

Figure S1. *tert*-Butyl 3-(2-methoxy-2-oxoethylidene)azetidine-1-carboxylate (3) ¹H NMR spectrum (700 MHz, CDCl₃).

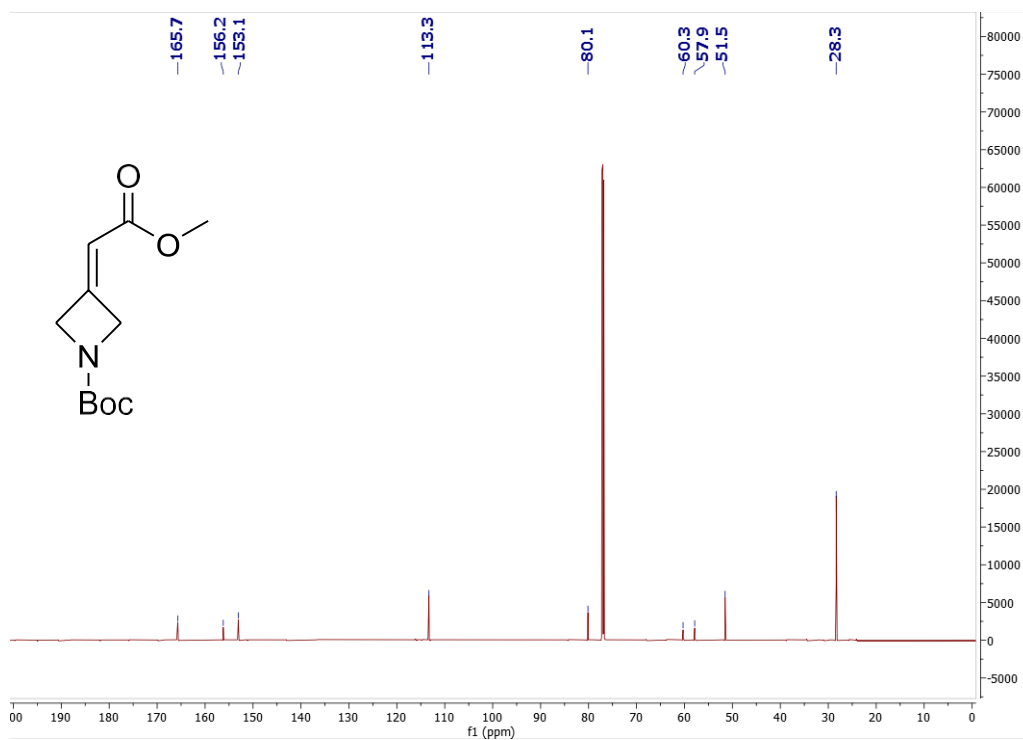


Figure S2. *tert*-Butyl 3-(2-methoxy-2-oxoethylidene)azetidine-1-carboxylate (3) ¹³C NMR spectrum (176 MHz, CDCl₃).

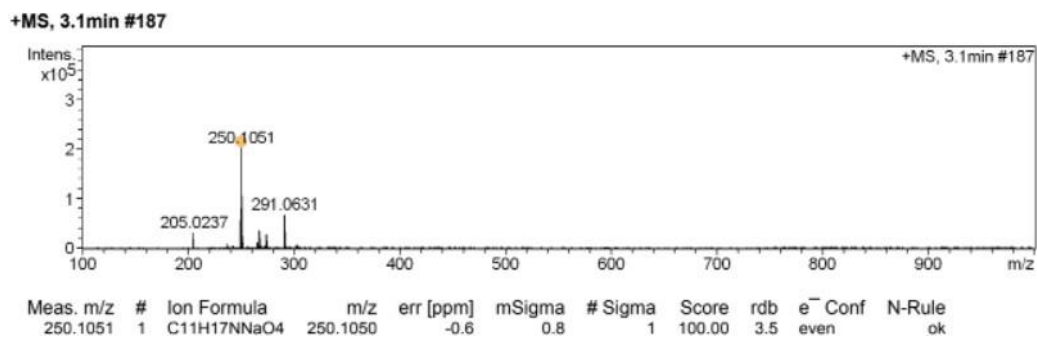


Figure S3. *tert*-Butyl 3-(2-methoxy-2-oxoethylidene)azetidine-1-carboxylate (3) HRMS (ESI-TOF).

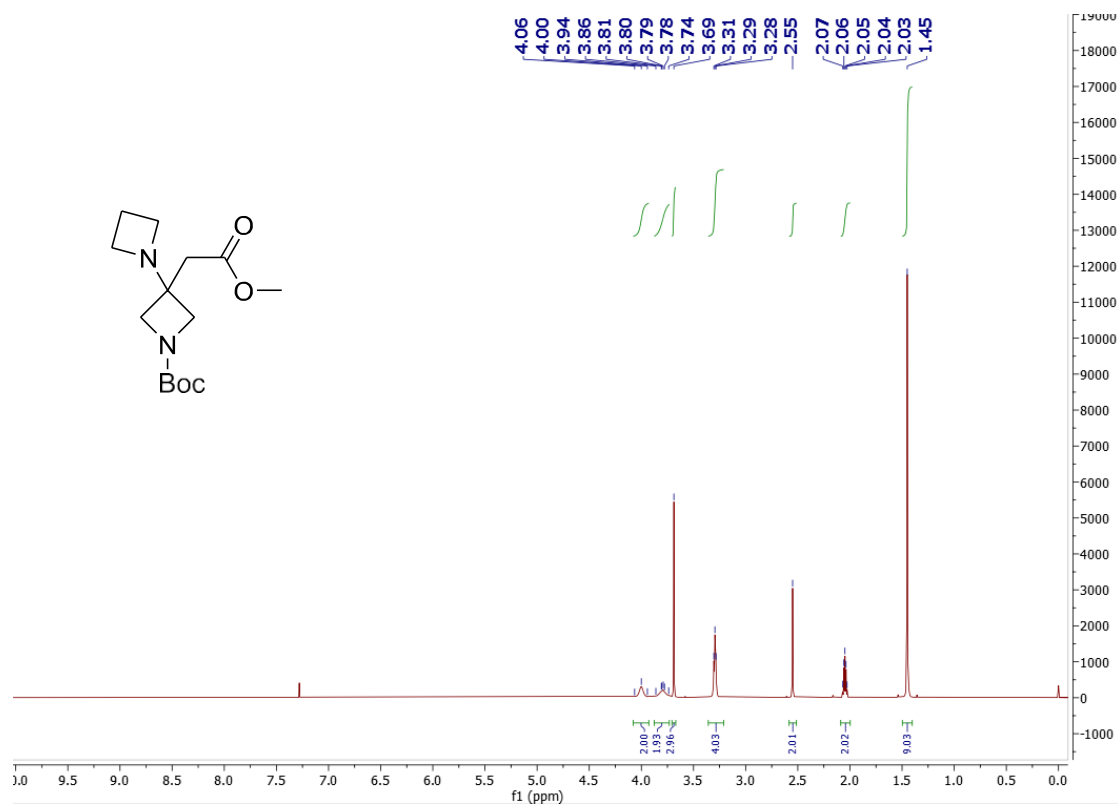


Figure S4. *tert*-Butyl 3'-(2-methoxy-2-oxoethyl)-[1,3'-biazetidine]-1'-carboxylate (4a) ¹H NMR spectrum (700 MHz, CDCl₃).

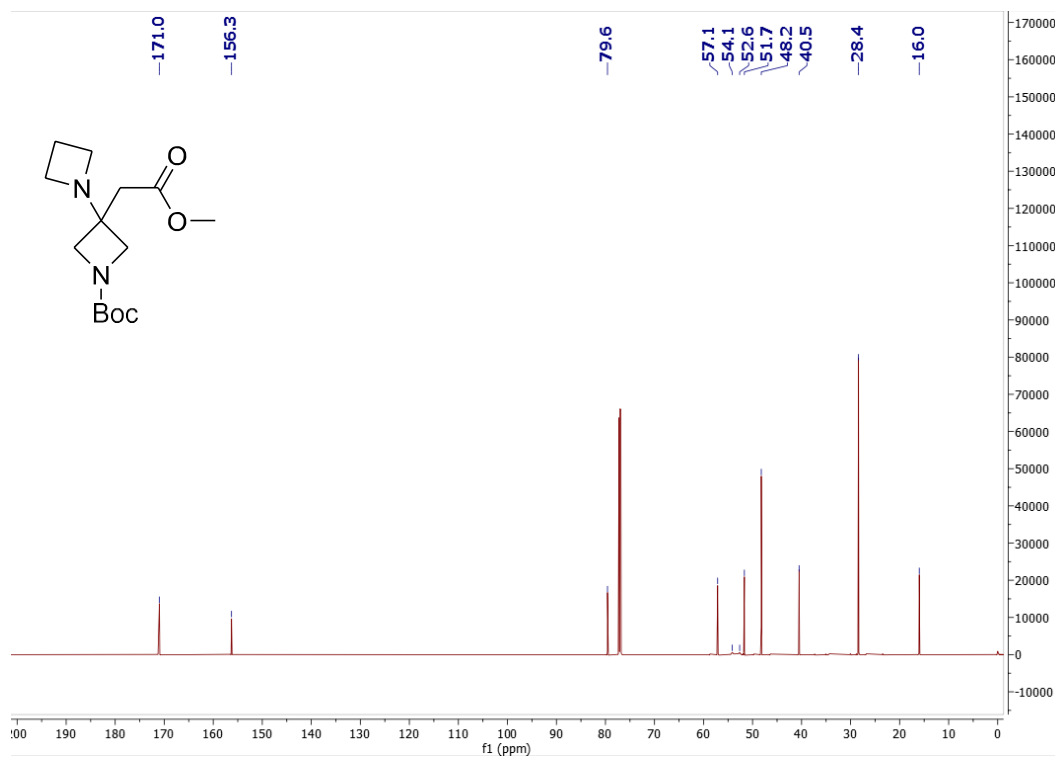


Figure S5. *tert*-Butyl 3'-(2-methoxy-2-oxoethyl)-[1,3'-biazetidine]-1'-carboxylate (4a) ^{13}C NMR spectrum (176 MHz, CDCl_3).

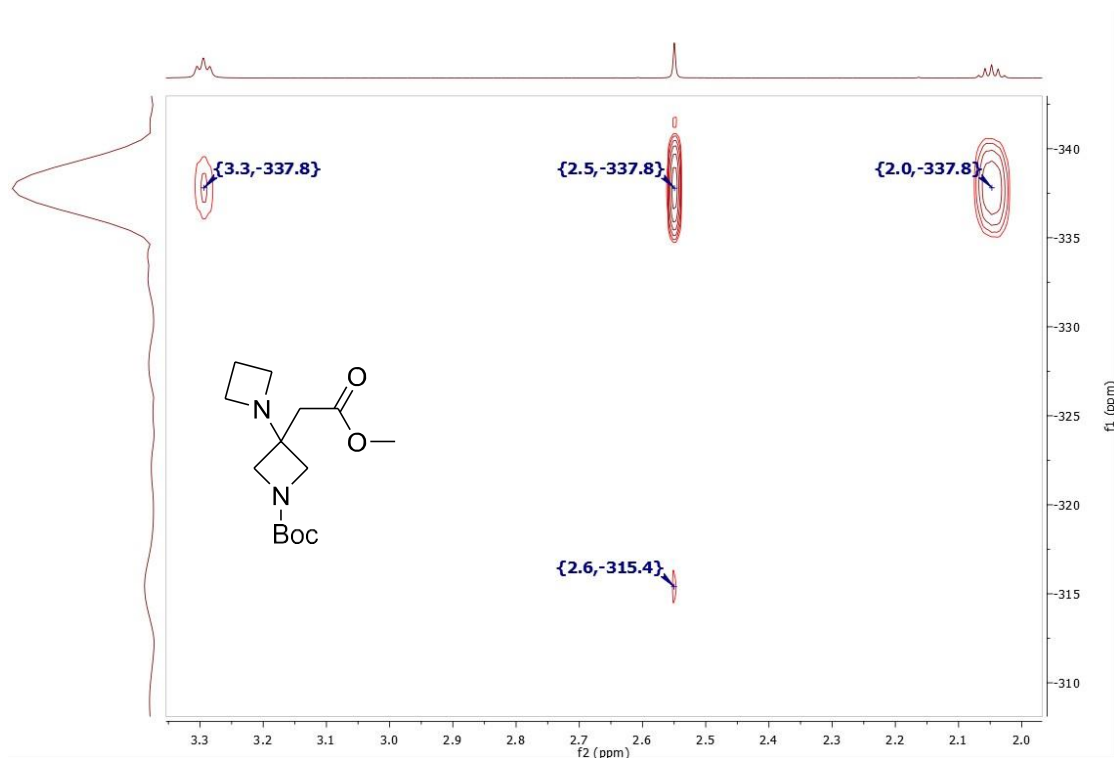


Figure S6. *tert*-Butyl 3'-(2-methoxy-2-oxoethyl)-[1,3'-biazetidine]-1'-carboxylate (4a) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

+MS, 7.3min #439

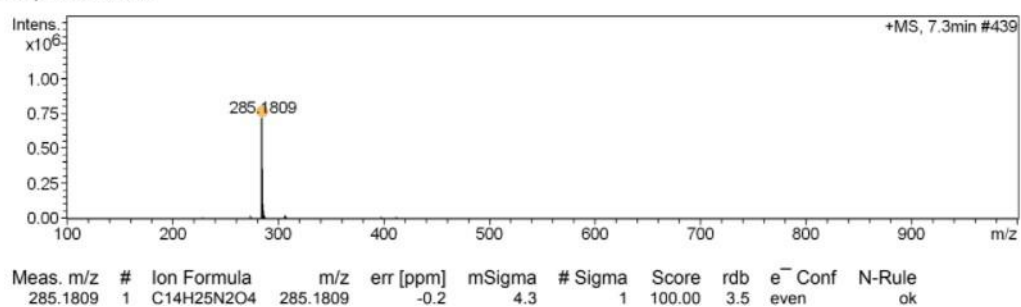


Figure S7. *tert*-Butyl 3'-(2-methoxy-2-oxoethyl)-[1,3'-biazetidine]-1'-carboxylate (4a) HRMS (ESI-TOF).

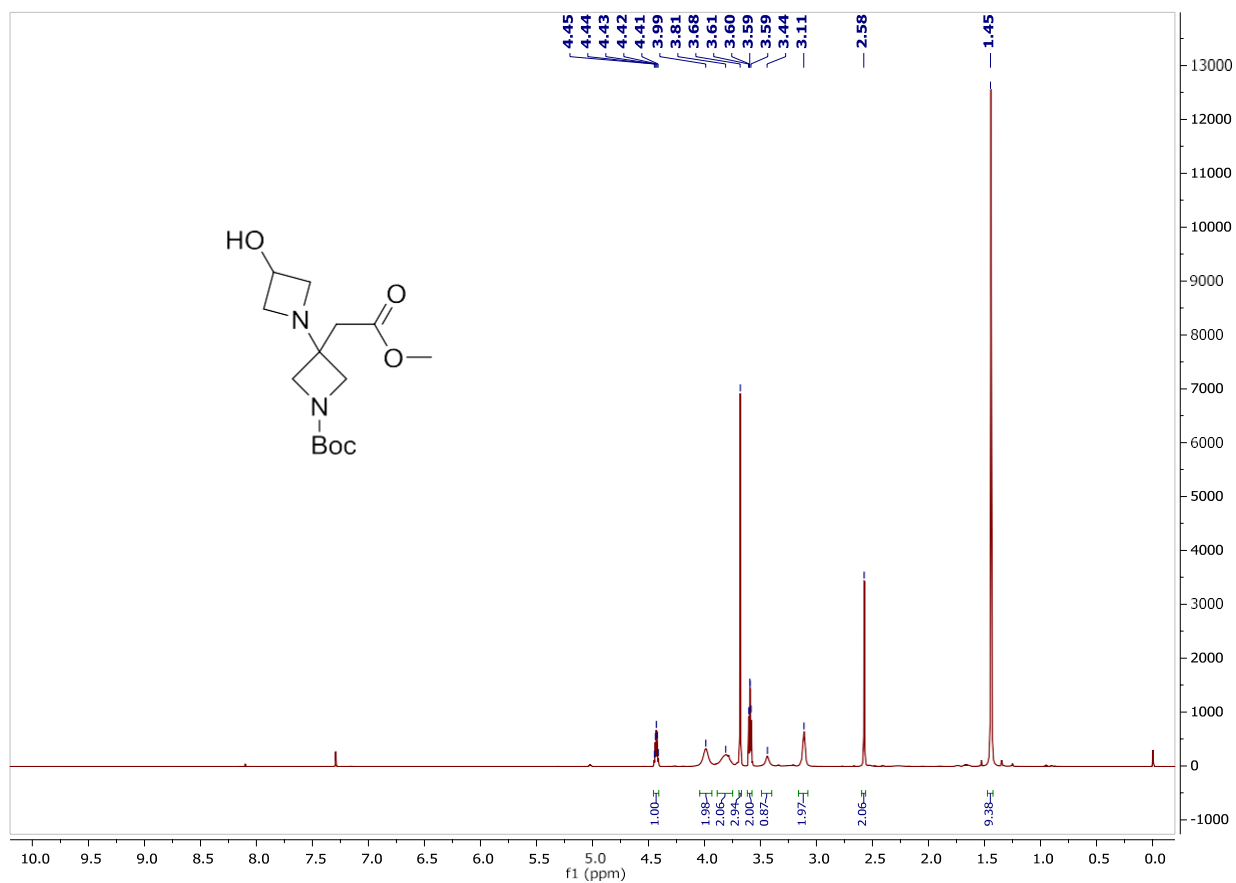


Figure S8. *tert*-Butyl 3-hydroxy-3'-(2-methoxy-2-oxoethyl)[1,3'-biazetidine]-1'-carboxylate (4b) ¹H NMR spectrum (700 MHz, CDCl₃).

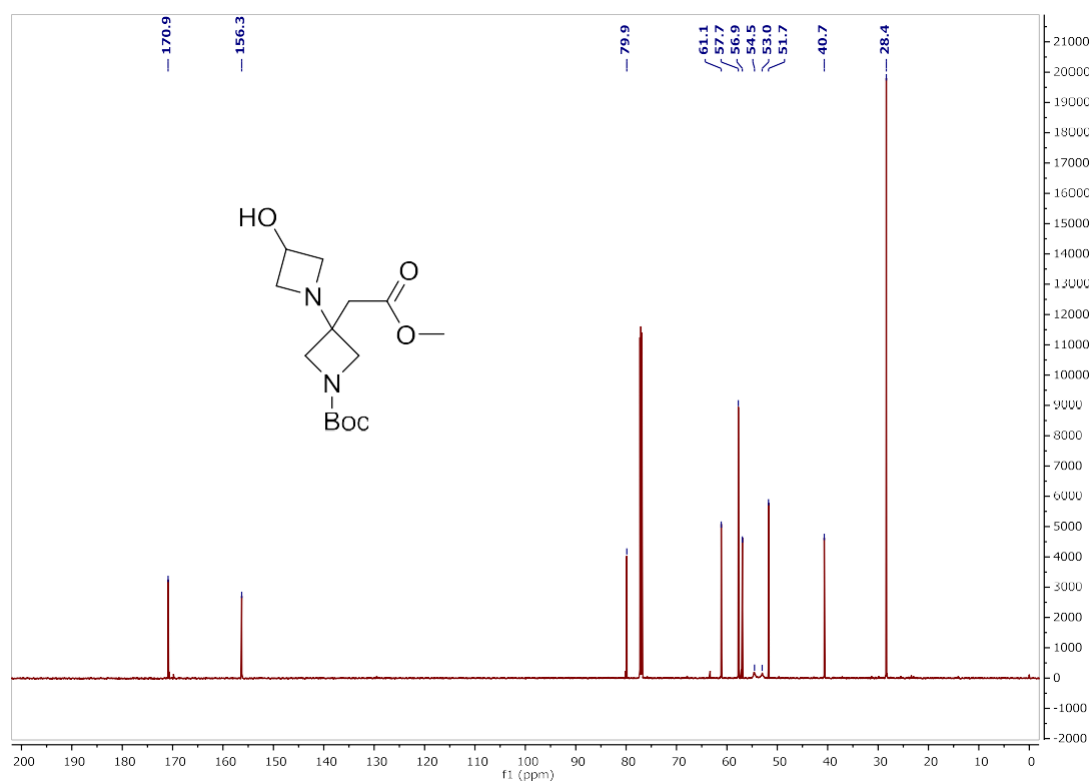


Figure S9. *tert*-Butyl 3-hydroxy-3'-(2-methoxy-2-oxoethyl)[1,3'-biazetidine]-1'-carboxylate (4b) ¹³C NMR spectrum (176 MHz, CDCl₃).

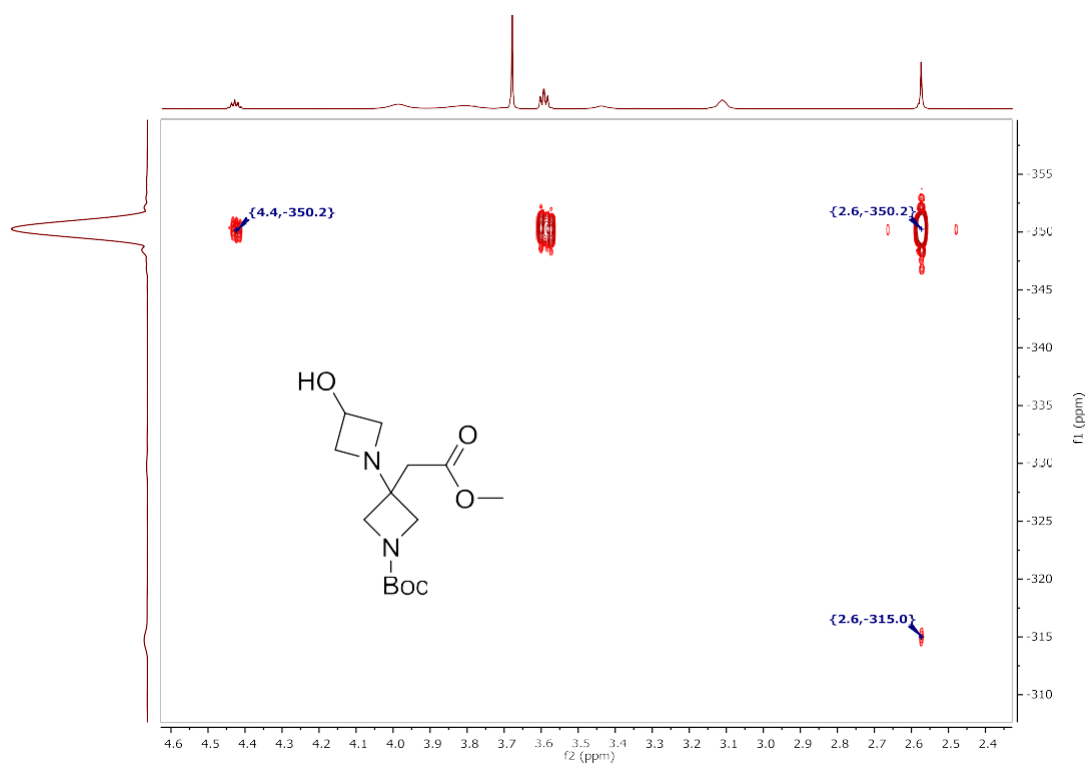


Figure S10. *tert*-Butyl 3-hydroxy-3'-(2-methoxy-2-oxoethyl)[1,3'-biazetidine]-1'-carboxylate (4b) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

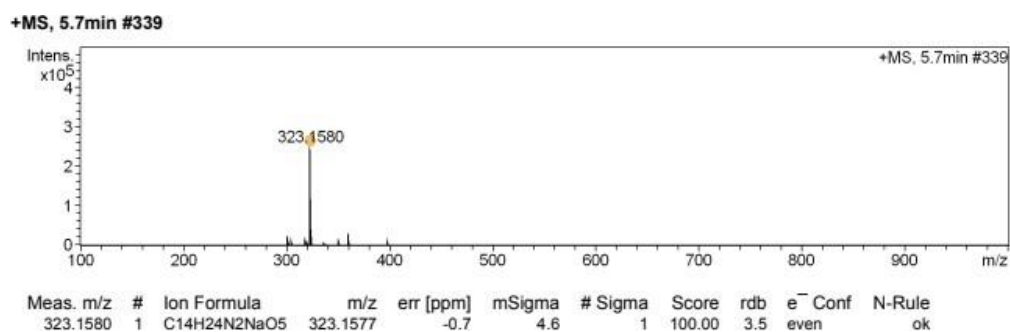


Figure S11. *tert*-Butyl 3-hydroxy-3'-(2-methoxy-2-oxoethyl)[1,3'-biazetidine]-1'-carboxylate (4b) HRMS (ESI-TOF).

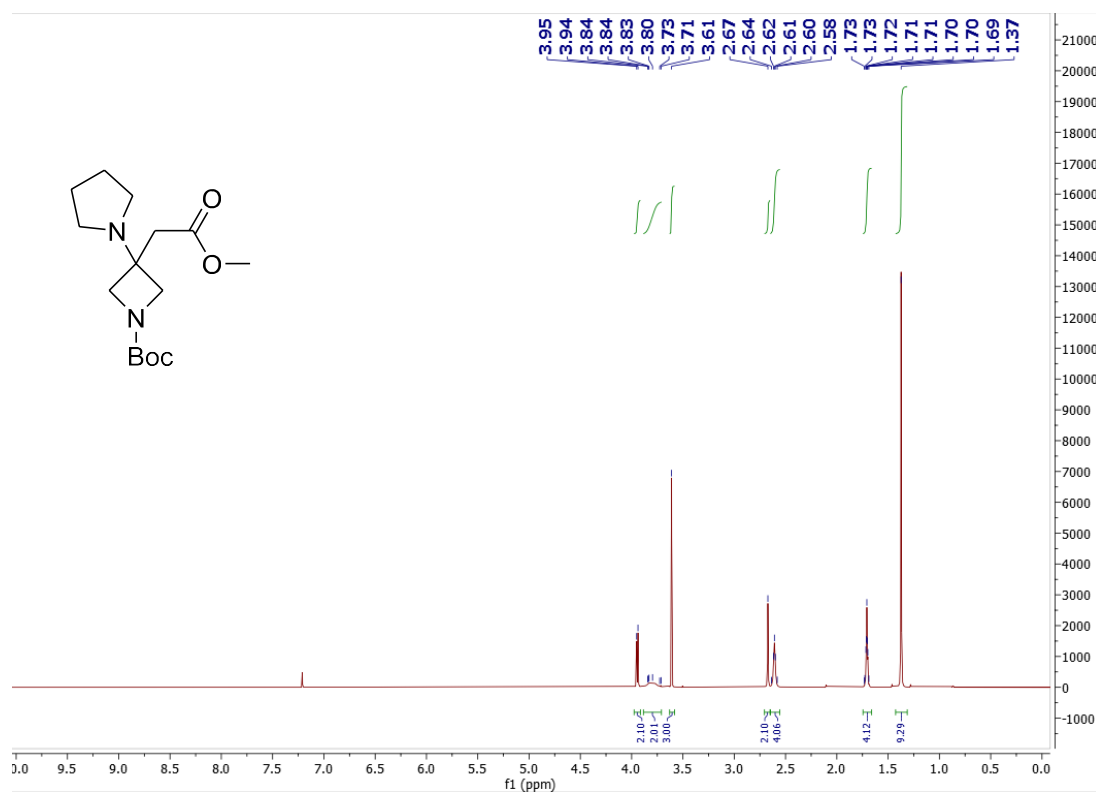


Figure S12. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(pyrrolidin-1-yl)azetidine-1-carboxylate (4c) ^1H NMR spectrum (700 MHz, CDCl_3).

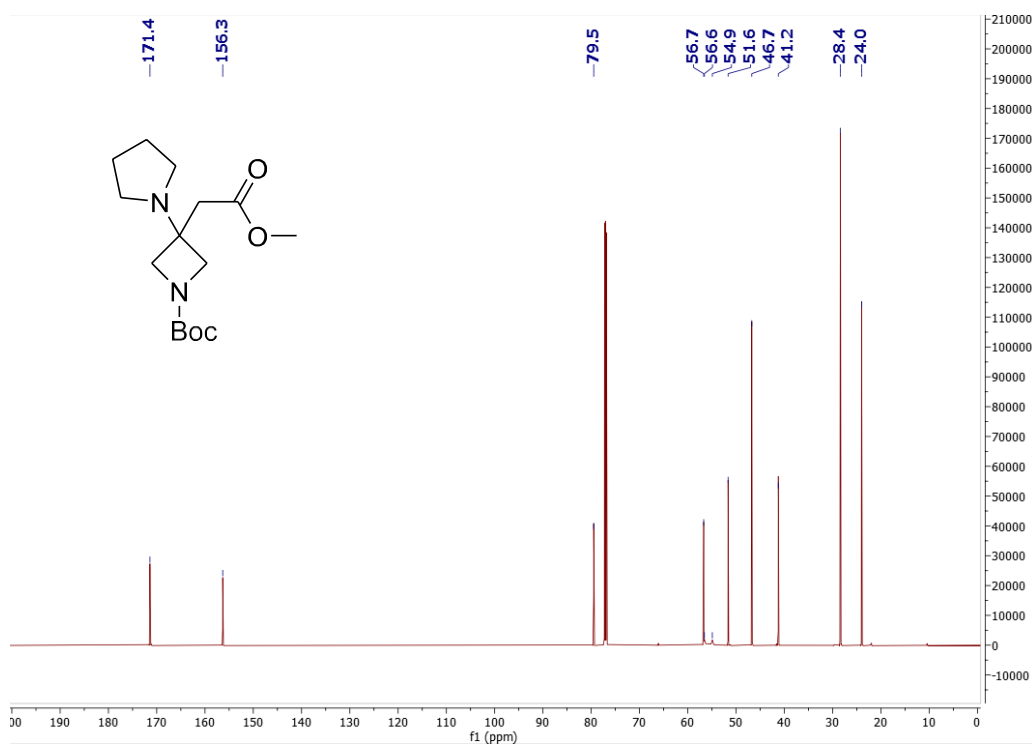


Figure S13. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(pyrrolidin-1-yl)azetidine-1-carboxylate (4c) ¹³C NMR spectrum (176 MHz, CDCl₃).

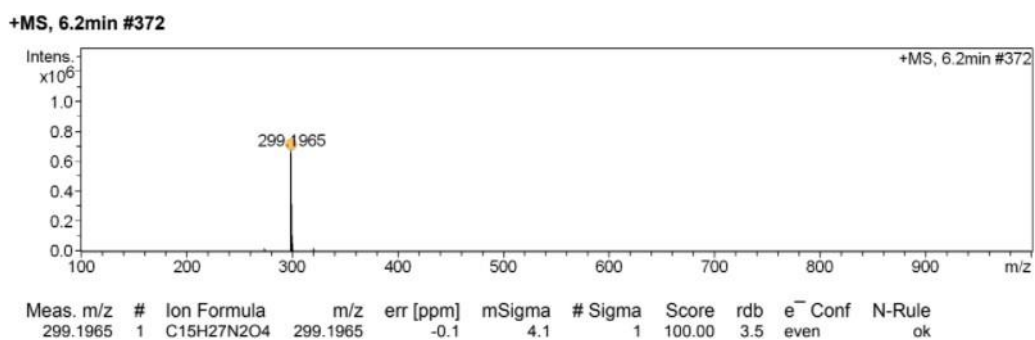


Figure S14. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(pyrrolidin-1-yl)azetidine-1-carboxylate (4c) HRMS (ESI-TOF).

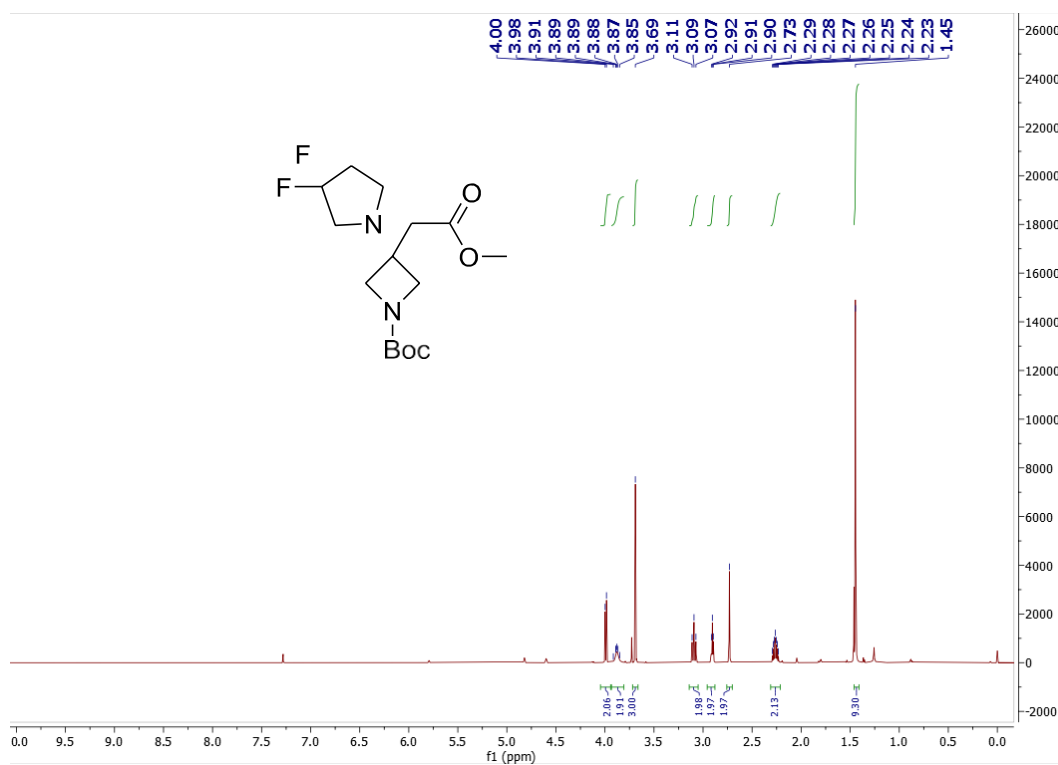


Figure S15. *tert*-Butyl 3-(3,3-difluoropyrrolidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4d**) ¹H NMR spectrum (700 MHz, CDCl₃).

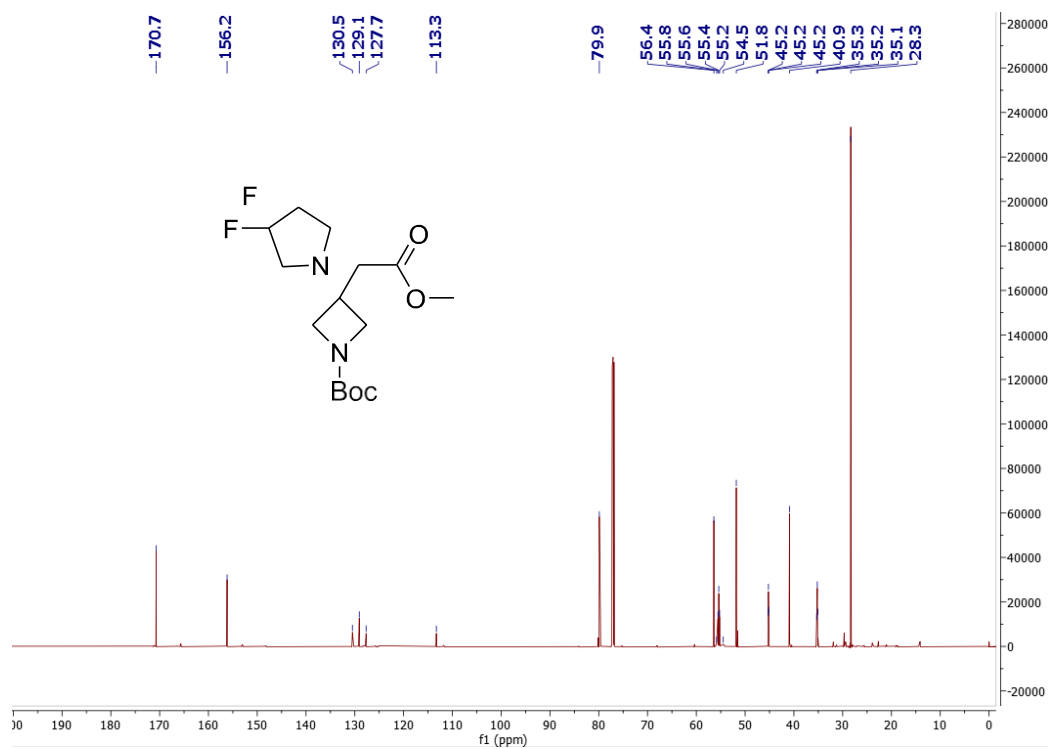


Figure S16. *tert*-Butyl 3-(3,3-difluoropyrrolidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4d**) ¹³C NMR spectrum (176 MHz, CDCl₃).

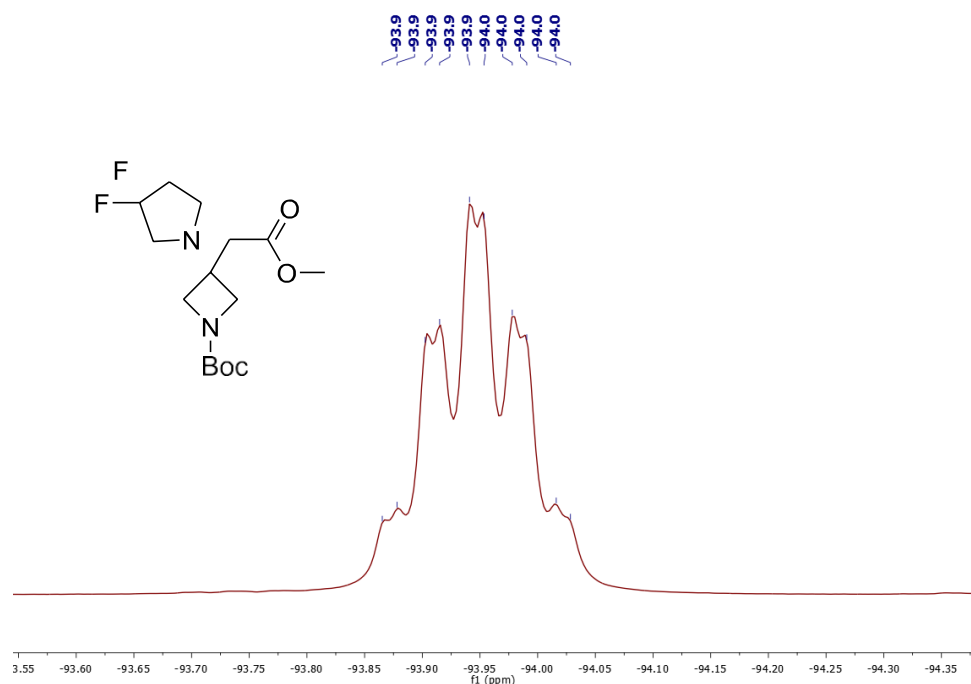


Figure S17. *tert*-Butyl 3-(3,3-difluoropyrrolidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4d) ^{19}F NMR spectrum (376 MHz, CDCl_3).

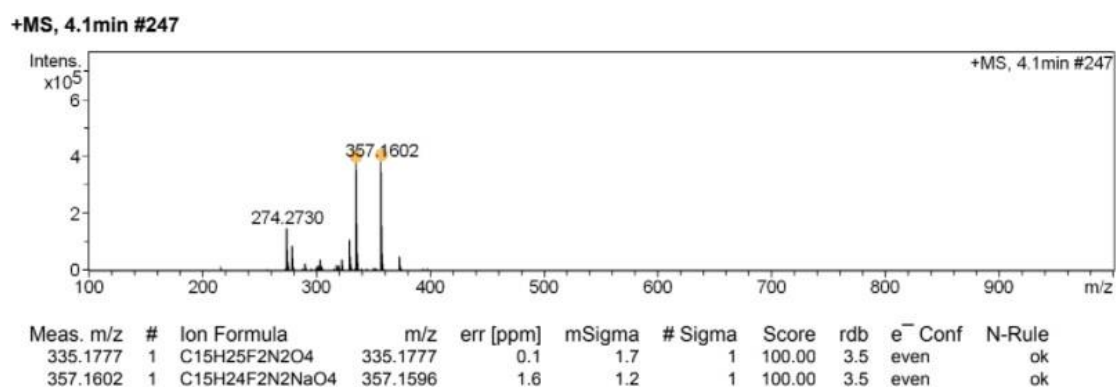


Figure S18. *tert*-Butyl 3-(3,3-difluoropyrrolidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4d) HRMS (ESI-TOF).

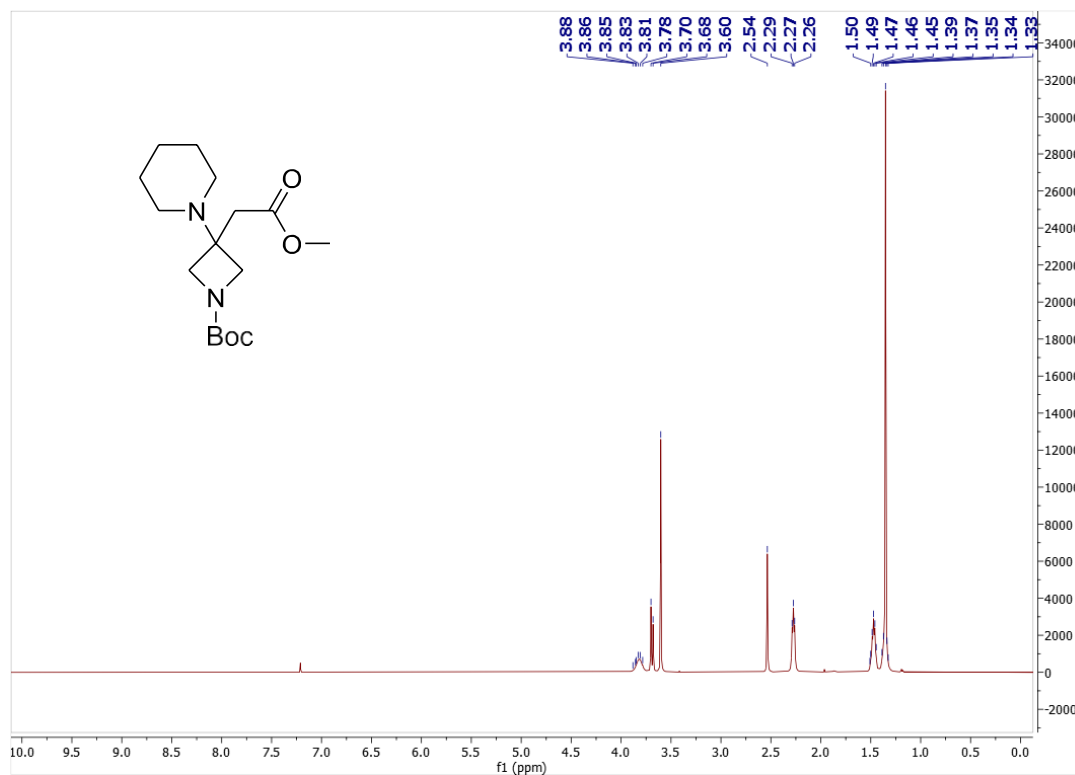


Figure S19. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(piperidin-1-yl)azetidine-1-carboxylate (4e) ¹H NMR spectrum (400 MHz, CDCl₃).

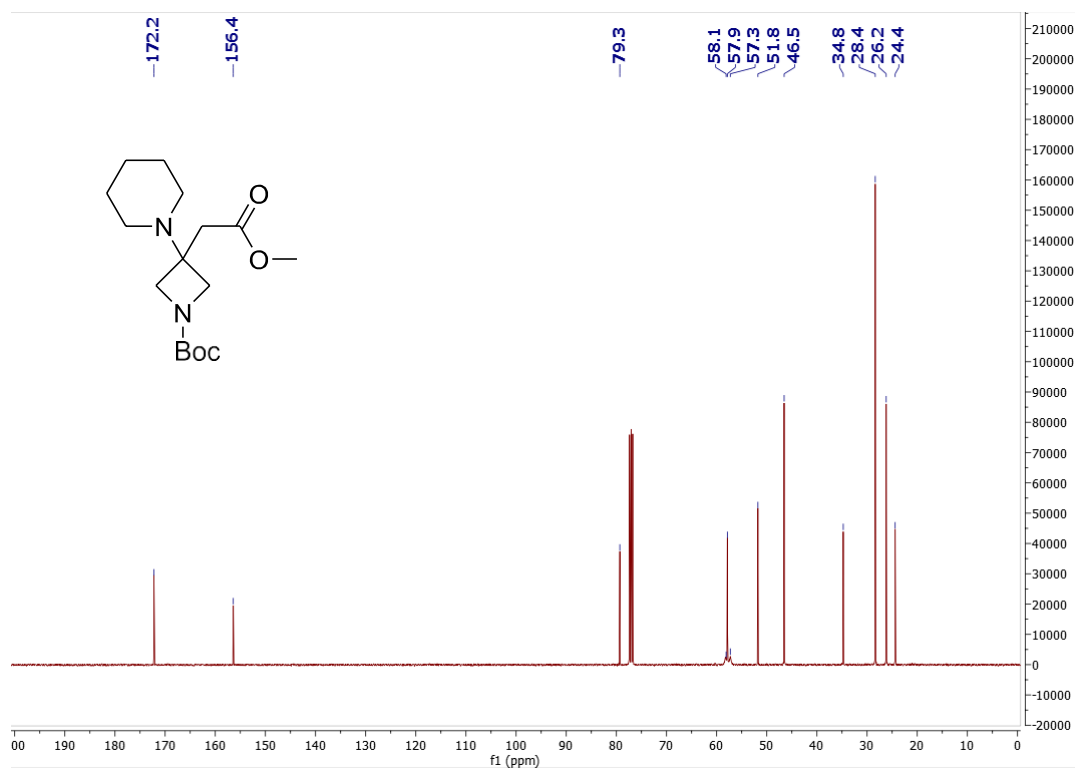


Figure S20. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(piperidin-1-yl)azetidine-1-carboxylate (4e) ^{13}C NMR spectrum (101 MHz, CDCl_3).

