

NMR Spectra of Products

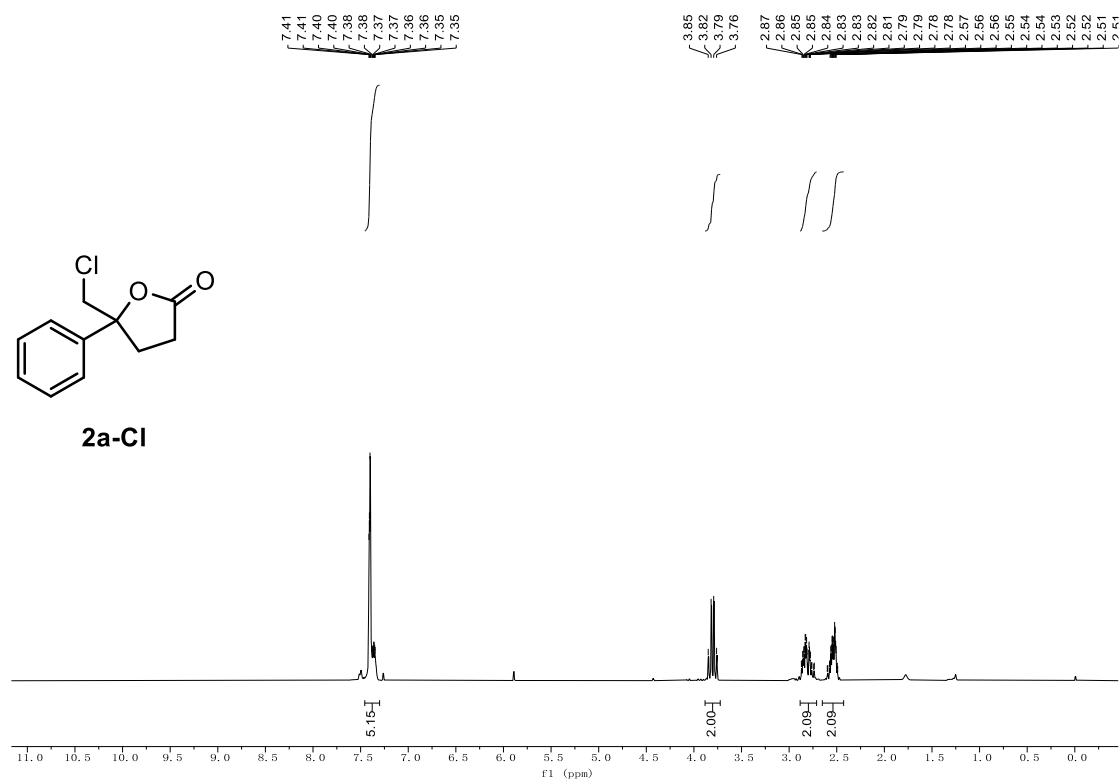


Figure S31. ¹H NMR of 5-(chloromethyl)-5-phenyldihydrofuran-2(3H)-one (2a-Cl)

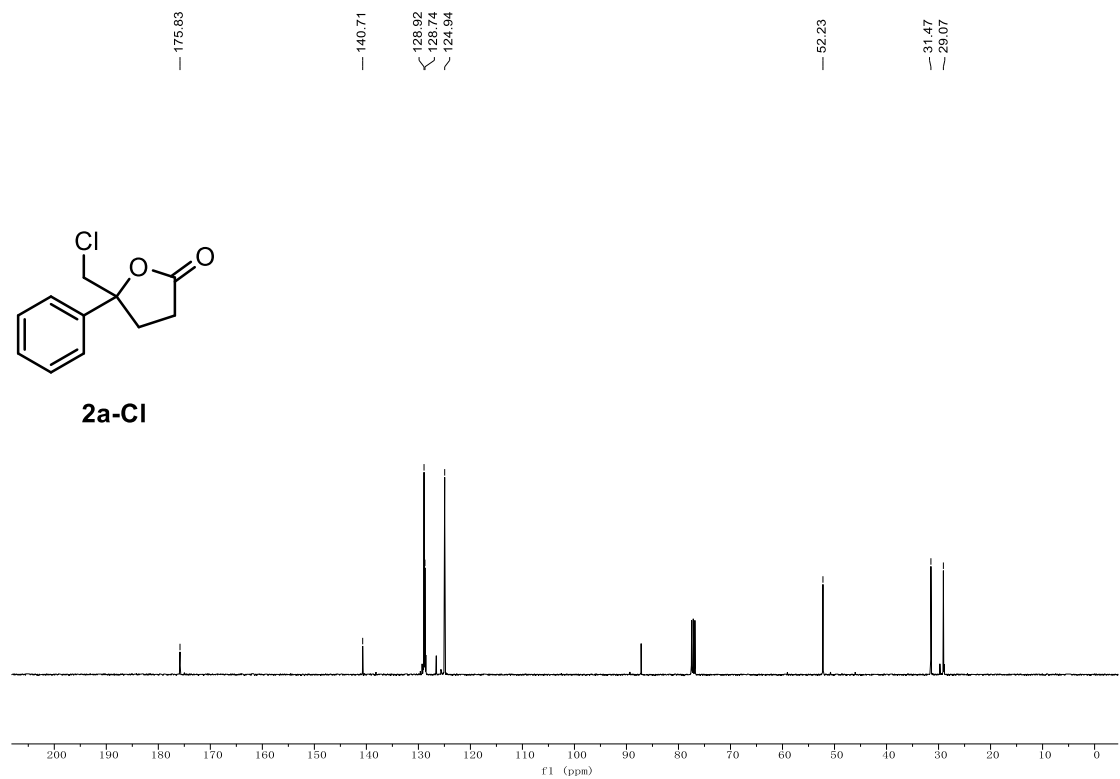


Figure S32. ¹³C NMR of 5-(chloromethyl)-5-phenyldihydrofuran-2(3H)-one (2a-Cl)

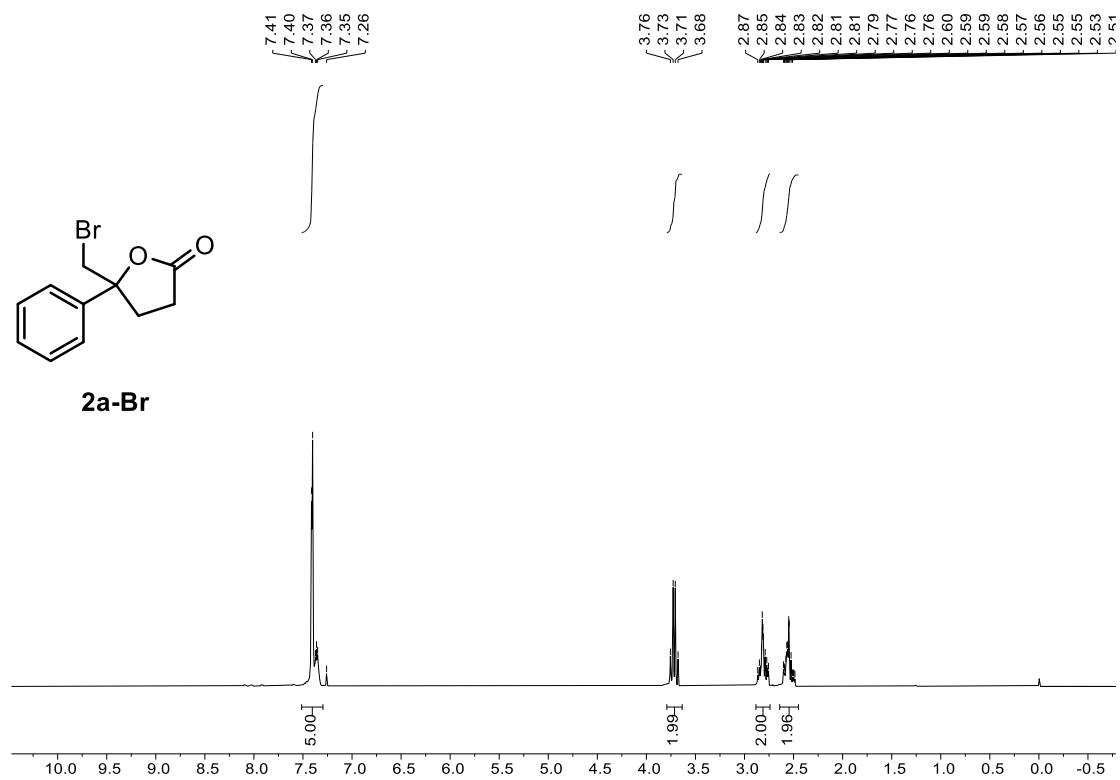


Figure S33. ¹H NMR of 5-(bromomethyl)-5-phenyldihydrofuran-2(3H)-one (**2a-Br**)

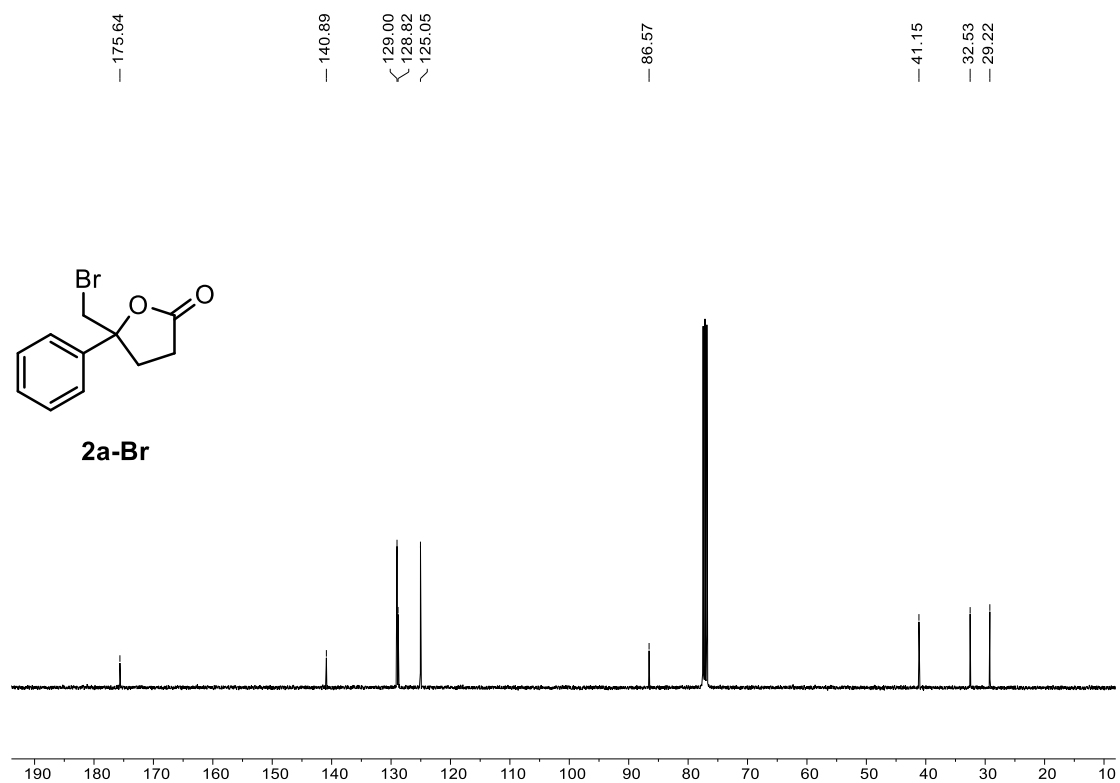


Figure S34. ¹³C NMR of 5-(bromomethyl)-5-phenyldihydrofuran-2(3H)-one (**2a-Br**)

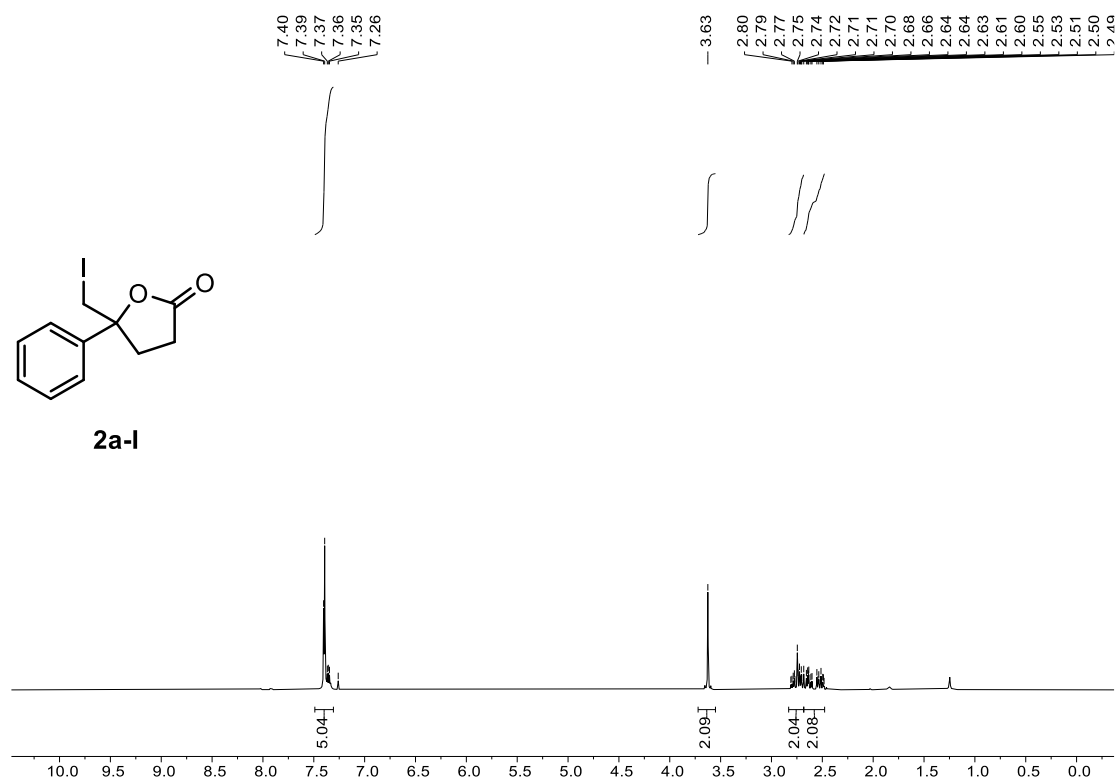


Figure S35. ¹H NMR of 5-(iodomethyl)-5-phenyldihydrofuran-2(3H)-one (**2a-I**)

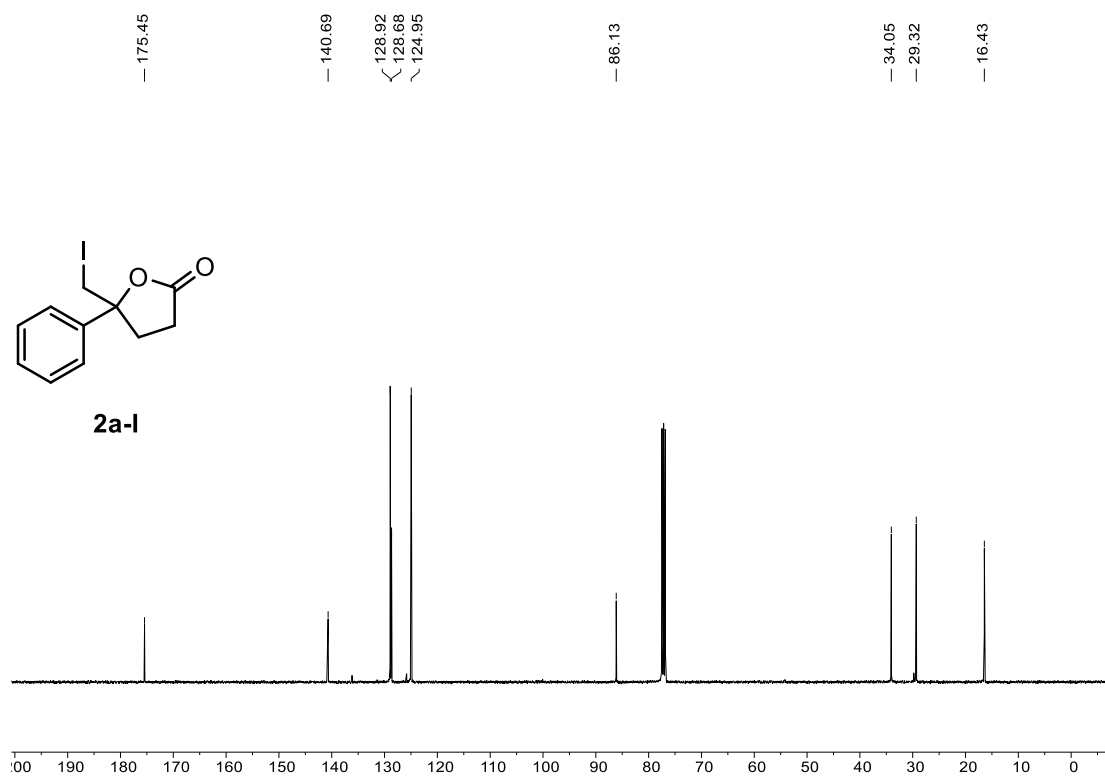


Figure S36. ¹³C NMR of 5-(iodomethyl)-5-phenyldihydrofuran-2(3H)-one (**2a-I**)

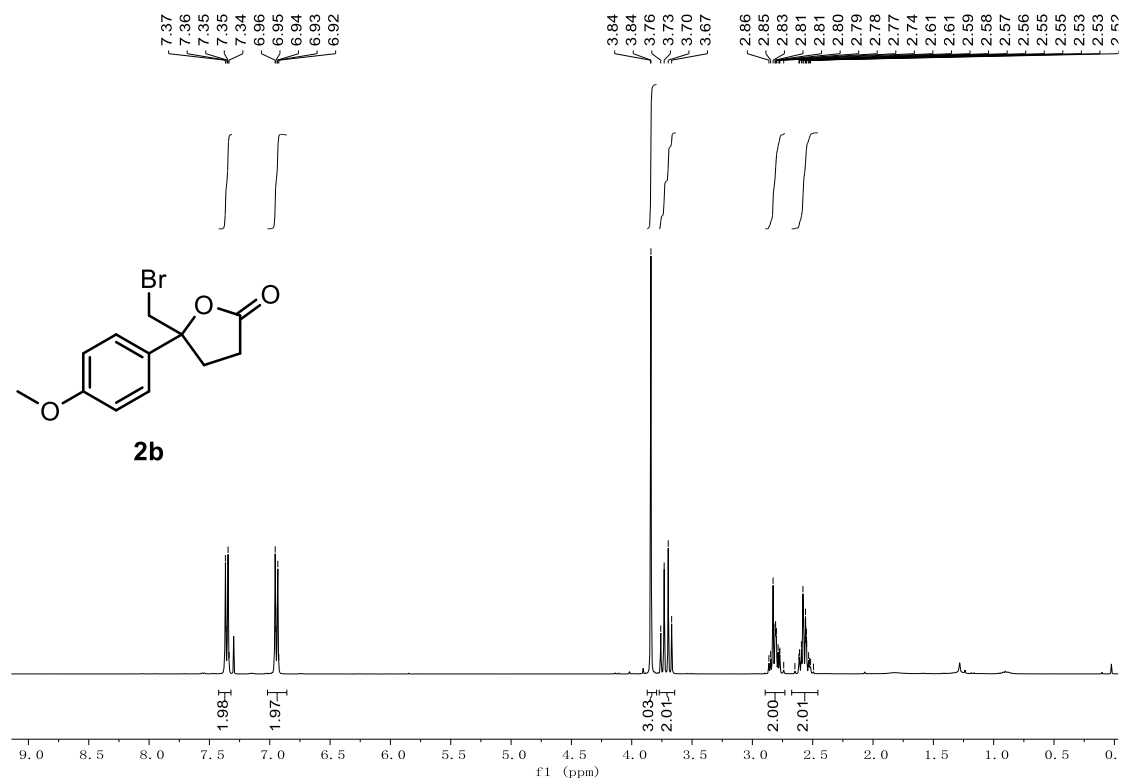


Figure S37. ¹H NMR of 5-(bromomethyl)-5-(4-methoxyphenyl)dihydrofuran-2(3*H*)-one (**2b**)

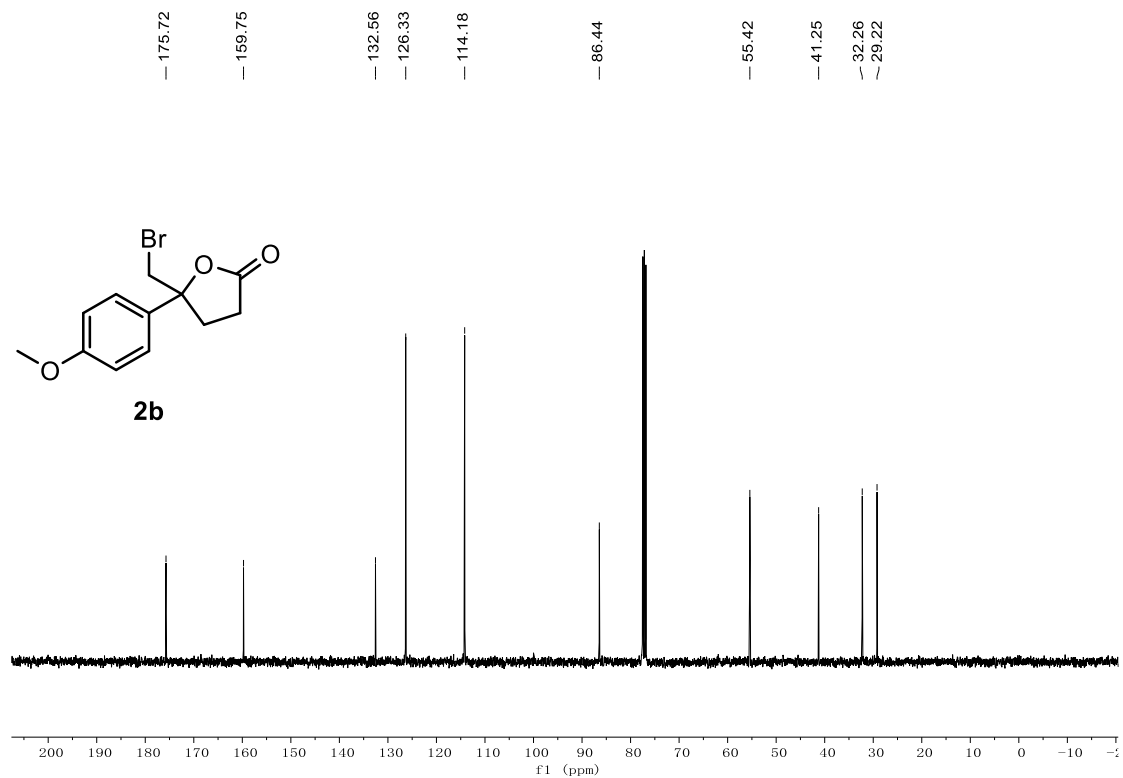


Figure S38. ¹³C NMR of 5-(bromomethyl)-5-(4-methoxyphenyl)dihydrofuran-2(3*H*)-one (**2b**)

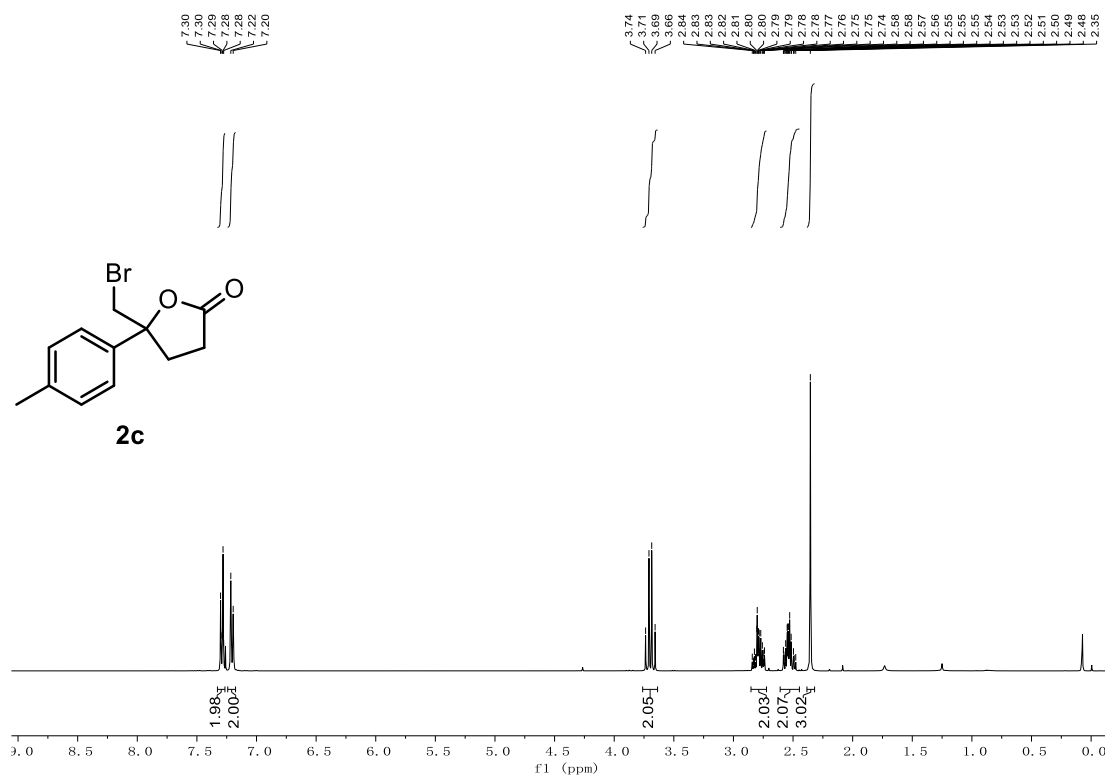


Figure S39. ¹H NMR of 5-(bromomethyl)-5-(p-tolyl)dihydrofuran-2(3H)-one (**2c**)

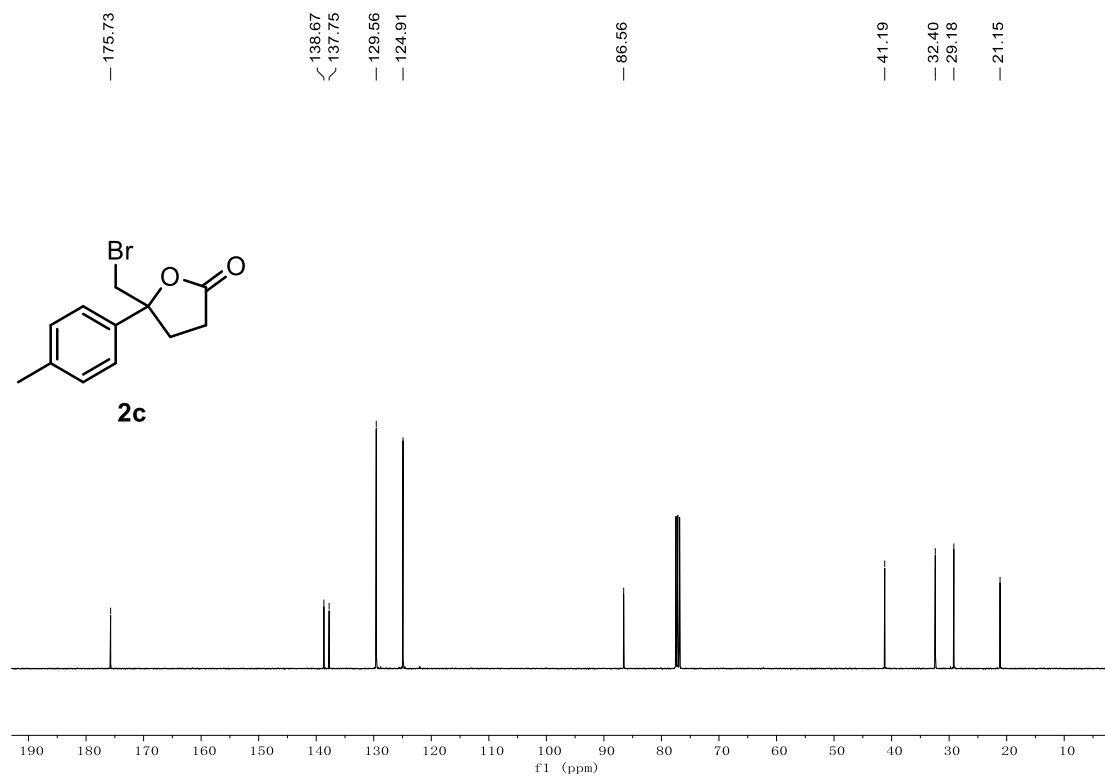


Figure S40. ¹³C NMR of 5-(bromomethyl)-5-(p-tolyl)dihydrofuran-2(3H)-one (**2c**)

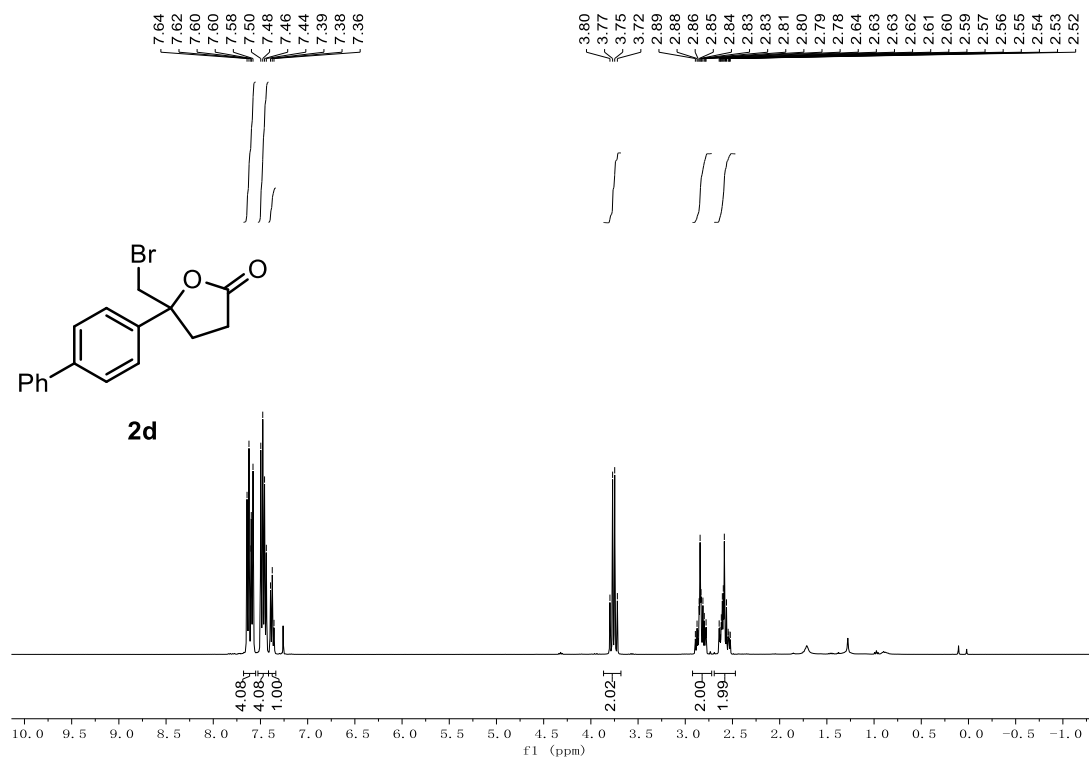


Figure S41. ¹H NMR of 5-([1,1'-biphenyl]-4-yl)-5-(bromomethyl)dihydrofuran-2(3*H*)-one (**2d**)

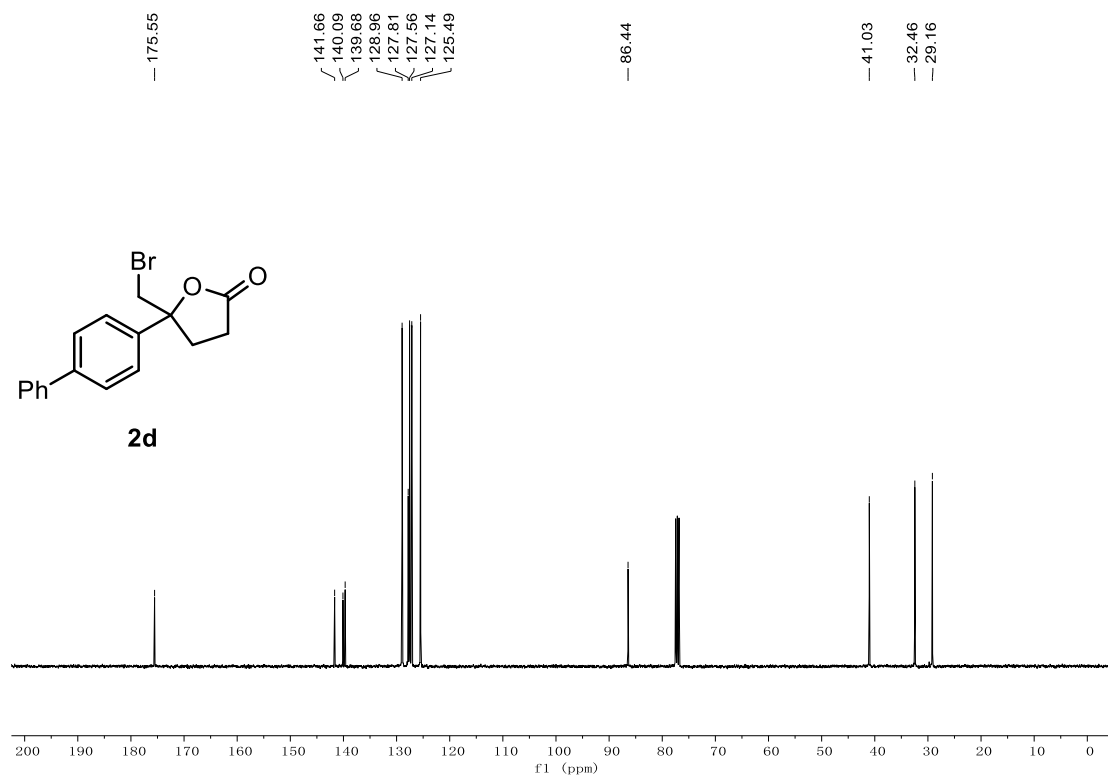


Figure S42. ¹³C NMR of 5-([1,1'-biphenyl]-4-yl)-5-(bromomethyl)dihydrofuran-2(3*H*)-one (**2d**)

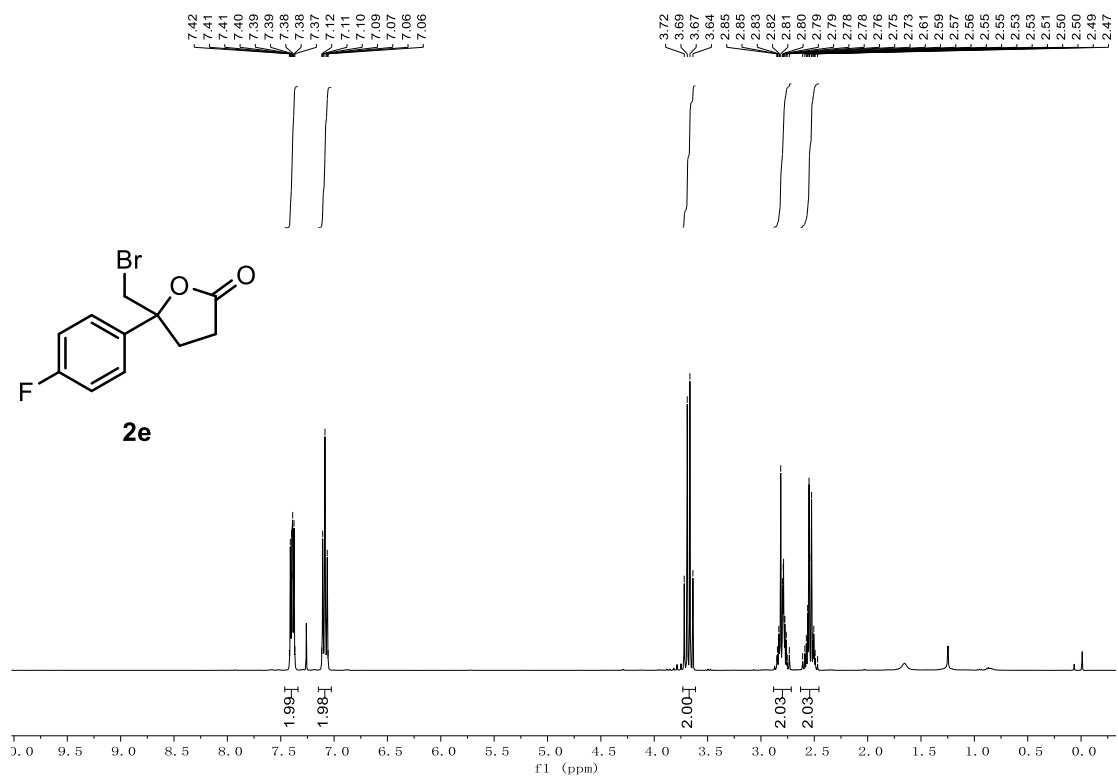


Figure S43. ¹H NMR of 5-(bromomethyl)-5-(4-fluorophenyl)dihydrofuran-2(3H)-one (**2e**)

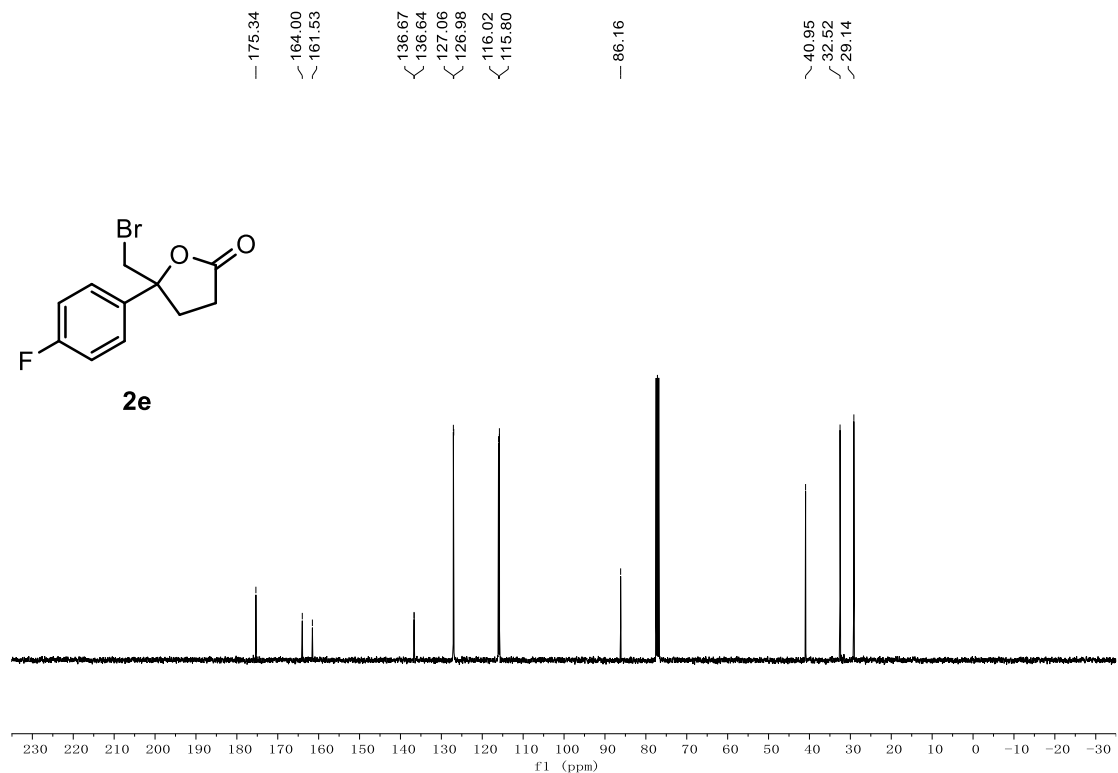


Figure S44. ¹³C NMR of 5-(bromomethyl)-5-(4-fluorophenyl)dihydrofuran-2(3H)-one (**2e**)

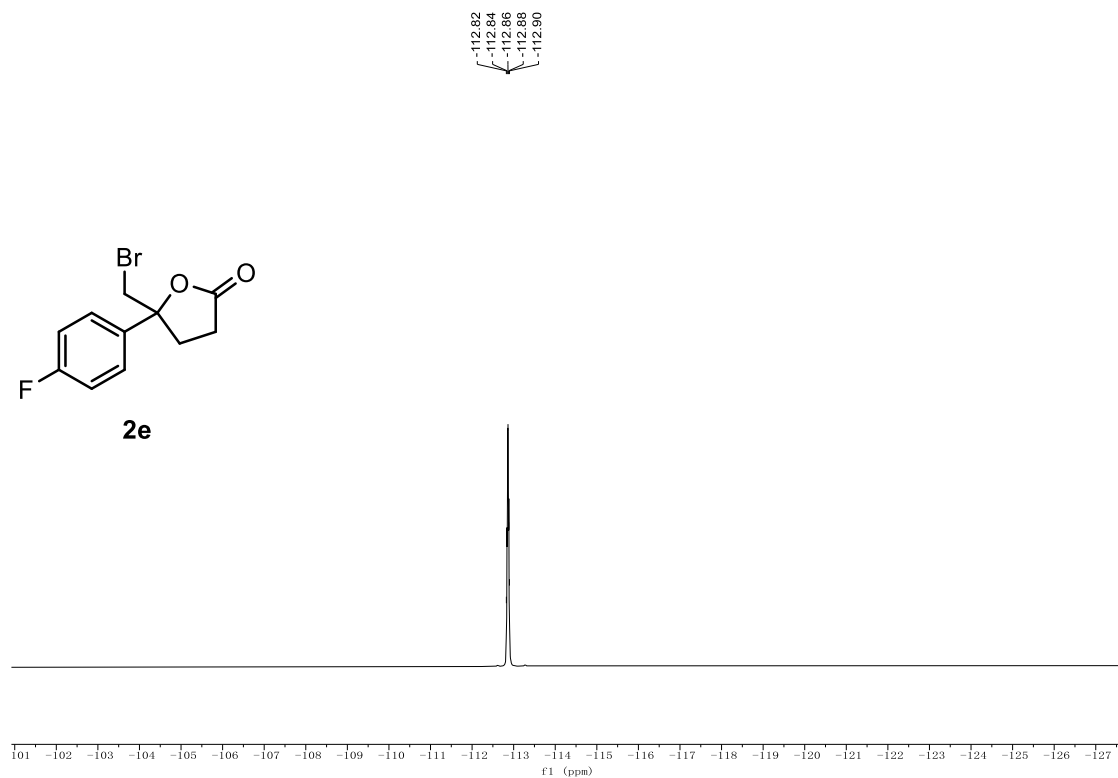


Figure S45. ^{19}F NMR of 5-(bromomethyl)-5-(4-fluorophenyl)dihydrofuran-2(3H)-one (**2e**)

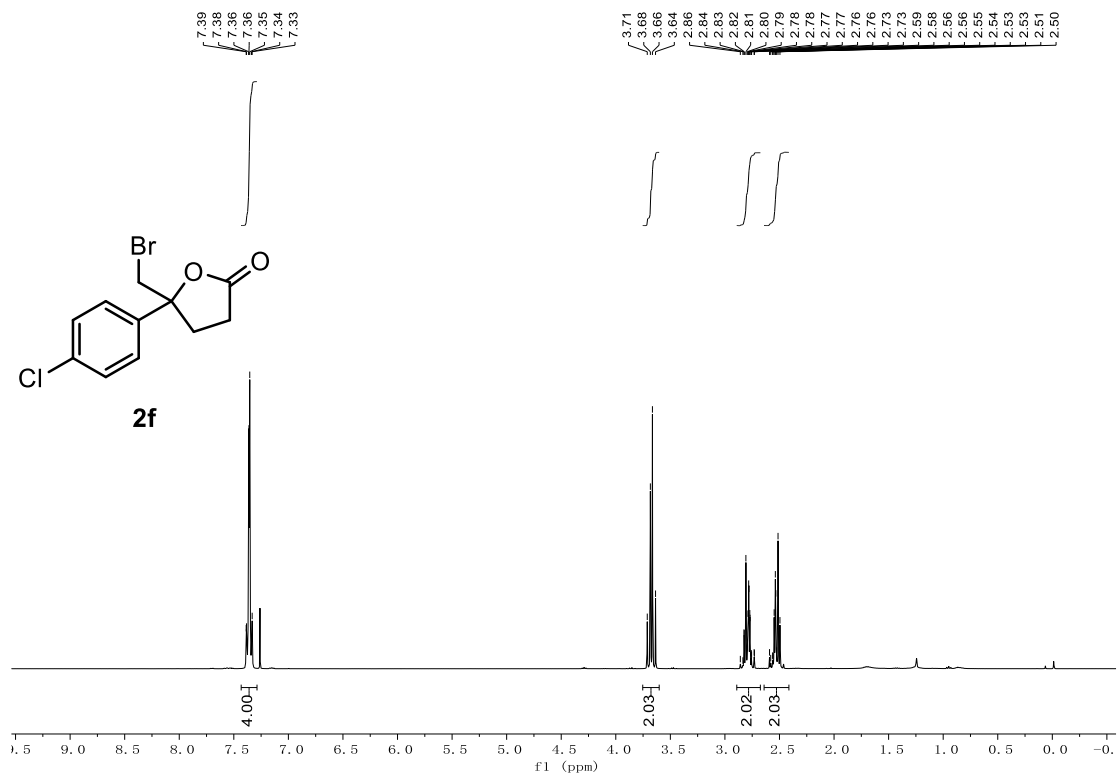


Figure S46. ^1H NMR of 5-(bromomethyl)-5-(4-chlorophenyl)dihydrofuran-2(3H)-one (**2f**)

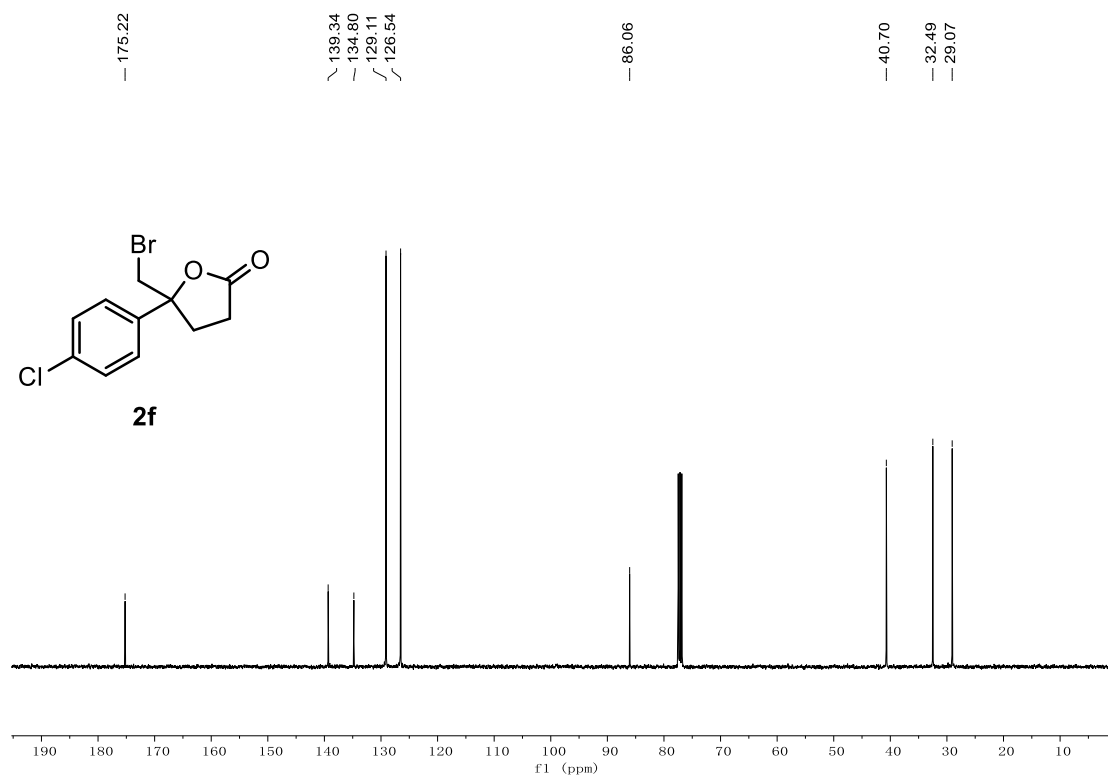


Figure S47. ^{13}C NMR of 5-(bromomethyl)-5-(4-chlorophenyl)dihydrofuran-2(3H)-one (**2f**)

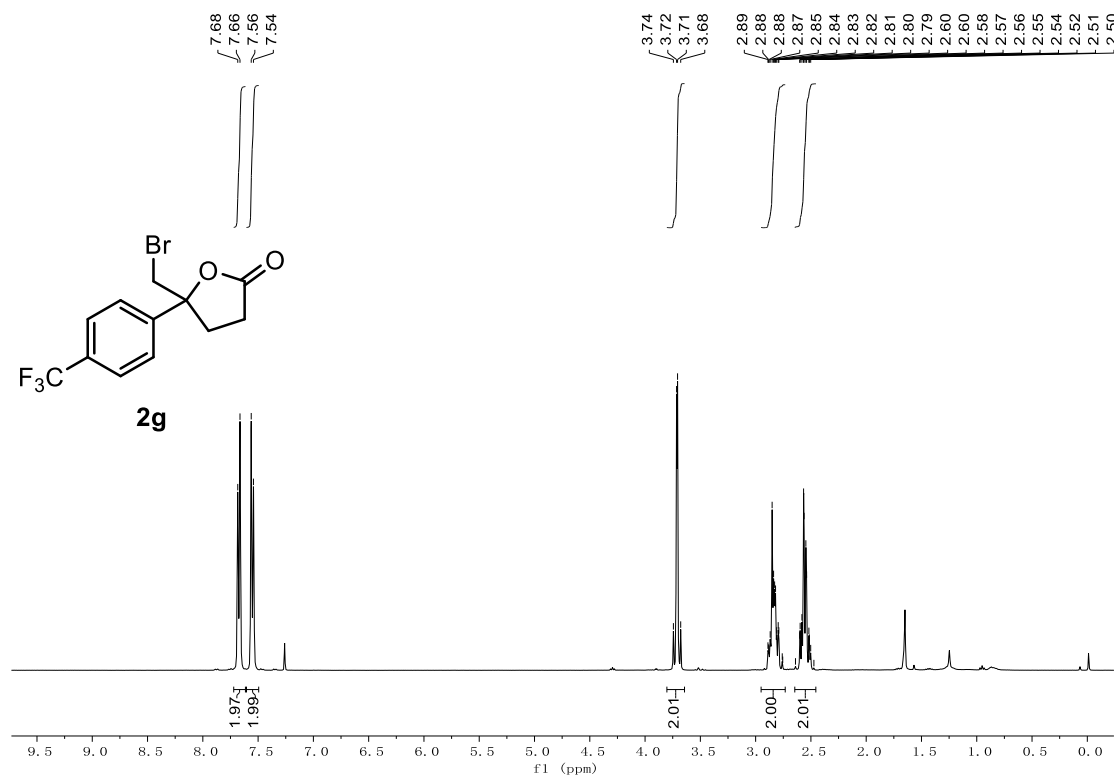


Figure S48. ^1H NMR of 5-(bromomethyl)-5-(4-(trifluoromethyl)phenyl)dihydrofuran-2(3H)-one (**2g**)

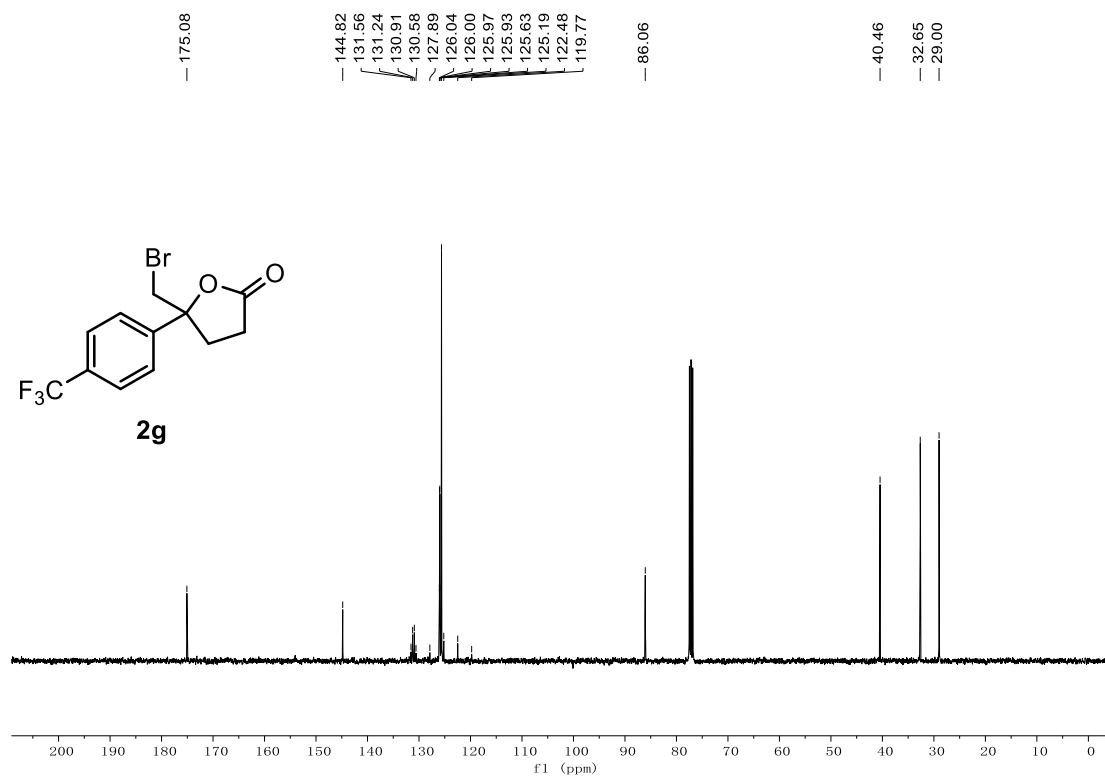


Figure S49. ¹³C NMR of 5-(bromomethyl)-5-(4-(trifluoromethyl)phenyl)dihydrofuran-2(3H)-one (**2g**)

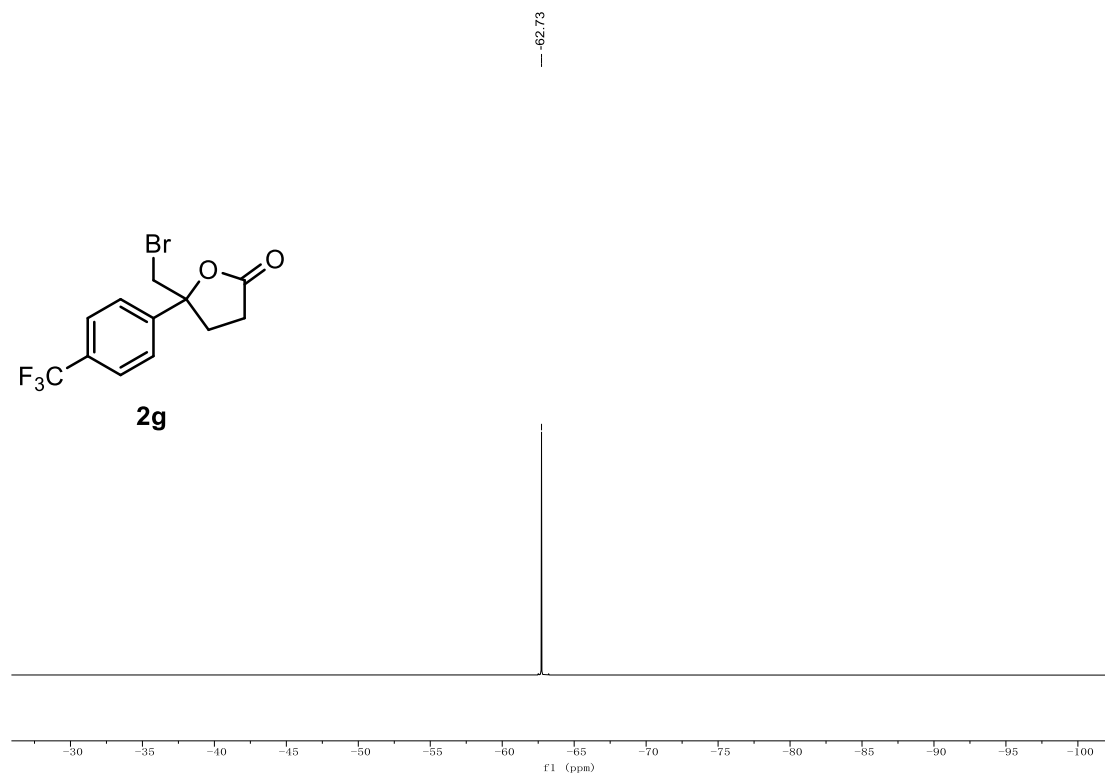


Figure S50. ¹⁹F NMR of 5-(bromomethyl)-5-(4-(trifluoromethyl)phenyl)dihydrofuran-2(3H)-one (**2g**)

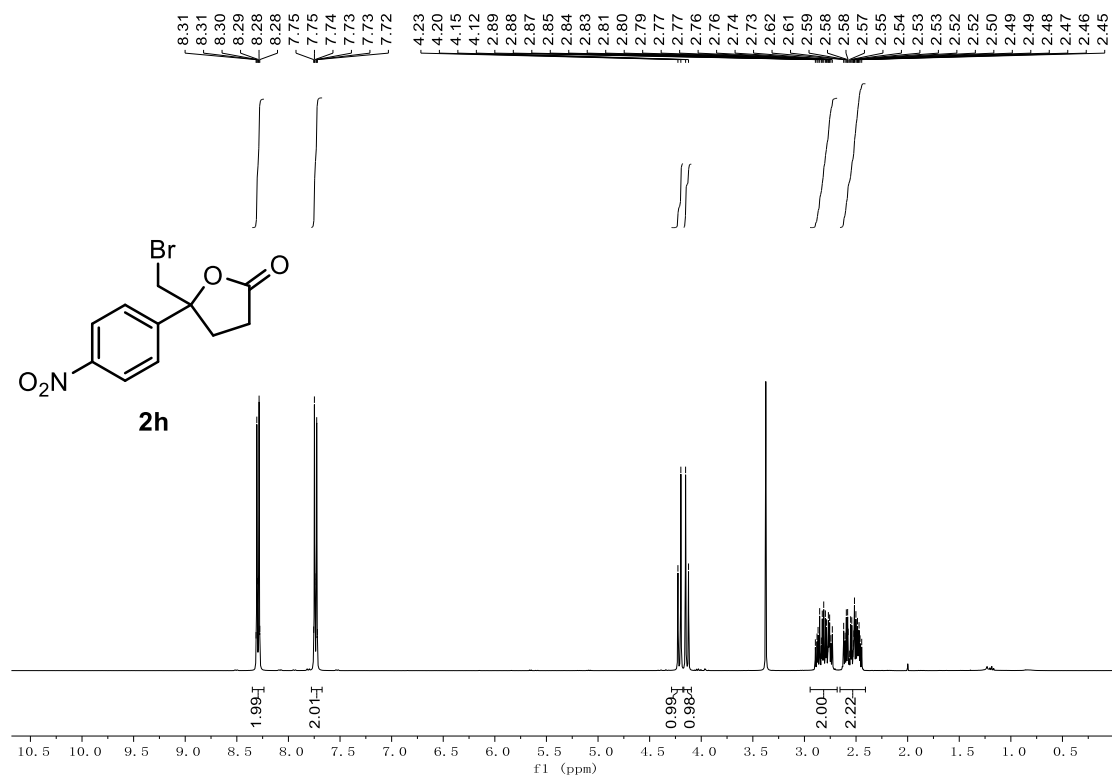


Figure S51. ¹H NMR of 5-(bromomethyl)-5-(4-nitrophenyl)dihydrofuran-2(3H)-one (**2h**)

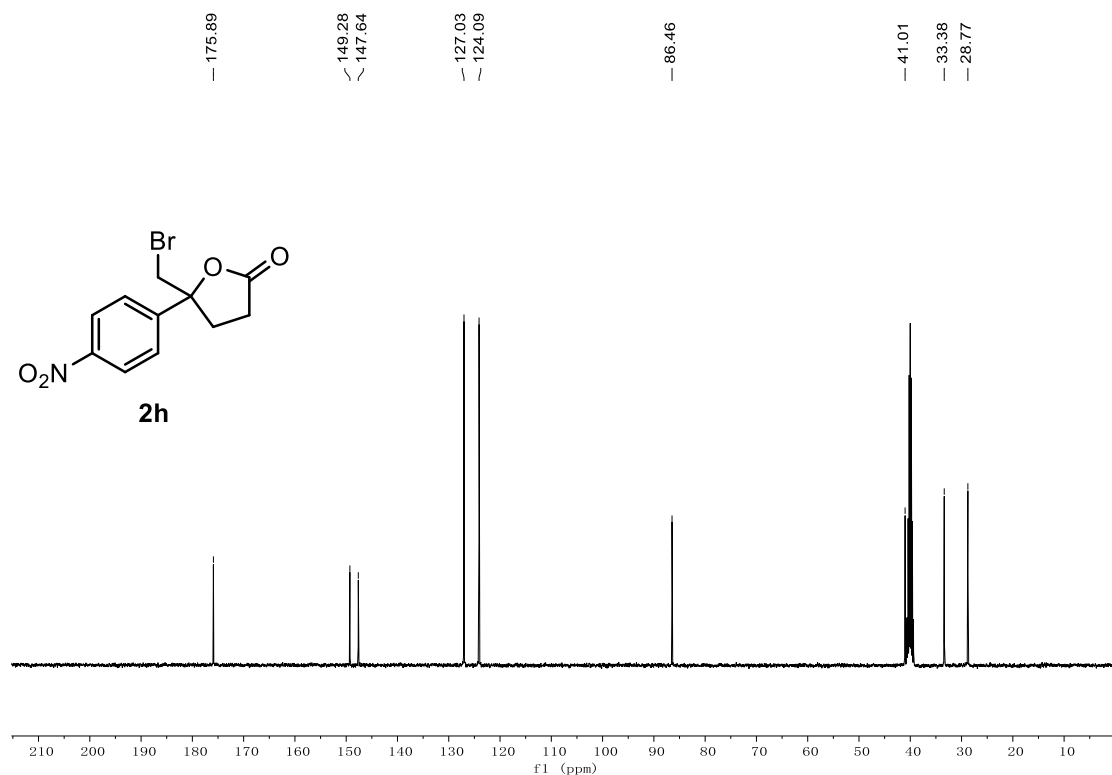


Figure S52. ¹³C NMR of 5-(bromomethyl)-5-(4-nitrophenyl)dihydrofuran-2(3H)-one (**2h**)

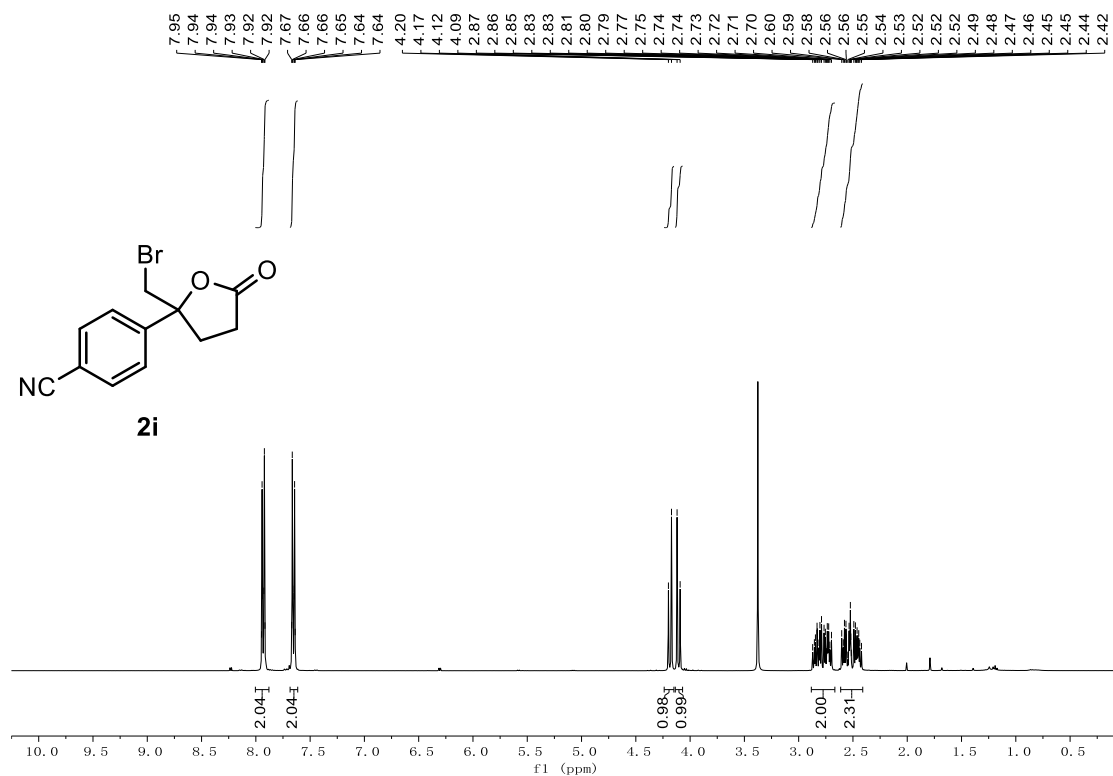


Figure S53. ¹H NMR of 4-(2-(bromomethyl)-5-oxotetrahydrofuran-2-yl)benzonitrile (**2i**)

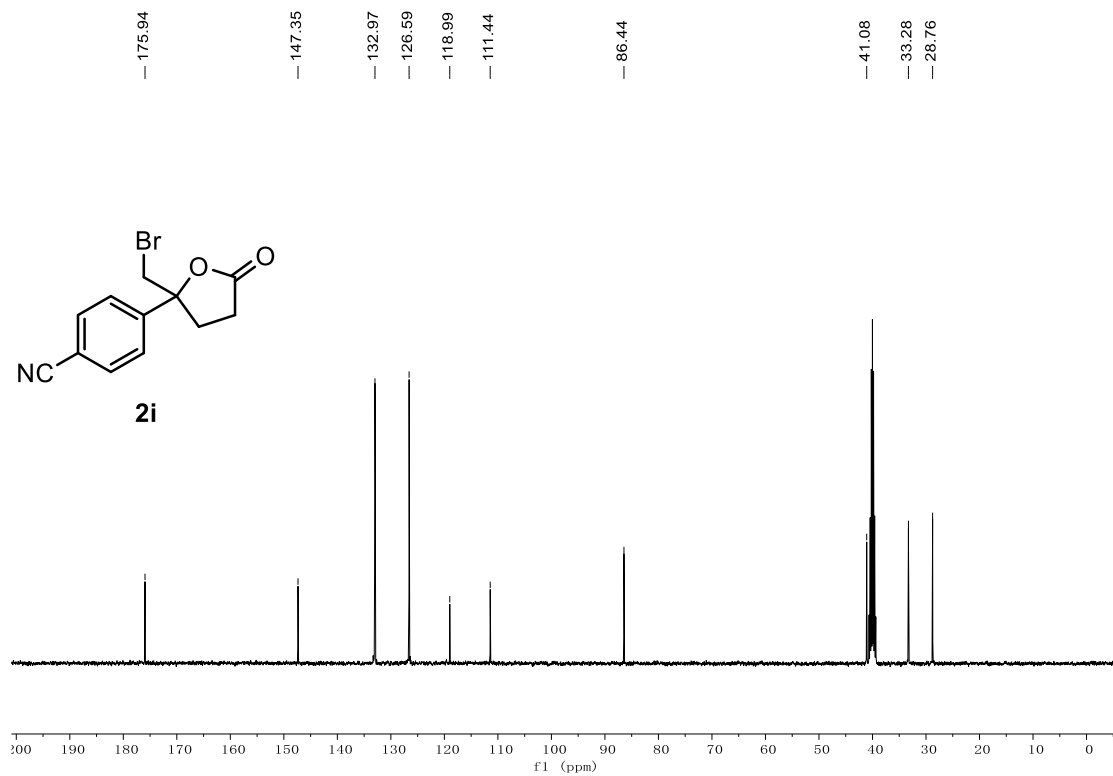


Figure S54. ¹³C NMR of 4-(2-(bromomethyl)-5-oxotetrahydrofuran-2-yl)benzonitrile (**2i**)

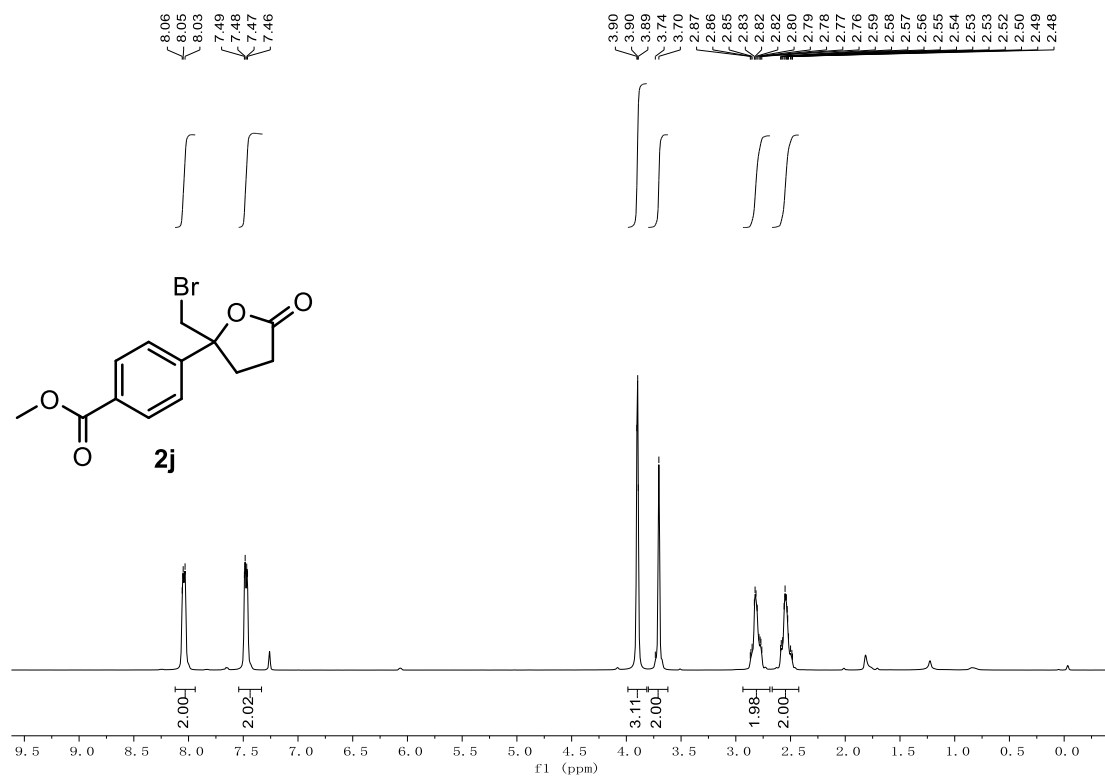


Figure S55. ¹H NMR of methyl 4-(2-(bromomethyl)-5-oxotetrahydrofuran-2-yl) benzoate (**2j**)

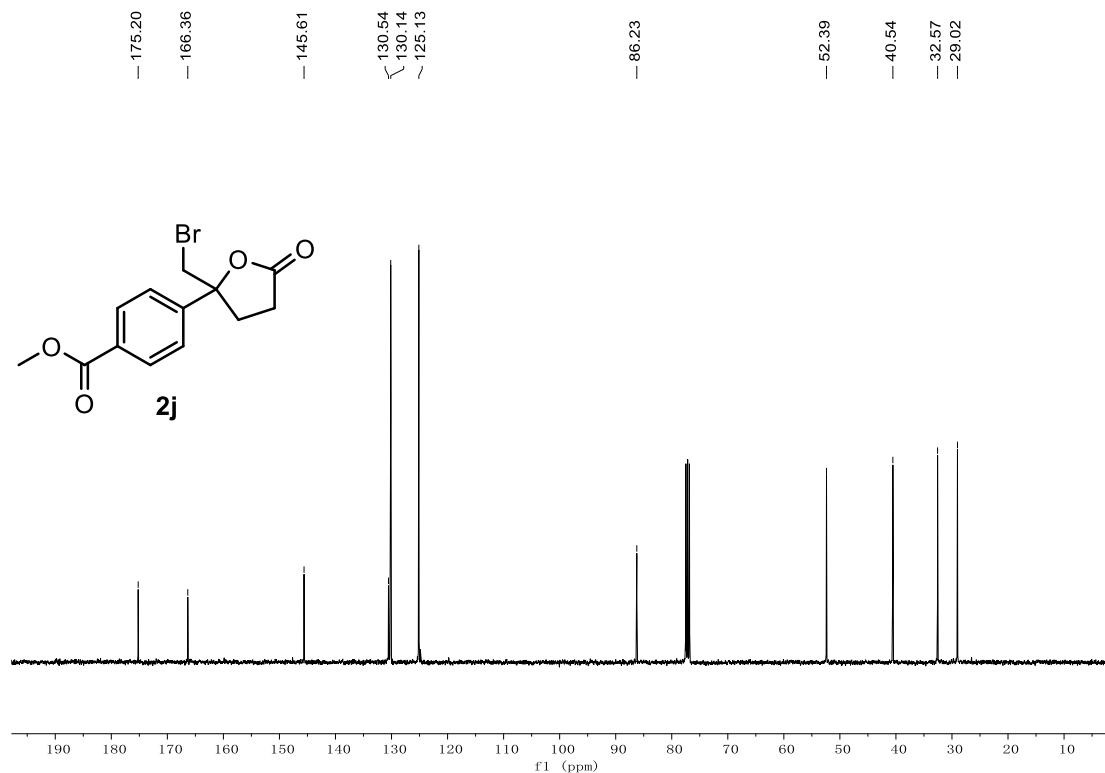
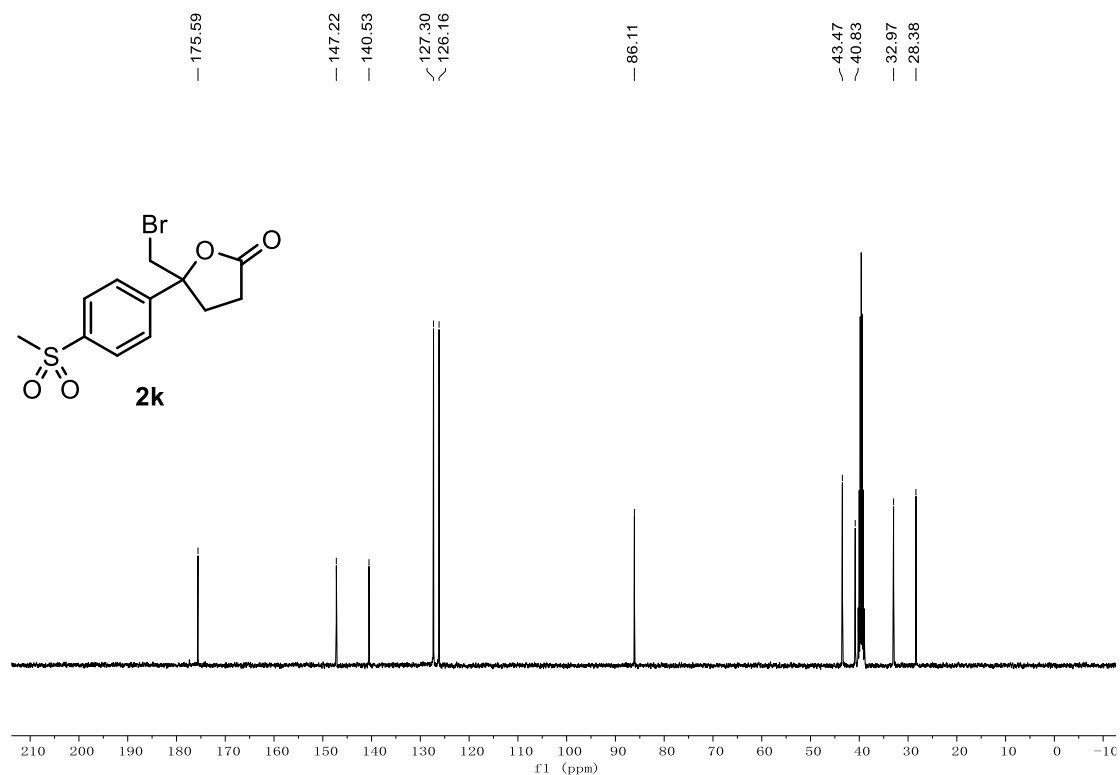
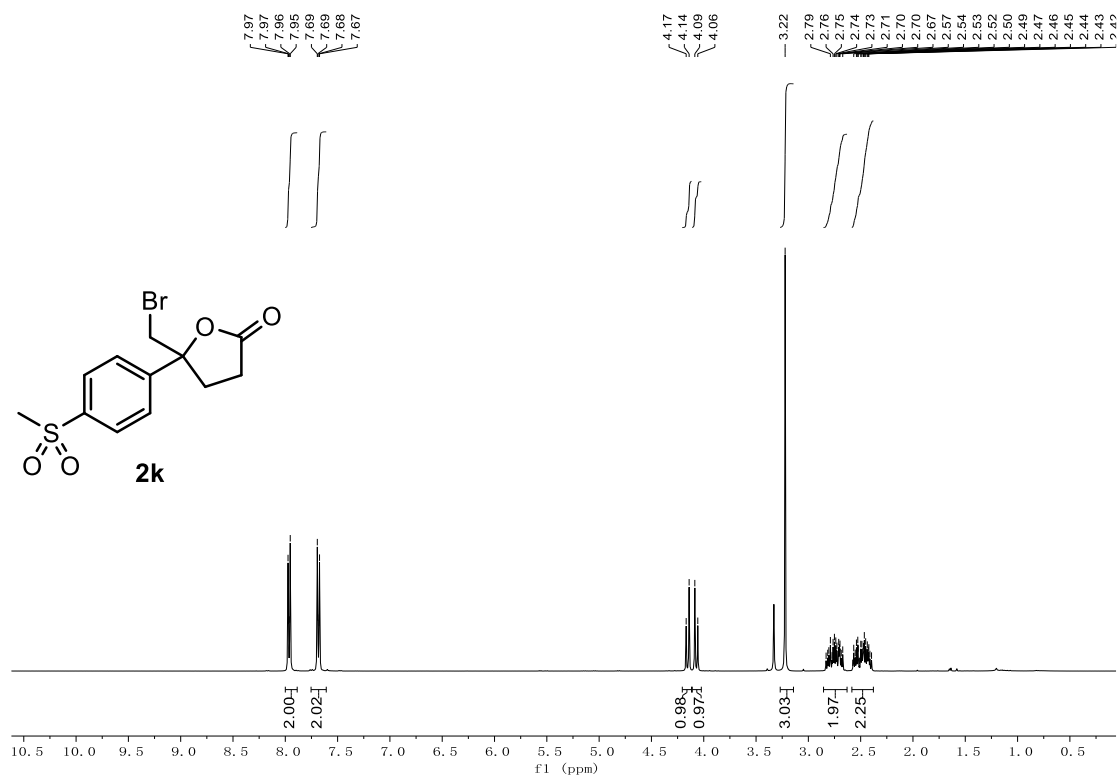


Figure S56. ¹³C NMR of methyl 4-(2-(bromomethyl)-5-oxotetrahydrofuran-2-yl) benzoate (**2j**)



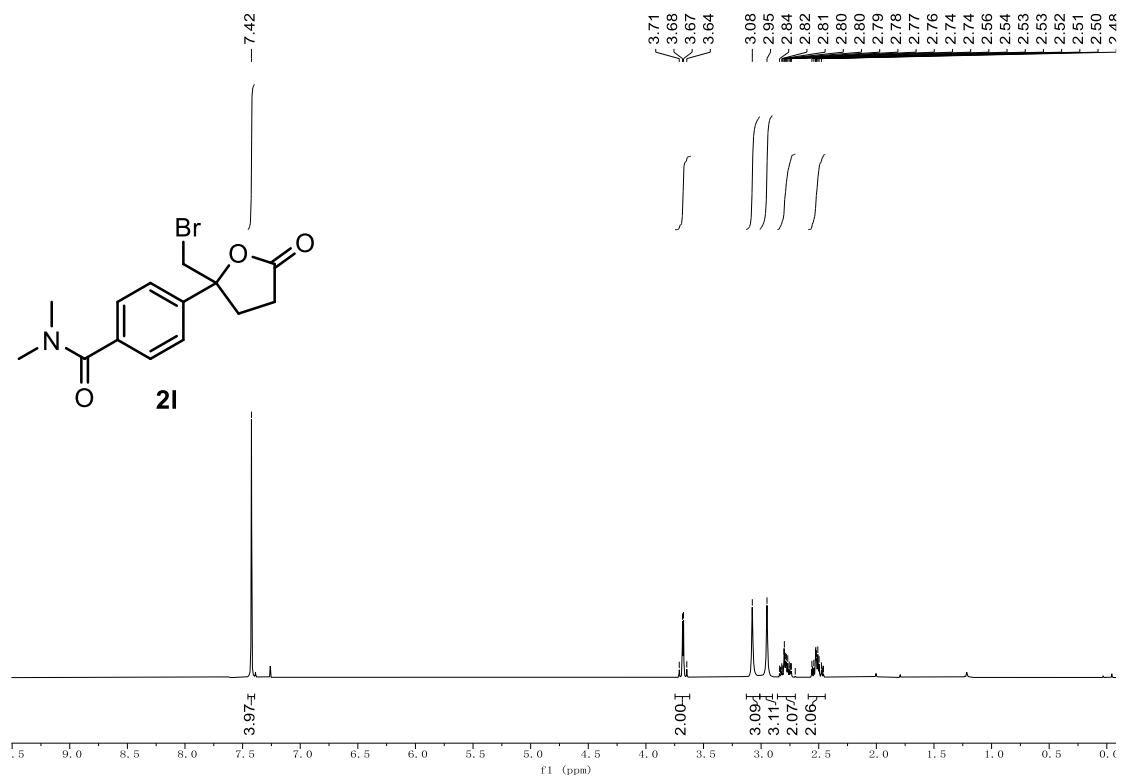


Figure S59. ¹H NMR of 4-(2-(bromomethyl)-5-oxotetrahydrofuran-2-yl)-*N,N*-dimethylbenzamide (**2I**)

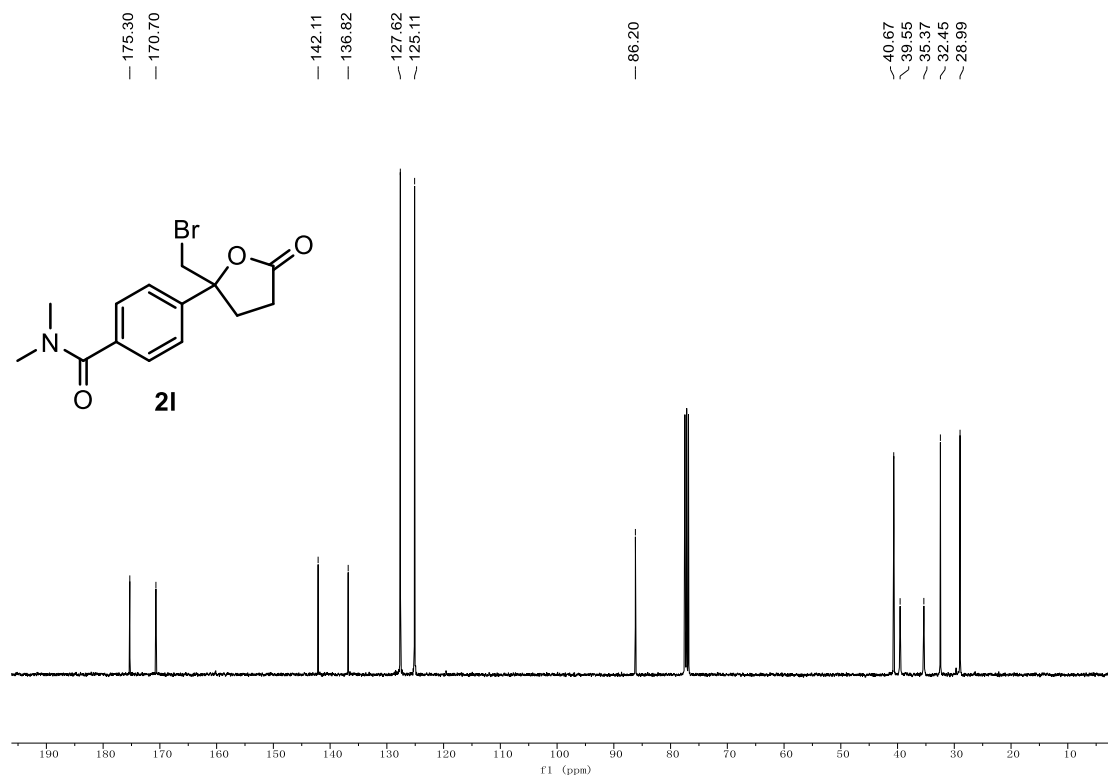


Figure S60. ¹³C NMR of 4-(2-(bromomethyl)-5-oxotetrahydrofuran-2-yl)-*N,N*-dimethylbenzamide (**2I**)

