

Supplementary Information

Temperature-dependent annuloselectivity and stereochemistry in the reactions of methanesulfonyl sulfene with imines

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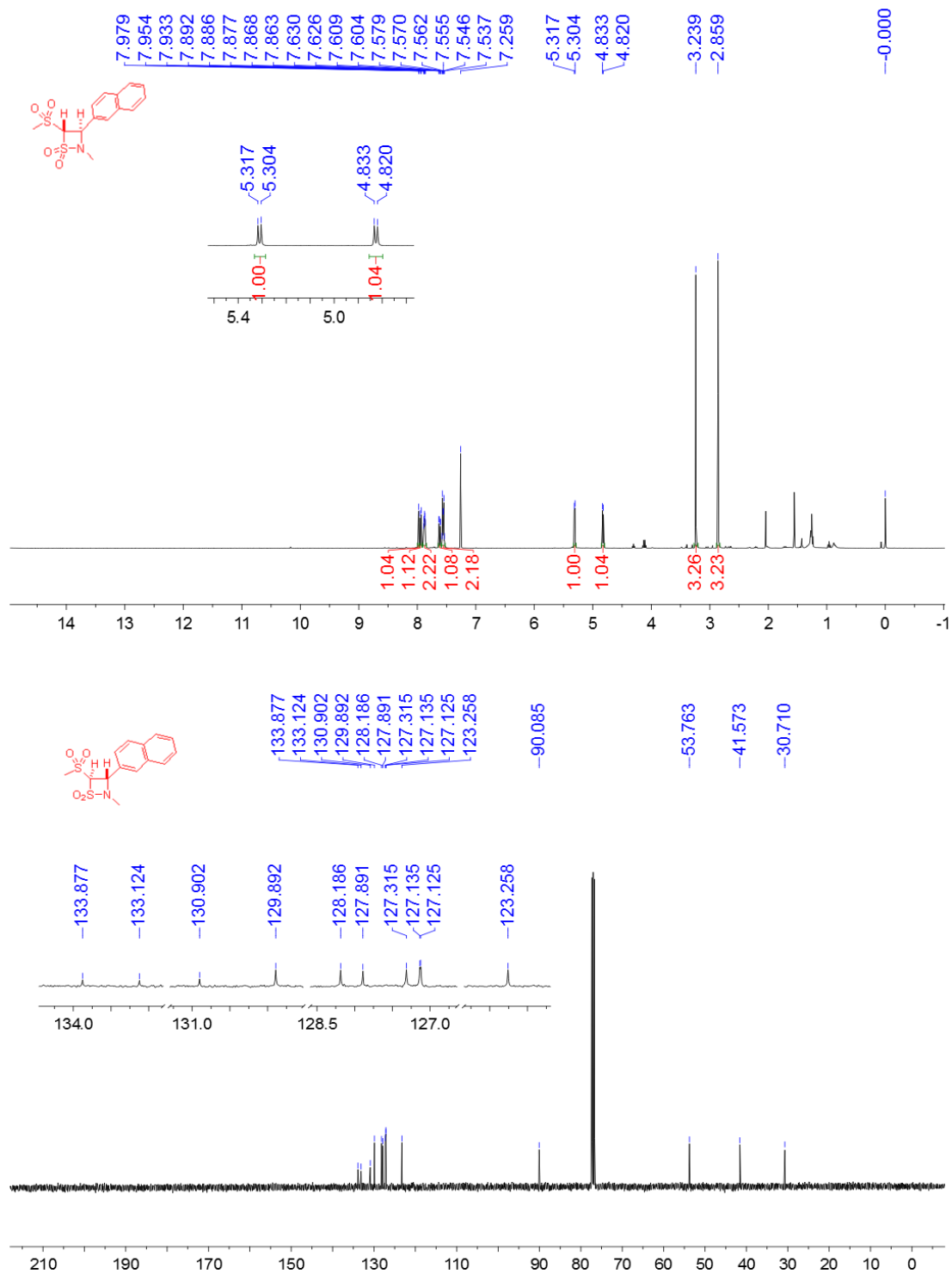
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Beijing 100029, People's Republic of China

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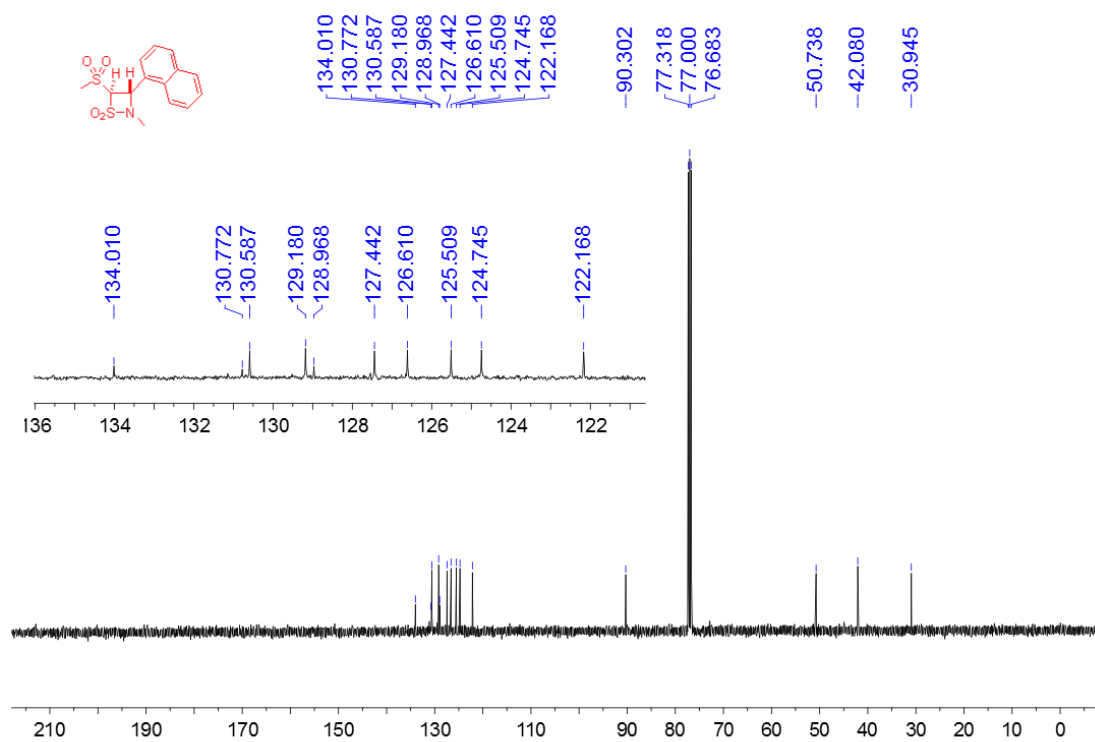
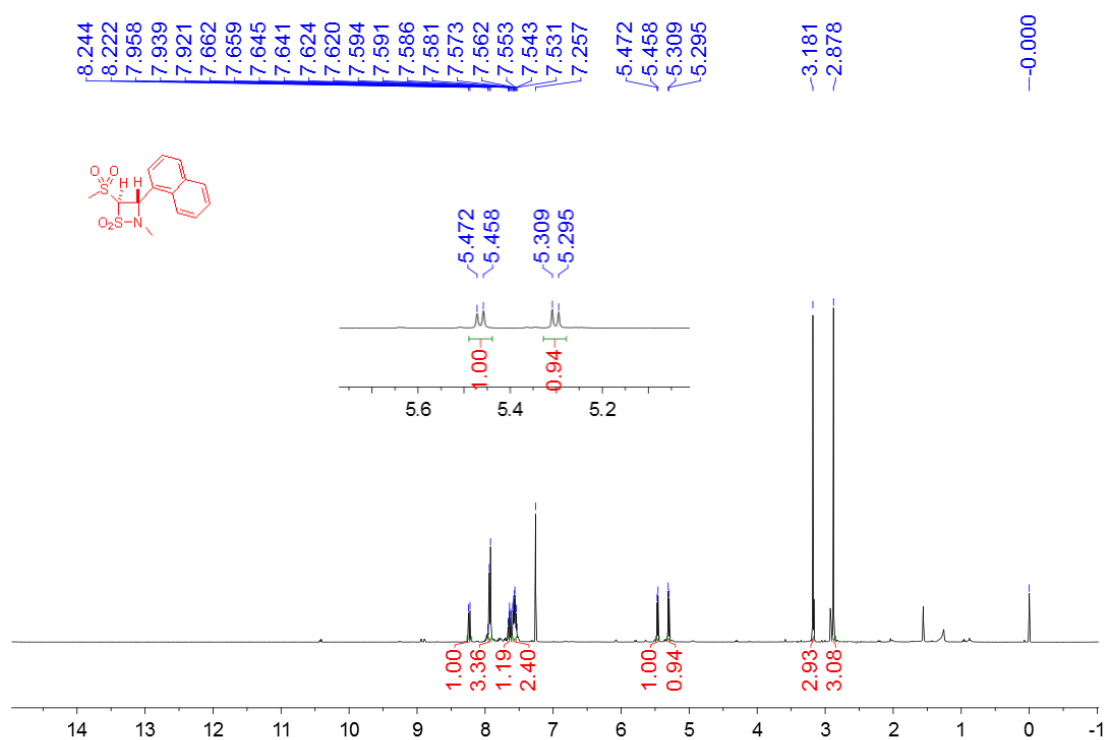
1. Copies of ¹H and ¹³C NMR spectra of unknown compounds S2
2. Copies of one-dimension NOE spectra of [2^s + 2ⁱ + 2ⁱ] annuladducts (600 MHz) S24

1. Copies of ^1H and ^{13}C NMR spectra of unknown compounds

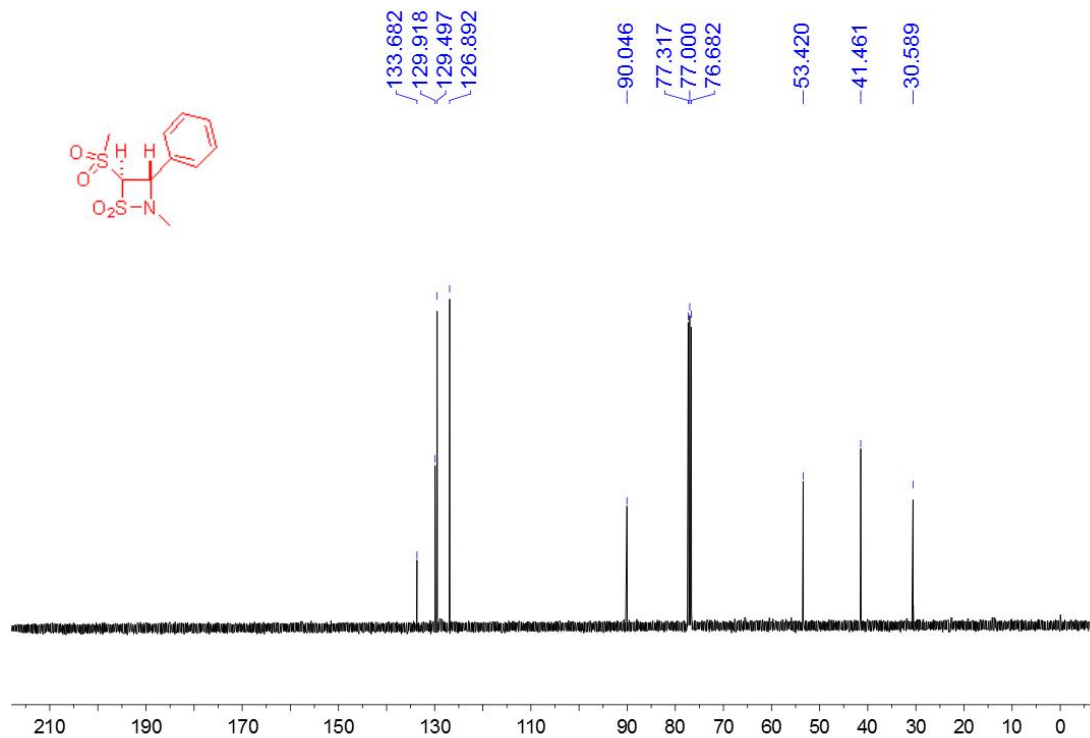
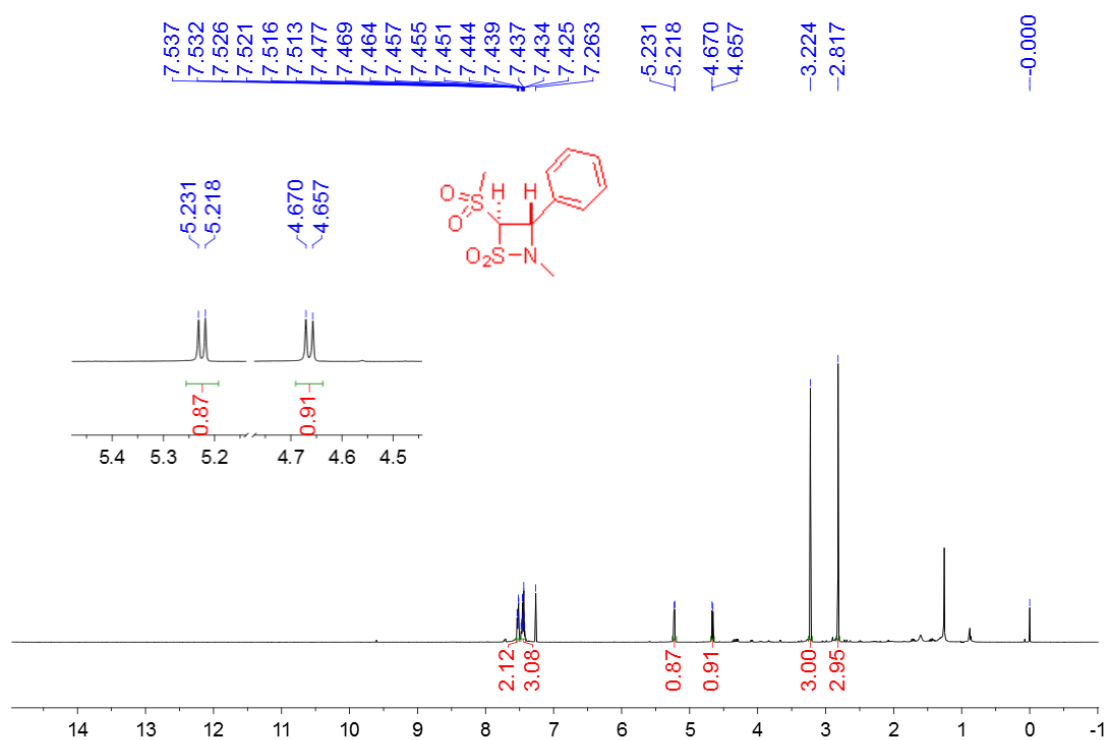
trans-2-Methyl-4-(methanesulfonyl)-3-(naphthalen-2-yl)-1,2-thiazetidine 1,1-dioxide (7a)