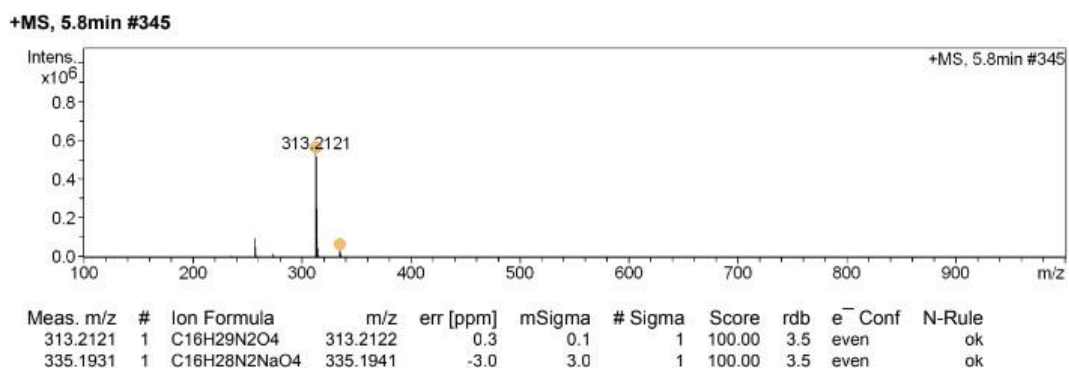


Figure S21. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(piperidin-1-yl)azetidine-1-carboxylate (4e) HRMS (ESI-TOF).

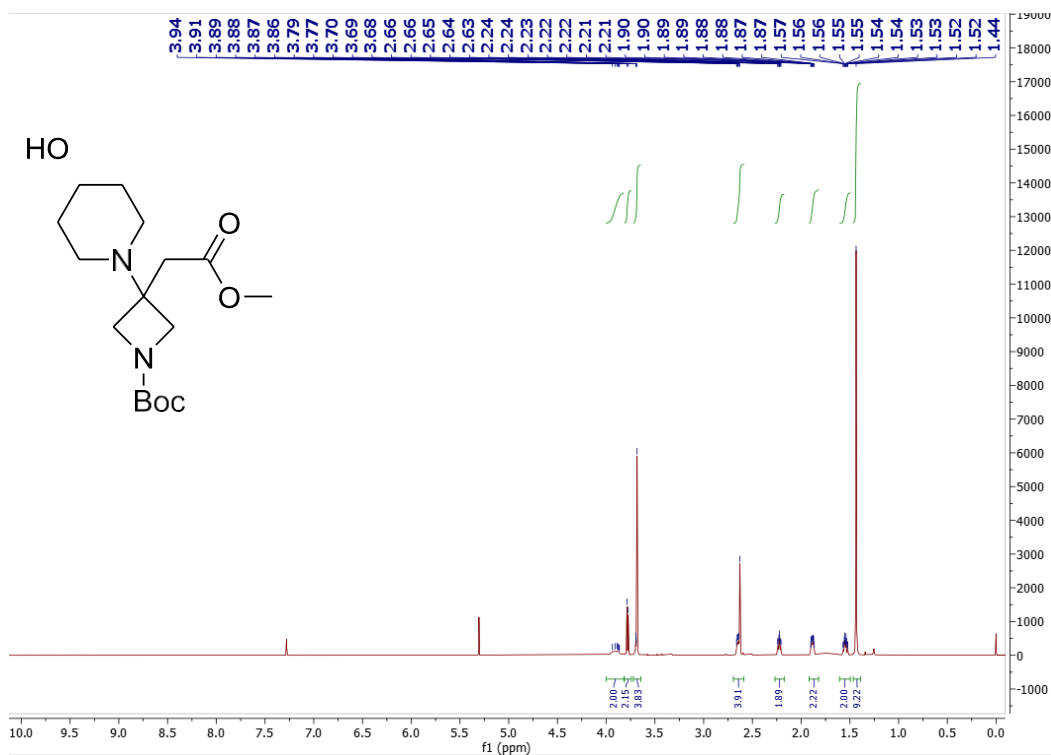


Figure S22. *tert*-Butyl 3-(4-hydroxypiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4f) ^1H NMR spectrum (700 MHz, CDCl_3).

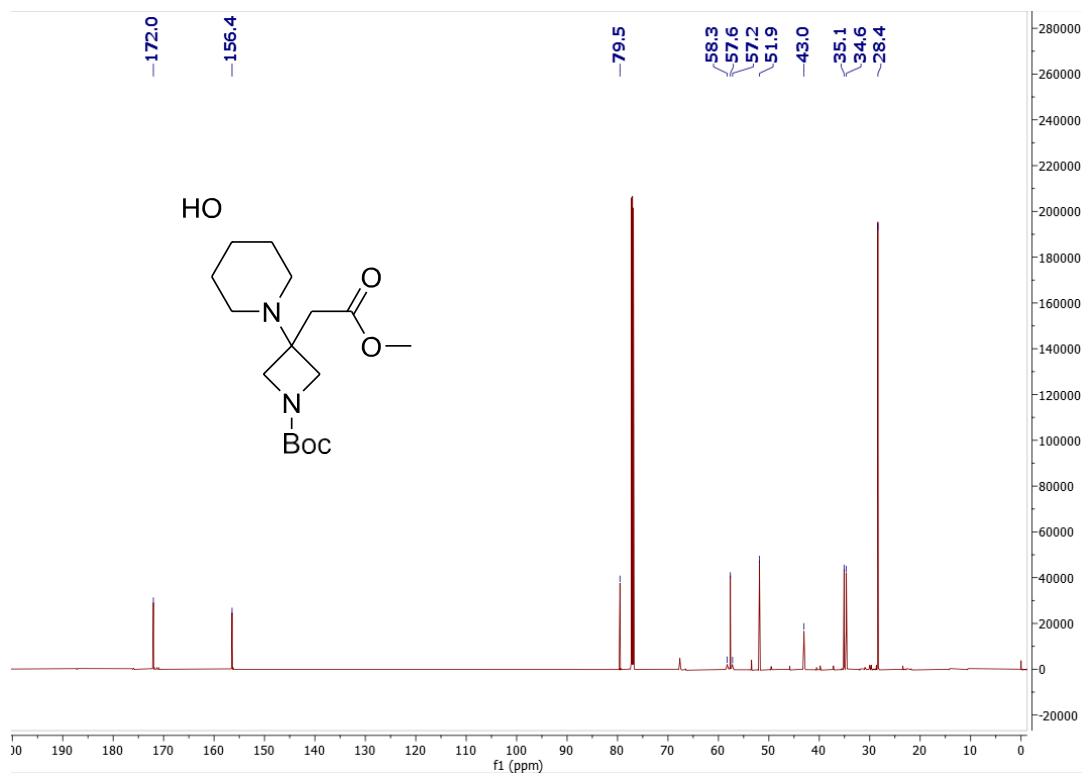


Figure S23. *tert*-Butyl 3-(4-hydroxypiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4f**) ¹³C NMR spectrum (176 MHz, CDCl₃).

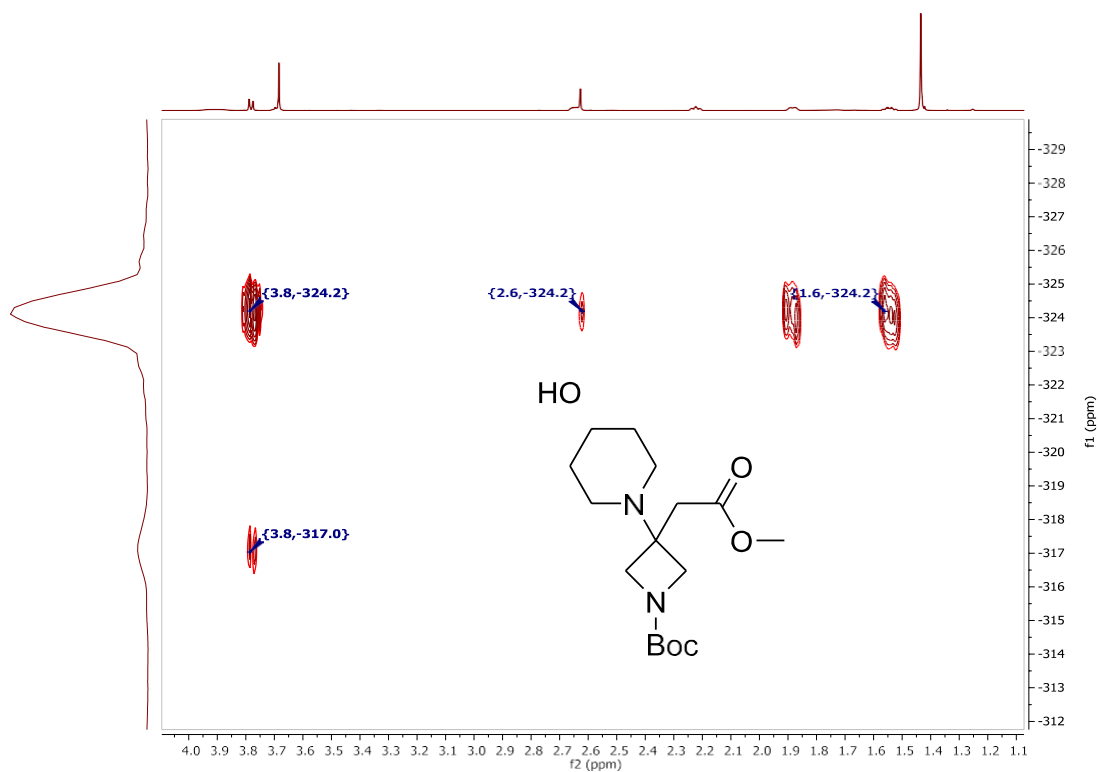


Figure S24. *tert*-Butyl 3-(4-hydroxypiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4f**) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

+MS, 4.4min #266

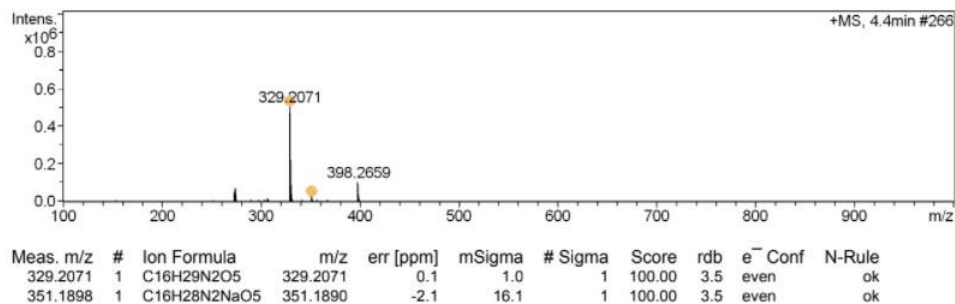


Figure S25. *tert*-Butyl 3-(4-hydroxypiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4f) HRMS (ESI-TOF).

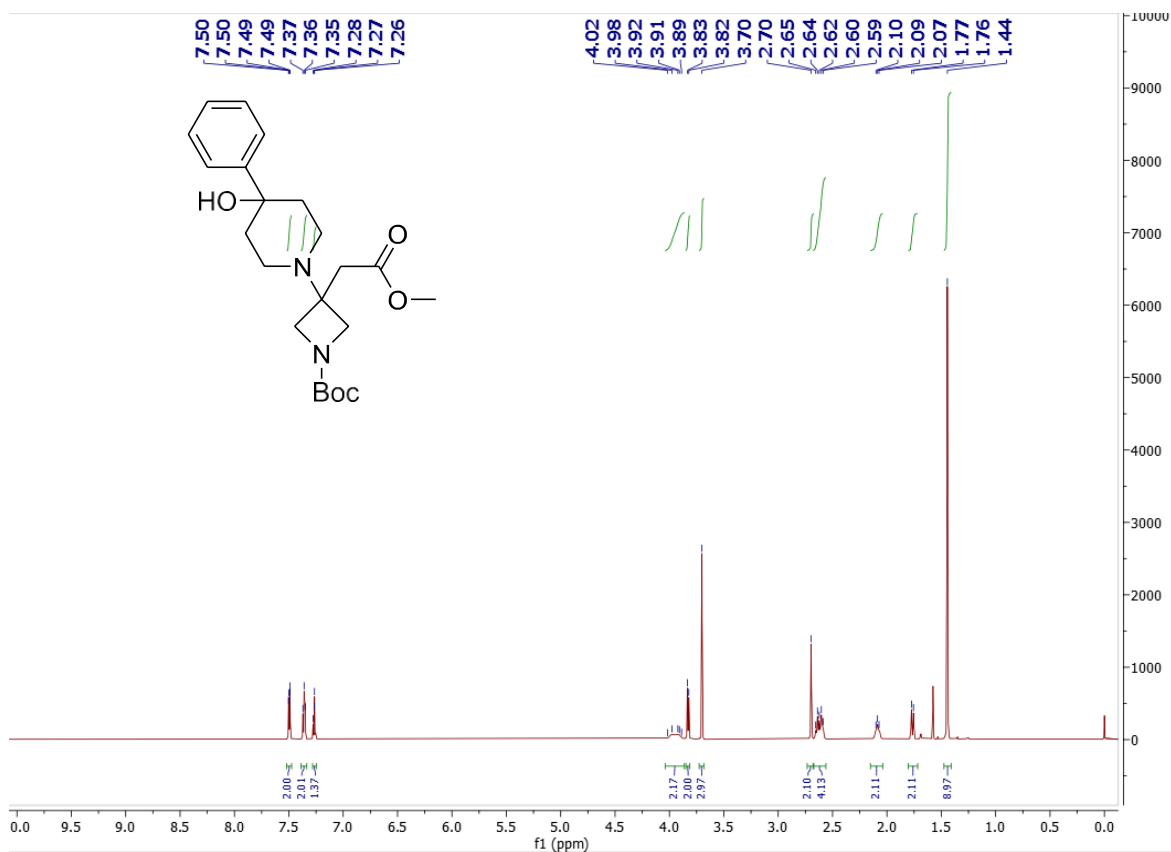


Figure S26. *tert*-Butyl 3-(4-hydroxy-4-phenylpiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4g) ¹H NMR spectrum (700 MHz, CDCl₃).

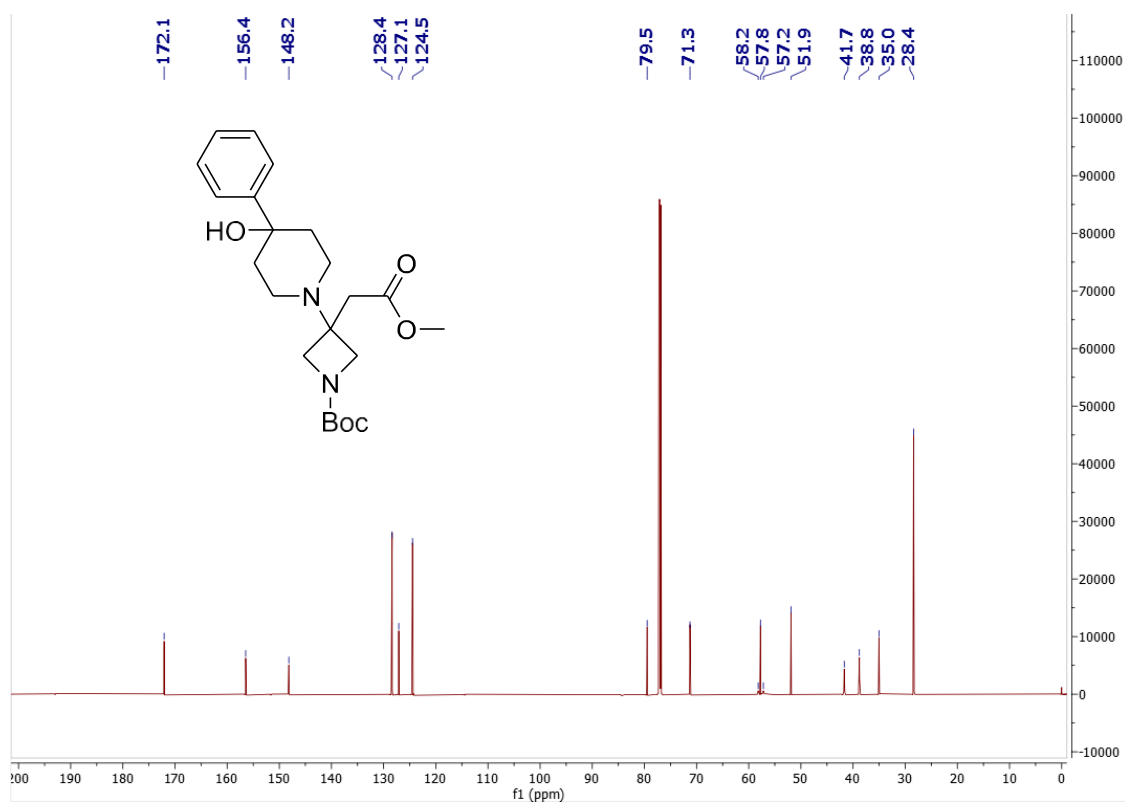


Figure S27. *tert*-Butyl 3-(4-hydroxy-4-phenylpiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4g) ^{13}C NMR spectrum (176 MHz, CDCl_3).

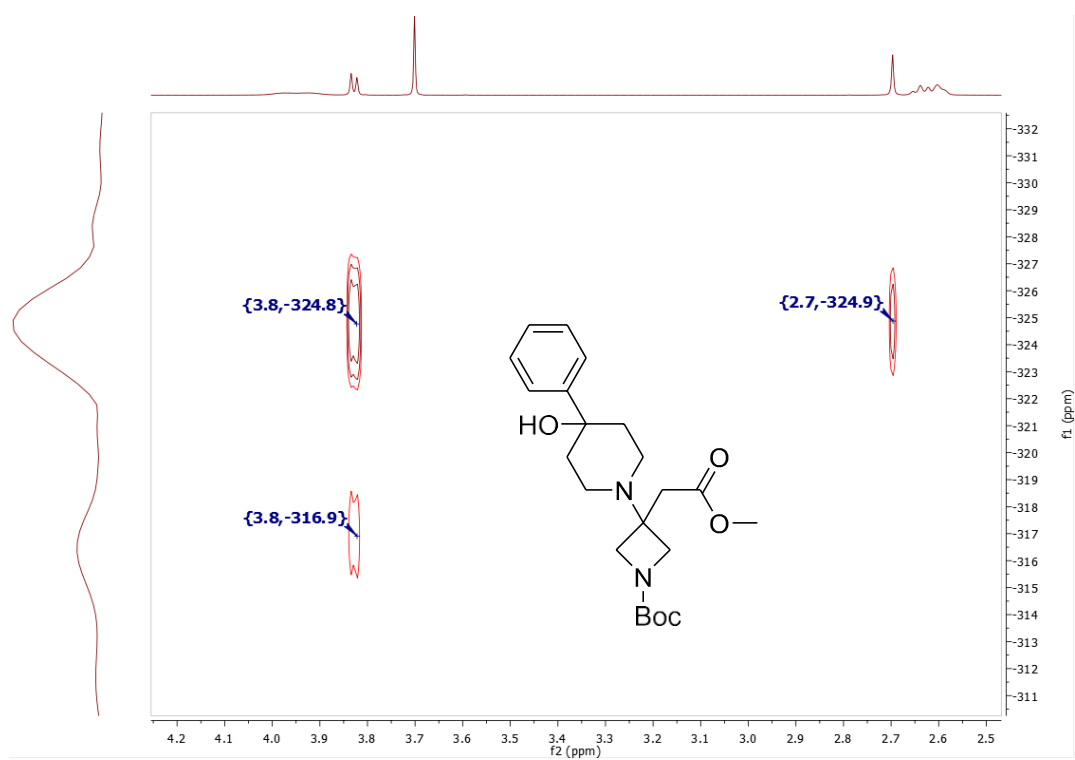


Figure S28. *tert*-Butyl 3-(4-hydroxy-4-phenylpiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4g) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

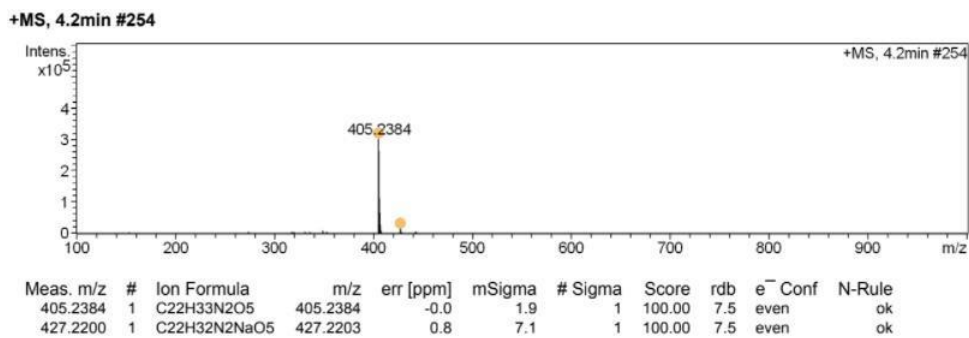


Figure S29. *tert*-Butyl 3-(4-hydroxy-4-phenylpiperidin-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4g) HRMS (ESI-TOF).

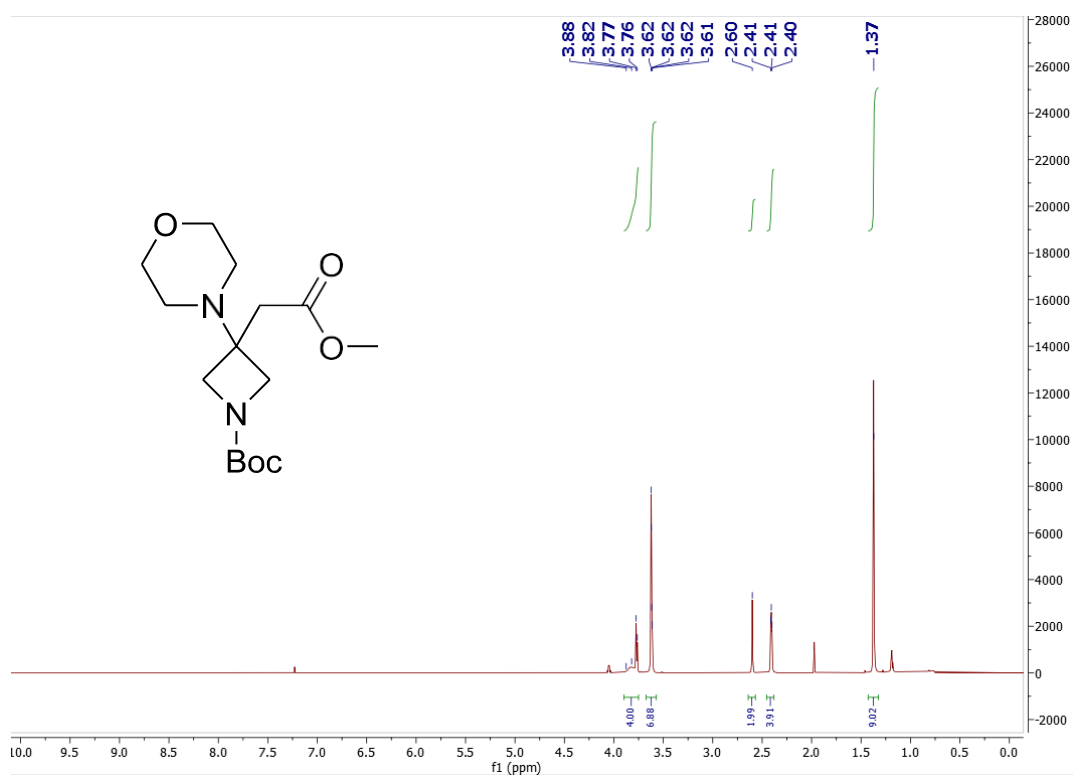


Figure S30. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(morpholin-4-yl)azetidine-1-carboxylate (4h) ¹H NMR spectrum (700 MHz, CDCl₃).

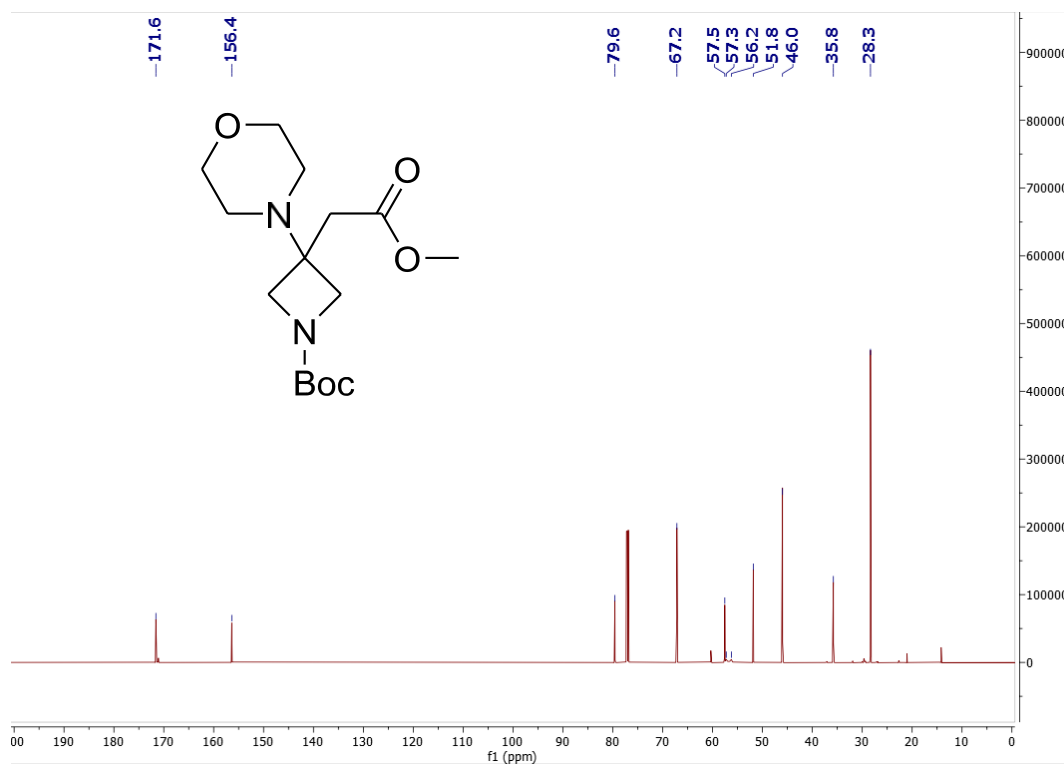


Figure S31. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(morpholin-4-yl)azetidine-1-carboxylate (4h) ¹³C NMR spectrum (176 MHz, CDCl₃).

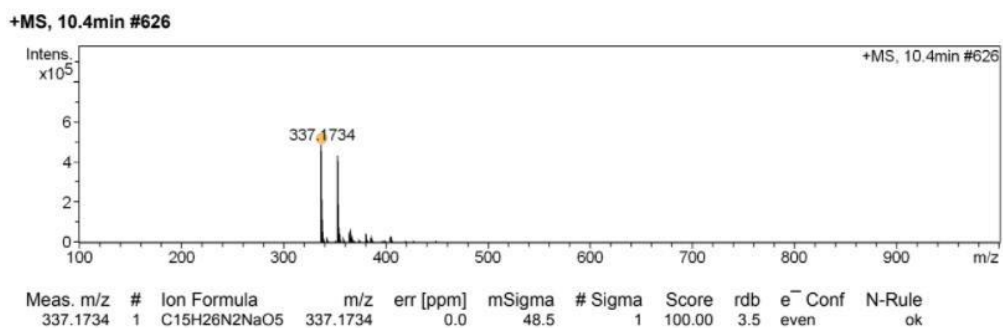


Figure S32. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(morpholin-4-yl)azetidine-1-carboxylate (4h) HRMS (ESI-TOF).

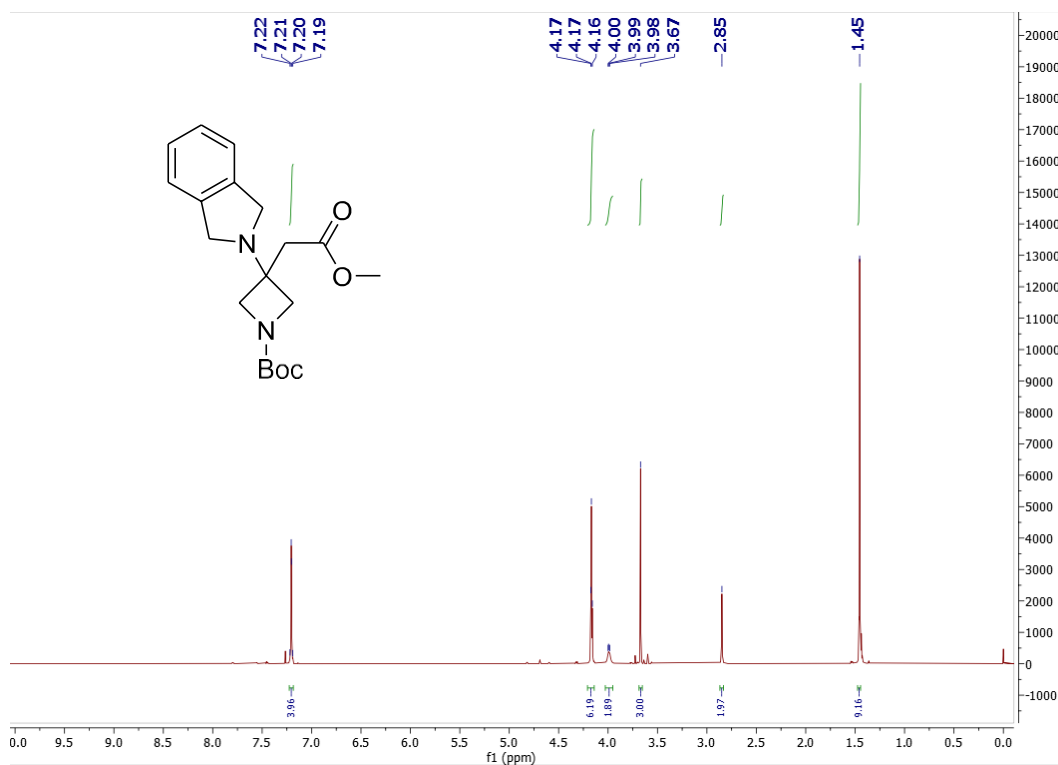


Figure S33. *tert*-Butyl 3-(1,3-dihydro-2*H*-isoindol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4i**) ^1H NMR spectrum (700 MHz, CDCl_3).

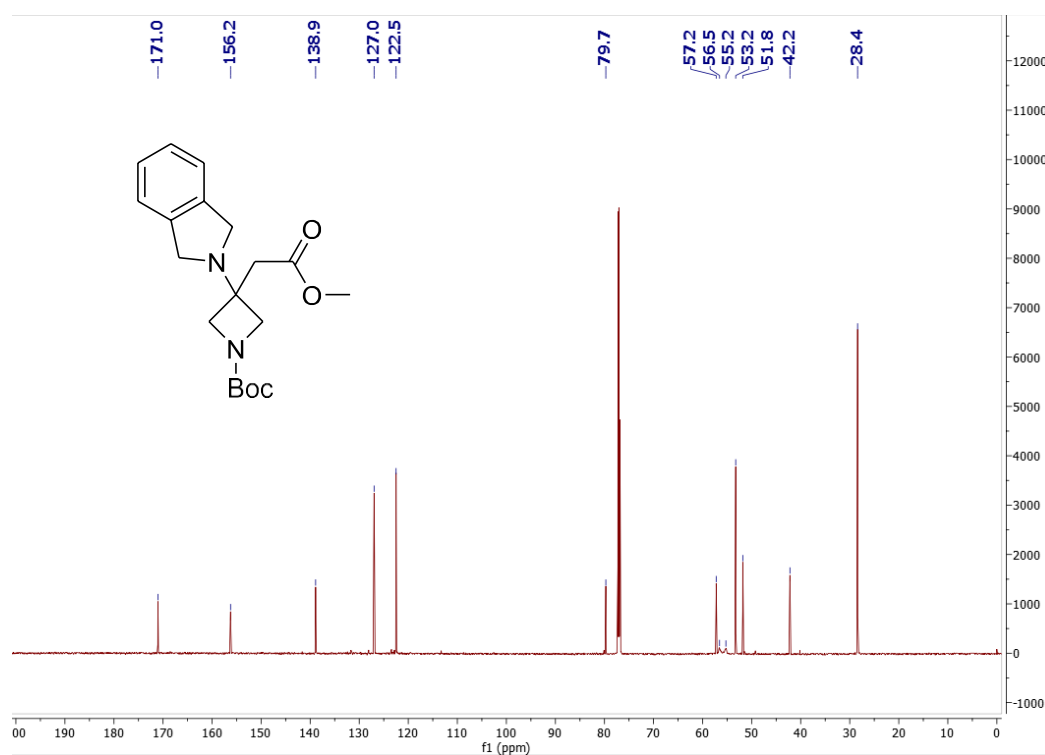


Figure S34. *tert*-Butyl 3-(1,3-dihydro-2*H*-isoindol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4i**) ^{13}C NMR spectrum (176 MHz, CDCl_3).

+MS, 4.3min #256

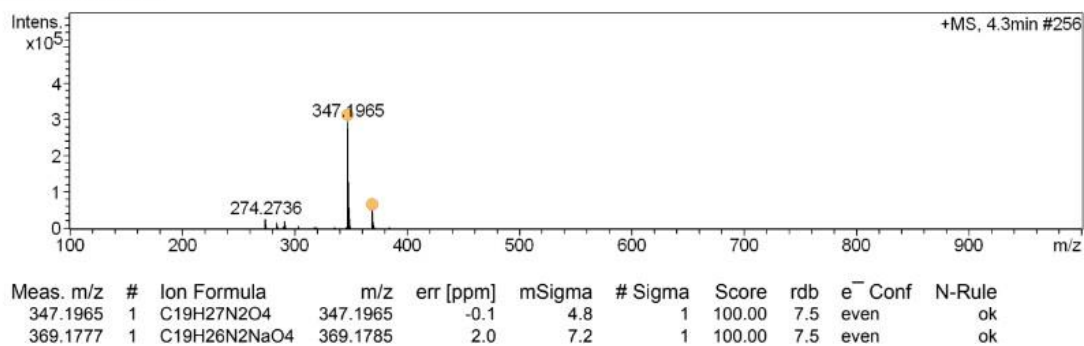


Figure S35. *tert*-Butyl 3-(1,3-dihydro-2*H*-isoindol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4i) HRMS (ESI-TOF).

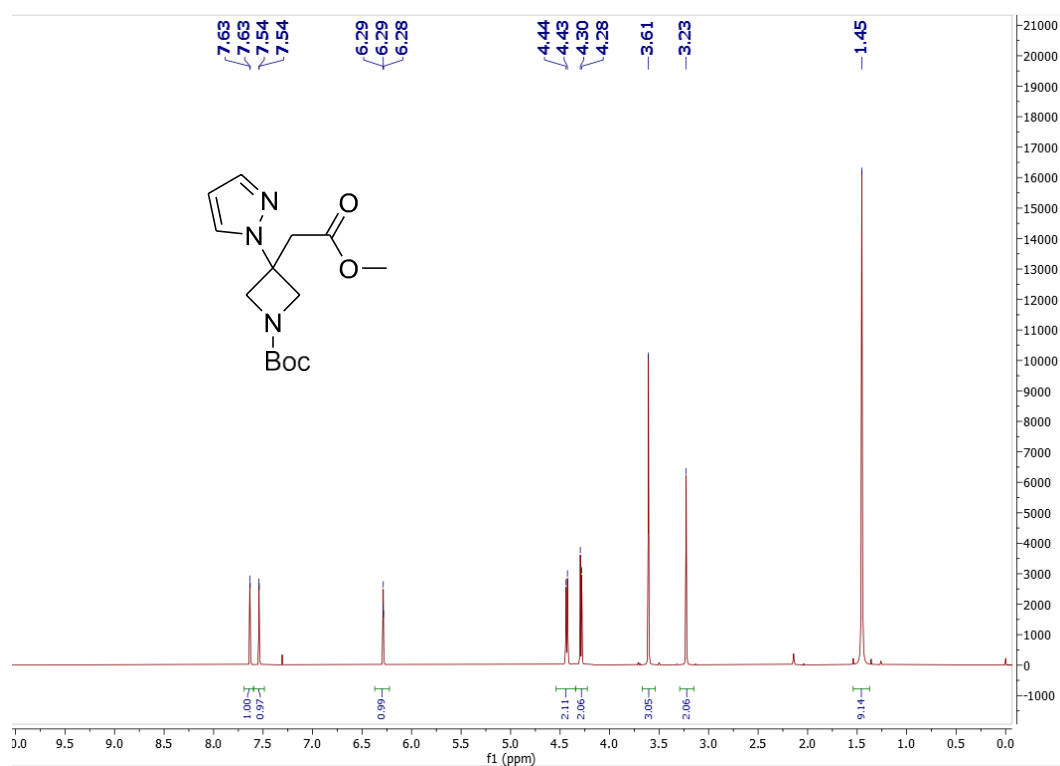


Figure S36. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-pyrazol-1-yl)azetidine-1-carboxylate (4j) ¹H NMR spectrum (700 MHz, CDCl₃).

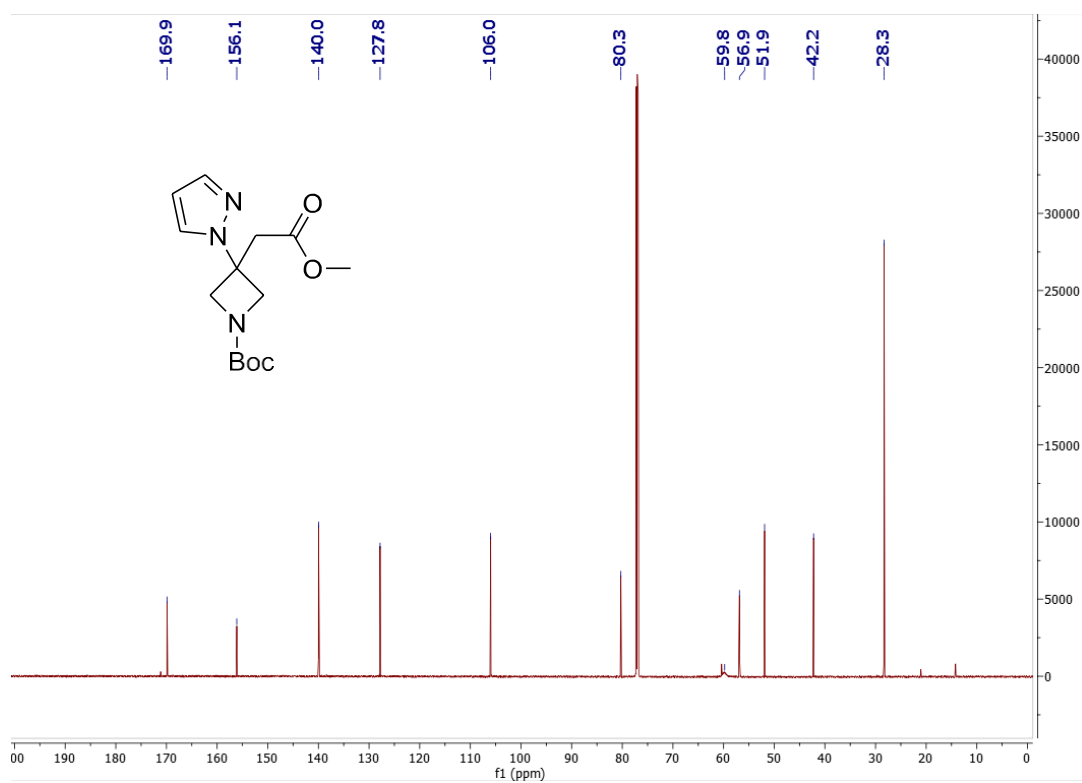


Figure S37. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-pyrazol-1-yl)azetidine-1-carboxylate (**4j**) ^{13}C NMR spectrum (176 MHz, CDCl_3).

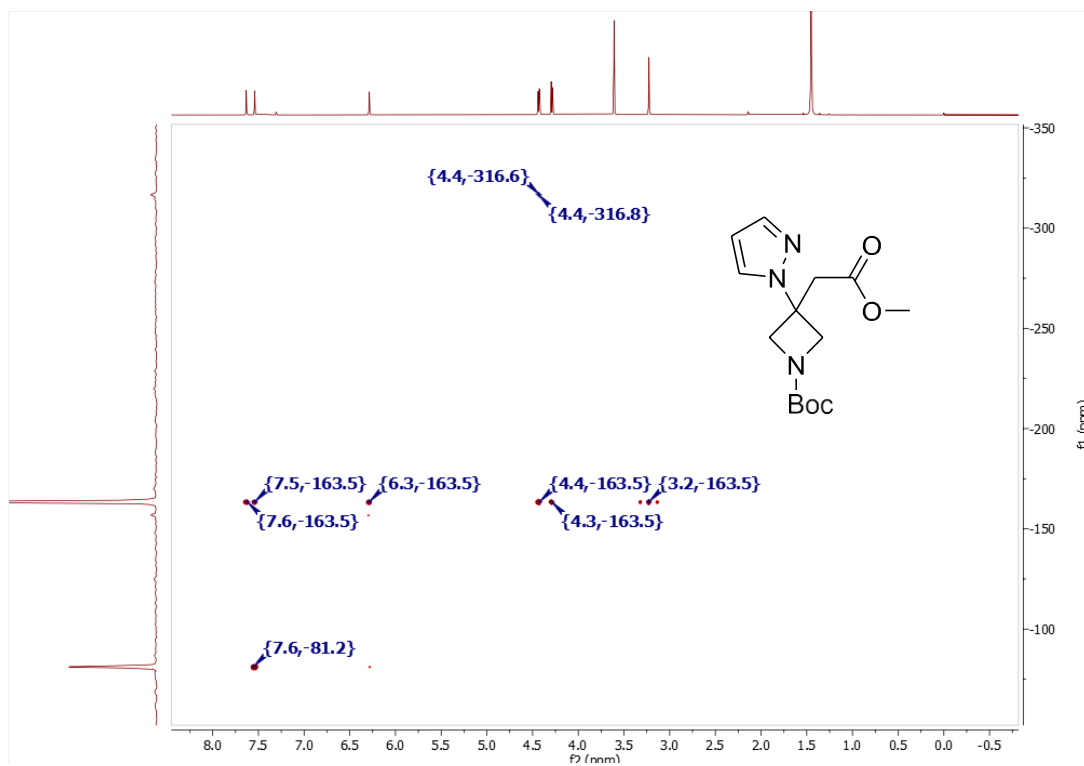


Figure S38. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-pyrazol-1-yl)azetidine-1-carboxylate (**4j**) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

+MS, 4.7min #283

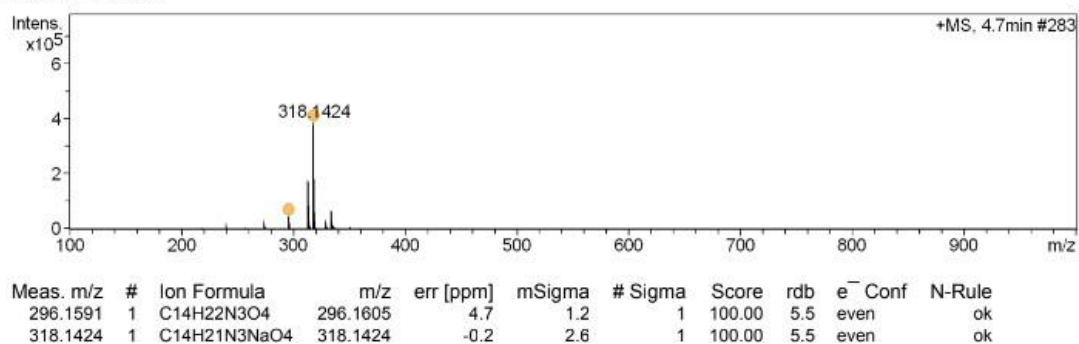


Figure S39. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-pyrazol-1-yl)azetidine-1-carboxylate (4j) HRMS (ESI-TOF).