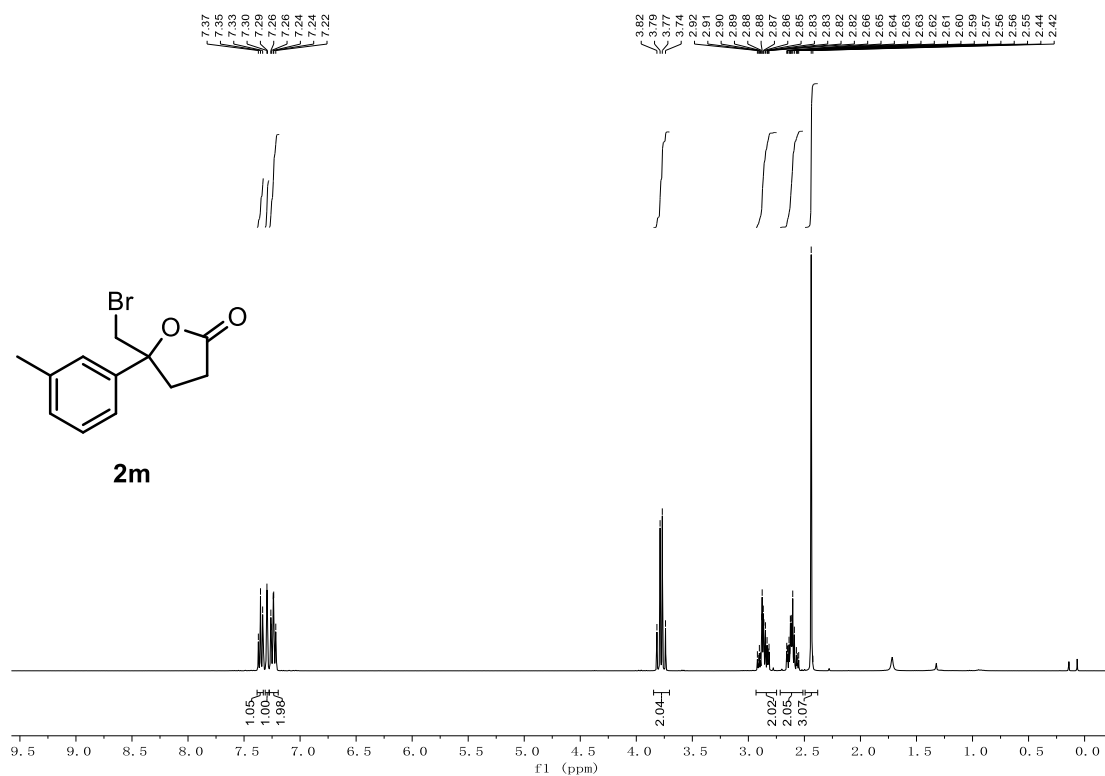


Figure S61. ^1H NMR of 5-(bromomethyl)-5-(m-tolyl)dihydrofuran-2(3H)-one (**2m**)

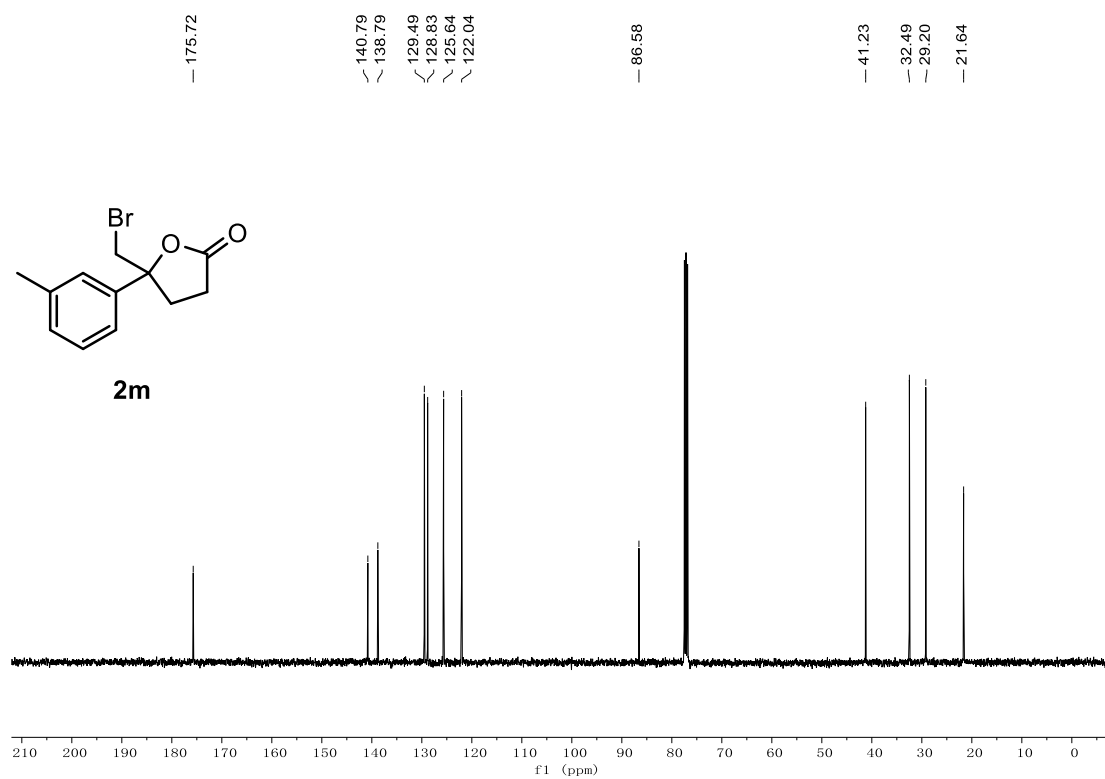


Figure S62. ^{13}C NMR of 5-(bromomethyl)-5-(m-tolyl)dihydrofuran-2(3H)-one (**2m**)

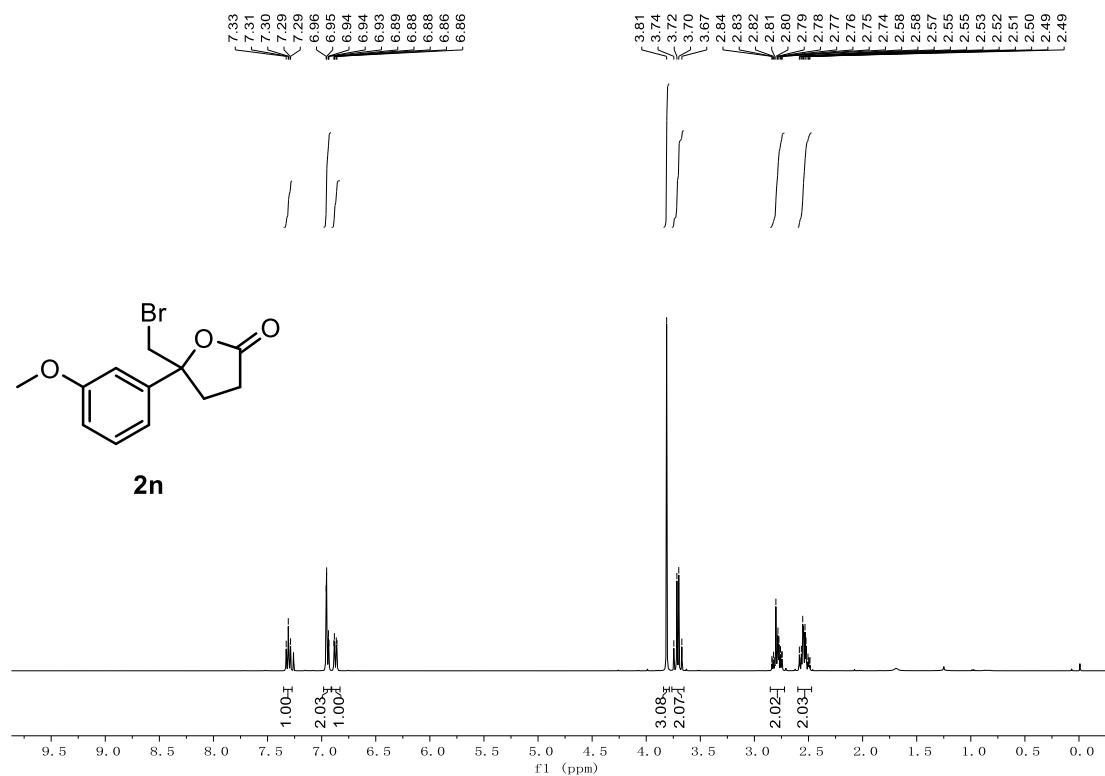


Figure S63. ¹H NMR of 5-(bromomethyl)-5-(3-methoxyphenyl)dihydrofuran-2(3H)-one (**2n**)

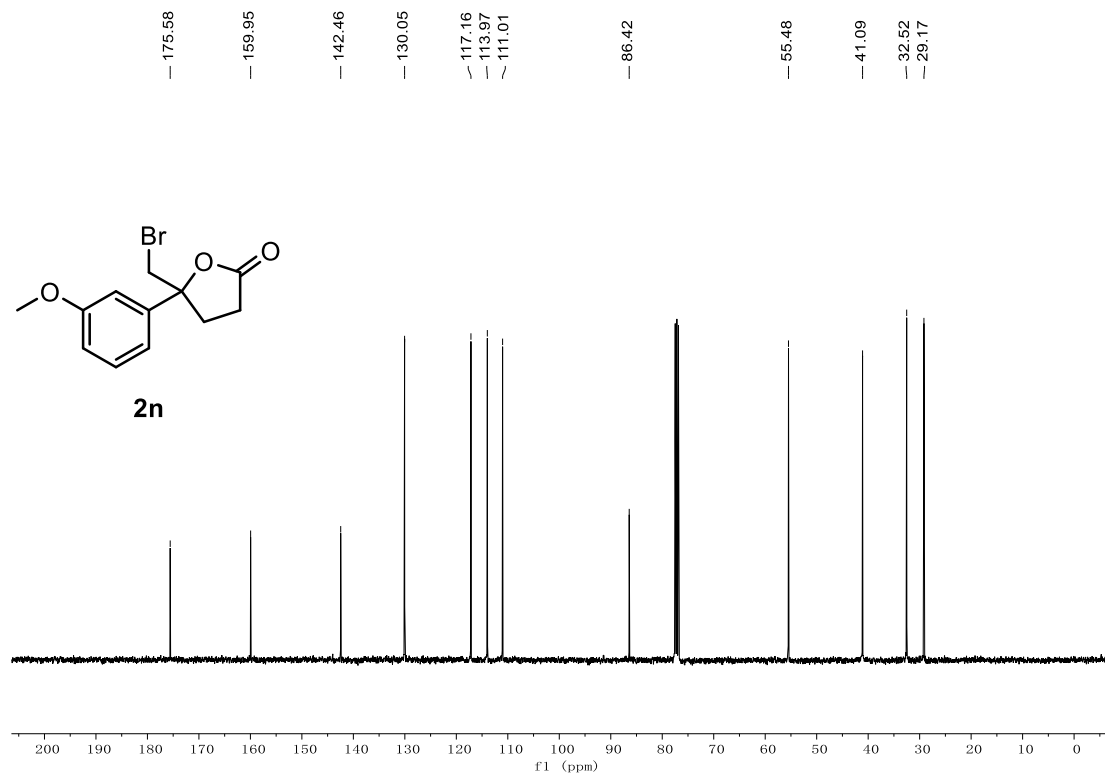


Figure S64. ¹³C NMR of 5-(bromomethyl)-5-(3-methoxyphenyl)dihydrofuran-2(3H)-one (**2n**)

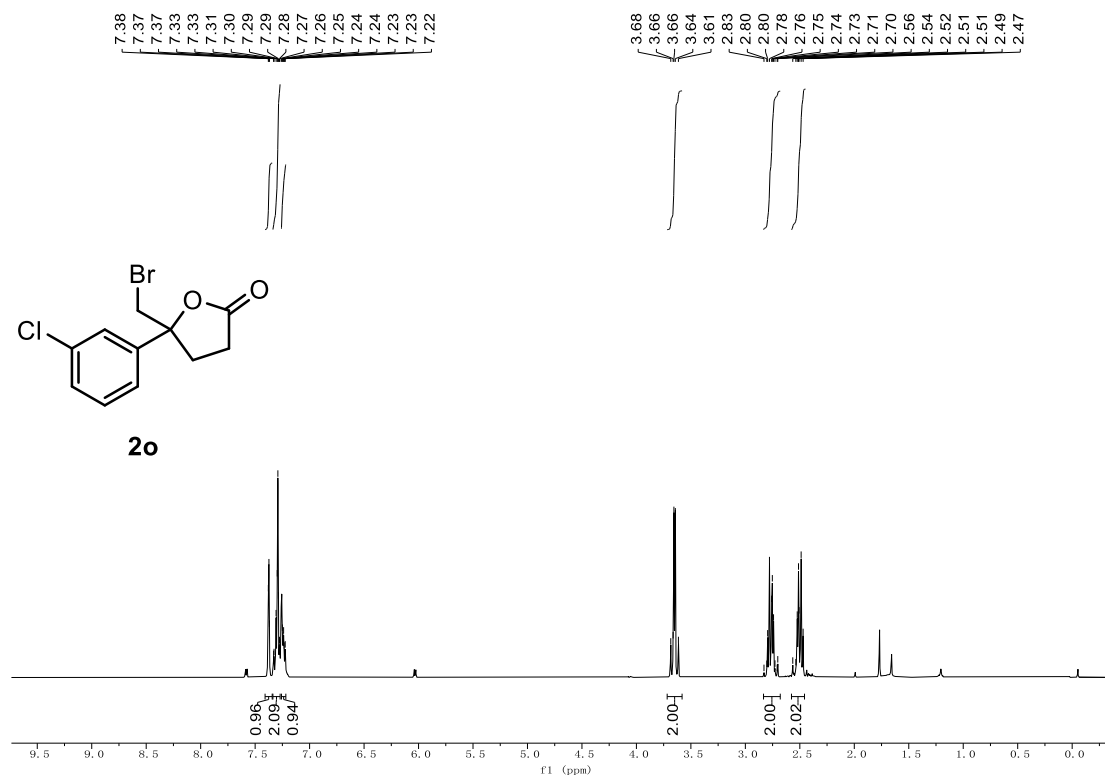


Figure S65. ^1H NMR of 5-(bromomethyl)-5-(3-chlorophenyl)dihydrofuran-2(3H)-one (**2o**)

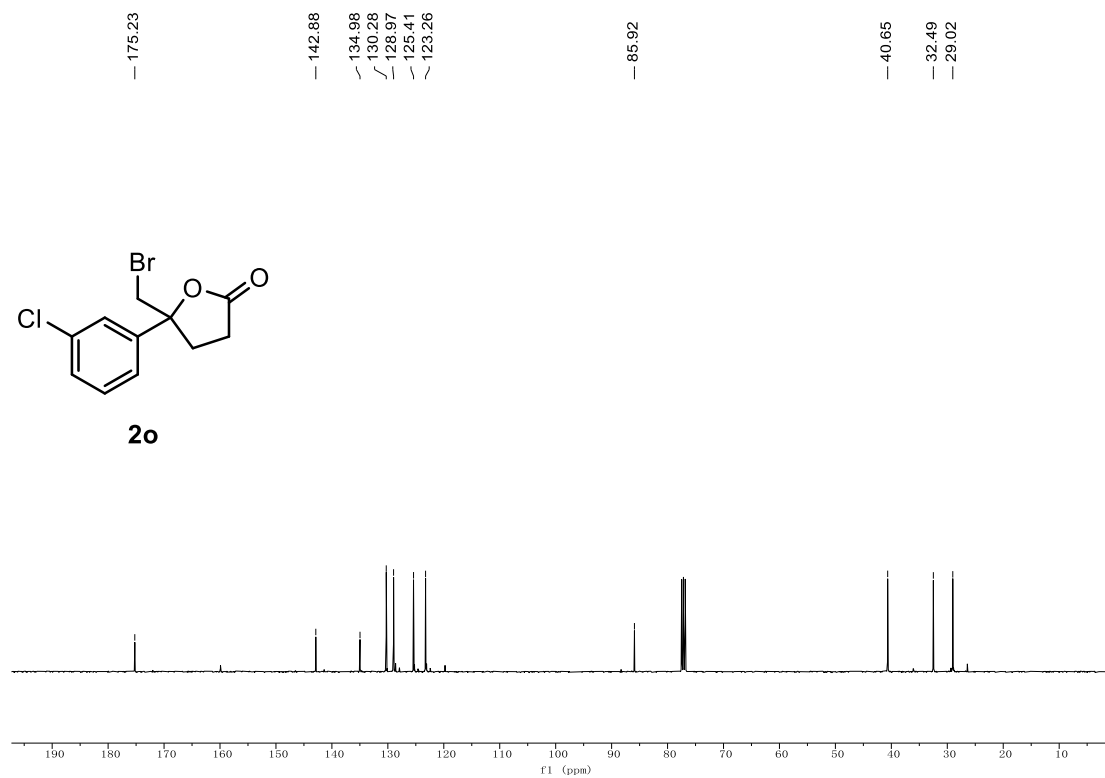


Figure S66. ^{13}C NMR of 5-(bromomethyl)-5-(3-chlorophenyl)dihydrofuran-2(3H)-one (**2o**)

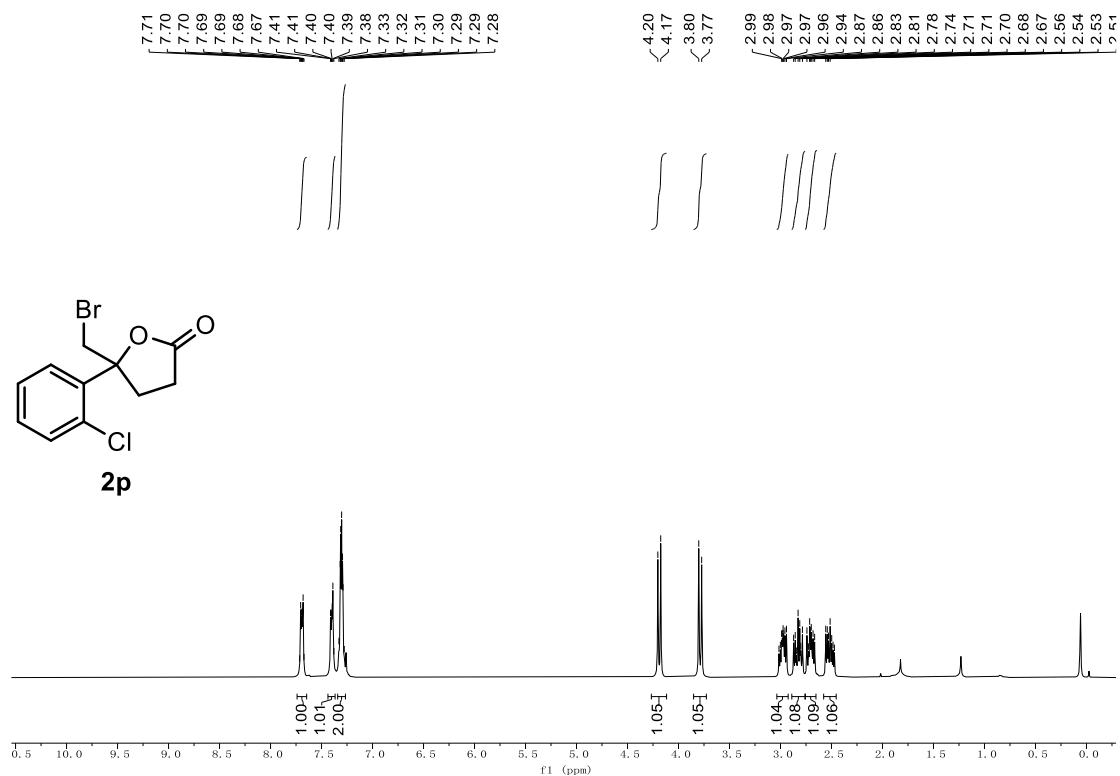


Figure S67. ¹H NMR of 5-(bromomethyl)-5-(2-chlorophenyl)dihydrofuran-2(3H)-one (**2p**)

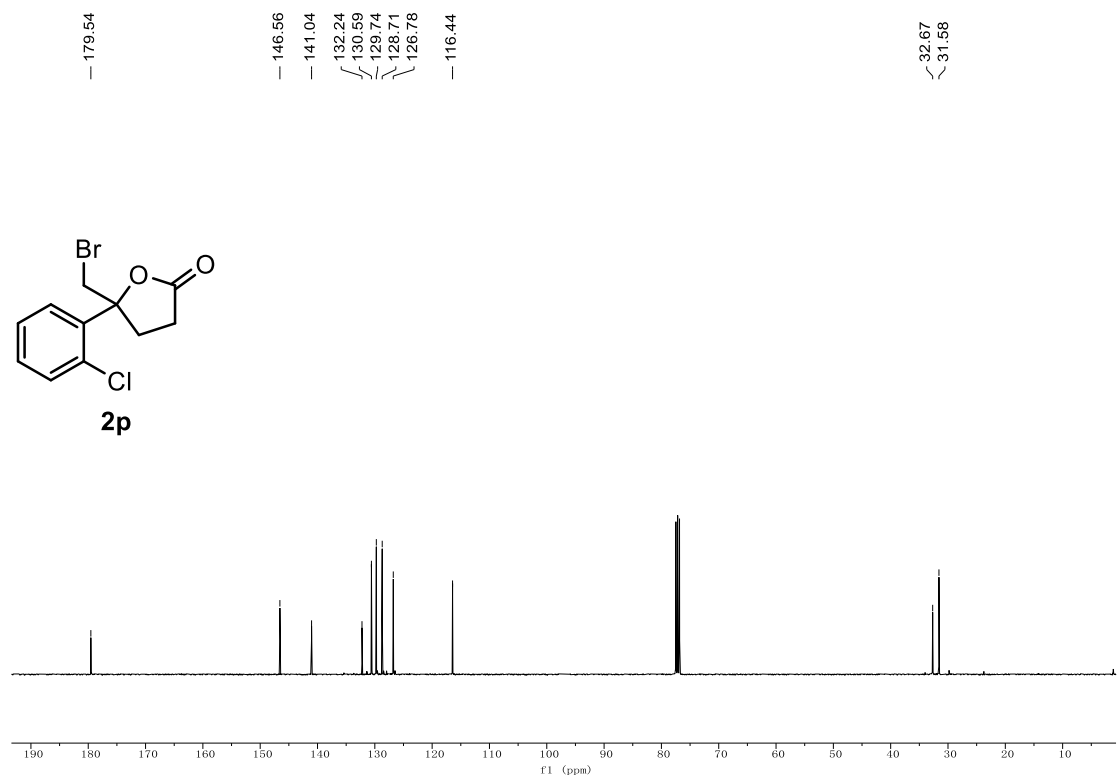


Figure S68. ¹³C NMR of 5-(bromomethyl)-5-(2-chlorophenyl)dihydrofuran-2(3H)-one (**2p**)

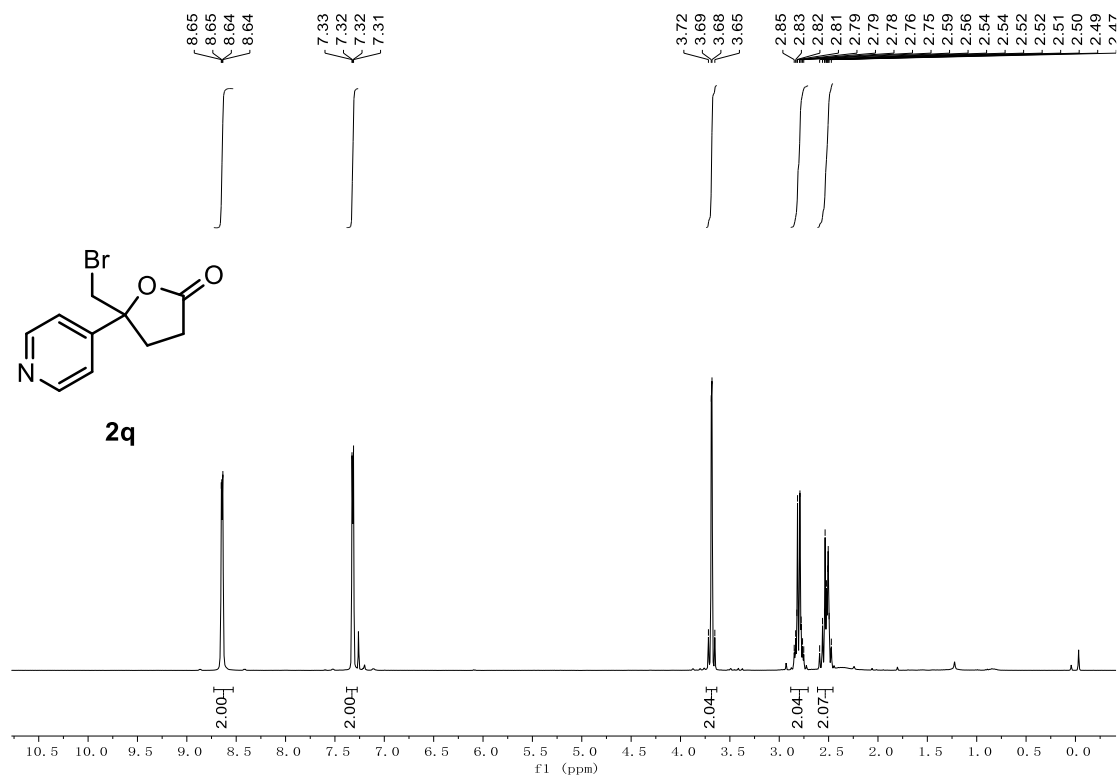


Figure S69. ¹H NMR of 5-(bromomethyl)-5-(pyridin-4-yl)dihydrofuran-2(3H)-one (**2q**)

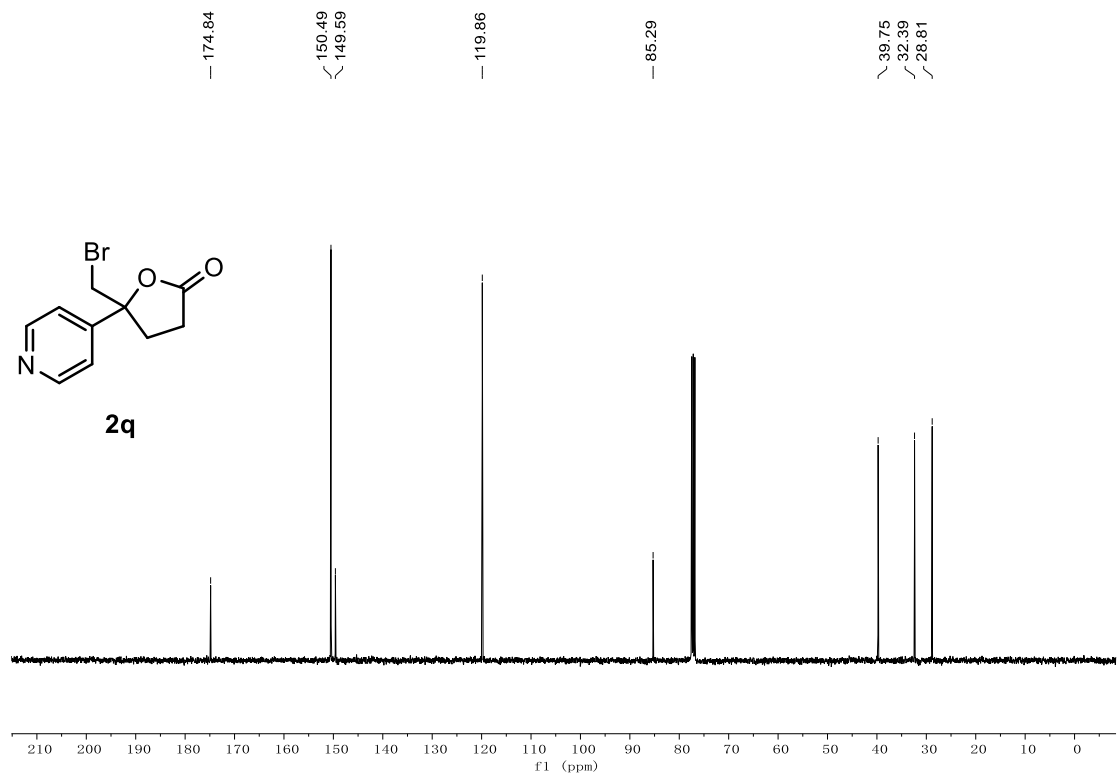


Figure S70. ¹³C NMR of 5-(bromomethyl)-5-(pyridin-4-yl)dihydrofuran-2(3H)-one (**2q**)

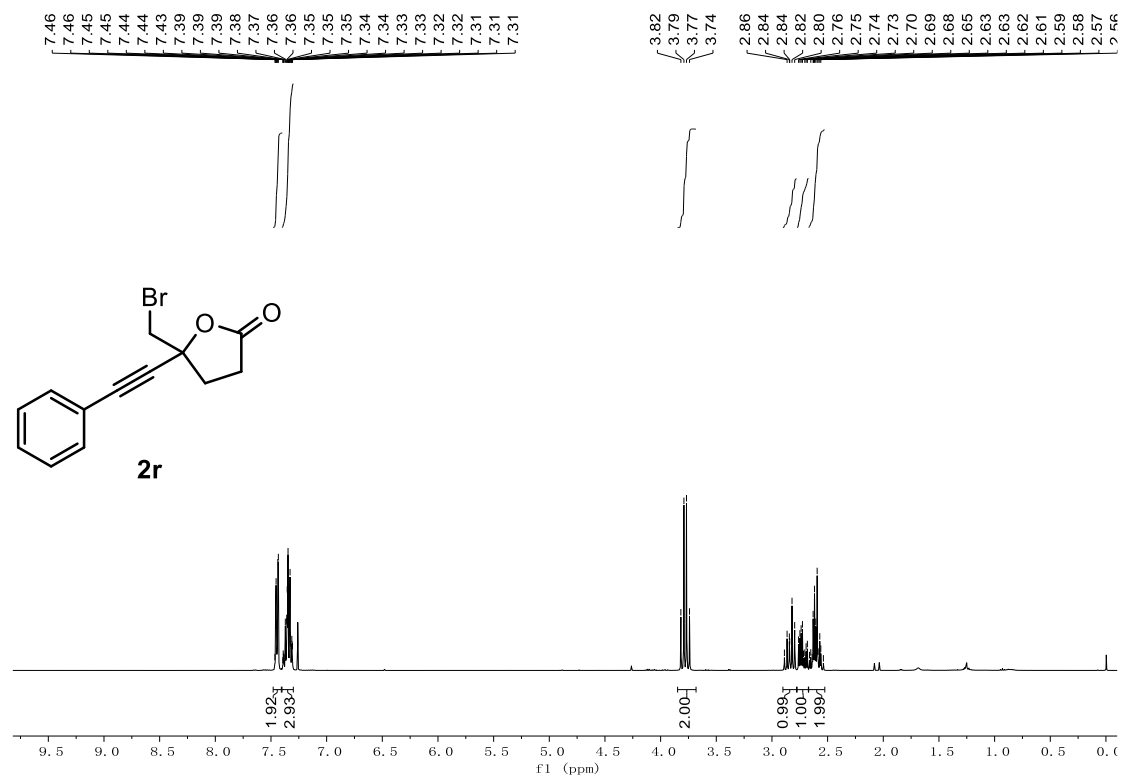


Figure S71. ¹H NMR of 5-(bromomethyl)-5-(phenylethynyl)dihydrofuran-2(3H)-one (**2r**)

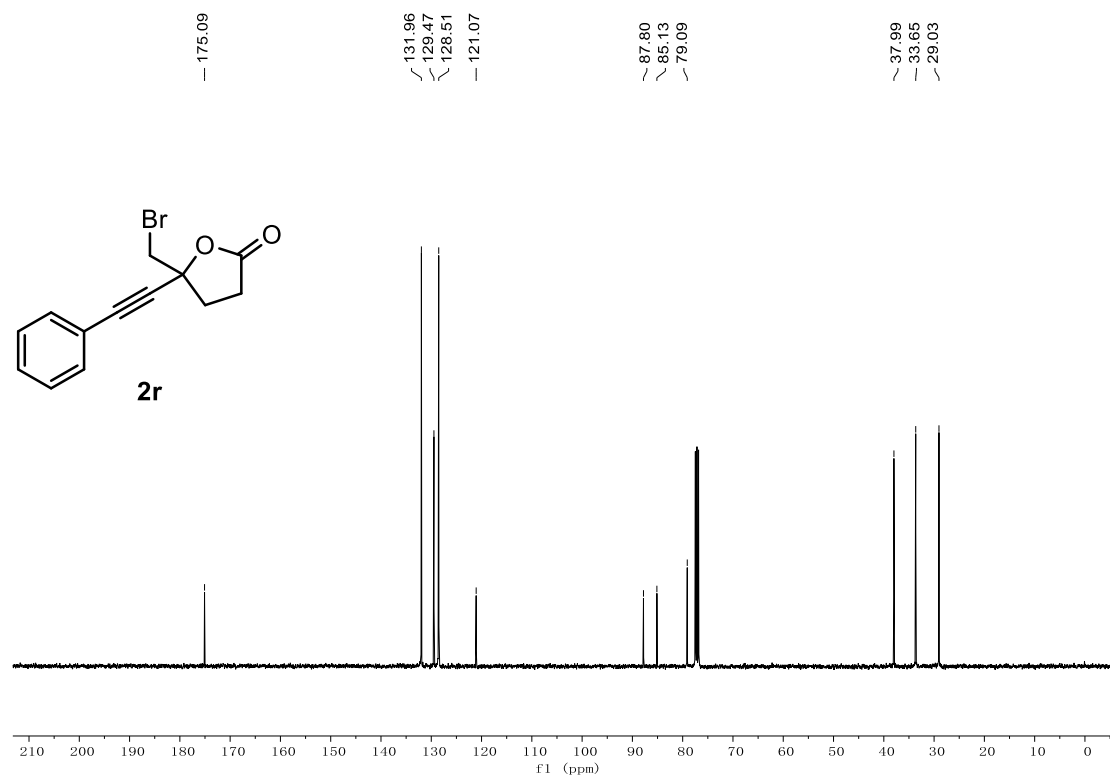


Figure S72. ¹³C NMR of 5-(bromomethyl)-5-(phenylethynyl)dihydrofuran-2(3H)-one (**2r**)

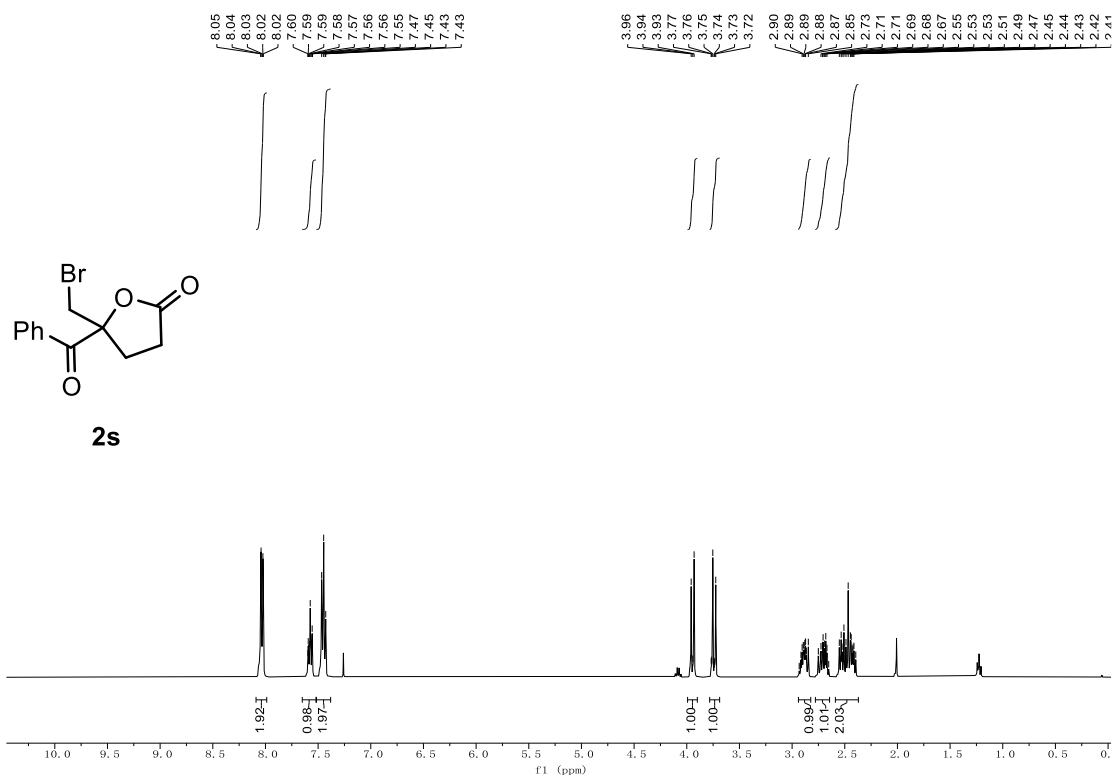


Figure S73. ¹H NMR of 5-benzoyl-5-(bromomethyl)dihydrofuran-2(3H)-one (**2s**)

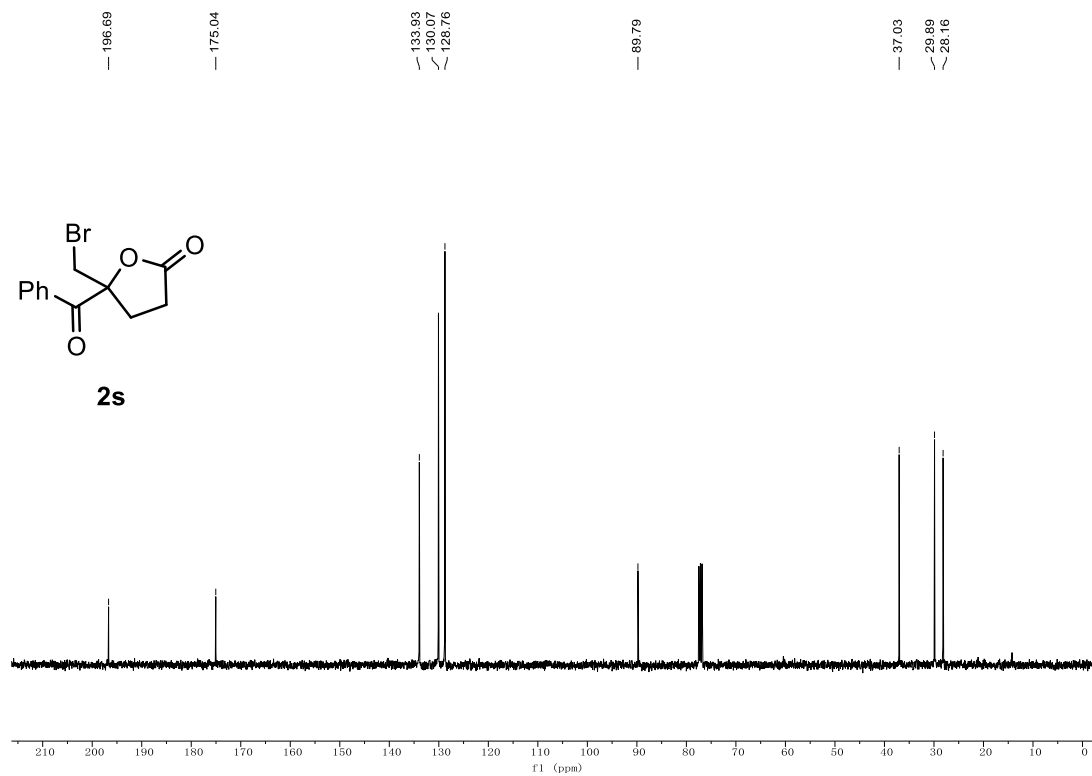


Figure S74. ¹³C NMR of 5-benzoyl-5-(bromomethyl)dihydrofuran-2(3H)-one (**2s**)

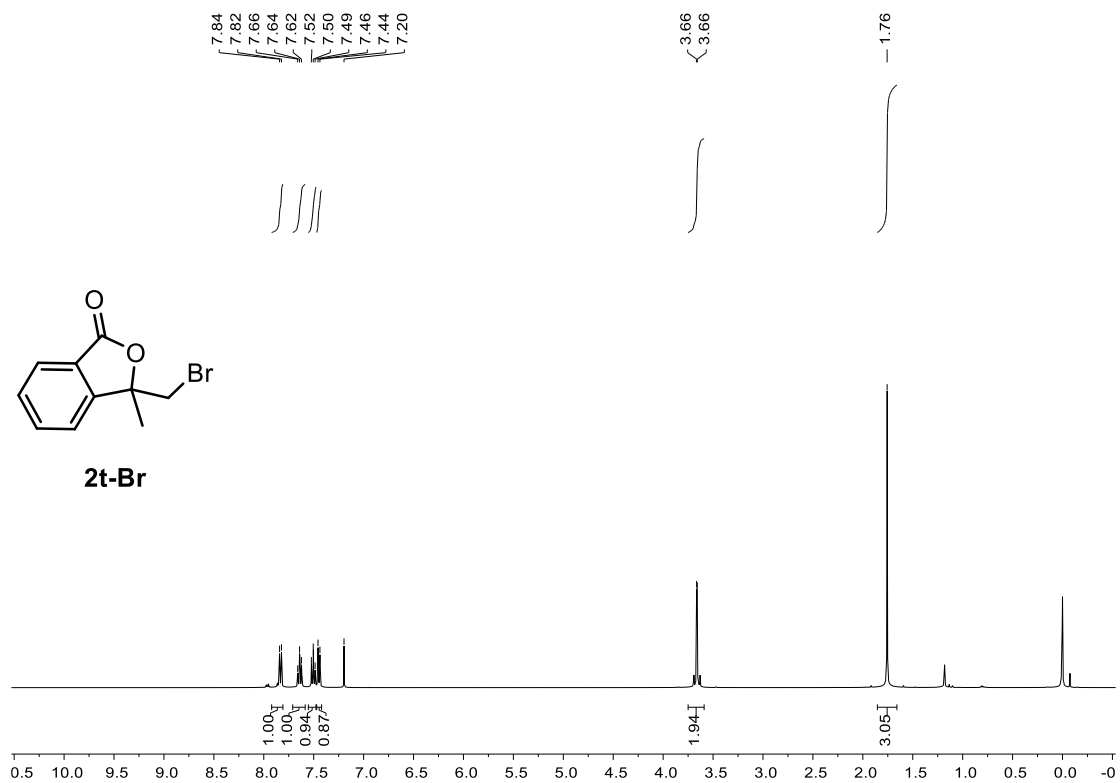


Figure S75. ¹H NMR of 3-(bromomethyl)-3-methylisobenzofuran-1(3H)-one (**2t-Br**)

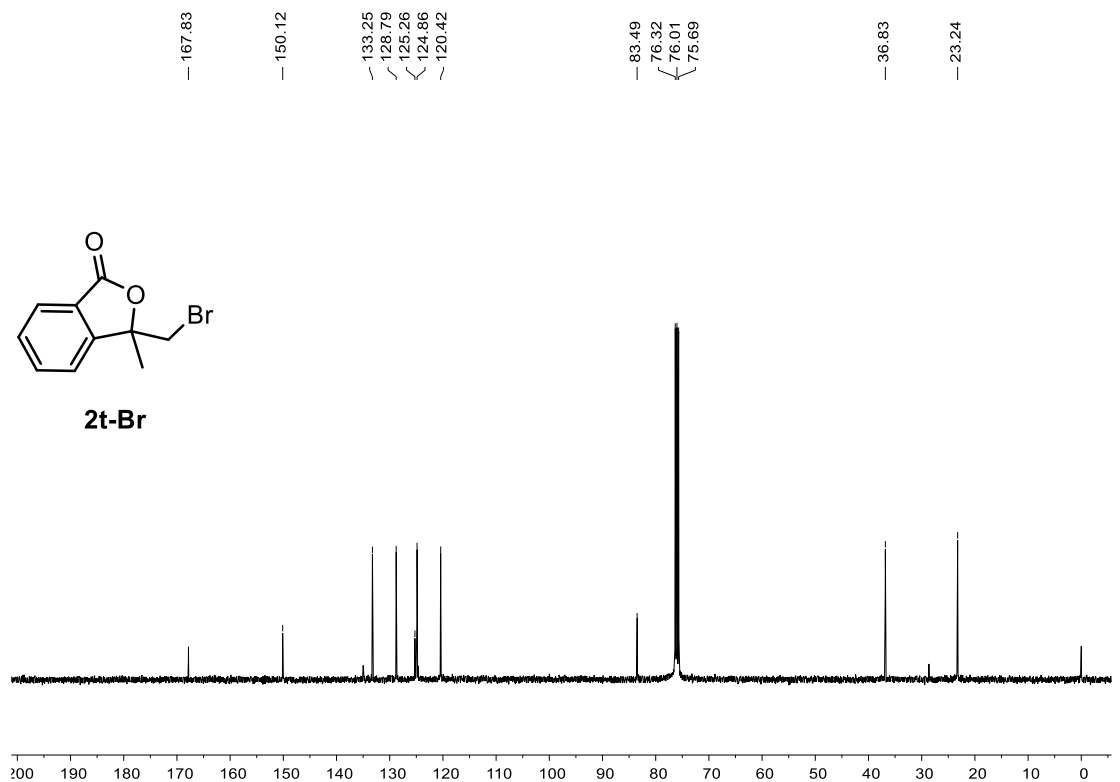


Figure S76. ¹³C NMR of 3-(bromomethyl)-3-methylisobenzofuran-1(3H)-one (**2t-Br**)

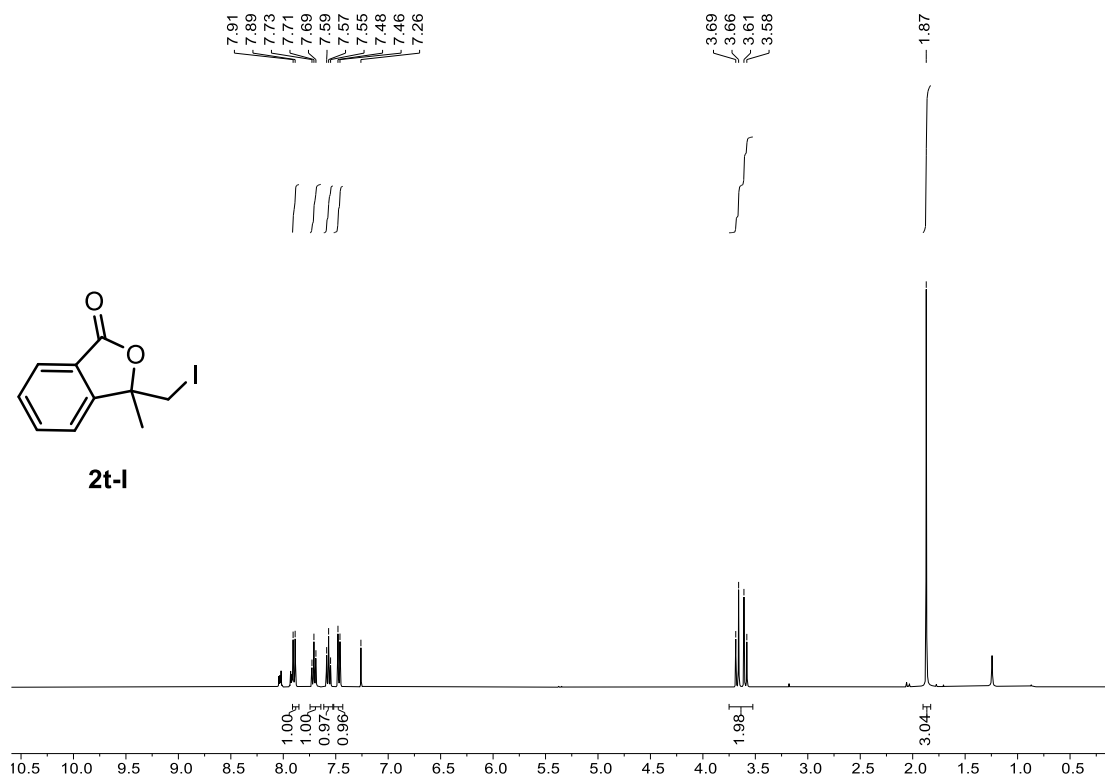


Figure S77. ¹H NMR of 3-(bromomethyl)-3-methylisobenzofuran-1(3H)-one (**2t-I**)

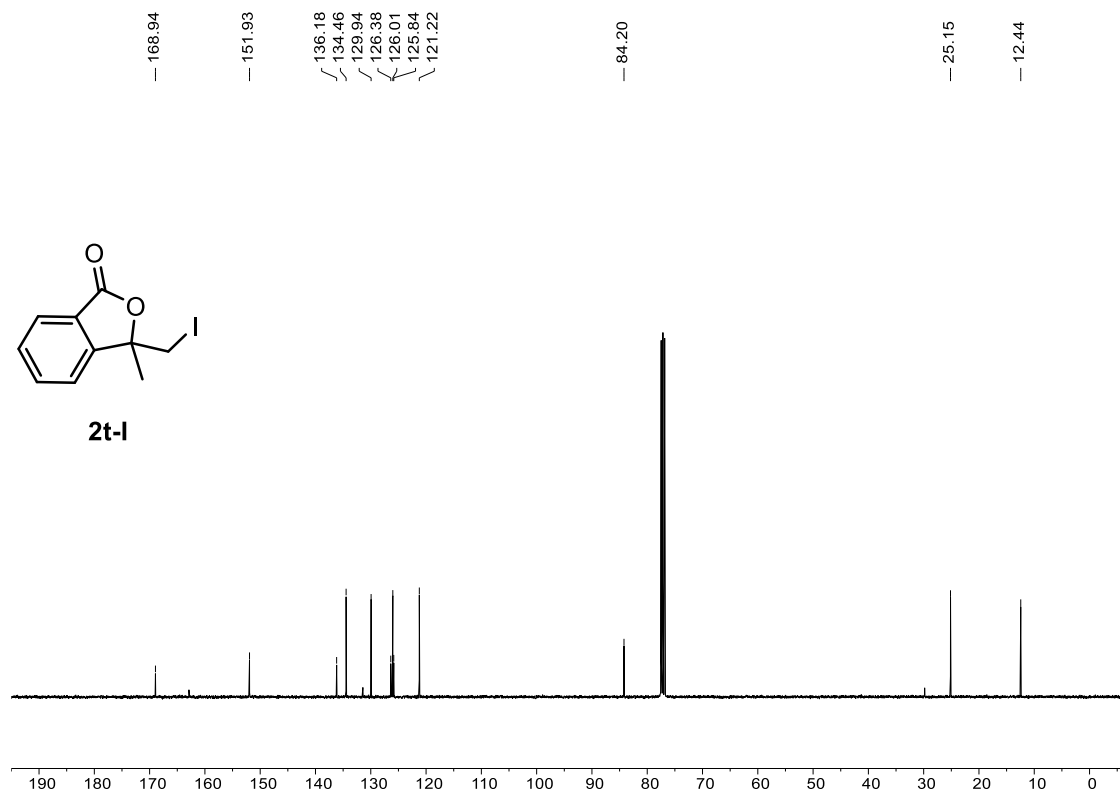


Figure S78. ¹³C NMR of 3-(bromomethyl)-3-methylisobenzofuran-1(3H)-one (**2t-I**)

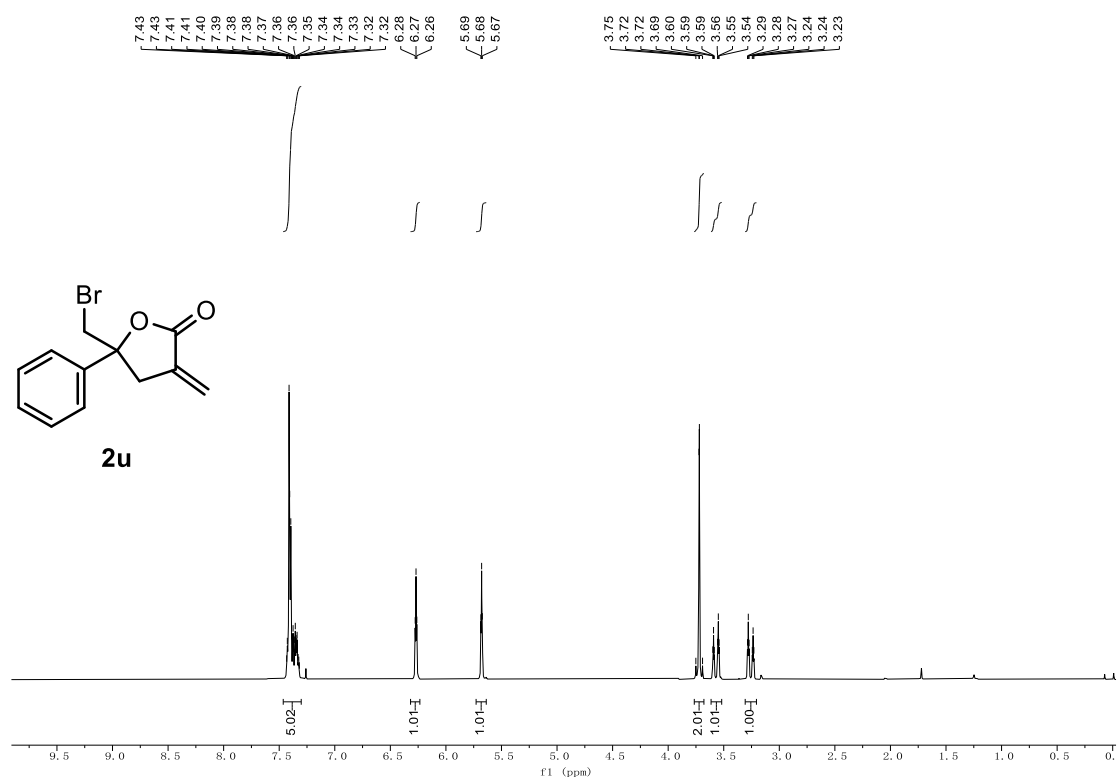


Figure S79. ¹H NMR of 5-(bromomethyl)-3-methylene-5-phenyldihydrofuran-2(3H)-one (**2u**)

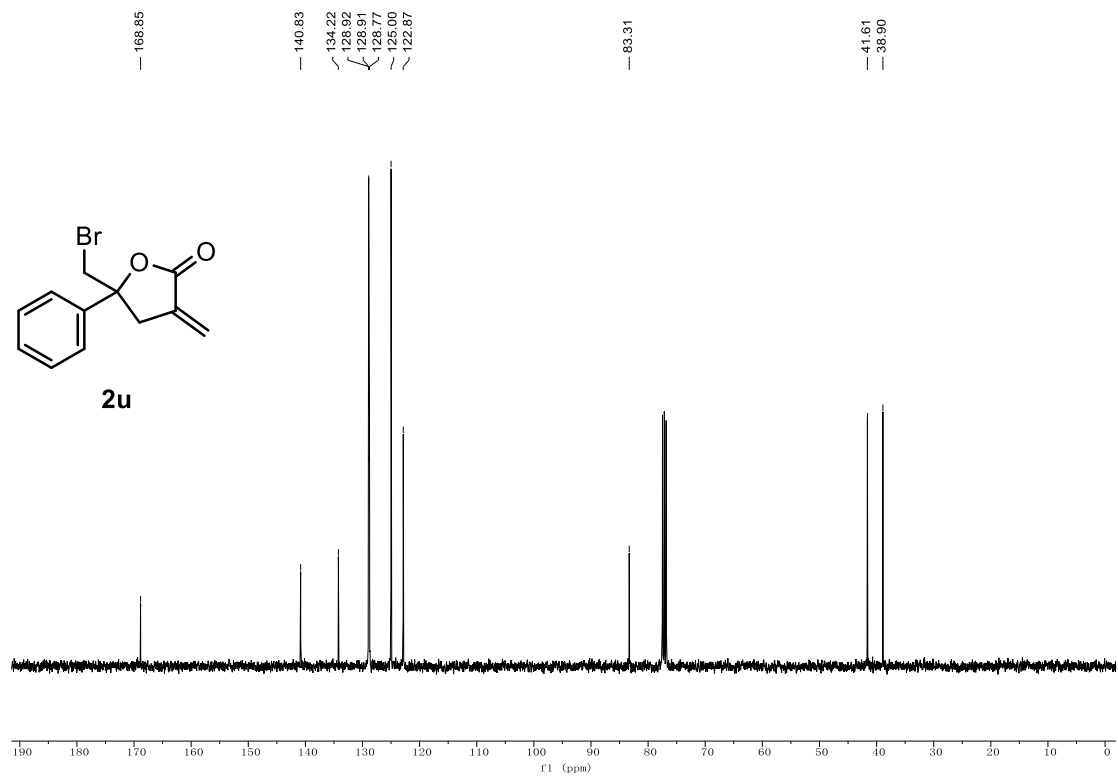


Figure S80. ¹³C NMR of 5-(bromomethyl)-3-methylene-5-phenyldihydrofuran-2(3H)-one (**2u**)

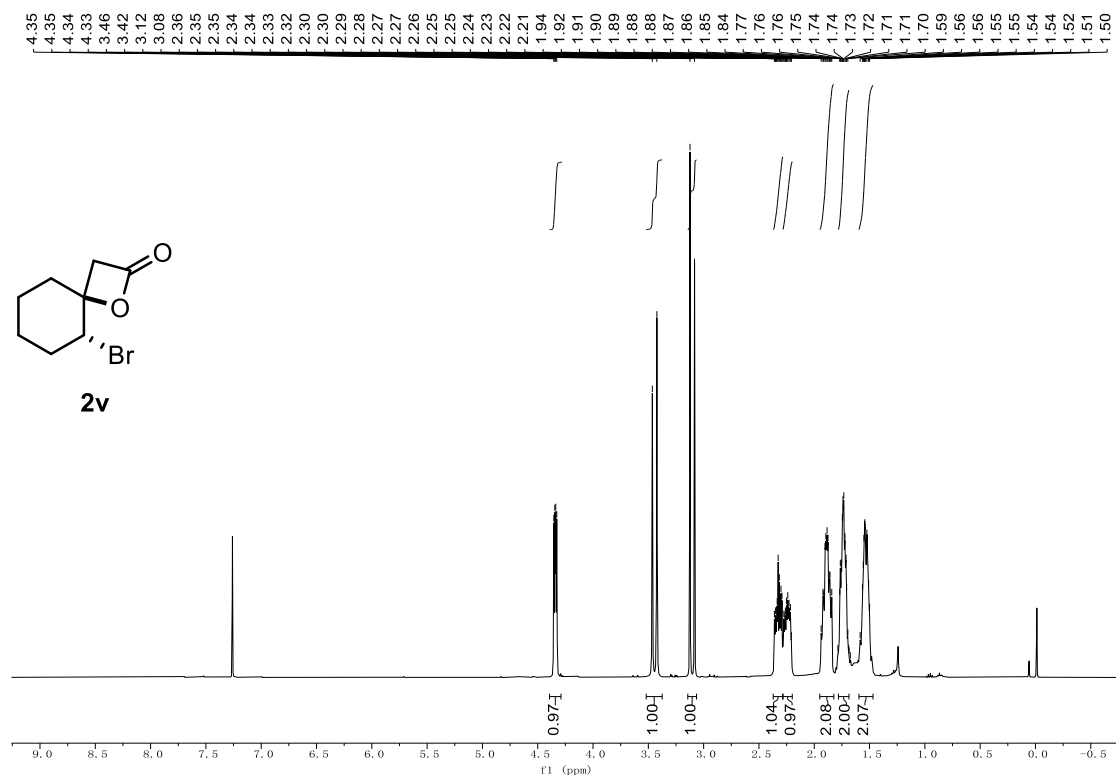


Figure S81. ¹H NMR of 5-bromo-1-oxaspiro[3.5]nonan-2-one (2v)

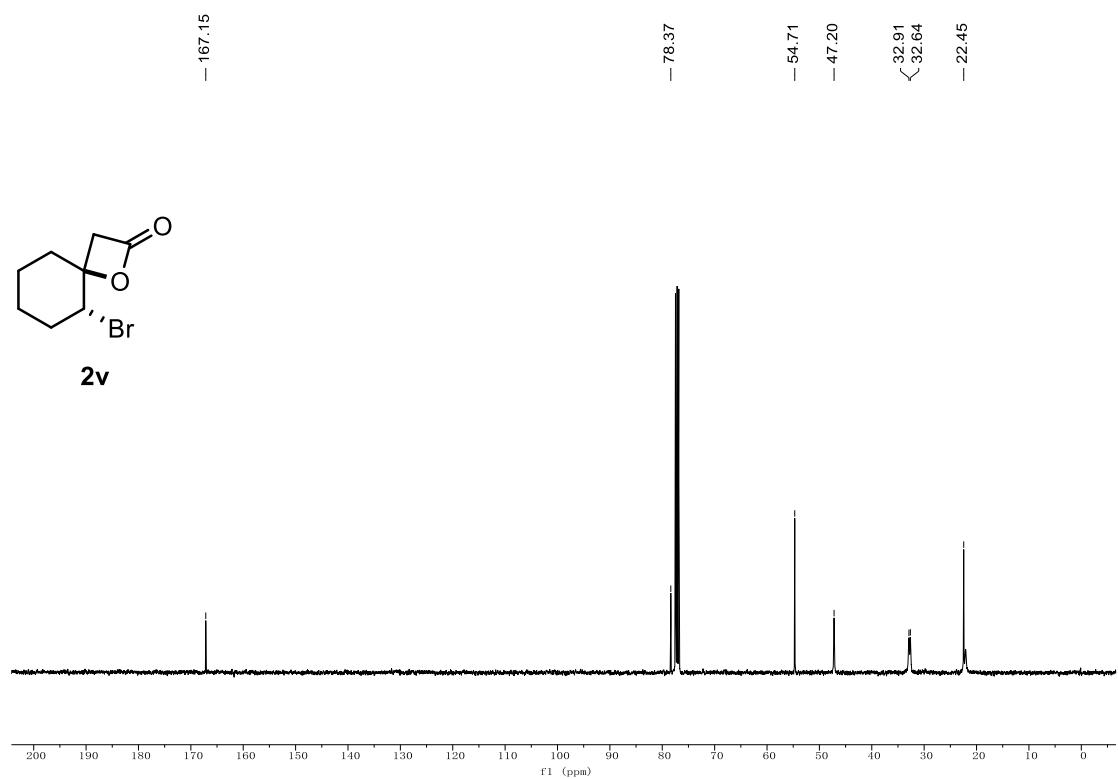


Figure S82. ¹³C NMR of 5-bromo-1-oxaspiro[3.5]nonan-2-one (2v)

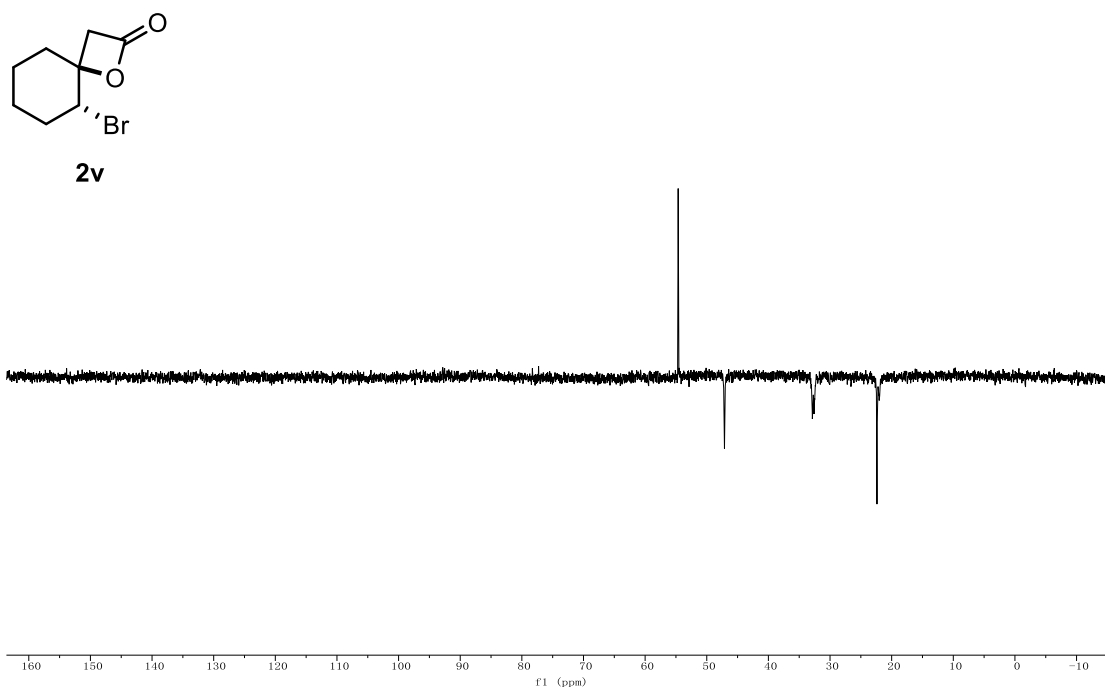


Figure S83. DEPT 135 of 5-bromo-1-oxaspiro[3.5]nonan-2-one (**2v**)

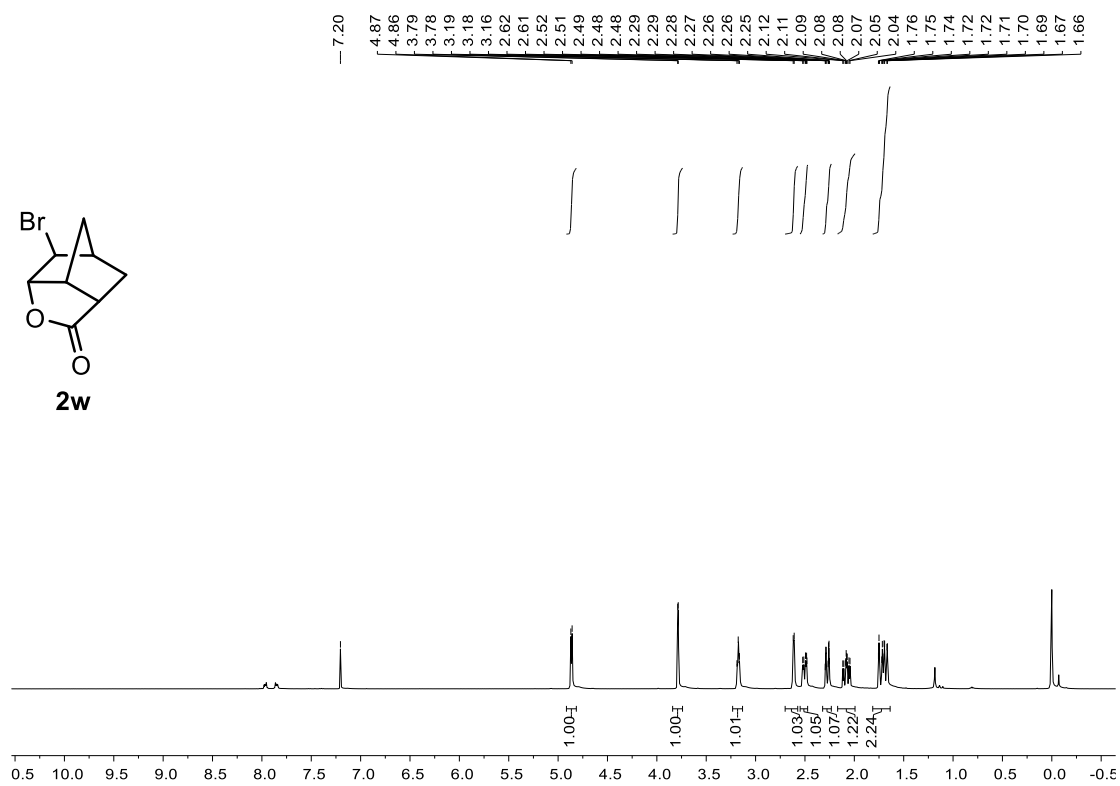


Figure S84. ^1H NMR of 6-bromohexahydro-2H-3,5-methanocyclopenta[b]furan-2-one (**2w**)

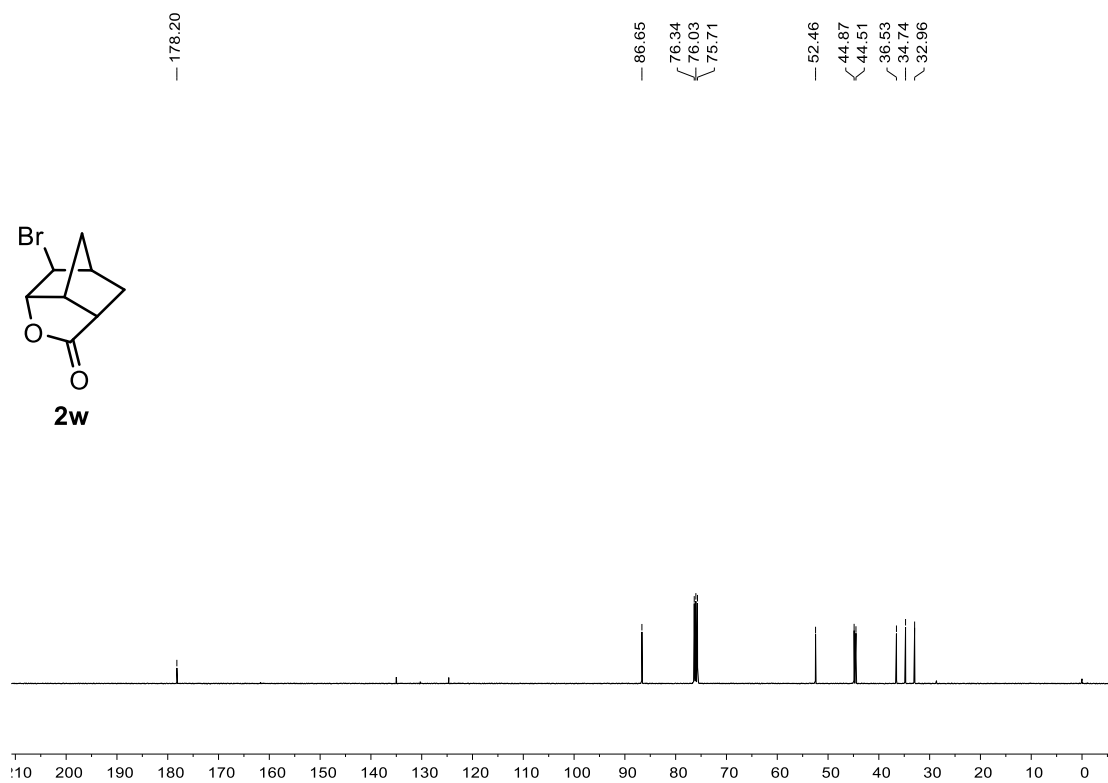


Figure S85. ¹³C NMR of 6-bromohexahydro-2*H*-3,5-methanocyclopenta[*b*]furan-2-one (**2w**)

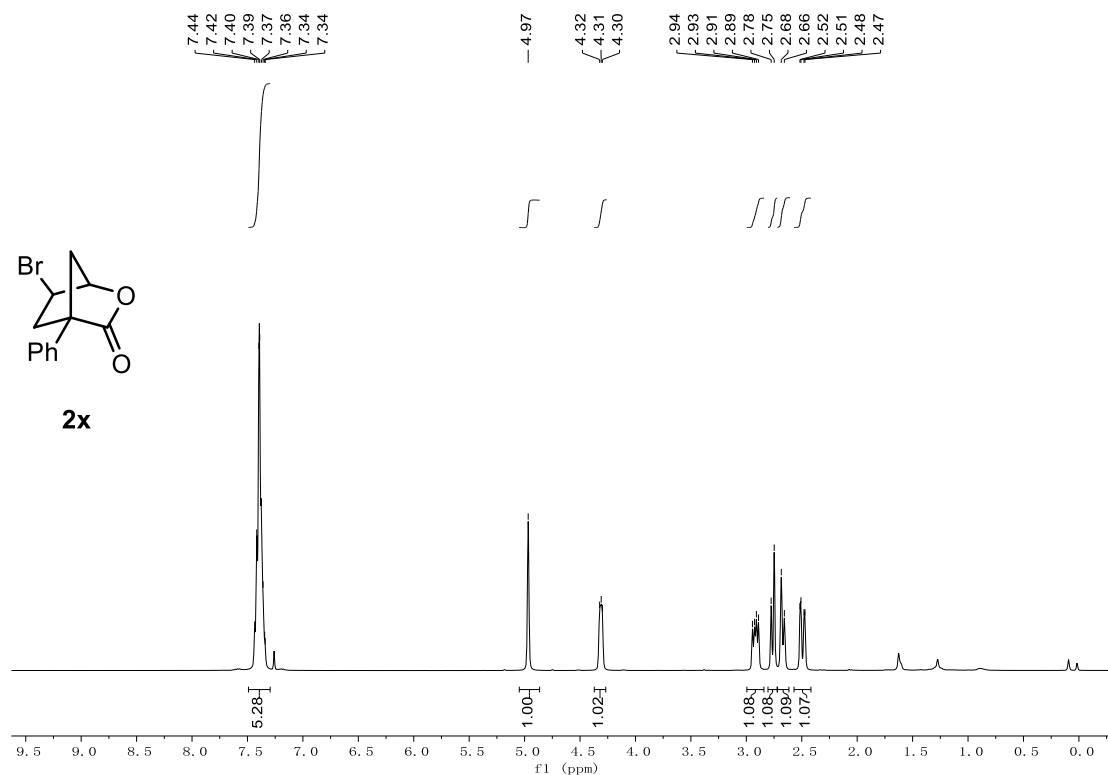


Figure S86. ¹H NMR of 6-bromo-4-phenyl-2-oxabicyclo[2.2.1]heptan-3-one (**2x**)

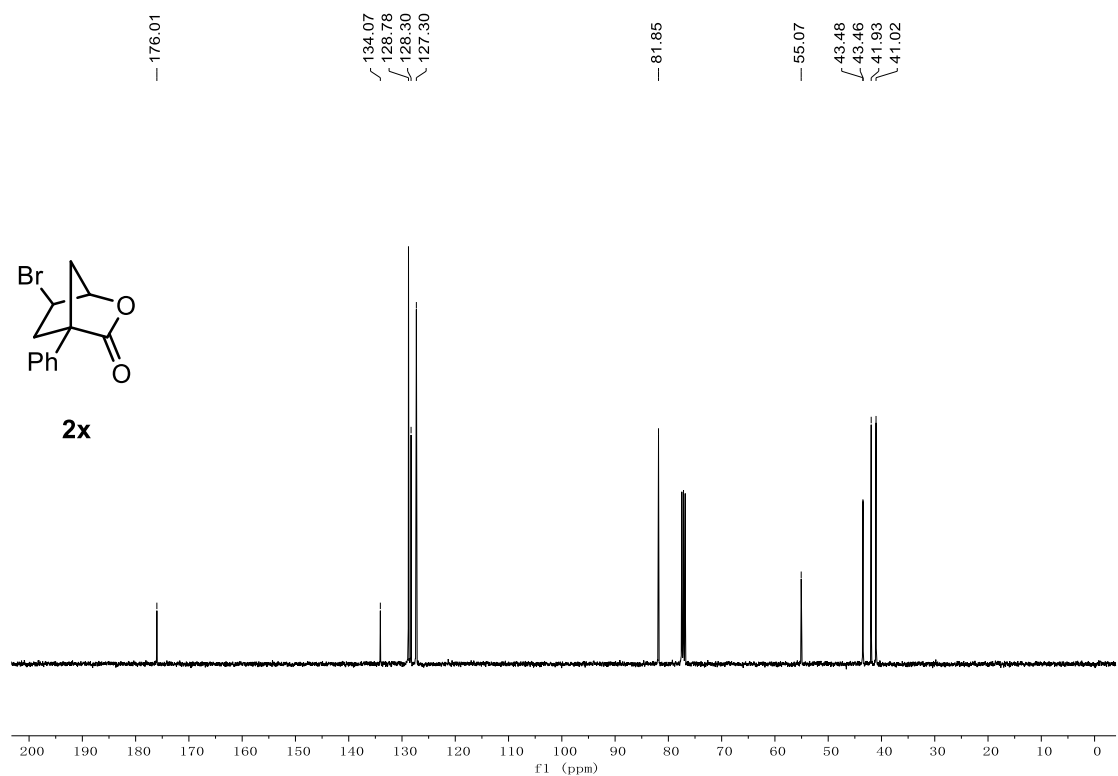


Figure S87. ^{13}C NMR of 6-bromo-4-phenyl-2-oxabicyclo[2.2.1]heptan-3-one (**2x**)

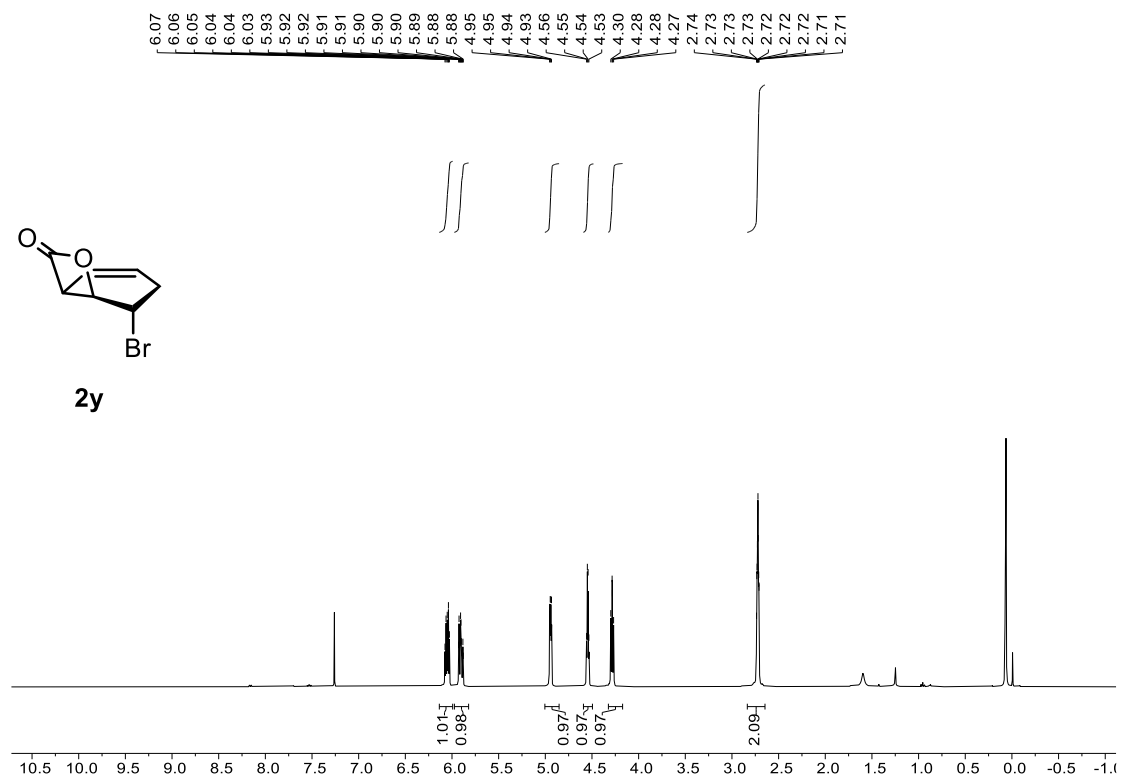


Figure S88. ^1H NMR of 5-bromo-7-oxabicyclo[4.2.0]oct-2-en-8-one (**2y**)

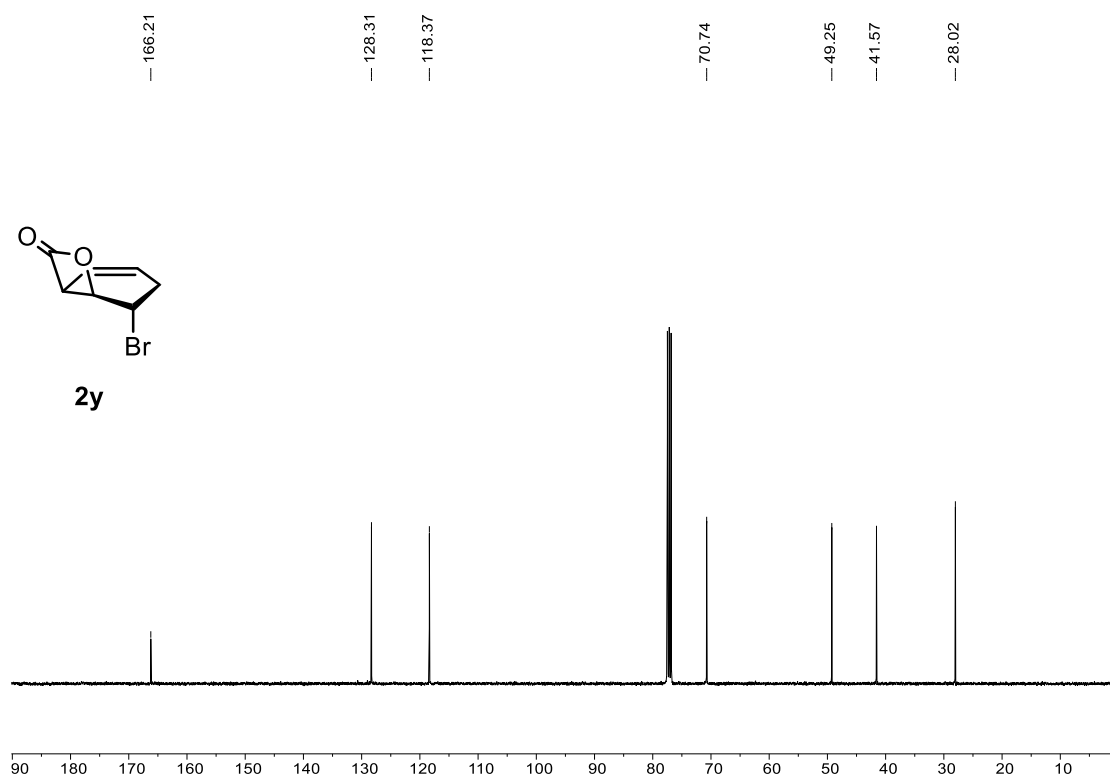


Figure S89. ^{13}C NMR of 5-bromo-7-oxabicyclo[4.2.0]oct-2-en-8-one (**2y**)

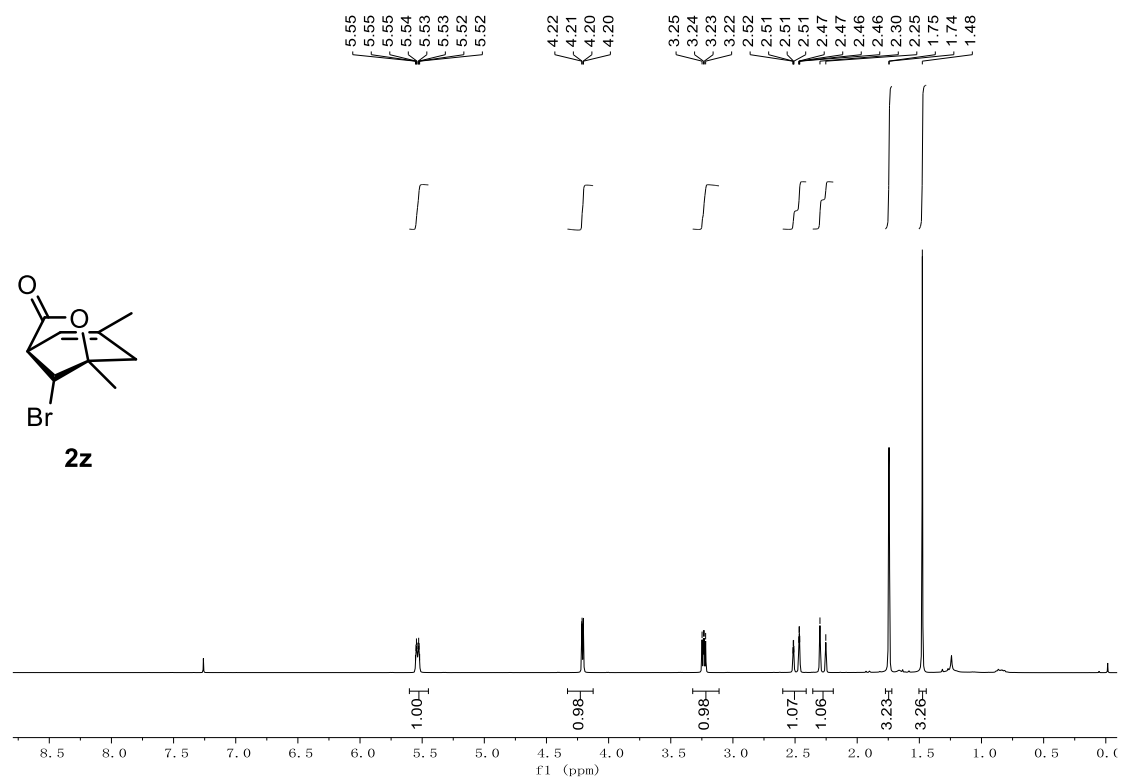


Figure S90. ^1H NMR of 8-bromo-3,5-dimethyl-6-oxabicyclo[3.2.1]oct-2-en-7-one (**2z**)