***trans*-2-Methyl-4-(methanesulfonyl)-3-(naphthalen-1-yl)-1,2-thiazetidine 1,1-dioxide (7b)**

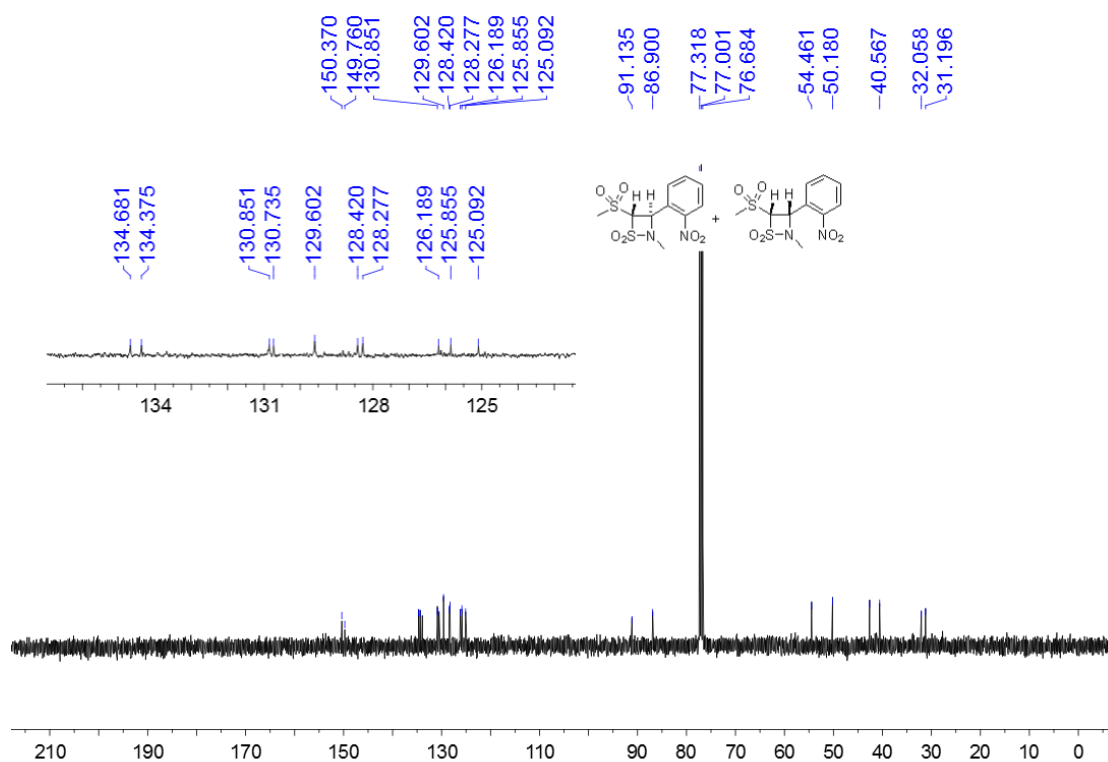
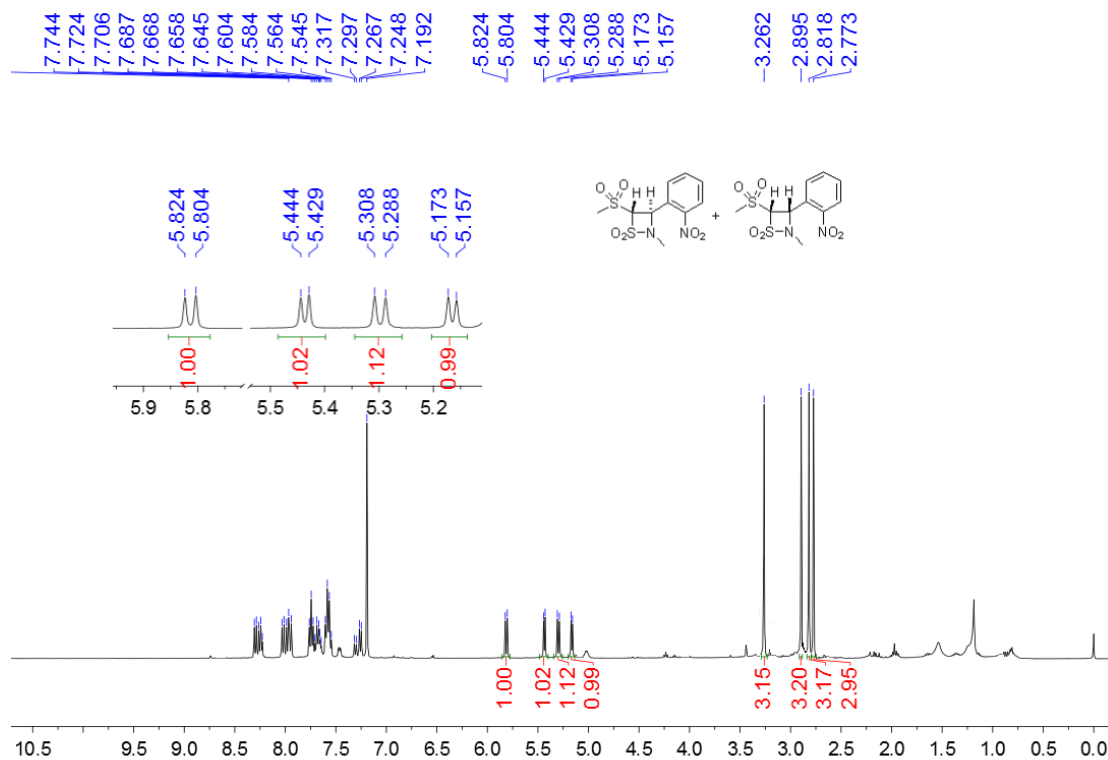


***trans*-2-Methyl-4-(methanesulfonyl)-3-phenyl-1,2-thiazetidine 1,1-dioxide (7c)**

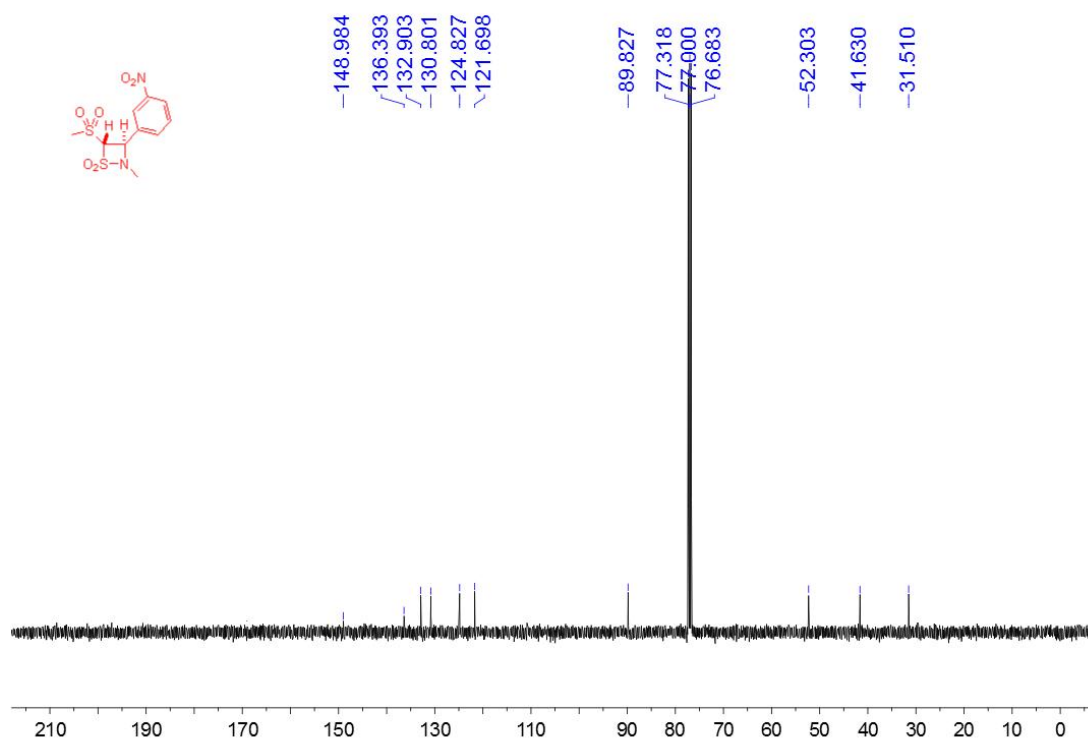
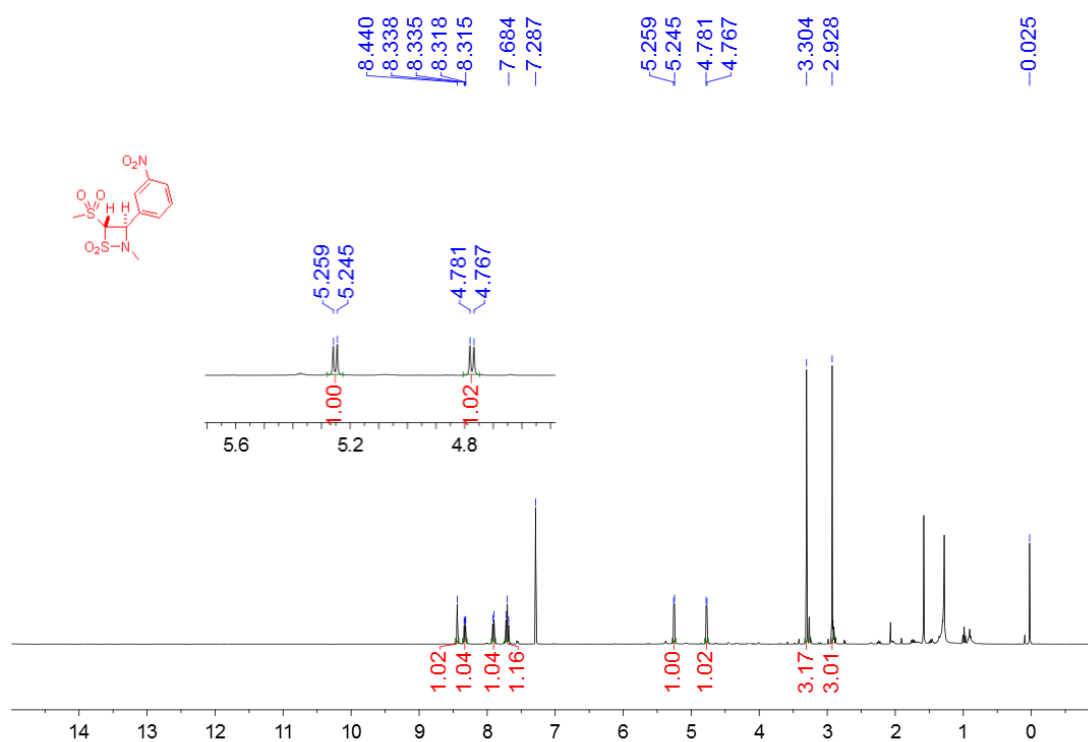


***cis-* and *trans*-2-Methyl-4-(methanesulfonyl)-3-(2-nitrophenyl)-1,2-thiazetidine 1,1-dioxide**

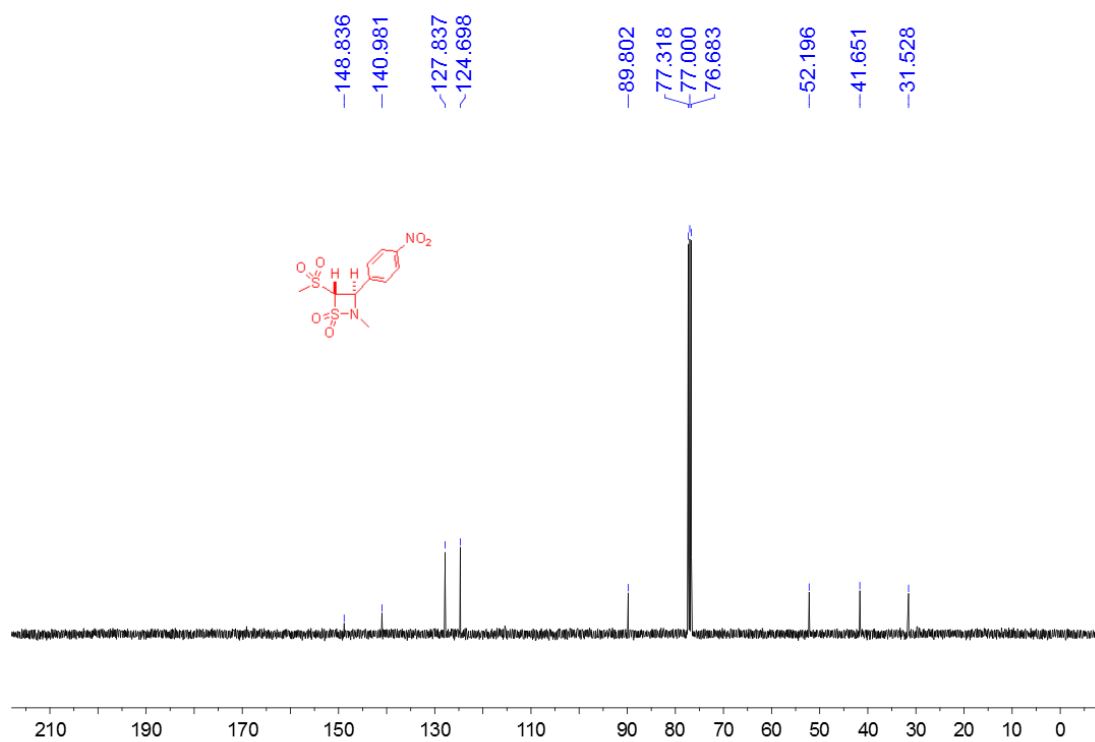
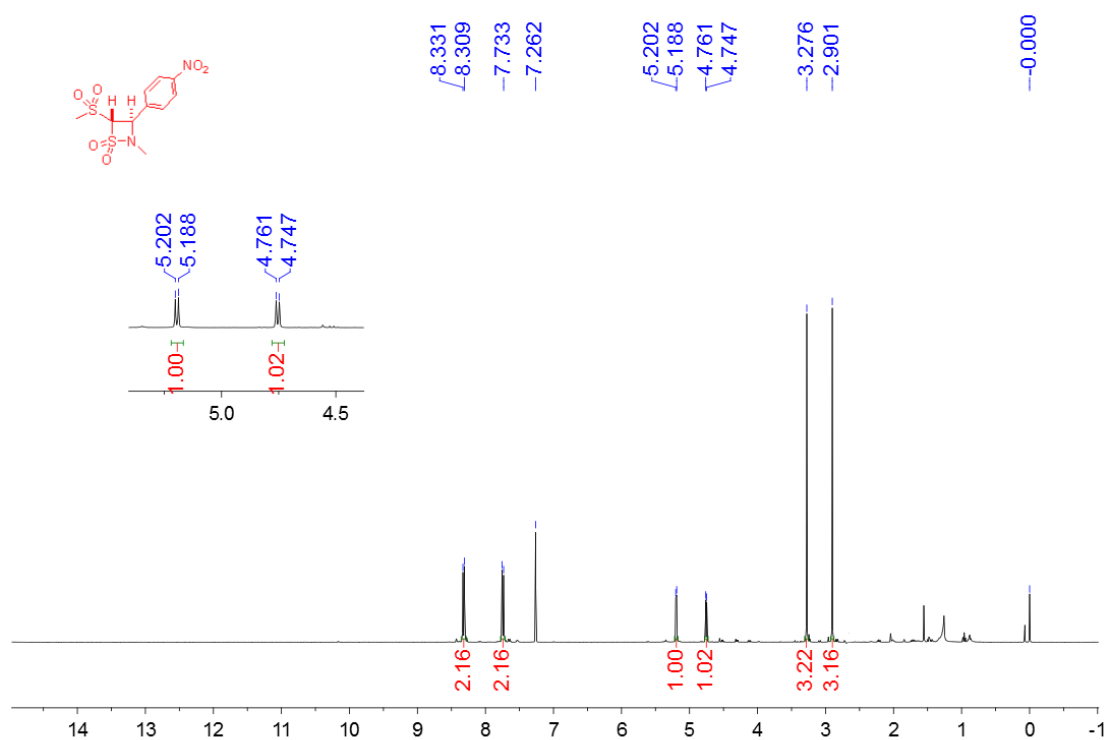
(7d)



