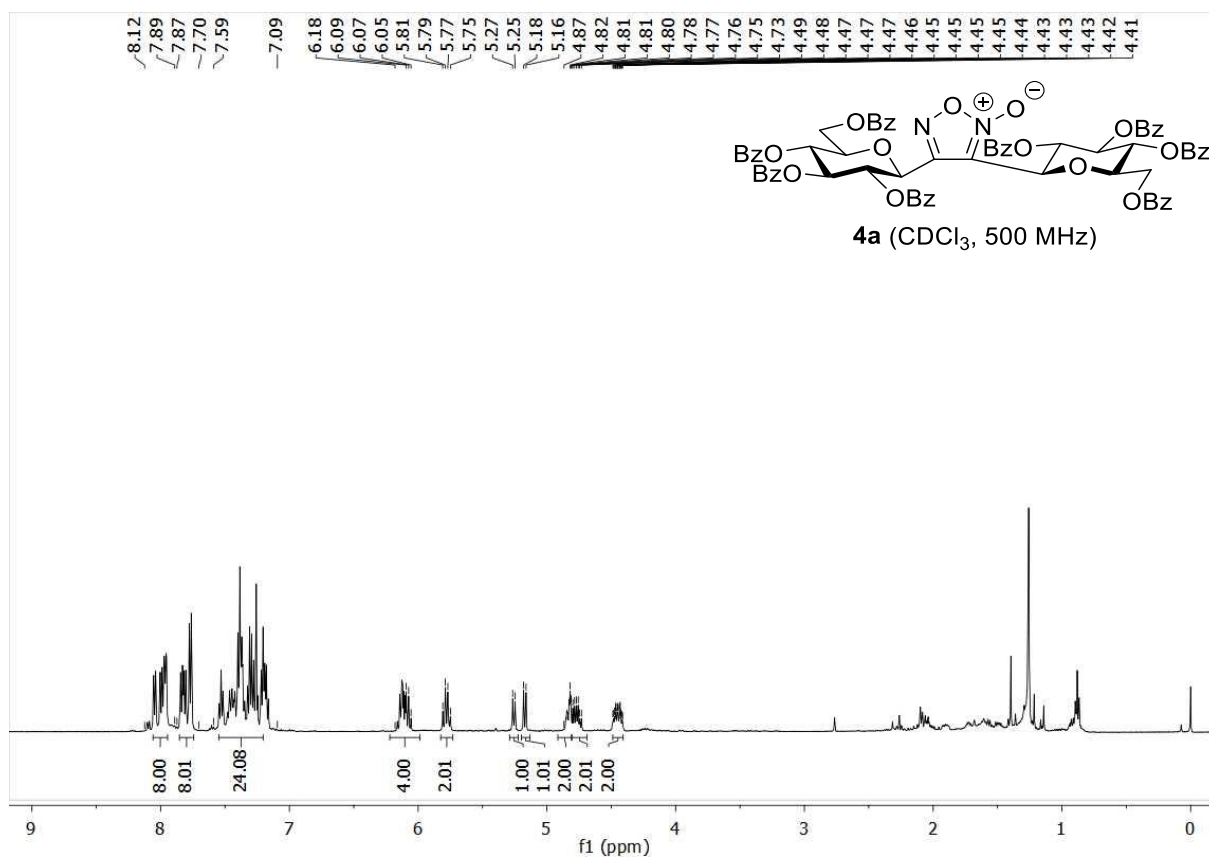


Figure S16. ¹H NMR spectrum of **4a**

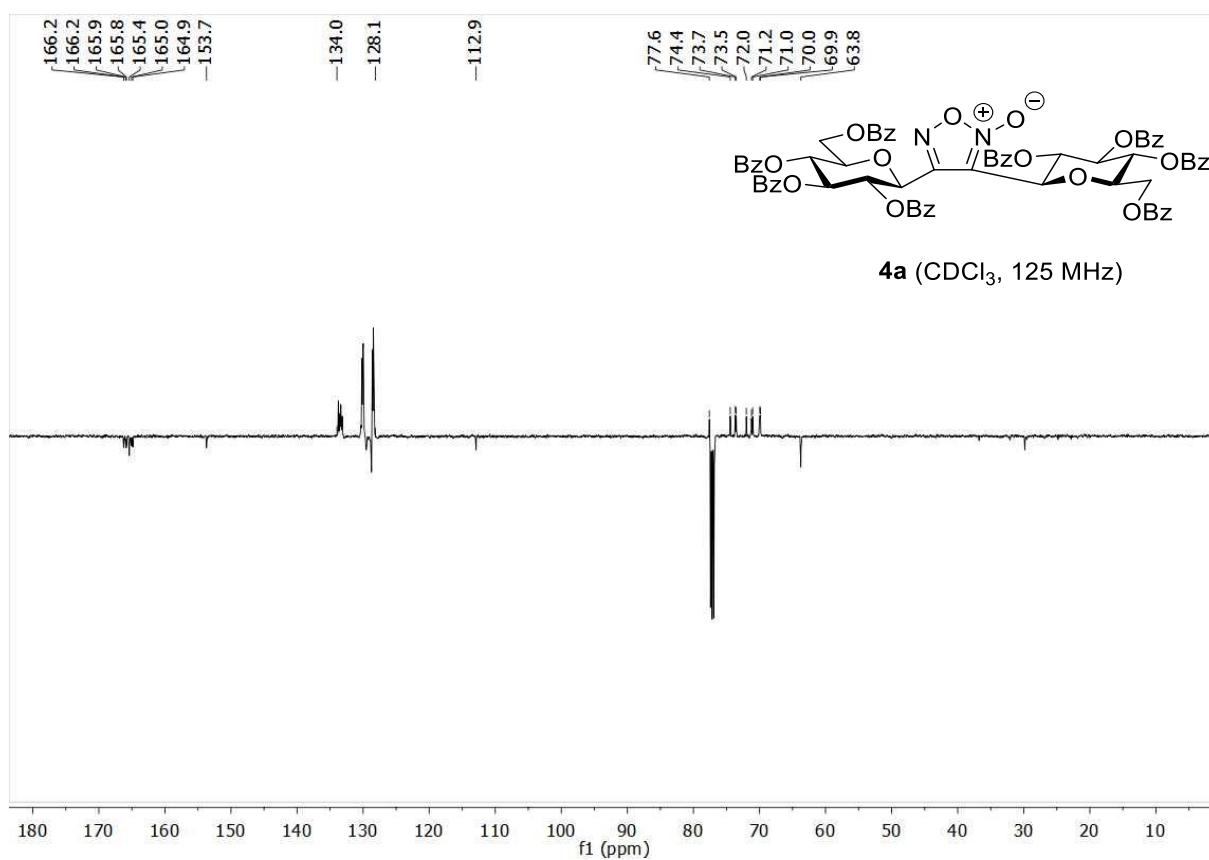


Figure S17. ¹³C NMR spectrum of **4a**

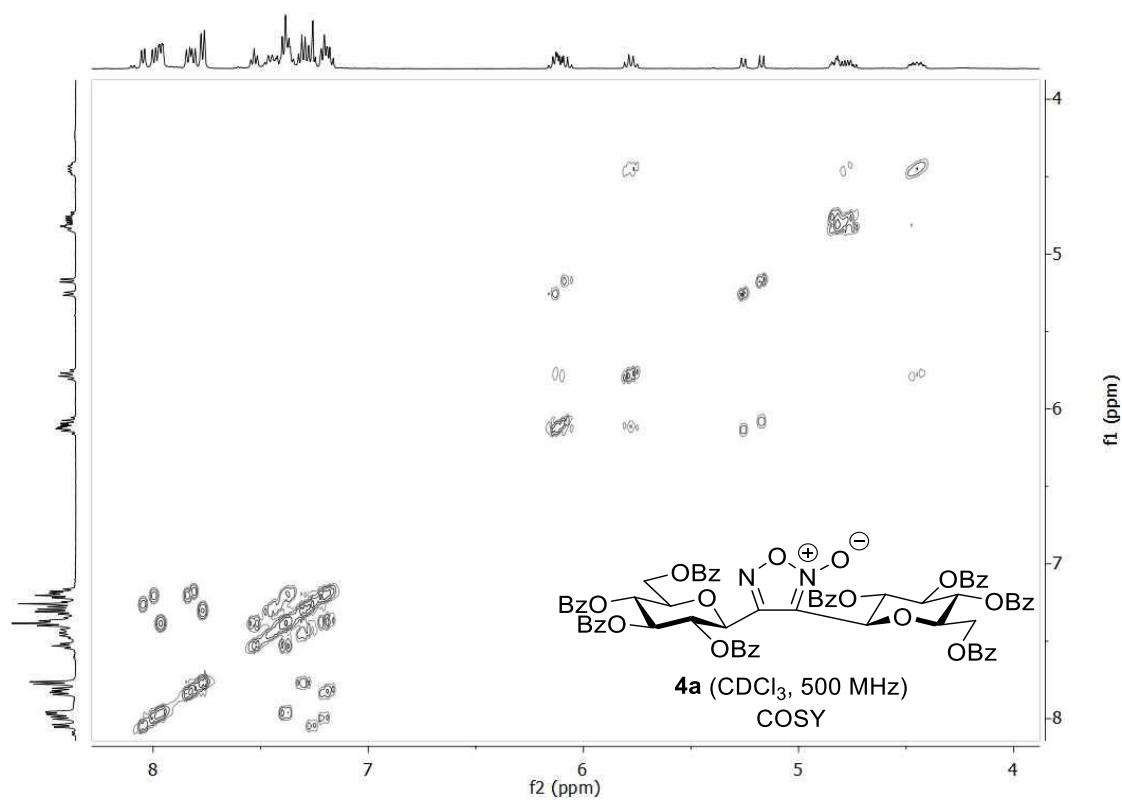


Figure S18. ^1H - ^1H COSY spectrum of **4a**

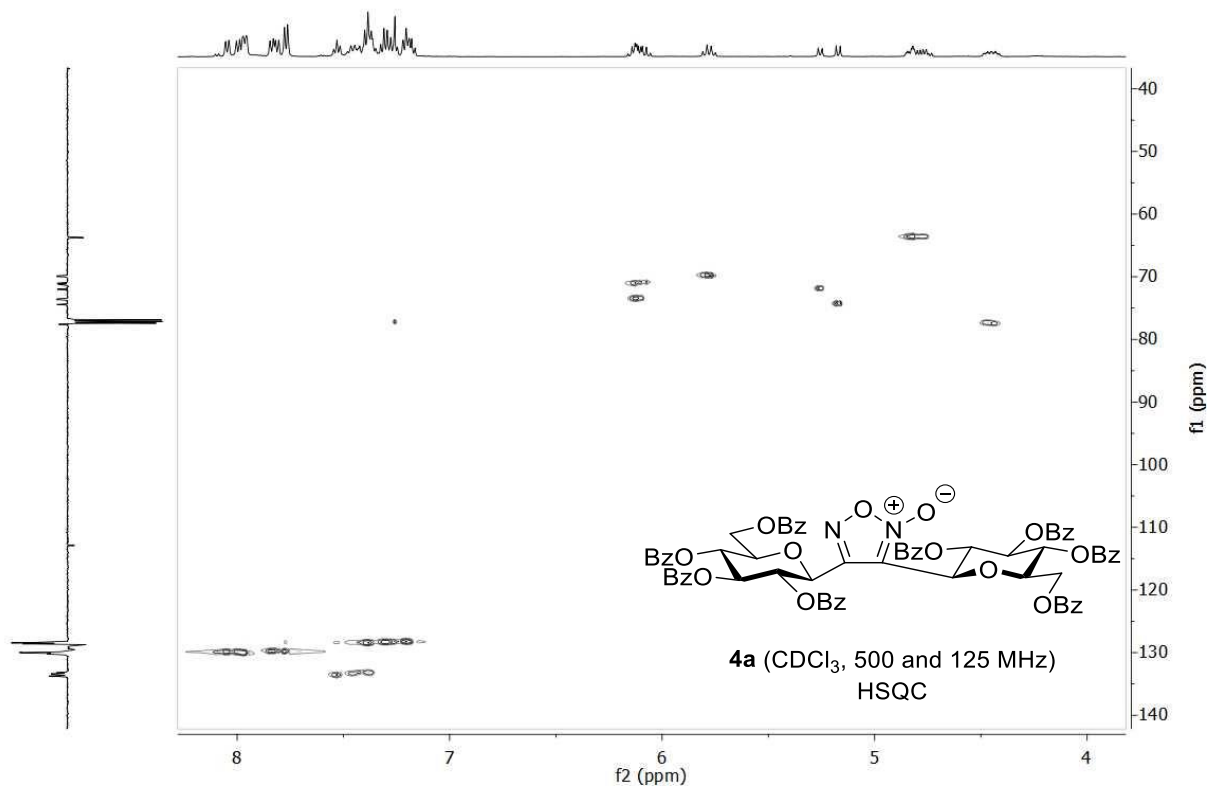


Figure S19. ^1H - ^{13}C HSQC spectrum of **4a**

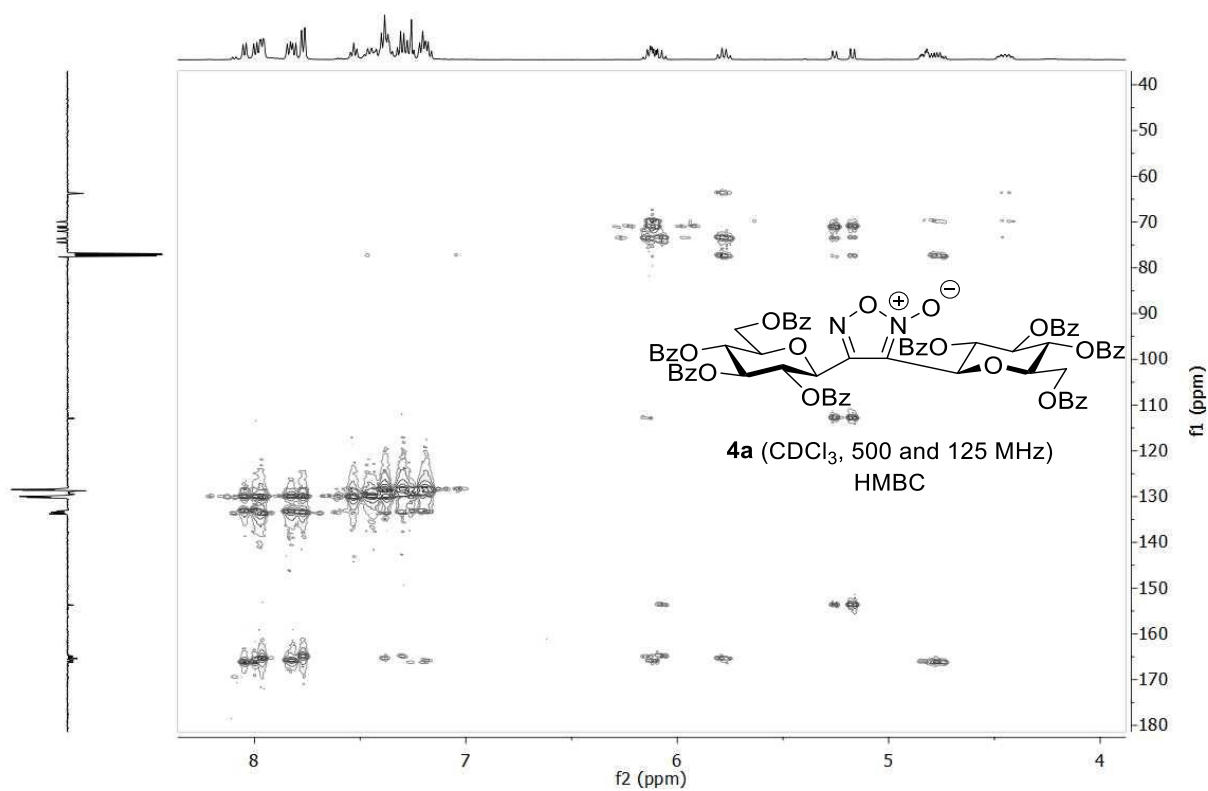


Figure S20. ^1H - ^{13}C HMBC spectrum of **4a**

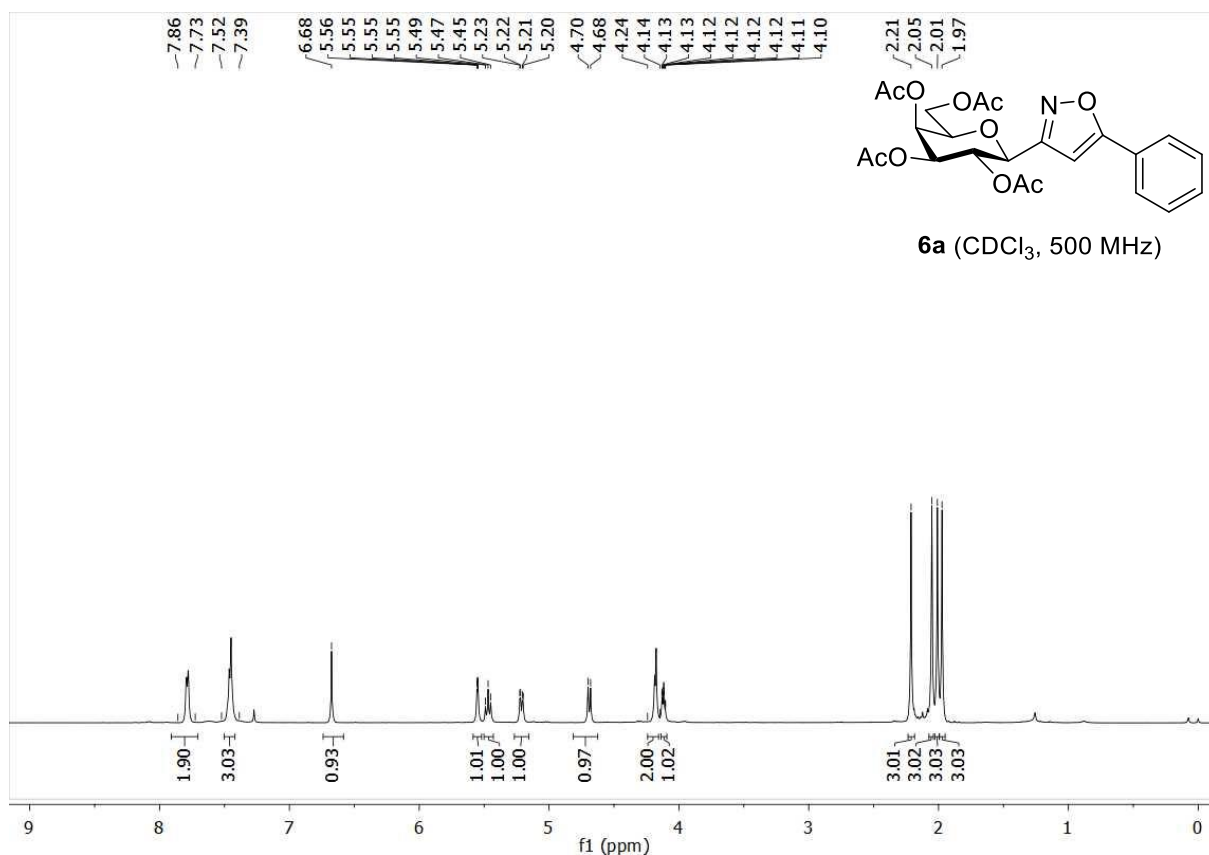


Figure S21. ¹H NMR spectrum of **6a**

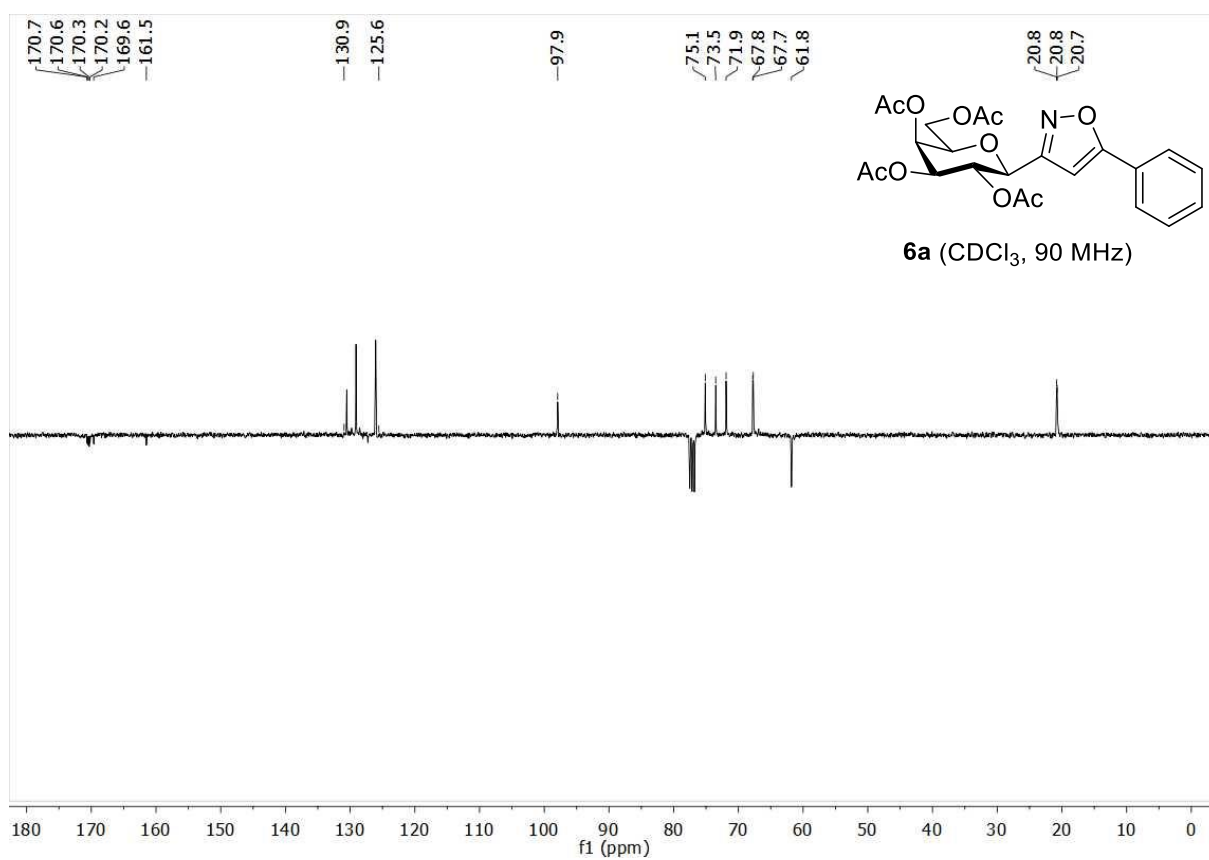
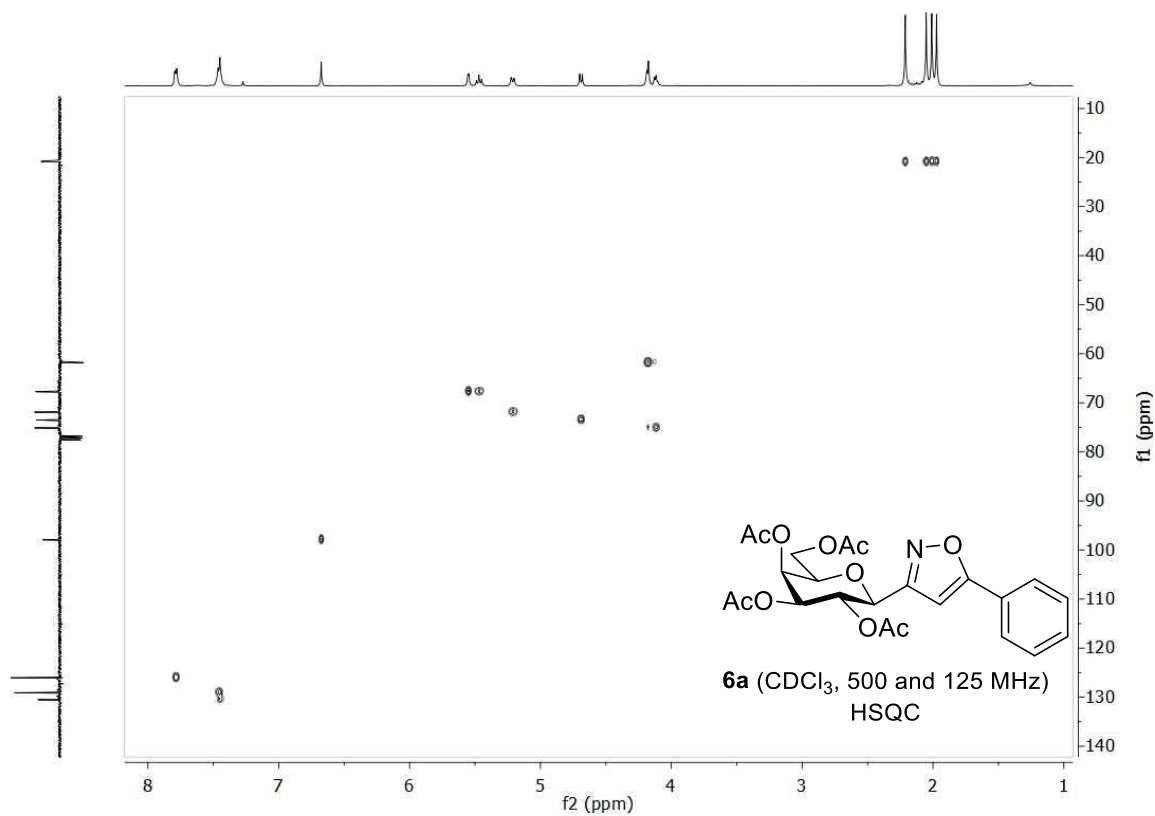
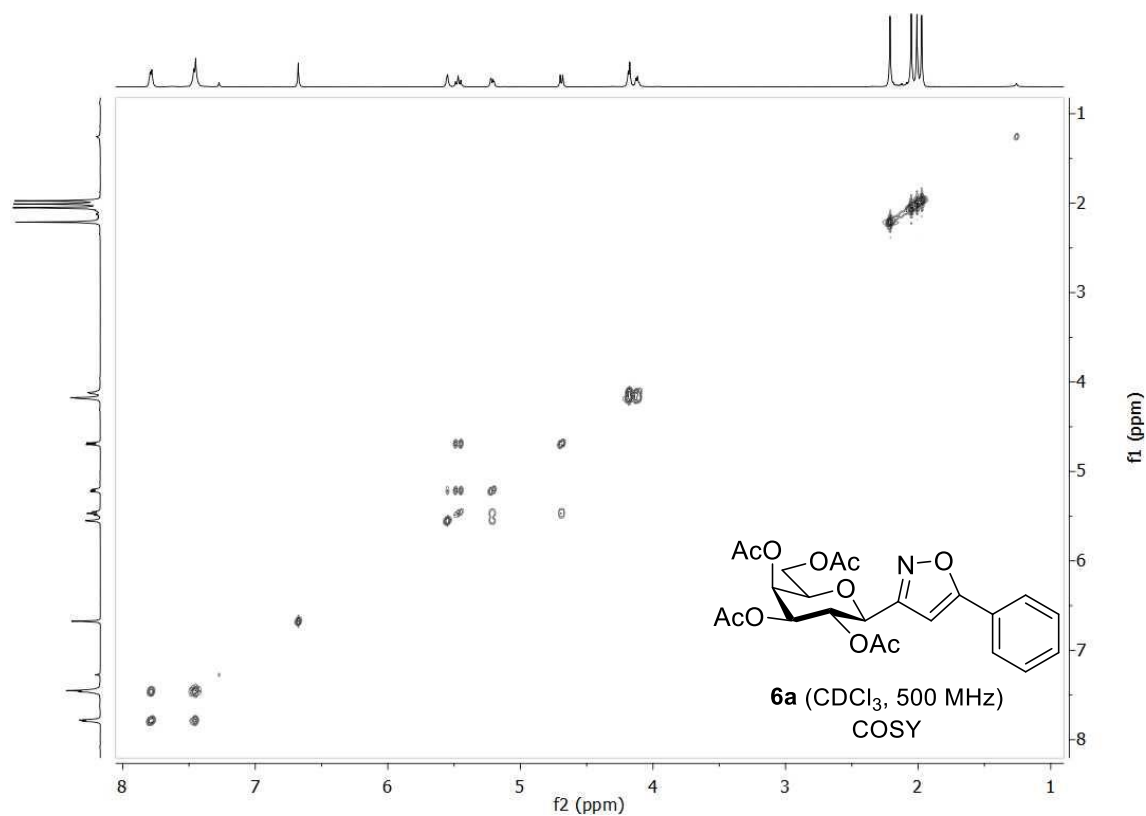