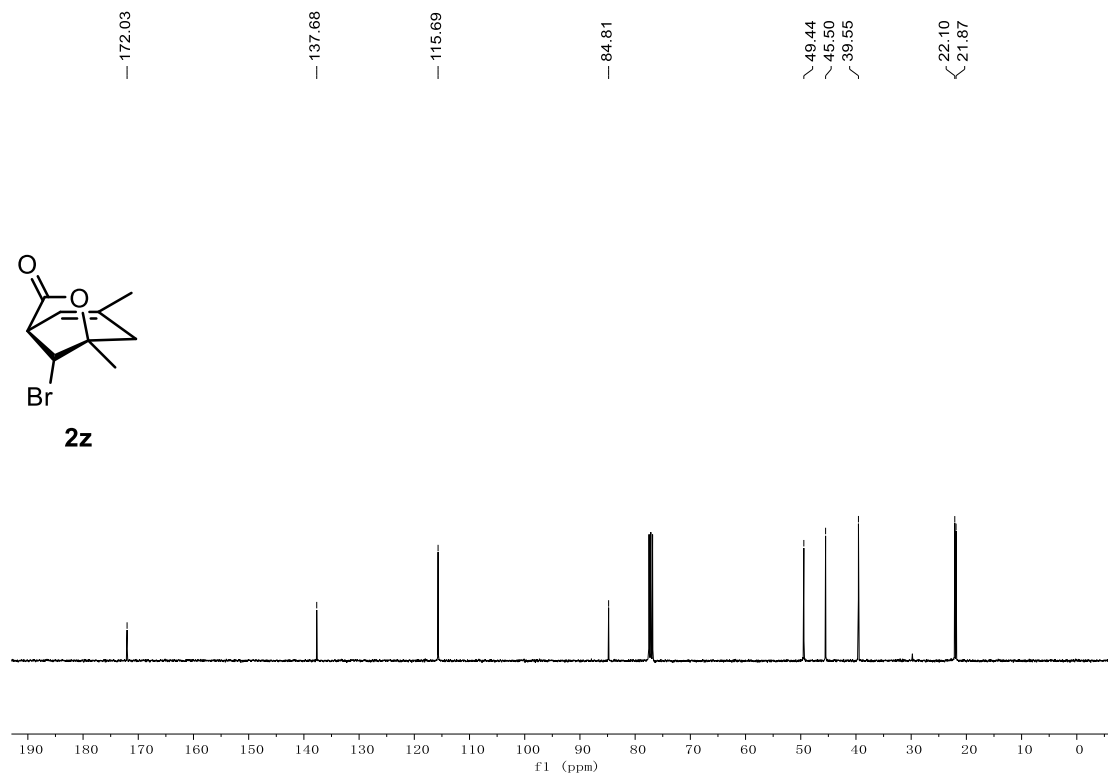


Figure S91. ^{13}C NMR of 8-bromo-3,5-dimethyl-6-oxabicyclo[3.2.1]oct-2-en-7-one (**2z**)

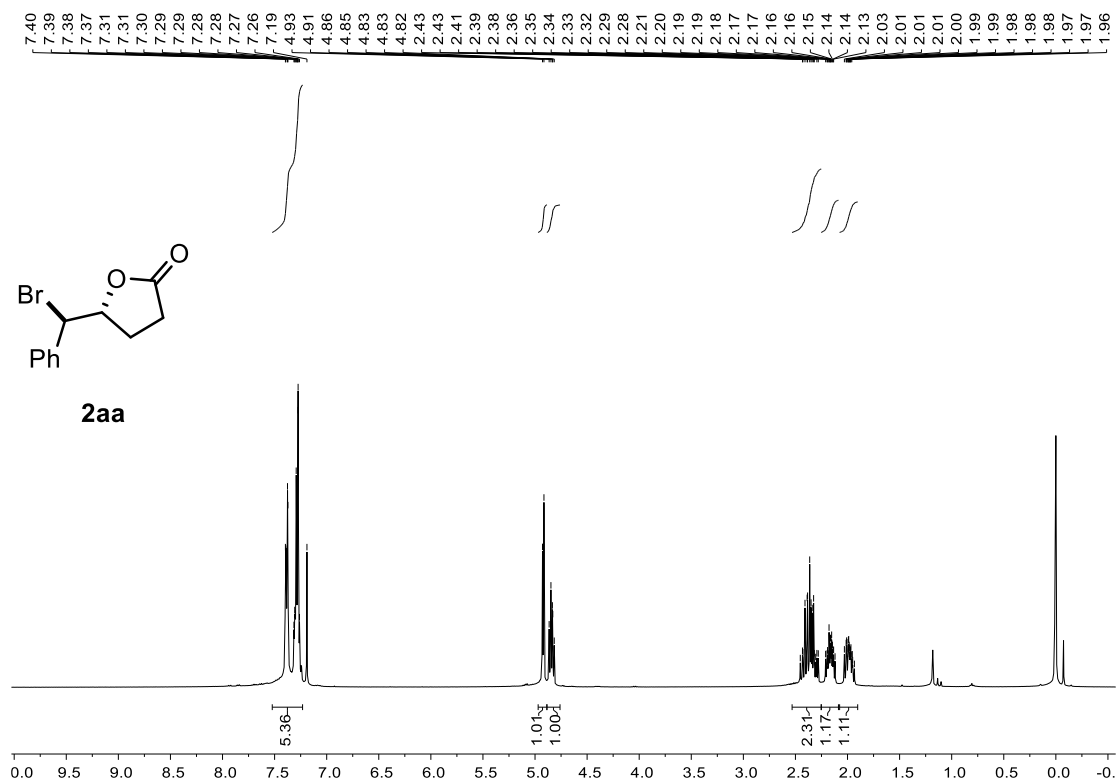


Figure S92. ^1H NMR of 5-(bromo(phenyl)methyl)dihydrofuran-2(3H)-one (**2aa**)

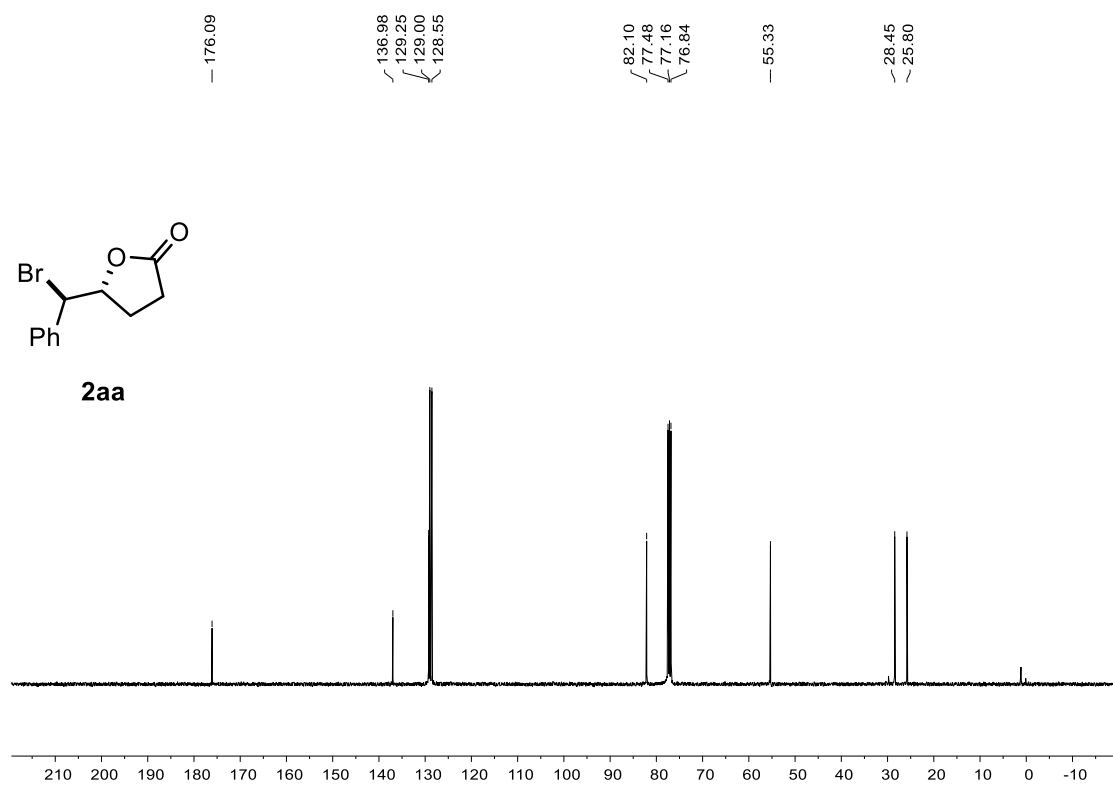


Figure S93. ¹³C NMR of 5-(bromo(phenyl)methyl)dihydrofuran-2(3H)-one (2aa)

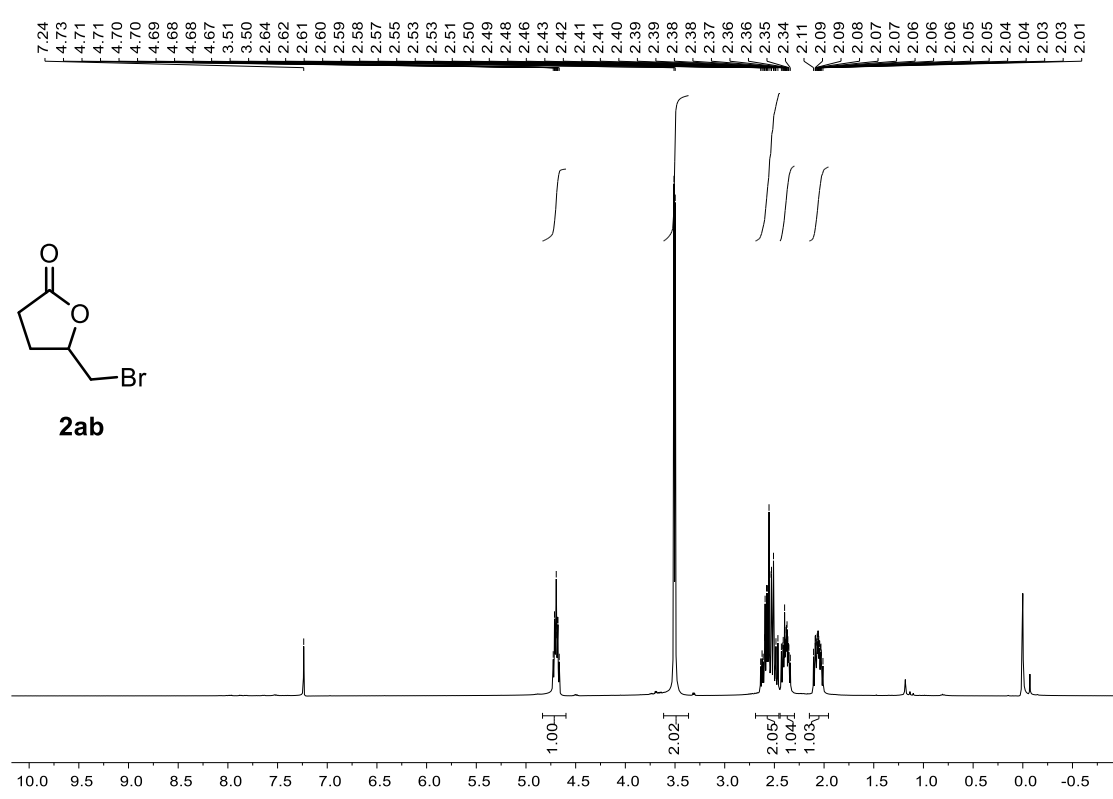


Figure S94. ¹H NMR of 5-(bromomethyl)dihydrofuran-2(3H)-one (2ab)

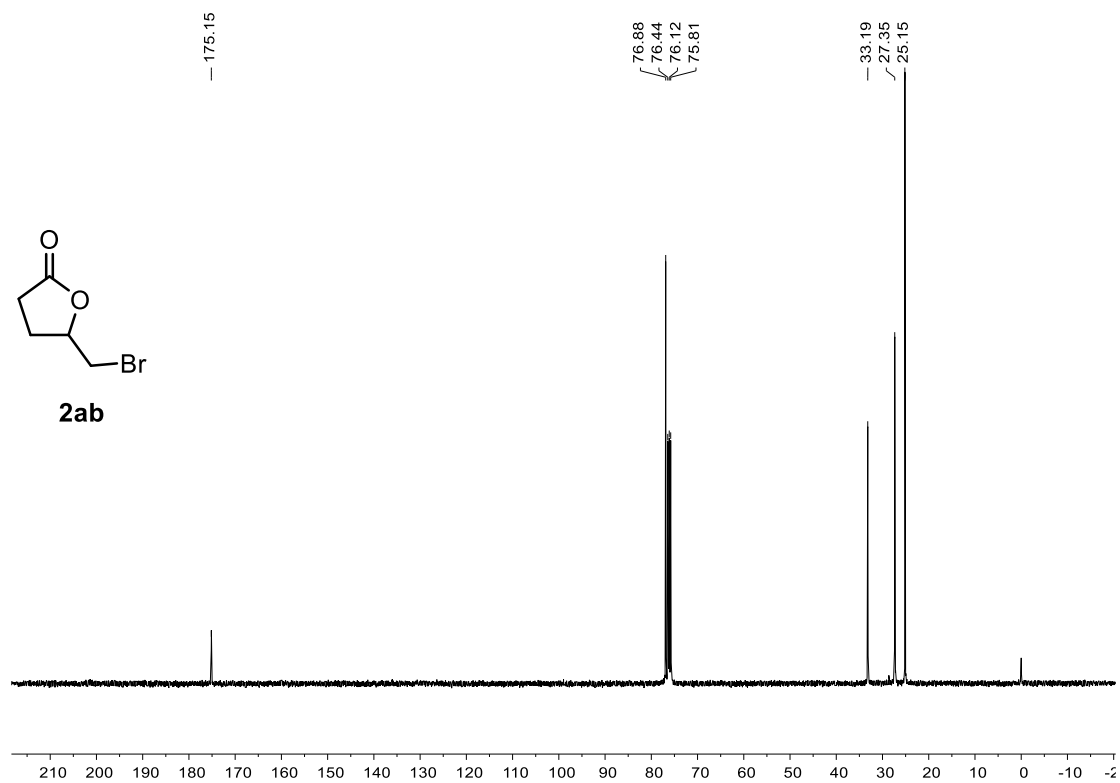


Figure S95. ^{13}C NMR of 5-(bromomethyl)dihydrofuran-2(3H)-one (**2ab**)

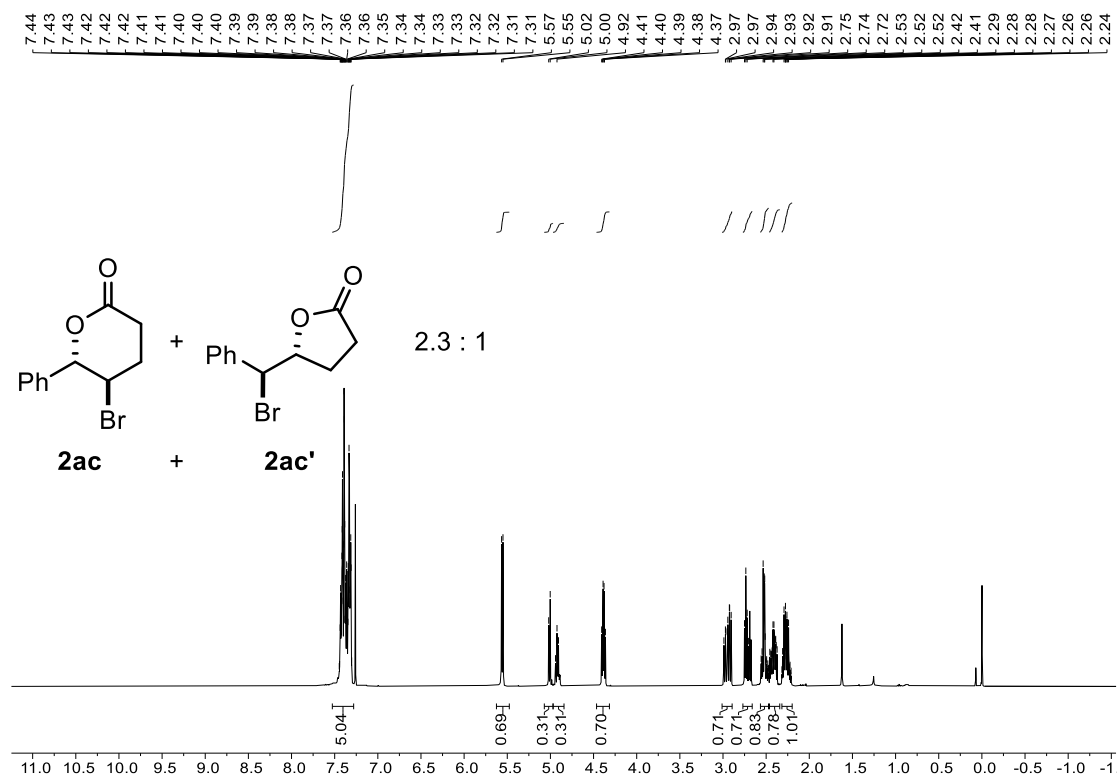


Figure S96. ^1H NMR of 5-bromo-6-phenyltetrahydro-2H-pyran-2-one (major) (**2ac**) and 5-(bromo(phenyl)methyl)dihydrofuran-2(3H)-one (minor) (**2ac'**)

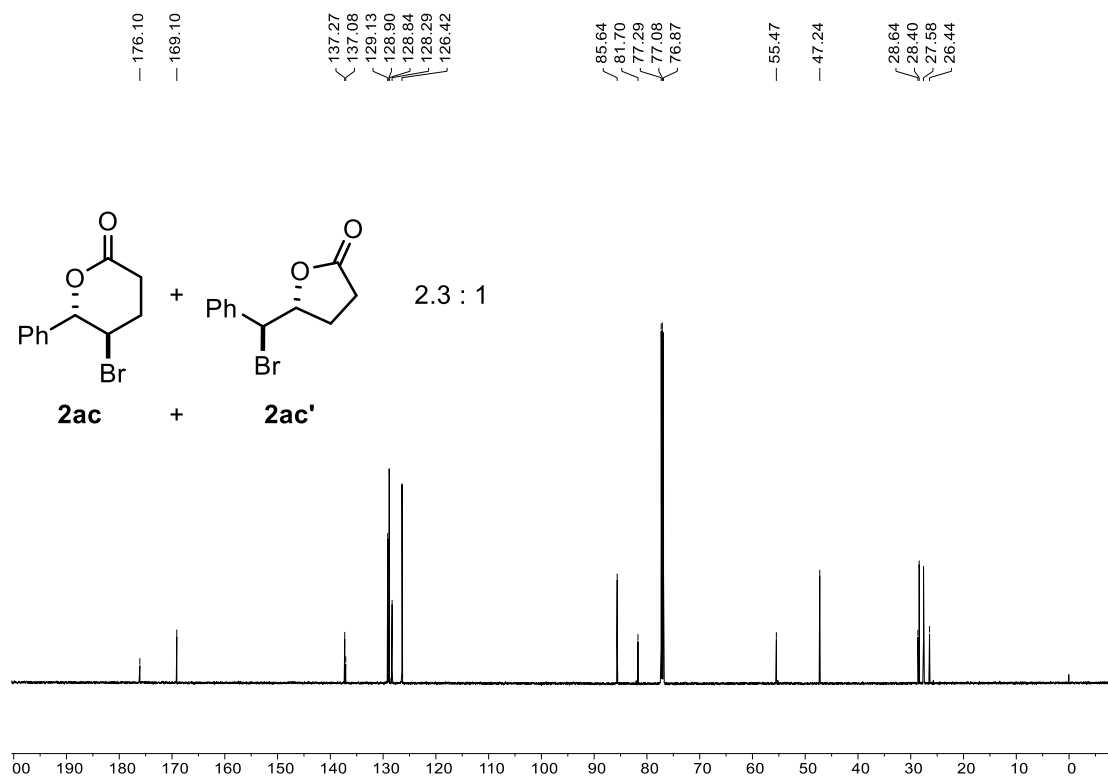


Figure S97. ^{13}C NMR of 5-bromo-6-phenyltetrahydro-2*H*-pyran-2-one (major) (**2ac**) and 5-(bromo(phenyl)methyl)dihydrofuran-2(3*H*)-one (minor) (**2ac'**)

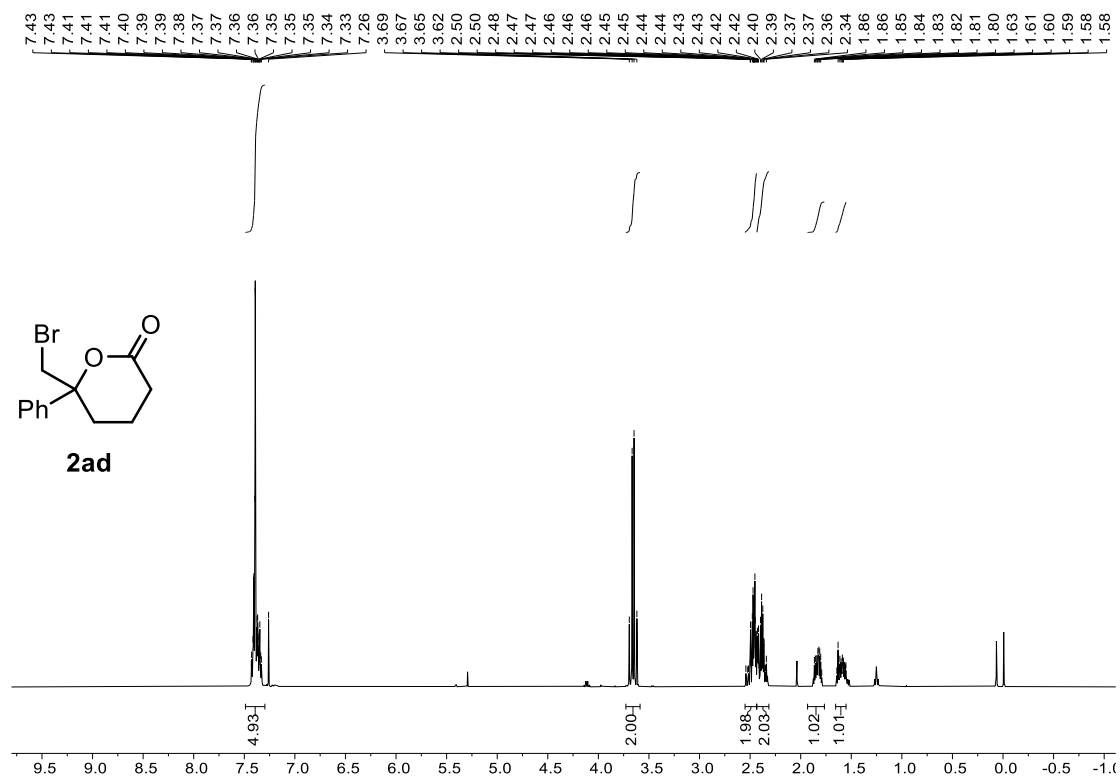


Figure S98. ^1H NMR of 6-(bromomethyl)-6-(4-bromophenyl)tetrahydro-2*H*-pyran-2-one (**2ad**)

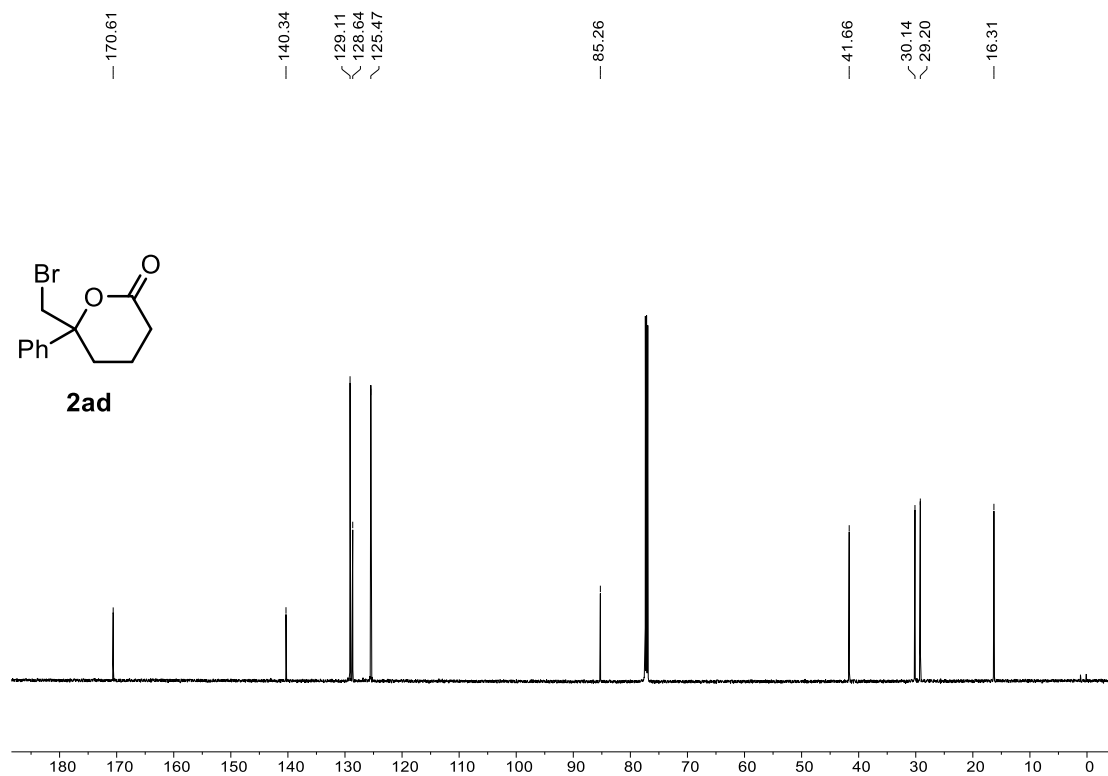


Figure S99. ^{13}C NMR of 6-(bromomethyl)-6-(4-bromophenyl)tetrahydro-2H-pyran-2-one (**2ad**)

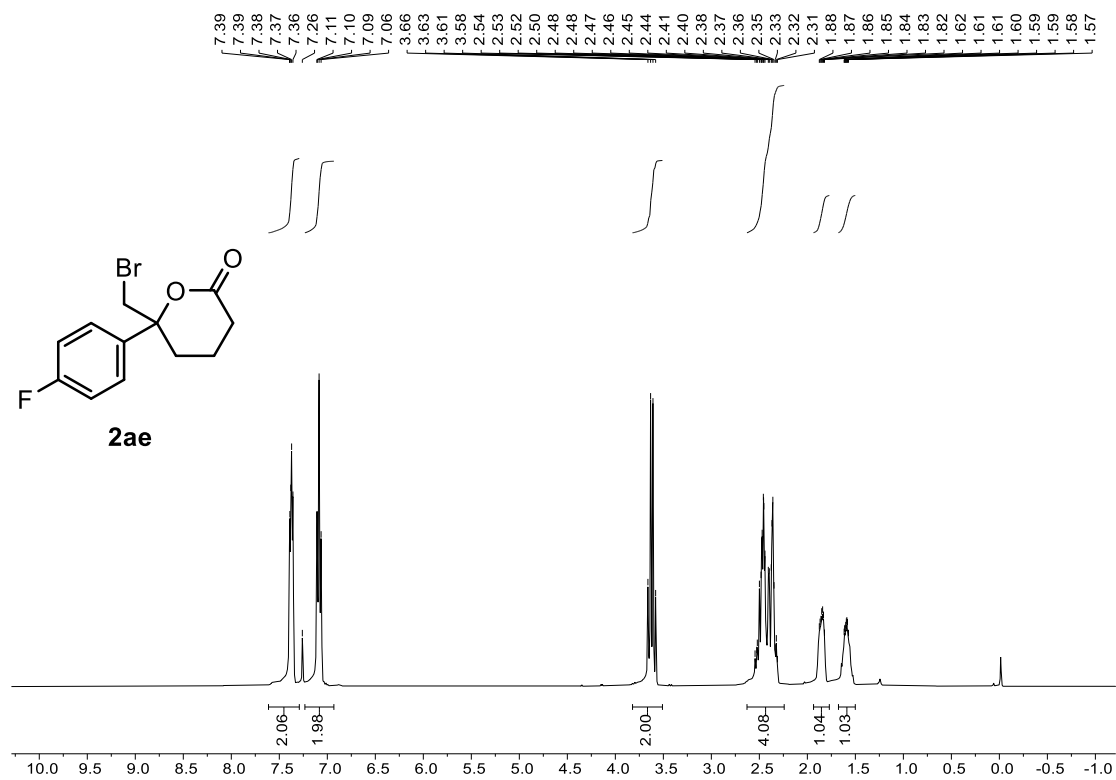


Figure S100. ^1H NMR of 6-(bromomethyl)-6-(4-fluorophenyl)tetrahydro-2H-pyran-2-one (**2ae**)

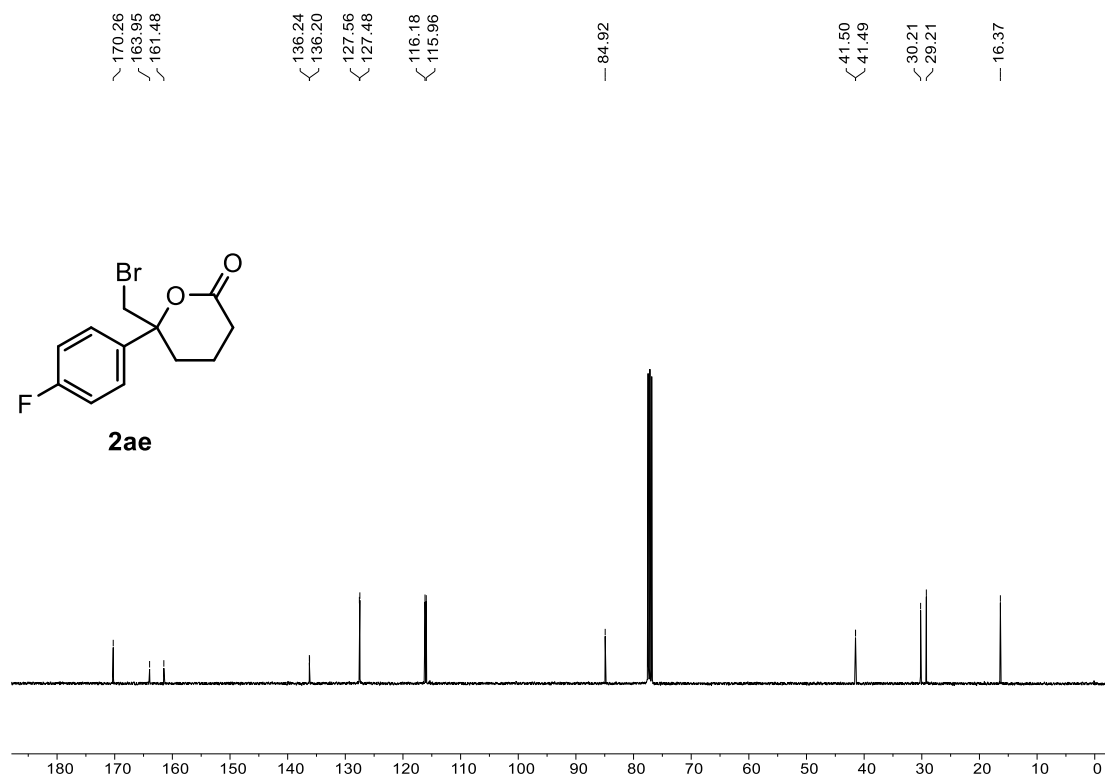


Figure S101. ^{13}C NMR of 6-(bromomethyl)-6-(4-fluorophenyl)tetrahydro-2H-pyran-2-one (**2ae**)

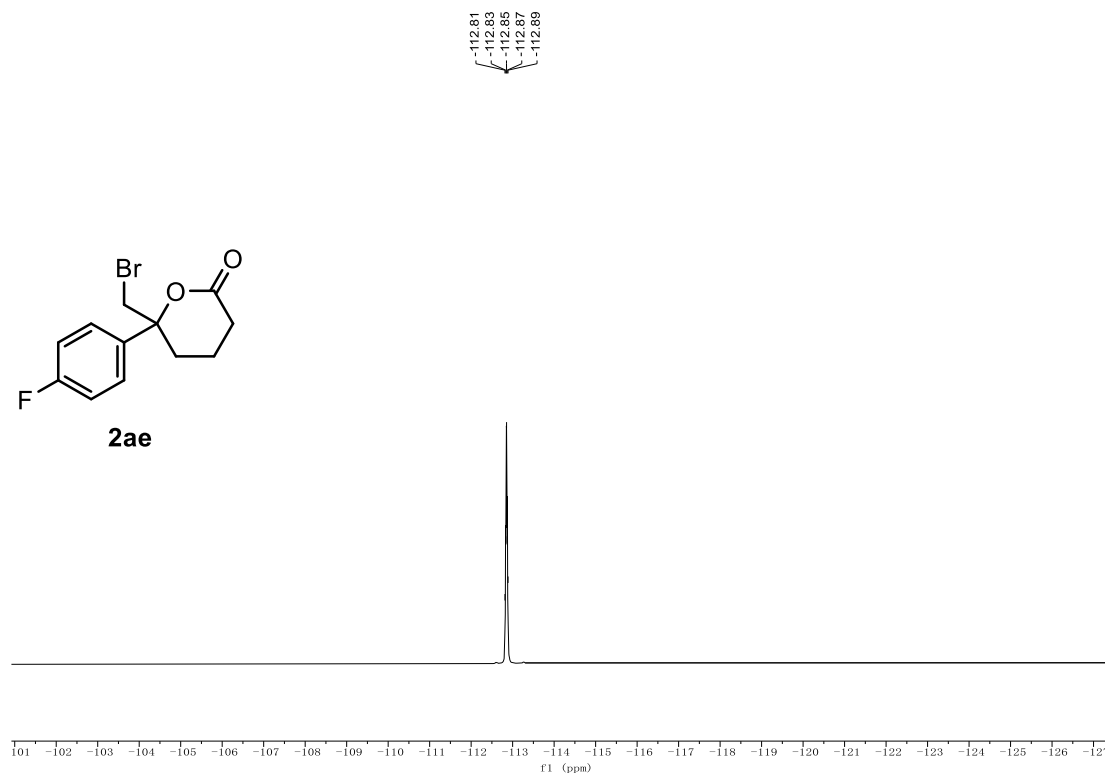


Figure S102. ^{19}F NMR of 6-(bromomethyl)-6-(4-fluorophenyl)tetrahydro-2H-pyran-2-one (**2ae**)

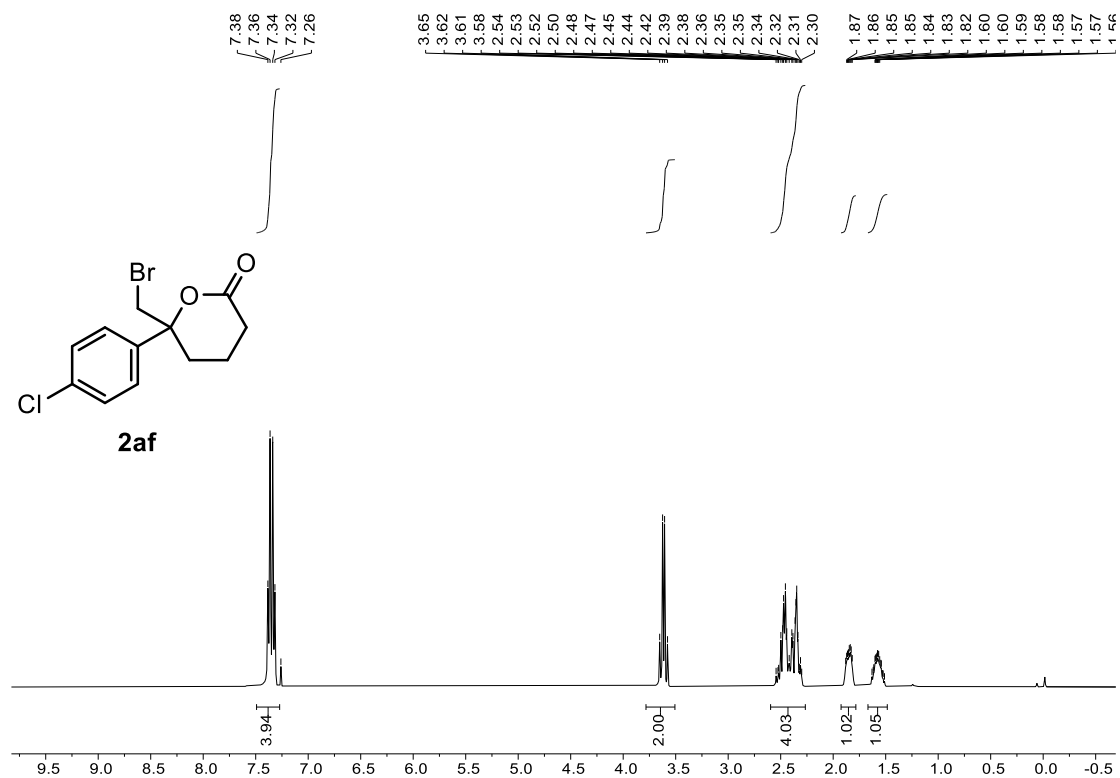


Figure S103. ¹H NMR of 6-(bromomethyl)-6-(4-chlorophenyl)tetrahydro-2H-pyran-2-one (**2af**)

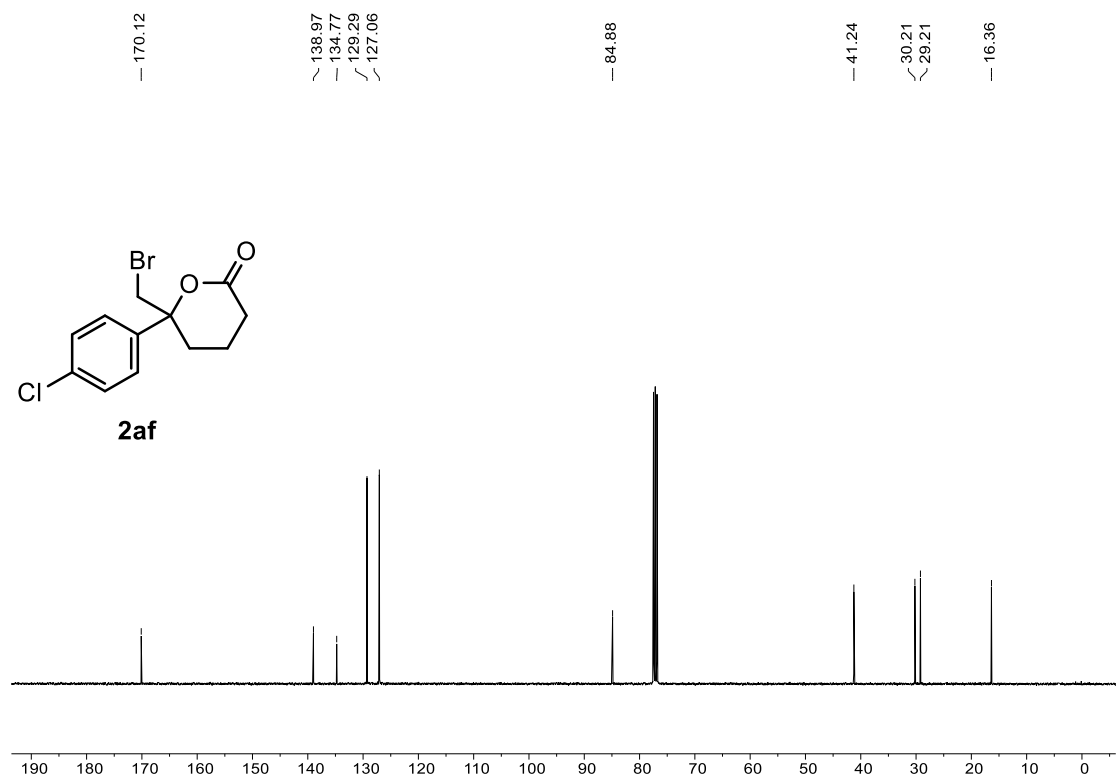
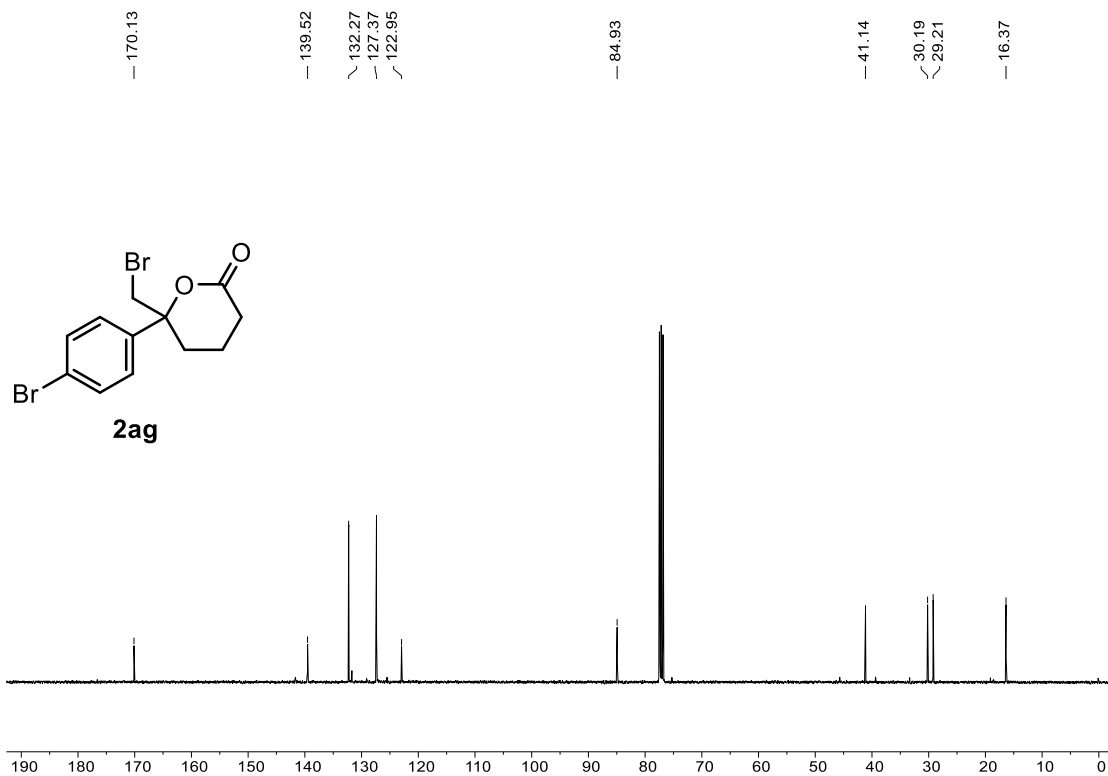
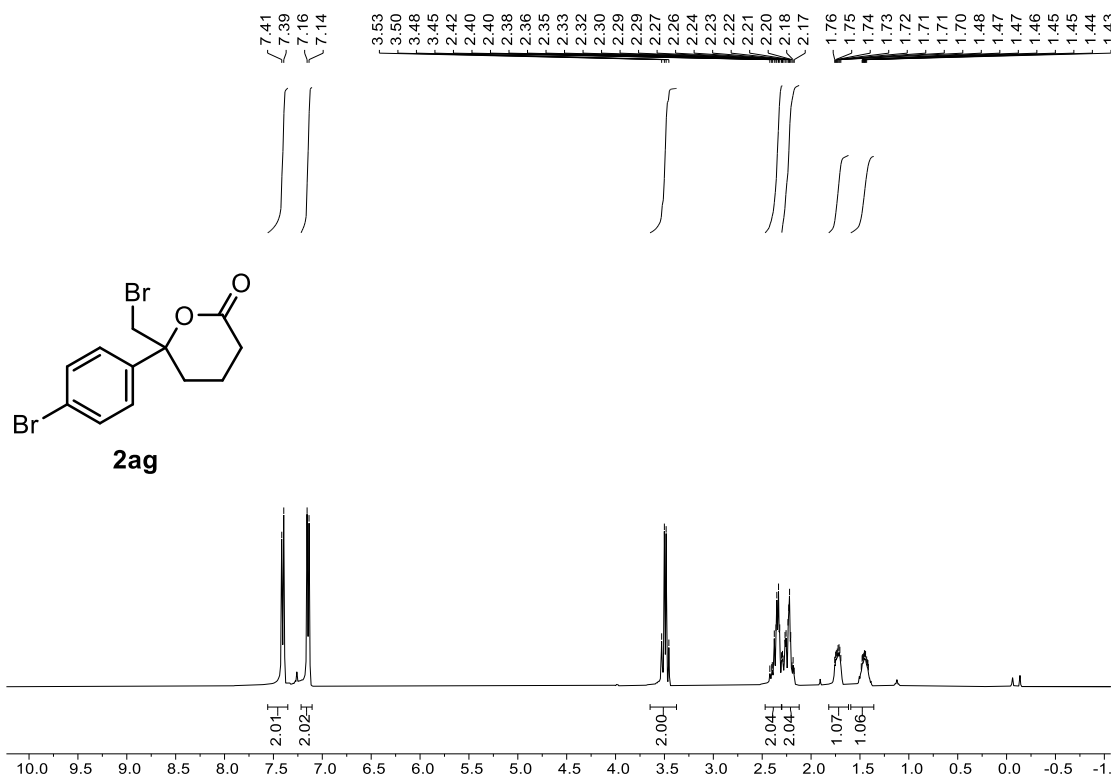


Figure S104. ¹³C NMR of 6-(bromomethyl)-6-(4-chlorophenyl)tetrahydro-2H-pyran-2-one (**2af**)



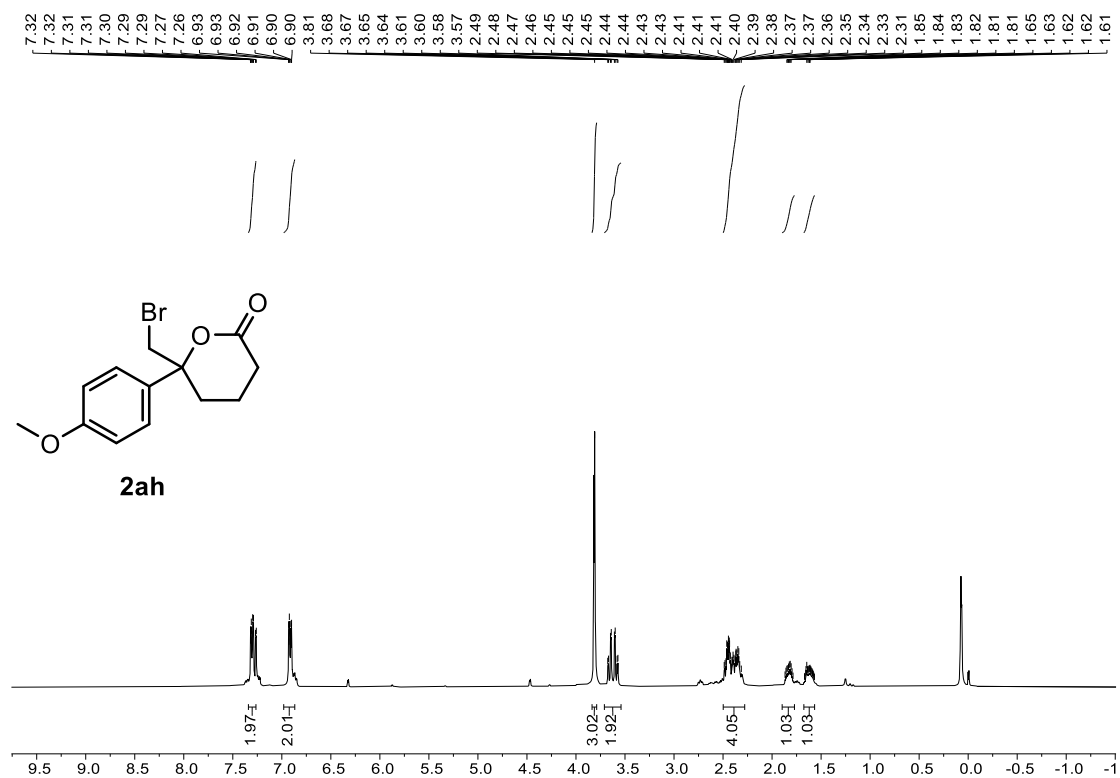


Figure S107. ^1H NMR of 6-(bromomethyl)-6-(4-methoxyphenyl)tetrahydro-2H-pyran-2-one (**2ah**)

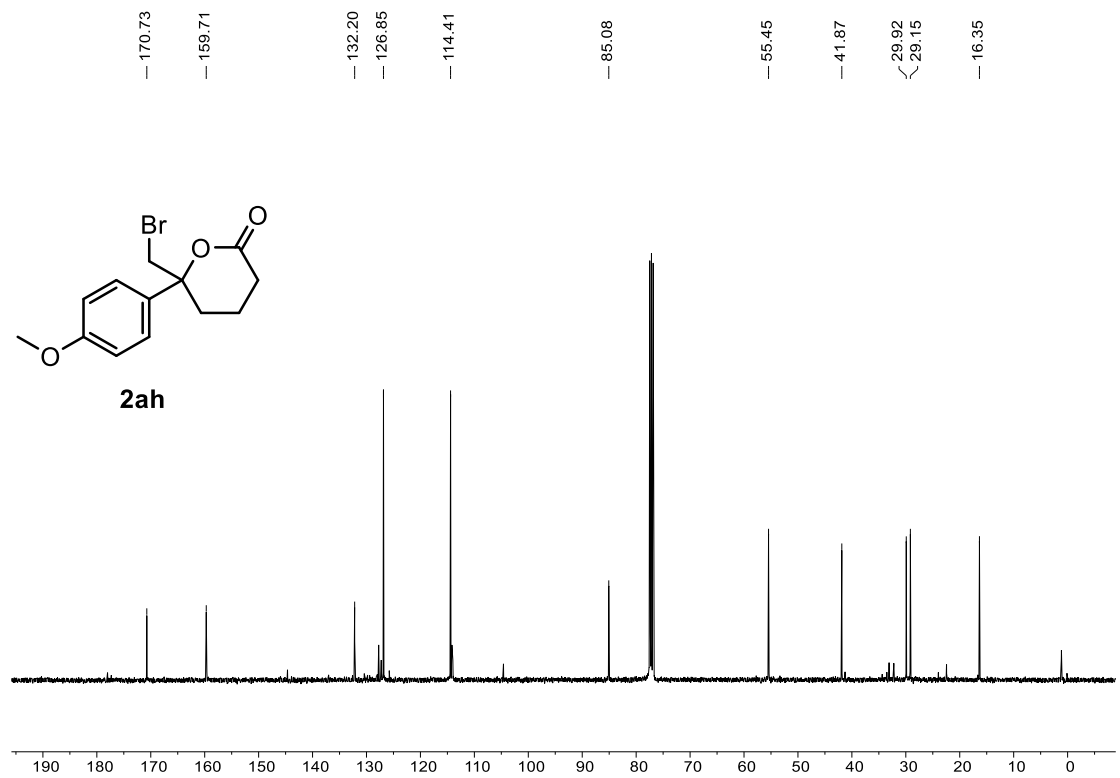


Figure S108. ^{13}C NMR of 6-(bromomethyl)-6-(4-methoxyphenyl)tetrahydro-2H-pyran-2-one (**2ah**)

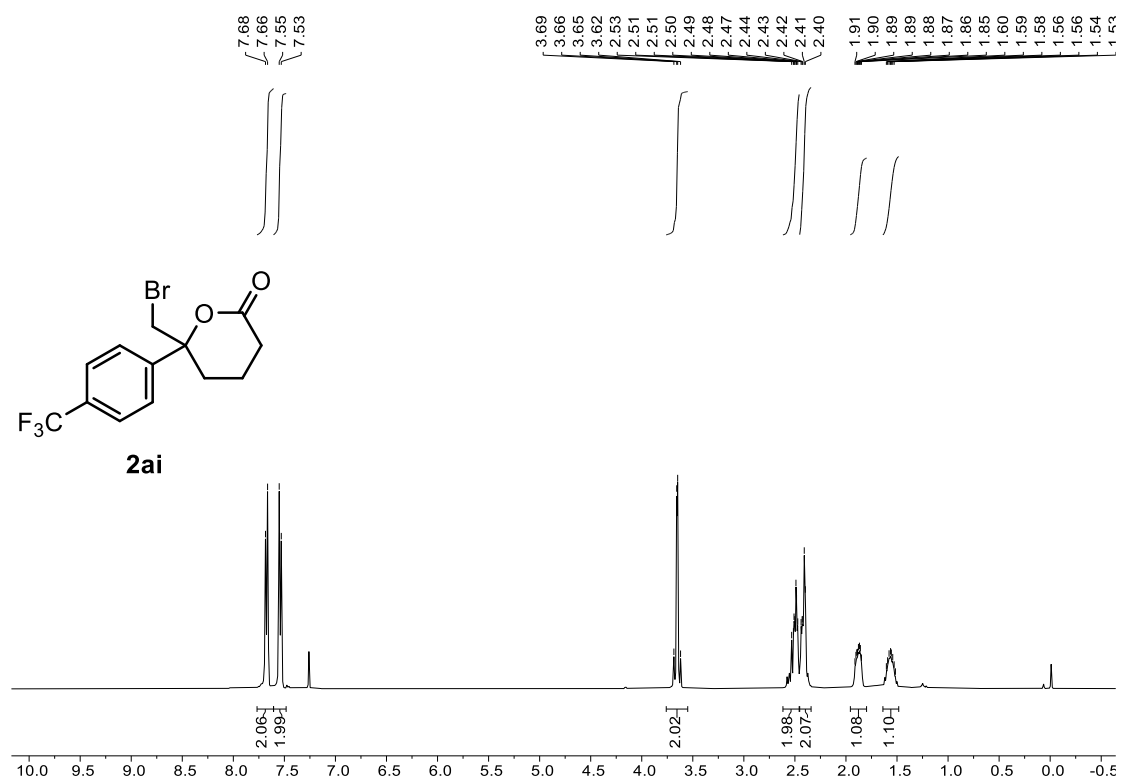


Figure S109. ¹H NMR of 6-(bromomethyl)-6-(4-(trifluoromethyl)phenyl)tetrahydro-2*H*-pyran-2-one (**2ai**)

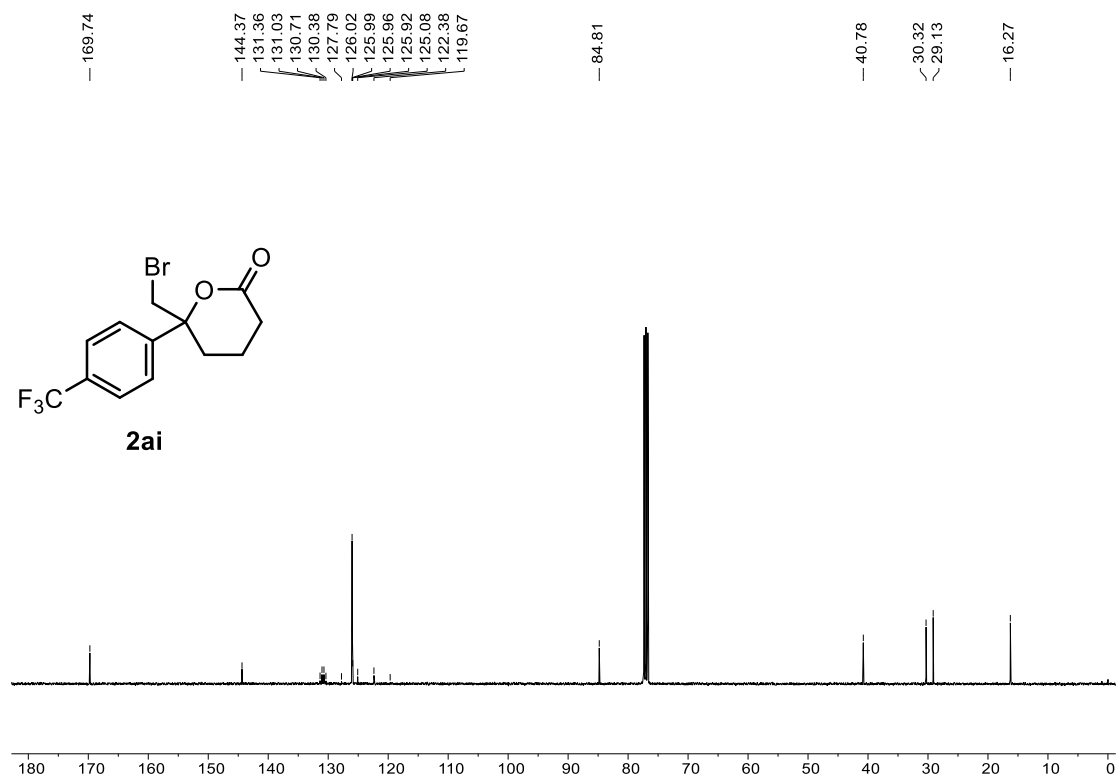


Figure S110. ¹³C NMR of 6-(bromomethyl)-6-(4-(trifluoromethyl)phenyl)tetrahydro-2*H*-pyran-2-one (**2ai**)

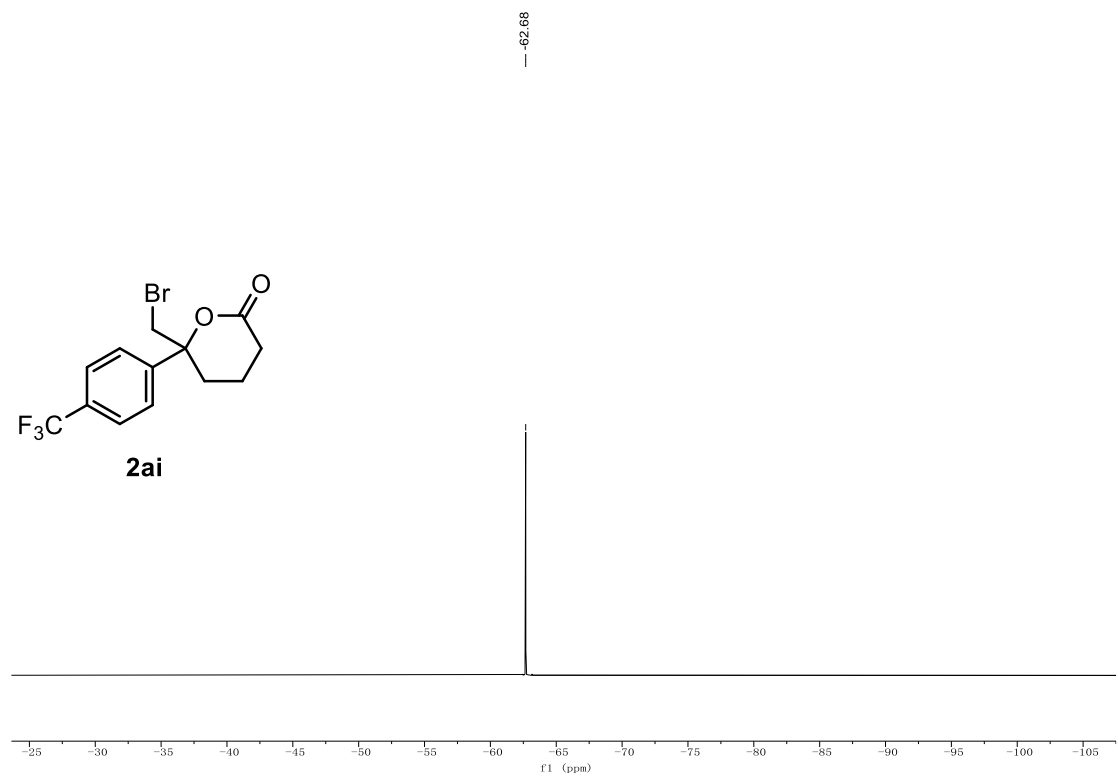


Figure S111. ¹⁹F NMR of 6-(bromomethyl)-6-(4-(trifluoromethyl)phenyl)tetrahydro-2H-pyran-2-one (2ai)

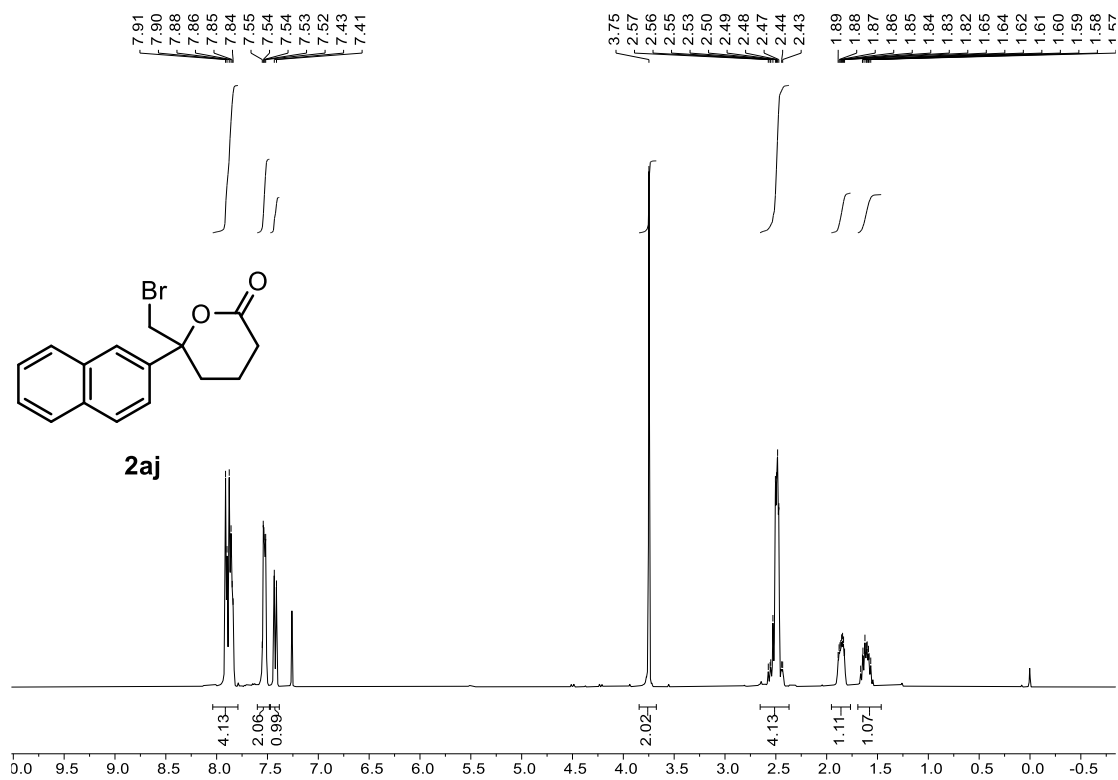


Figure S112. ¹H NMR of 6-(bromomethyl)-6-(naphthalen-2-yl)tetrahydro-2H-pyran-2-one (2aj)

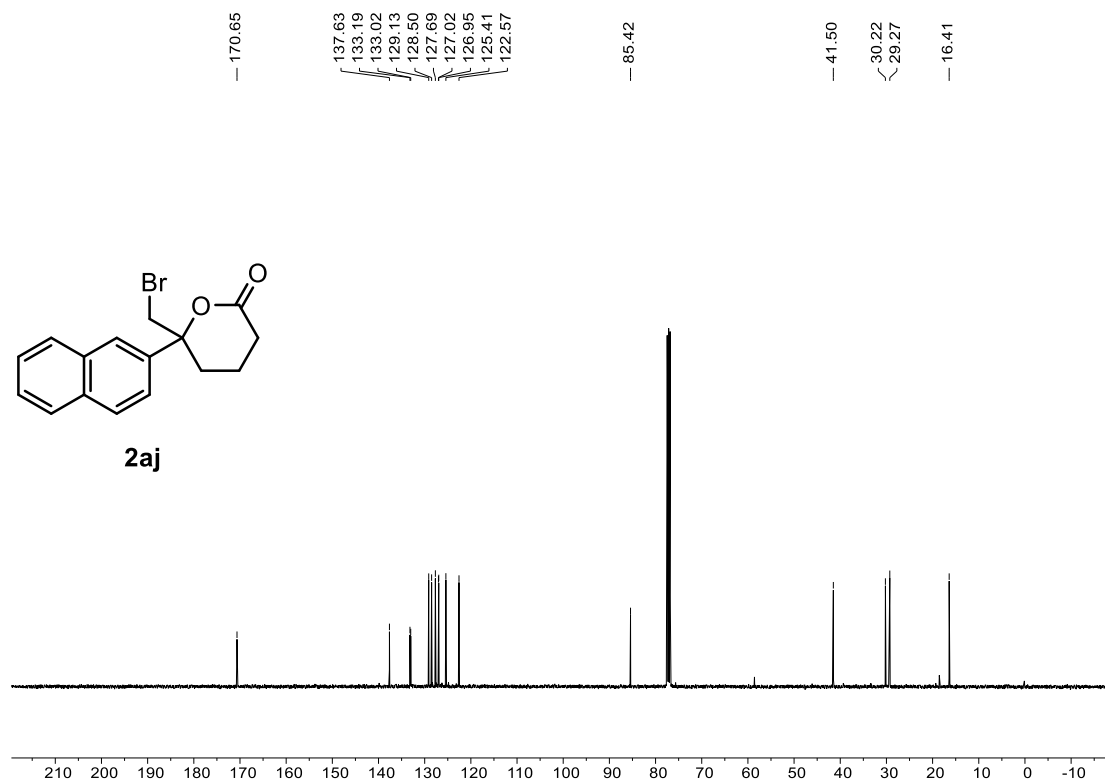


Figure S113. ¹³C NMR of 6-(bromomethyl)-6-(naphthalen-2-yl)tetrahydro-2H-pyran-2-one (**2aj**)

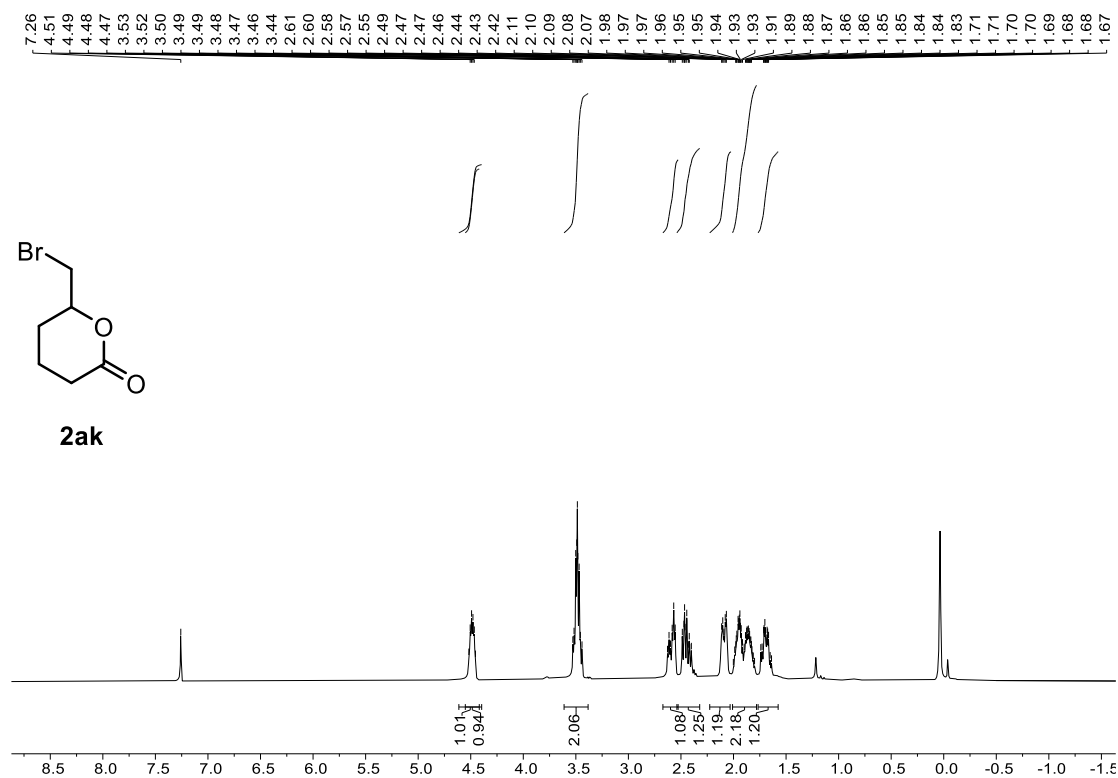


Figure S114. ¹H NMR of 6-(bromomethyl)tetrahydro-2H-pyran-2-one (**2ak**)

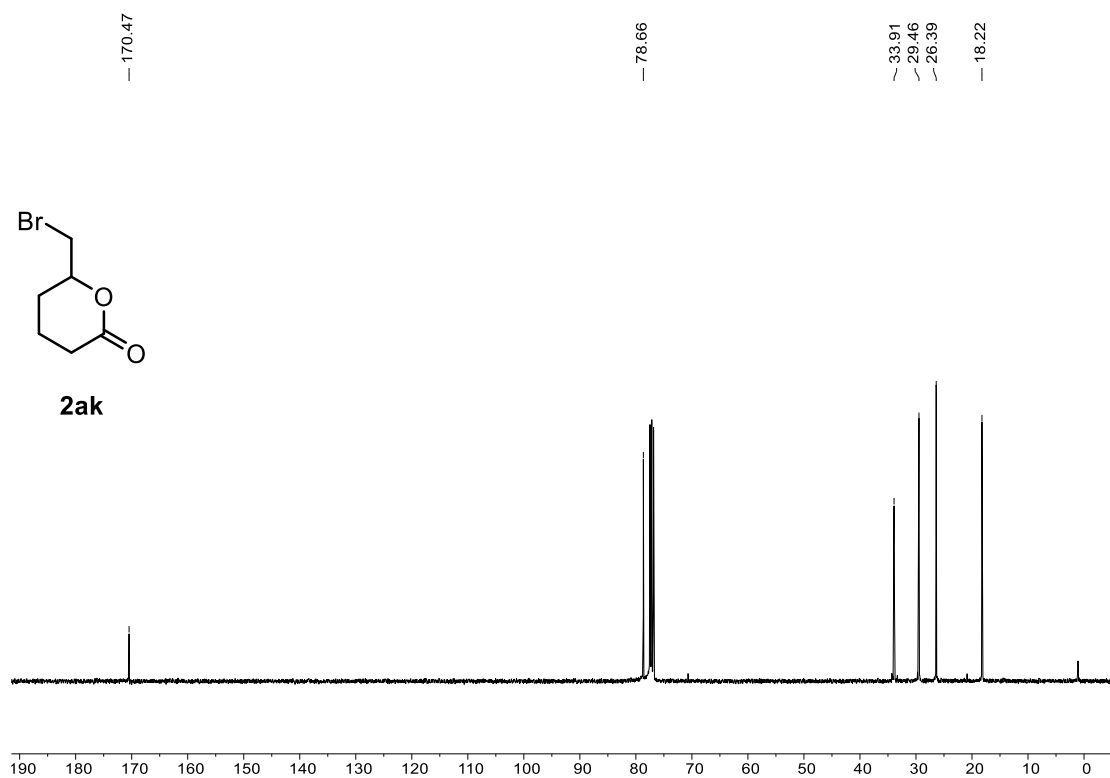


Figure S115. ¹³C NMR of 6-(bromomethyl)tetrahydro-2H-pyran-2-one (**2ak**)

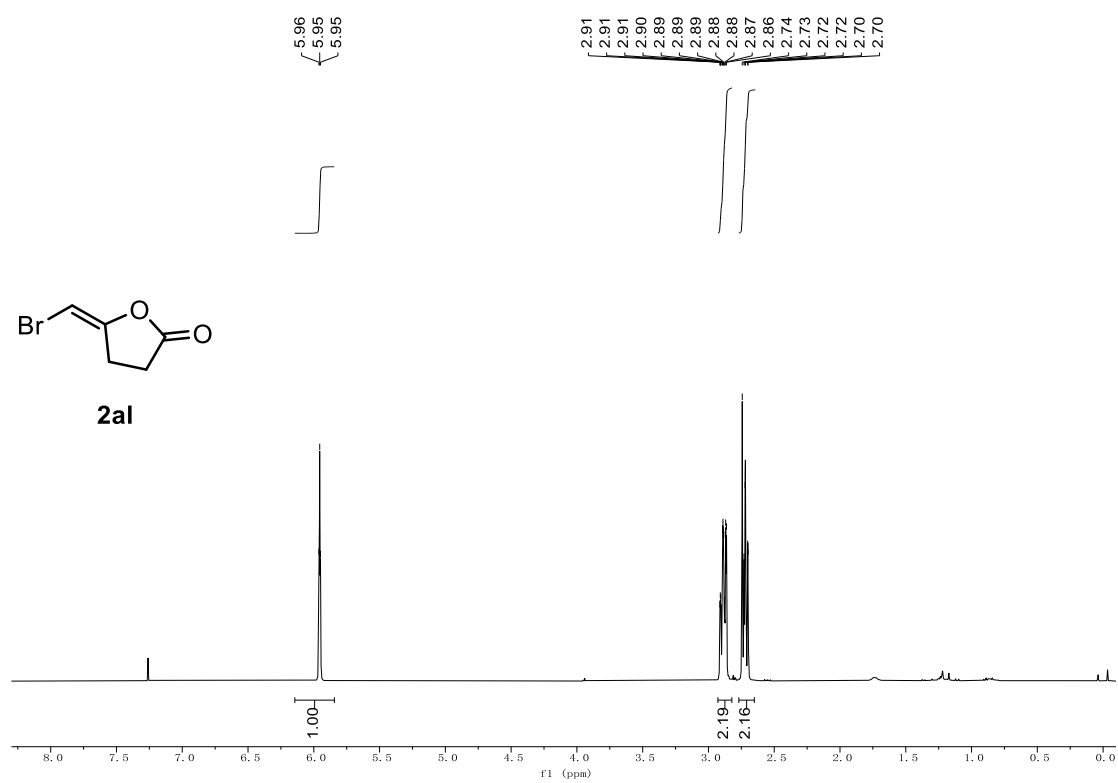


Figure S116. ¹H NMR of (*E*)-5-(Bromomethylene)dihydrofuran-2(3*H*)-one (**2al**)

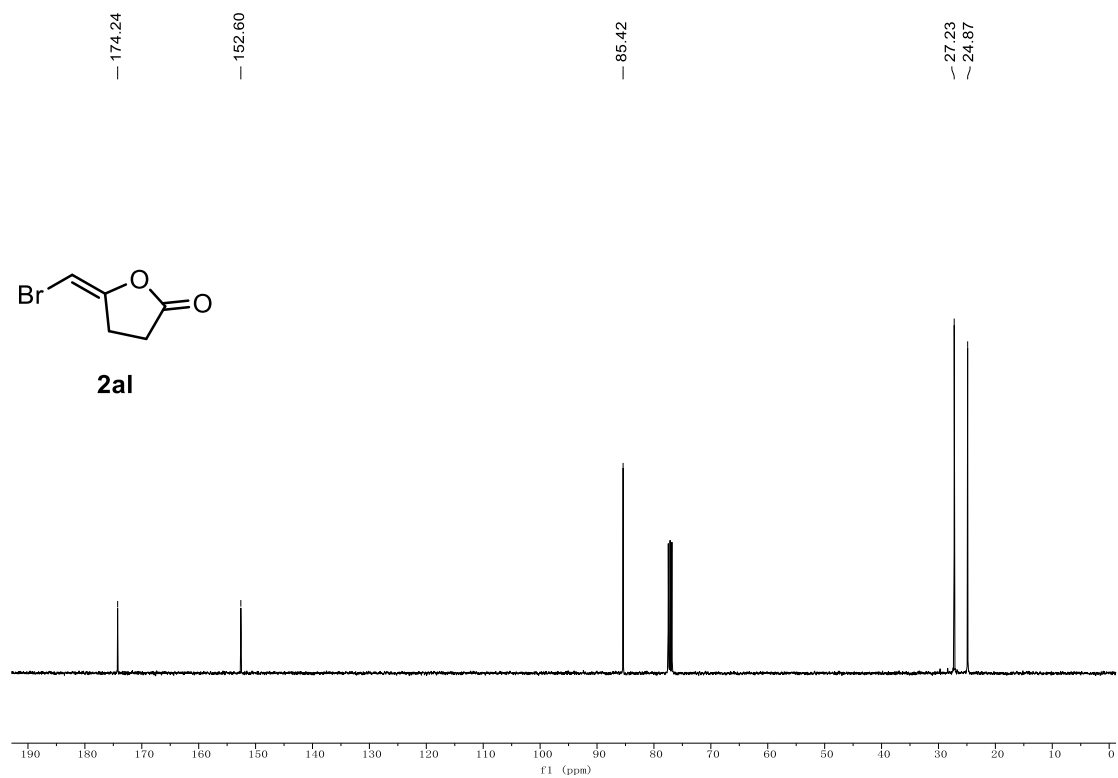


Figure S117. ^{13}C NMR of (*E*)-5-(Bromomethylene)dihydrofuran-2(3*H*)-one (**2a1**)

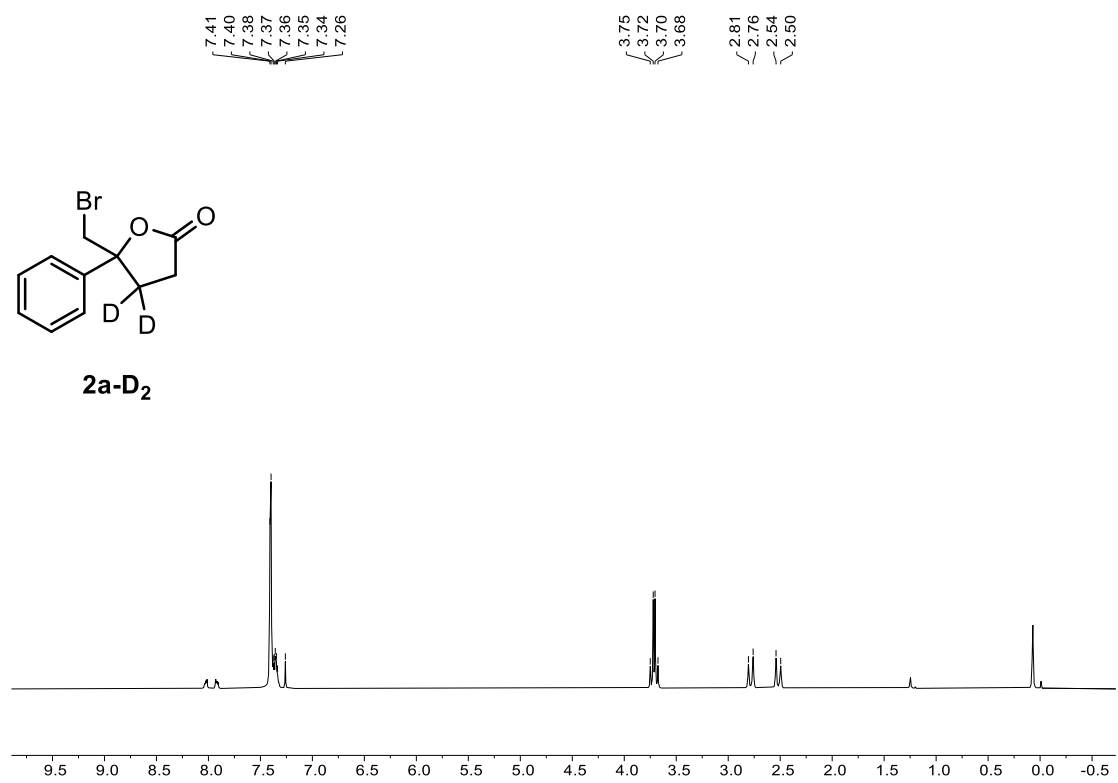


Figure S118. ^1H NMR of 5-(bromomethyl)-5-phenyldihydrofuran-2(3*H*)-one-4,4-*d*₂ (**2a-D₂**)

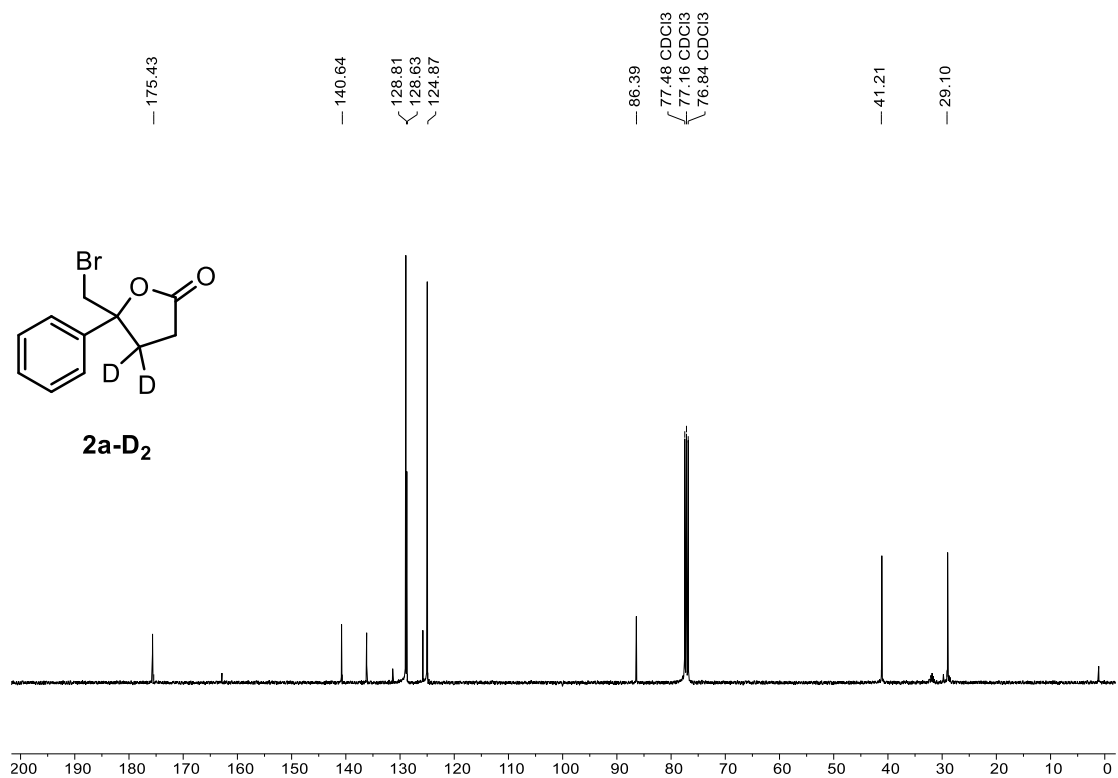


Figure S119. ¹³C NMR of 5-(bromomethyl)-5-phenyldihydrofuran-2(3H)-one-4,4-d₂ (**2a-D₂**)