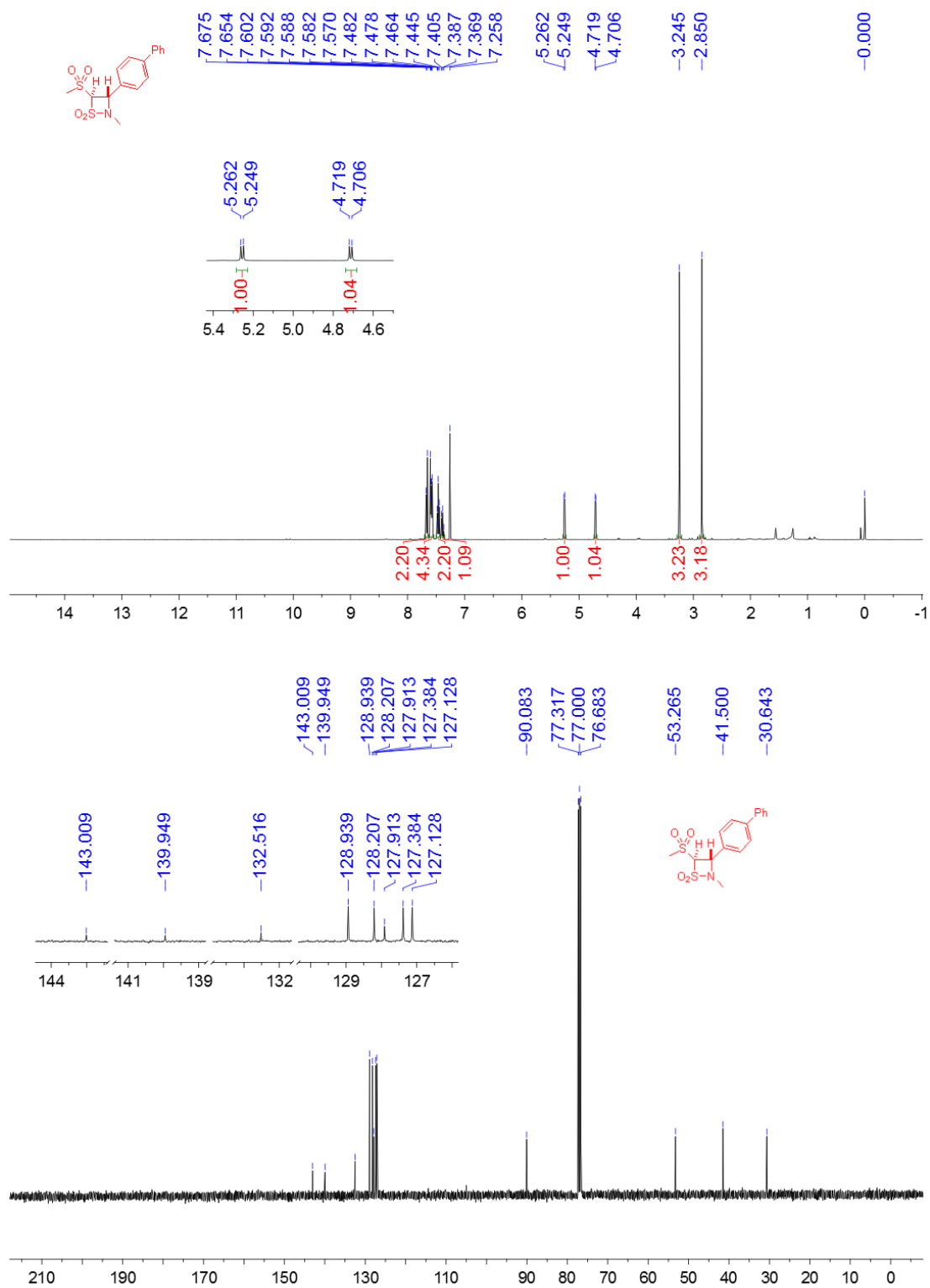
***trans*-2-Methyl-4-(methanesulfonyl)-3-(3-nitrophenyl)-1,2-thiazetidine 1,1-dioxide (7e)**



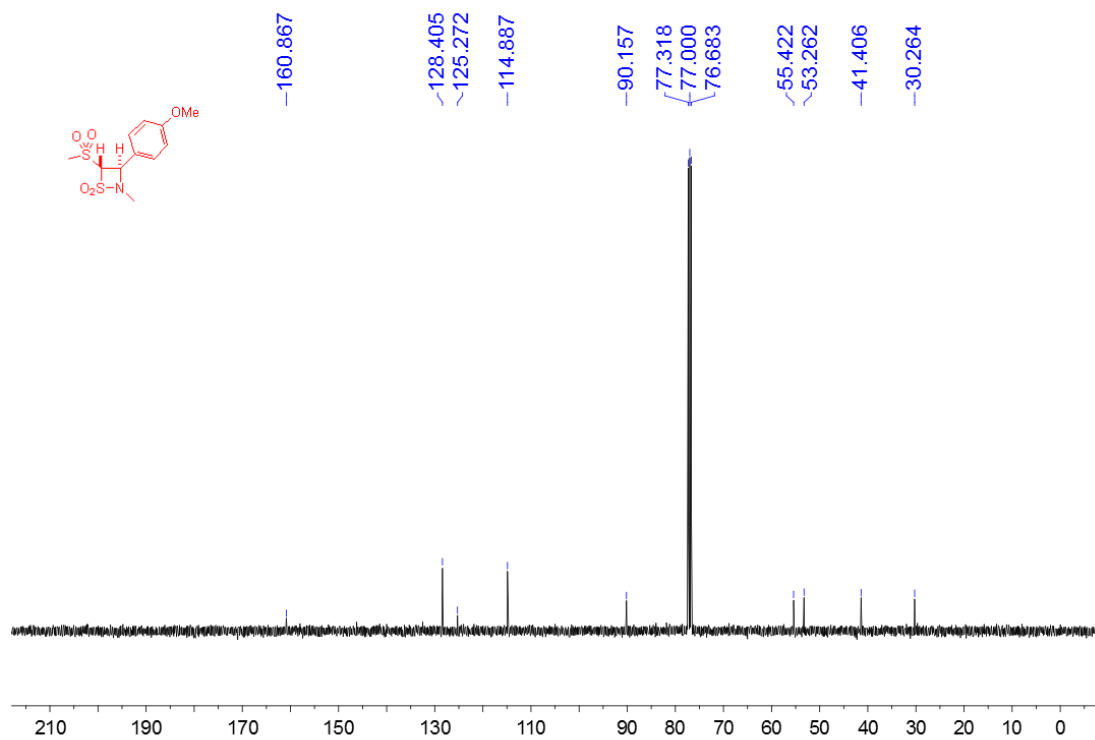
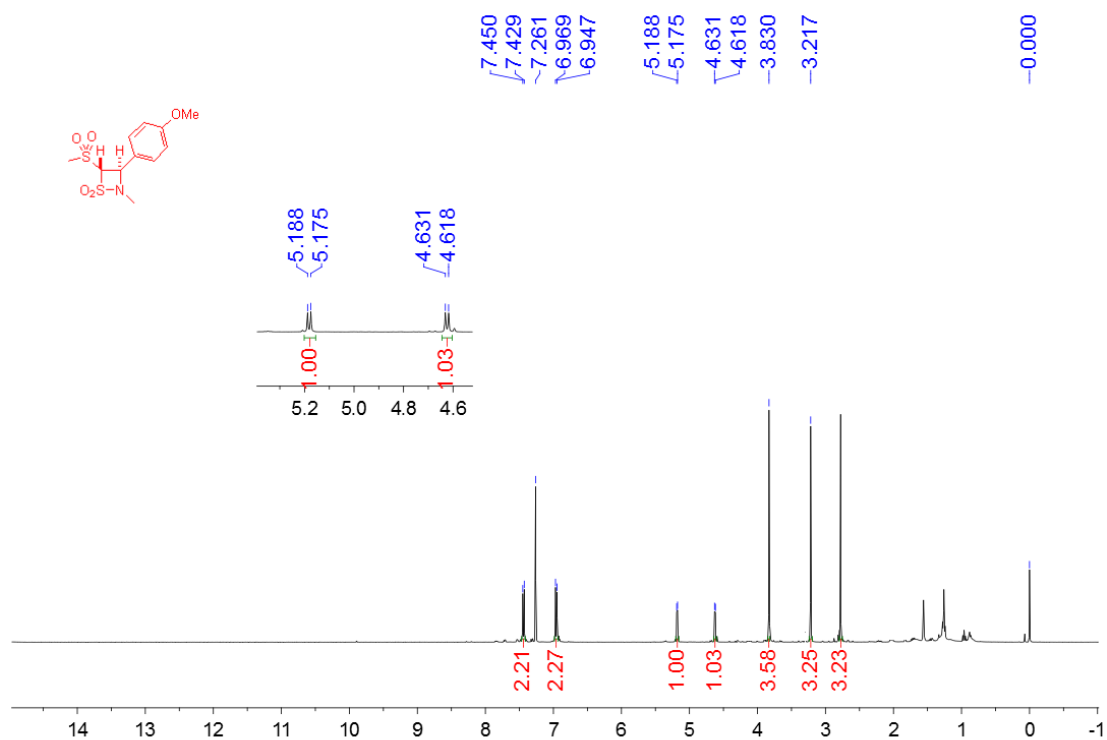
***trans*-2-Methyl-4-(methanesulfonyl)-3-(4-nitrophenyl)-1,2-thiazetidine 1,1-dioxide (7f)**



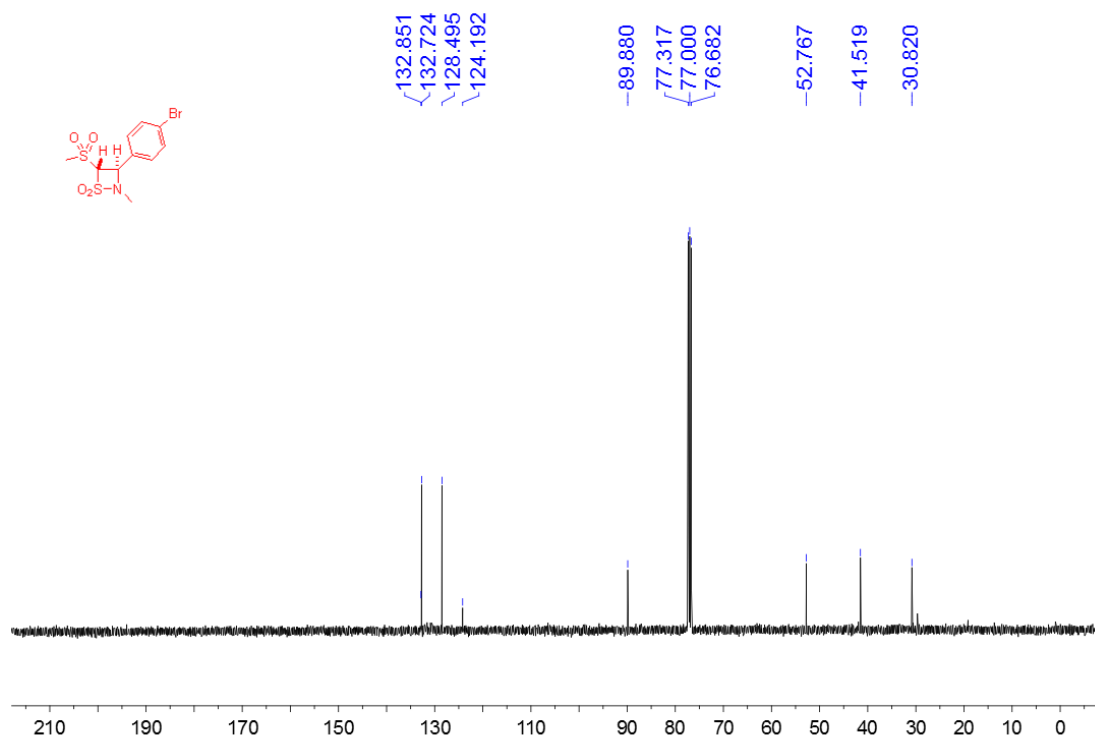
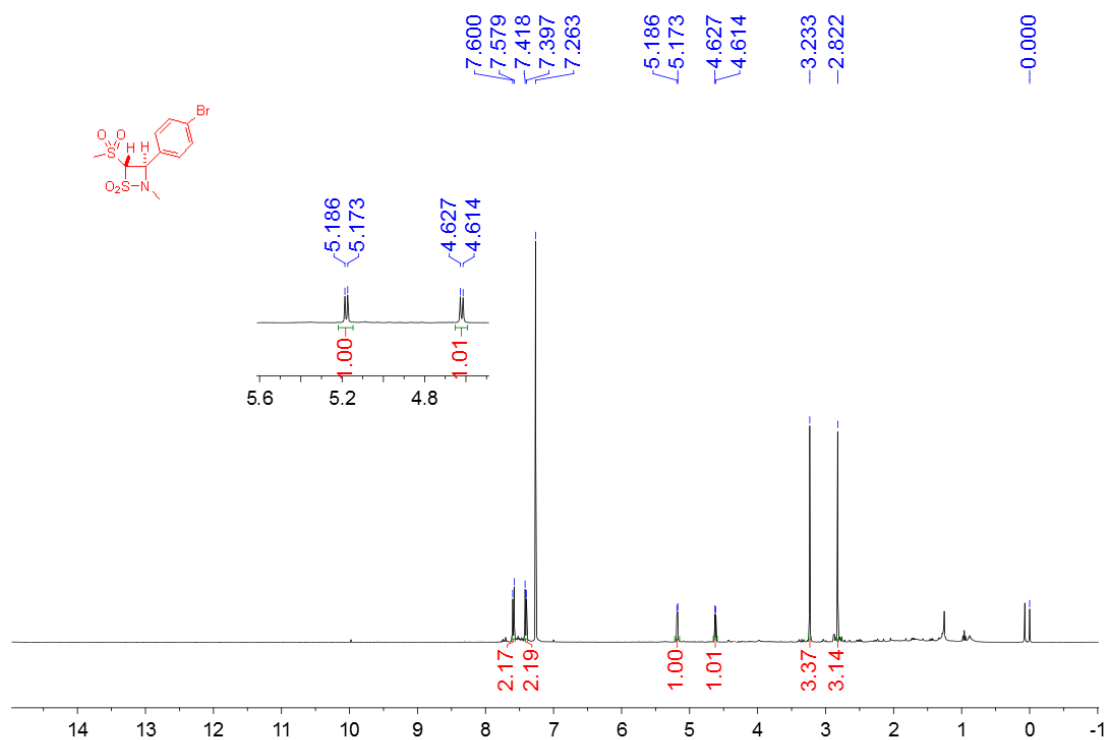
***trans*-3-([1,1'-Biphenyl]-4-yl)-2-methyl-4-(methanesulfonyl)-1,2-thiazetidine 1,1-dioxide (7g)**



