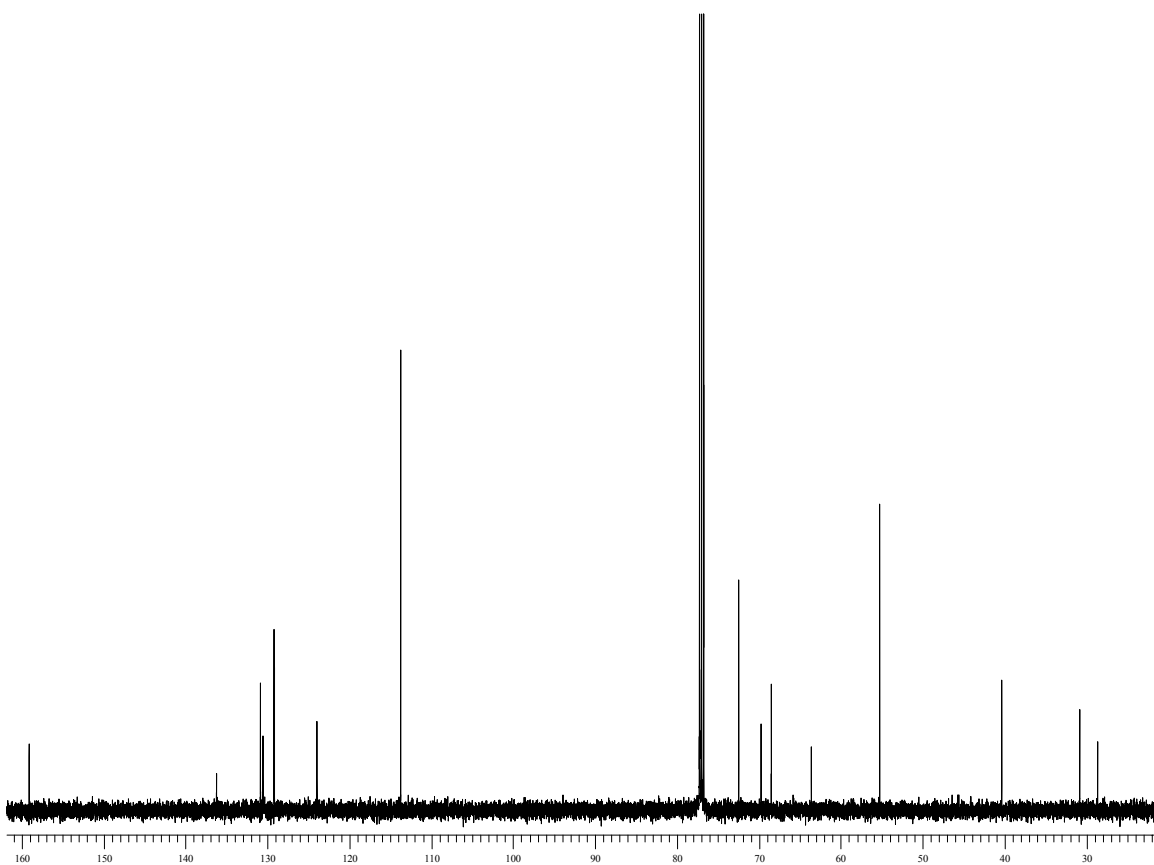
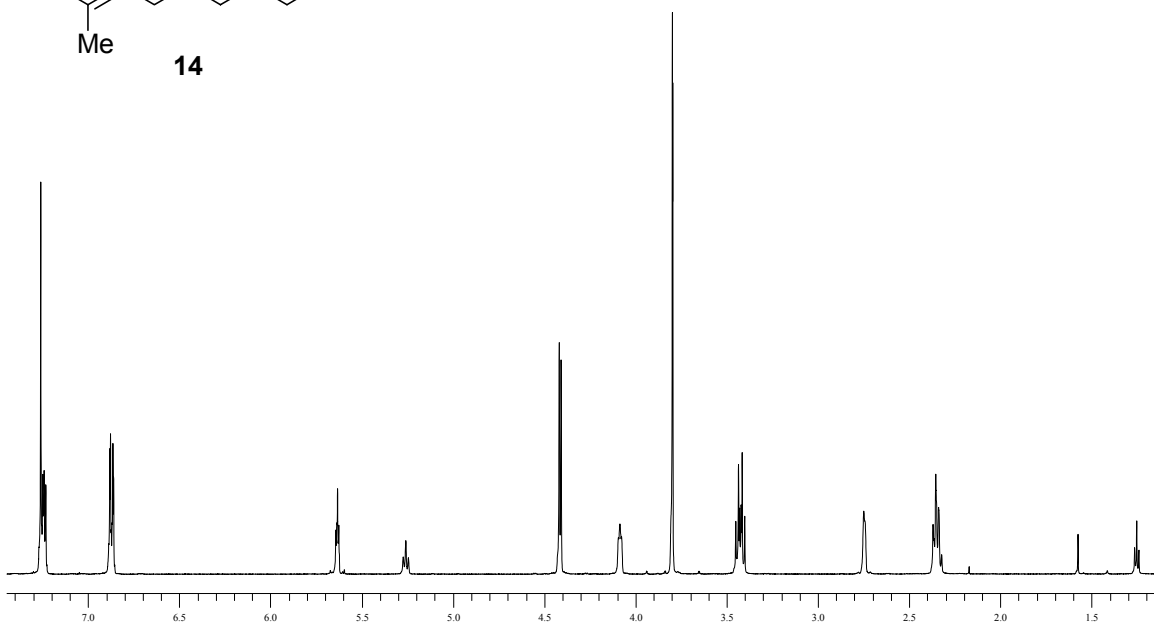
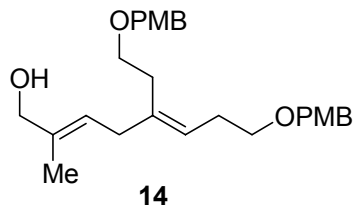


**Allene-alkyne cross-coupling for stereoselective
synthesis of substituted 1,4-dienes and cross-
conjugated trienes**

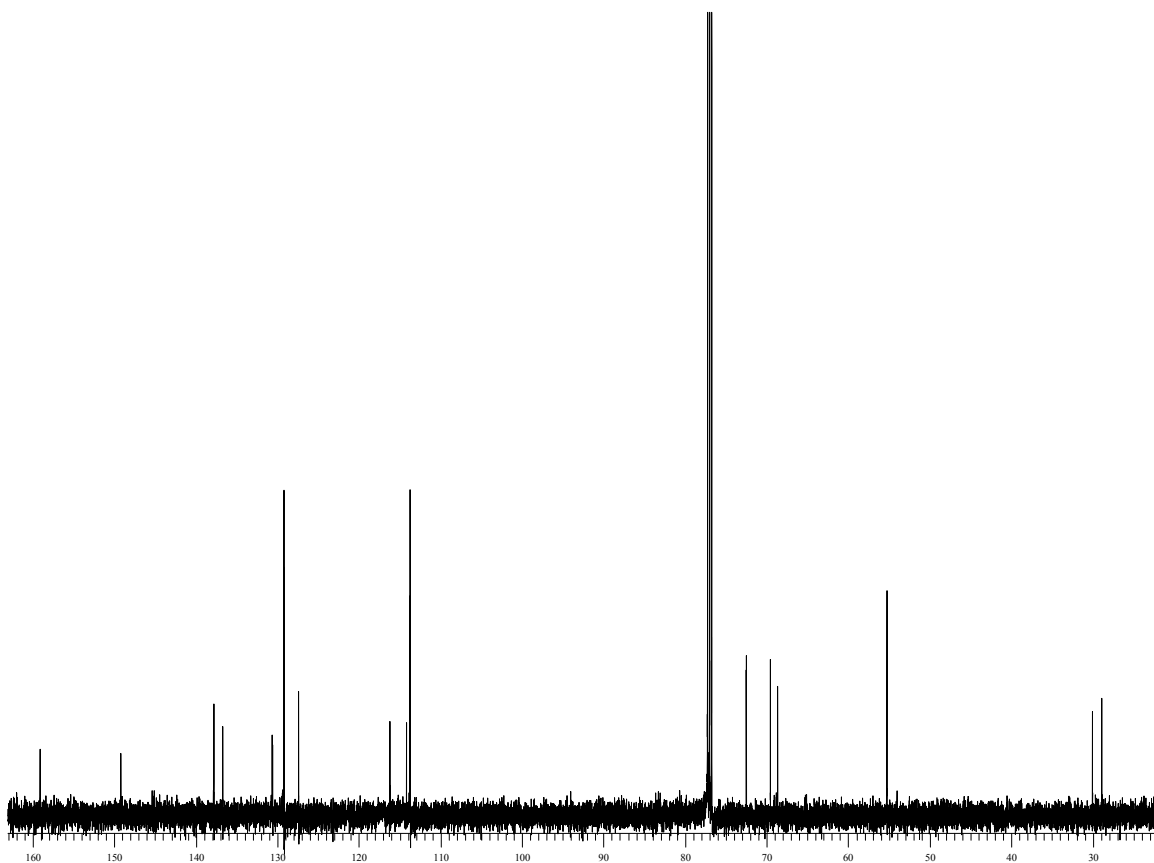
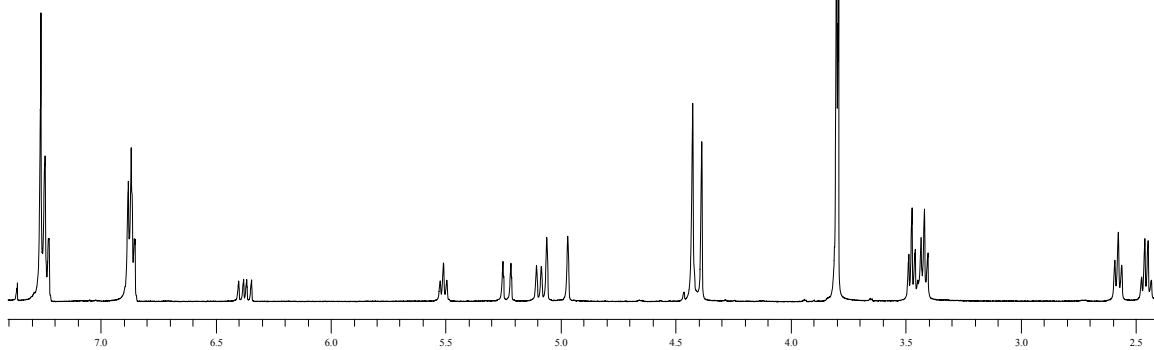
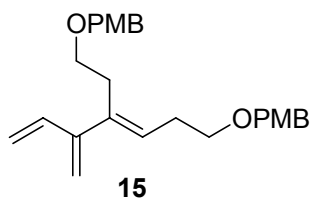
Heidi L. Shimp, Alissa Hare, Martin McLaughlin and Glenn C. Micalizio

SUPPORTING INFORMATION-2:

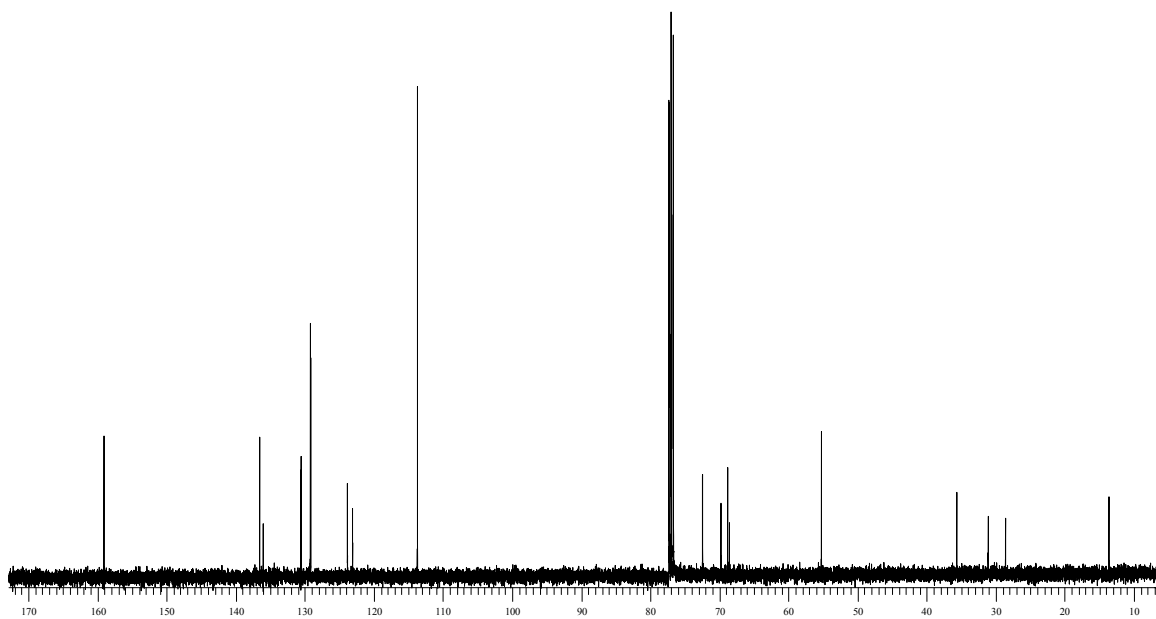
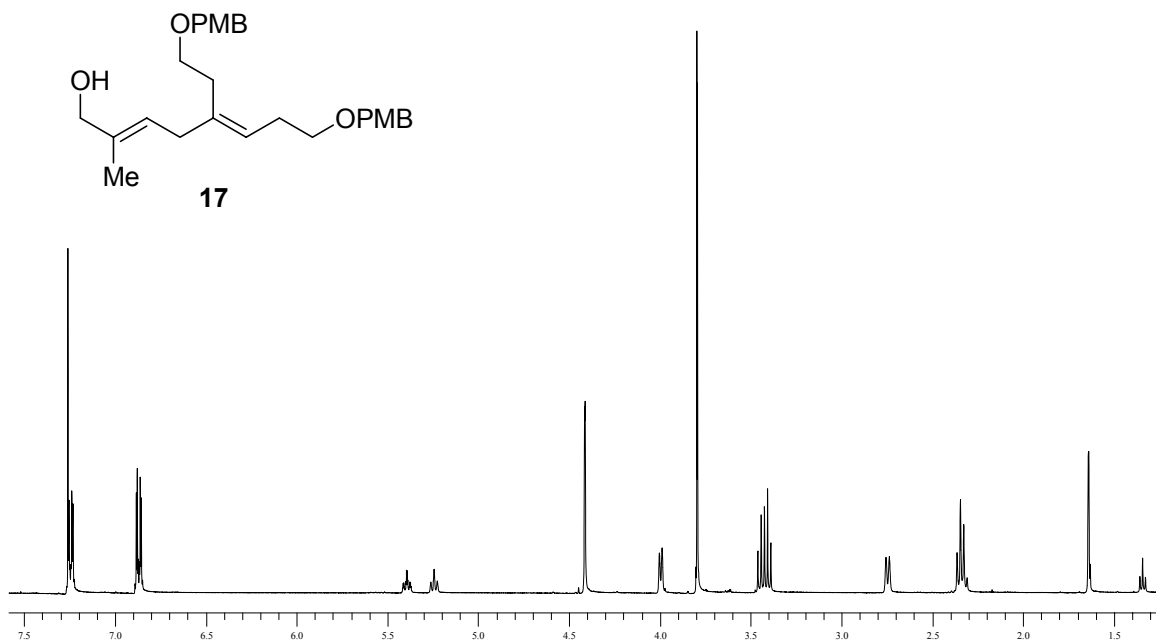
**Spectral Data for Compounds 14, 15, 17, 19-23, 25, 27,
30, 35, 37, 39-41, 43-48, 50 and 52.**