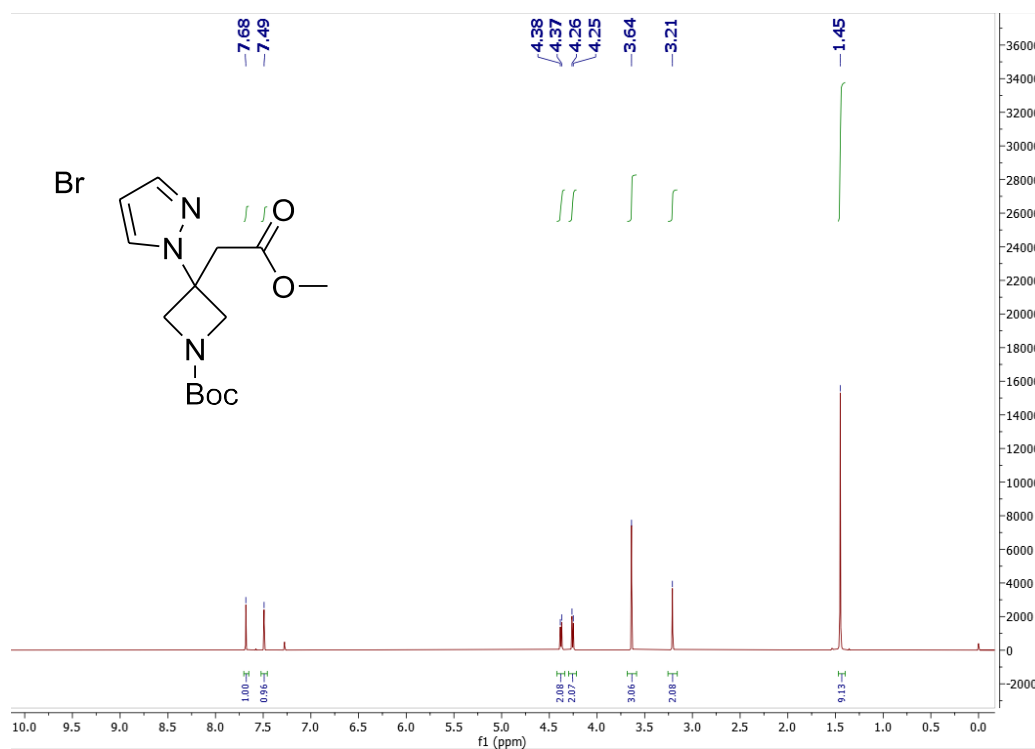


Figure S40. *tert*-Butyl 3-(4-bromo-1*H*-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4k) ¹H NMR spectrum (700 MHz, CDCl₃).

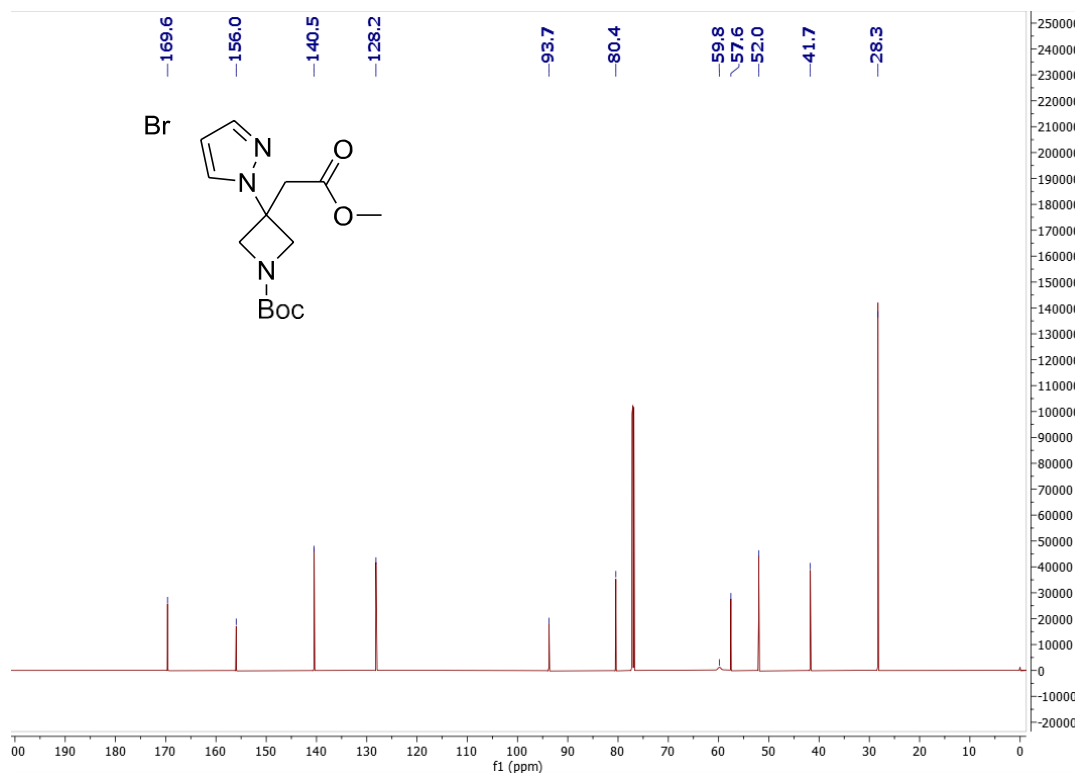


Figure S41. *tert*-Butyl 3-(4-bromo-1*H*-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4k) ^{13}C NMR spectrum (176 MHz, CDCl_3).

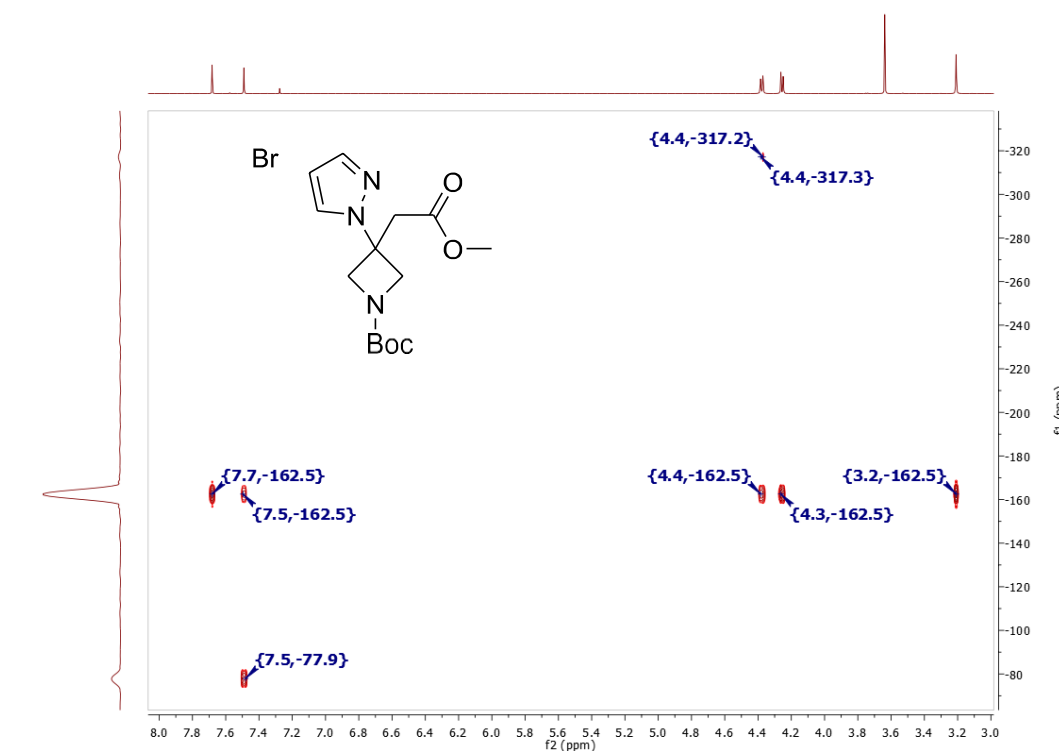


Figure S42. *tert*-Butyl 3-(4-bromo-1*H*-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4k) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

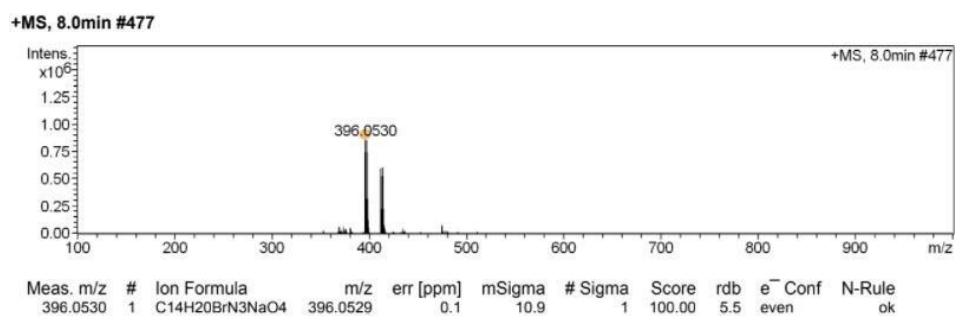


Figure S43. *tert*-Butyl 3-(4-bromo-1*H*-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4k) HRMS (ESI-TOF).

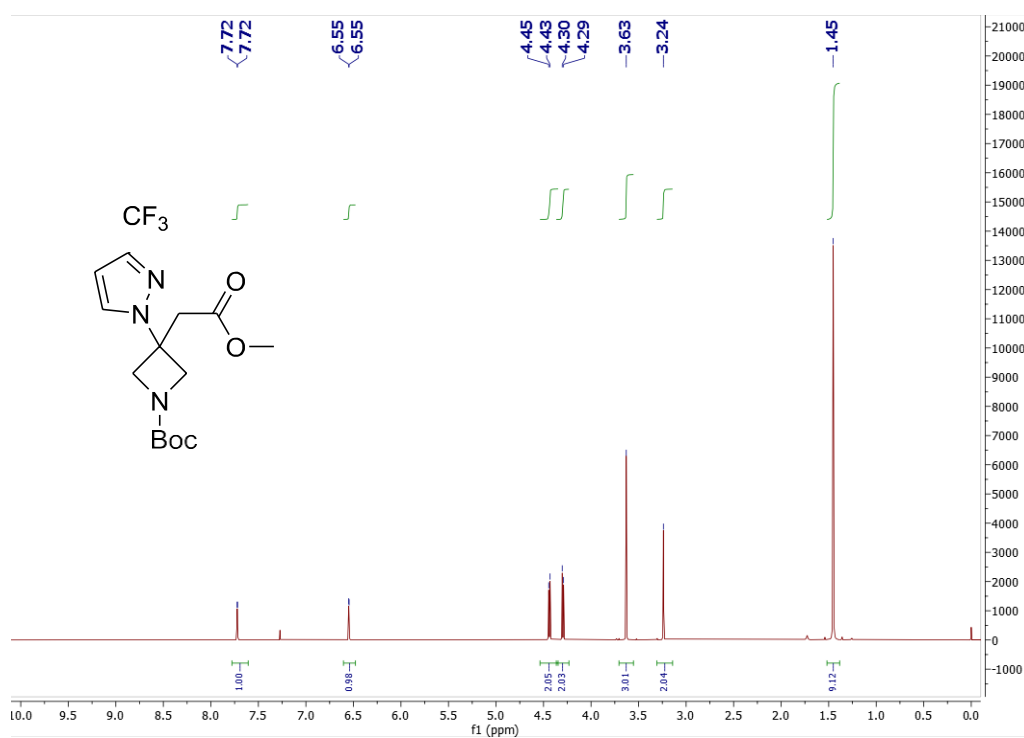


Figure S44. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (4l) ¹H NMR spectrum (700 MHz, CDCl₃).

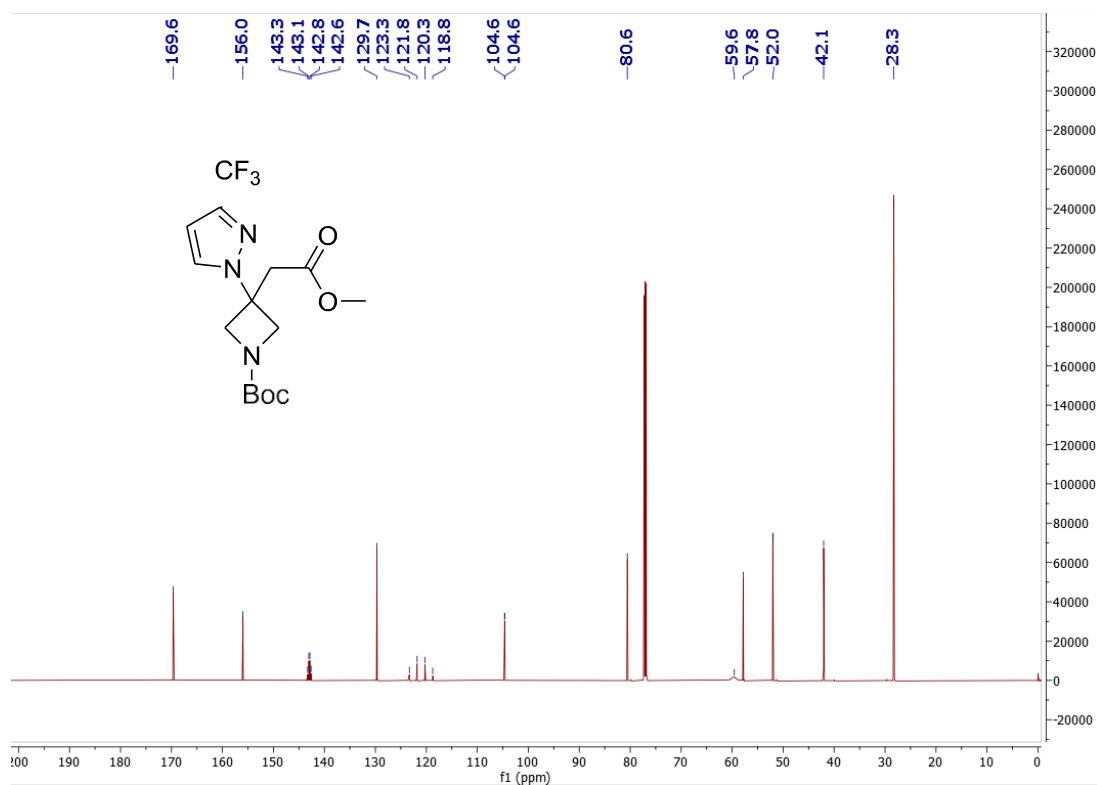


Figure S45. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (4l) ¹³C NMR spectrum (176 MHz, CDCl₃).

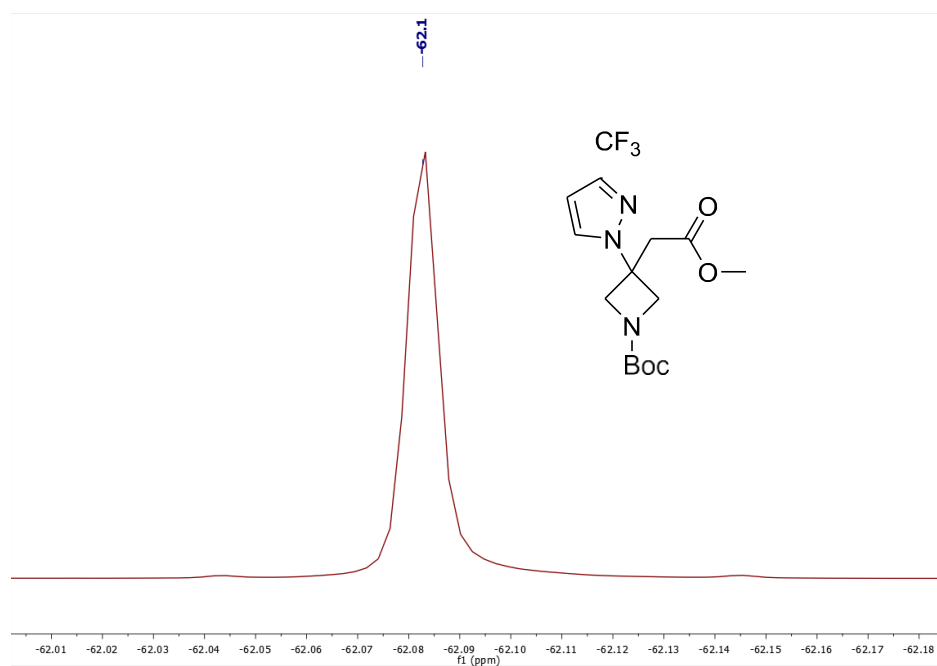


Figure S46. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (4l) ¹⁹F NMR spectrum (376 MHz, CDCl₃).

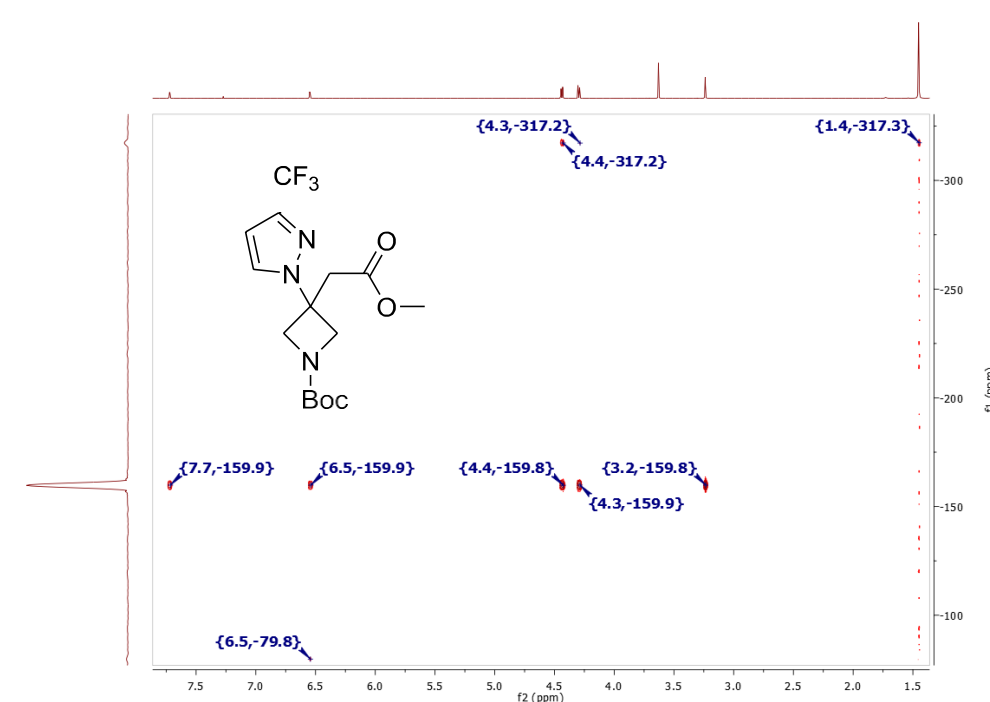


Figure S47. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**4l**) ^1H - ^{15}N HMBC NMR spectrum (71 MHz, CDCl_3).

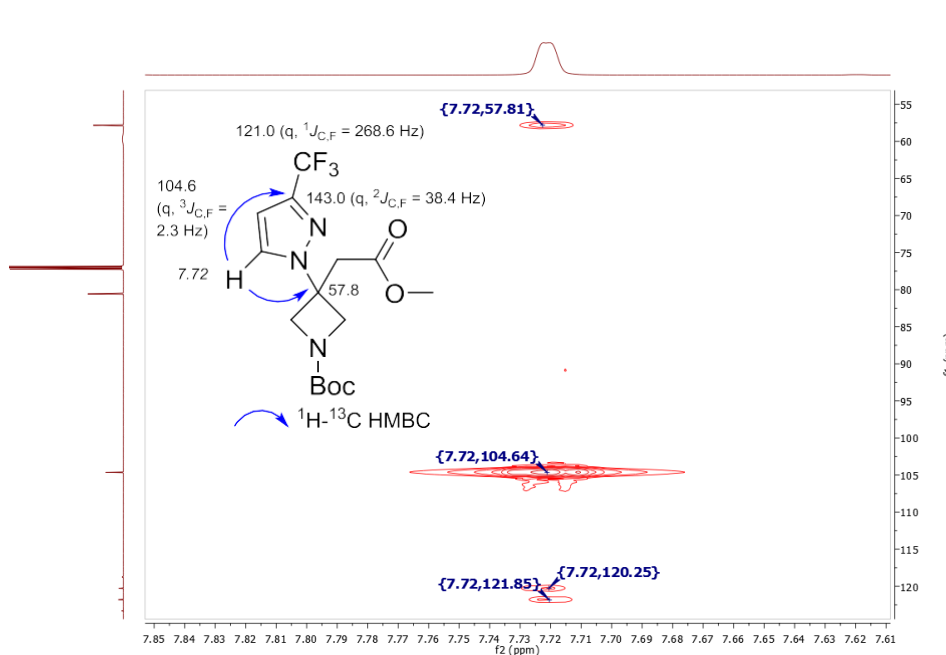


Figure S48. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**4l**) ^1H - ^{13}C HMBC NMR spectrum (176 MHz, CDCl_3).

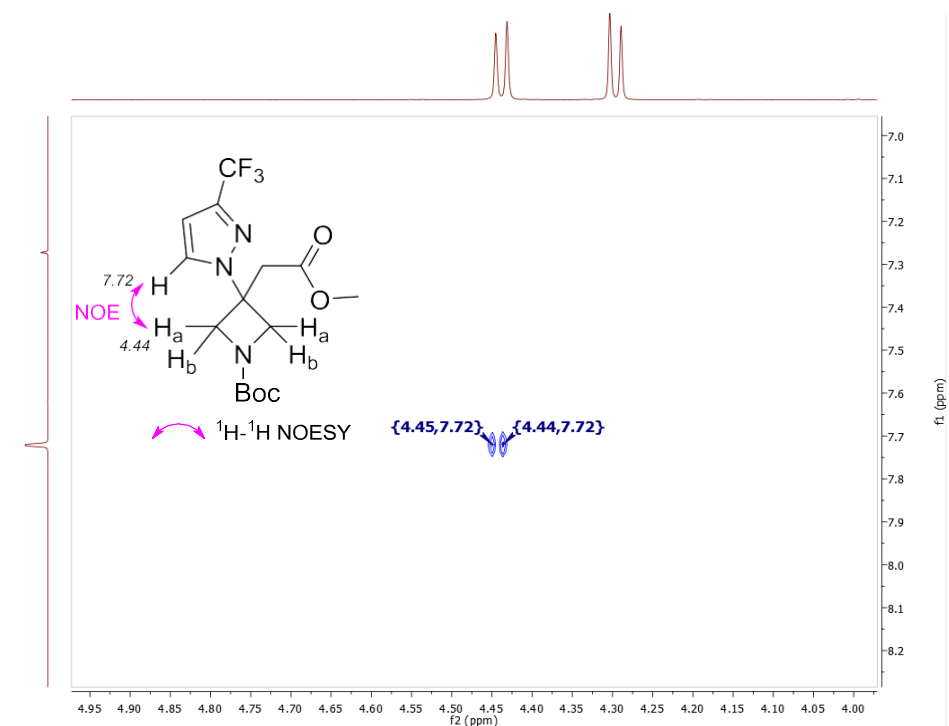


Figure S49. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1- carboxylate (**4l**) ^1H - ^1H NOESY NMR spectrum (700 MHz, CDCl_3).

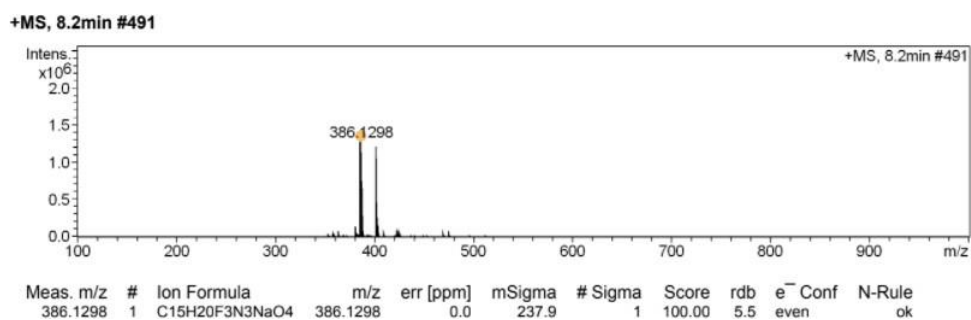


Figure S50. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[3-(trifluoromethyl)-1*H*-pyrazol-1-yl]azetidine-1- carboxylate (**4l**) HRMS (ESI-TOF).

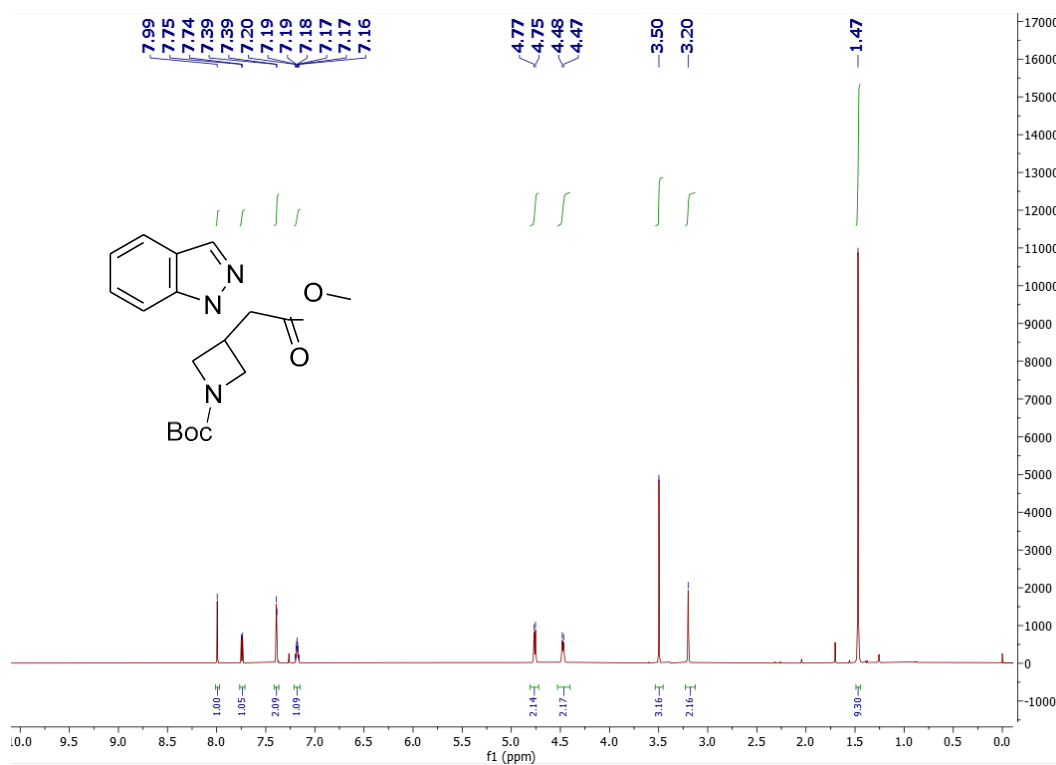


Figure S51. *tert*-butyl 3-(1*H*-indazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4m) ¹H NMR spectrum (700 MHz, CDCl₃).

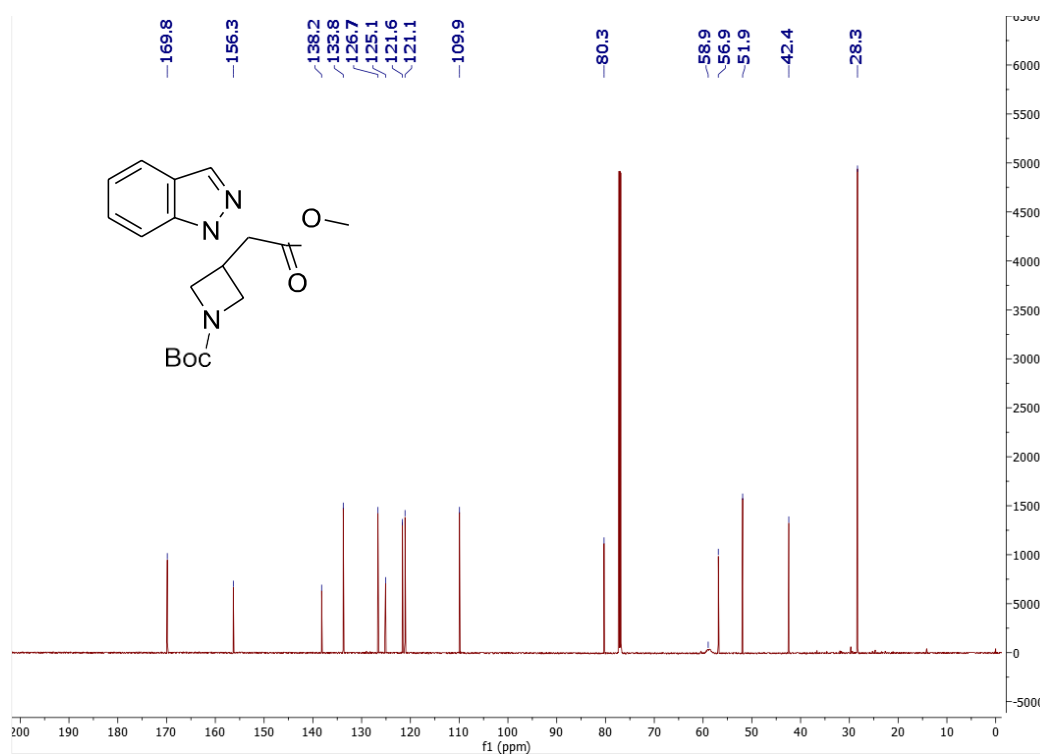


Figure S52. *tert*-butyl 3-(1*H*-indazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4m) ¹³C NMR spectrum (176 MHz, CDCl₃).

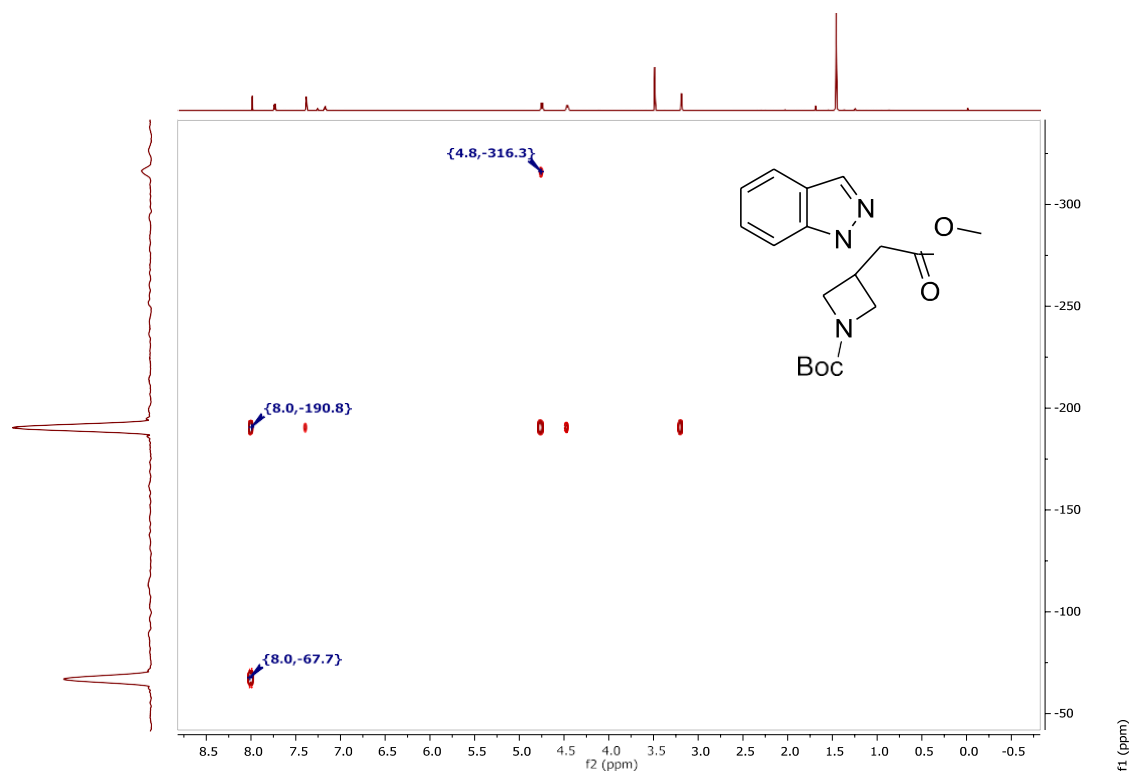


Figure S53. *tert*-butyl 3-(1H-indazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4m) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

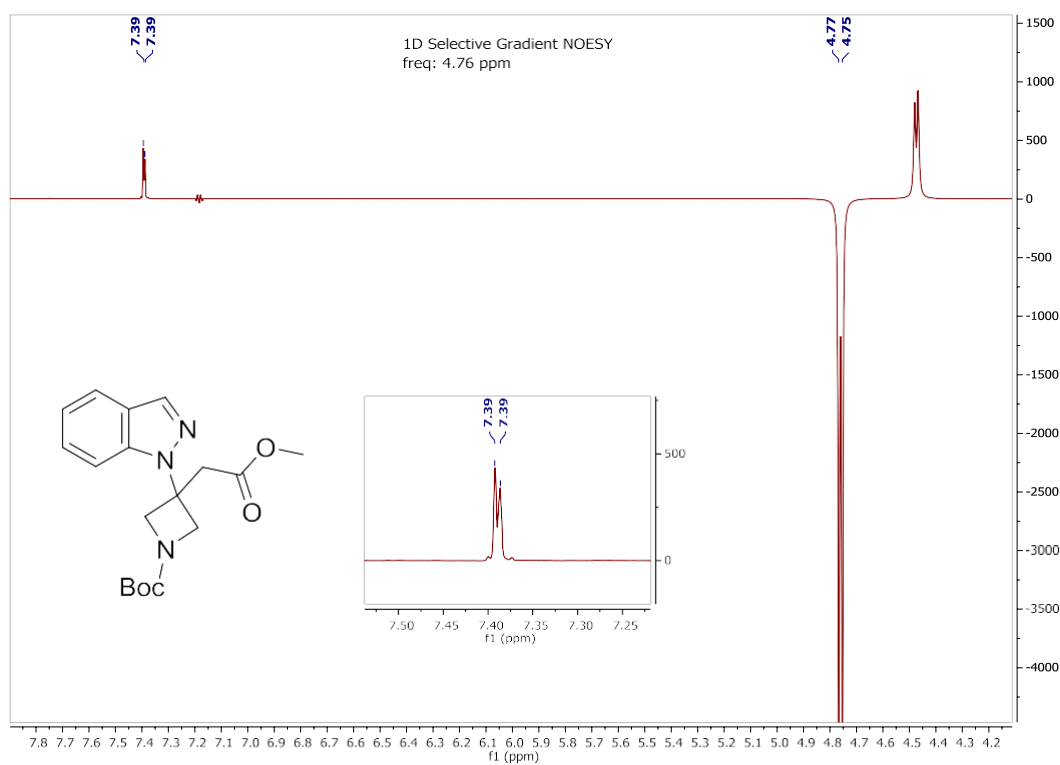


Figure S54. *tert*-butyl 3-(1H-indazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4m) 1D Selective Gradient NOESY NMR spectrum (700 MHz, CDCl_3).

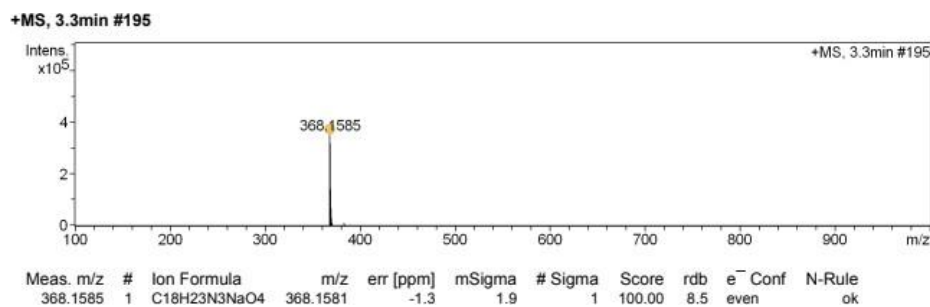


Figure S55. *tert*-butyl 3-(1*H*-indazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4m) HRMS (ESI-TOF).

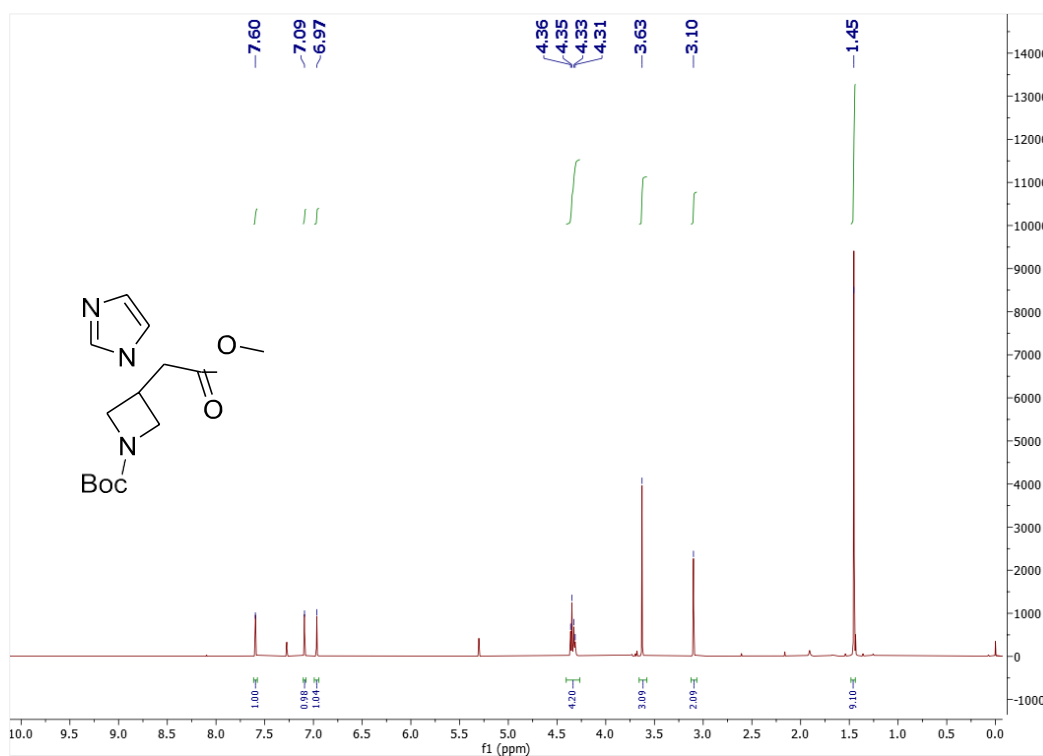


Figure S56. *tert*-Butyl 3-(1*H*-imidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4n) ¹H NMR spectrum (700 MHz, CDCl₃).

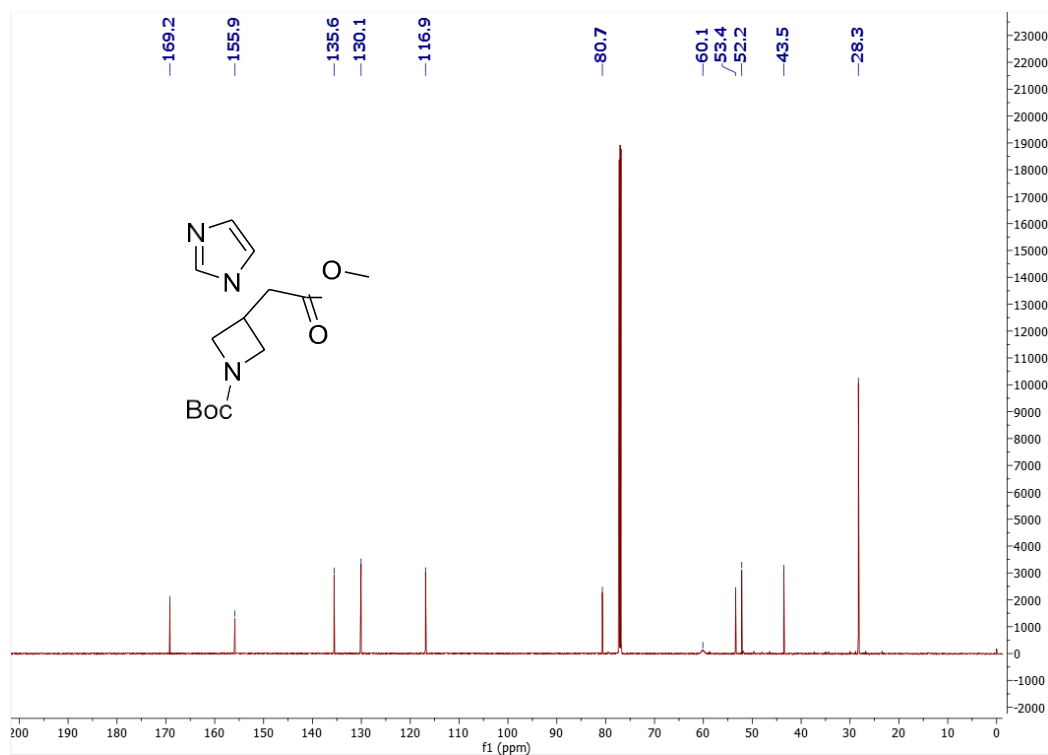


Figure S57. *tert*-Butyl 3-(1*H*-imidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4n) ¹³C NMR spectrum (176 MHz, CDCl₃).

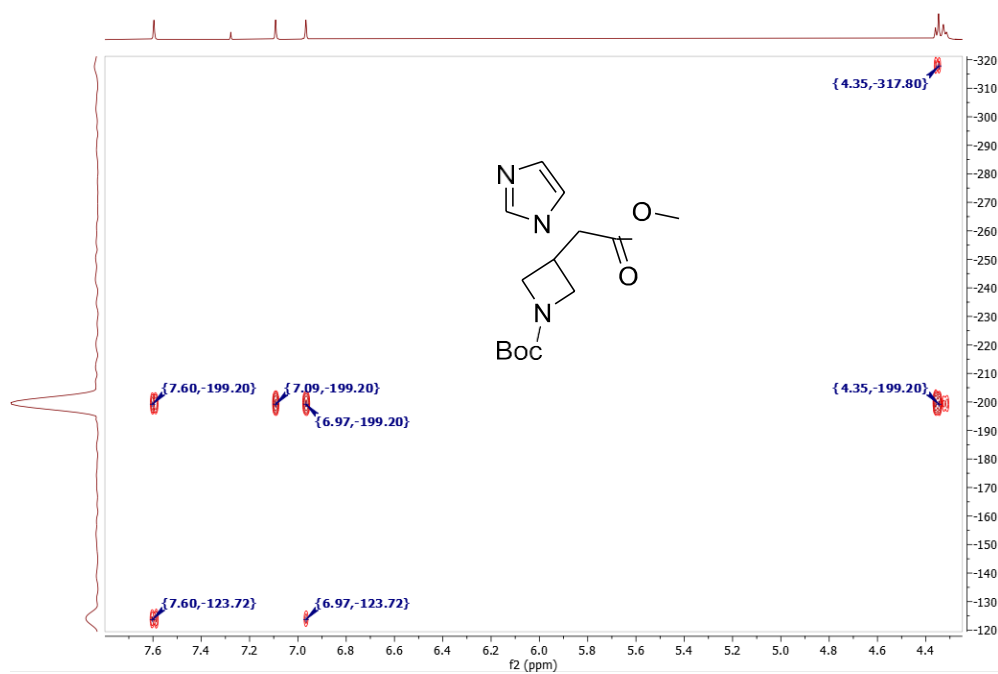


Figure S58. *tert*-Butyl 3-(1*H*-imidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4n) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

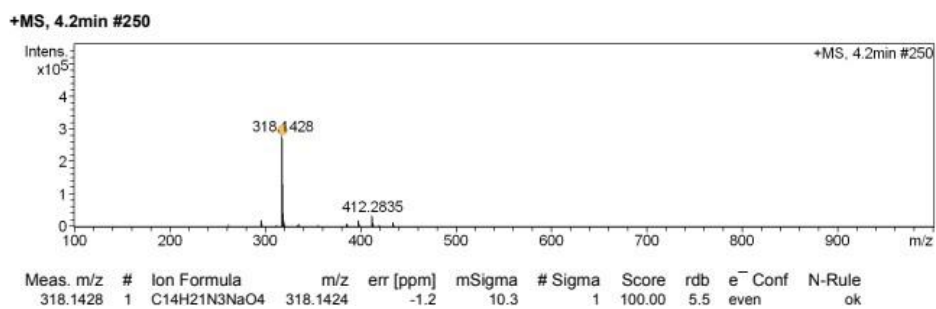


Figure S59. *tert*-Butyl 3-(1*H*-imidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4n**) HRMS (ESI-TOF).