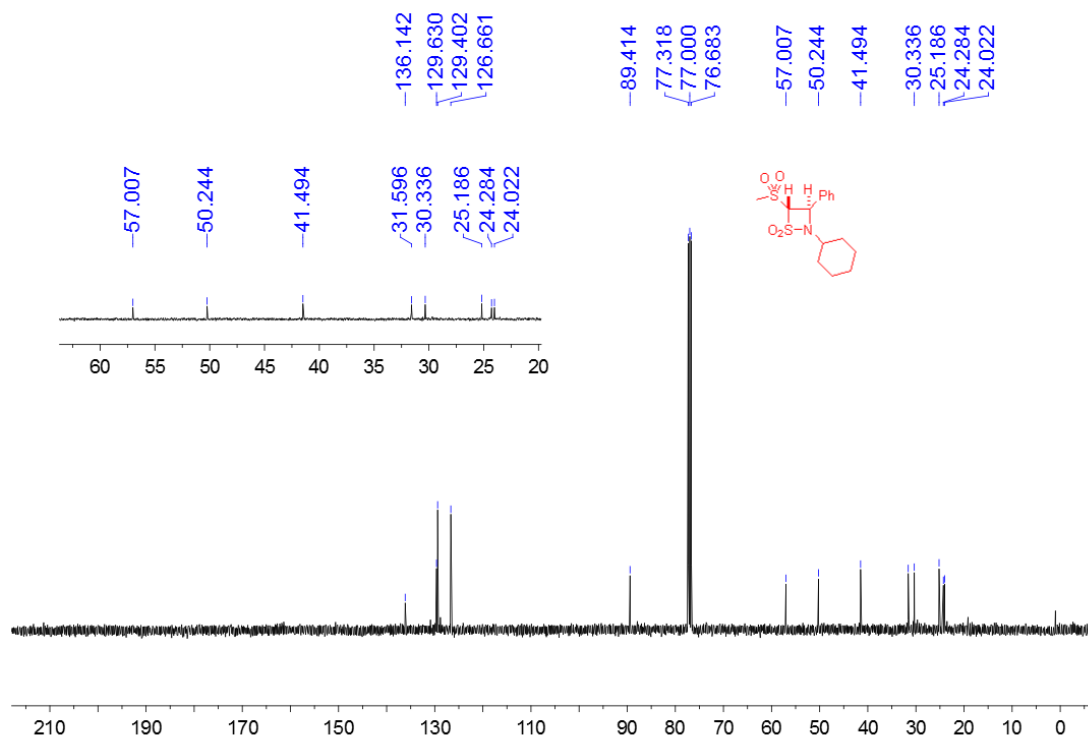
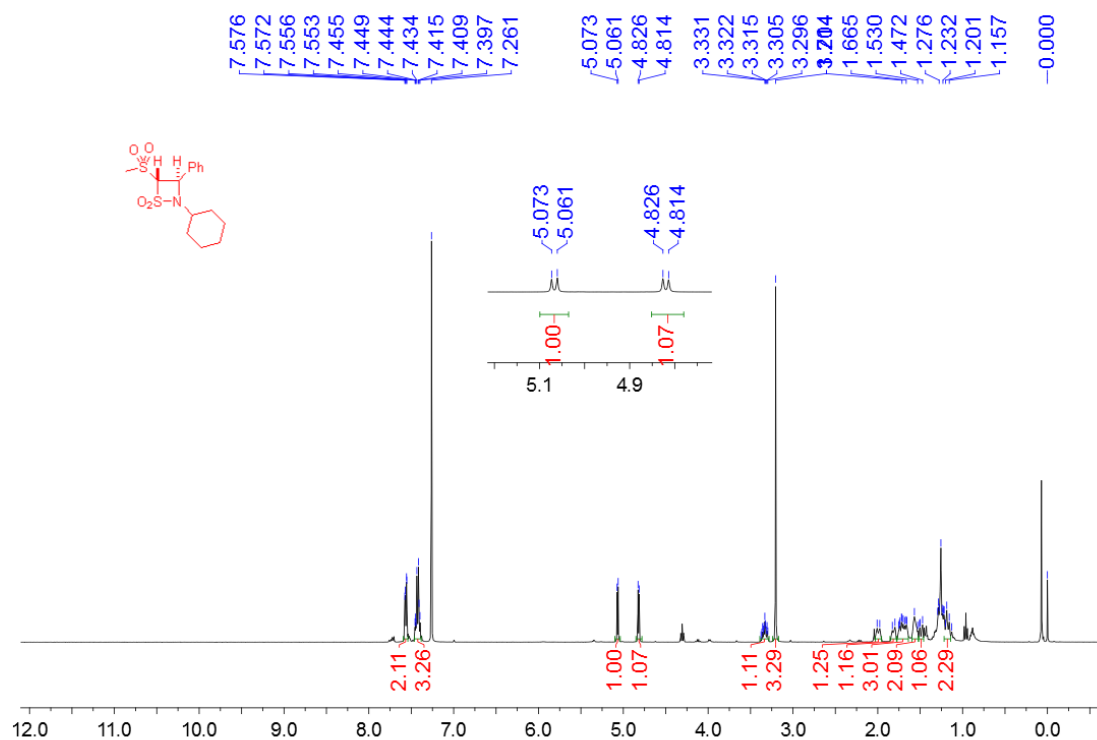
***trans*-3-(4-Methoxyphenyl)-2-methyl-4-(methanesulfonyl)-1,2-thiazetidine 1,1-dioxide (7h)**



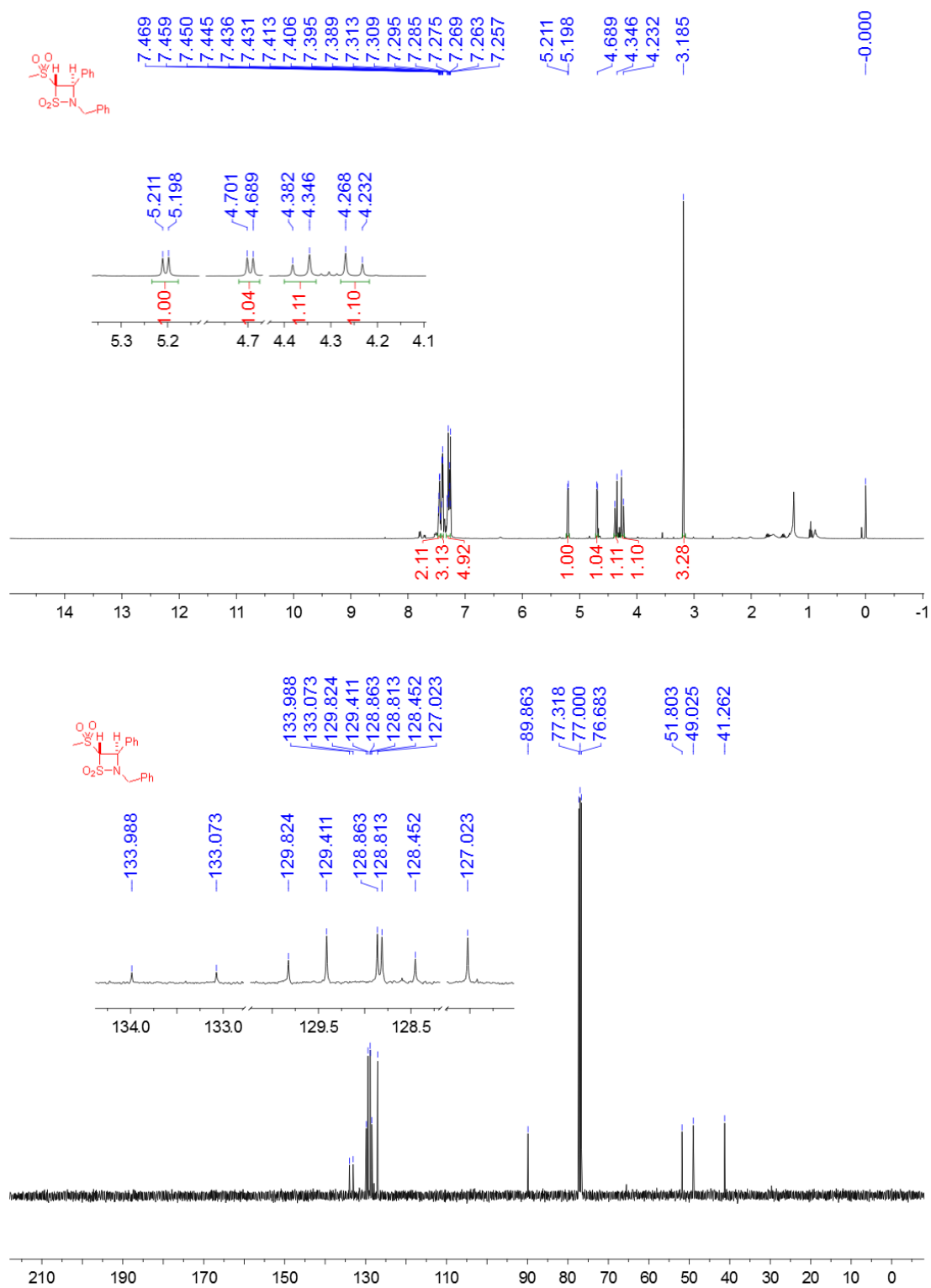
***trans*-3-(4-Bromophenyl)-2-methyl-4-(methanesulfonyl)-1,2-thiazetidine 1,1-dioxide (7i)**



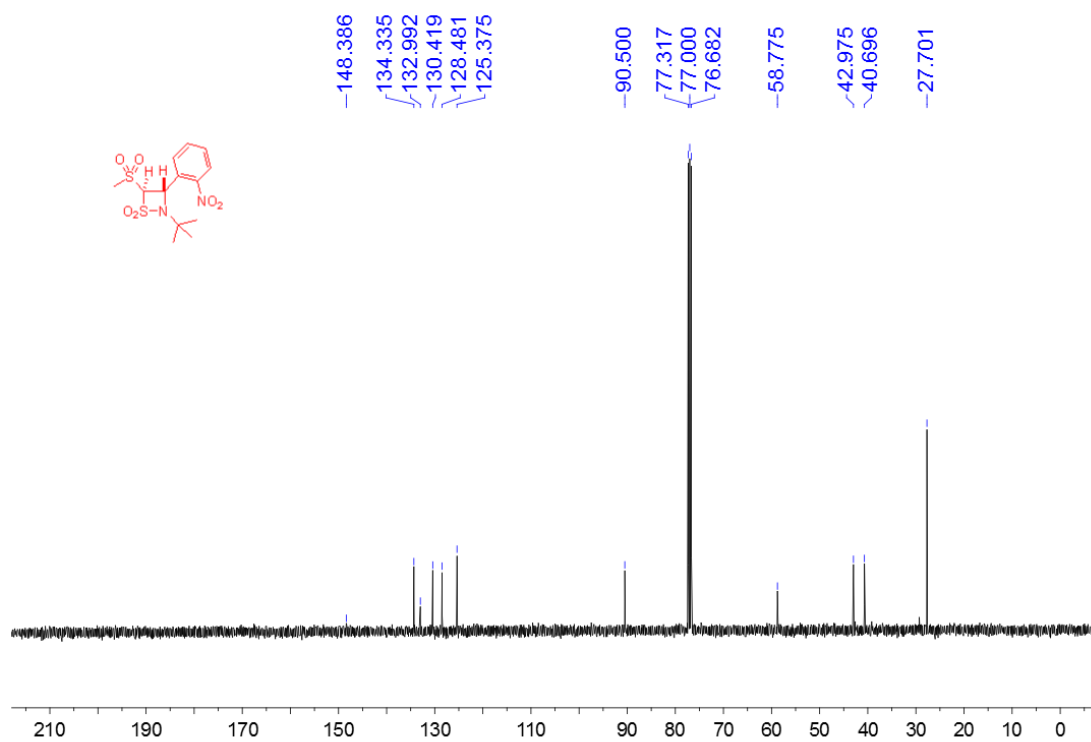
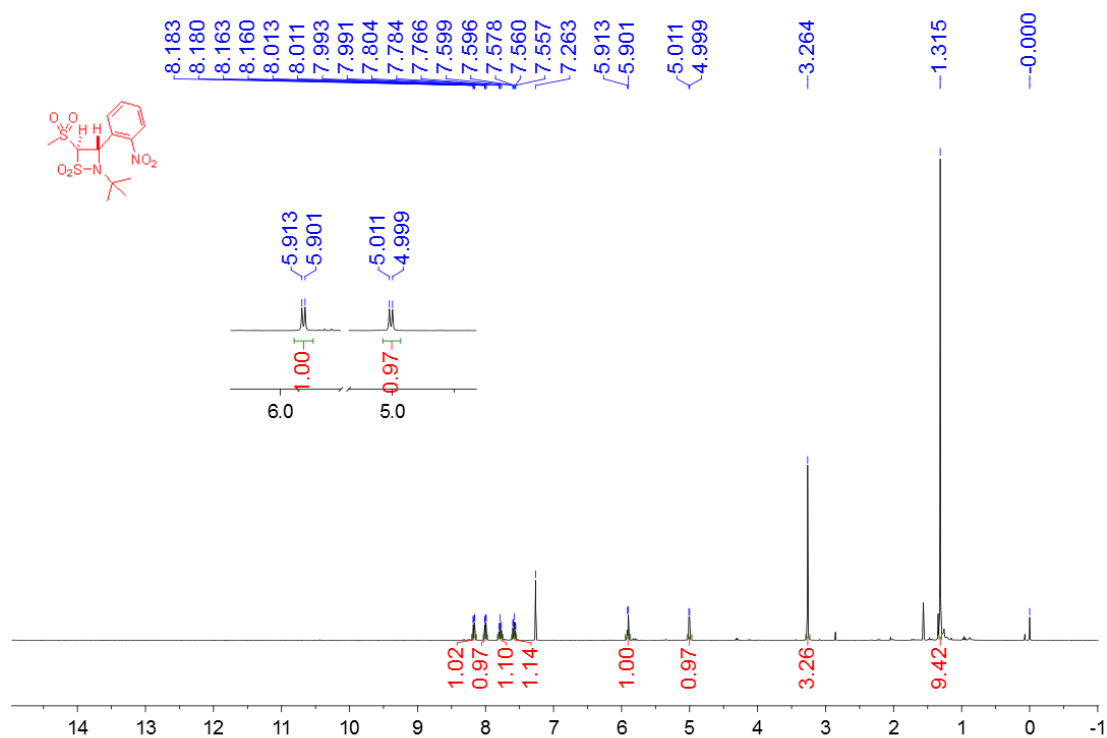
***trans*-2-Cyclohexyl-4-(methanesulfonyl)-3-phenyl-1,2-thiazetidine 1,1-dioxide (7k)**