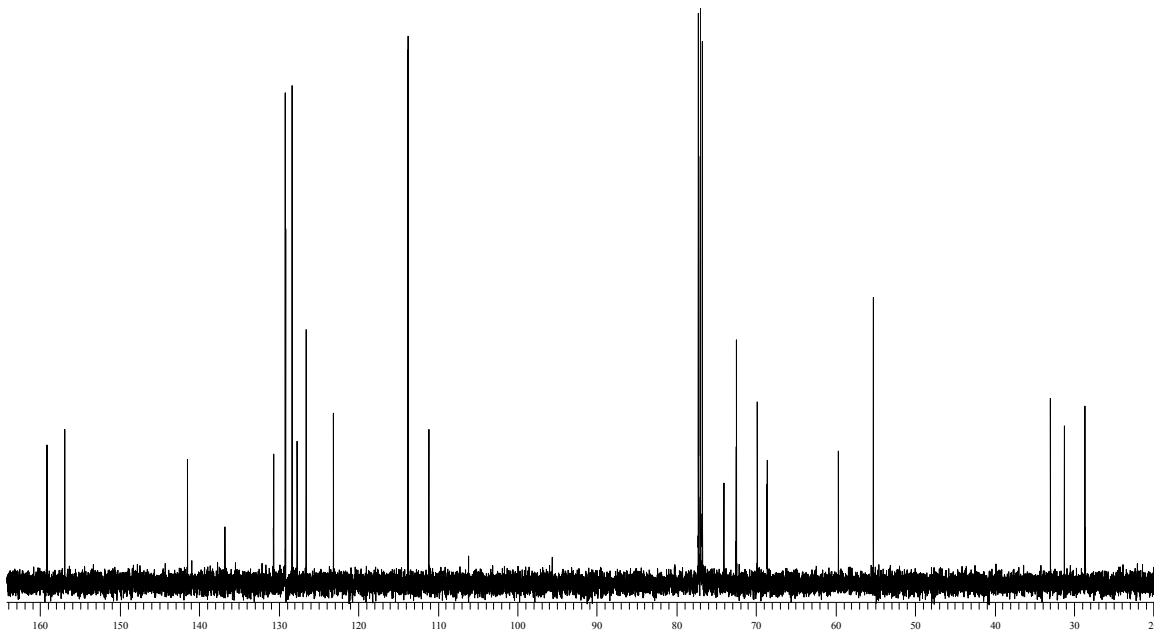
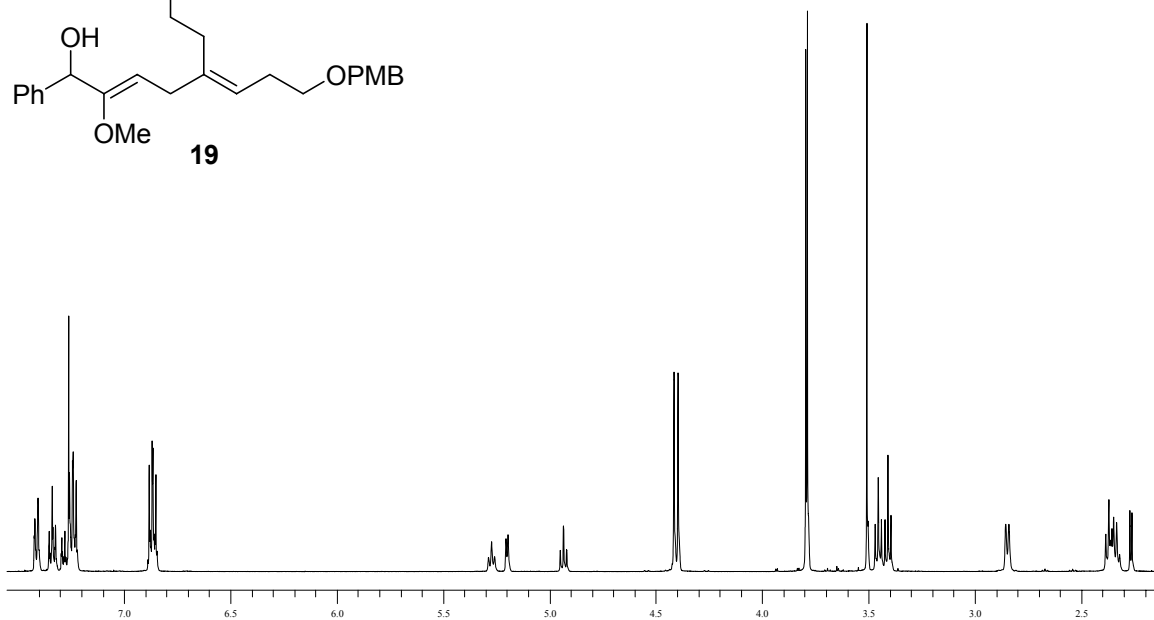
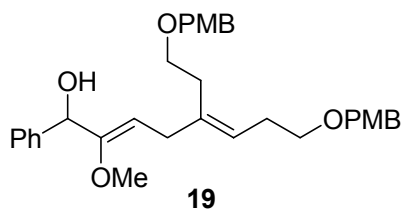
^1H (500 MHz) and ^{13}C (126 MHz) of compound **14** (CDCl_3)



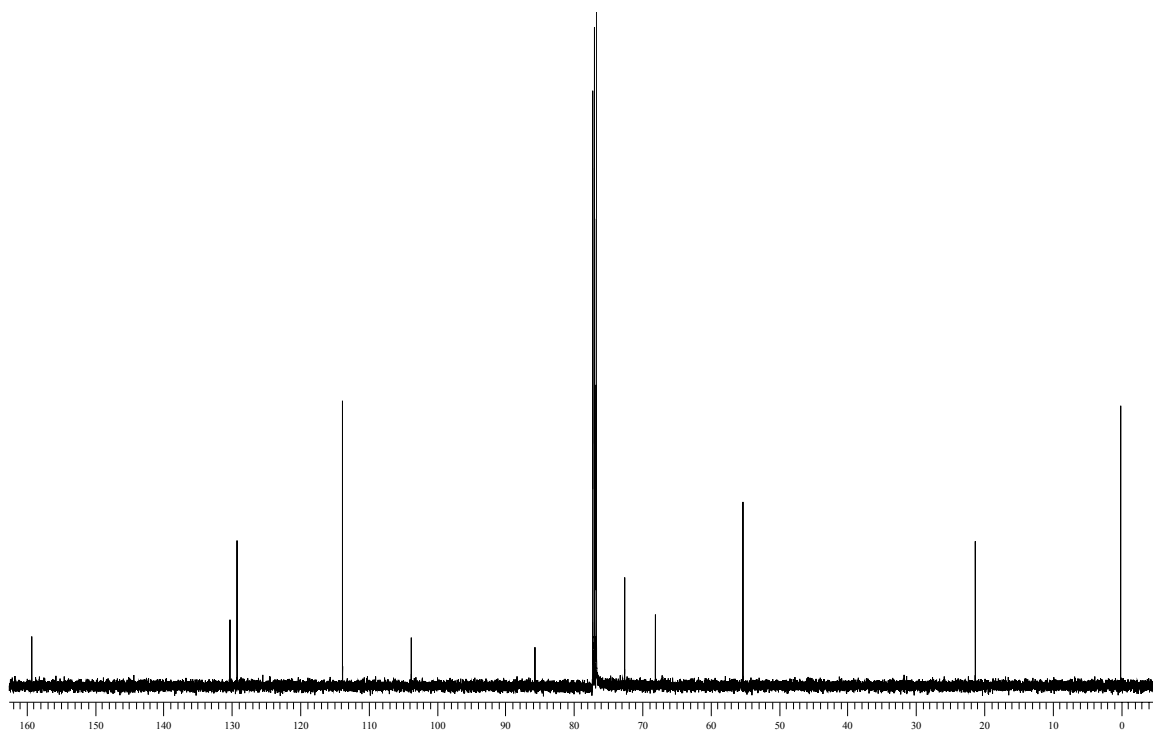
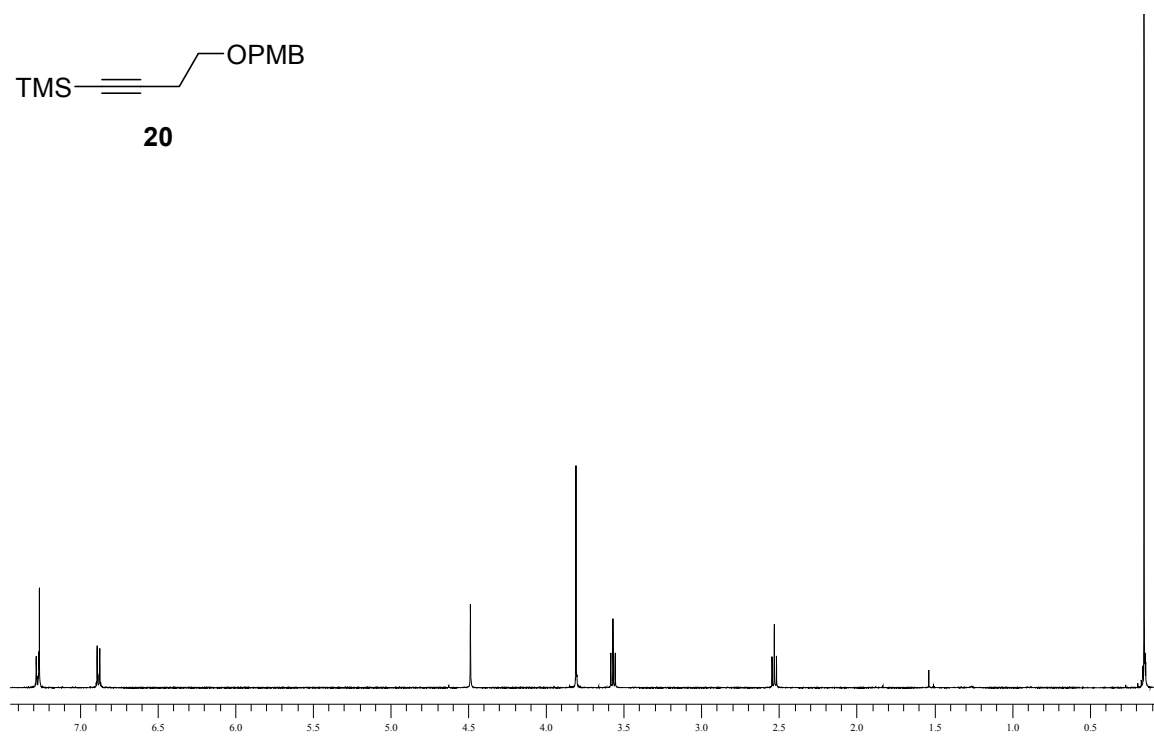
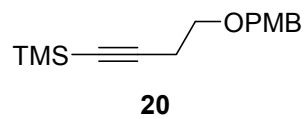
^1H (500 MHz) and ^{13}C (126 MHz) of compound **15** (CDCl_3)



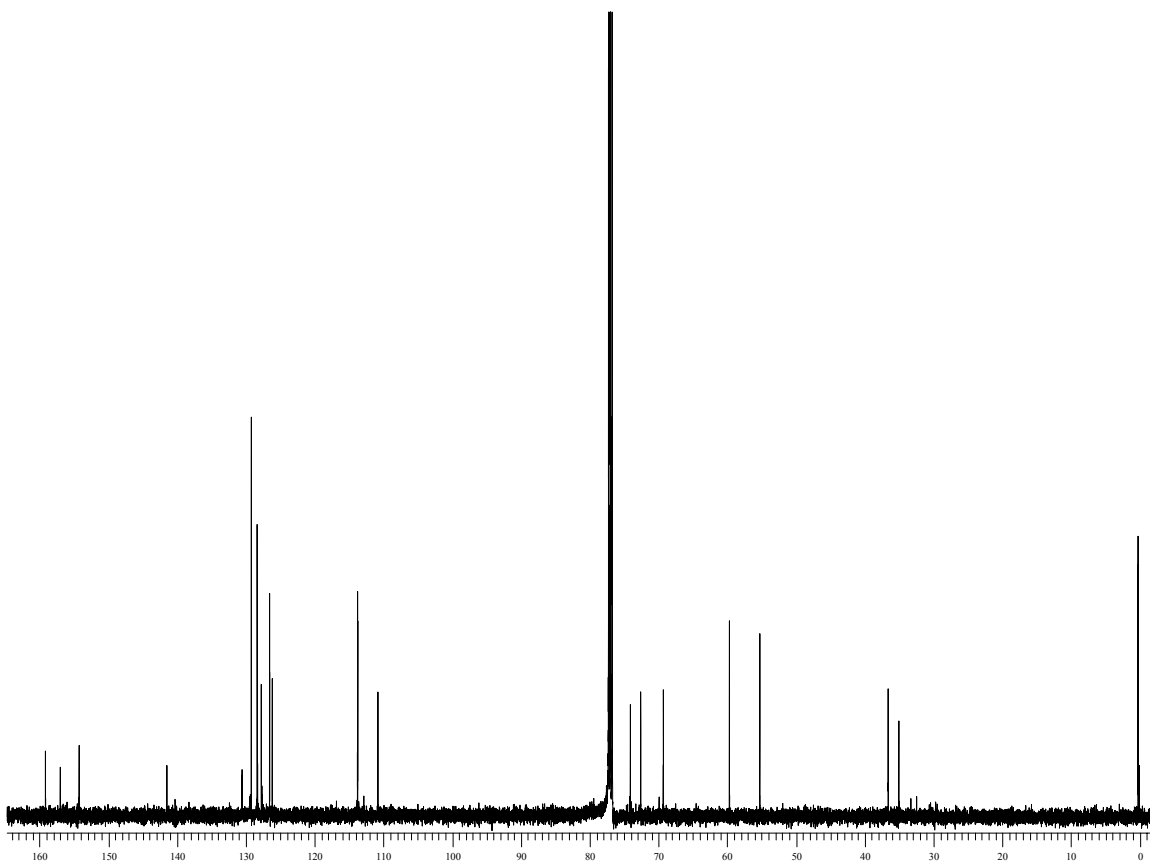
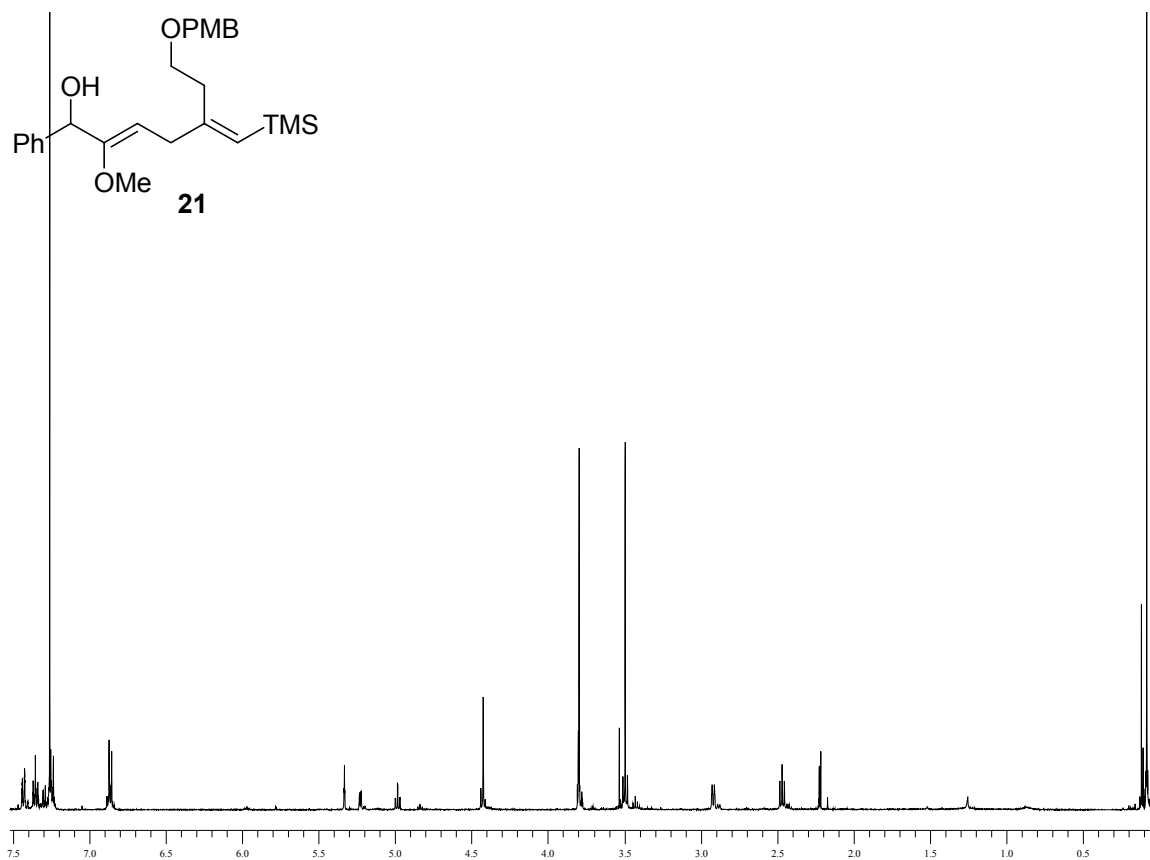
^1H (400 MHz) and ^{13}C (100 MHz) of compound **17** (CDCl_3)