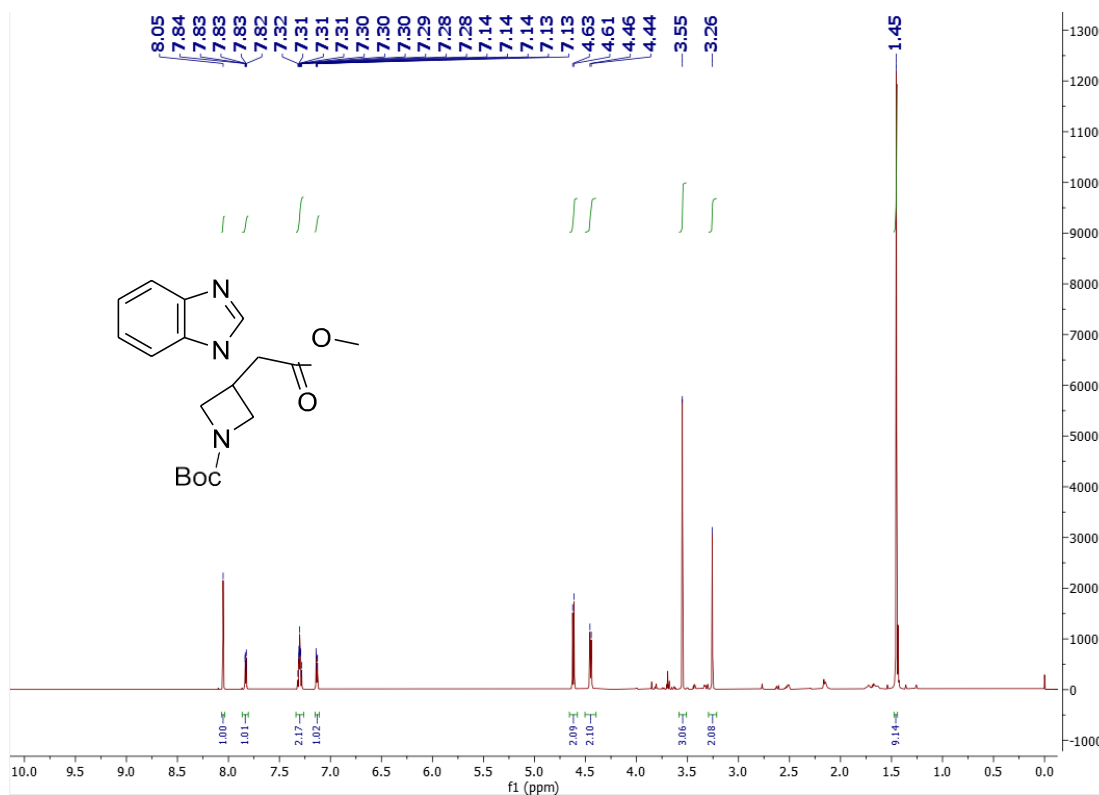


Figure S60. *tert*-Butyl 3-(1*H*-benzimidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4o**) ¹H NMR spectrum (700 MHz, CDCl₃).

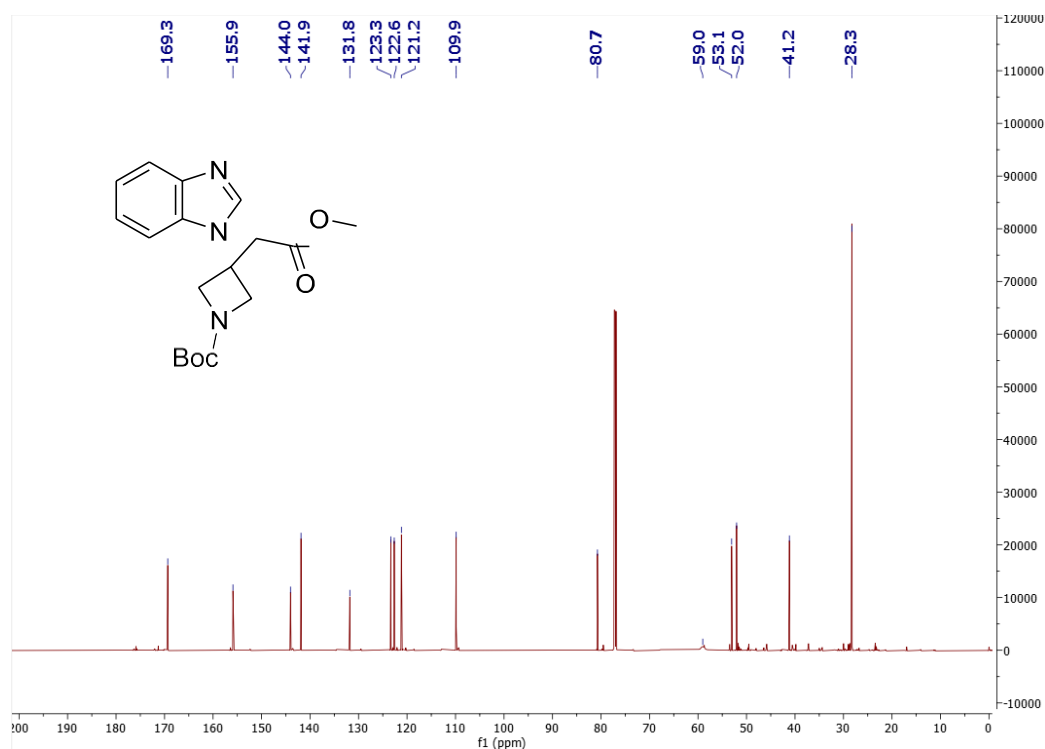


Figure S61. *tert*-Butyl 3-(1*H*-benzimidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4o**) ¹³C NMR spectrum (176 MHz, CDCl₃).

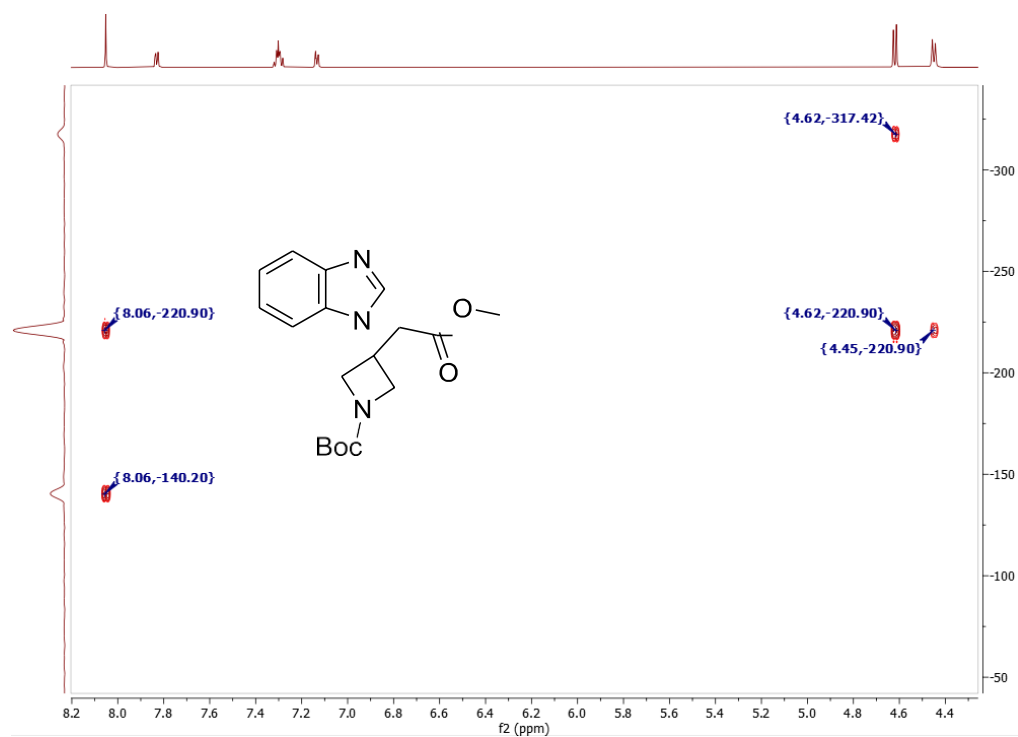


Figure S62. *tert*-Butyl 3-(1*H*-benzimidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4o**) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

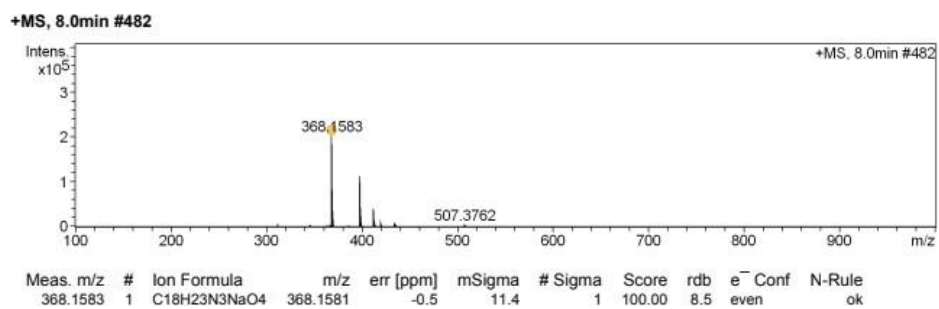


Figure S63. *tert*-Butyl 3-(1*H*-benzimidazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4o) HRMS (ESI-TOF).

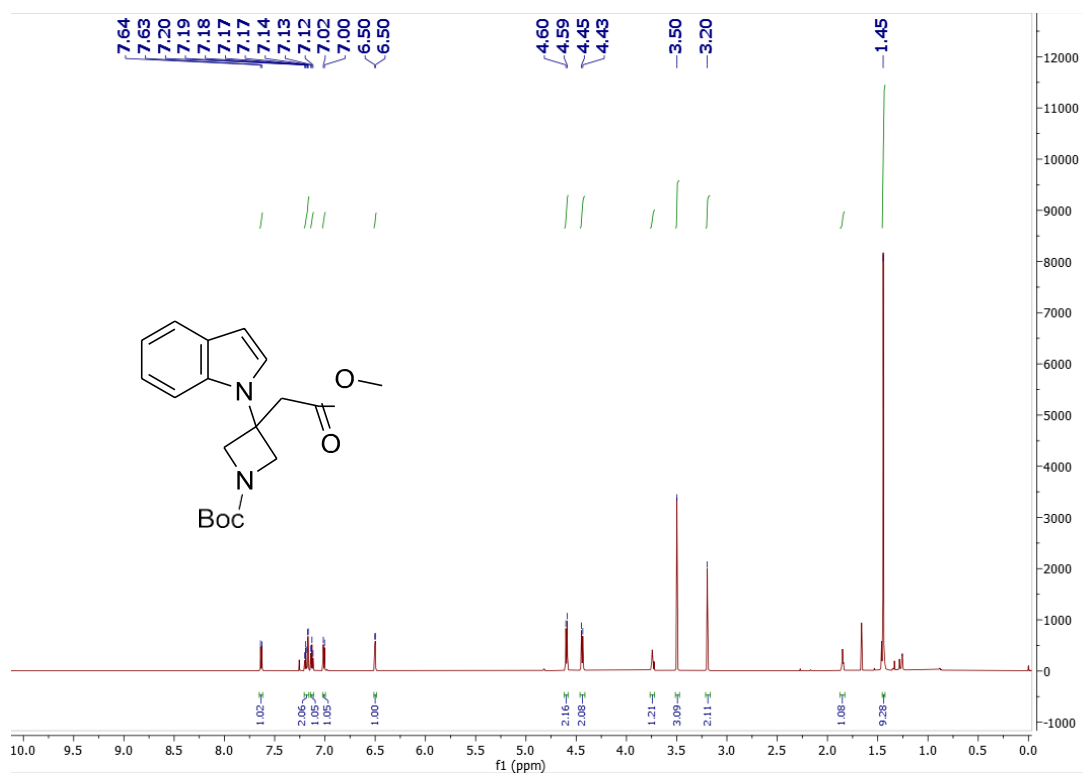


Figure S64. *tert*-Butyl 3-(1*H*-indol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4p) ¹H NMR spectrum (700 MHz, CDCl₃).

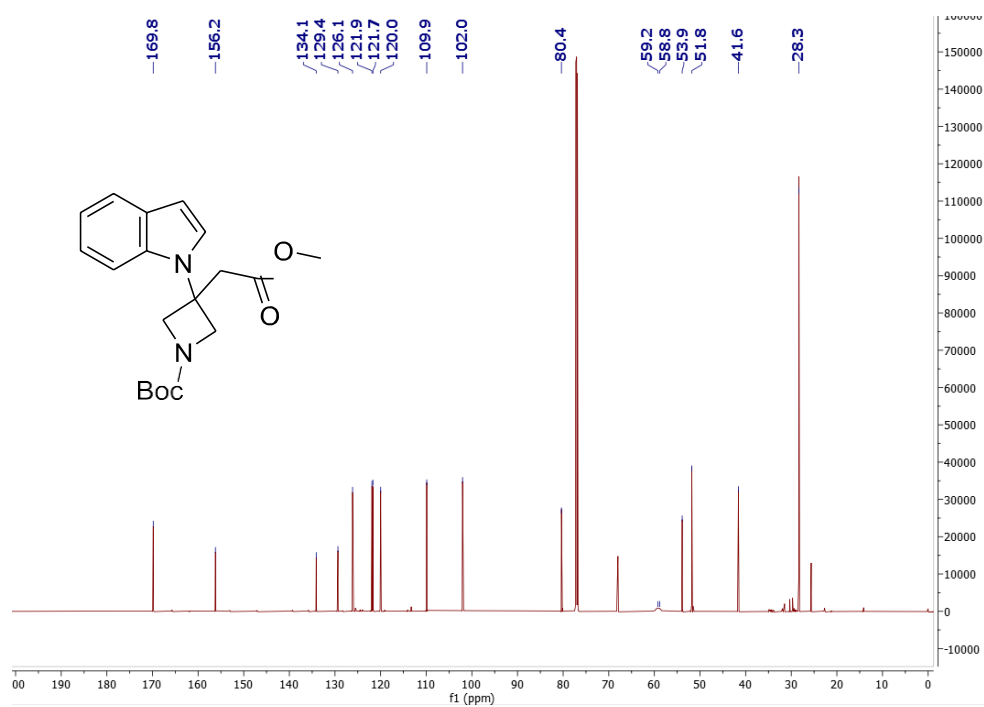


Figure S65. *tert*-Butyl 3-(1*H*-indol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4p) ¹³C NMR spectrum (176 MHz, CDCl₃).

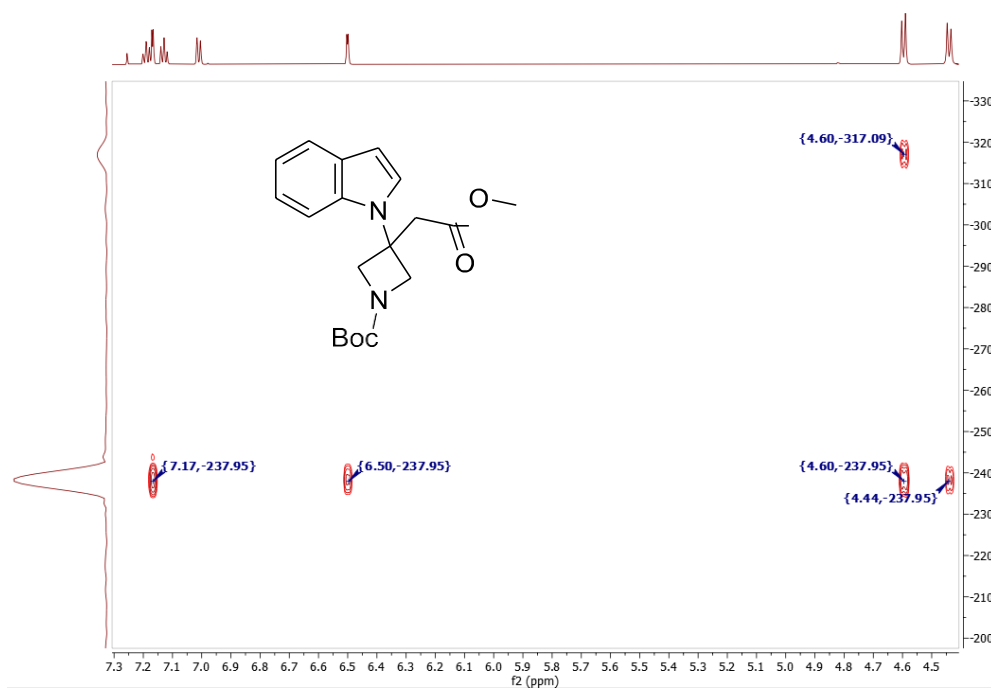


Figure S66. *tert*-Butyl 3-(1*H*-indol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4p) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

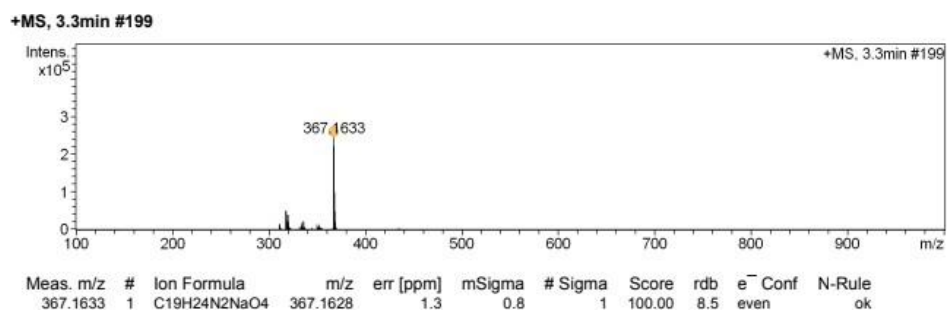


Figure S67. *tert*-Butyl 3-(1*H*-indol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4p) HRMS (ESI-TOF).

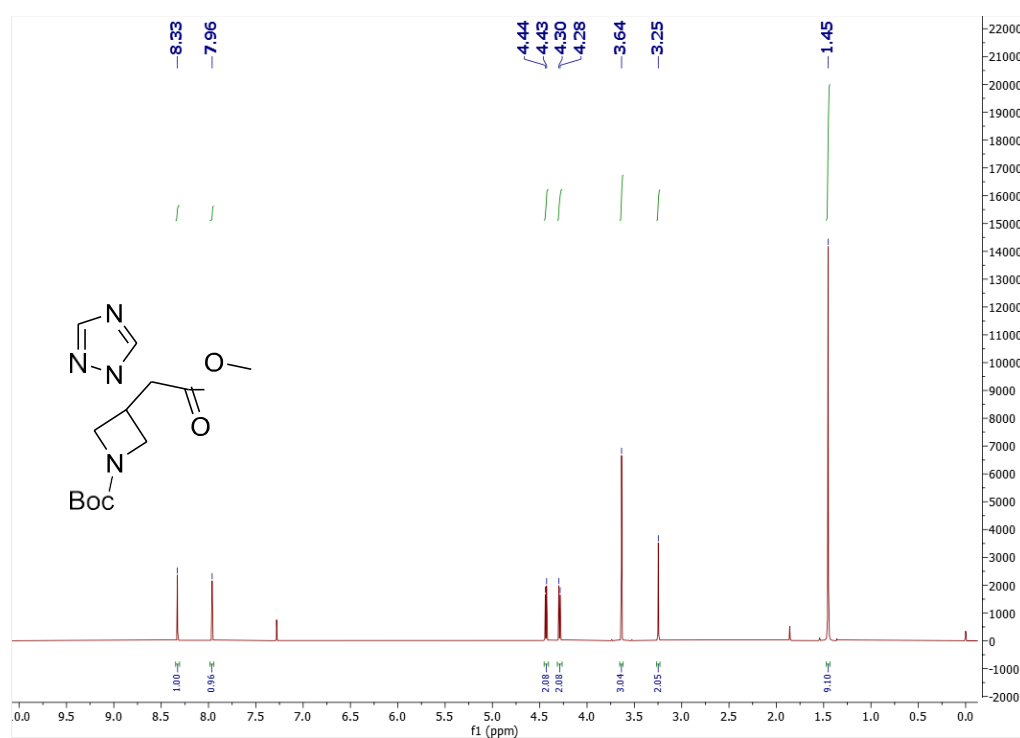


Figure S68. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-1,2,4-triazol-1-yl)azetidine-1-carboxylate (4q) ¹H NMR spectrum (700 MHz, CDCl₃).

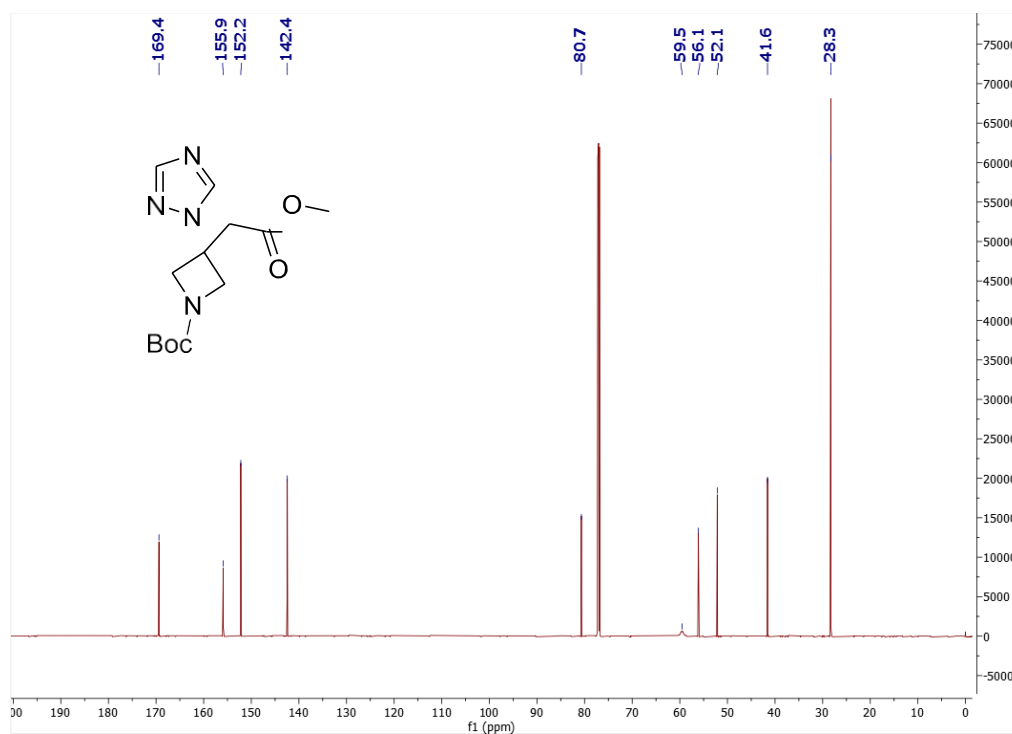


Figure S69. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-1,2,4-triazol-1-yl)azetidine-1-carboxylate (4q) ¹³C NMR spectrum (176 MHz, CDCl₃).

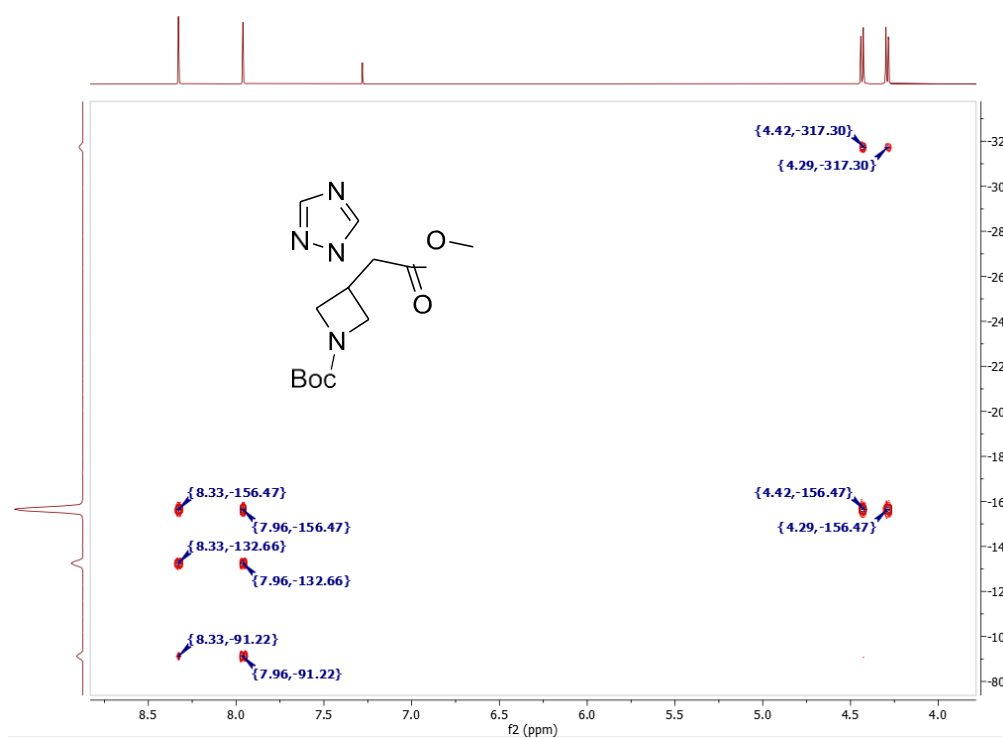


Figure S70. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-1,2,4-triazol-1-yl)azetidine-1-carboxylate (4q) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

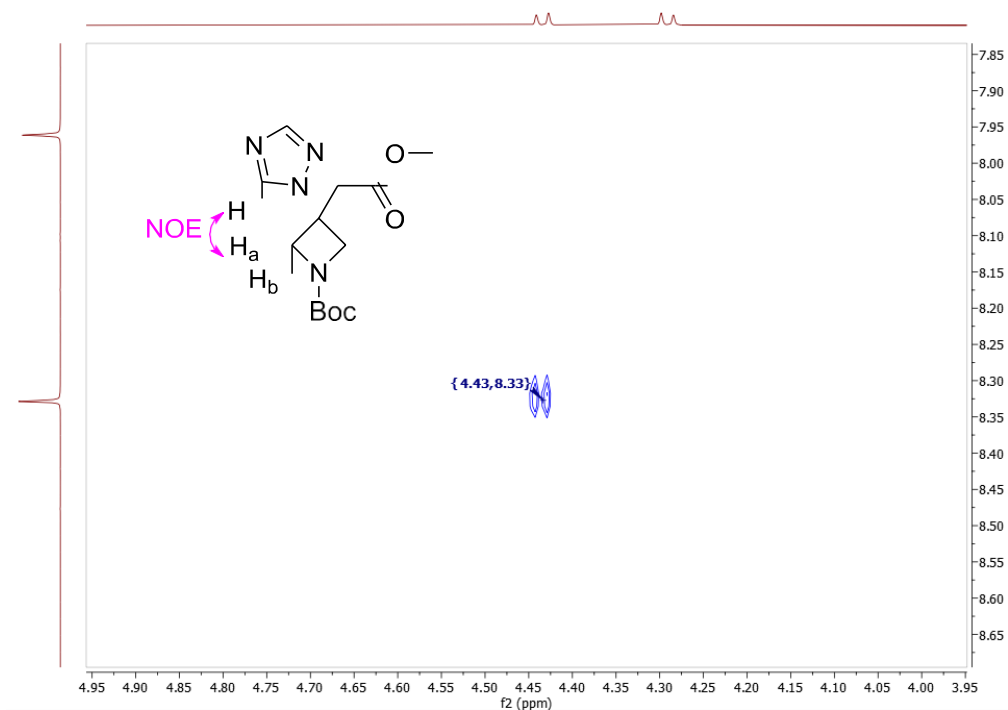


Figure S71. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-1,2,4-triazol-1-yl)azetidine-1-carboxylate (4q) ^1H - ^1H NOESY NMR spectrum (700 MHz, CDCl_3).

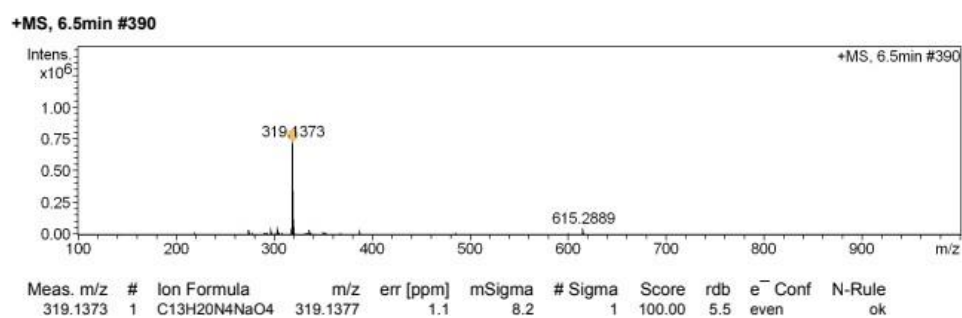


Figure S72. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-1,2,4-triazol-1-yl)azetidine-1-carboxylate (4q) HRMS (ESI-TOF).

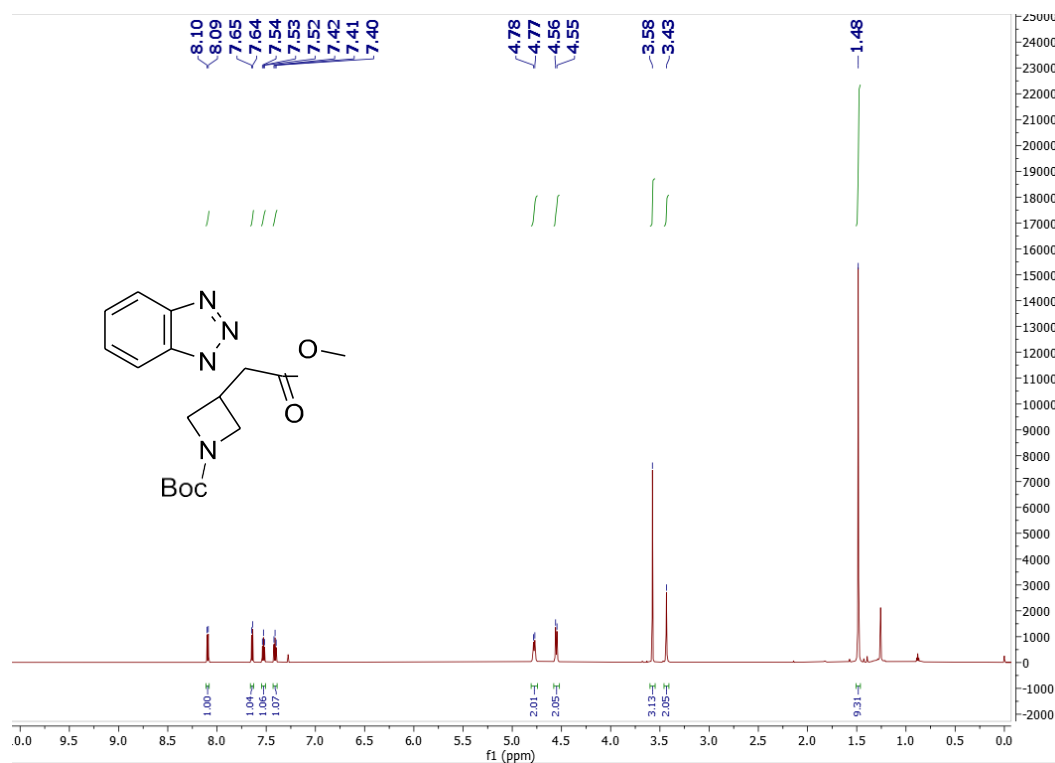


Figure S73. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(1*H*-1,2,4-triazol-1-yl)azetidine-1-carboxylate (**4r**) ¹H NMR spectrum (700 MHz, CDCl₃).

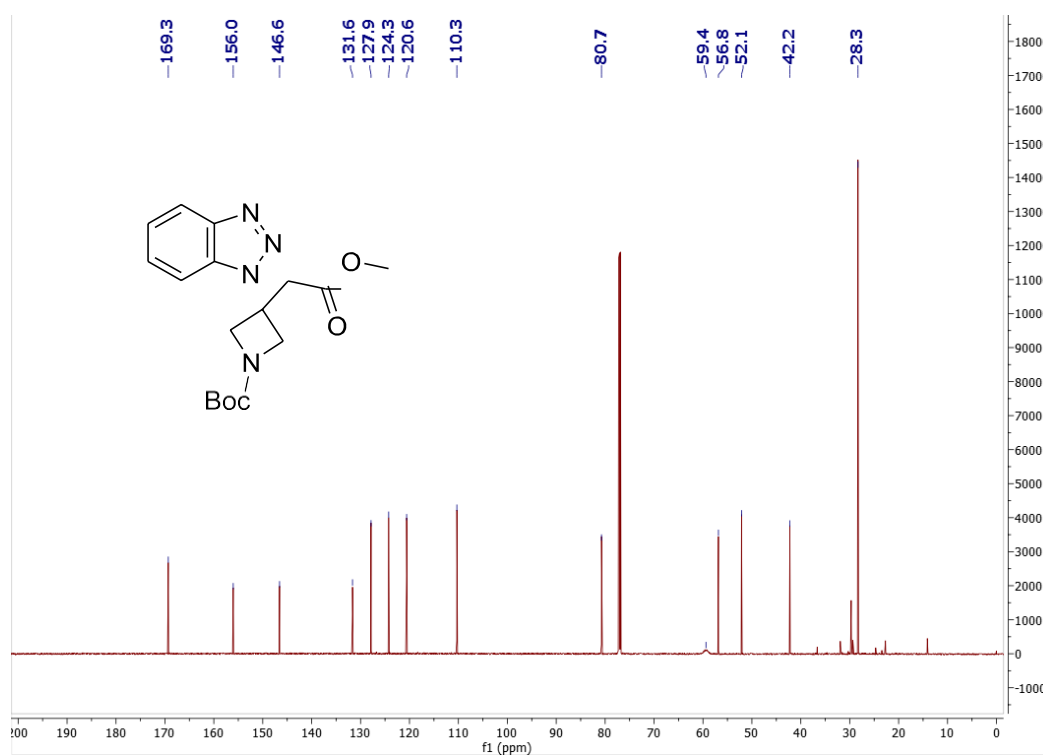


Figure S74. *tert*-Butyl 3-(1*H*-benzotriazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (**4r**) ¹³C NMR spectrum (176 MHz, CDCl₃).

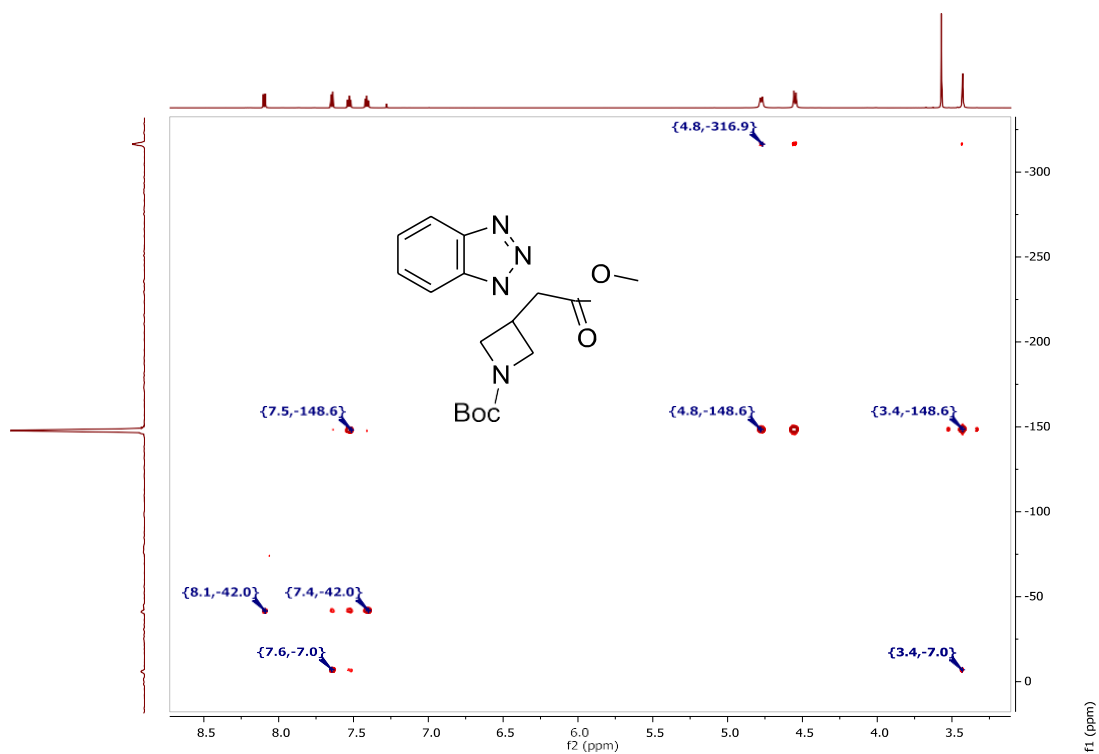


Figure S75. *tert*-Butyl 3-(1*H*-benzotriazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4r) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

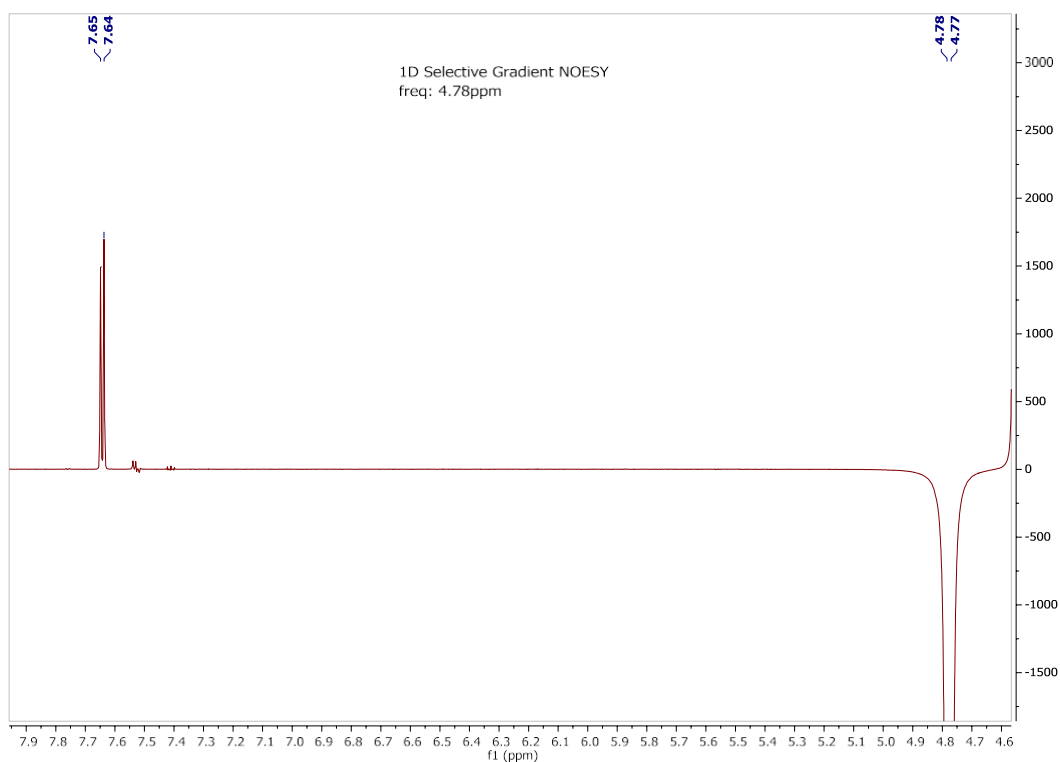


Figure S76. *tert*-Butyl 3-(1*H*-benzotriazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4r) 1D Selective Gradient NOESY NMR spectrum (700 MHz, CDCl_3).

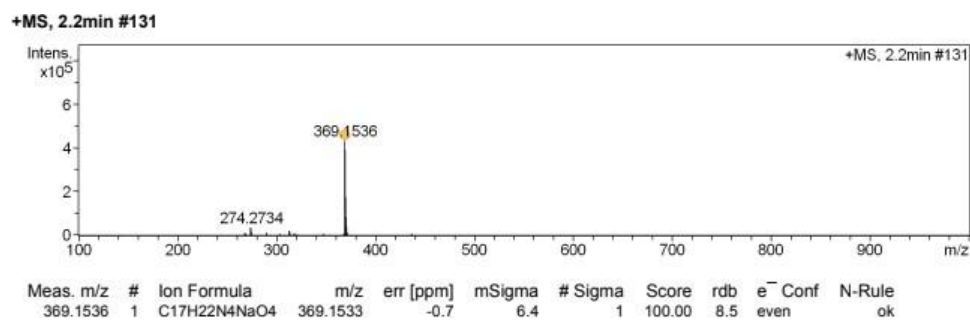


Figure S77. *tert*-Butyl 3-(1*H*-benzotriazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4r) HRMS (ESI-TOF).

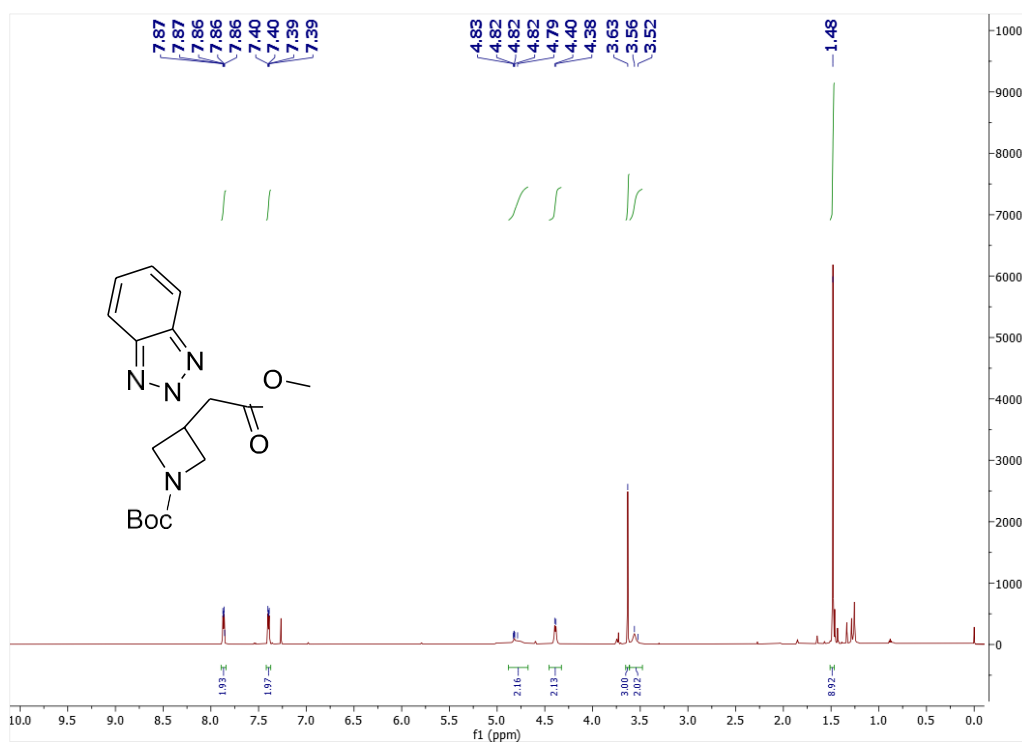


Figure S78. *tert*-Butyl 3-(2*H*-benzotriazol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4s) ¹H NMR spectrum (700 MHz, CDCl₃).

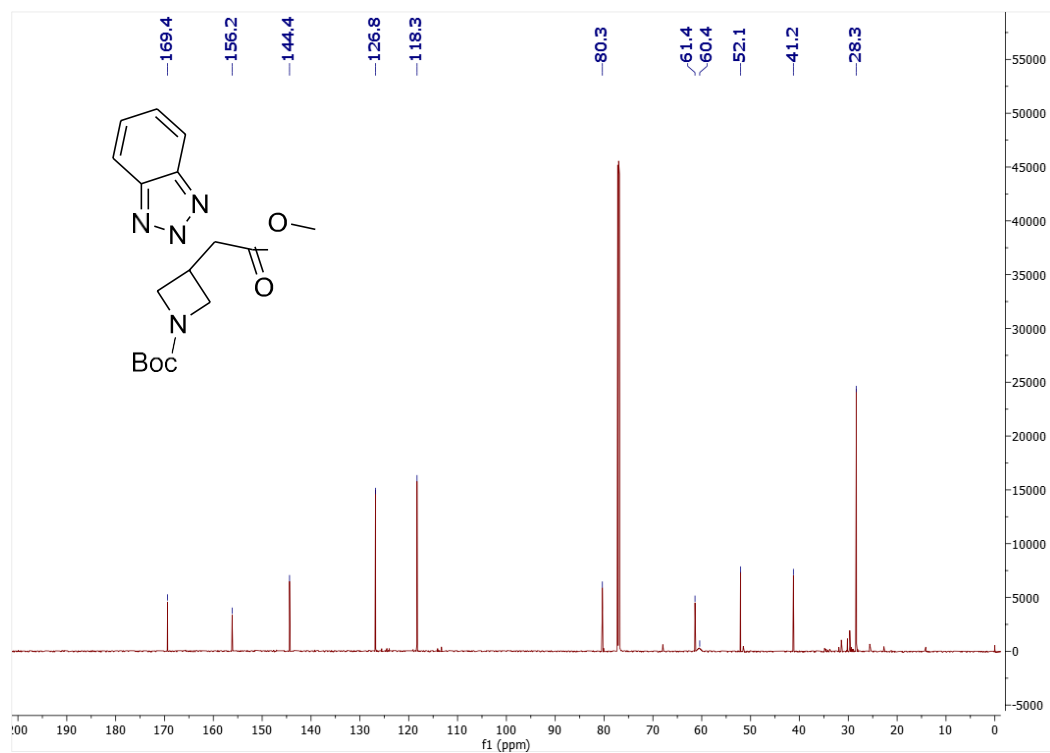


Figure S79. *tert*-Butyl 3-(2*H*-benzotriazol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4s) ¹³C NMR spectrum (176 MHz, CDCl₃).