Figure S22. ¹³C NMR spectrum of **6a**



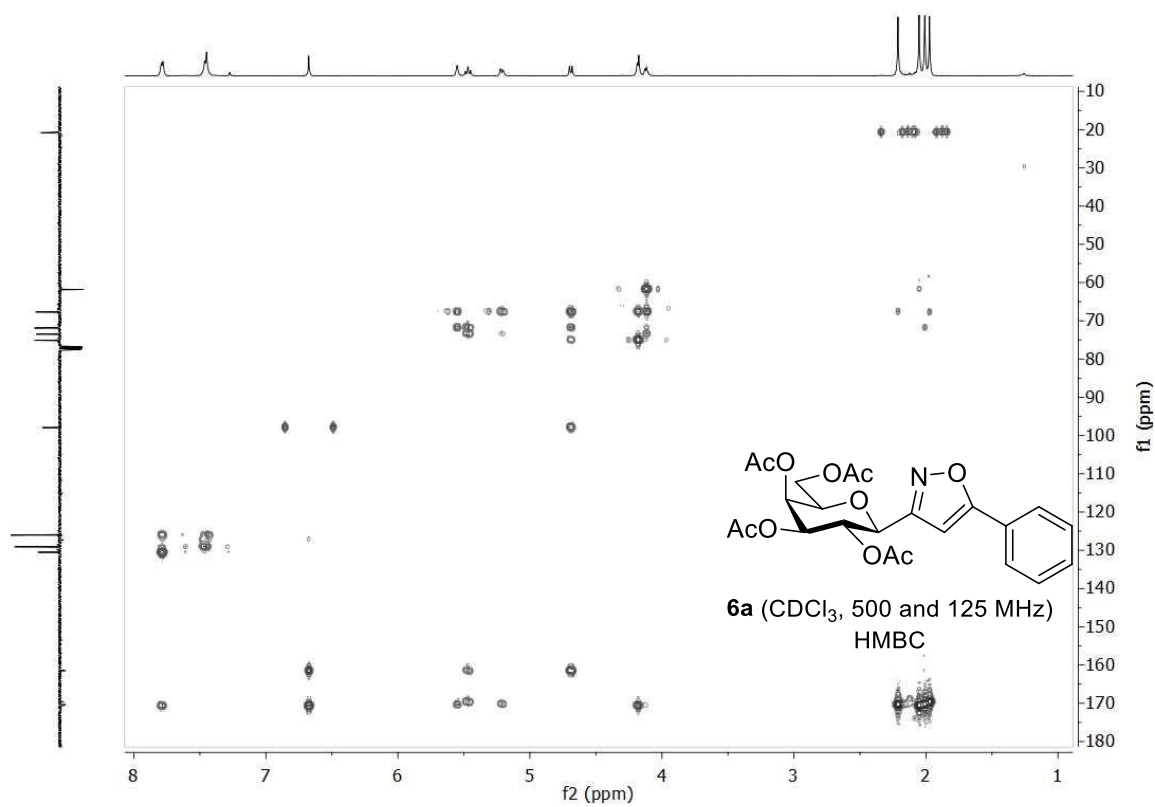


Figure S25. ^1H - ^{13}C HMBC spectrum of **6a**

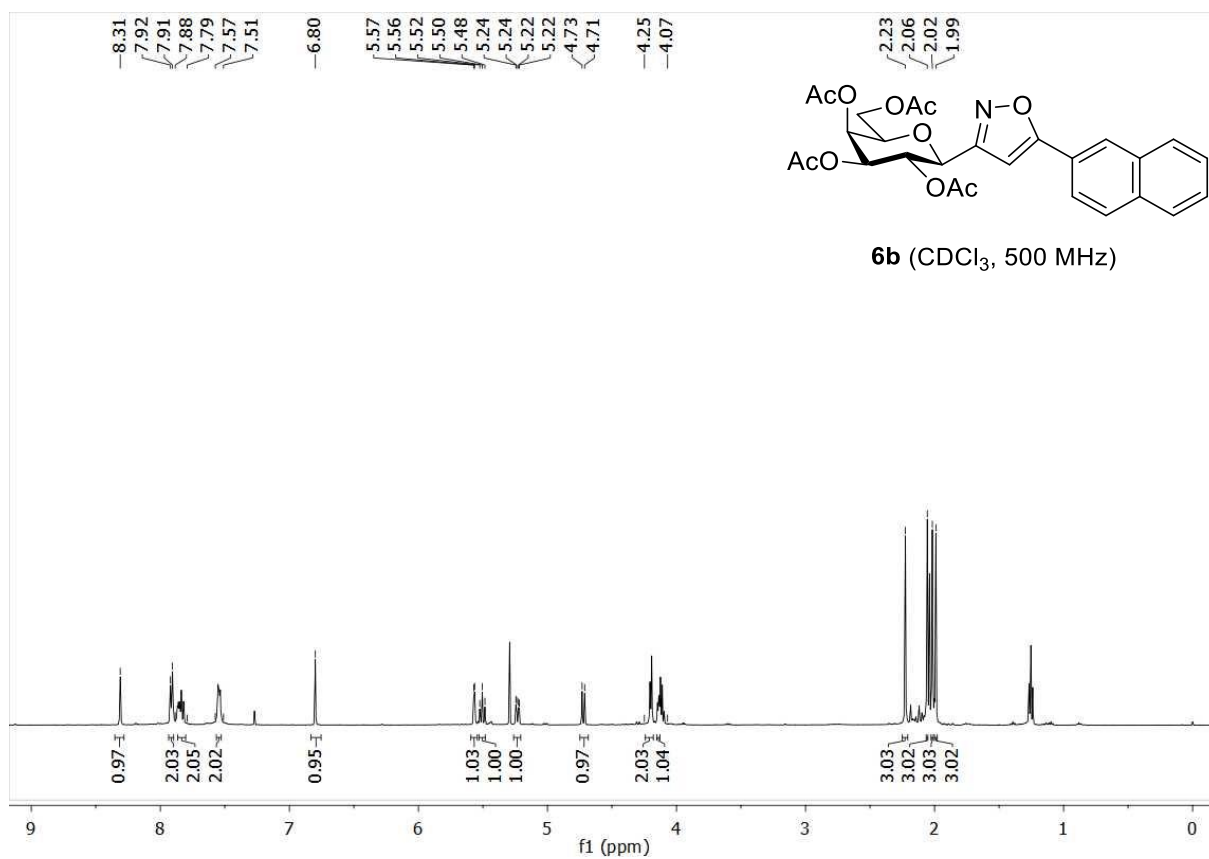


Figure S26. ¹H NMR spectrum of **6b**

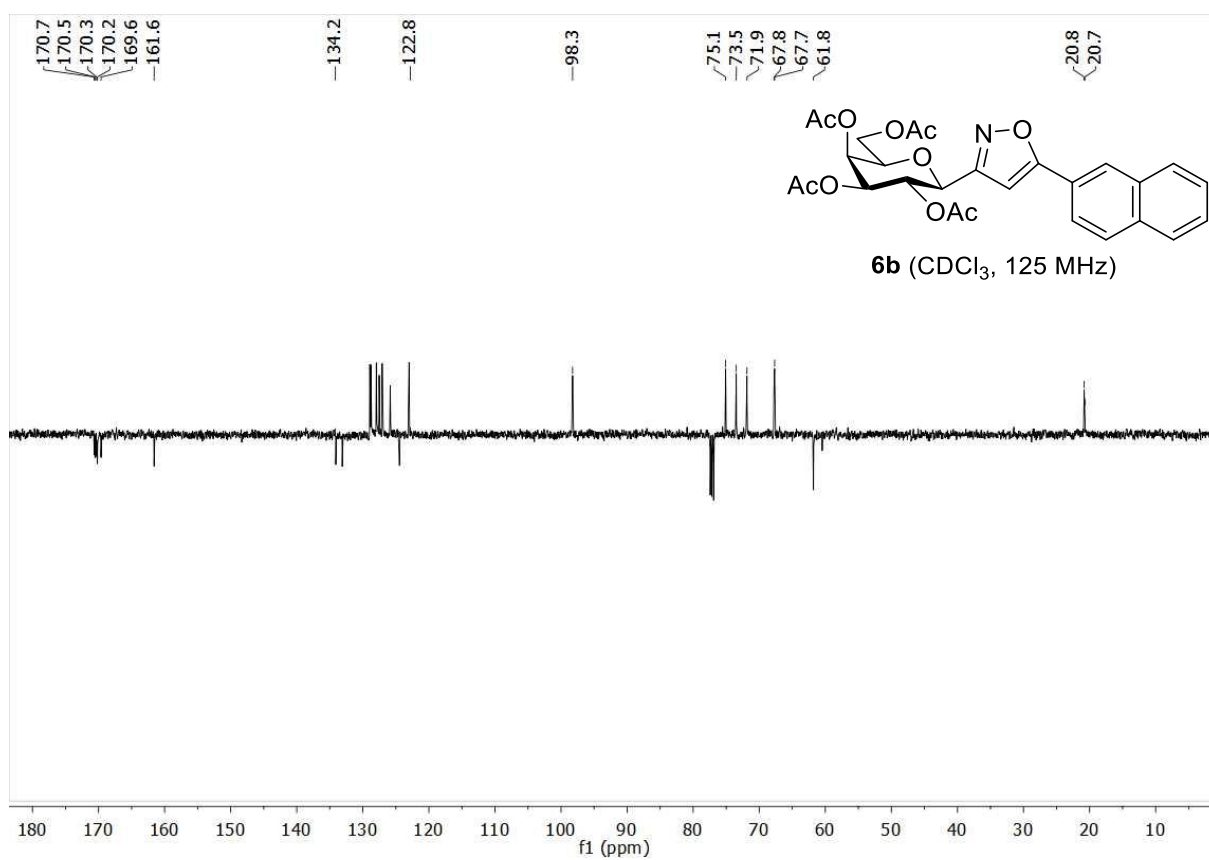


Figure S27. ¹³C NMR spectrum of **6b**

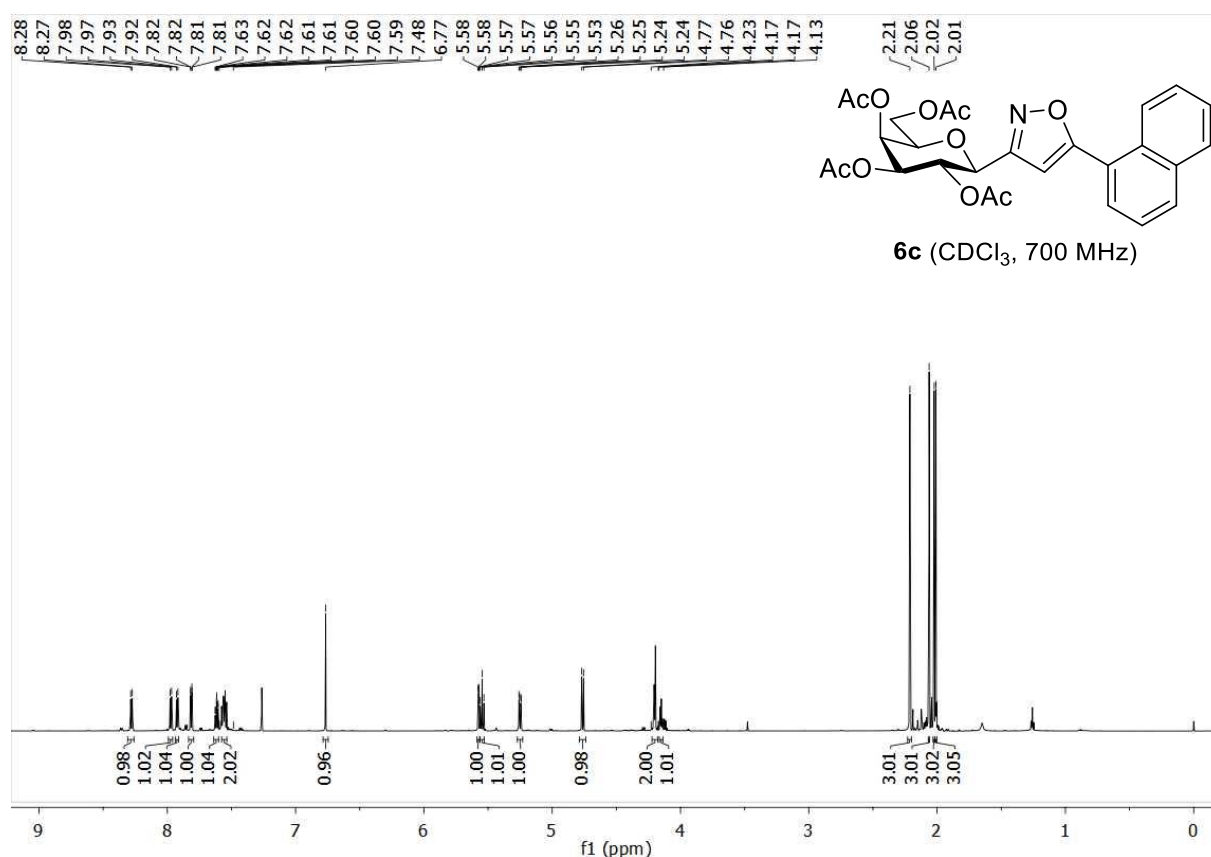


Figure S28. ¹H NMR spectrum of **6c**

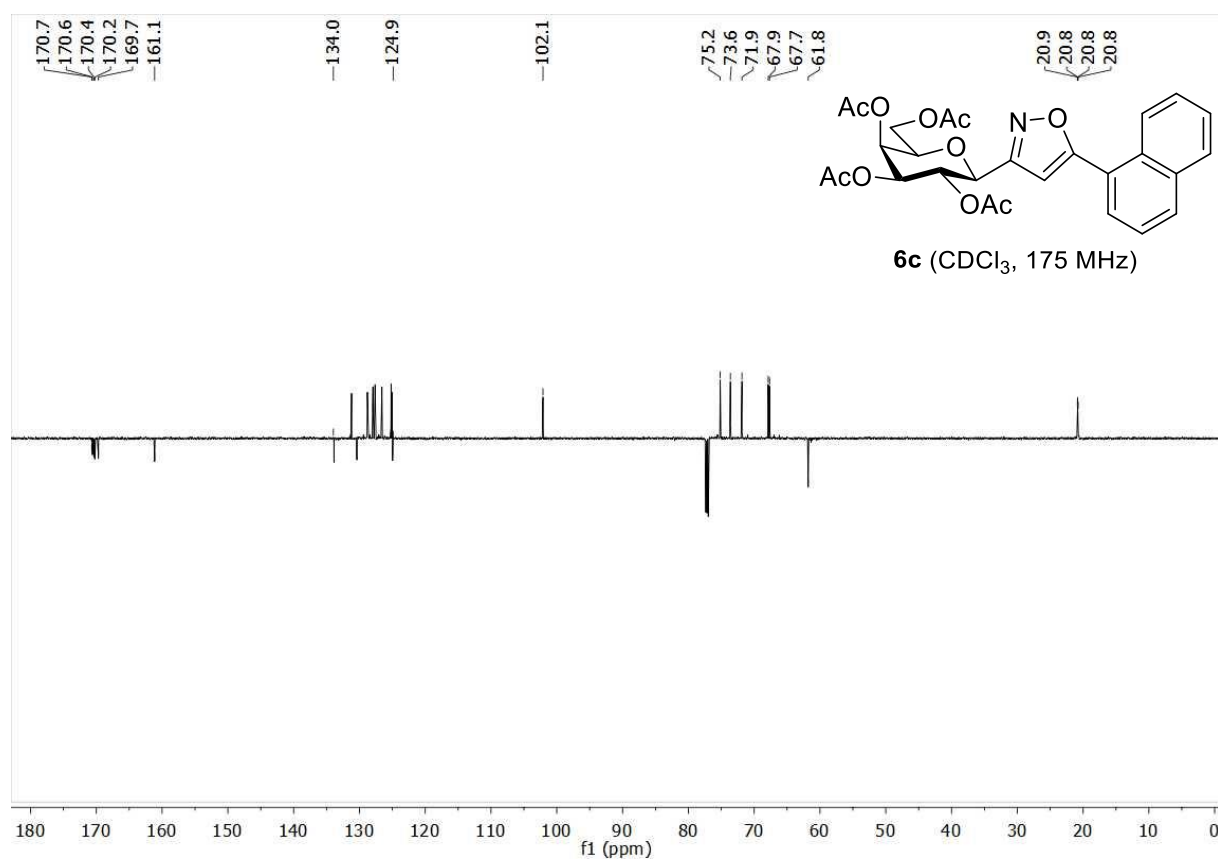


Figure S29. ¹³C NMR spectrum of **6c**

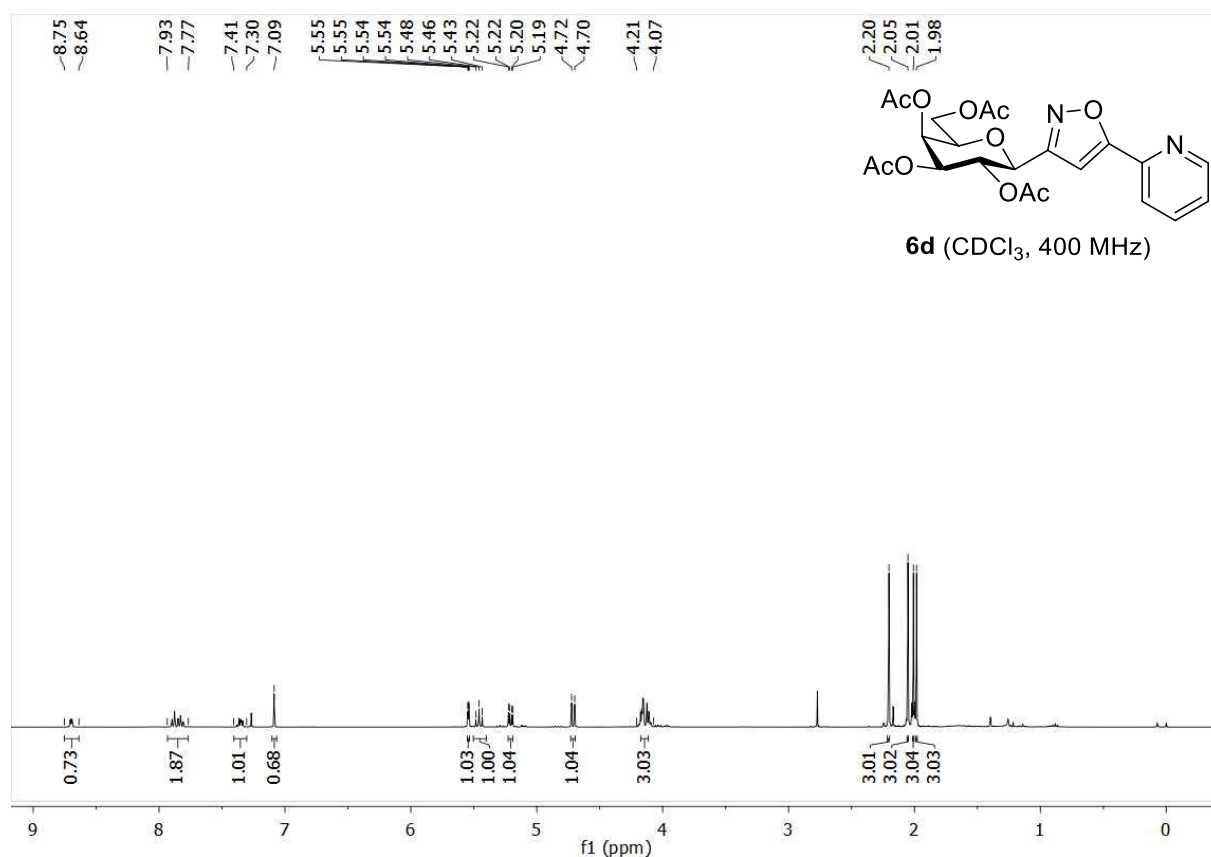


Figure S30. ¹H NMR spectrum of **6d**

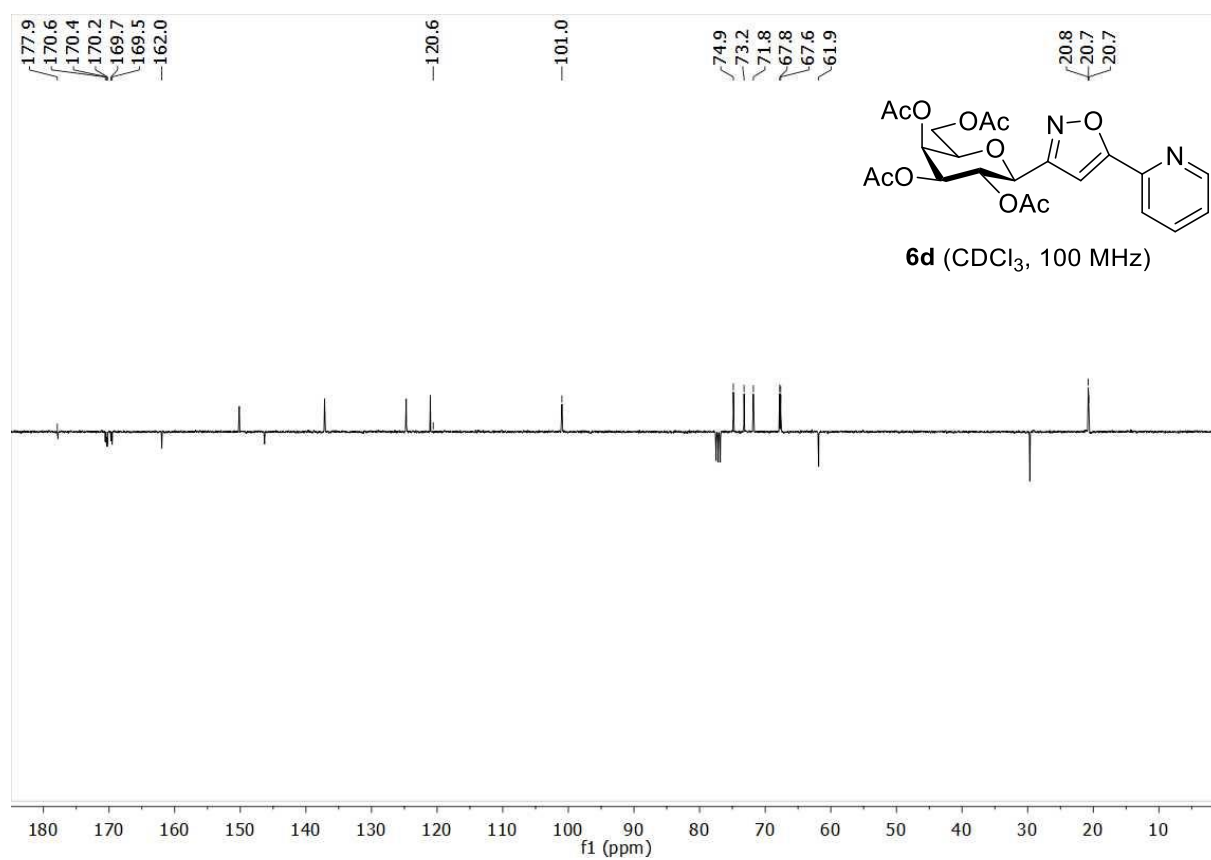


Figure S31. ¹³C NMR spectrum of **6d**

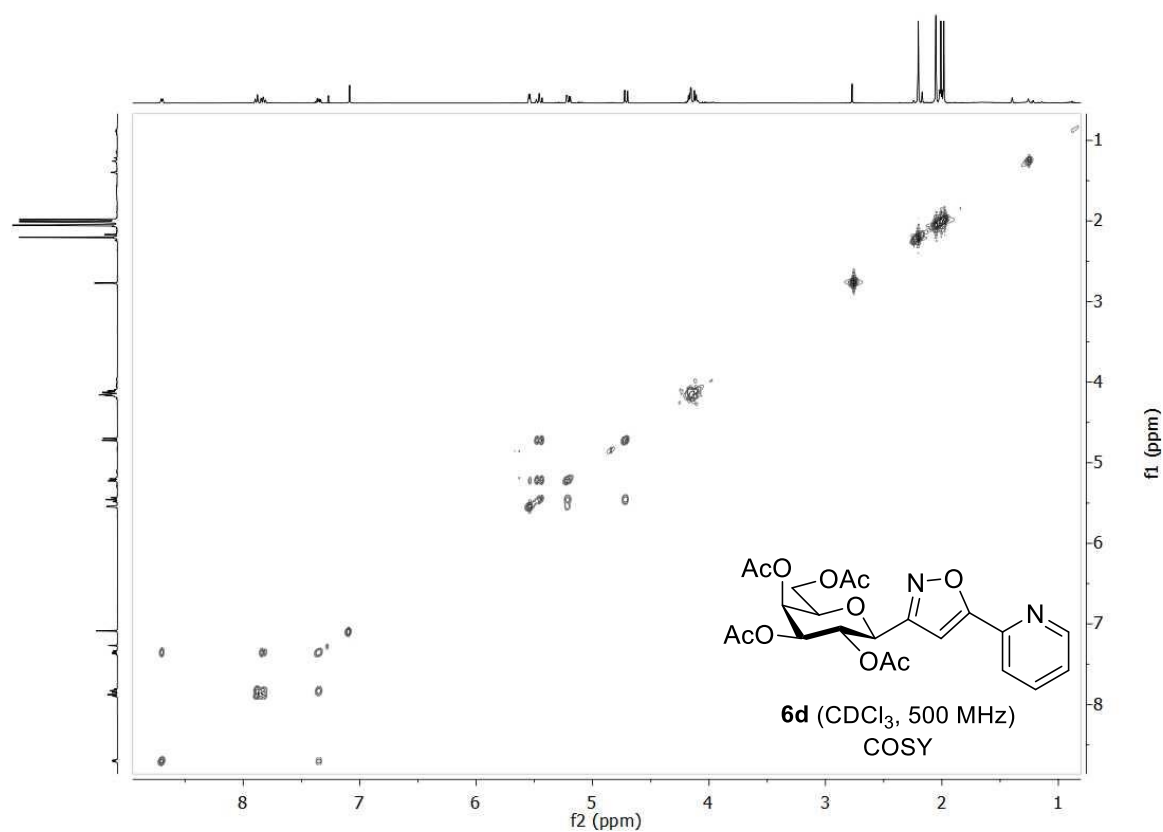


Figure S32. ^1H - ^1H COSY spectrum of **6d**

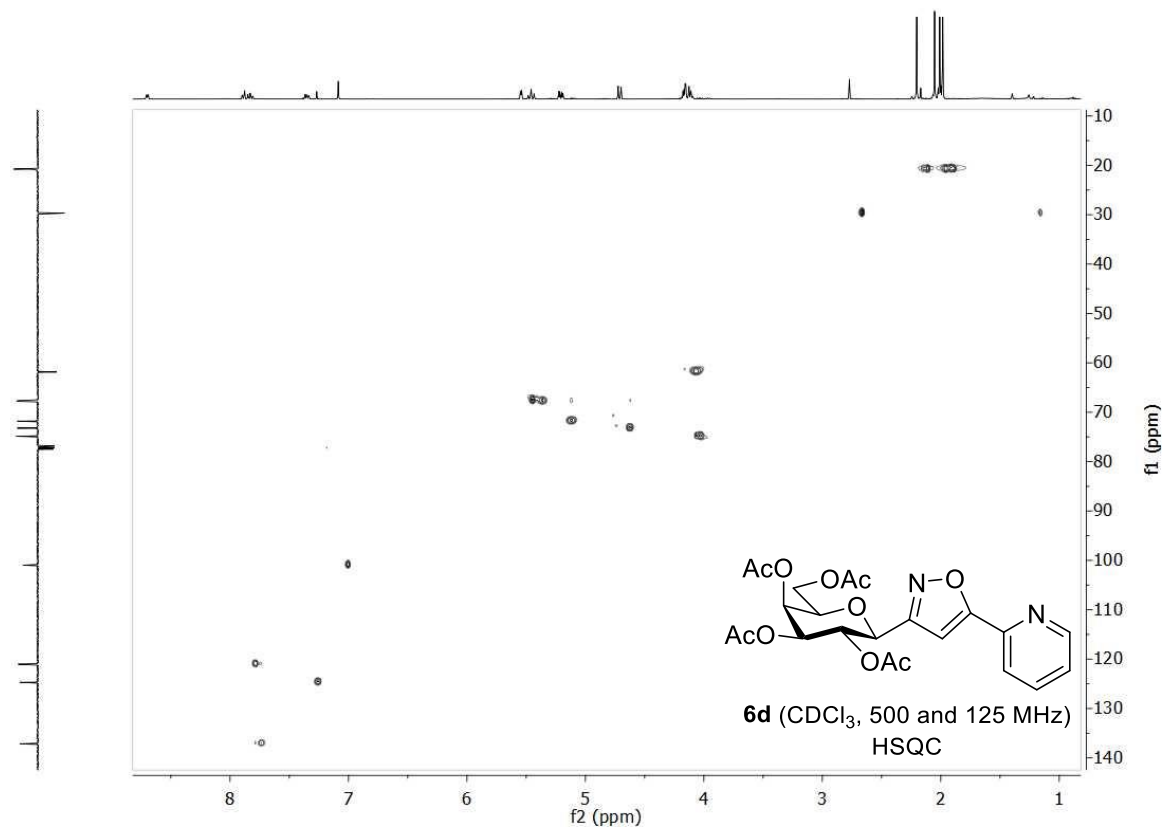


Figure S33. ^1H - ^{13}C HSQC spectrum of **6d**

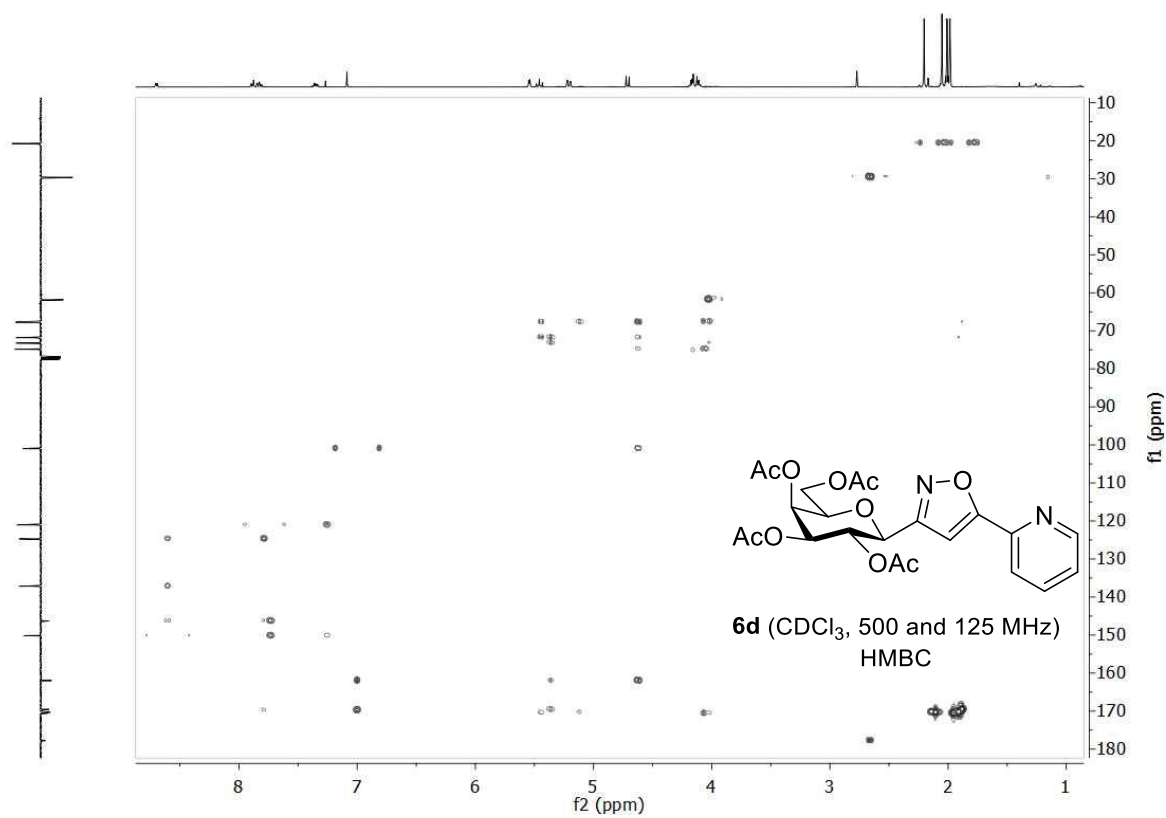


Figure S34. ^1H - ^{13}C HMBC spectrum of **6d**

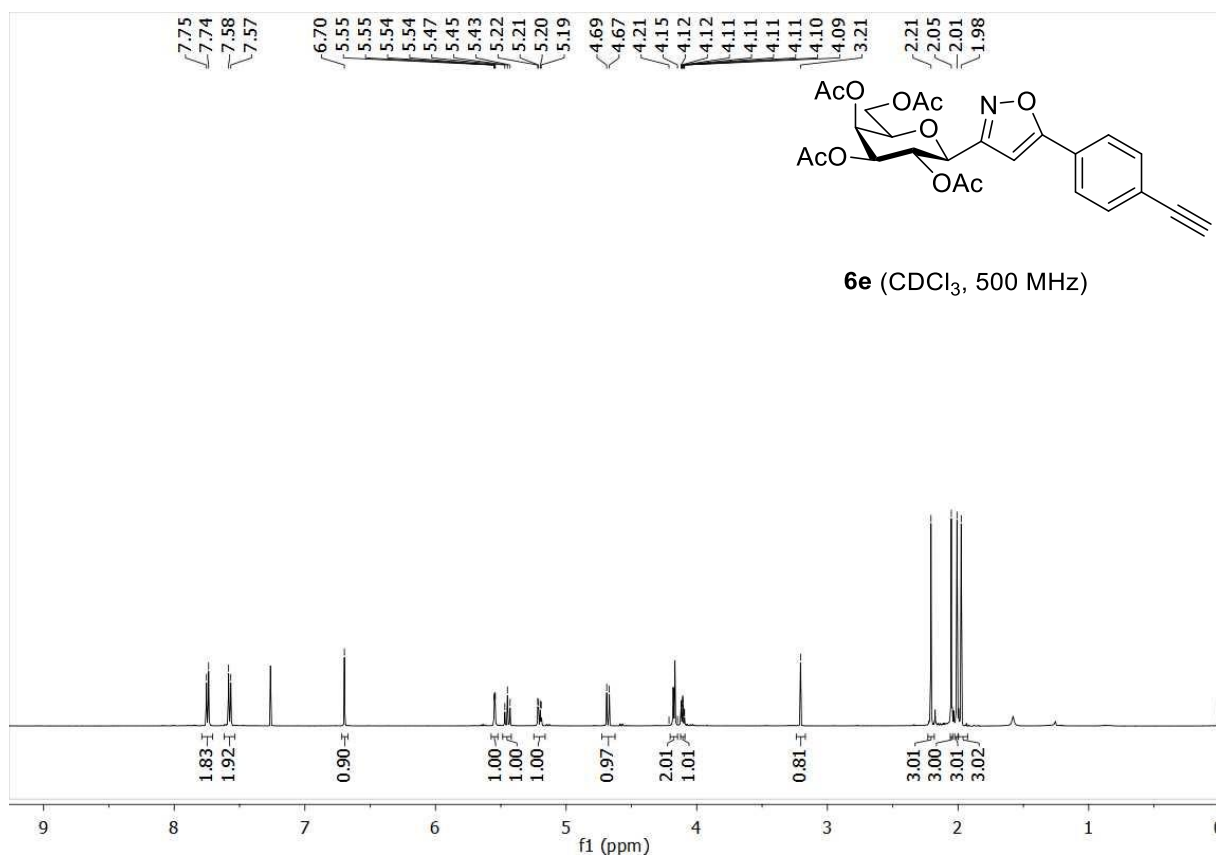


Figure S35. ¹H NMR spectrum of **6e**

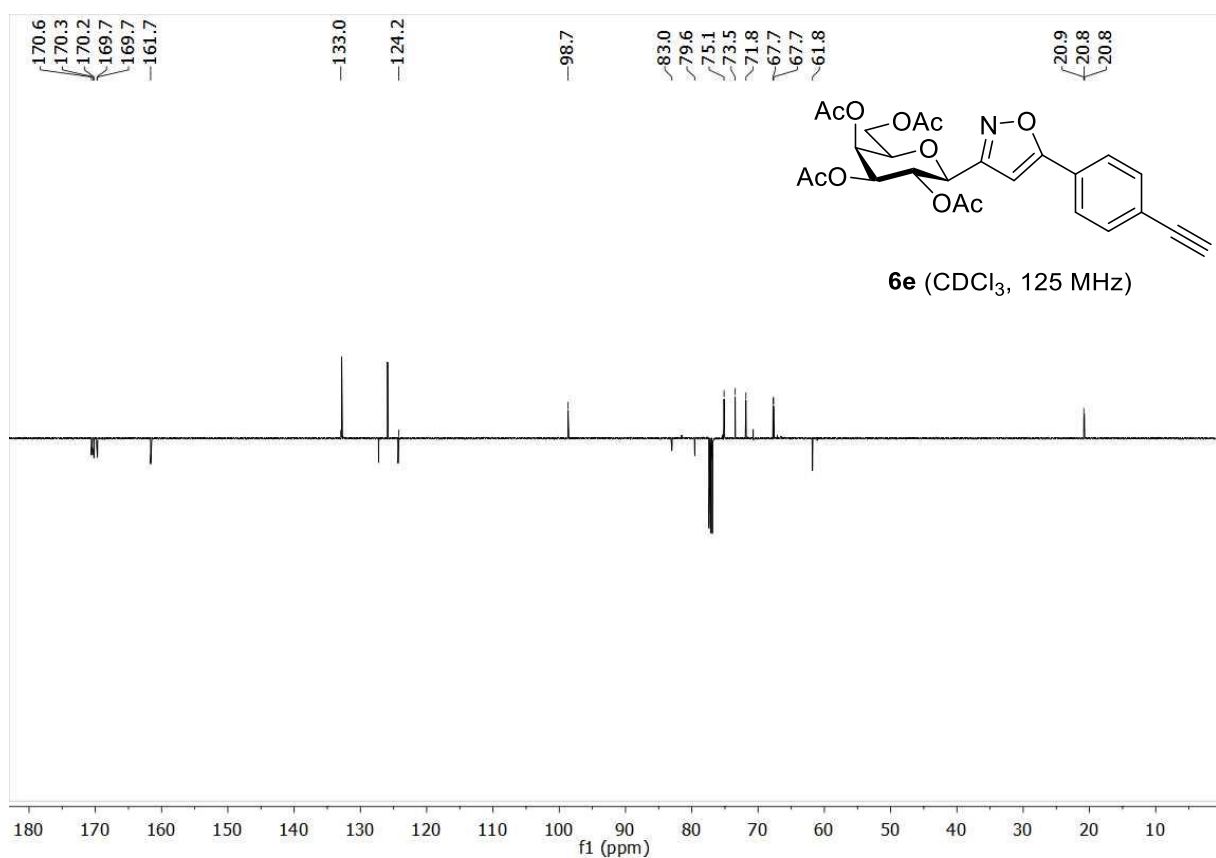


Figure S36. ¹³C NMR spectrum of **6e**

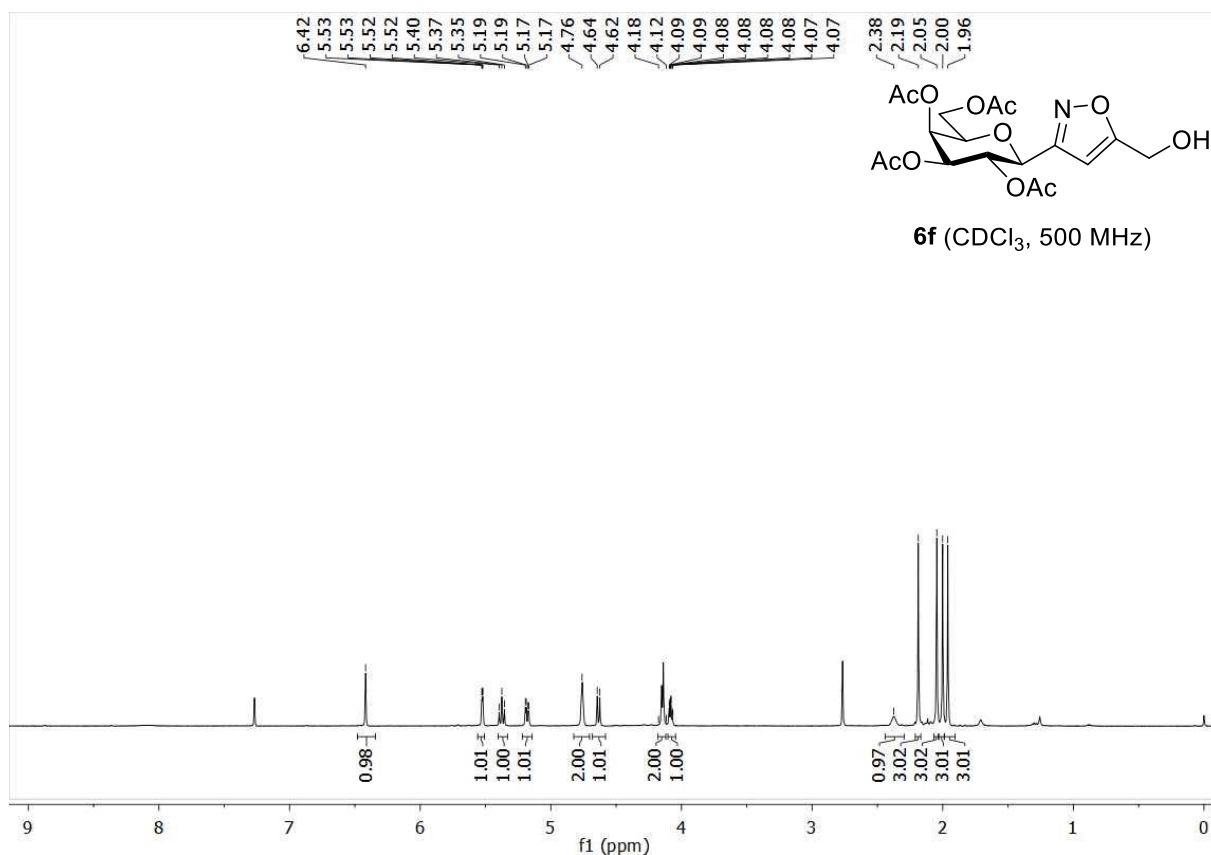


Figure S37. ¹H NMR spectrum of **6f**

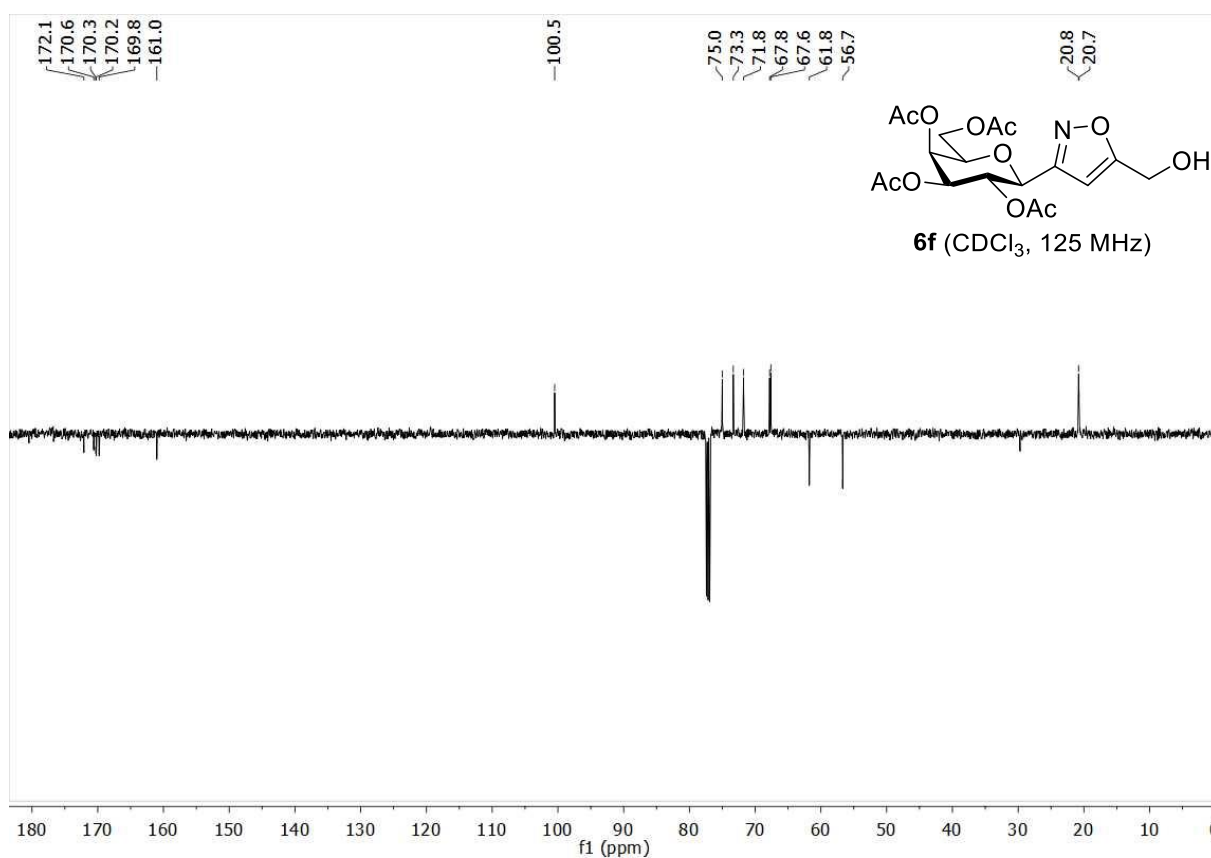


Figure S38. ¹³C NMR spectrum of **6f**

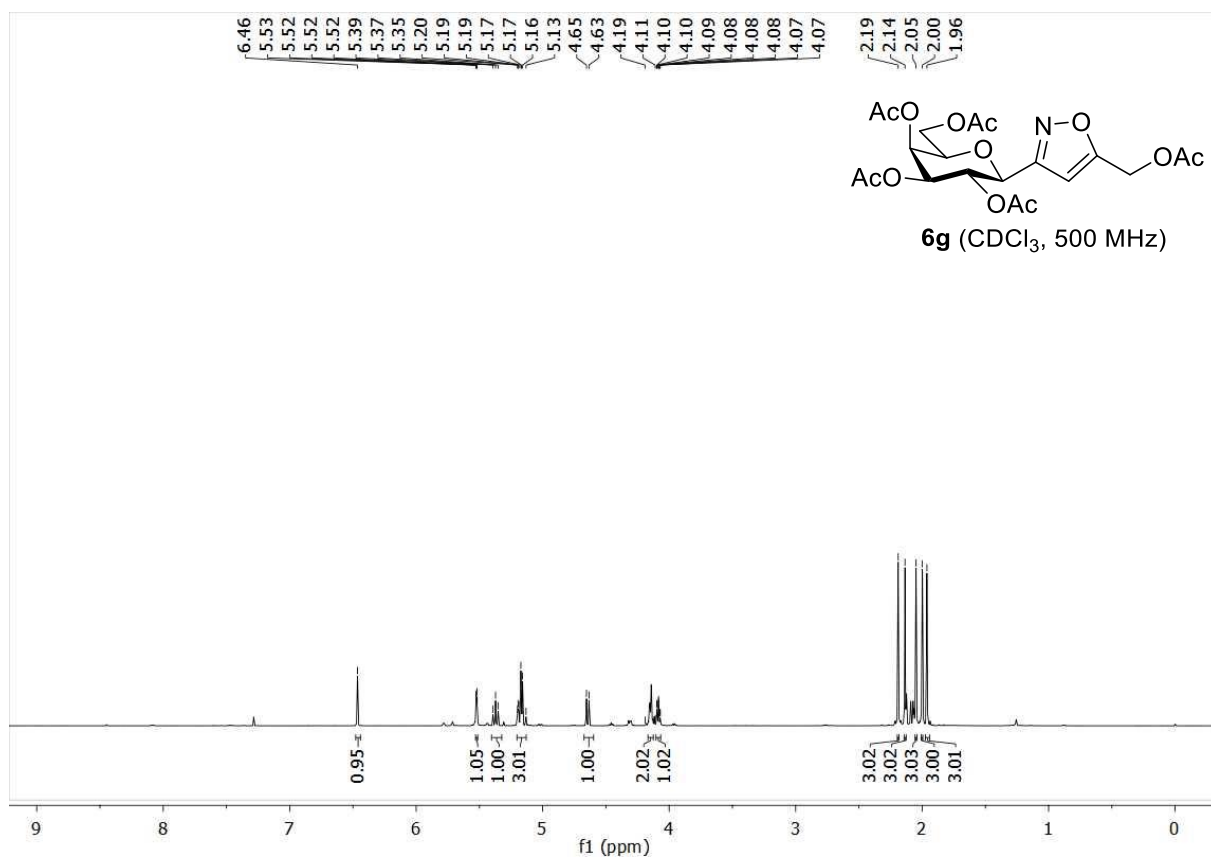


Figure S39. ¹H NMR spectrum of **6g**

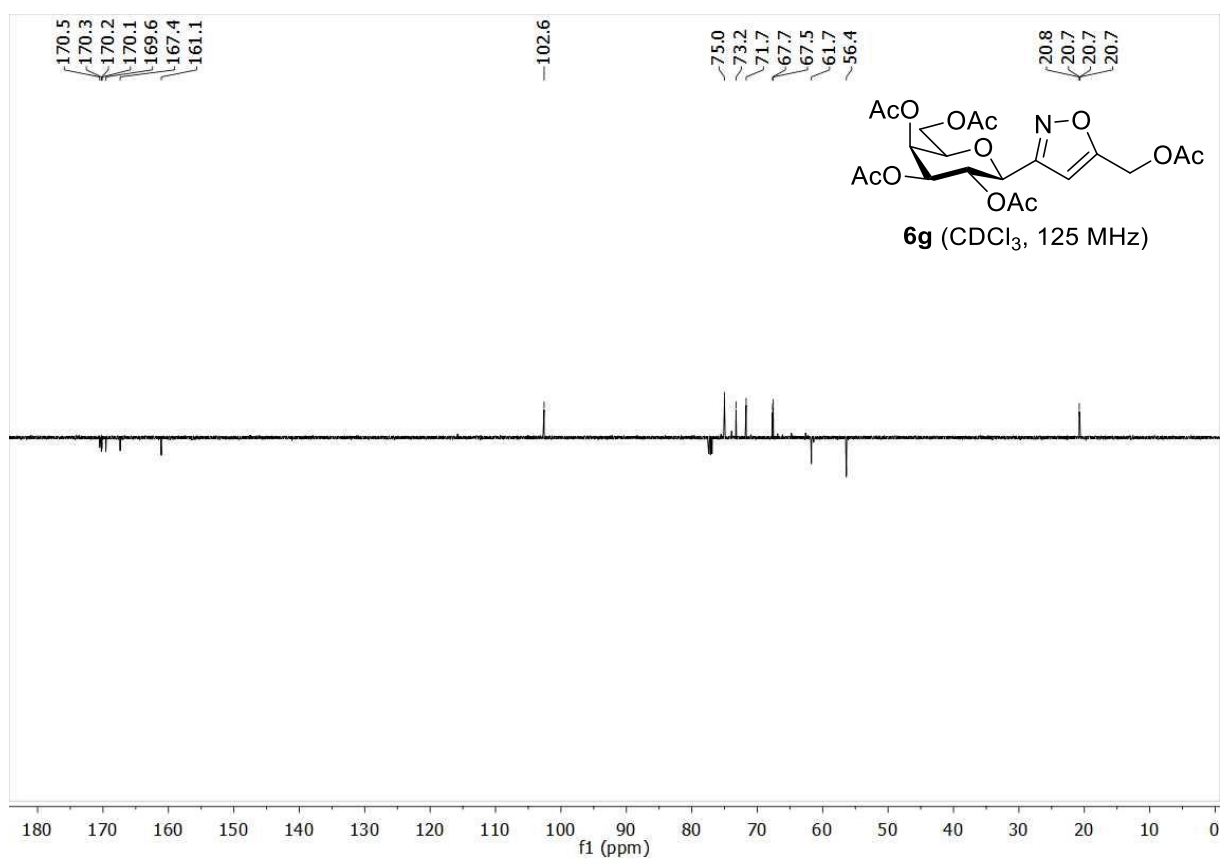
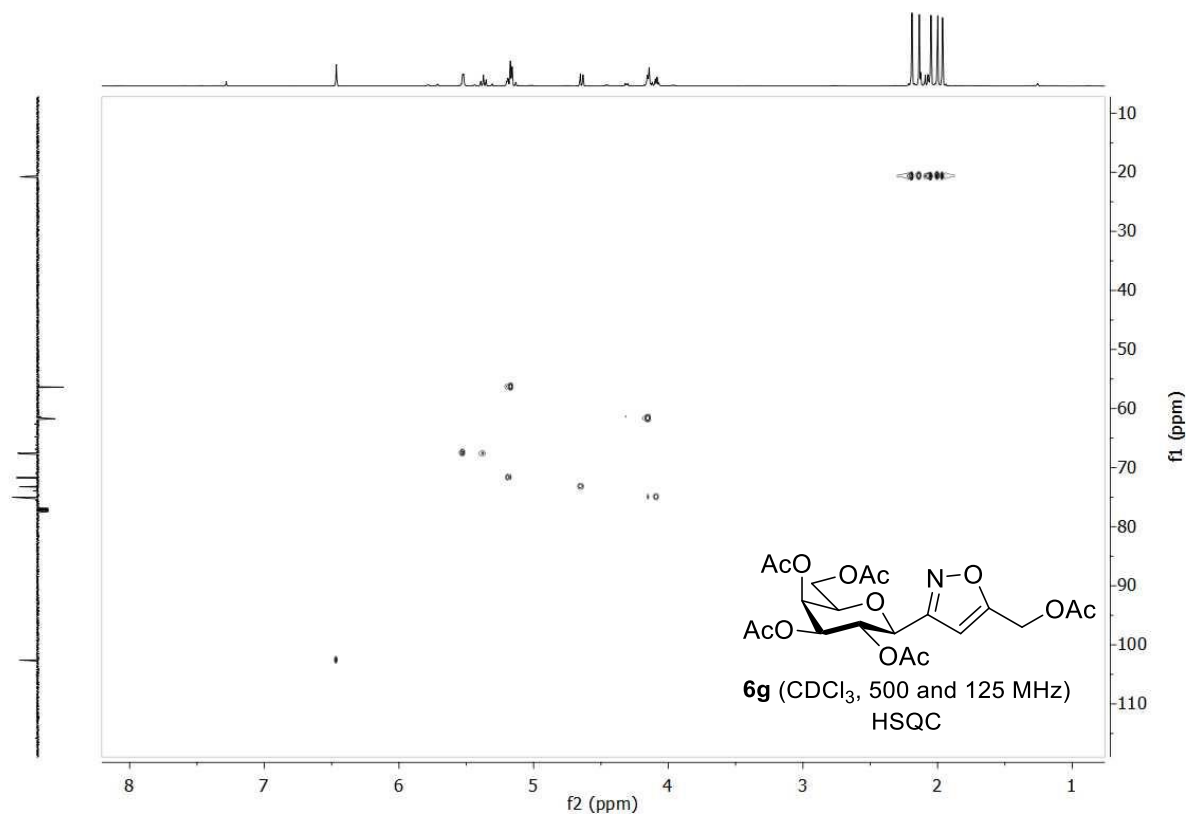
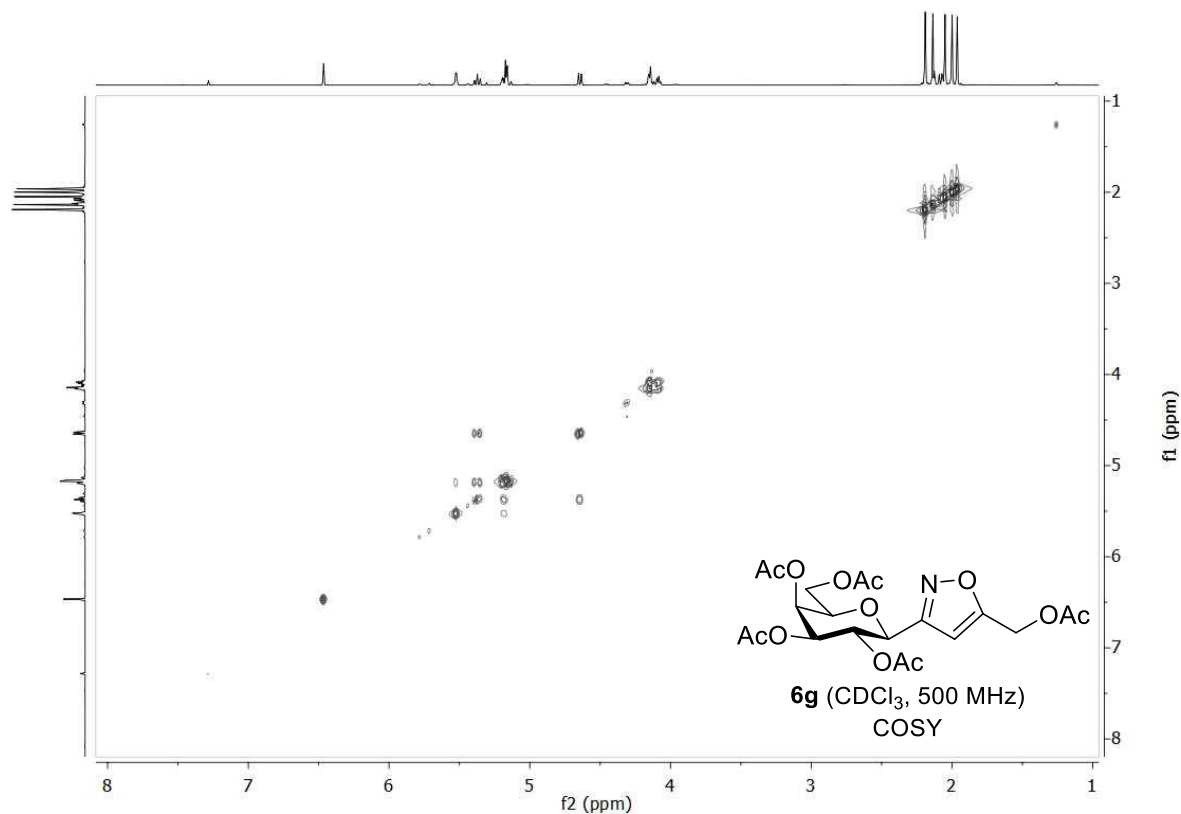