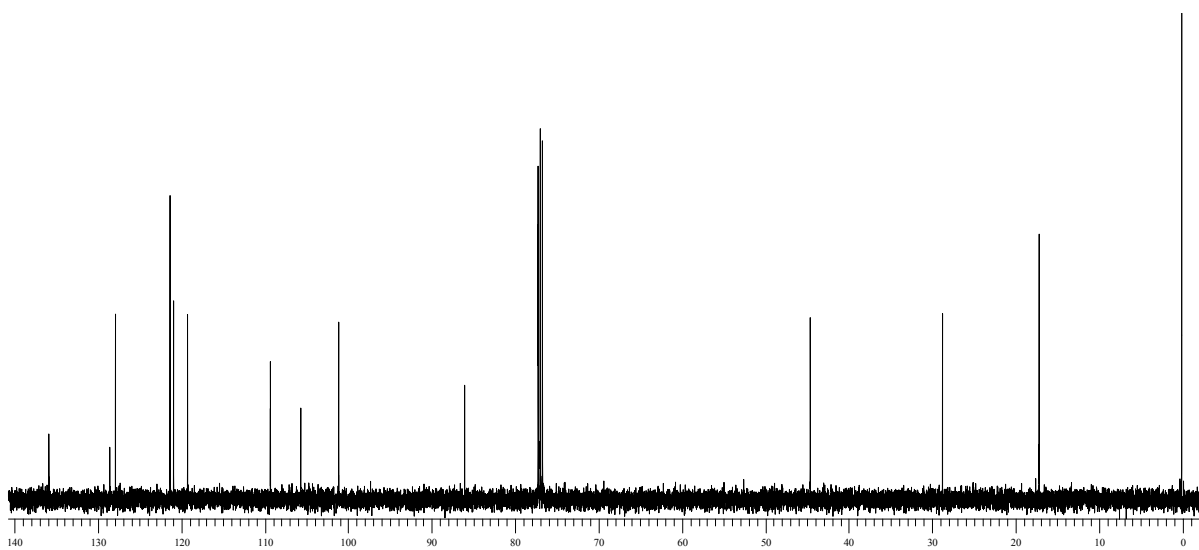
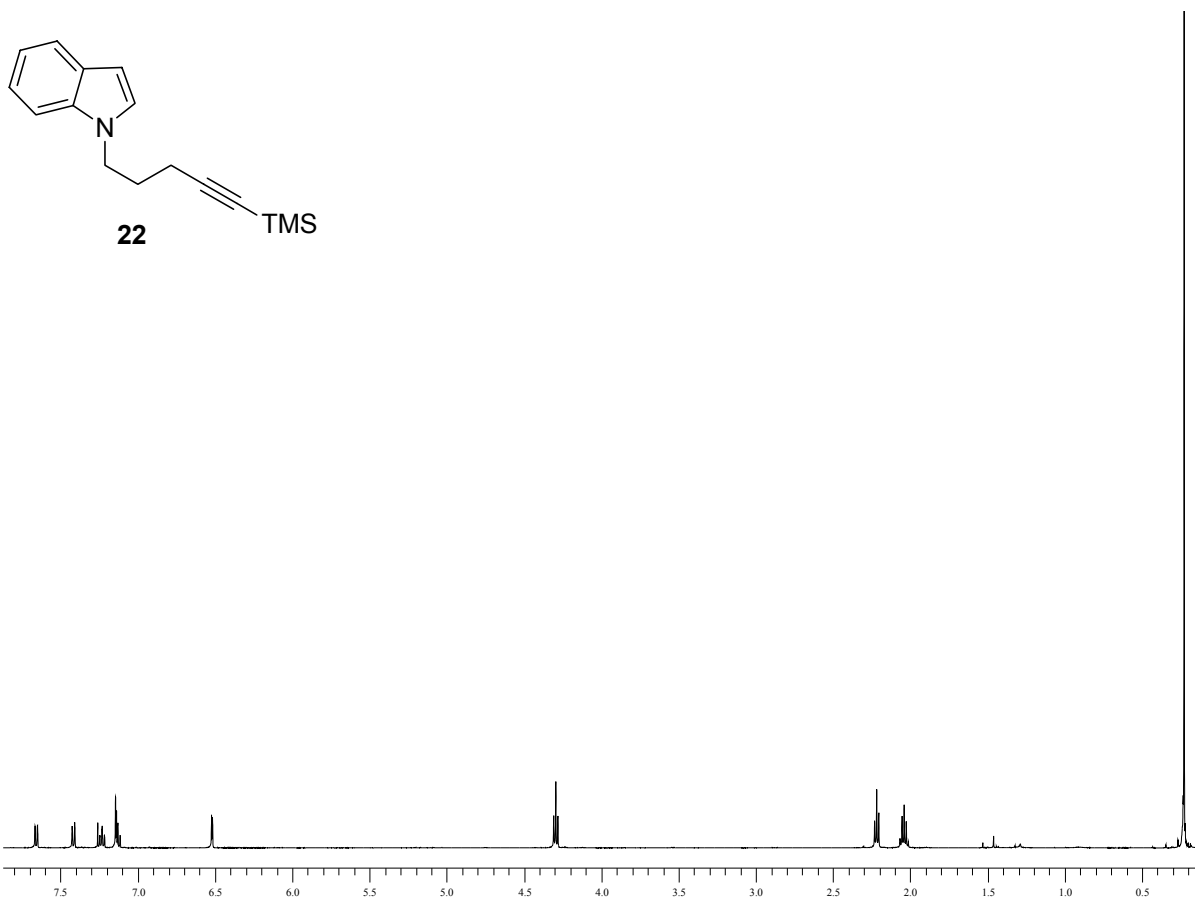
^1H (500 MHz) and ^{13}C (126 MHz) of compound **19** (CDCl_3)



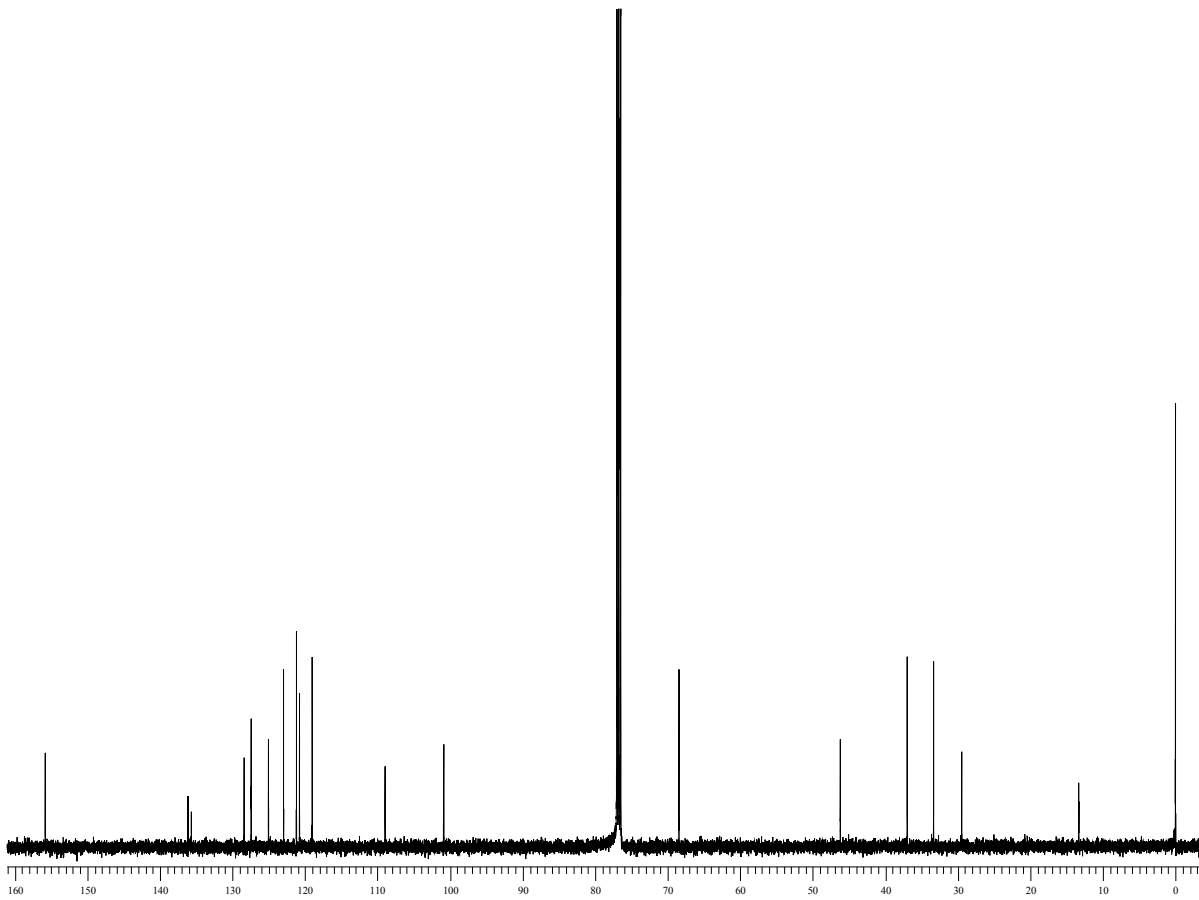
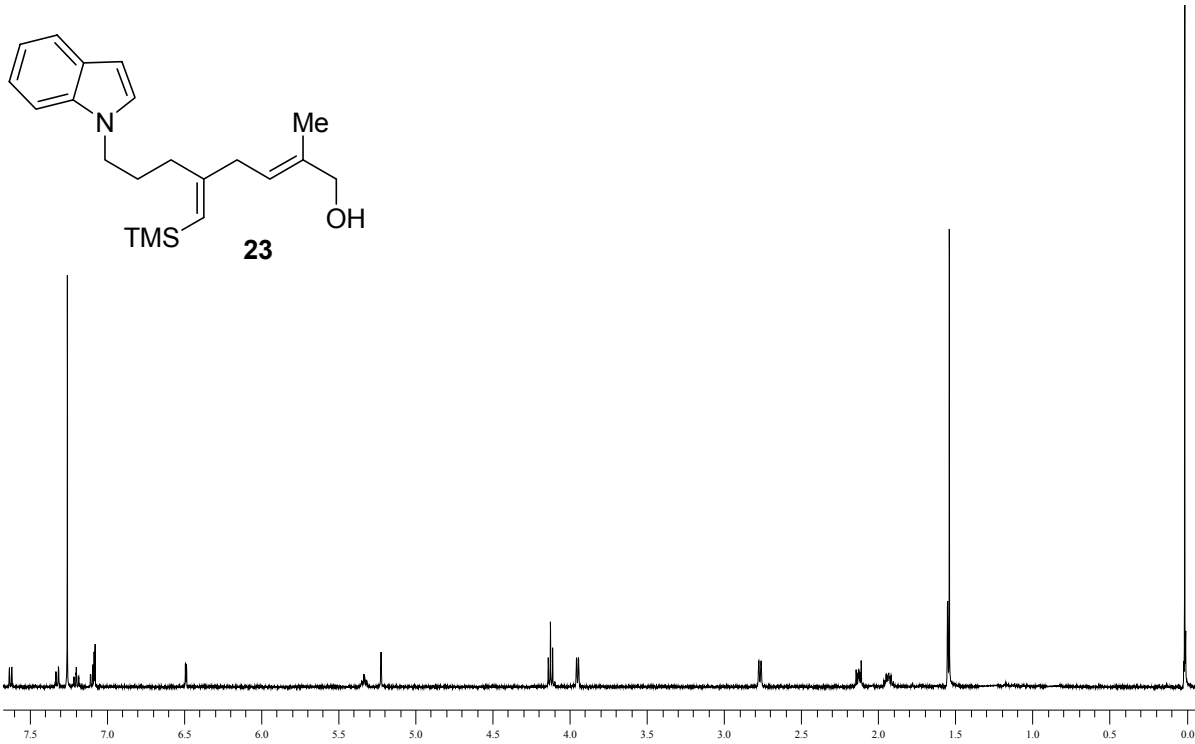
^1H (500 MHz) and ^{13}C (126 MHz) of compound **20** (CDCl_3)