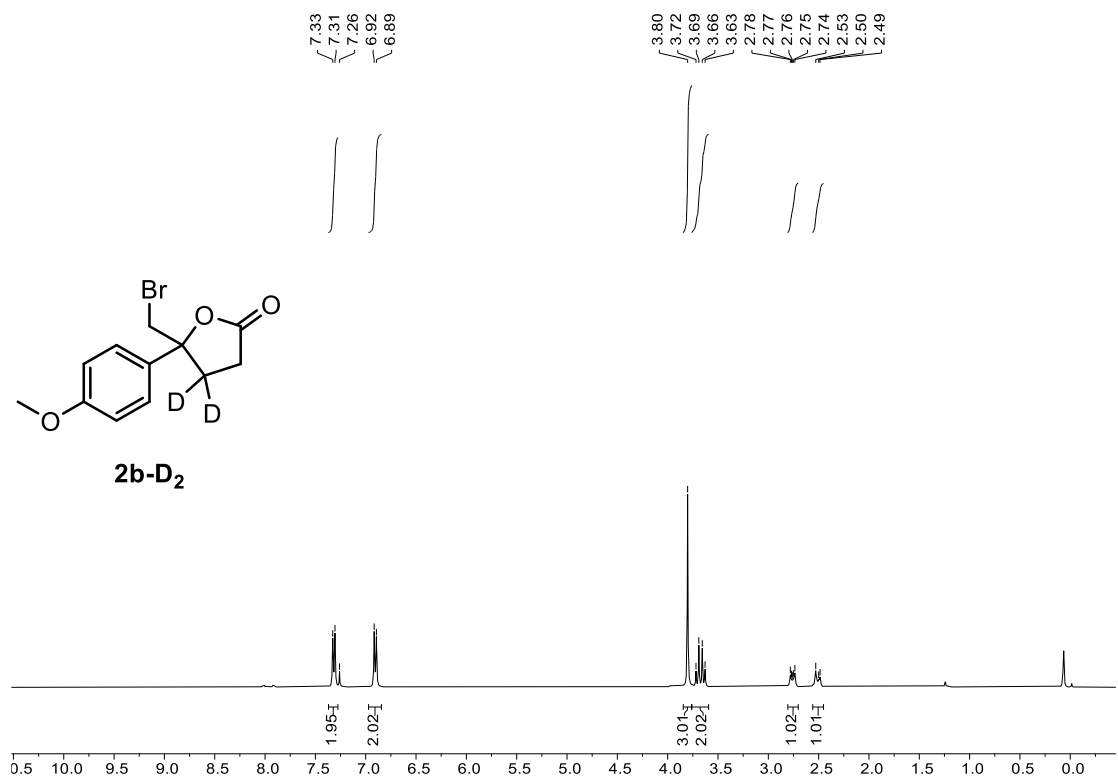


Figure S120. ¹H NMR of 5-(bromomethyl)-5-(4-methoxyphenyl)dihydrofuran-2(3H)-one-4,4-d₂ (**2b-D₂**)

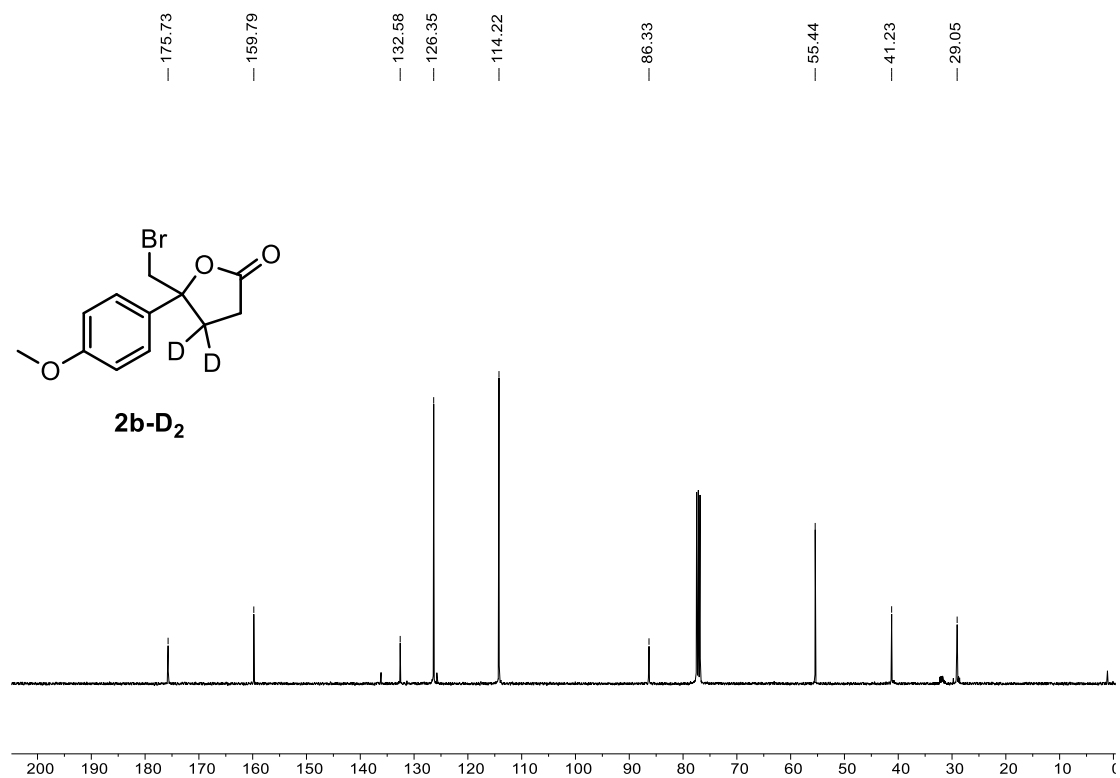


Figure S121. ¹³C NMR of 5-(bromomethyl)-5-(4-methoxyphenyl)dihydrofuran-2(3*H*)-one-4,4-*d*₂ (**2b-D₂**)

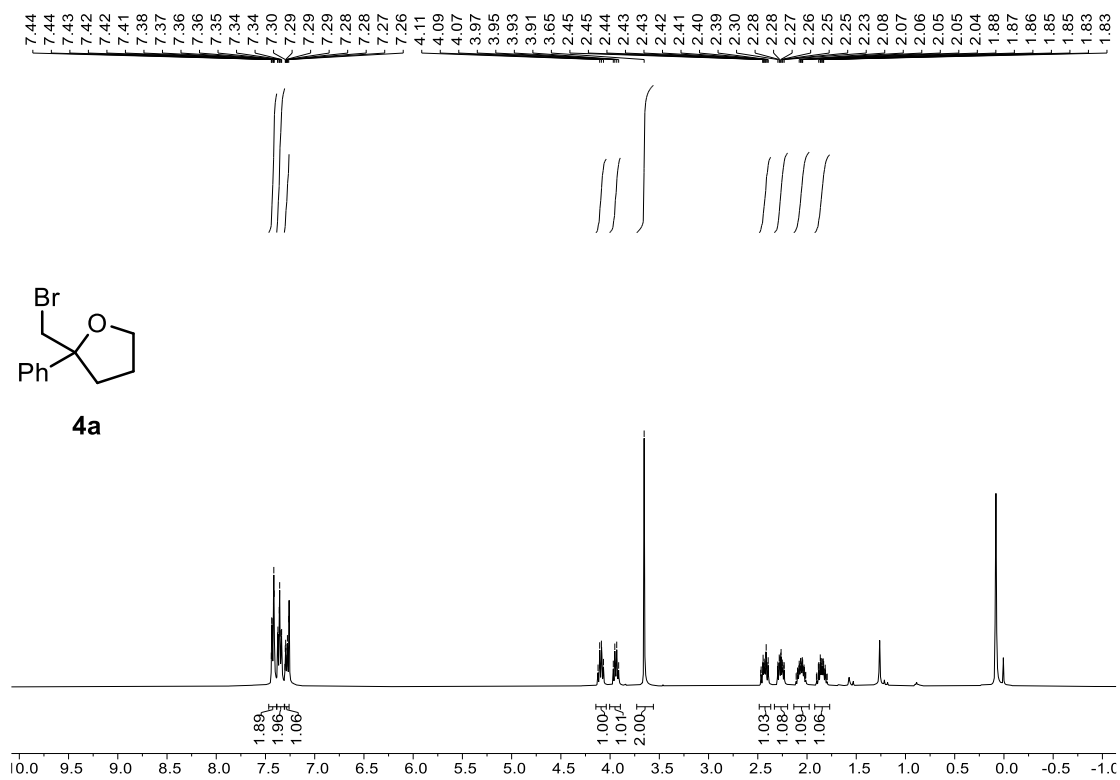


Figure S122. ¹H NMR of 2-(bromomethyl)-2-phenyltetrahydrofuran (**4a**)

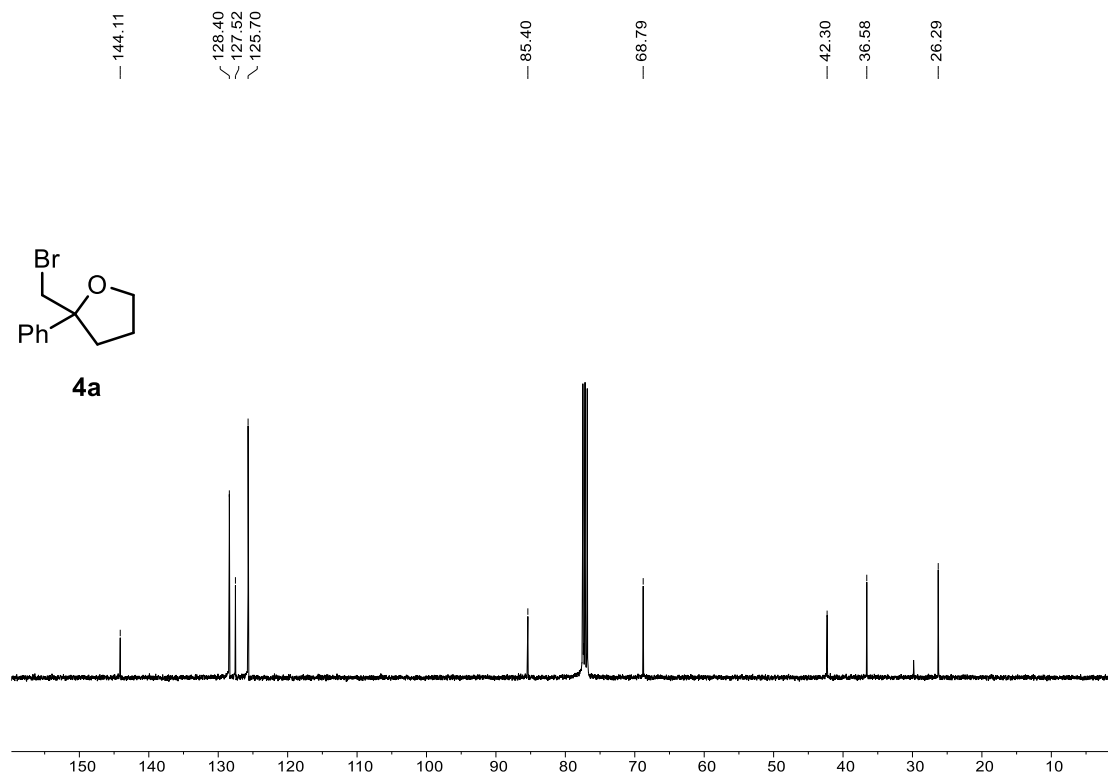


Figure S123. ^{13}C NMR of 2-(bromomethyl)-2-phenyltetrahydrofuran (**4a**)

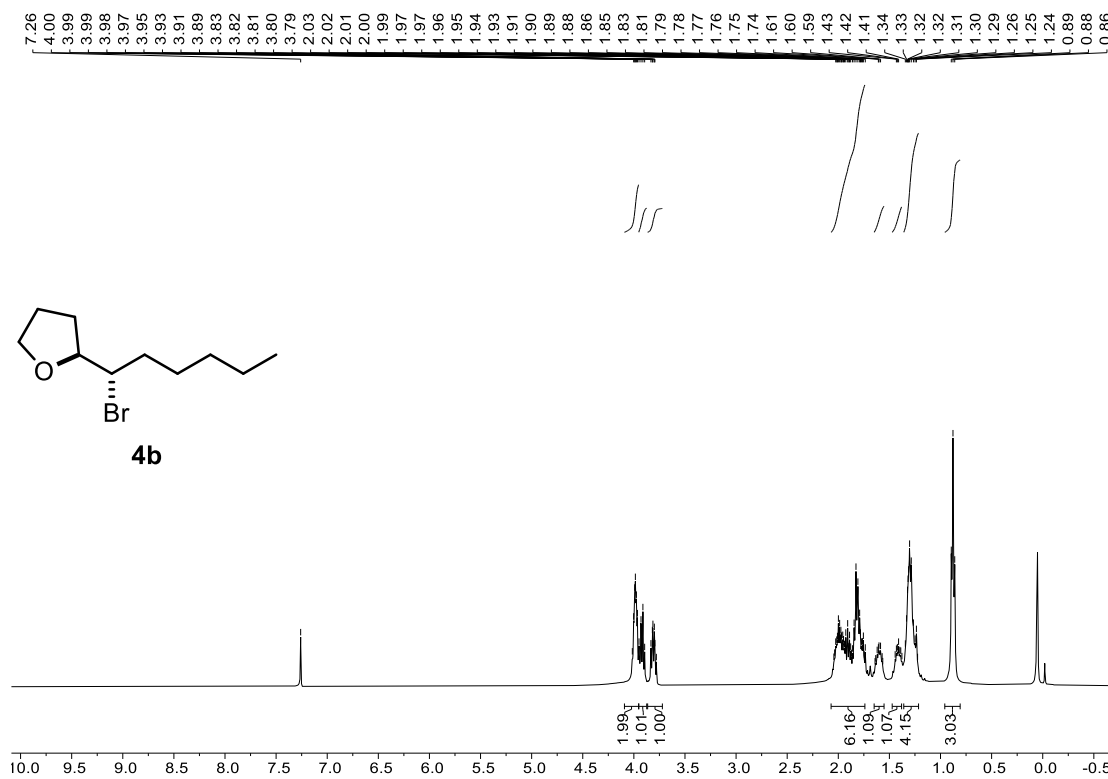
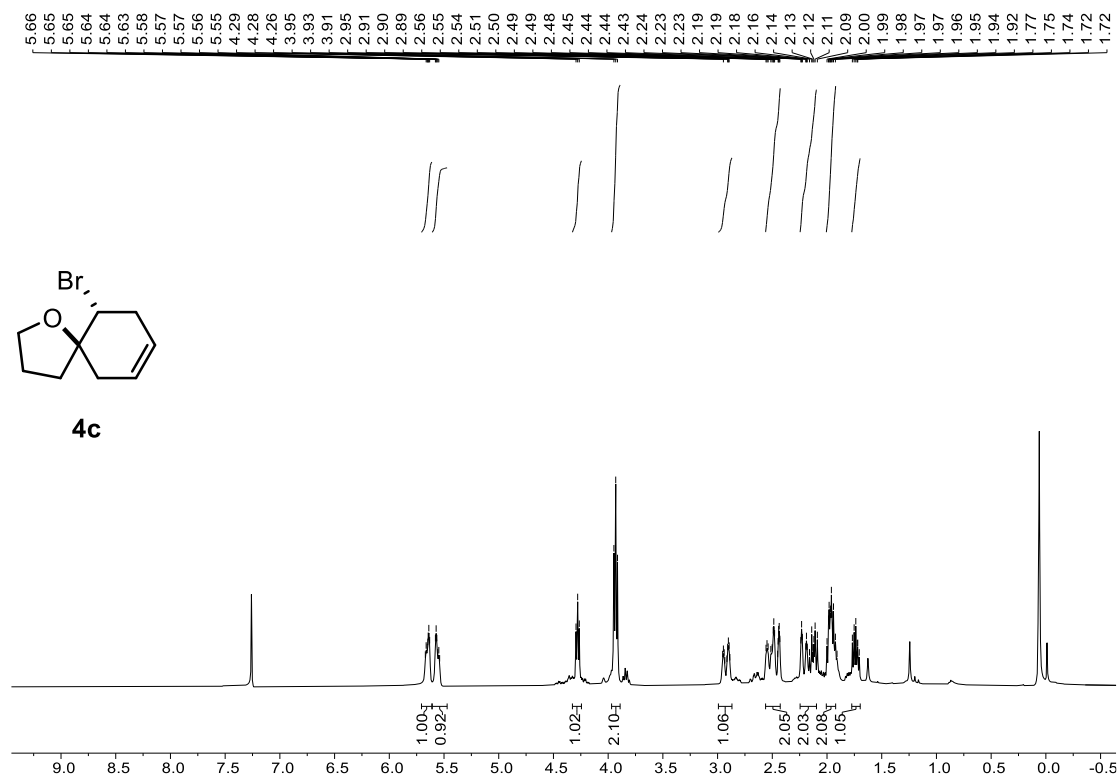
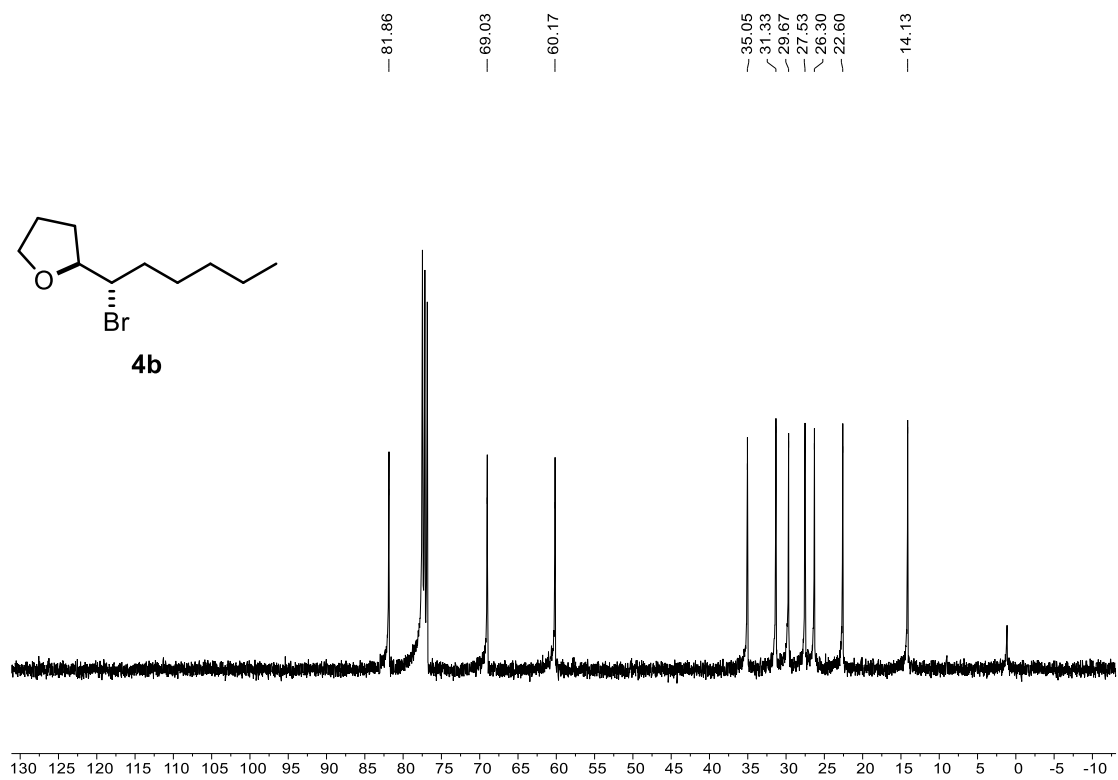


Figure S124. ^1H NMR of 2-(1-bromohexyl)tetrahydrofuran (**4b**)



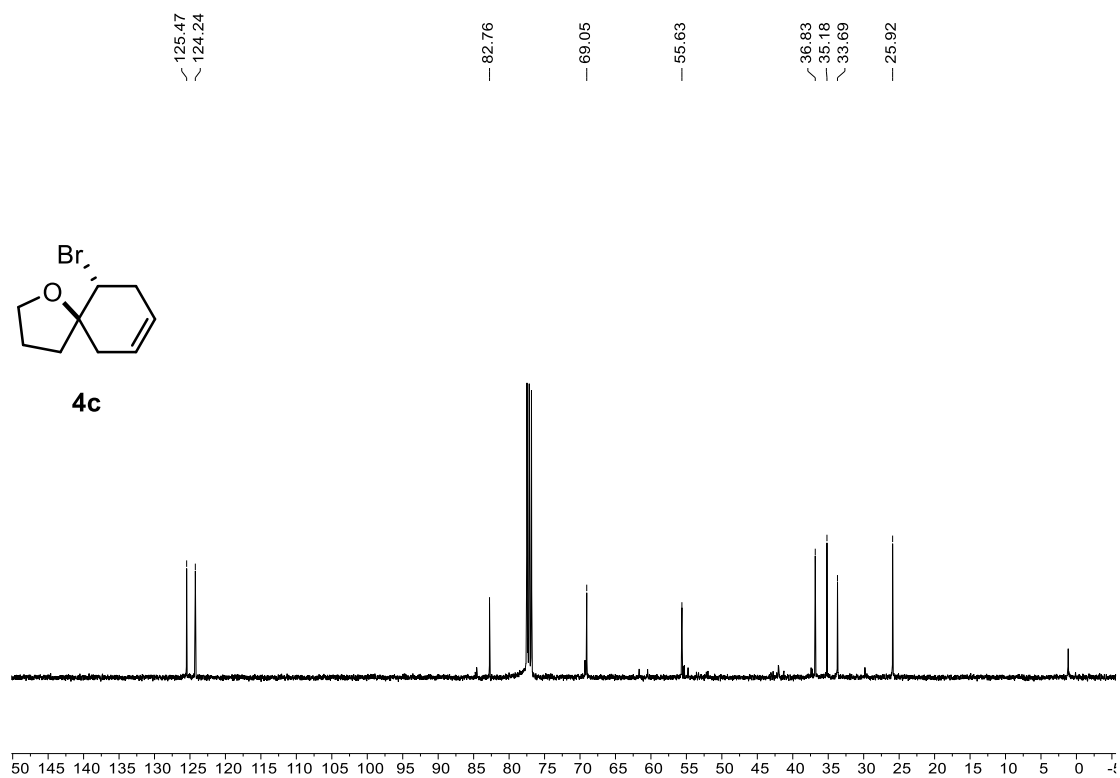


Figure S127. ¹³C NMR of (±)-10-bromo-1-oxaspiro[4.5]dec-7-ene (**4c**)

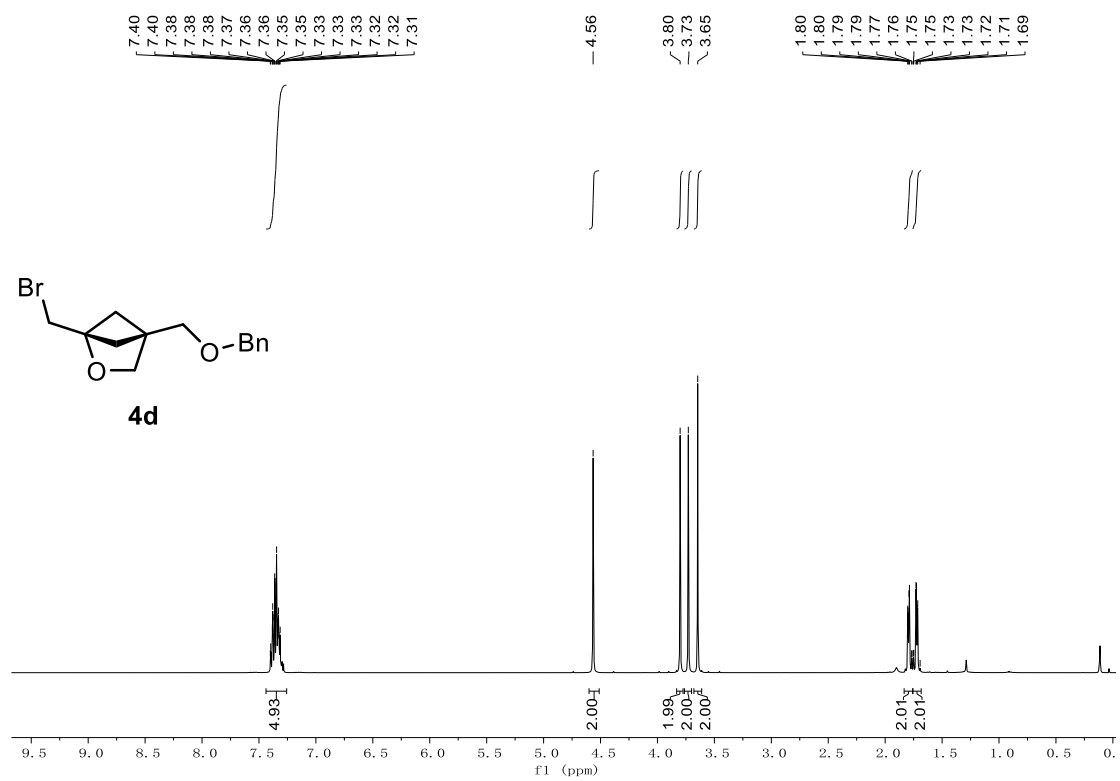


Figure S128. ¹H NMR of 4-((Benzyloxy)methyl)-1-(bromomethyl)-2-oxabicyclo[2.1.1]hexane (**4d**)

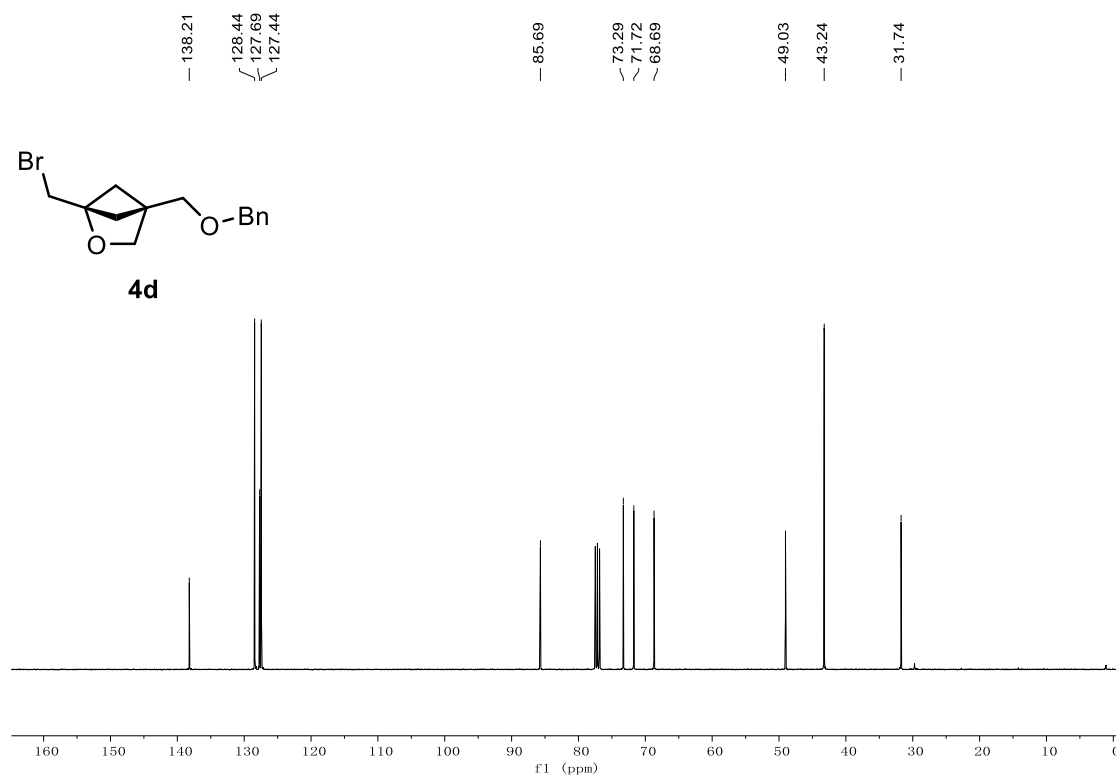


Figure S129. ^{13}C NMR of 4-((Benzyloxy)methyl)-1-(bromomethyl)-2-oxabicyclo[2.1.1]hexane (**4d**)

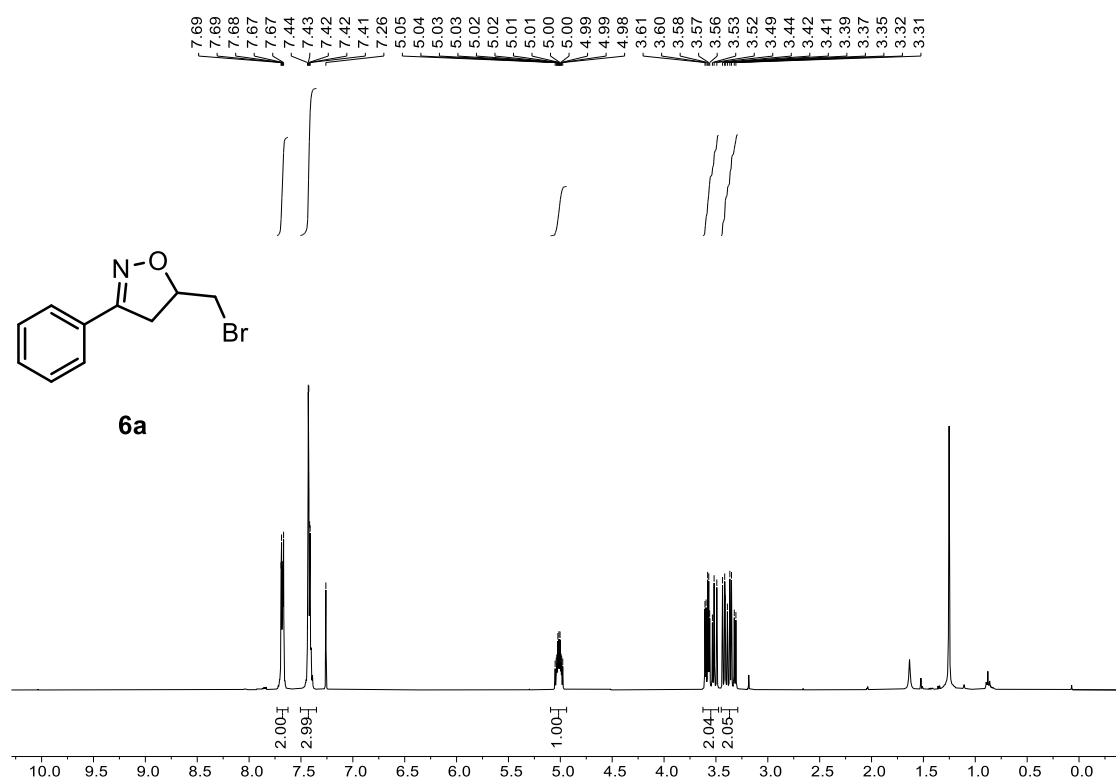


Figure S130. ^1H NMR of 5-(bromomethyl)-3-phenyl-4,5-dihydroisoxazole (**6a**)

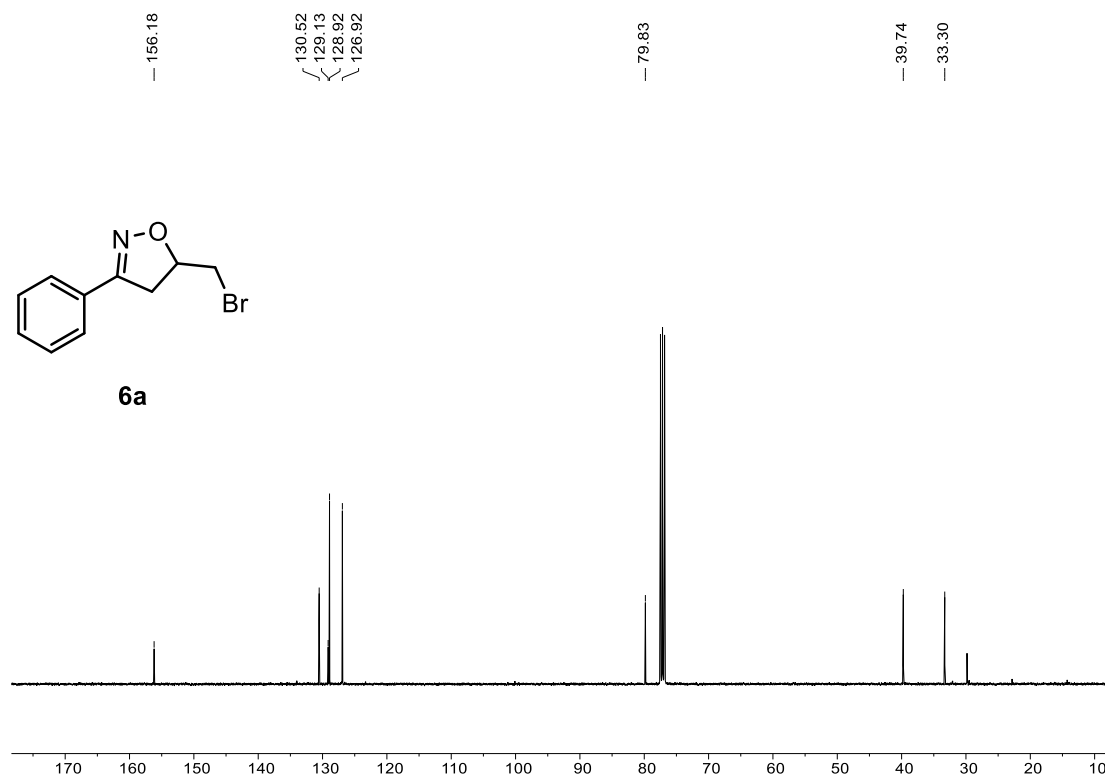


Figure S131. ¹³C NMR of 5-(bromomethyl)-3-phenyl-4,5-dihydroisoxazole (**6a**)

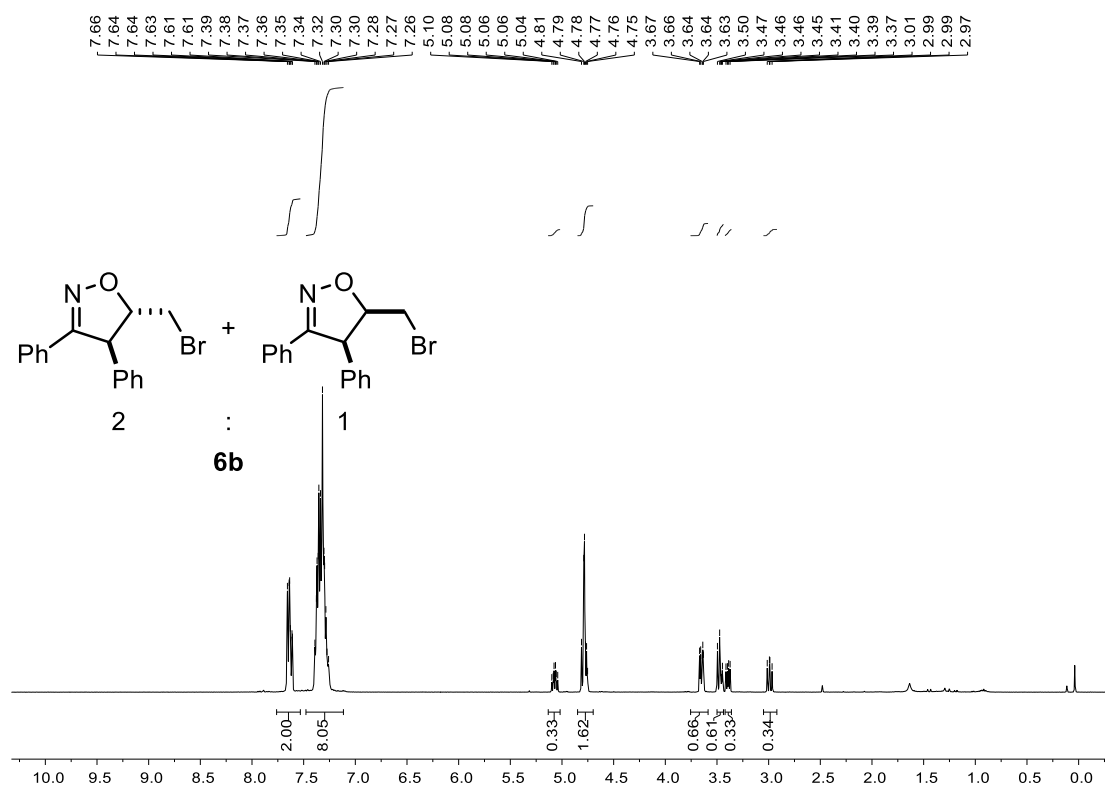


Figure S132. ¹H NMR of 5-(bromomethyl)-3,4-diphenyl-4,5-dihydroisoxazole (**6b**, **6b'**)

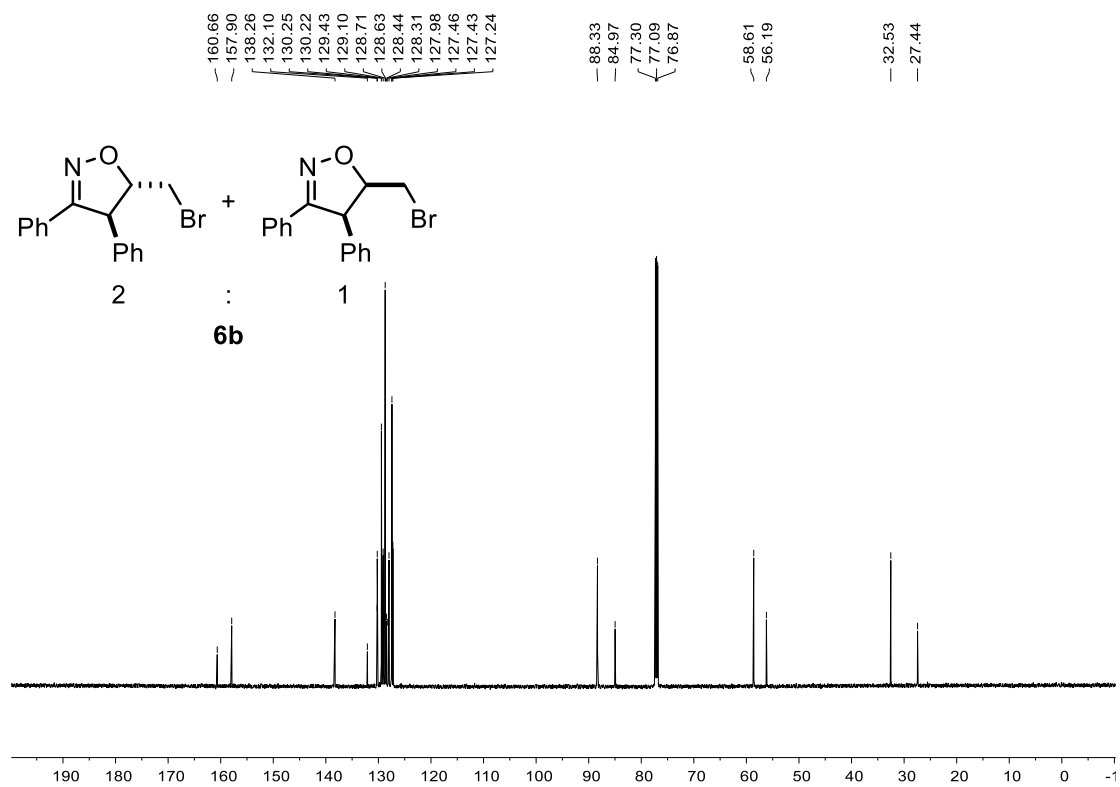


Figure S133. ¹³C NMR of 5-(bromomethyl)-3,4-diphenyl-4,5-dihydroisoxazole (**6b**, **6b'**)

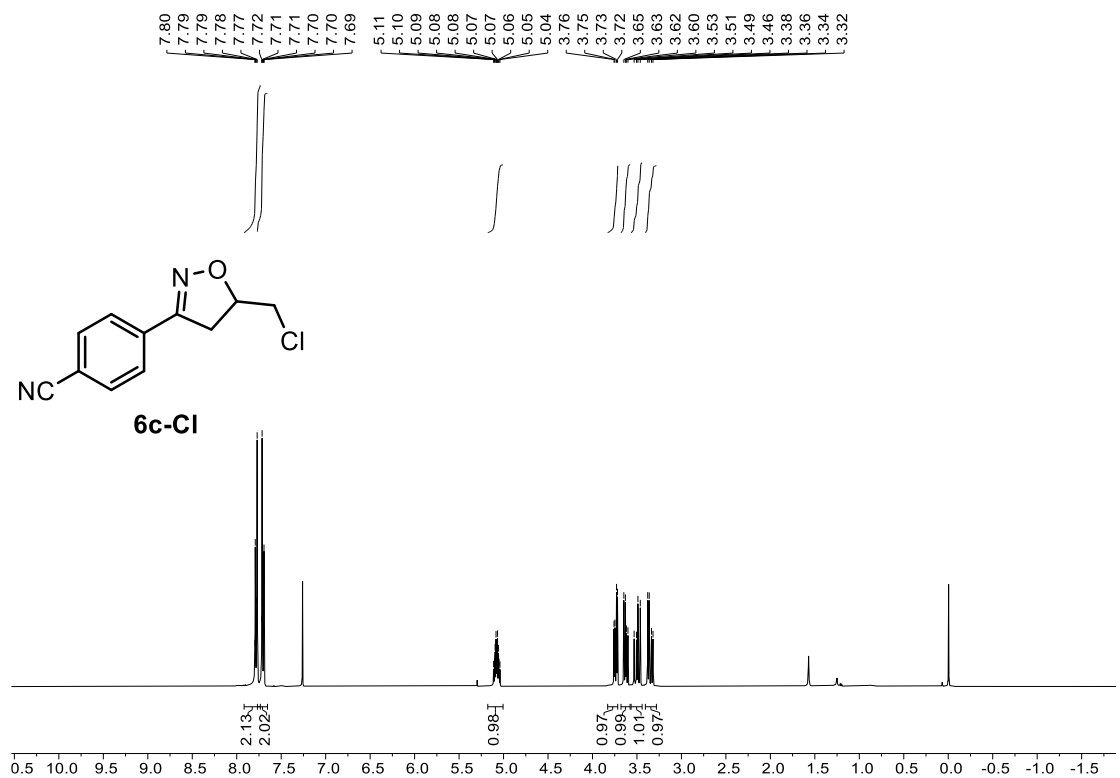


Figure S134. ¹H NMR of 4-(5-(chloromethyl)-4,5-dihydroisoxazol-3-yl)benzonitrile (**6c-Cl**)

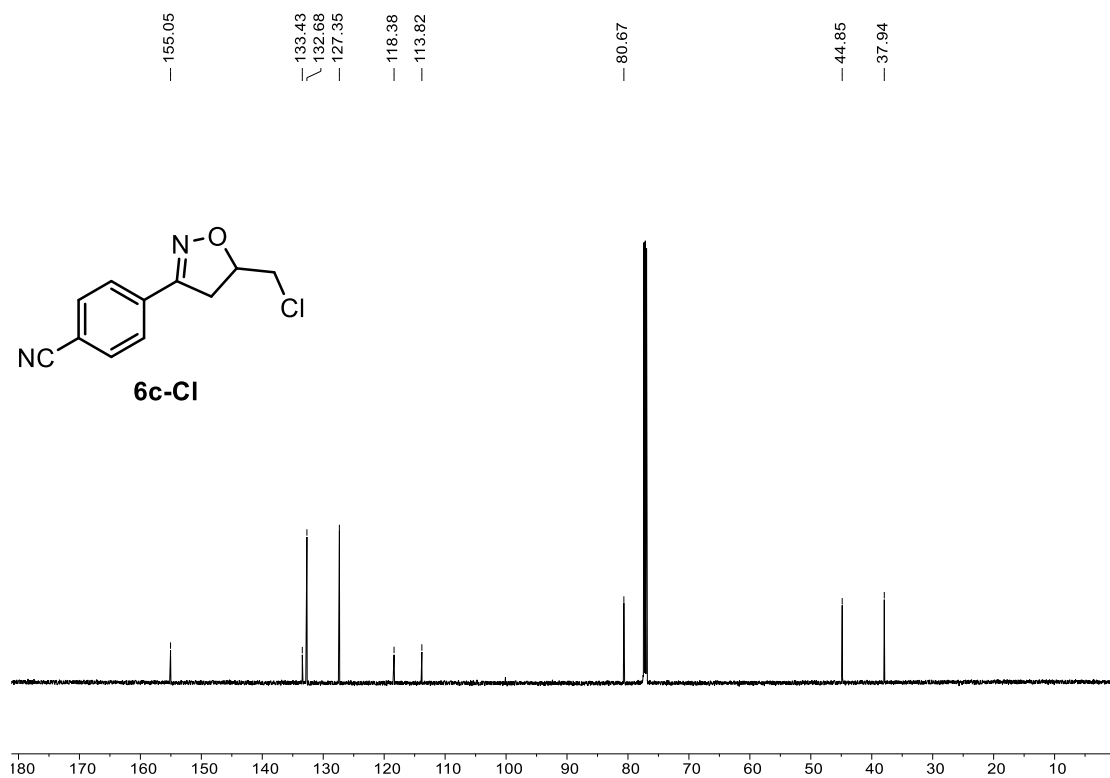


Figure S135. ^{13}C NMR of 4-(5-(chloromethyl)-4,5-dihydroisoxazol-3-yl)benzonitrile (**6c-Cl**)

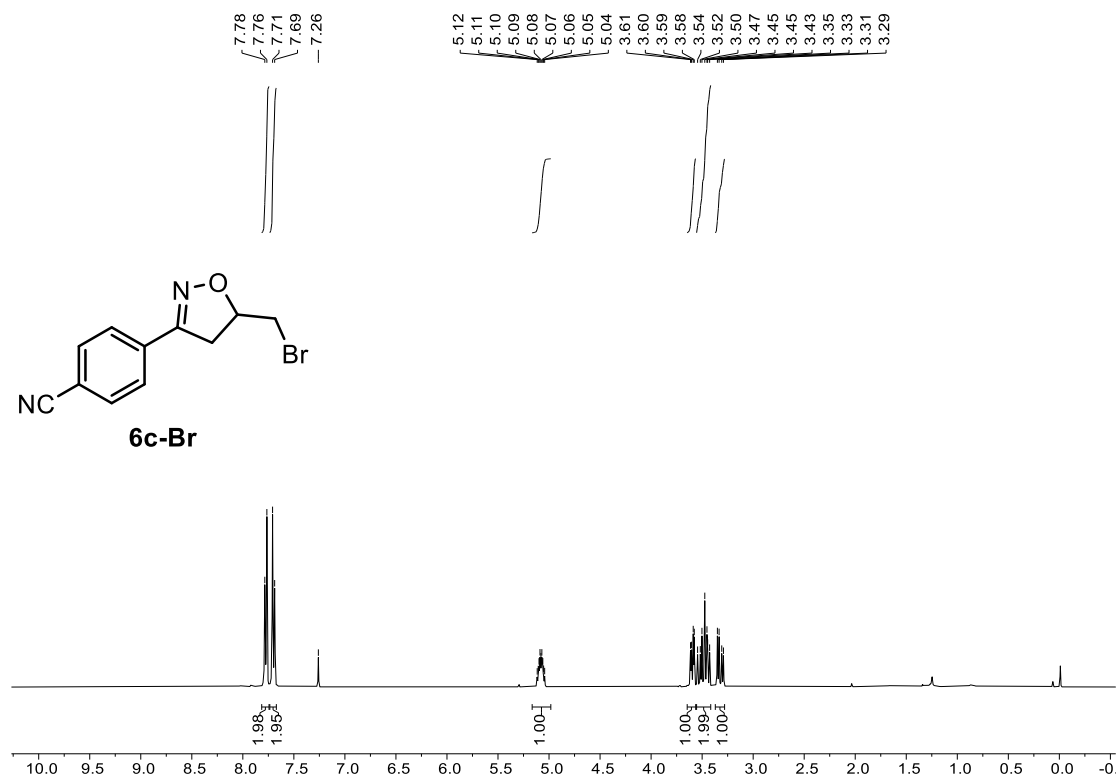


Figure S136. ^1H NMR of 4-(5-(bromomethyl)-4,5-dihydroisoxazol-3-yl)benzonitrile (**6c-Br**)

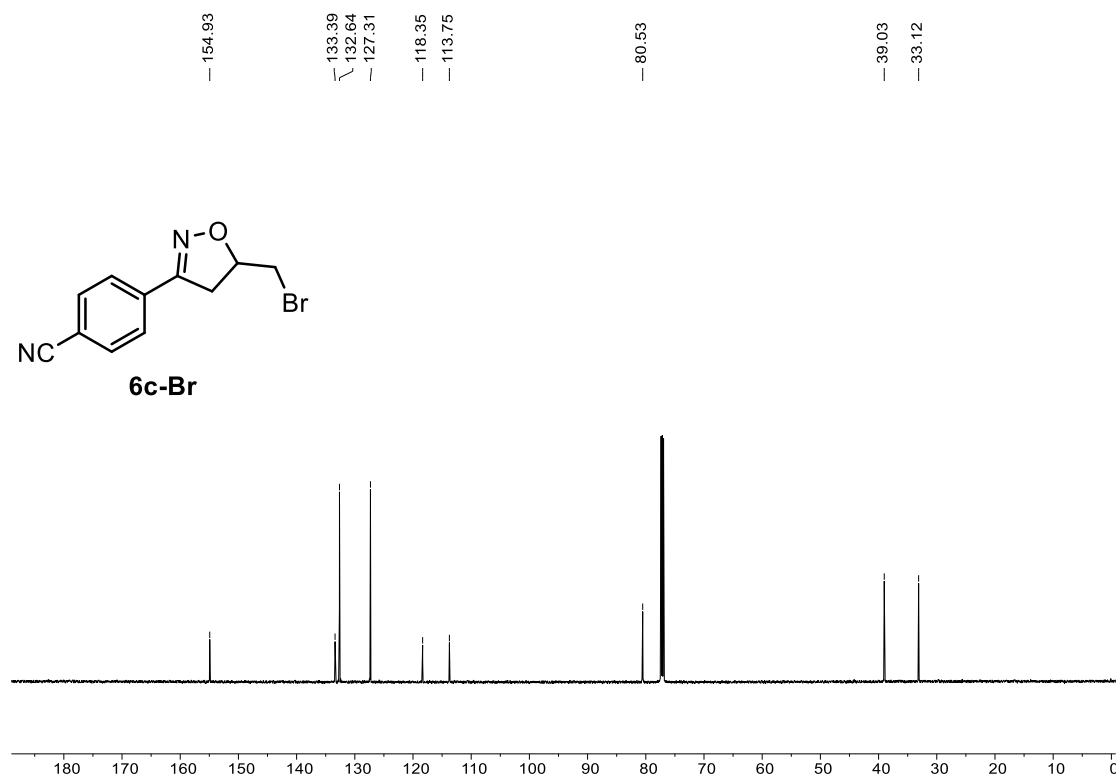


Figure S137. ^{13}C NMR of 4-(5-(bromomethyl)-4,5-dihydroisoxazol-3-yl)benzonitrile (**6c-Br**)

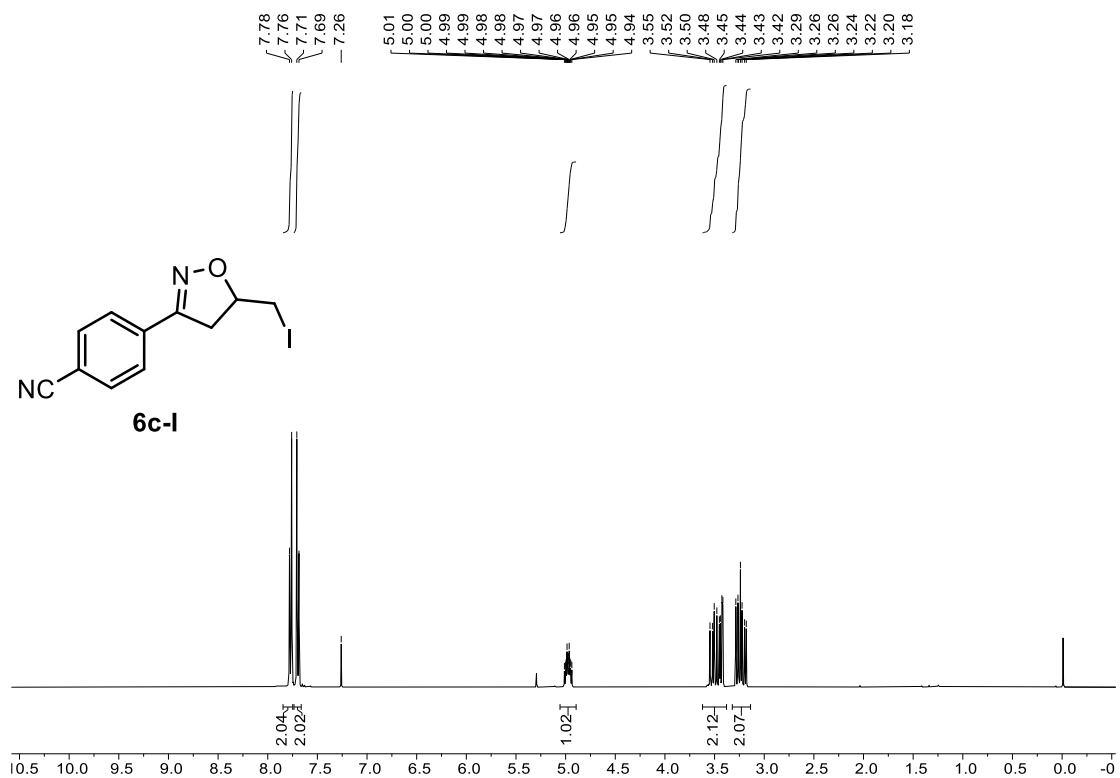


Figure S138. ^1H NMR of 4-(5-(iodomethyl)-4,5-dihydroisoxazol-3-yl)benzonitrile (**6c-I**)

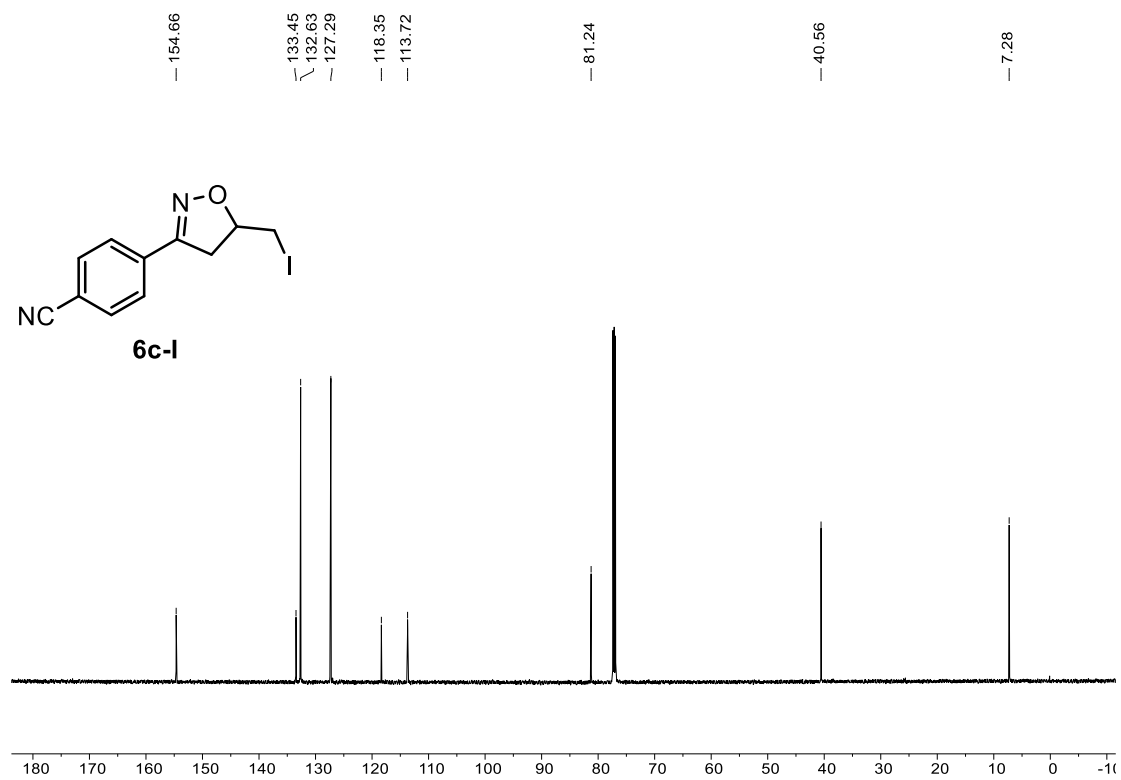


Figure S139. ^{13}C NMR of 4-(5-(iodomethyl)-4,5-dihydroisoxazol-3-yl)benzonitrile (**6c-I**)

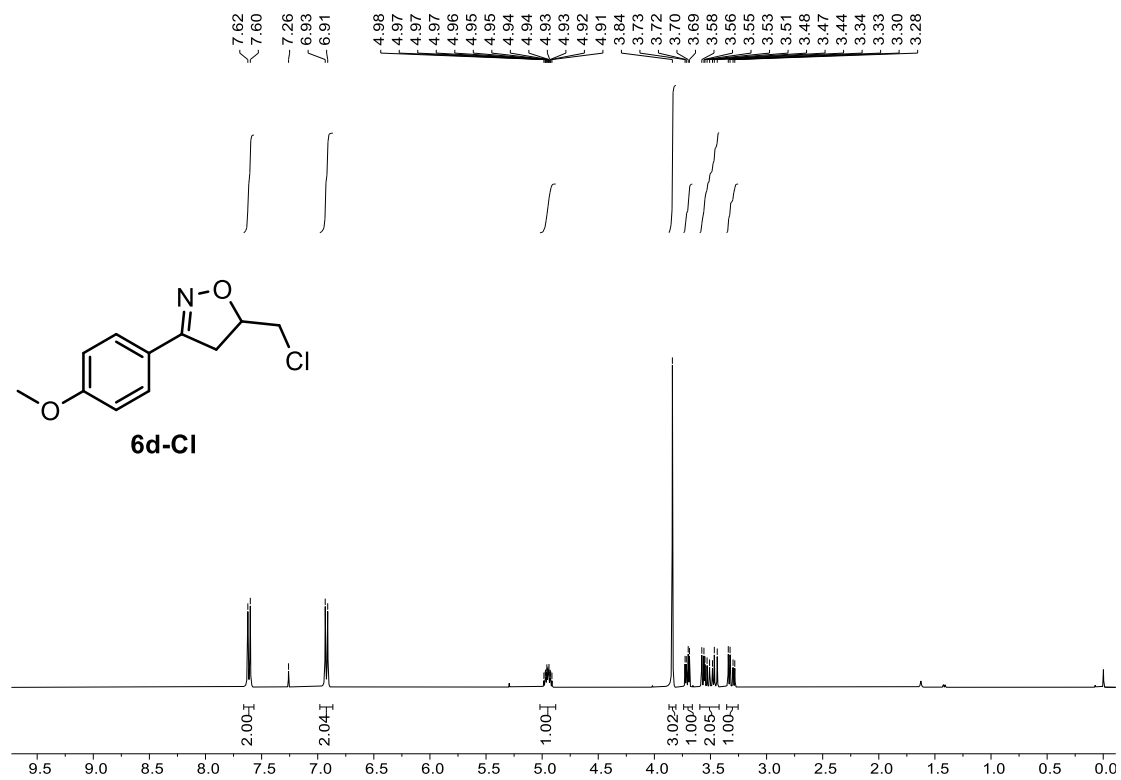


Figure S140. ^1H NMR of 5-(chloromethyl)-3-(4-methoxyphenyl)-4,5-dihydroisoxazole (**6d-Cl**)

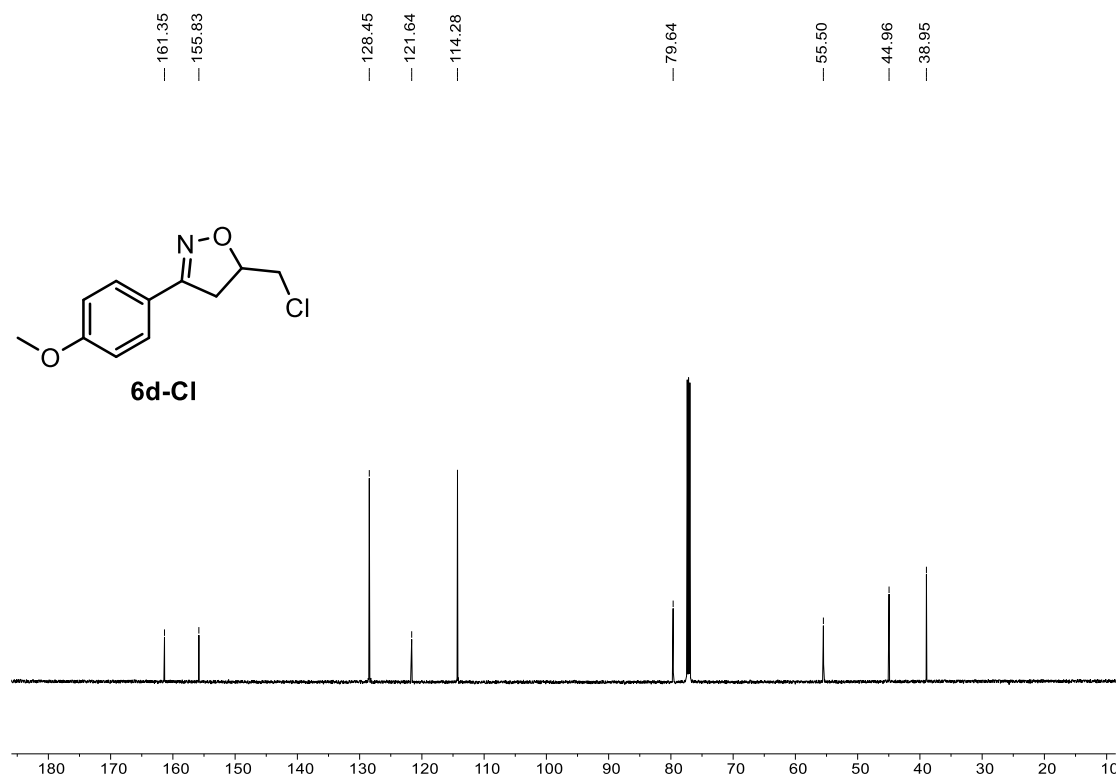


Figure S141. ^{13}C NMR of 5-(chloromethyl)-3-(4-methoxyphenyl)-4,5-dihydroisoxazole (**6d-Cl**)

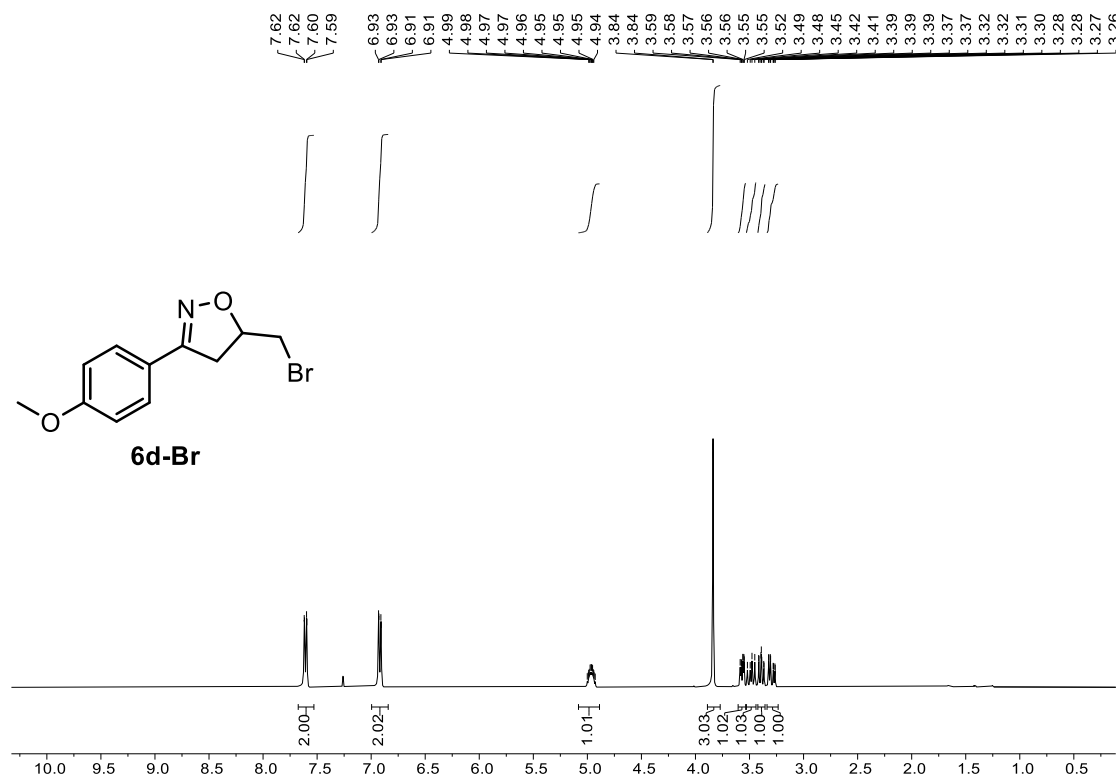


Figure S142. ^1H NMR of 5-(bromomethyl)-3-(4-methoxyphenyl)-4,5-dihydroisoxazole (**6d-Br**)

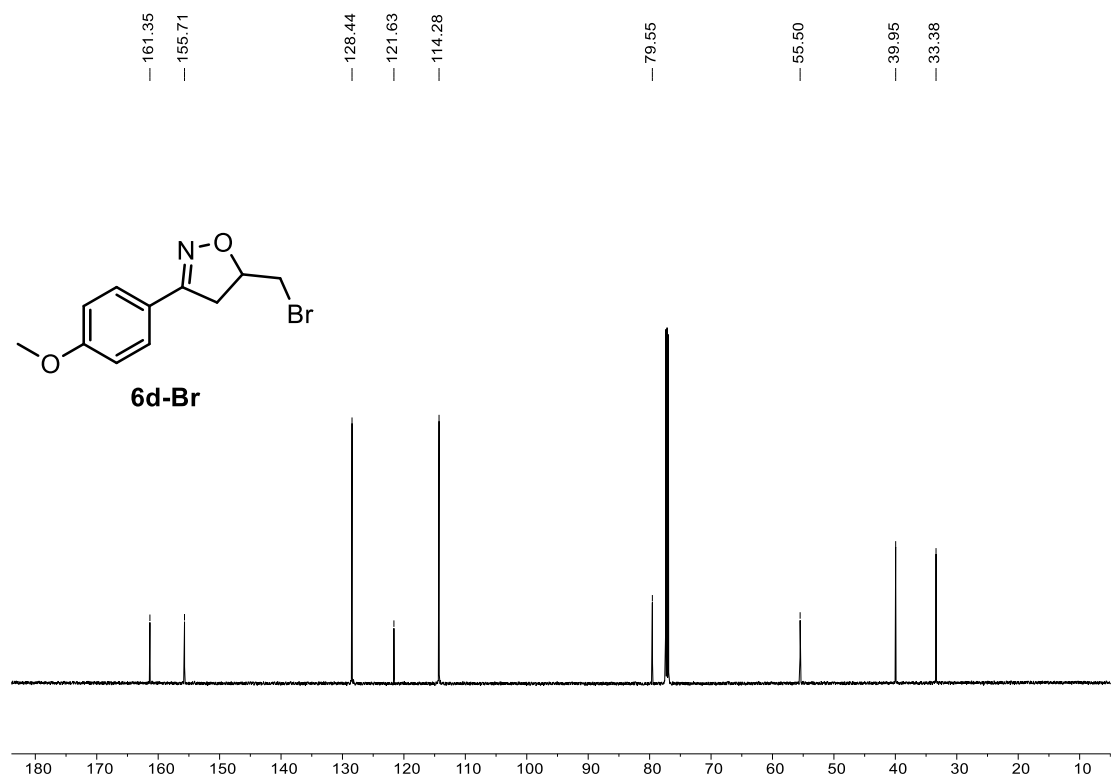


Figure S143. ^{13}C NMR of 5-(bromomethyl)-3-(4-methoxyphenyl)-4,5-dihydroisoxazole (**6d-Br**)

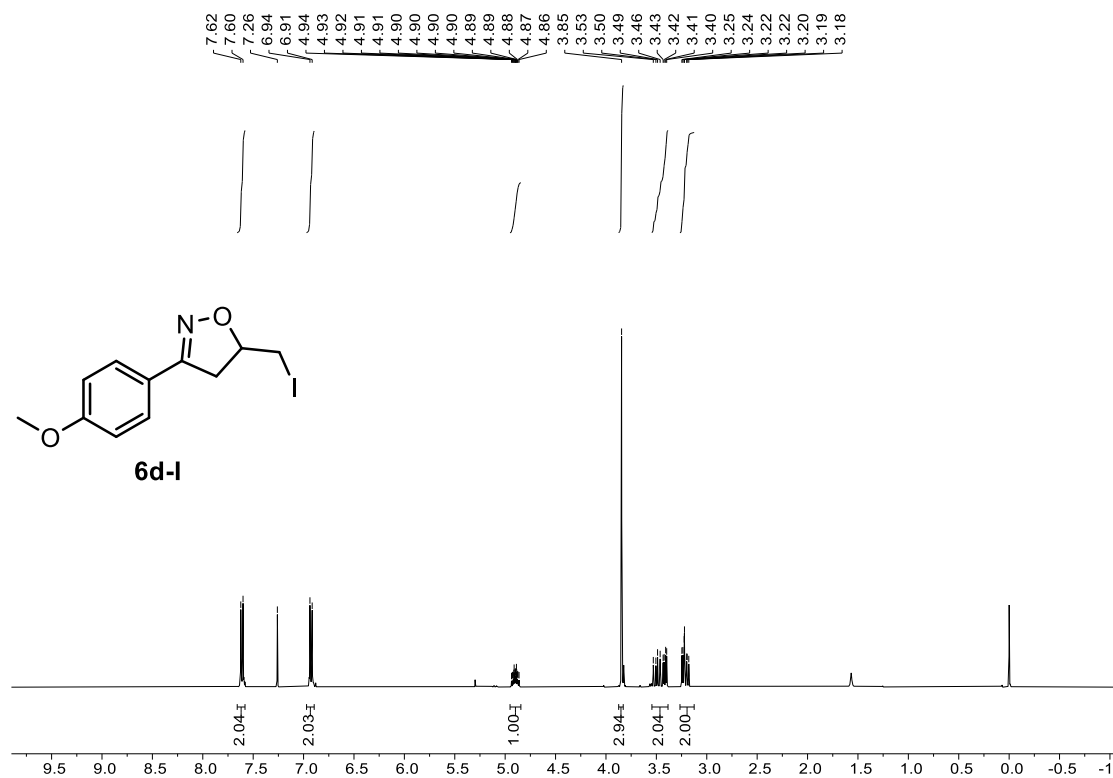


Figure S144. ^1H NMR of 5-(iodomethyl)-3-(4-methoxyphenyl)-4,5-dihydroisoxazole (**6d-I**)

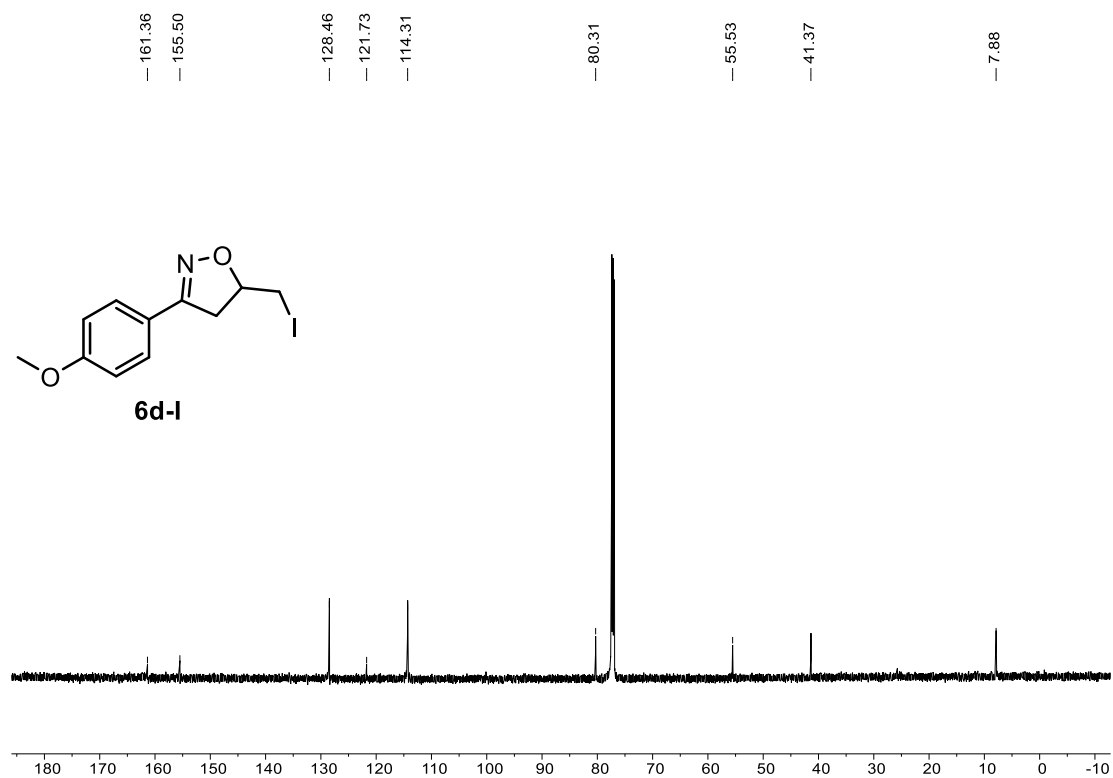


Figure S145. ¹³C NMR of 5-(iodomethyl)-3-(4-methoxyphenyl)-4,5-dihydroisoxazole (**6d-I**)

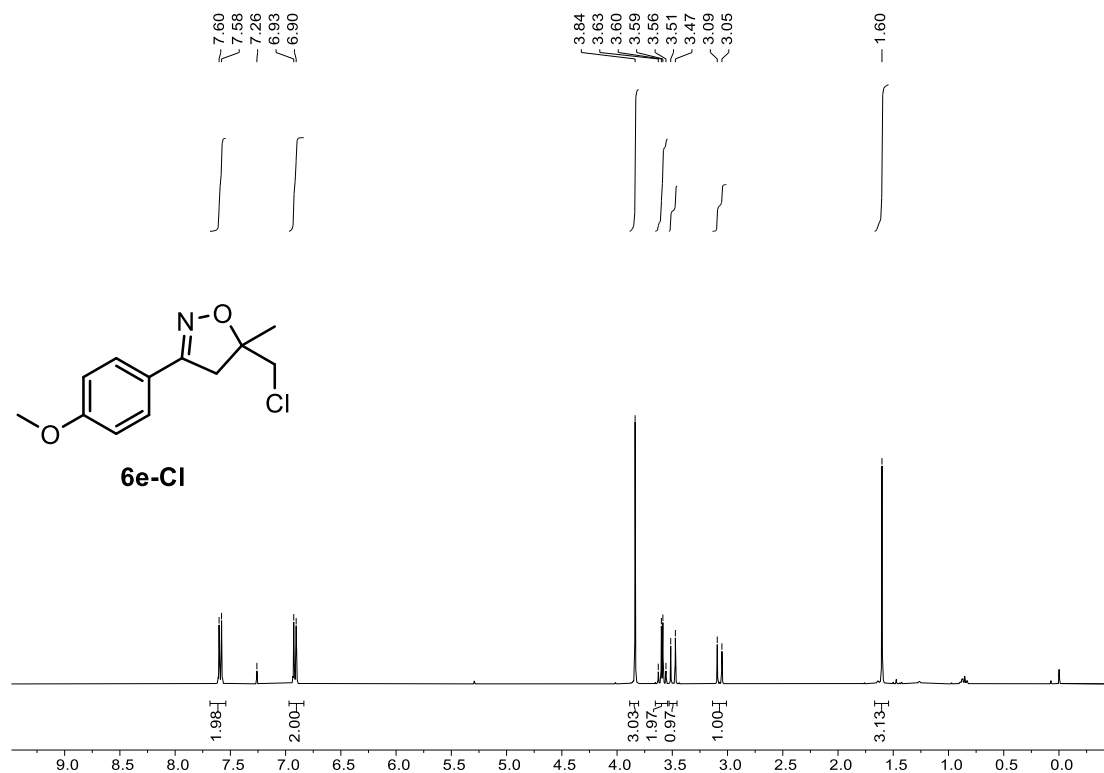


Figure S146. ¹H NMR of 5-(chloromethyl)-3-(4-methoxyphenyl)-5-methyl-4,5-dihydroisoxazole (**6e-Cl**)

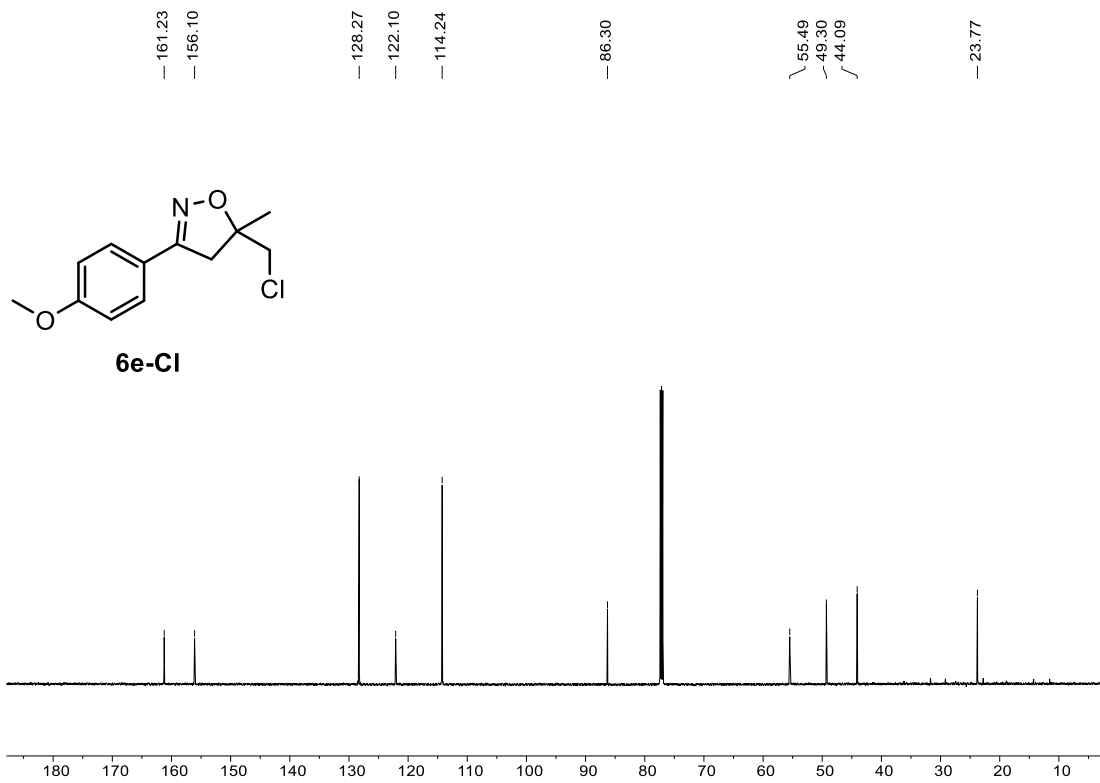


Figure S147. ¹³C NMR of 5-(chloromethyl)-3-(4-methoxyphenyl)-5-methyl-4,5-dihydroisoxazole (**6e-Cl**)

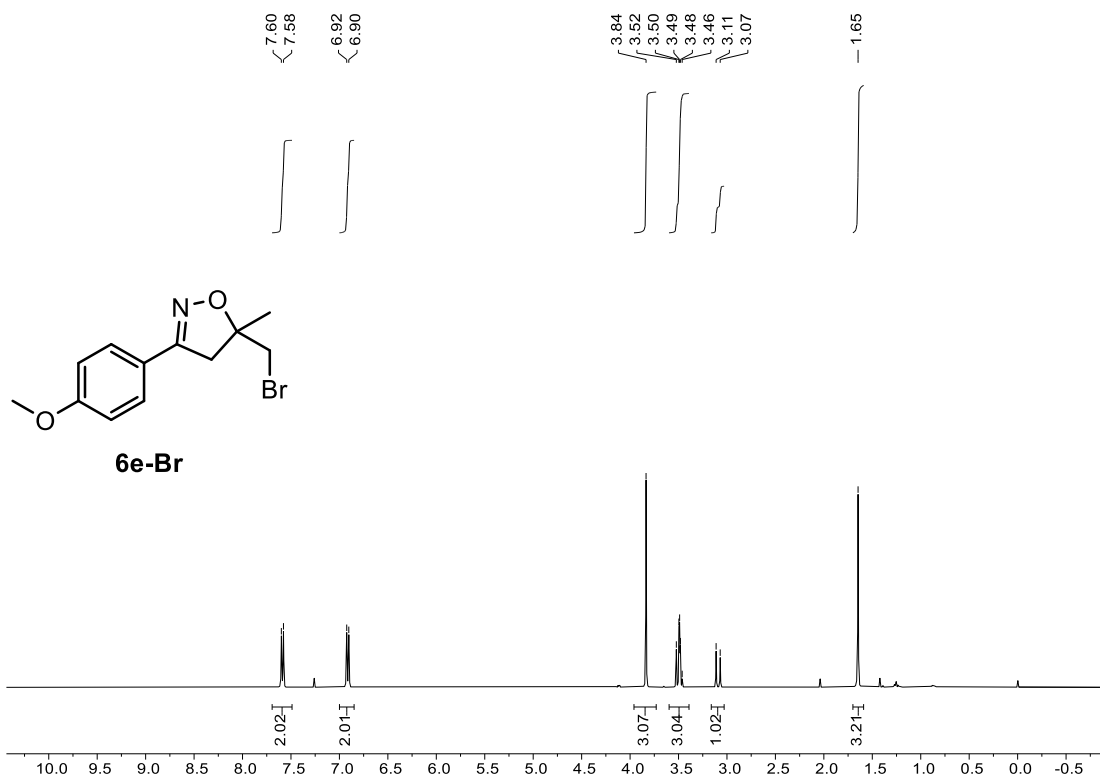


Figure S148. ¹H NMR of 5-(bromomethyl)-3-(4-methoxyphenyl)-5-methyl-4,5-dihydroisoxazole (**6e-Br**)

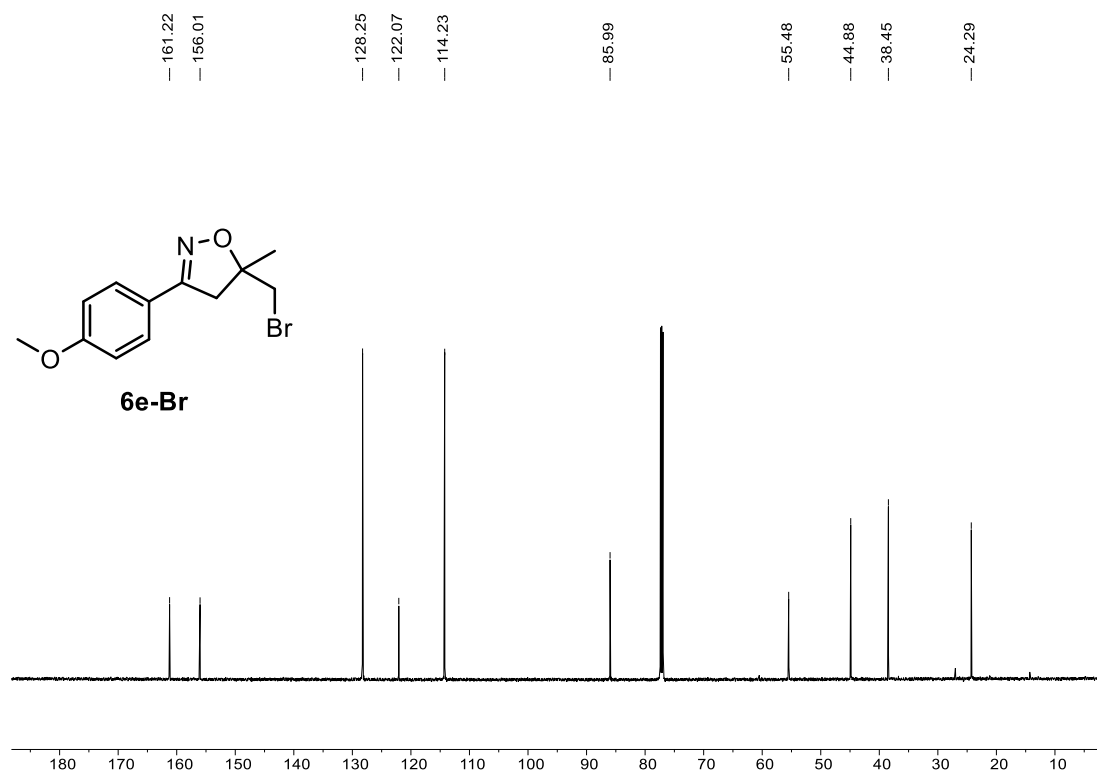


Figure S149. ^{13}C NMR of 5-(bromomethyl)-3-(4-methoxyphenyl)-5-methyl-4,5-dihydroisoxazole (**6e-Br**)