Figure S40. ¹³C NMR spectrum of **6g**



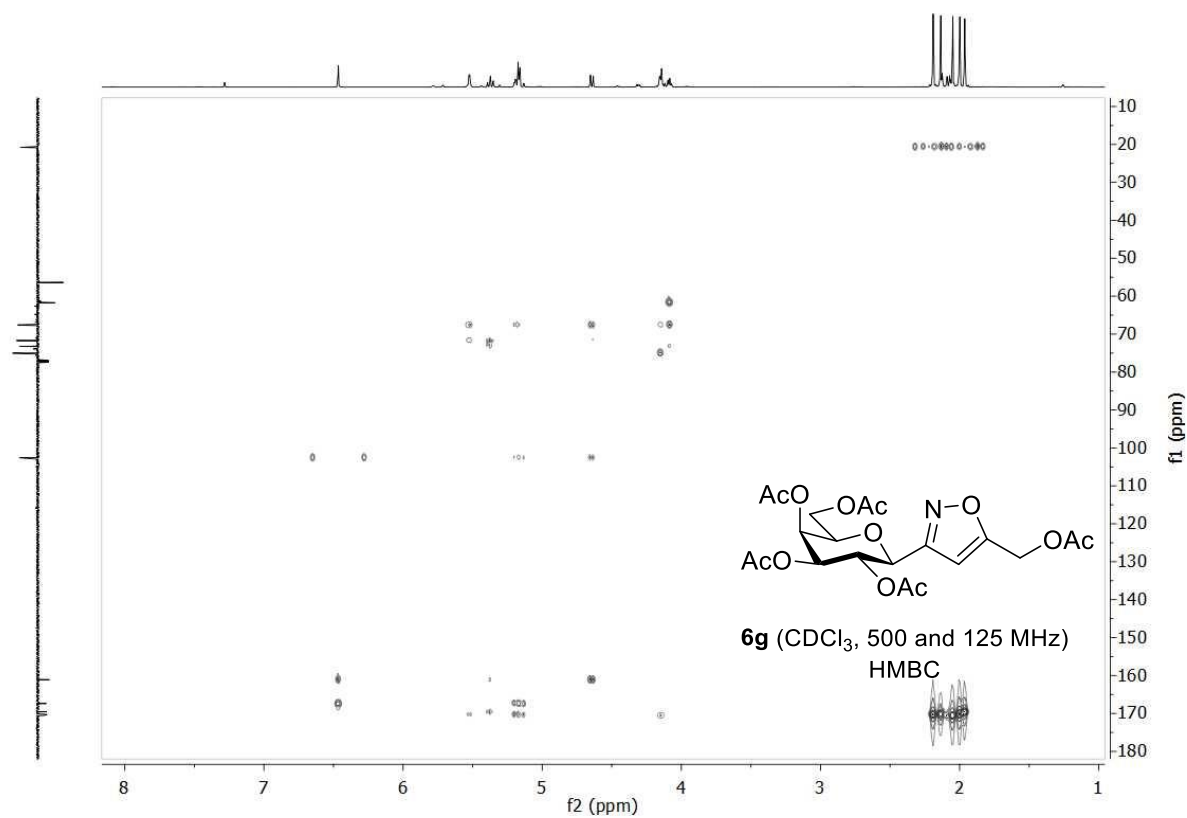


Figure S43. ^1H - ^{13}C HMBC spectrum of **6g**

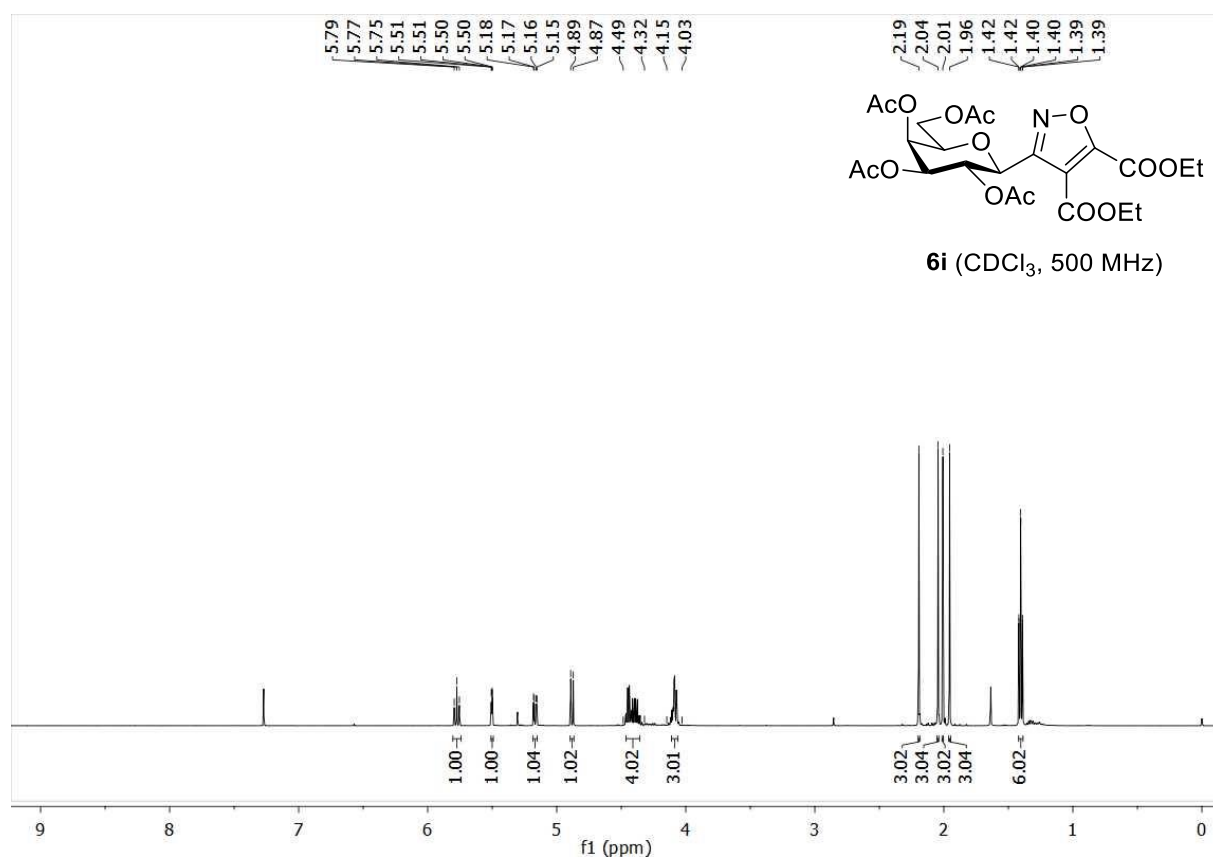


Figure S44. ¹H NMR spectrum of **6i**

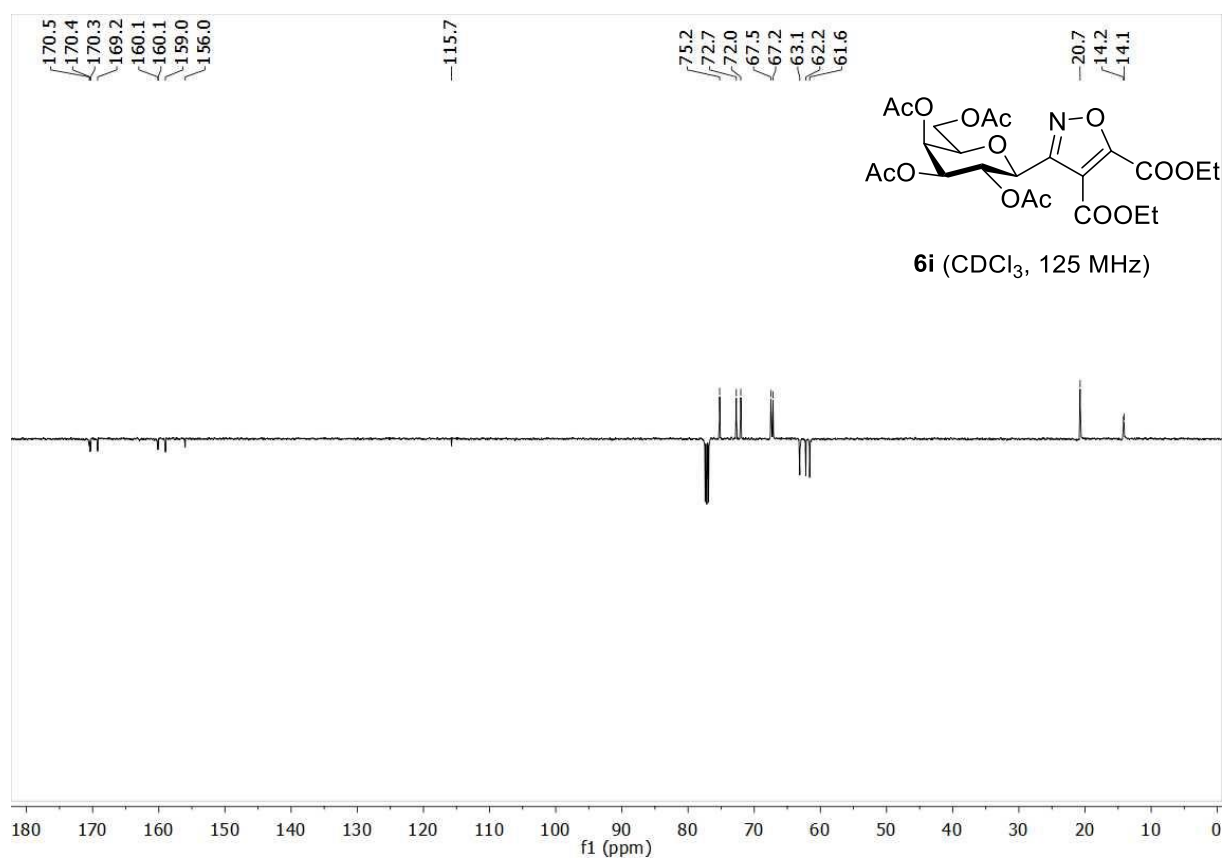


Figure S45. ¹³C NMR spectrum of **6i**

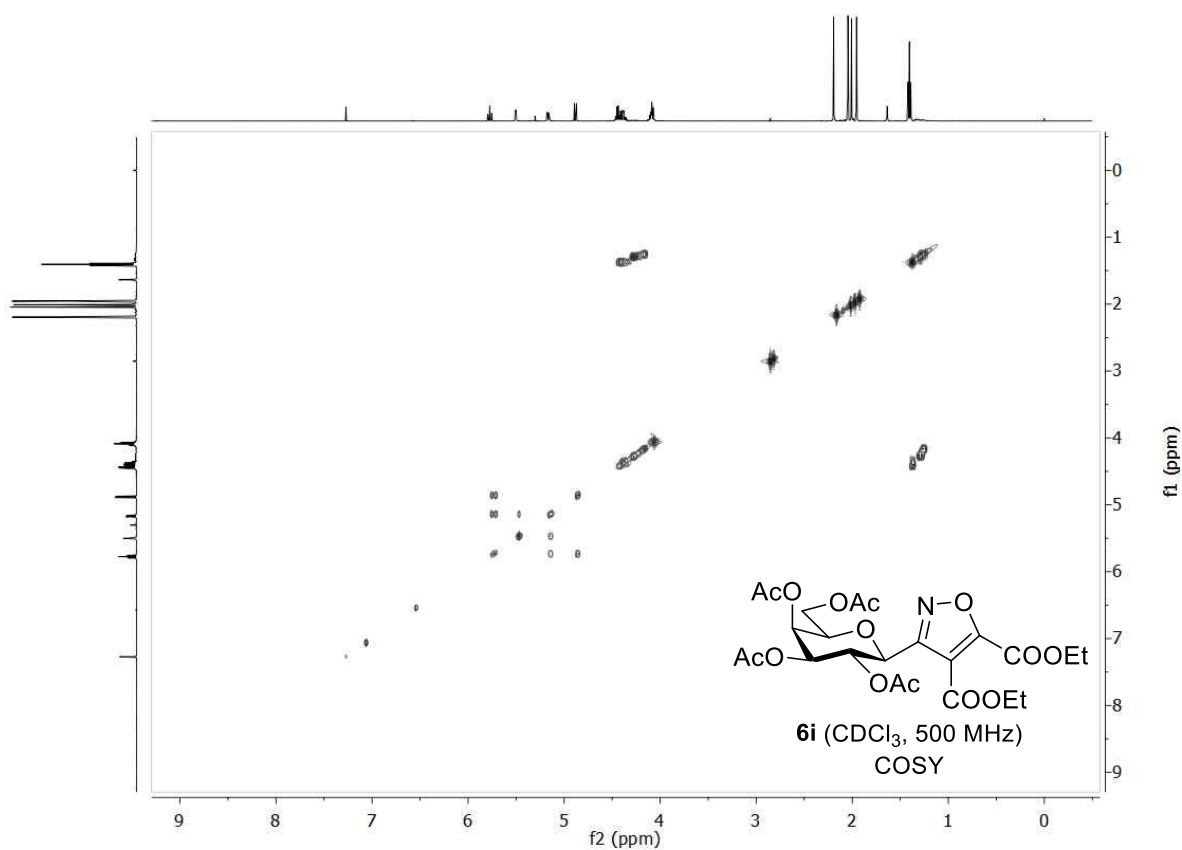


Figure S46. ^1H - ^1H COSY spectrum of **6i**

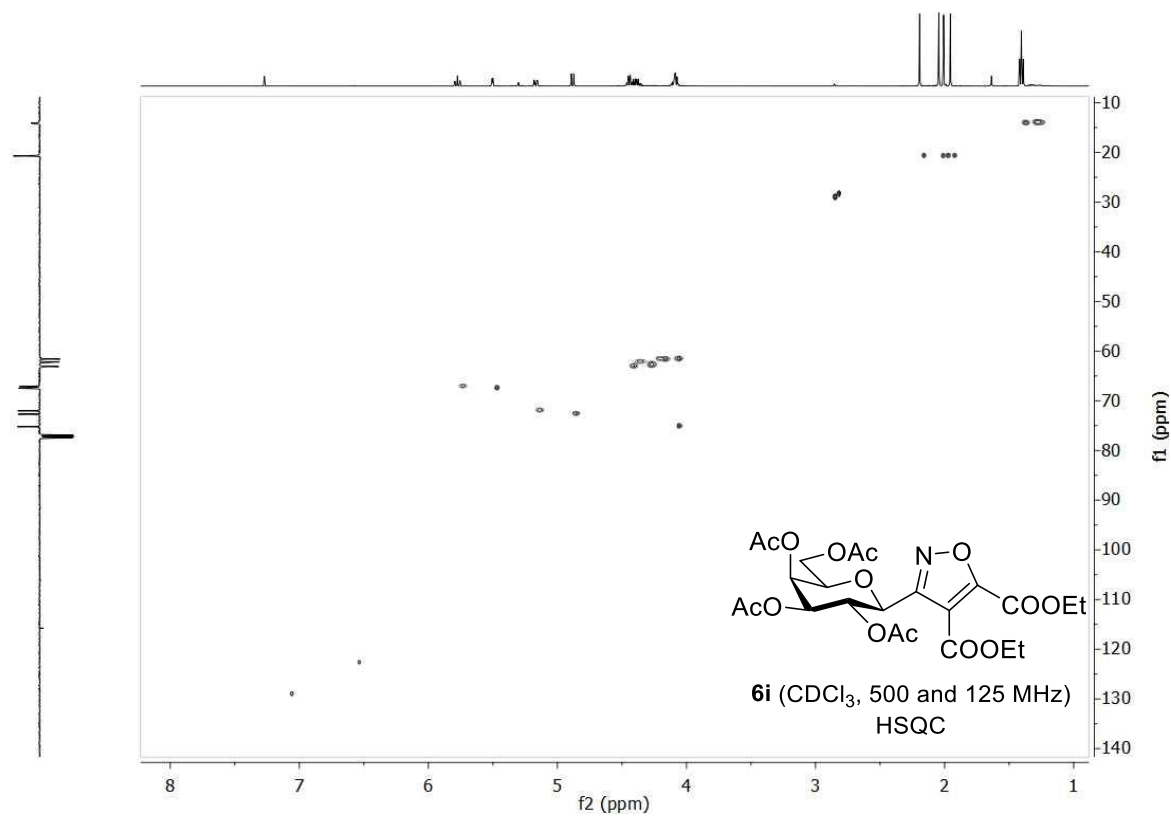


Figure S47. ^1H - ^{13}C HSQC spectrum of **6i**

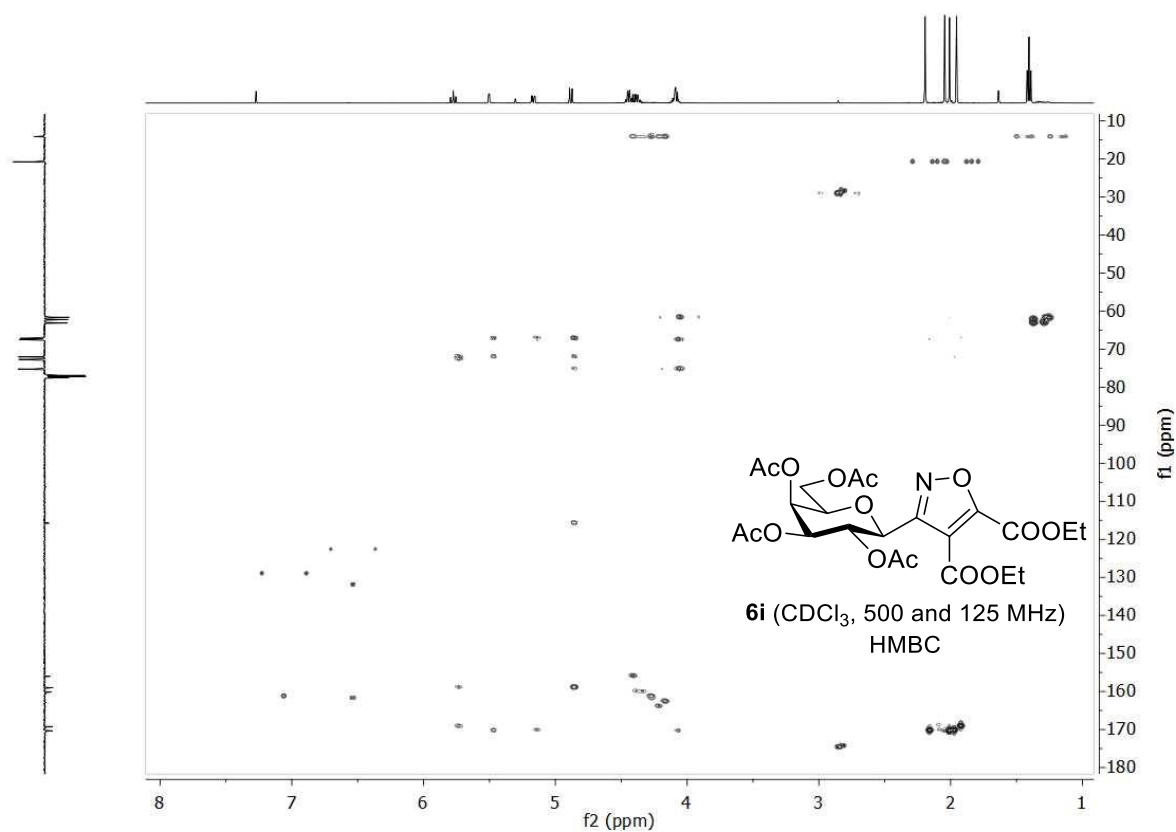


Figure S48. ^1H - ^{13}C HMBC spectrum of **6i**

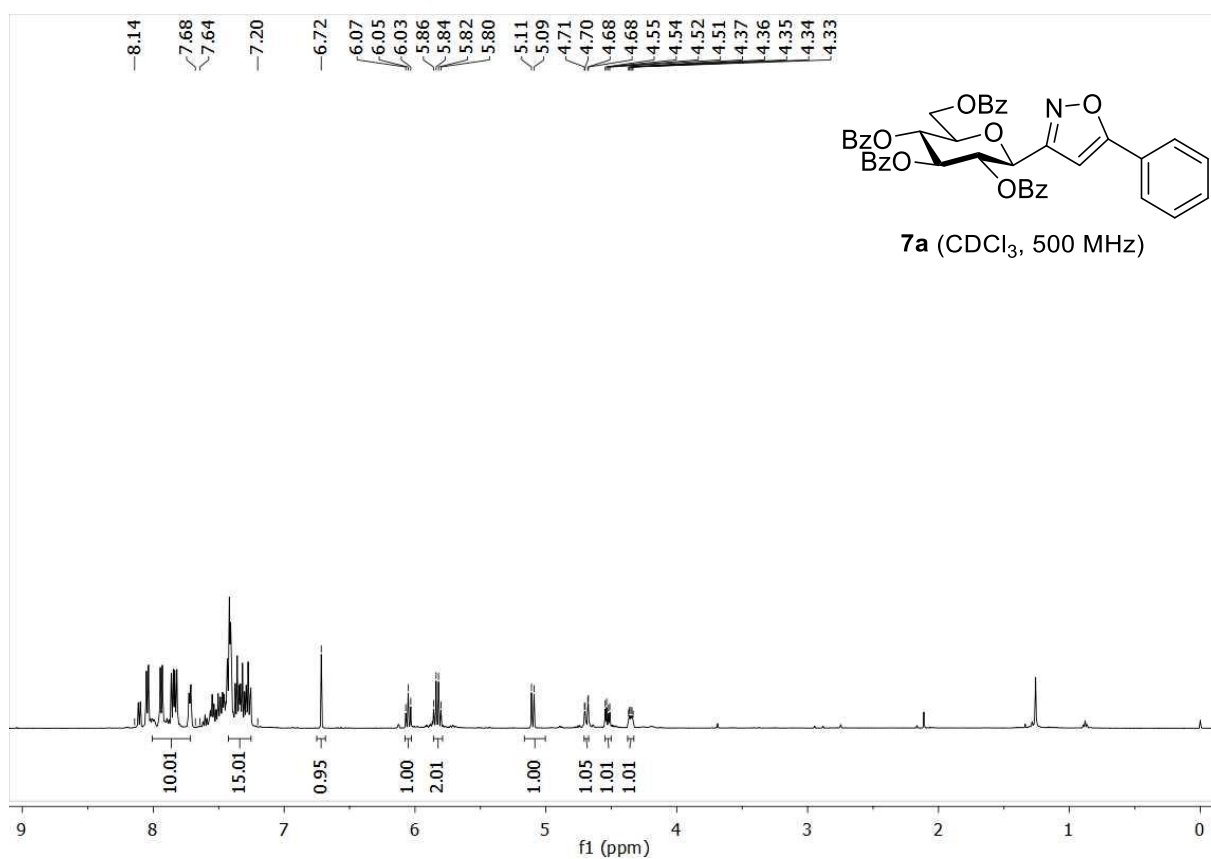


Figure S49. ¹H NMR spectrum of **7a**

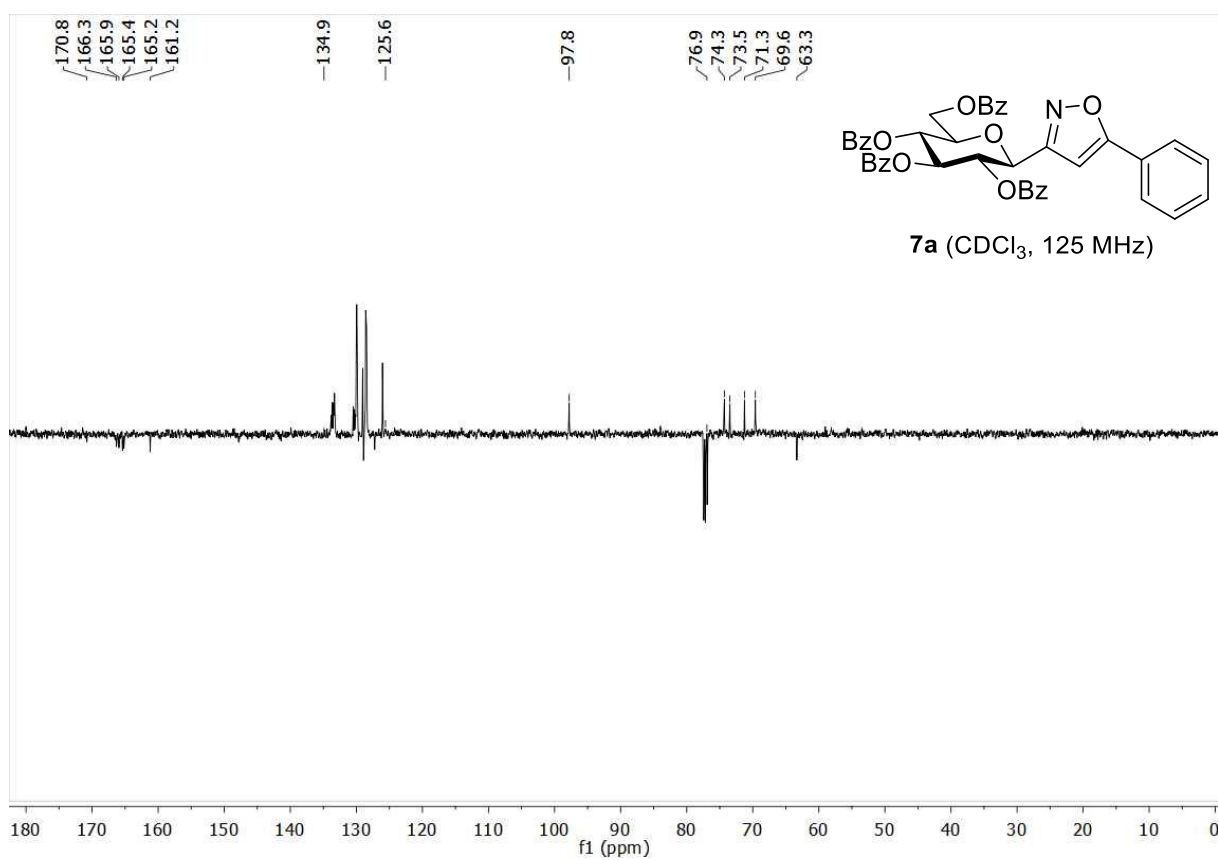


Figure S50. ¹³C NMR spectrum of **7a**

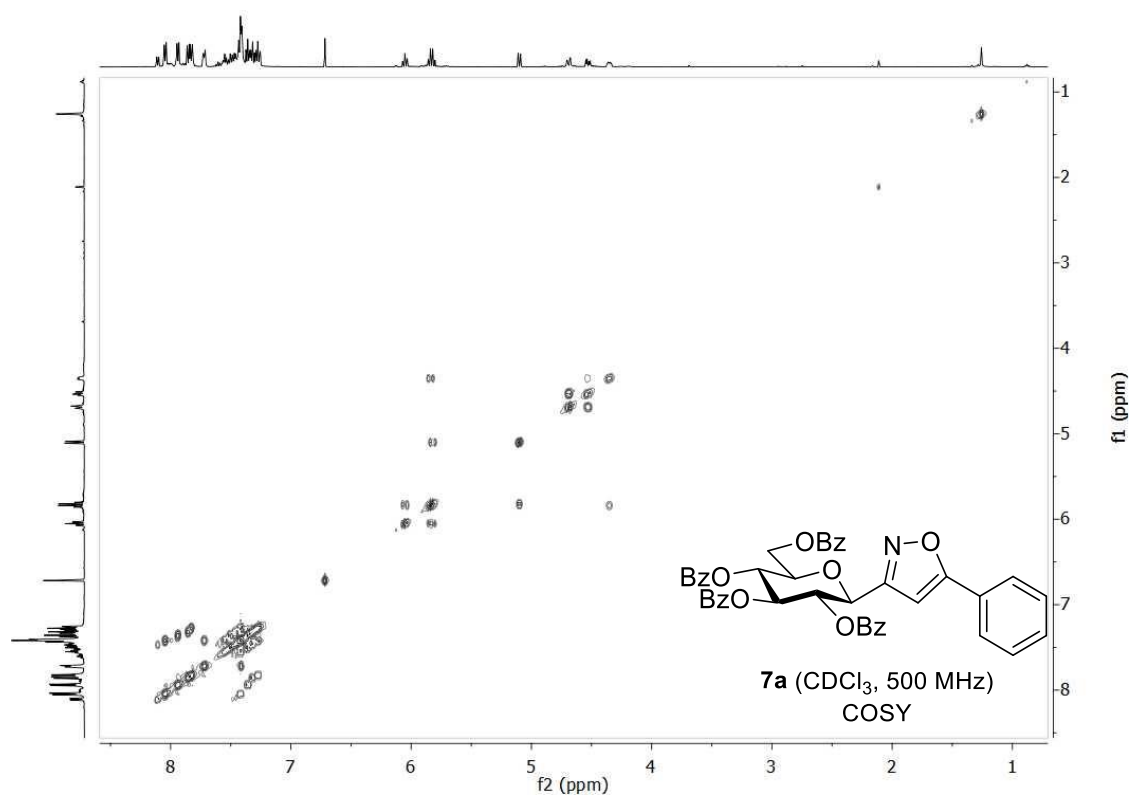


Figure S51. ^1H - ^1H COSY spectrum of **7a**

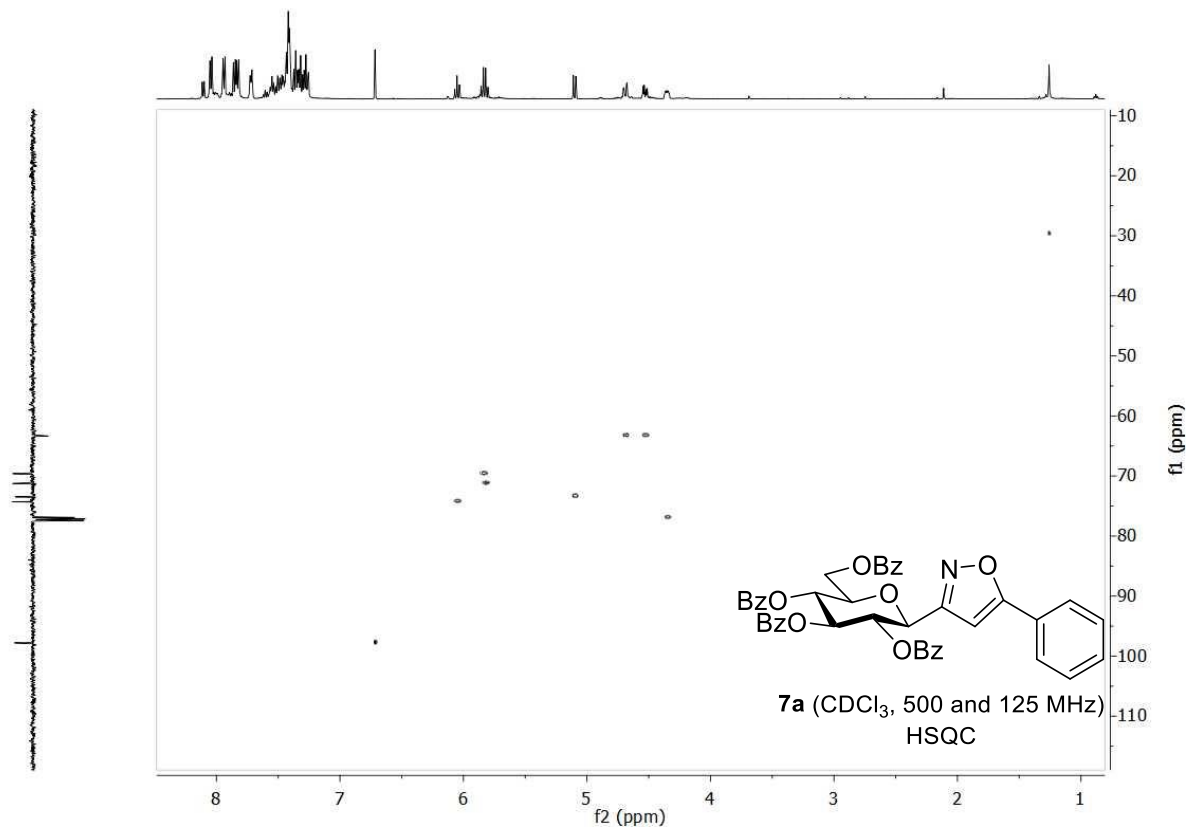


Figure S52. ^1H - ^{13}C HSQC spectrum of **7a**

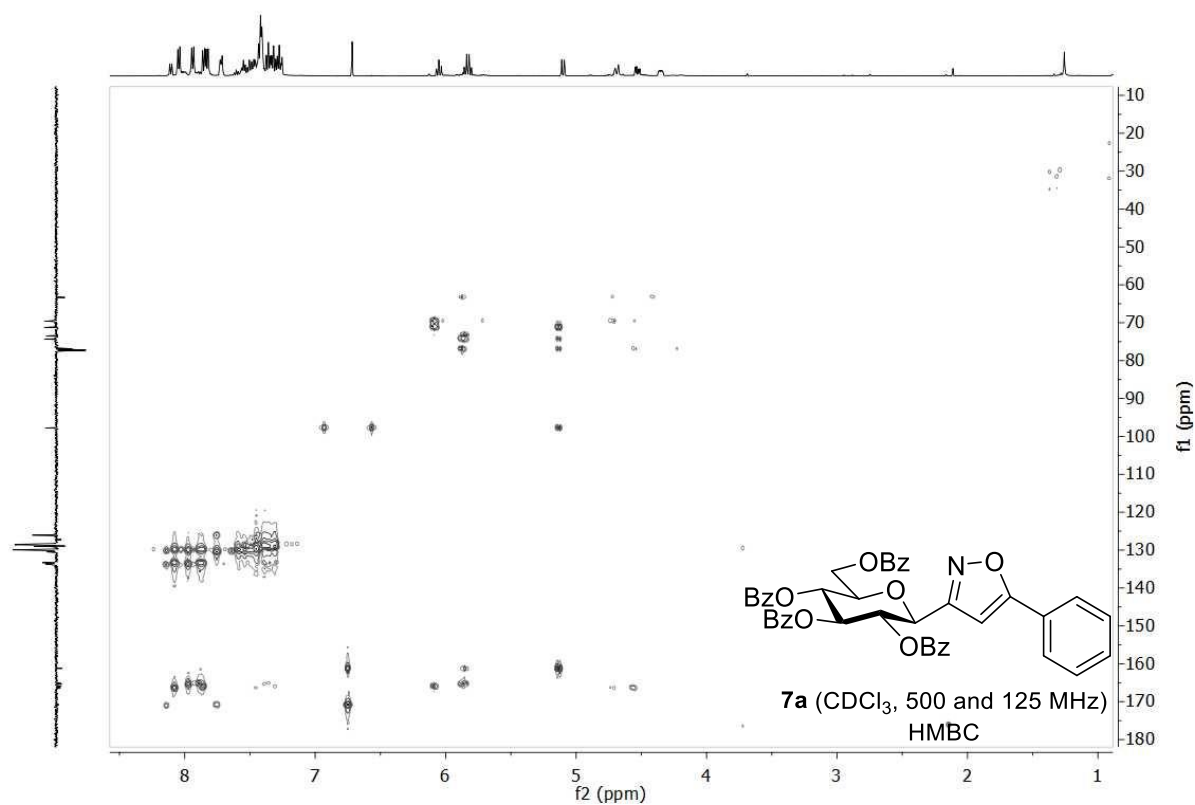


Figure S53. ^1H - ^{13}C HMBC spectrum of **7a**

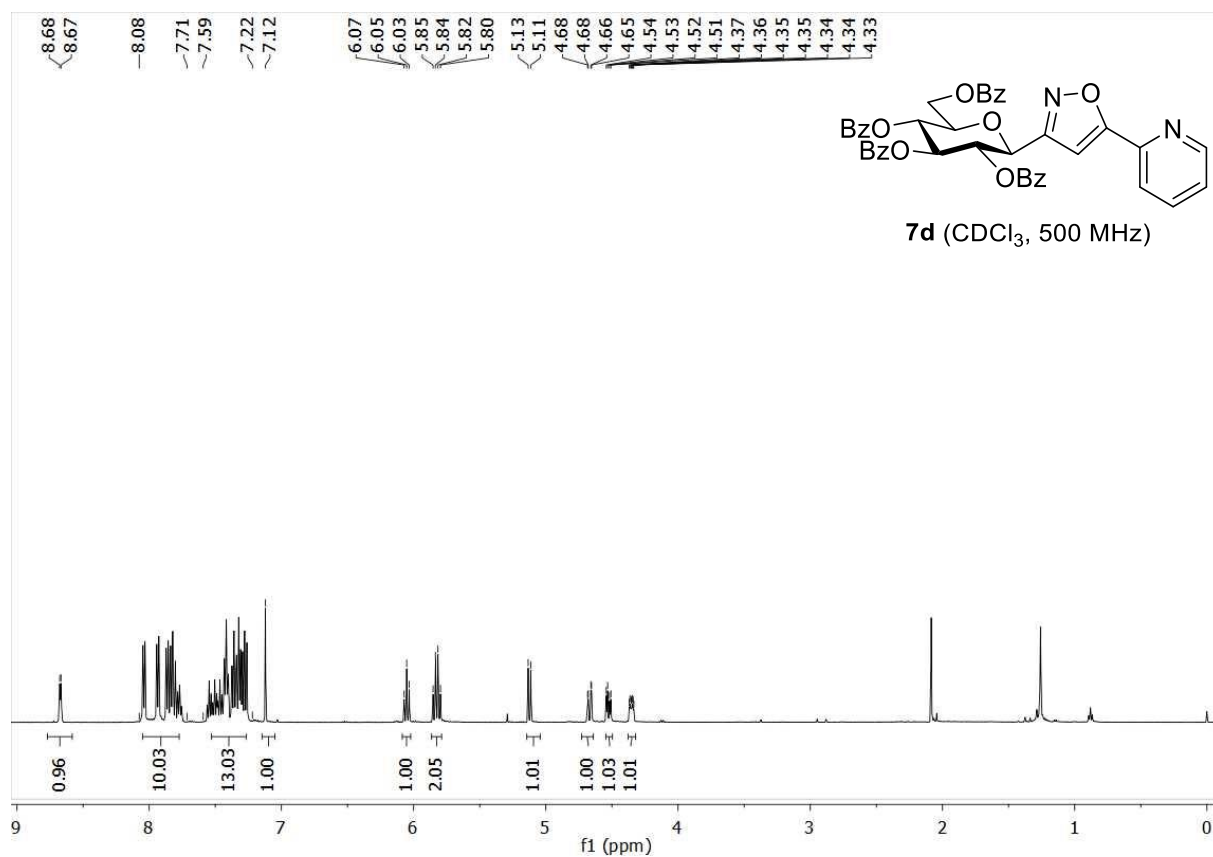


Figure S54. ¹H NMR spectrum of **7d**

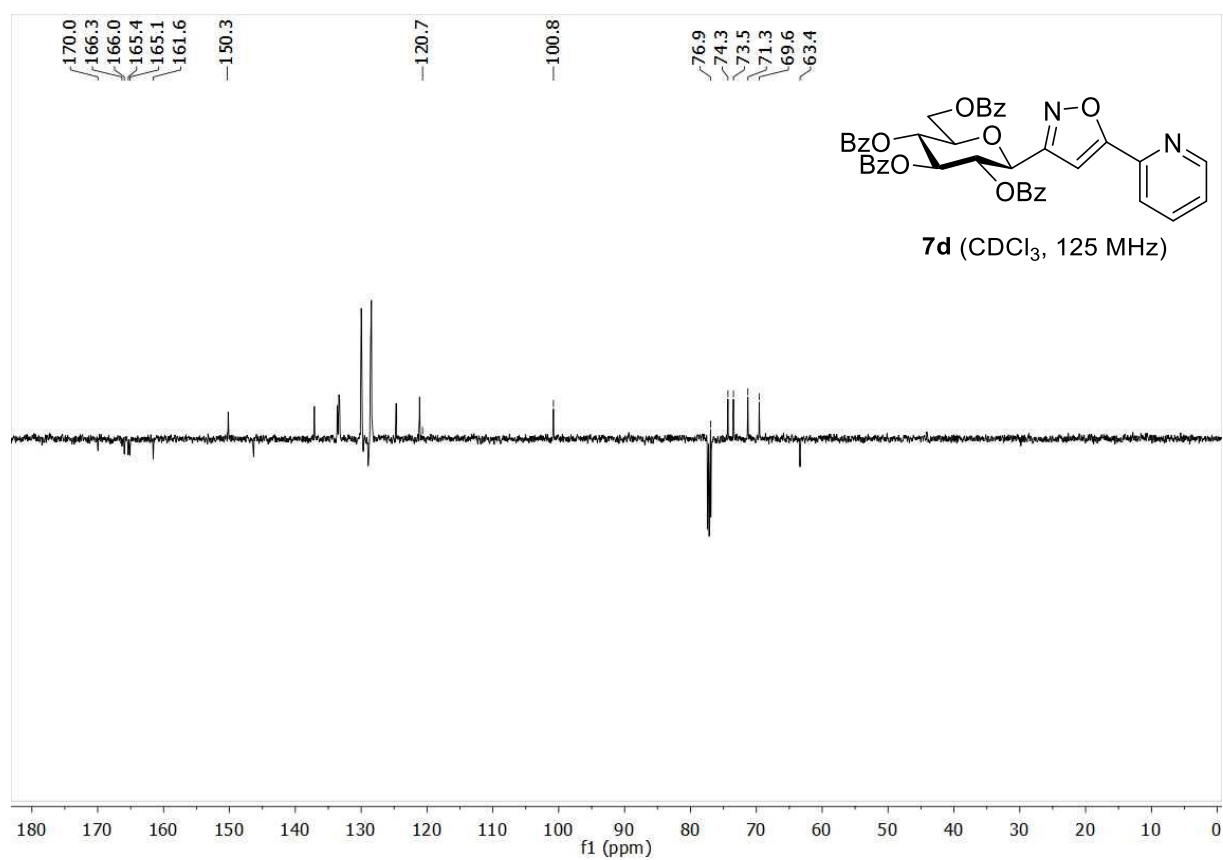


Figure S55. ¹³C NMR spectrum of **7d**

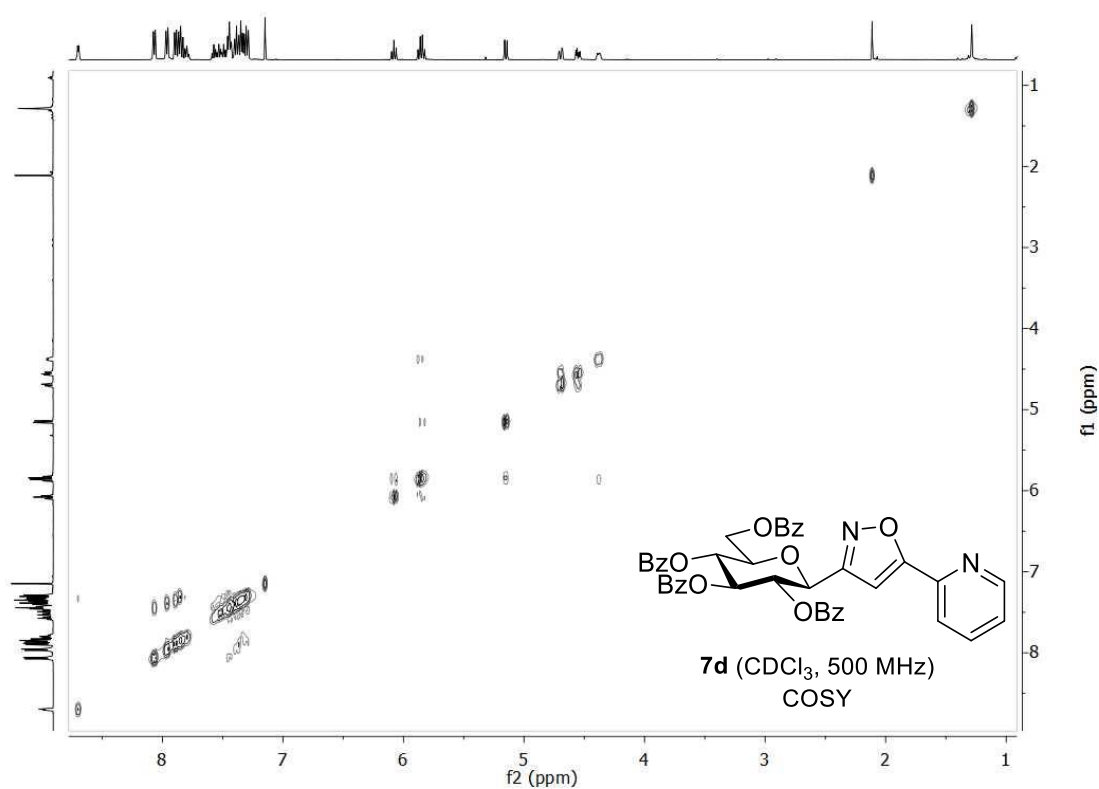


Figure S56. ¹H–¹H COSY spectrum of 7d

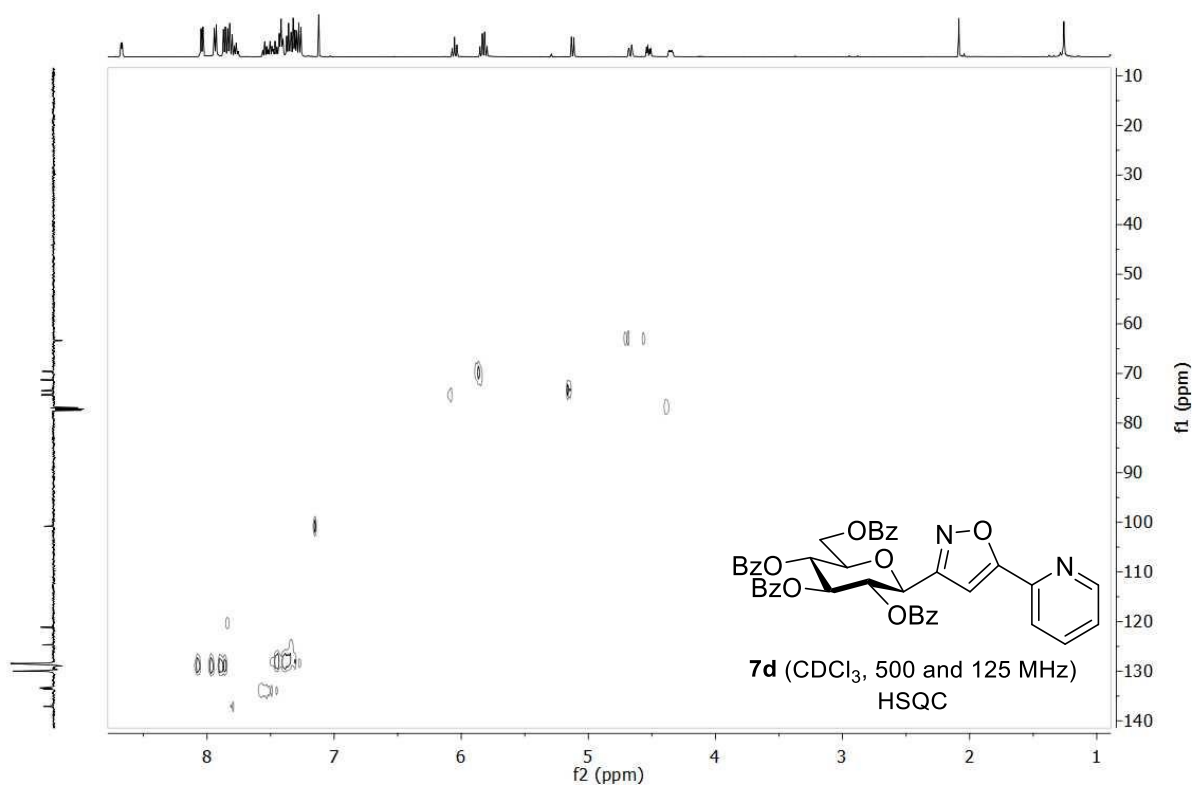


Figure S57. ¹H–¹³C HSQC spectrum of 7d

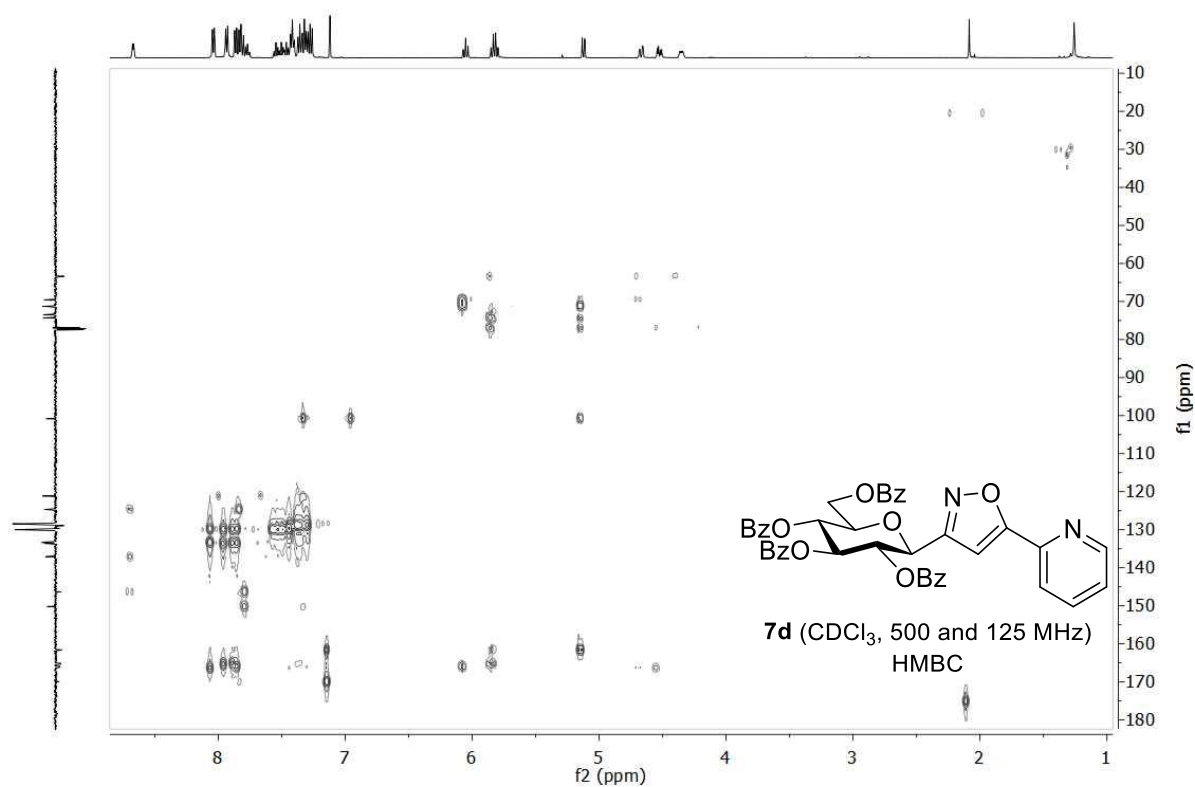


Figure S58. ^1H - ^{13}C HMBC spectrum of **7d**

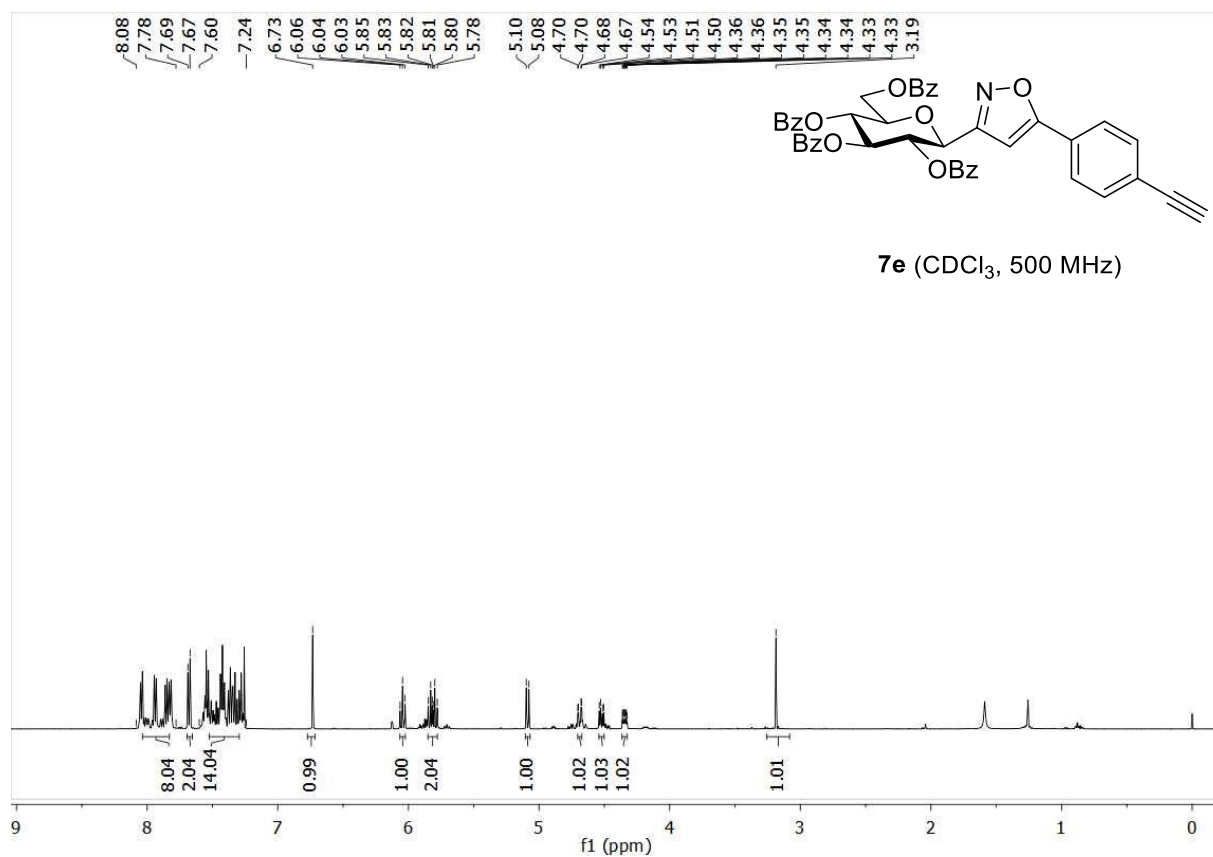


Figure S59. ¹H NMR spectrum of 7e

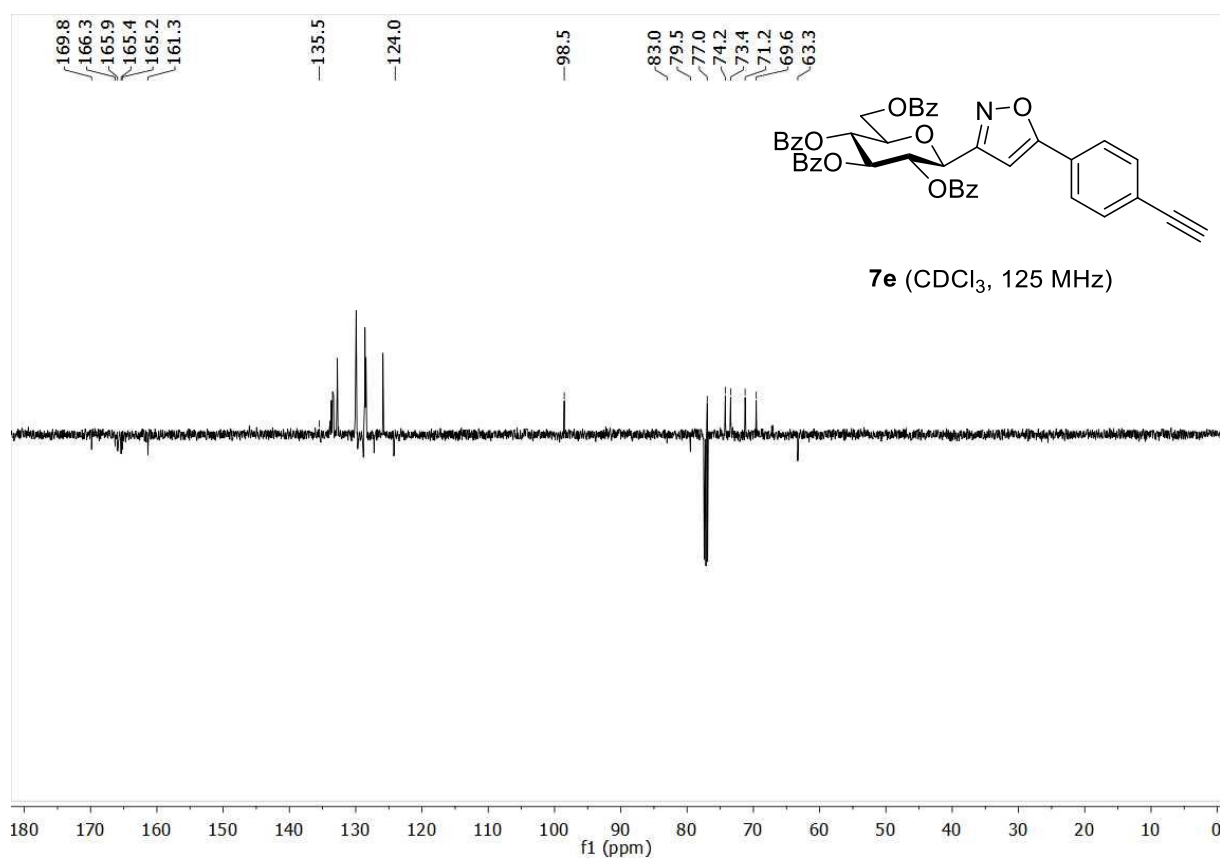
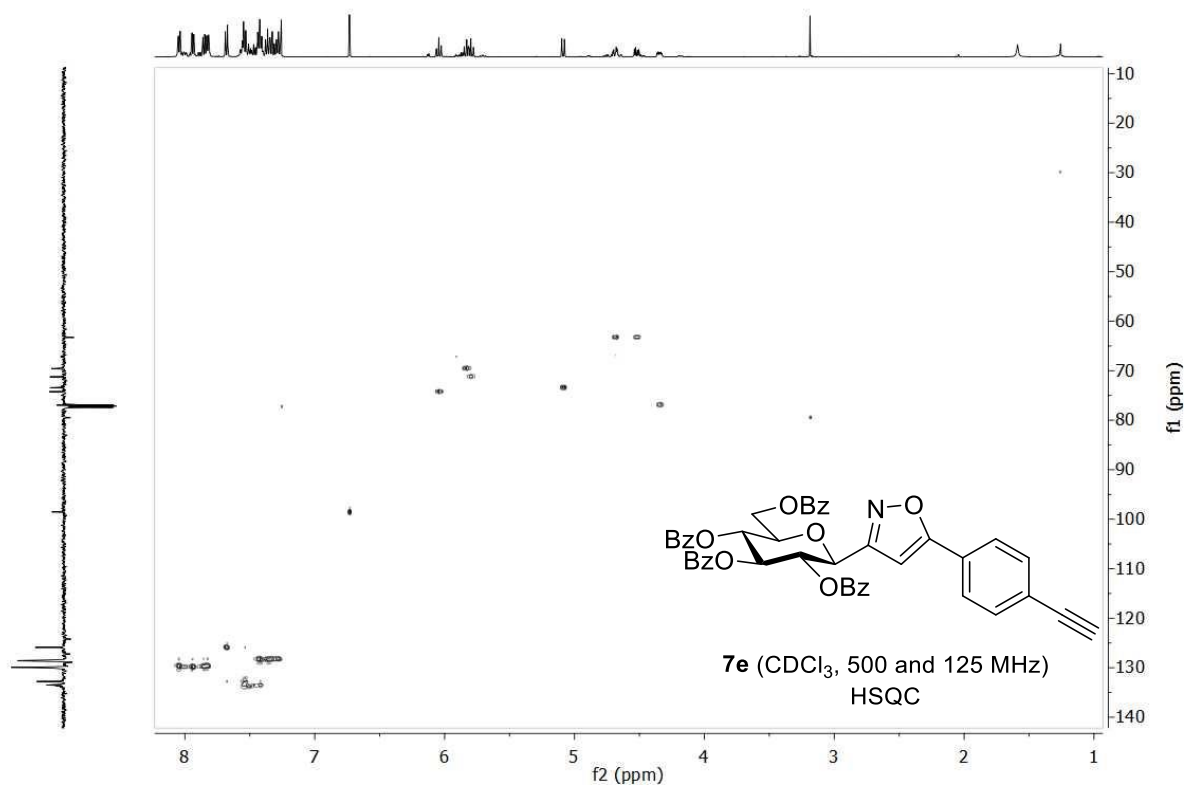
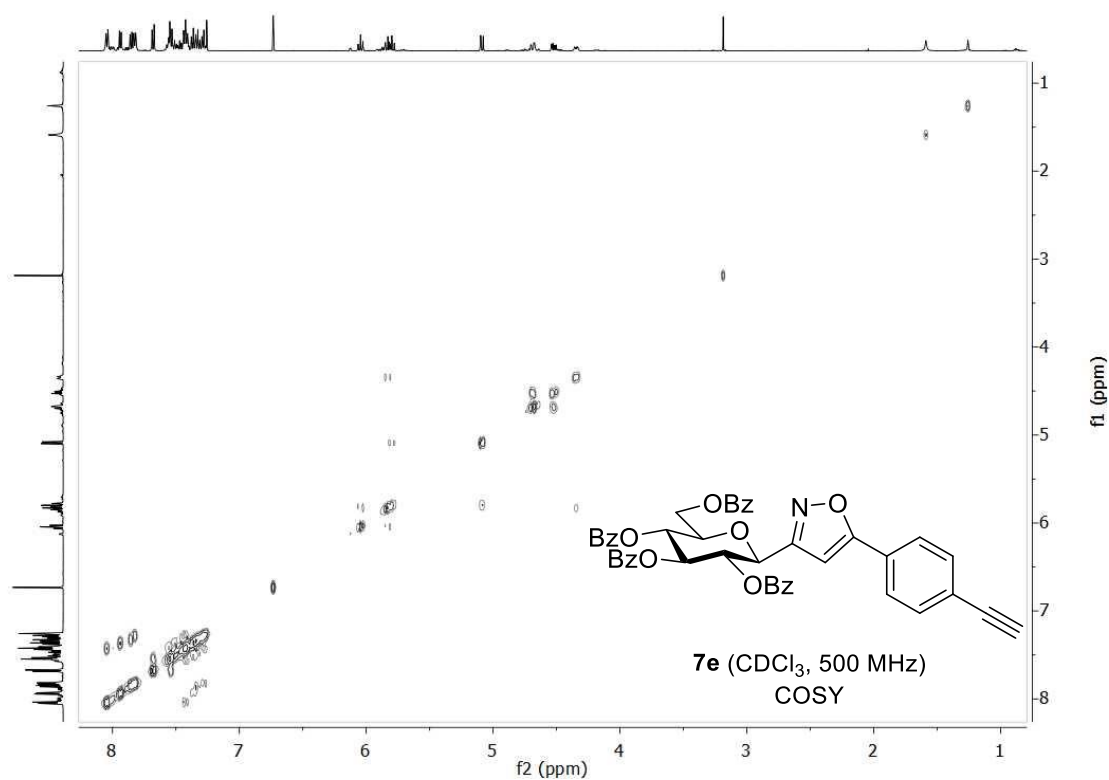