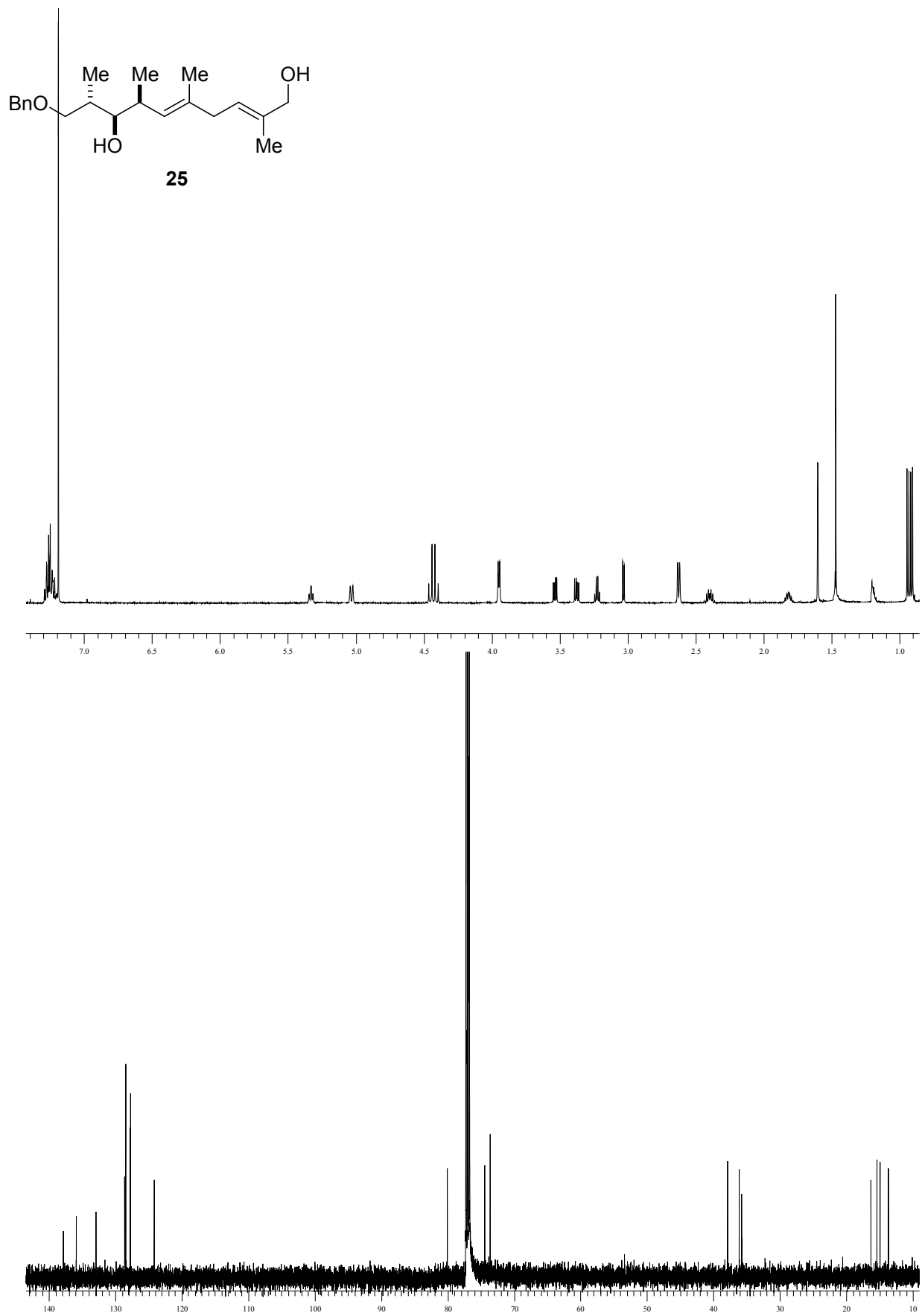
^1H (500 MHz) and ^{13}C (126 MHz) of compound **21** (CDCl_3)



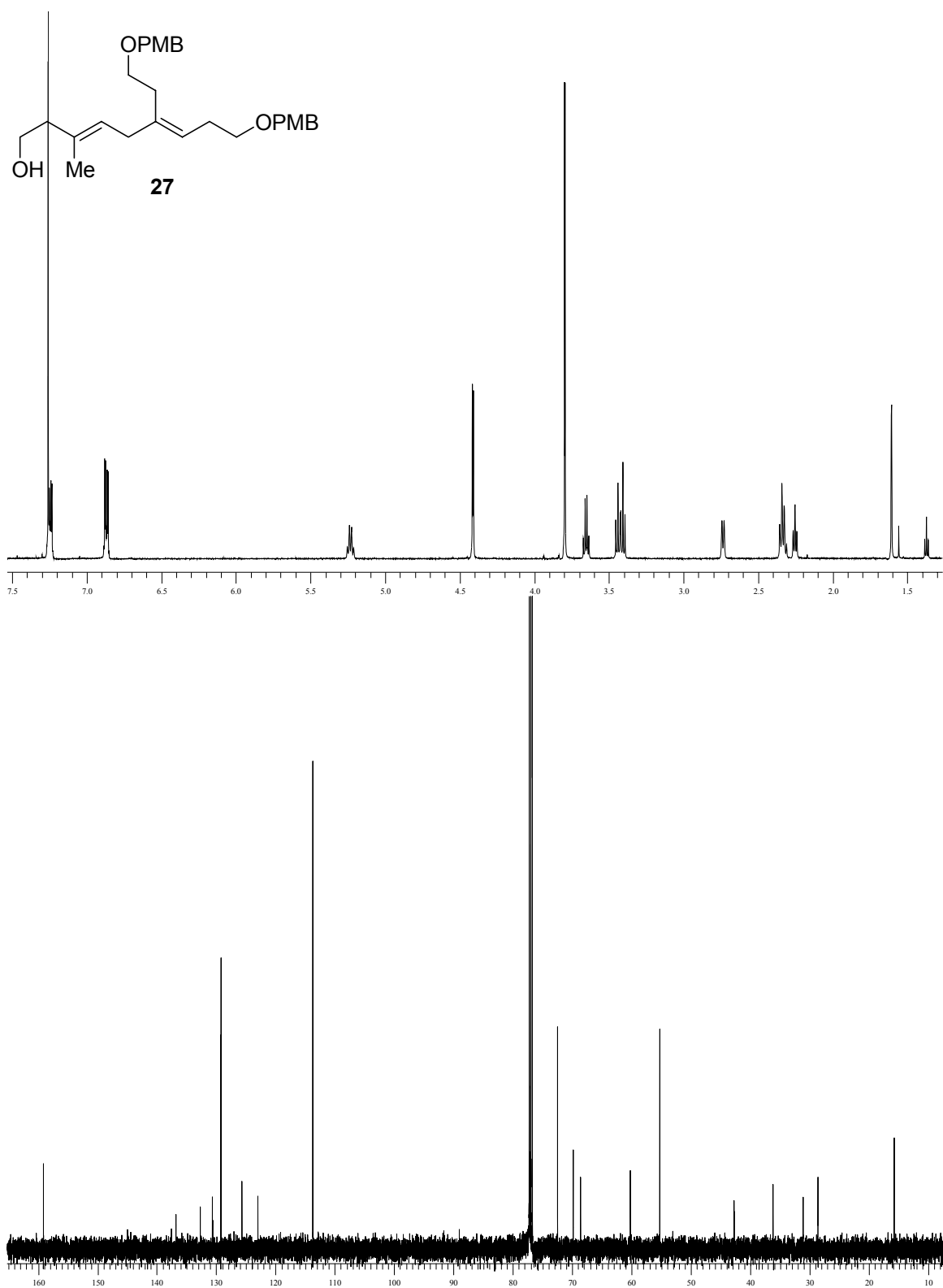
^1H (500 MHz) and ^{13}C (126 MHz) of compound **22** (CDCl_3)



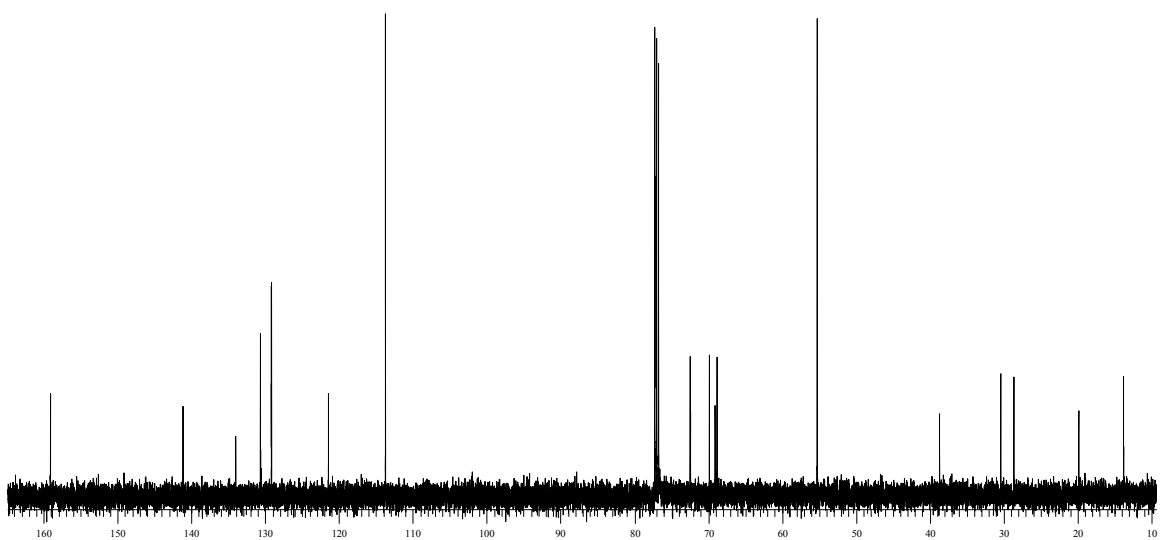
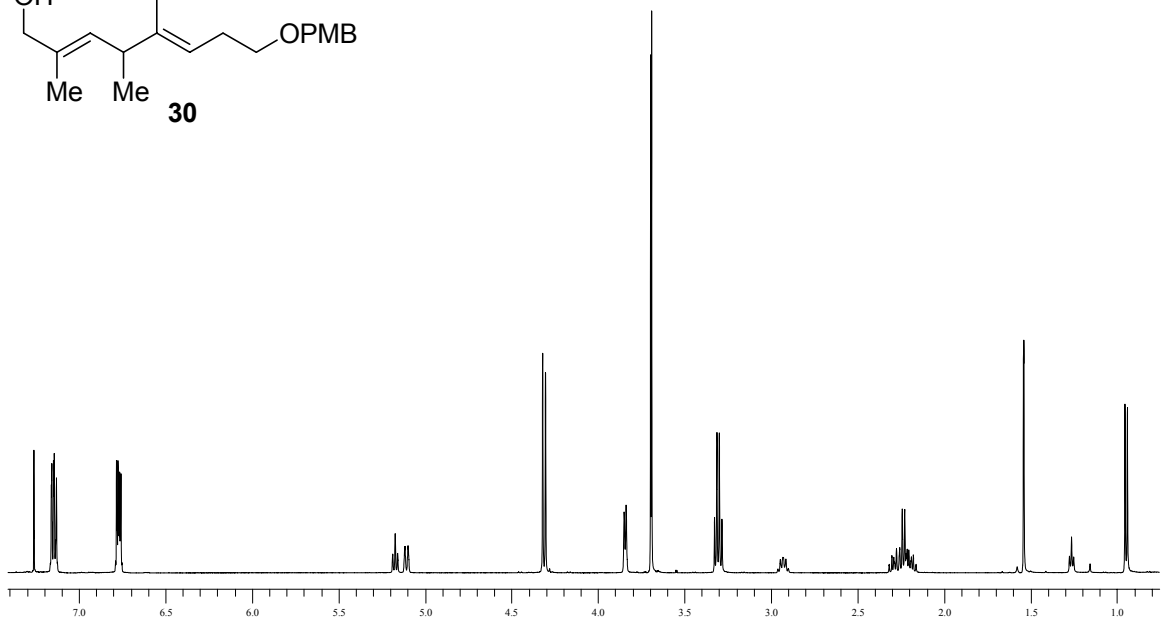
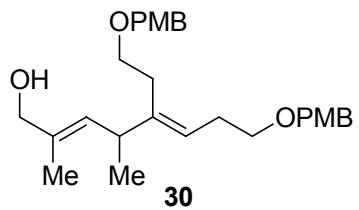
^1H (500 MHz) and ^{13}C (126 MHz) of compound **23** (CDCl_3)