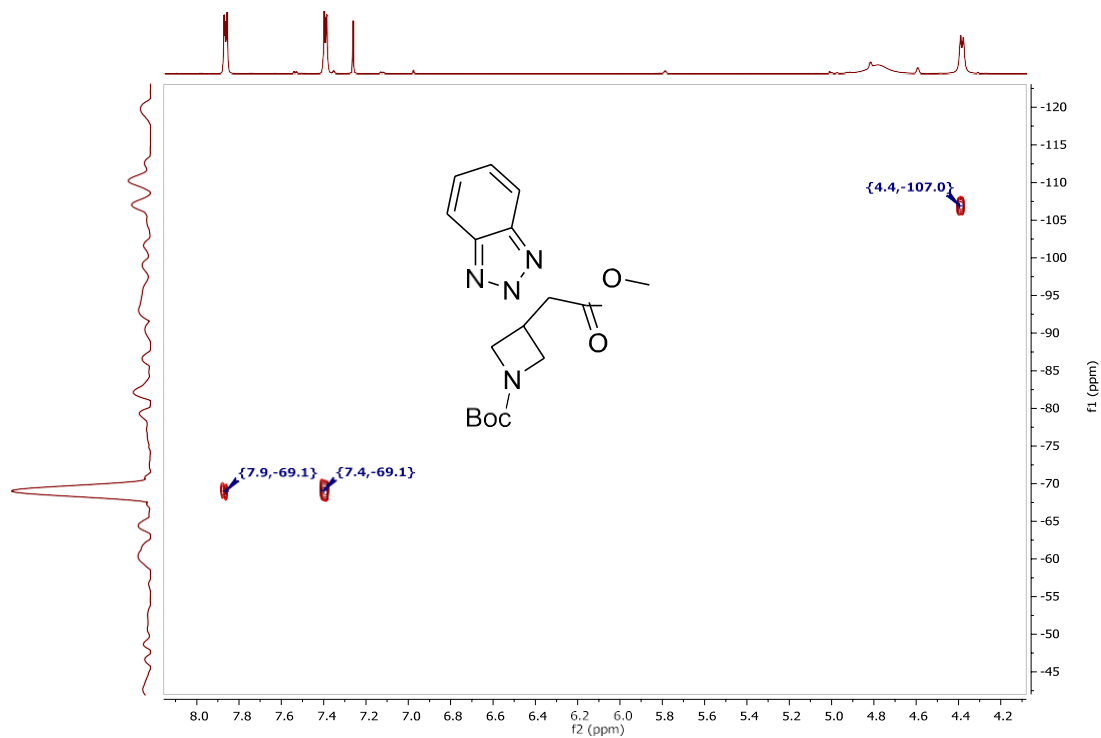


Figure S80. *tert*-Butyl 3-(2*H*-benzotriazol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4s) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

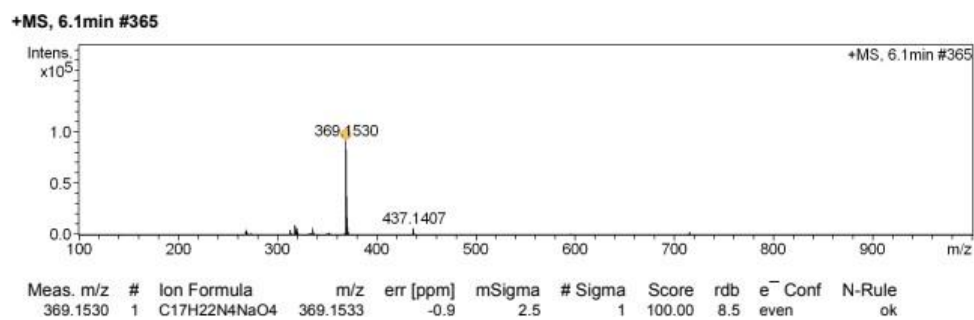


Figure S81. *tert*-Butyl 3-(2*H*-benzotriazol-2-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (4s) HRMS (ESI-TOF).

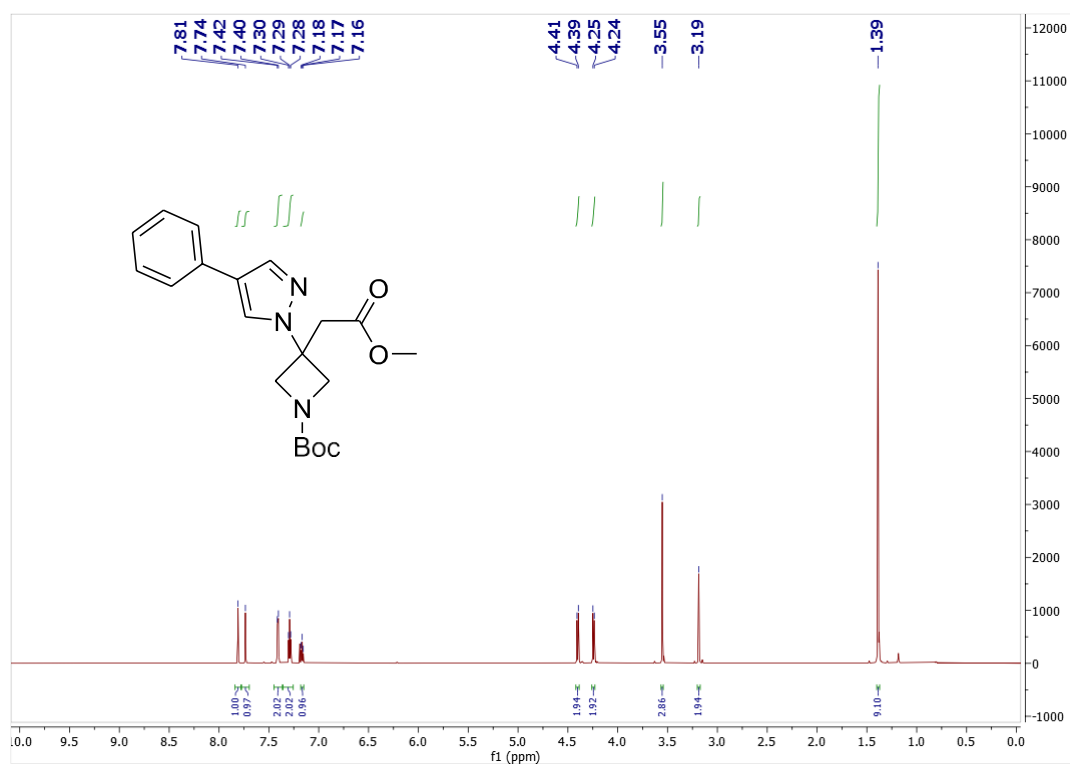


Figure S82. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(4-phenyl-1*H*-pyrazol-1-yl)azetidine-1-carboxylate (5a) ¹H NMR spectrum (700 MHz, CDCl₃).

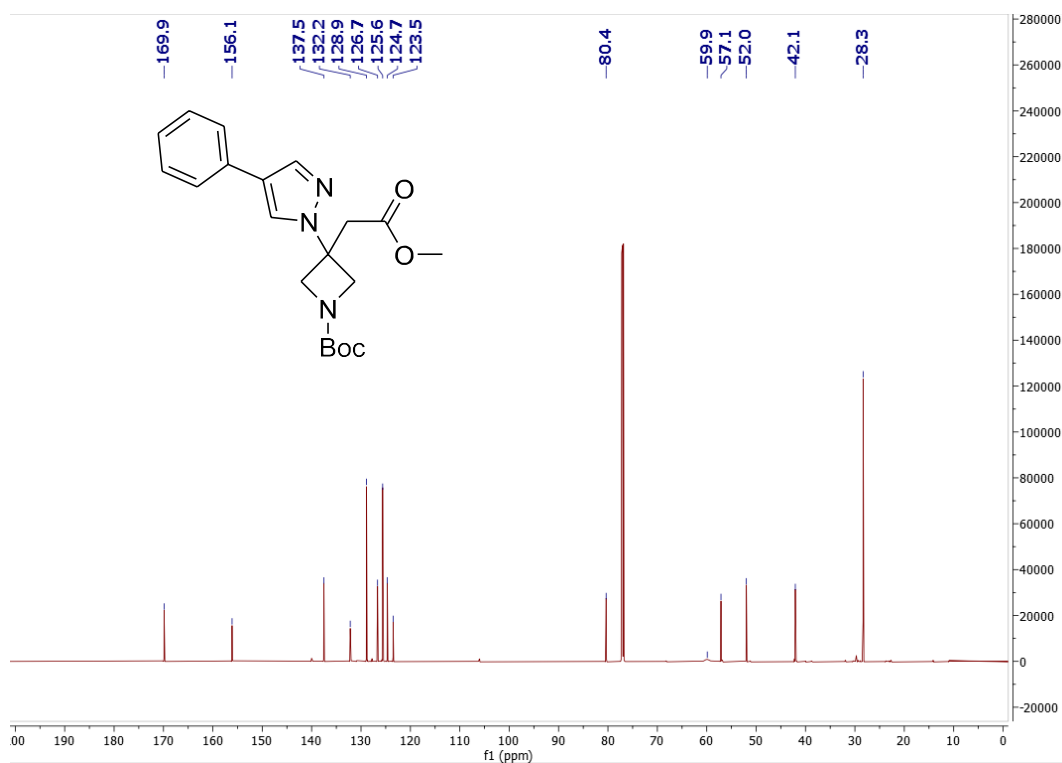


Figure S83. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(4-phenyl-1*H*-pyrazol-1-yl)azetidine-1-carboxylate (5a) ¹³C NMR spectrum (176 MHz, CDCl₃).

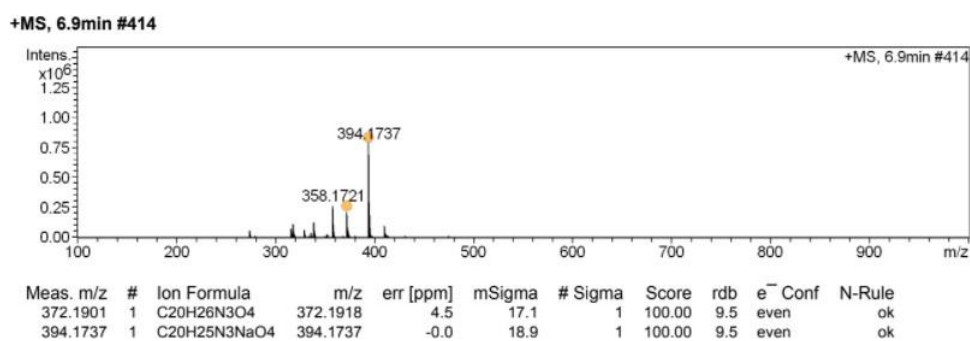


Figure S84. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-(4-phenyl-1*H*-pyrazol-1-yl)azetidine-1-carboxylate (5a) HRMS (ESI-TOF).

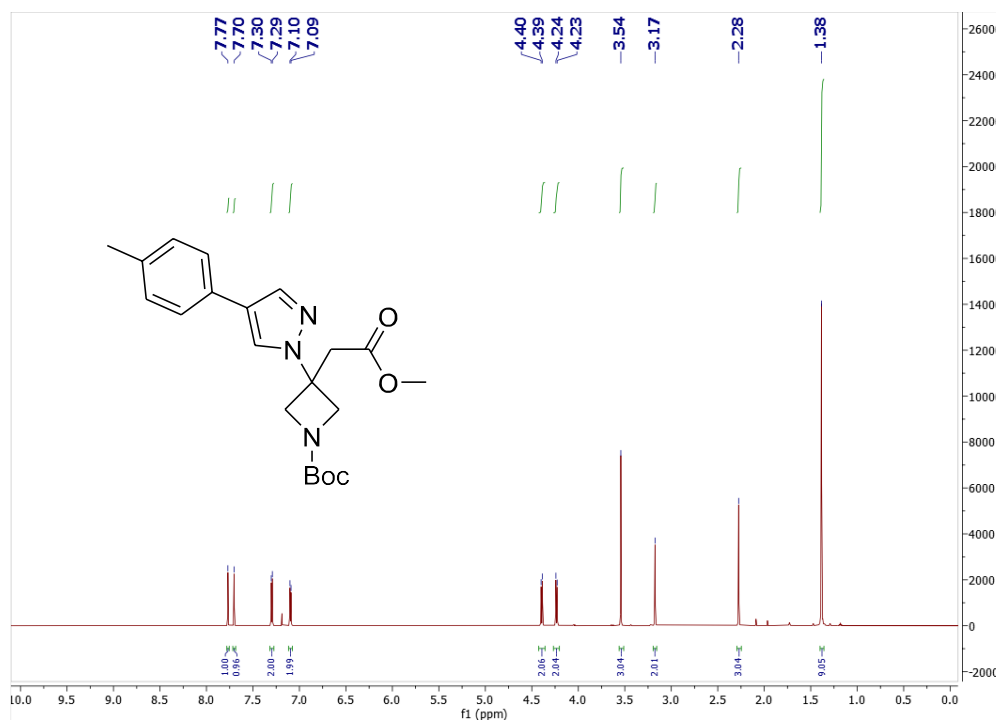


Figure S85. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methylphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5b**) ¹H NMR spectrum (700 MHz, CDCl₃).

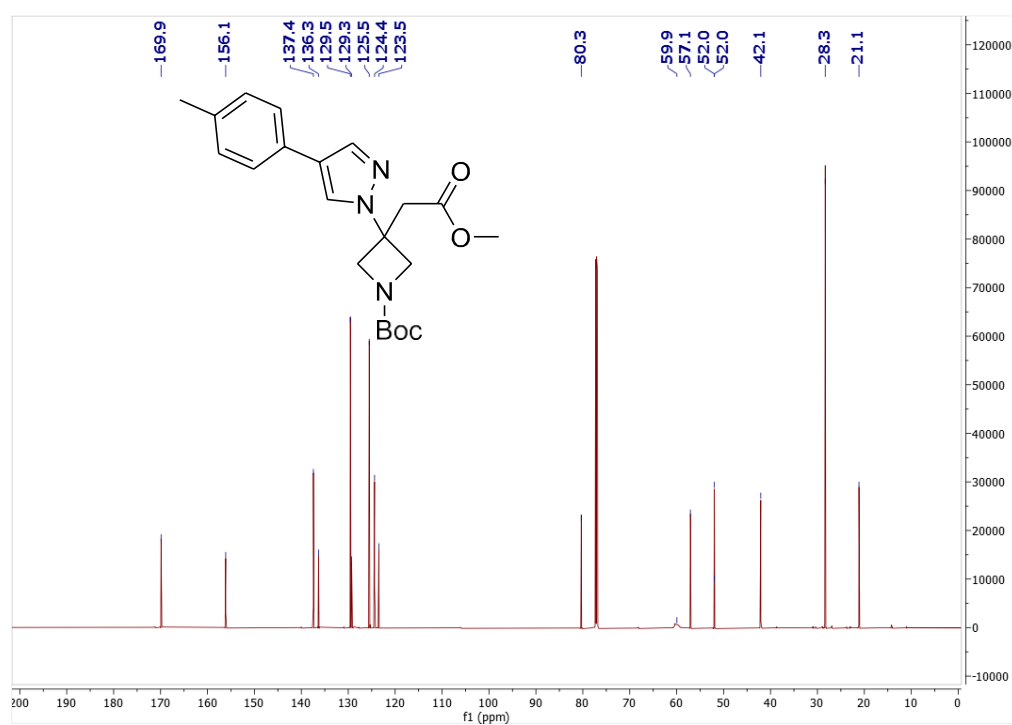


Figure S86. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methylphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5b**) ¹³C NMR spectrum (176 MHz, CDCl₃).

+MS, 7.3min #435

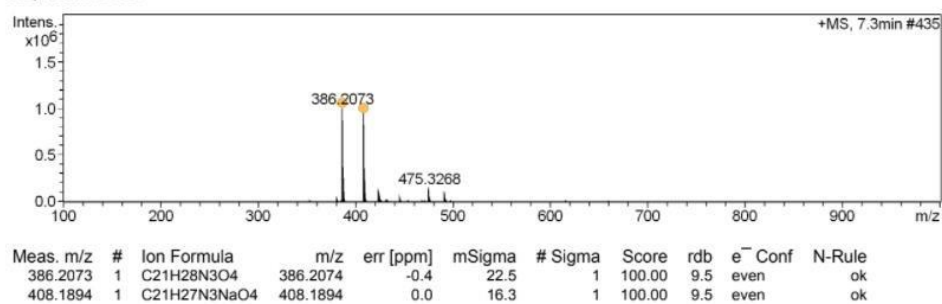


Figure S87. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methylphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5b) HRMS (ESI-TOF).

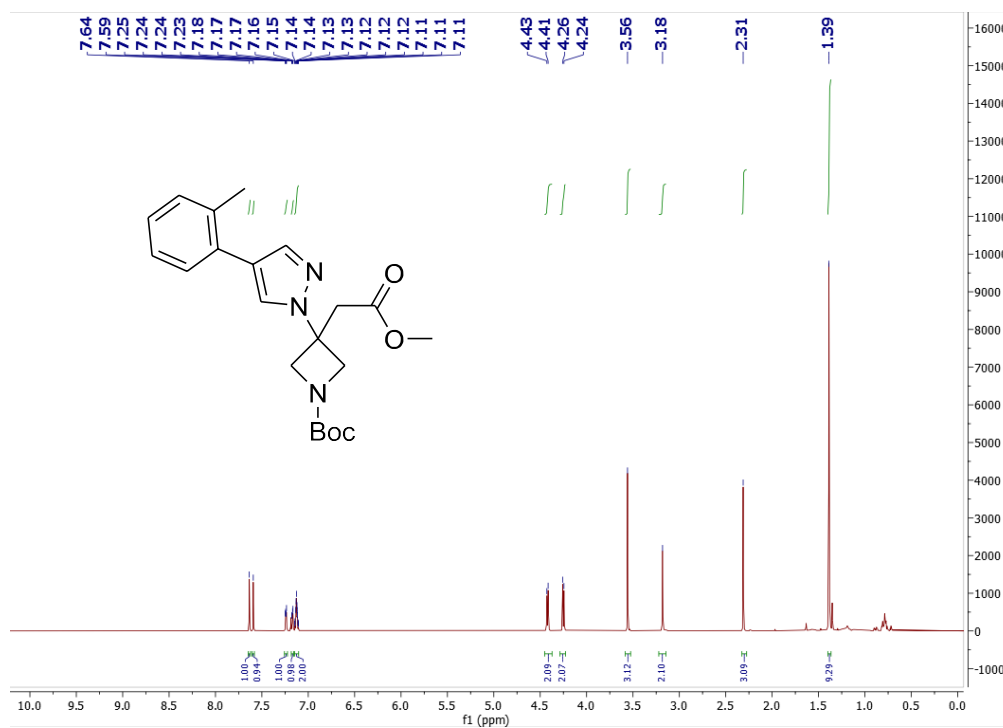


Figure S88. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(2-methylphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5c) ¹H NMR spectrum (700 MHz, CDCl₃).

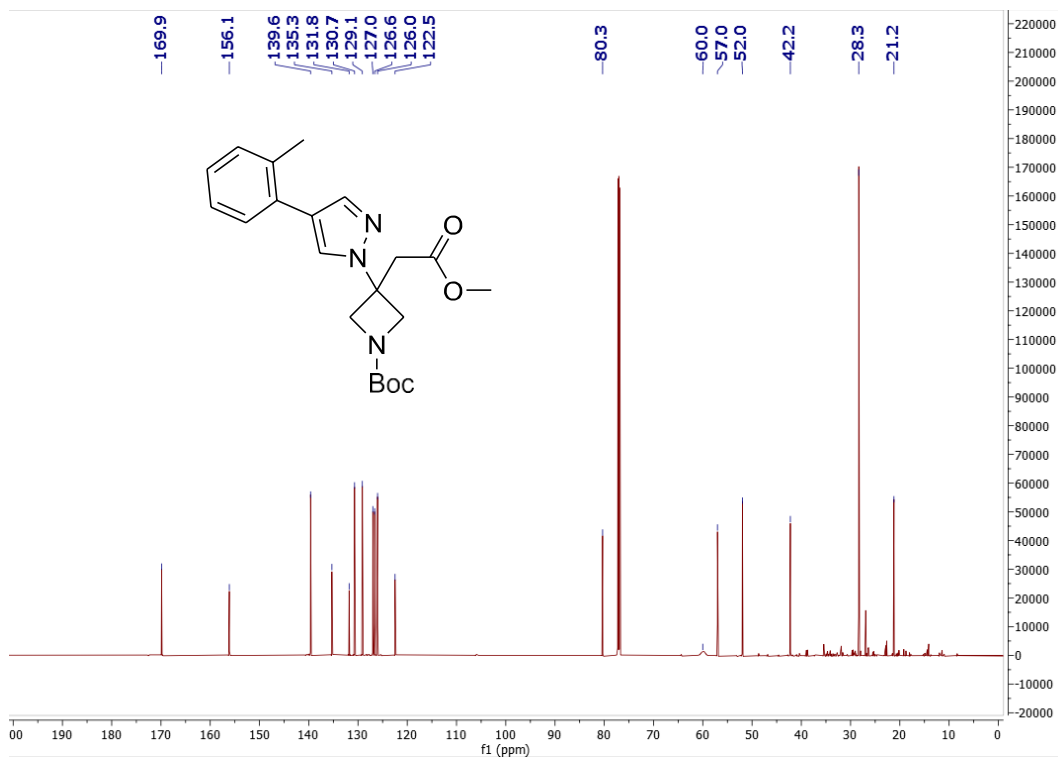


Figure S89. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(2-methylphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5c) ¹³C NMR spectrum (176 MHz, CDCl₃).

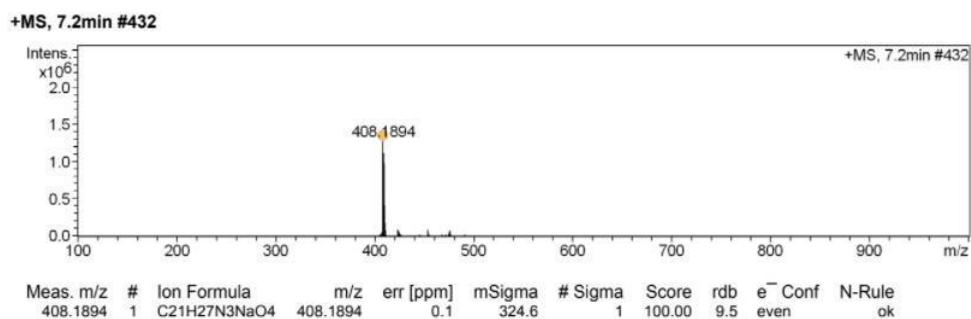


Figure S90. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(2-methylphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5c) HRMS (ESI-TOF).

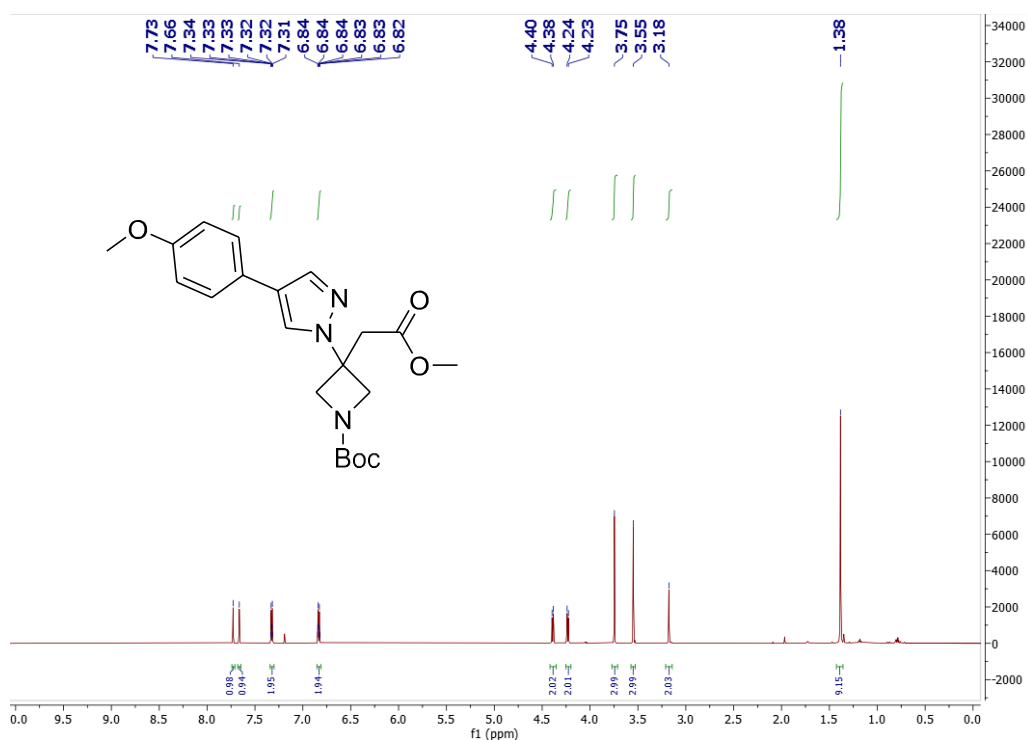


Figure S91. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methoxyphenyl)-1H-pyrazol-1-yl]azetidine-1-carboxylate (5d) ¹H NMR spectrum (700 MHz, CDCl₃).

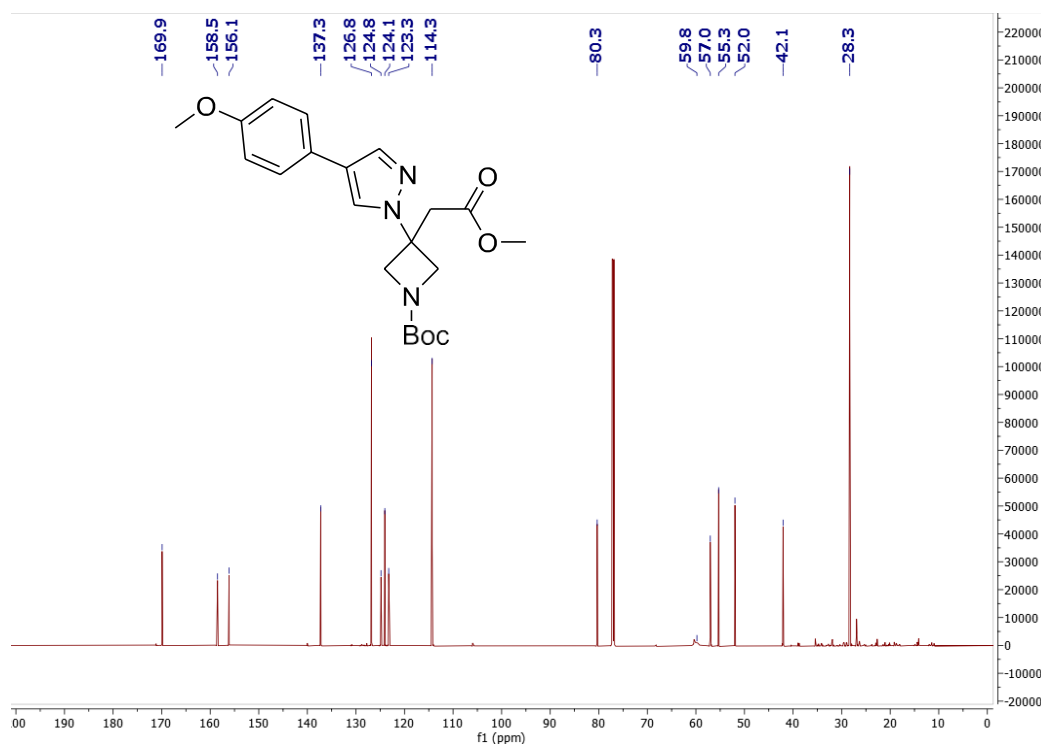


Figure S92. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methoxyphenyl)-1H-pyrazol-1-yl]azetidine-1-carboxylate (5d) ¹³C NMR spectrum (176 MHz, CDCl₃).

+MS, 4.3min #256

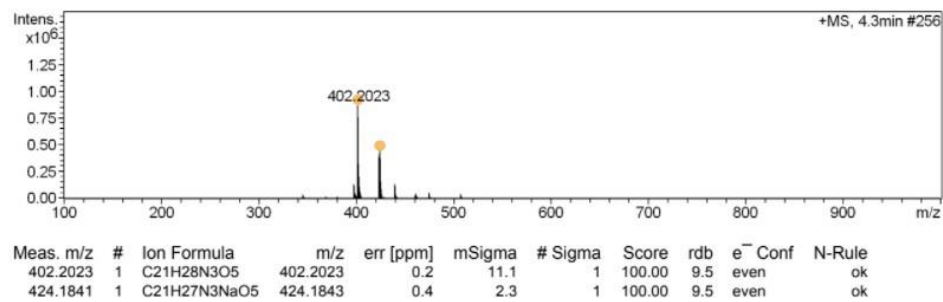


Figure S93. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5d) HRMS (ESI-TOF).

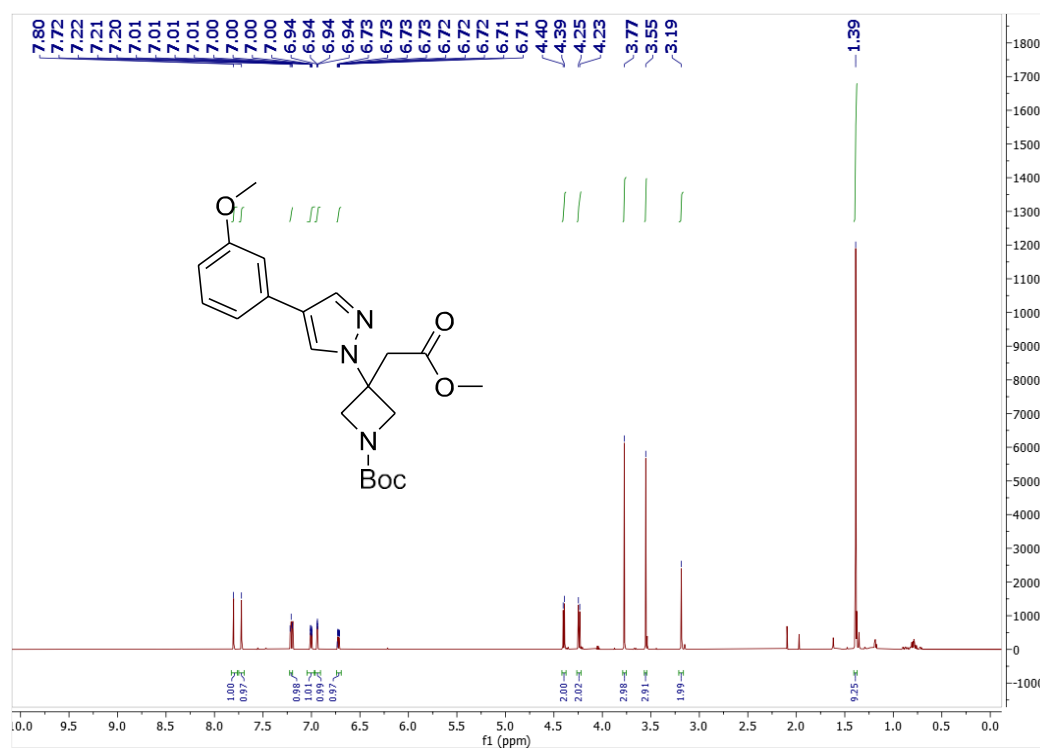


Figure S94. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(3-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5e) ¹H NMR spectrum (700 MHz, CDCl₃).

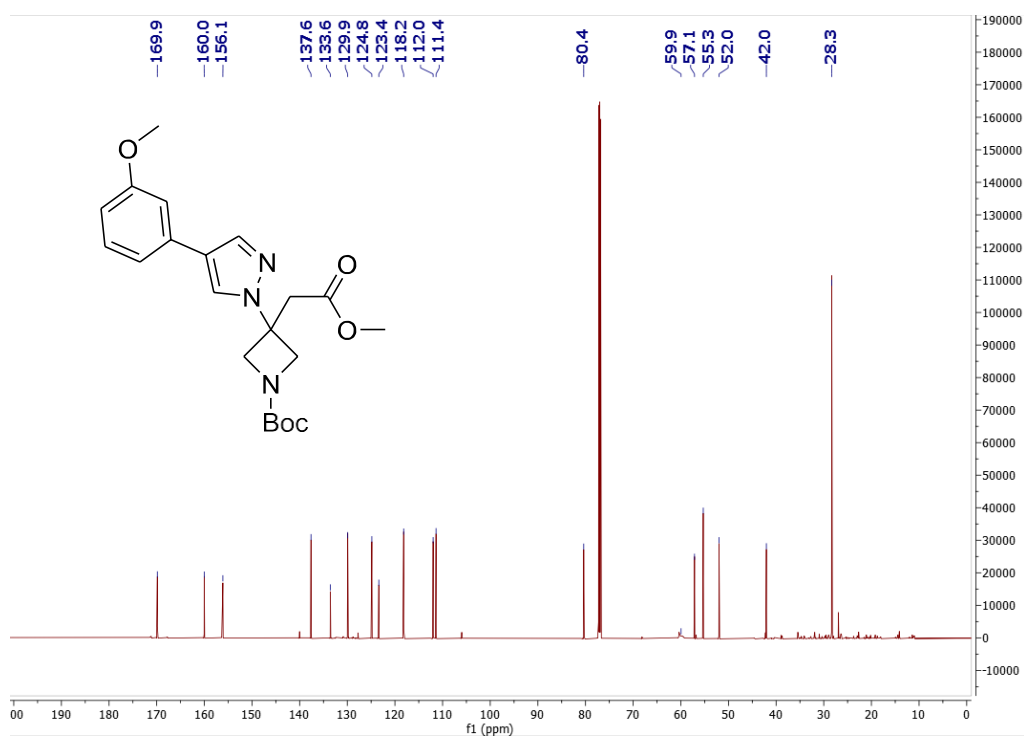


Figure S95. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(3-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5e) ¹³C NMR spectrum (176 MHz, CDCl₃).

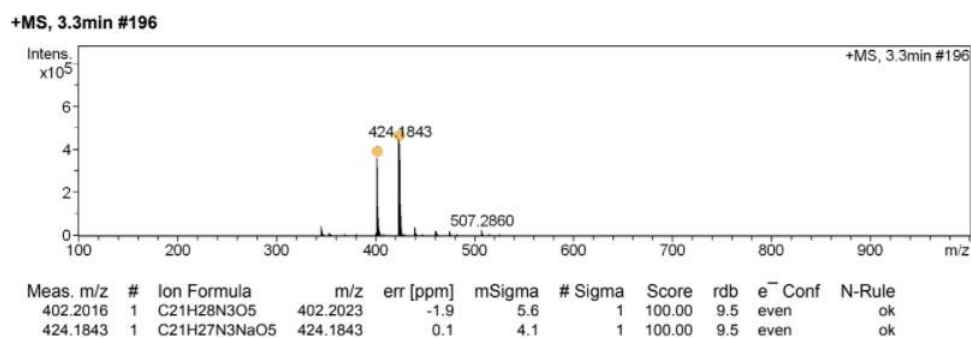


Figure S96. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(3-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5e) HRMS (ESI-TOF).

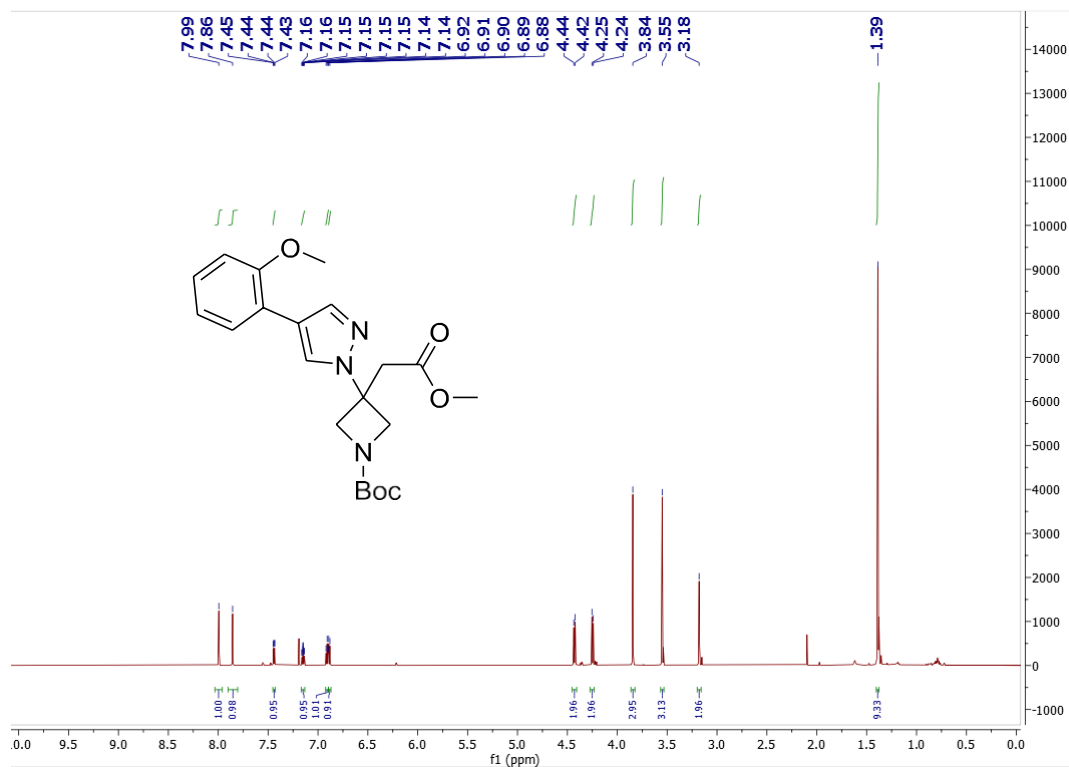


Figure S97. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(2-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5f) ^1H NMR spectrum (700 MHz, CDCl_3).

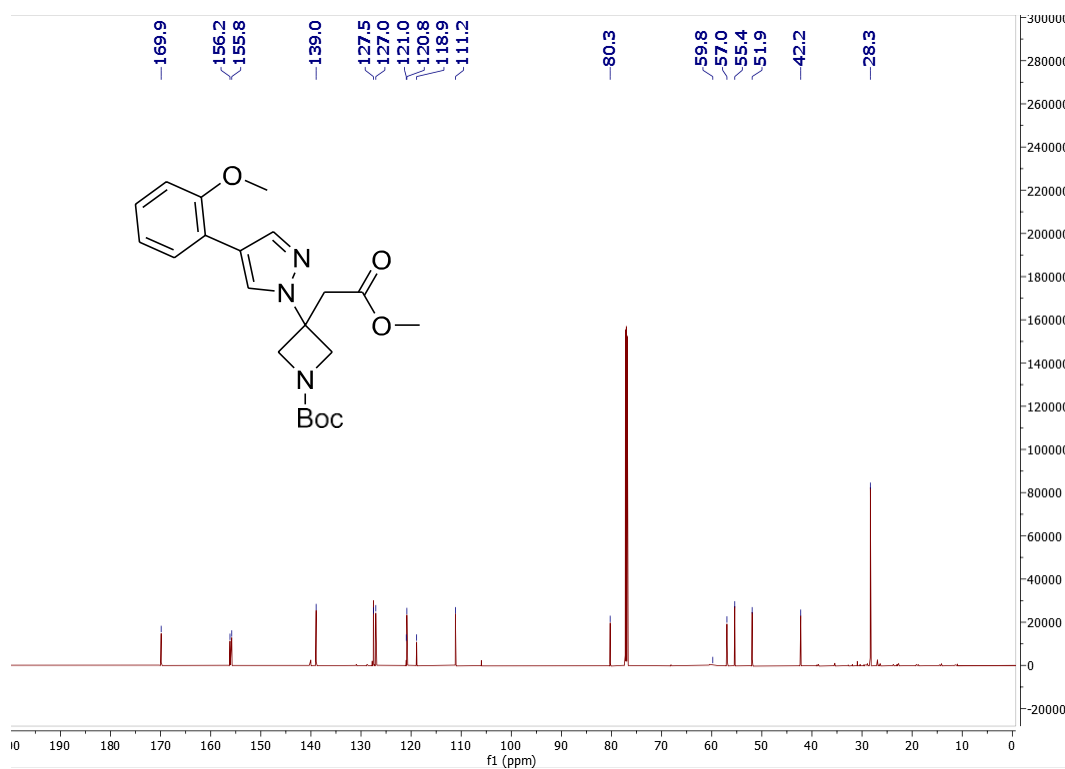


Figure S98. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(2-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5f) ^{13}C NMR spectrum (176 MHz, CDCl_3).

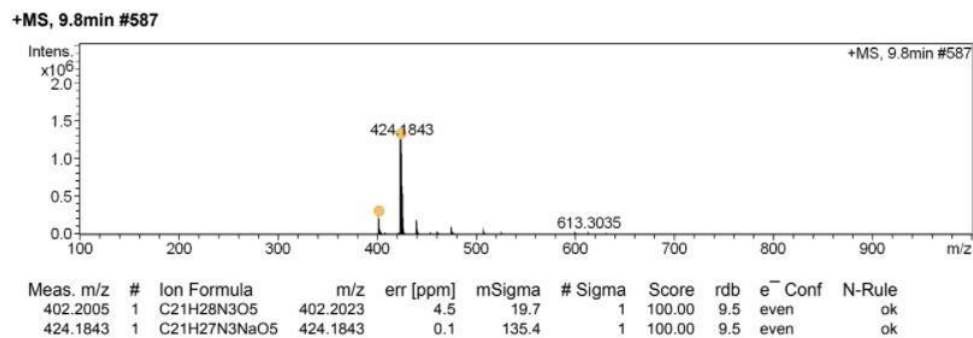


Figure S99. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(2-methoxyphenyl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5f) HRMS (ESI-TOF).

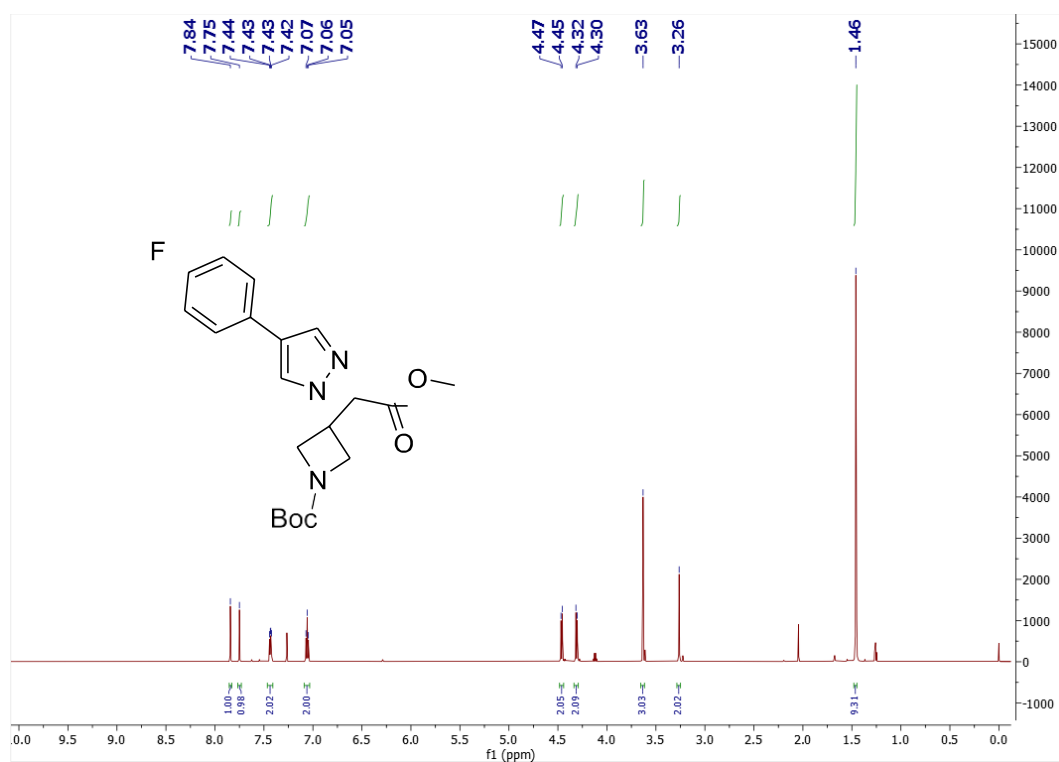


Figure S100. *tert*-Butyl 3-[4-(4-fluorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5g) ¹H NMR spectrum (700 MHz, CDCl₃).