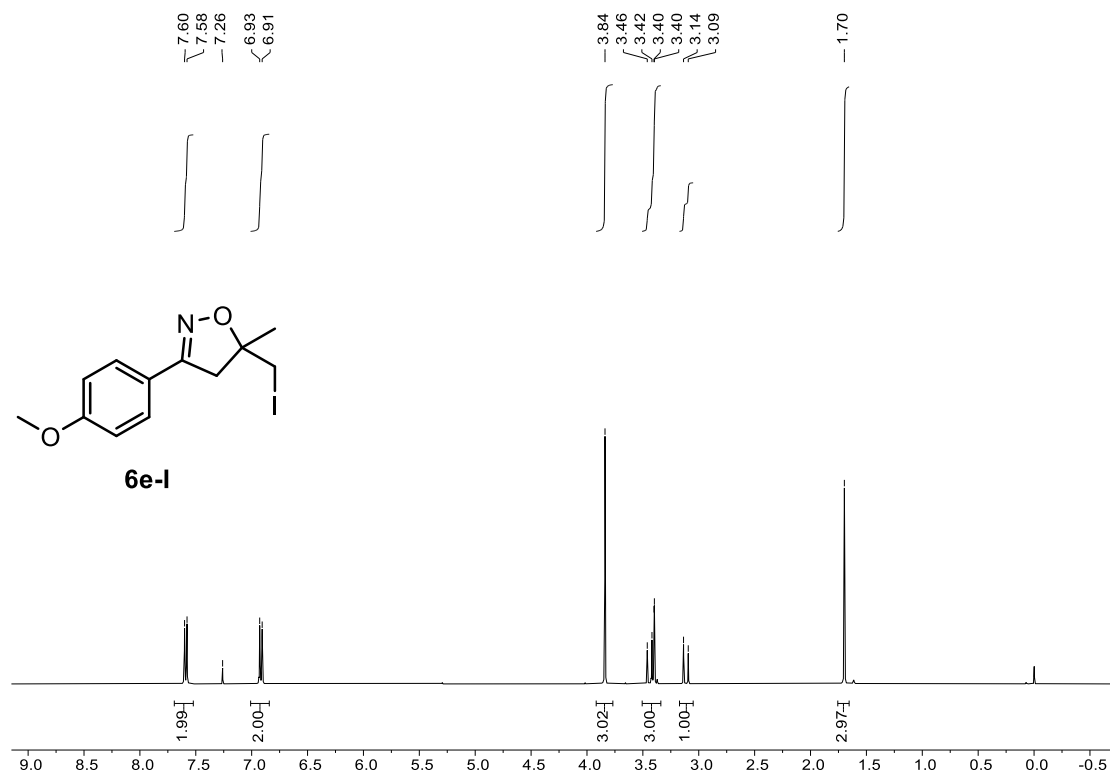


Figure S150. ^1H NMR of 5-(iodomethyl)-3-(4-methoxyphenyl)-5-methyl-4,5-dihydroisoxazole (**6e-I**)

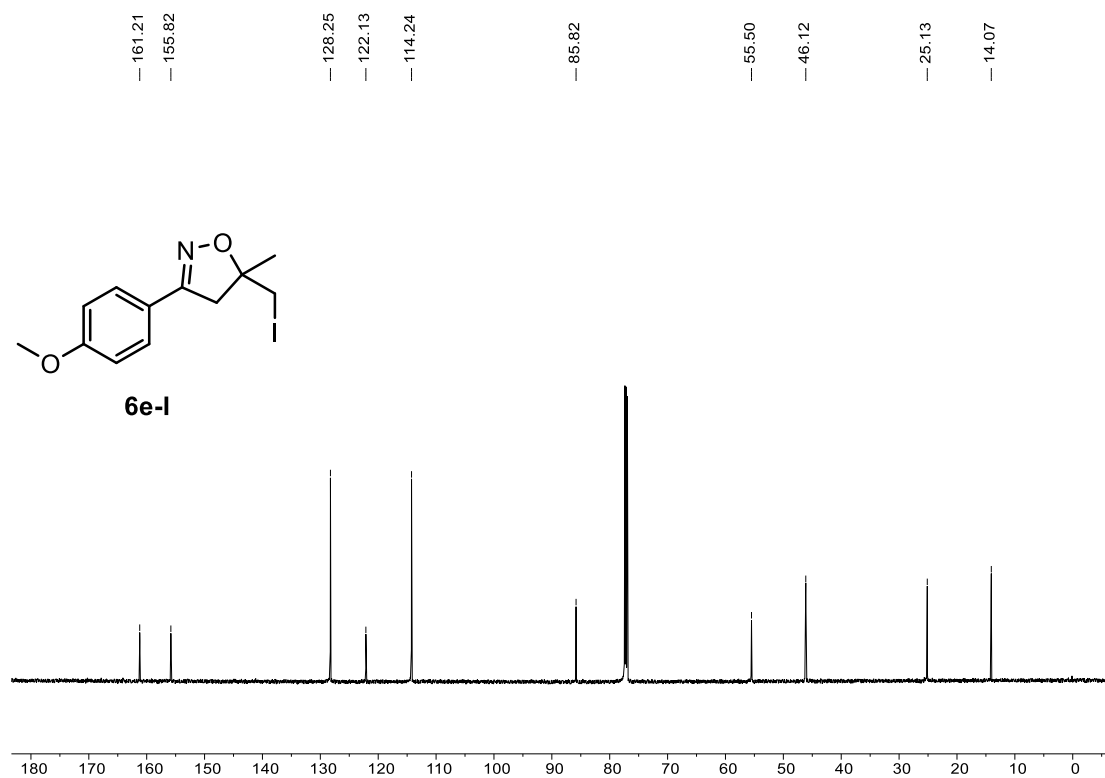


Figure S151. ^{13}C NMR of 5-(iodomethyl)-3-(4-methoxyphenyl)-5-methyl-4,5-dihydroisoxazole (**6e-I**)

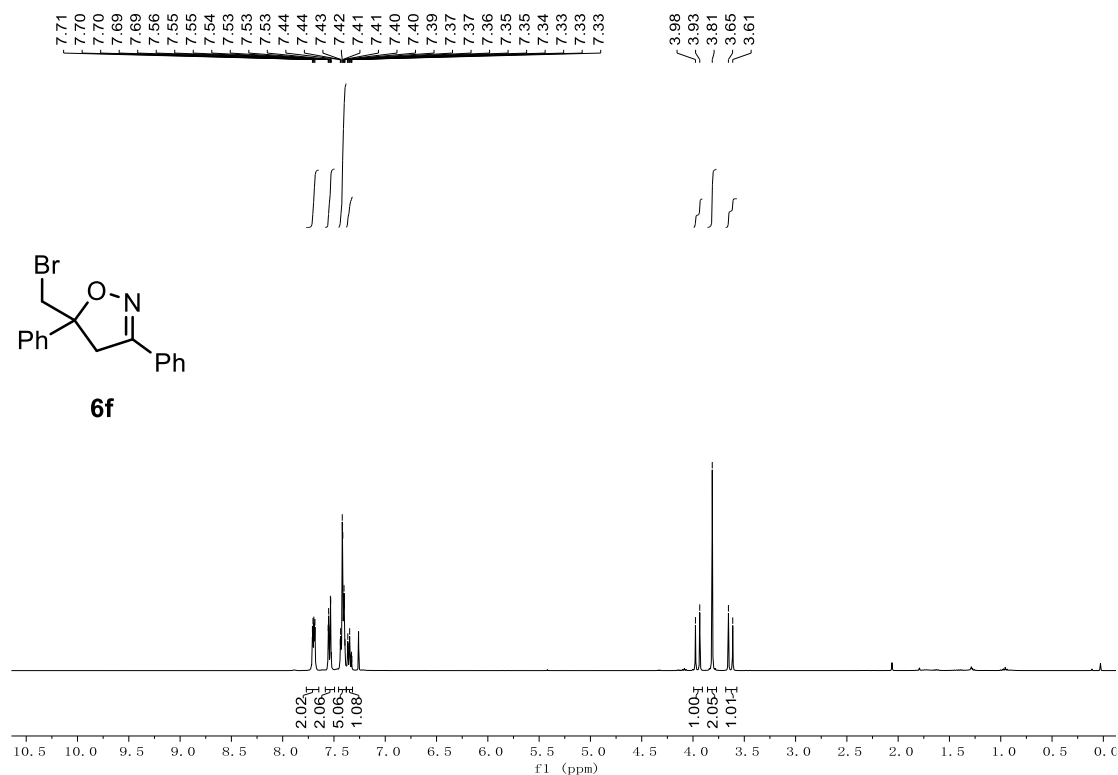


Figure S152. ^1H NMR of 5-(bromomethyl)-3,5-diphenyl-4,5-dihydroisoxazole (**6f**)

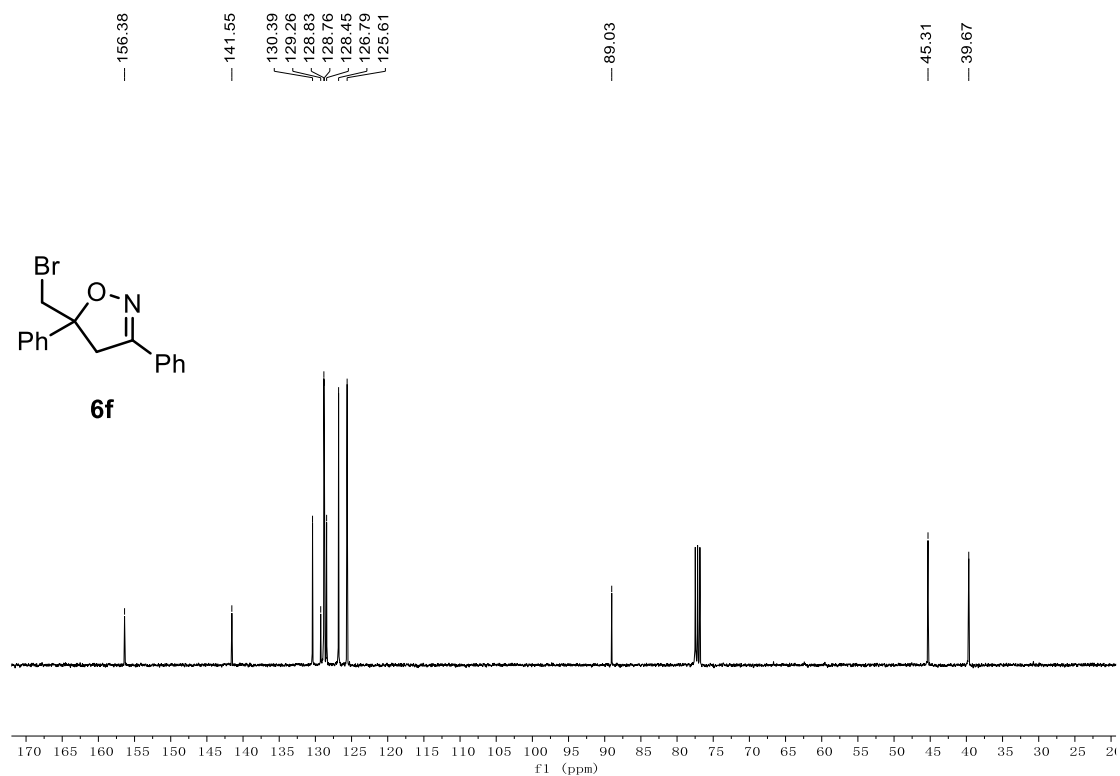


Figure S153. ¹³C NMR of 5-(bromomethyl)-3,5-diphenyl-4,5-dihydroisoxazole (**6f**)

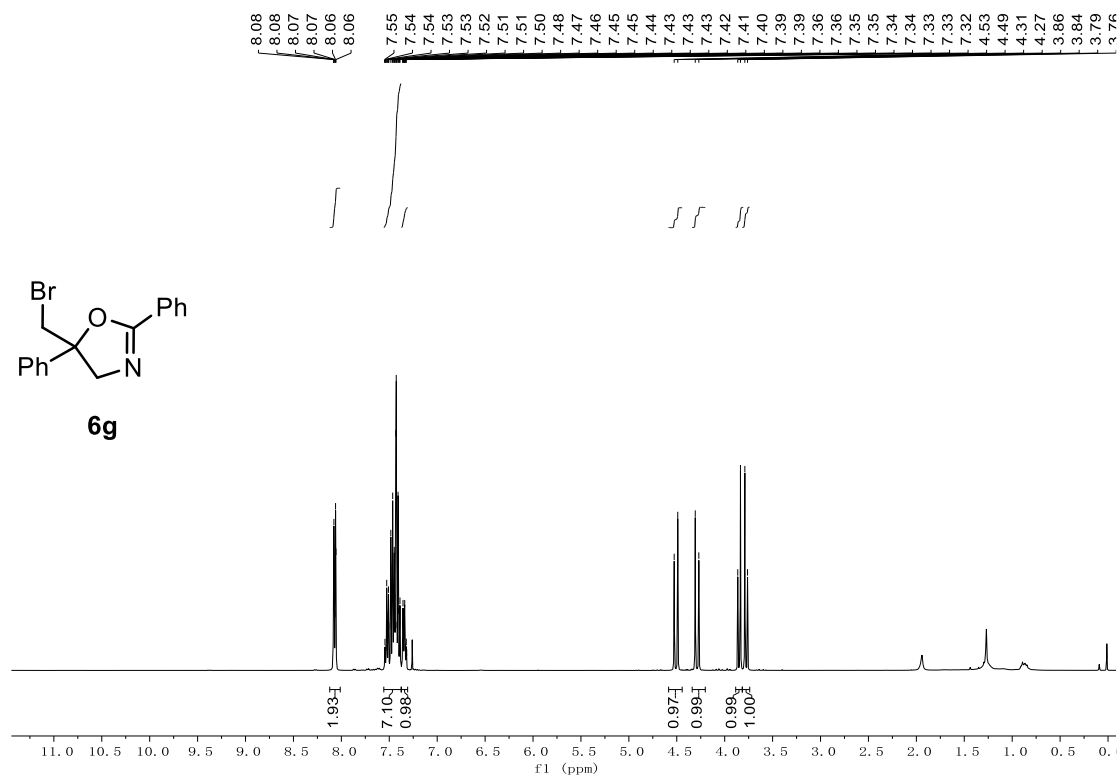


Figure S154. ¹H NMR of 5-(bromomethyl)-2,5-diphenyl-4,5-dihydrooxazole (**6g**)

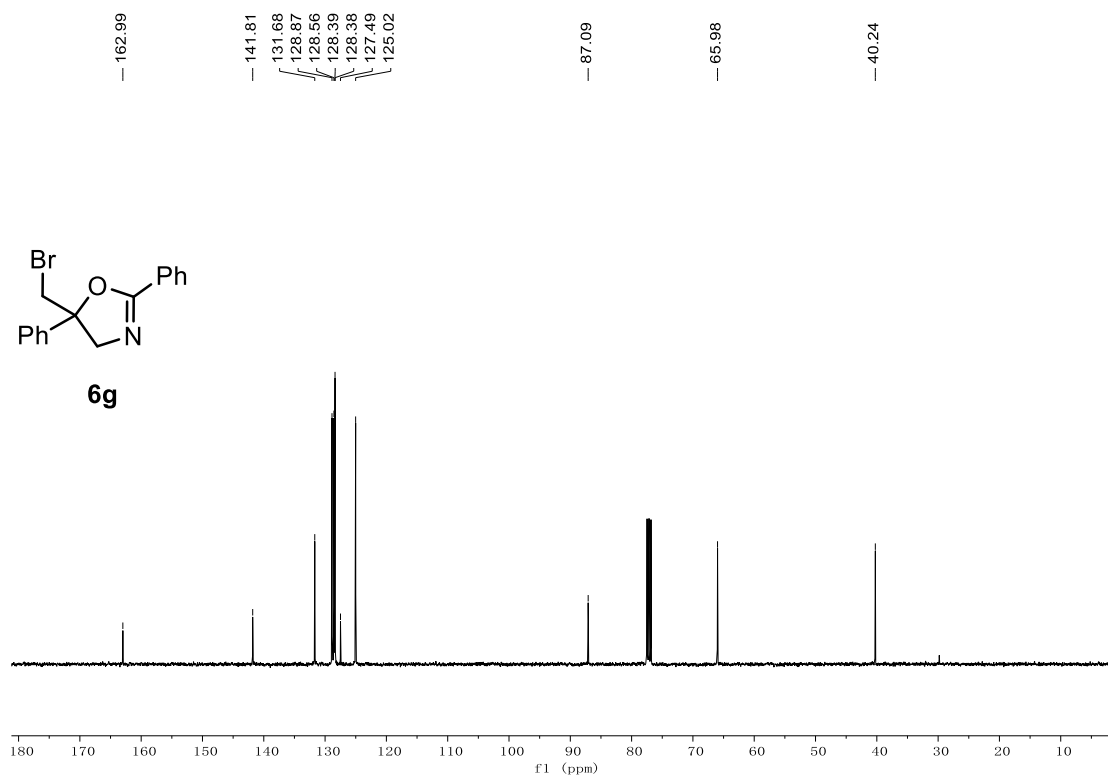


Figure S155. ¹³C NMR of 5-(bromomethyl)-2,5-diphenyl-4,5-dihydrooxazole (**6g**)

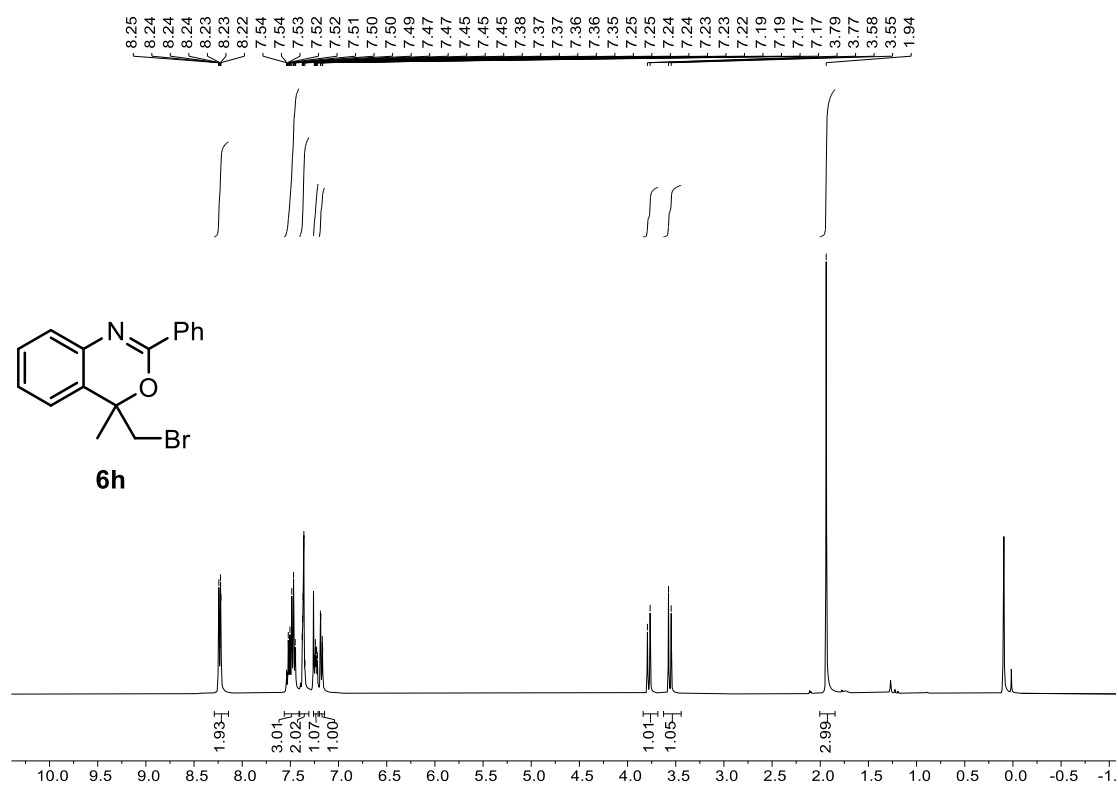


Figure S156. ¹H NMR of 4-(bromomethyl)-4-methyl-2-phenyl-4H-benzo[d][1,3]oxazine (**6h**)

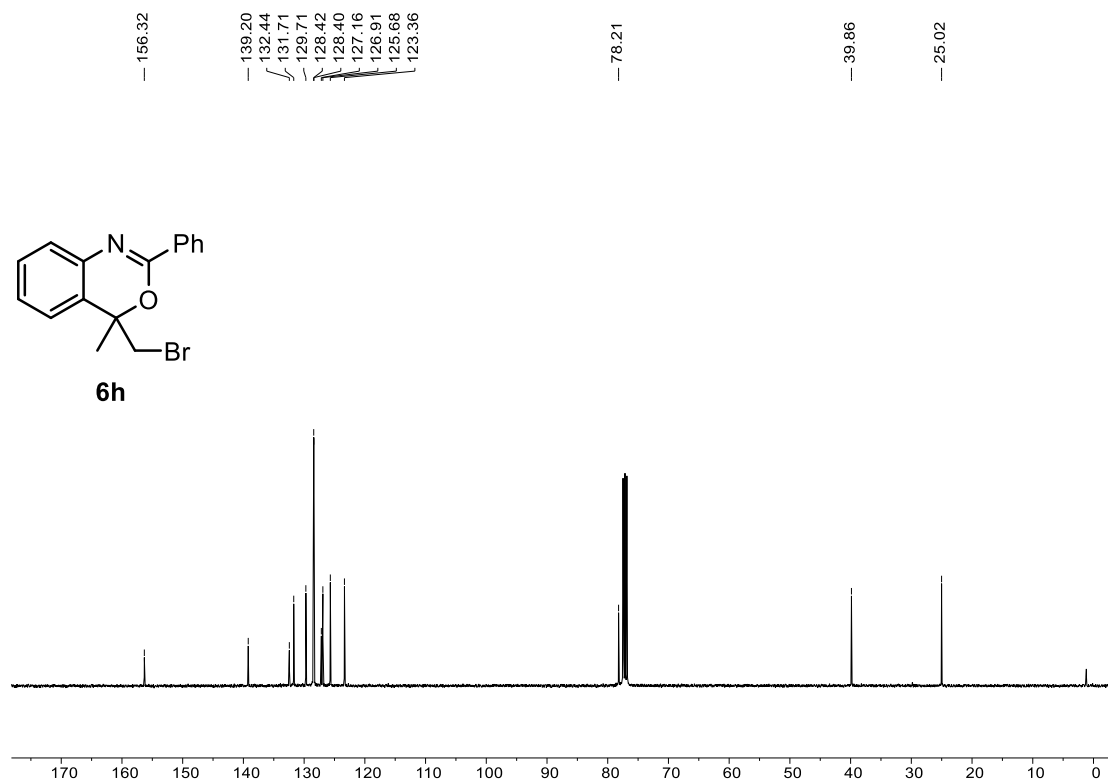


Figure S157. ¹³C NMR of 4-(bromomethyl)-4-methyl-2-phenyl-4H-benzo[d][1,3]oxazine (**6h**)

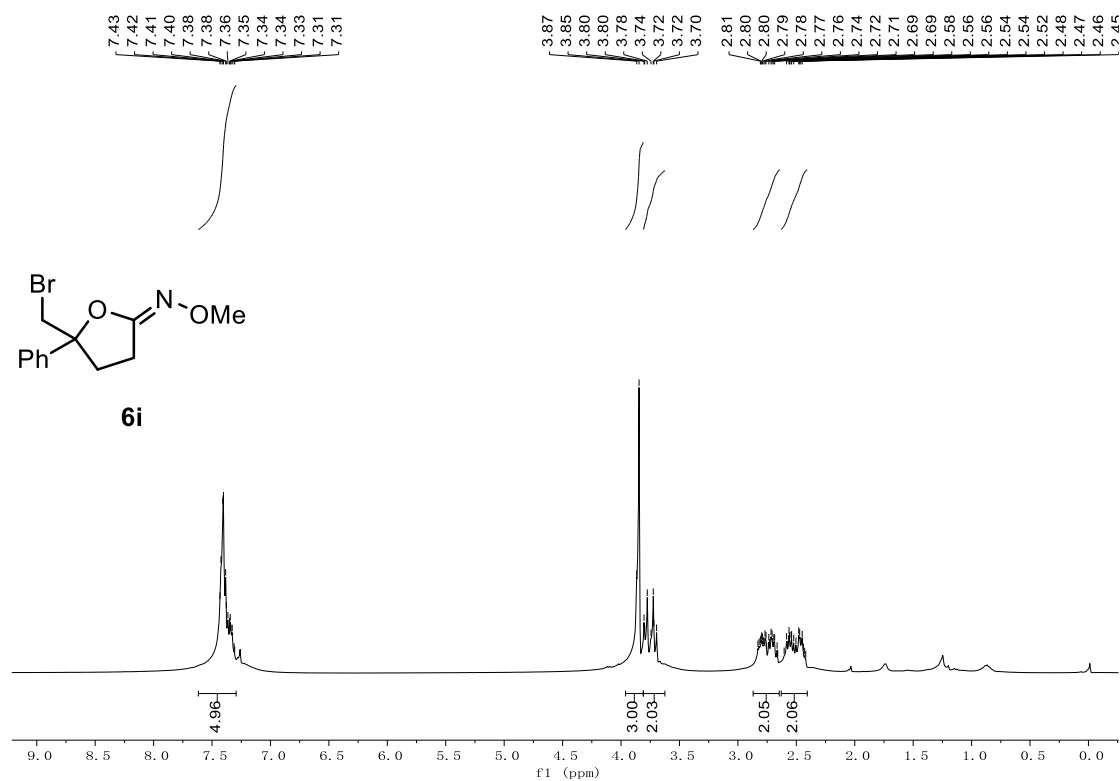


Figure S158. ¹H NMR of 5-(bromomethyl)-5-phenyl-2,3-dihydrofuran-2(3H)-one O-methyl oxime (**6i**)

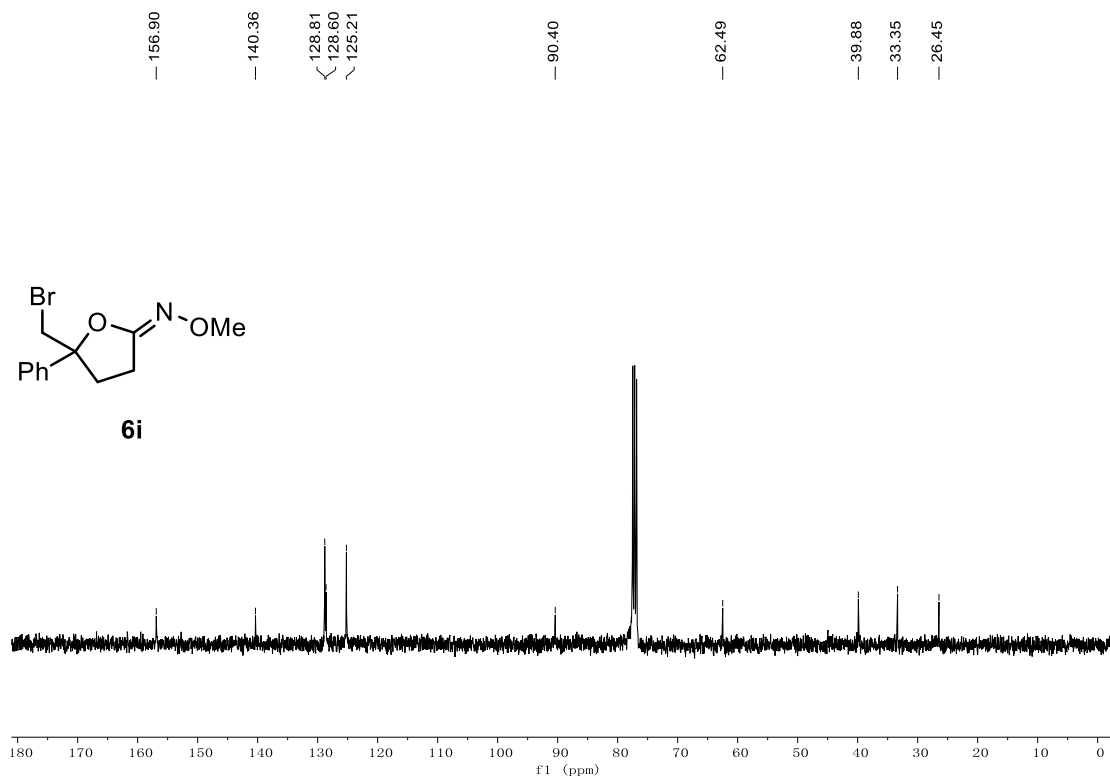


Figure S159. ¹³C NMR of 5-(bromomethyl)-5-phenyldihydrofuran-2(3*H*)-one *O*-methyl oxime (**6i**)

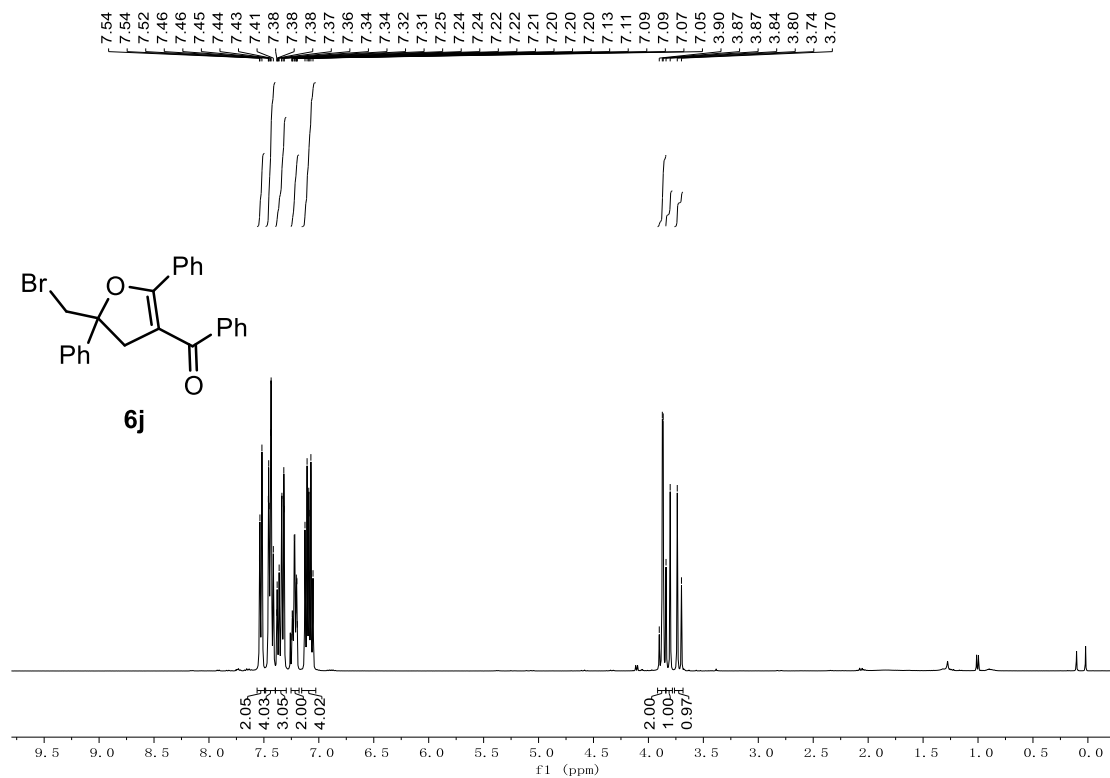


Figure S160. ¹H NMR of (5-(bromomethyl)-2,5-diphenyl-4,5-dihydrofuran-3-yl)(phenyl)methanone (**6j**)

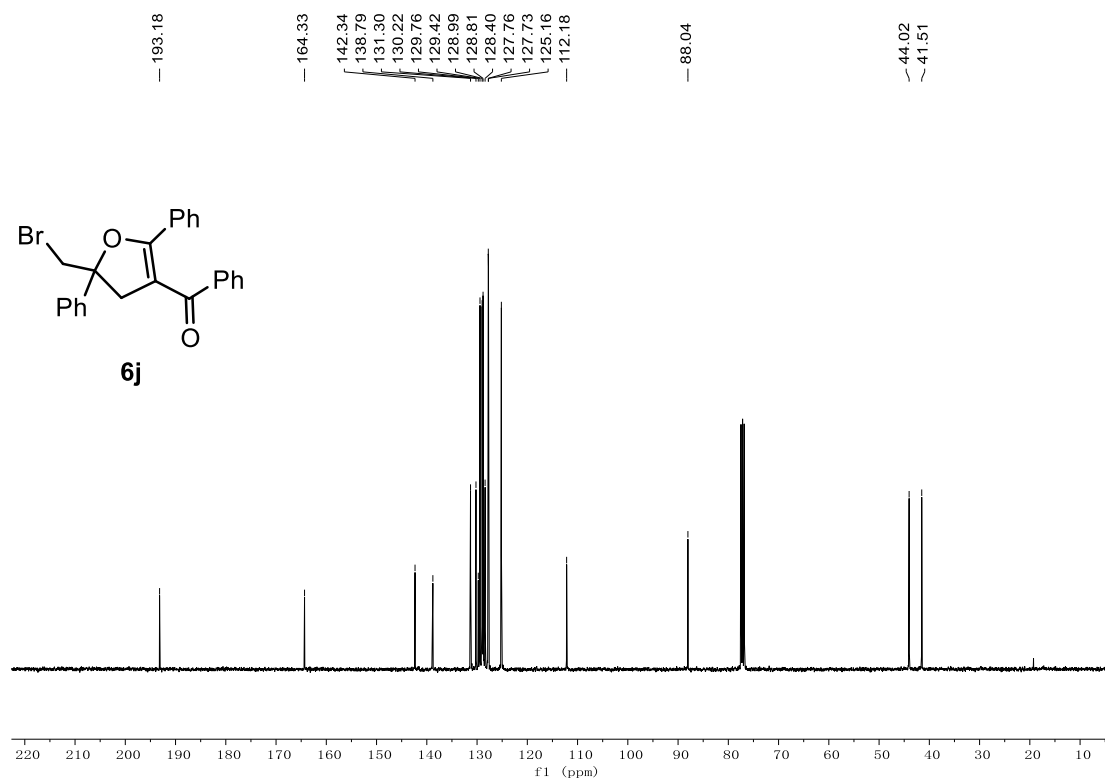


Figure S161. ¹³C NMR of (5-(bromomethyl)-2,5-diphenyl-4,5-dihydrofuran-3-yl)(phenyl)methanone (**6j**)

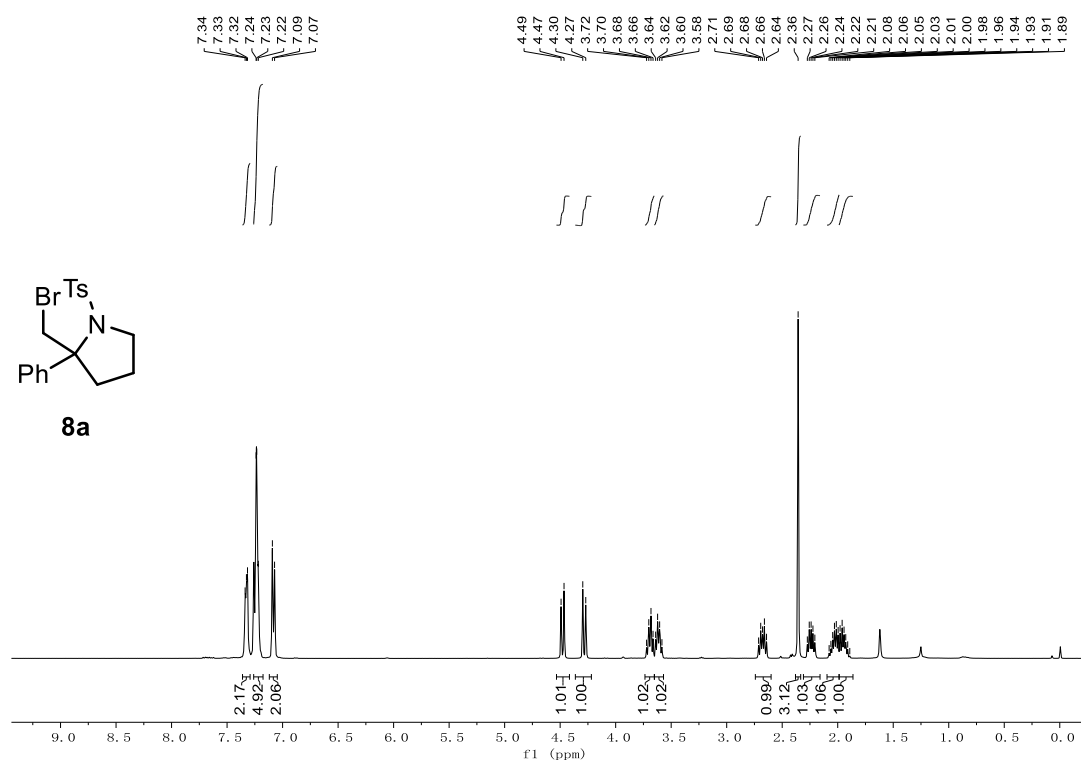


Figure S162. ¹H NMR of 2-(bromomethyl)-2-phenyl-1-tosylpyrrolidine (**8a**)

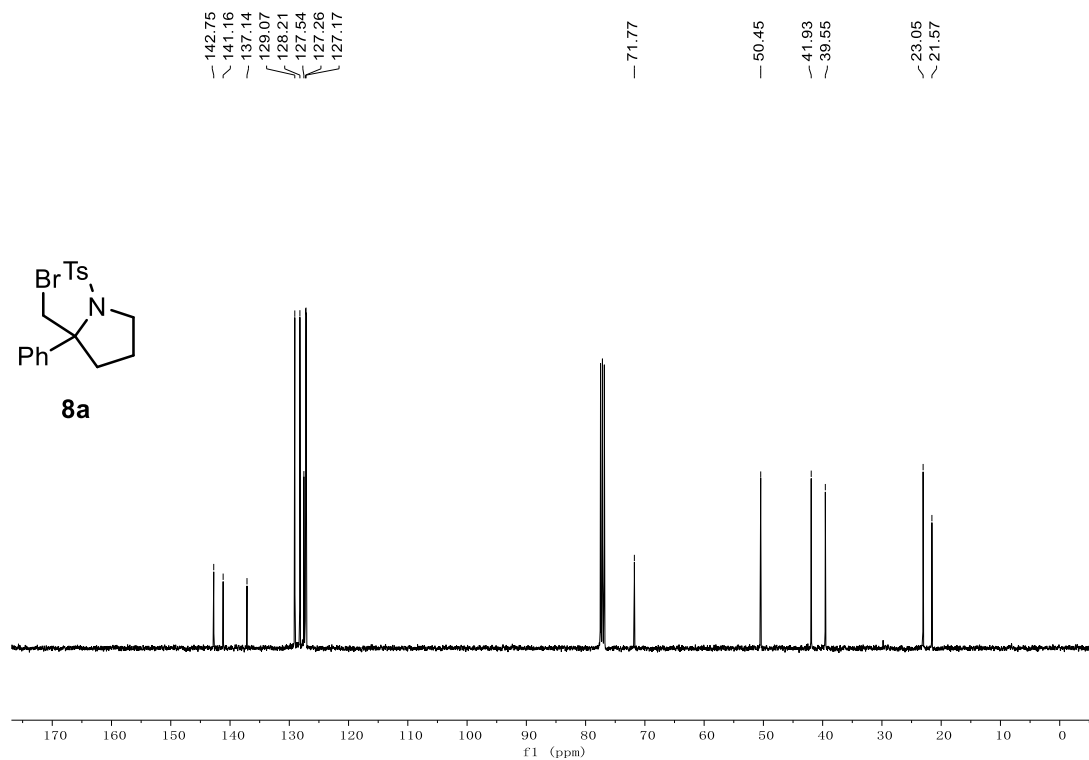


Figure S163. ^{13}C NMR of 2-(bromomethyl)-2-phenyl-1-tosylpyrrolidine (**8a**)

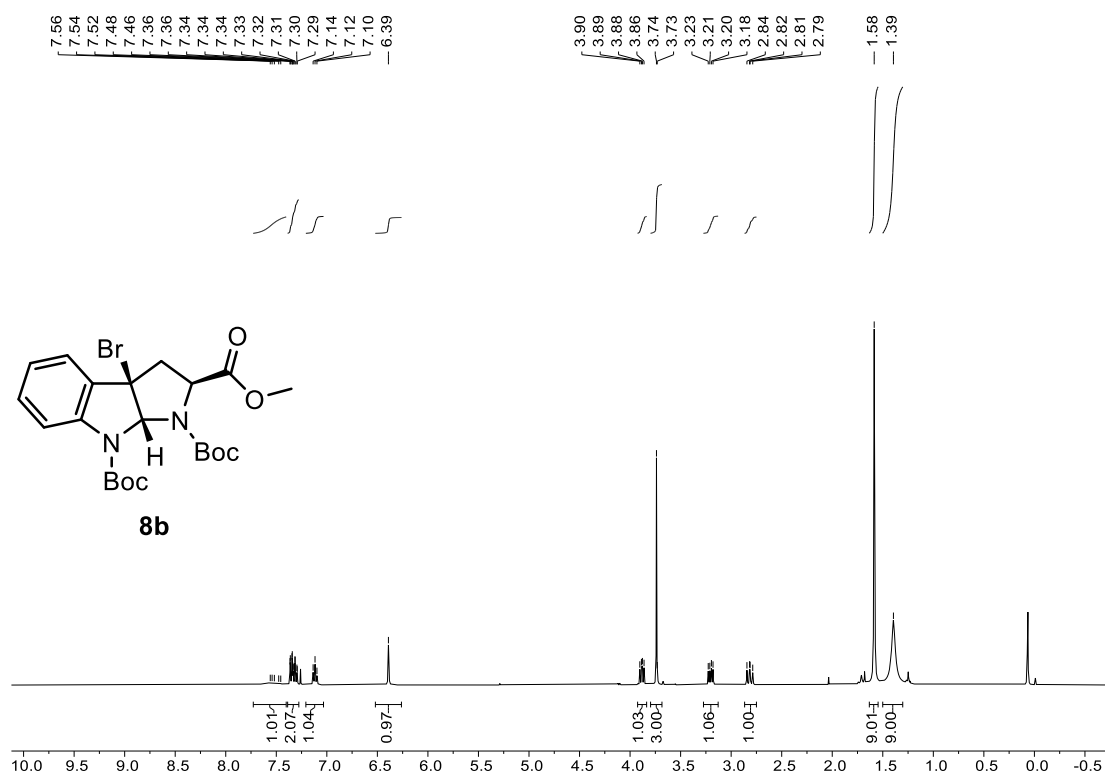


Figure S164. ^1H NMR of 1,8-di-*tert*-Butyl 2-methyl (2*S*,3*aR*,8*aR*)-3*a*-bromo-2,3,3*a*,8*a*-tetrahydropyrrolo[2,3-*b*]indole-1,2,8-tricarboxylate (**8b**)

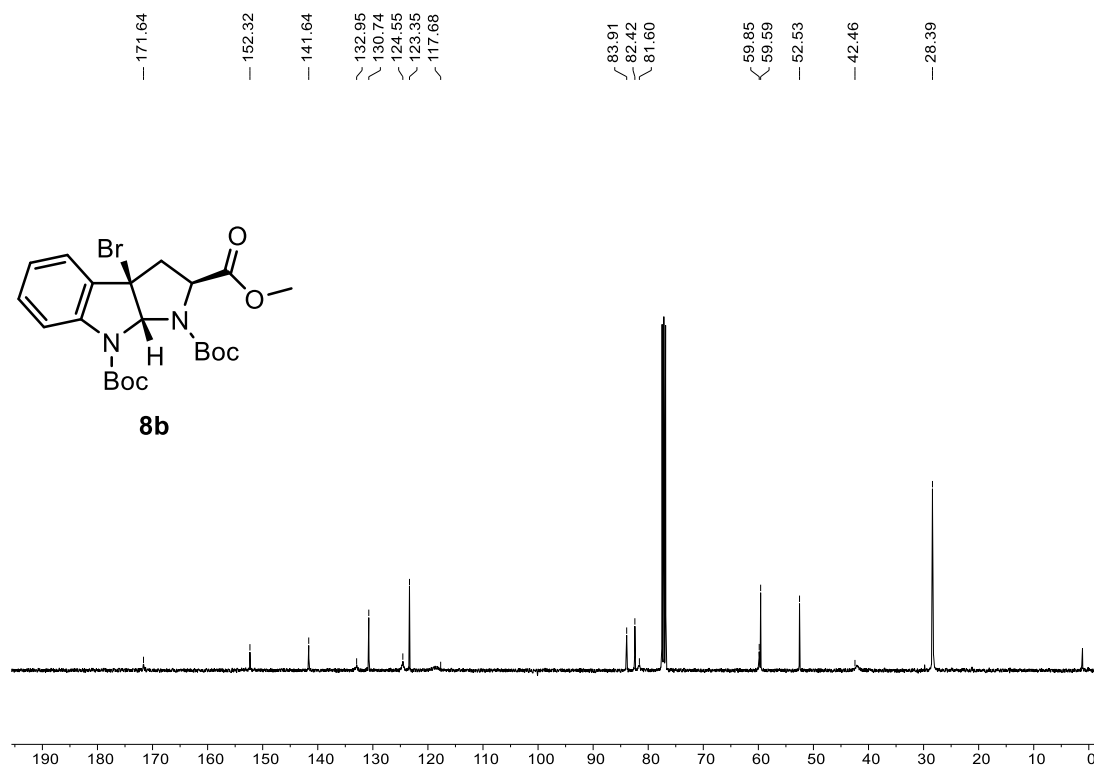


Figure S165. ¹³C NMR of 1,8-di-*tert*-Butyl 2-methyl (2*S*,3*aR*,8*aR*)-3*a*-bromo-2,3,3*a*,8*a*-tetrahydropyrrolo[2,3-*b*]indole-1,2,8-tricarboxylate (**8b**)

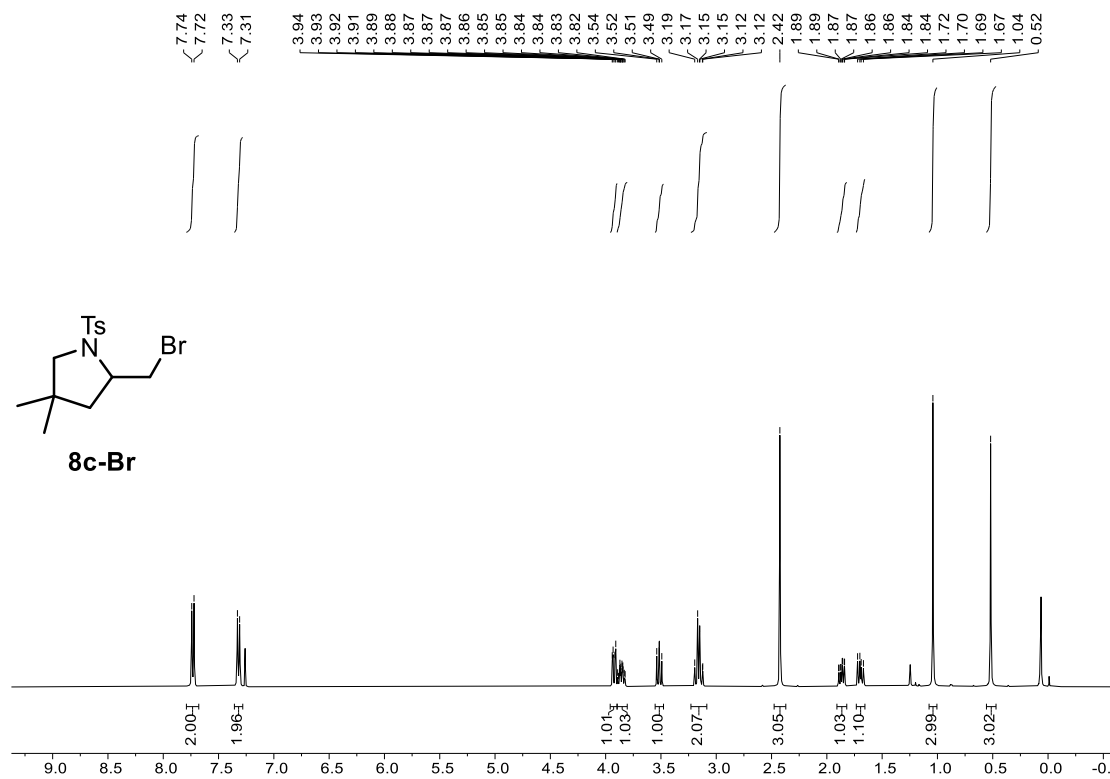


Figure S166. ¹H NMR of 2-(bromomethyl)-4,4-dimethyl-1-tosylpyrrolidine (**8c-Br**)

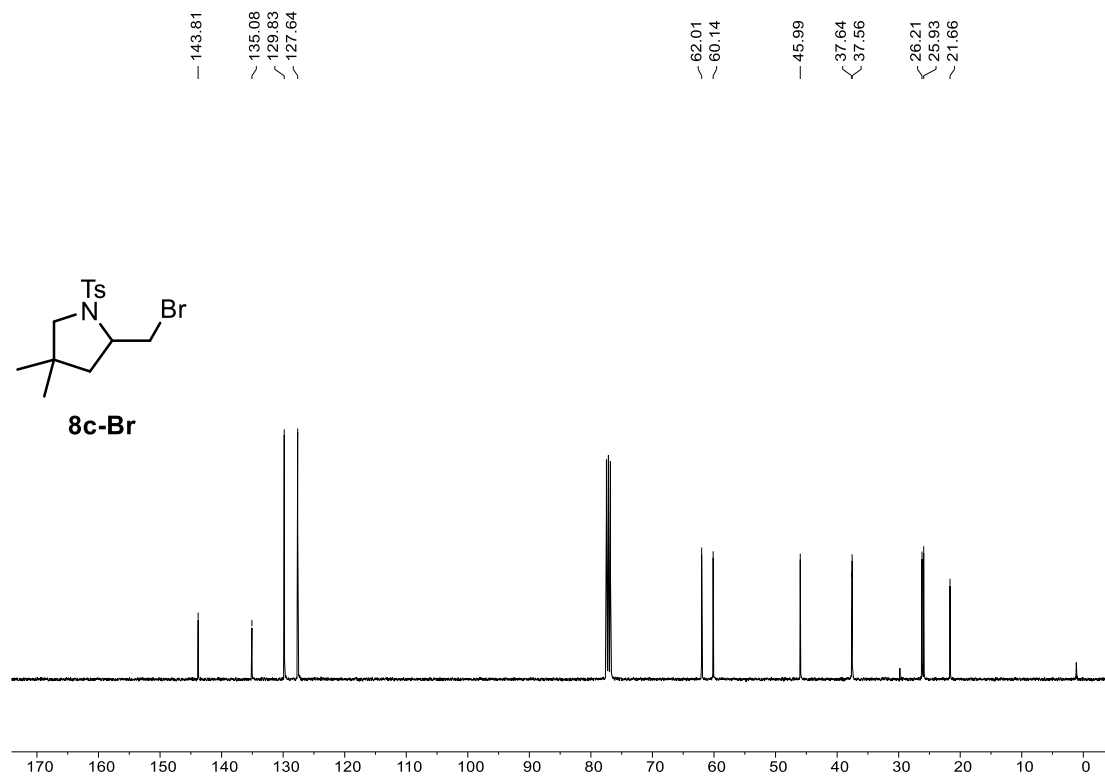


Figure S167. ^{13}C NMR of 2-(bromomethyl)-4,4-dimethyl-1-tosylpyrrolidine (**8c-Br**)

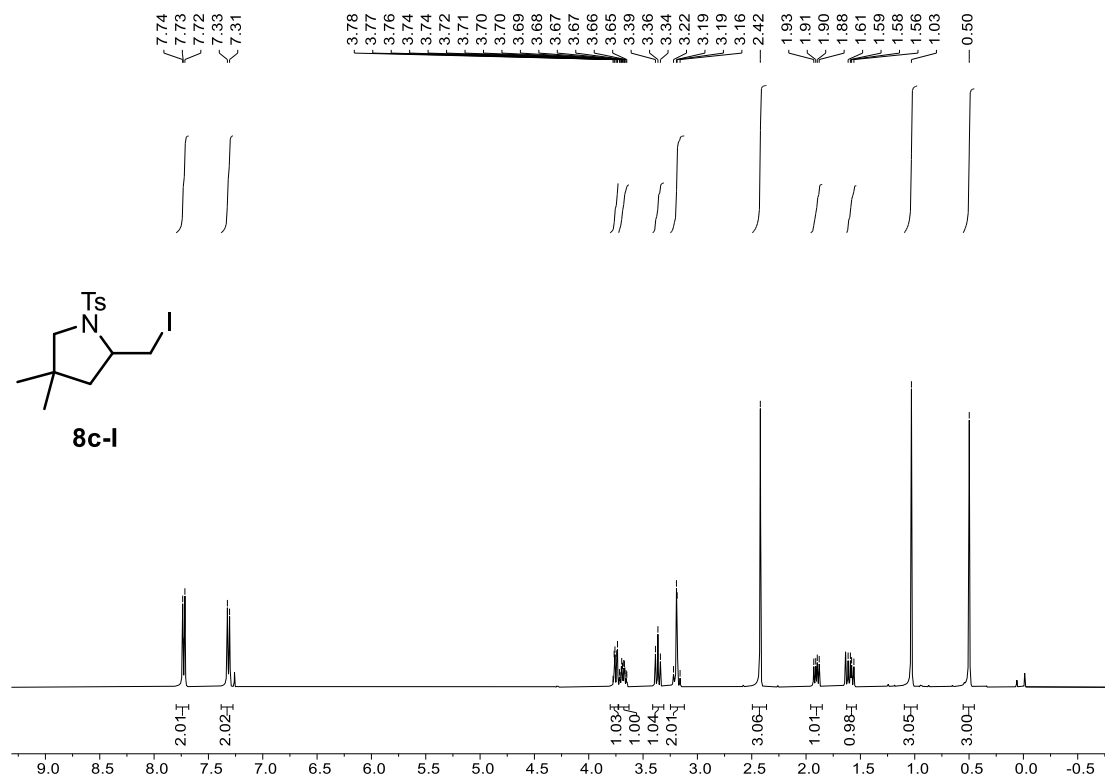


Figure S168. ^1H NMR of 2-(iodomethyl)-4,4-dimethyl-1-tosylpyrrolidine (**8c-I**)

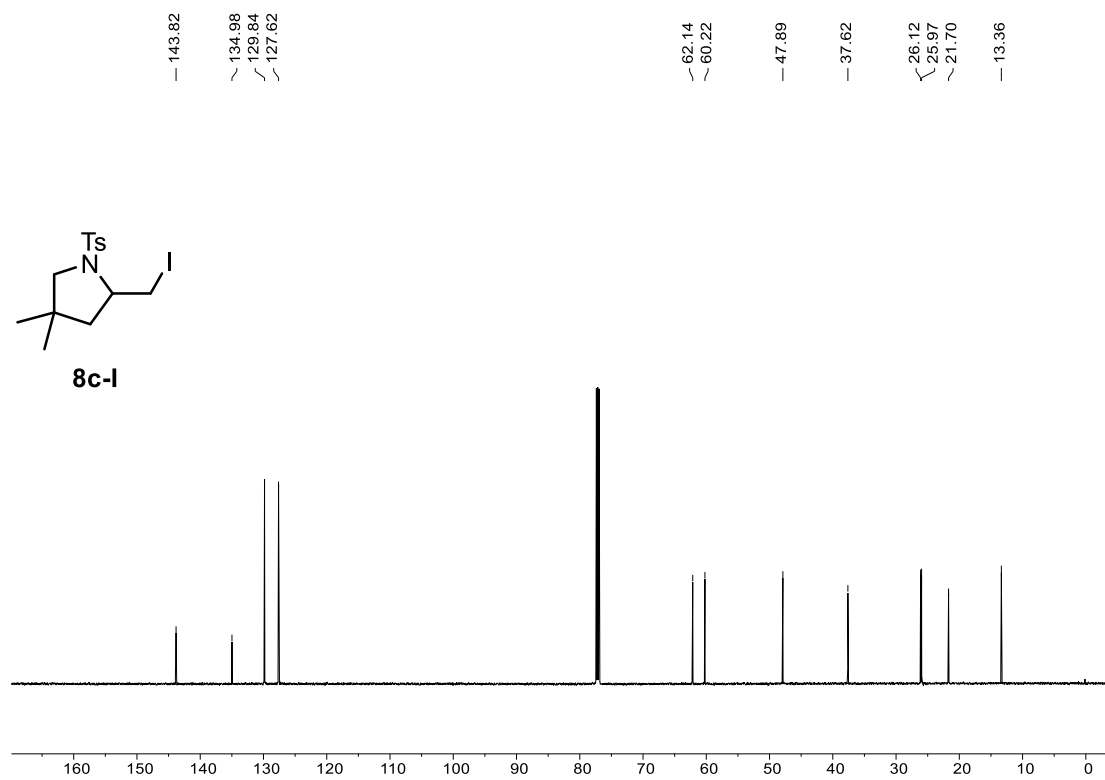


Figure S169. ¹³C NMR of 2-(iodomethyl)-4,4-dimethyl-1-tosylpyrrolidine (**8c-I**)

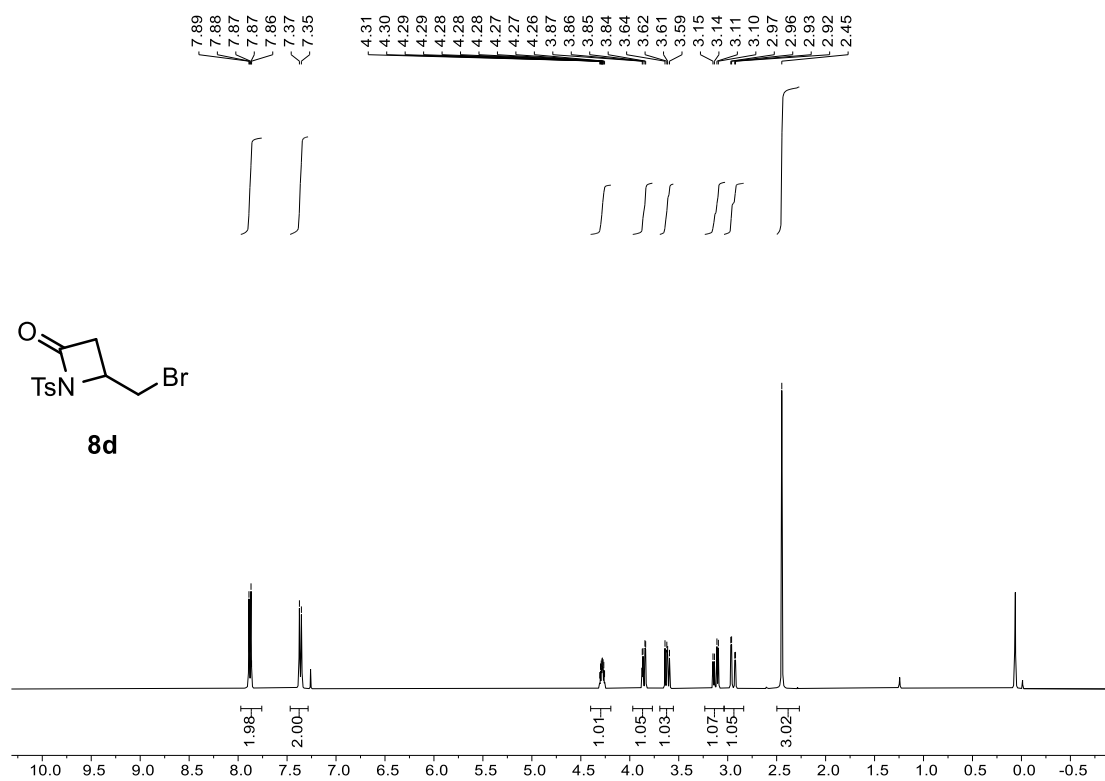


Figure S170. ¹H NMR of 4-(bromomethyl)-1-tosylazetidin-2-one (**8d**)

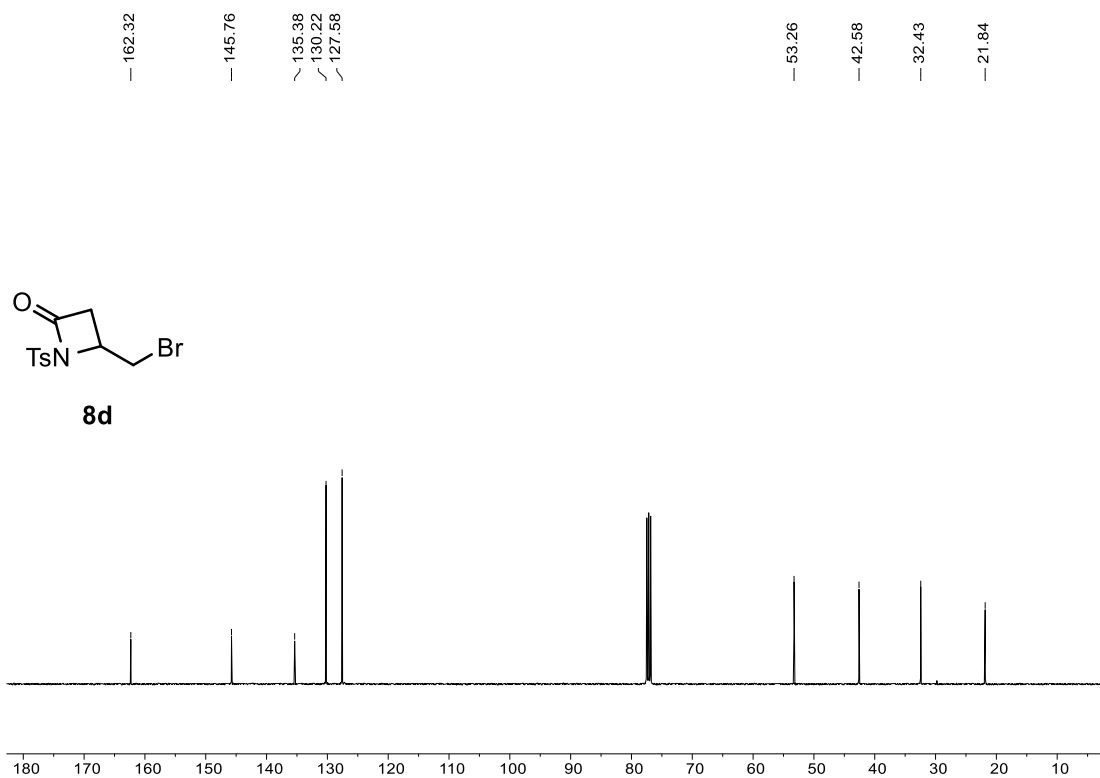


Figure S171. ^{13}C NMR of 4-(bromomethyl)-1-tosylazetidin-2-one (**8d**)

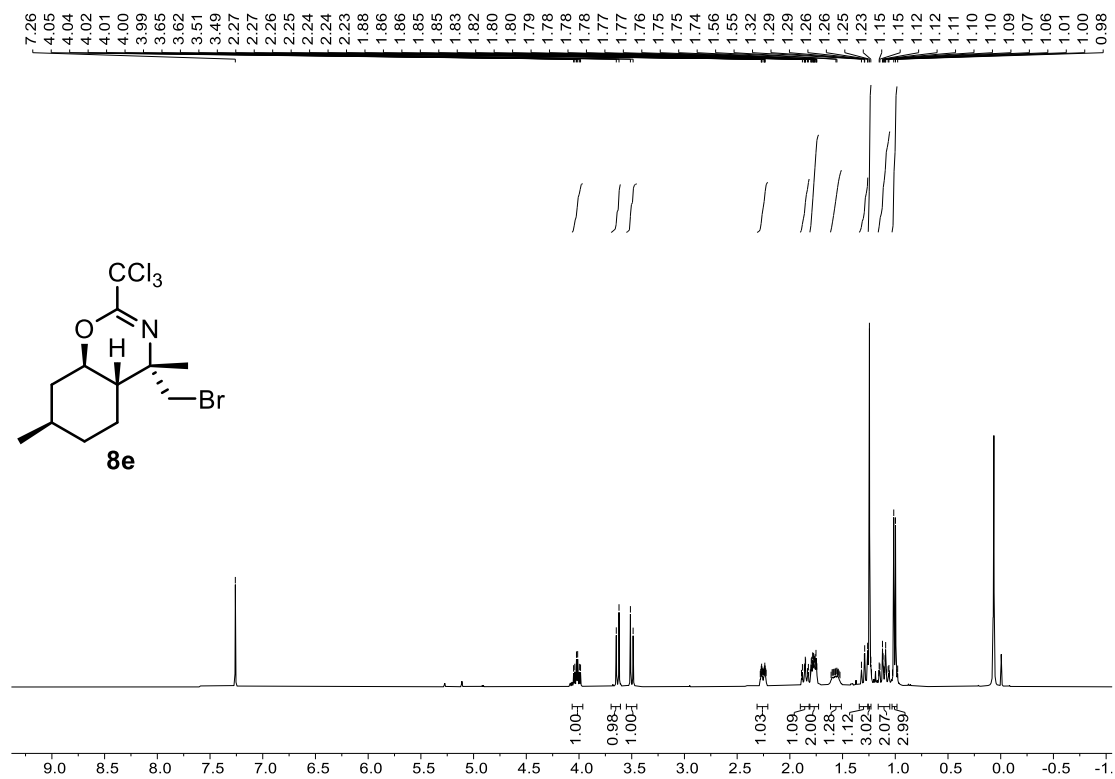


Figure S172. ^1H NMR of (4*S*,4*aS*,7*R*)-4-(bromomethyl)-4,7-dimethyl-2-(trichloromethyl)-4*a*,5,6,7,8,8*a*-hexahydro-4*H*-benzo[*e*][1,3]oxazine (**8e**)

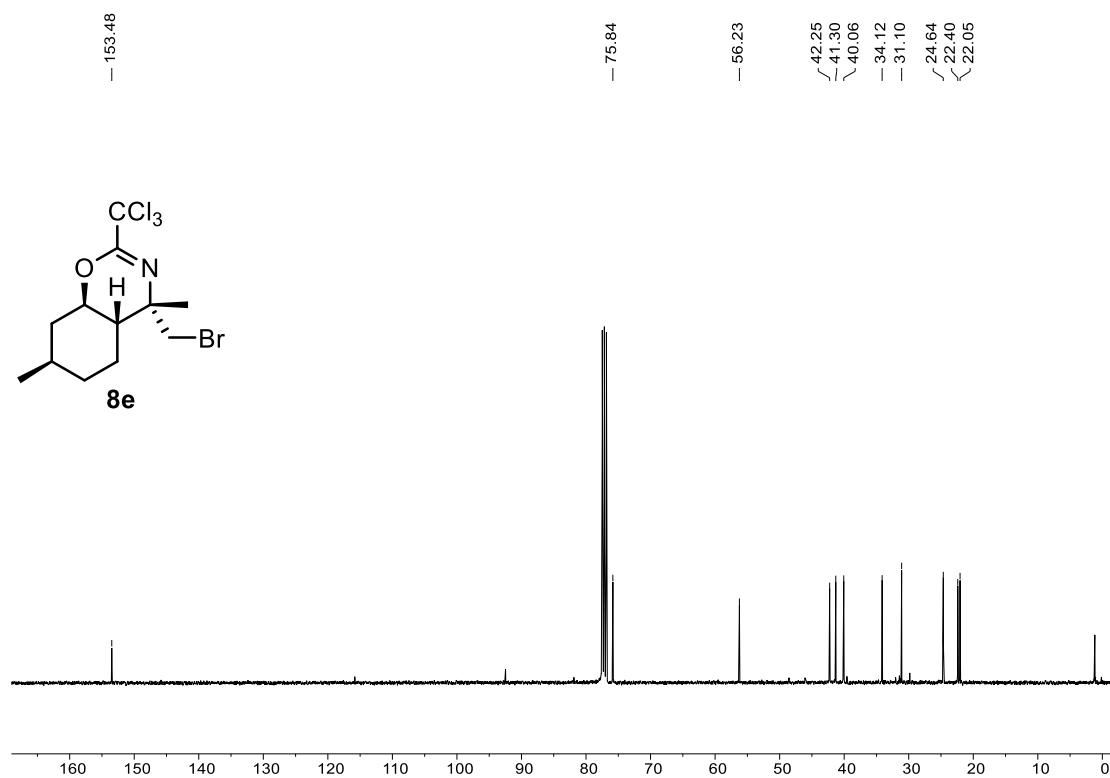


Figure S173. ^{13}C NMR of (4*S*,4*aS*,7*R*)-4-(bromomethyl)-4,7-dimethyl-2-(trichloromethyl)-4*a*,5,6,7,8,8*a*-hexahydro-4*H*-benzo[*e*][1,3]oxazine (**8e**)

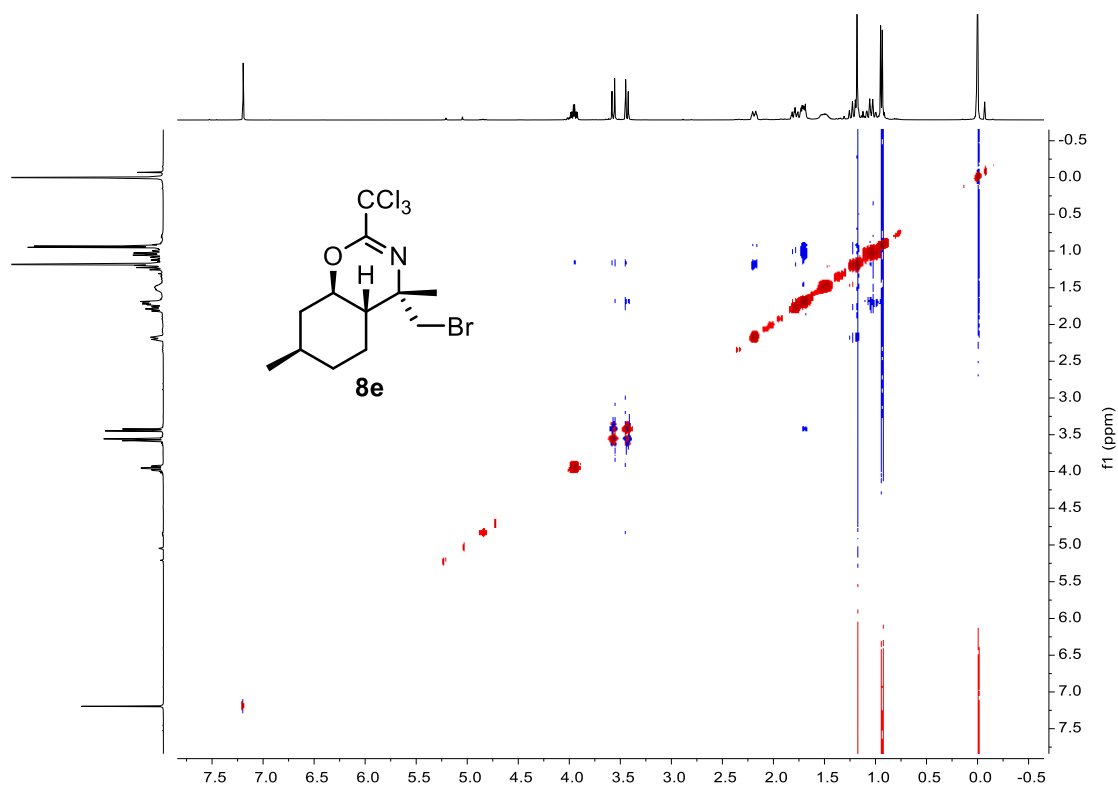


Figure S174. ^1H - ^1H COSY of (4*S*,4*aS*,7*R*)-4-(bromomethyl)-4,7-dimethyl-2-(trichloromethyl)-4*a*,5,6,7,8,8*a*-hexahydro-4*H*-benzo[*e*][1,3]oxazine (**8e**)

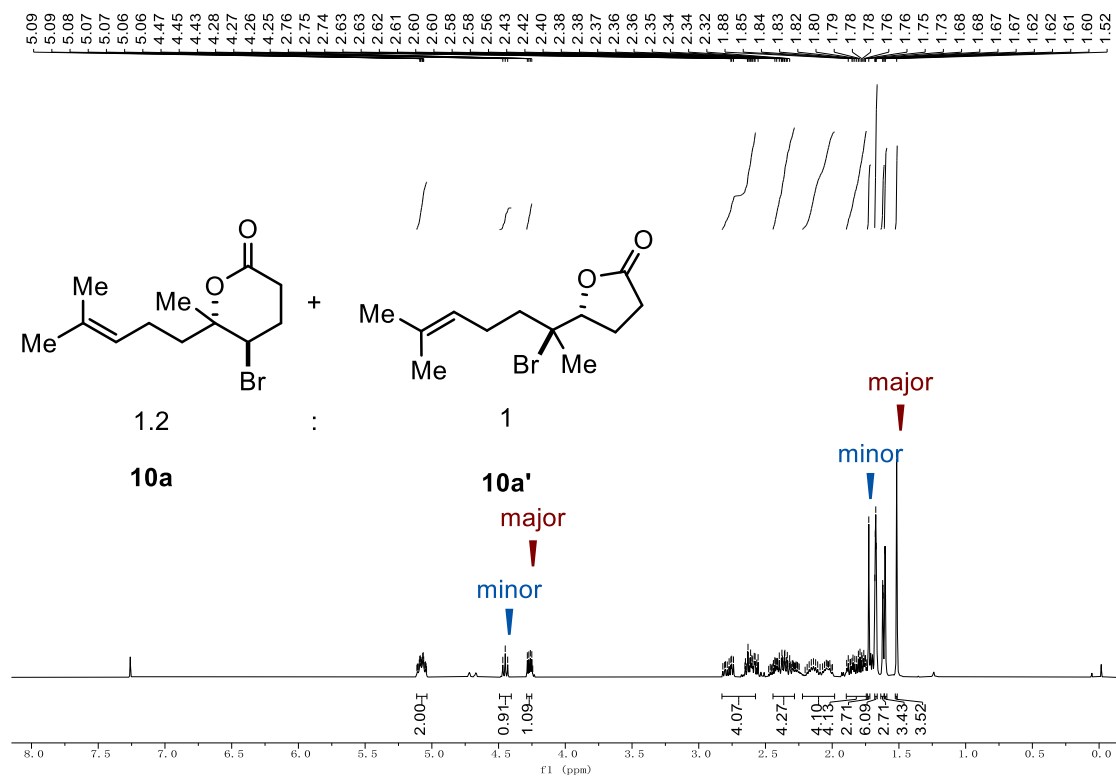


Figure S175. ¹H NMR of 5-bromo-6-methyl-6-(4-methylpent-3-en-1-yl)tetrahydro-2H-pyran-2-one (major) (**10a**) and 5-(2-bromo-6-methylhept-5-en-2-yl)dihydrofuran-2(3H)-one (minor) (**10a'**)

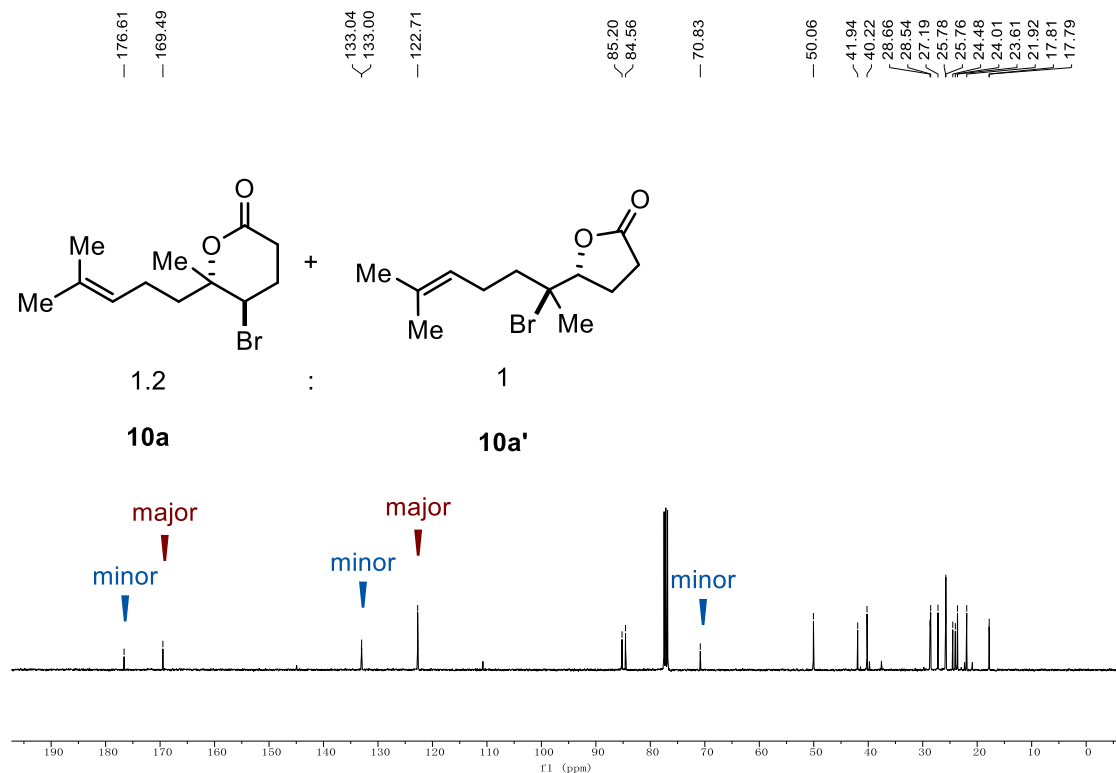


Figure S176. ¹³C NMR of 5-bromo-6-methyl-6-(4-methylpent-3-en-1-yl)tetrahydro-2H-pyran-2-one (major) (**10a**) and 5-(2-bromo-6-methylhept-5-en-2-yl)dihydrofuran-2(3H)-one (minor) (**10a'**)

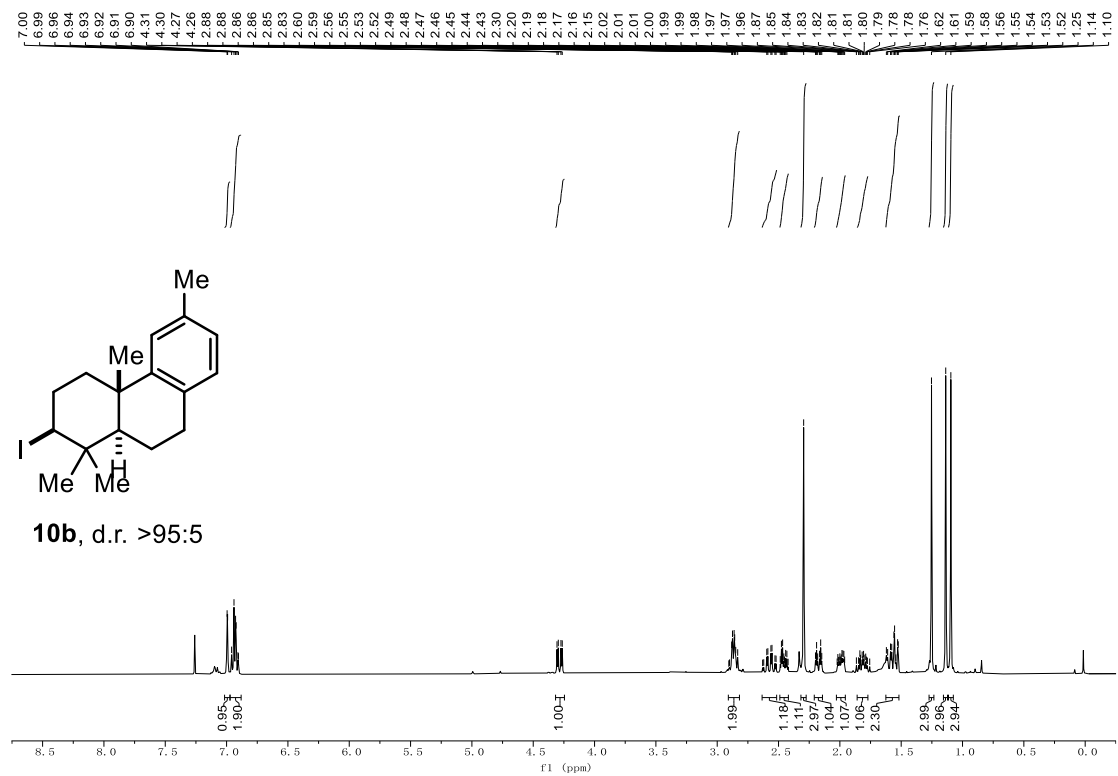


Figure S177. ^1H NMR of 2-iodo-1,1,4a,6-tetramethyl-1,2,3,4,4a,9,10,10a-octahydrophenanthrene (**10b**)

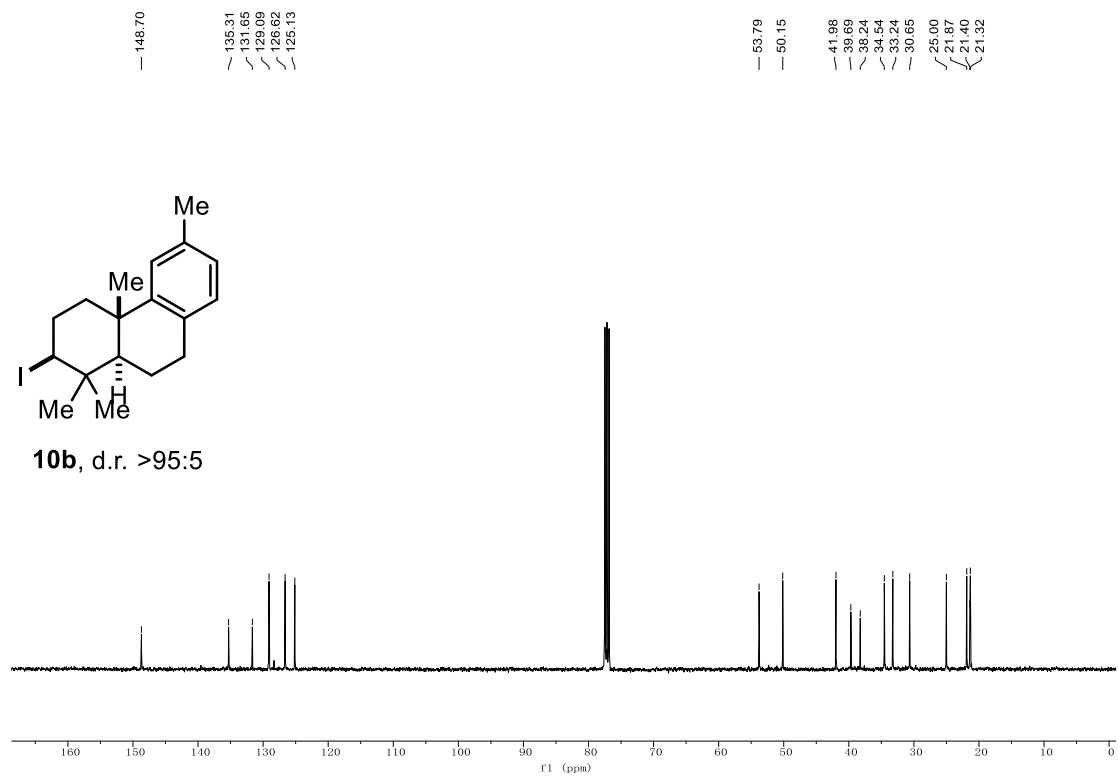


Figure S178. ^{13}C NMR of 2-iodo-1,1,4a,6-tetramethyl-1,2,3,4,4a,9,10,10a-octahydrophenanthrene (**10b**)