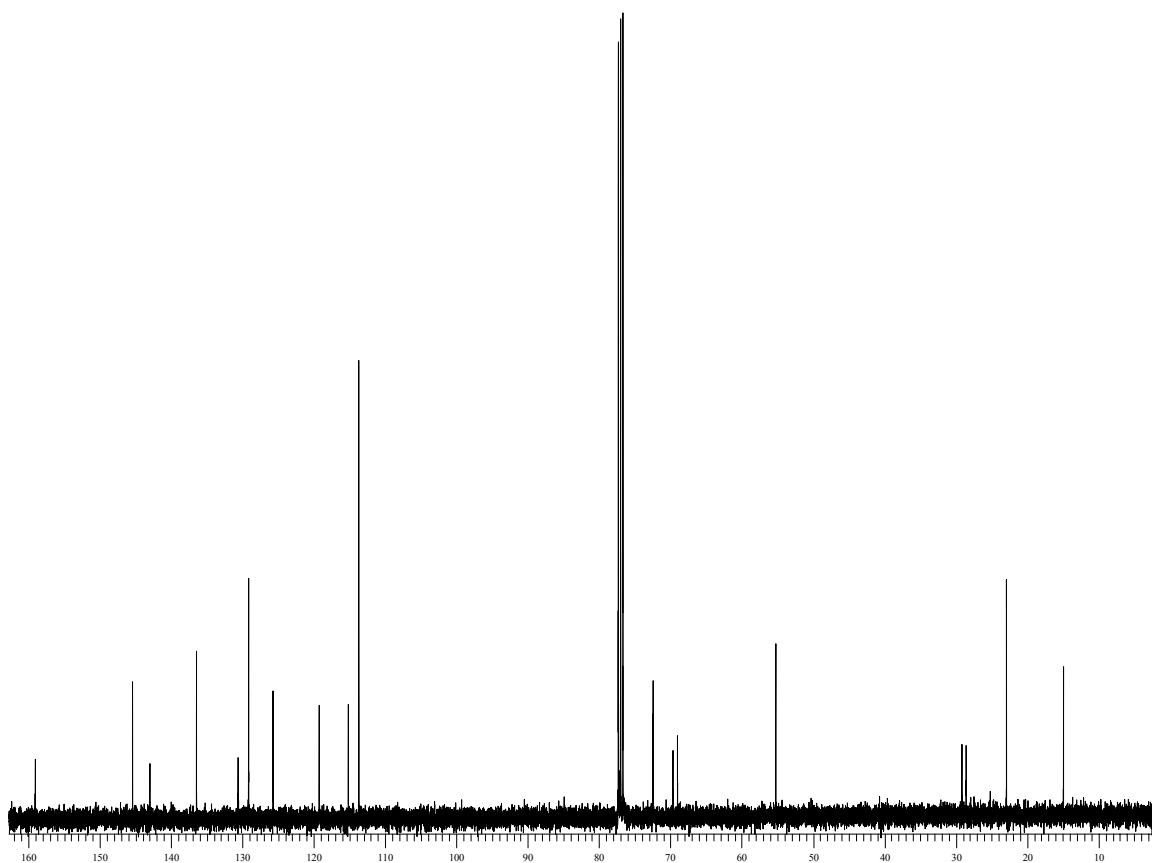
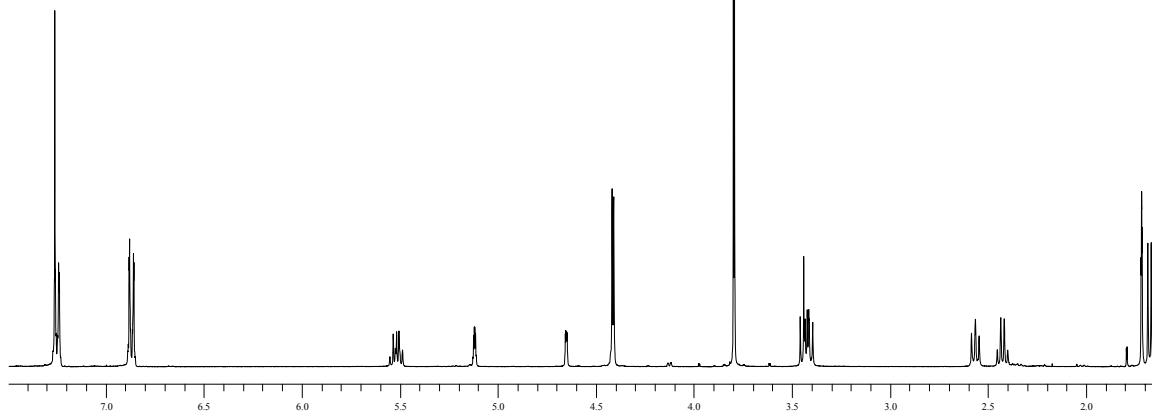
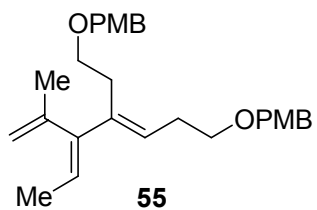
^1H (500 MHz) and ^{13}C (126 MHz) of compound **25** (CDCl_3)



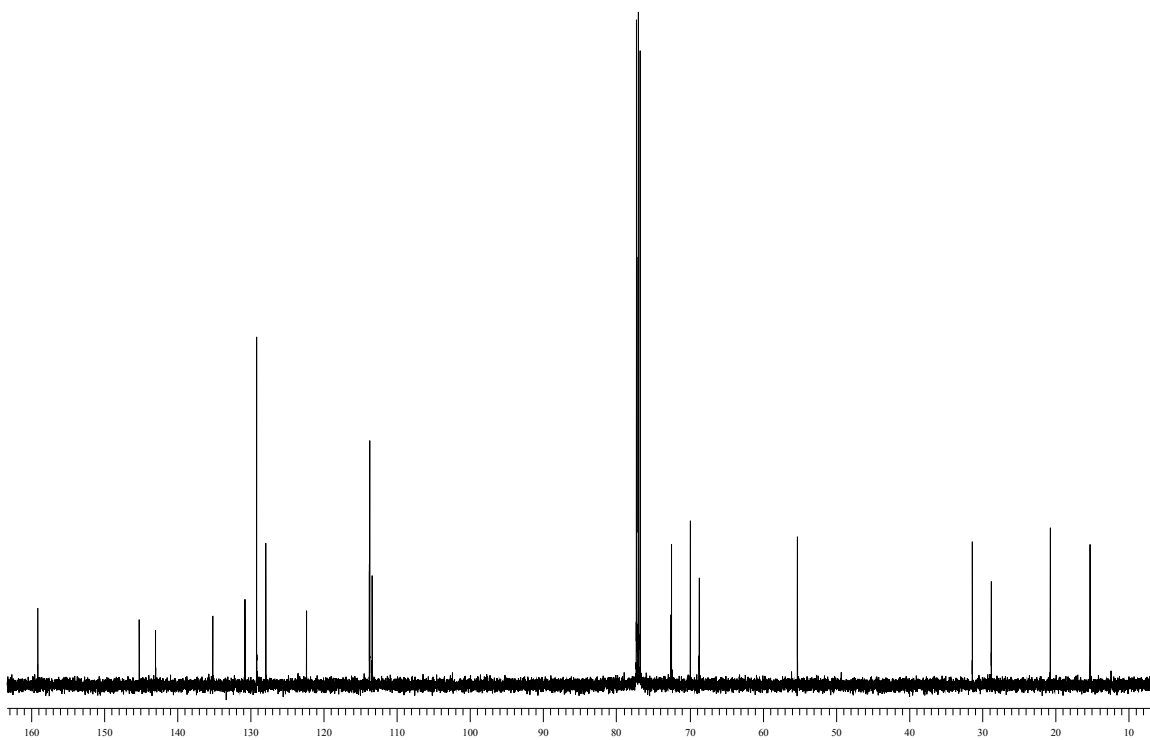
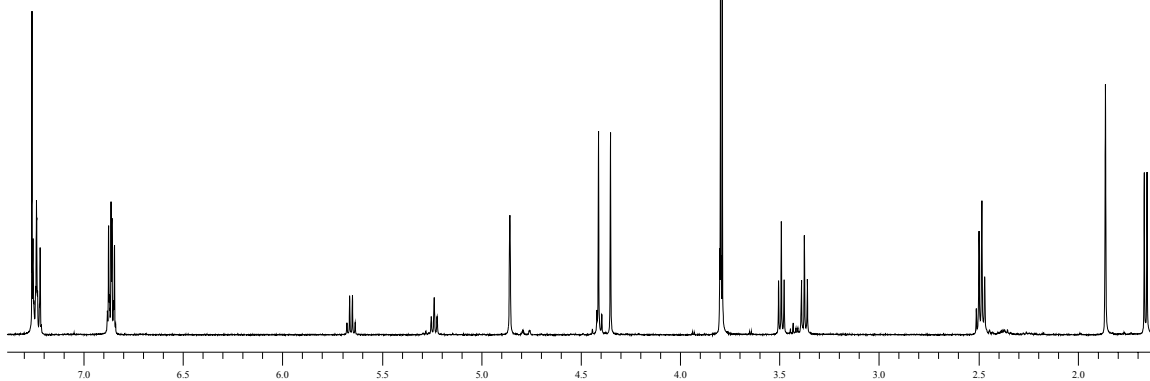
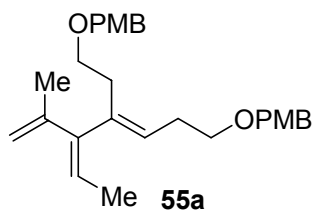
^1H (500 MHz) and ^{13}C (126 MHz) of compound **27** (CDCl_3)



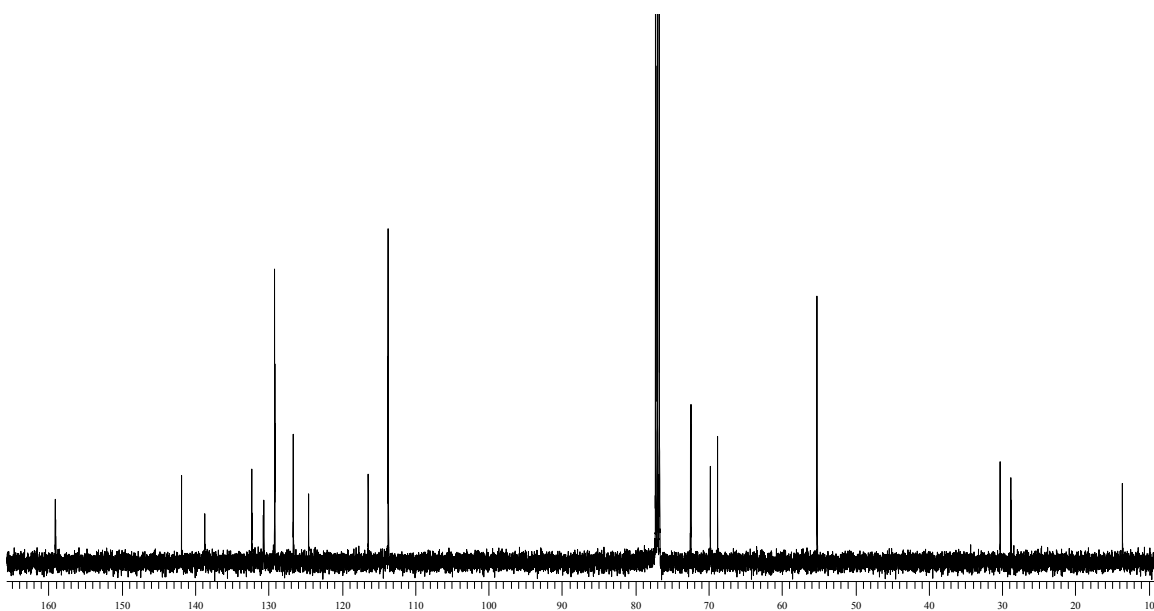
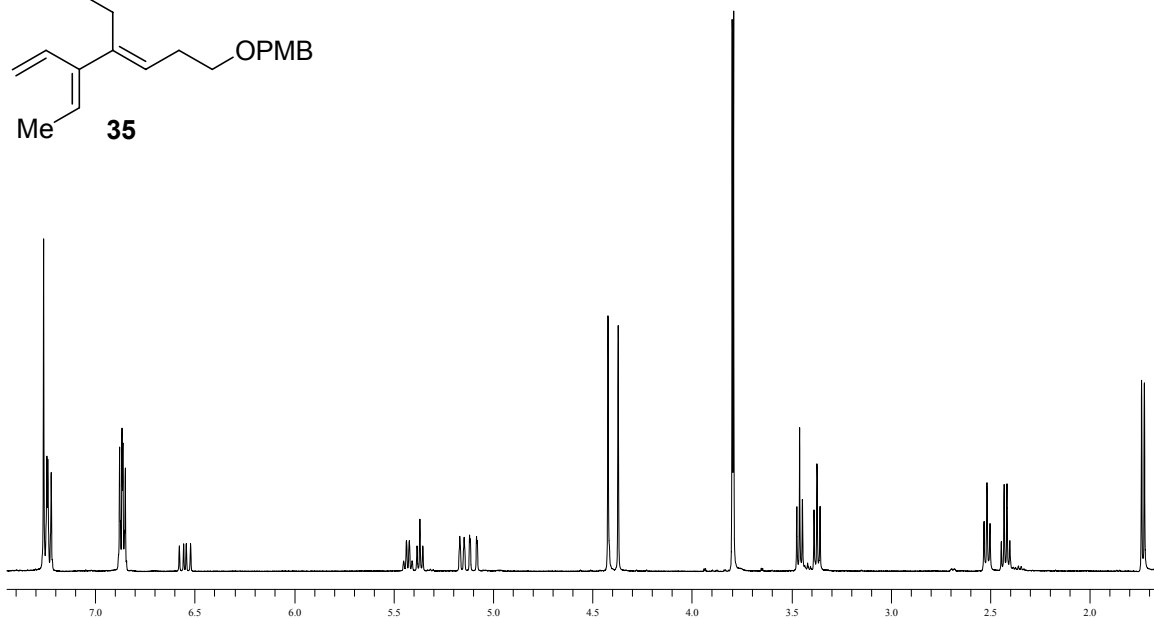
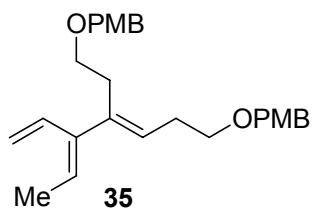
¹H (500 MHz) and ¹³C (100 MHz) of compound **30** (CDCl₃)



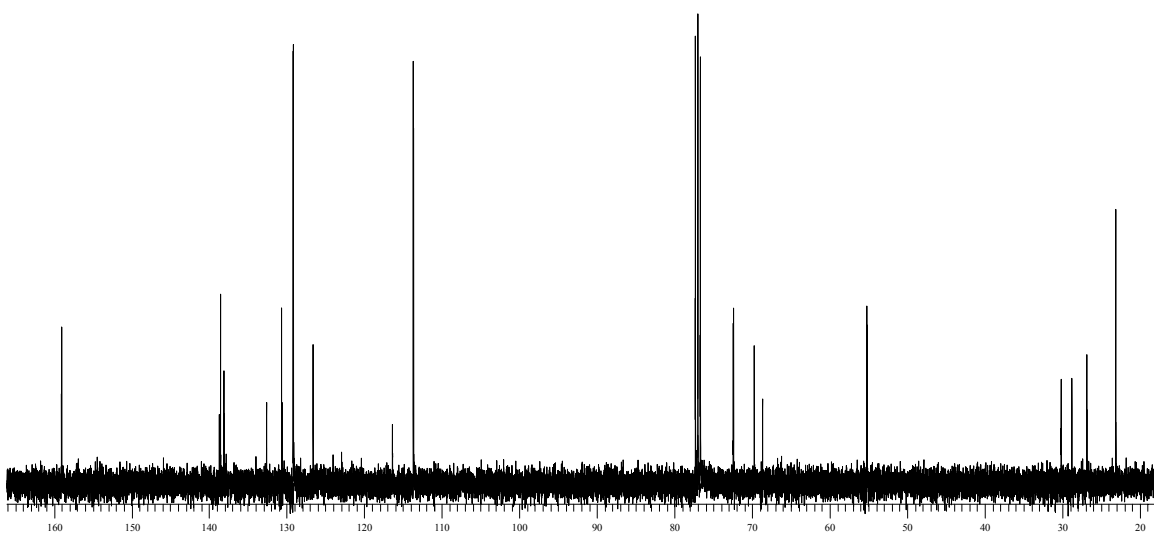
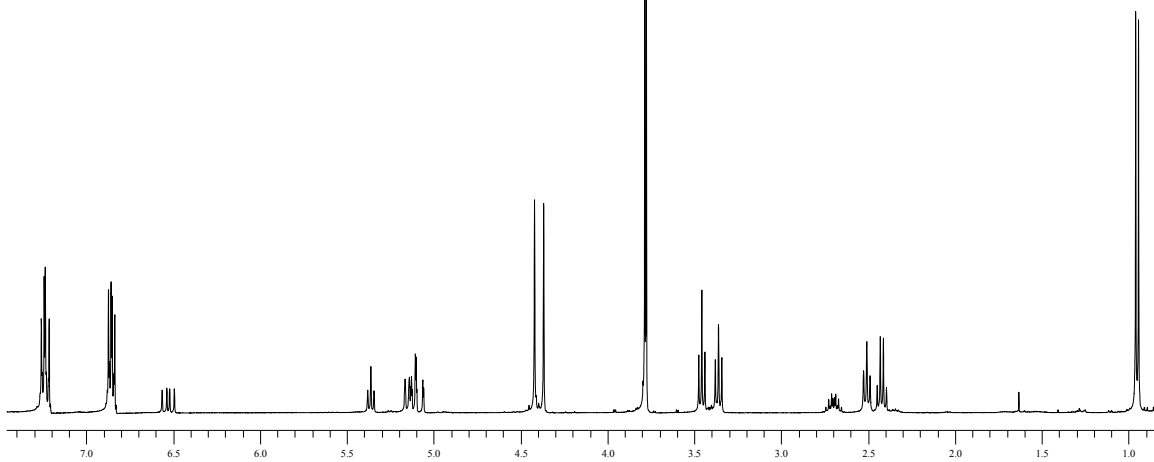
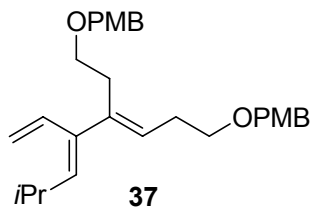
^1H (400 MHz) and ^{13}C (100 MHz) of compound **55** (CDCl_3)