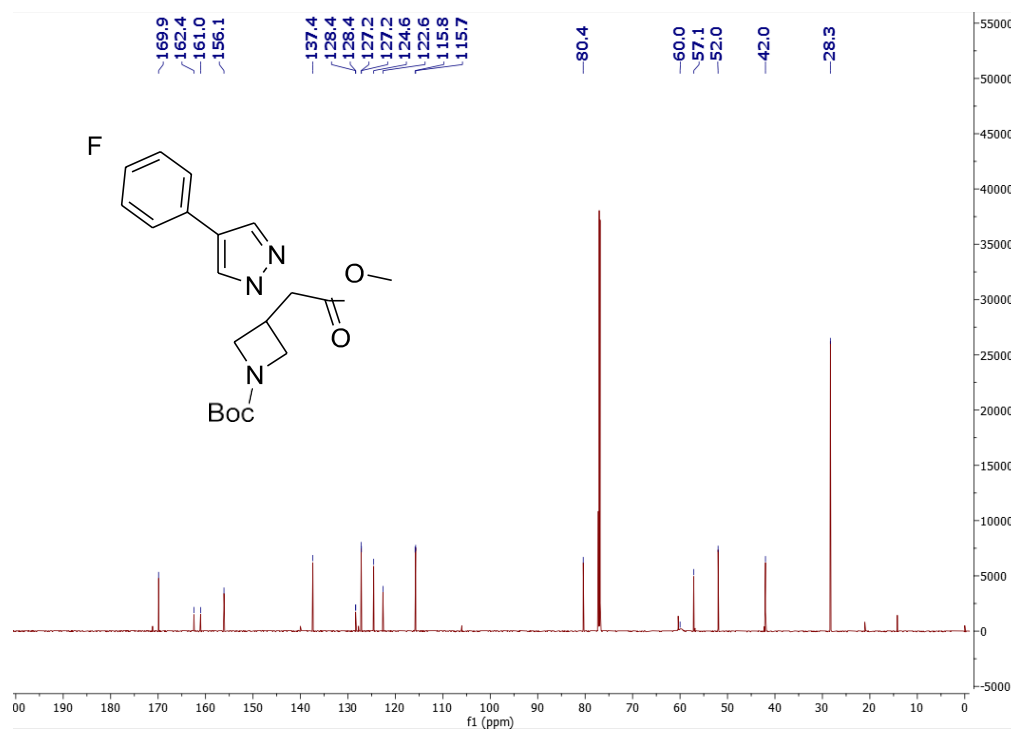


Figure S101. *tert*-Butyl 3-[4-(4-fluorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5g) ¹³C NMR spectrum (176 MHz, CDCl₃).

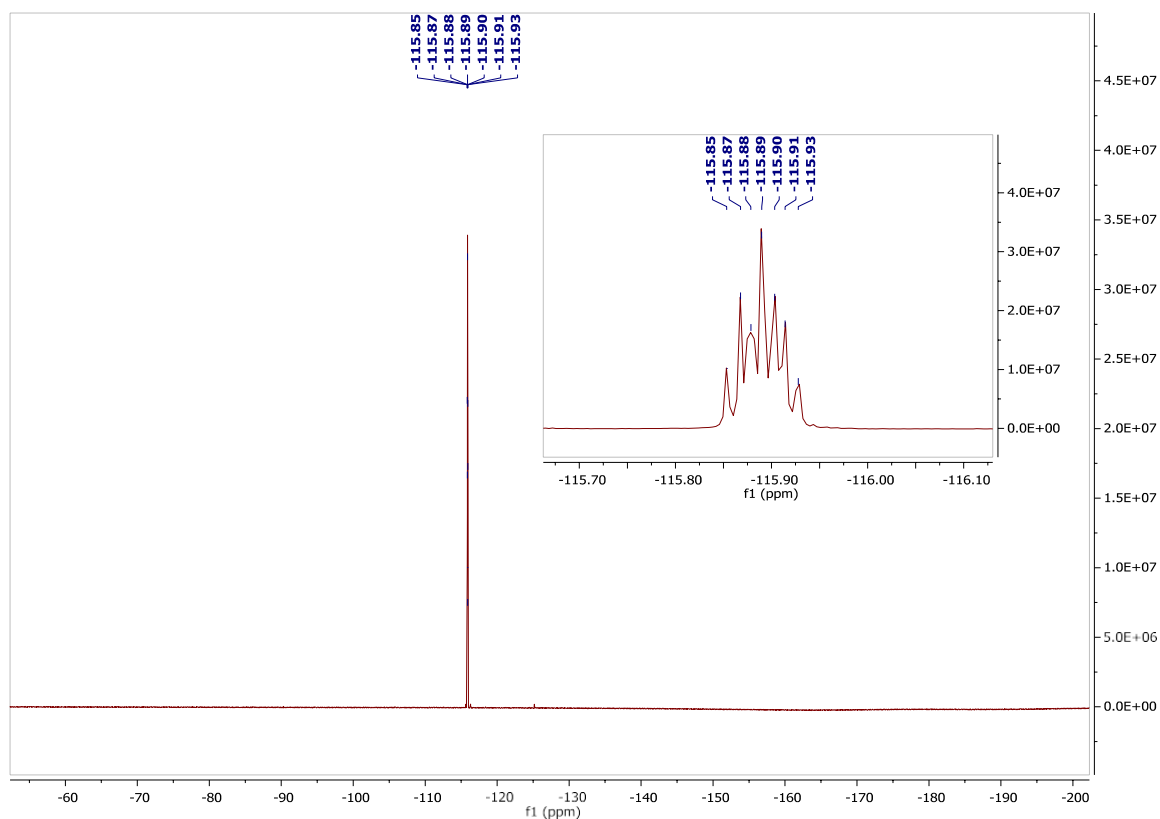


Figure S102. *tert*-Butyl 3-[4-(4-fluorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5g) ^{19}F NMR spectrum (376 MHz, CDCl_3).

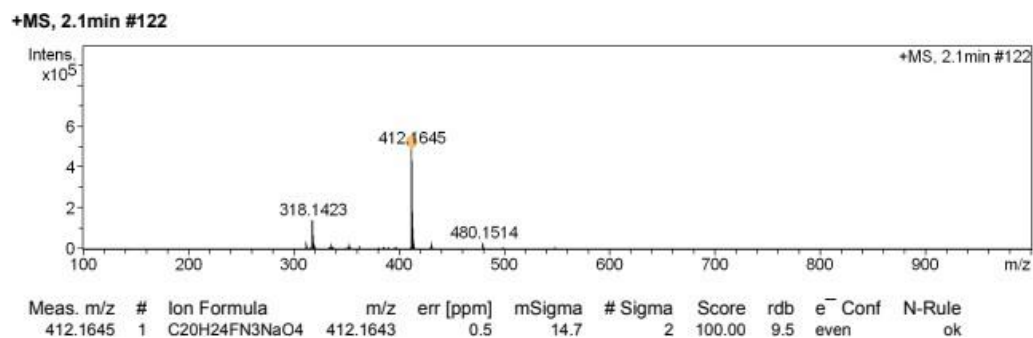


Figure S103. *tert*-Butyl 3-[4-(4-fluorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5g) HRMS (ESI-TOF).

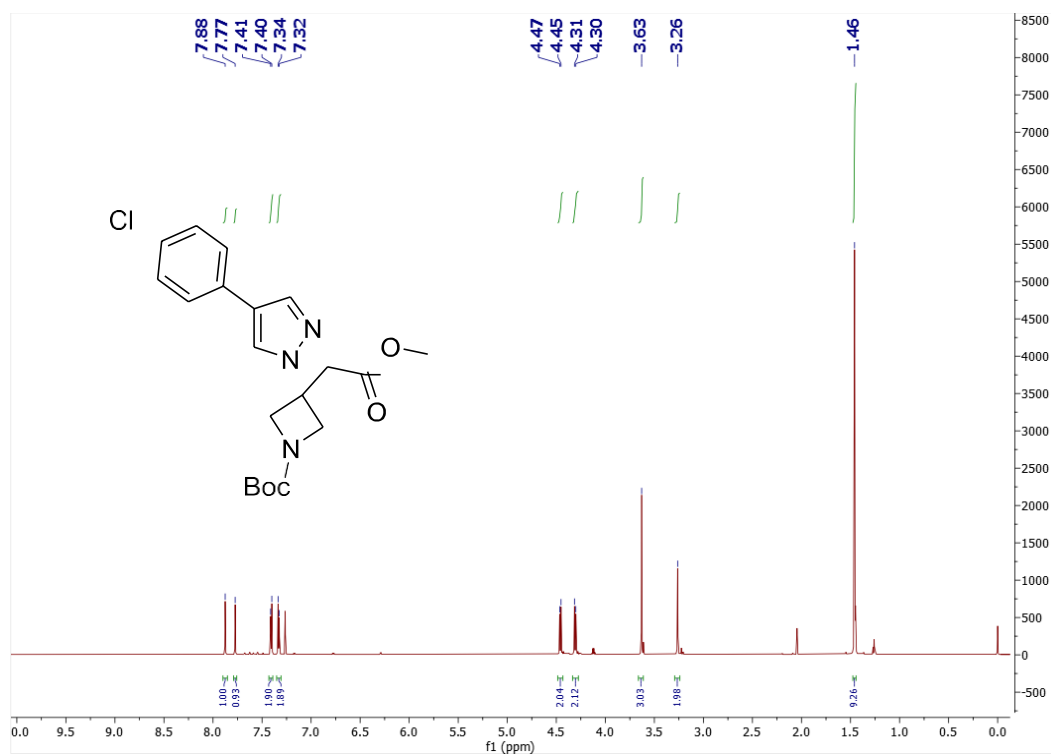


Figure S104. *tert*-Butyl 3-[4-(4-chlorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5h) ^1H NMR spectrum (700 MHz, CDCl_3).

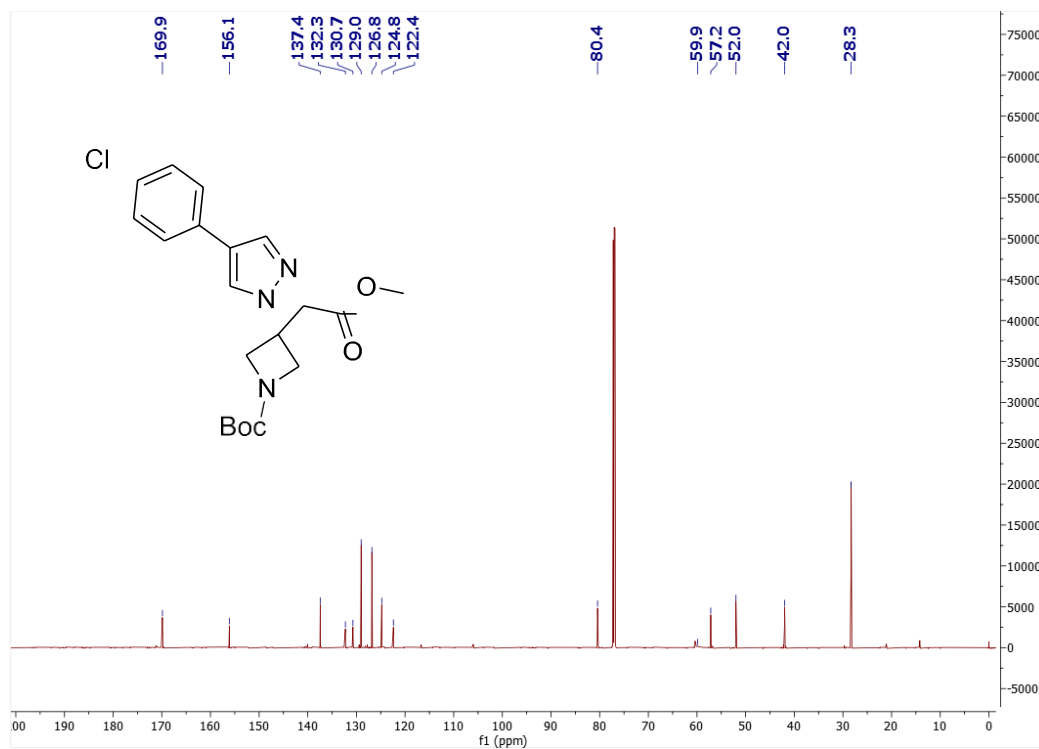


Figure S105. *tert*-Butyl 3-[4-(4-chlorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5h) ¹³C NMR spectrum (176 MHz, CDCl₃).

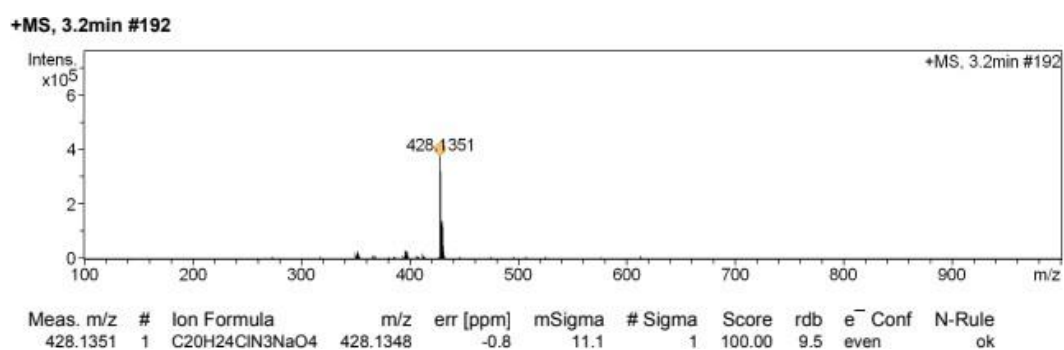


Figure S106. *tert*-Butyl 3-[4-(4-chlorophenyl)-1*H*-pyrazol-1-yl]-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5h) HRMS (ESI-TOF).

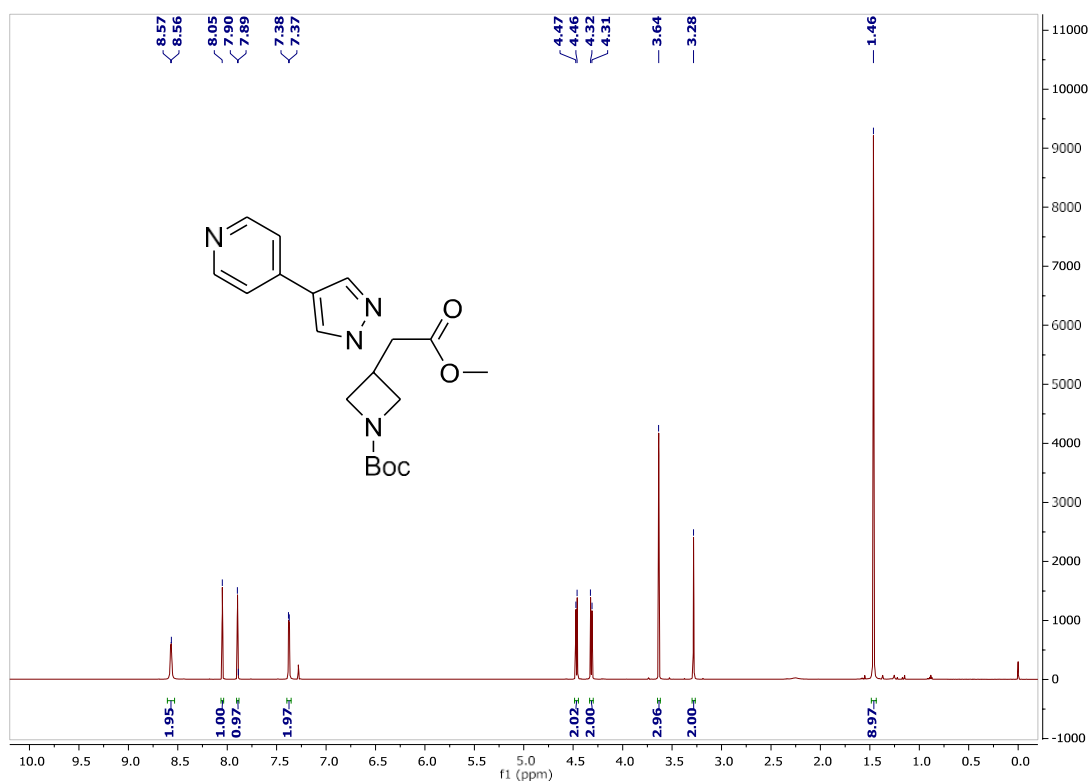


Figure S107. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-4-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5i) ^1H NMR spectrum (700 MHz, CDCl_3).

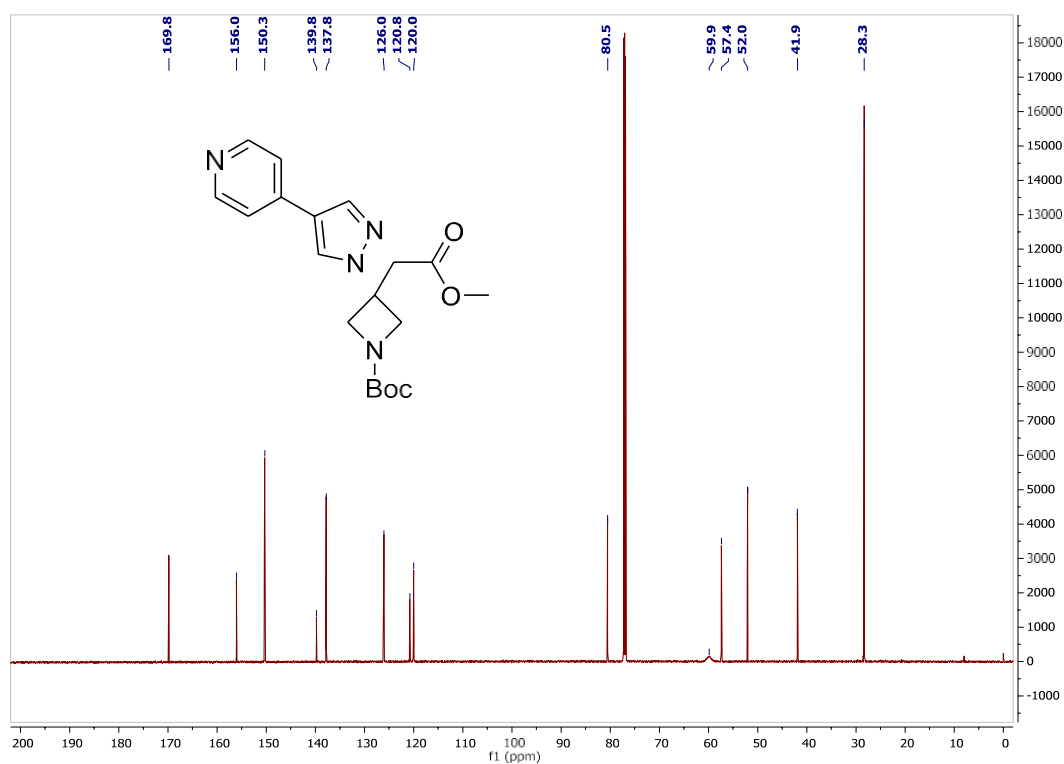


Figure S108. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-4-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5i) ^{13}C NMR spectrum (176 MHz, CDCl_3).

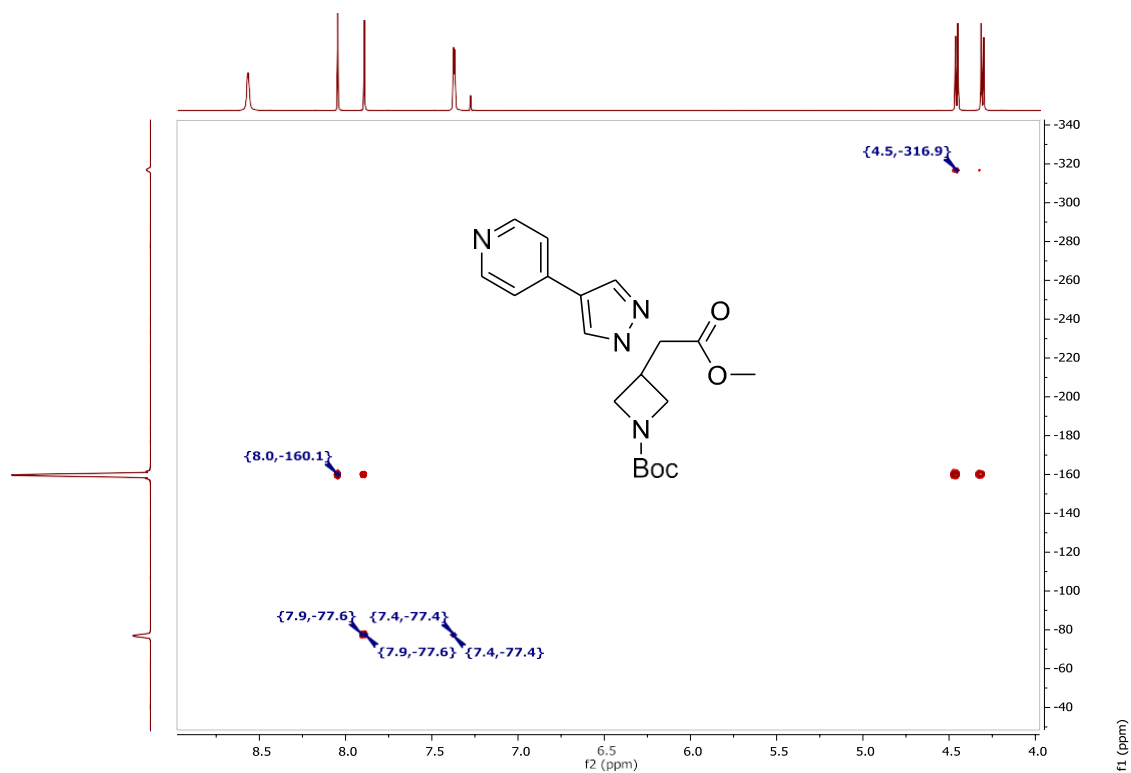


Figure S109. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-4-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5i) ¹H-¹⁵N HMBC spectrum (71 MHz, CDCl₃).

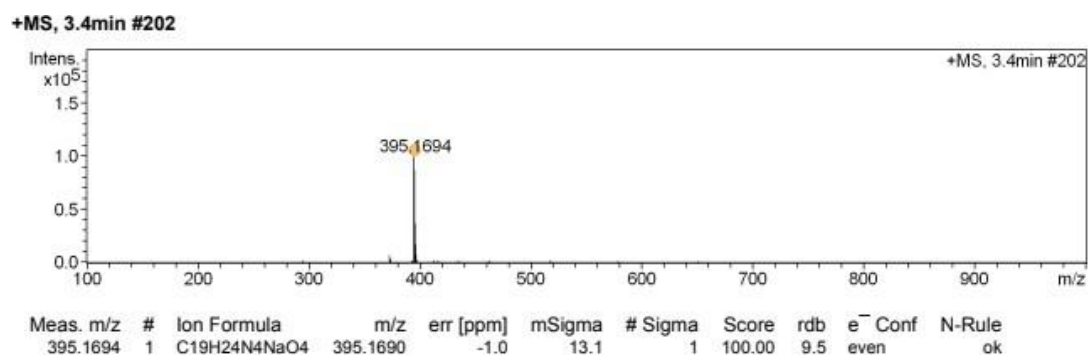


Figure S110. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-4-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5i) HRMS (ESI-TOF).

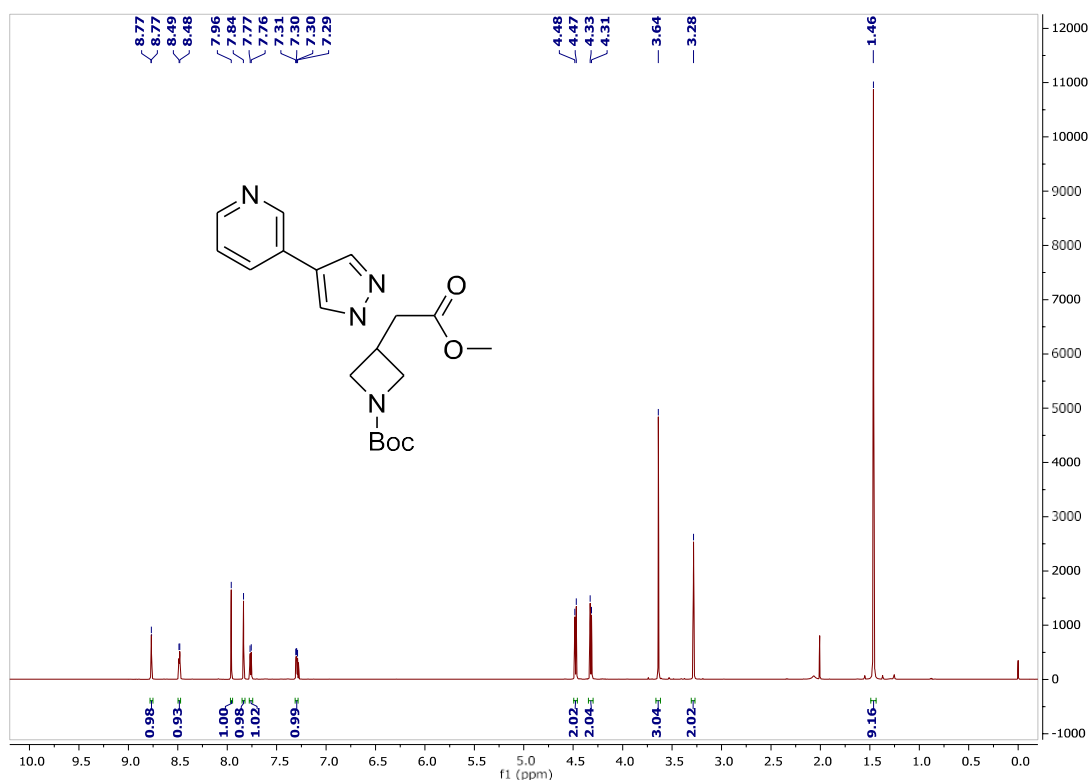


Figure S111. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5j) ¹H NMR spectrum (700 MHz, CDCl₃).

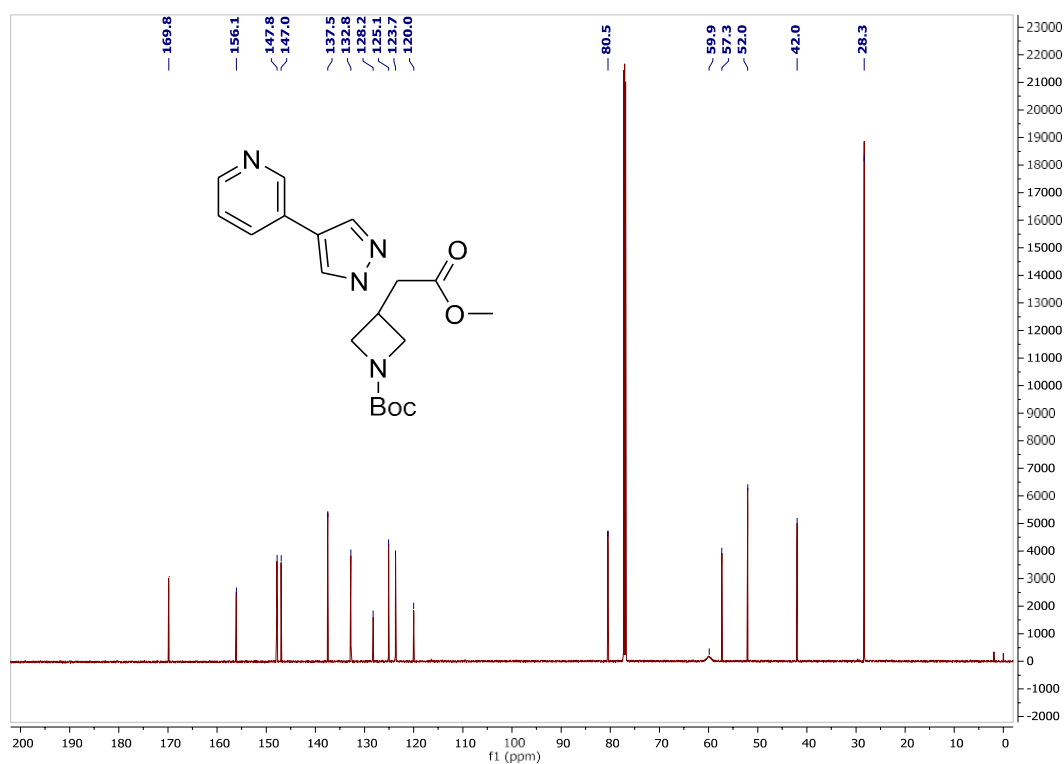


Figure S112. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5j) ¹³C NMR spectrum (176 MHz, CDCl₃).

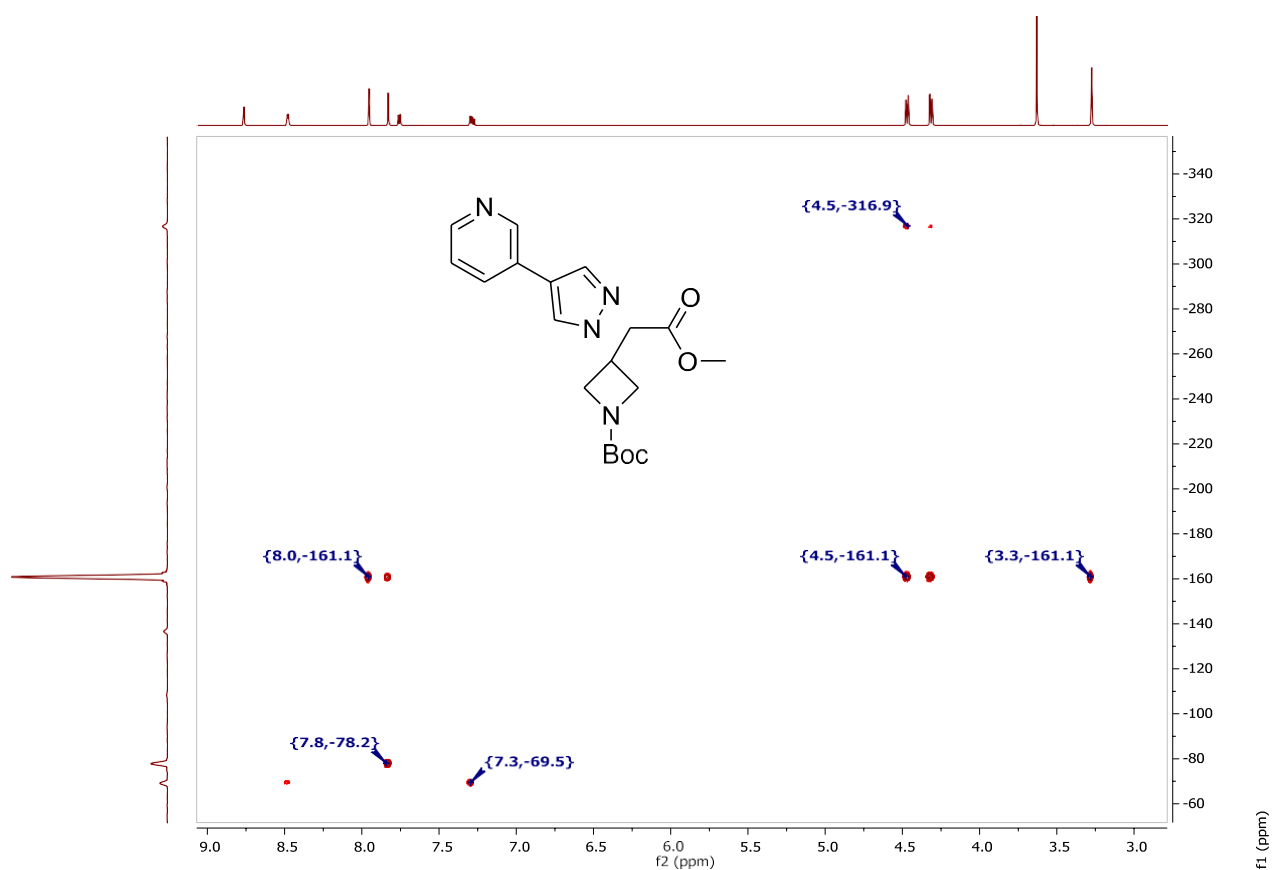


Figure S113. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5j**) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

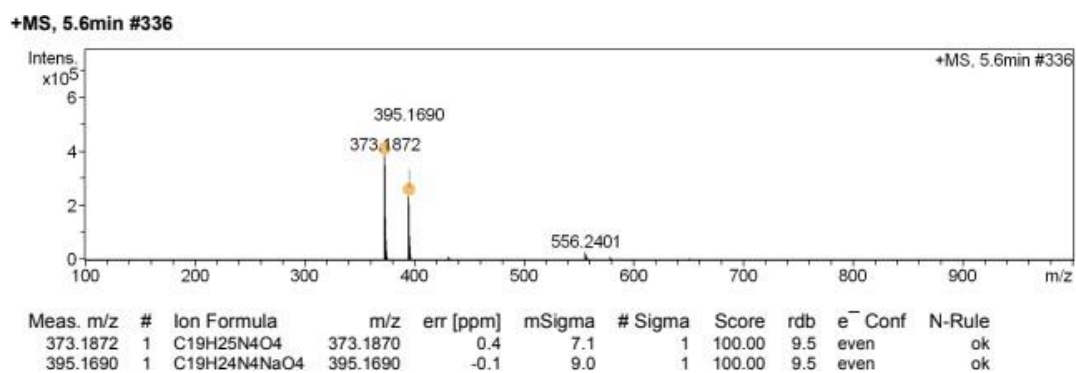


Figure S114. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(pyridin-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5j**) HRMS (ESI-TOF).

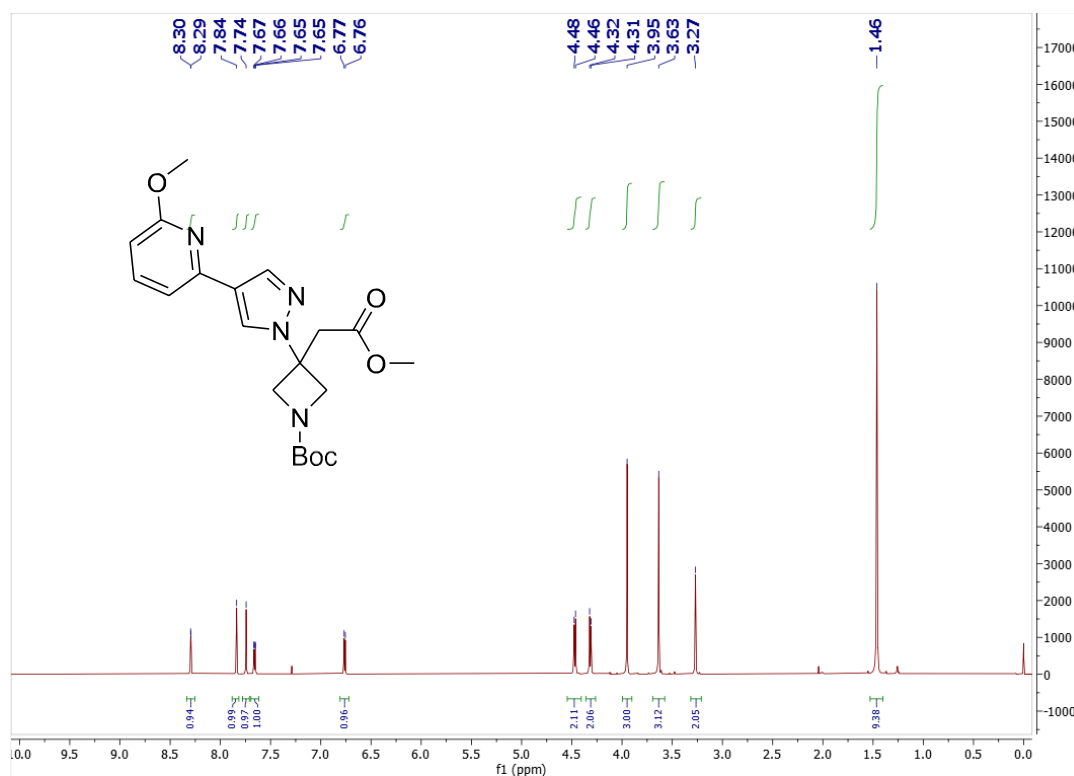


Figure S115. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(6-methoxypyridin-2-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5k**) ¹H NMR spectrum (700 MHz, CDCl₃).

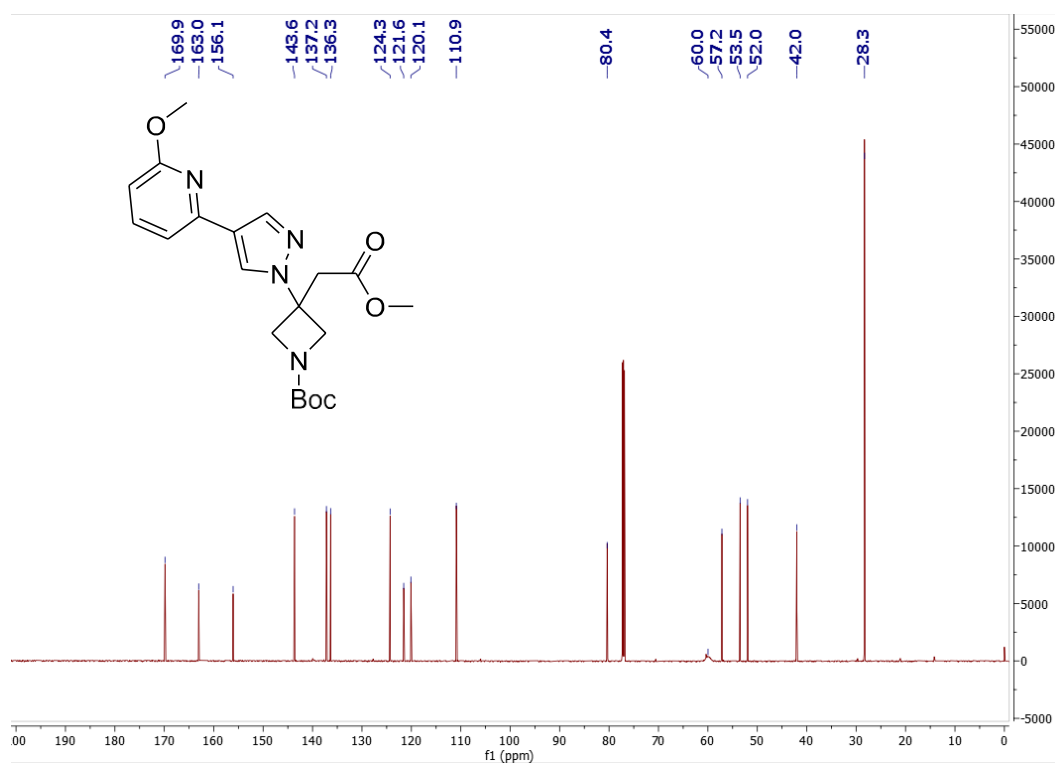


Figure S116. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(6-methoxypyridin-2-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5k**) ¹³C NMR spectrum (176 MHz, CDCl₃).

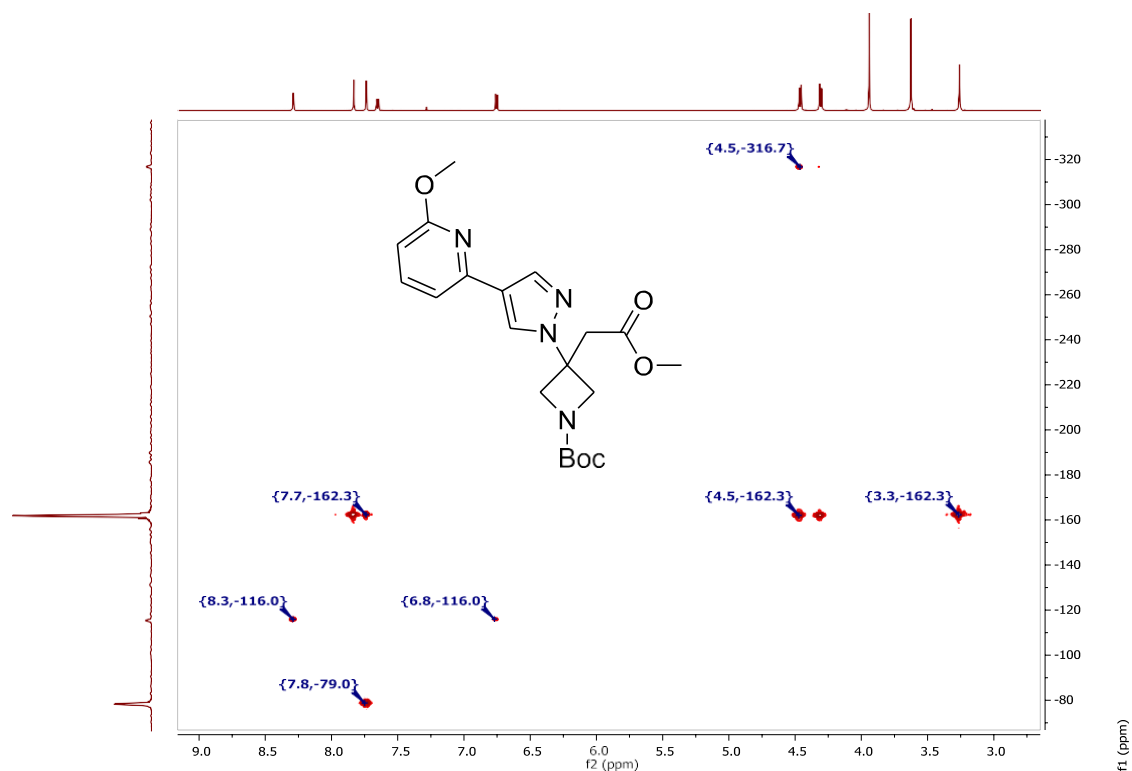


Figure S117. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(6-methoxypyridin-2-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5k) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

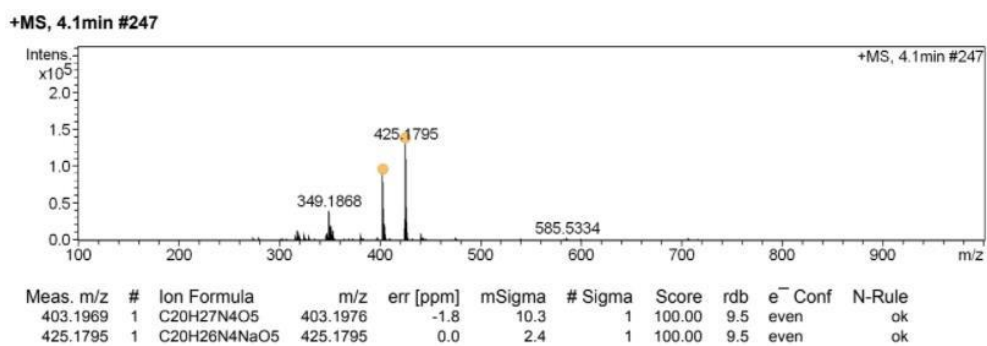


Figure S118. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(6-methoxypyridin-2-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5k) HRMS (ESI-TOF).

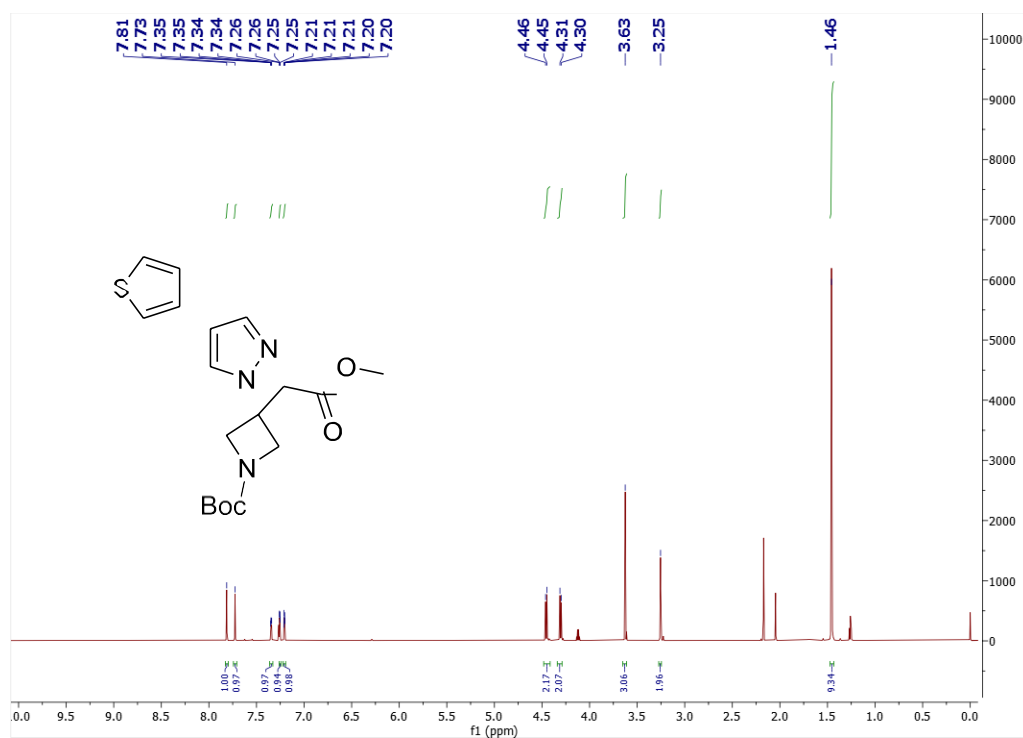


Figure S119. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(thiophen-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5l**) ¹H NMR spectrum (700 MHz, CDCl₃).