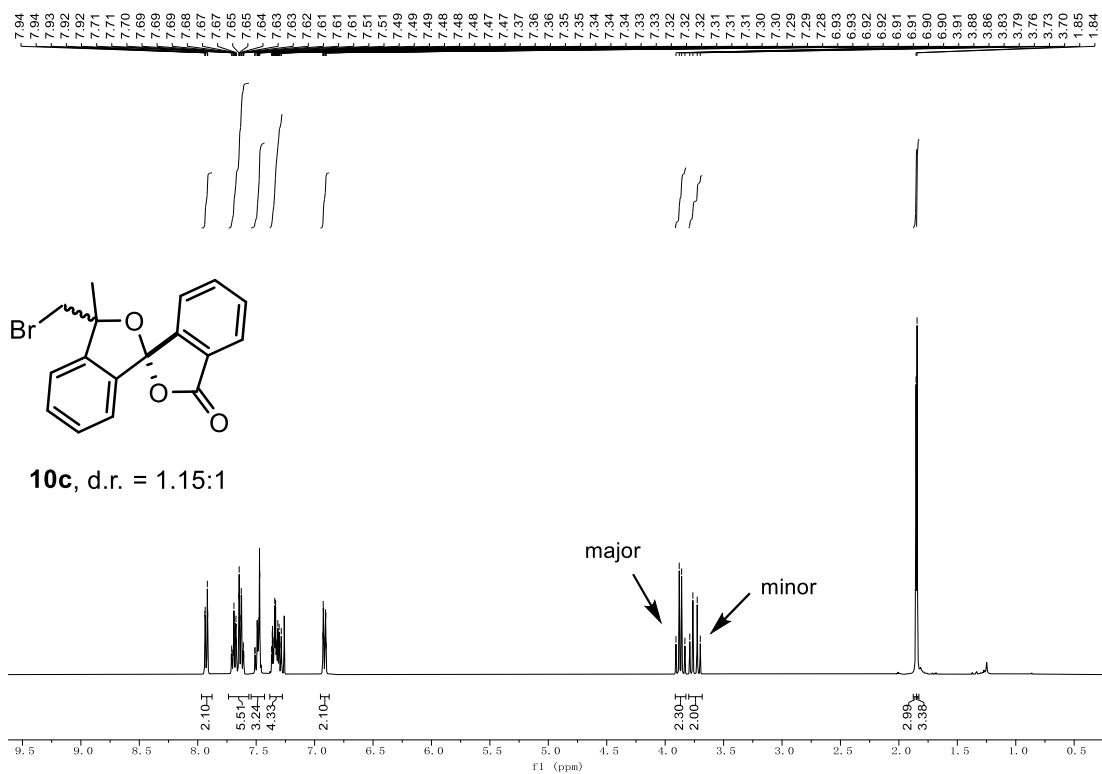


Figure S179. ^1H NMR of 3'-(bromomethyl)-3'-methyl-3*H*,3'*H*-1,1'-spirobi[isobenzofuran]-3-one (**10c**, **10c'**)

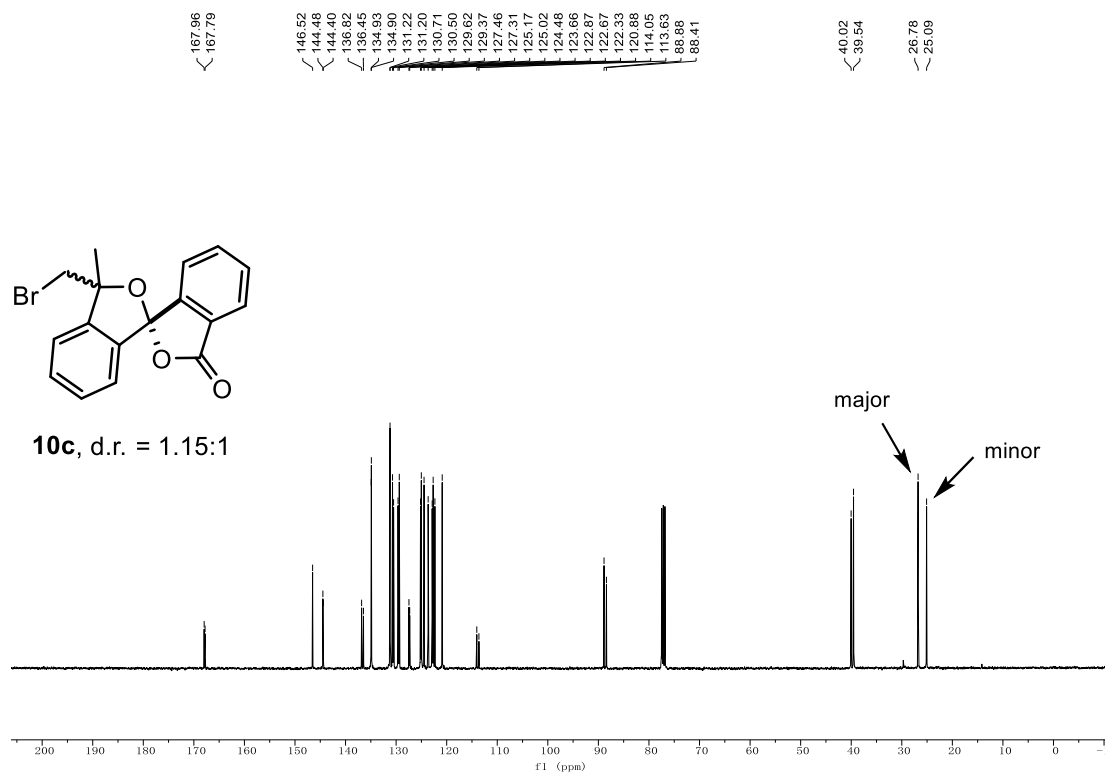


Figure S180. ^{13}C NMR of 3'-(bromomethyl)-3'-methyl-3*H*,3'*H*-1,1'-spirobi[isobenzofuran]-3-one (**10c**, **10c'**)

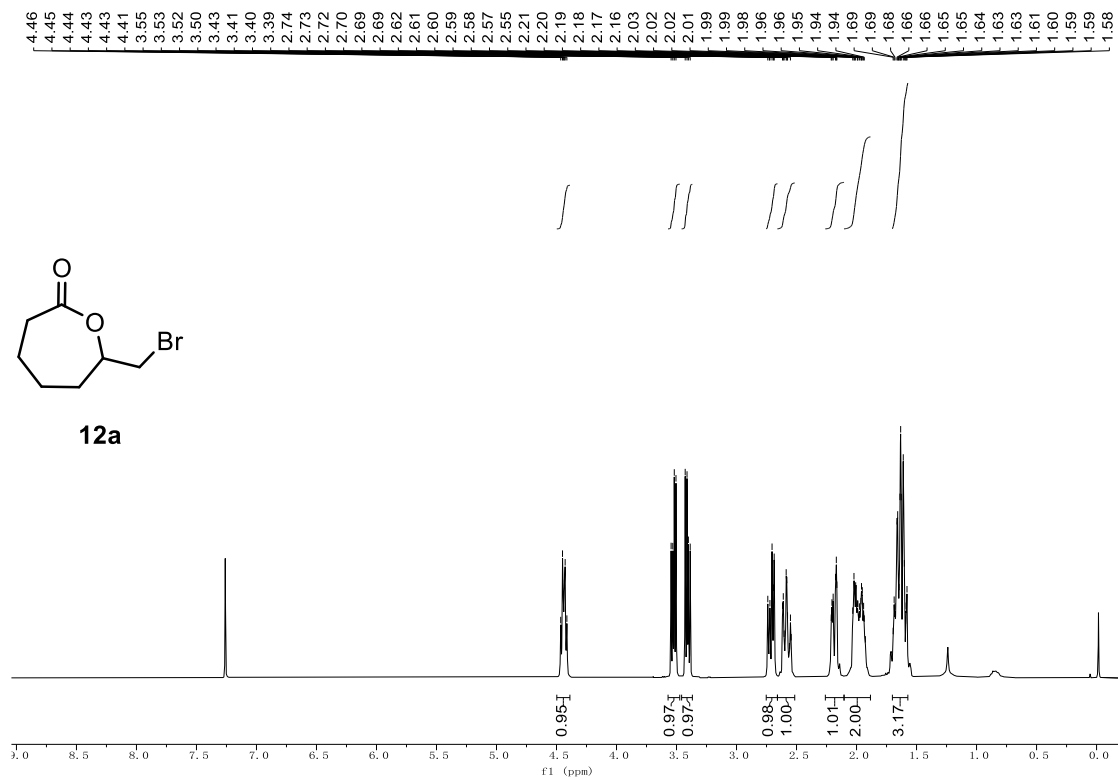


Figure S181. ^1H NMR of 7-(bromomethyl)oxepan-2-one (**12a**)

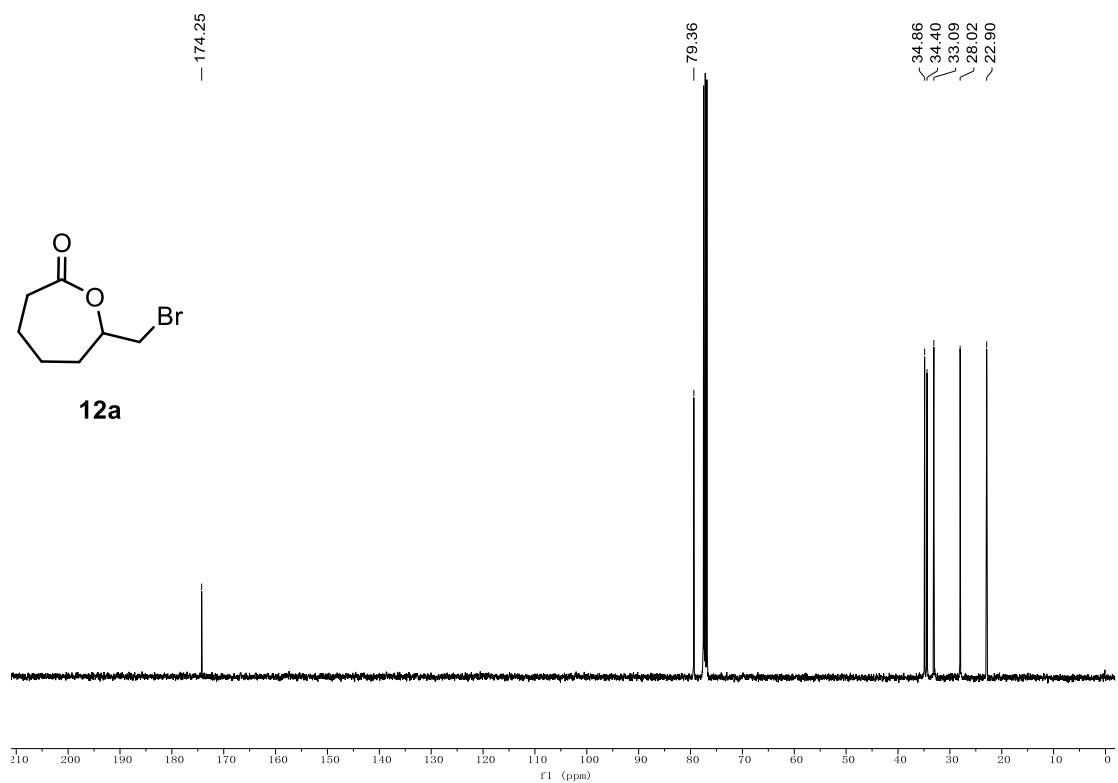
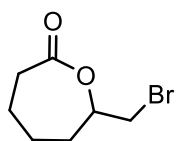


Figure S182. ^{13}C NMR of 7-(bromomethyl)oxepan-2-one (**12a**)



12a

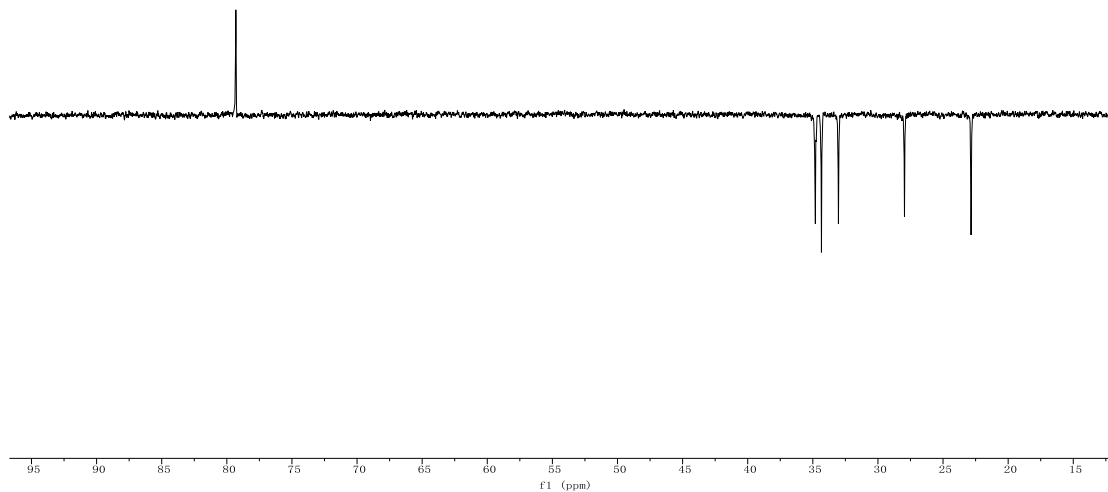
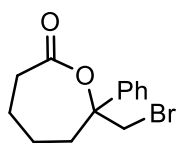
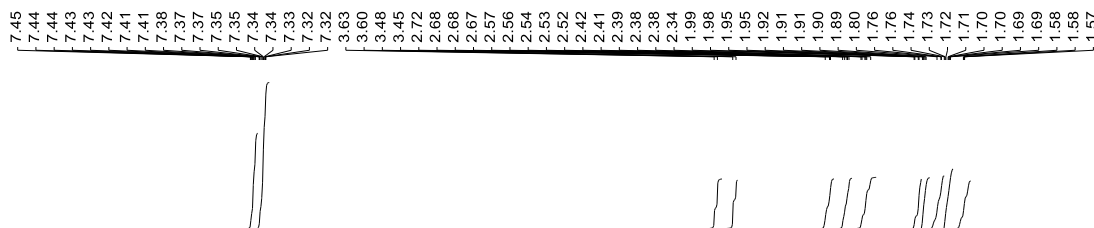


Figure S183. DEPT 135 of 7-(bromomethyl)oxepan-2-one (**12a**)



12b

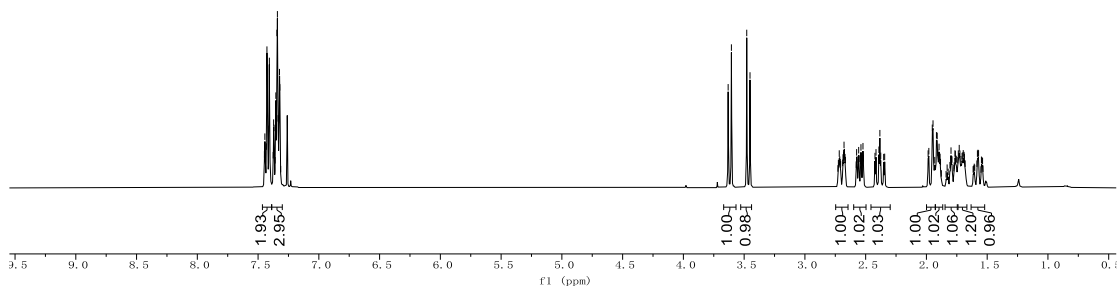


Figure S184. ^1H NMR of 7-(bromomethyl)-7-phenyloxepan-2-one (**12b**)

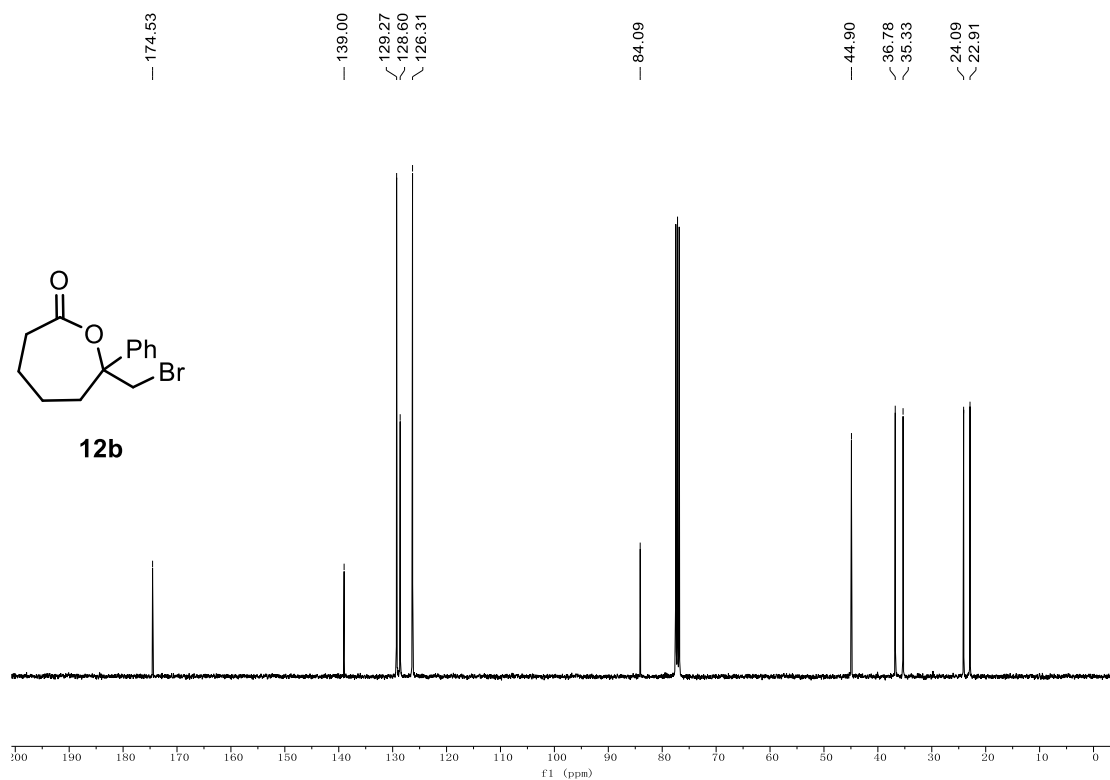


Figure S185. ¹³C NMR of 7-(bromomethyl)-7-phenyloxepan-2-one (**12b**)

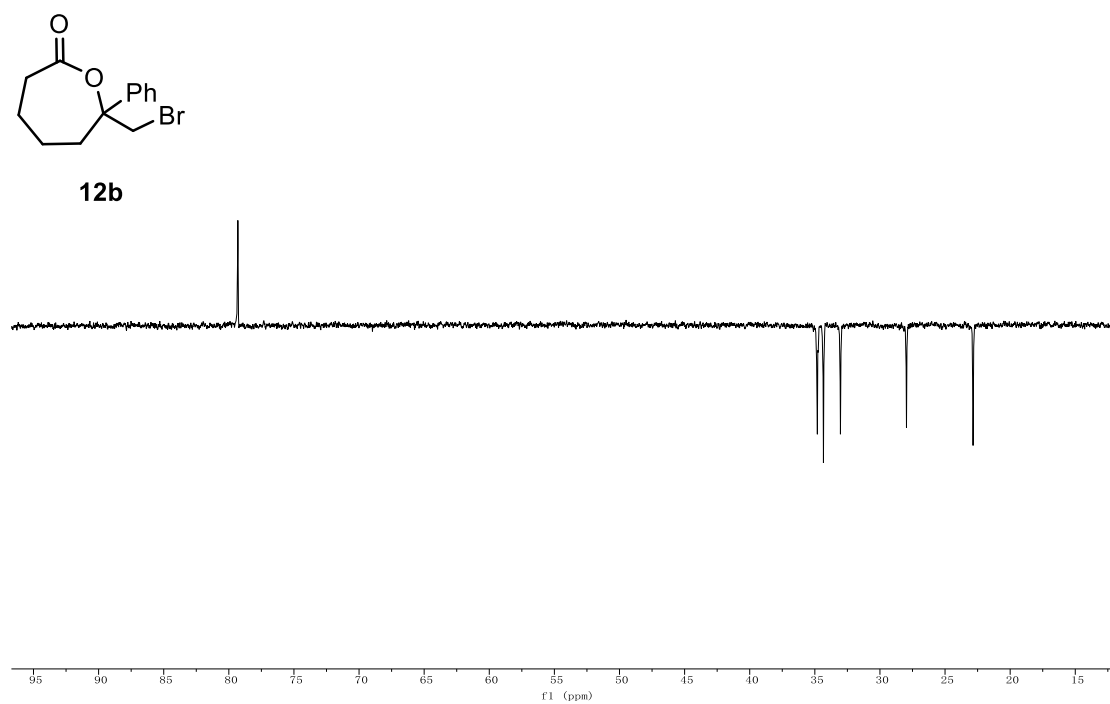
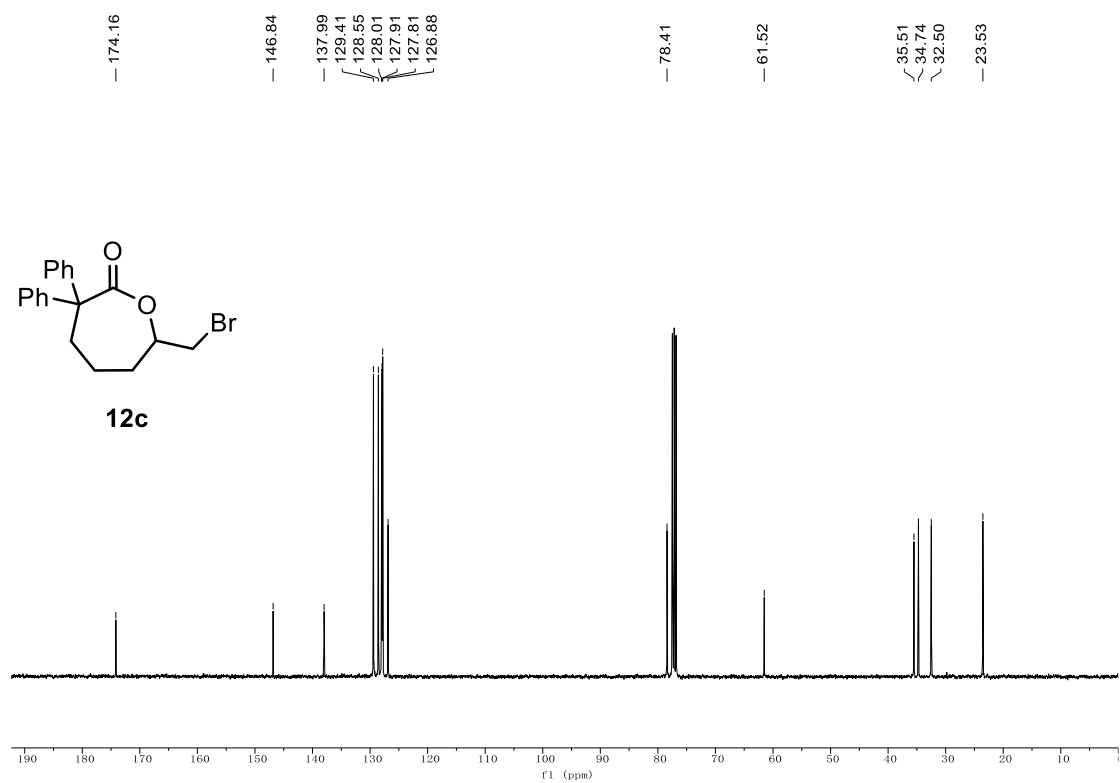
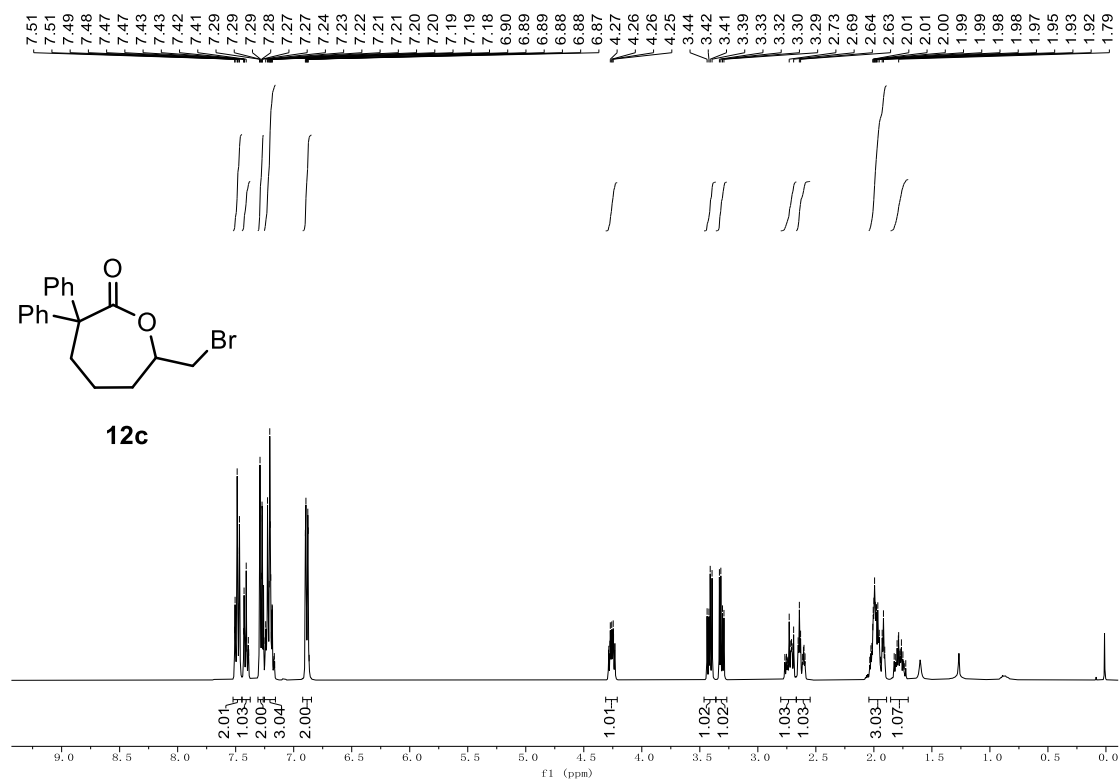


Figure S186. DEPT 135 of 7-(bromomethyl)-7-phenyloxepan-2-one (**12b**)



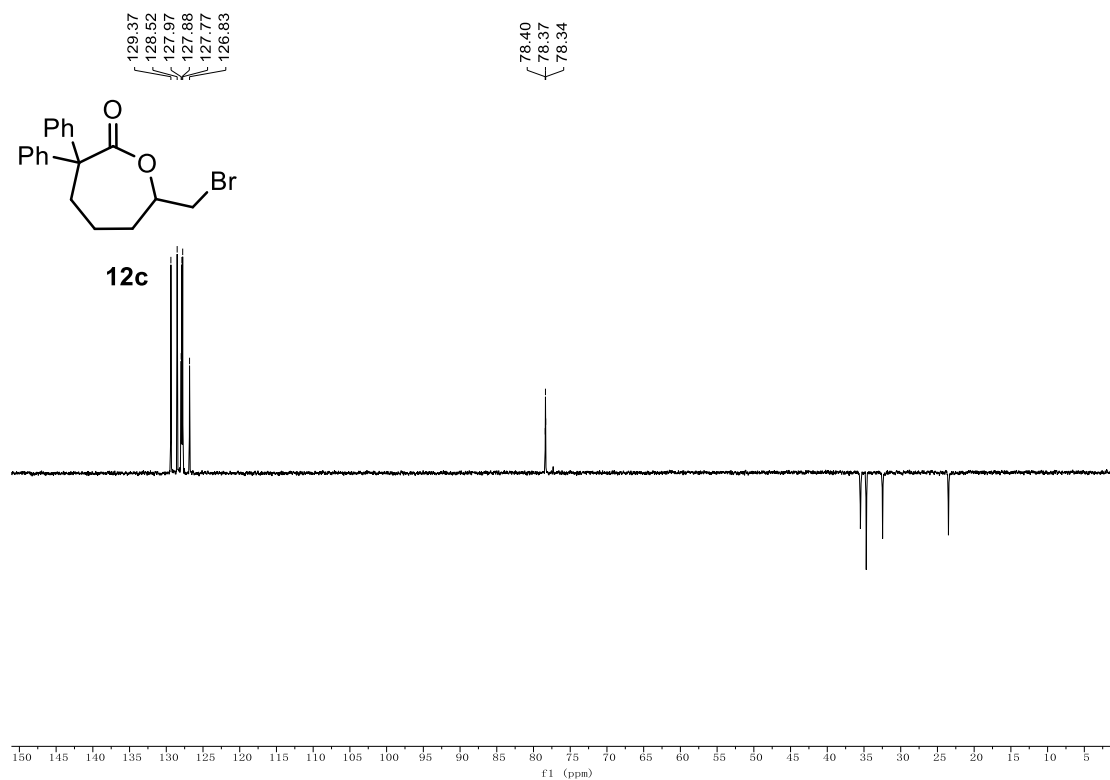


Figure S189. DEPT 135 of 7-(bromomethyl)-3,3-diphenyloxepan-2-one (12c)

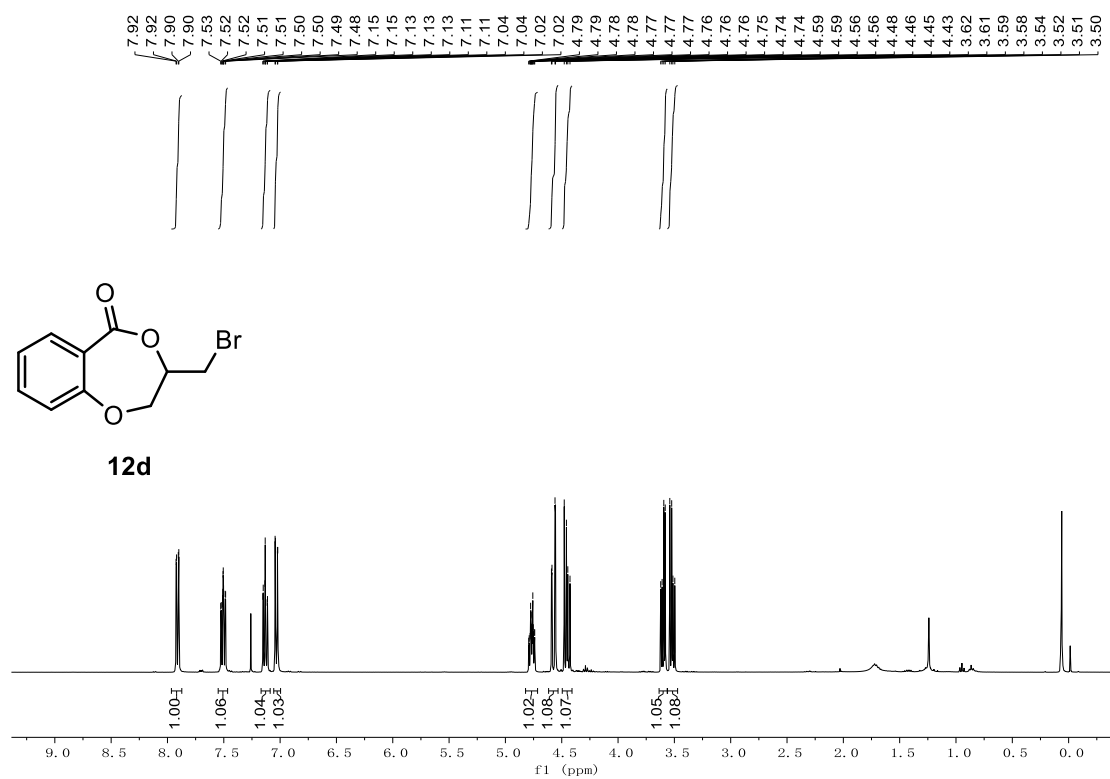


Figure S190. ¹H NMR of 3-(bromomethyl)-2,3-dihydro-5H-benzo[e][1,4]dioxepin-5-one (12d)

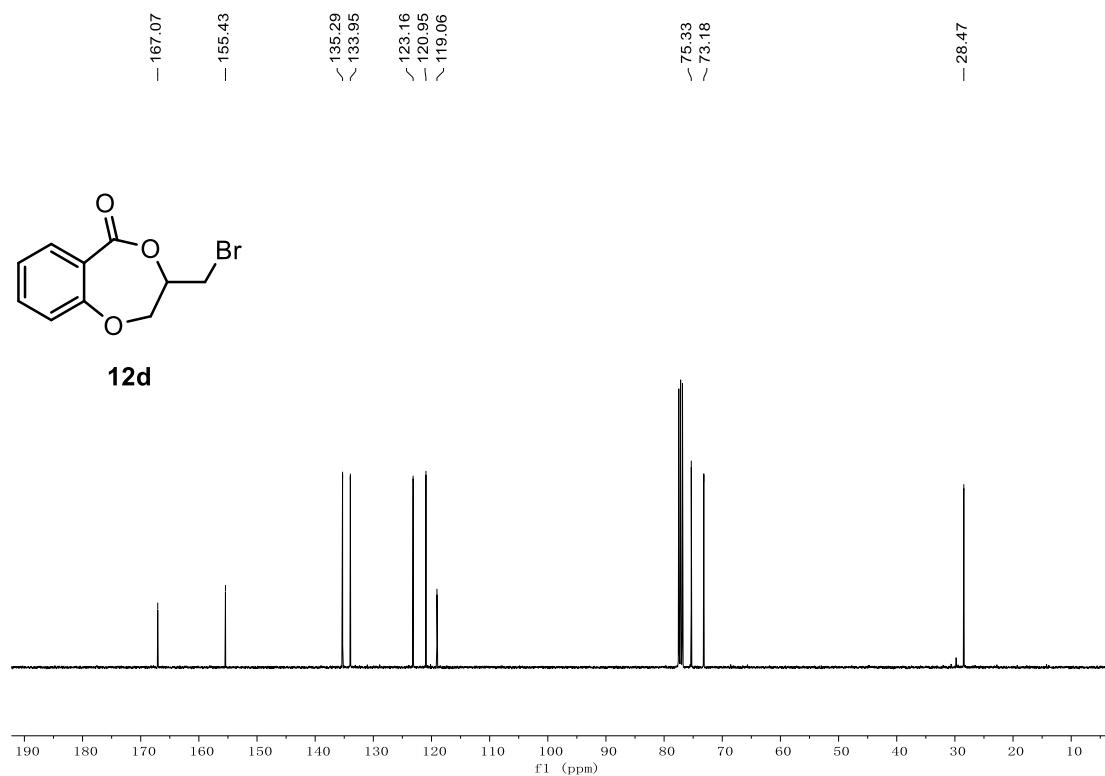


Figure S191. ^{13}C NMR of 3-(bromomethyl)-2,3-dihydro-5*H*-benzo[*e*][1,4]dioxepin-5-one (**12d**)

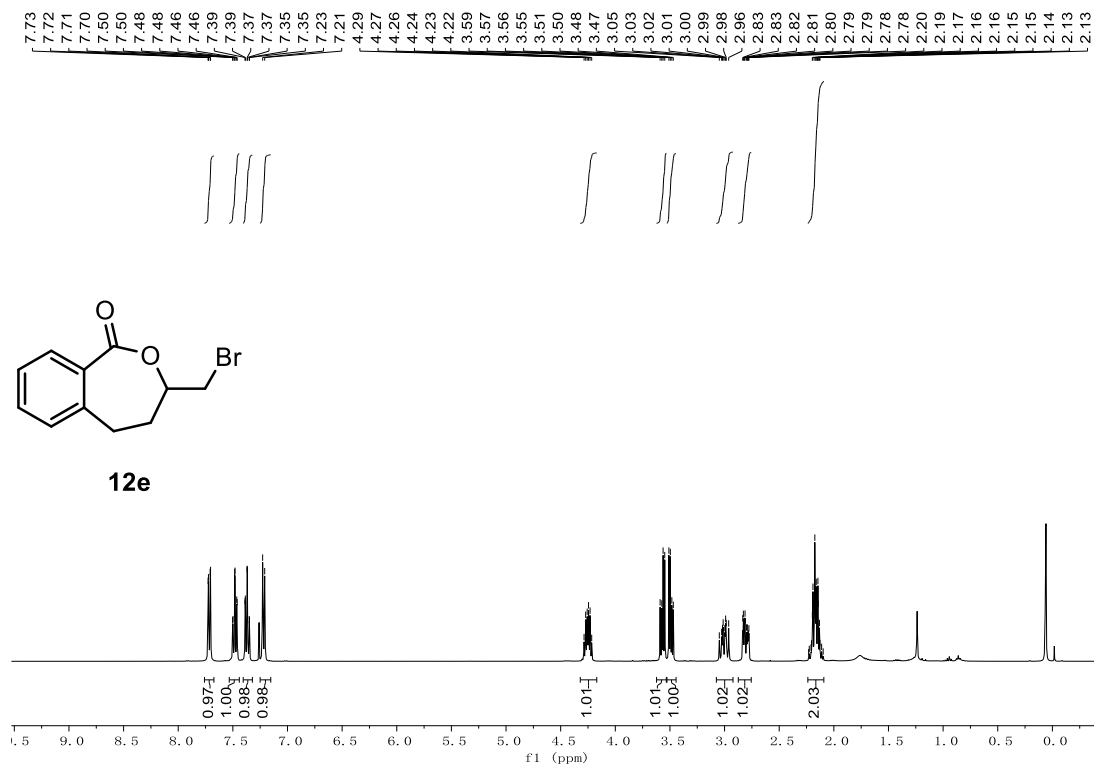


Figure S192. ^1H NMR of 3-(bromomethyl)-4,5-dihydrobenzo[*c*]oxepin-1(3*H*)-one (**12e**)

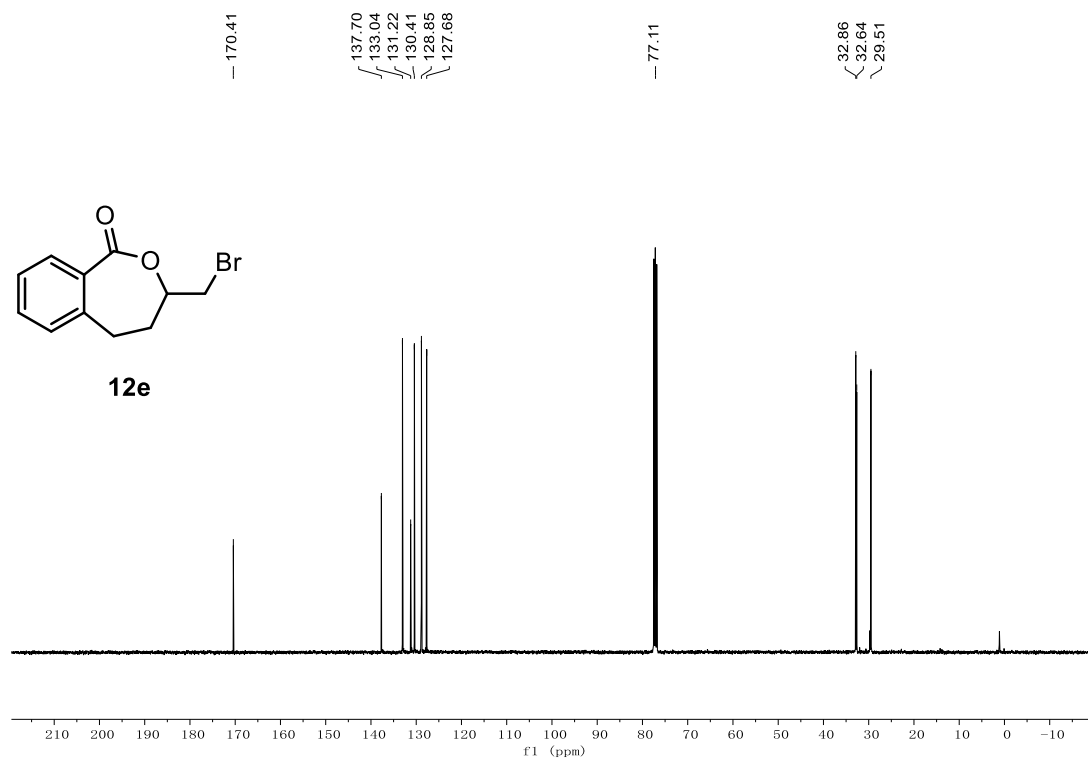


Figure S193. ^{13}C NMR of 3-(bromomethyl)-4,5-dihydrobenzo[*c*]oxepin-1(3*H*)-one (**12e**)

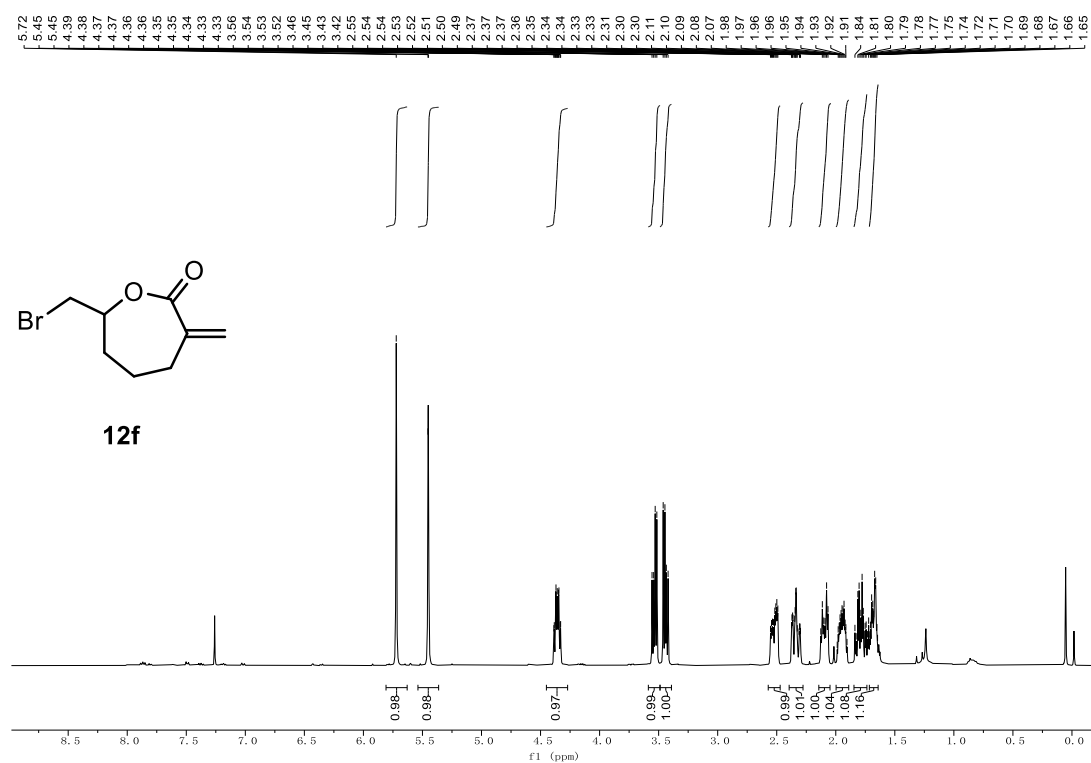


Figure S194. ^1H NMR of 7-(bromomethyl)-3,3-diphenyloxepan-2-one (**12f**)

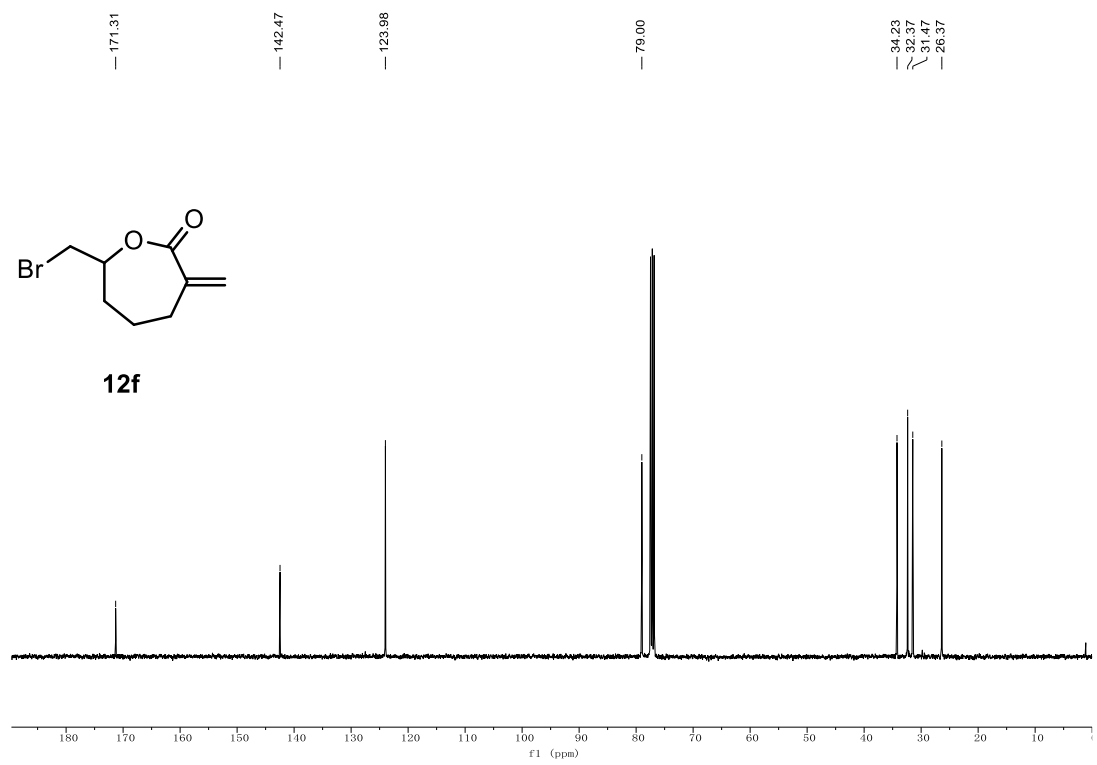


Figure S195. ¹³C NMR of 7-(bromomethyl)-3,3-diphenyloxepan-2-one (12f)

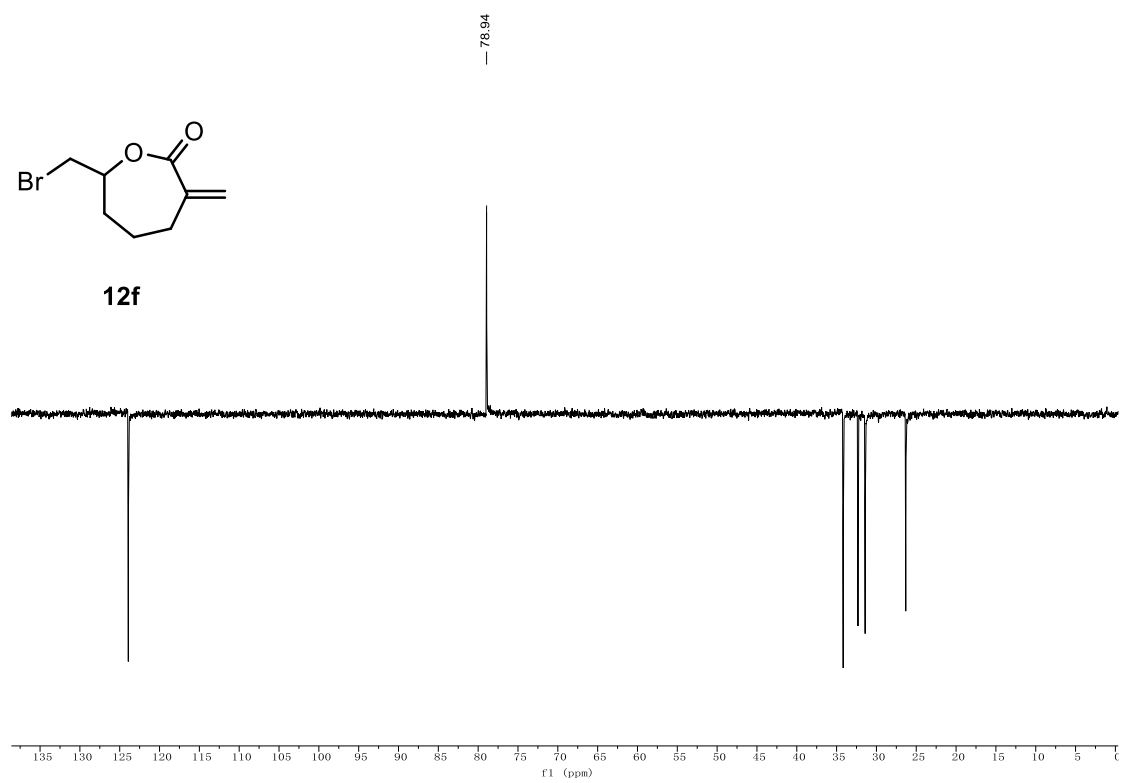


Figure S196. DEPT 135 of 7-(bromomethyl)-3,3-diphenyloxepan-2-one (12f)

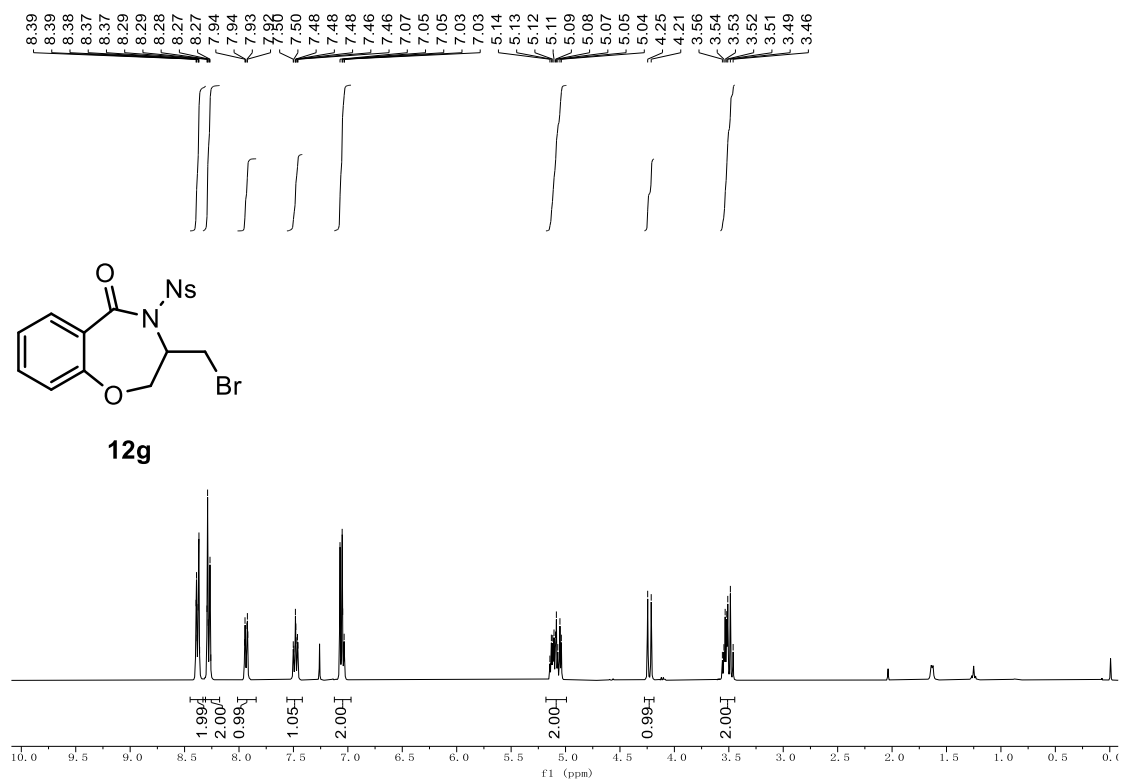


Figure S197. ^1H NMR of 3-(bromomethyl)-4-((4-nitrophenyl)sulfonyl)-3,4-dihydrobenzo[*f*][1,4]oxazepin-5(2*H*)-one (**12g**)

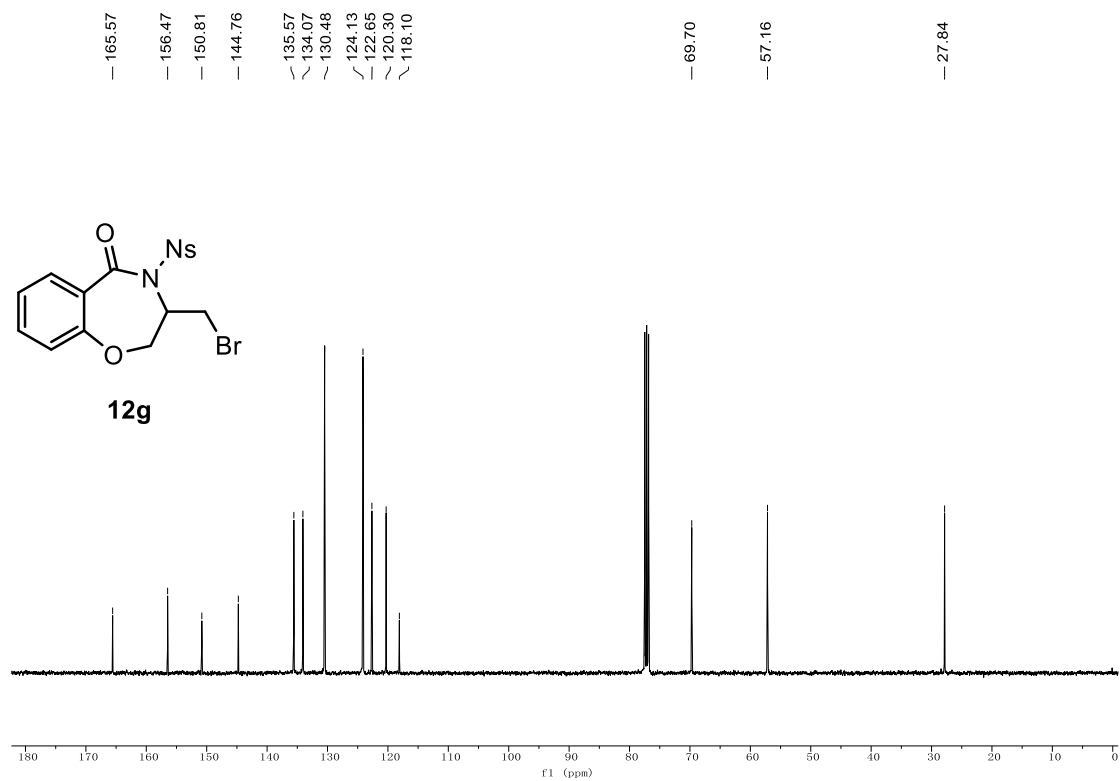


Figure S198. ^{13}C NMR of 3-(bromomethyl)-4-((4-nitrophenyl)sulfonyl)-3,4-dihydrobenzo[*f*][1,4]oxazepin-5(2*H*)-one (**12g**)

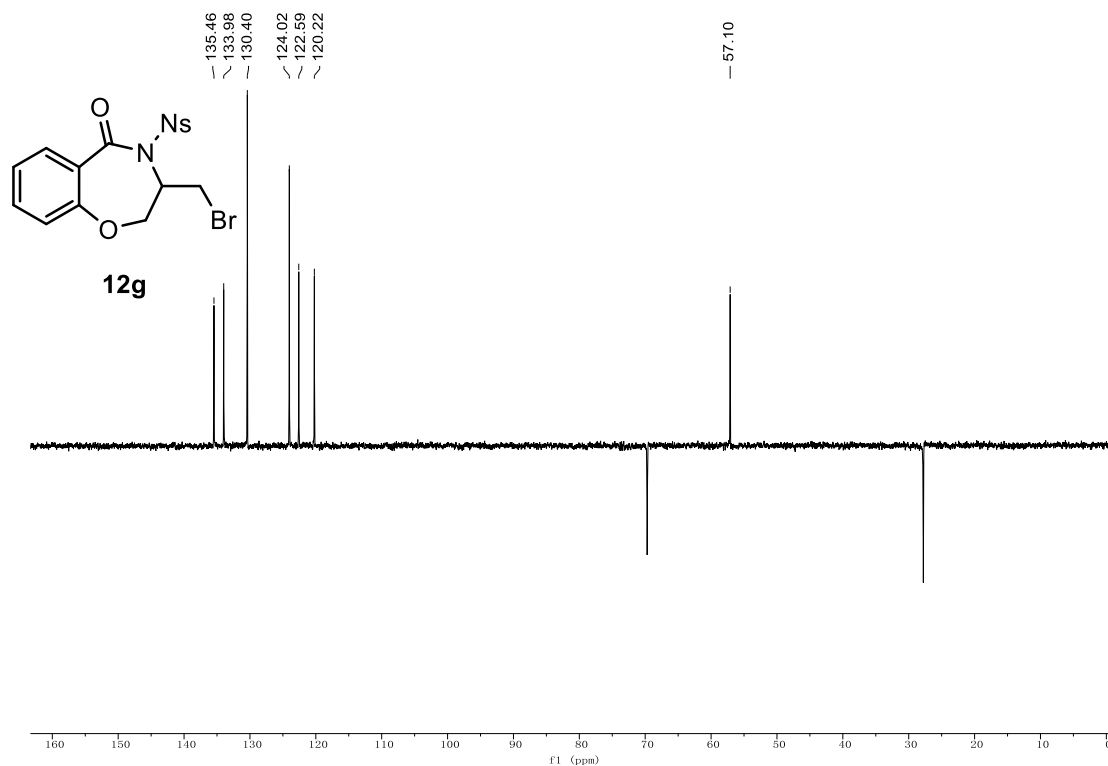


Figure S199. DEPT 135 of 3-(bromomethyl)-4-((4-nitrophenyl)sulfonyl)-3,4-dihydrobenzo[f][1,4]oxazepin-5(2H)-one (**12g**)

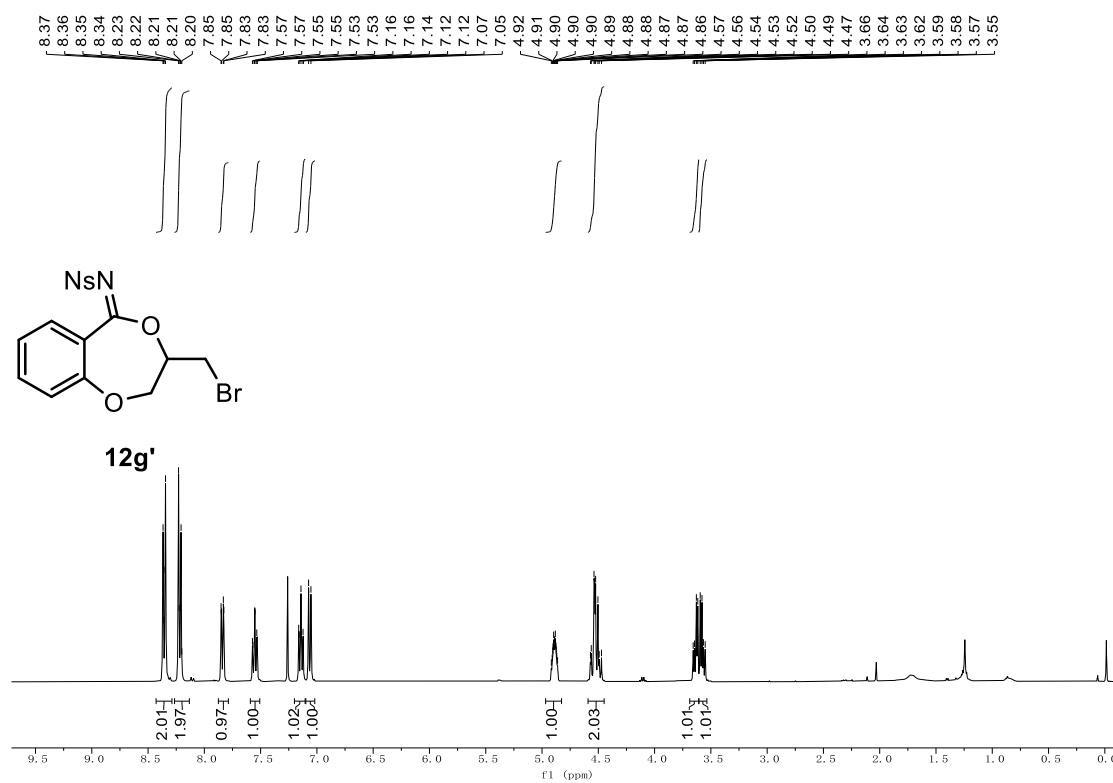


Figure S200. ¹H NMR of (Z)-N-(3-(bromomethyl)-2,3-dihydro-5H-benzo[e][1,4]dioxepin-5-ylidene)-4-nitrobenzenesulfonamide (**12g'**)

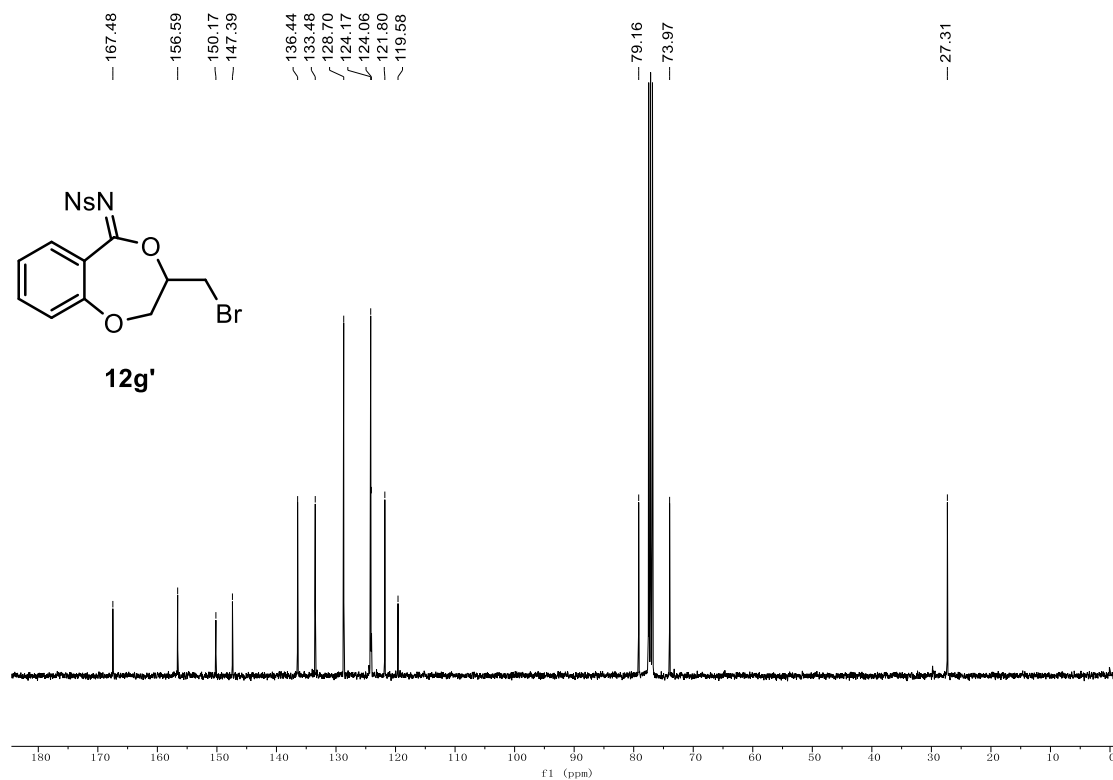


Figure S201. ^{13}C NMR of (Z)-N-(3-(bromomethyl)-2,3-dihydro-5H-benzo[e][1,4]dioxepin-5-ylidene)-4-nitrobenzenesulfonamide (**12g'**)

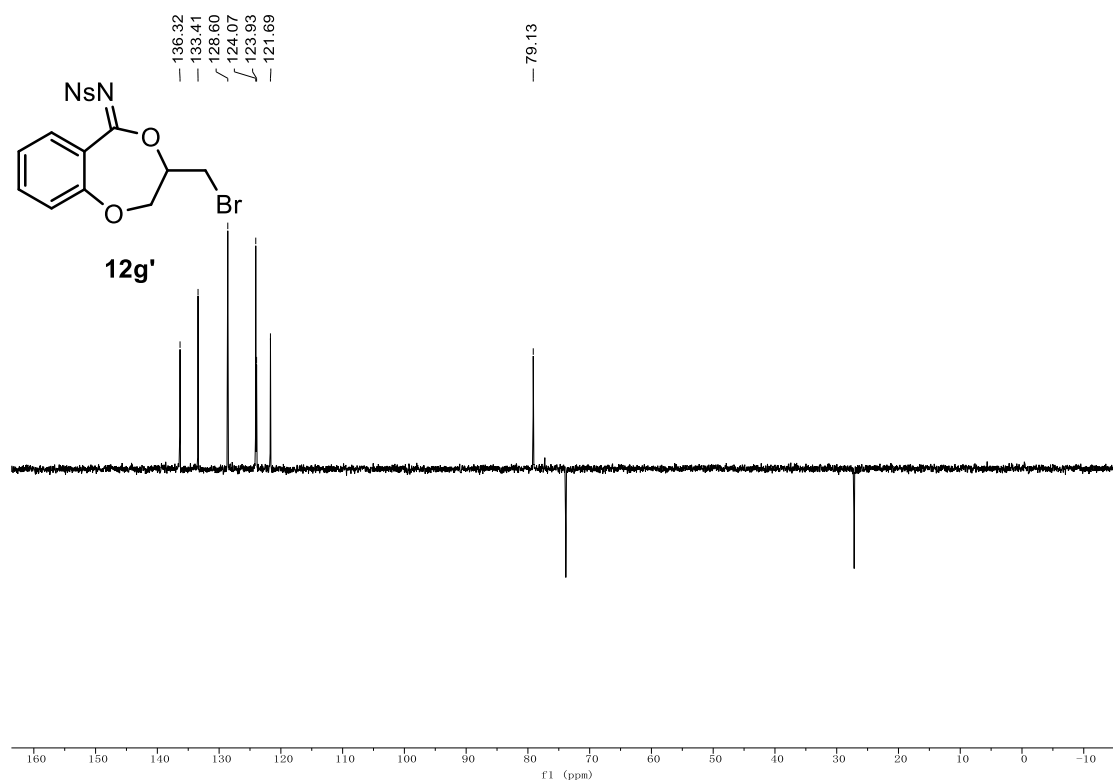


Figure S202. DEPT 135 of (Z)-N-(3-(bromomethyl)-2,3-dihydro-5H-benzo[e][1,4]dioxepin-5-ylidene)-4-nitrobenzenesulfonamide (**12g'**)

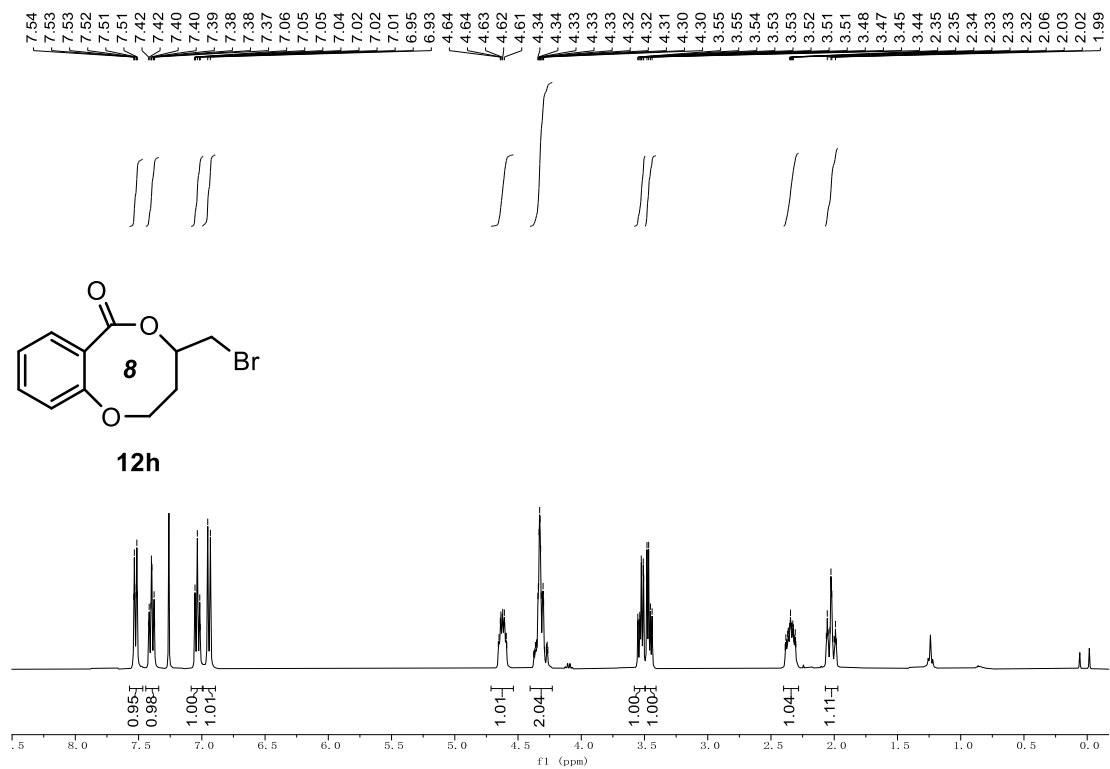


Figure S203. ^1H NMR of 4-(bromomethyl)-3,4-dihydro-2H,6H-benzo[b][1,5]dioxocin-6-one (12h)



Figure S204. ^{13}C NMR of 4-(bromomethyl)-3,4-dihydro-2H,6H-benzo[b][1,5]dioxocin-6-one (12h)

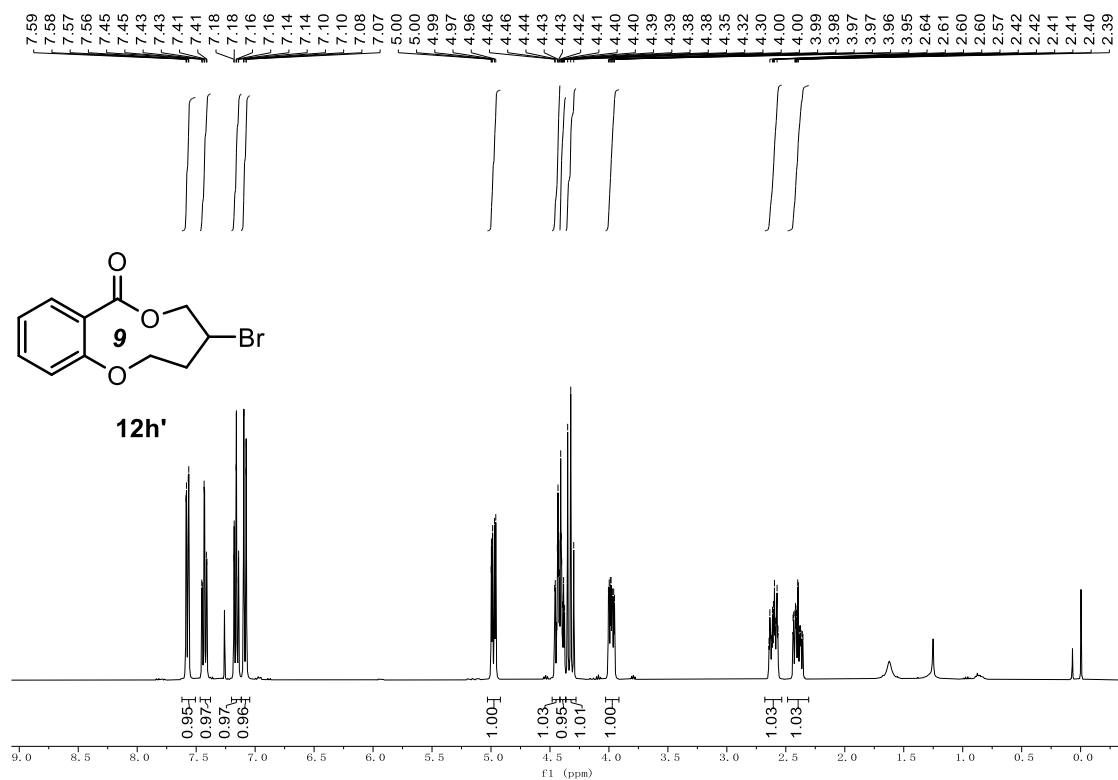


Figure S205. ^1H NMR of 4-bromo-2,3,4,5-tetrahydro-7H-benzo[*b*][1,5]dioxin-7-one (**12h'**)

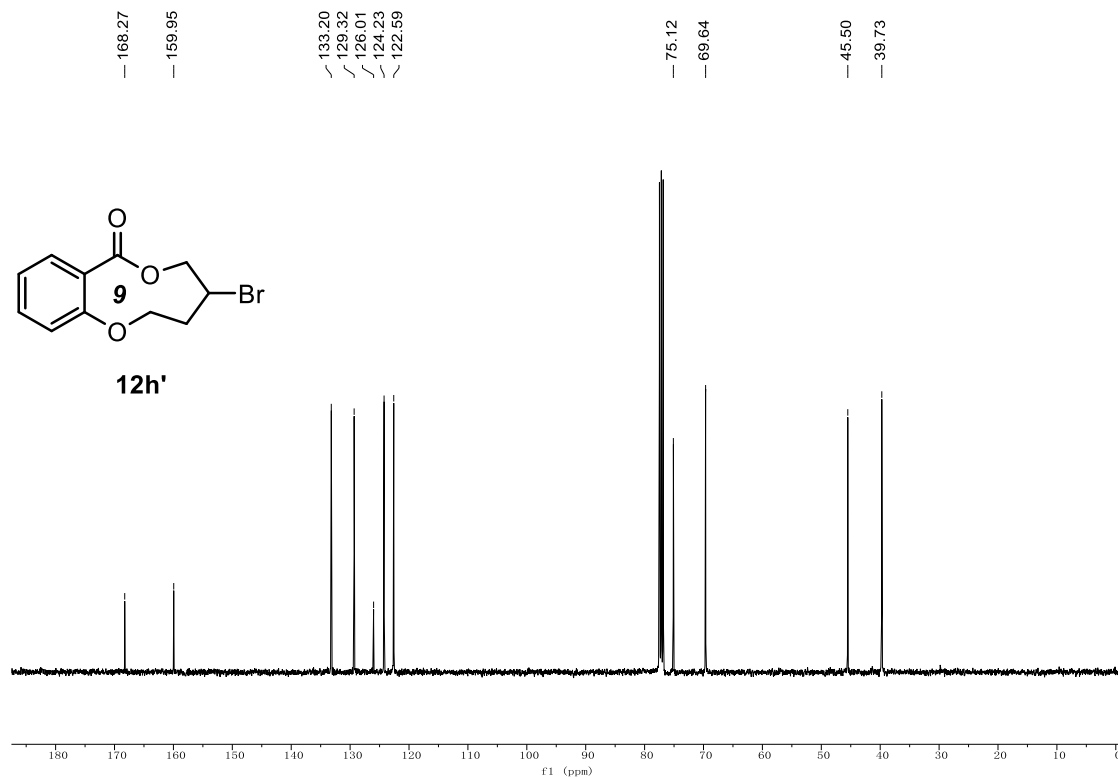


Figure S206. ^{13}C NMR of 4-bromo-2,3,4,5-tetrahydro-7H-benzo[*b*][1,5]dioxin-7-one (**12h'**)

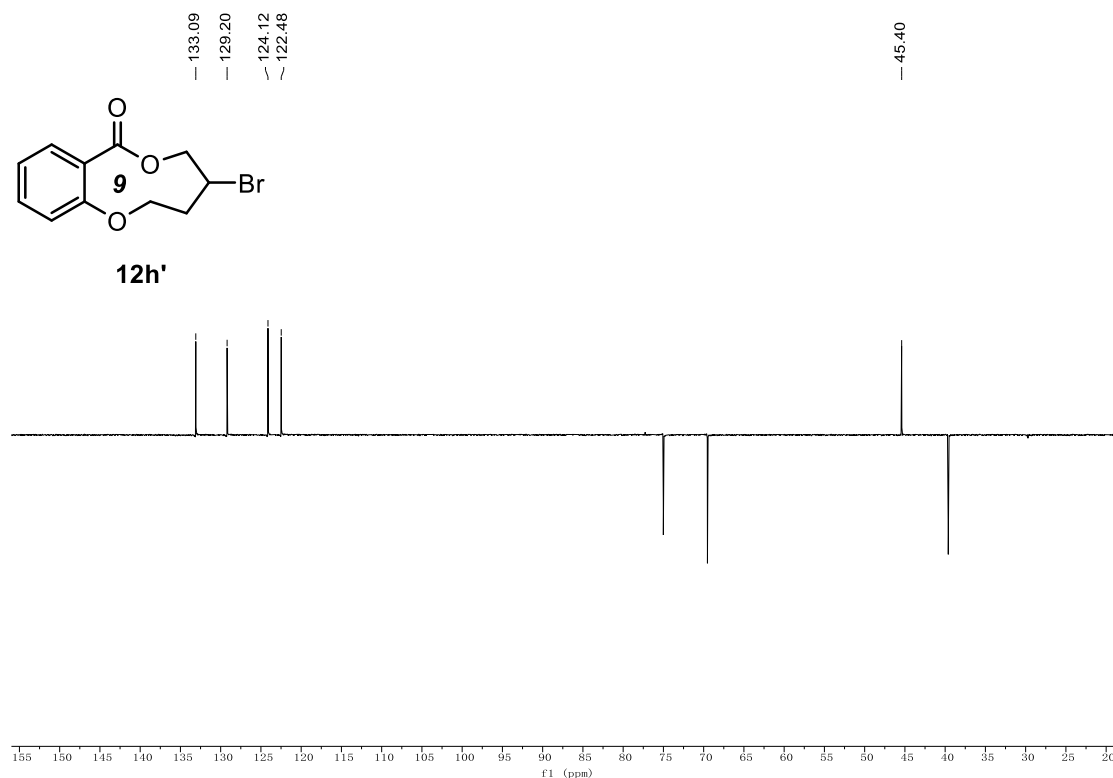


Figure S207. DEPT 135 of 4-bromo-2,3,4,5-tetrahydro-7H-benzo[*b*][1,5]dioxonin-7-one (**12h'**)

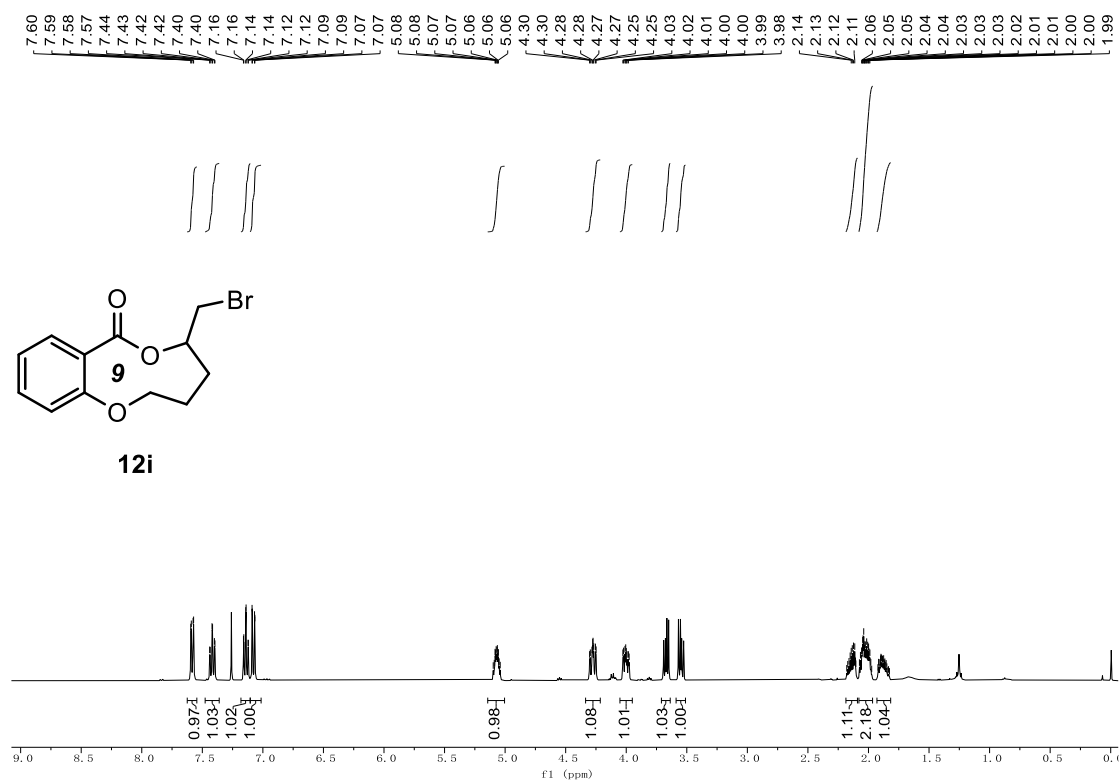


Figure S208. ¹H NMR of 5-(bromomethyl)-2,3,4,5-tetrahydro-7H-benzo[*b*][1,5]dioxonin-7-one (**12i**)

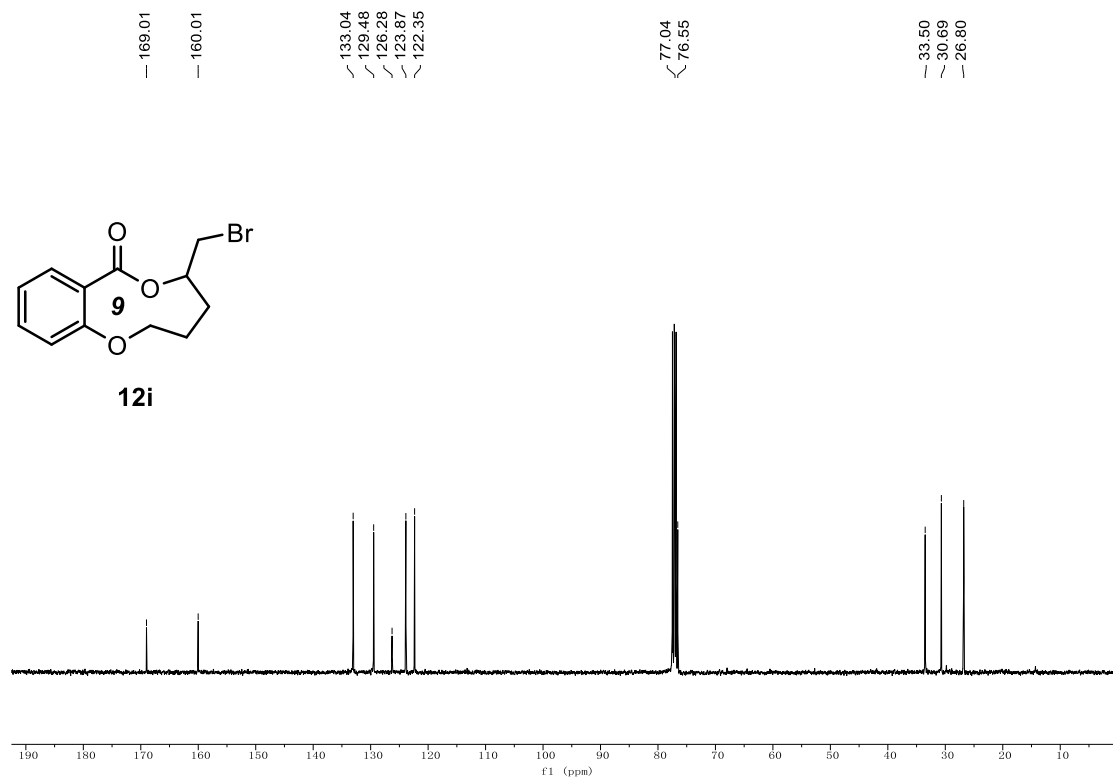


Figure S209. ¹³C NMR of 5-(bromomethyl)-2,3,4,5-tetrahydro-7H-benzo[*b*][1,5]dioxonin-7-one (**12i**)