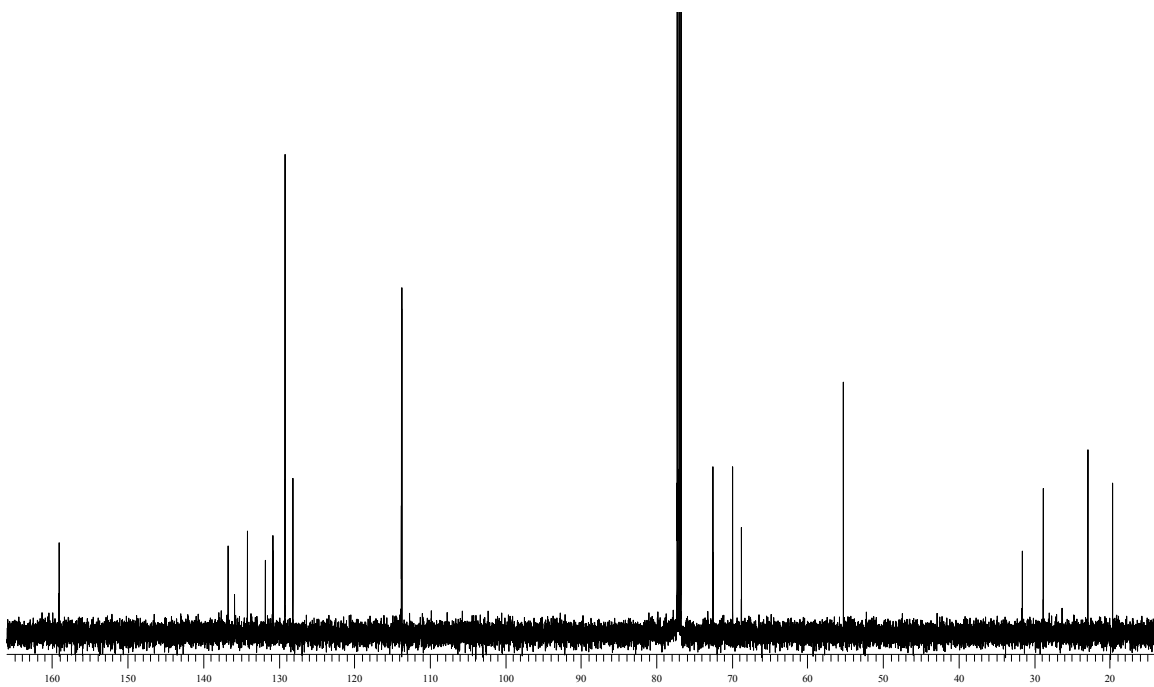
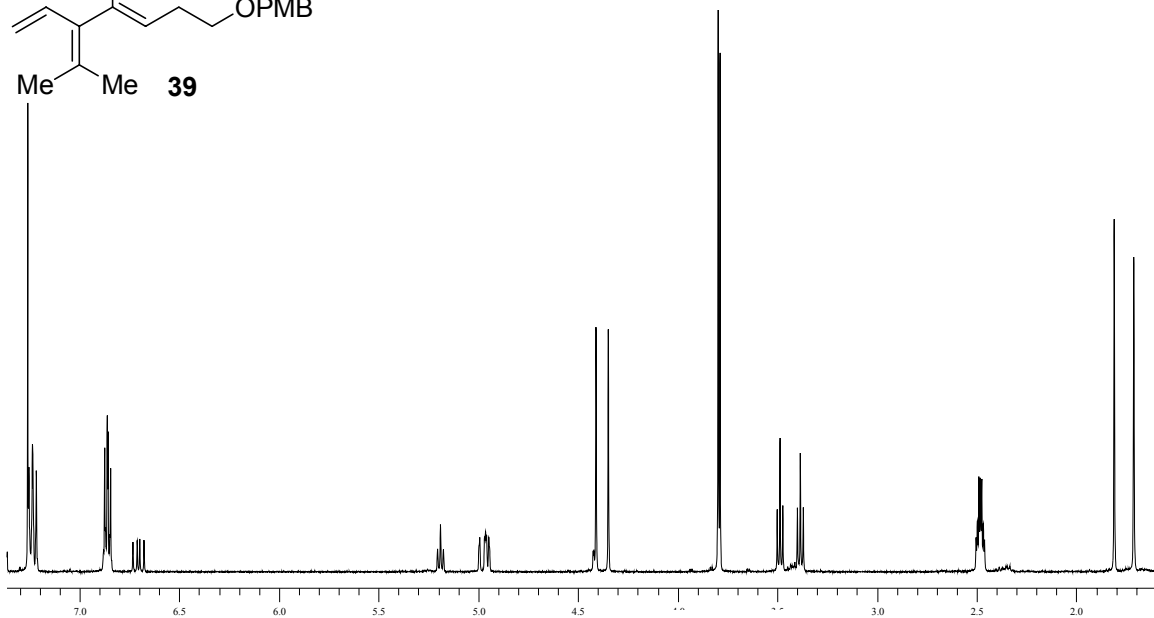
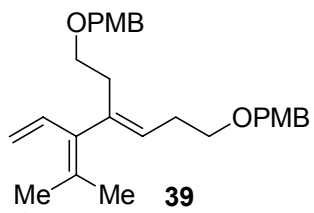
^1H (500 MHz) and ^{13}C (126 MHz) of compound **55a** (CDCl_3)



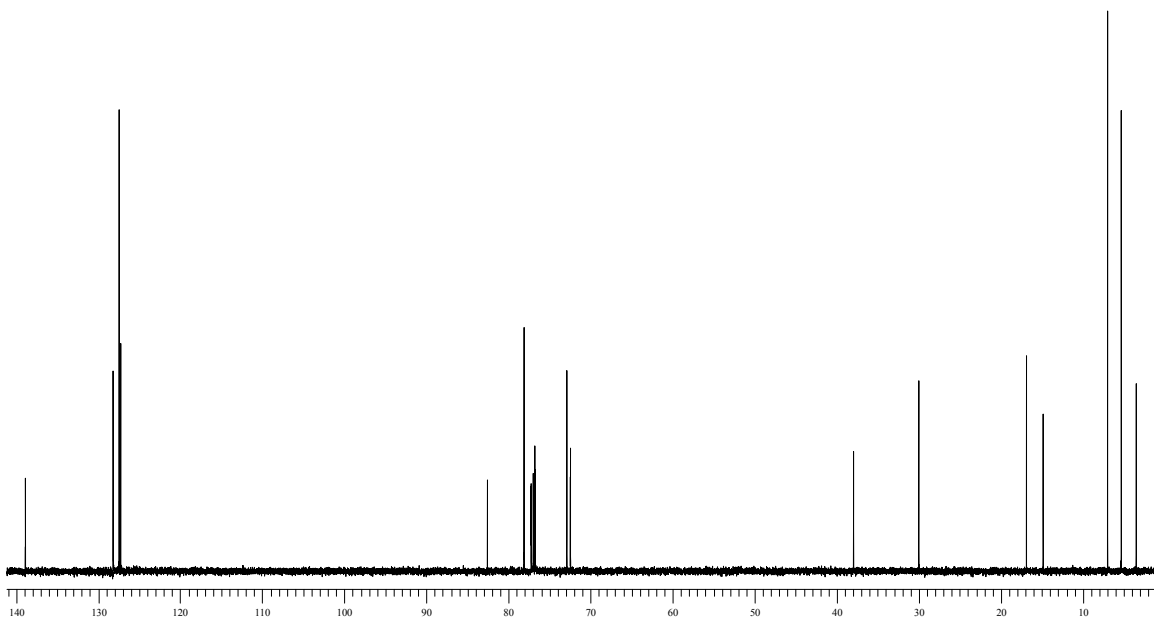
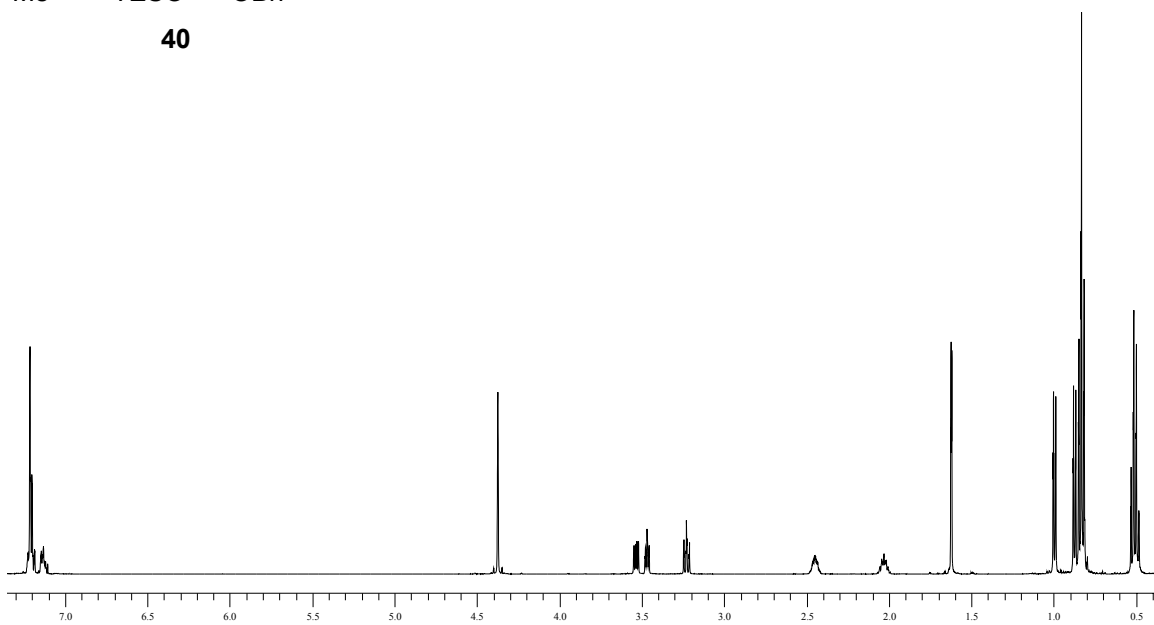
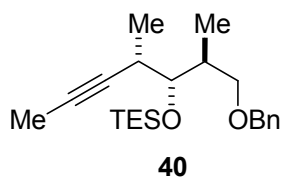
¹H (500 MHz) and ¹³C (126 MHz) of compound **35** (CDCl₃)



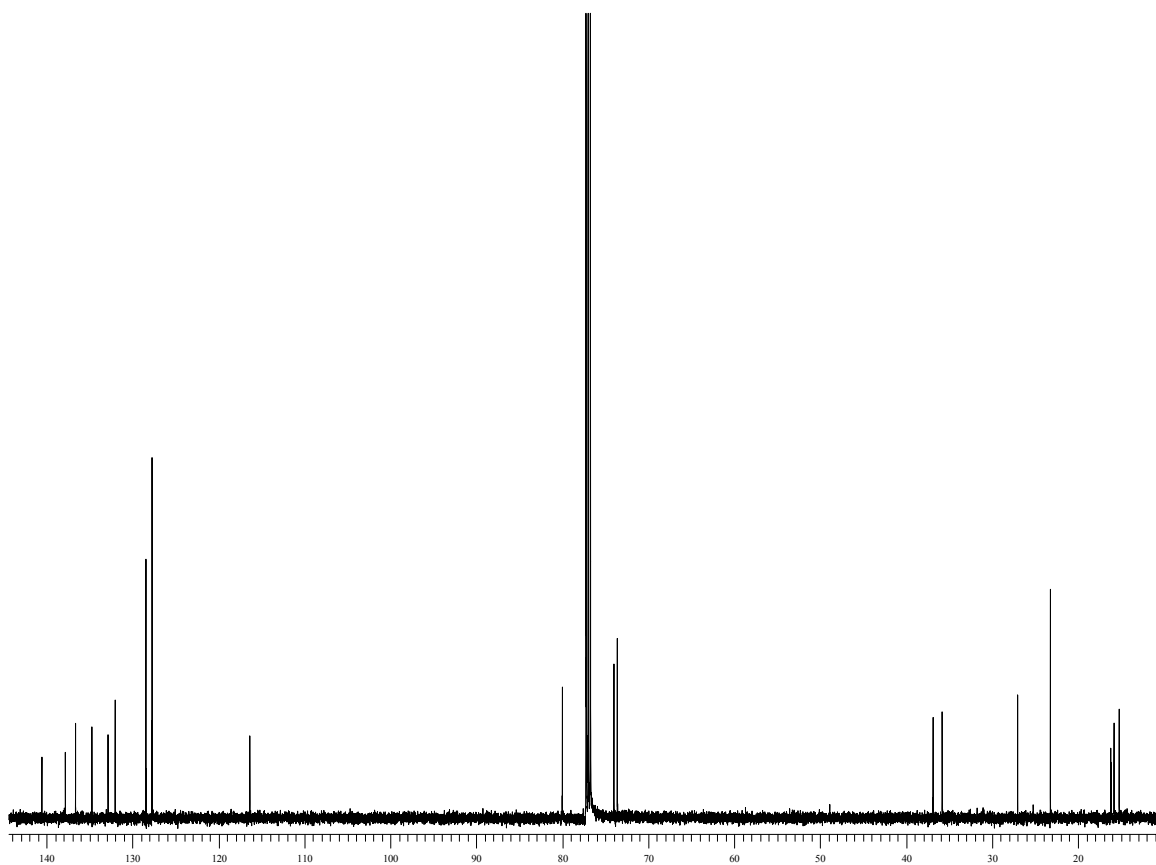
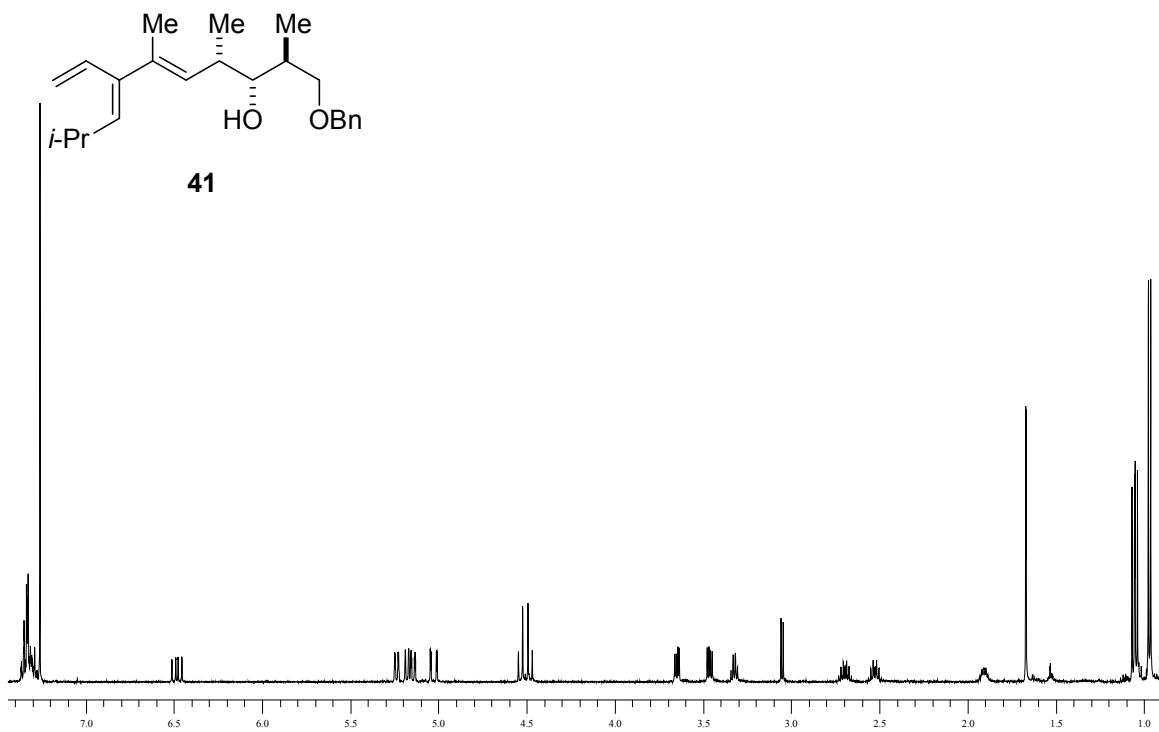
^1H (400 MHz) and ^{13}C (100 MHz) of compound **37** (CDCl_3)



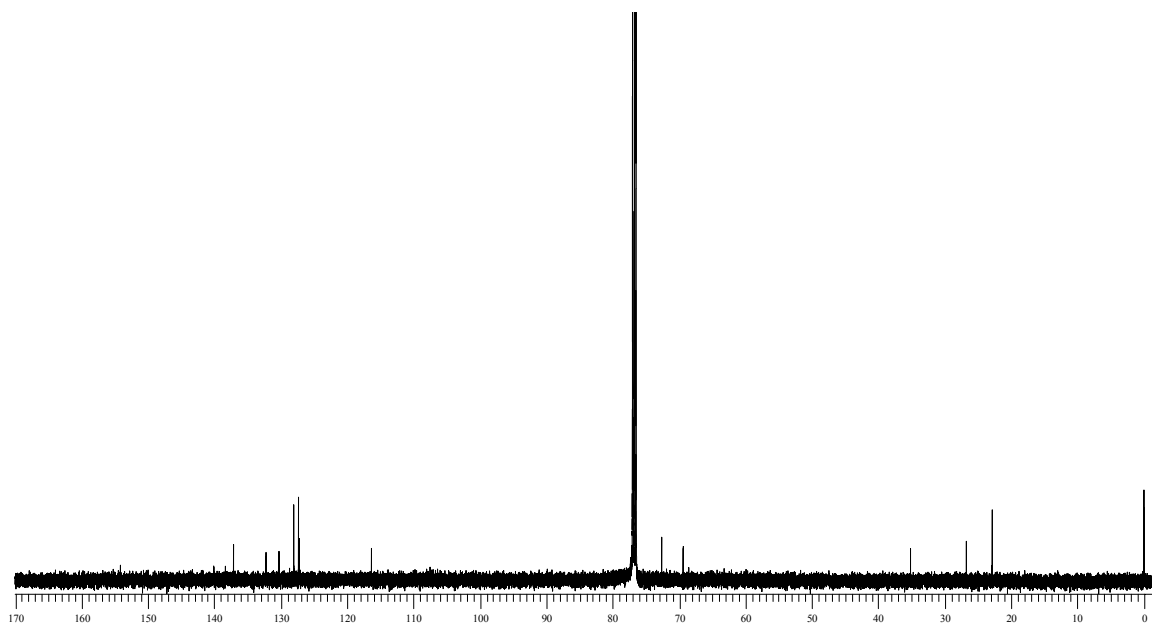
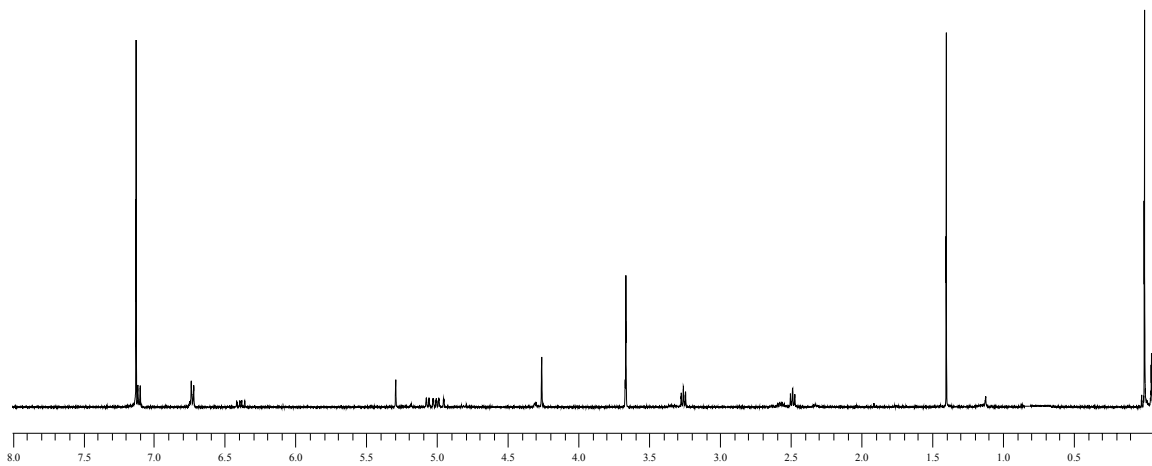
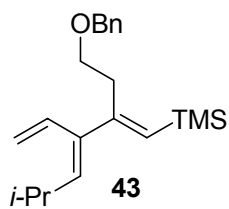
^1H (500 MHz) and ^{13}C (126 MHz) of compound **39** (CDCl_3)



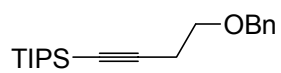
^1H (500 MHz) and ^{13}C (126 MHz) of compound **40** (CDCl_3)



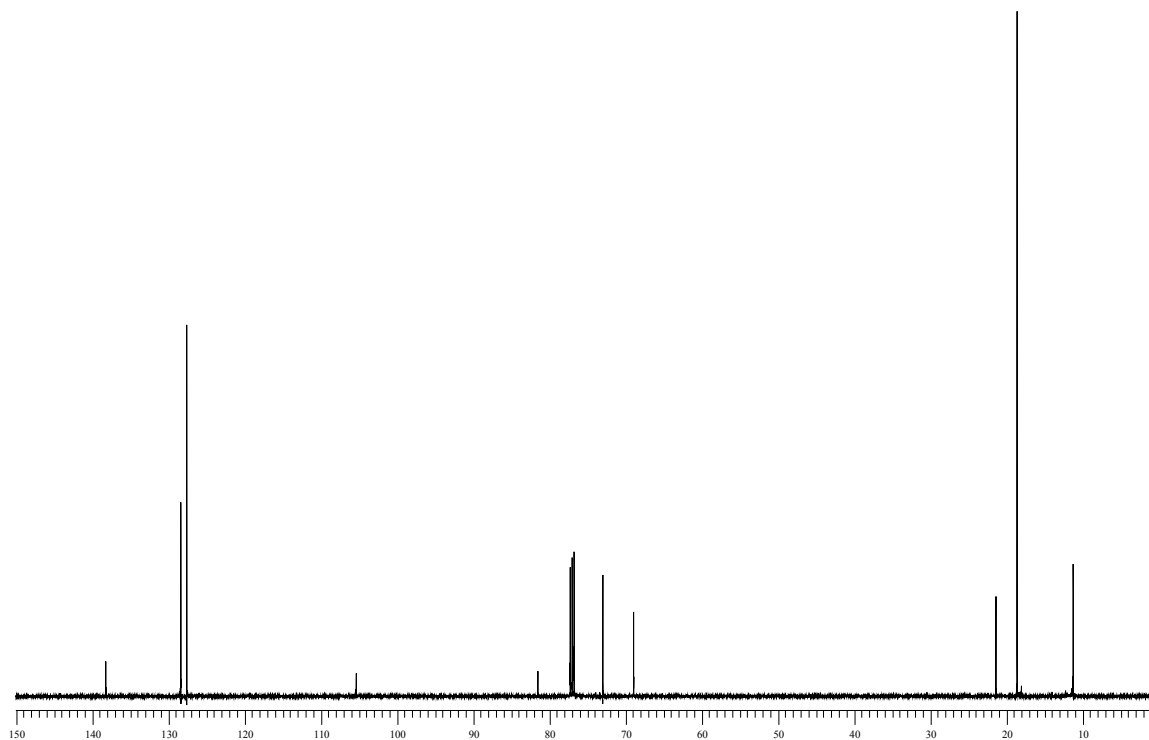
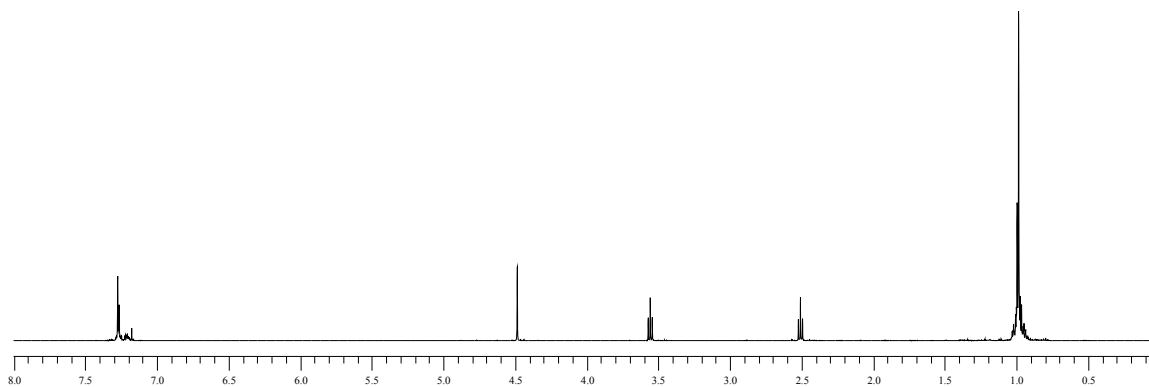
^1H (500 MHz) and ^{13}C (126 MHz) of compound **41** (CDCl_3)



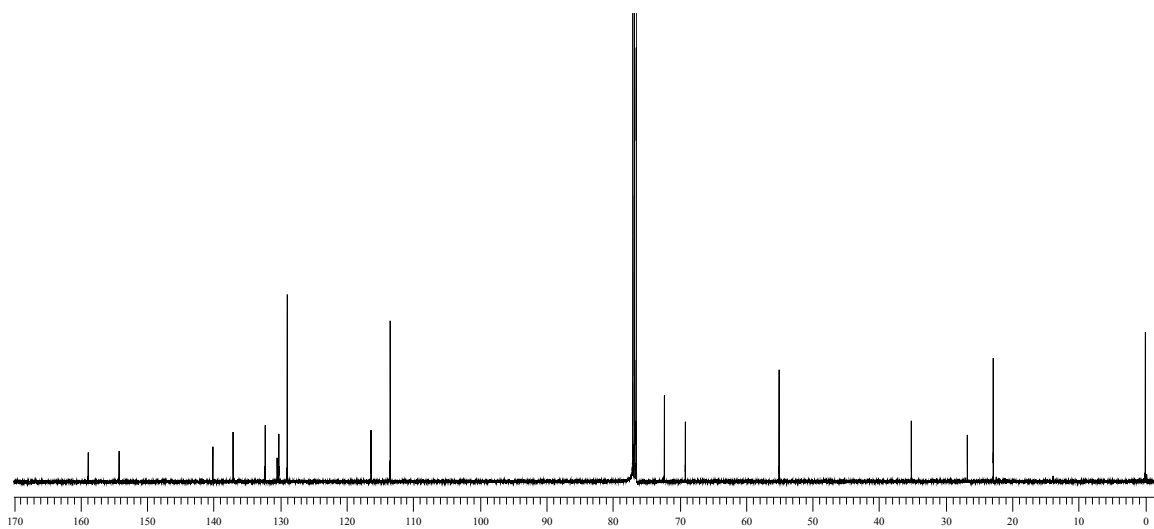
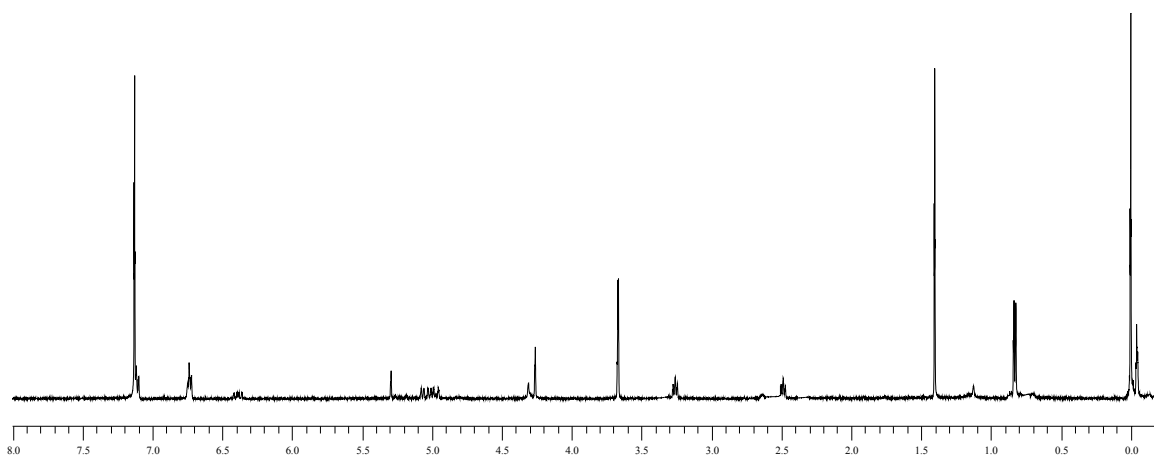
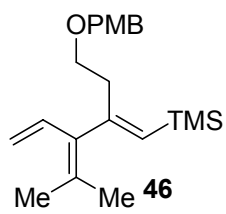
^1H NMR (500 MHz) and ^{13}C NMR (126 MHz) of compound **43** (CDCl_3)