Figure S60. ¹³C NMR spectrum of 7e



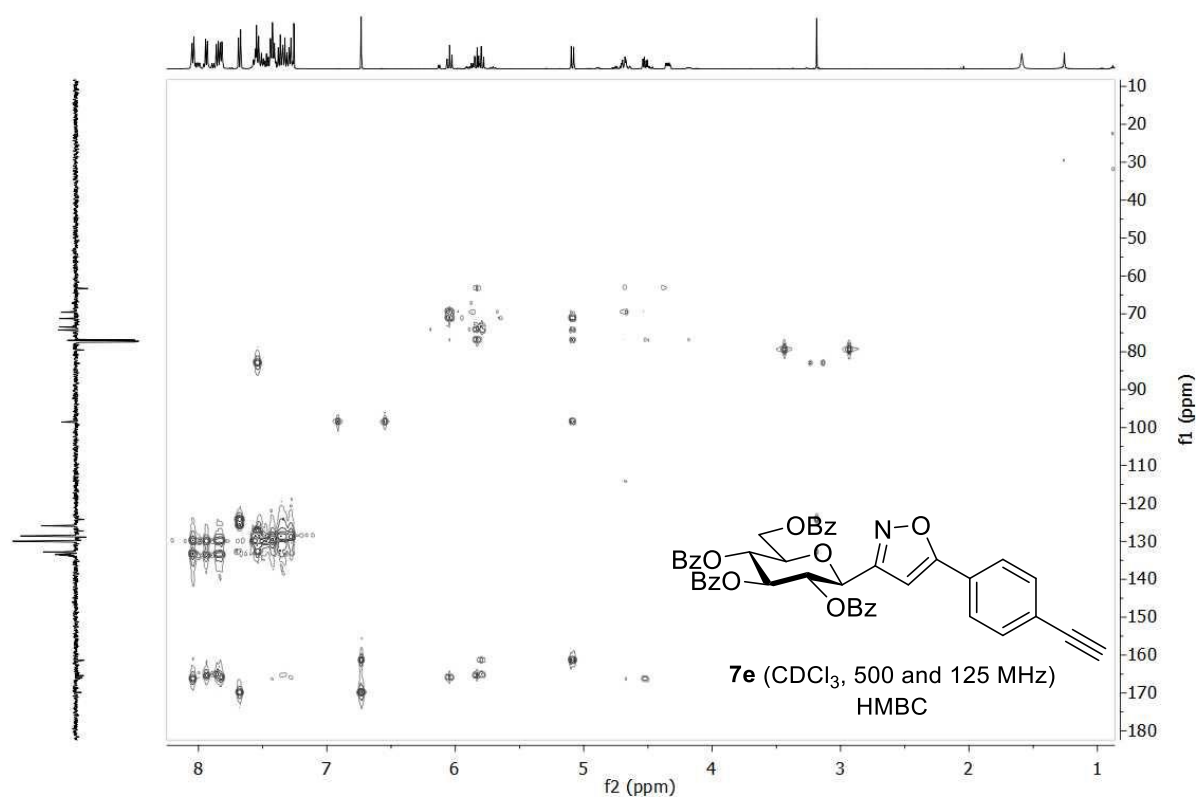


Figure S63. ^1H - ^{13}C HMBC spectrum of **7e**

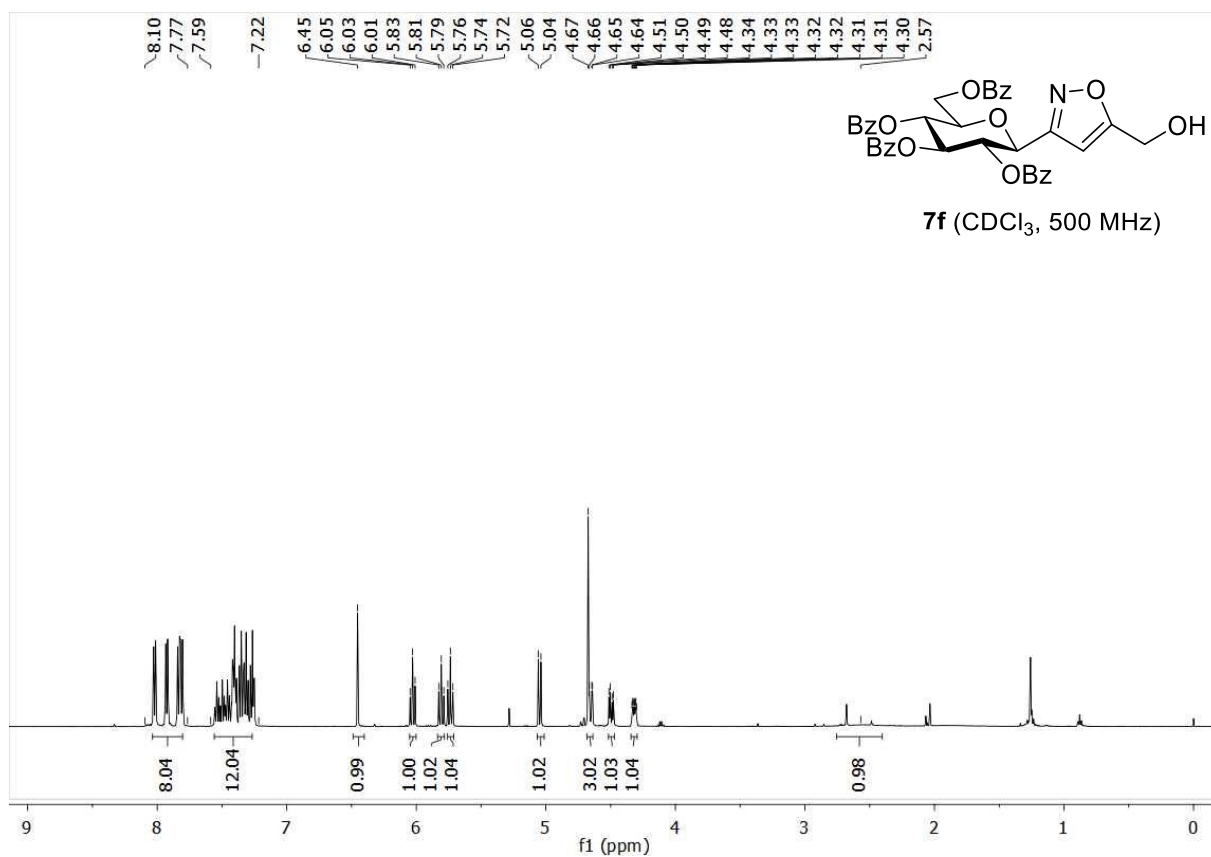


Figure S64. ¹H NMR spectrum of **7f**

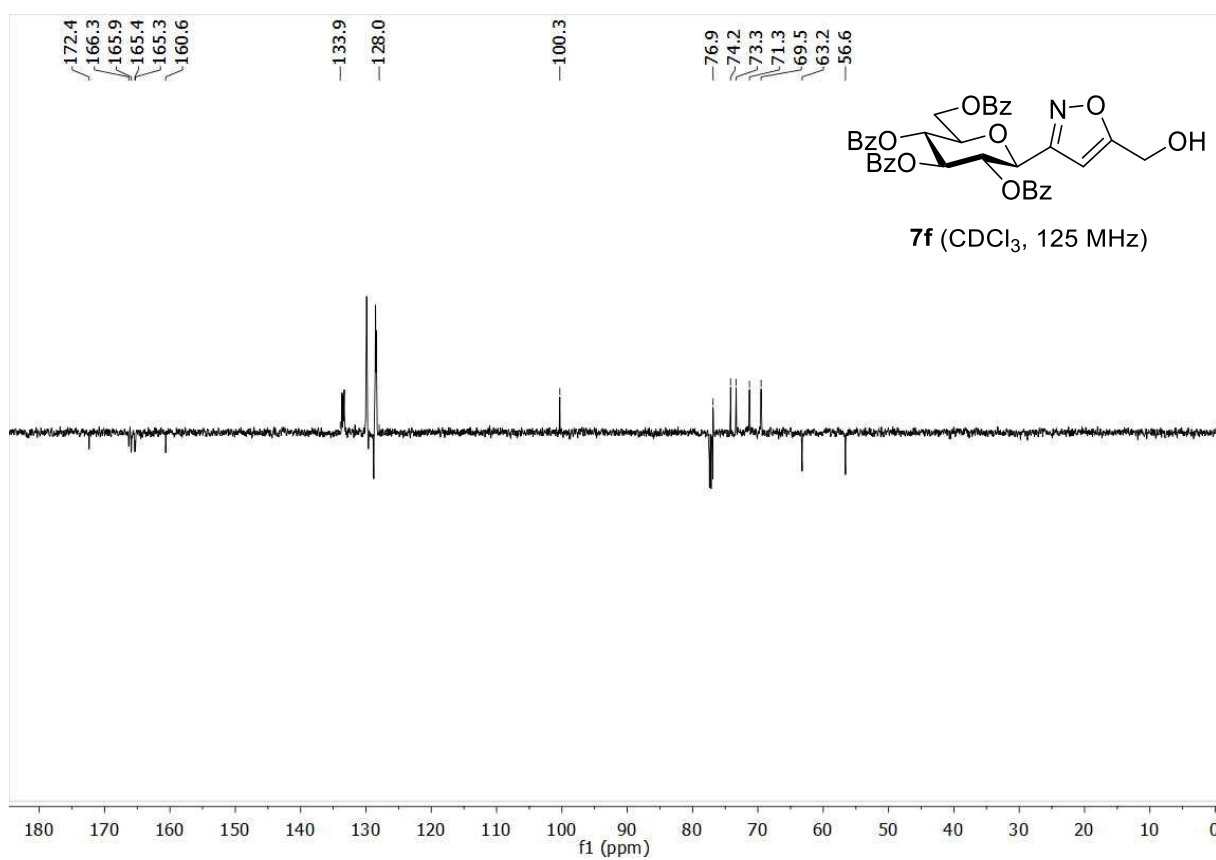


Figure S65. ¹³C NMR spectrum of **7f**

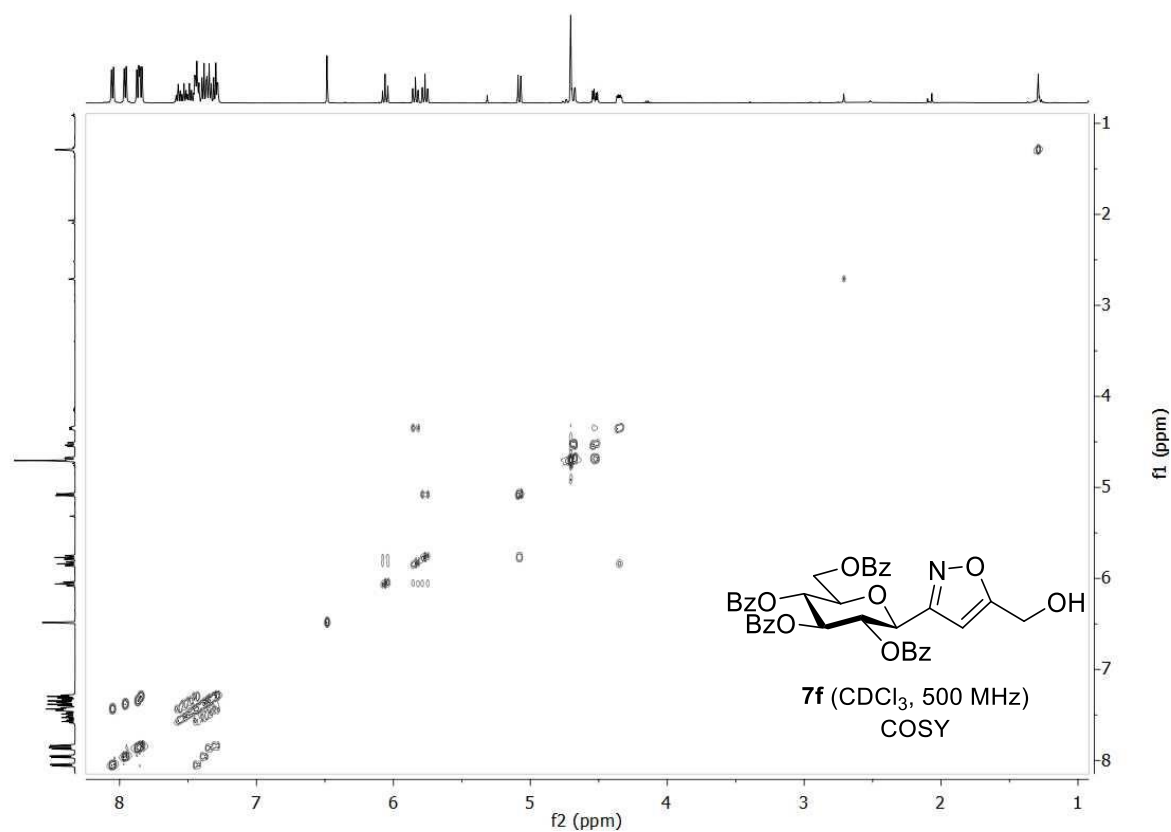


Figure S66. ^1H - ^1H COSY spectrum of **7f**

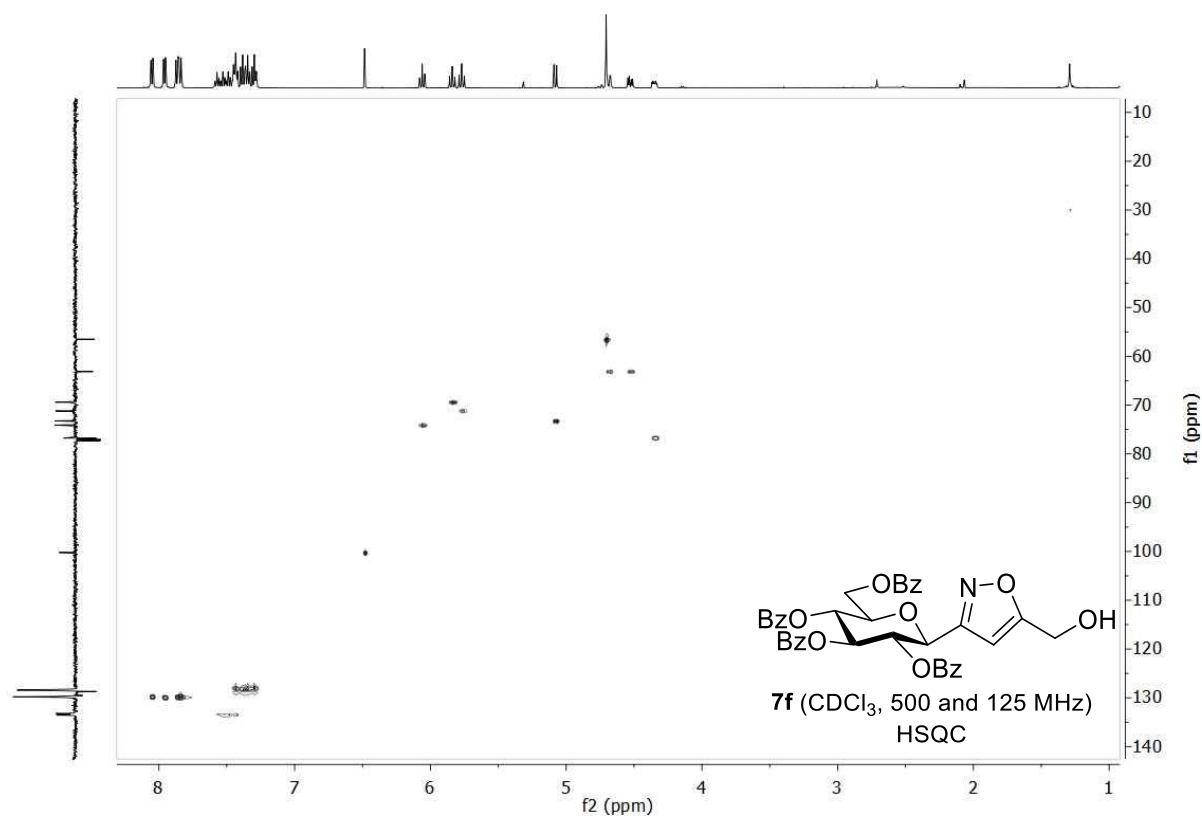


Figure S67. ^1H - ^{13}C HSQC spectrum of **7f**

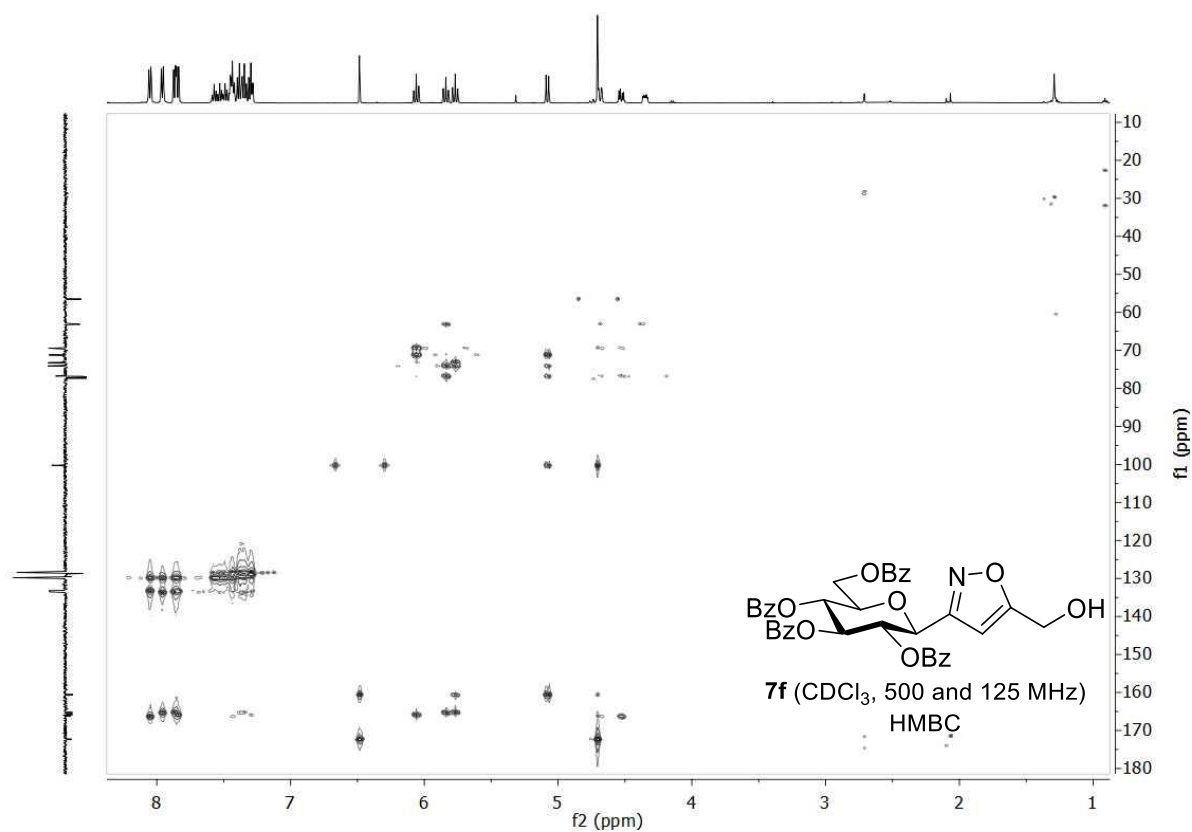


Figure S68. ^1H - ^{13}C HMBC spectrum of **7f**

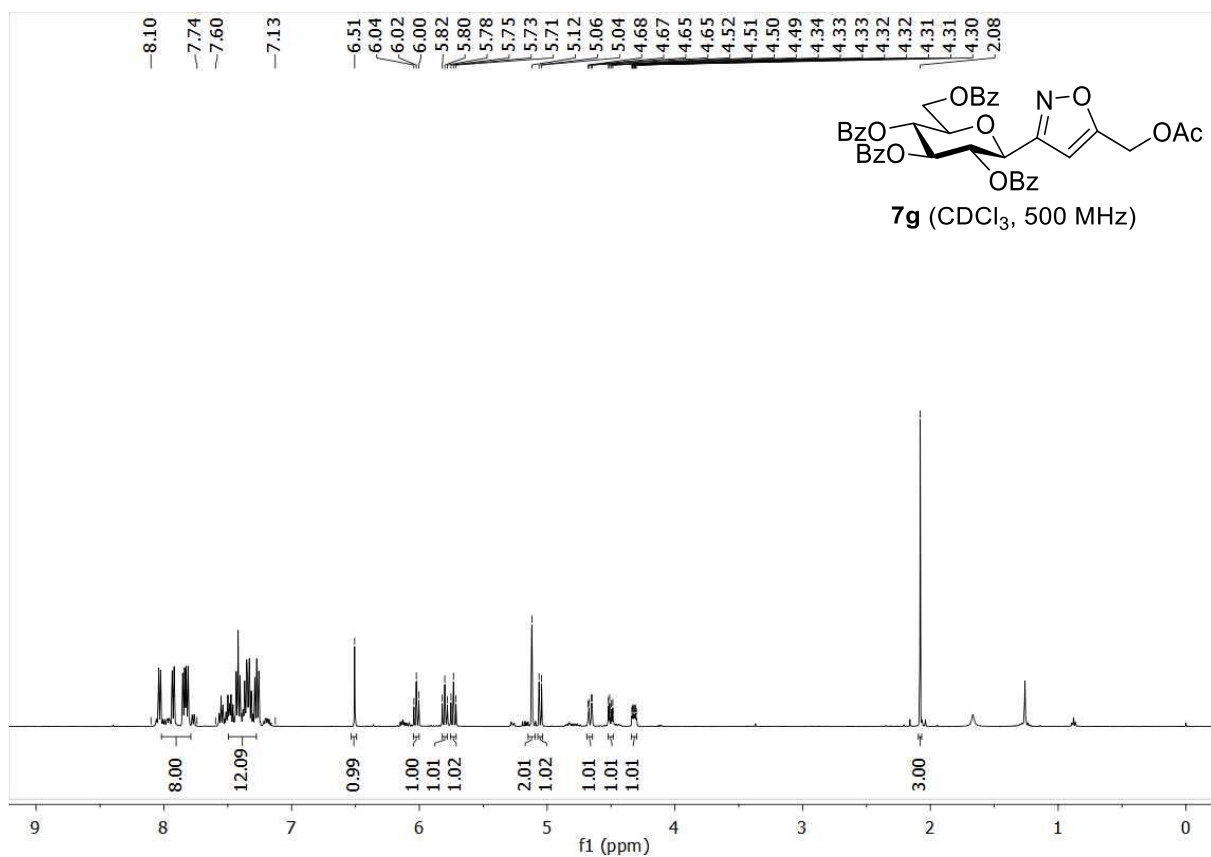


Figure S69. ¹H NMR spectrum of **7g**

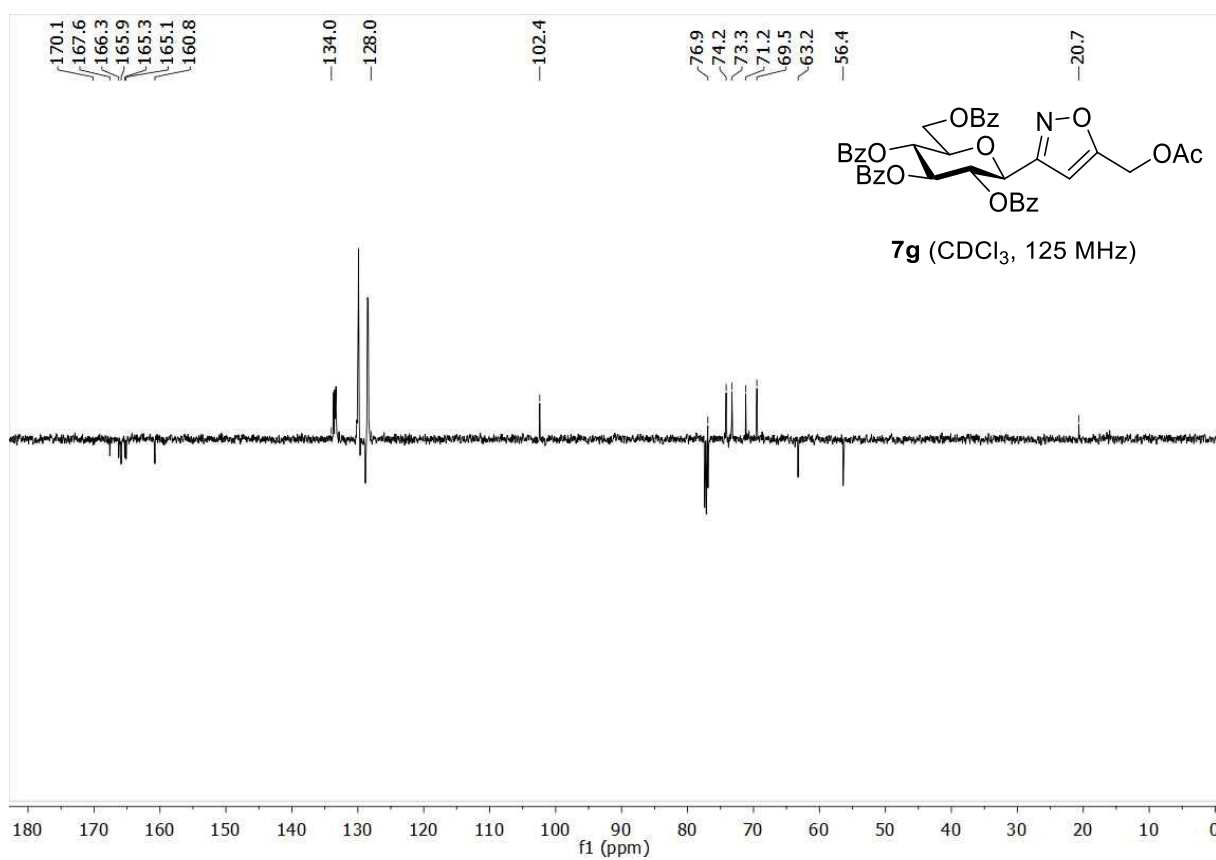


Figure S70. ¹³C NMR spectrum of **7g**

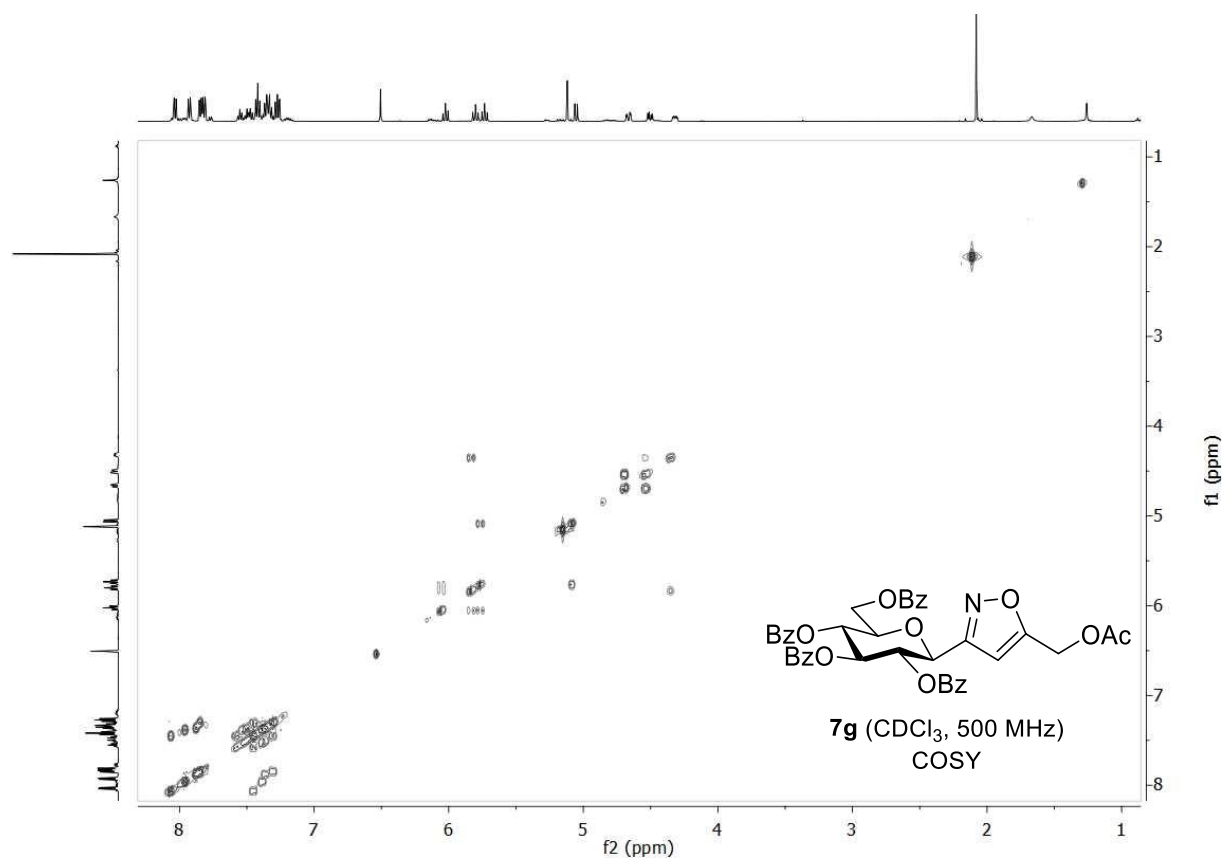


Figure S71. ^1H - ^1H COSY spectrum of **7g**

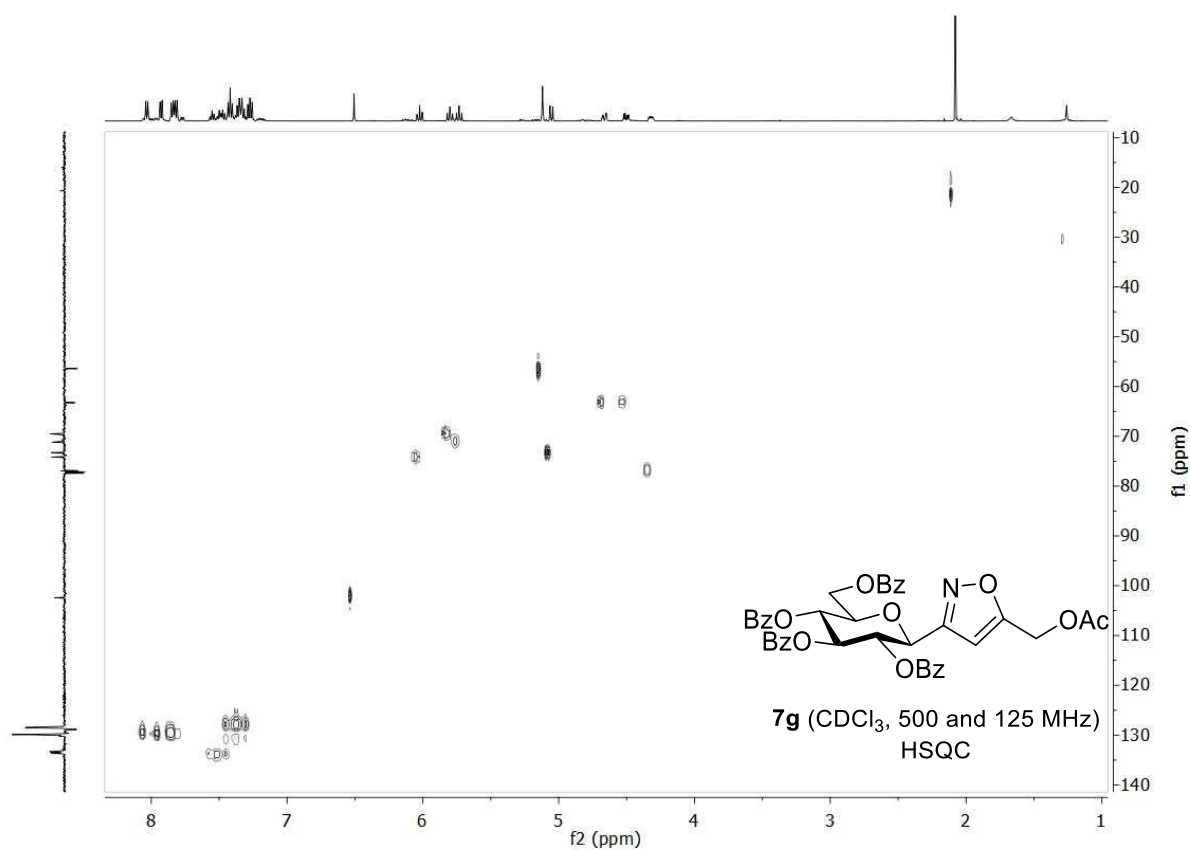


Figure S72. ^1H - ^{13}C HSQC spectrum of **7g**

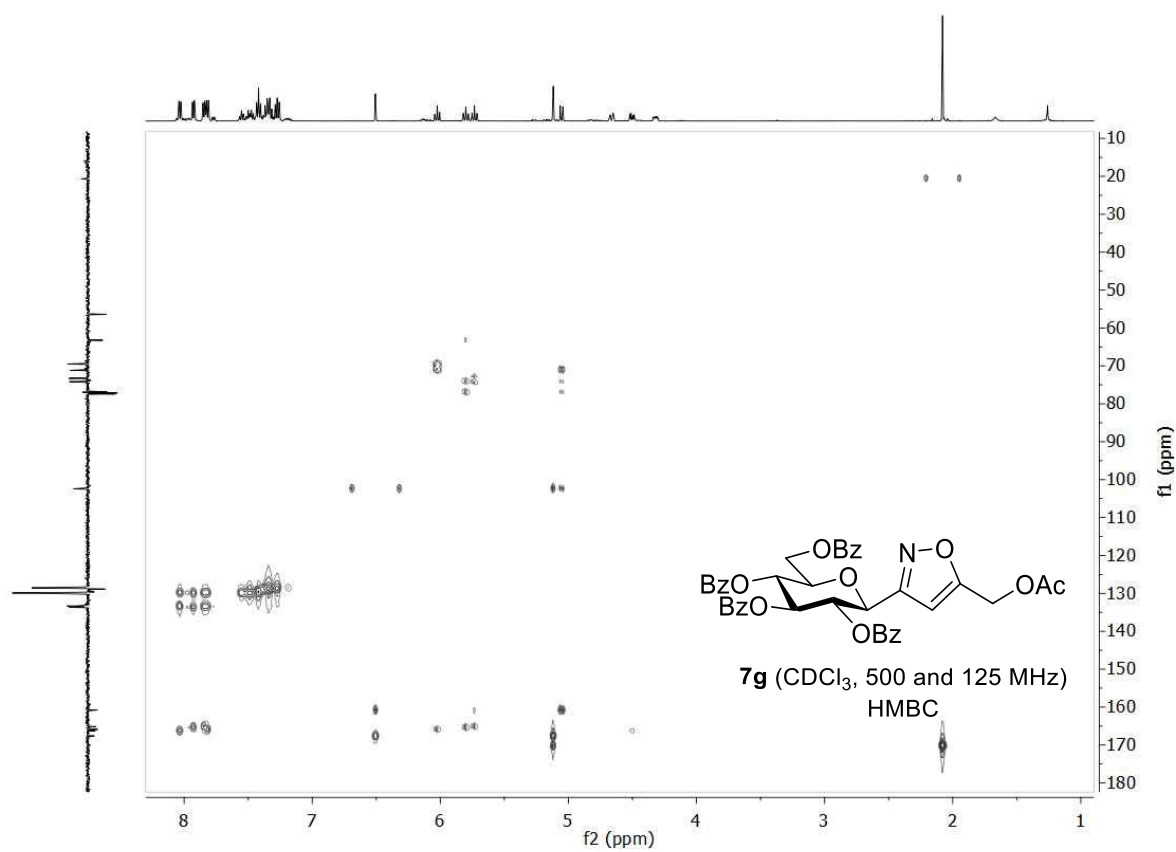


Figure S73. ¹H-¹³C HMBC spectrum of **7g**

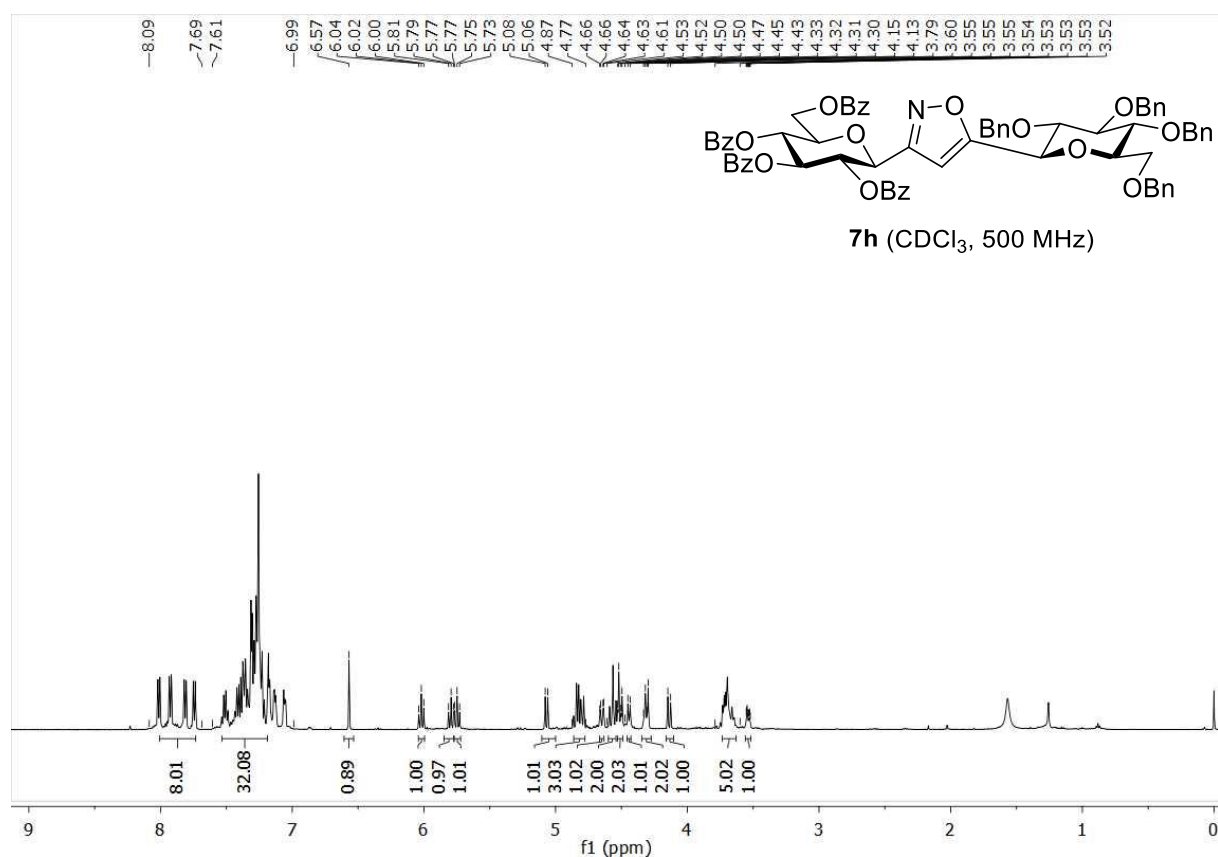


Figure S74. ¹H NMR spectrum of **7h**

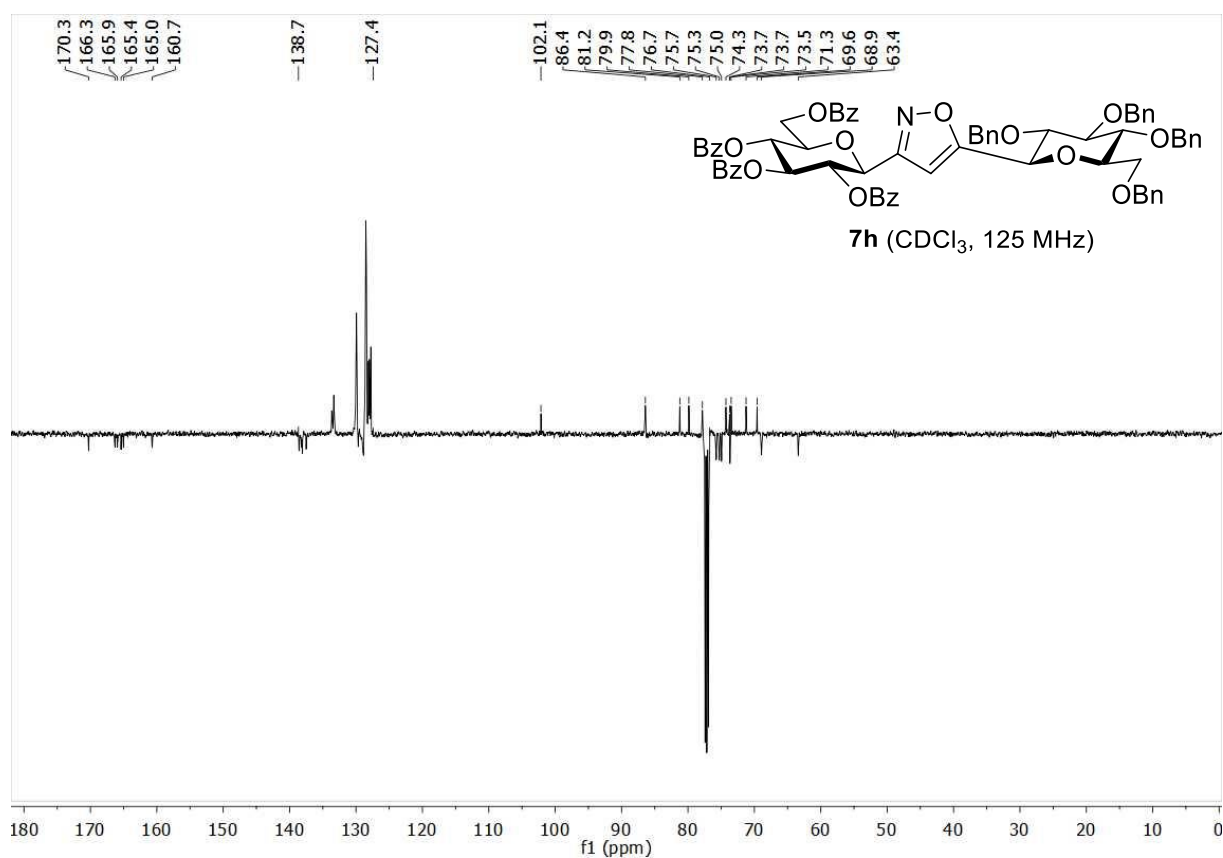


Figure S75. ¹³C NMR spectrum of **7h**

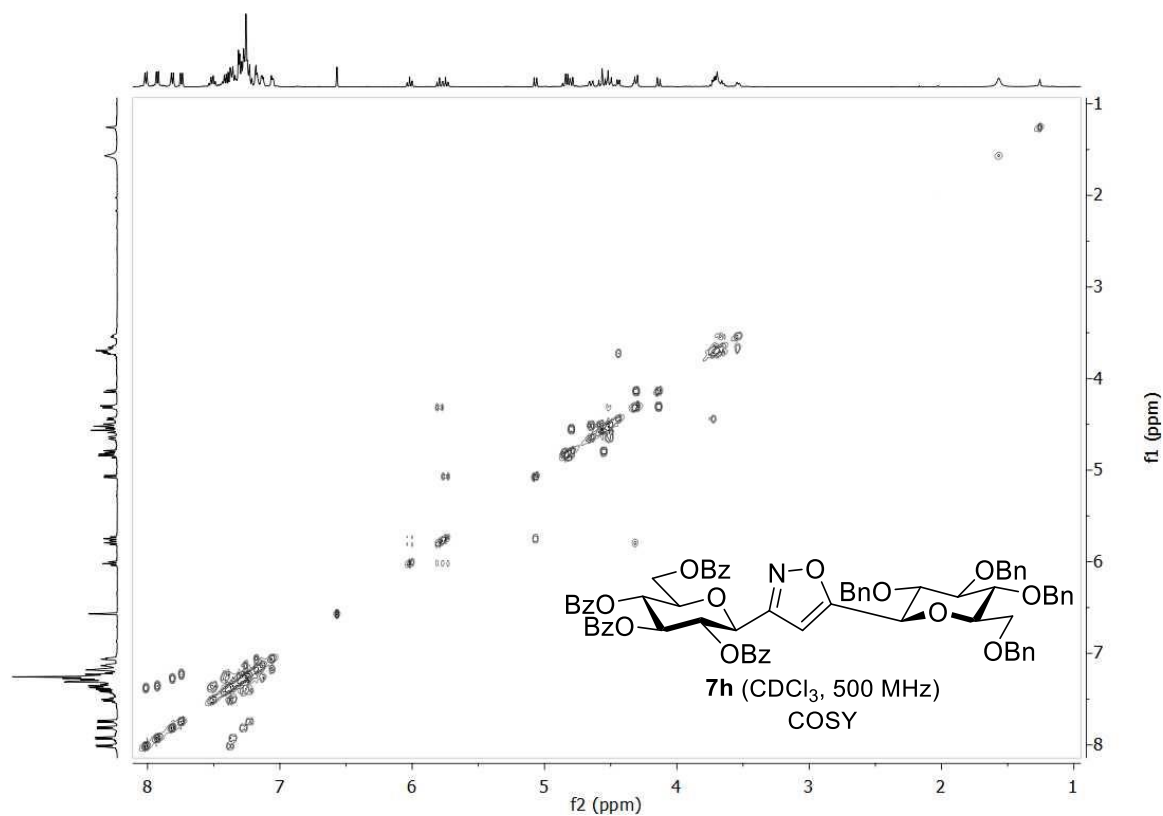


Figure S76. ^1H - ^1H COSY spectrum of **7h**

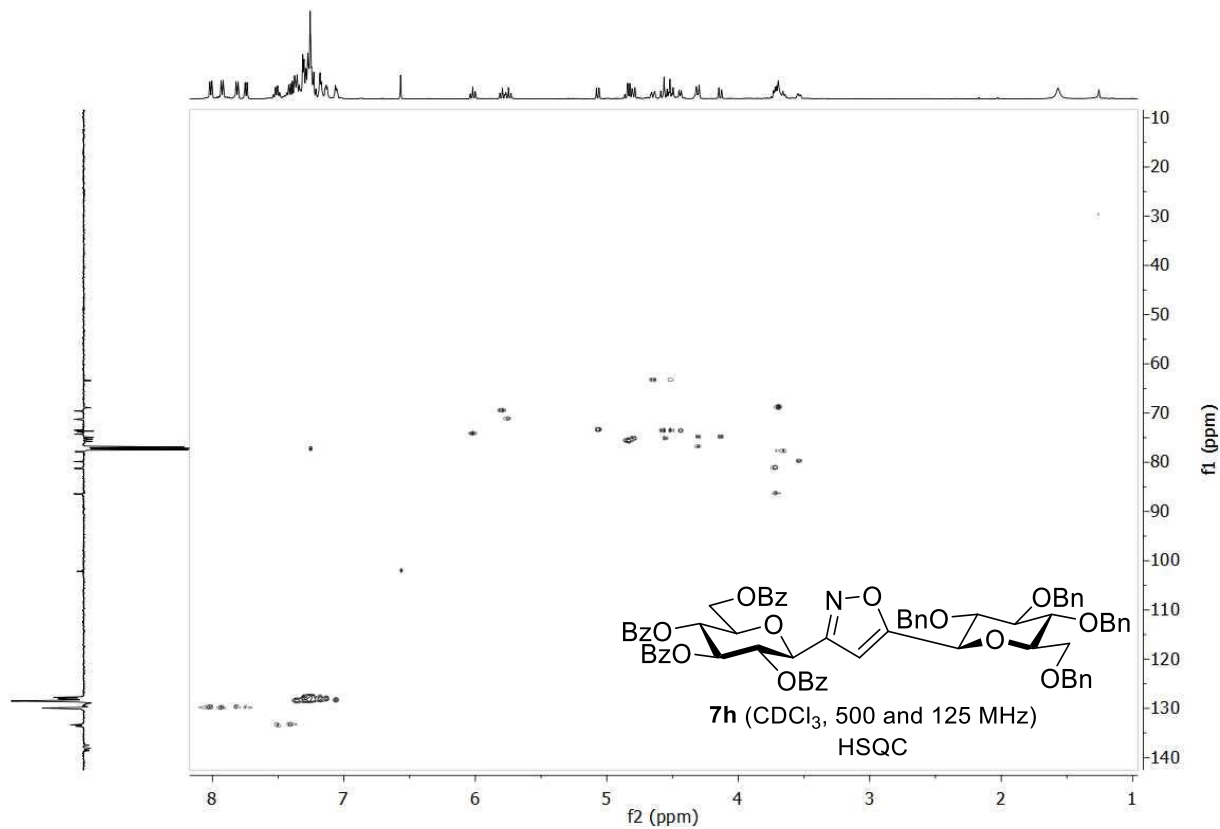


Figure S77. ^1H - ^{13}C HSQC spectrum of **7h**

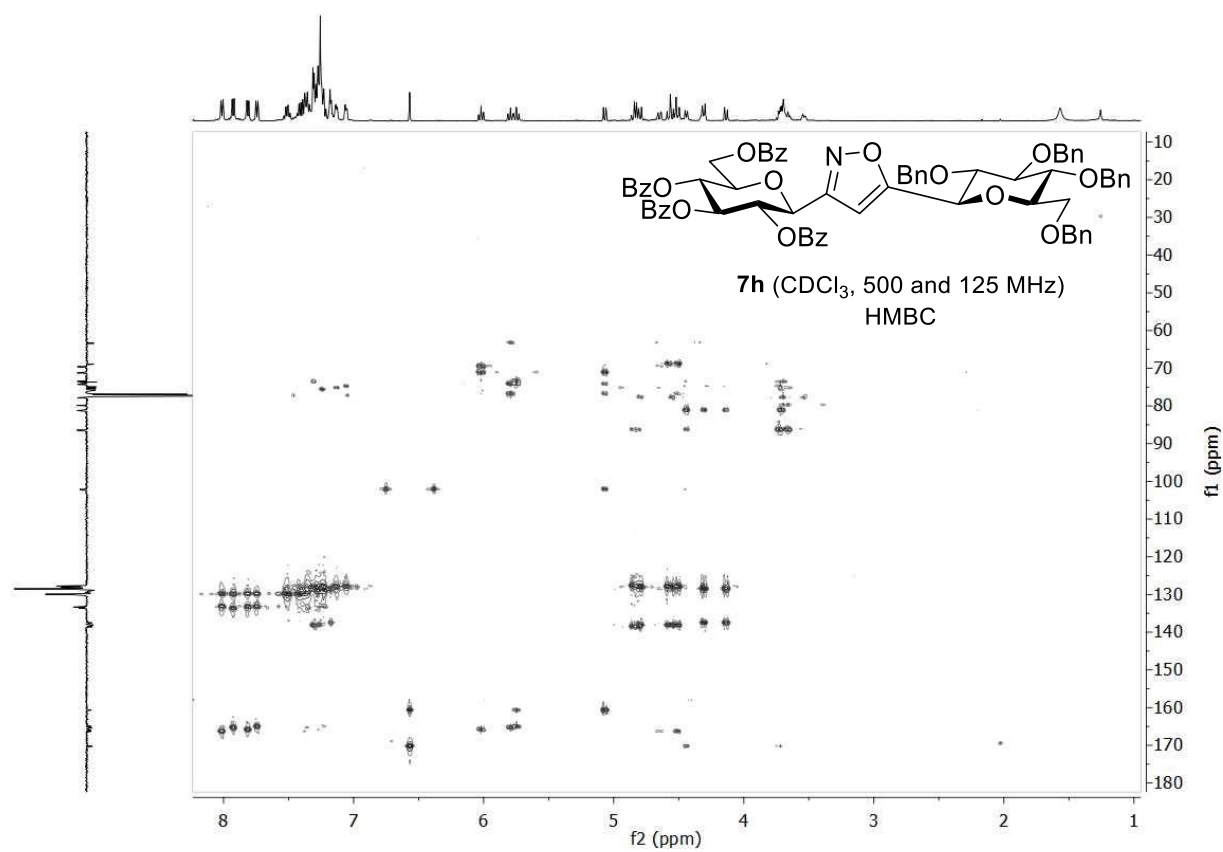


Figure S78. ^1H - ^{13}C HMBC spectrum of **7h**

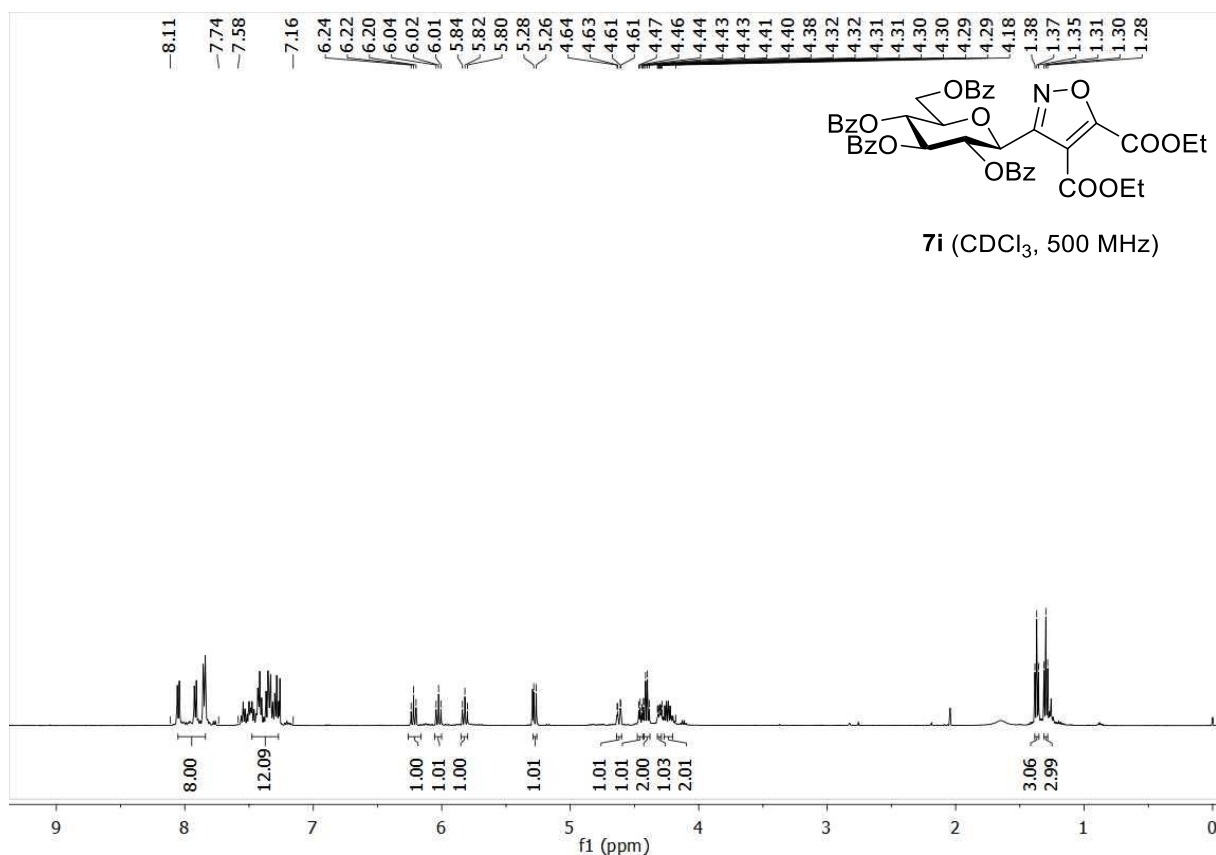


Figure S79. ¹H NMR spectrum of **7i**

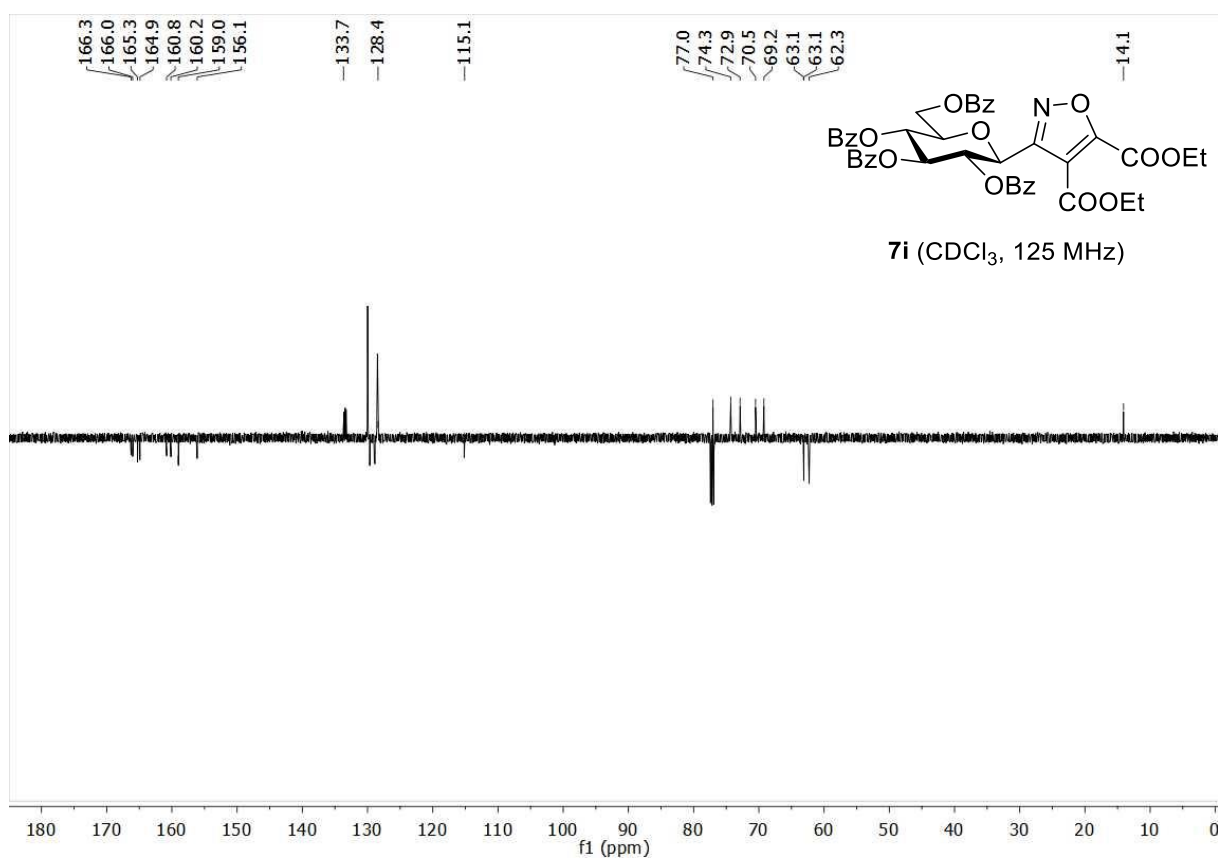


Figure S80. ¹³C NMR spectrum of **7i**

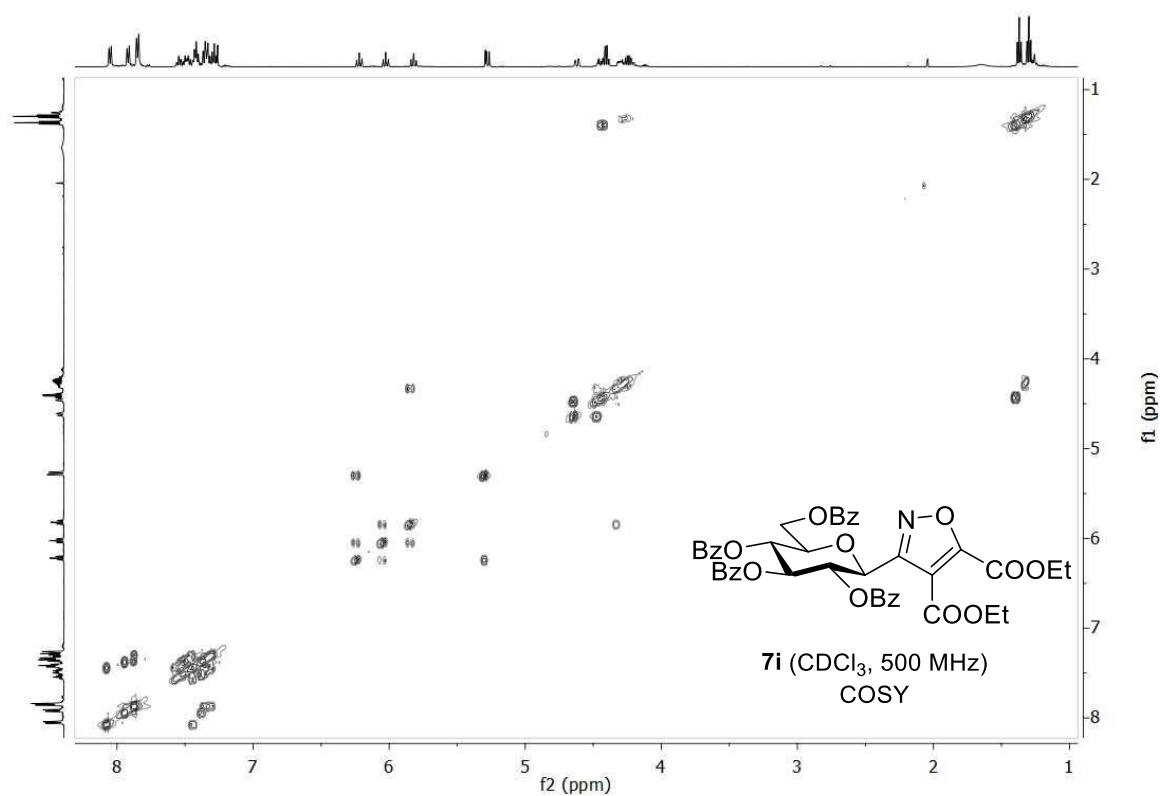


Figure S81. ^1H - ^1H COSY spectrum of **7i**