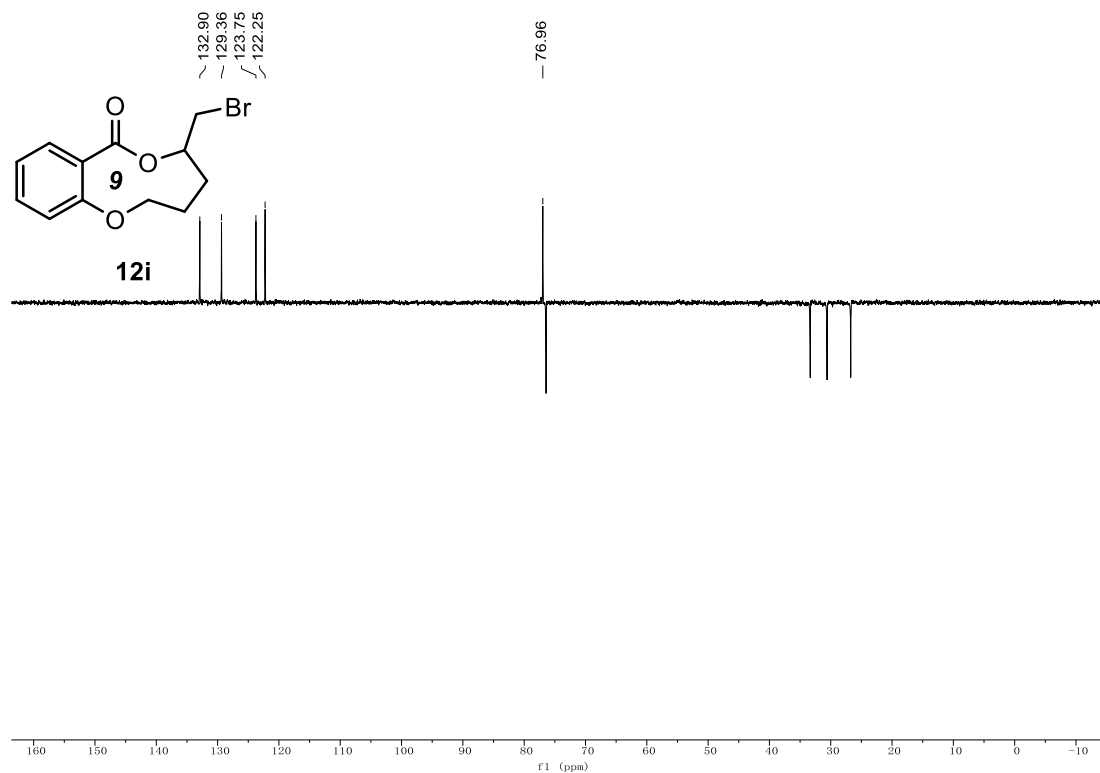
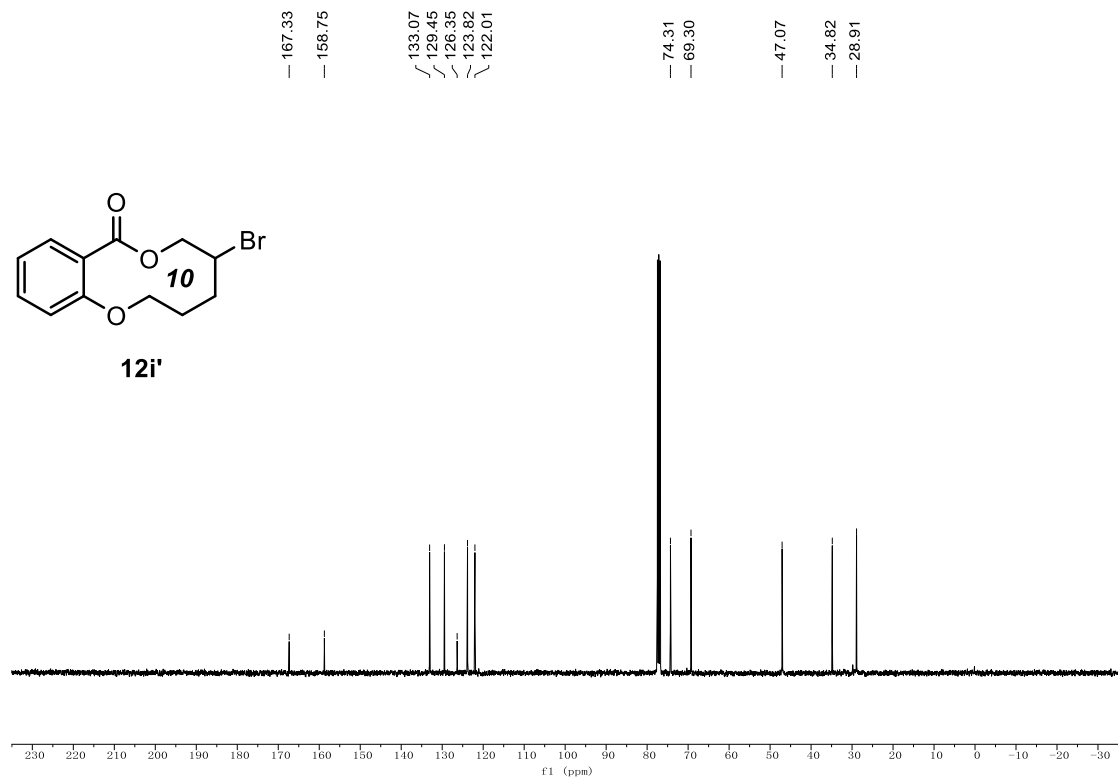
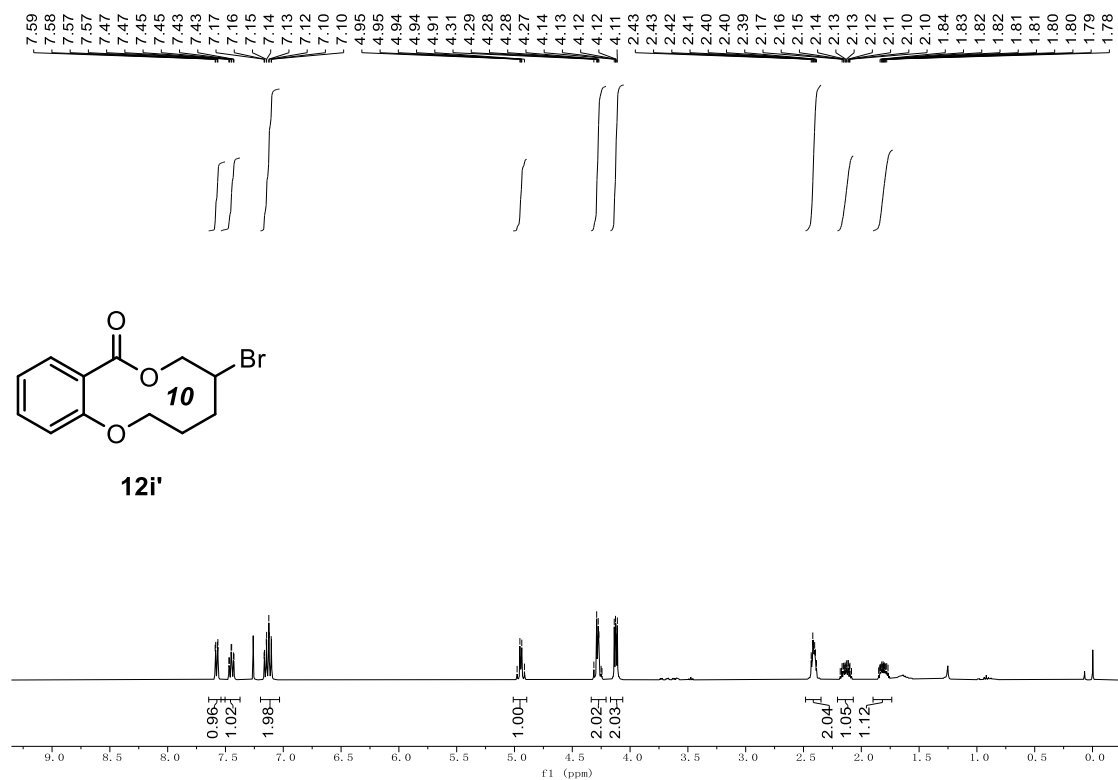


Figure S210. DEPT 135 of 5-(bromomethyl)-2,3,4,5-tetrahydro-7H-benzo[*b*][1,5]dioxonin-7-one (**12i**)



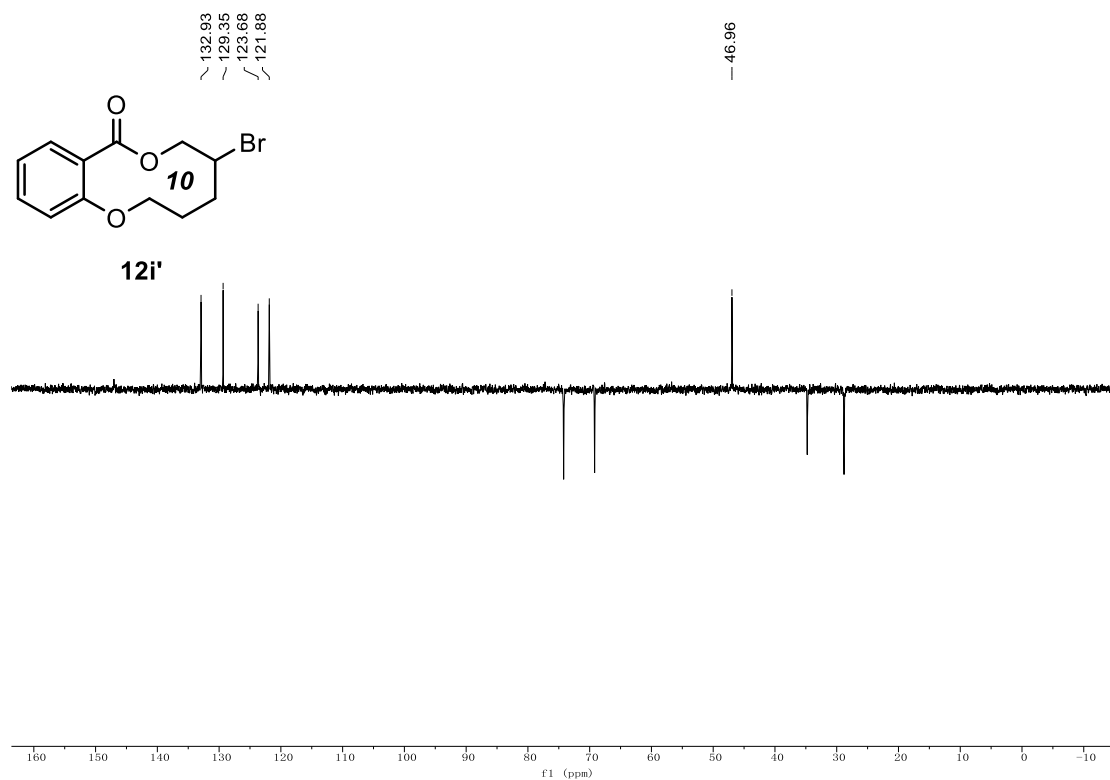


Figure S213. DEPT 135 of 5-bromo-3,4,5,6-tetrahydro-2H,8H-benzo[*b*][1,5]dioxecin-8-one (**12i'**)

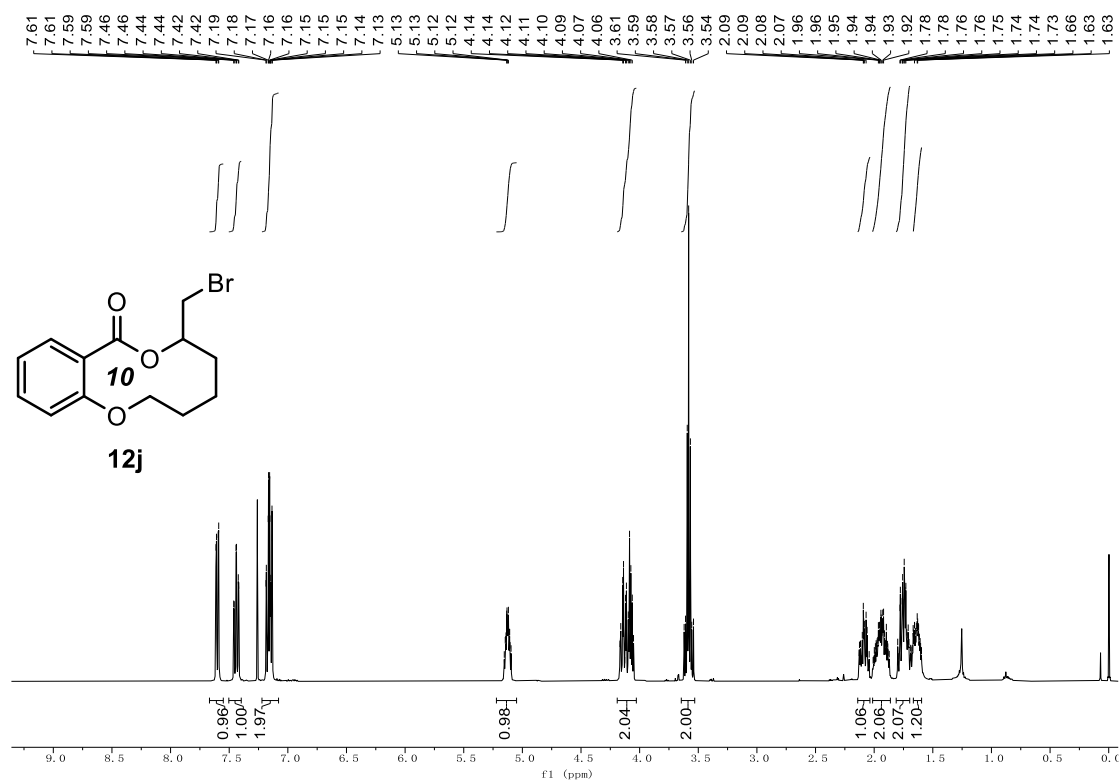


Figure S214. ¹H NMR of 6-(bromomethyl)-3,4,5,6-tetrahydro-2H,8H-benzo[*b*][1,5]dioxecin-8-one (**12j**)

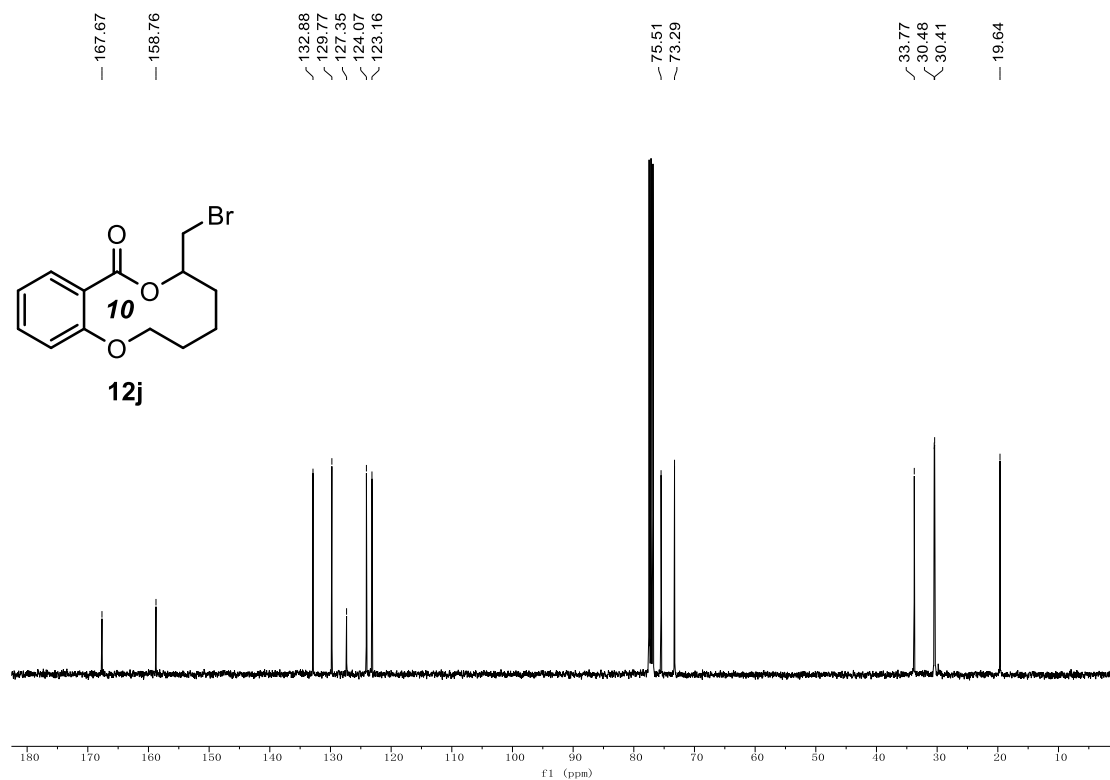


Figure S215. ¹³C NMR of 6-(bromomethyl)-3,4,5,6-tetrahydro-2H,8H-benzo[b][1,5]dioxecin-8-one (**12j**)



Figure S216. DEPT 135 of 6-(bromomethyl)-3,4,5,6-tetrahydro-2H,8H-benzo[b][1,5]dioxecin-8-one (**12j**)

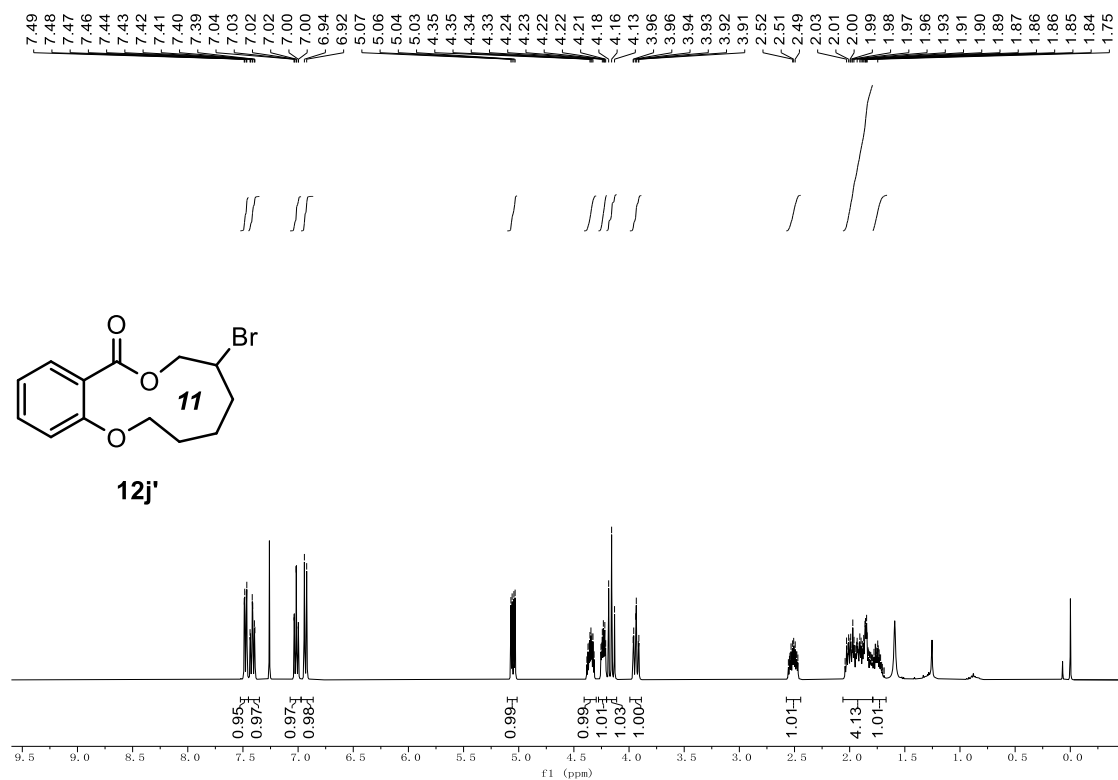


Figure S217. ¹H NMR of 6-bromo-2,3,4,5,6,7-hexahydro-9H-benzo[b][1,5]dioxacycloundecin-9-one (**12j'**)

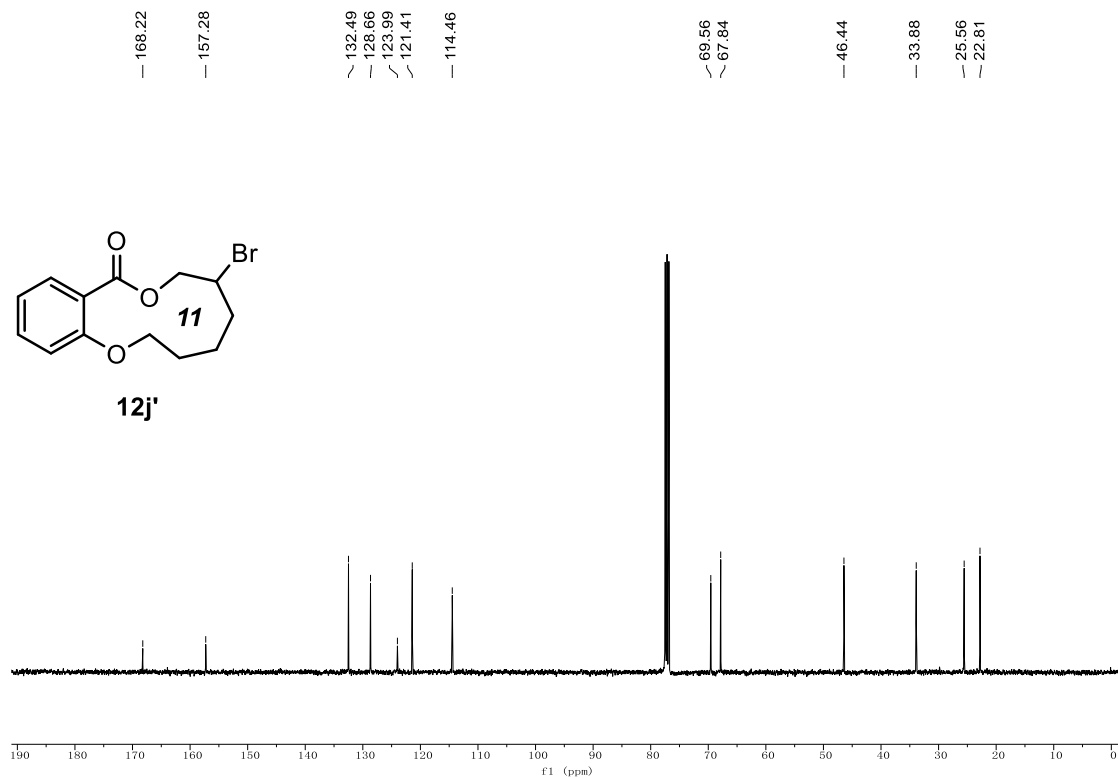


Figure S218. ¹³C NMR of 6-bromo-2,3,4,5,6,7-hexahydro-9H-benzo[b][1,5]dioxacycloundecin-9-one (**12j'**)

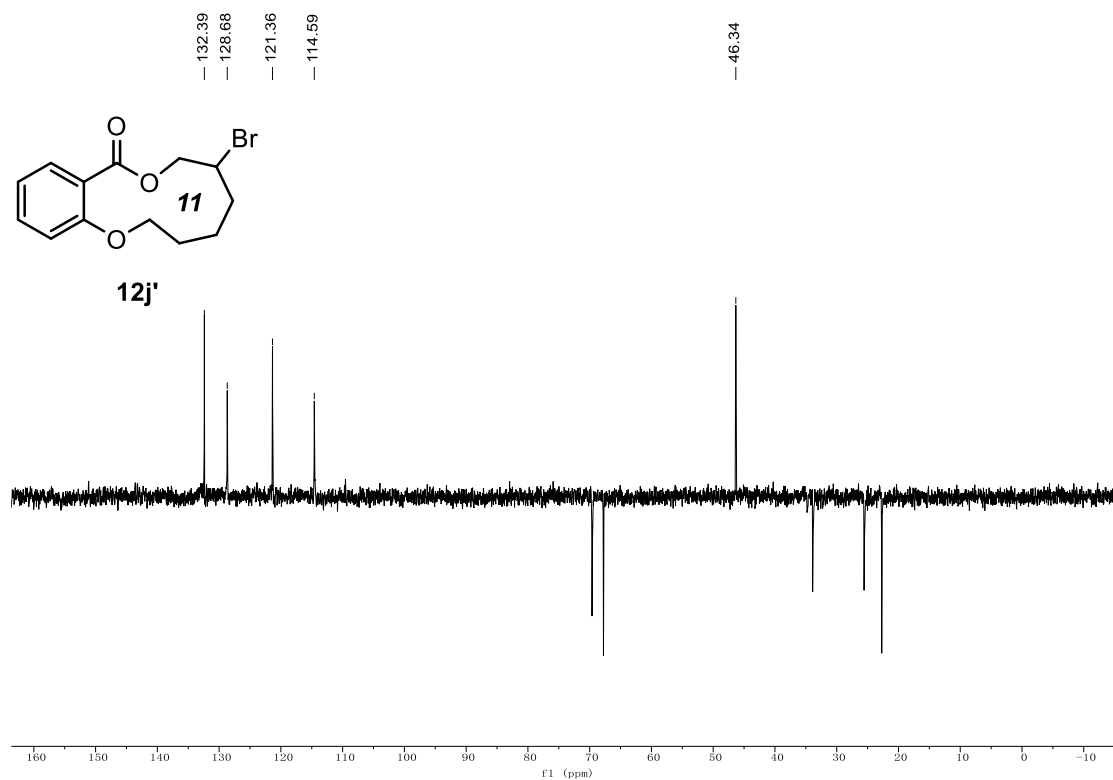


Figure S219. DEPT 135 of 6-bromo-2,3,4,5,6,7-hexahydro-9*H*-benzo[*b*][1,5]dioxacycloundecin-9-one (**12j'**)

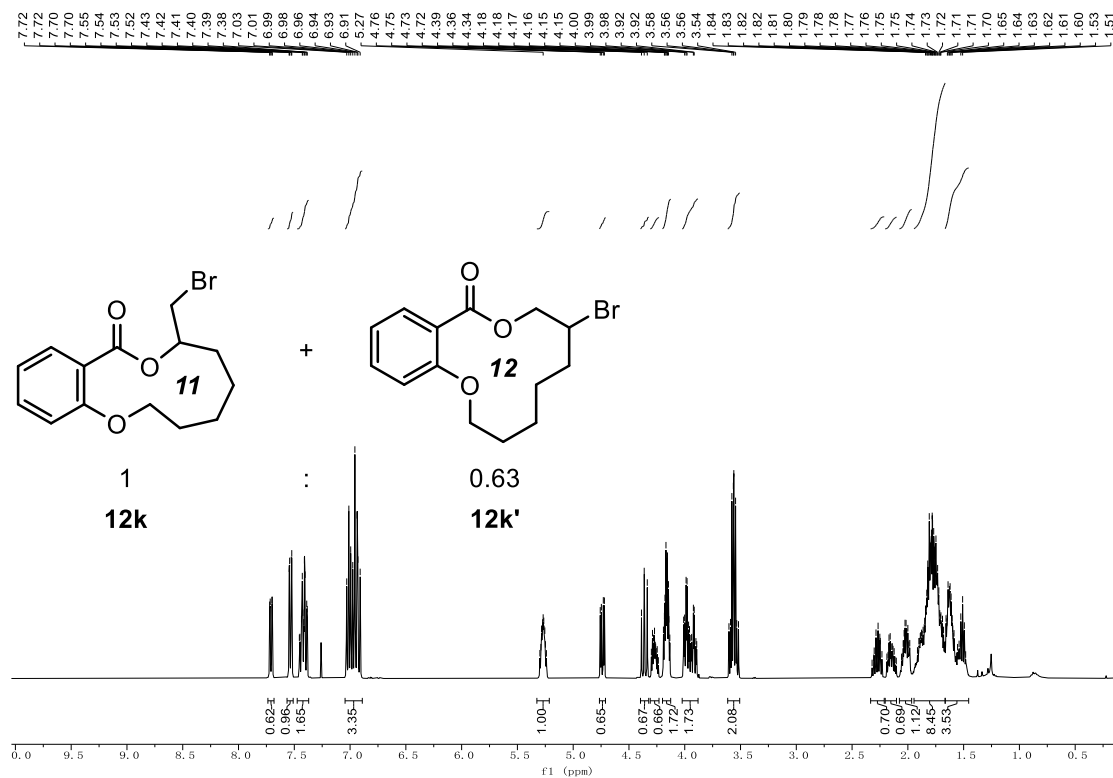


Figure S220. ^1H NMR of 7-(bromomethyl)-2,3,4,5,6,7-hexahydro-9*H*-benzo[*b*][1,5]dioxacycloundecin-9-one (major) (**12k**) and 7-bromo-3,4,5,6,7,8-hexahydro-2*H*,10*H*-benzo[*b*][1,5]dioxacyclododecin-10-one (minor) (**12k'**)

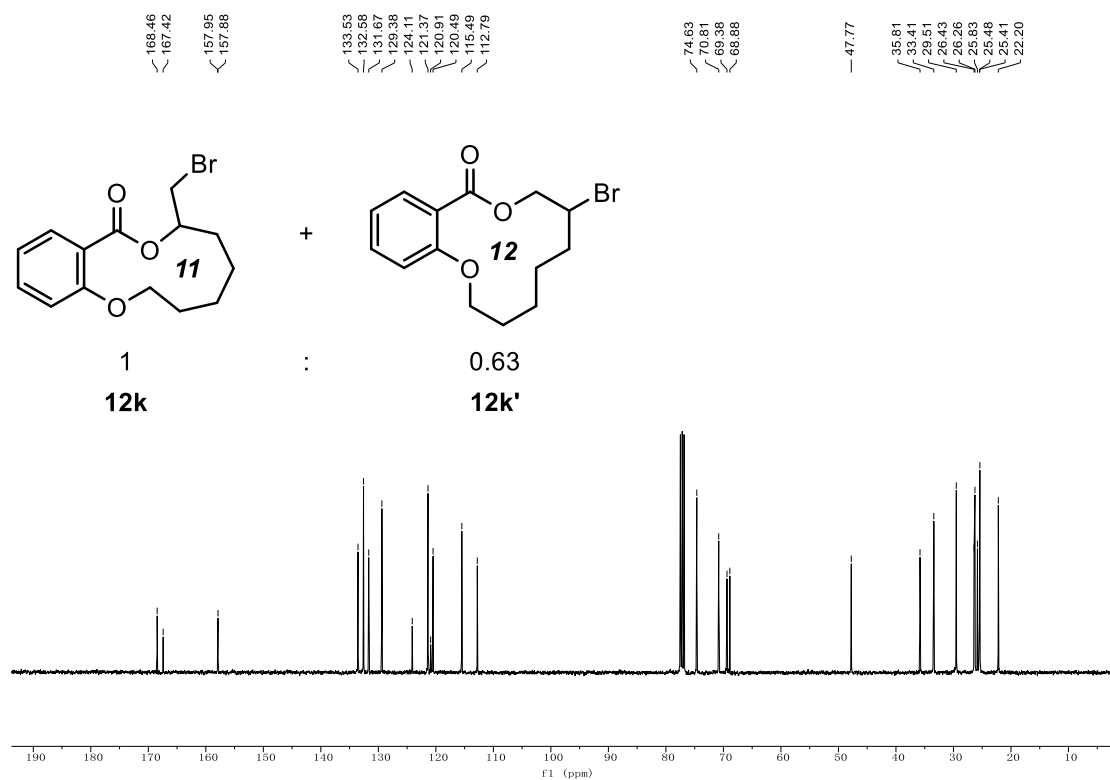


Figure S221. ^{13}C NMR of 7-(bromomethyl)-2,3,4,5,6,7-hexahydro-9*H*-benzo[*b*][1,5]dioxacycloundecin-9-one (major) (**12k**) and 7-bromo-3,4,5,6,7,8-hexahydro-2*H*,10*H*-benzo[*b*][1,5]dioxacyclododecin-10-one (minor) (**12k'**)

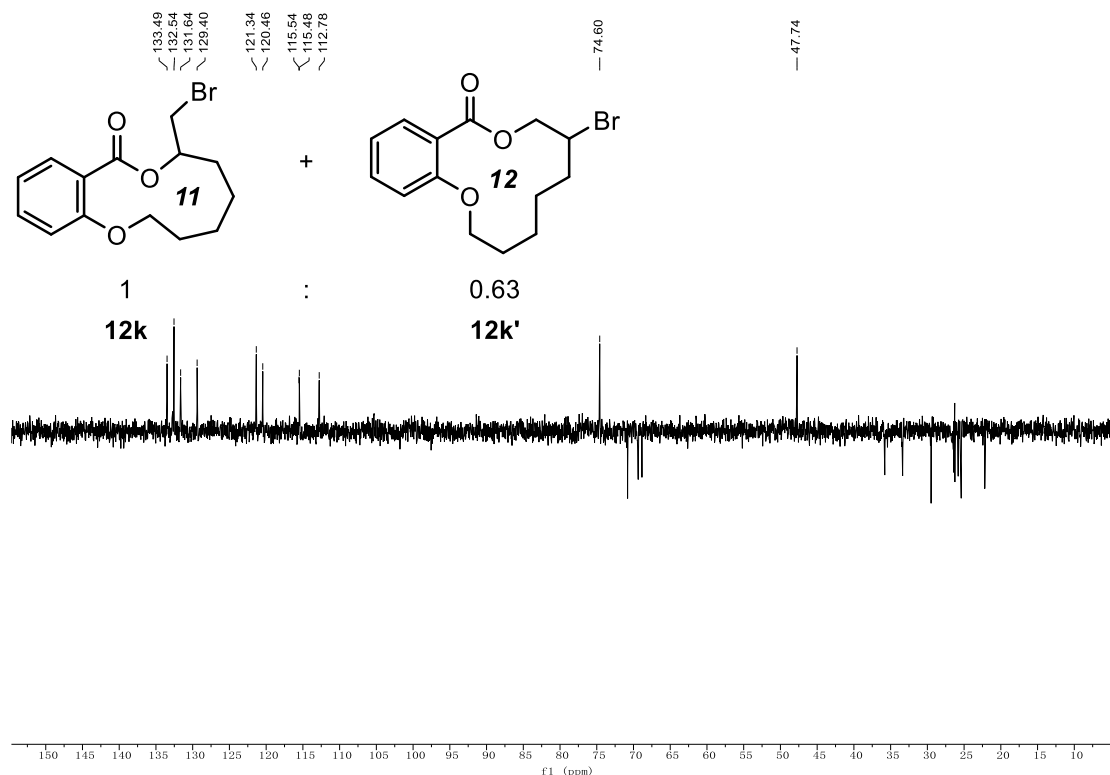


Figure S222. DEPT 135 of 7-(bromomethyl)-2,3,4,5,6,7-hexahydro-9*H*-benzo[*b*][1,5]dioxacycloundecin-9-one (major) (**12k**) and 7-bromo-3,4,5,6,7,8-hexahydro-2*H*,10*H*-benzo[*b*][1,5]dioxacyclododecin-10-one (minor) (**12k'**)

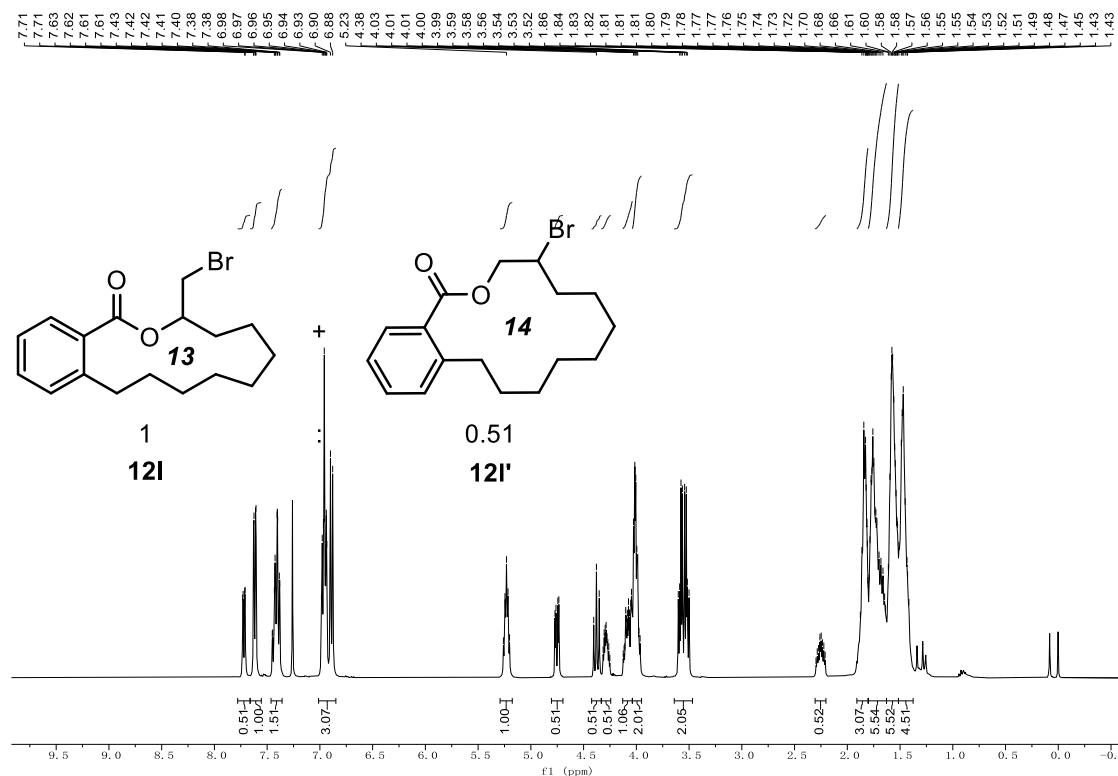


Figure S223. ¹H NMR of 3-(bromomethyl)-4,5,6,7,8,9,10,11-octahydrobenzo[*c*][1]oxacyclotridecin-1(3*H*)-one (major) (**12I**) and 4-bromo-3,4,5,6,7,8,9,10,11,12-decahydro-1*H*-benzo[*c*][1]oxacyclotetradecin-1-one (major) (**12I'**)

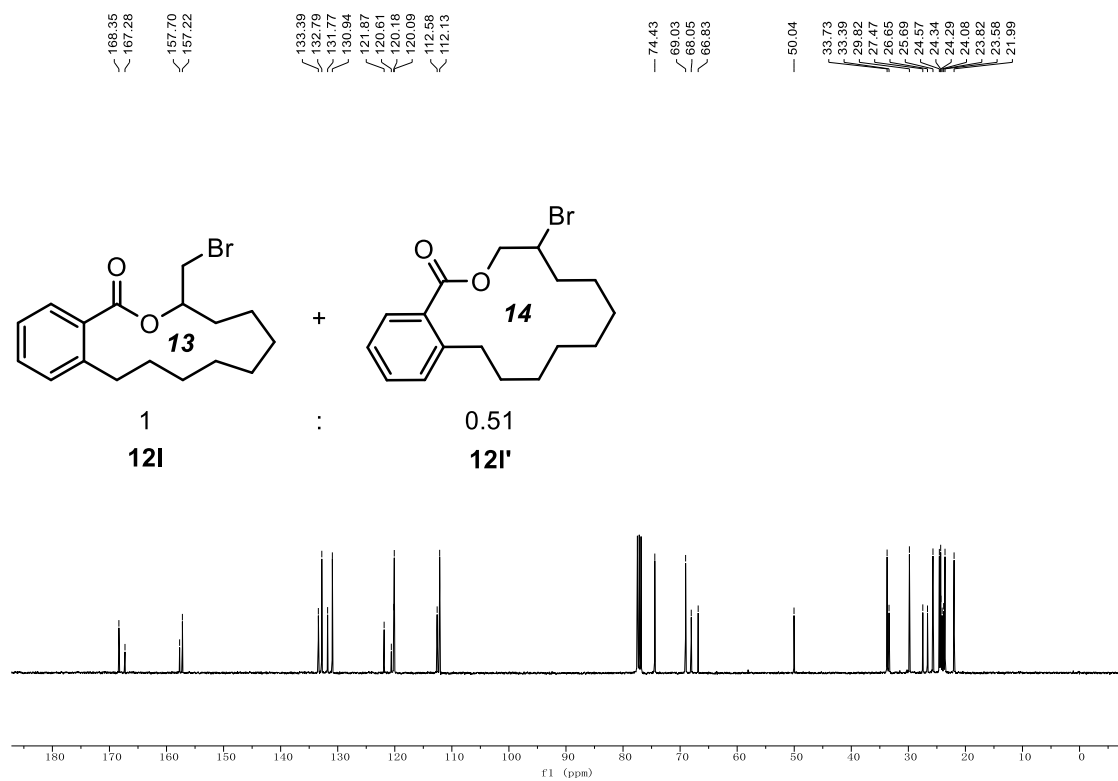


Figure S224. ¹³C NMR of 3-(bromomethyl)-4,5,6,7,8,9,10,11-octahydrobenzo[*c*][1]oxacyclotridecin-1(3*H*)-one (major) (**12I**) and 4-bromo-3,4,5,6,7,8,9,10,11,12-decahydro-1*H*-benzo[*c*][1]oxacyclotetradecin-1-one (major) (**12I'**)

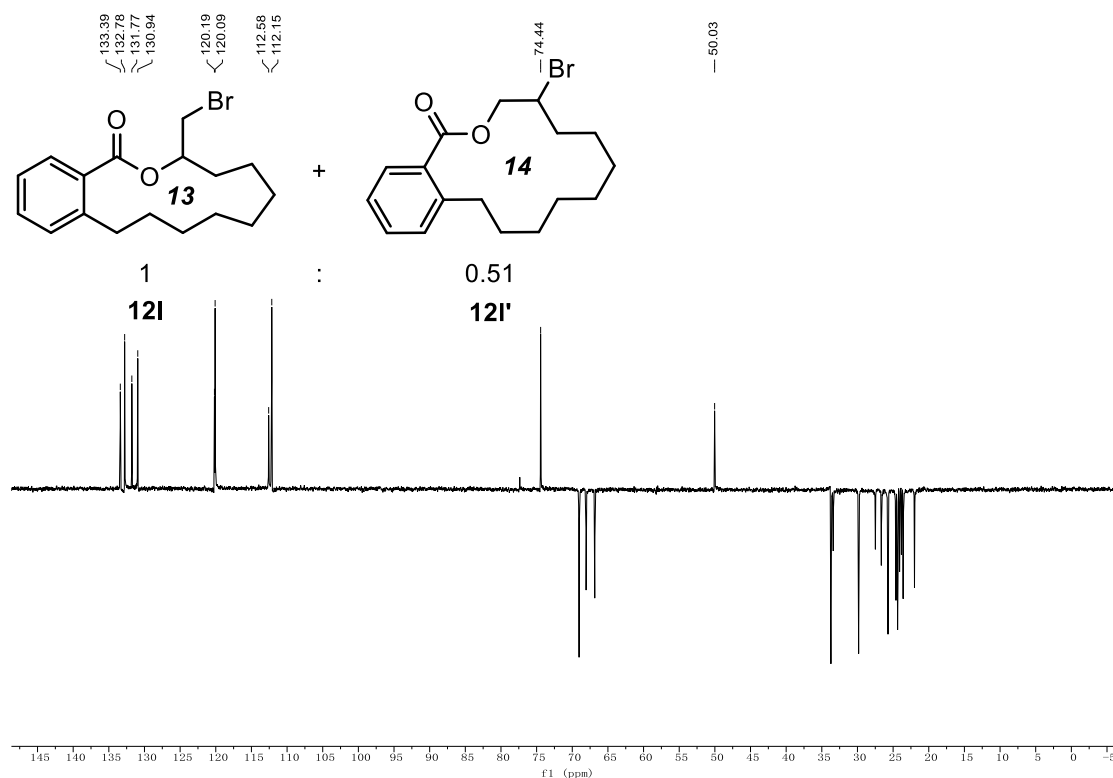


Figure S225. DEPT 135 of 3-(bromomethyl)-4,5,6,7,8,9,10,11-octahydrobenzo[c][1]oxacyclotridecin-1(3H)-one (major) (**12l**) and 4-bromo-3,4,5,6,7,8,9,10,11,12-decahydro-1H-benzo[c][1]oxacyclotetradecin-1-one (major) (**12l'**)

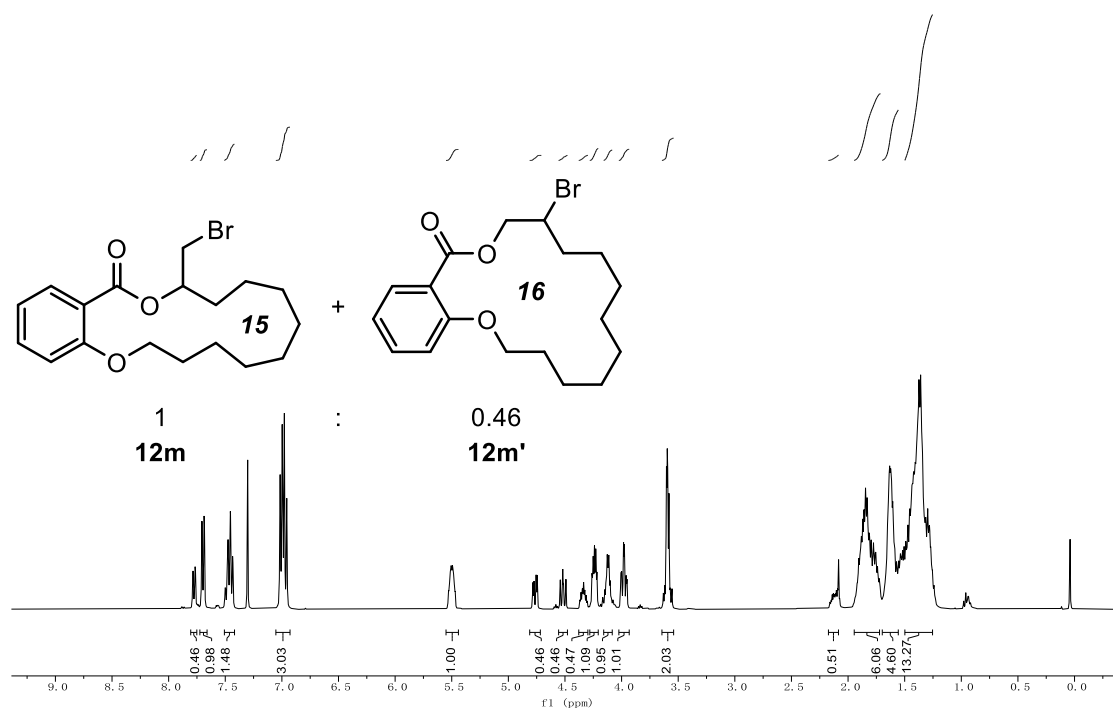


Figure S226. ¹H NMR of 11-(bromomethyl)-2,3,4,5,6,7,8,9,10,11-decahydro-13H-benzo[b][1,5]dioxacyclopentadecin-13-one (**12m**) and 11-bromo-3,4,5,6,7,8,9,10,11,12-decahydro-2H,14H-benzo[b][1,5]dioxacyclohexadecin-14-one (**12m'**)

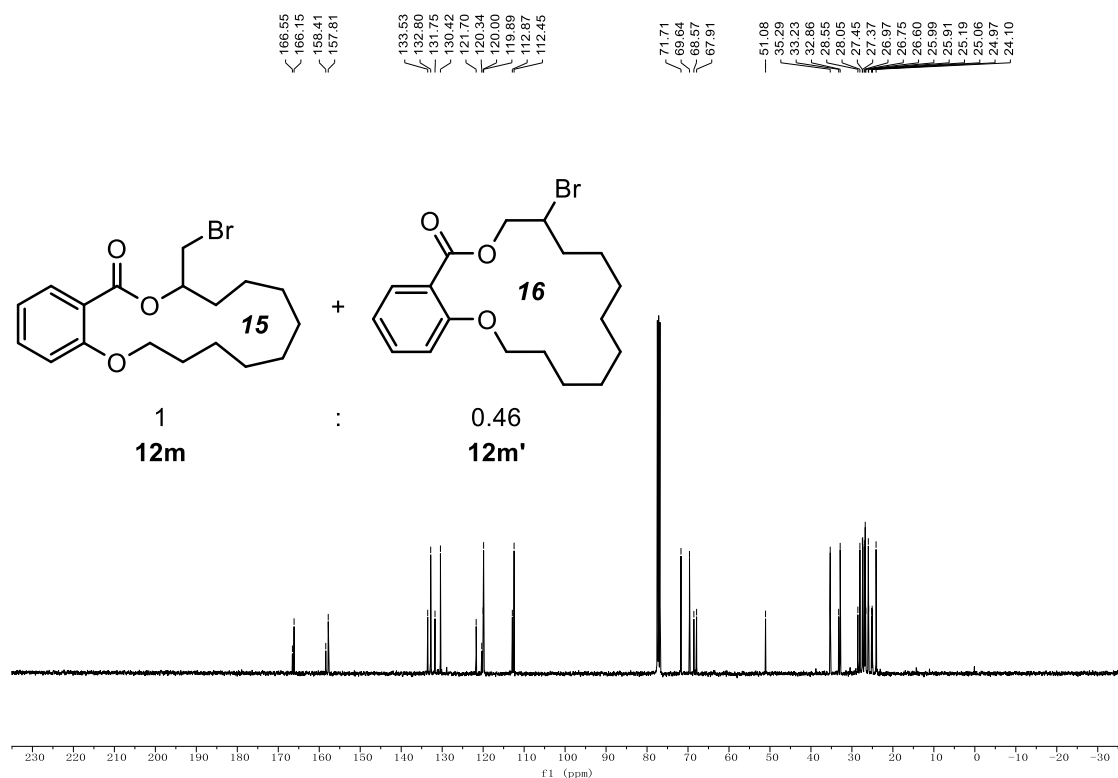


Figure S227. ¹³C NMR of 11-(bromomethyl)-2,3,4,5,6,7,8,9,10,11-decahydro-13H-benzo[*b*][1,5]dioxacyclopentadecin-13-one (**12m**) and 11-bromo-3,4,5,6,7,8,9,10,11,12-decahydro-2*H*,14*H*-benzo[*b*][1,5]dioxacyclohexadecin-14-one (**12m'**)

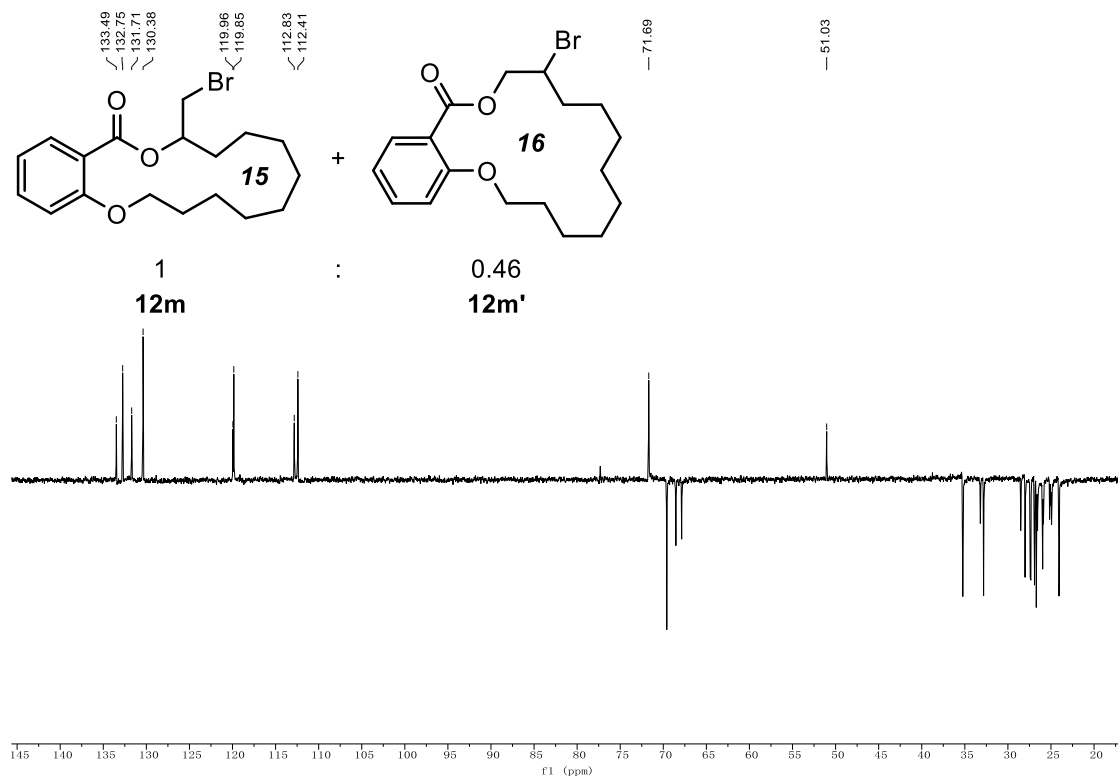


Figure S228. DEPT 135 of 11-(bromomethyl)-2,3,4,5,6,7,8,9,10,11-decahydro-13H-benzo[*b*][1,5]dioxacyclopentadecin-13-one (**12m**) and 11-bromo-3,4,5,6,7,8,9,10,11,12-decahydro-2*H*,14*H*-benzo[*b*][1,5]dioxacyclohexadecin-14-one (**12m'**)

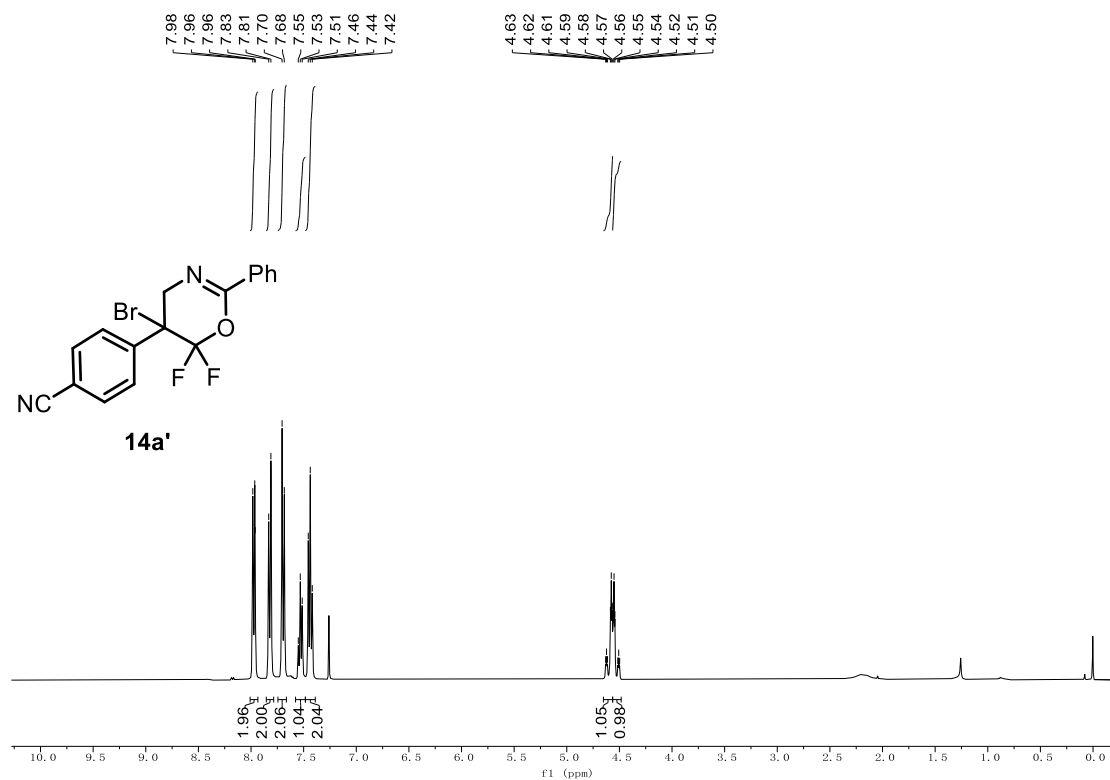


Figure S229. ¹H NMR of 4-(5-bromo-6,6-difluoro-2-phenyl-5,6-dihydro-4H-1,3-oxazin-5-yl)benzonitrile (**14a'**)

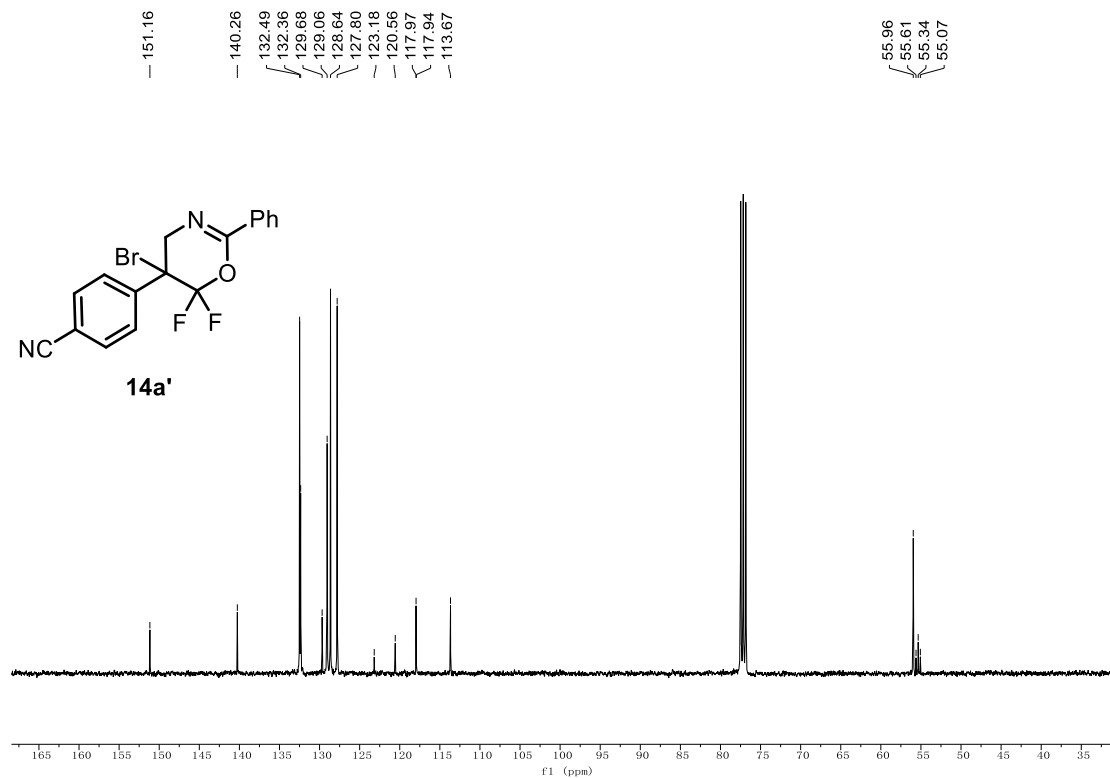


Figure S230. ¹³C NMR of 4-(5-bromo-6,6-difluoro-2-phenyl-5,6-dihydro-4H-1,3-oxazin-5-yl)benzonitrile (**14a'**)

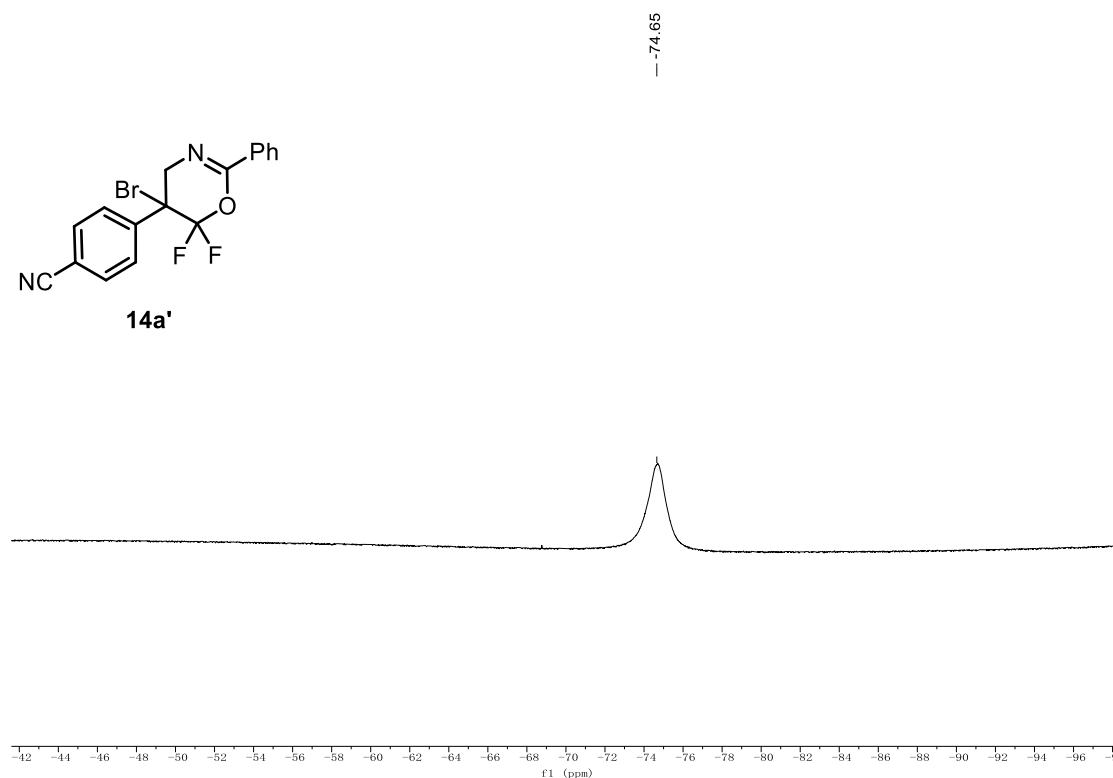
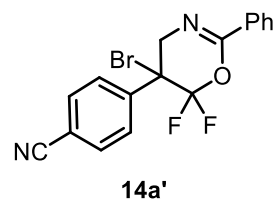


Figure S231. ^{19}F NMR of 4-(5-bromo-6,6-difluoro-2-phenyl-5,6-dihydro-4*H*-1,3-oxazin-5-yl)benzonitrile (**14a'**)

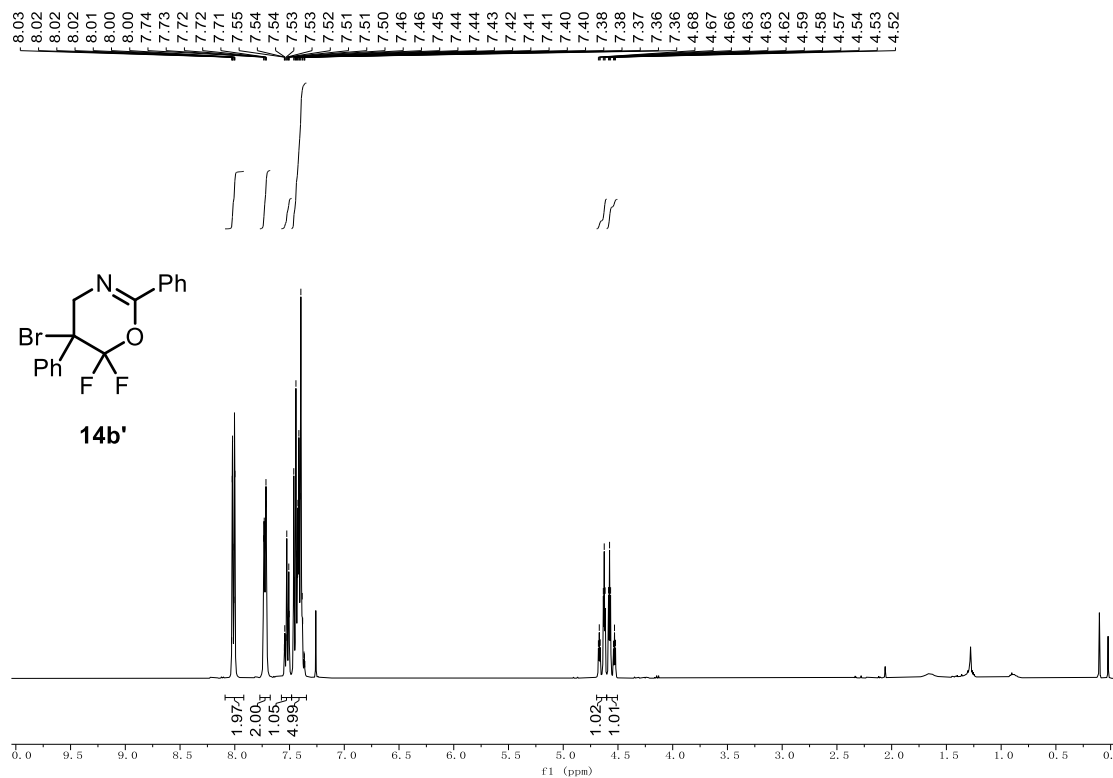


Figure S232. ^1H NMR of 5-bromo-6,6-difluoro-2,5-diphenyl-5,6-dihydro-4*H*-1,3-oxazine (**14b'**)

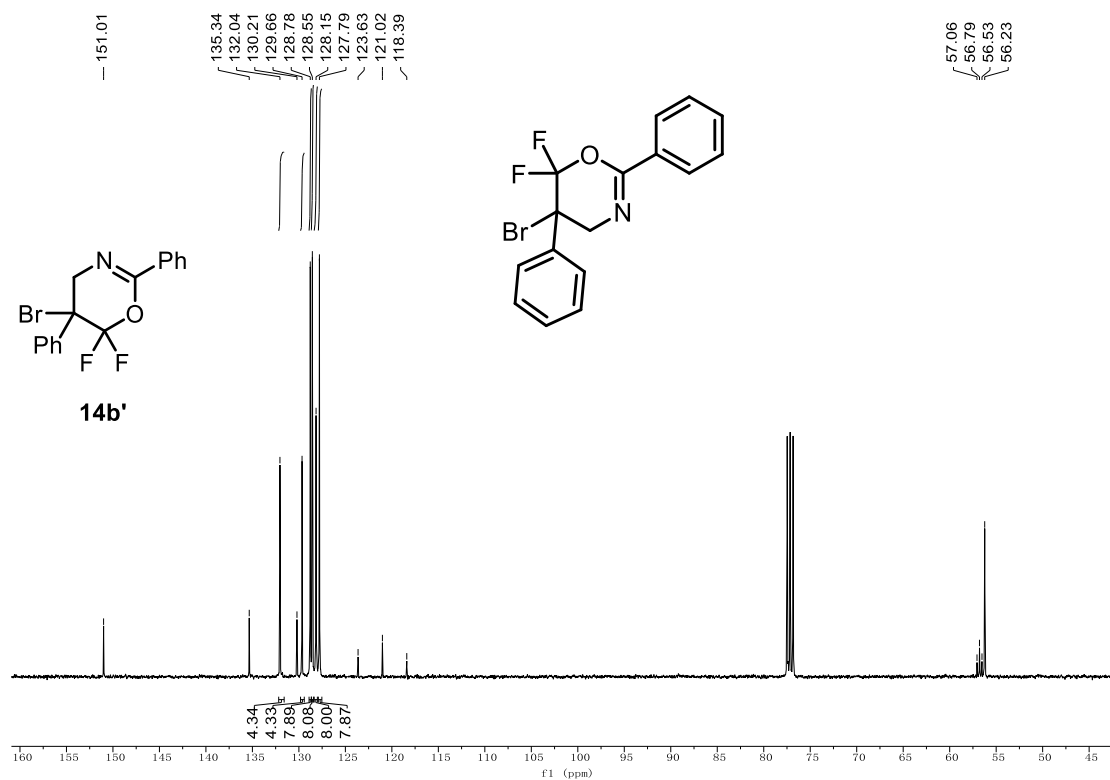


Figure S233. ¹³C NMR of 5-bromo-6,6-difluoro-2,5-diphenyl-5,6-dihydro-4H-1,3-oxazine (**14b'**)

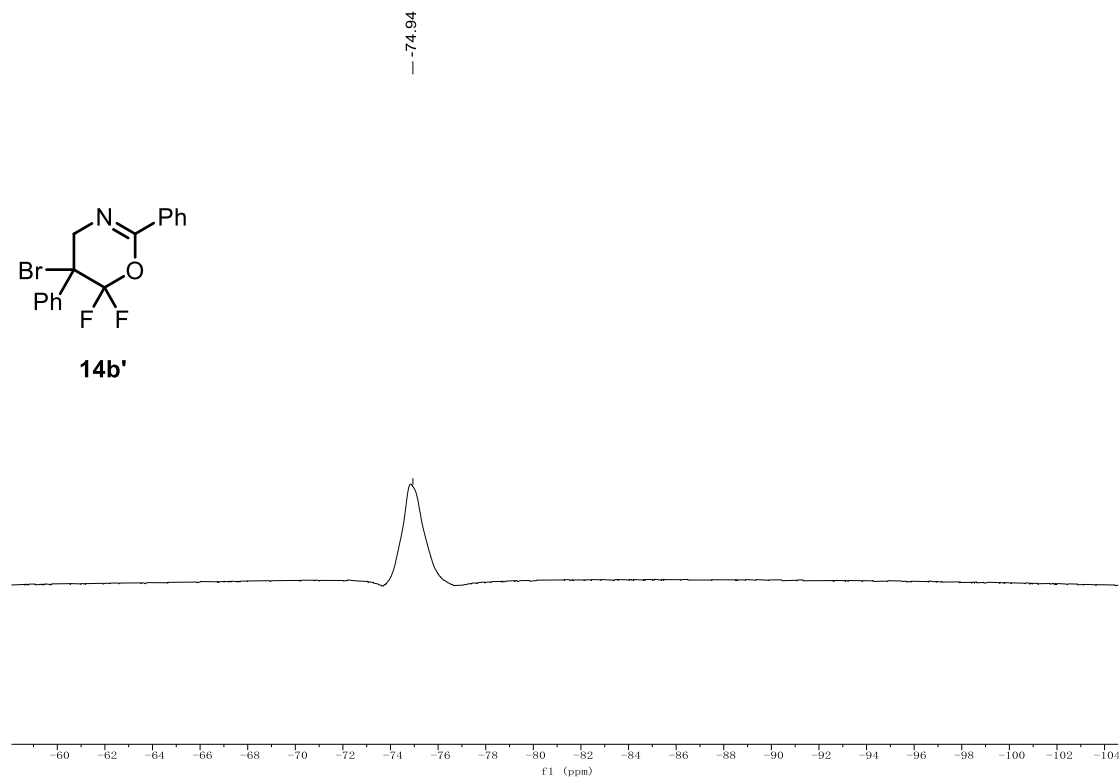


Figure S234. ¹⁹F NMR of 5-bromo-6,6-difluoro-2,5-diphenyl-5,6-dihydro-4H-1,3-oxazine (**14b'**)

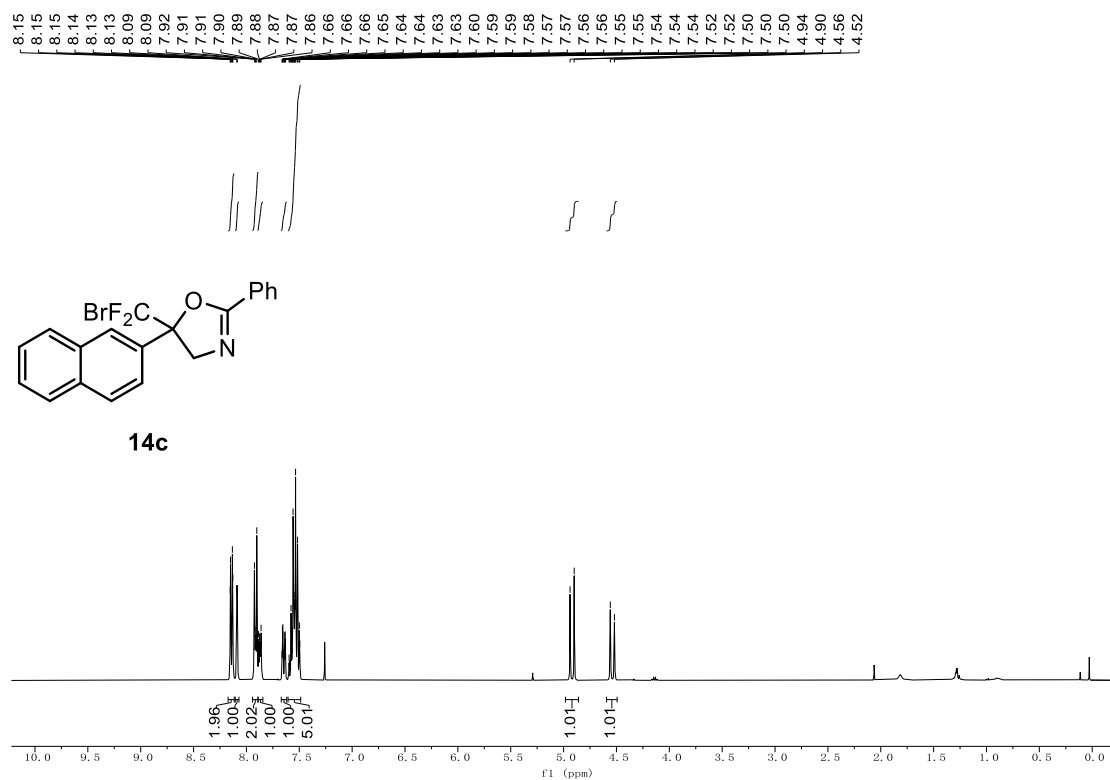


Figure S235. ^1H NMR of 5-(bromodifluoromethyl)-5-(naphthalen-2-yl)-2-phenyl-4,5-dihydrooxazole (**14c**)

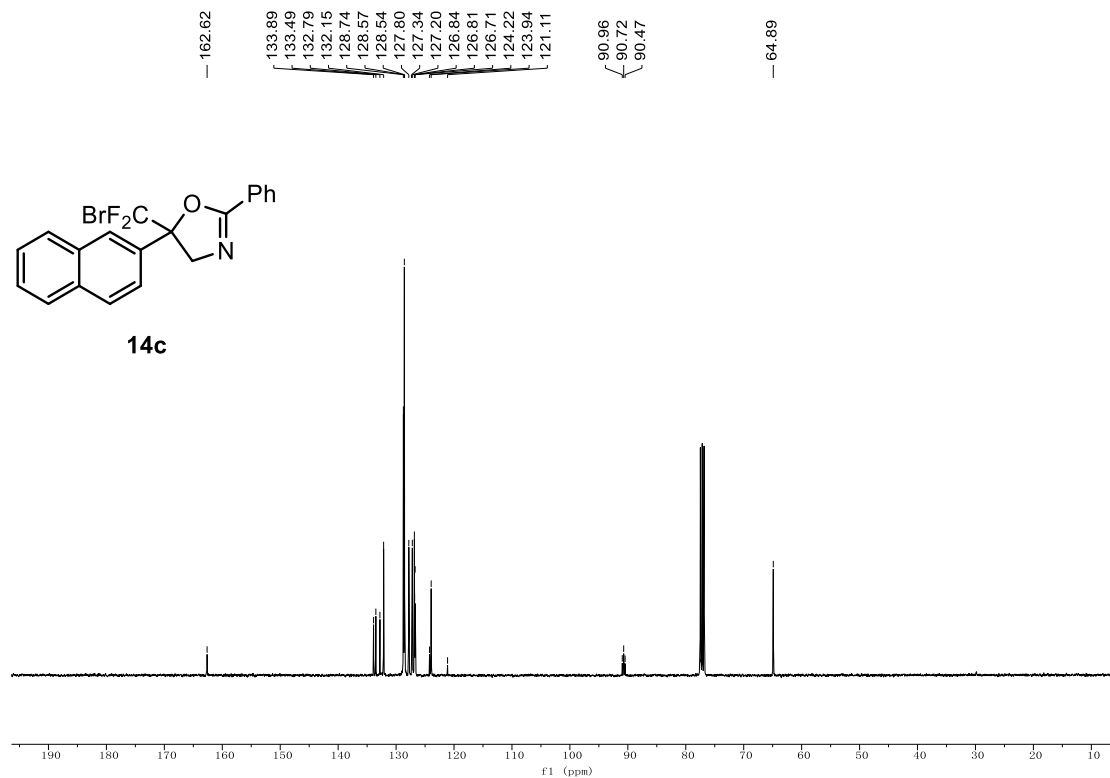


Figure S236. ^{13}C NMR of 5-(bromodifluoromethyl)-5-(naphthalen-2-yl)-2-phenyl-4,5-dihydrooxazole (**14c**)

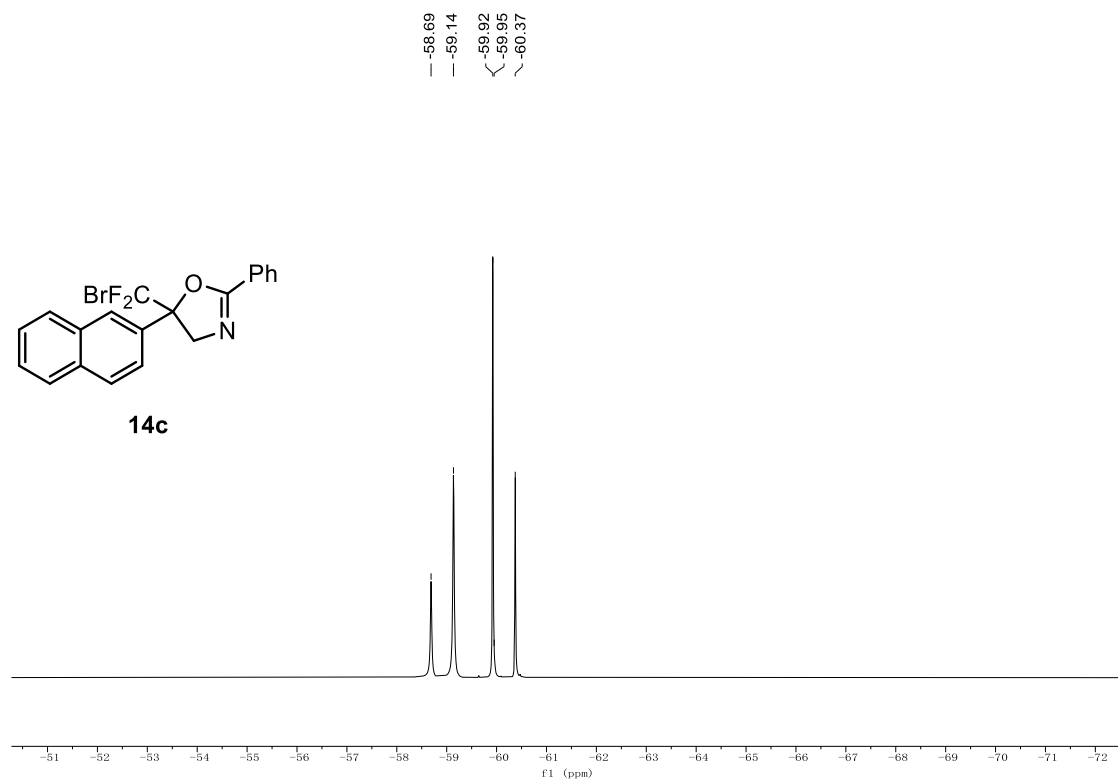


Figure S237. ^{19}F NMR of 5-(bromodifluoromethyl)-5-(naphthalen-2-yl)-2-phenyl-4,5-dihydrooxazole (**14c**)

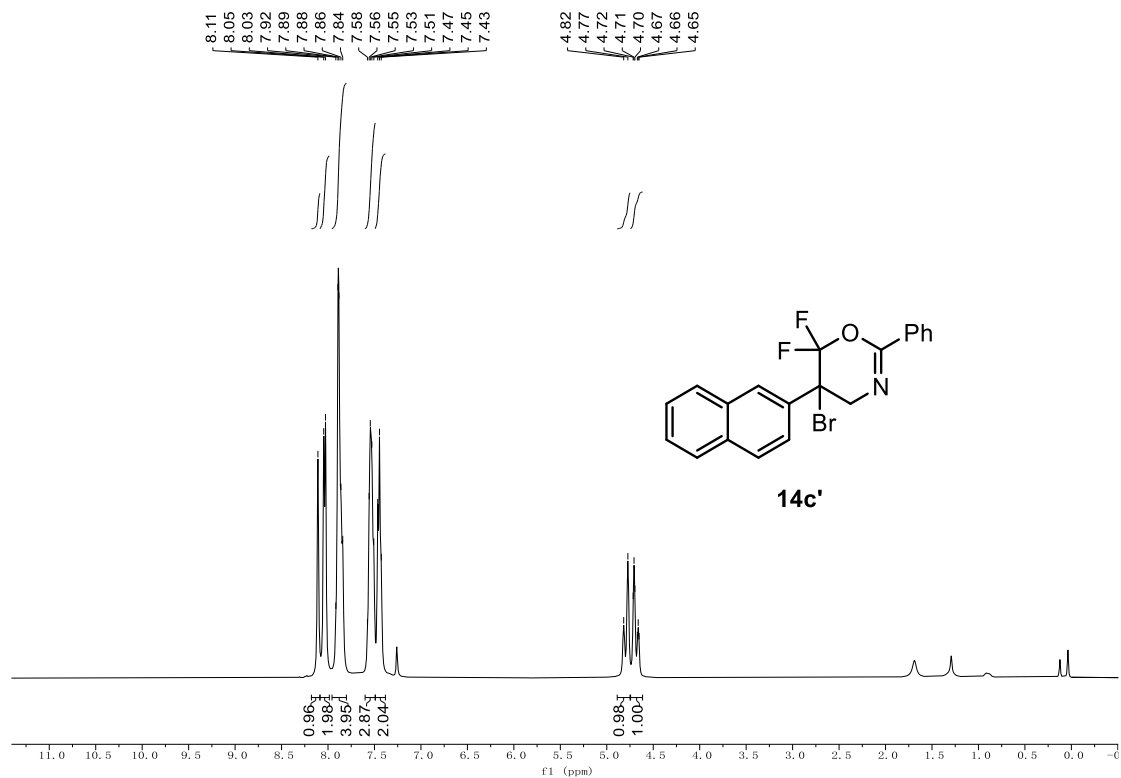


Figure S238. ^1H NMR of 5-bromo-6,6-difluoro-5-(naphthalen-2-yl)-2-phenyl-5,6-dihydro-4H-1,3-oxazine (**14c'**)

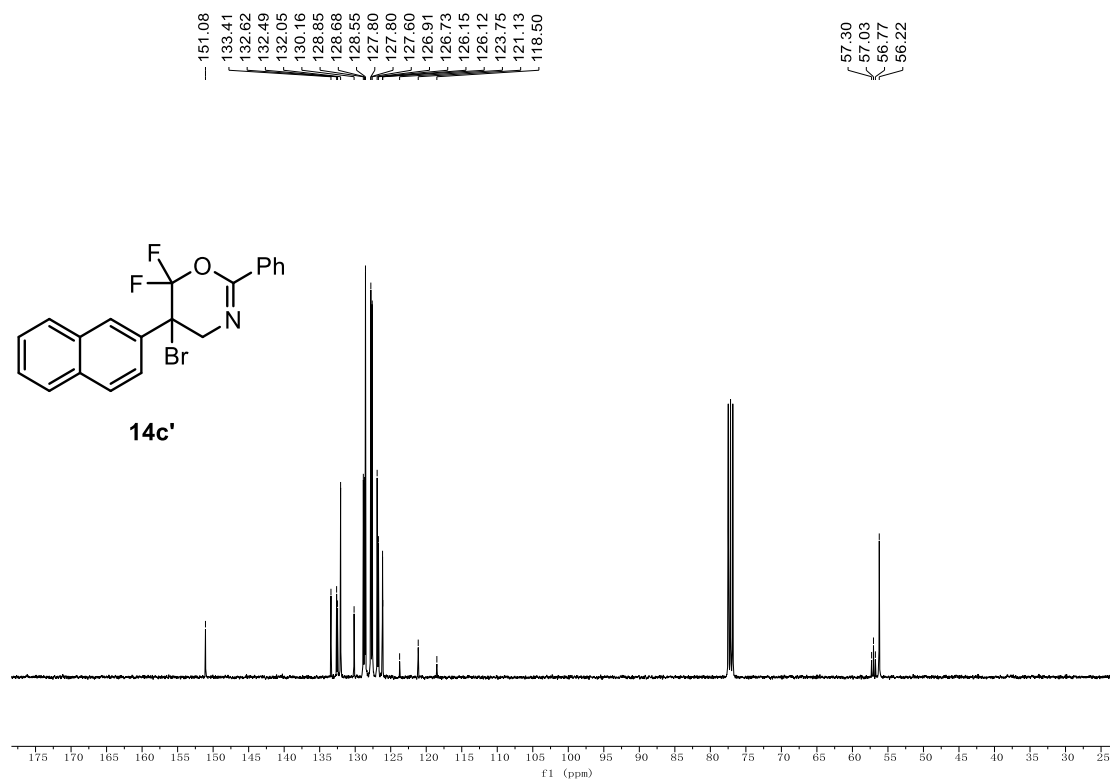


Figure S239. ¹³C NMR of 5-bromo-6,6-difluoro-5-(naphthalen-2-yl)-2-phenyl-5,6-dihydro-4H-1,3-oxazine (**14c'**)