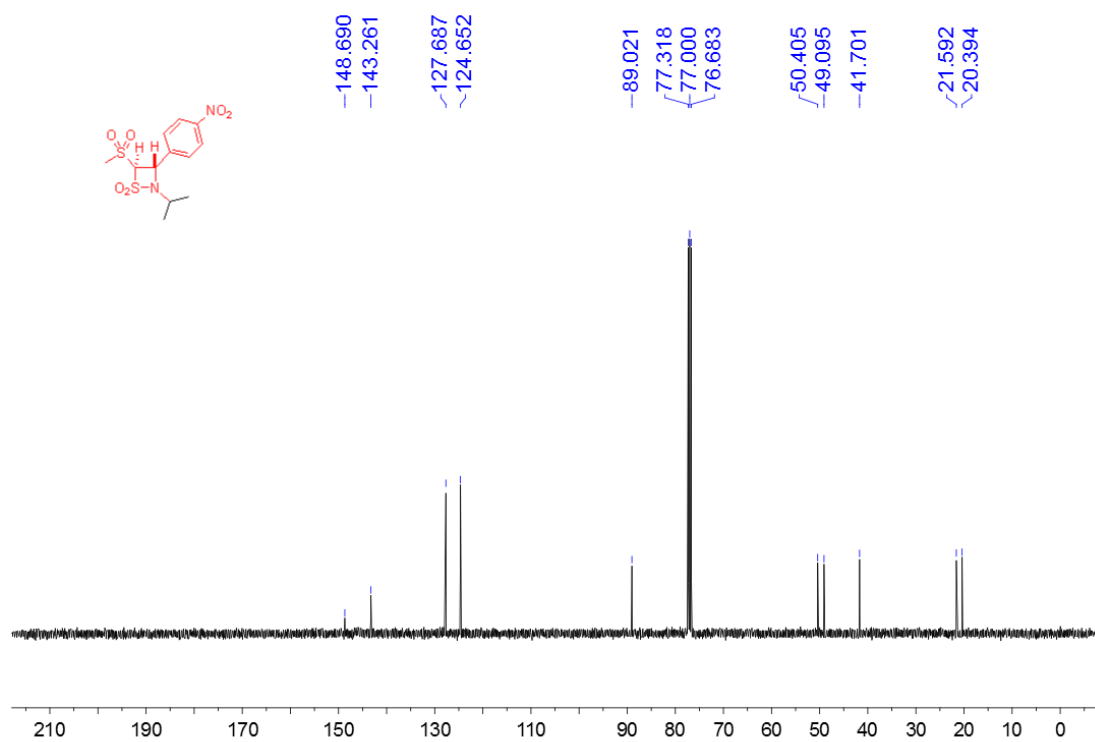
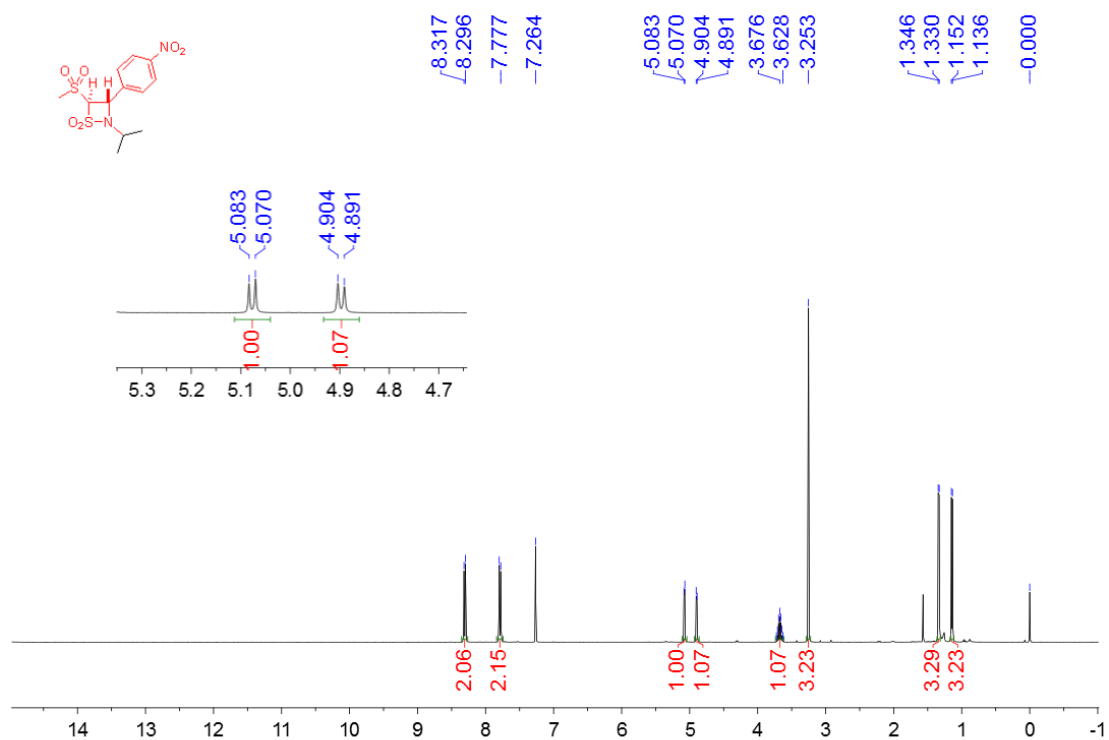
***trans*-2-Benzyl-4-(methanesulfonyl)-3-phenyl-1,2-thiazetidine 1,1-dioxide (7l)**



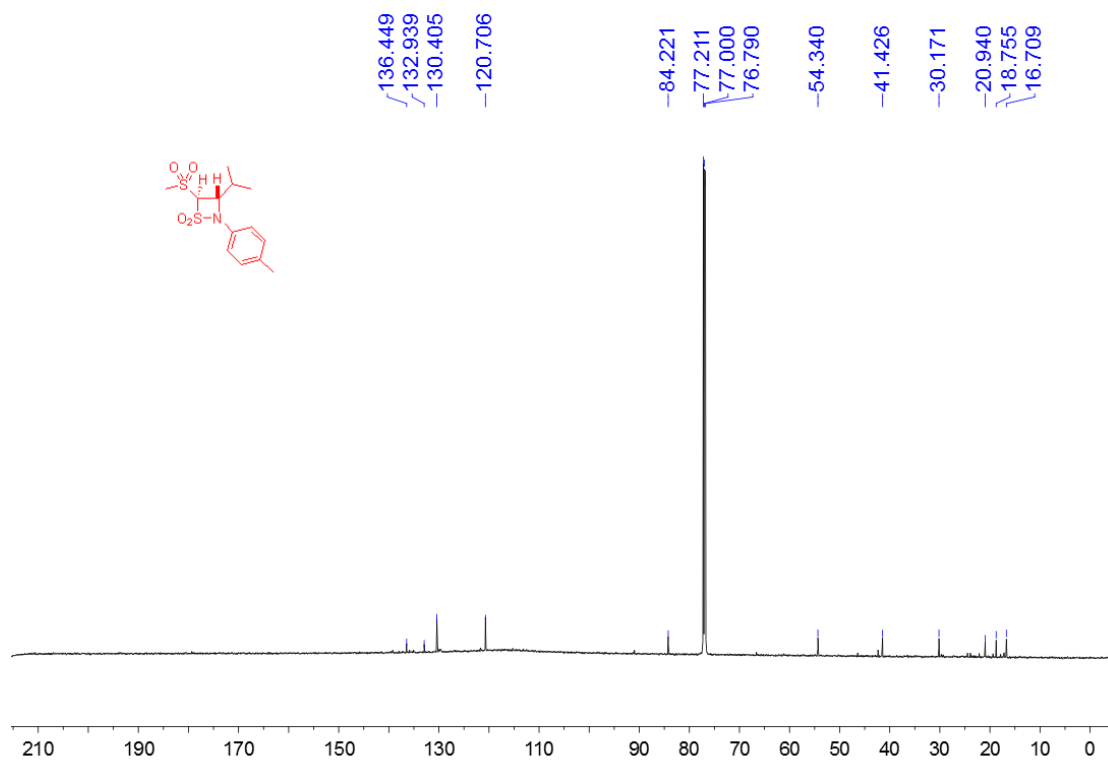
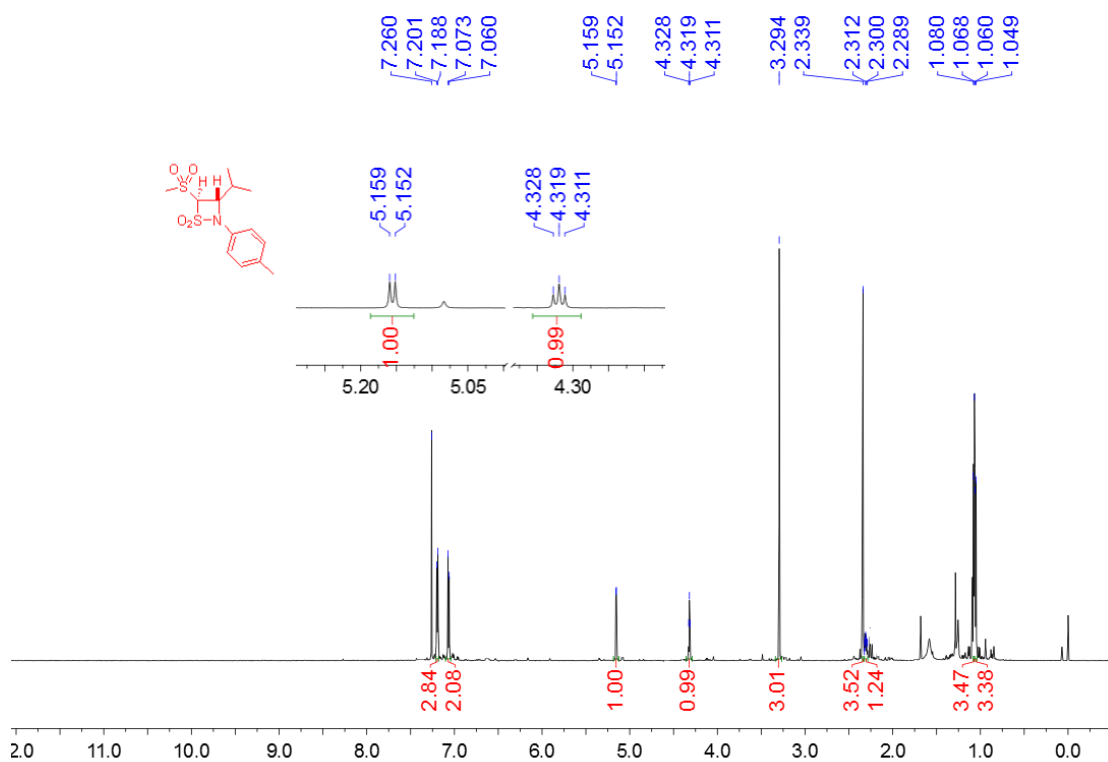
***trans*-2-(*tert*-Butyl)-4-(methanesulfonyl)-3-(2-nitrophenyl)-1,2-thiazetidine 1,1-dioxide (7m)**



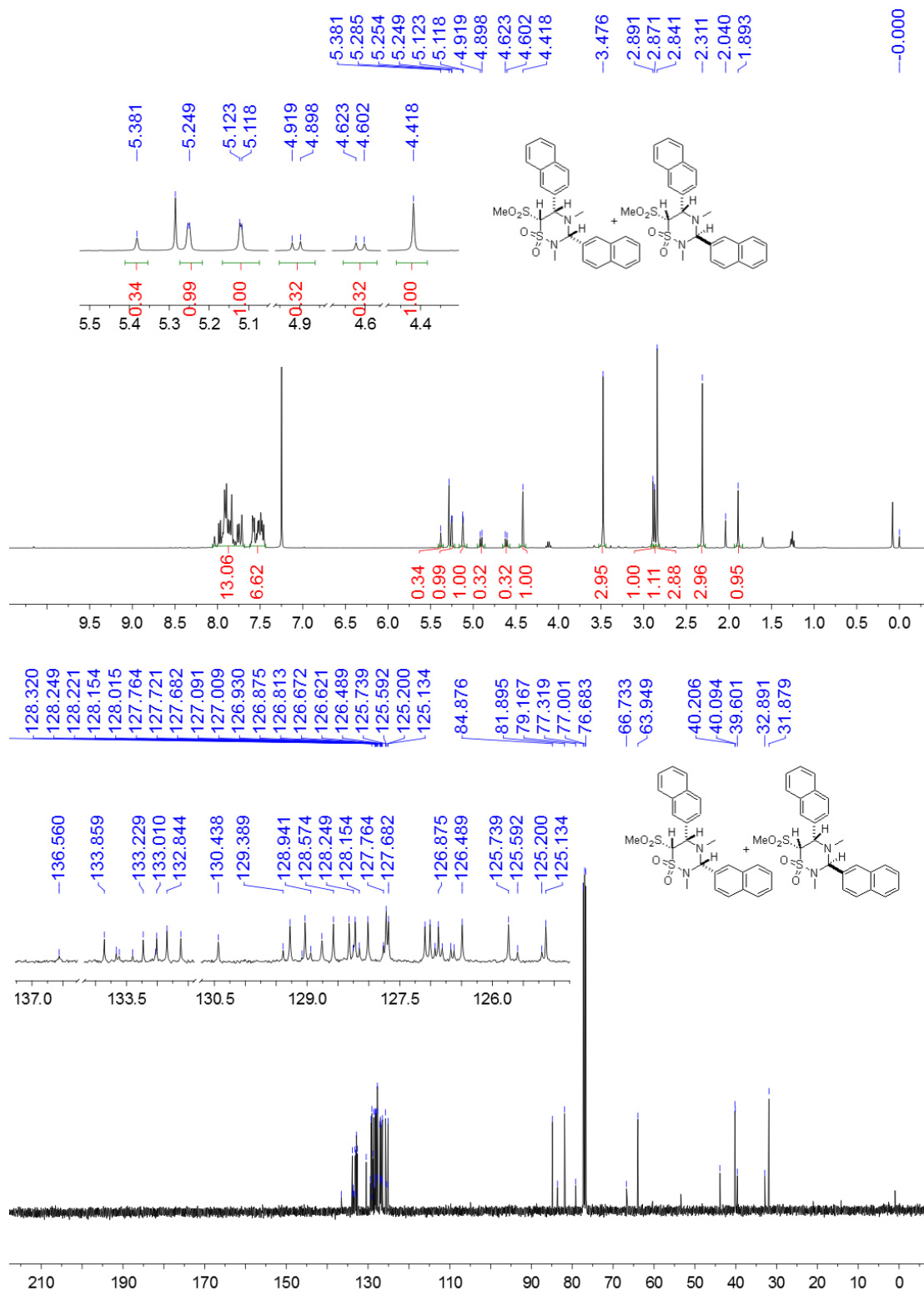
***trans*-2-Isopropyl-4-(methanesulfonyl)-3-(4-nitrophenyl)-1,2-thiazetidine 1,1-dioxide (7n)**



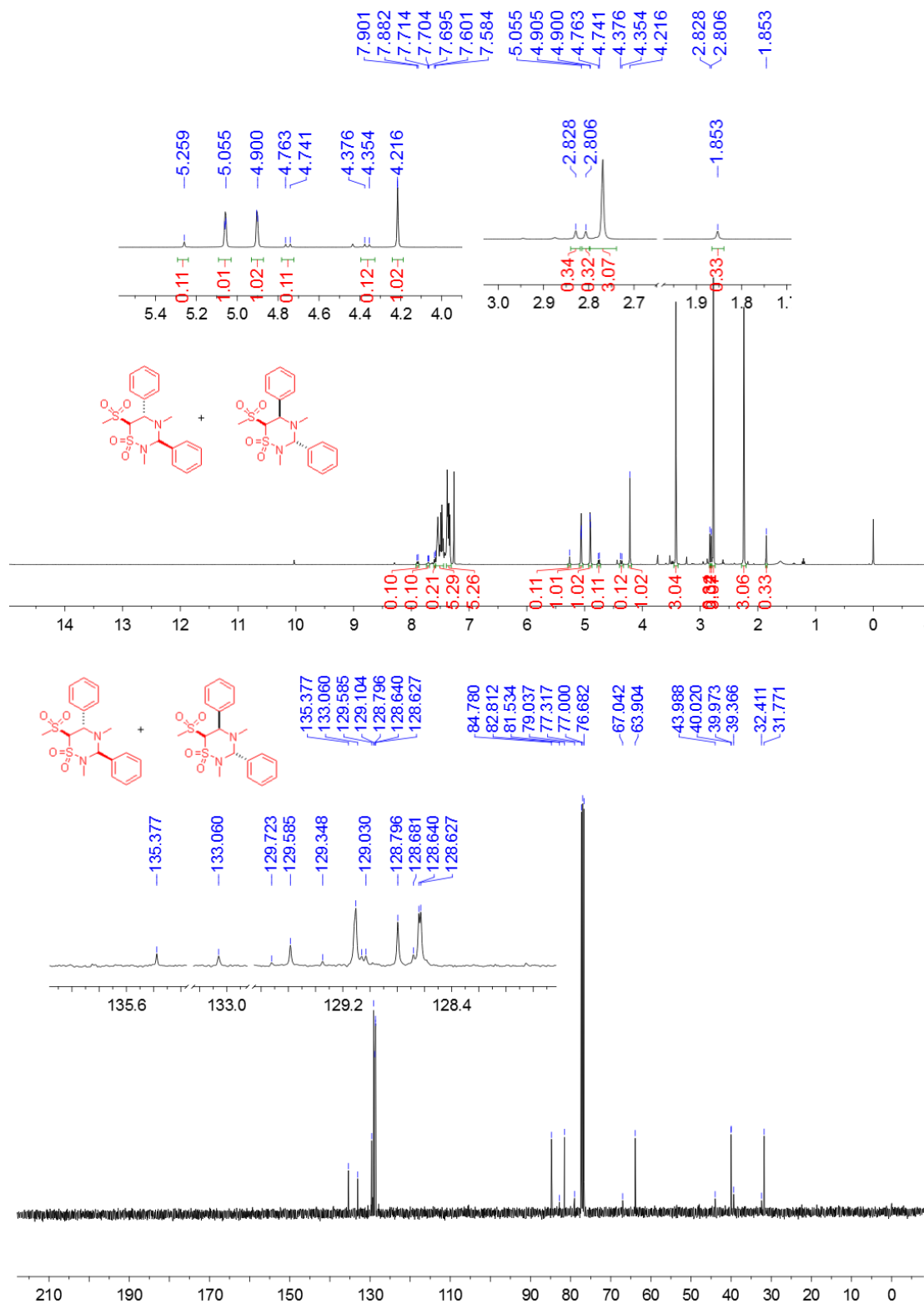
***trans*-3-Isopropyl-4-(methanesulfonyl)-2-(*p*-tolyl)-1,2-thiazetidine 1,1-dioxide (7o)**



rel(3*S*,5*S*,6*S*)- and *rel*(3*R*,5*S*,6*S*)-2,4-Dimethyl-6-(methanesulfonyl)-3,5-di(naphthalen-2-yl)-1,2,4-thiadiazinane 1,1-dioxides (8a and 9a)