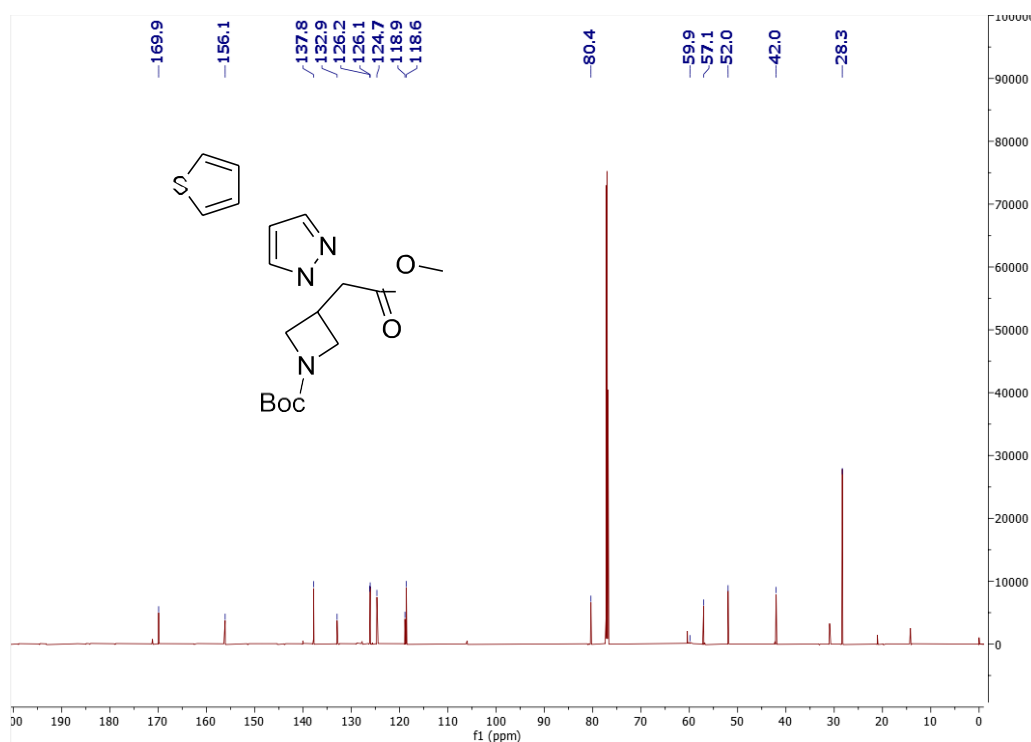


Figure S120. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(thiophen-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (**5l**) ¹³C NMR spectrum (176 MHz, CDCl₃).

+MS, 6.9min #411

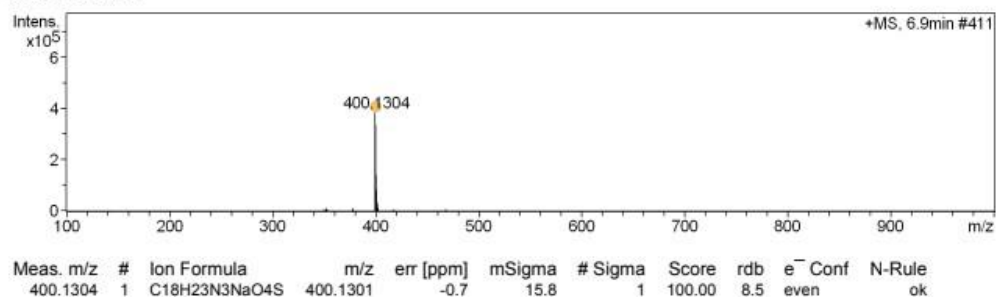


Figure S121. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(thiophen-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5l) HRMS (ESI-TOF).

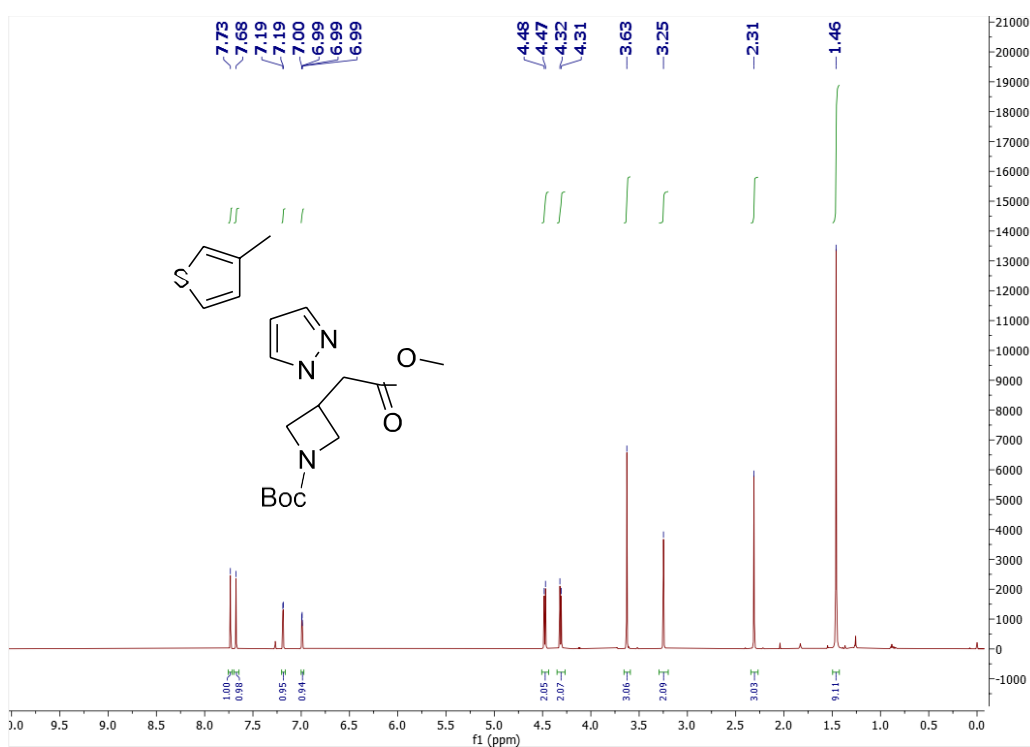


Figure S122. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methylthiophen-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5m) ¹H NMR spectrum (700 MHz, CDCl₃).

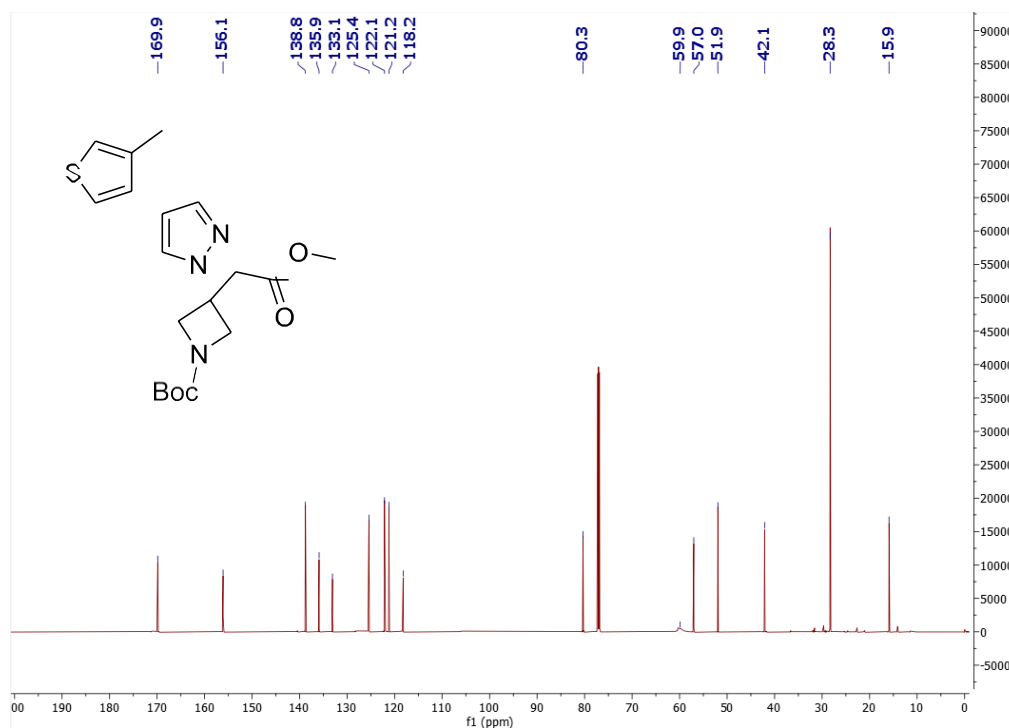


Figure S123. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methylthiophen-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5m) ¹³C NMR spectrum (176 MHz, CDCl₃).

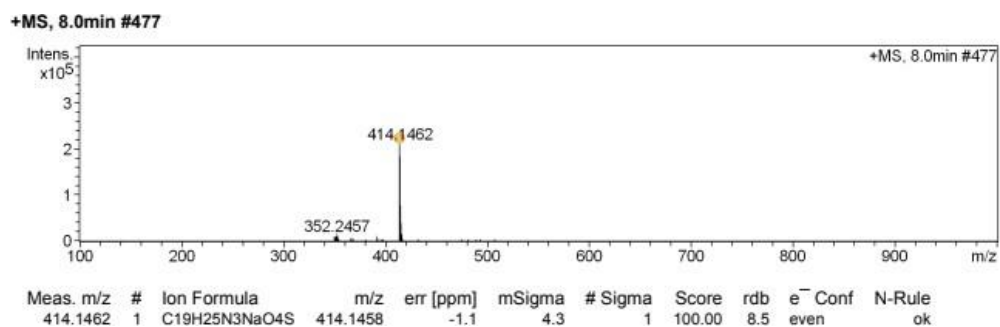


Figure S124. *tert*-Butyl 3-(2-methoxy-2-oxoethyl)-3-[4-(4-methylthiophen-3-yl)-1*H*-pyrazol-1-yl]azetidine-1-carboxylate (5m) HRMS (ESI-TOF).

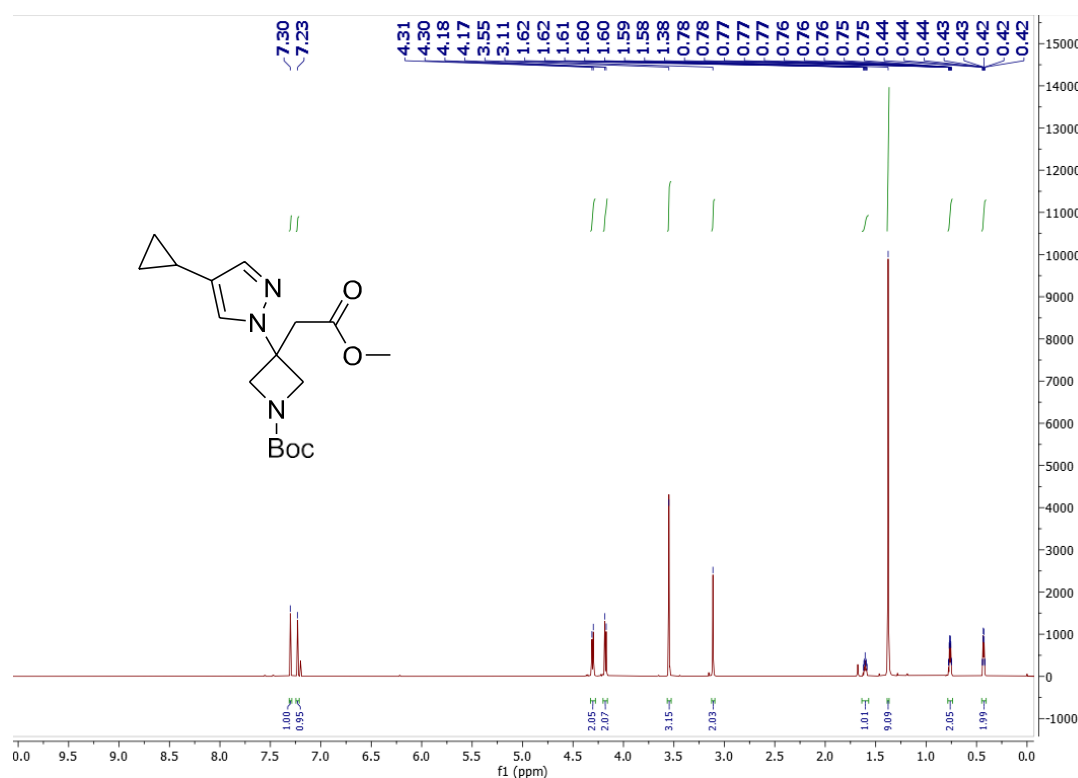


Figure S125. *tert*-butyl 3-(4-cyclopropyl-1H-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5n) ¹H NMR spectrum (700 MHz, CDCl₃).

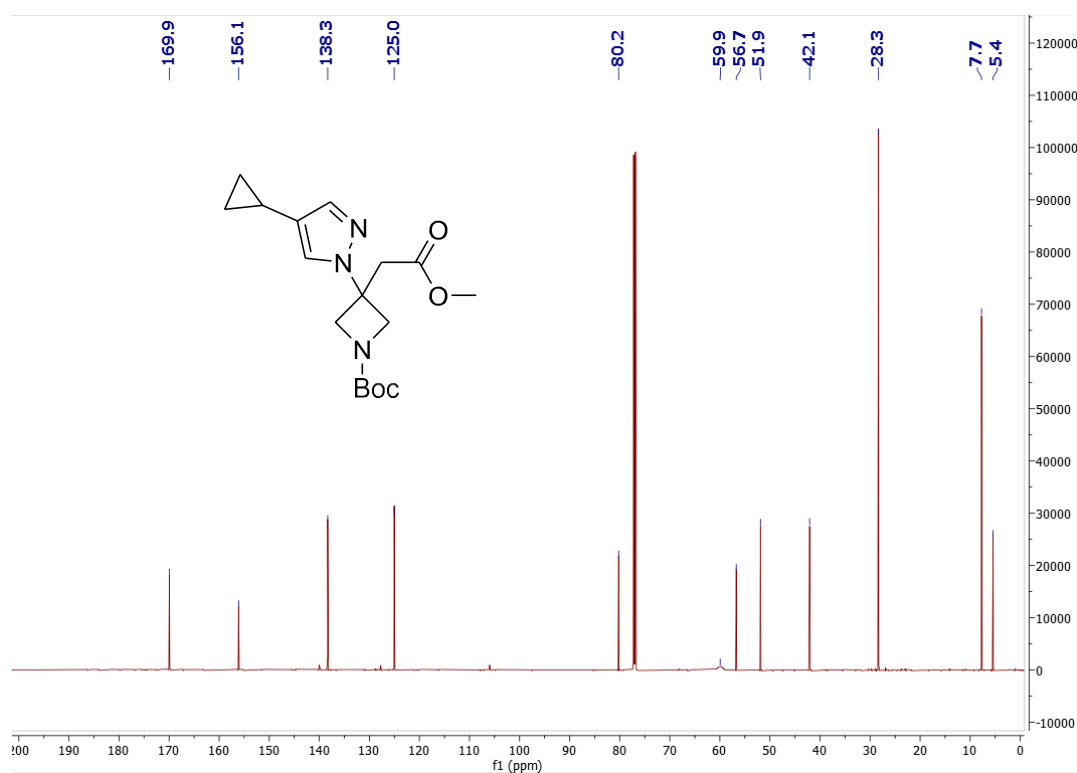


Figure S126. *tert*-butyl 3-(4-cyclopropyl-1H-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5n) ¹³C NMR spectrum (176 MHz, CDCl₃).

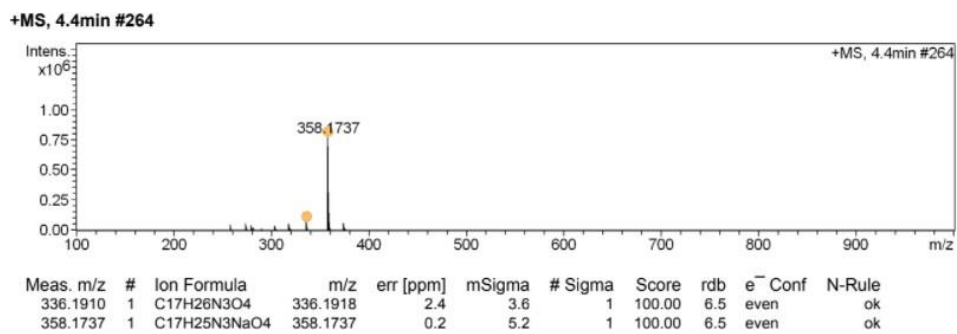


Figure S127. *tert*-butyl 3-(4-cyclopropyl-1*H*-pyrazol-1-yl)-3-(2-methoxy-2-oxoethyl)azetidine-1-carboxylate (5n) HRMS (ESI-TOF).

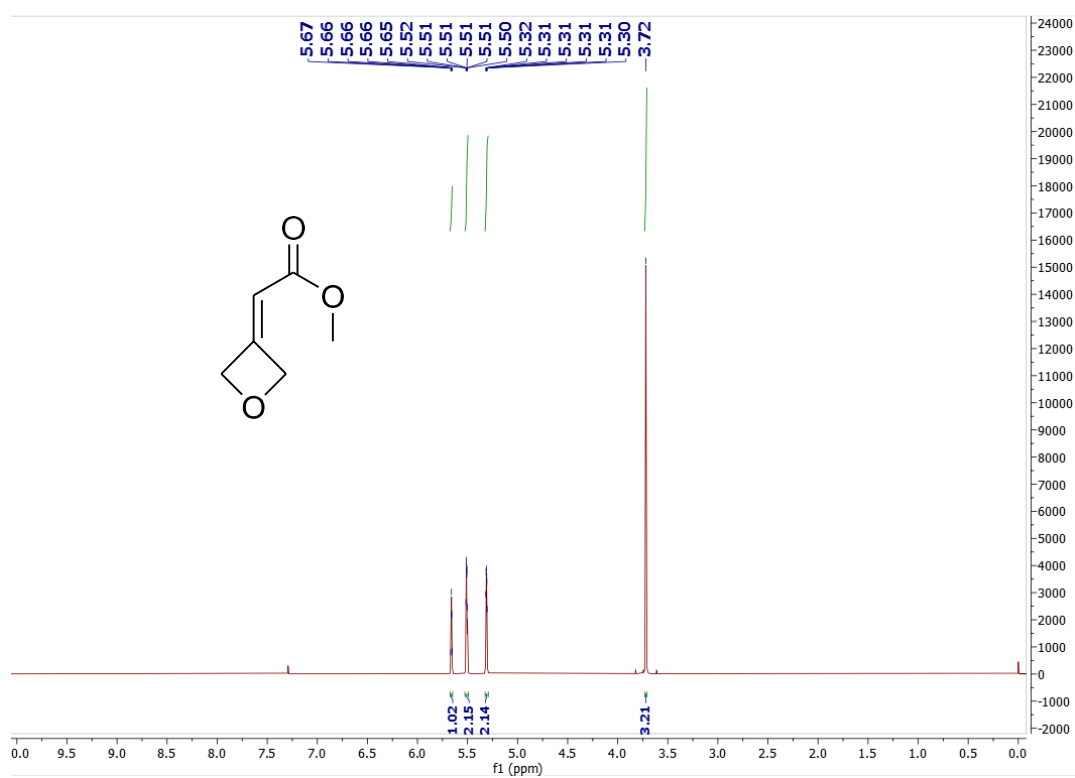


Figure S128. Methyl 2-(oxetan-3-ylidene)acetate (7) ¹H NMR spectrum (700 MHz, CDCl₃).

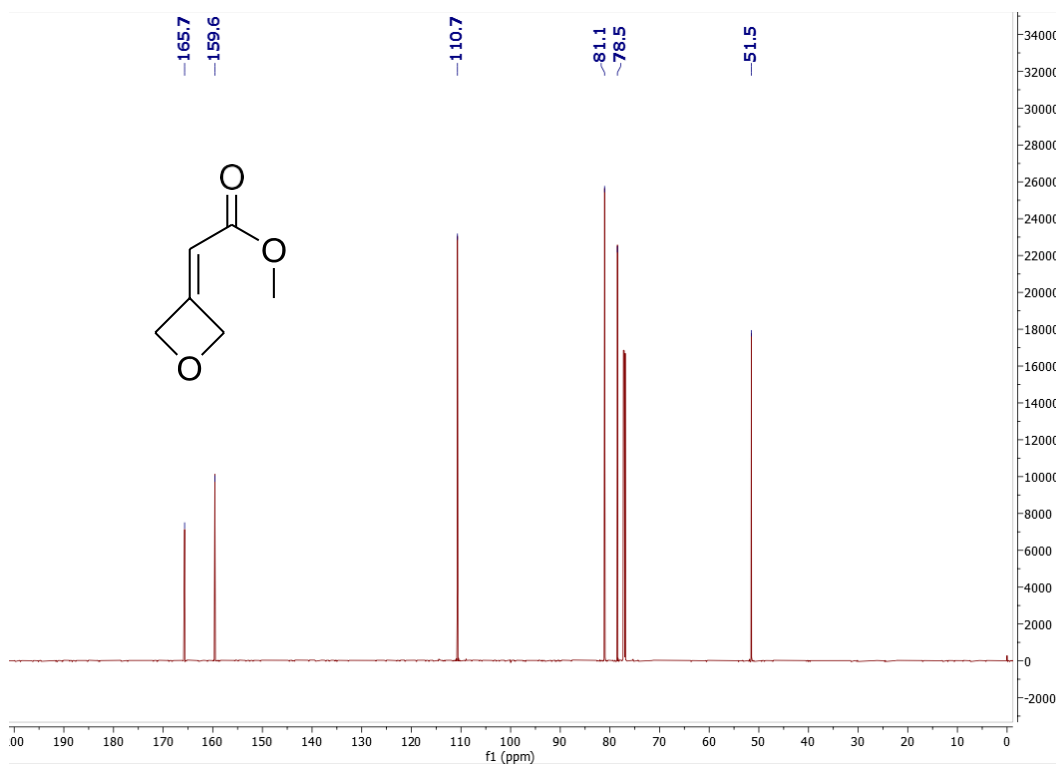


Figure S129. Methyl 2-(oxetan-3-ylidene)acetate (7) ¹³C NMR spectrum (176 MHz, CDCl₃).

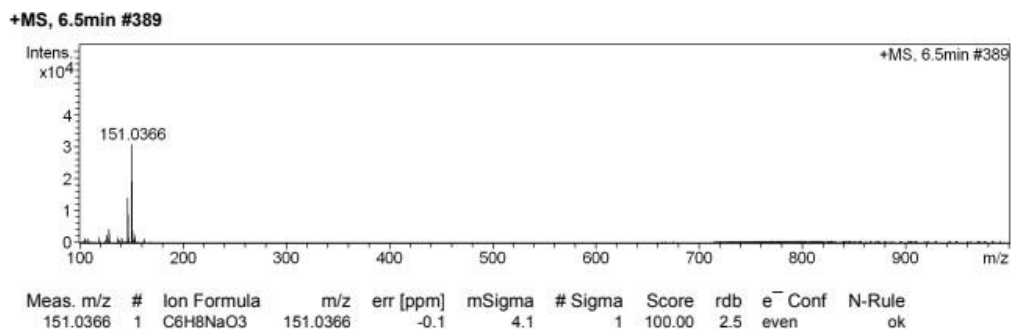


Figure S130. Methyl 2-(oxetan-3-ylidene)acetate (7) HRMS (ESI-TOF).

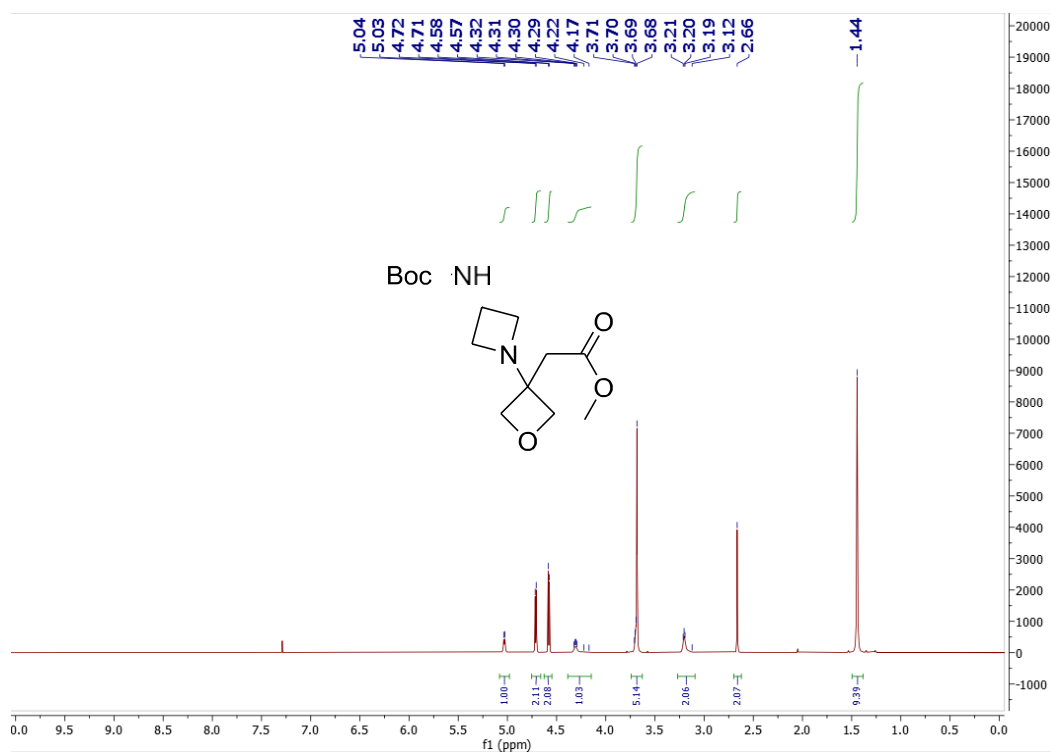


Figure S131. Methyl (3-{3-[(*tert*-butoxycarbonyl)amino]azetidin-1-yl}oxetan-3-yl)acetate (8a) ¹H NMR spectrum (700 MHz, CDCl₃).

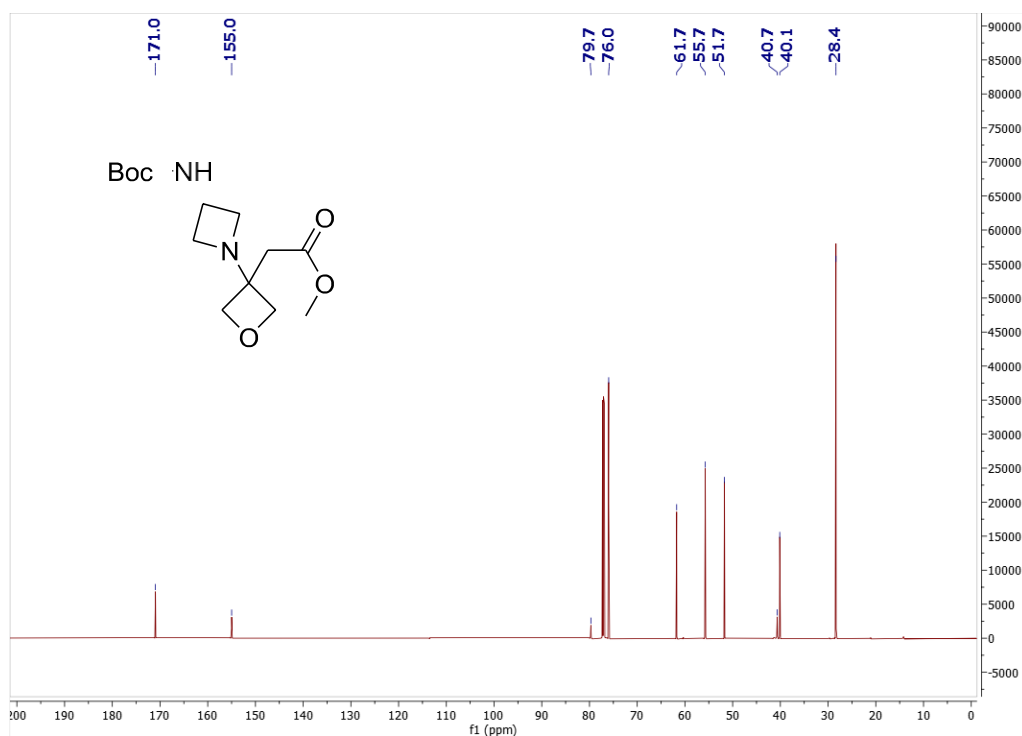


Figure S132. Methyl (3-{3-[(*tert*-butoxycarbonyl)amino]azetidin-1-yl}oxetan-3-yl)acetate (8a) ¹³C NMR spectrum (176 MHz, CDCl₃).

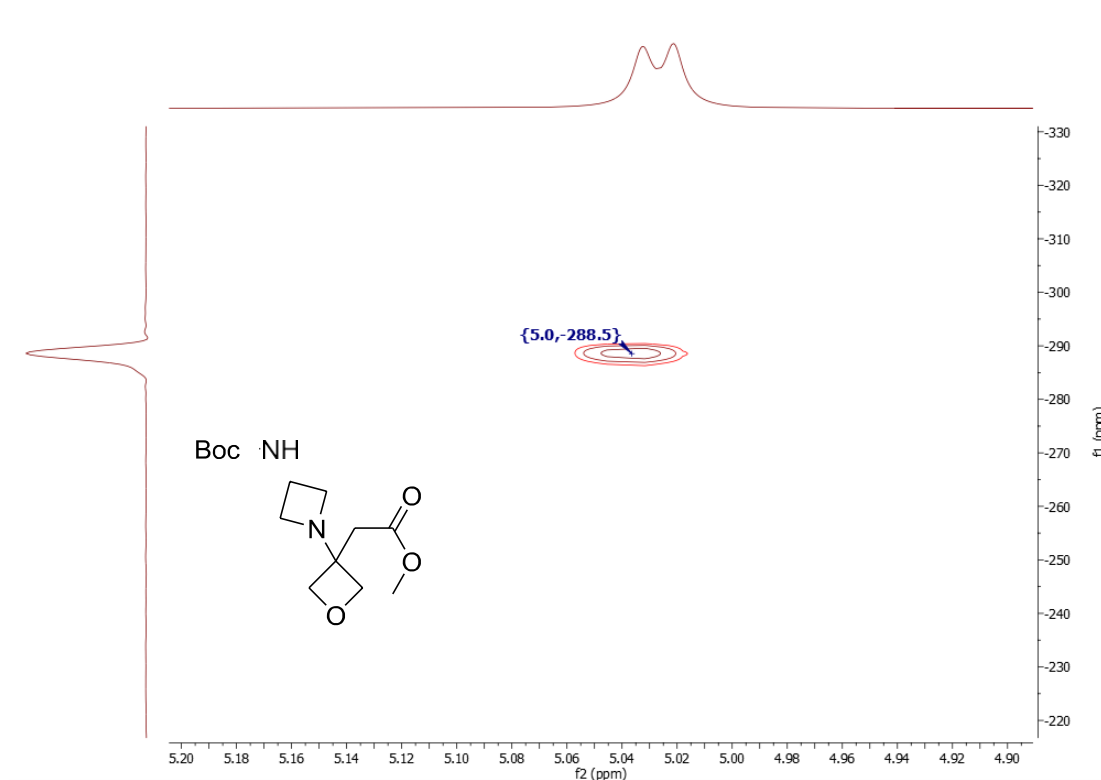


Figure S133. Methyl (3-[3-[(*tert*-butoxycarbonyl)amino]azetidin-1-yl]oxetan-3-yl)acetate (8a) ^1H - ^{15}N HSQC spectrum (71 MHz, CDCl_3).

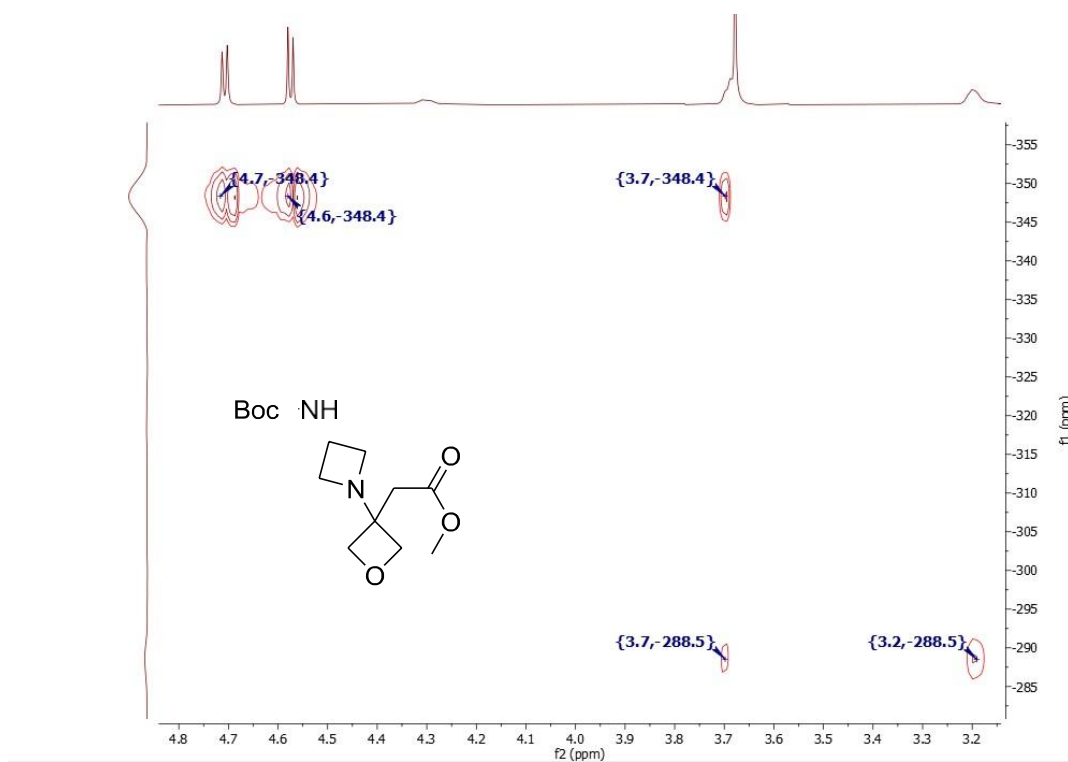


Figure S134. Methyl (3-[3-[(*tert*-butoxycarbonyl)amino]azetidin-1-yl]oxetan-3-yl)acetate (8a) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

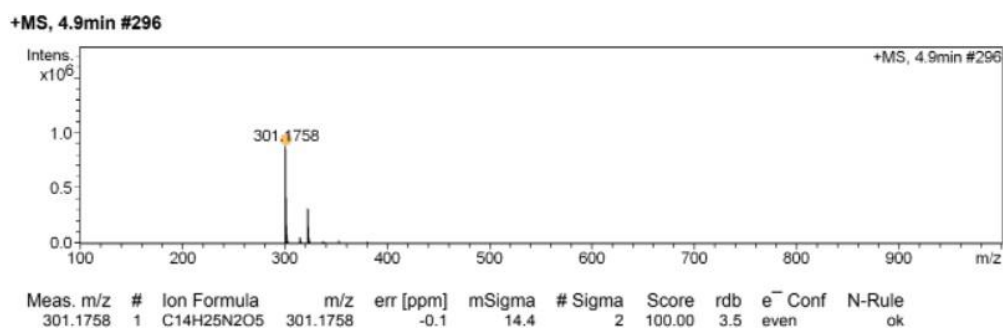


Figure S135. Methyl (3-{3-[(*tert*-butoxycarbonyl)amino]azetidin-1-yl}oxetan-3-yl)acetate (8a) HRMS (ESI-TOF).

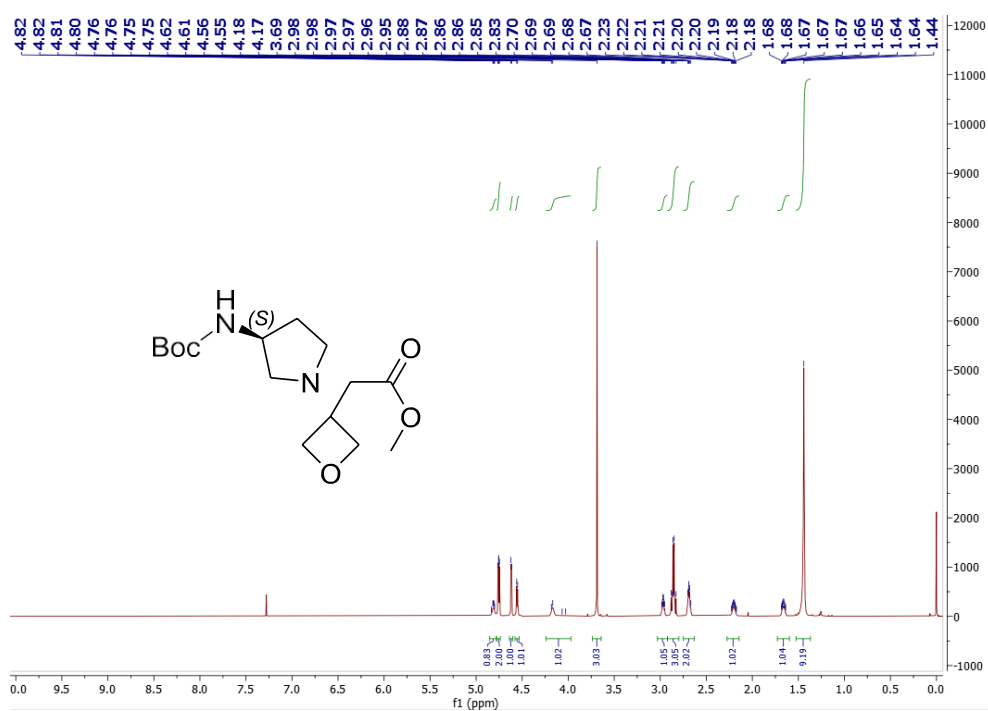


Figure S136. Methyl (3-{(3*S*)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl}oxetan-3-yl)acetate (8b) ¹H NMR spectrum (700 MHz, CDCl₃).

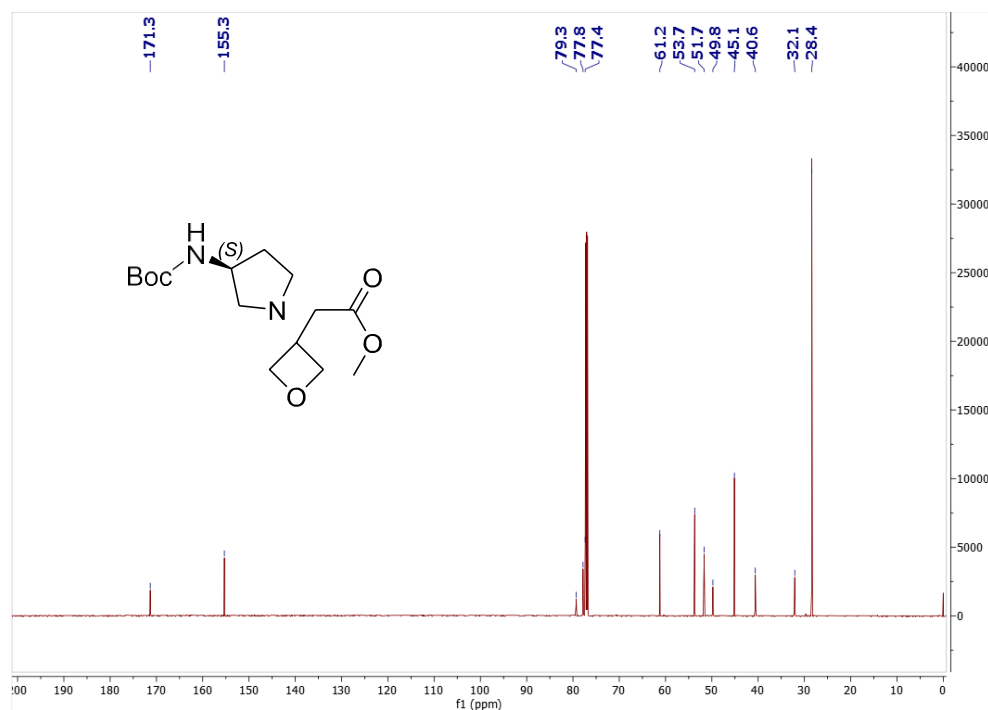


Figure S137. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (8b) ¹³C NMR spectrum (176 MHz, CDCl₃).

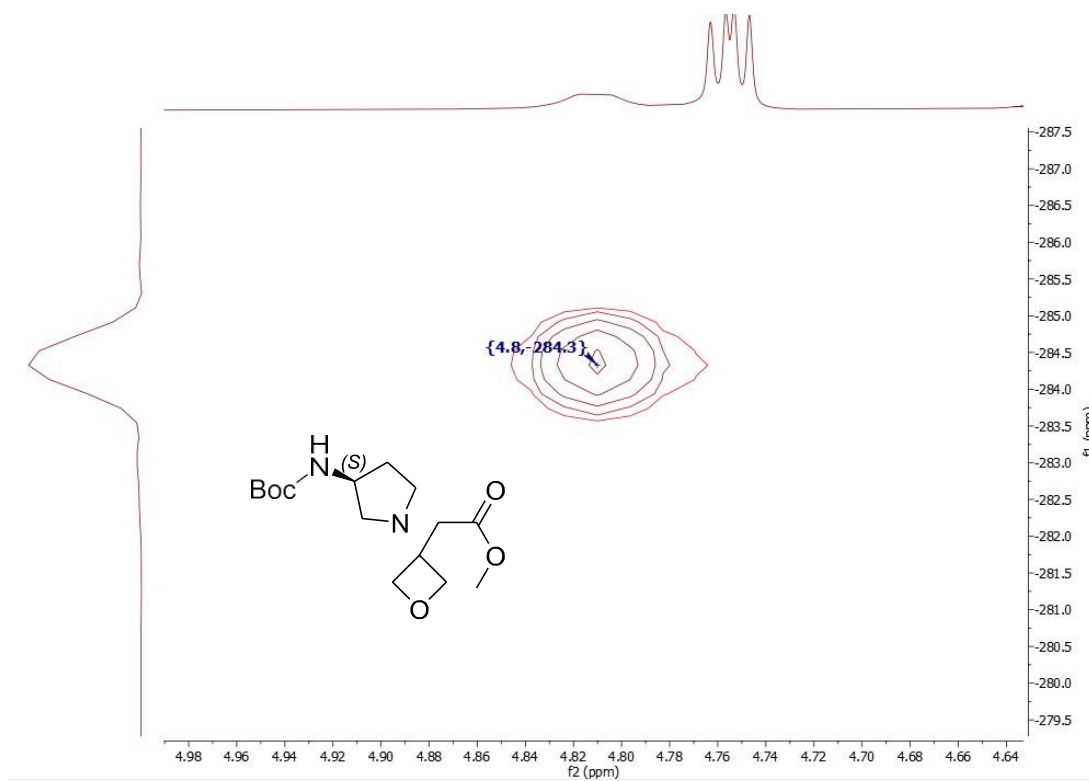


Figure S138. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (8b) ¹H-¹⁵N HSQC spectrum (71 MHz, CDCl₃).

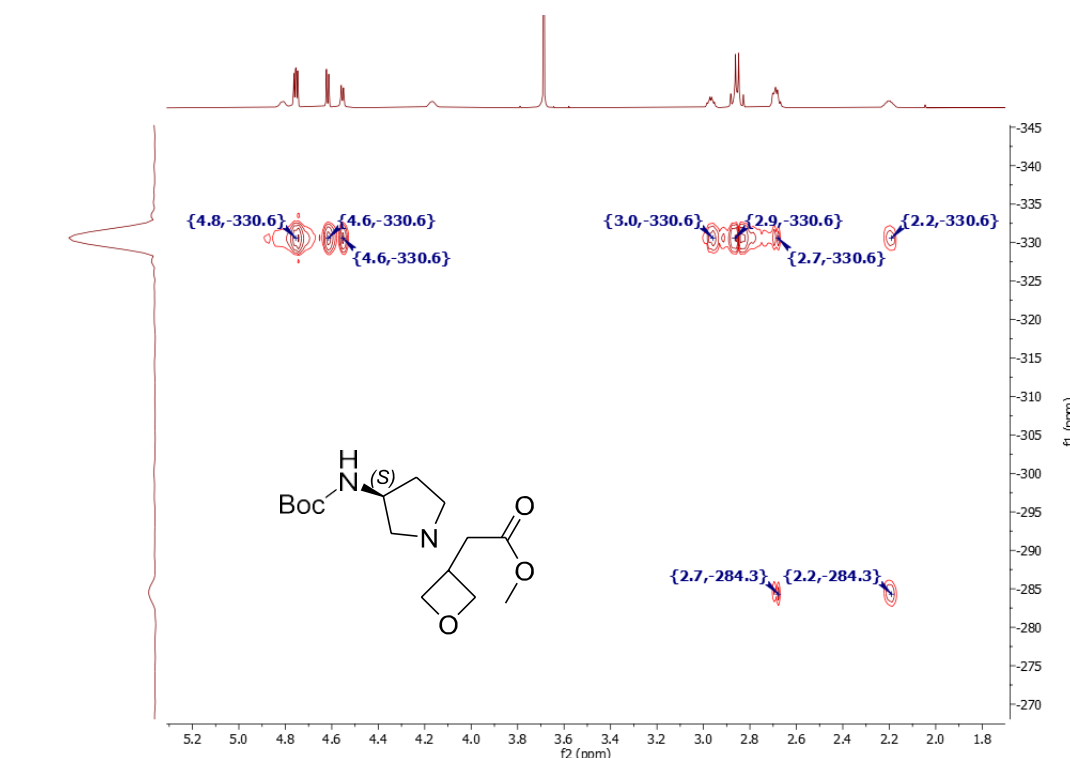


Figure S139. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (8b) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

+MS, 5.7min #341

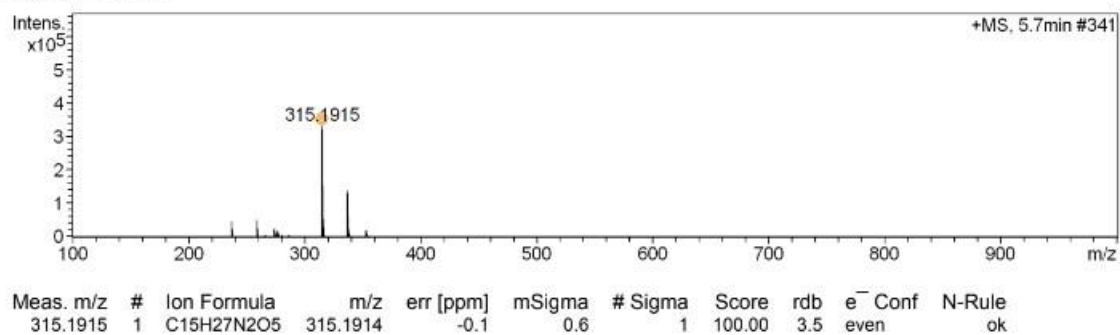


Figure S140. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (8b) HRMS (ESI-TOF).

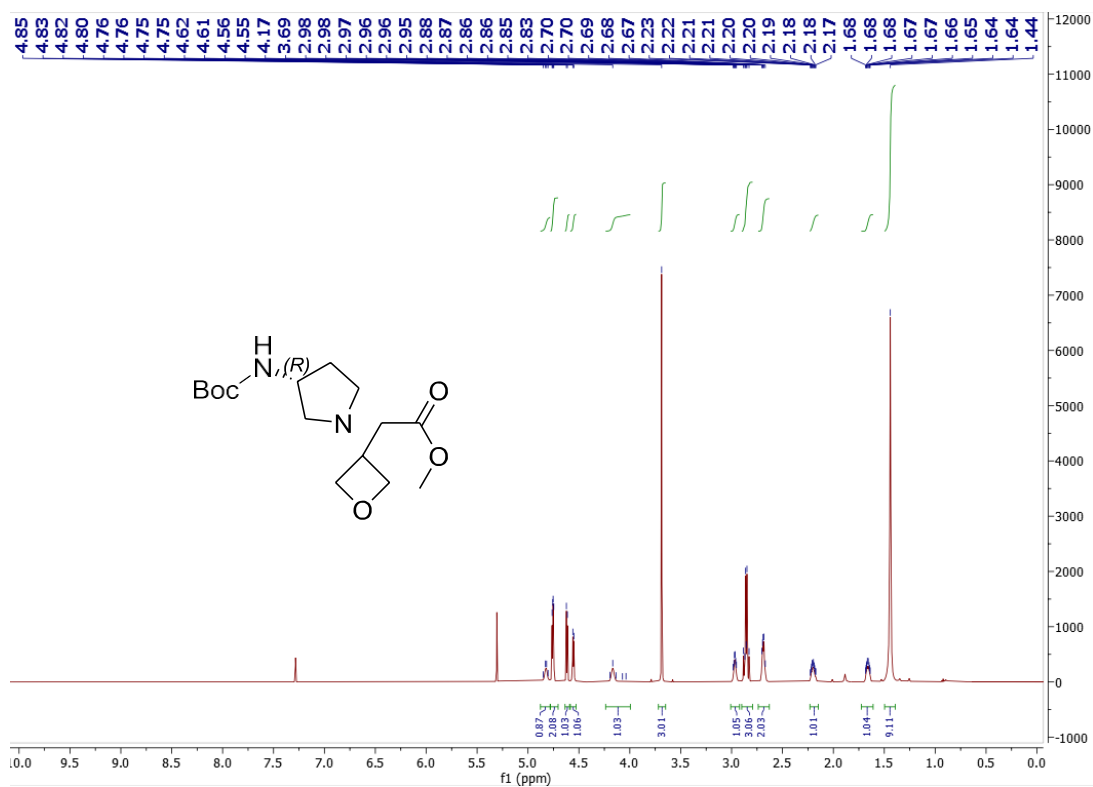


Figure S141. Methyl (3-((3R)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (8c) ¹H NMR spectrum (700 MHz, CDCl₃).

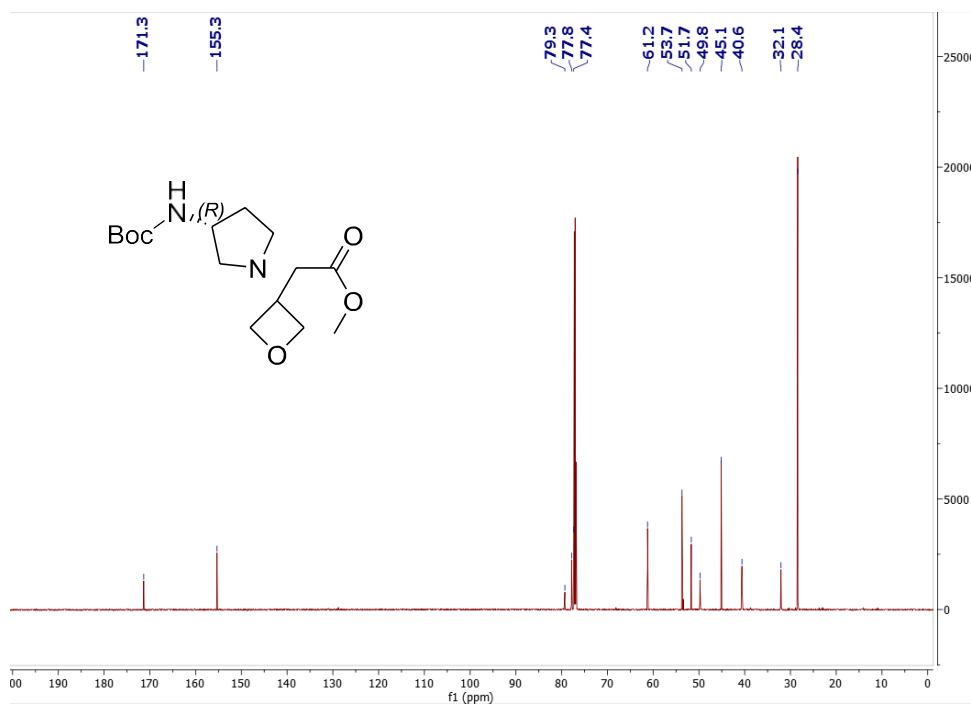


Figure S142. Methyl (3-((3R)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (8c) ¹³C NMR spectrum (176 MHz, CDCl₃).

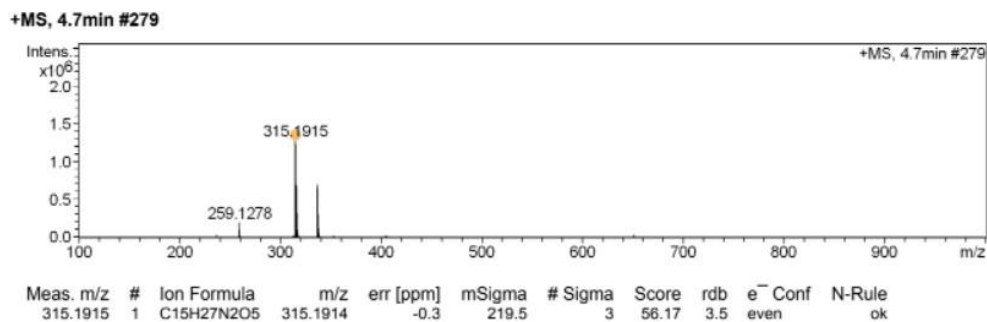


Figure S143. Methyl (3-((3*R*)-3-[(*tert*-butoxycarbonyl)amino]pyrrolidin-1-yl)oxetan-3-yl)acetate (**8c**) HRMS (ESI-TOF).

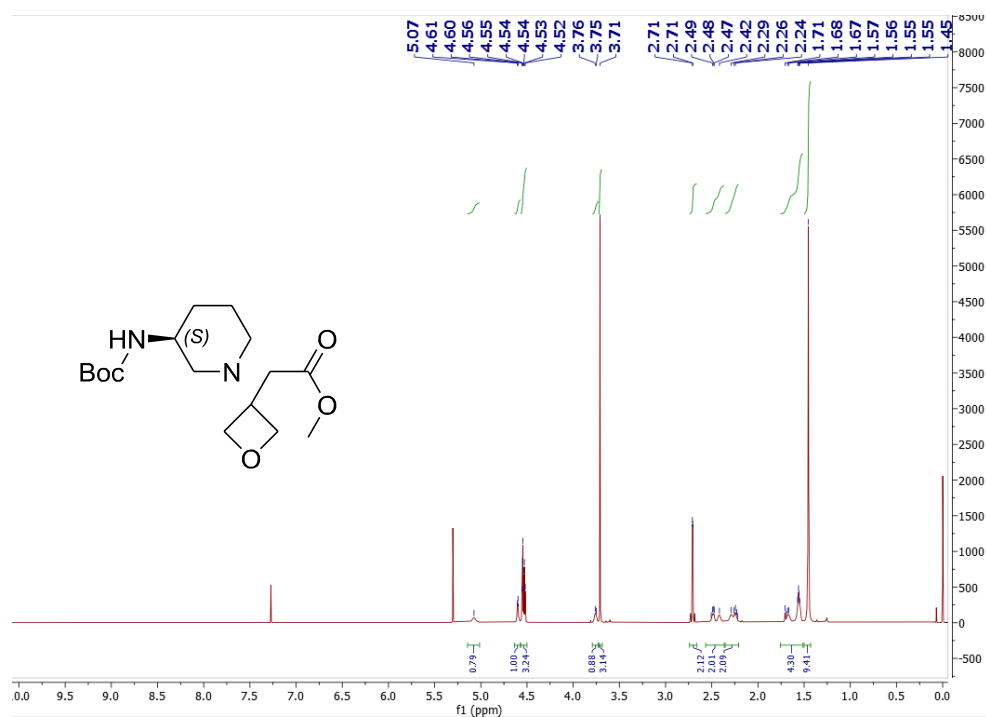


Figure S144. Methyl (3-((3*S*)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (**8d**) ¹H NMR spectrum (700 MHz, CDCl₃).

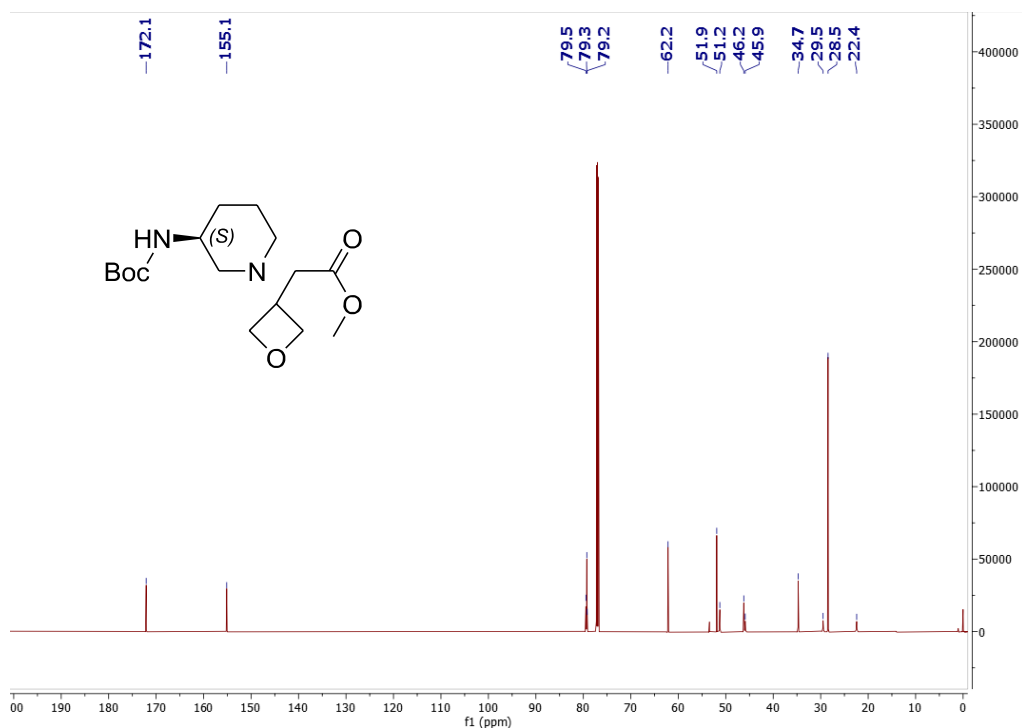


Figure S145. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8d) ^{13}C NMR spectrum (176 MHz, CDCl_3).

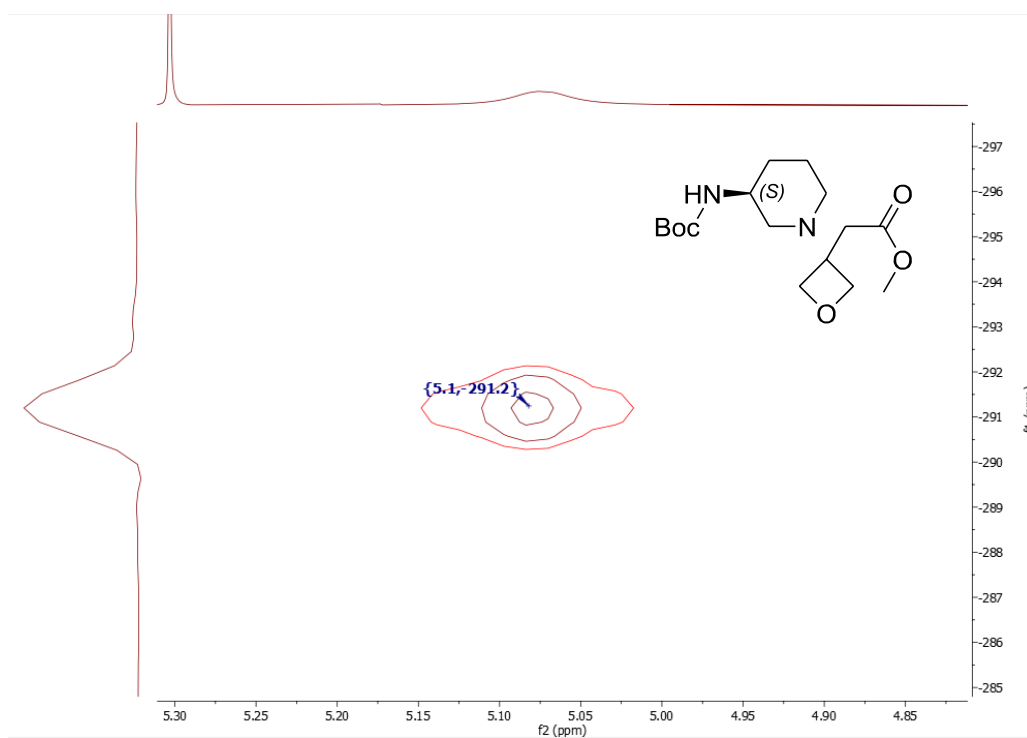


Figure S146. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8d) ^1H - ^{15}N HSQC spectrum (71 MHz, CDCl_3).

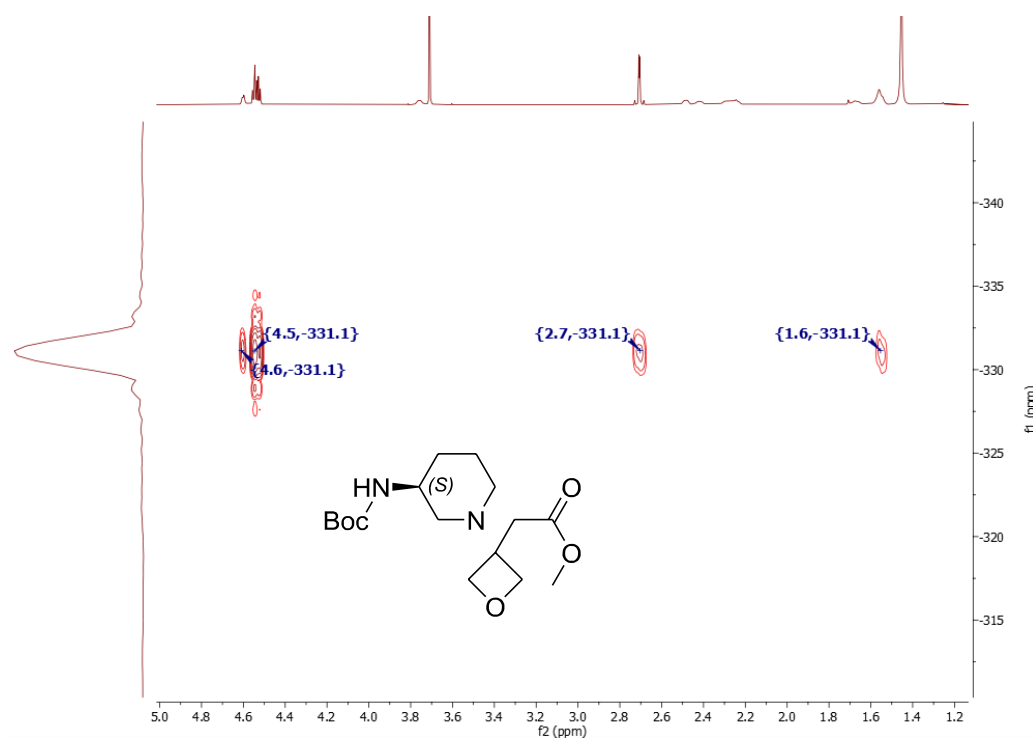


Figure S147. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8d) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

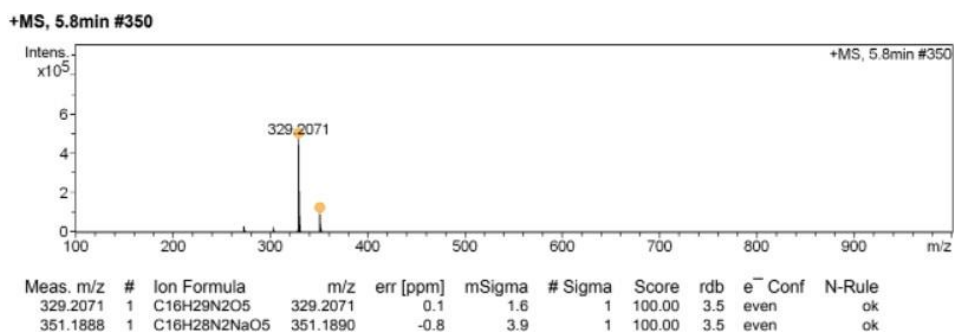


Figure S148. Methyl (3-((3S)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8d) HRMS (ESI-TOF).

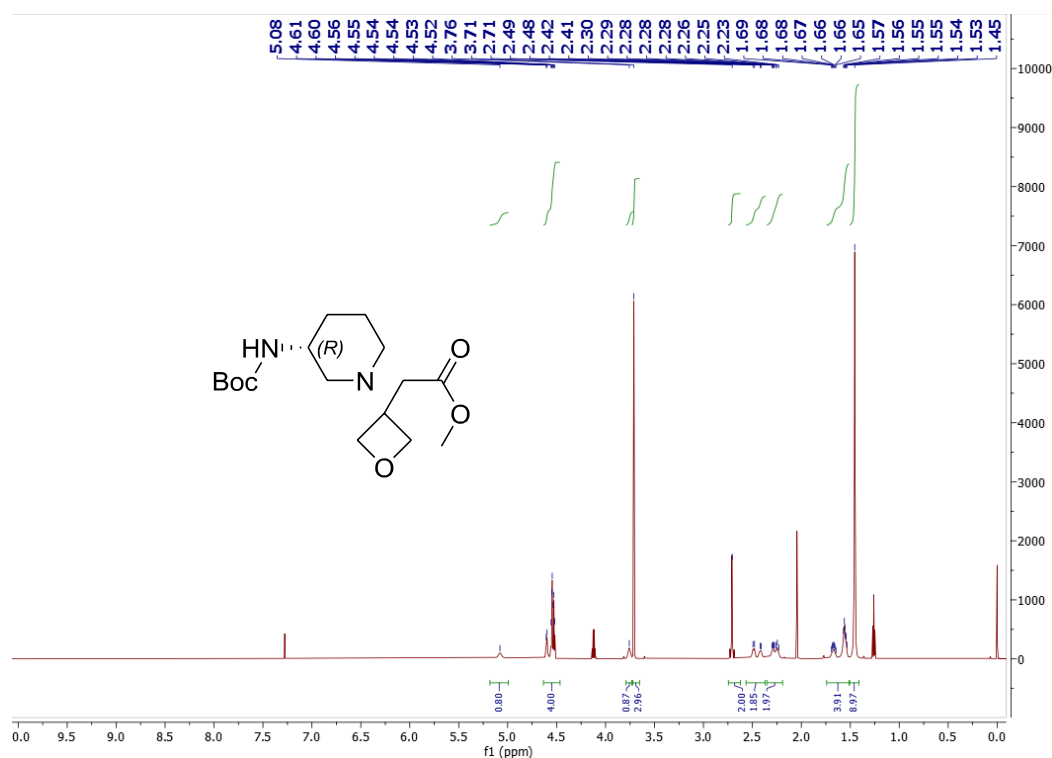


Figure S149. Methyl (3-((3R)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8e) ¹H NMR spectrum (700 MHz, CDCl₃).

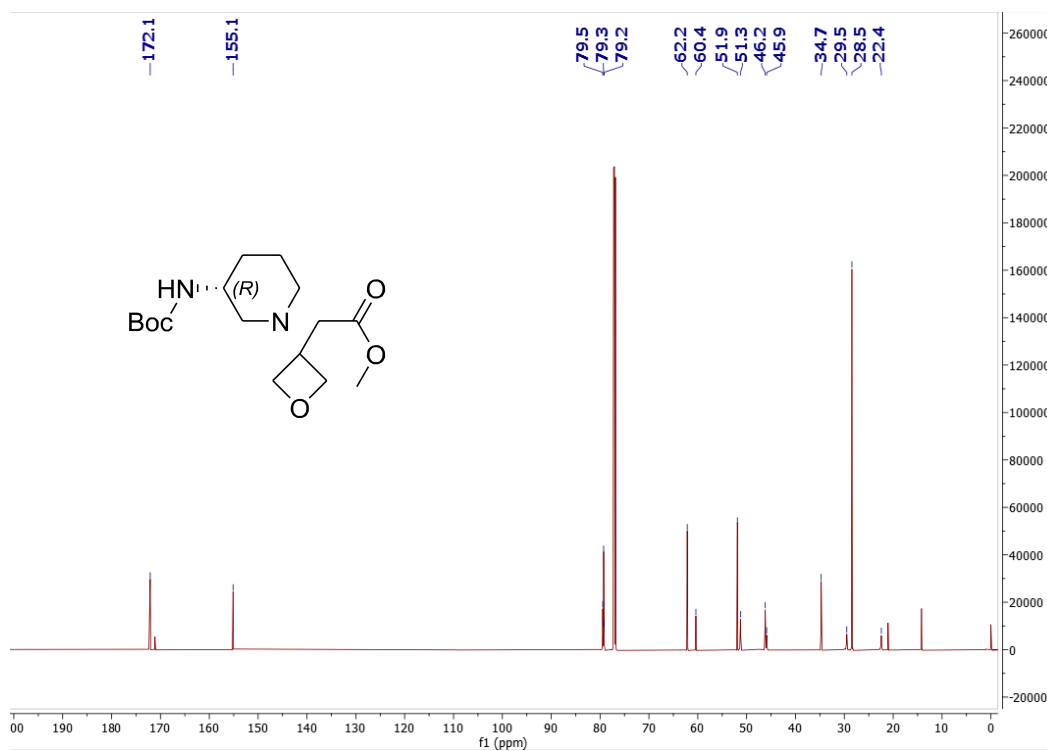


Figure S150. Methyl (3-((3R)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8e) ¹³C NMR spectrum (176 MHz, CDCl₃).

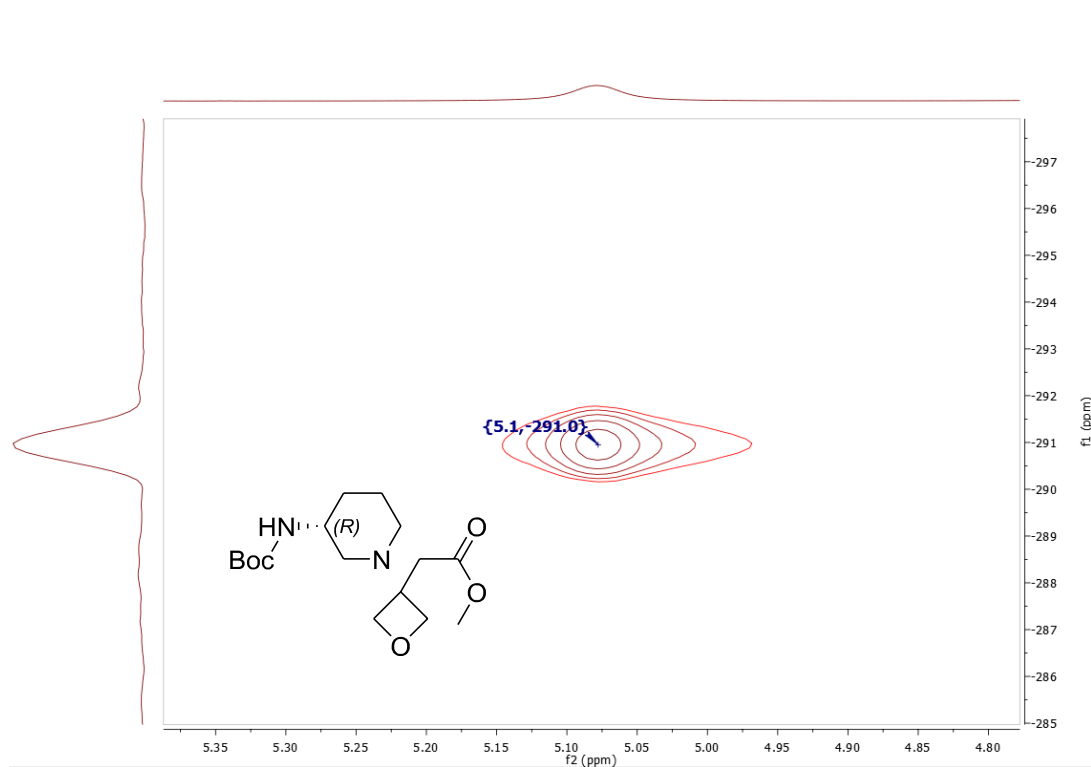


Figure S151. Methyl (3-((3R)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8e) ^1H - ^{15}N HSQC spectrum (71 MHz, CDCl_3).

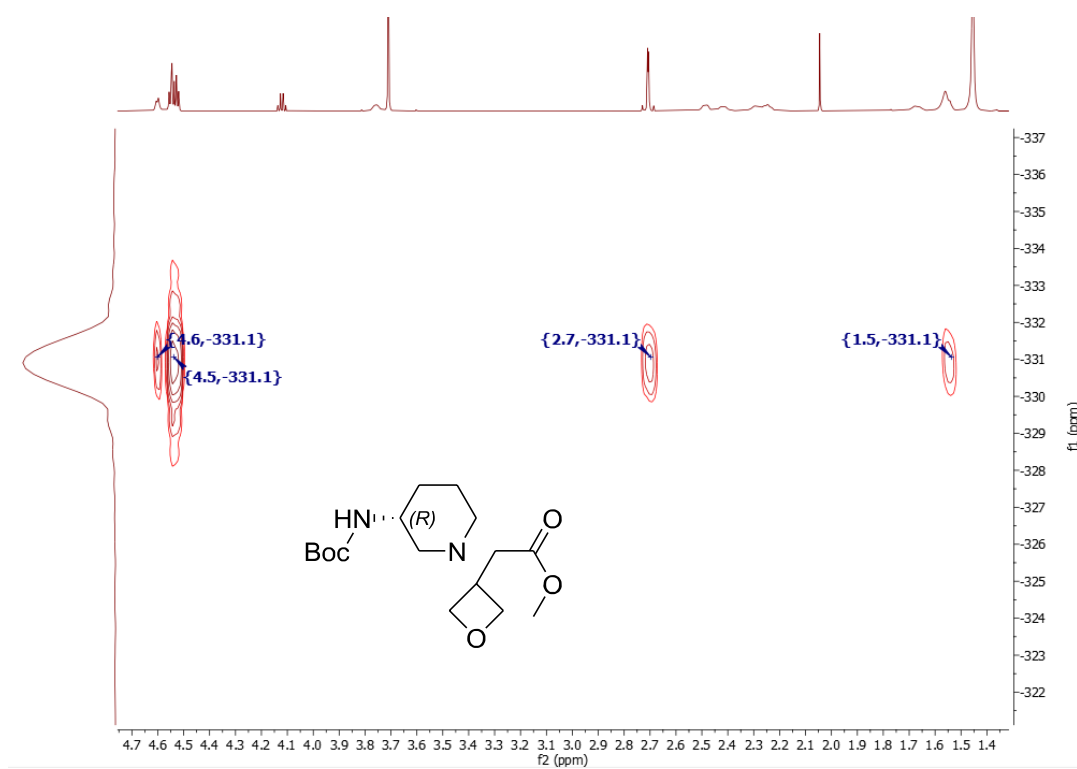


Figure S152. Methyl (3-((3R)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8e) ^1H - ^{15}N HMBC spectrum (71 MHz, CDCl_3).

+MS, 3.8min #225

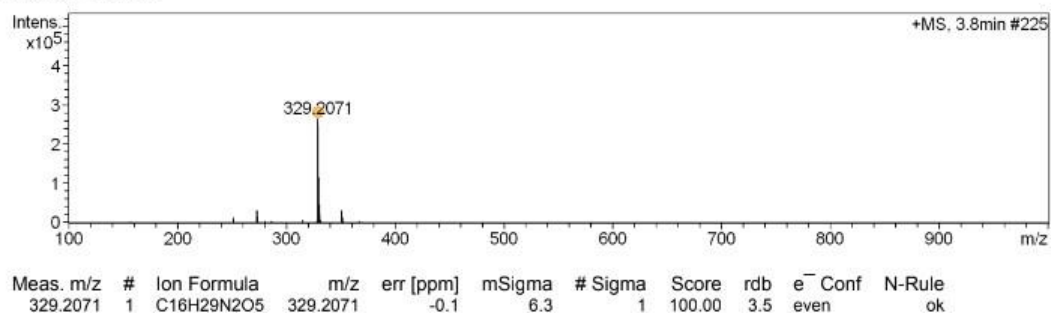


Figure S153. Methyl (3-((3*R*)-3-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8e) HRMS (ESI-TOF).

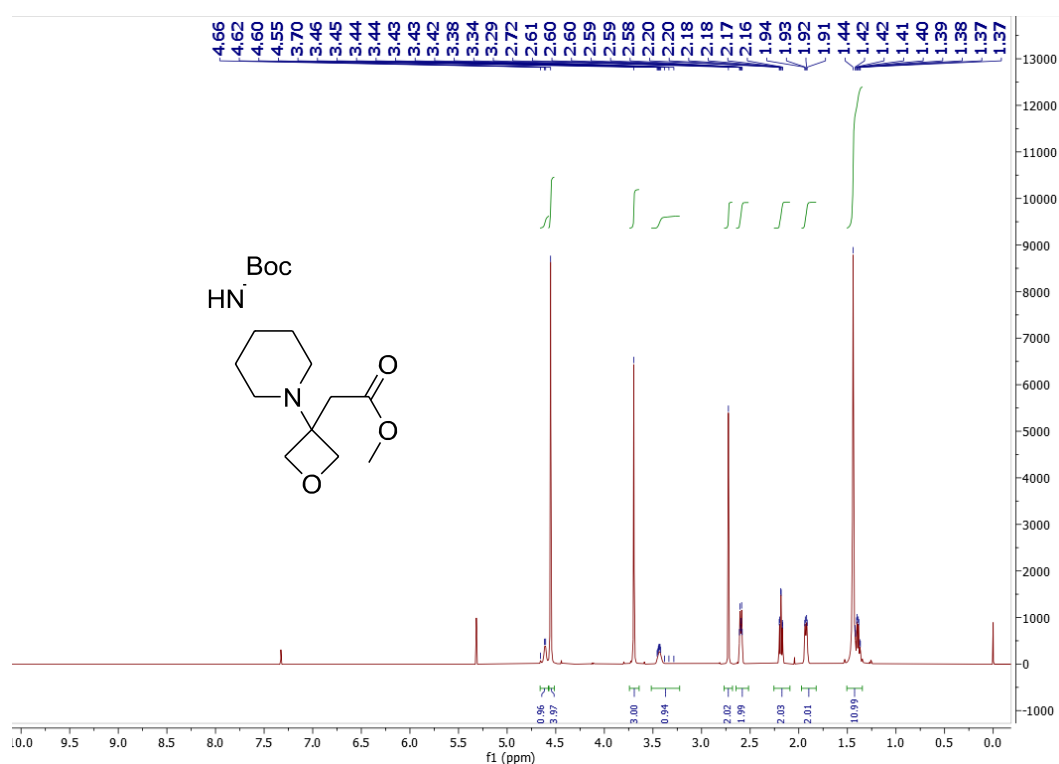


Figure S154. Methyl (3-4-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl)oxetan-3-yl)acetate (8f) ¹H NMR spectrum (700 MHz, CDCl₃).

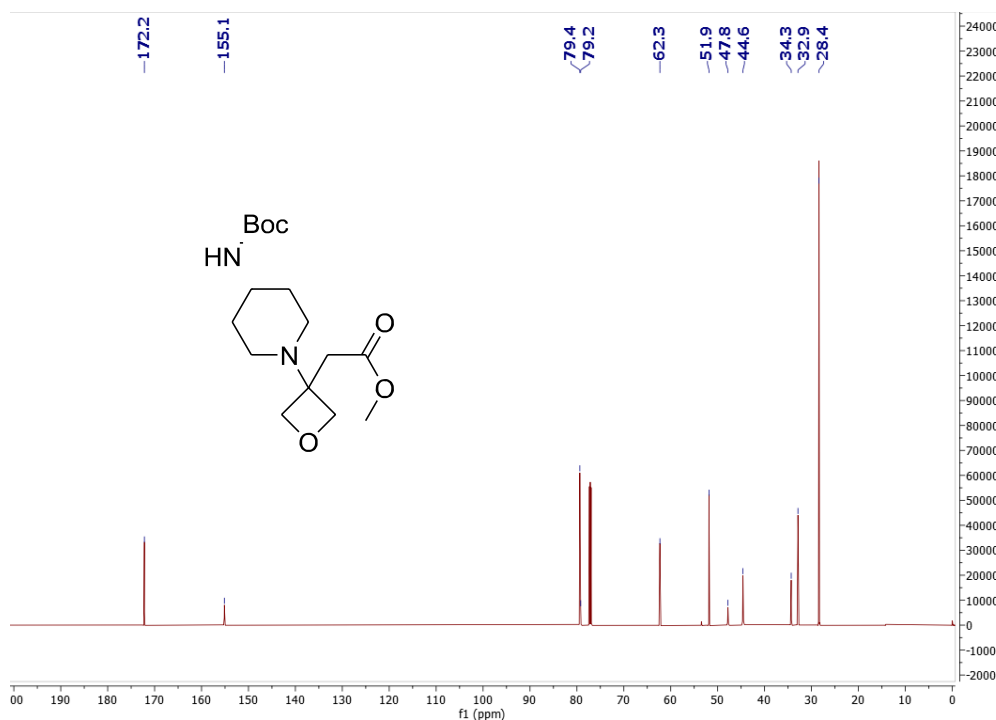


Figure S155. Methyl (3-{4-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl}oxetan-3-yl)acetate (8f) ¹³C NMR spectrum (176 MHz, CDCl₃).

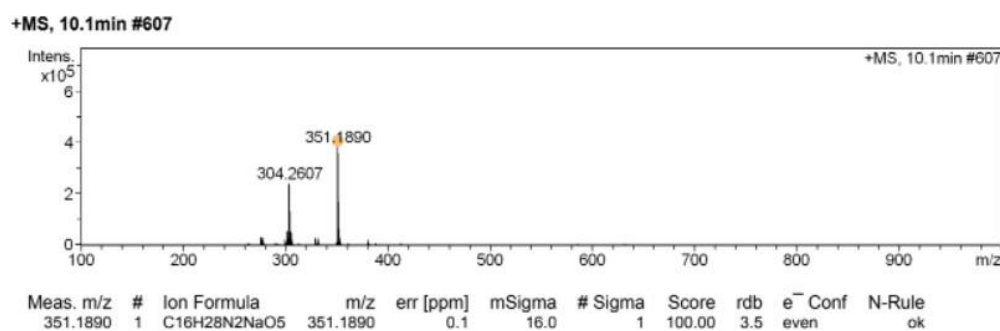


Figure S156. Methyl (3-{4-[(*tert*-butoxycarbonyl)amino]piperidin-1-yl}oxetan-3-yl)acetate (8f) HRMS (ESI-TOF).

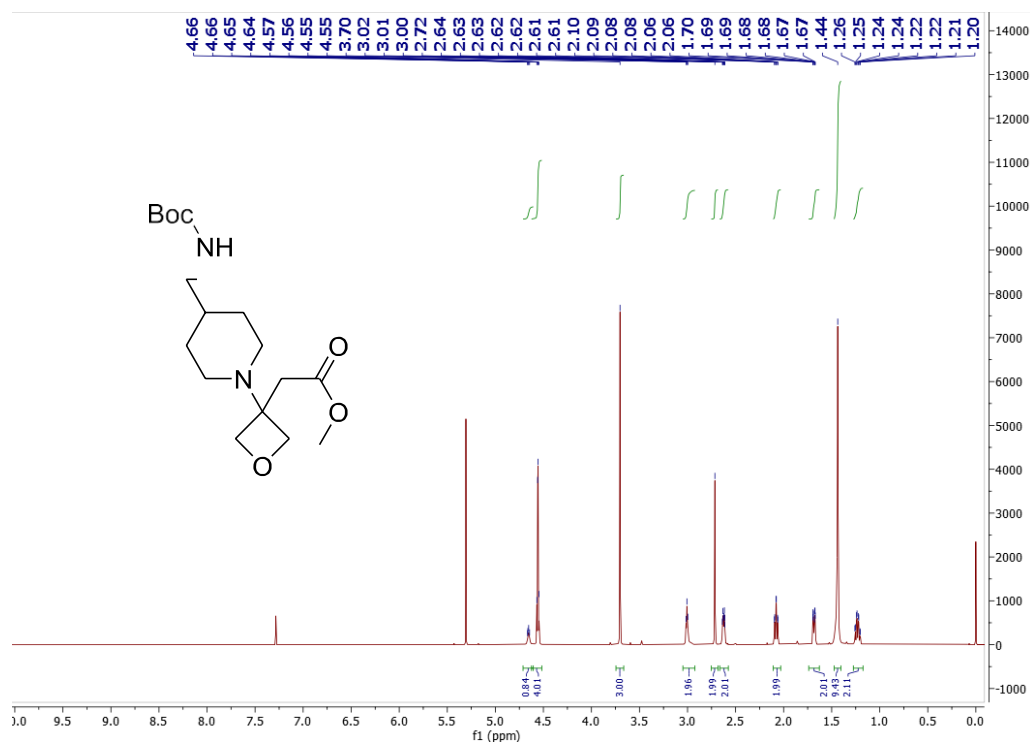


Figure S157. Methyl [3-(4-[[*tert*-butoxycarbonyl]amino]methyl)piperidin-1-yl]oxetan-3-yl]acetate (8g) ¹H NMR spectrum (700 MHz, CDCl₃).

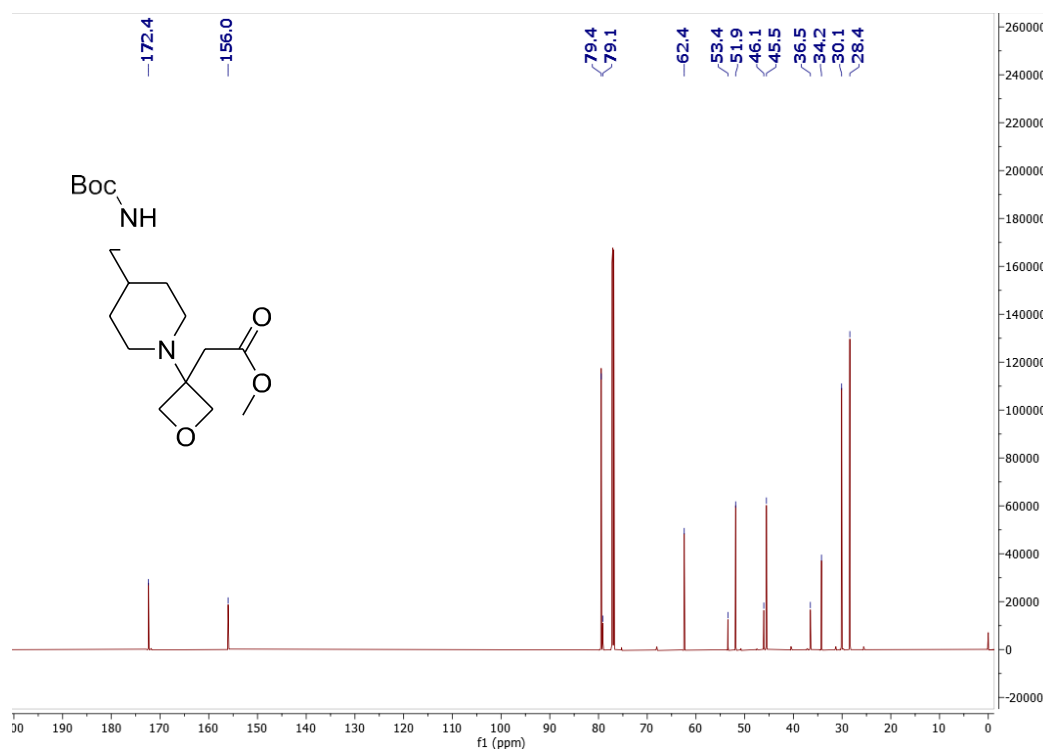


Figure S158. Methyl [3-(4-[[*tert*-butoxycarbonyl]amino]methyl)piperidin-1-yl]oxetan-3-yl]acetate (8g) ¹³C NMR spectrum (176 MHz, CDCl₃).

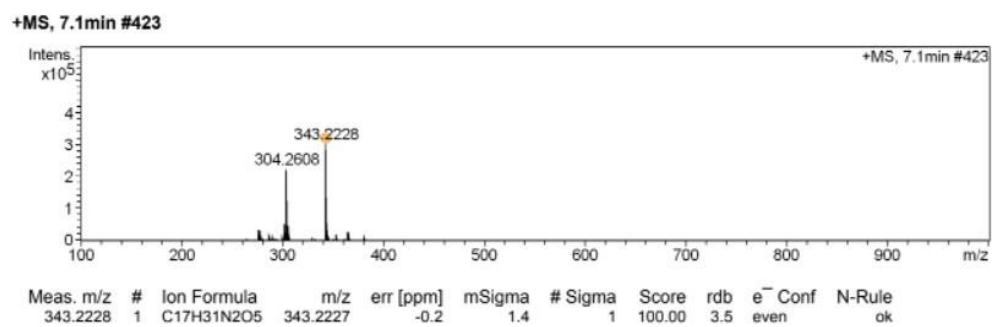


Figure S159. Methyl [3-(4-[[*tert*-butoxycarbonyl]amino]methyl)piperidin-1-yl]oxetan-3-yl]acetate (8g) HRMS (ESI-TOF).