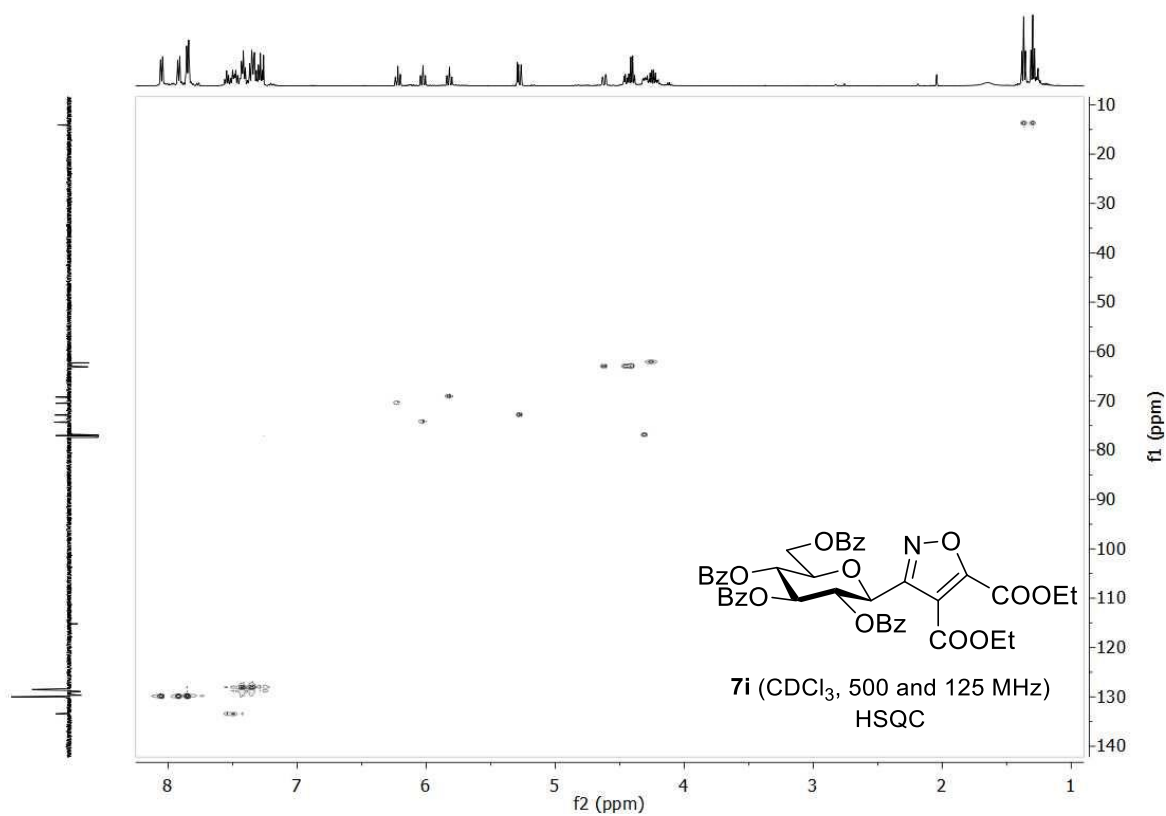


Figure S82. ^1H - ^{13}C HSQC spectrum of **7i**

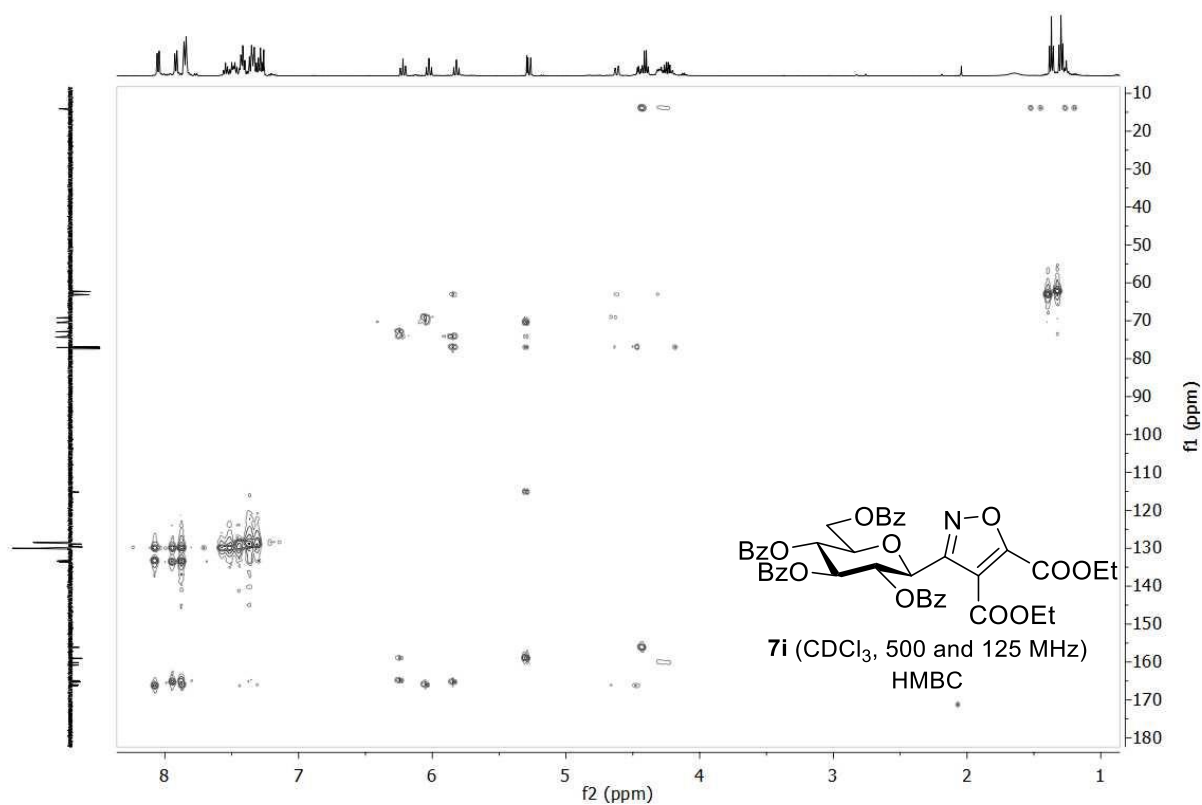


Figure S83. ^1H - ^{13}C HMBC spectrum of **7i**

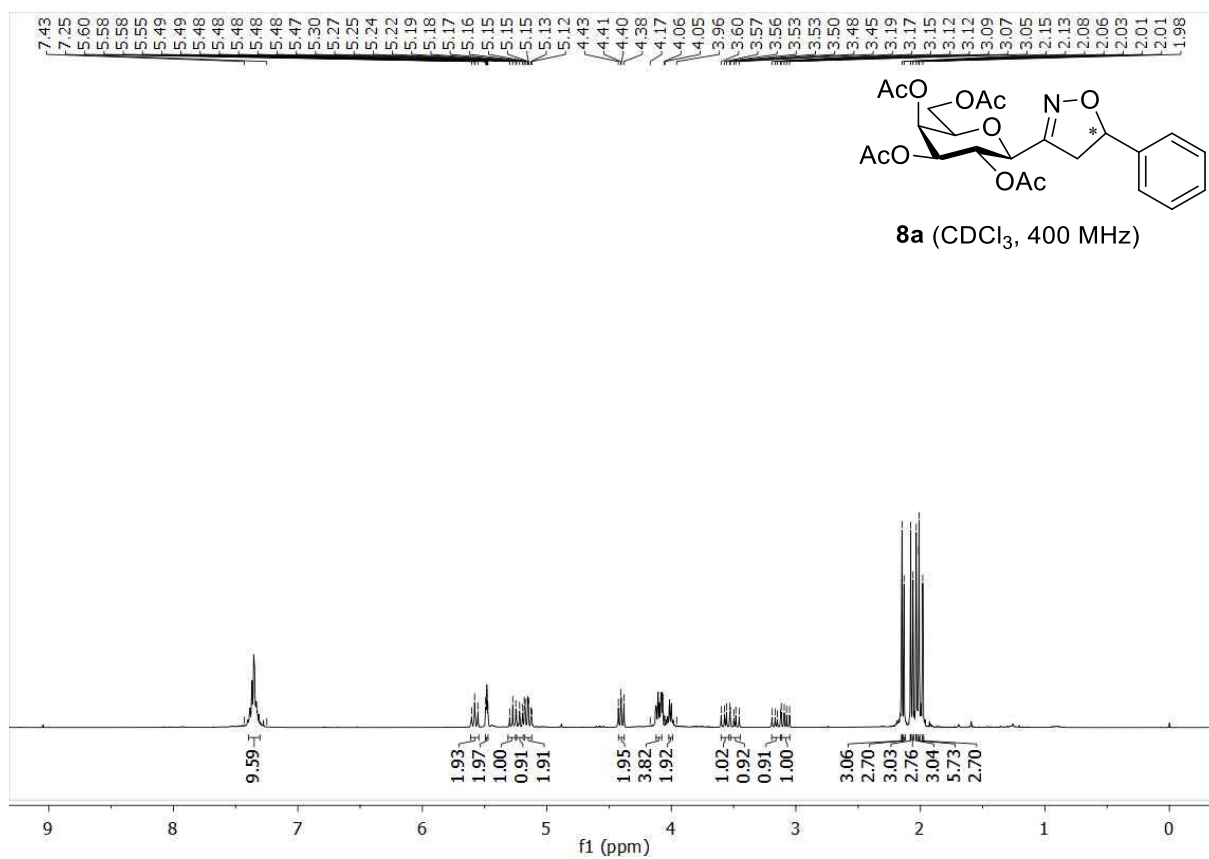


Figure S84. ¹H NMR spectrum of **8a**

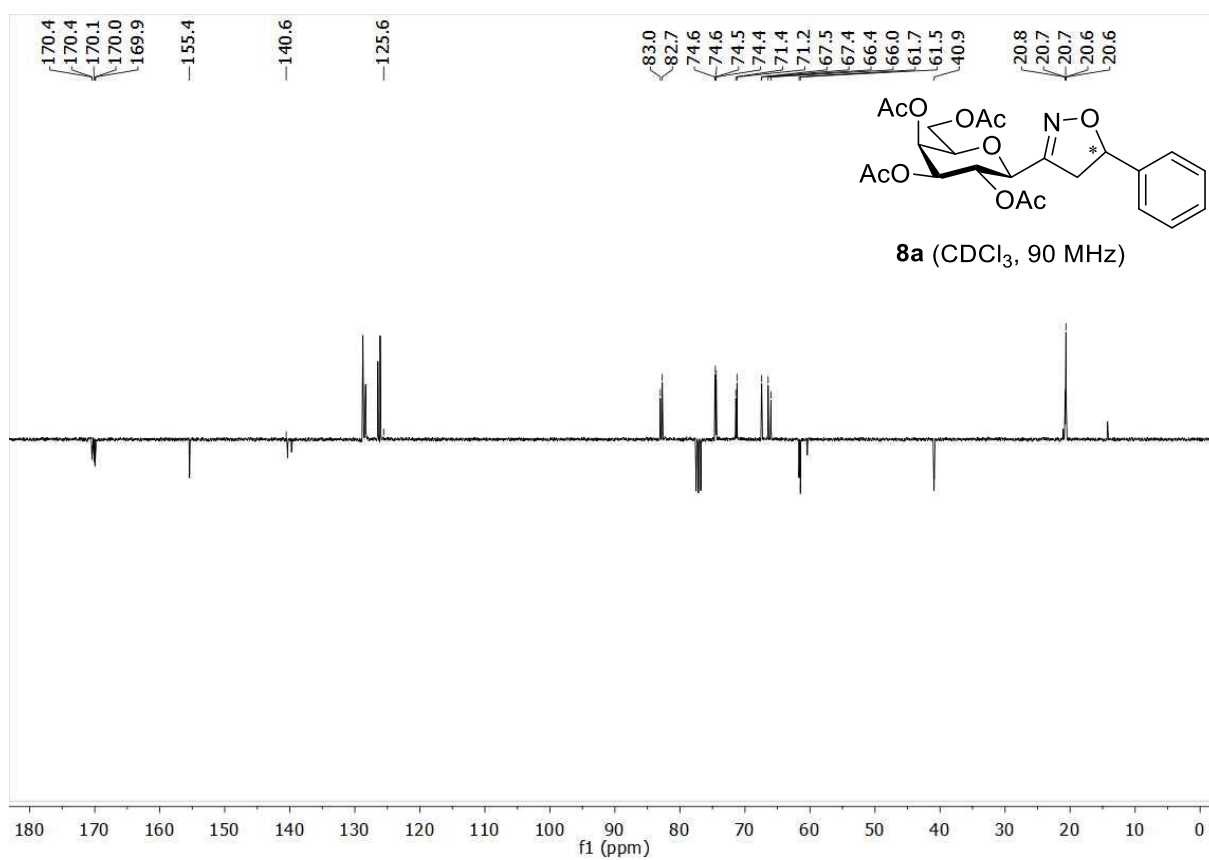


Figure S85. ¹³C NMR spectrum of **8a**

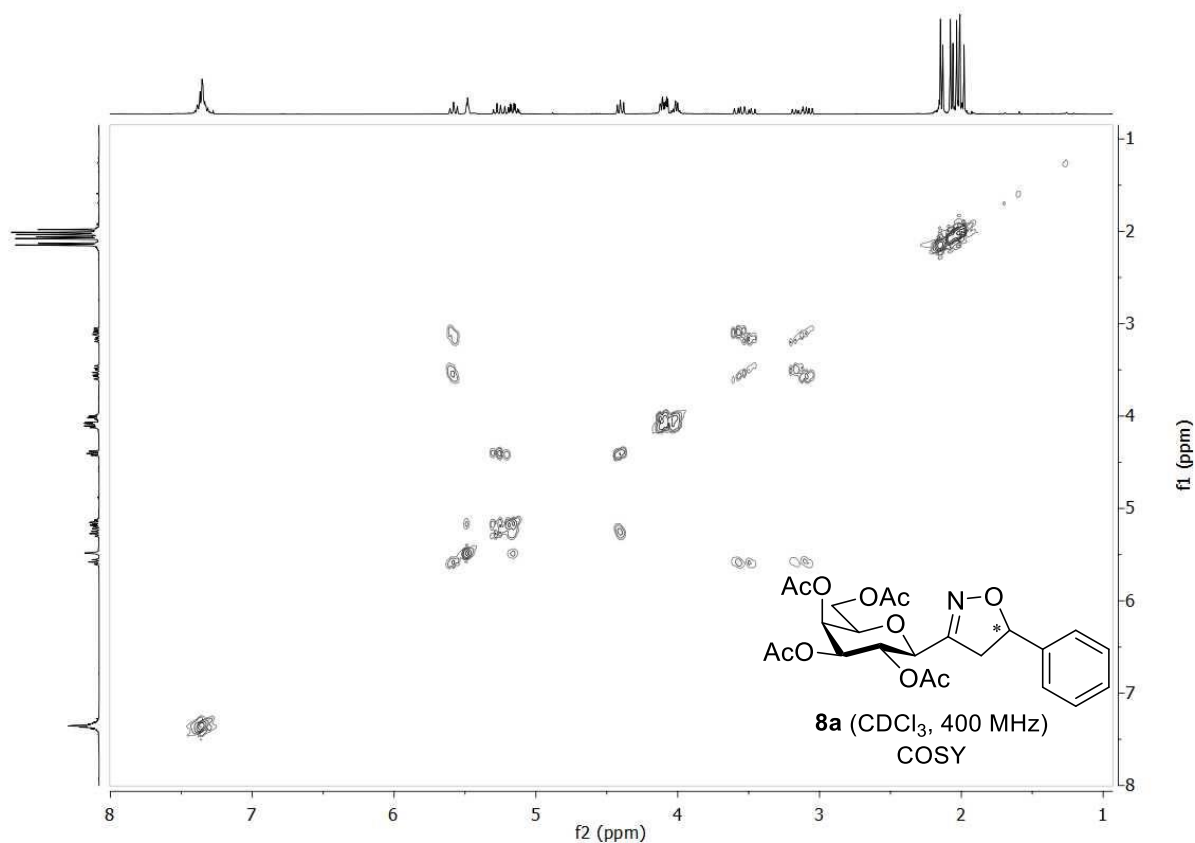


Figure S86. ^1H - ^1H COSY spectrum of **8a**

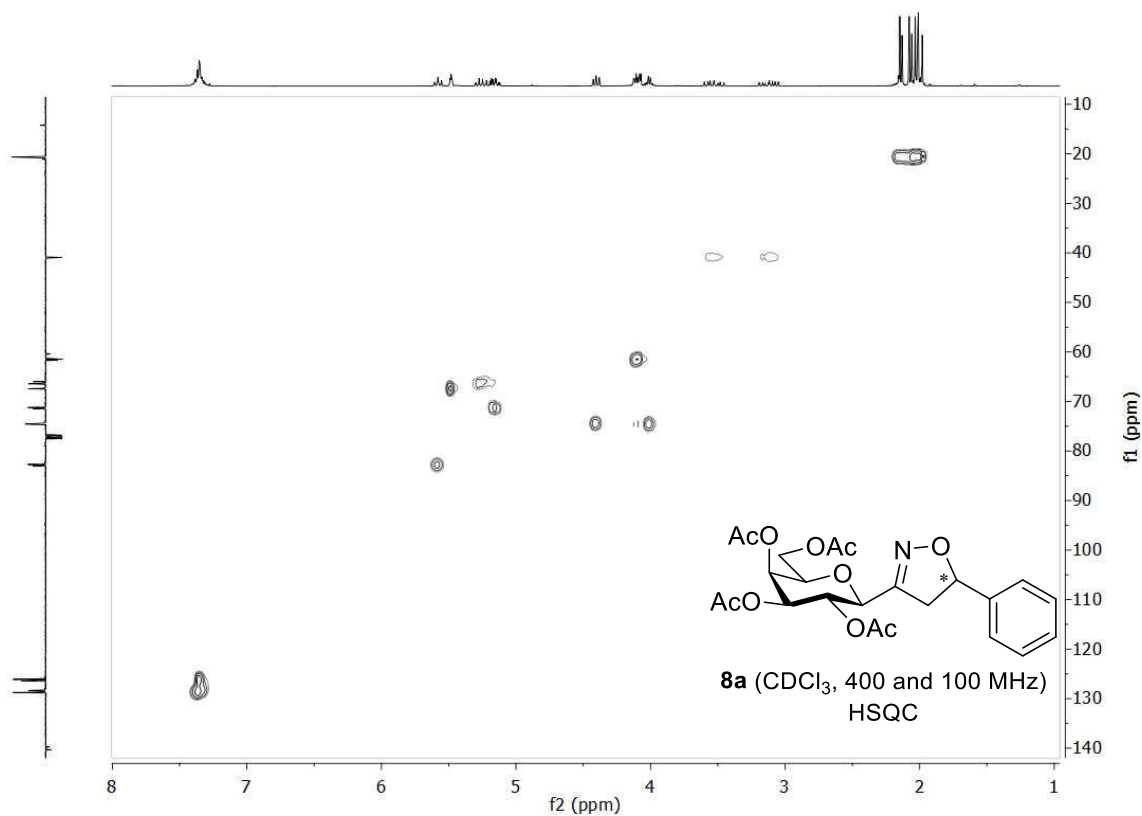


Figure S87. ^1H - ^{13}C HSQC spectrum of **8a**

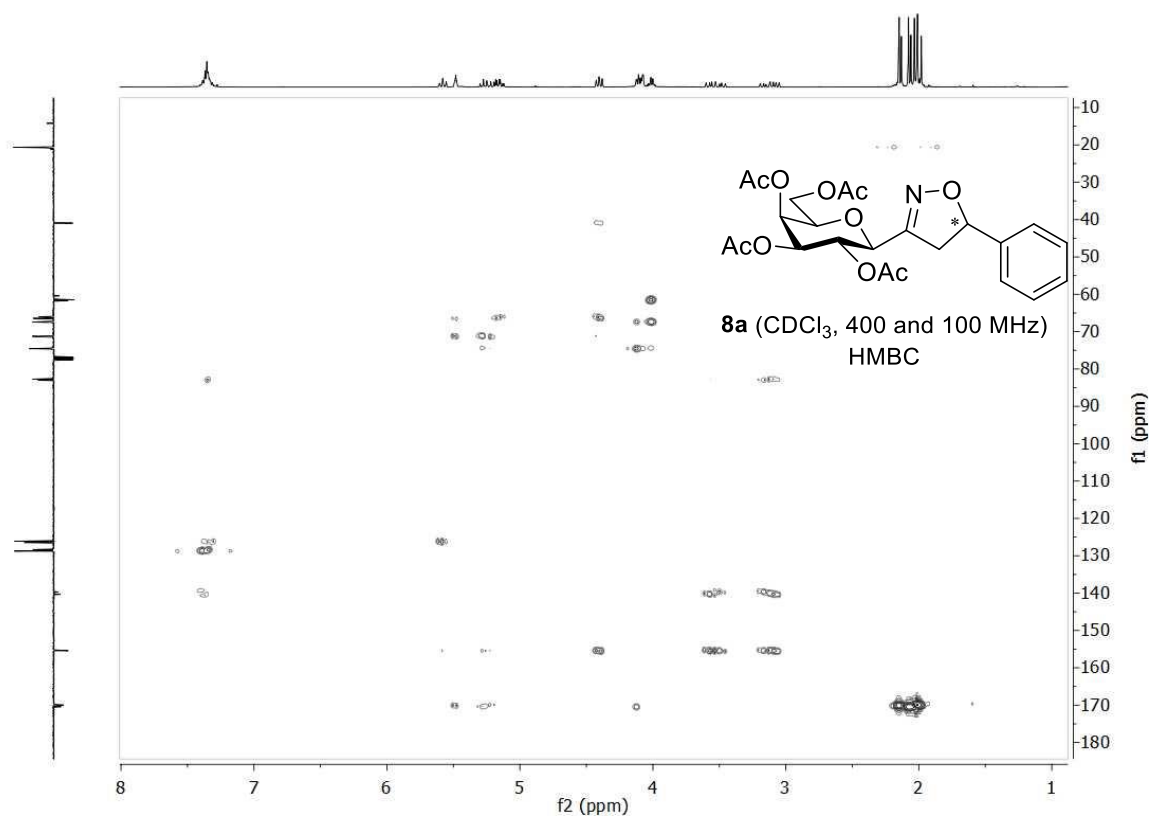


Figure S88. ¹H–¹³C HMBC spectrum of **8a**

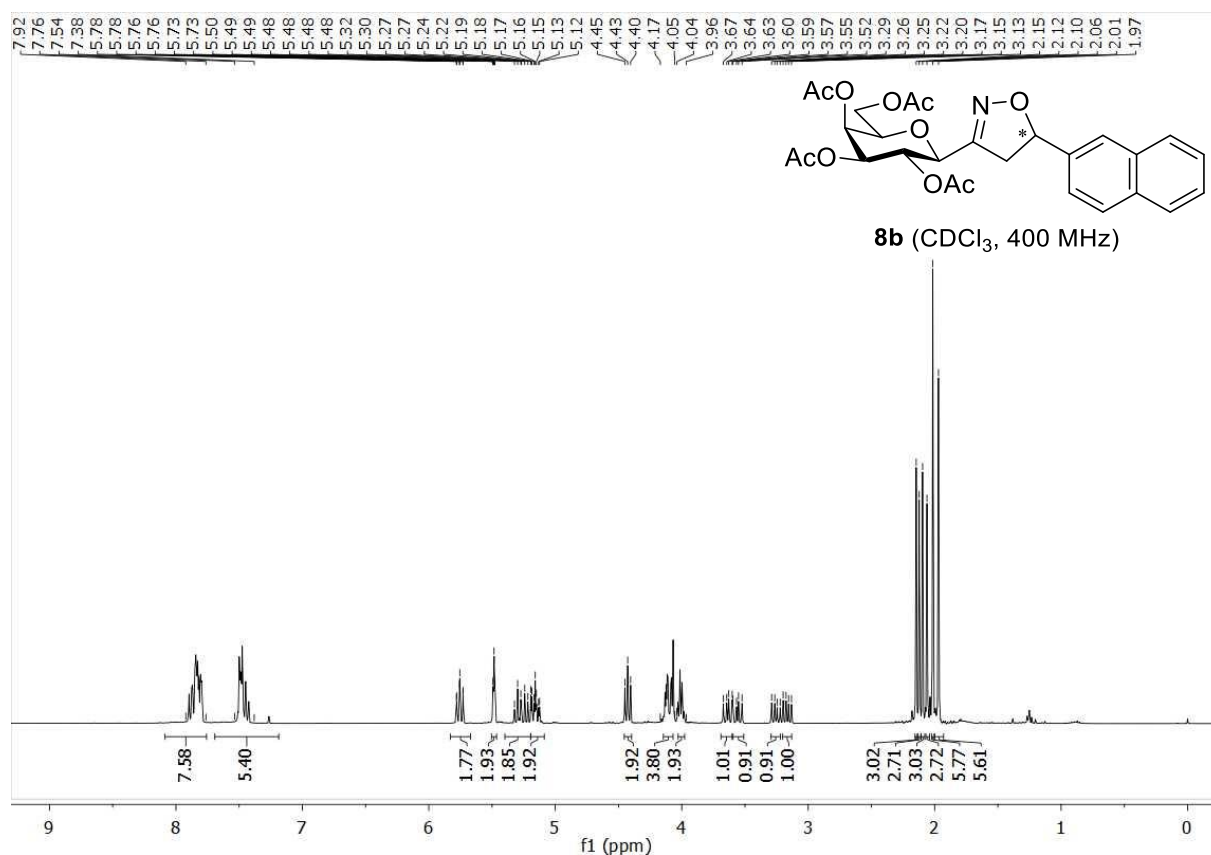


Figure S89. ¹H NMR spectrum of **8b**

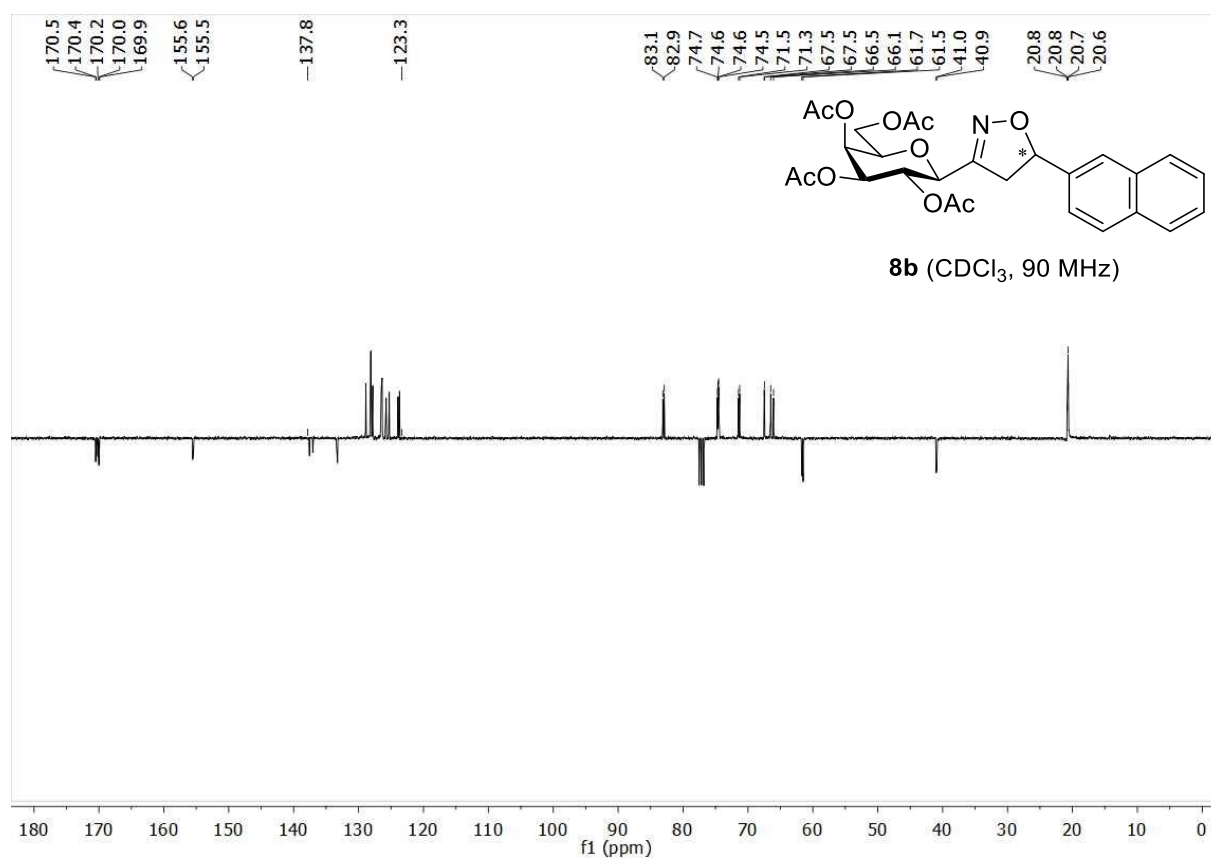


Figure S90. ¹³C NMR spectrum of **8b**

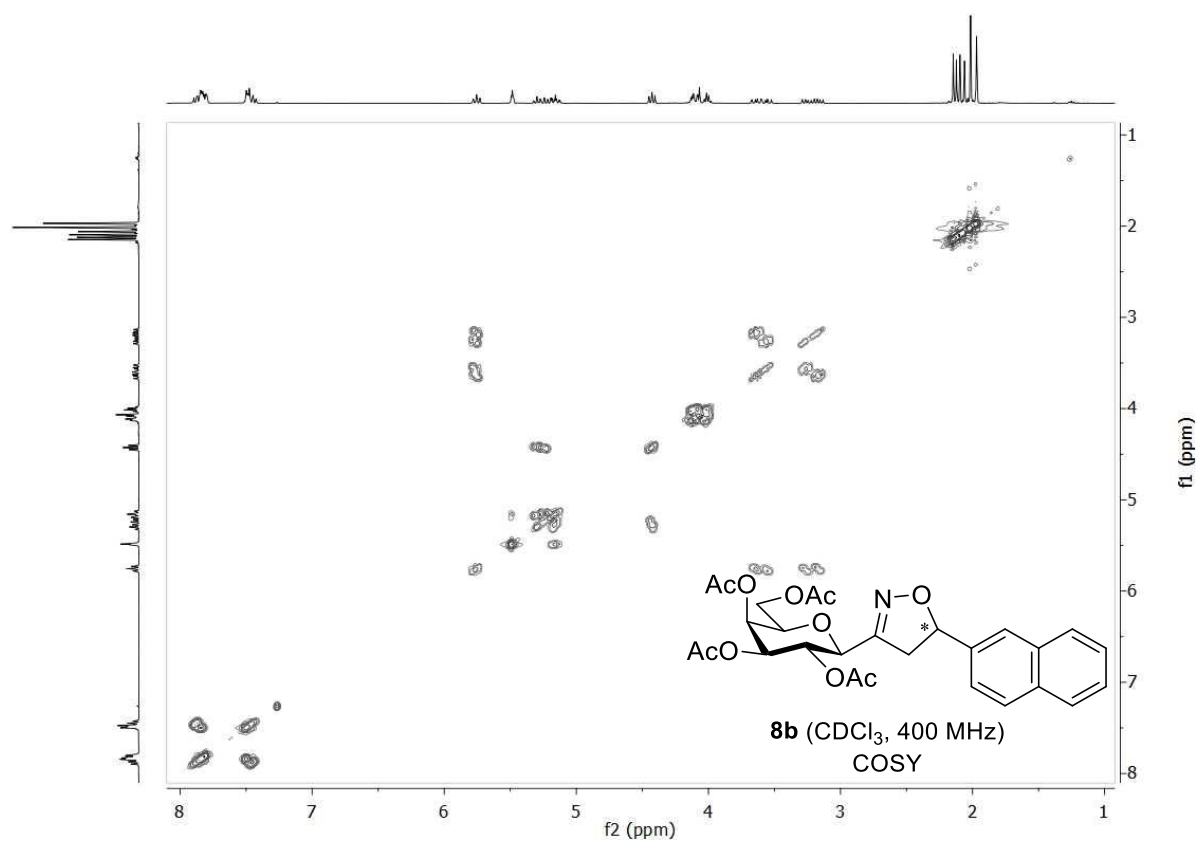


Figure S91. ^1H - ^1H COSY spectrum of **8b**

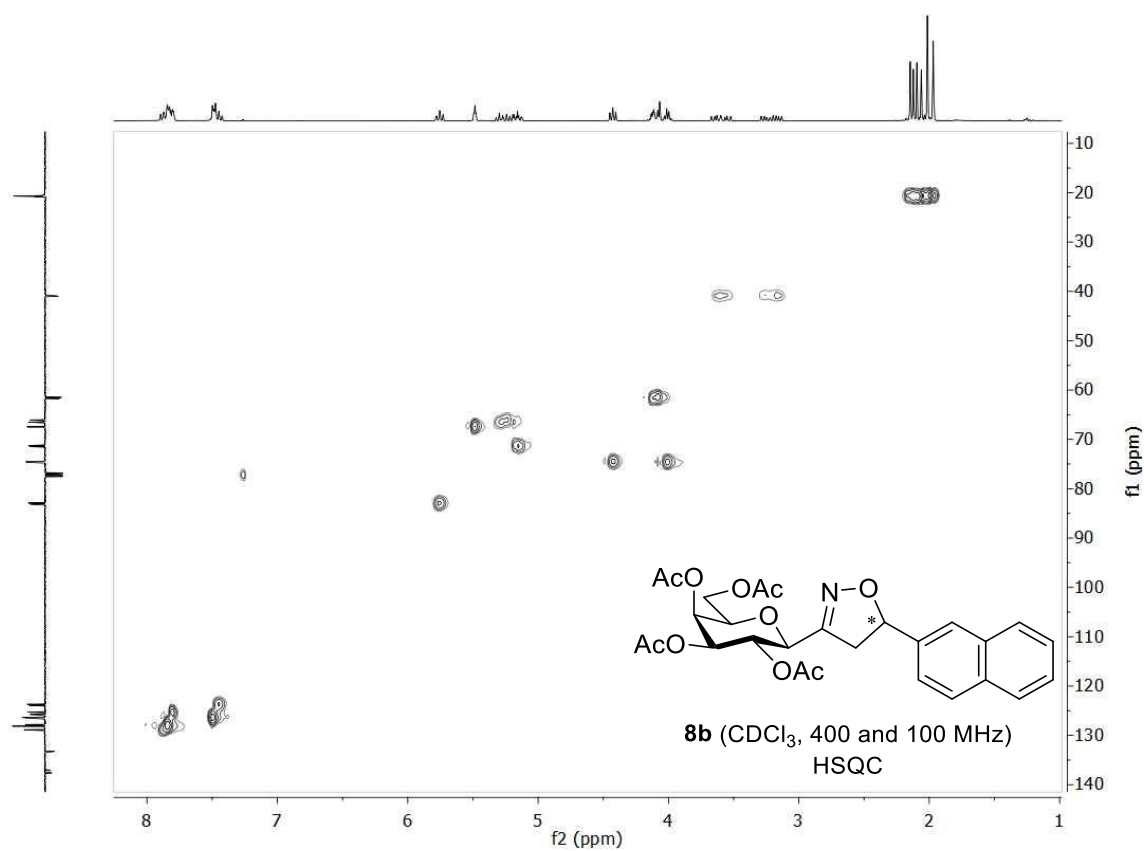


Figure S92. ^1H - ^{13}C HSQC spectrum of **8b**

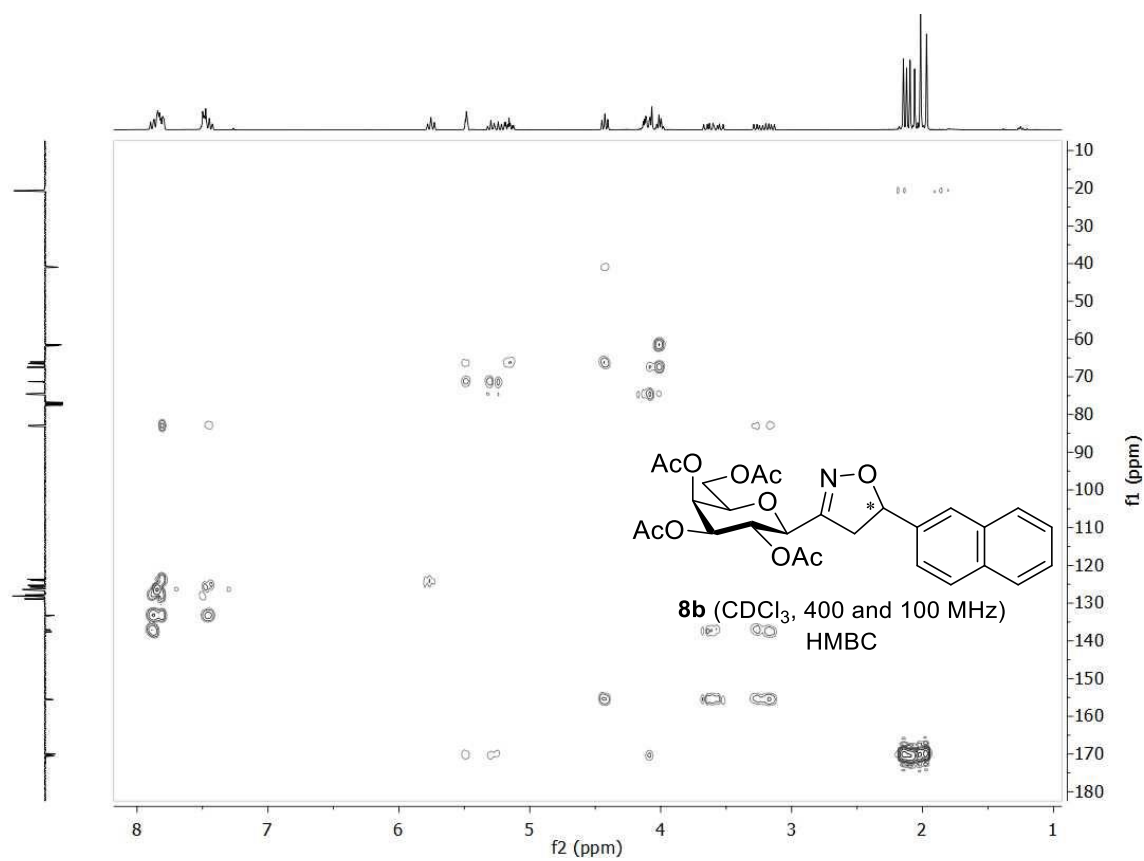


Figure S93. ^1H - ^{13}C HMBC spectrum of **8b**

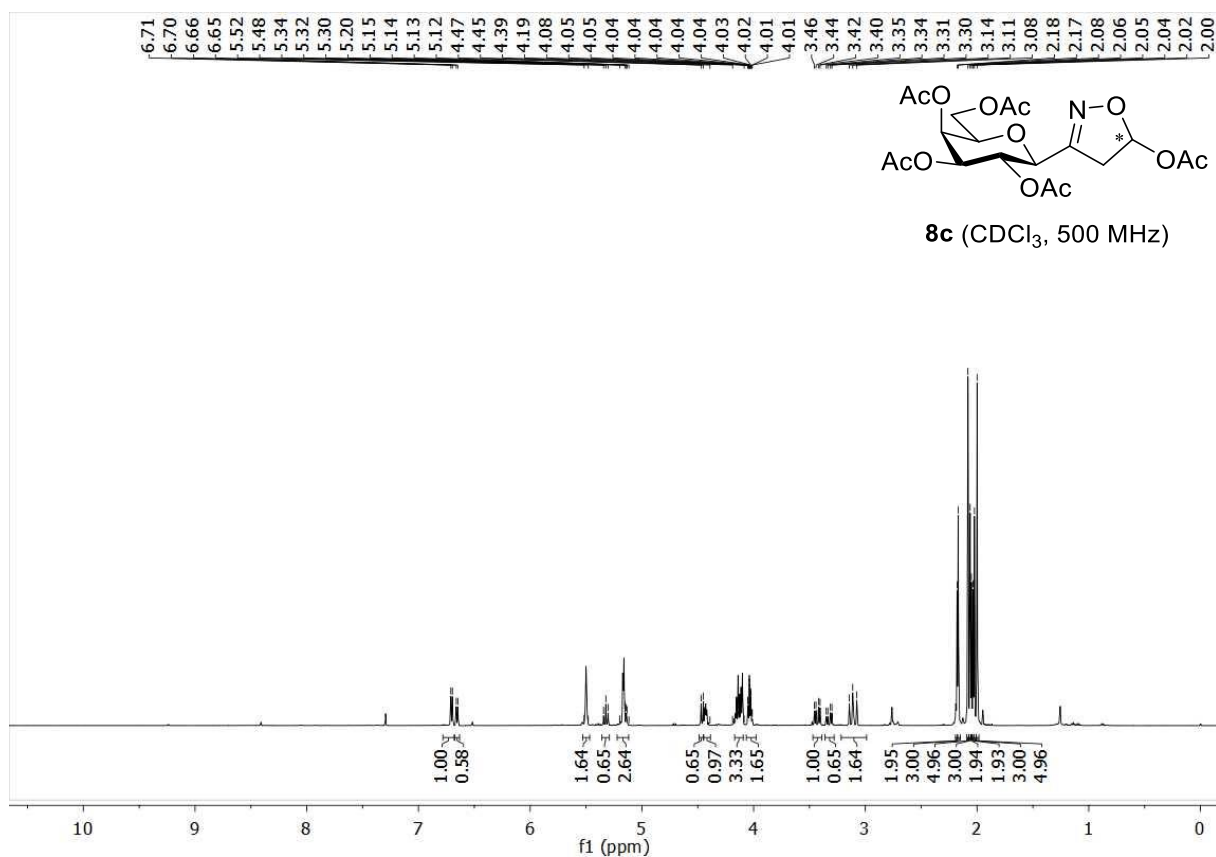


Figure S94. ¹H NMR spectrum of **8c**

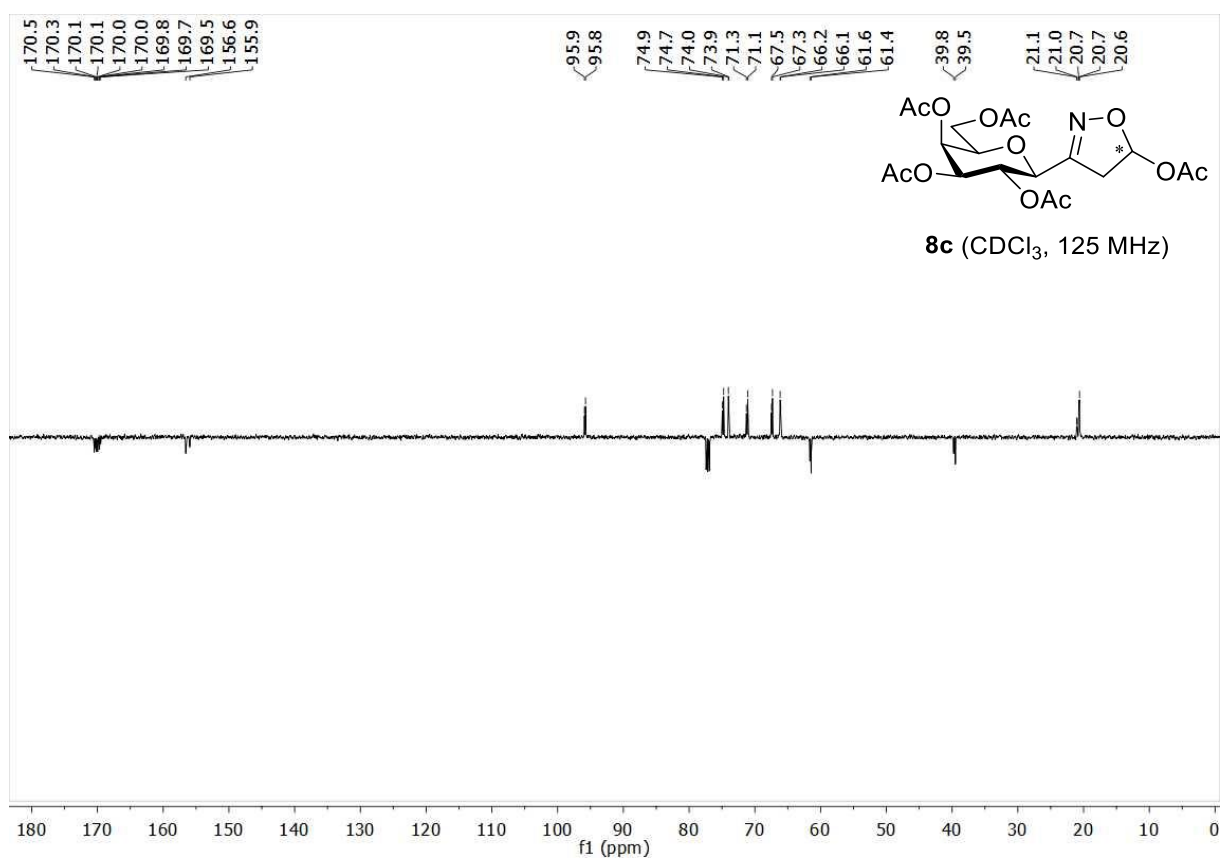


Figure S95. ¹³C NMR spectrum of **8c**

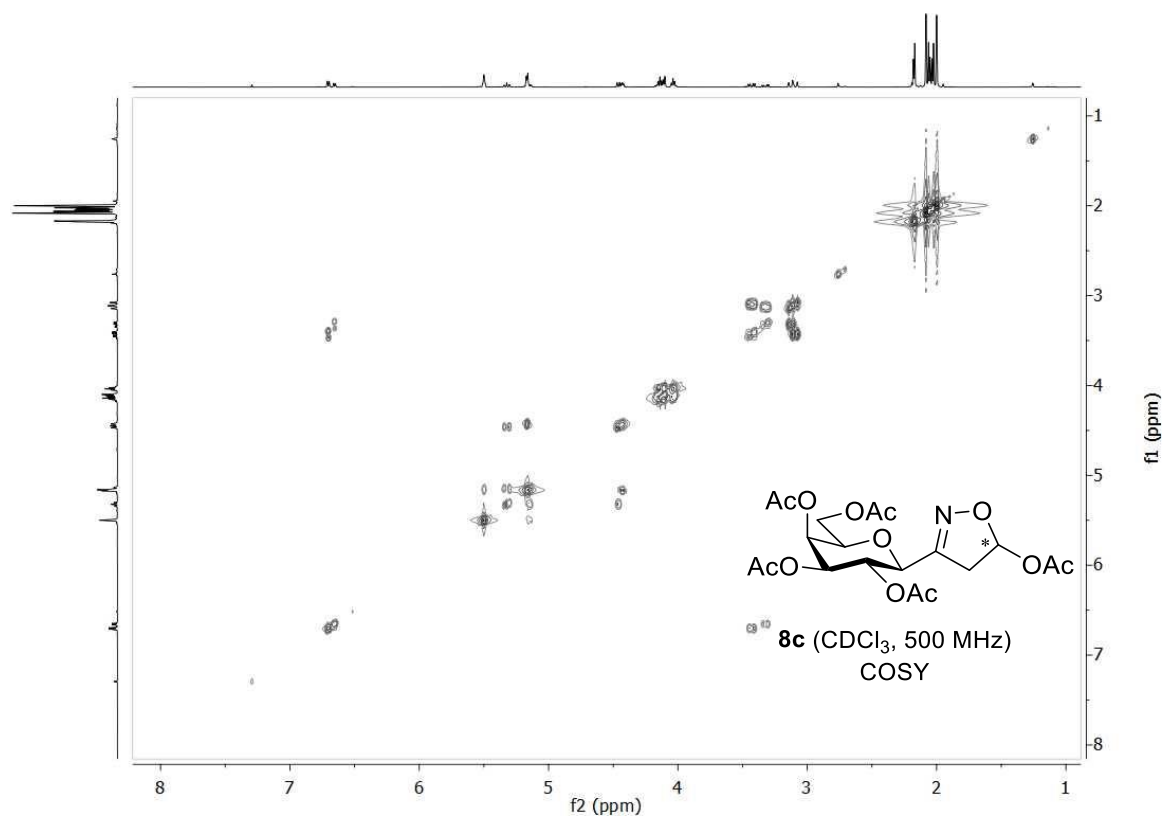


Figure S96. ^1H - ^1H COSY spectrum of **8c**

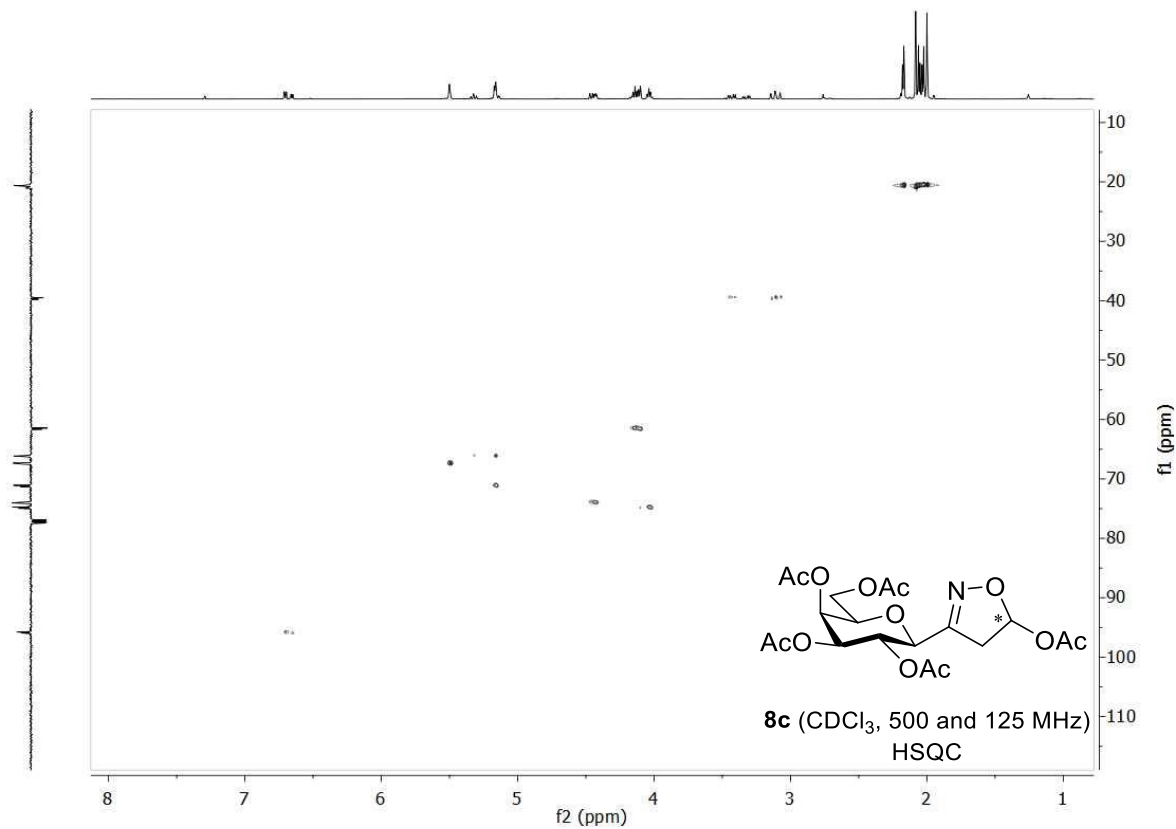


Figure S97. ^1H - ^{13}C HSQC spectrum of **8c**

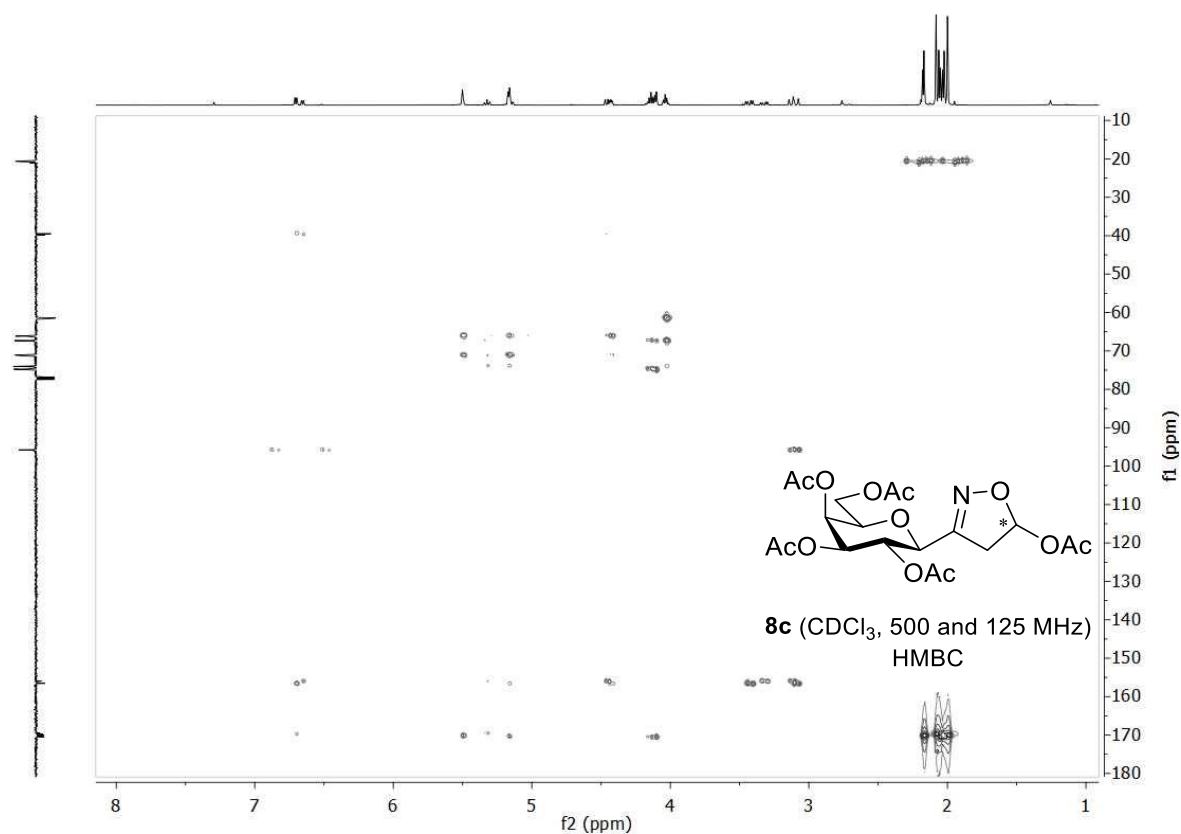


Figure S98. ^1H - ^{13}C HMBC spectrum of **8c**

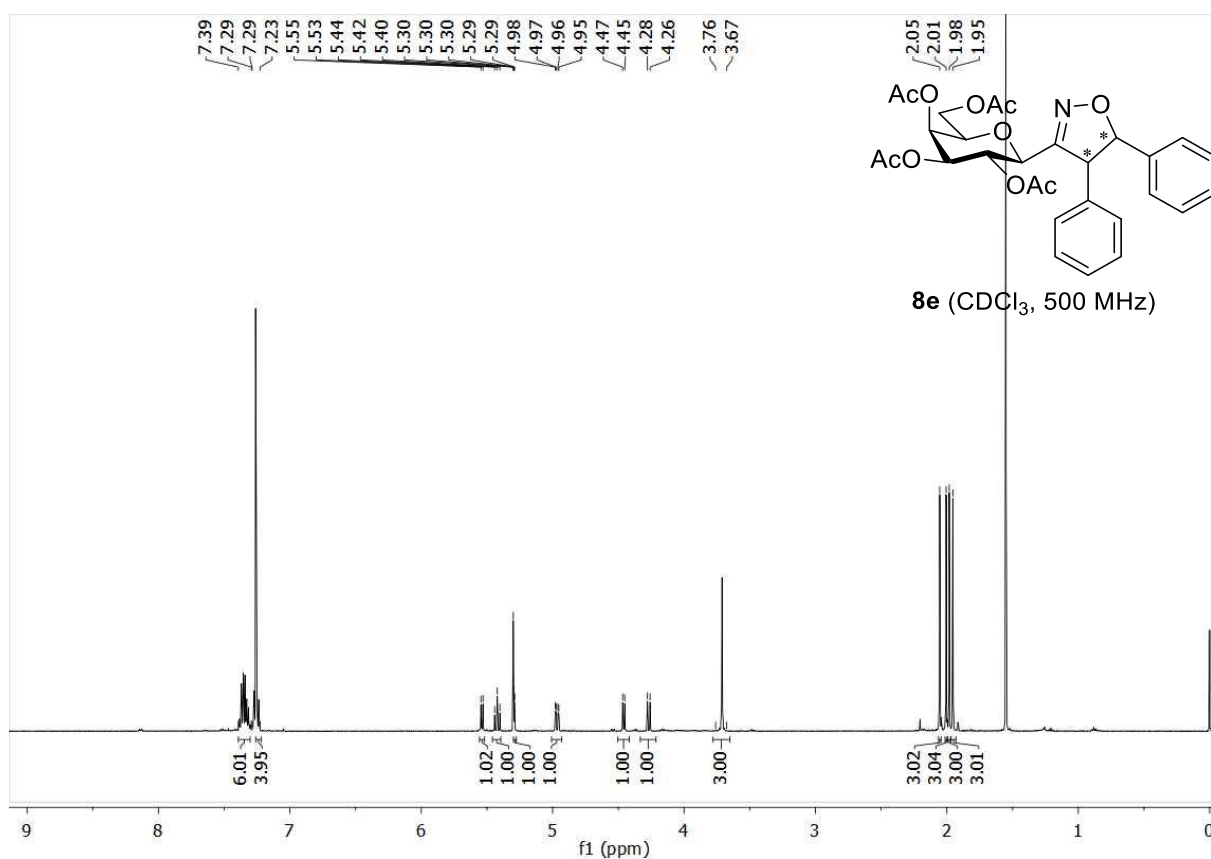


Figure S99. ¹H NMR spectrum of **8e**

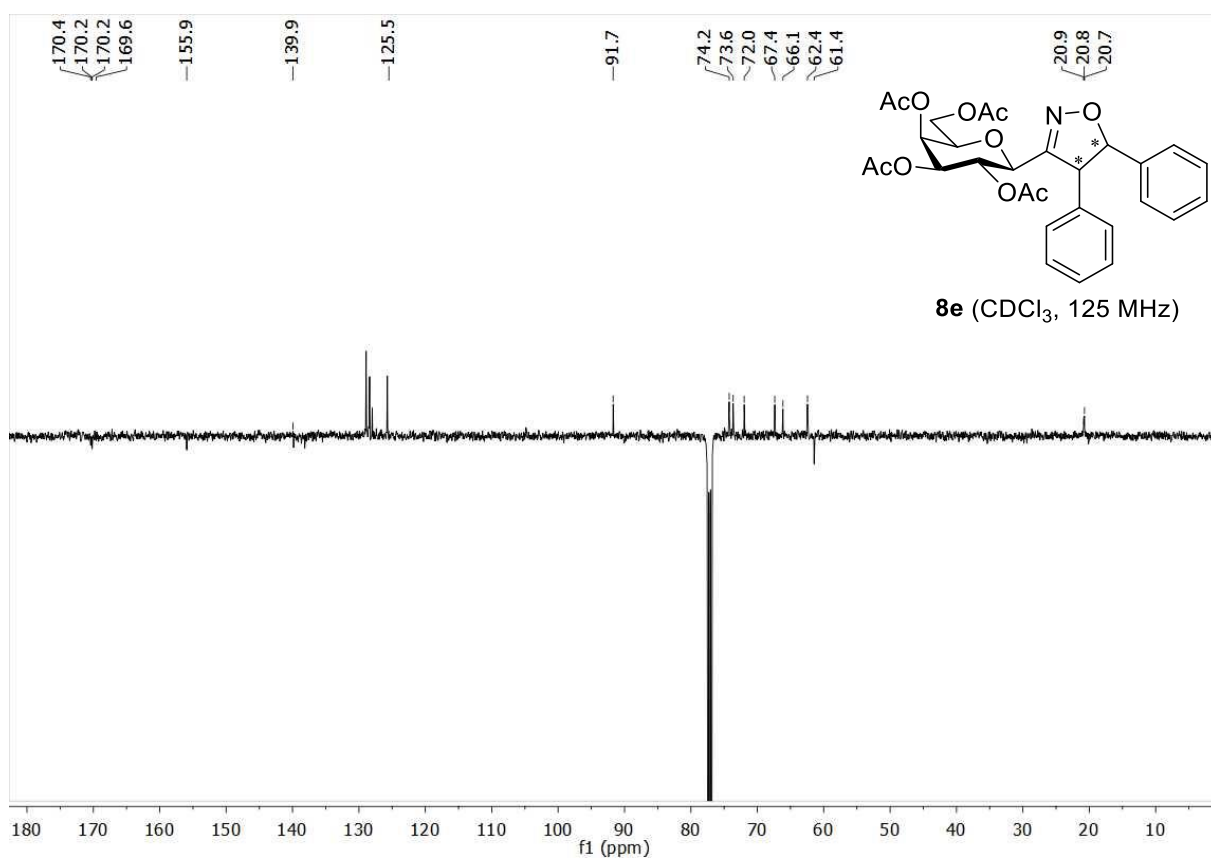
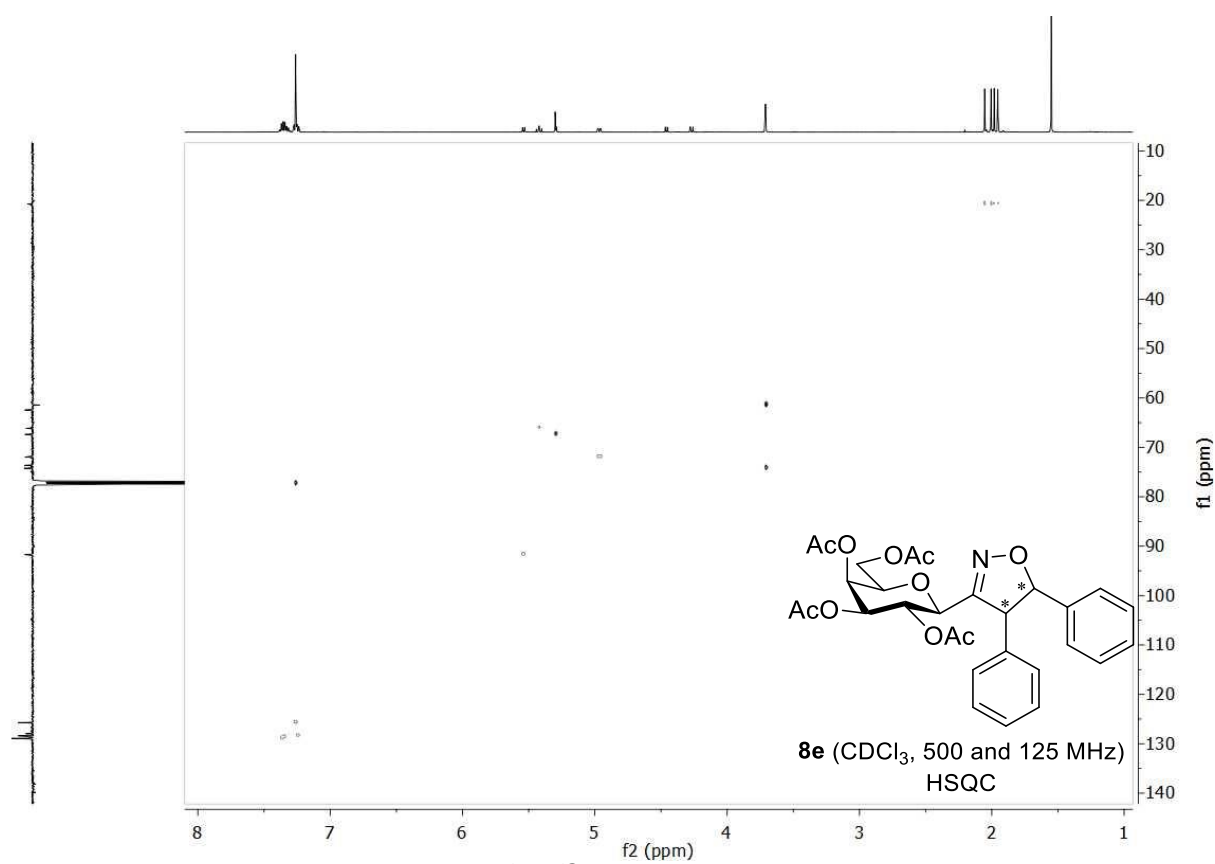
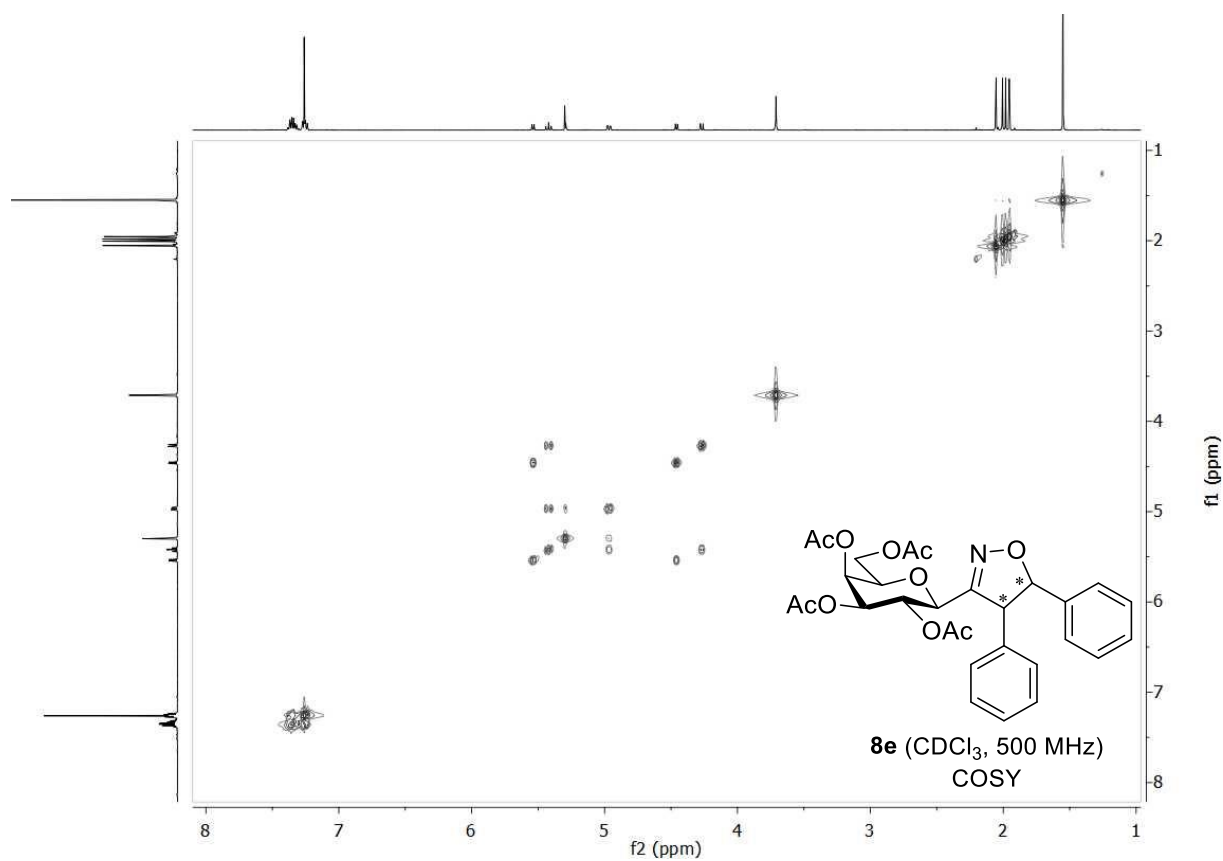


Figure S100. ¹³C NMR spectrum of **8e**



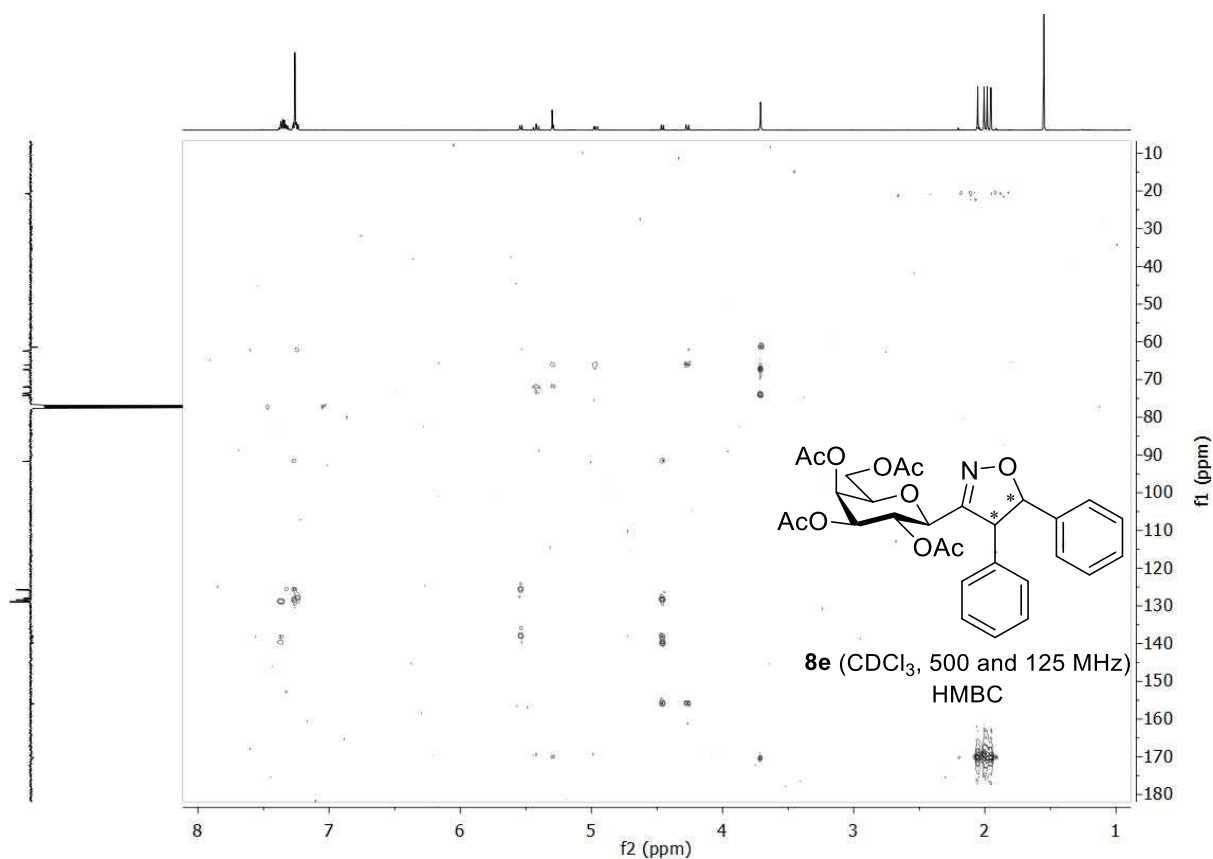


Figure S103. ^1H - ^{13}C HMBC spectrum of **8e**

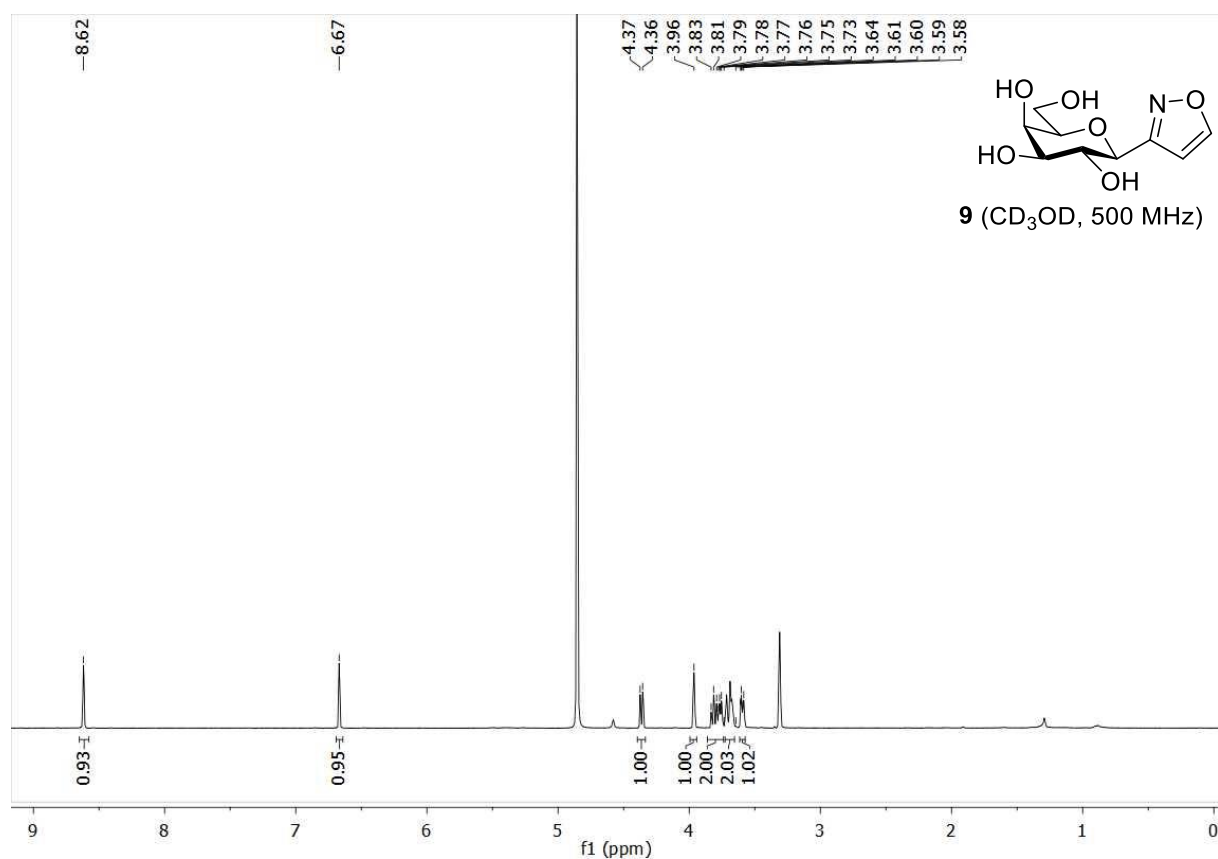


Figure S104. ¹H NMR spectrum of **9**

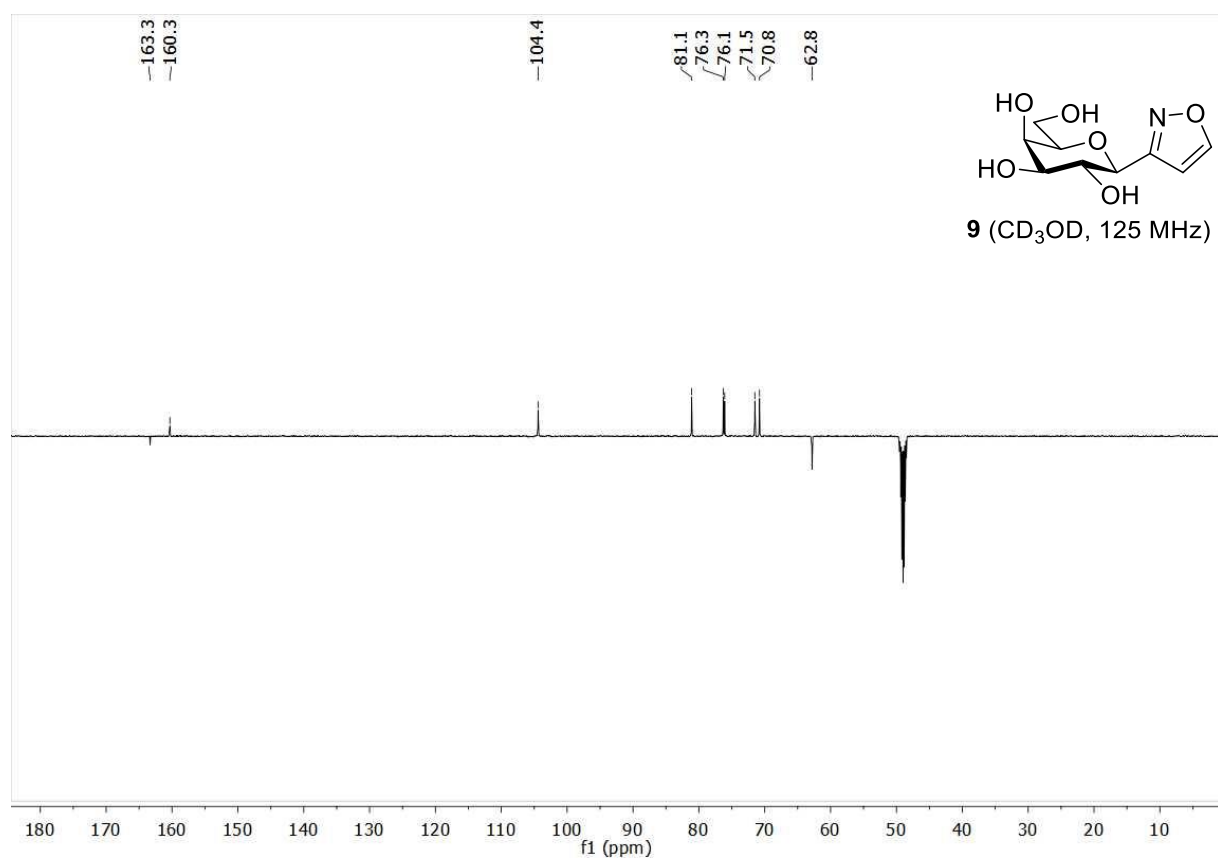


Figure S105. ¹³C NMR spectrum of **9**

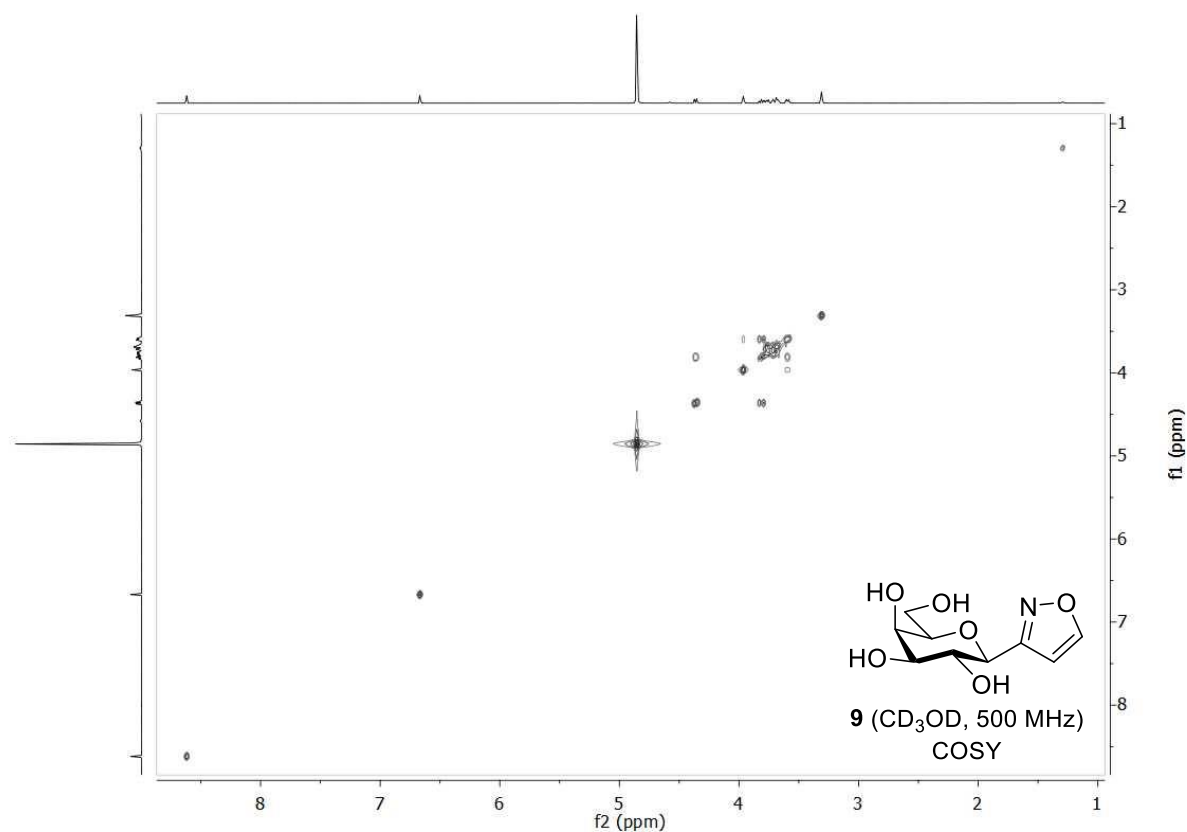


Figure S106. ^1H - ^1H COSY spectrum of **9**

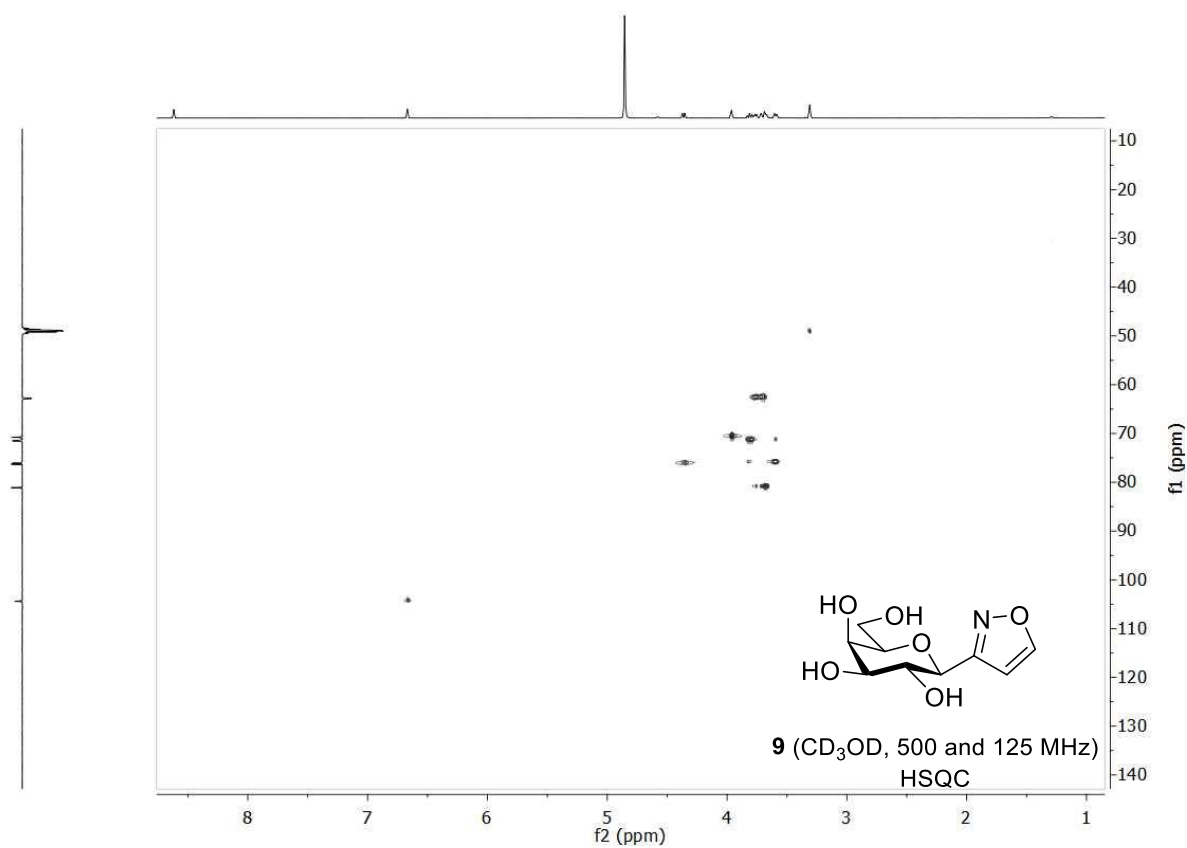


Figure S107. ^1H - ^{13}C HSQC spectrum of **9**

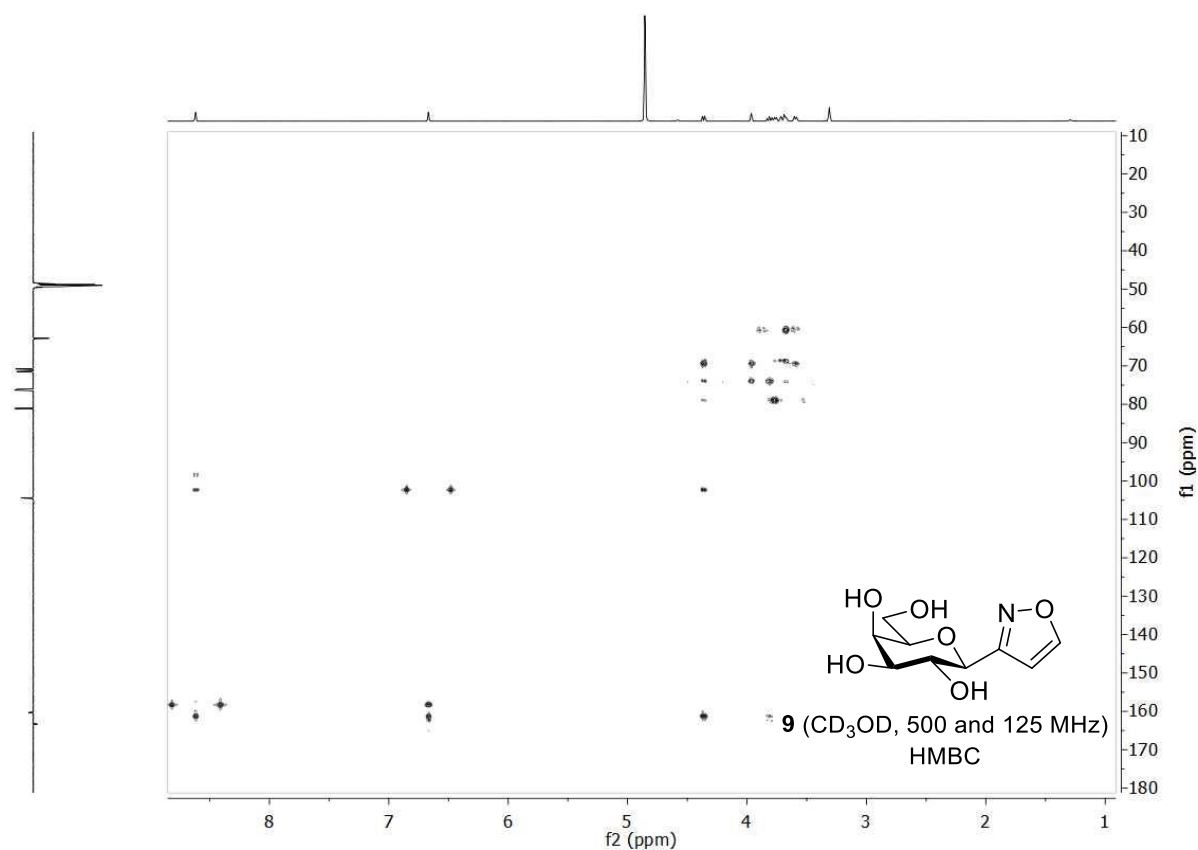


Figure S108. ^1H - ^{13}C HMBC spectrum of **9**

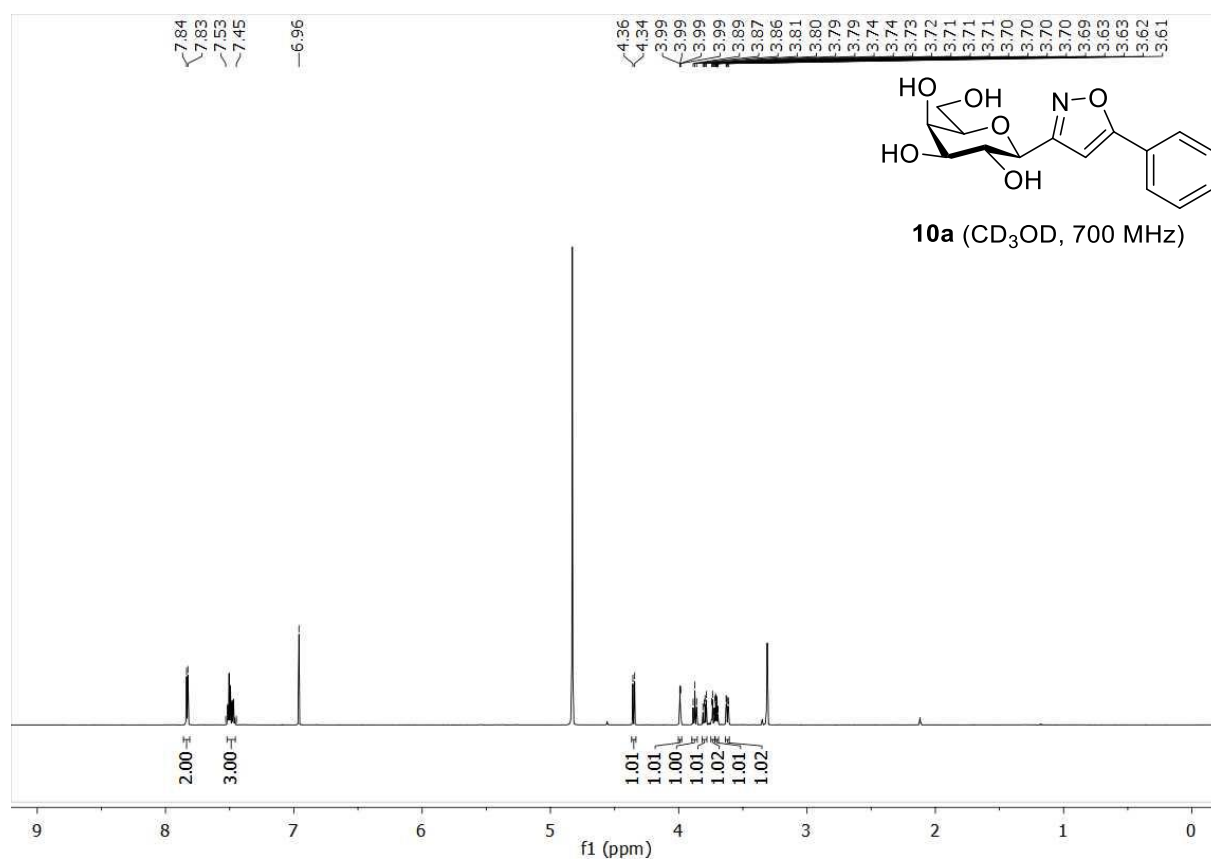


Figure S109. ^1H NMR spectrum of **10a**

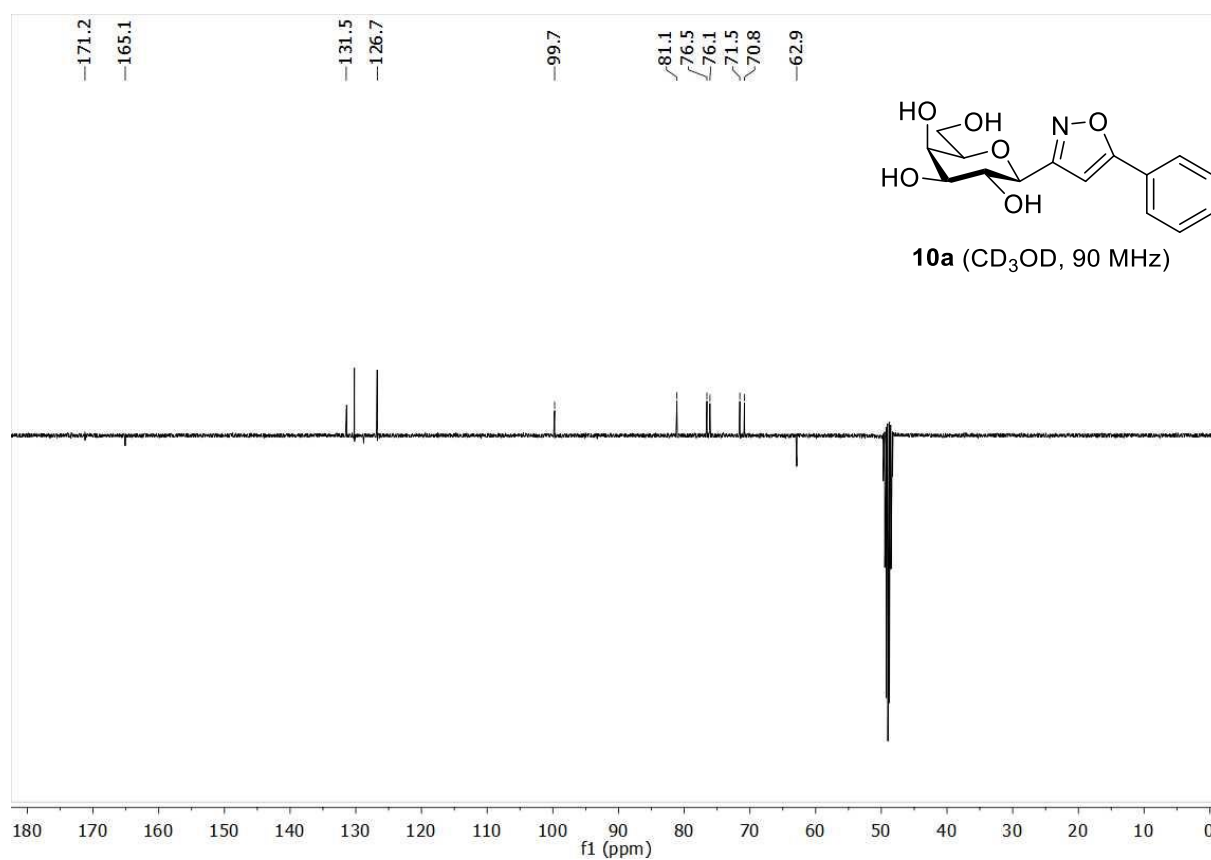


Figure S110. ^{13}C NMR spectrum of **10a**

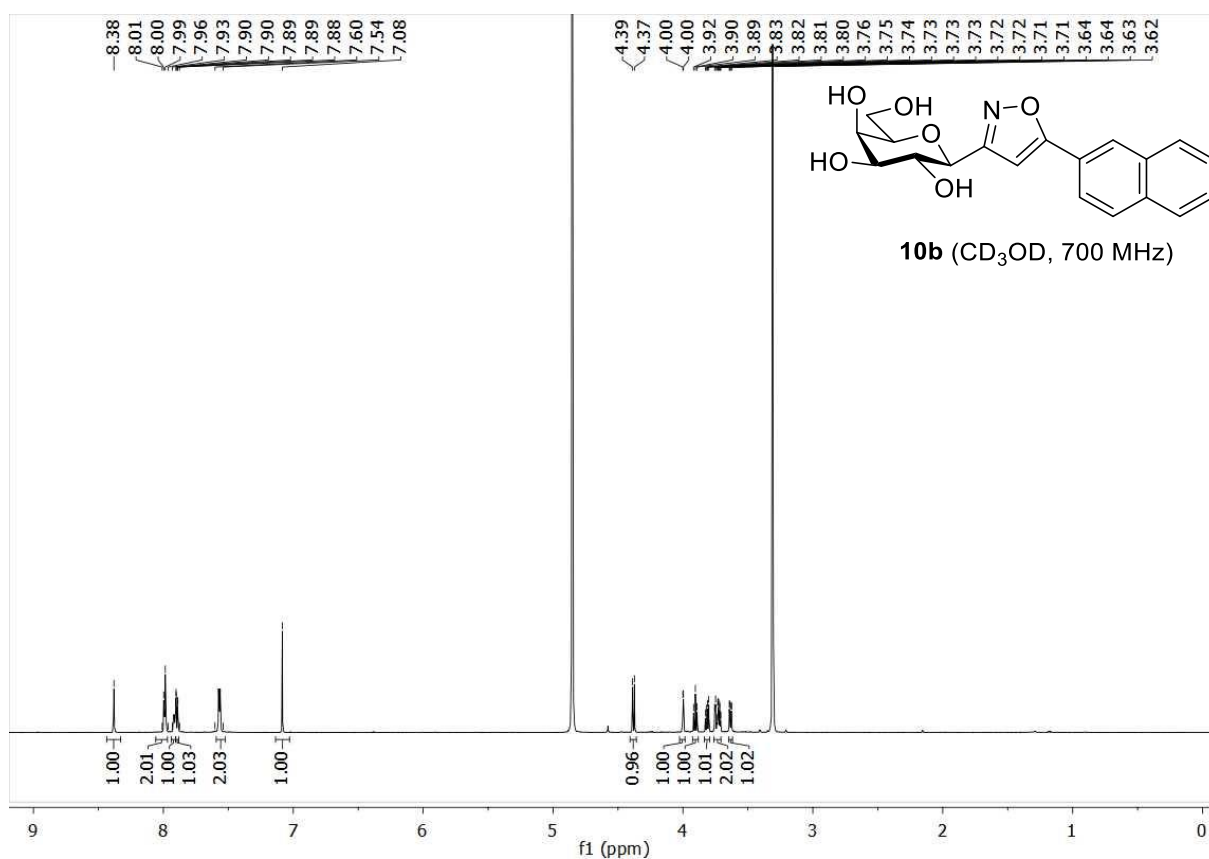


Figure S111. ^1H NMR spectrum of **10b**

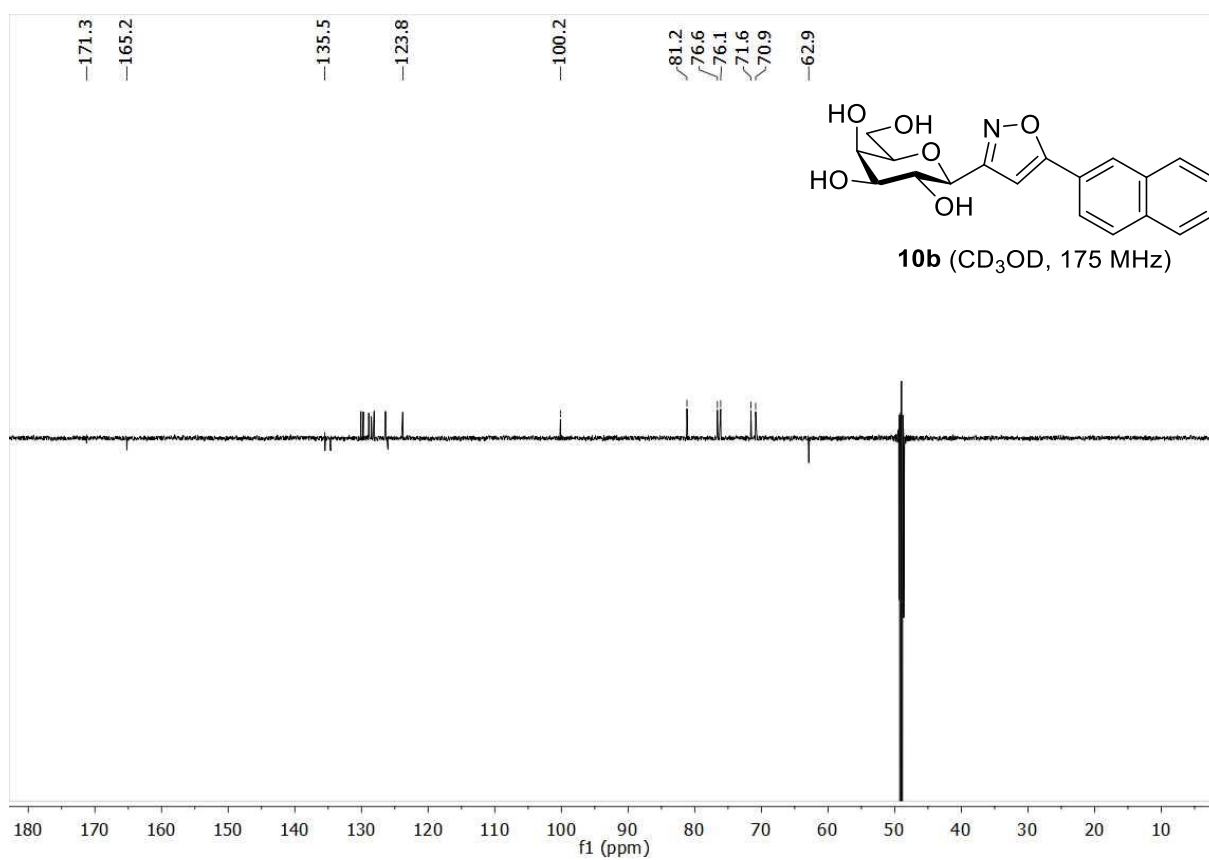
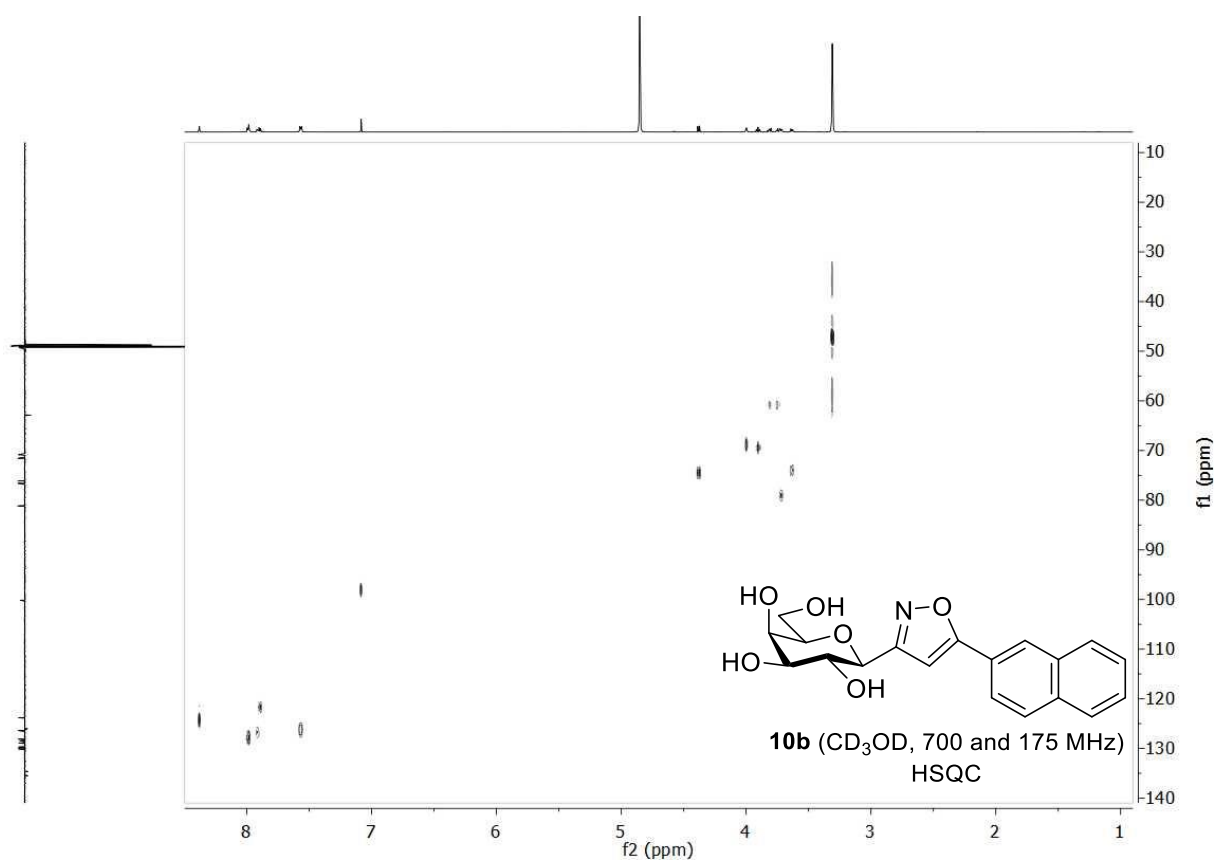
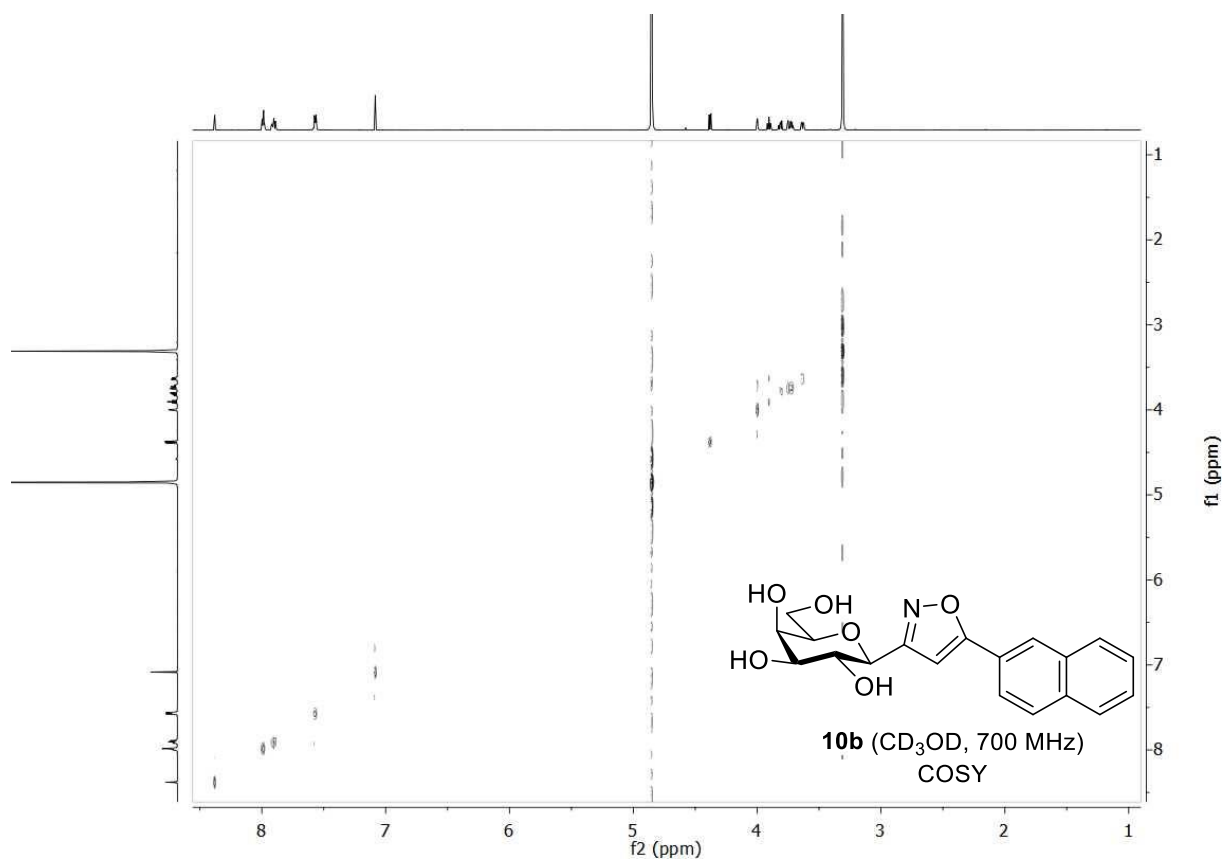


Figure S112. ^{13}C NMR spectrum of **10b**



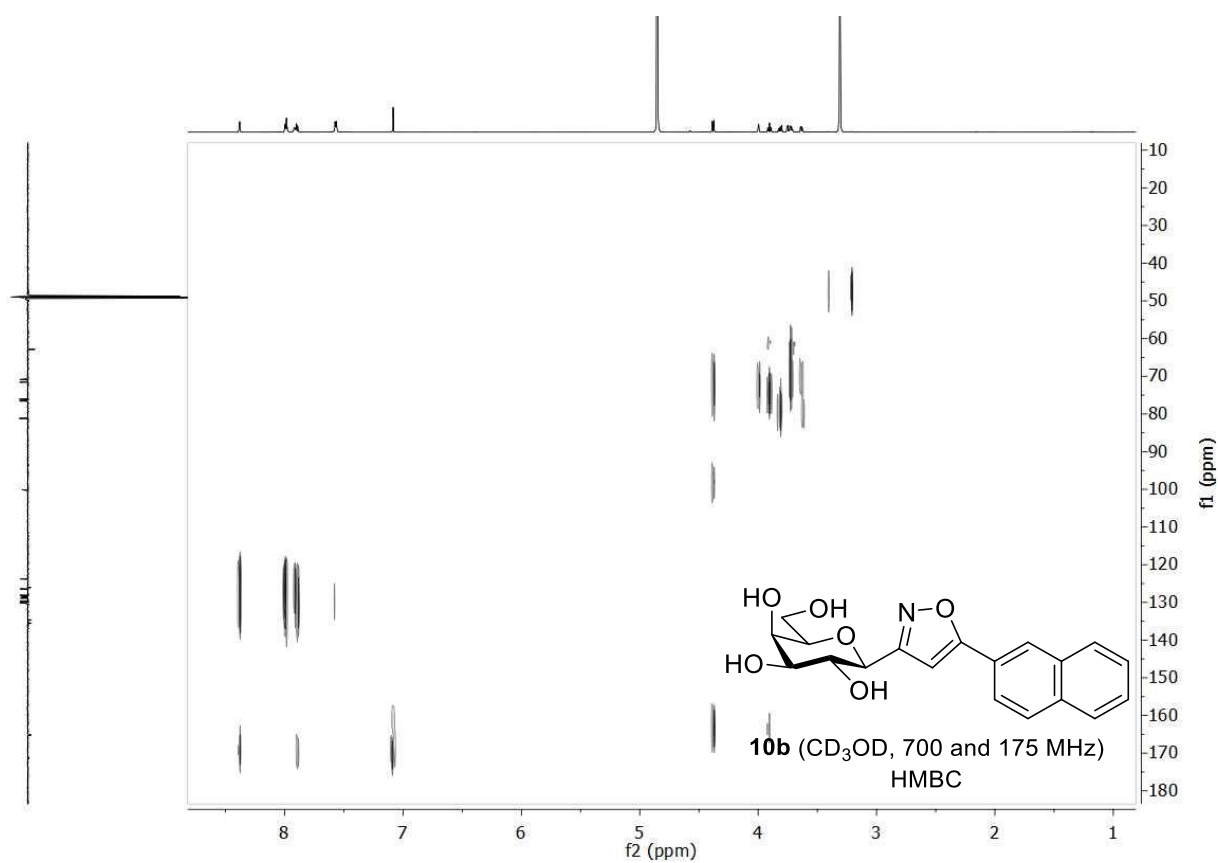


Figure S115. ^1H - ^{13}C HMBC spectrum of **10b**

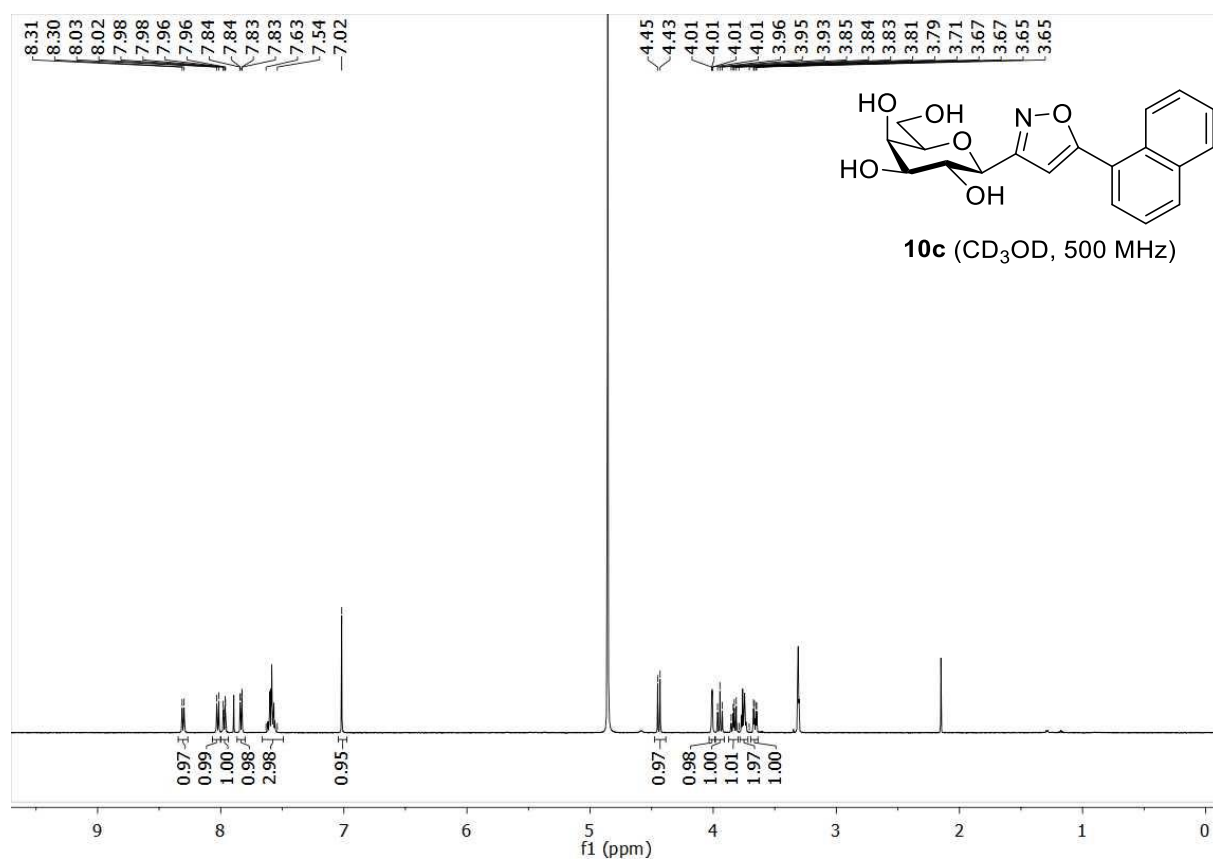


Figure S116. ¹H NMR spectrum of **10c**

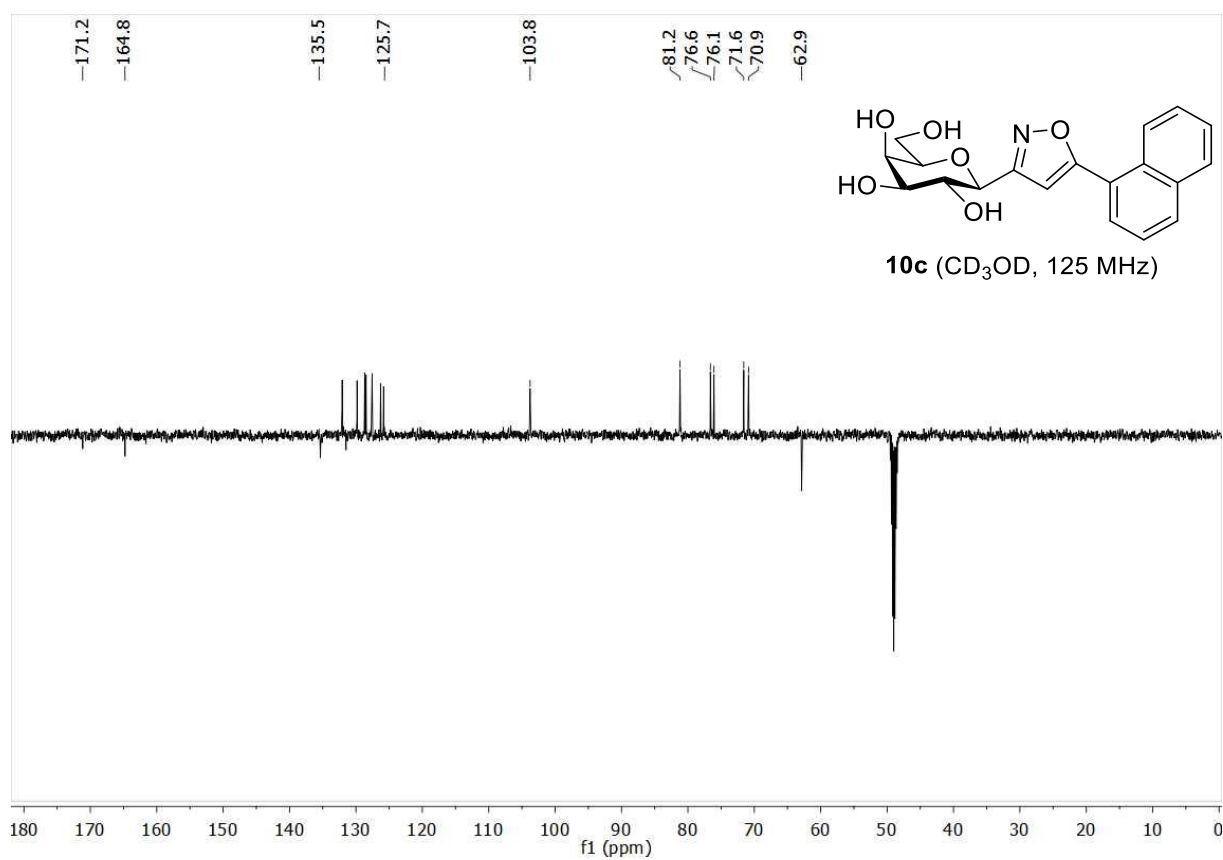


Figure S117. ¹³C NMR spectrum of **10c**

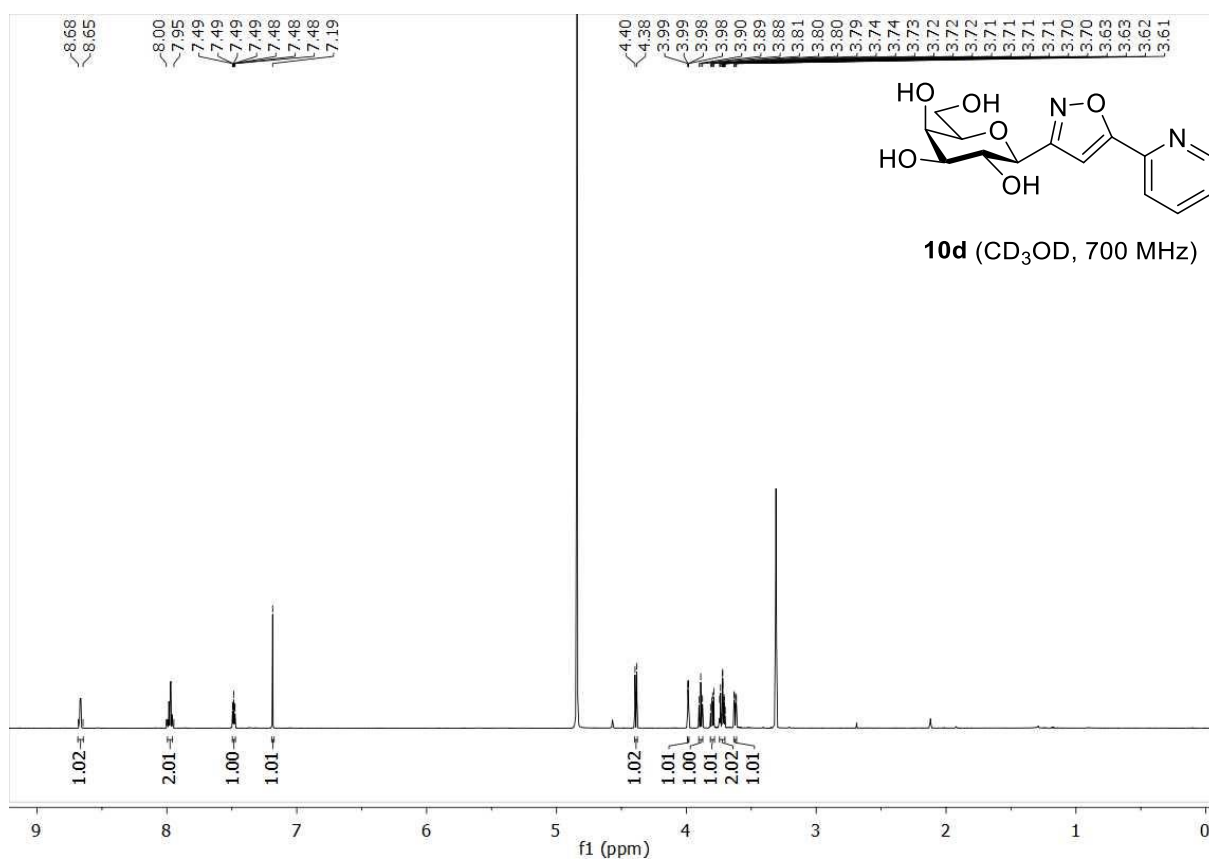


Figure S118. ^1H NMR spectrum of **10d**

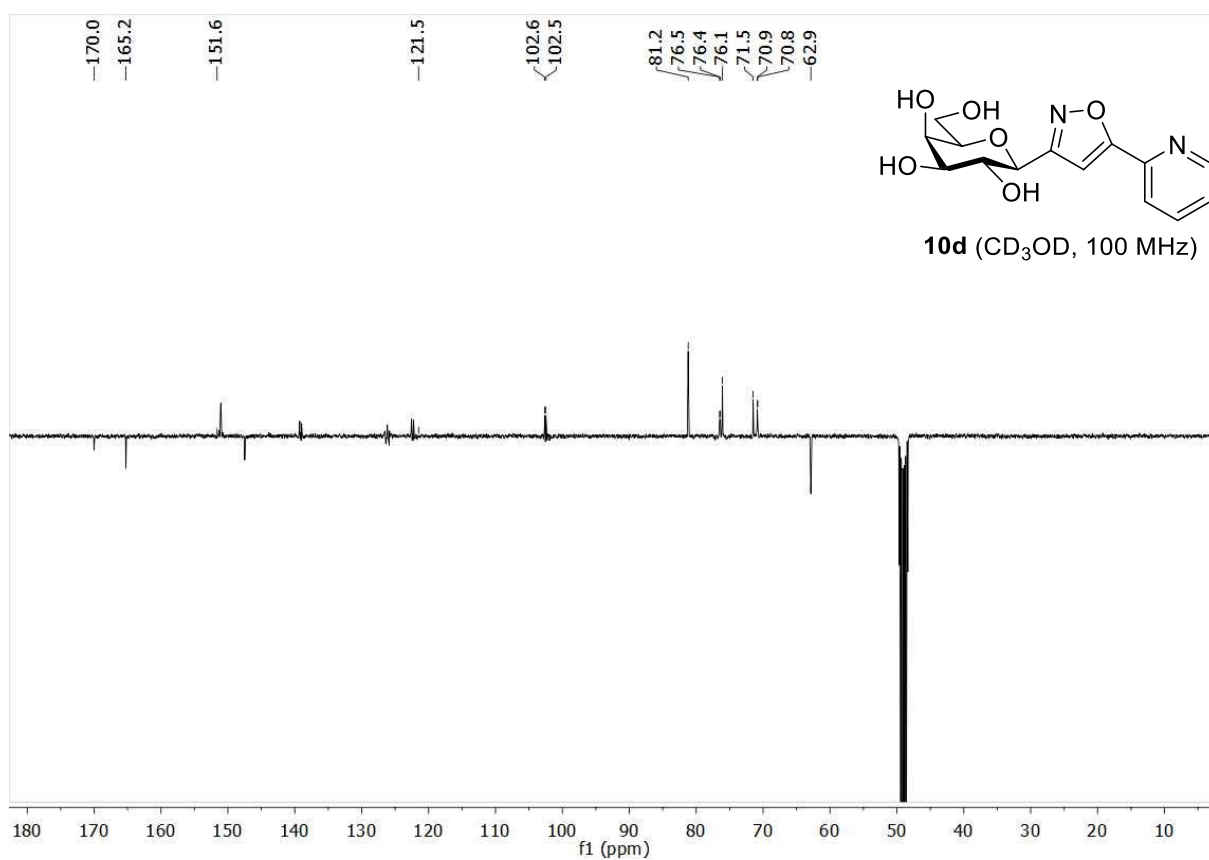


Figure S119. ^{13}C NMR spectrum of **10d**

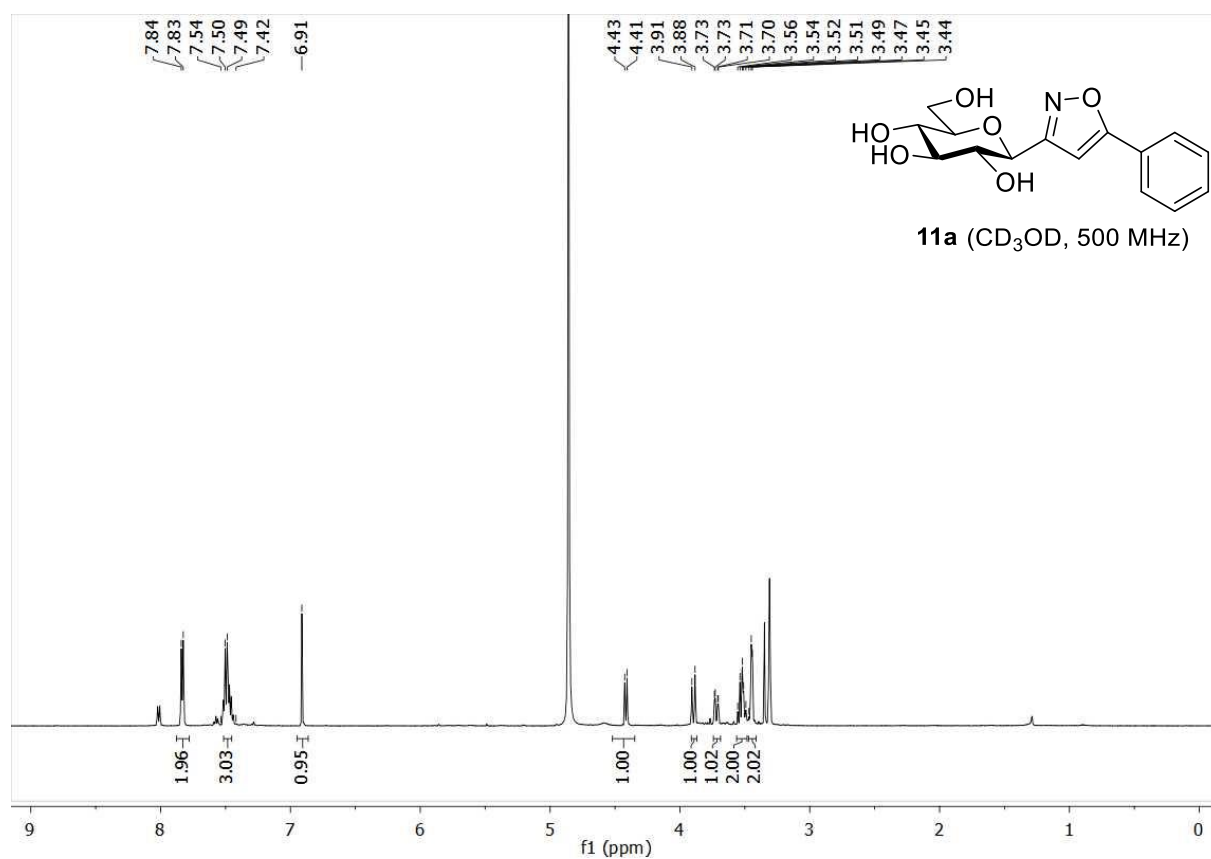


Figure S120. ^1H NMR spectrum of **11a**

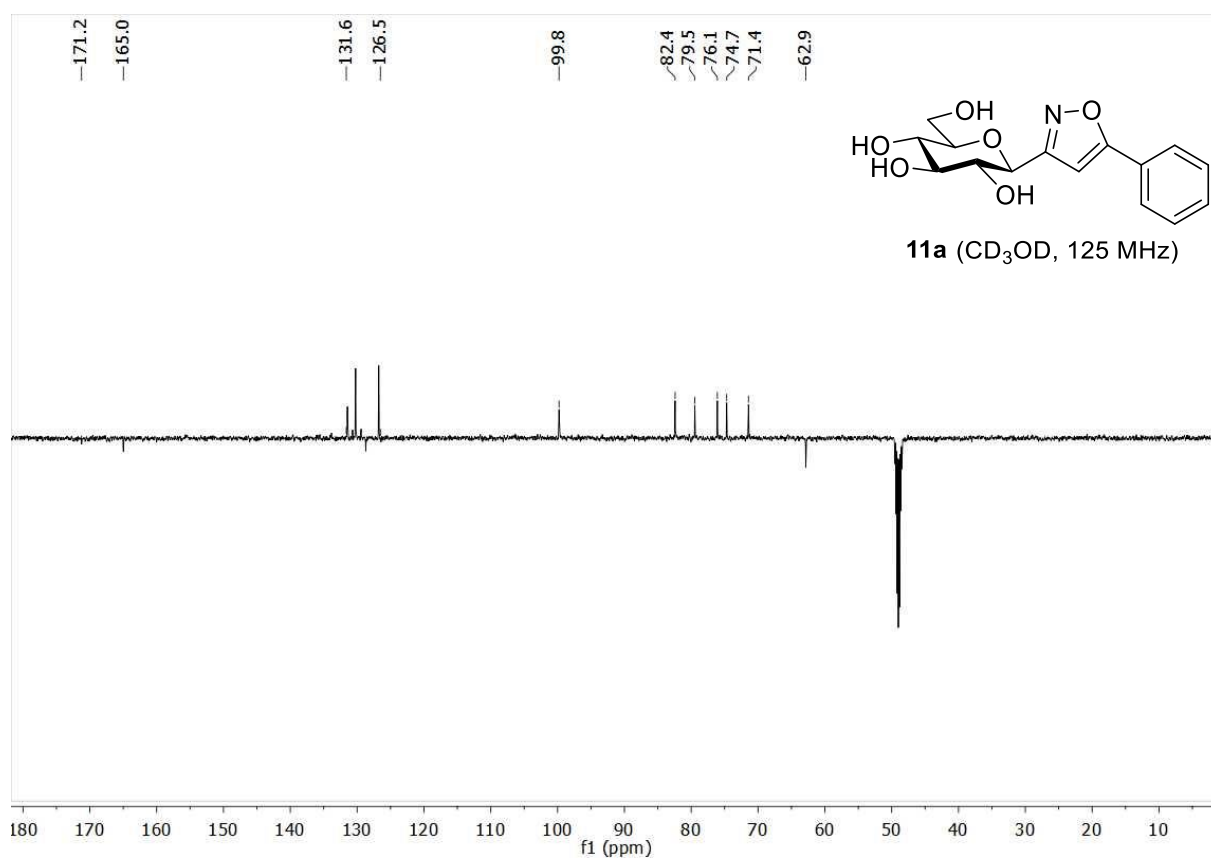


Figure S121. ^{13}C NMR spectrum of **11a**

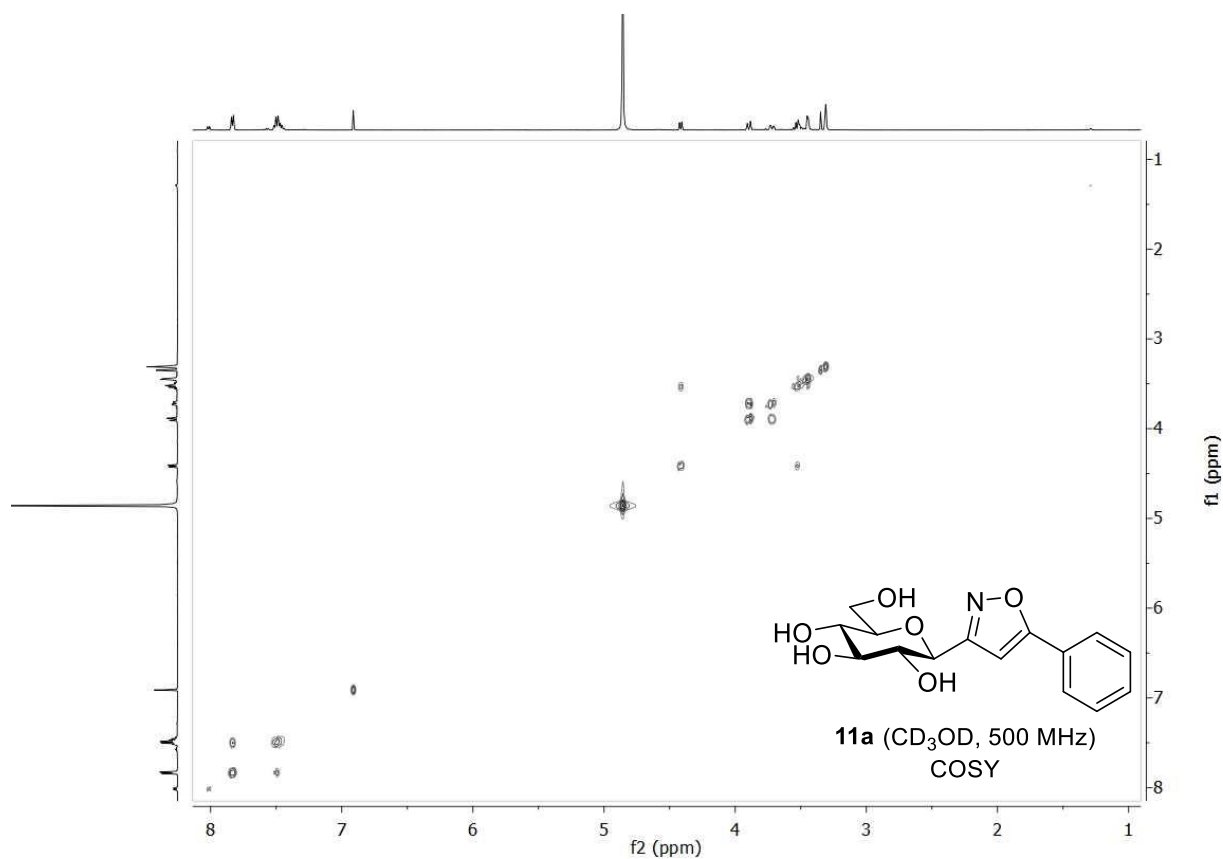


Figure S122. ^1H - ^1H COSY spectrum of **11a**

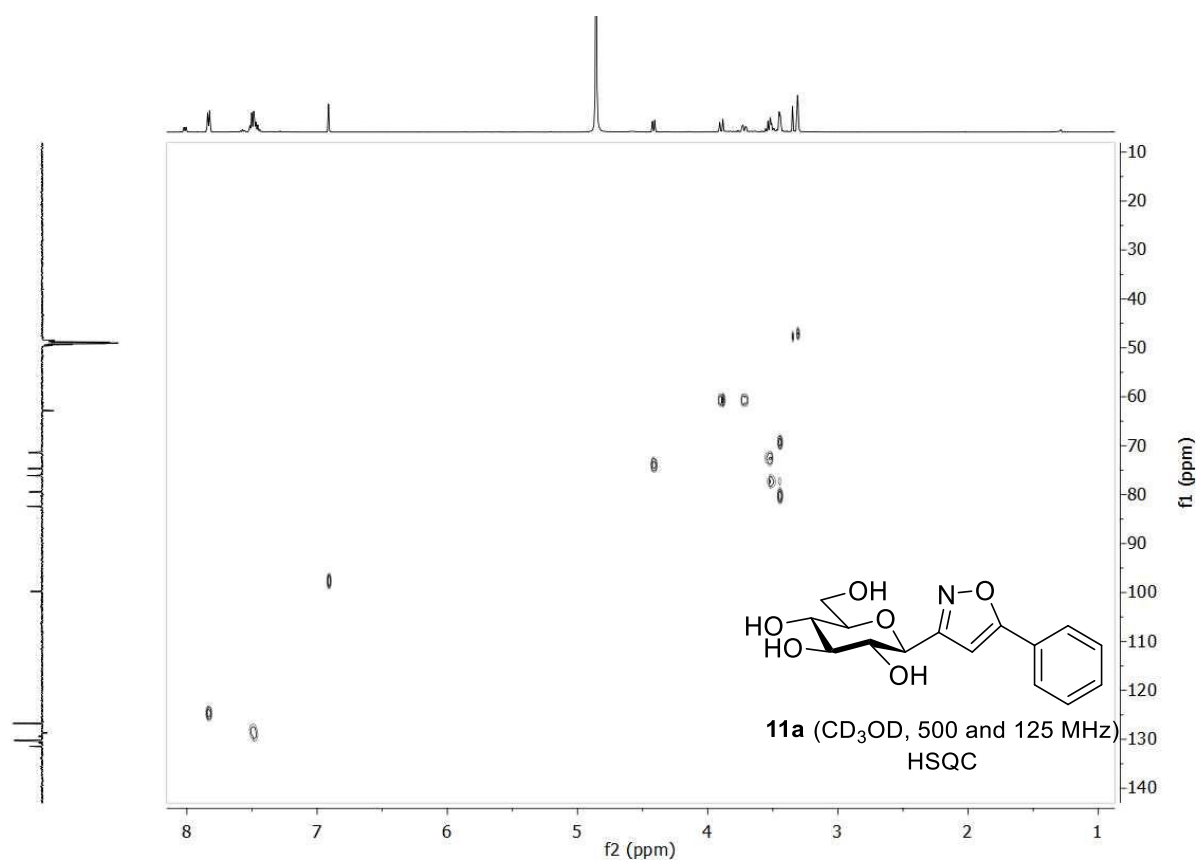


Figure S123. ^1H - ^{13}C HSQC spectrum of **11a**

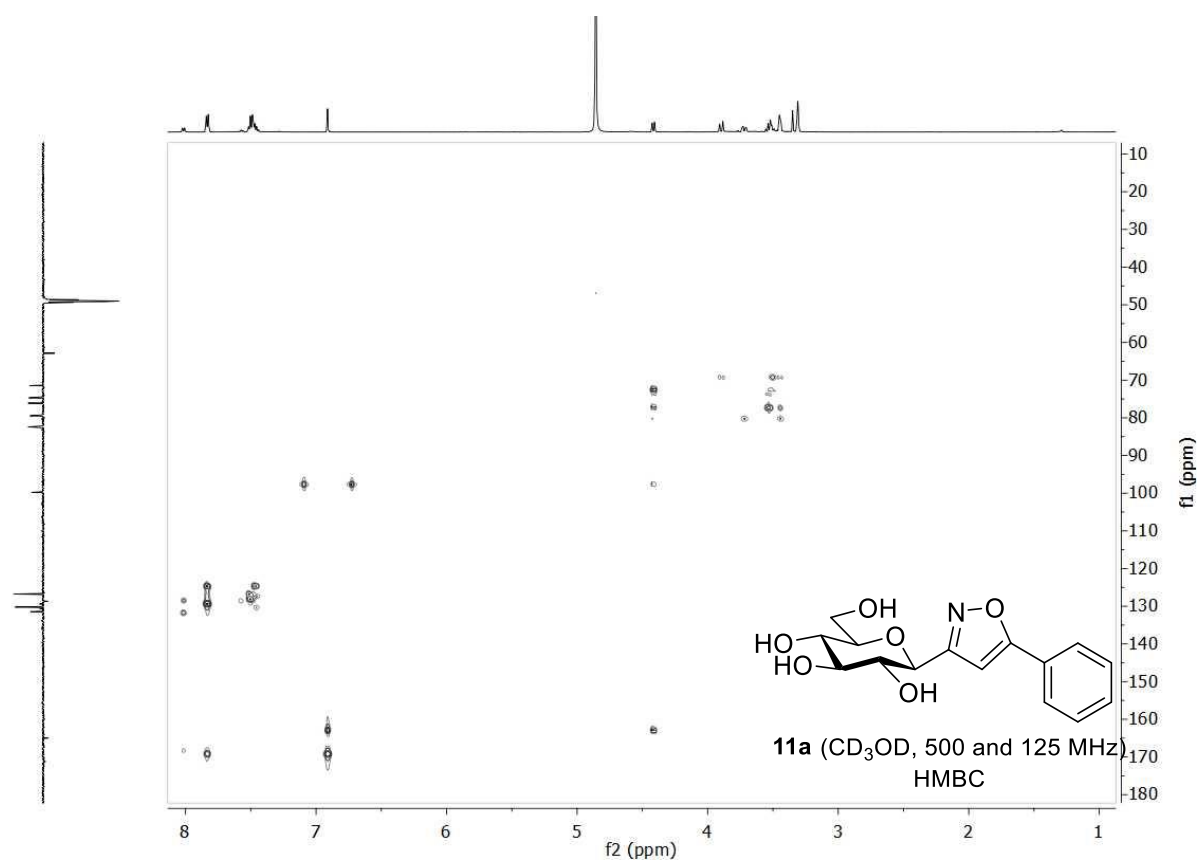


Figure S124. ^1H - ^{13}C HMBC spectrum of **11a**

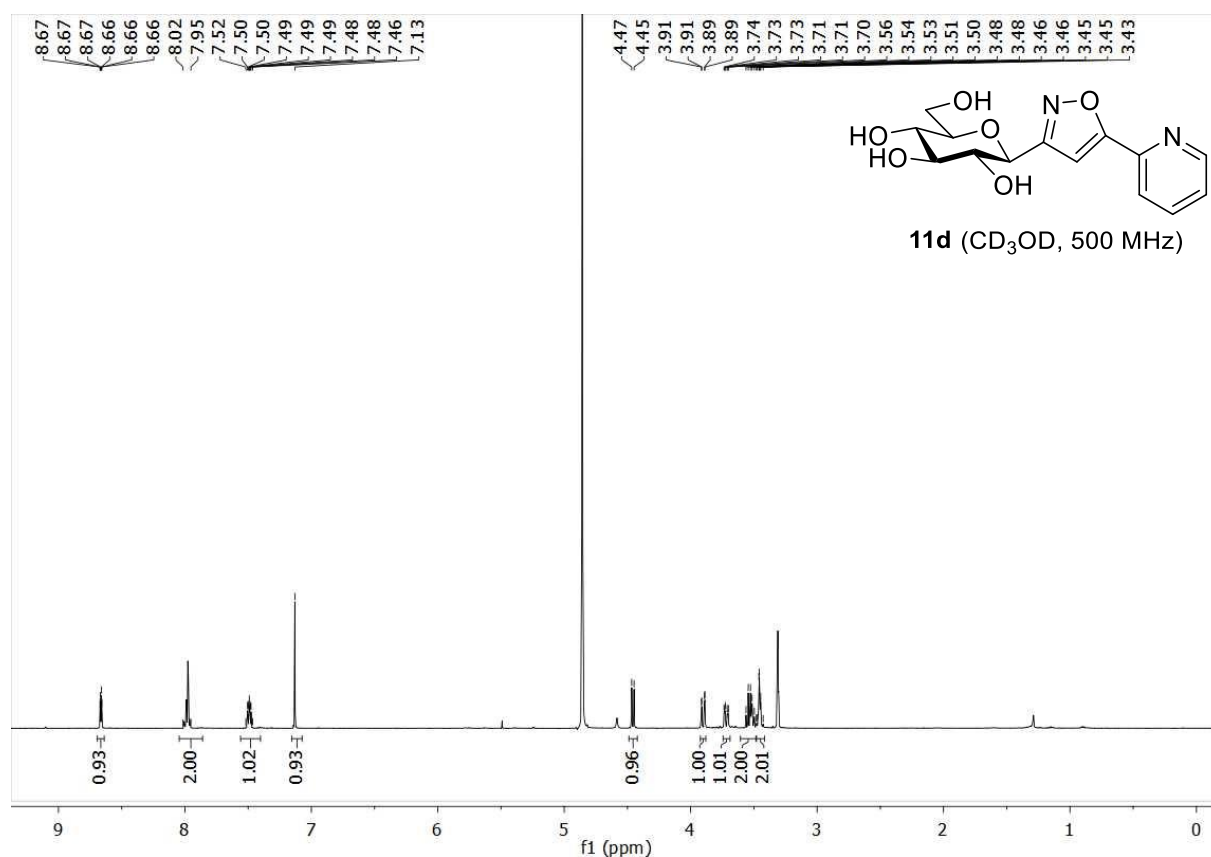


Figure S125. ¹H NMR spectrum of **11d**

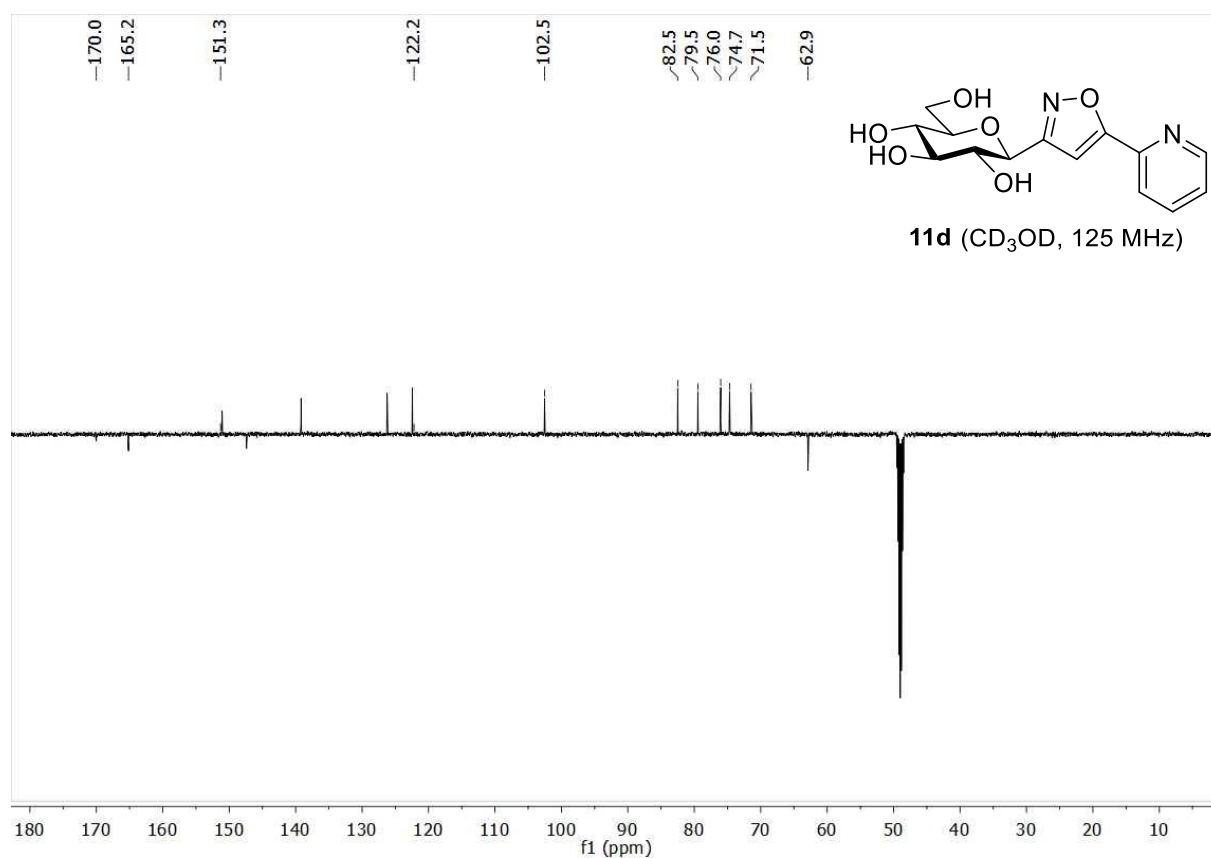


Figure S126. ¹³C NMR spectrum of **11d**

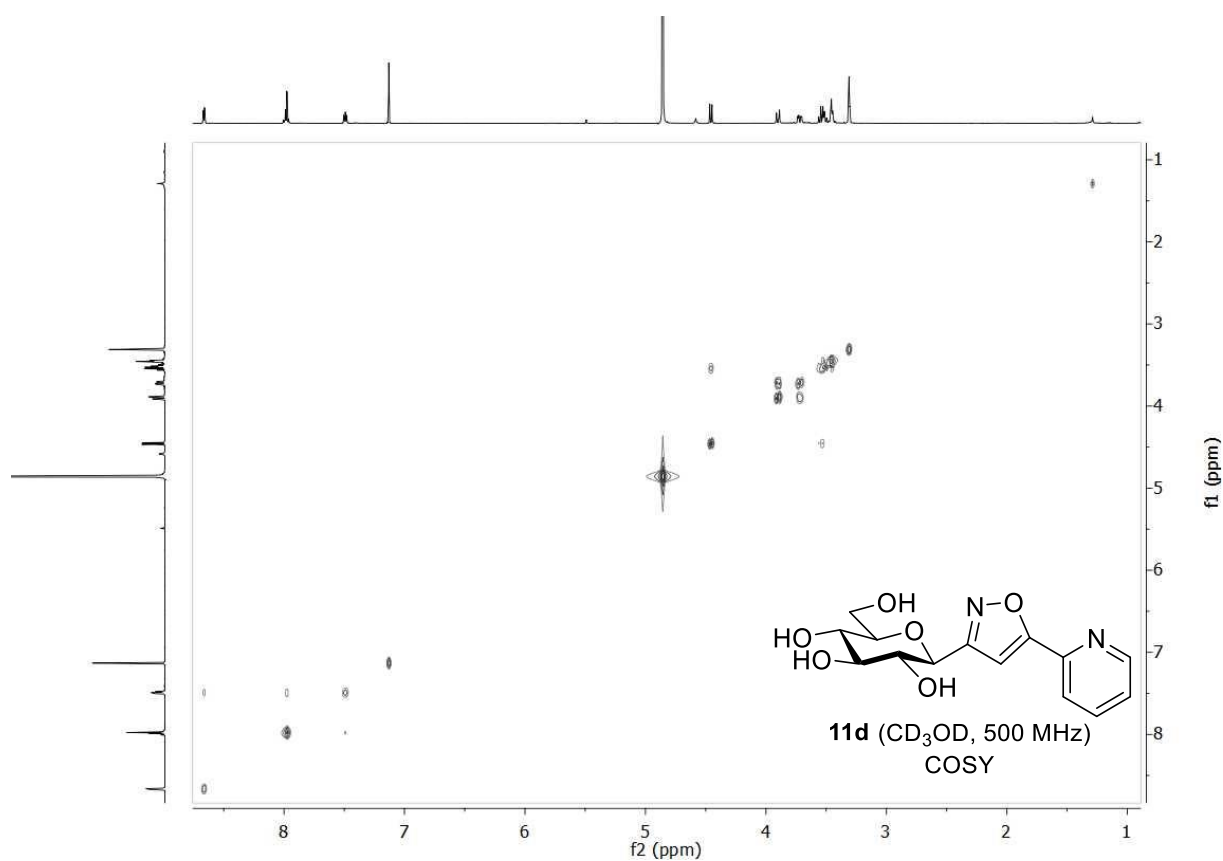


Figure S127. ^1H - ^1H COSY spectrum of **11d**

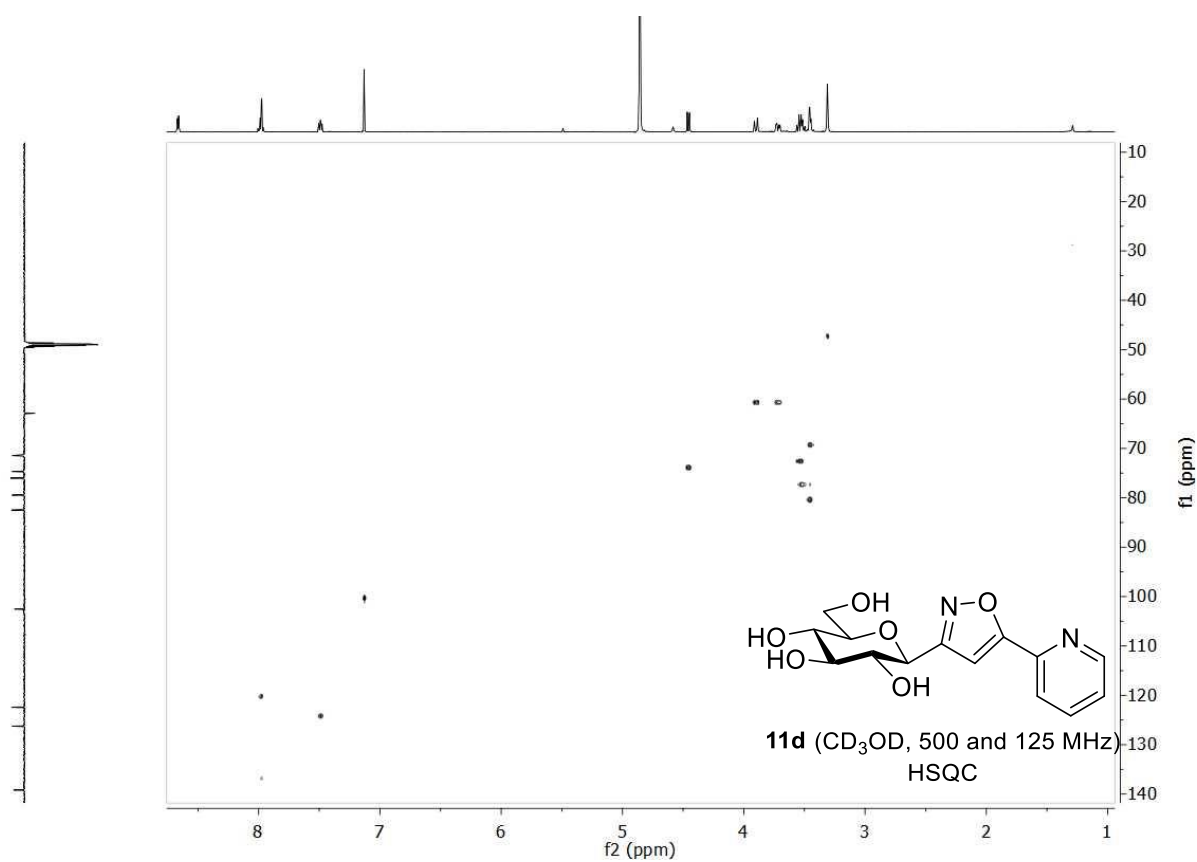


Figure S128. ^1H - ^{13}C HSQC spectrum of **11d**

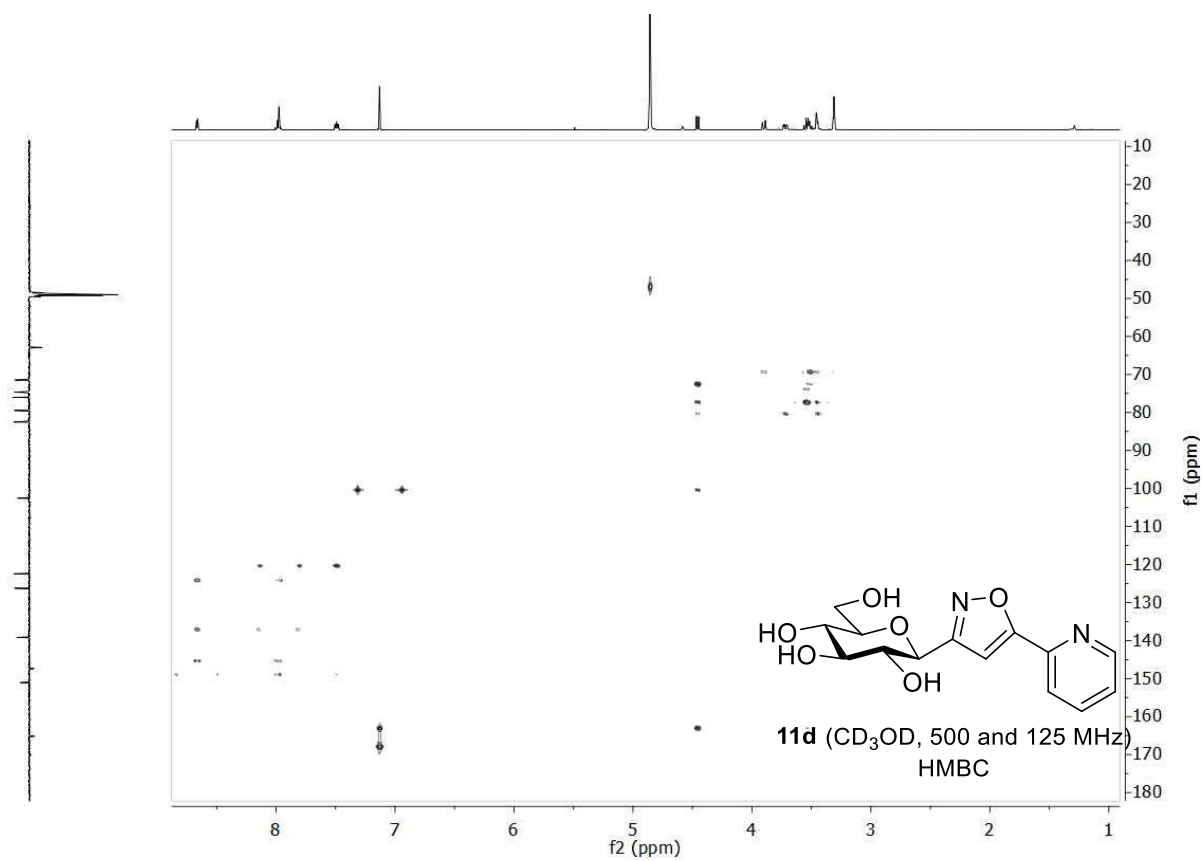


Figure S129. ^1H - ^{13}C HMBC spectrum of **11d**

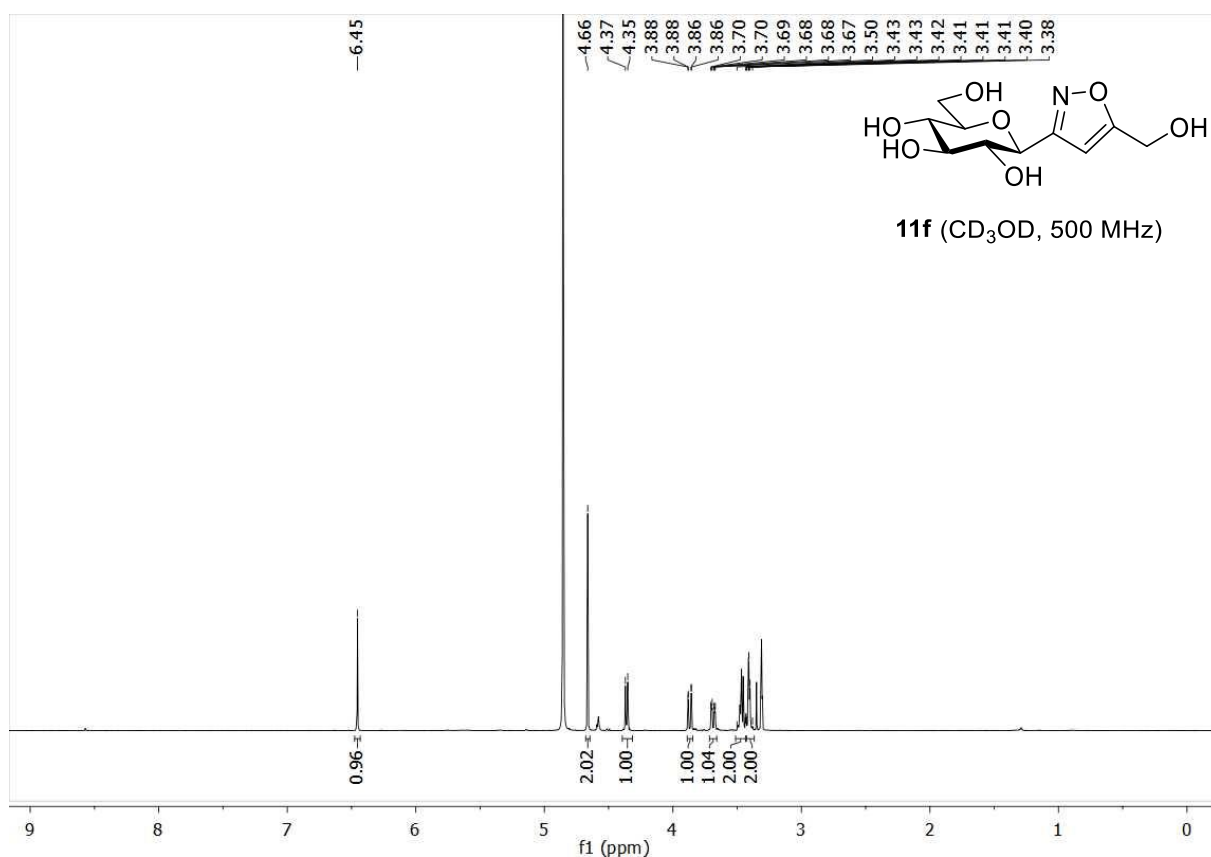


Figure S130. ^1H NMR spectrum of **11f**

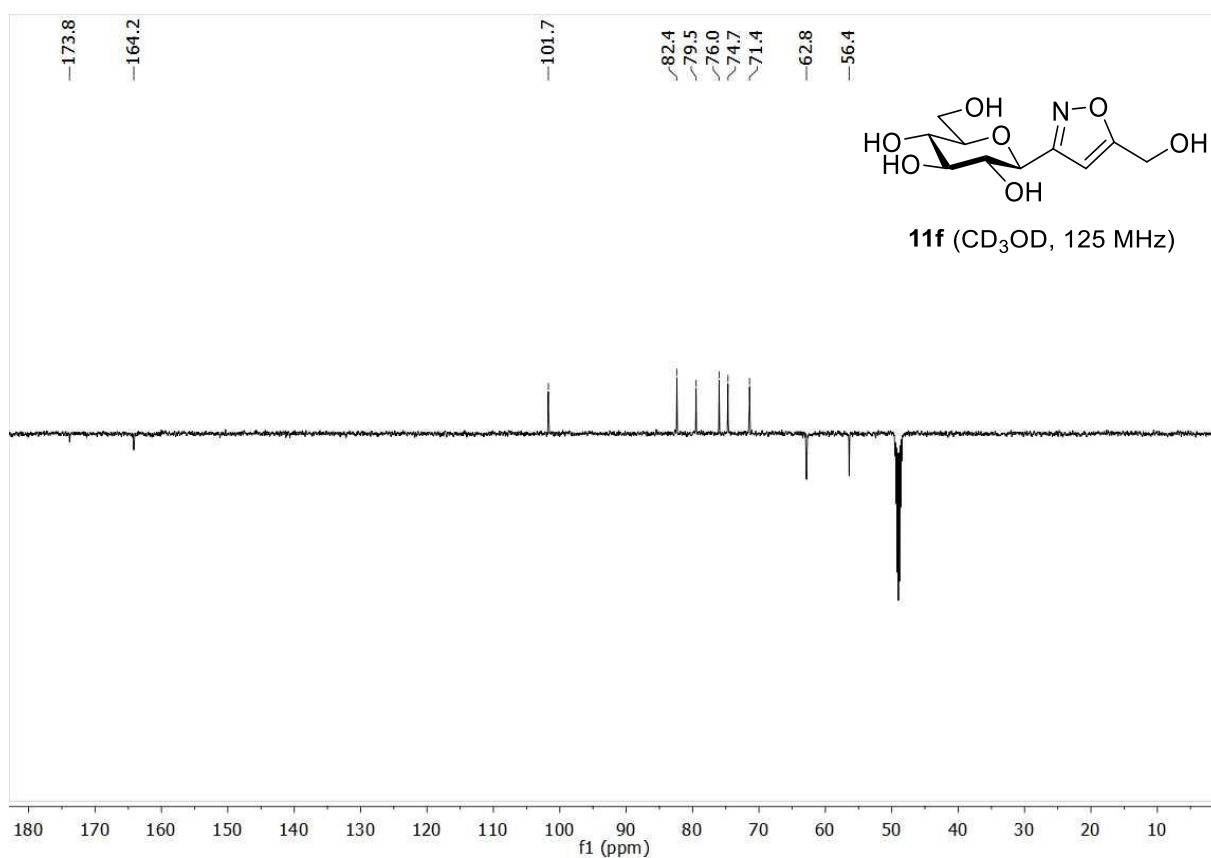


Figure S131. ^{13}C NMR spectrum of **11f**

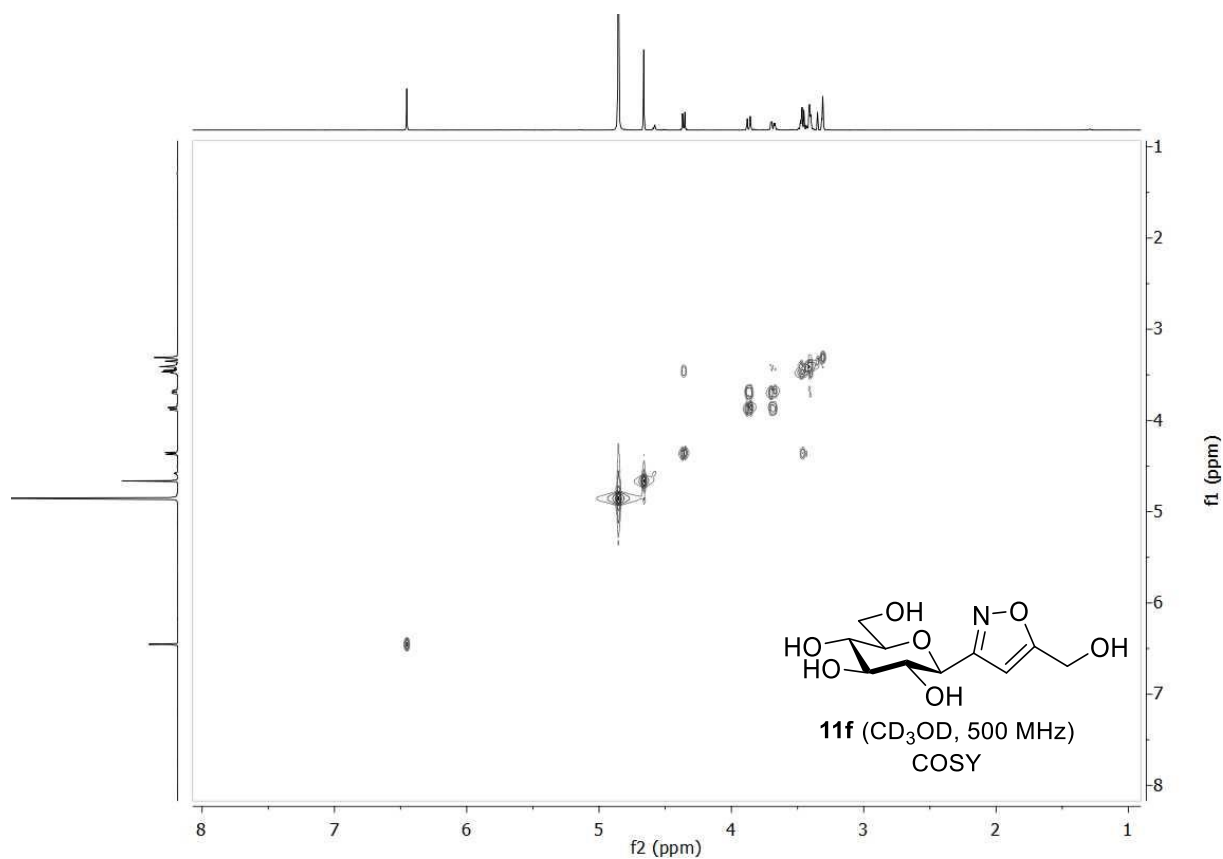


Figure S132. ^1H - ^1H COSY spectrum of **11f**

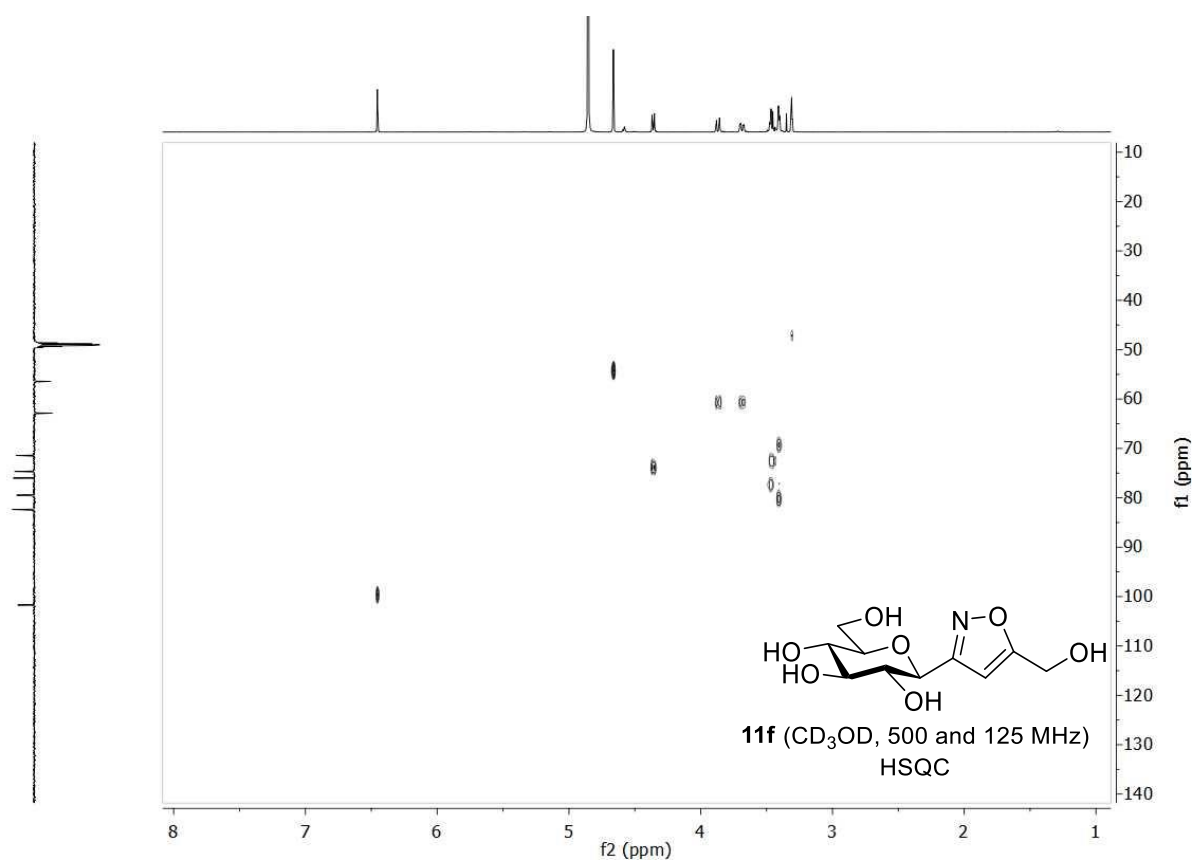


Figure S133. ^1H - ^{13}C HSQC spectrum of **11f**

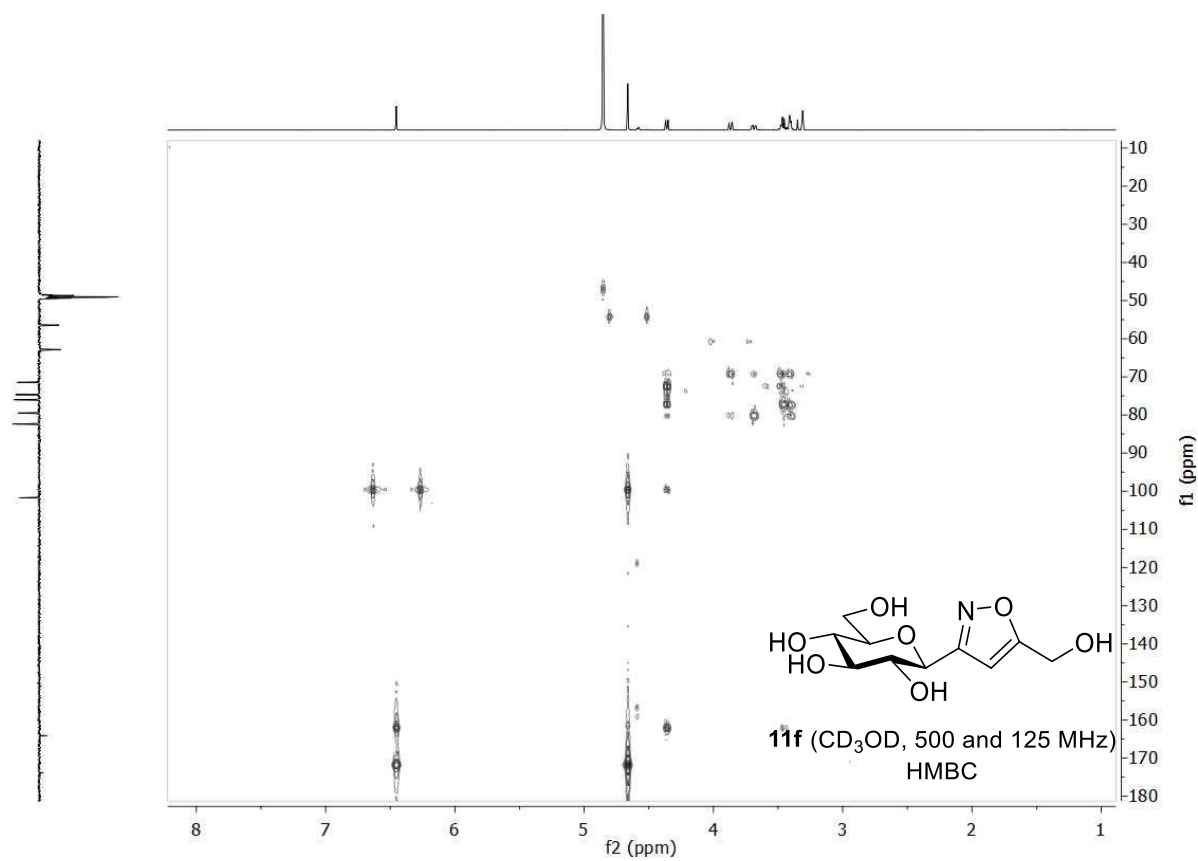


Figure S134. ^1H - ^{13}C HMBC spectrum of **11f**

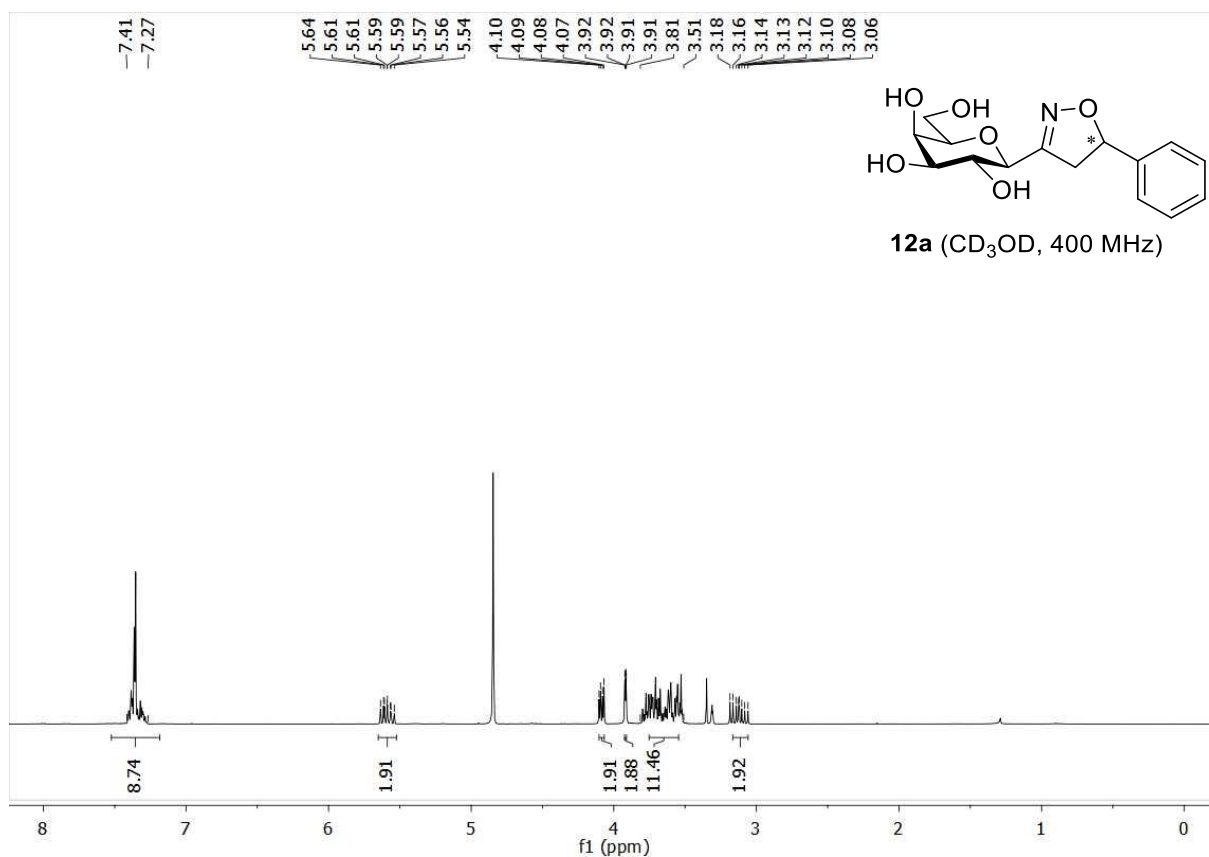


Figure S135. ¹H NMR spectrum of 12a

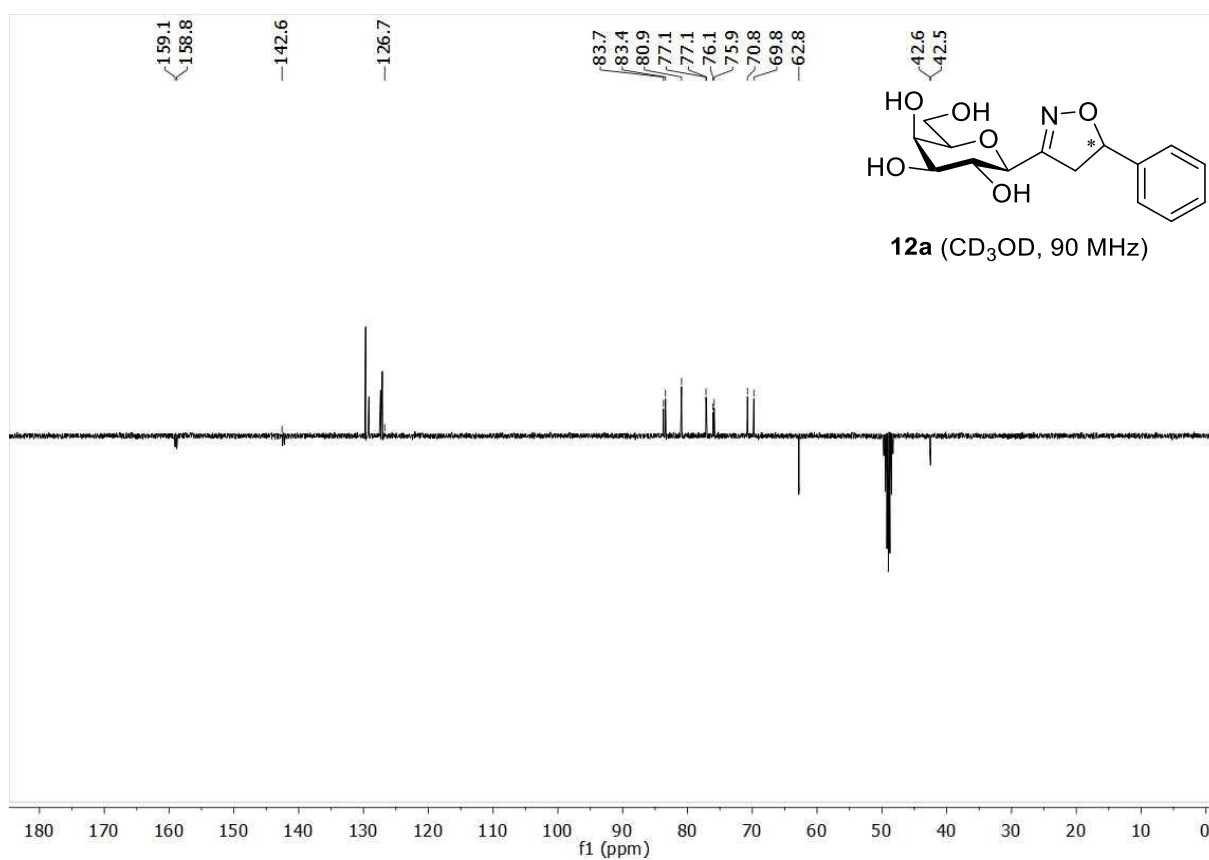
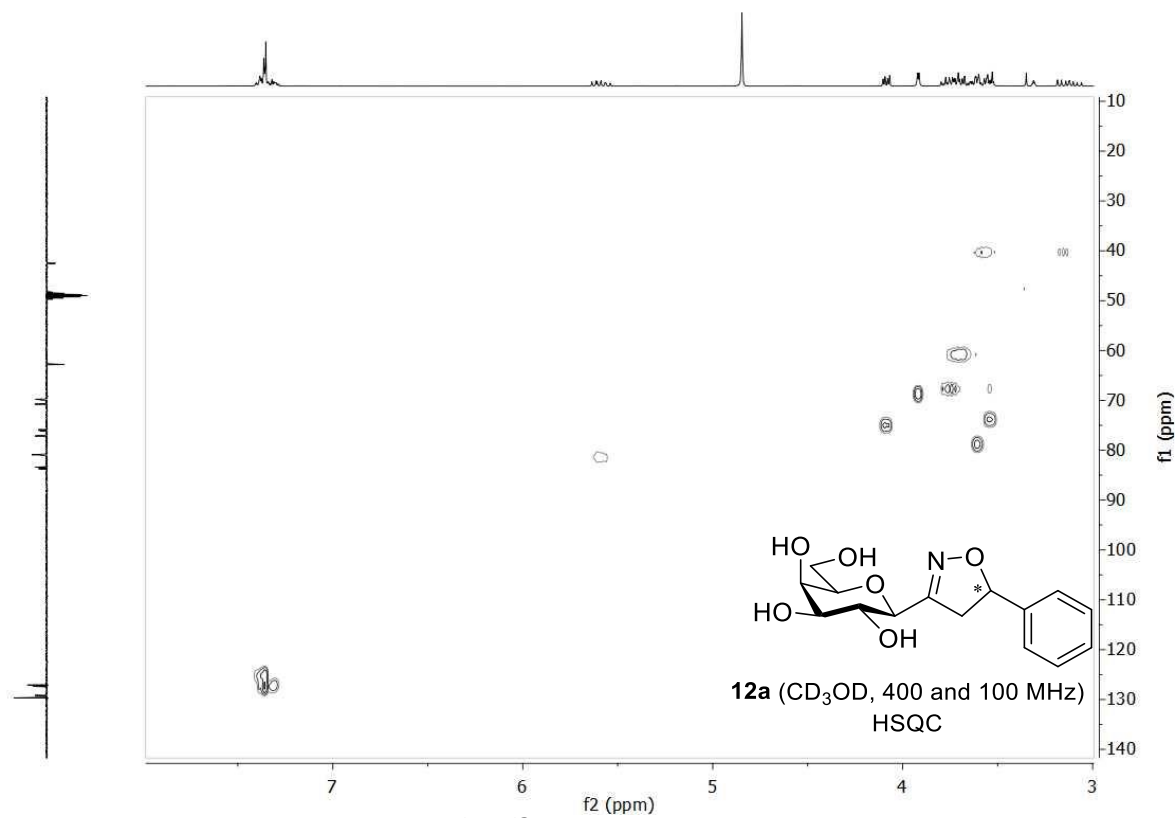
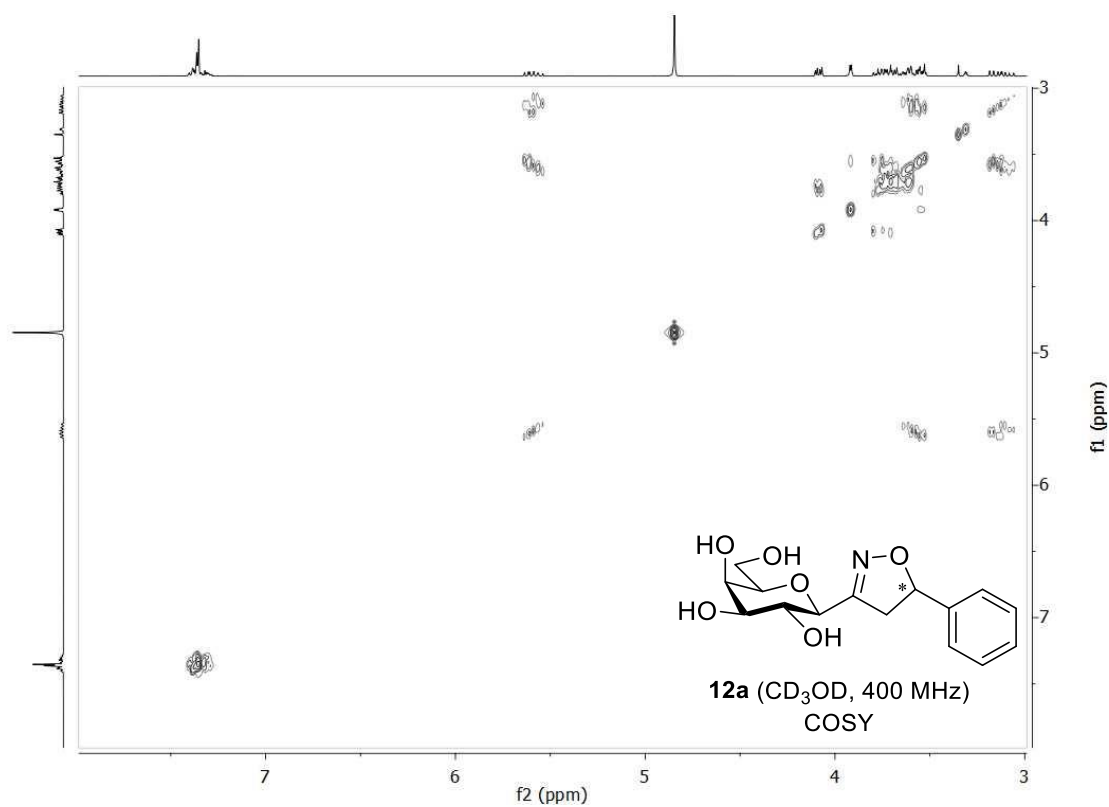