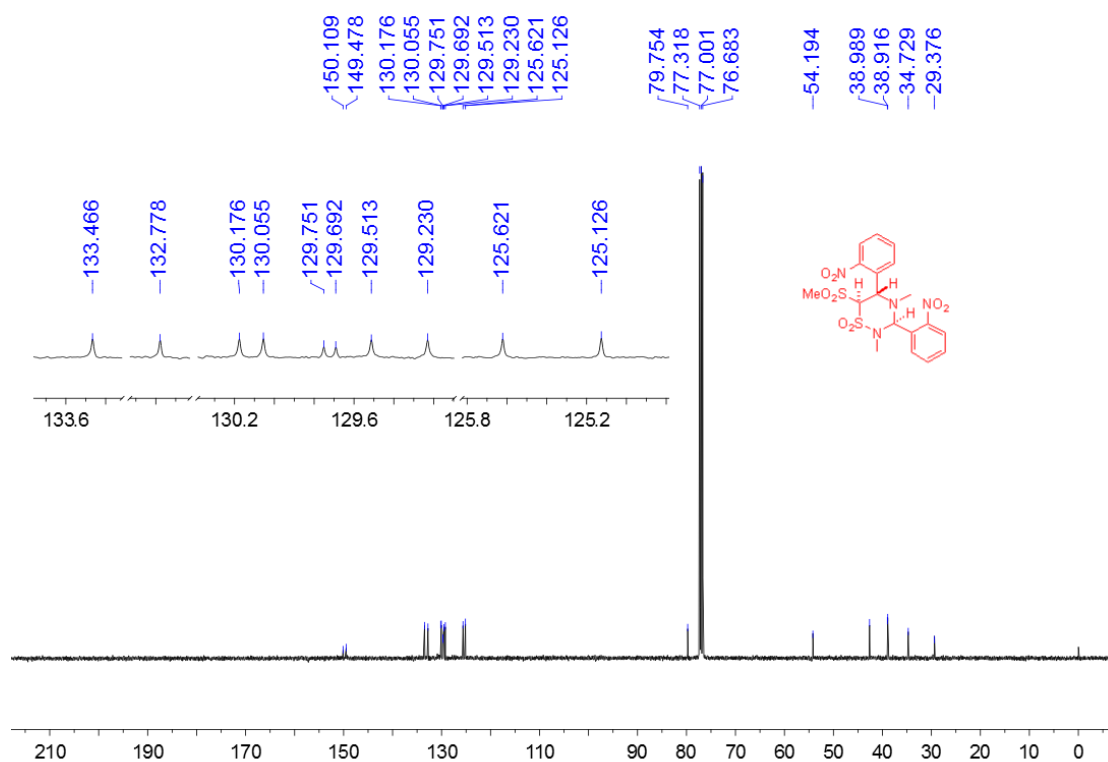
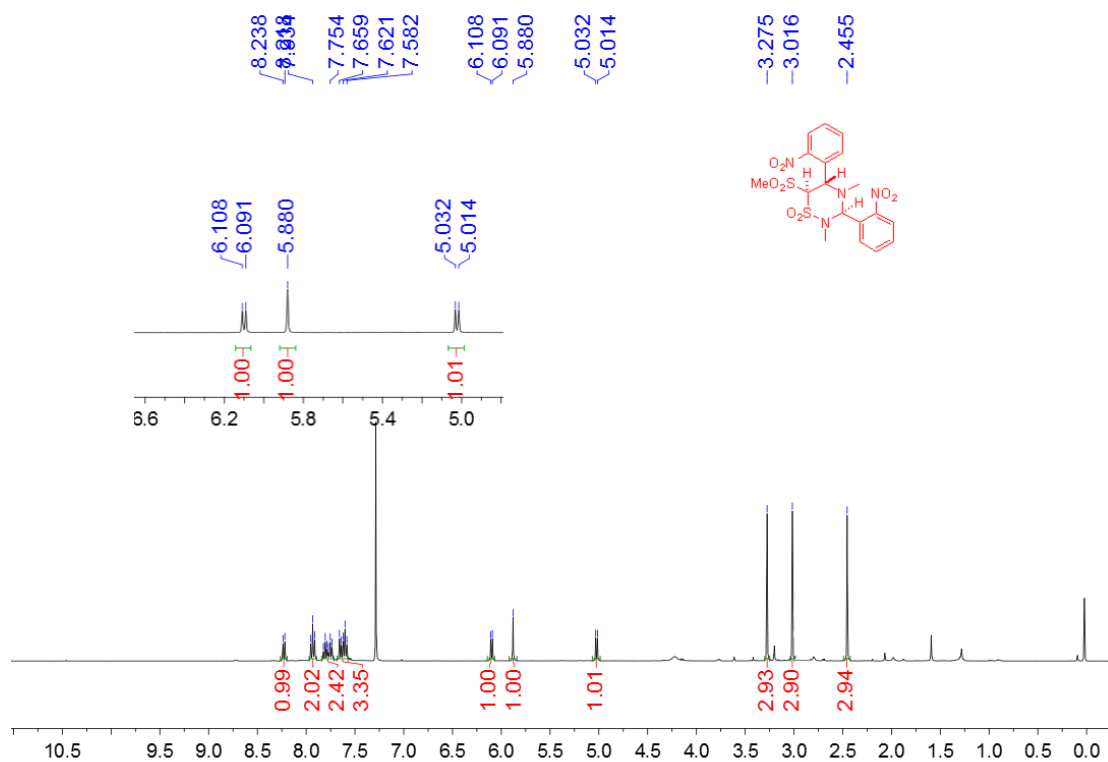


***rel*(3*S*,5*S*,6*R*)- and *rel*(3*R*,5*S*,6*S*)-Dimethyl-6-(methanesulfonyl)-3,5-diphenyl-1,2,4-thiadiazinane 1,1-dioxides (8c and 9c)**



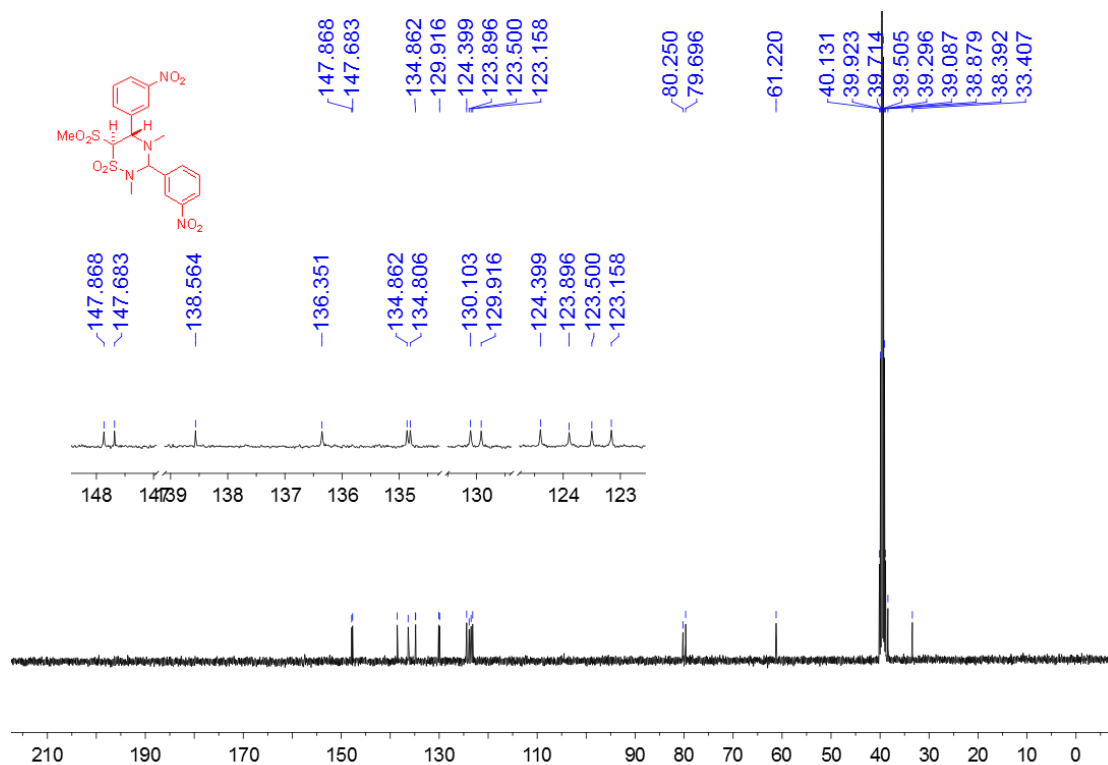
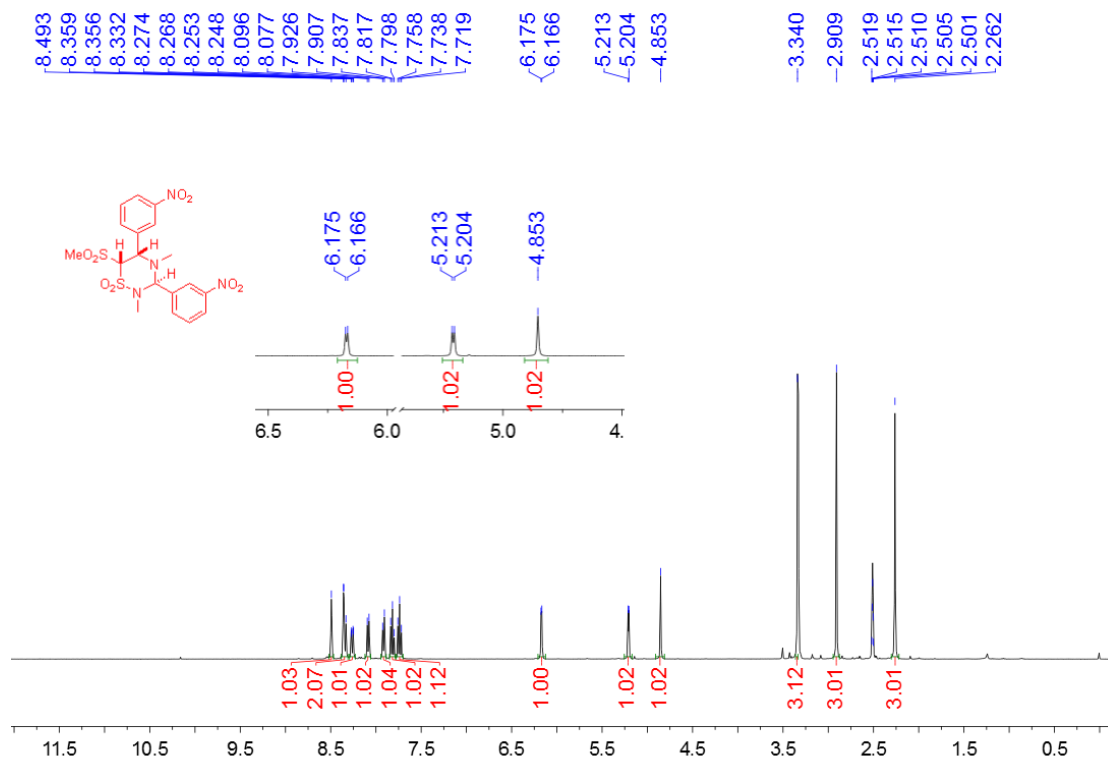
***rel*(3*R*,5*S*,6*R*)-2,4-Dimethyl-6-(methanesulfonyl)-3,5-bis(2-nitrophenyl)-1,2,4-thiadiazinane**

1,1-dioxides (10d)



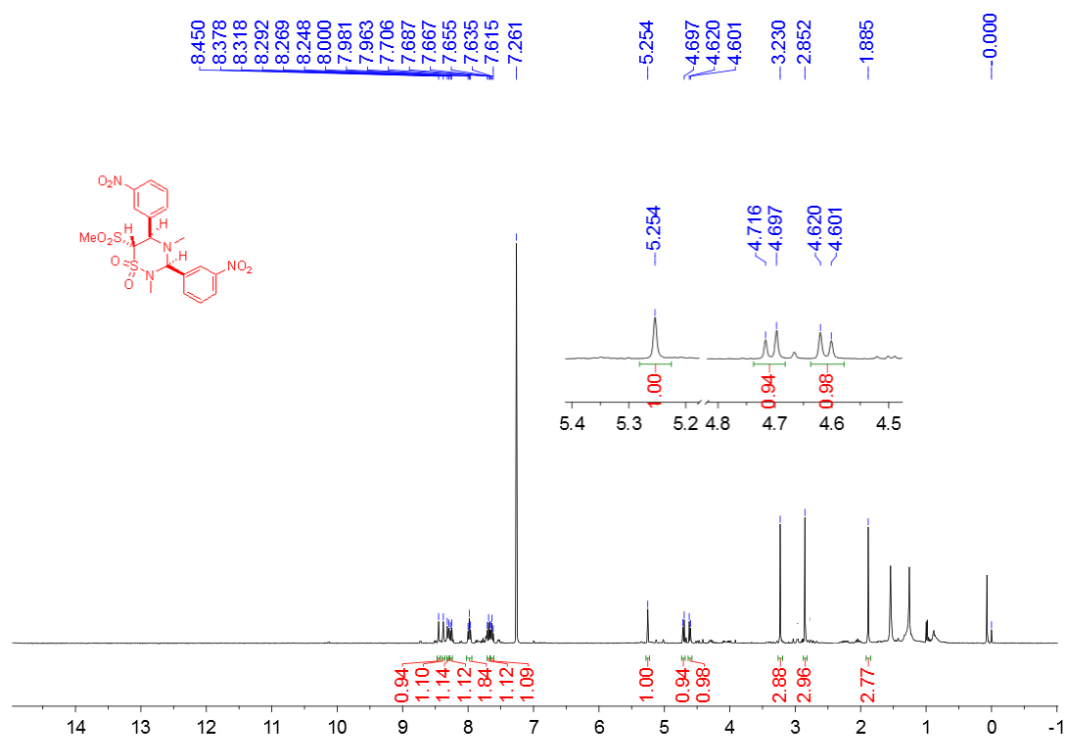
***rel*(3*R*,5*S*,6*S*)-2,4-Dimethyl-6-(methanesulfonyl)-3,5-bis(3-nitrophenyl)-1,2,4-thiadiazinane**

1,1-dioxides (9e)