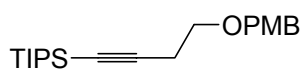
44



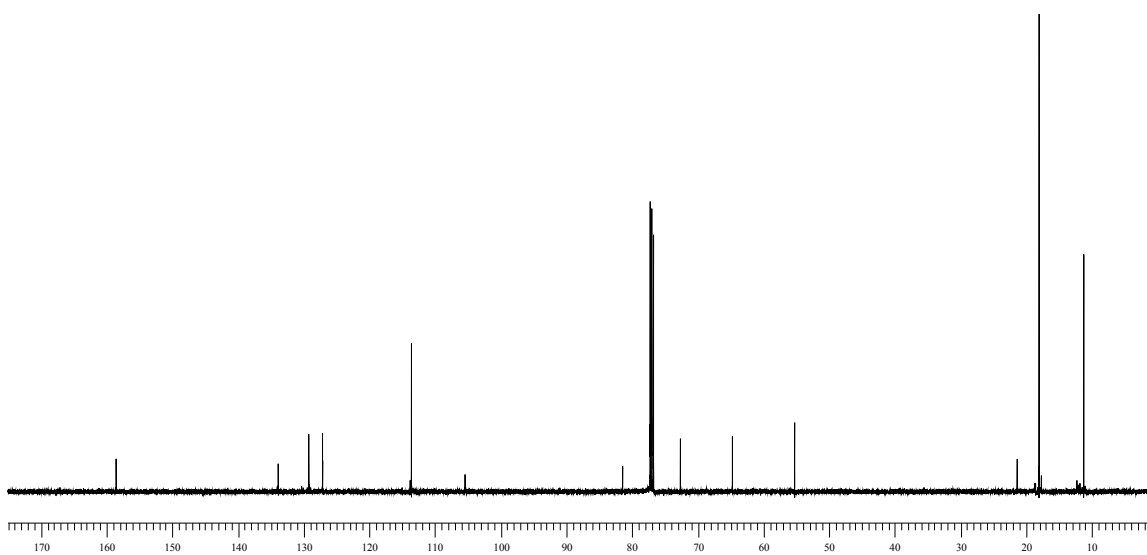
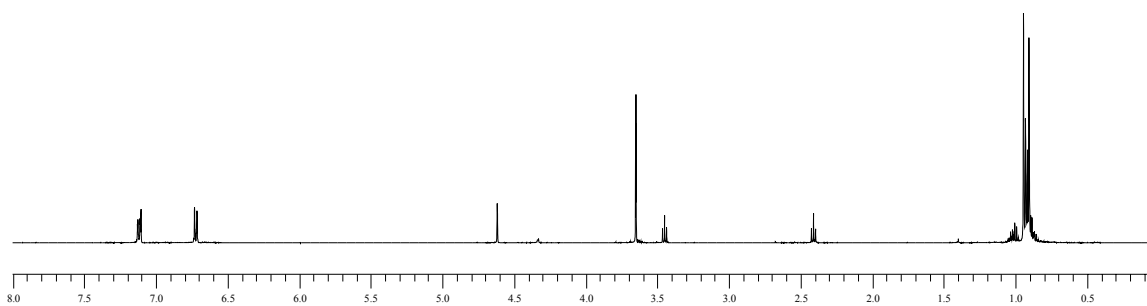
^1H NMR (500 MHz) and ^{13}C NMR (126 MHz) of compound **44** (CDCl_3)



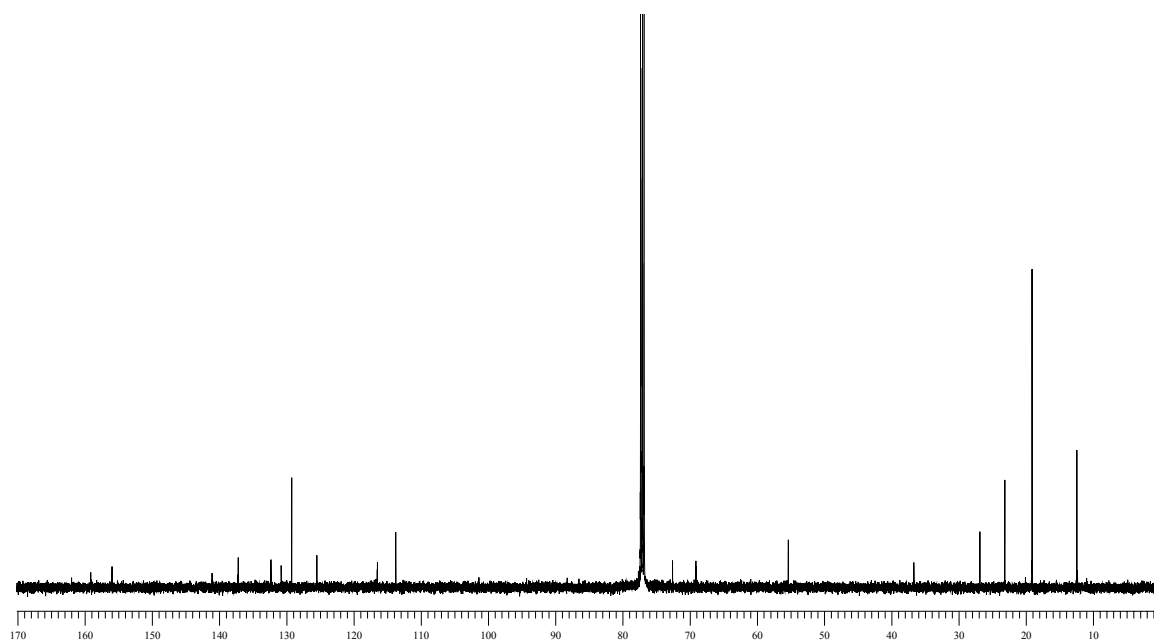
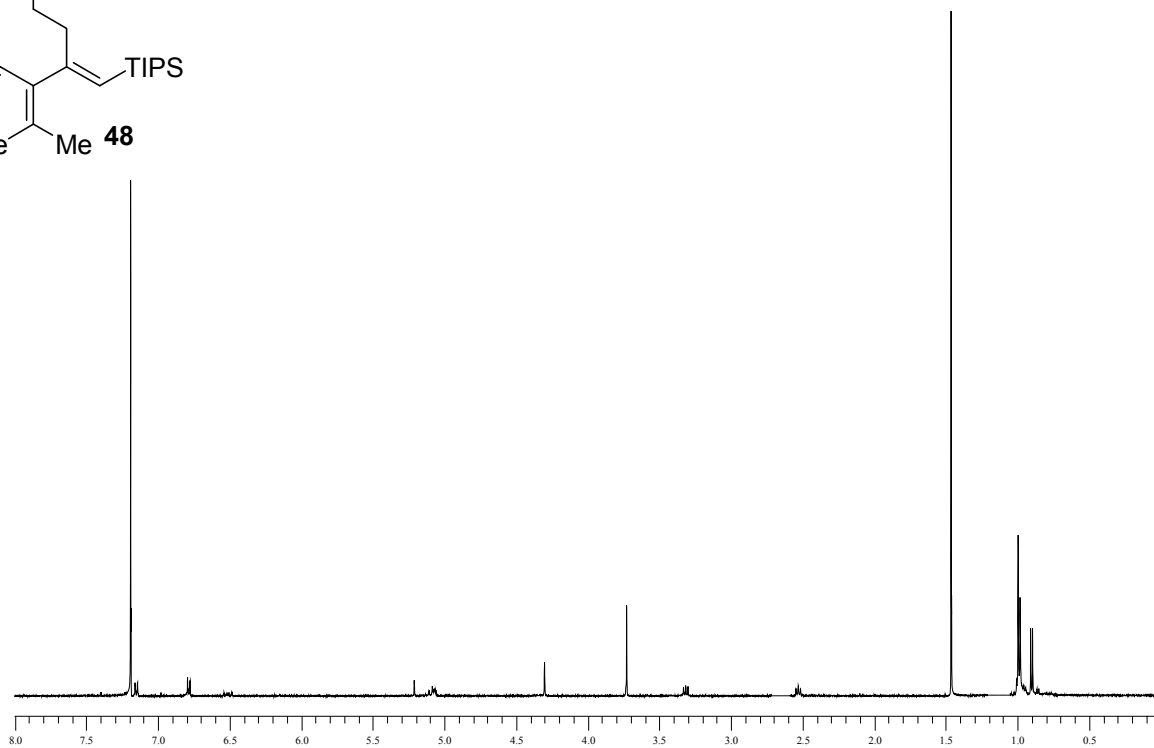
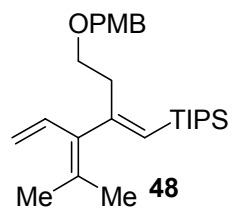
^1H NMR (500 MHz) and ^{13}C NMR (126 MHz) of compound **46** (CDCl_3)



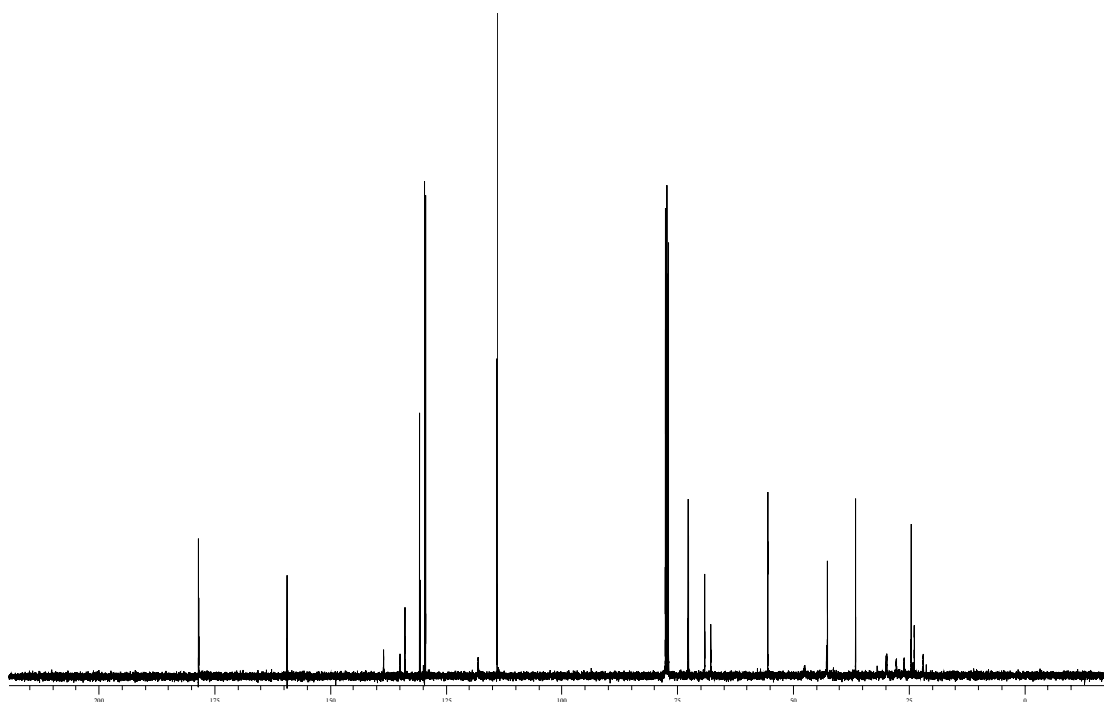
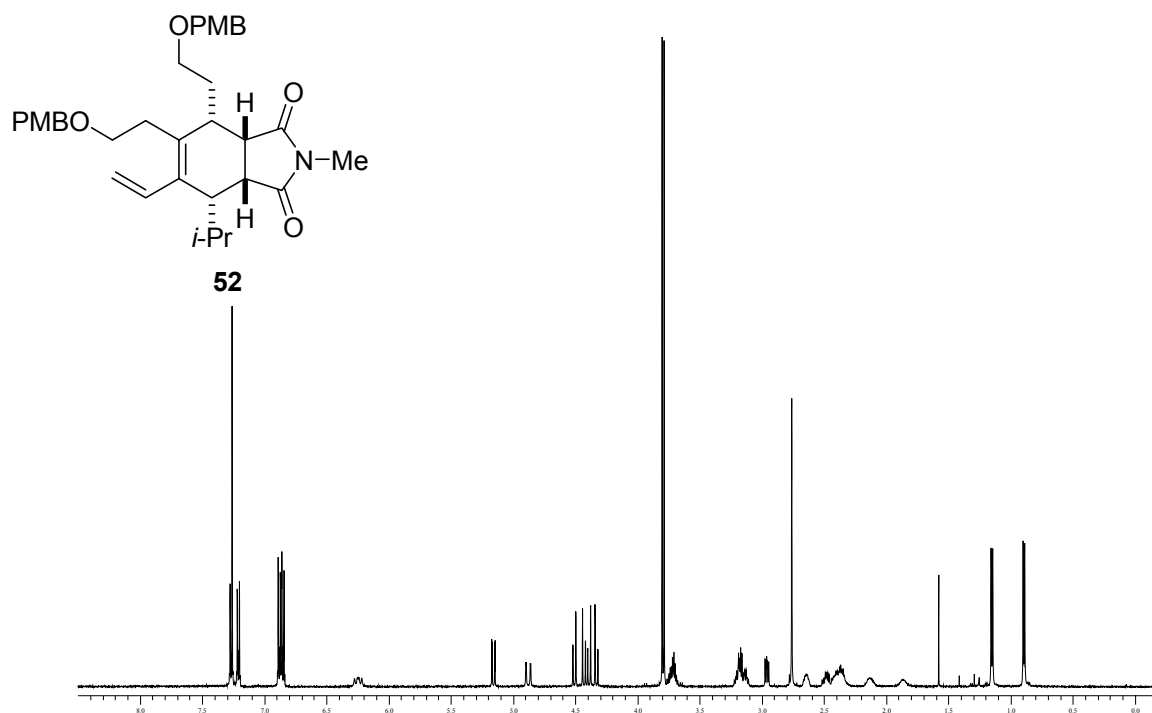
47



^1H NMR (500 MHz) and ^{13}C NMR (126 MHz) of compound **47** (CDCl_3)



^1H NMR (500 MHz) and ^{13}C NMR (126 MHz) of compound **48** (CDCl_3)



^1H NMR (500 MHz) and ^{13}C NMR (100 MHz) of compound **52** (CDCl_3)