Figure S136. ¹³C NMR spectrum of 12a



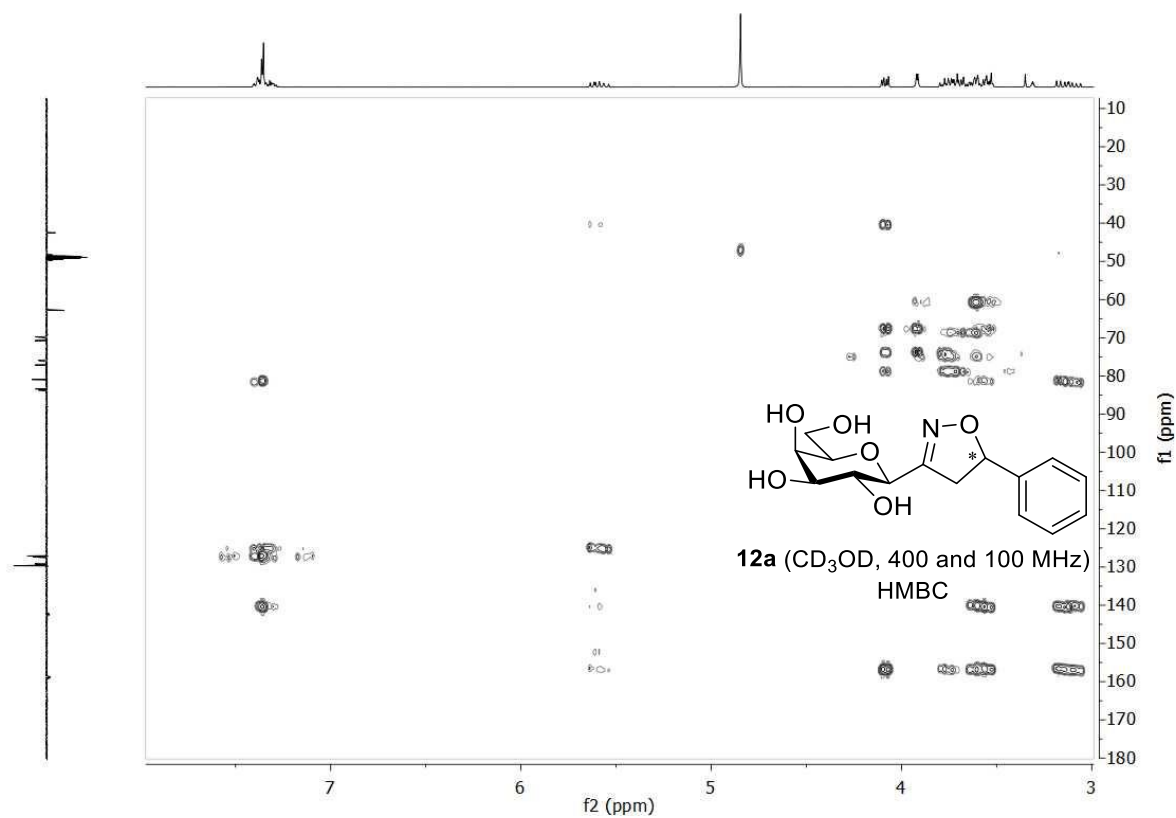


Figure S139. ¹H-¹³C HMBC spectrum of **12a**

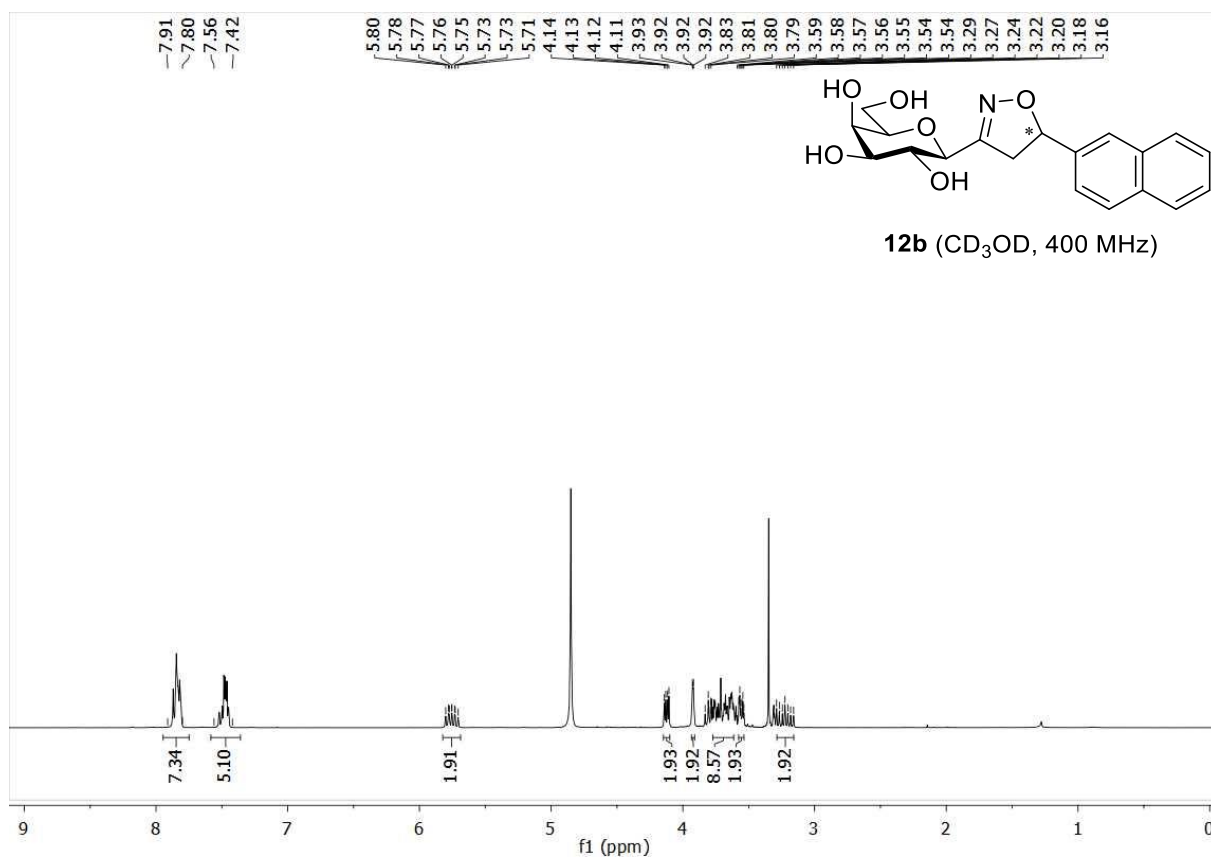


Figure S140. ¹H NMR spectrum of **12b**

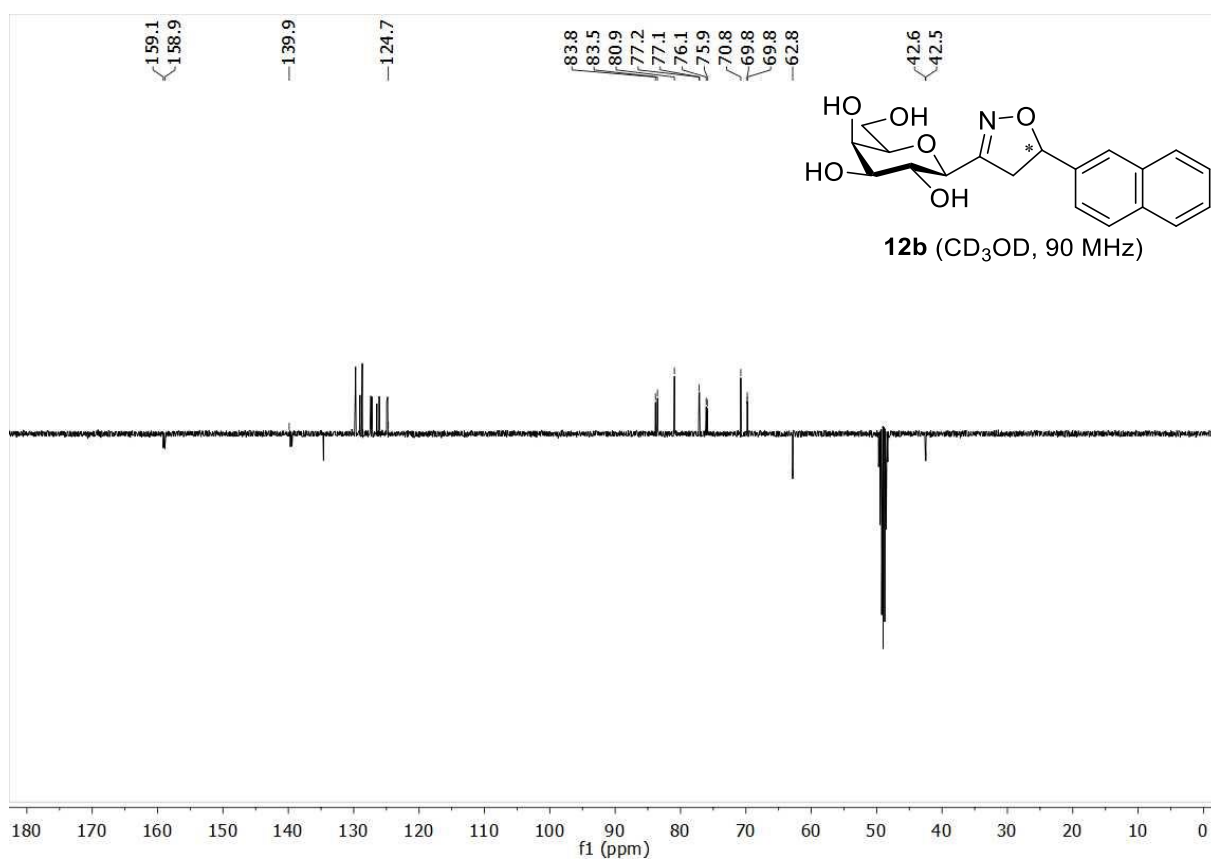


Figure S141. ¹³C NMR spectrum of **12b**

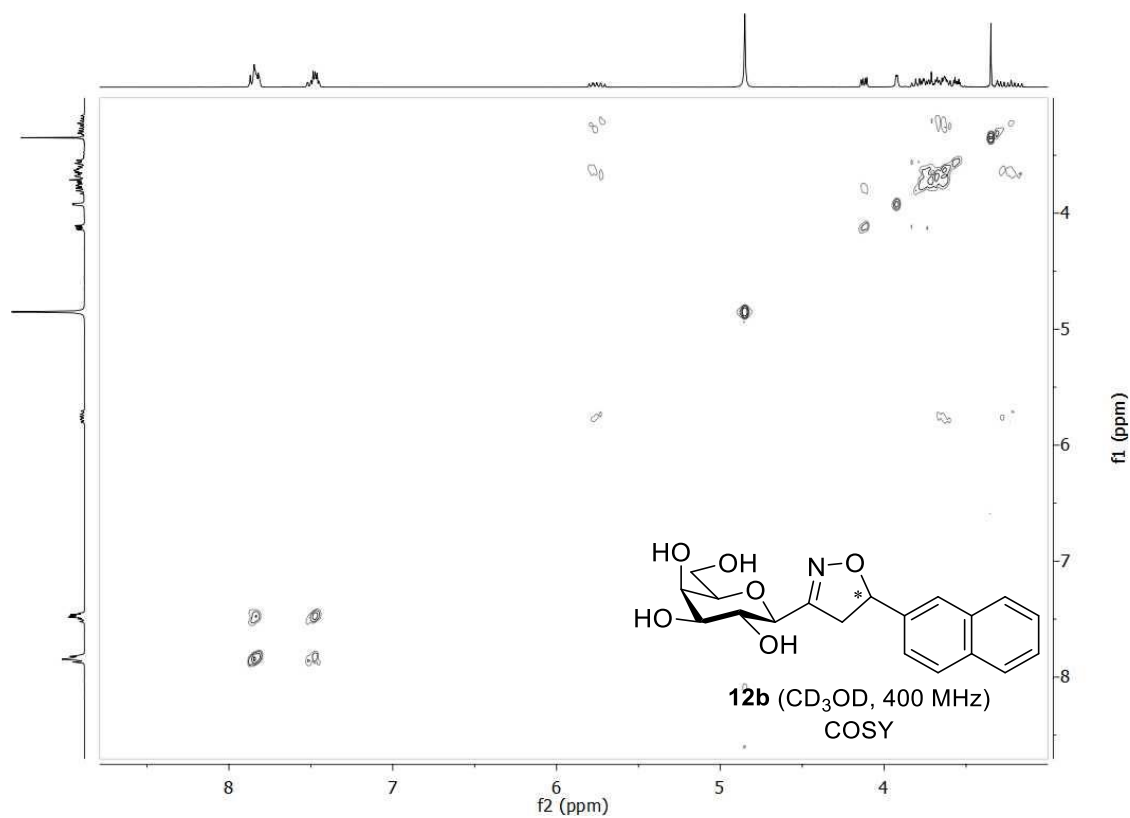


Figure S142. ^1H – ^1H COSY spectrum of **12b**

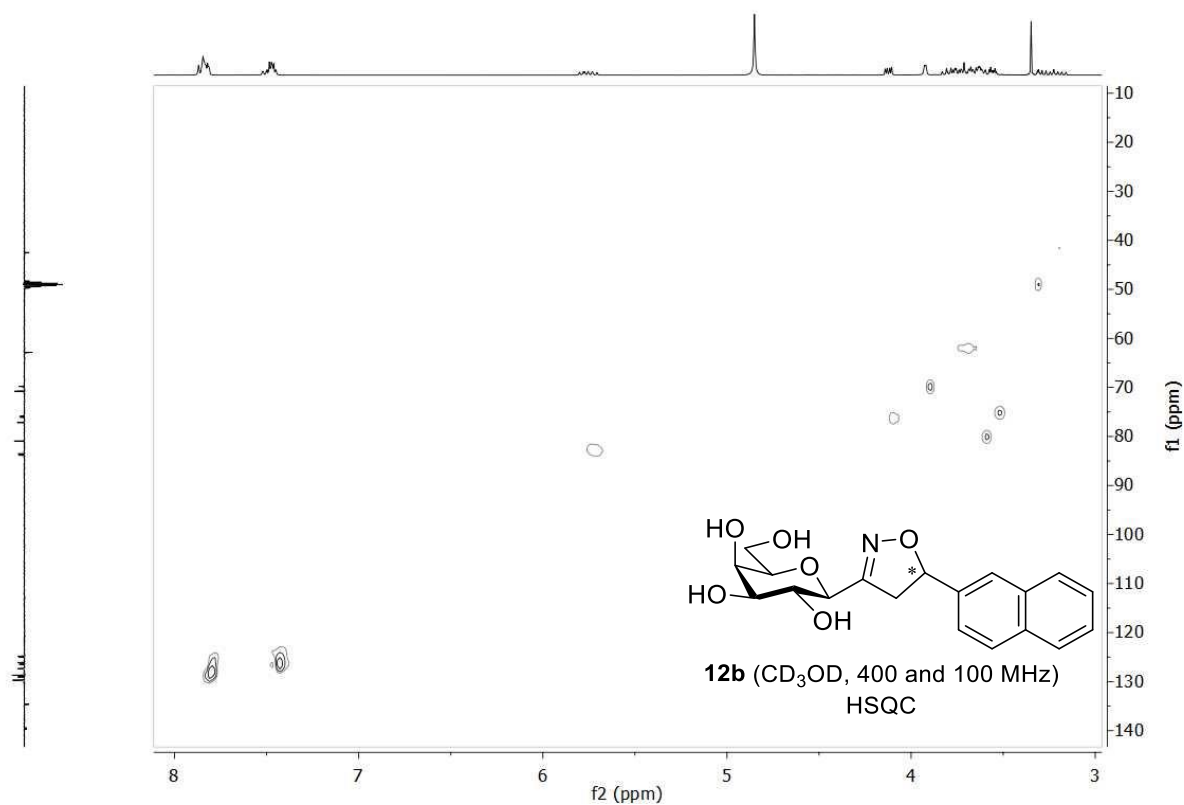


Figure S143. ^1H – ^{13}C HSQC spectrum of **12b**

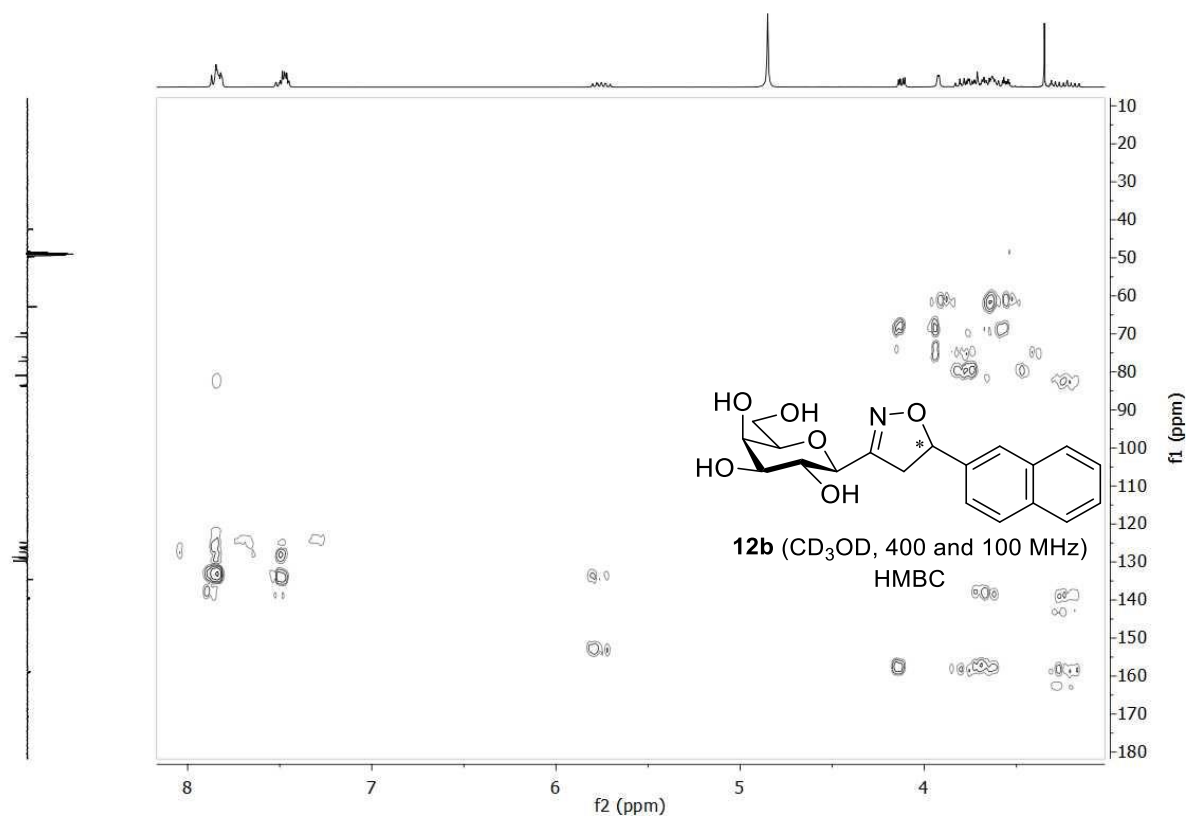


Figure S144. ^1H - ^{13}C HMBC spectrum of **12b**

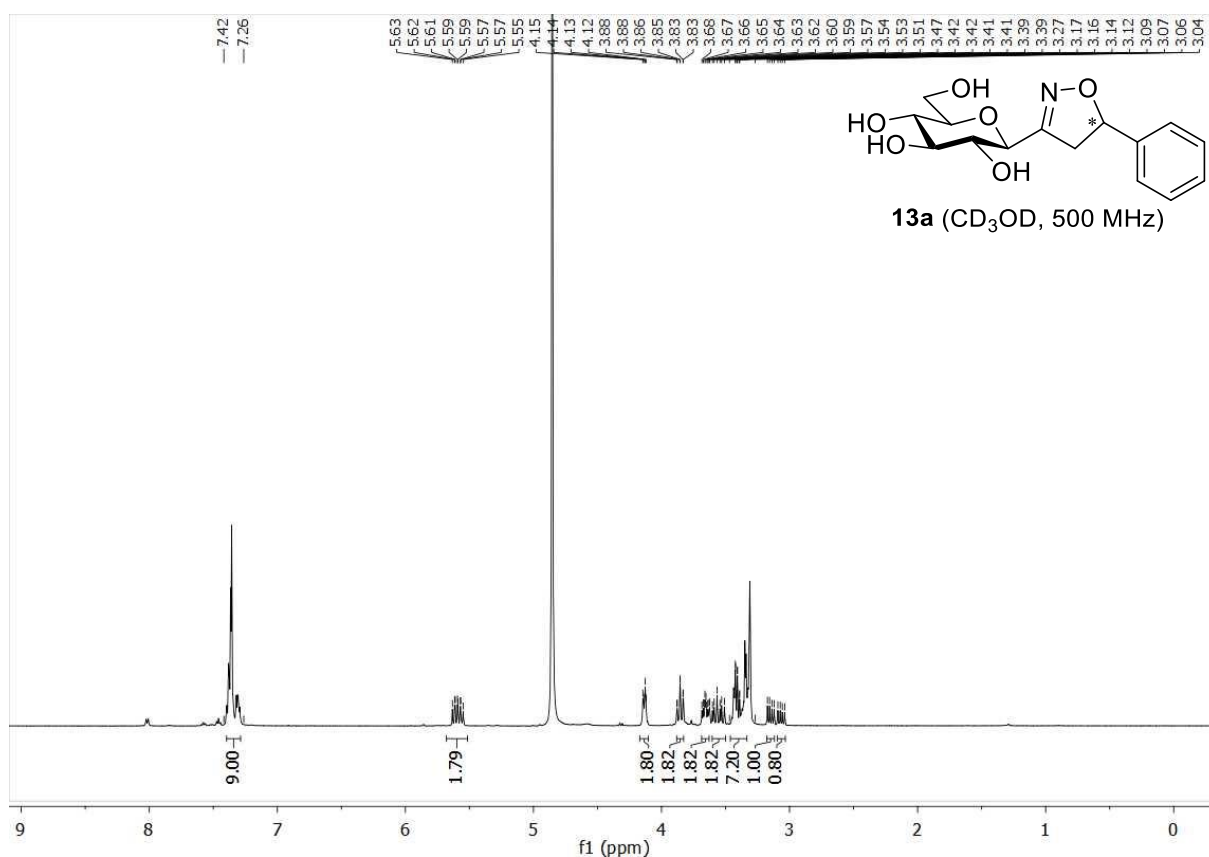


Figure S145. ^1H NMR spectrum of **13a**

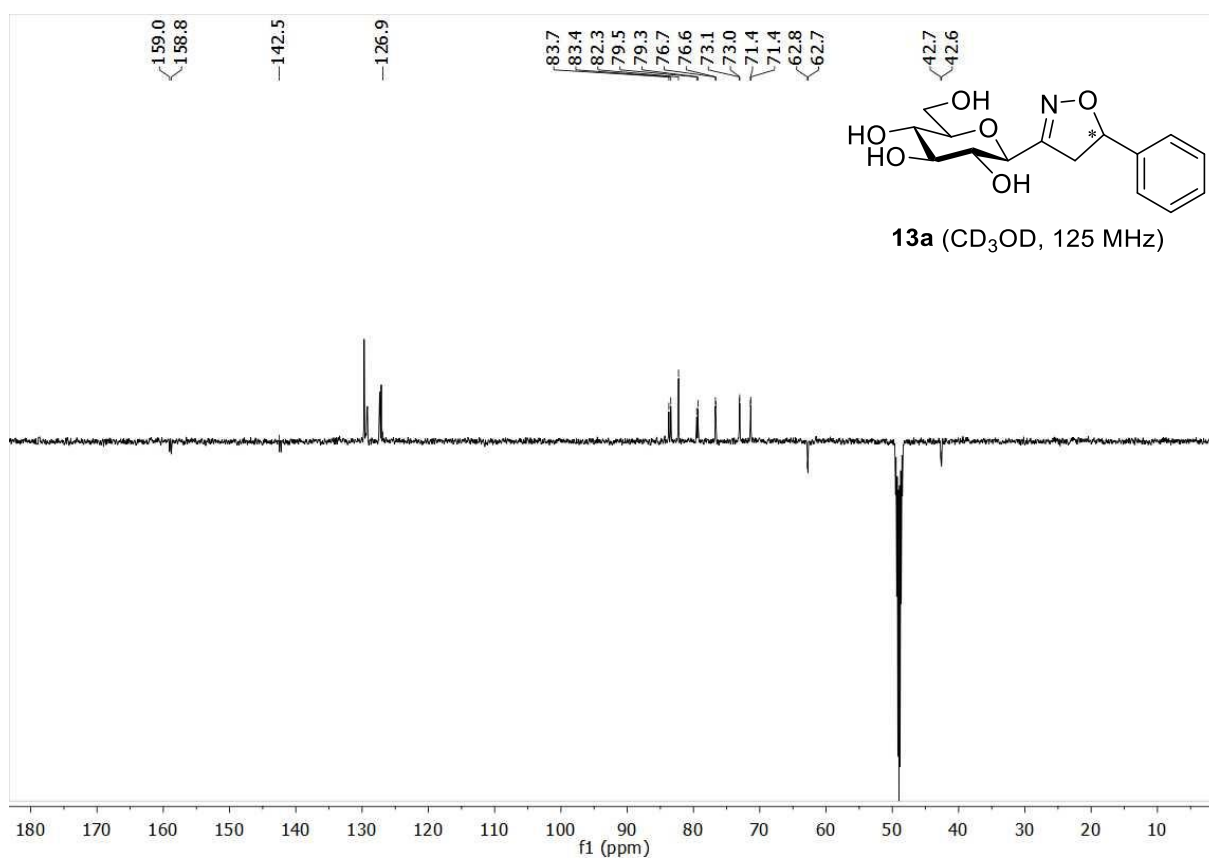


Figure S146. ^{13}C NMR spectrum of **13a**

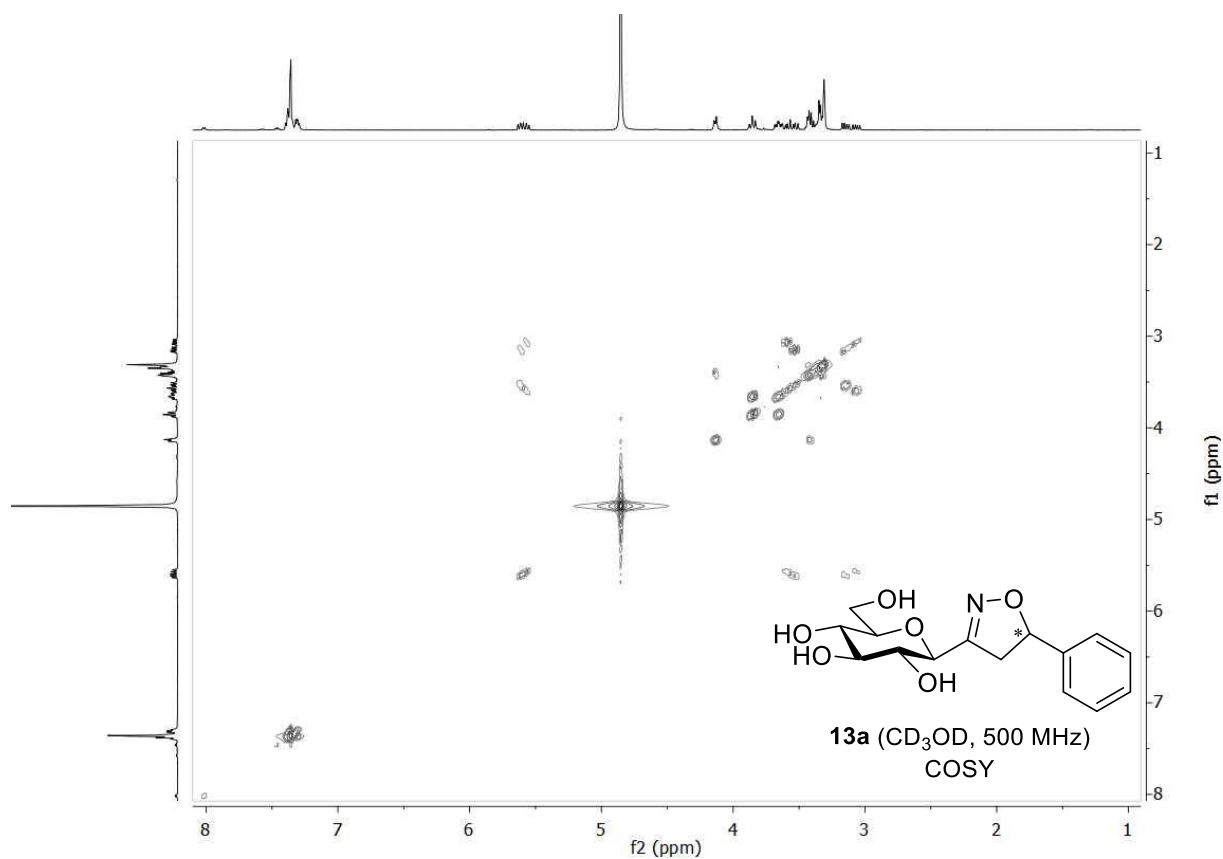


Figure S147. ^1H - ^1H COSY spectrum of **13a**

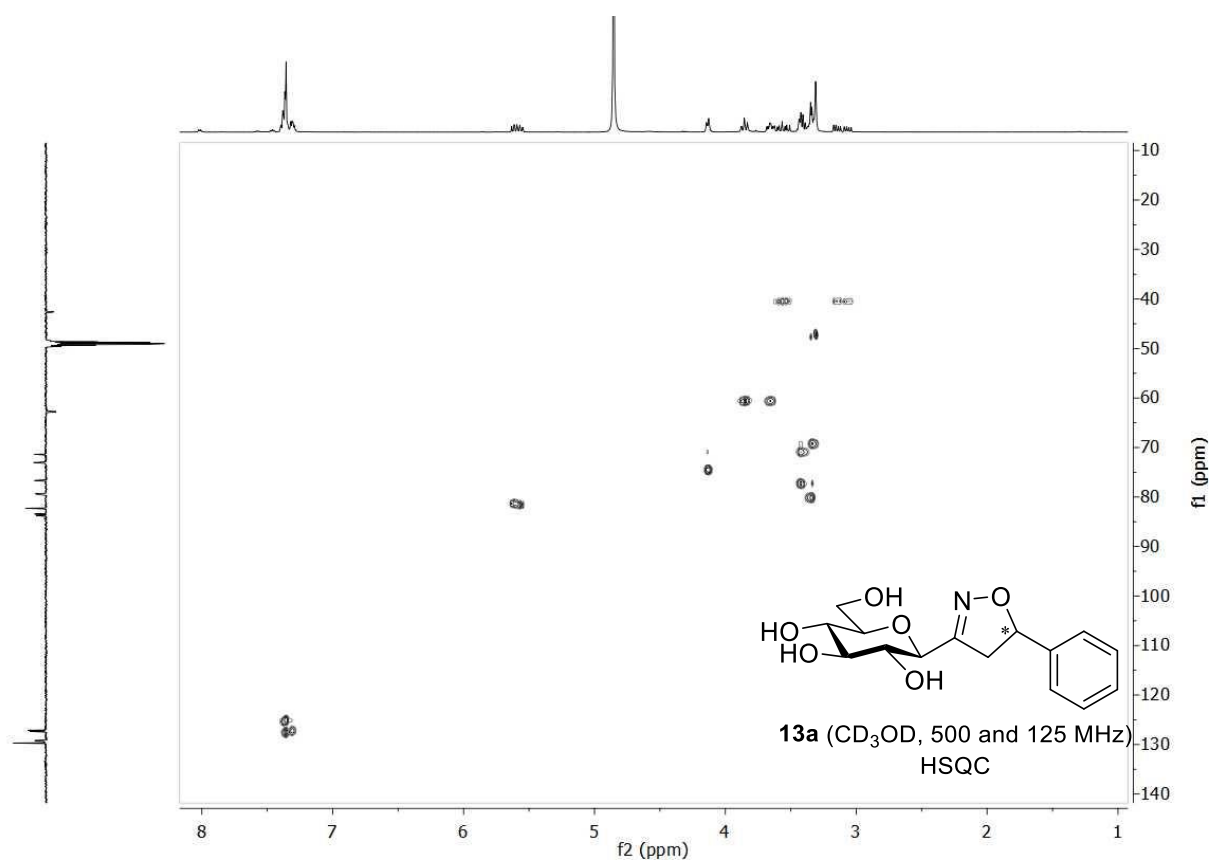


Figure S148. ^1H - ^{13}C HSQC spectrum of **13a**

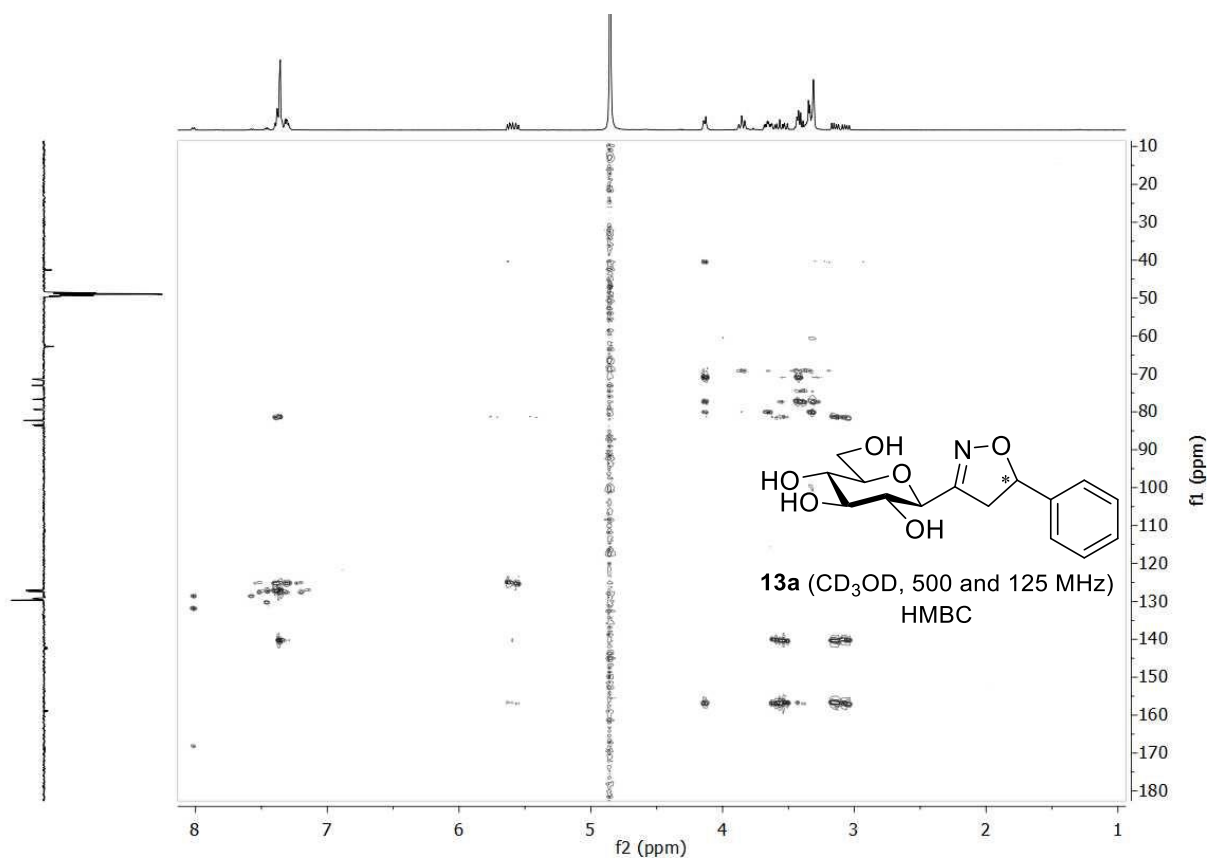


Figure S149. ^1H - ^{13}C HMBC spectrum of **13a**

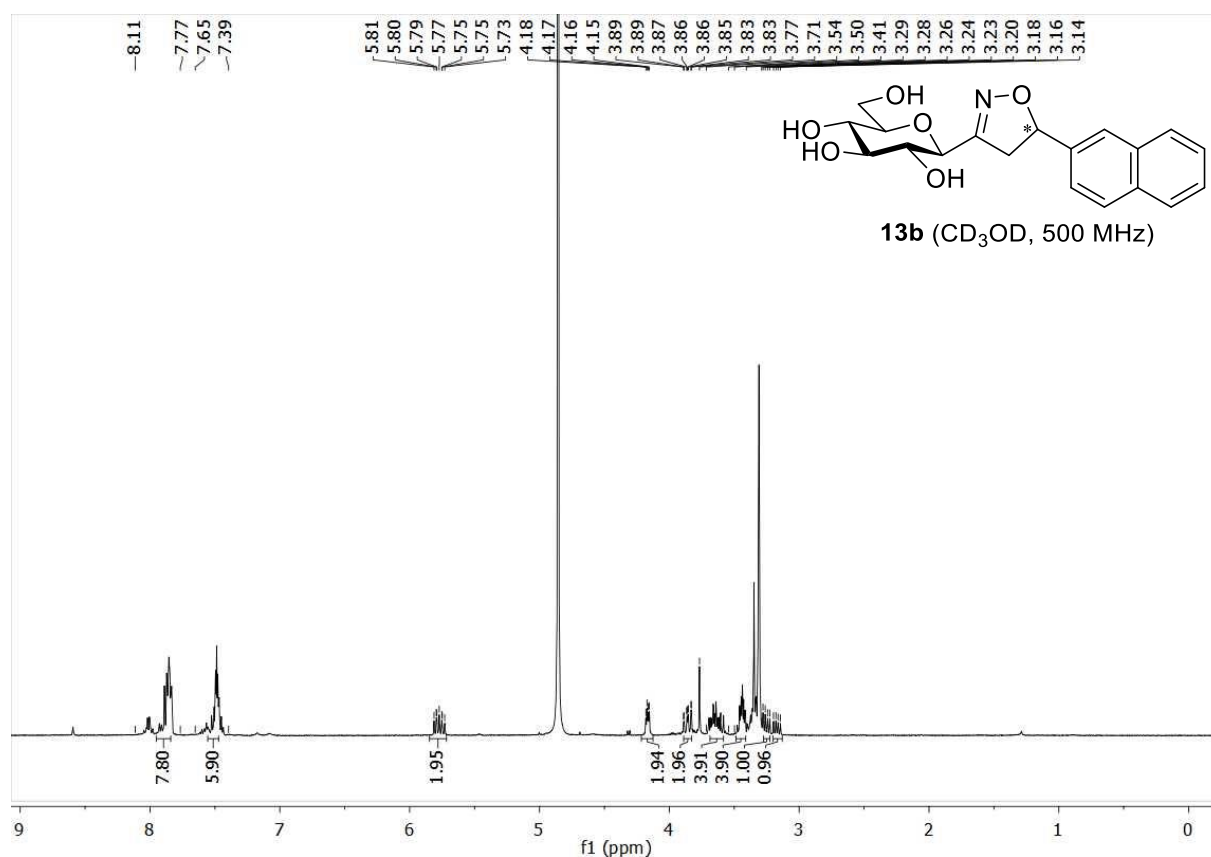


Figure S150. ¹H NMR spectrum of **13b**

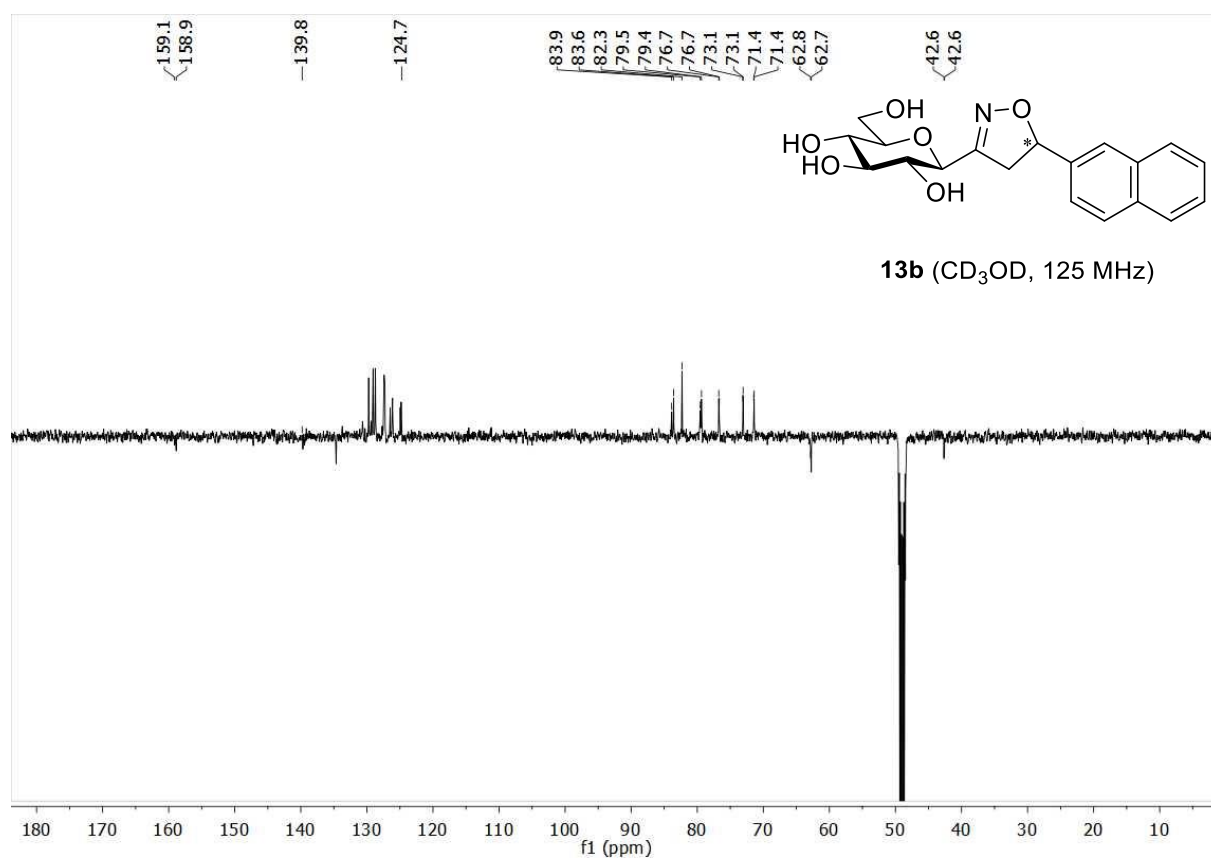


Figure S151. ¹³C NMR spectrum of **13b**

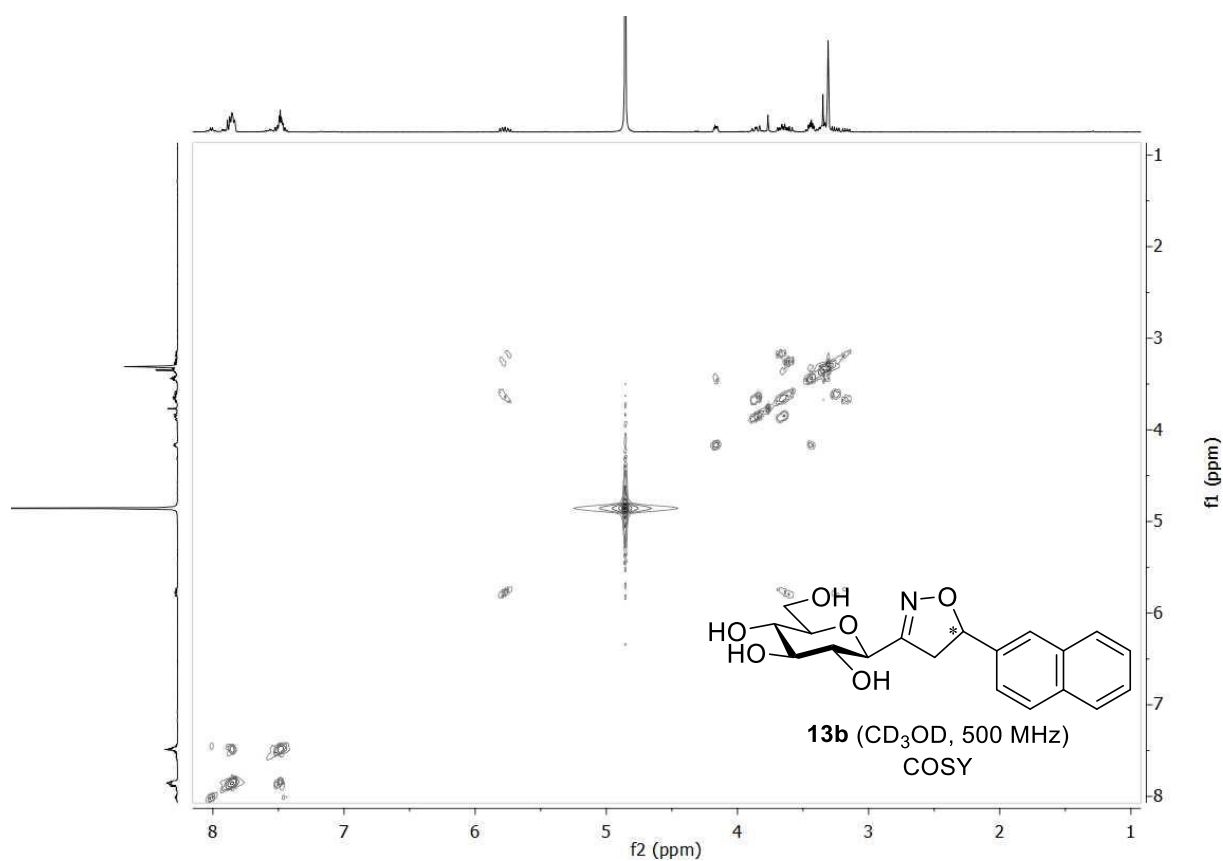


Figure S152. ^1H - ^1H COSY spectrum of **13b**

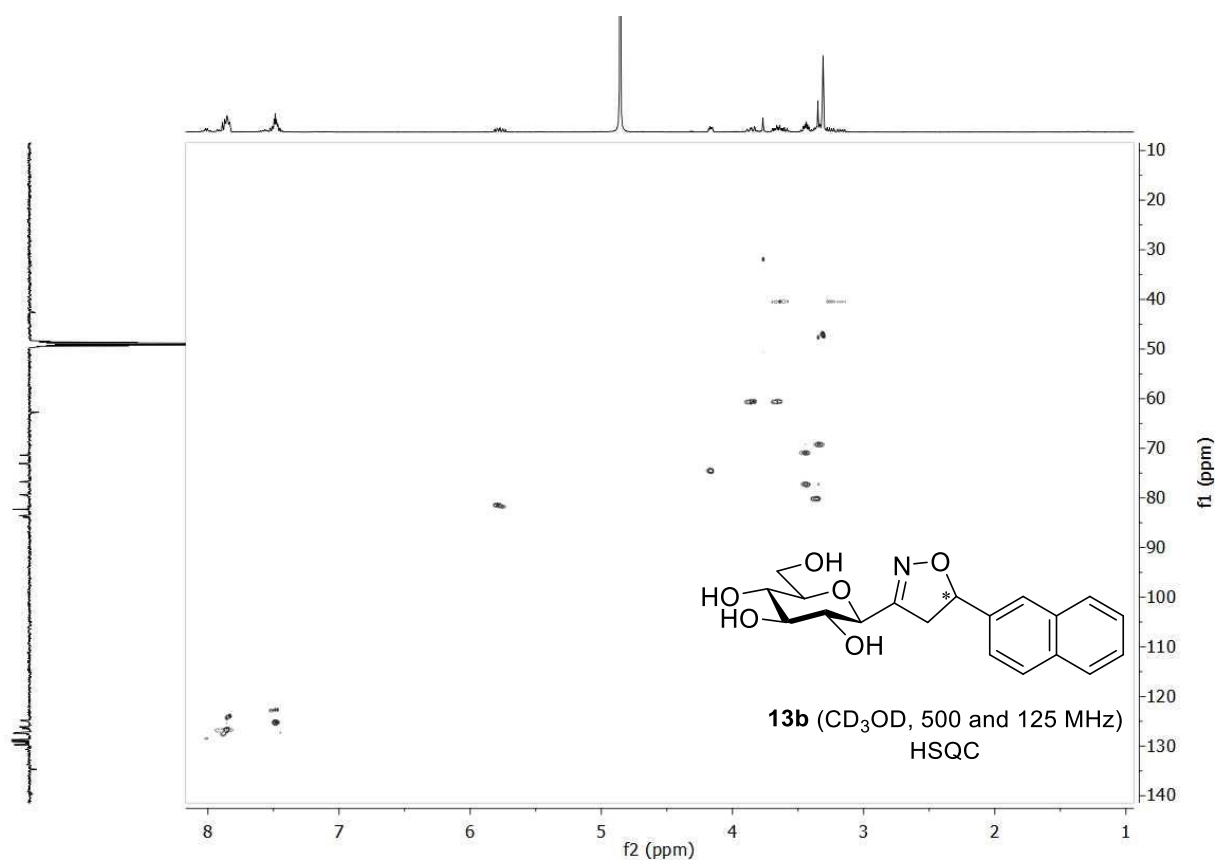


Figure S153. ^1H - ^{13}C HSQC spectrum of **13b**

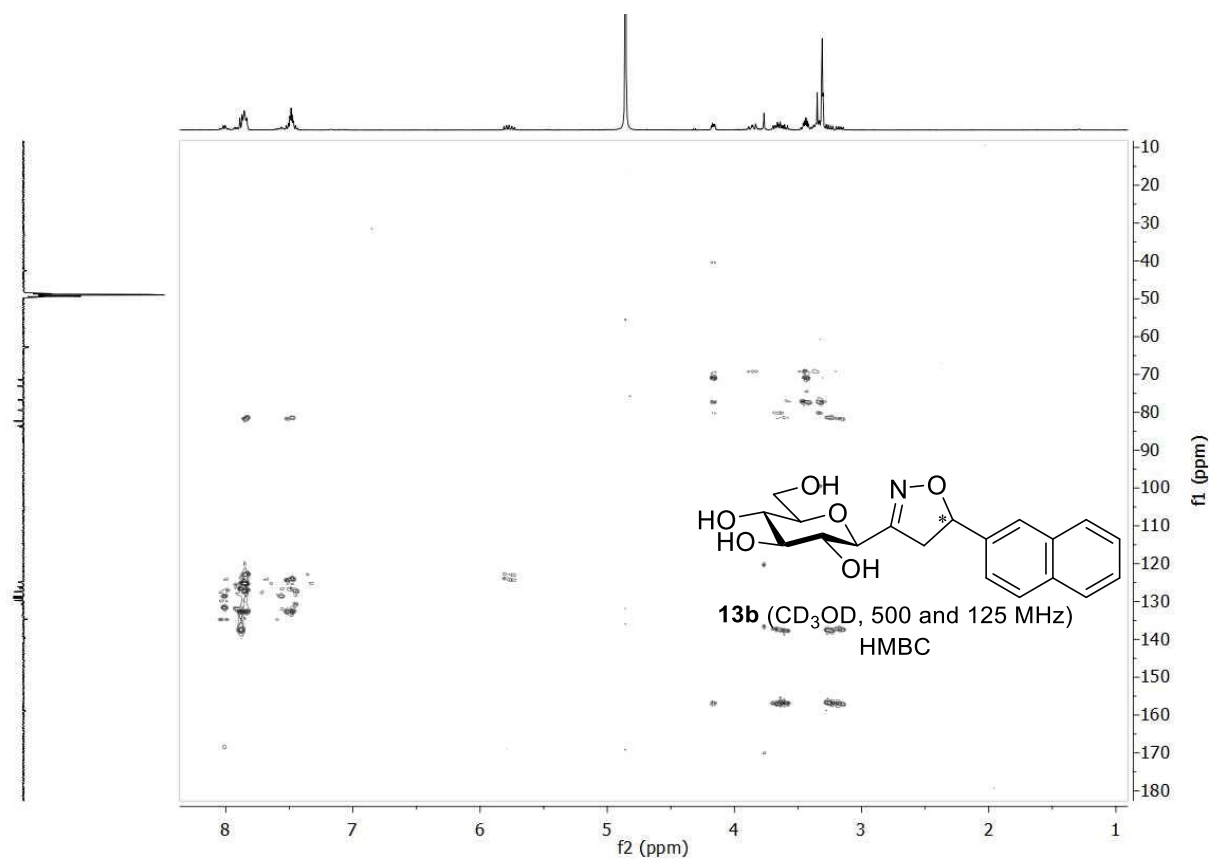


Figure S154. ^1H - ^{13}C HMBC spectrum of **13b**

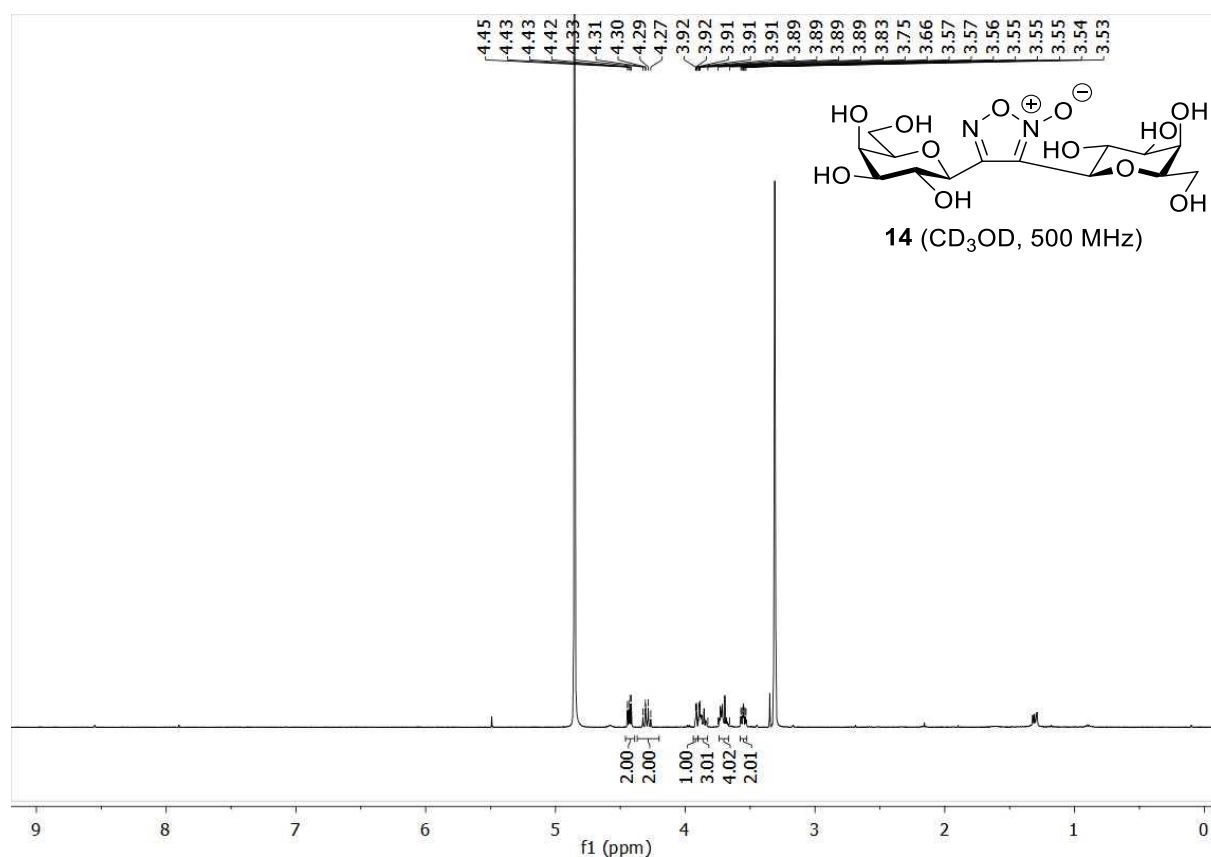


Figure S155. ¹H NMR spectrum of **14**

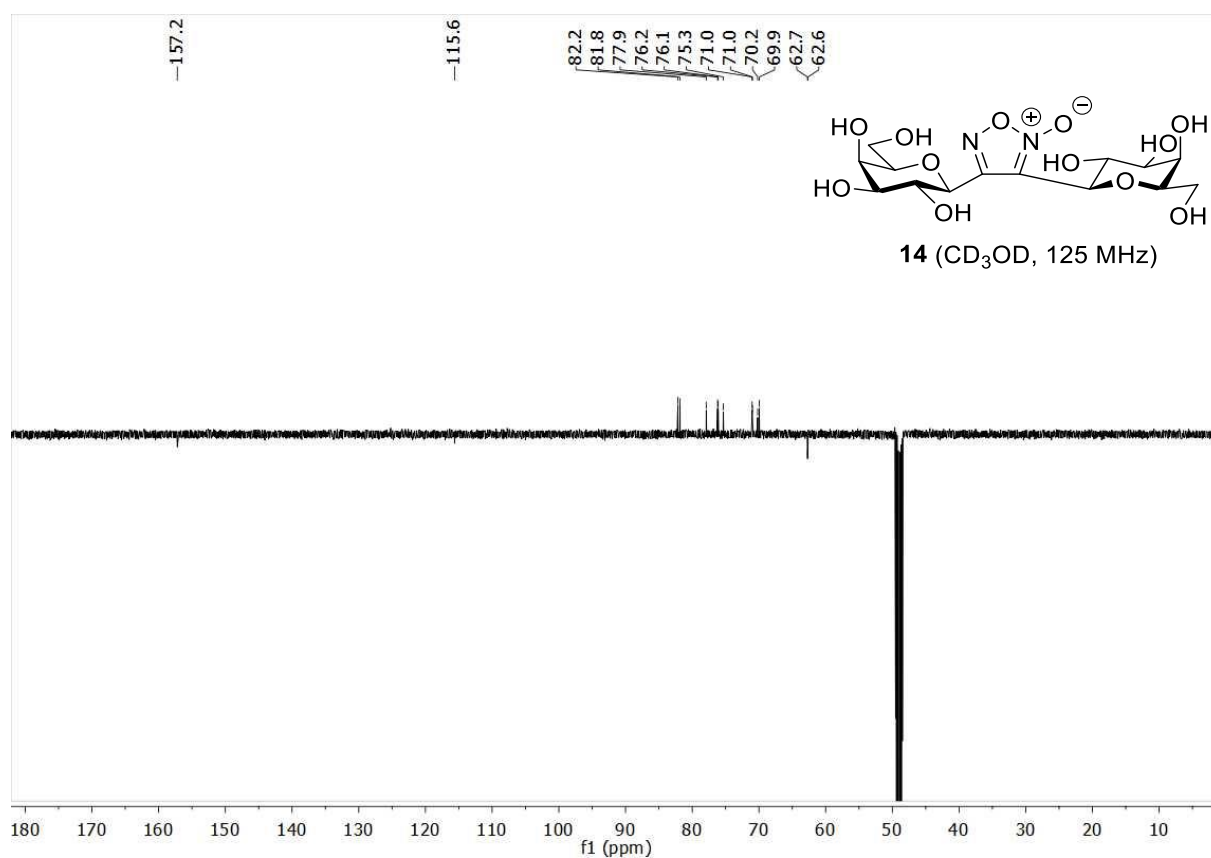


Figure S156. ¹³C NMR spectrum of **14**

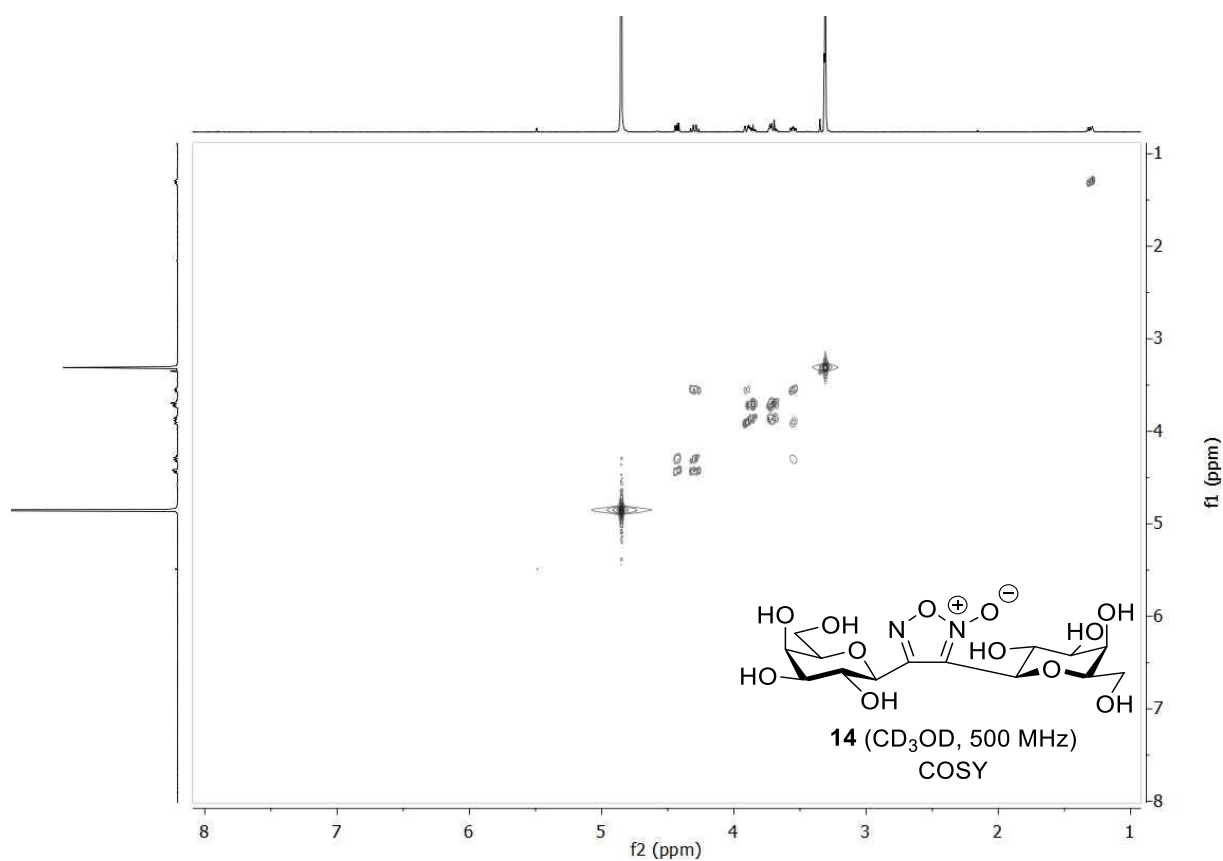


Figure S157. ^1H - ^1H COSY spectrum of **14**

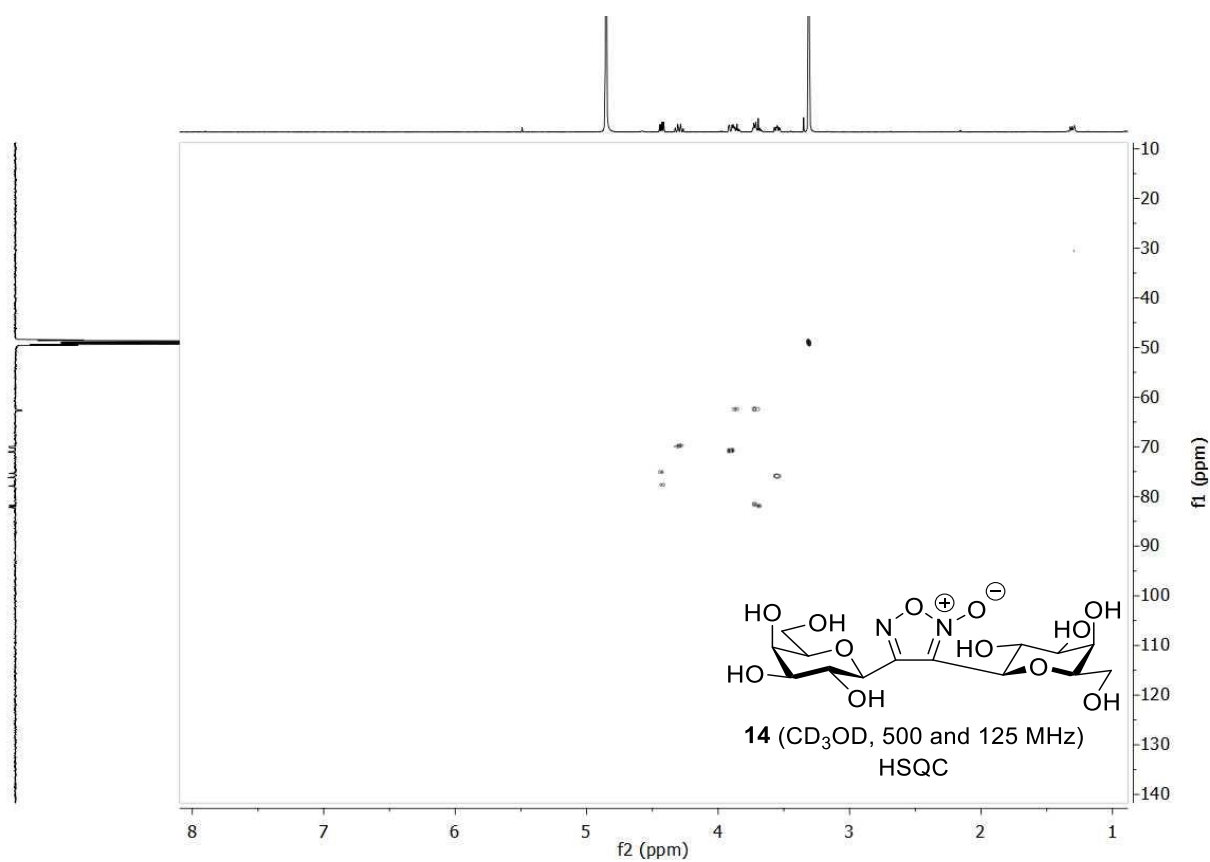


Figure S158. ^1H - ^{13}C HSQC spectrum of **14**

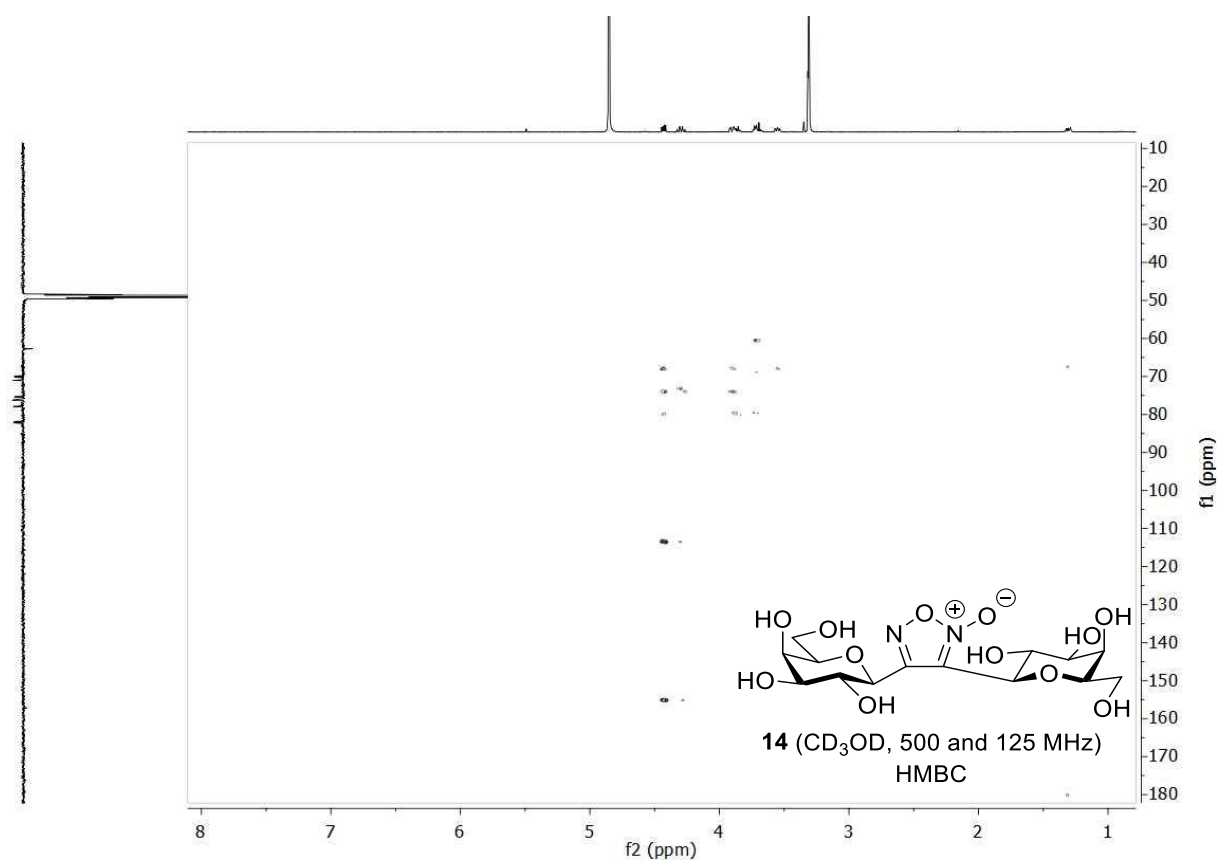


Figure S159. ^1H – ^{13}C HMBC spectrum of **14**

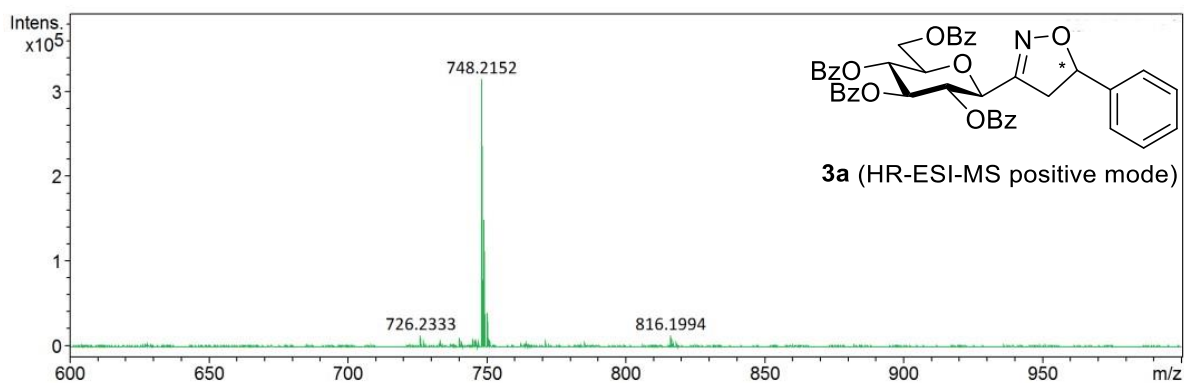


Figure S160. HR-ESI-MS spectrum of **3a**

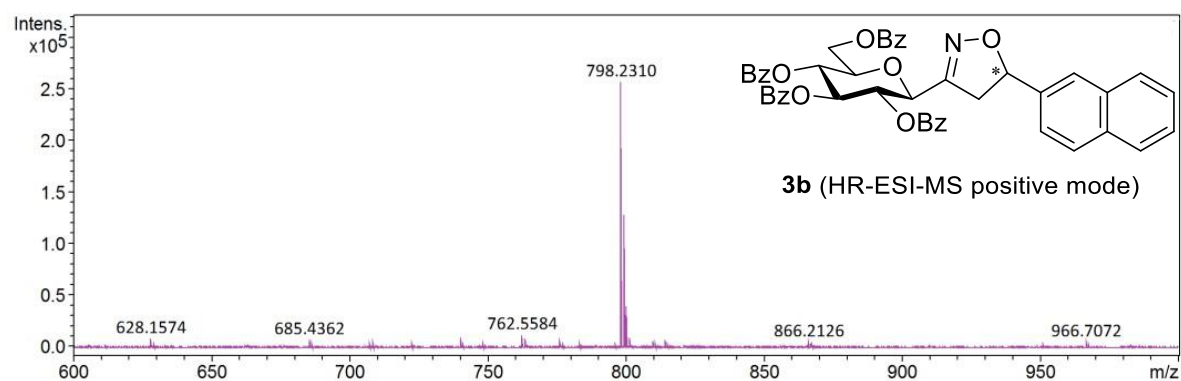


Figure S161. HR-ESI-MS spectrum of **3b**

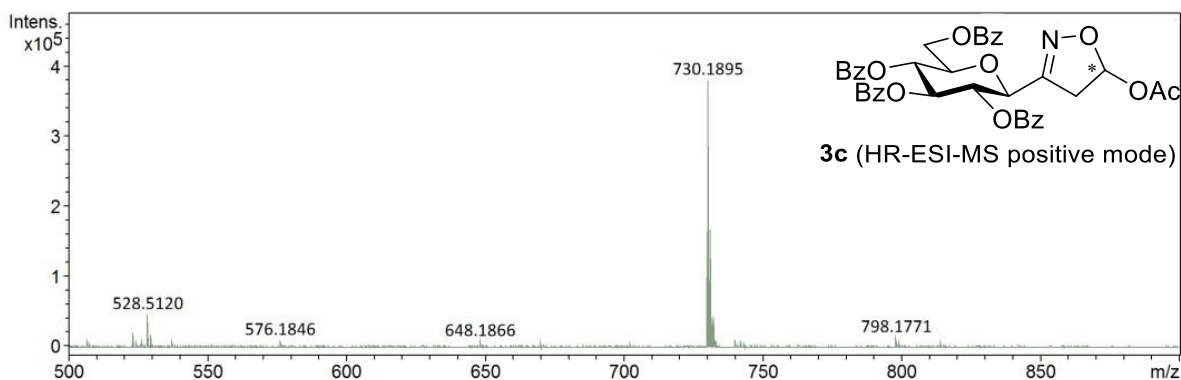


Figure S162. HR-ESI-MS spectrum of **3c**

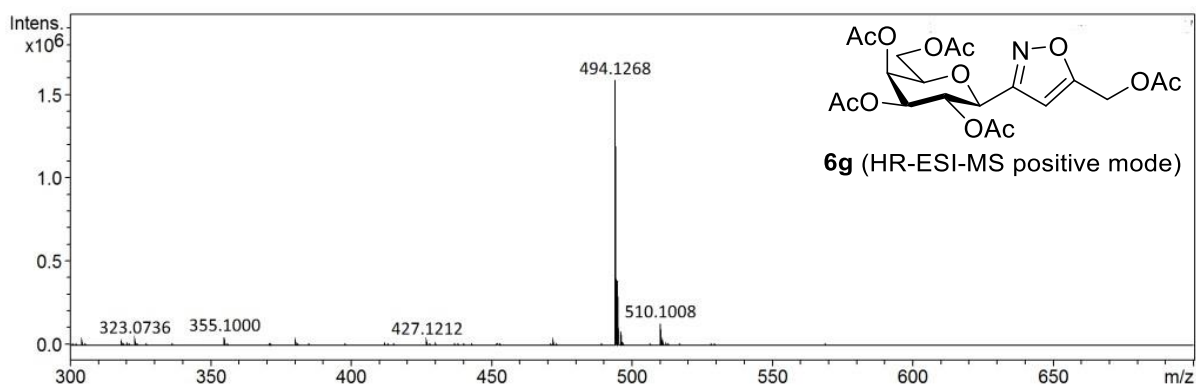


Figure S163. HR-ESI-MS spectrum of **6g**

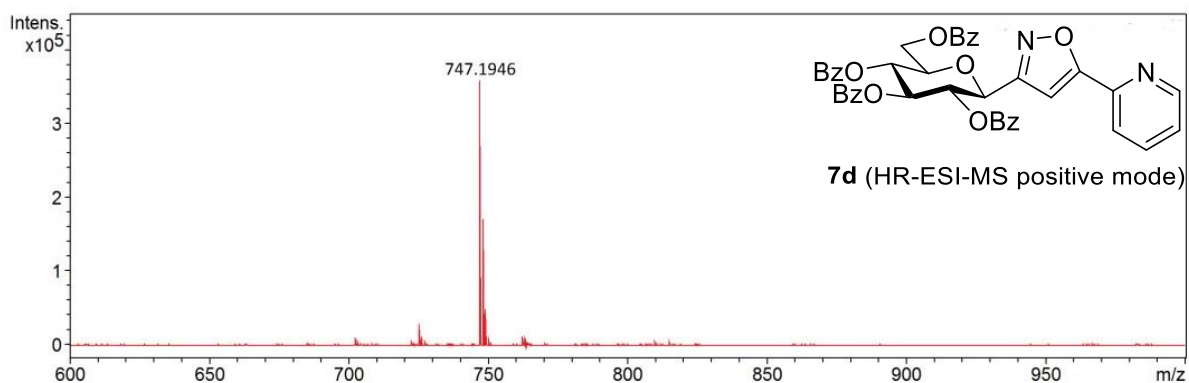


Figure S164. HR-ESI-MS spectrum of 7d

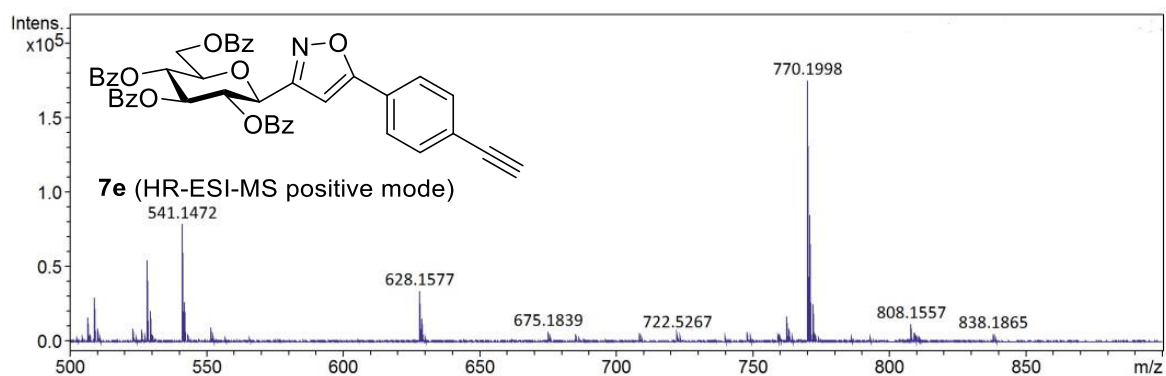


Figure S165. HR-ESI-MS spectrum of 7e

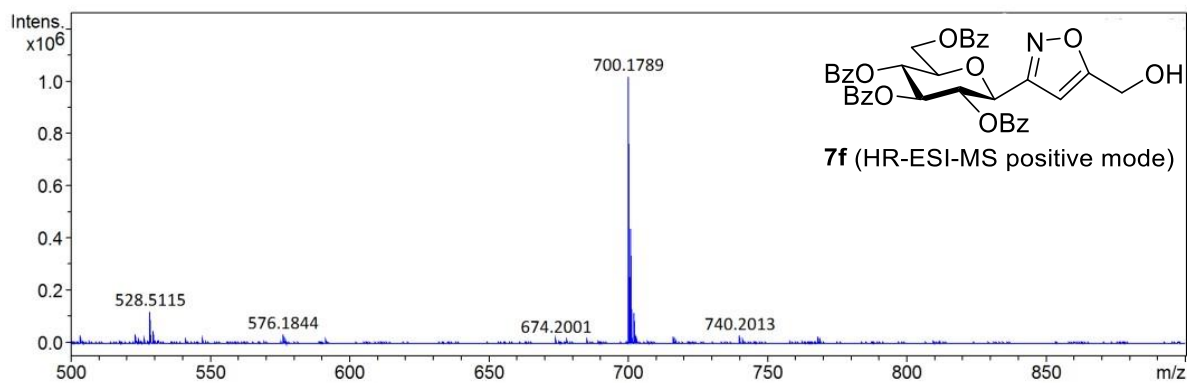


Figure S166. HR-ESI-MS spectrum of 7f

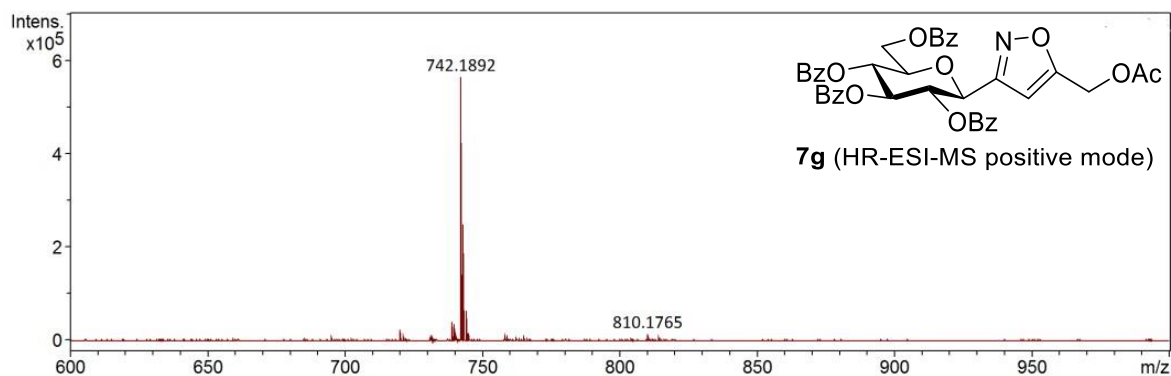


Figure S167. HR-ESI-MS spectrum of 7g

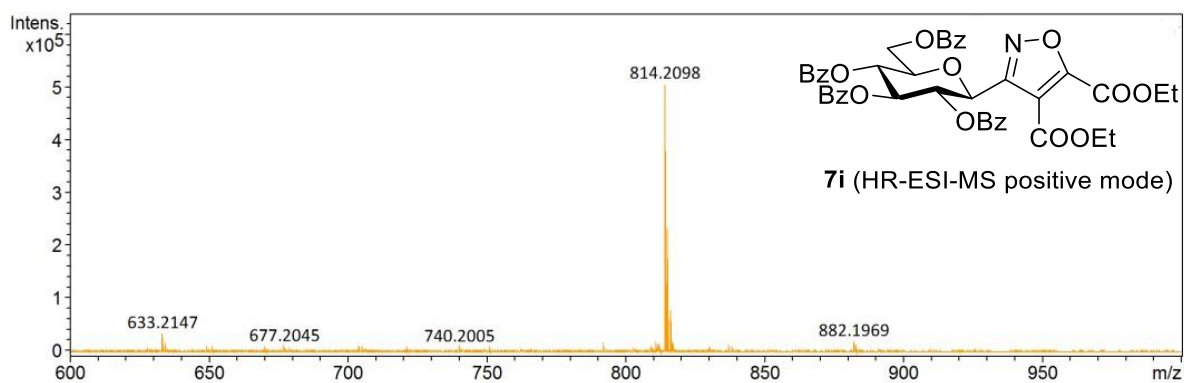


Figure S168. HR-ESI-MS spectrum of **7i**

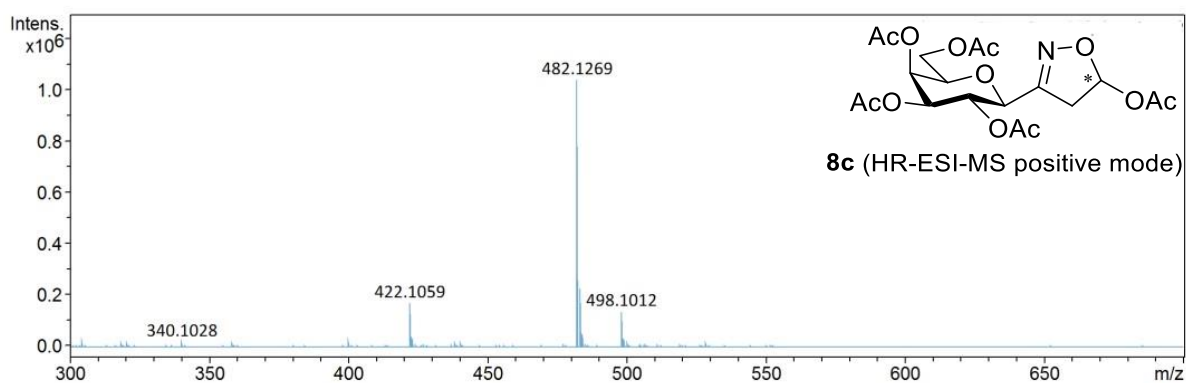


Figure S169. HR-ESI-MS spectrum of **8c**

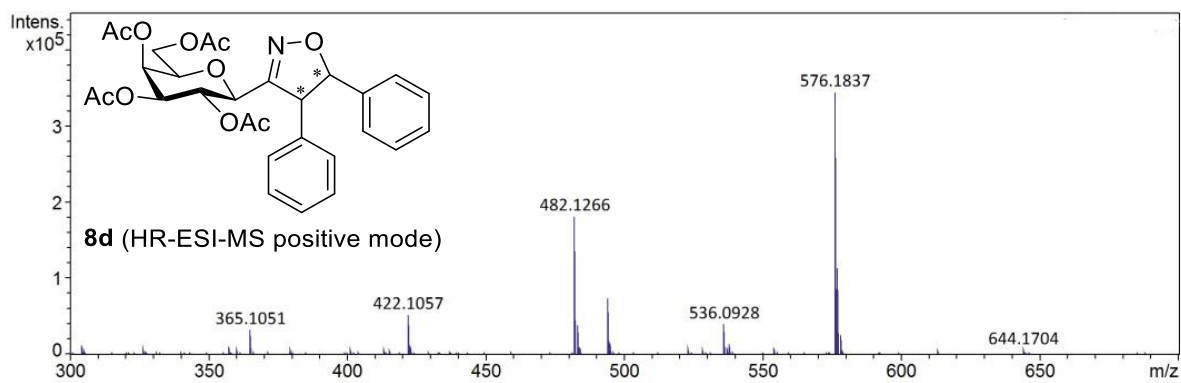


Figure S170. HR-ESI-MS spectrum of **8d**

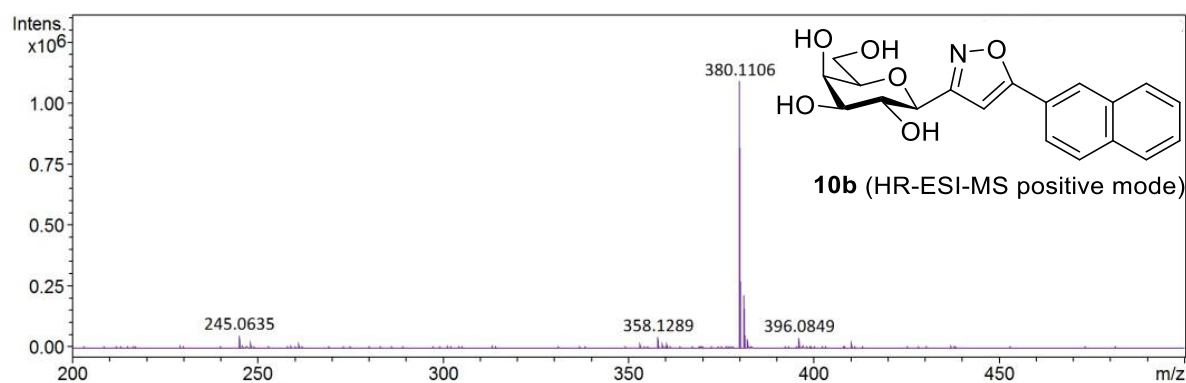


Figure S171. HR-ESI-MS spectrum of **10b**

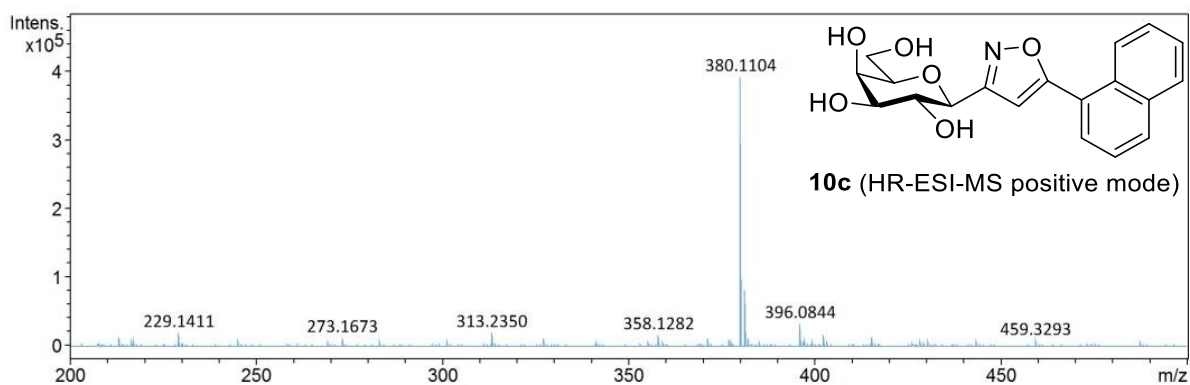


Figure S172. HR-ESI-MS spectrum of **10c**

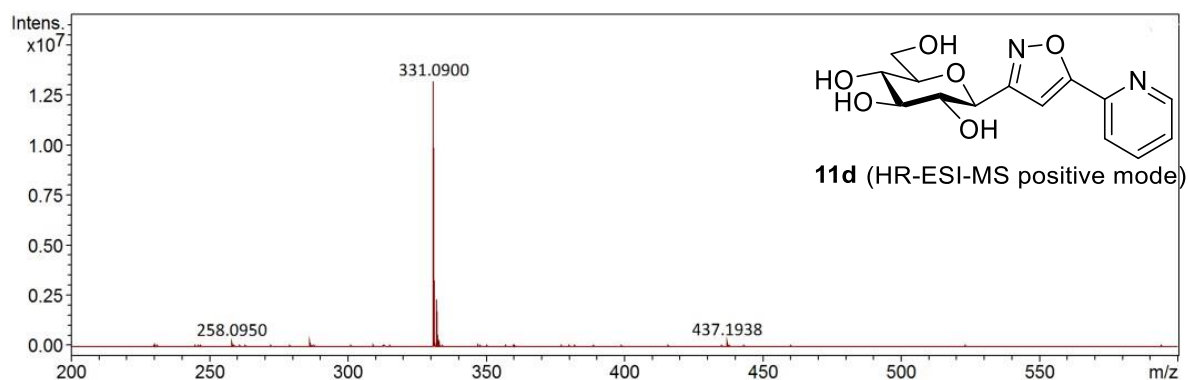


Figure S173. HR-ESI-MS spectrum of **11d**

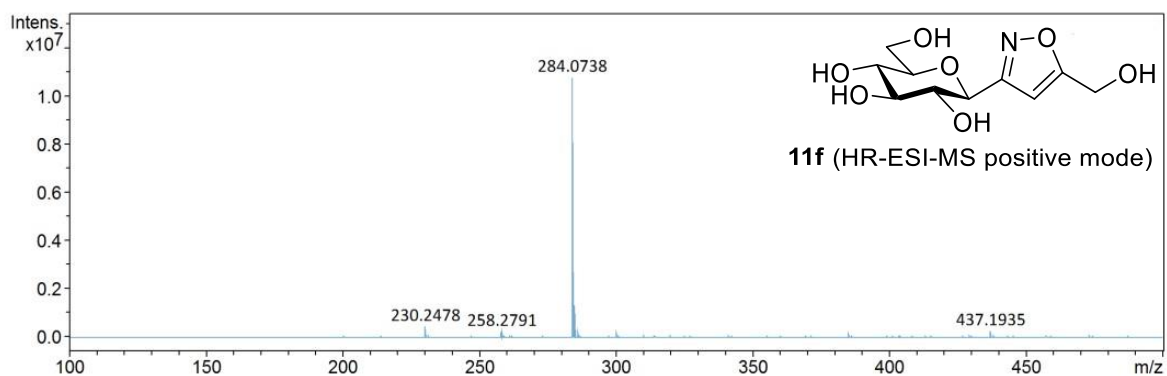


Figure S174. HR-ESI-MS spectrum of **11f**

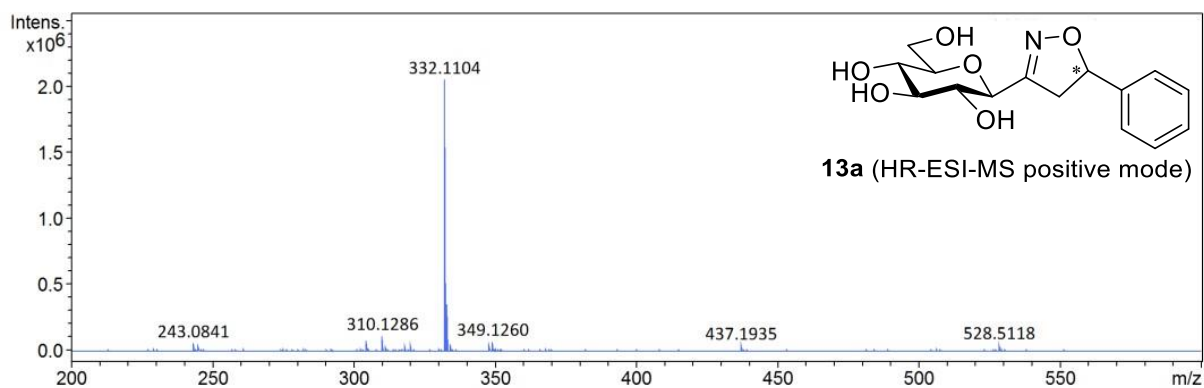


Figure S175. HR-ESI-MS spectrum of **13a**

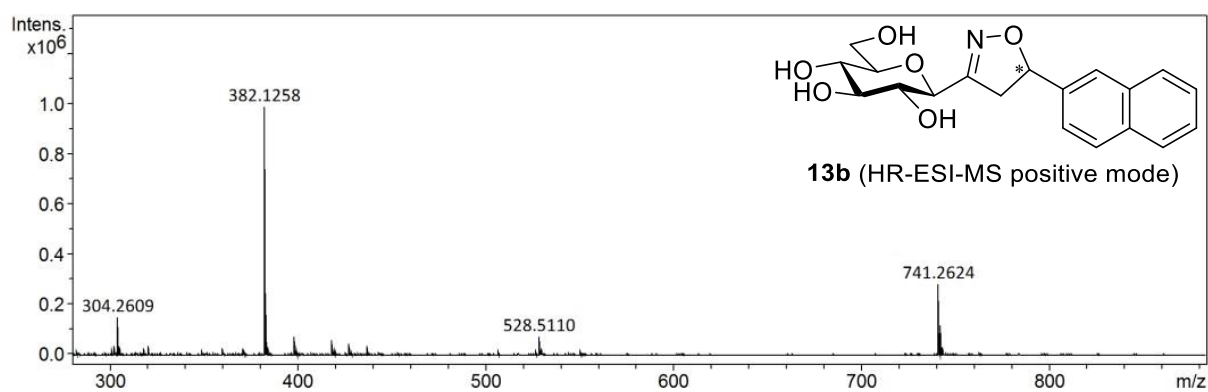


Figure S176. HR-ESI-MS spectrum of **13b**