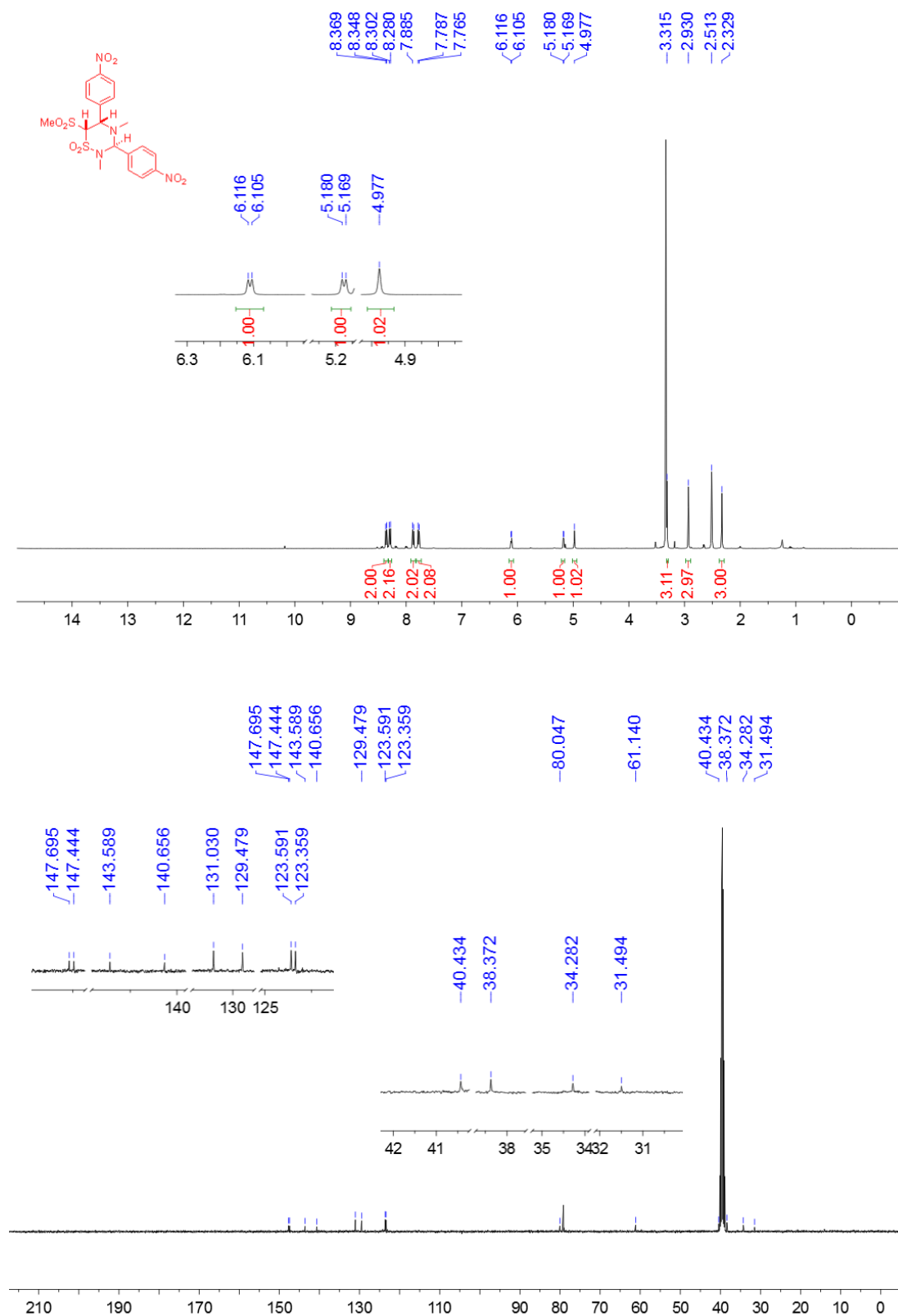
***rel*(3*S*,5*S*,6*R*)-2,4-Dimethyl-6-(methanesulfonyl)-3,5-bis(3-nitrophenyl)-1,2,4-thiadiazinane**

1,1-dioxides (8e)

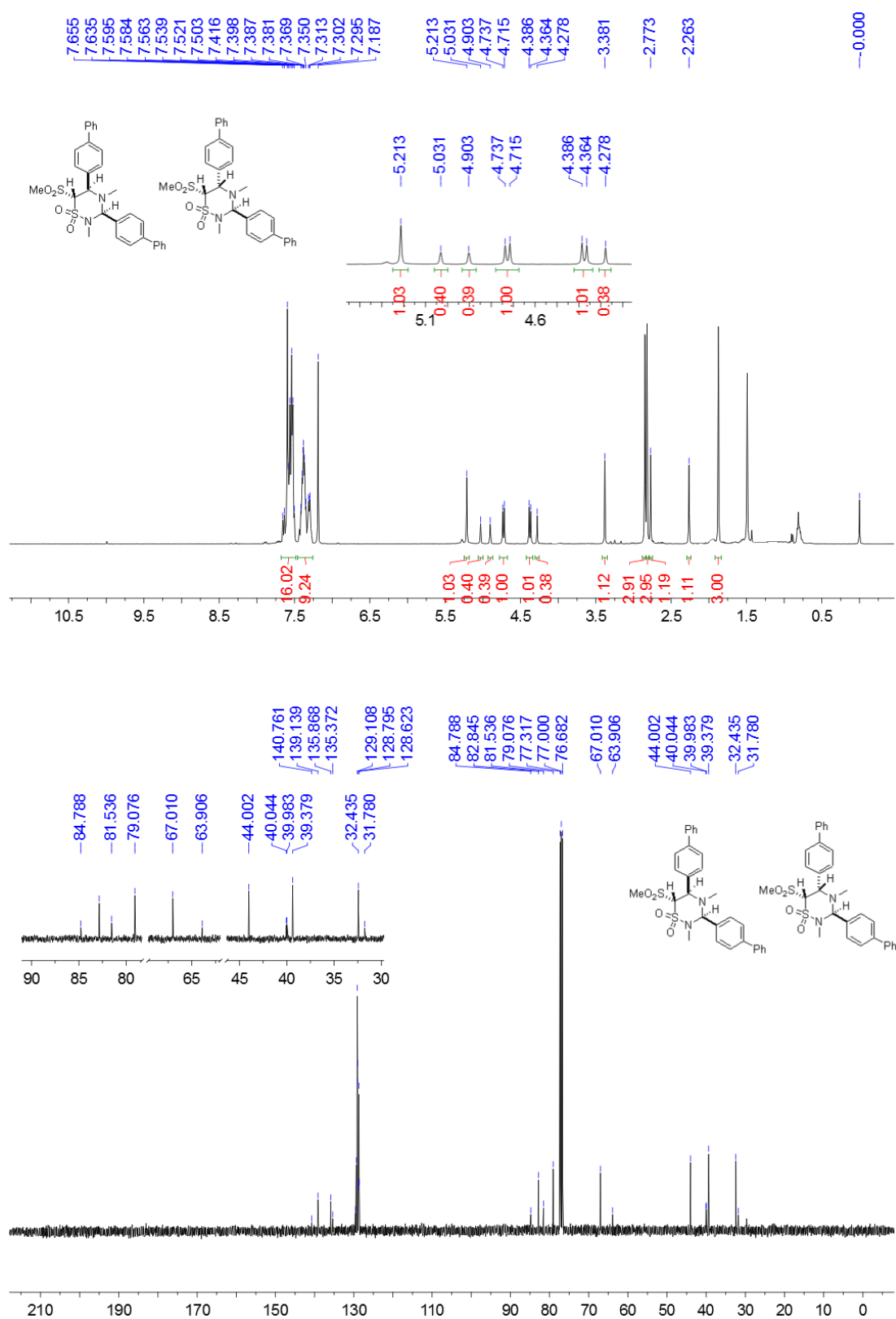


***rel*(3*R*,5*S*,6*S*)-2,4-Dimethyl-6-(methanesulfonyl)-3,5-bis(4-nitrophenyl)-1,2,4-thiadiazinane**

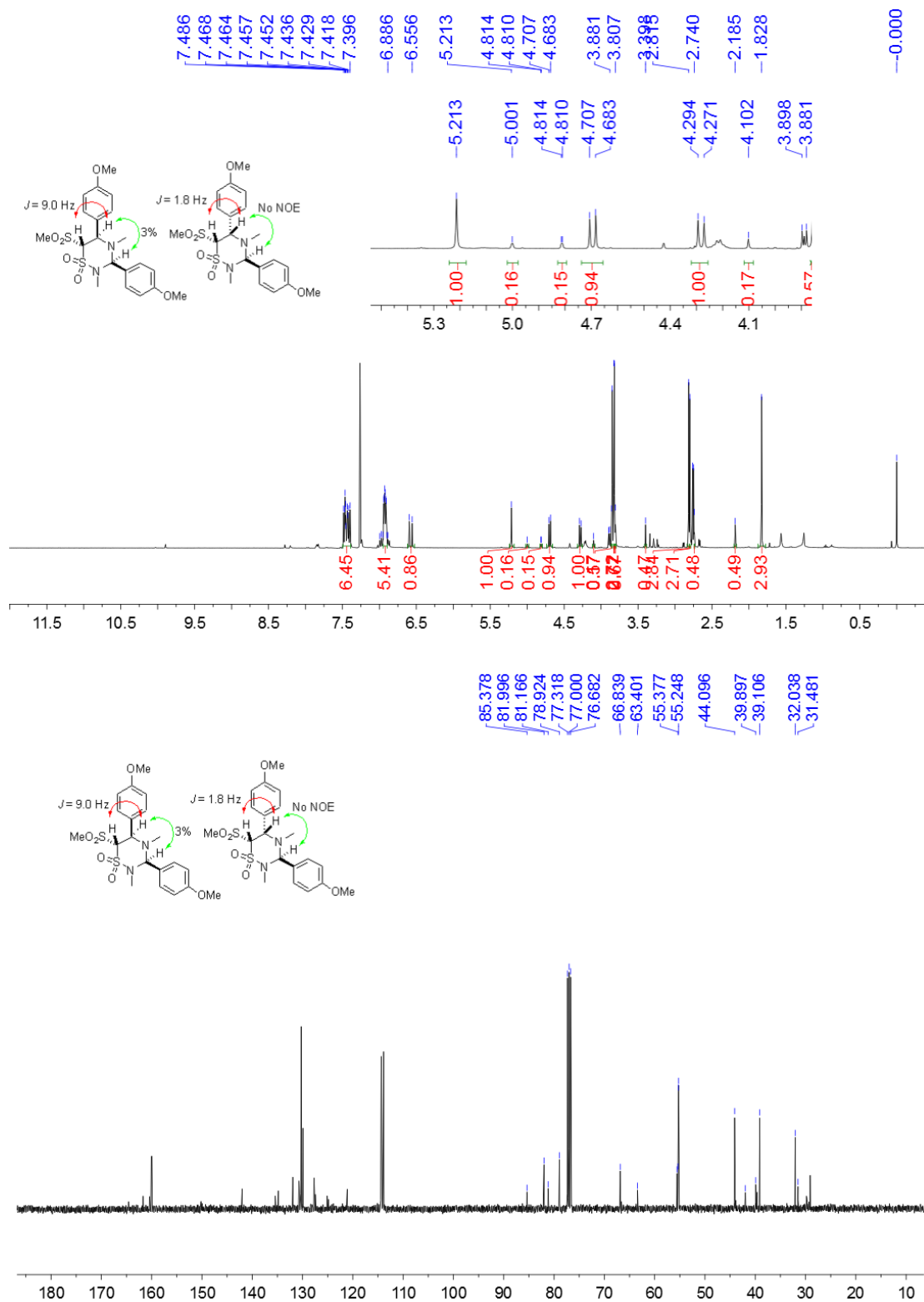
1,1-dioxides (9f)



rel(3*R*,5*R*,6*S*)- and *rel*(3*R*,5*S*,6*S*)-3,5-Di([1,1'-biphenyl]-4-yl)-2,4-dimethyl-6-(methanesulfonyl)-1,2,4-thiadiazinane 1,1-dioxides (8g and 9g)



rel(3*R*,5*R*,6*S*)- and *rel*(3*R*,5*S*,6*S*)-3,5-Bis(4-methoxyphenyl)-2,4-dimethyl-6-(methanesulfonyl)-1,2,4-thiadiazinane 1,1-dioxides (8h and 9h) [with some impurities]



2. Copies of one-dimension NOE spectra of [2^s + 2ⁱ + 2ⁱ] annuladducts (600 MHz)

Table 4, entry 1:

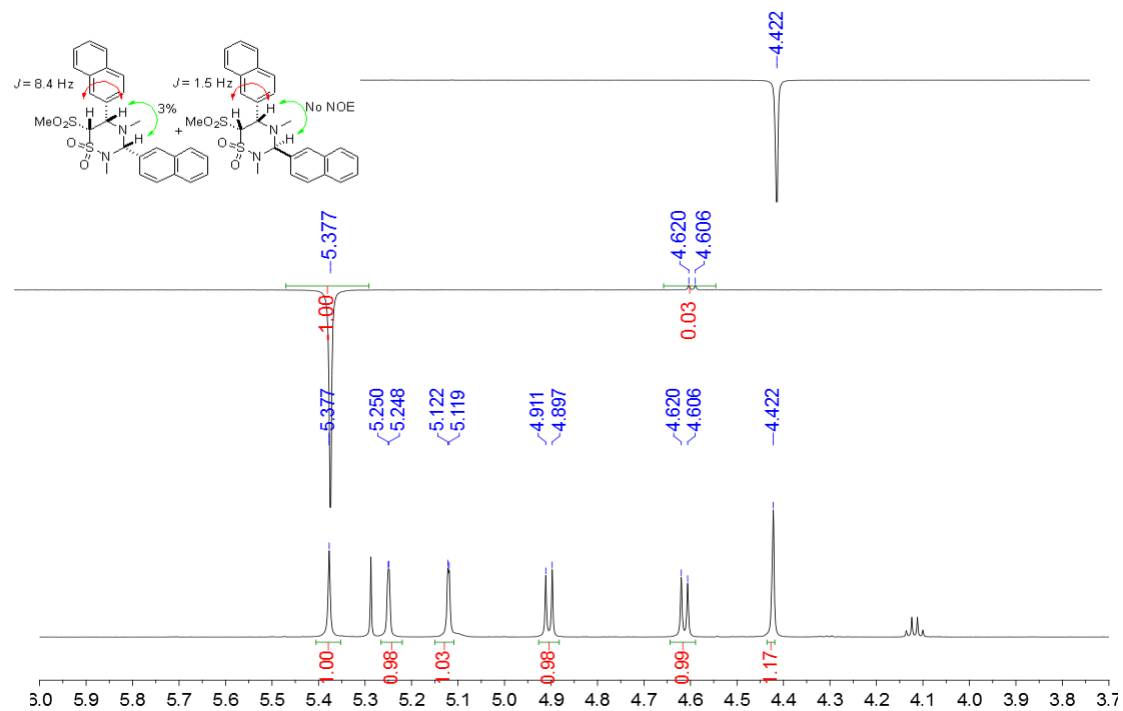


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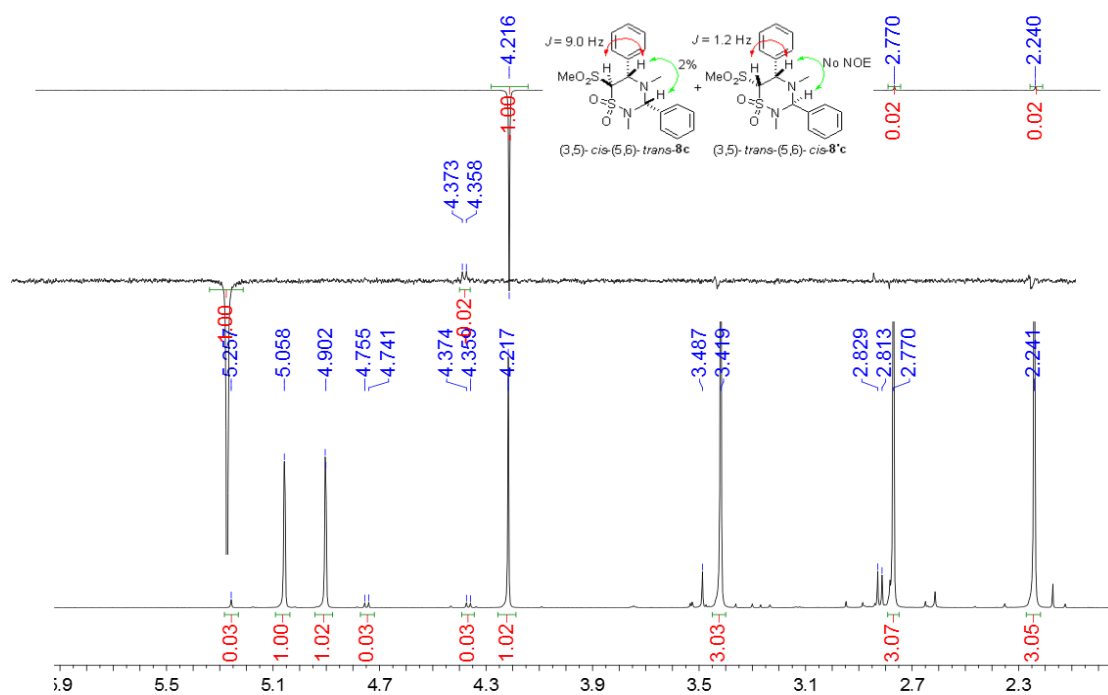