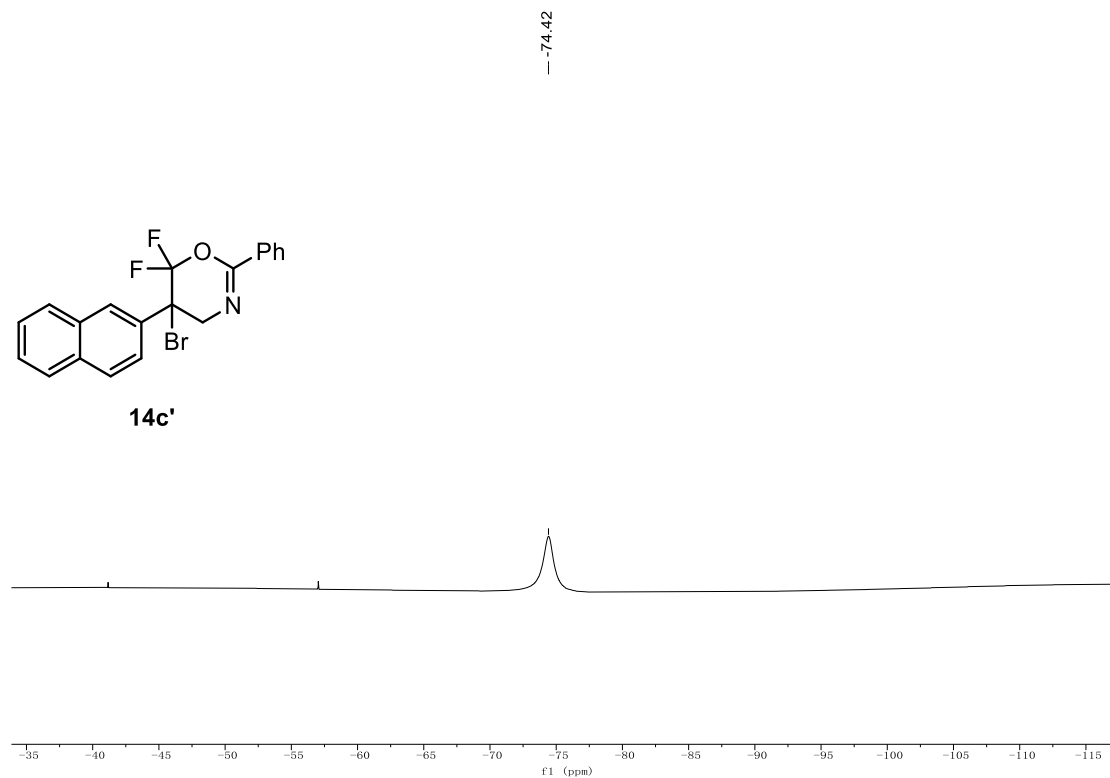


Figure S240. ¹⁹F NMR of 5-bromo-6,6-difluoro-5-(naphthalen-2-yl)-2-phenyl-5,6-dihydro-4H-1,3-oxazine (**14c'**)

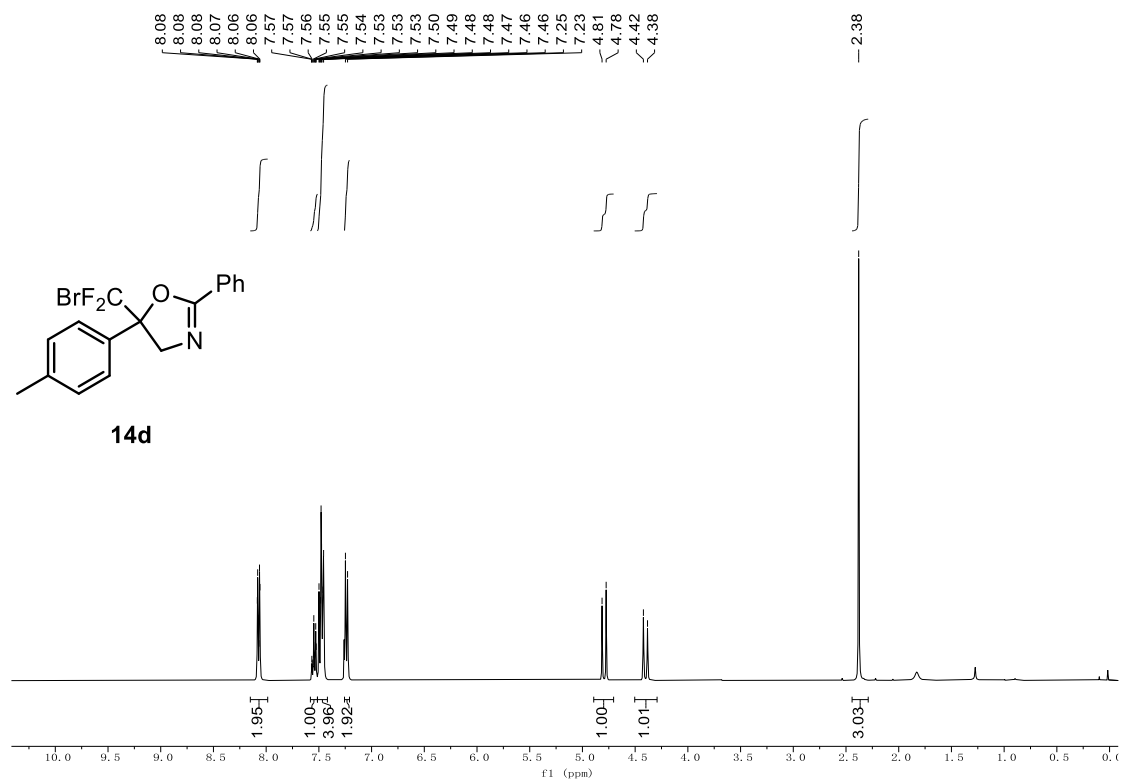


Figure S241. ¹H NMR of 5-(bromodifluoromethyl)-2-phenyl-5-(*p*-tolyl)-4,5-dihydrooxazole (**14d**)

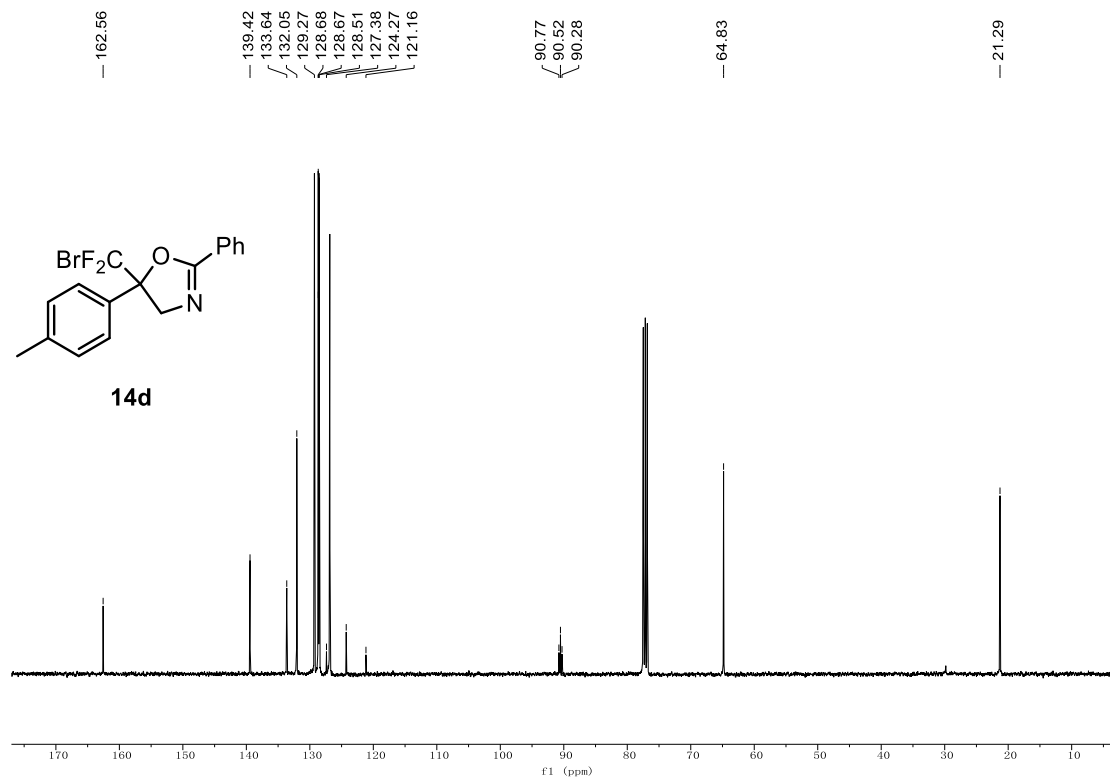


Figure S242. ¹³C NMR of 5-(bromodifluoromethyl)-2-phenyl-5-(*p*-tolyl)-4,5-dihydrooxazole (**14d**)

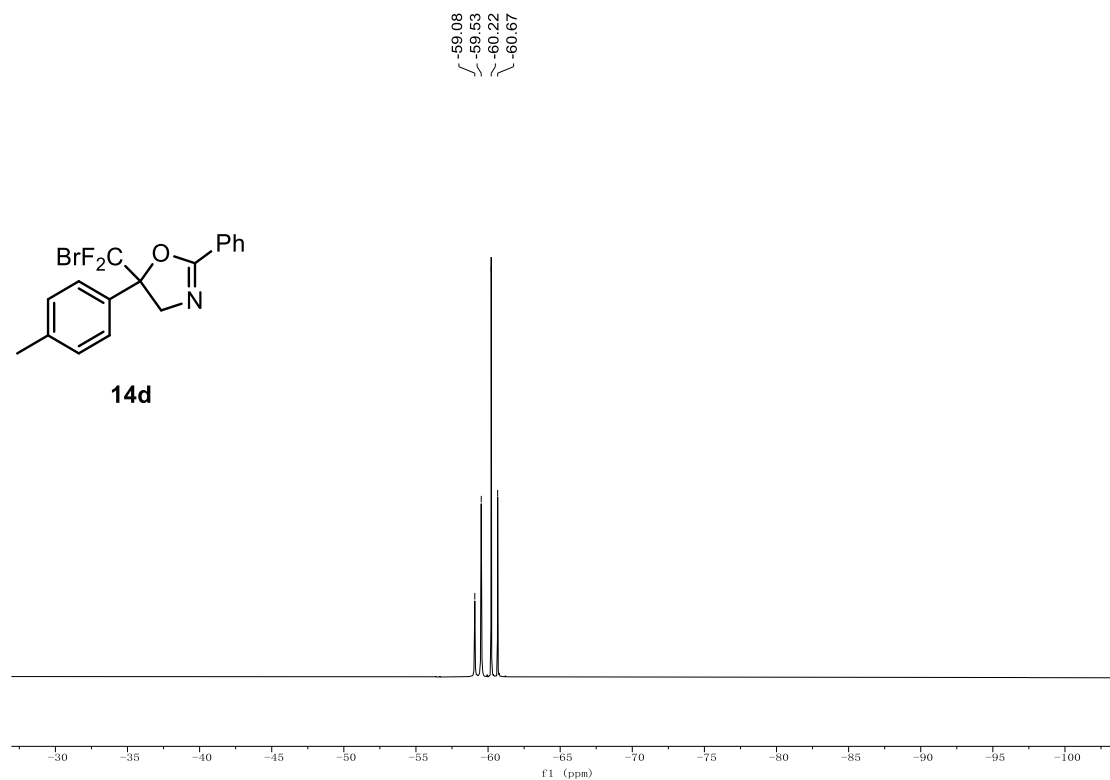


Figure S243. ¹⁹F NMR of 5-(bromodifluoromethyl)-2-phenyl-5-(*p*-tolyl)-4,5-dihydrooxazole (**14d**)

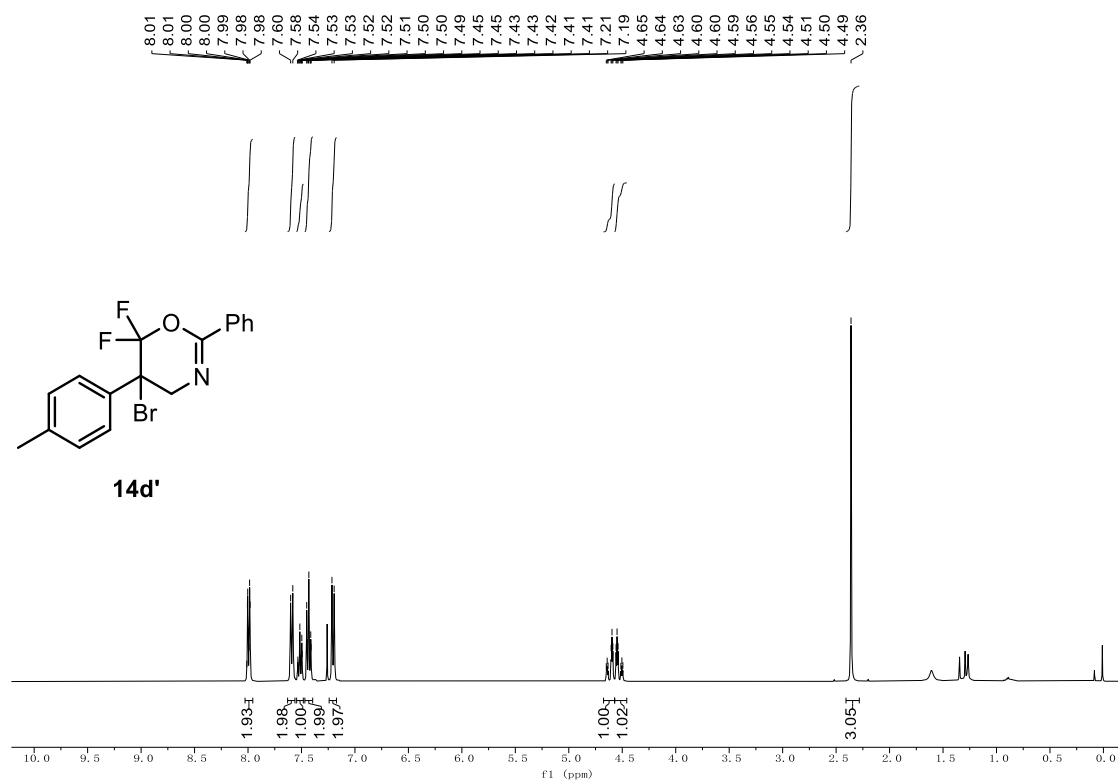


Figure S244. ¹H NMR of 5-bromo-6,6-difluoro-2-phenyl-5-(*p*-tolyl)-5,6-dihydro-4H-1,3-oxazine (**14d'**)

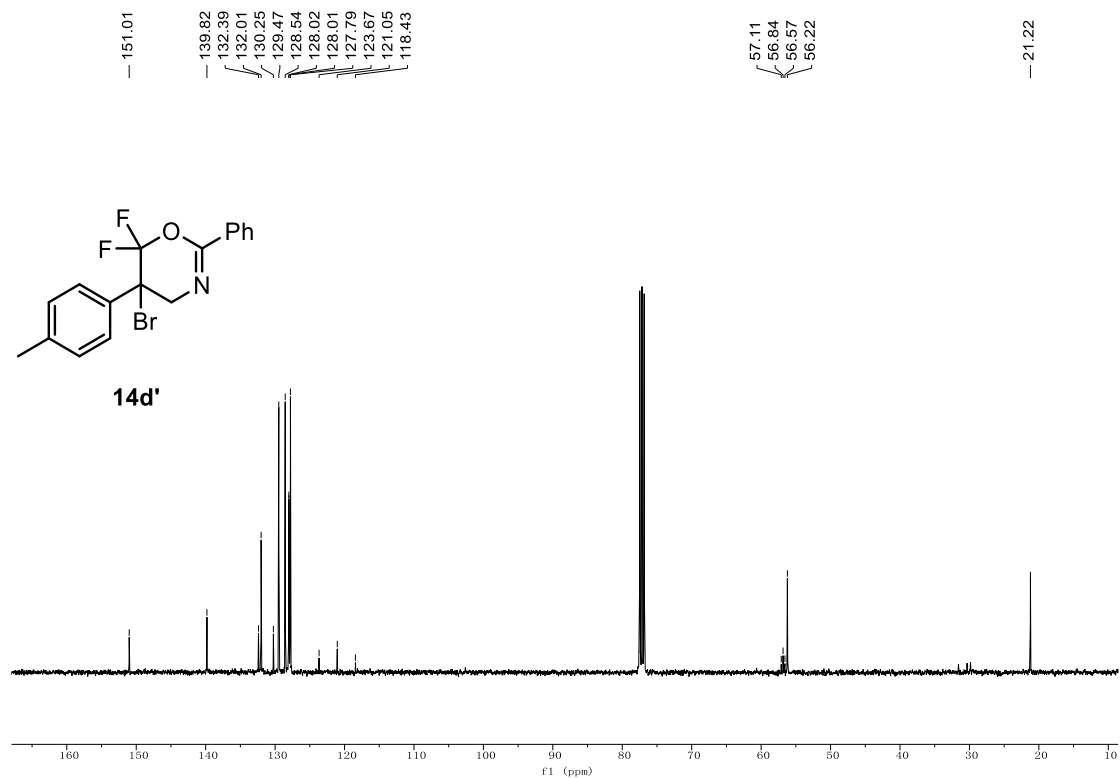


Figure S245. ^{13}C NMR of 5-bromo-6,6-difluoro-2-phenyl-5-(*p*-tolyl)-5,6-dihydro-4*H*-1,3-oxazine (**14d'**)

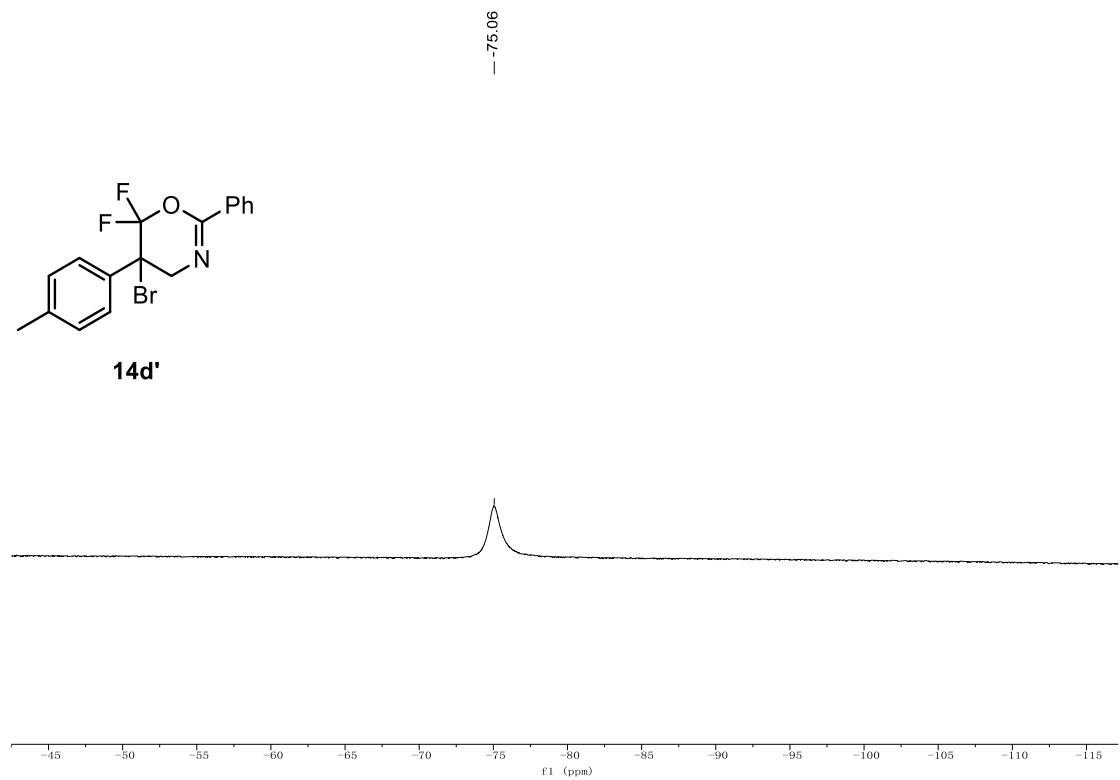
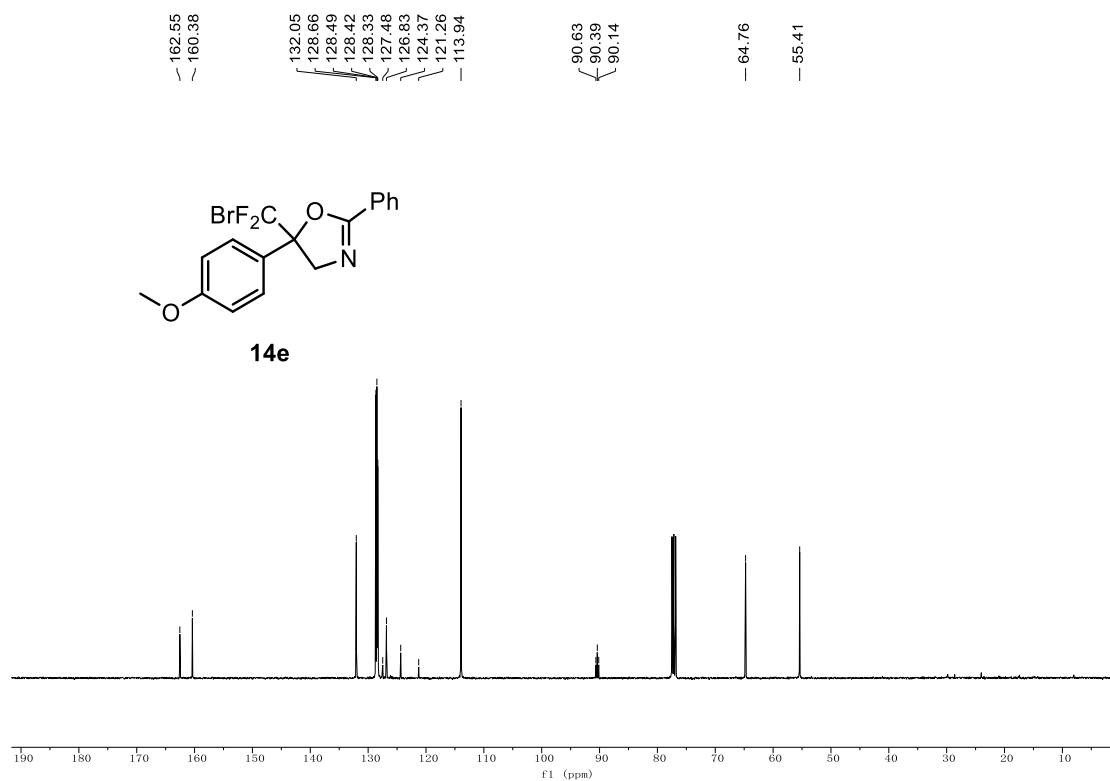
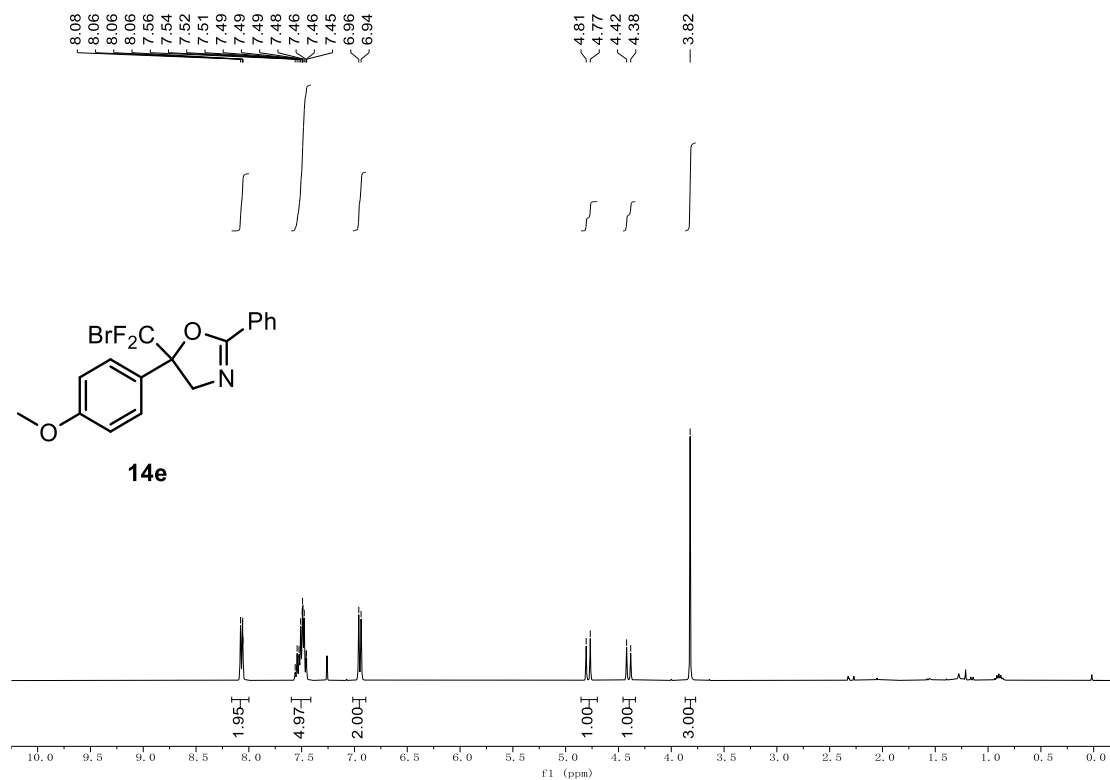
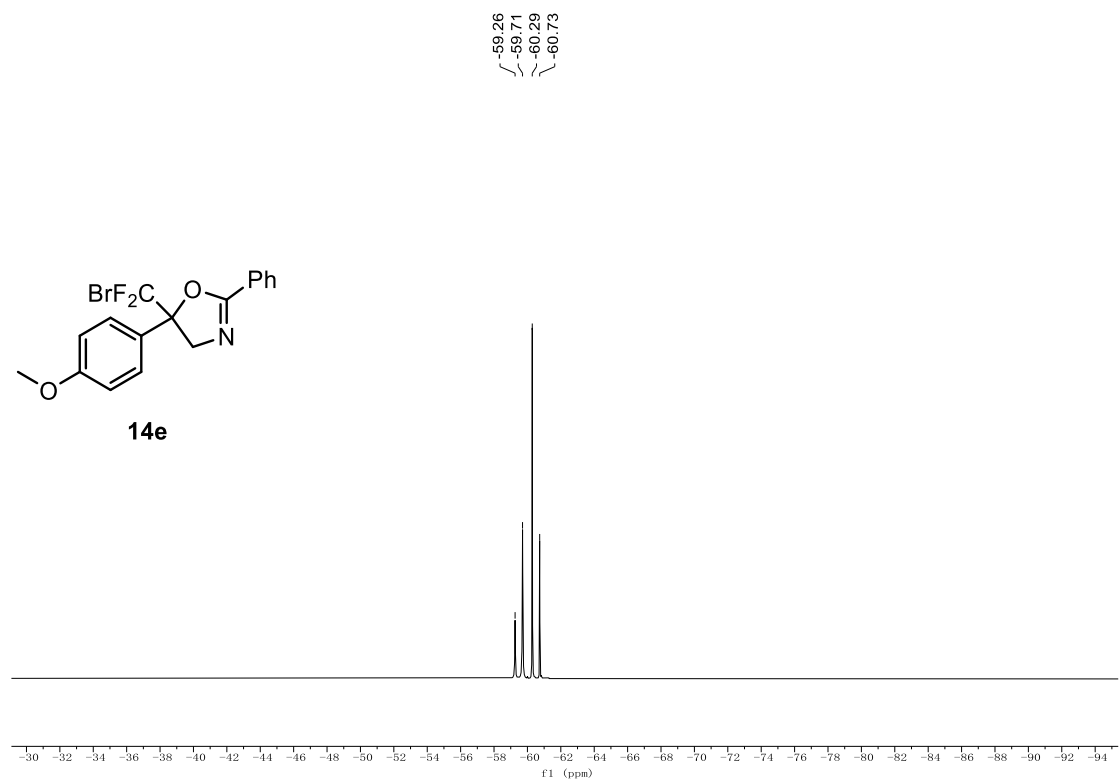


Figure S246. ^{19}F NMR of 5-bromo-6,6-difluoro-2-phenyl-5-(*p*-tolyl)-5,6-dihydro-4*H*-1,3-oxazine (**14d'**)





NMR Spectra of New Substrates

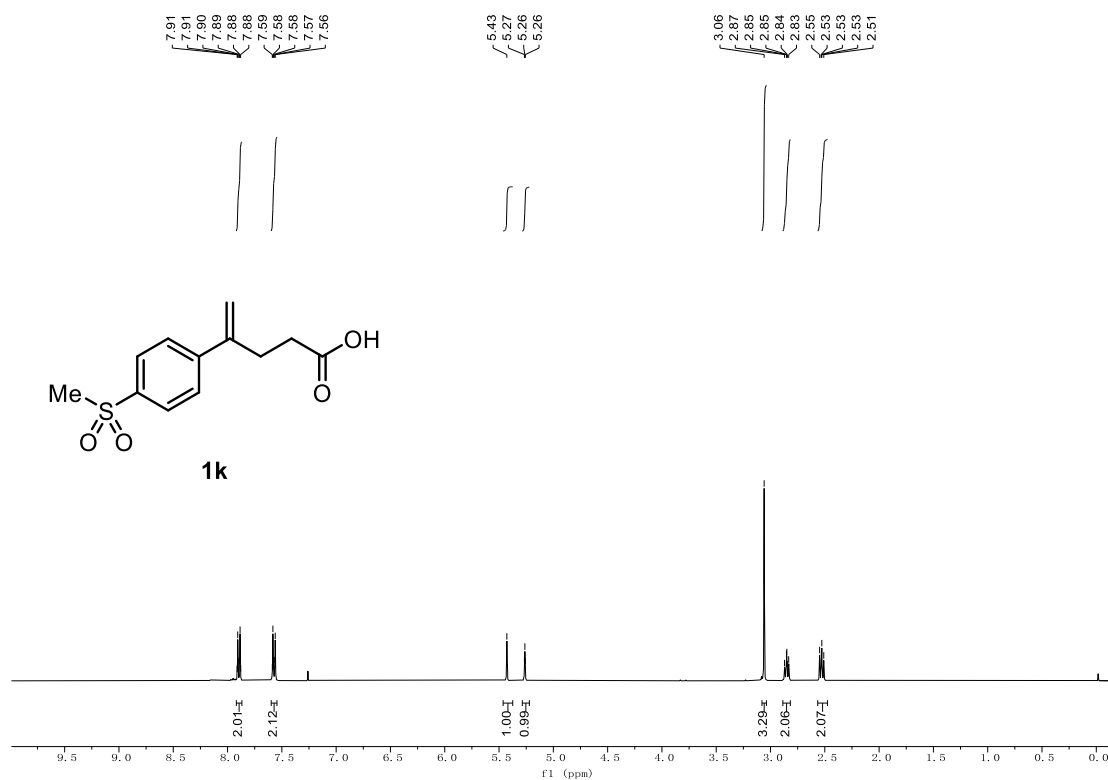


Figure S250. ¹H MNR of 4-(4-(methylsulfonyl)phenyl)pent-4-enoic acid (**1k**)

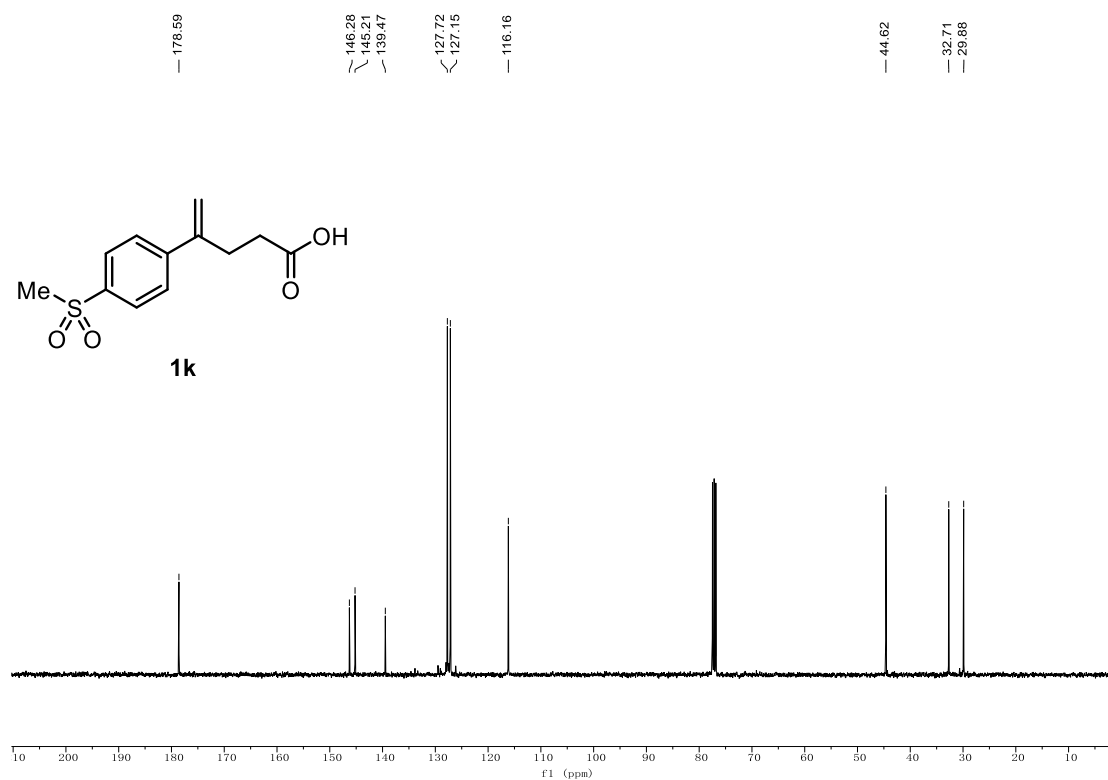


Figure S251. ¹³C MNR of 4-(4-(methylsulfonyl)phenyl)pent-4-enoic acid (**1k**)

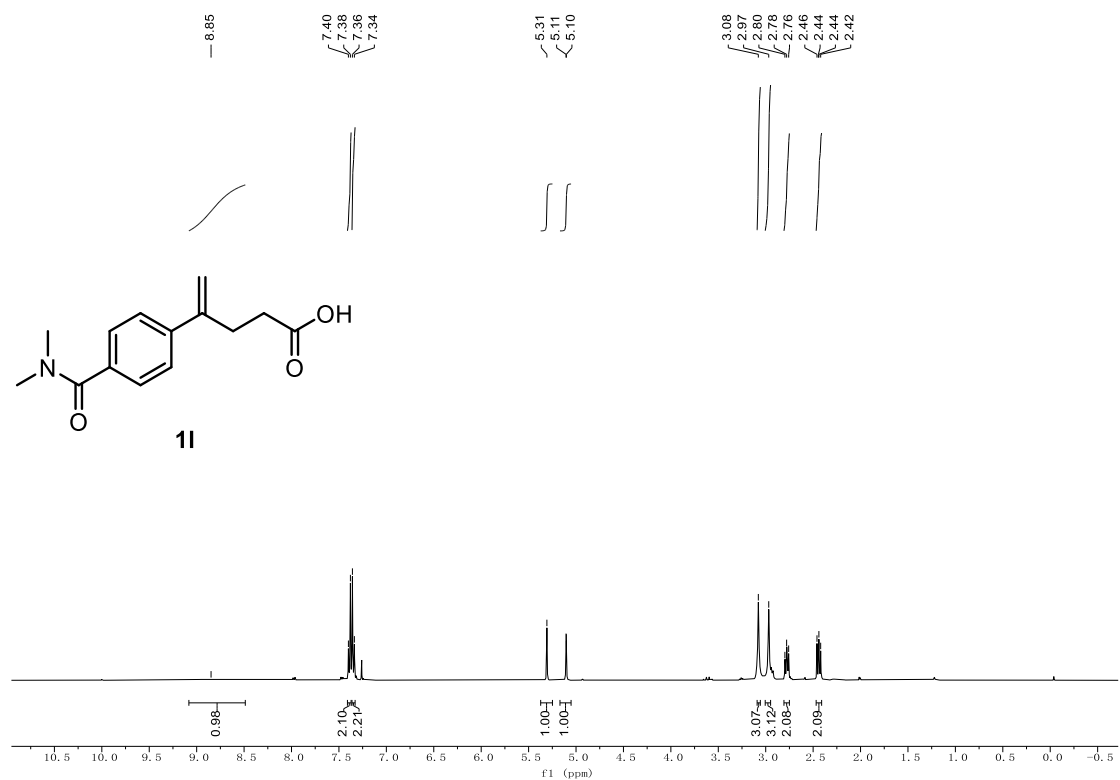


Figure S252. ¹H NMR of 4-(4-(dimethylcarbamoyl)phenyl)pent-4-enoic acid (**11**)

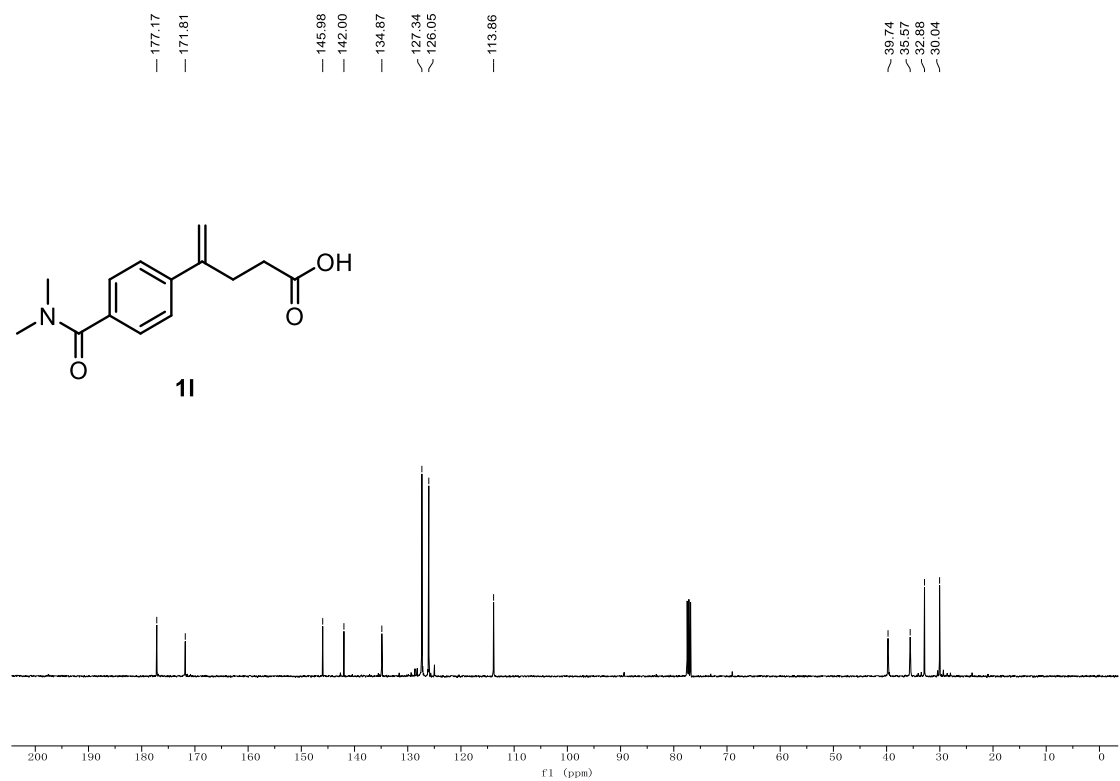
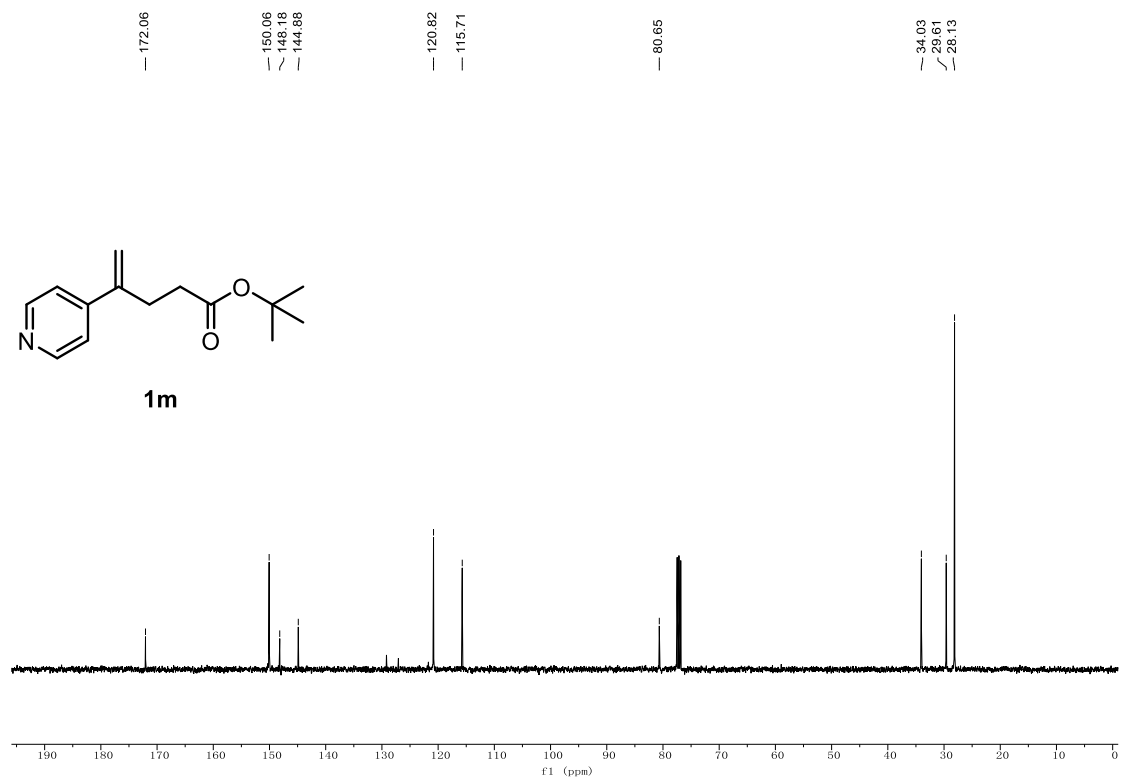
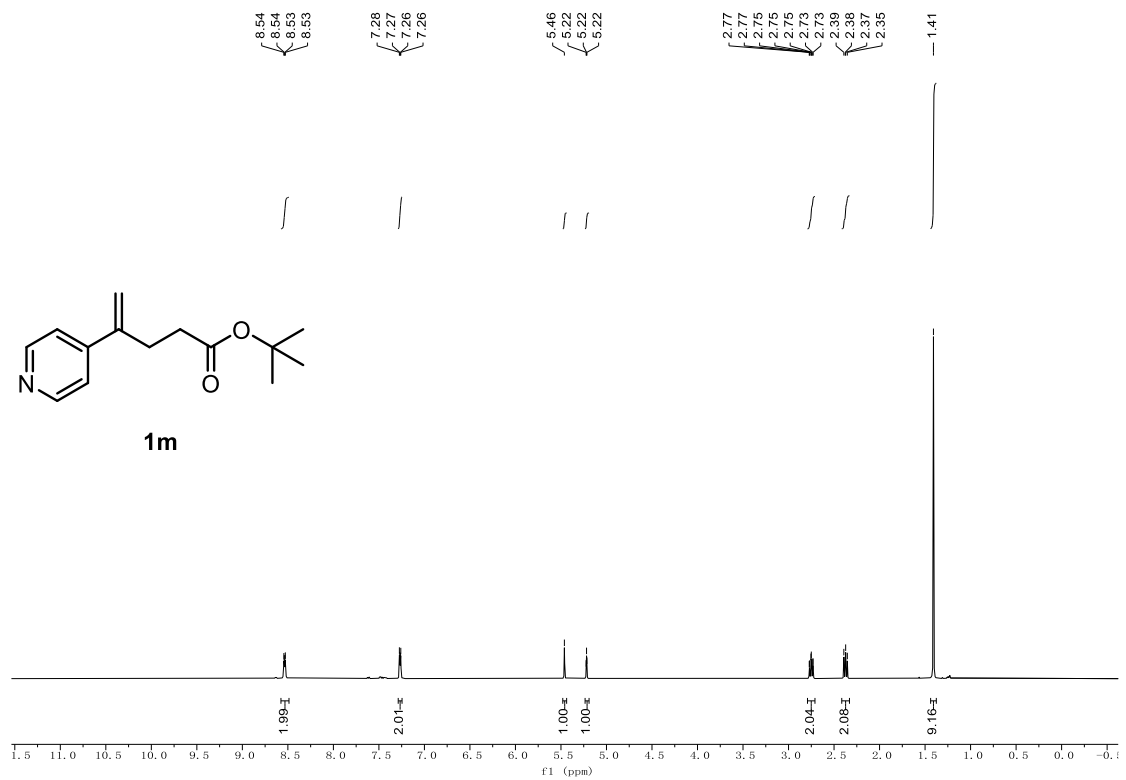


Figure S253. ¹³C NMR of 4-(4-(dimethylcarbamoyl)phenyl)pent-4-enoic acid (**11**)



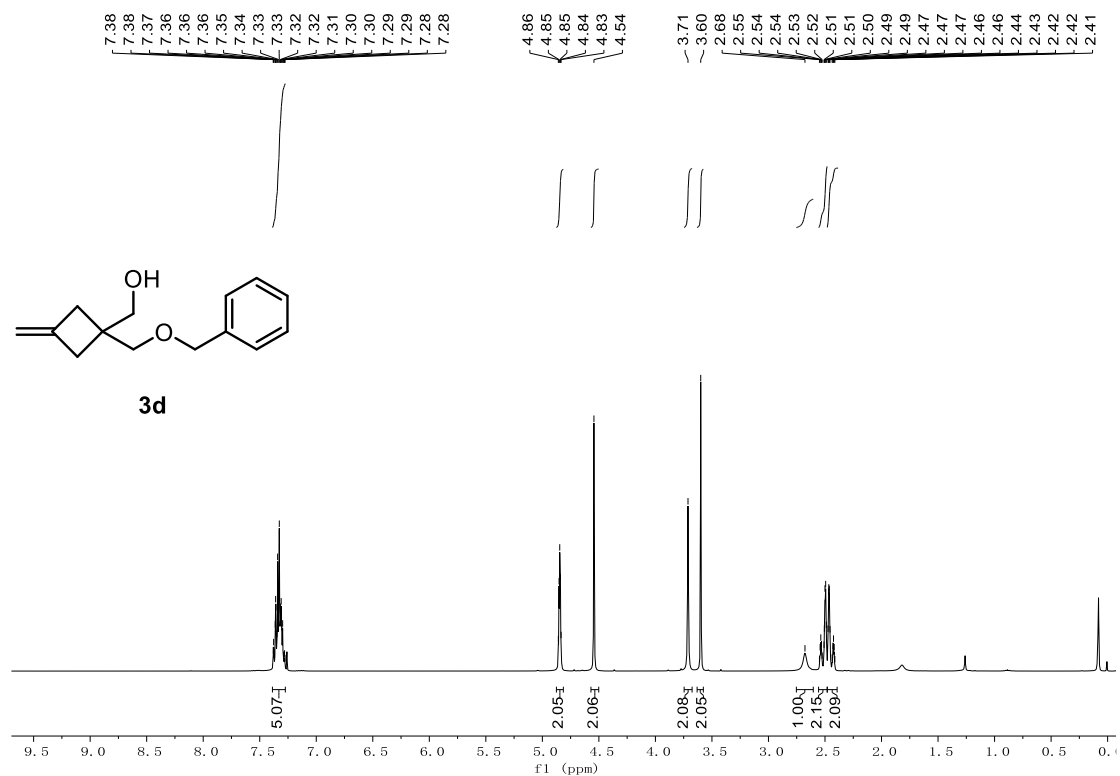


Figure S256. ¹H NMR of (1-((benzyloxy)methyl)-3-methylenecyclobutyl)methanol (**3d**)

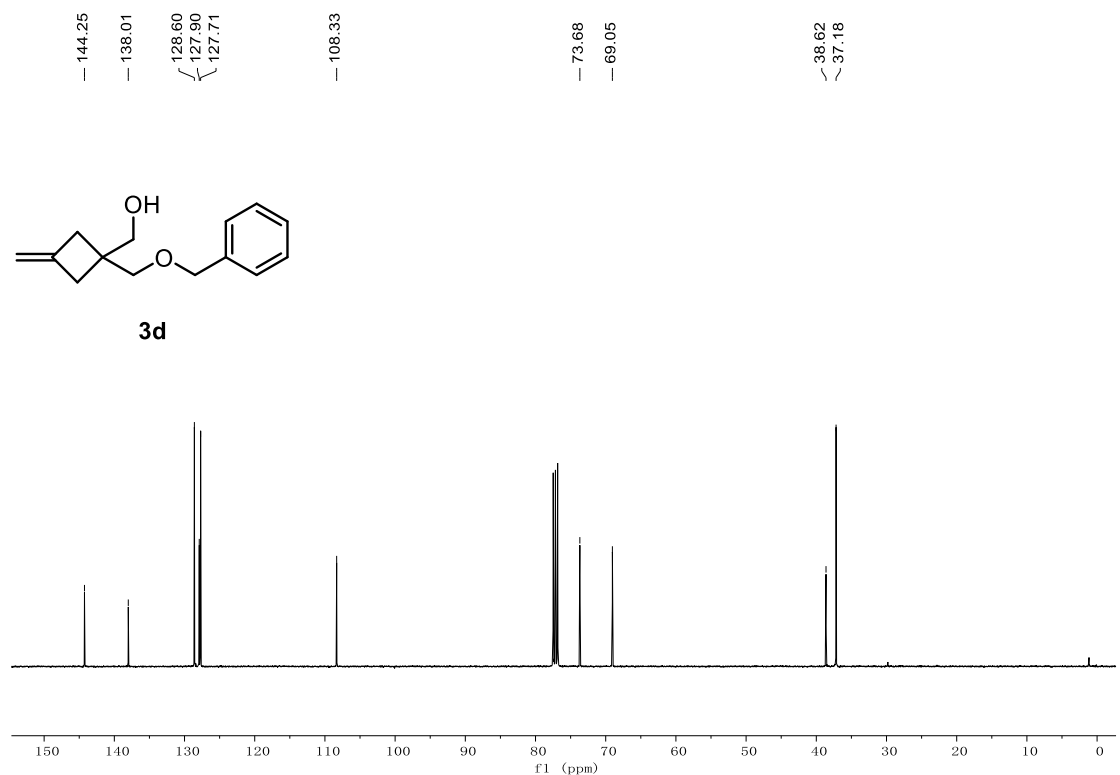


Figure S257. ¹³C NMR of (1-((benzyloxy)methyl)-3-methylenecyclobutyl)methanol (**3d**)

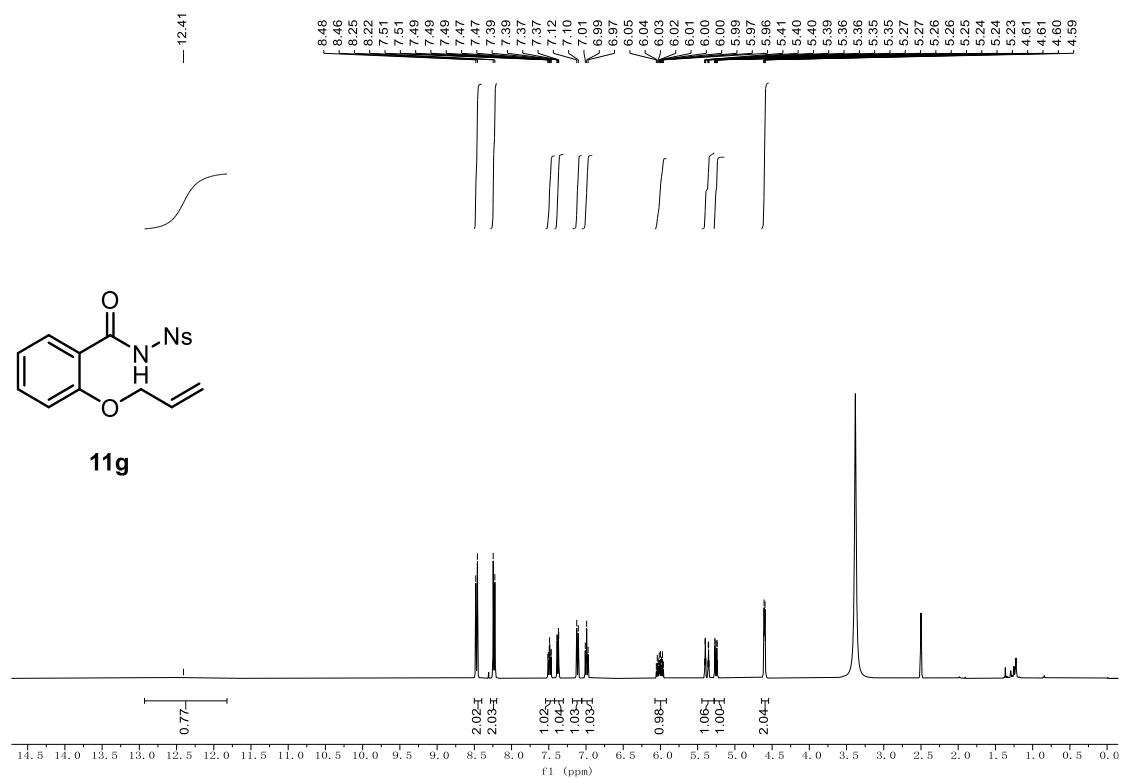


Figure S260. ^1H MNR of 2-(allyloxy)-*N*-((4-nitrophenyl)sulfonyl)benzamide (**11g**)

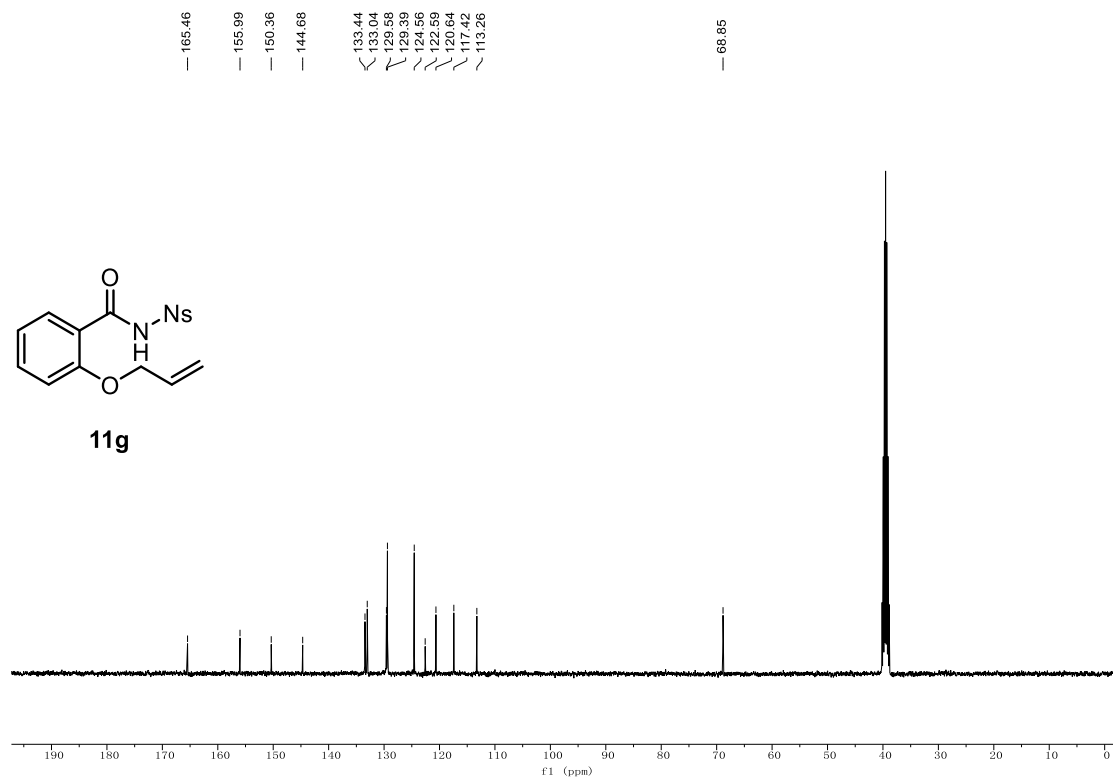


Figure S261. ^{13}C MNR of 2-(allyloxy)-*N*-((4-nitrophenyl)sulfonyl)benzamide (**11g**)

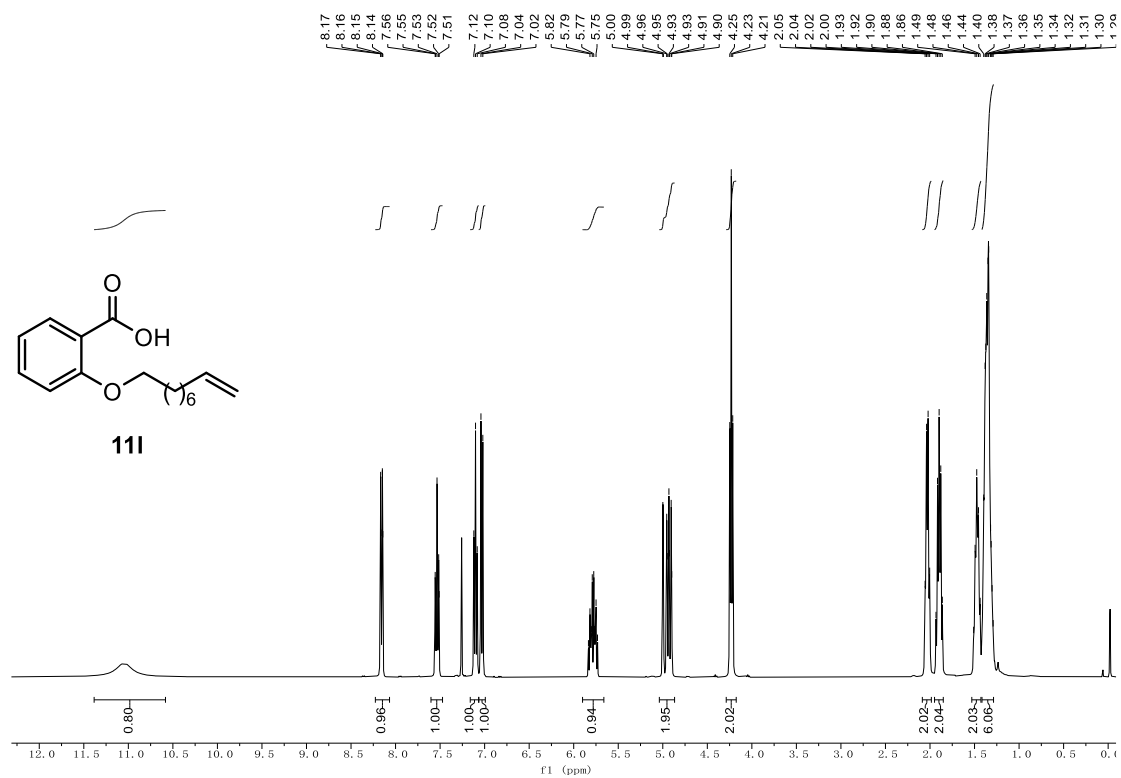


Figure S262. ¹H MNR of 2-(non-8-en-1-yloxy)benzoic acid (**111**)

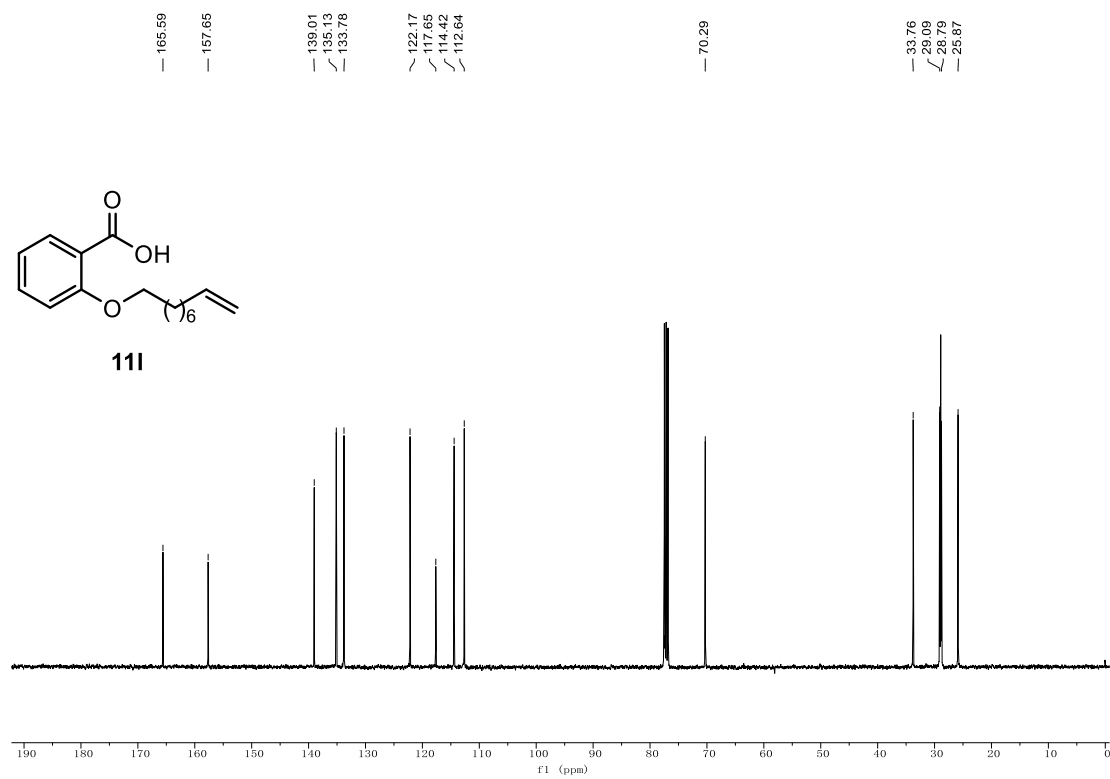
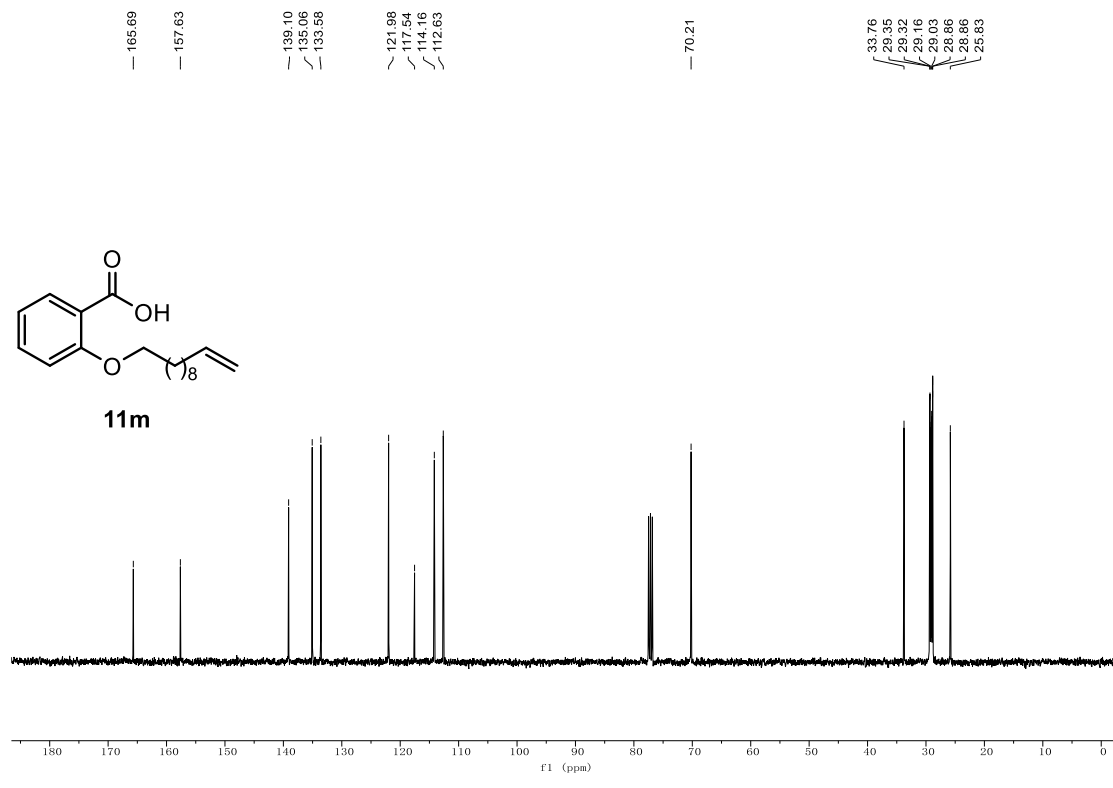
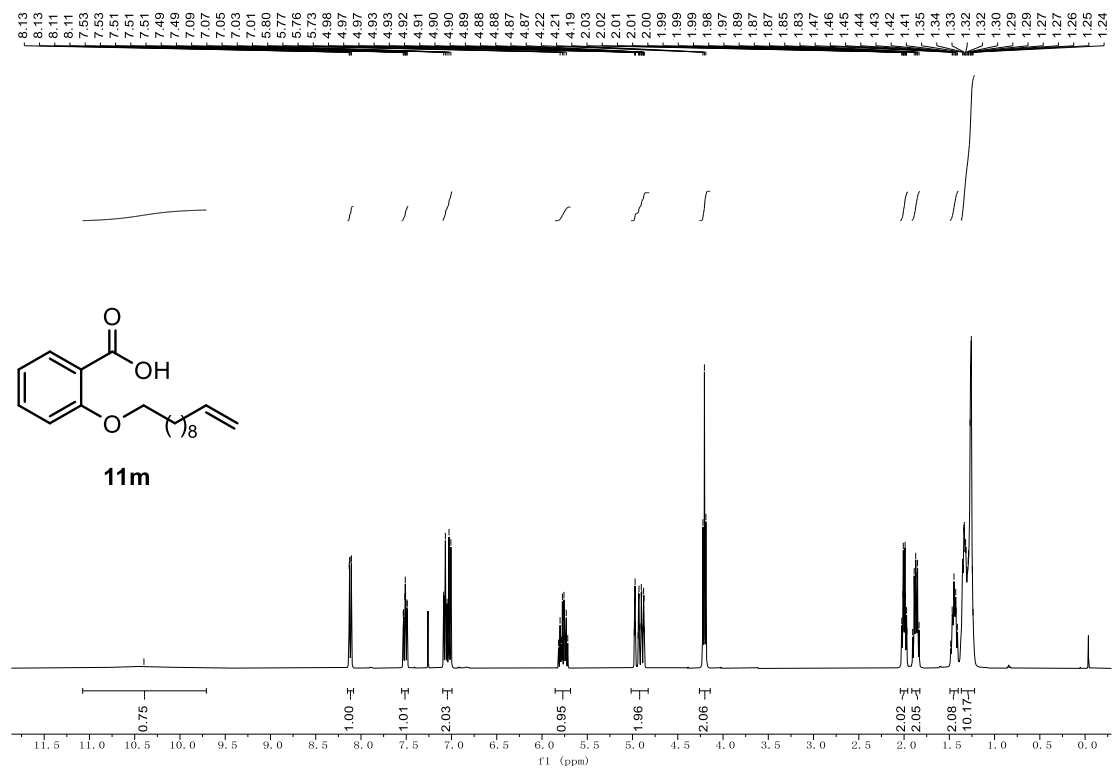


Figure S263. ¹³C MNR of 2-(non-8-en-1-yloxy)benzoic acid (**111**)



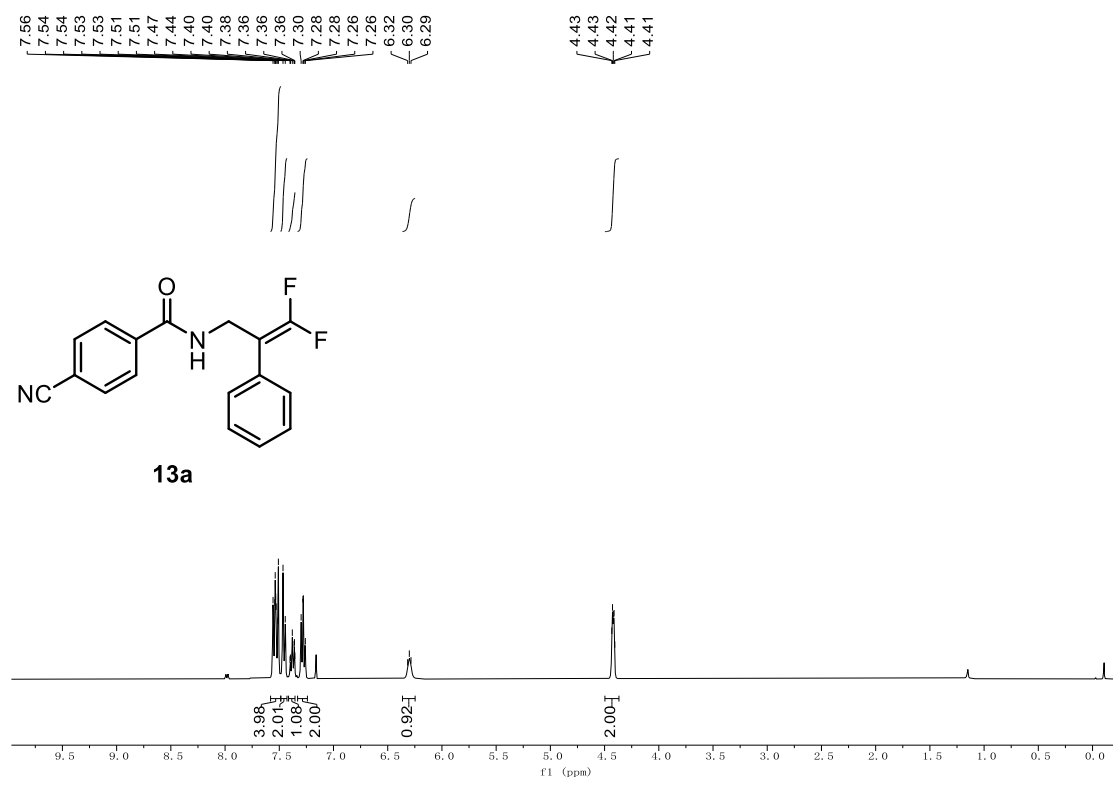


Figure S266. ¹H NMR of 4-cyano-N-(3,3-difluoro-2-phenylallyl)benzamide (13a)

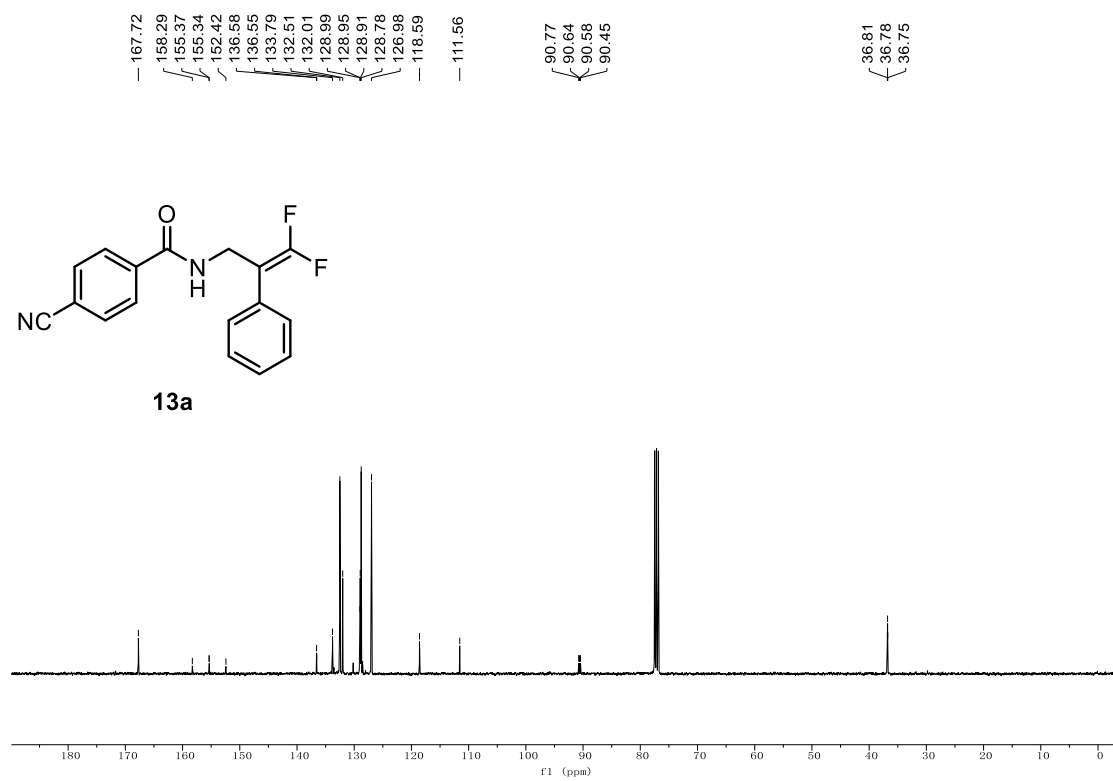


Figure S267. ¹³C NMR of 4-cyano-N-(3,3-difluoro-2-phenylallyl)benzamide (13a)

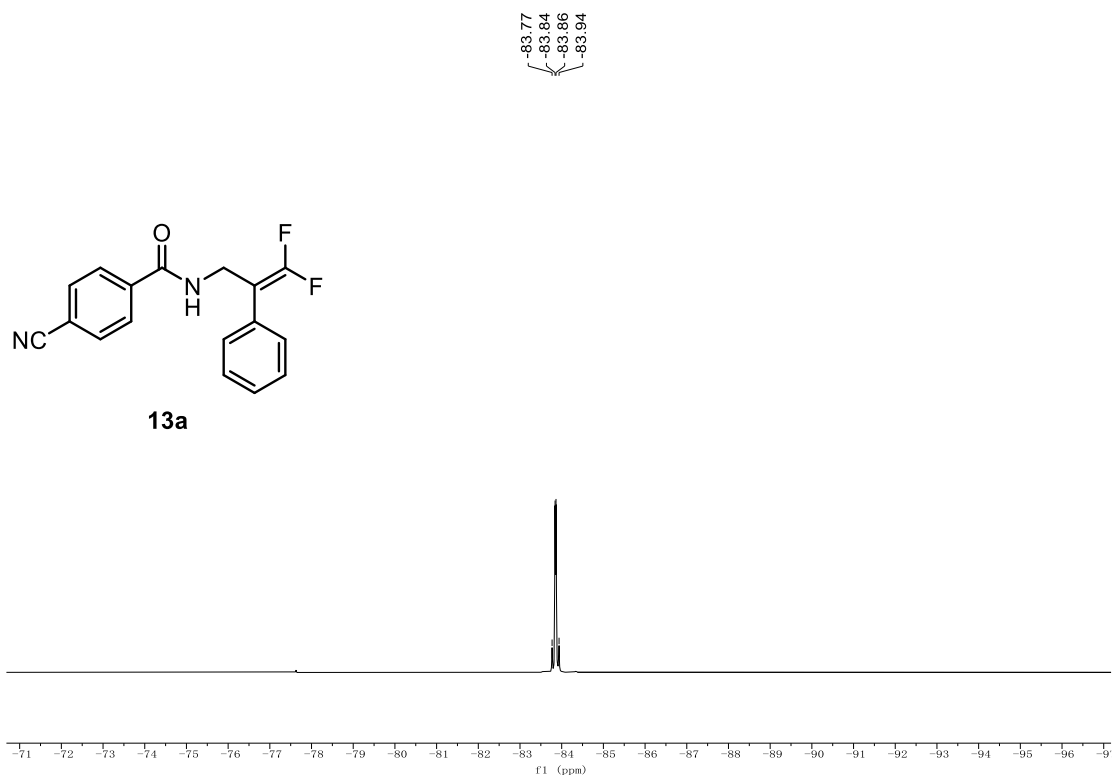


Figure S268. ^{19}F MNR of 4-cyano-*N*-(3,3-difluoro-2-phenylallyl)benzamide (**13a**)

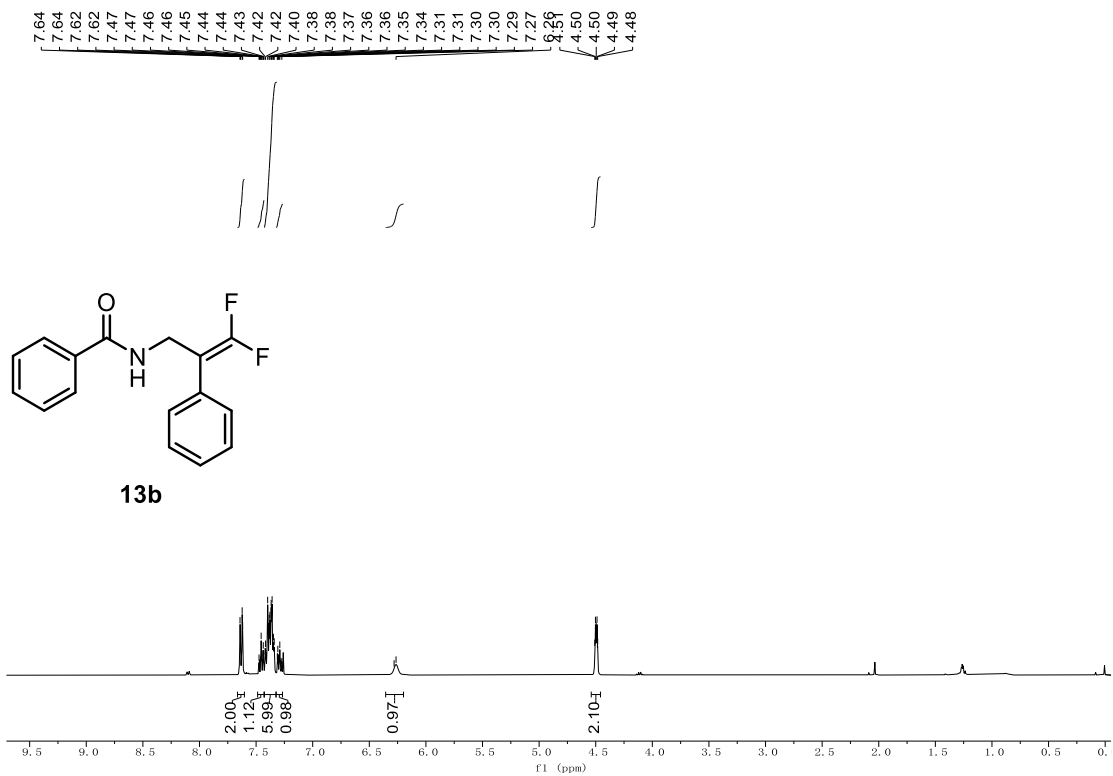


Figure S269. ^1H MNR of *N*-(3,3-difluoro-2-phenylallyl)benzamide (**13b**)

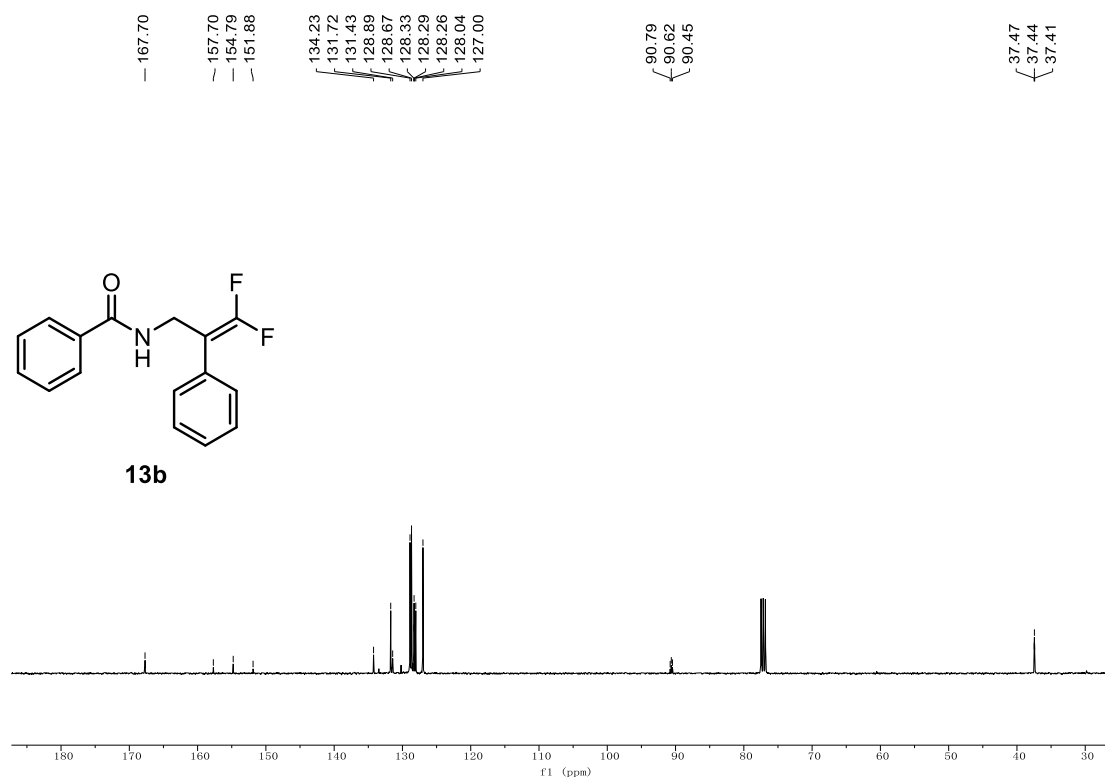


Figure S270. ^{13}C MNR of *N*-(3,3-difluoro-2-phenylallyl)benzamide (**13b**)

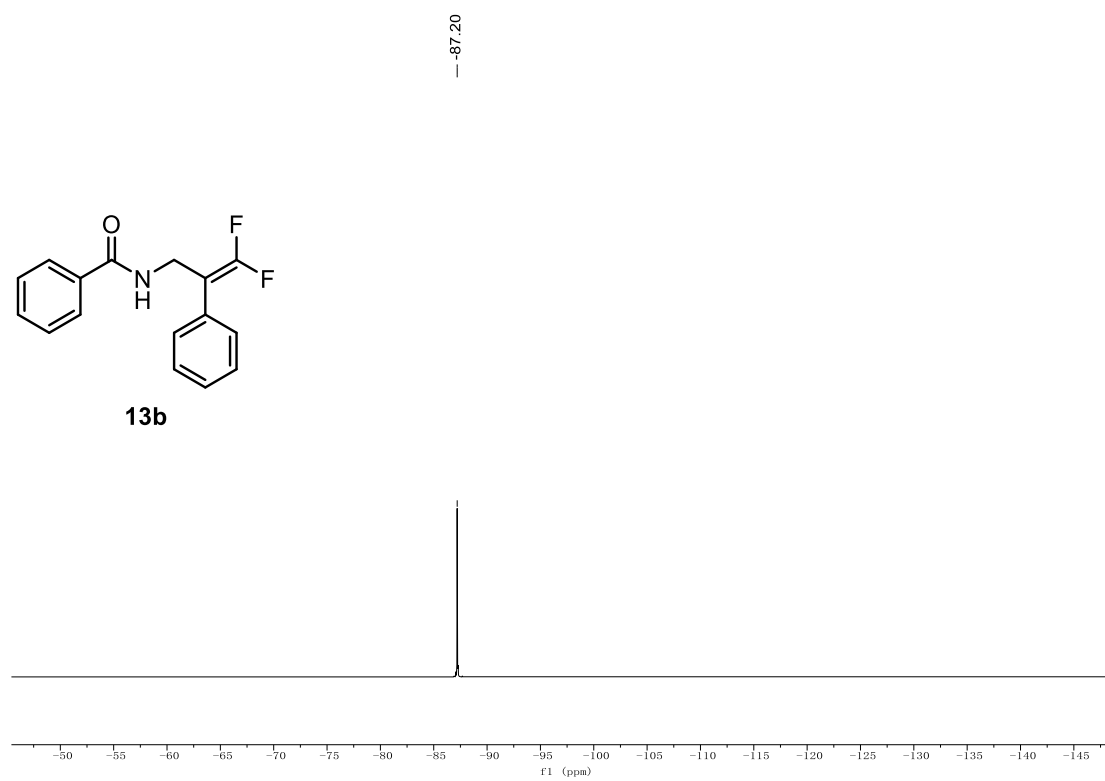


Figure S271. ^{19}F MNR of *N*-(3,3-difluoro-2-phenylallyl)benzamide (**13b**)