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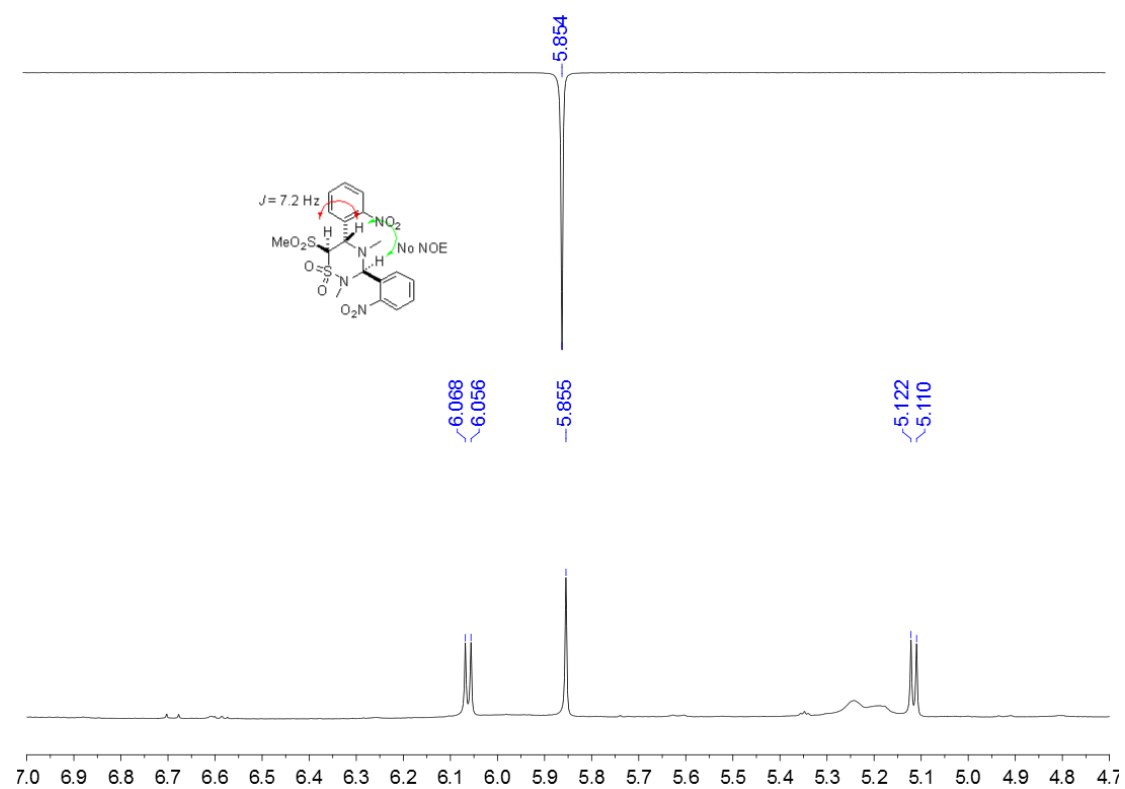


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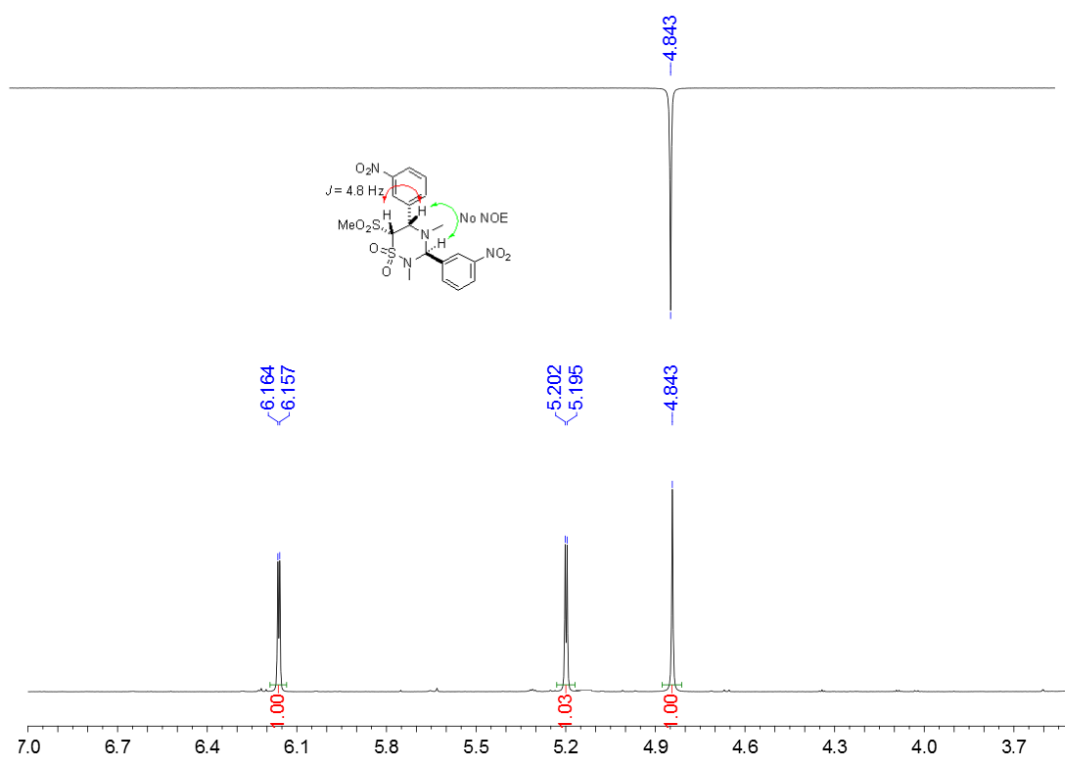


Table 4, entry 4:

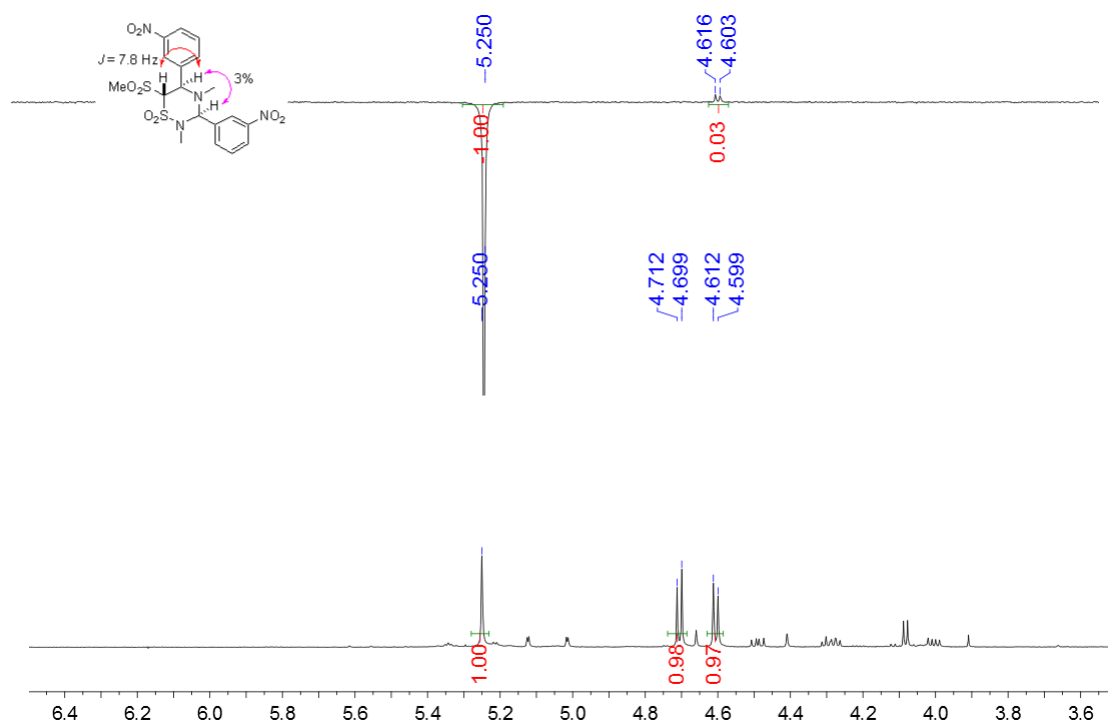


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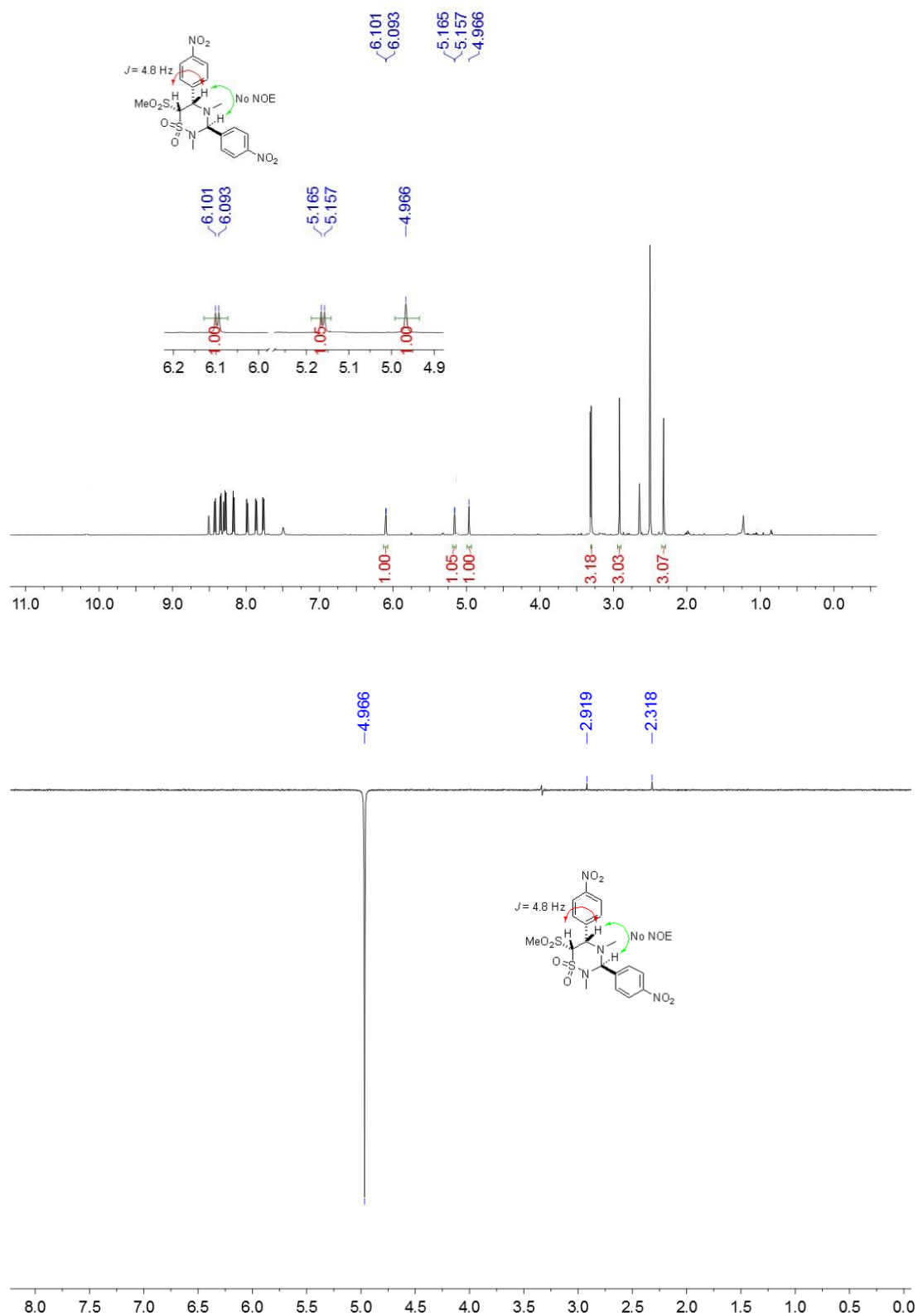


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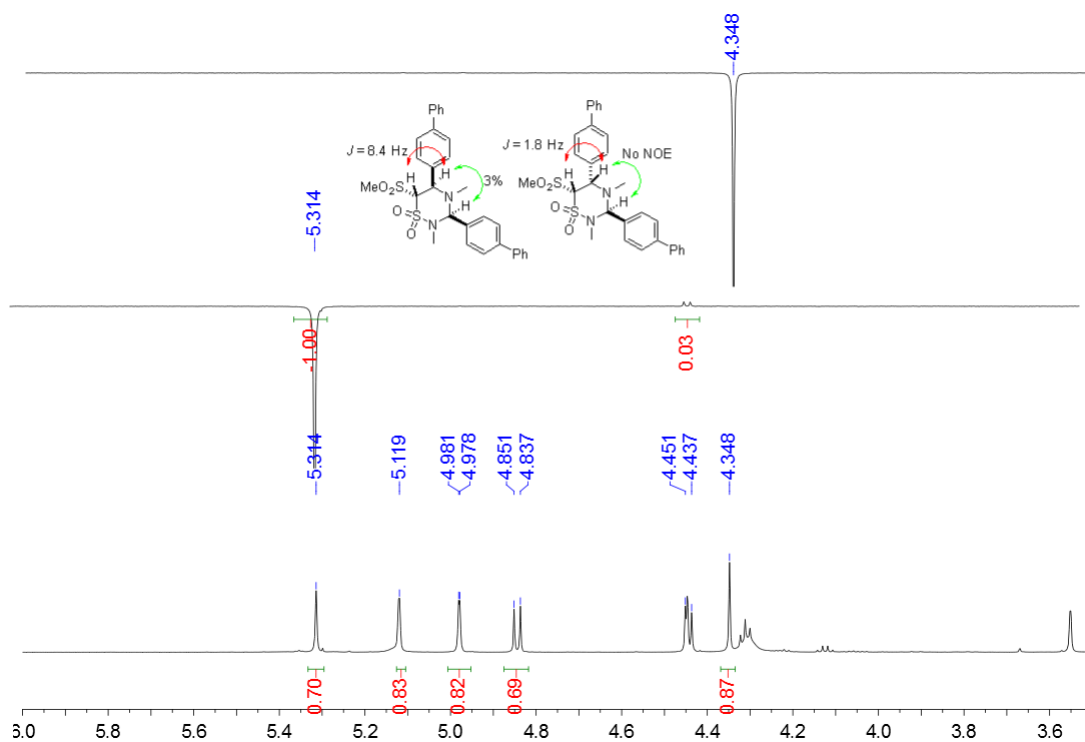


Table 4, entry 7:

