Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

An environment benign approach to oxidative esterification of aldehydes with alkylarenes or alcohols *via* a recyclable heterogeneous catalysis

Soumen Dey, Sunita K. Gadakh and Arumugam Sudalai*

Chemical Engineering & Process Development Division,

CSIR-National Chemical Laboratory, Dr. Homi Bhabha Road, Pune-411008,

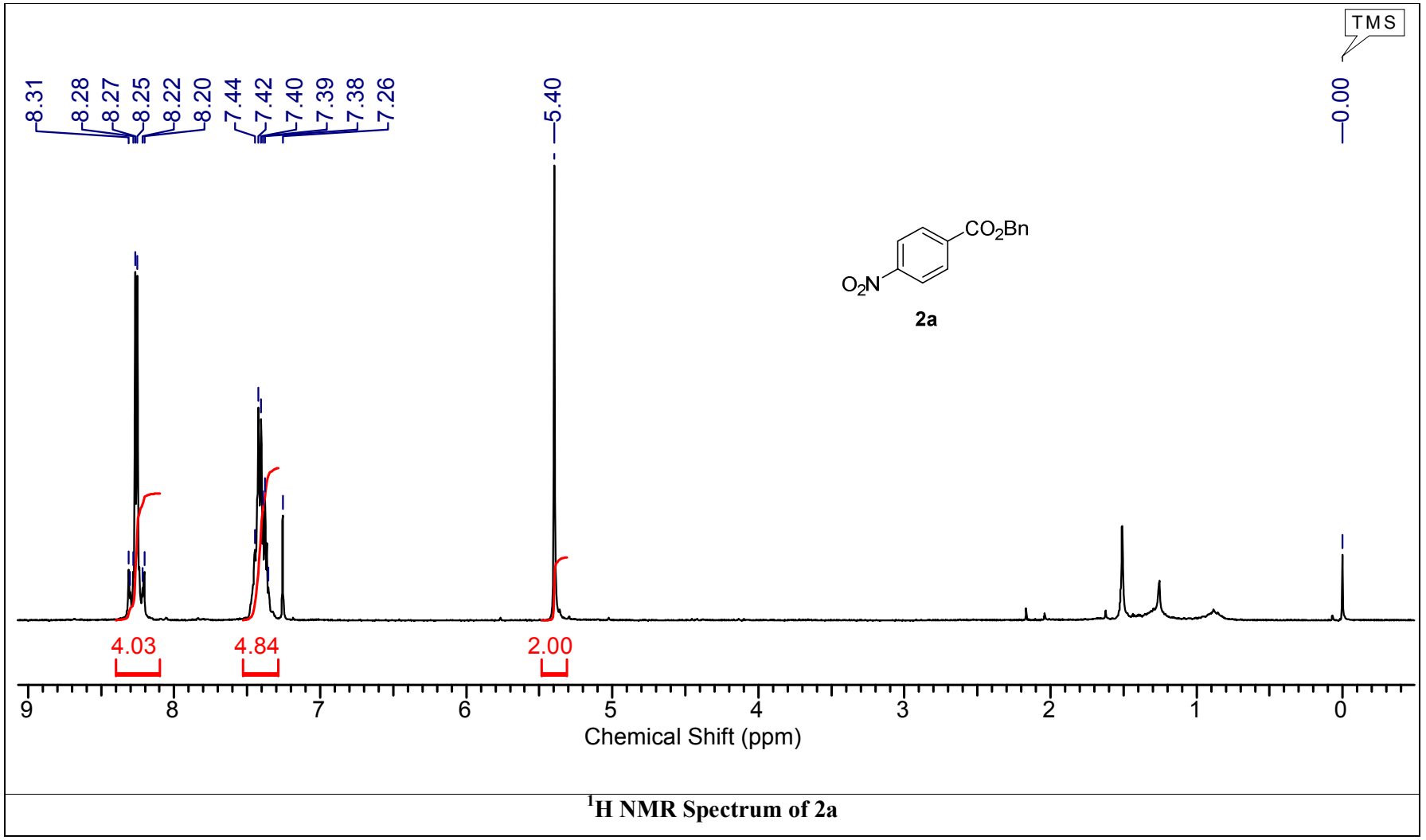
Maharashtra. India

*Corresponding author: Tel.: +91 20 25902547; Fax: +91 20 25902676;

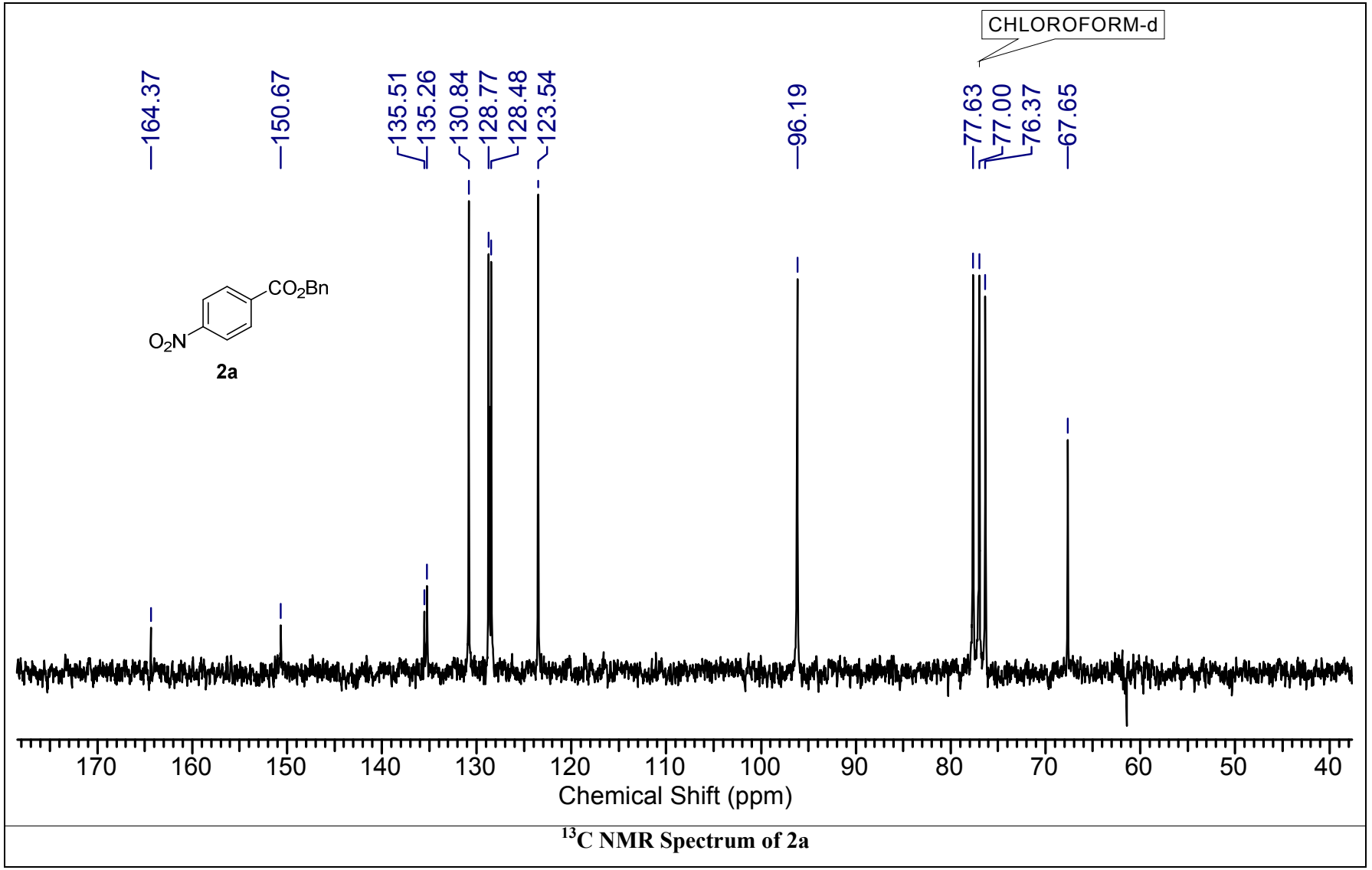
e-mail: a.sudalai@ncl.res.in

Table of Contents

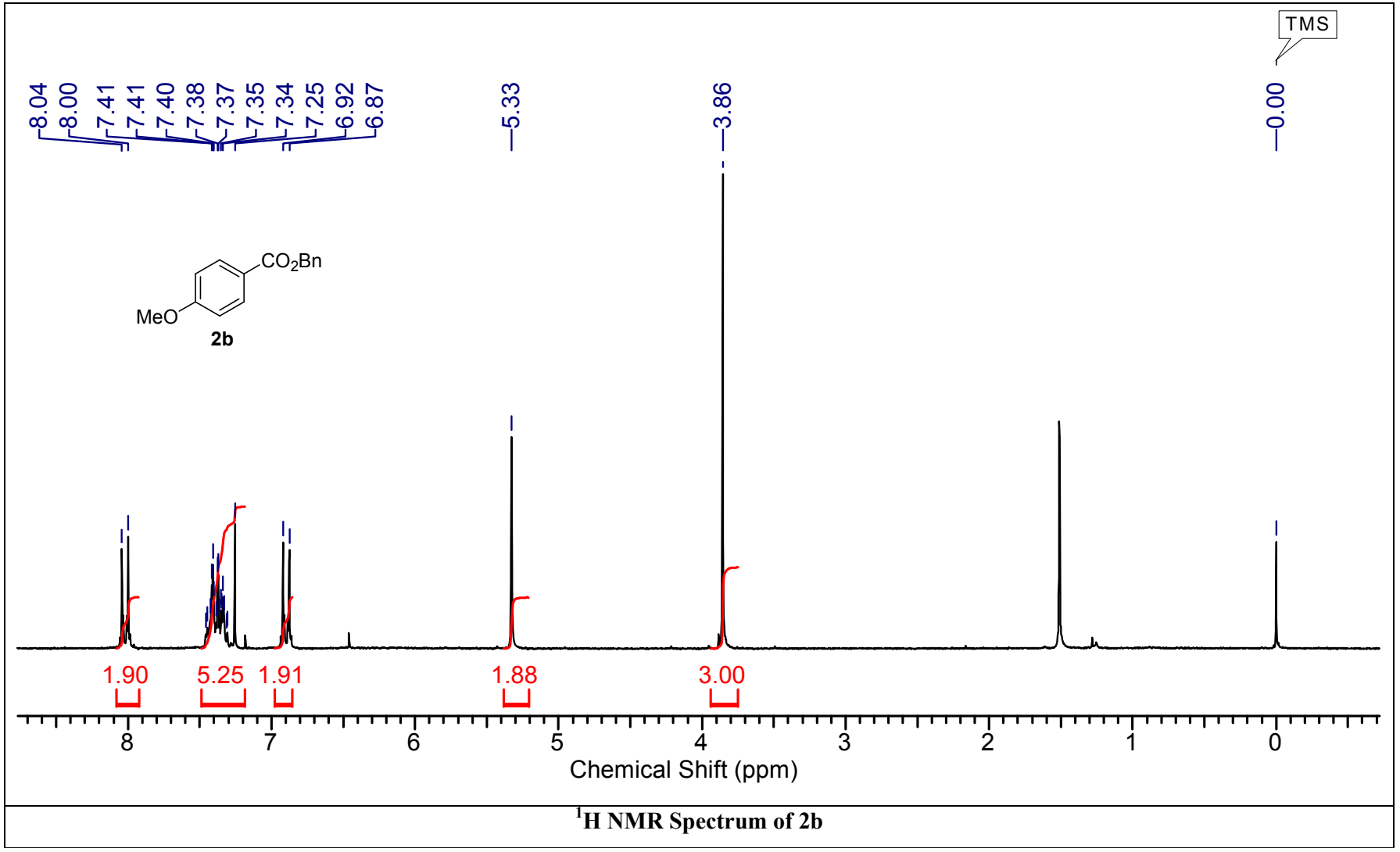
1. ^{1}H and ^{13}C-NMR charts of new compounds:



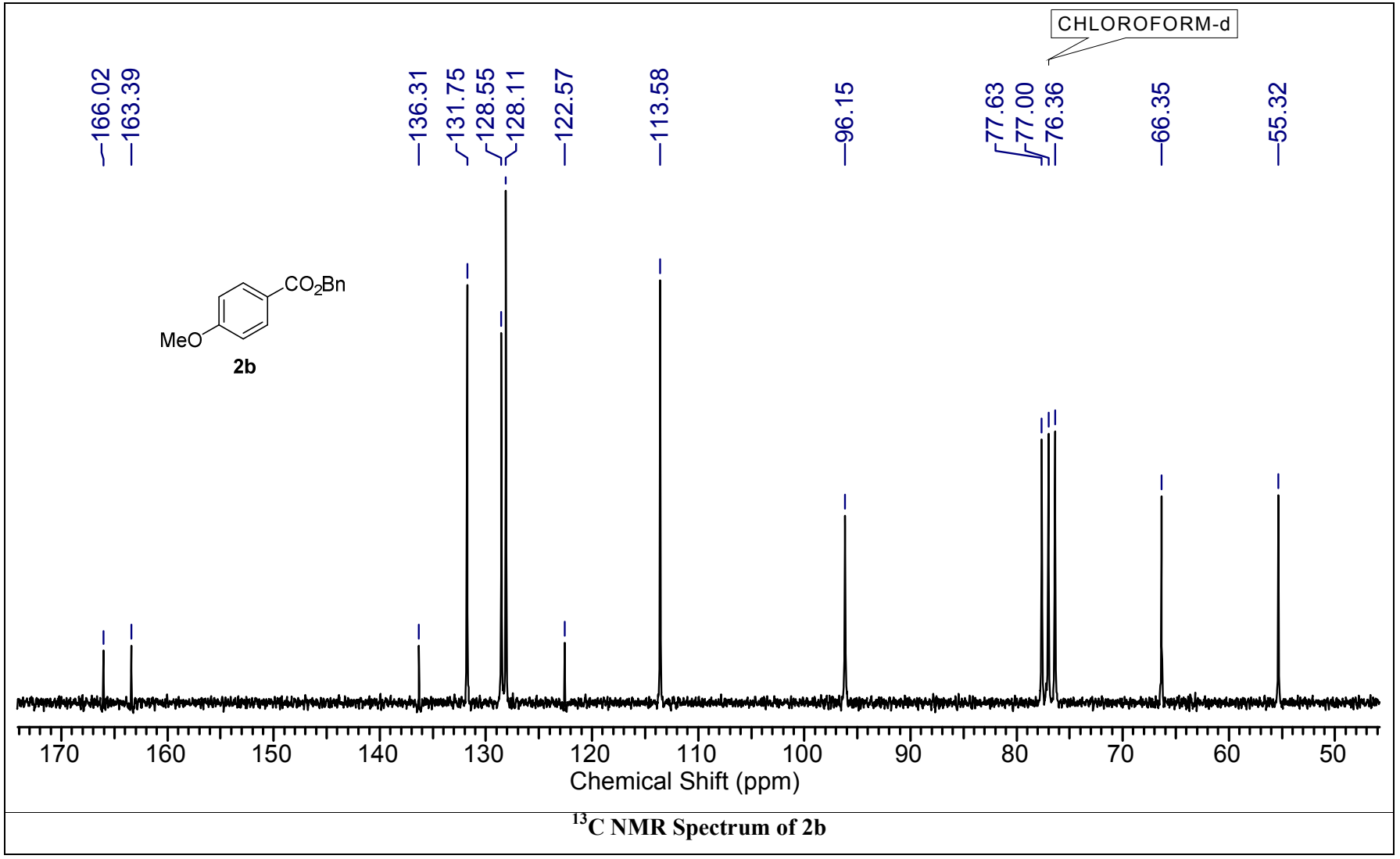
^{1}H NMR Spectrum of 2a



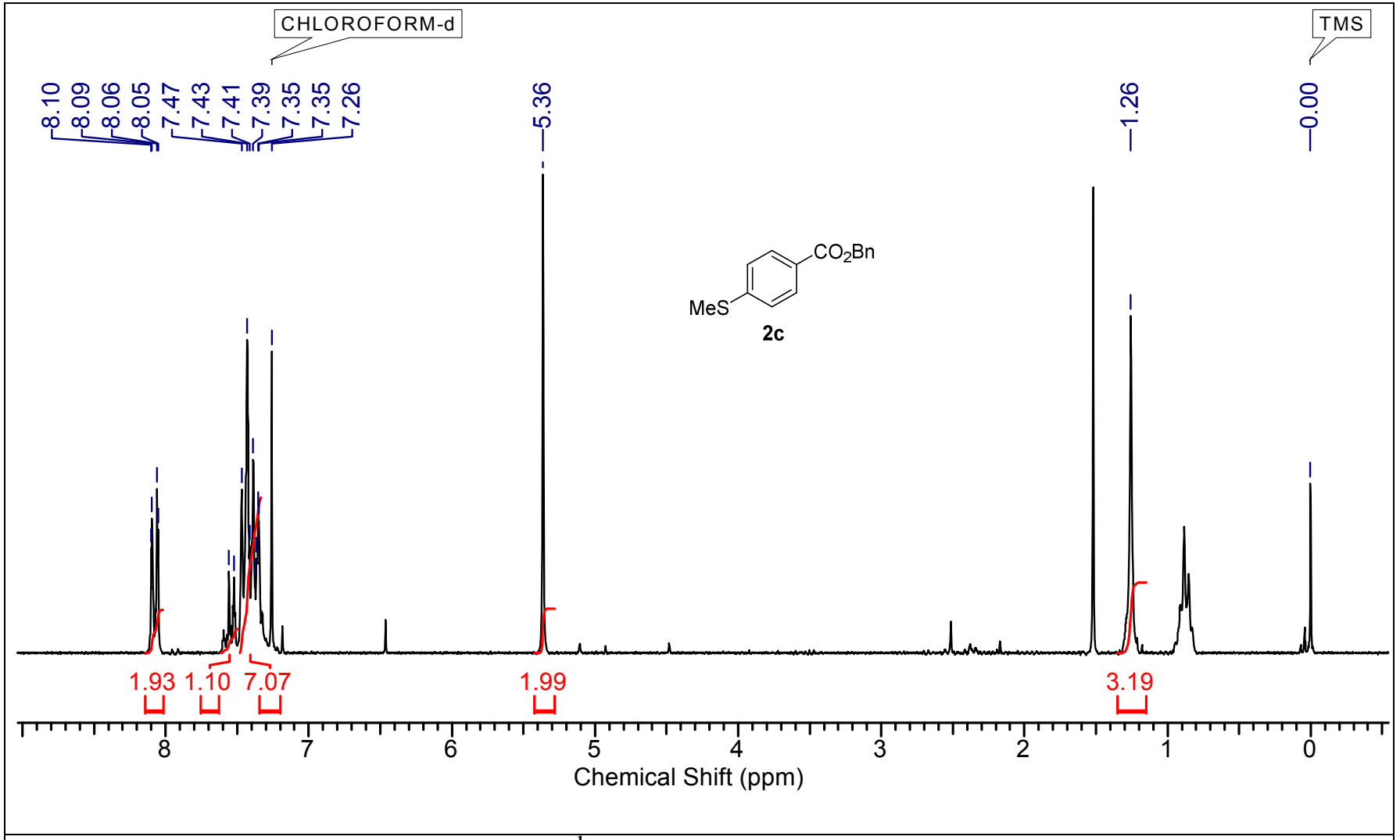
^{13}C NMR Spectrum of 2a



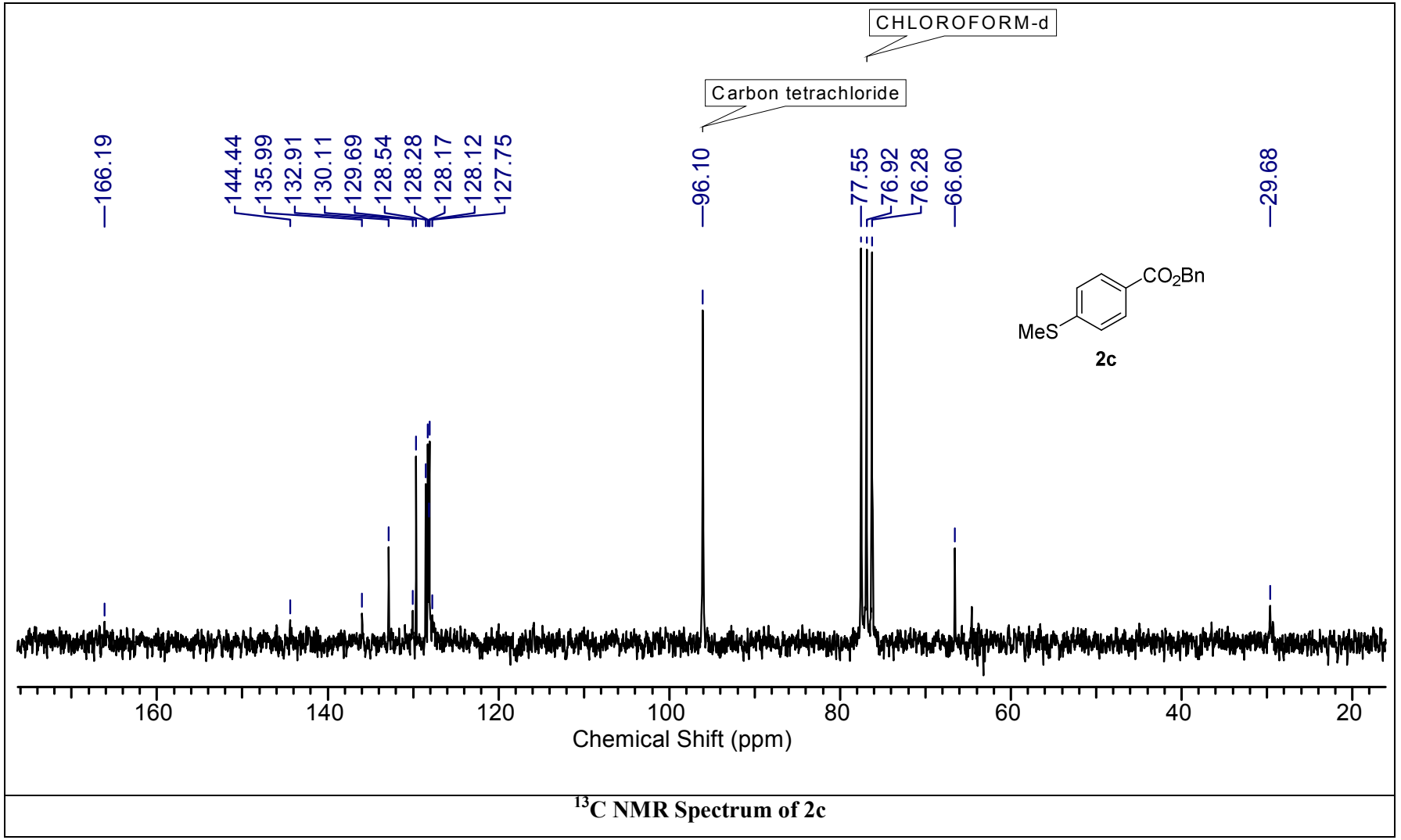
^{1}H NMR Spectrum of 2b



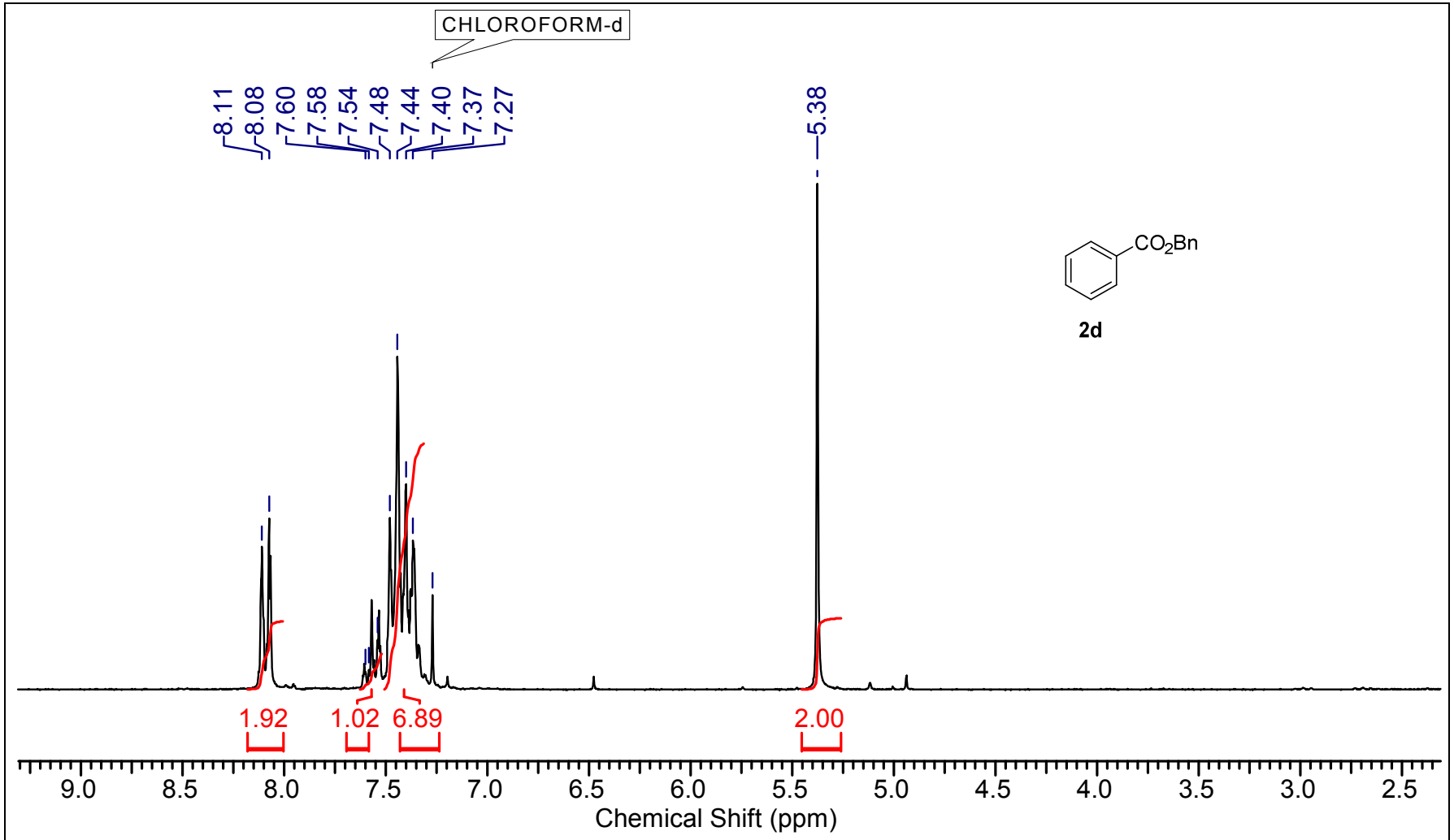
^{13}C NMR Spectrum of 2b



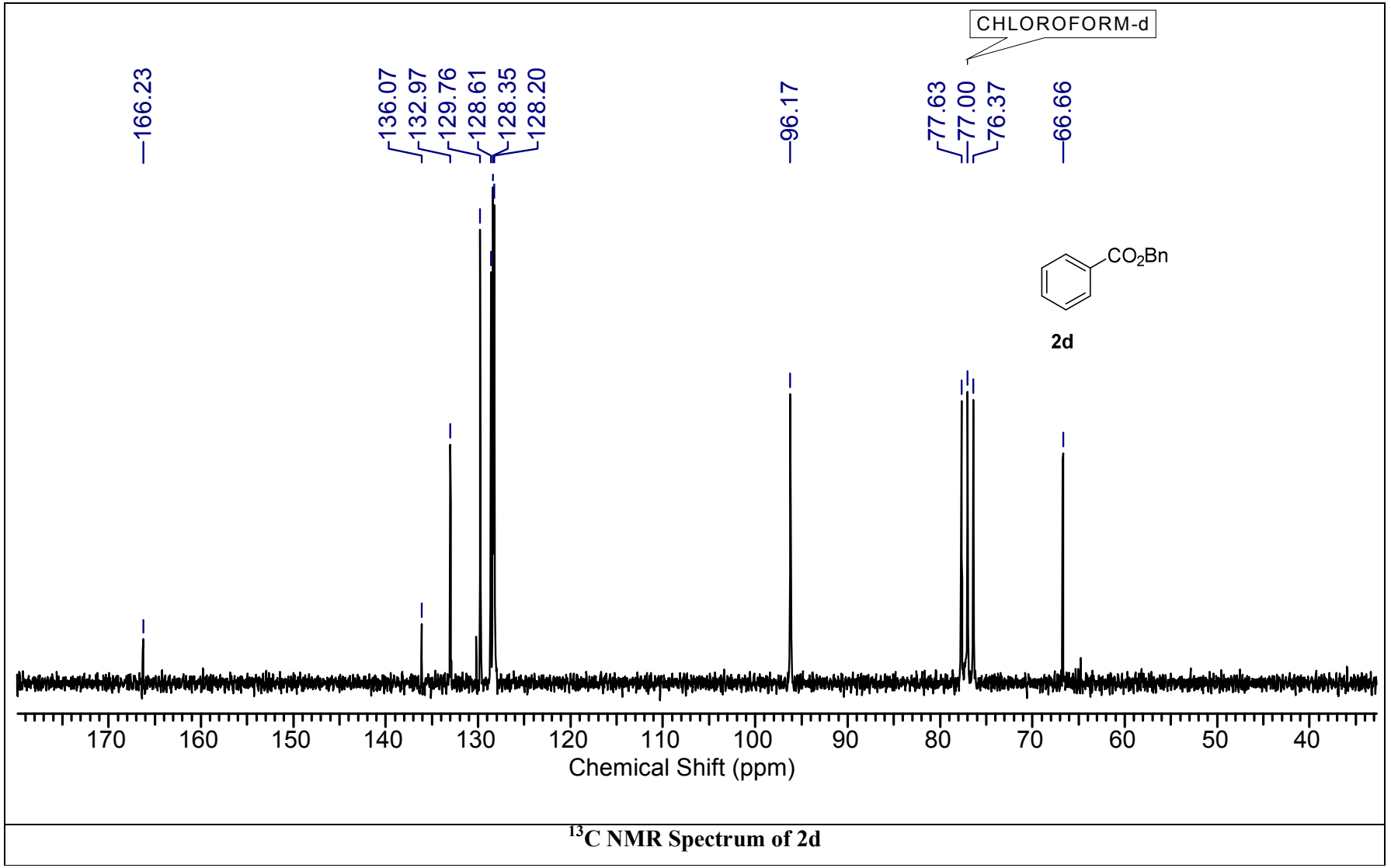
^{1}H NMR Spectrum of 2c



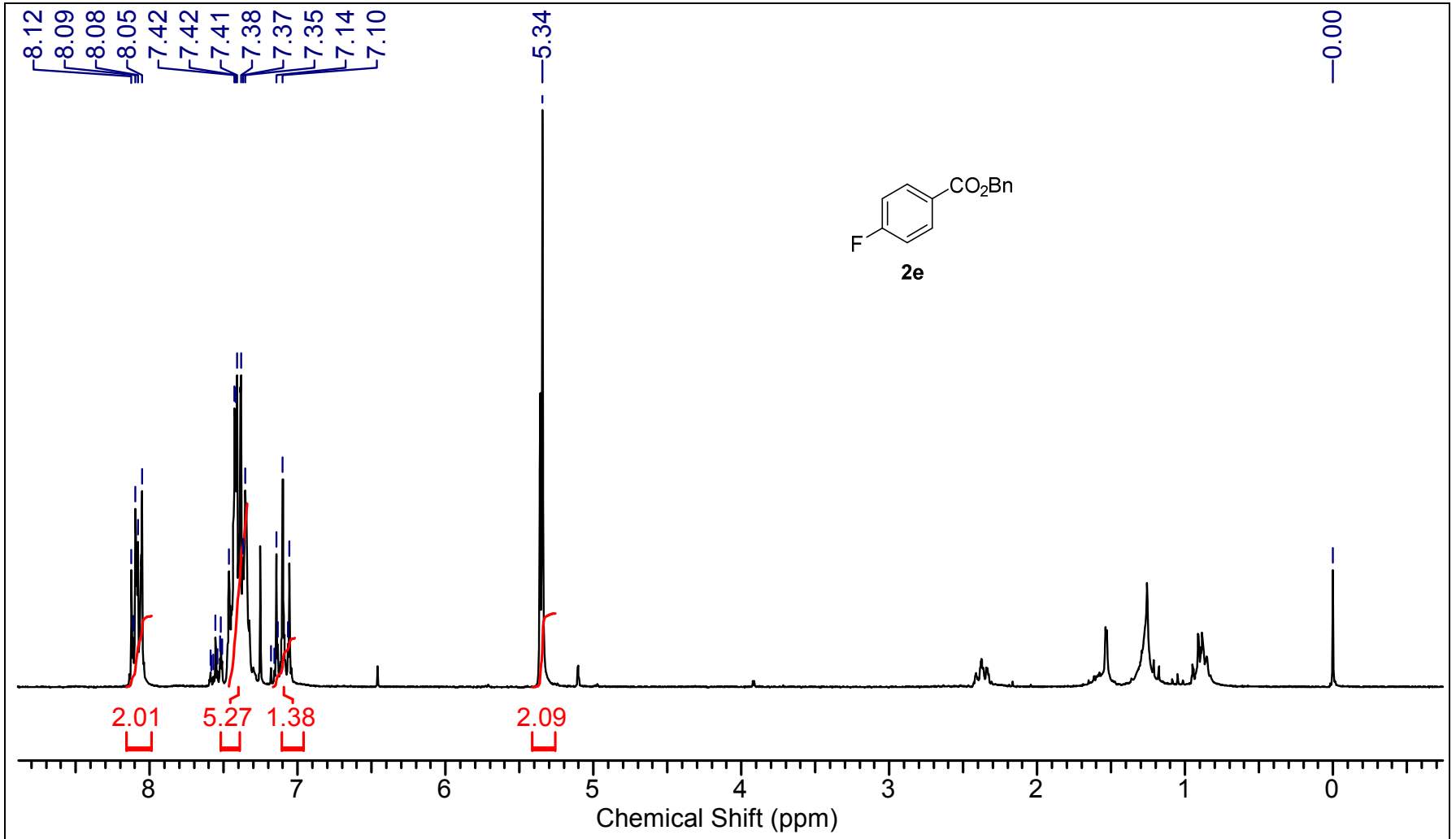
^{13}C NMR Spectrum of 2c



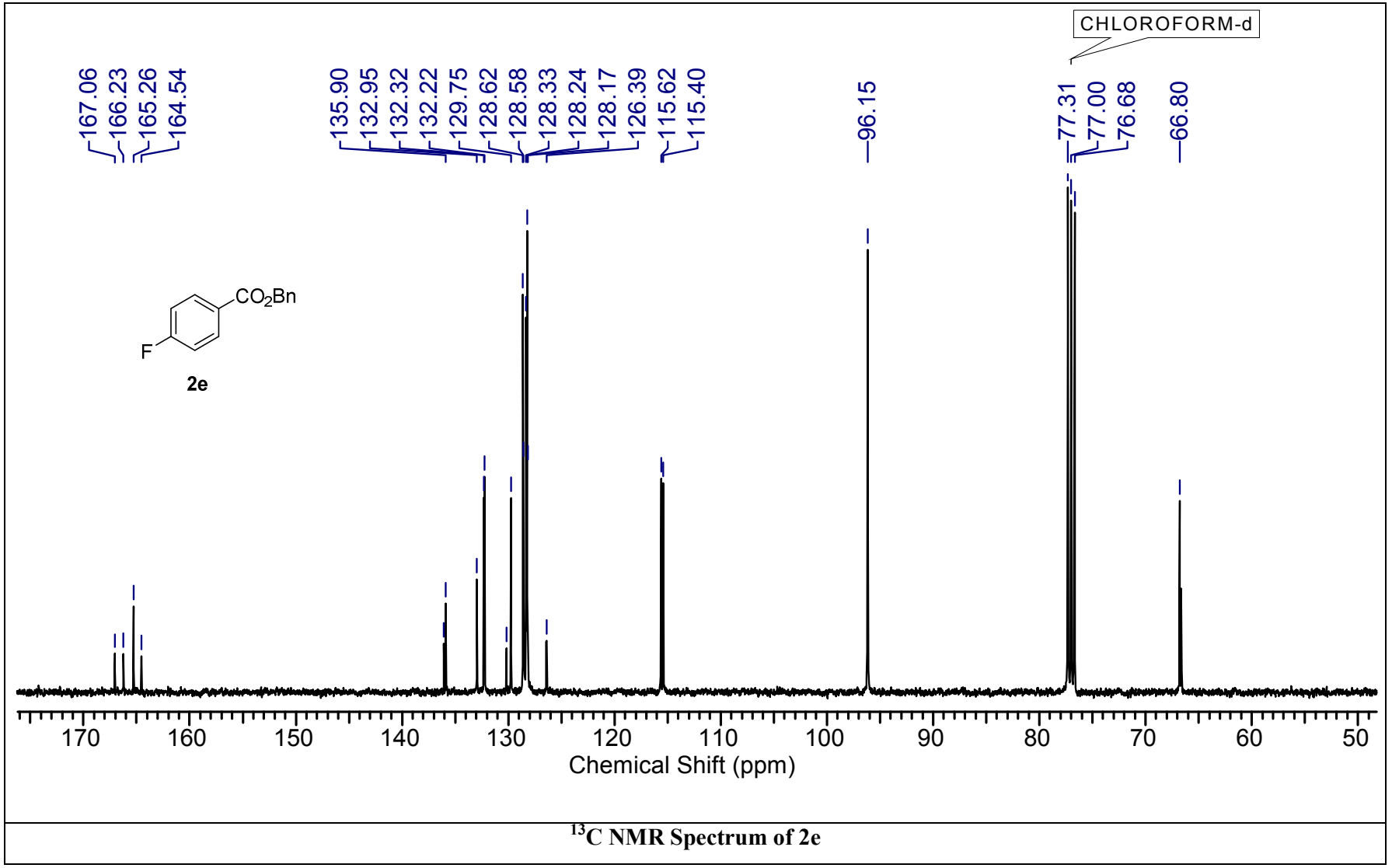
^{1}H NMR Spectrum of 2d



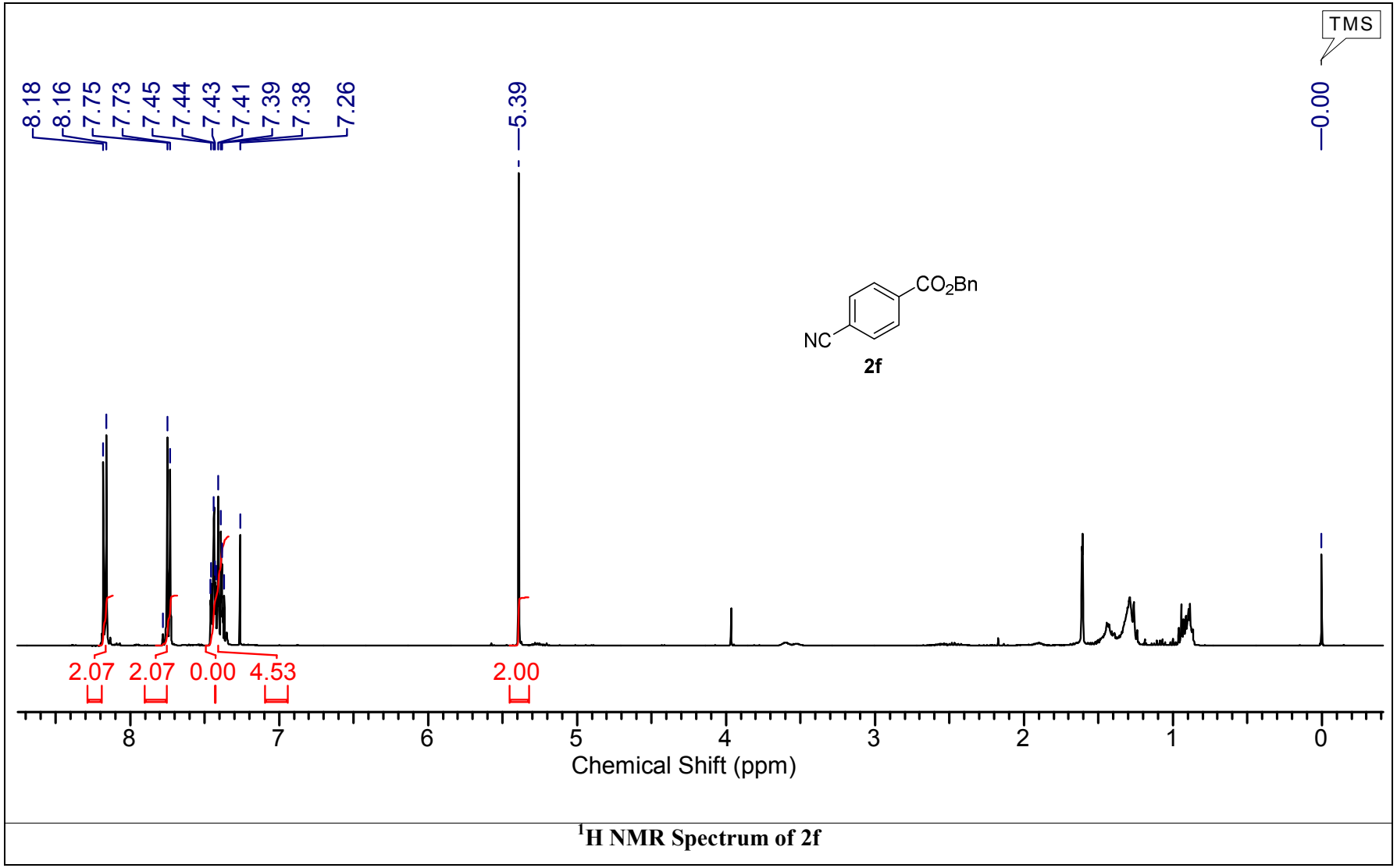
^{13}C NMR Spectrum of 2d



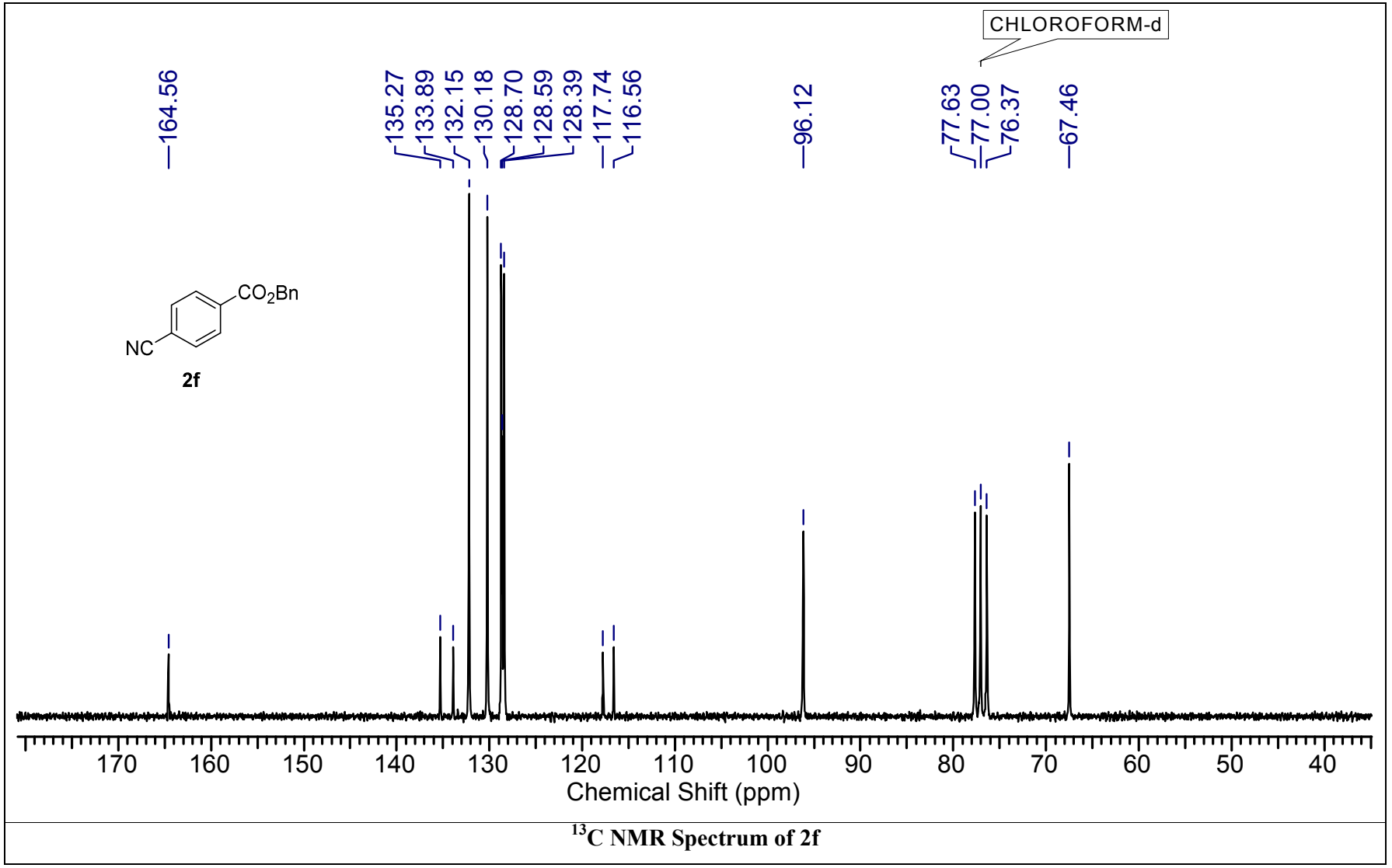
1H NMR Spectrum of 2e



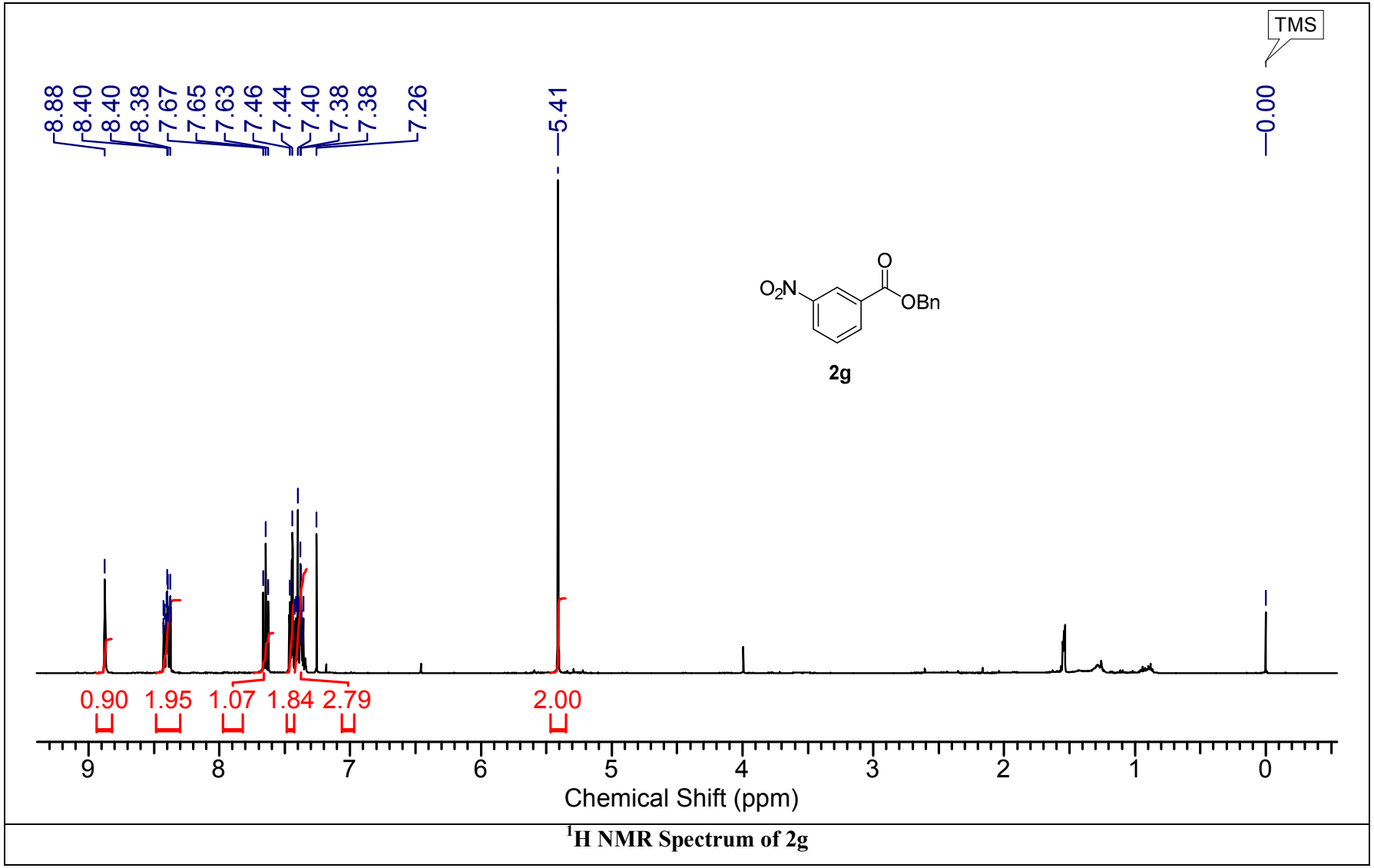
^{13}C NMR Spectrum of 2e



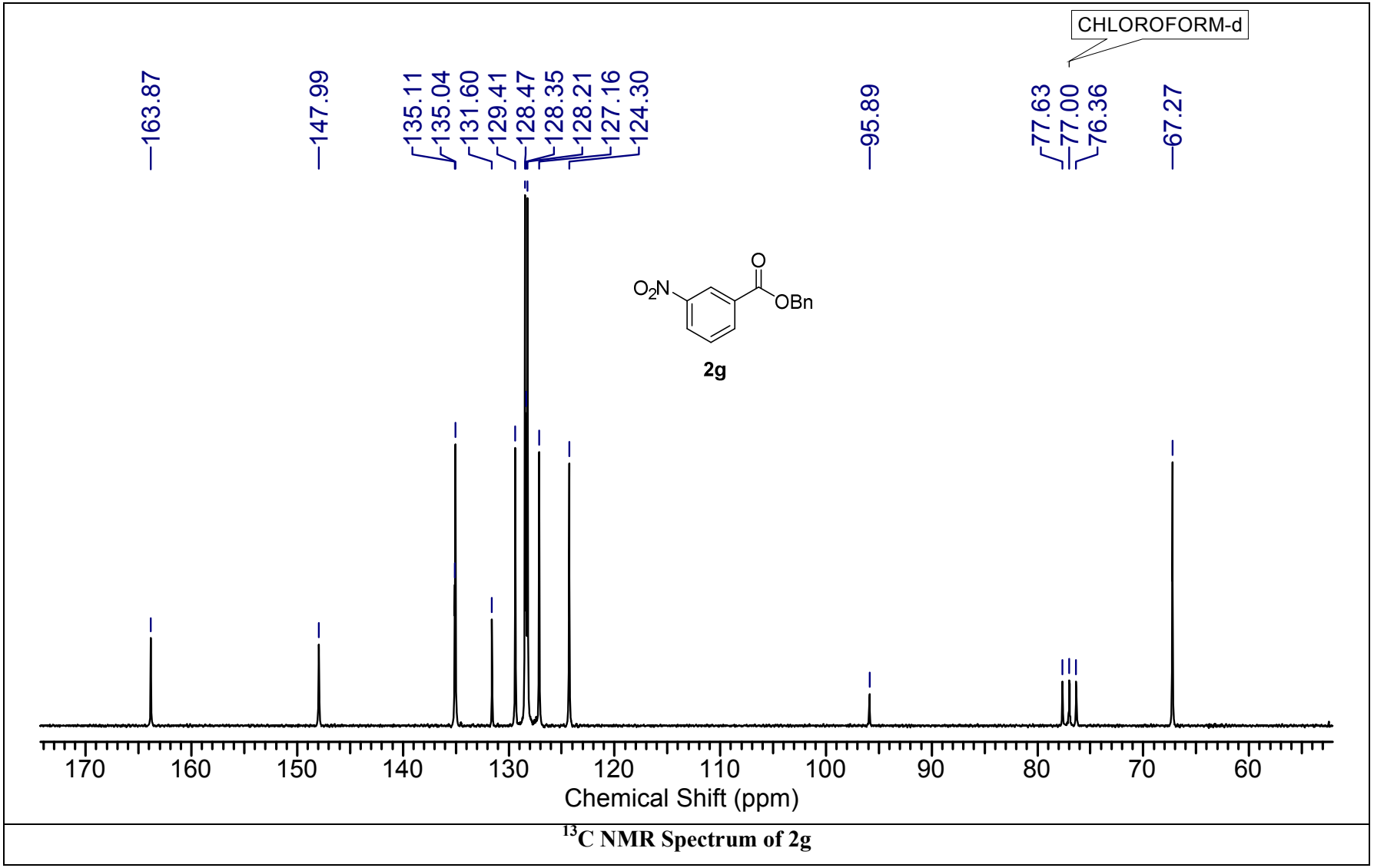
^{1}H NMR Spectrum of 2f



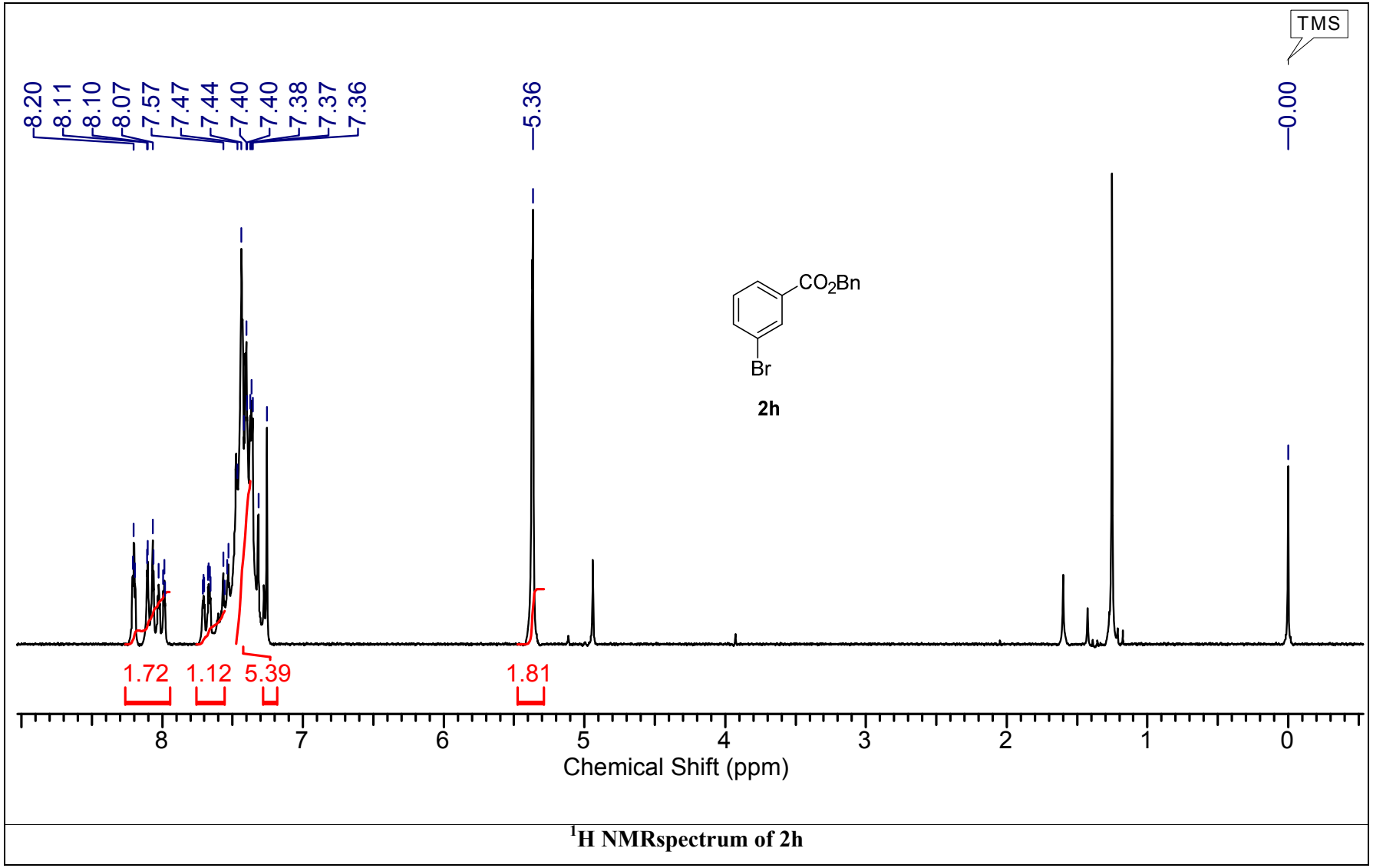
^{13}C NMR Spectrum of 2f



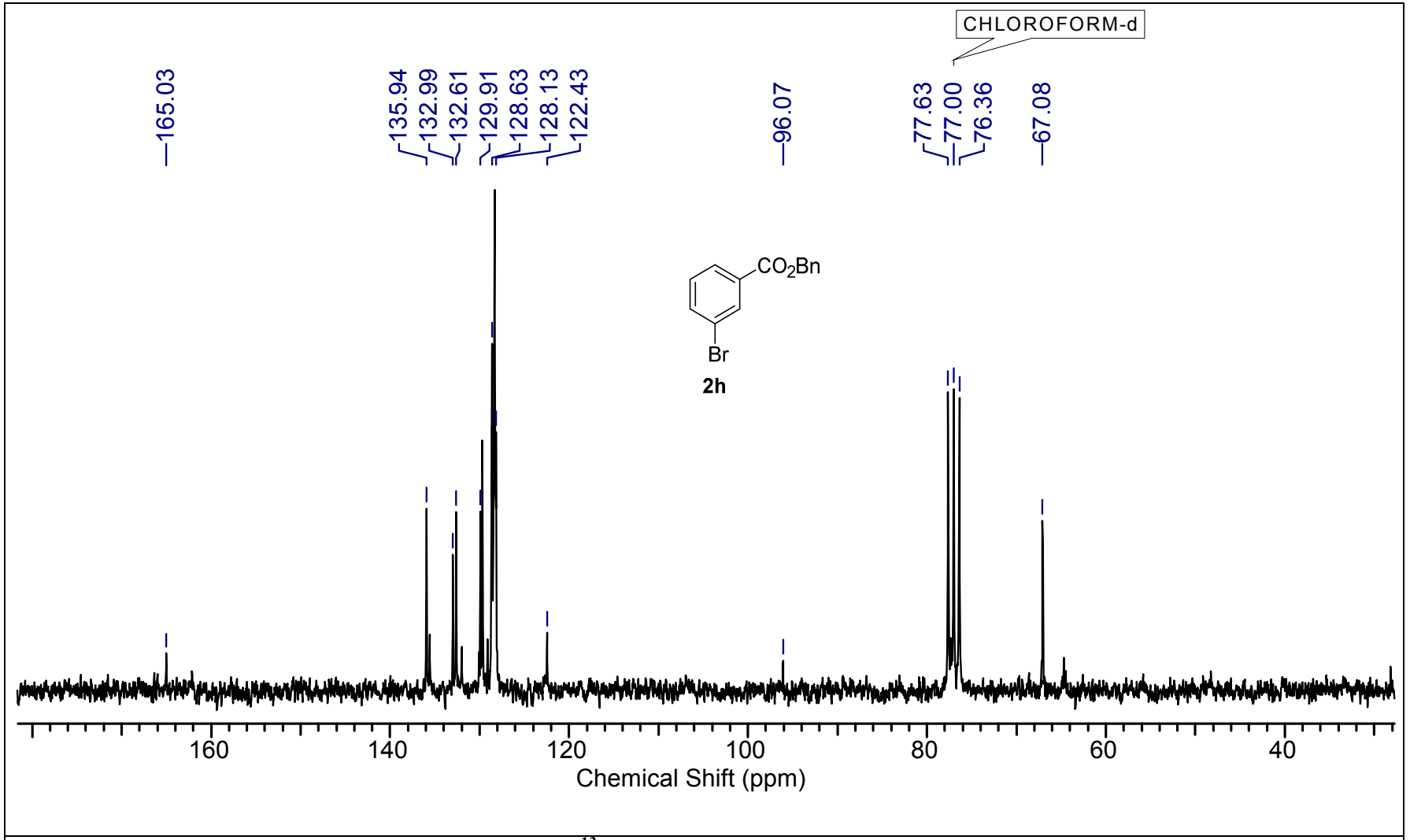
^{1}H NMR Spectrum of 2g



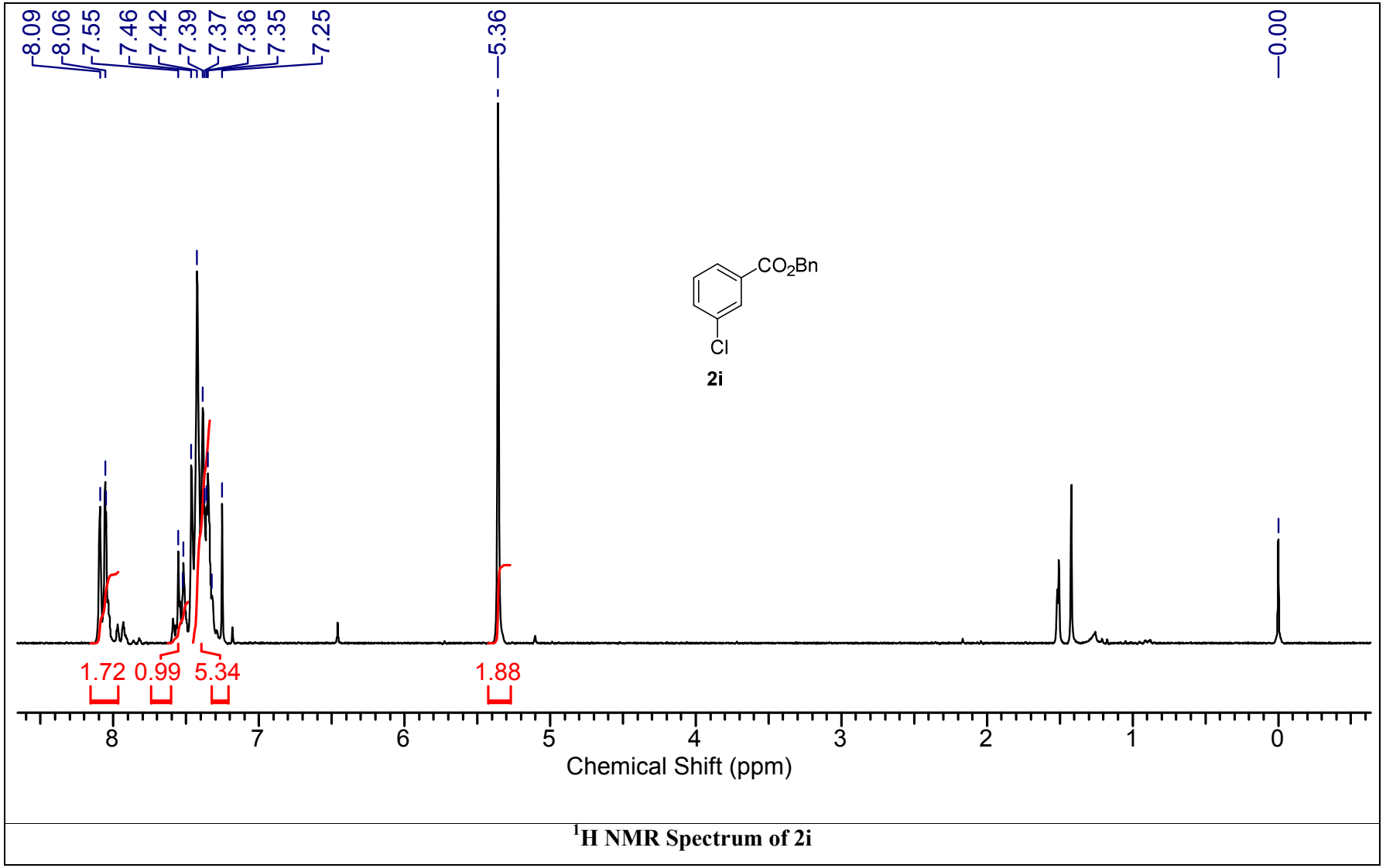
^{13}C NMR Spectrum of 2g



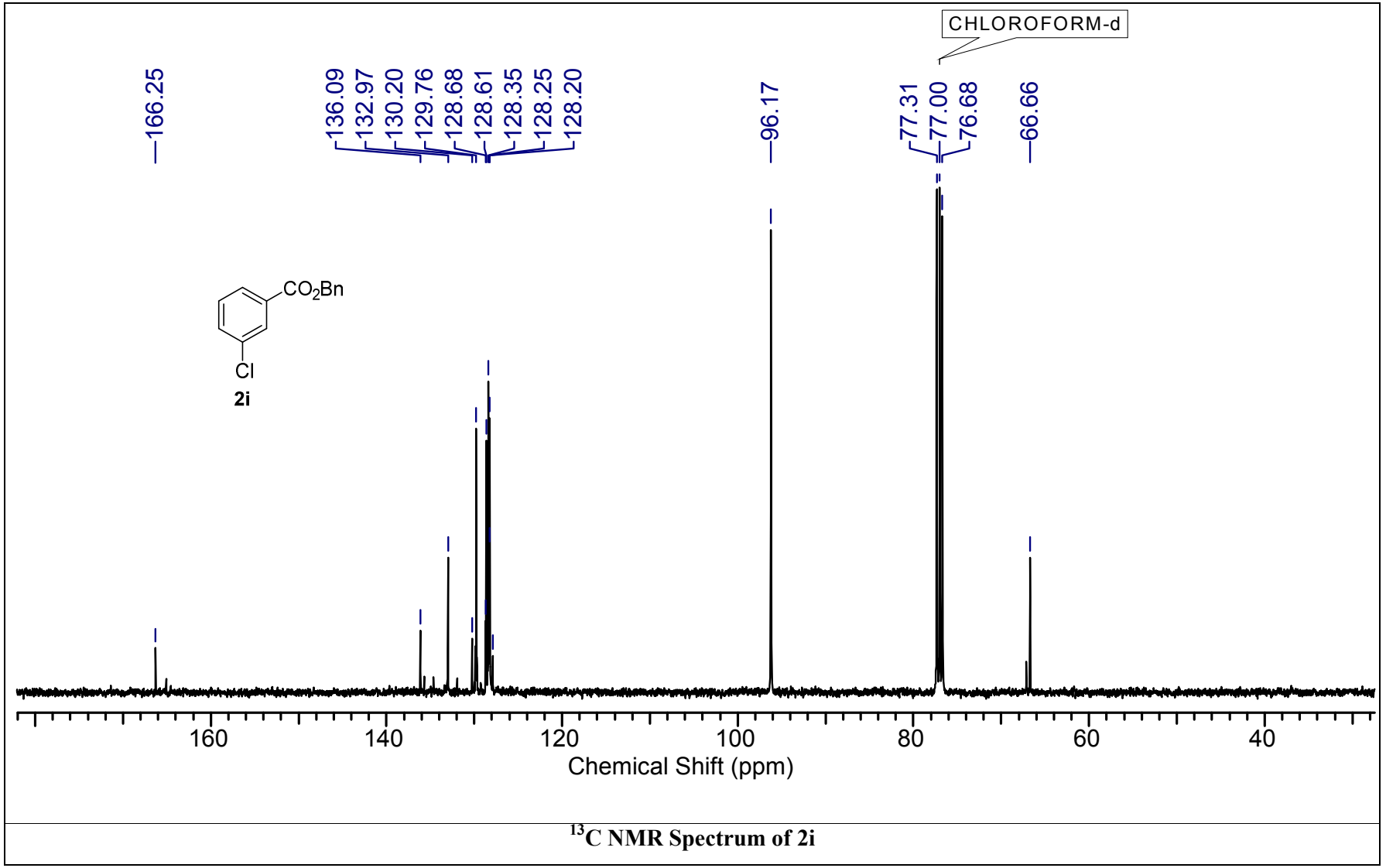
^{1}H NMRspectrum of 2h



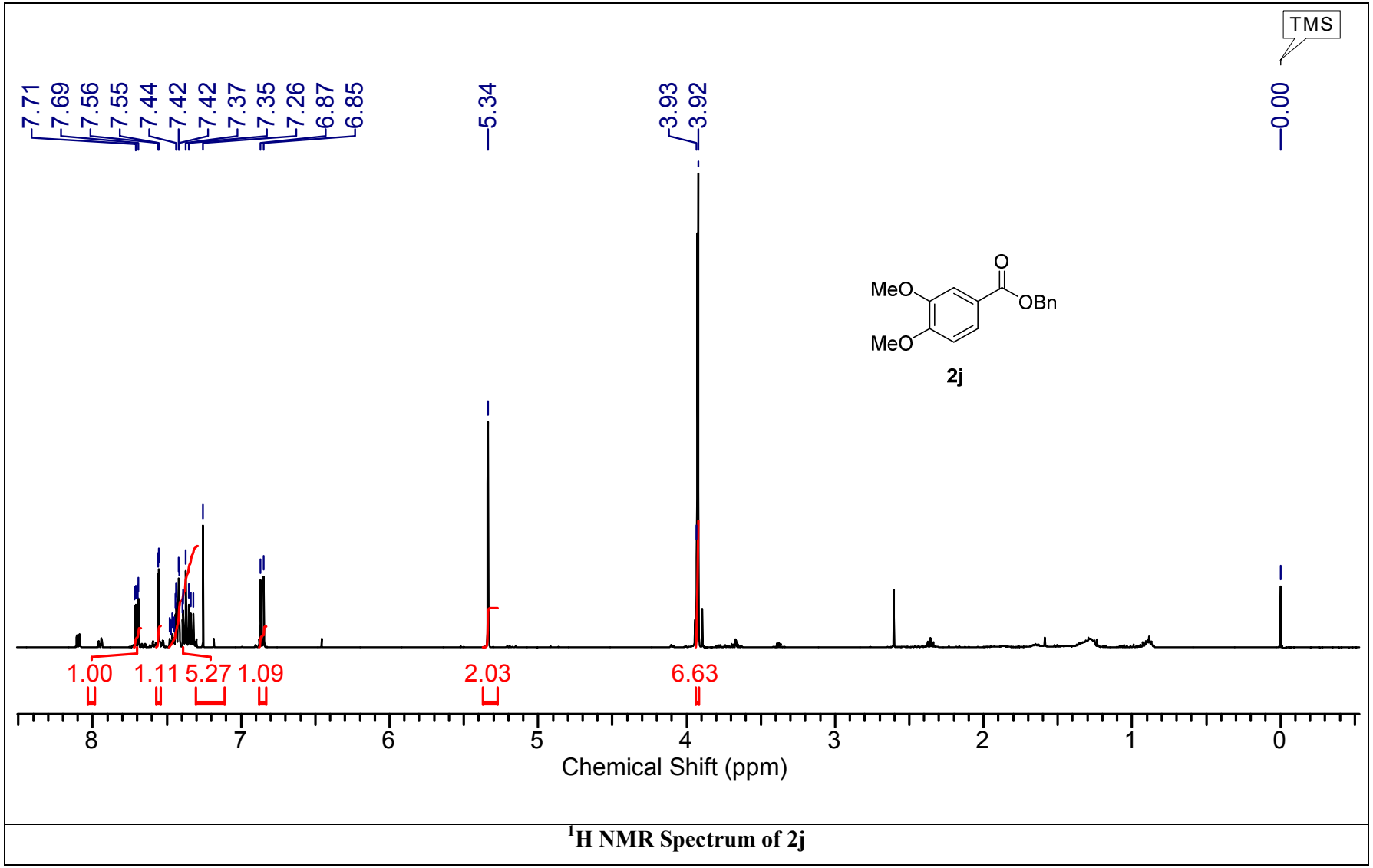
^{13}C NMRspectrum of 2h



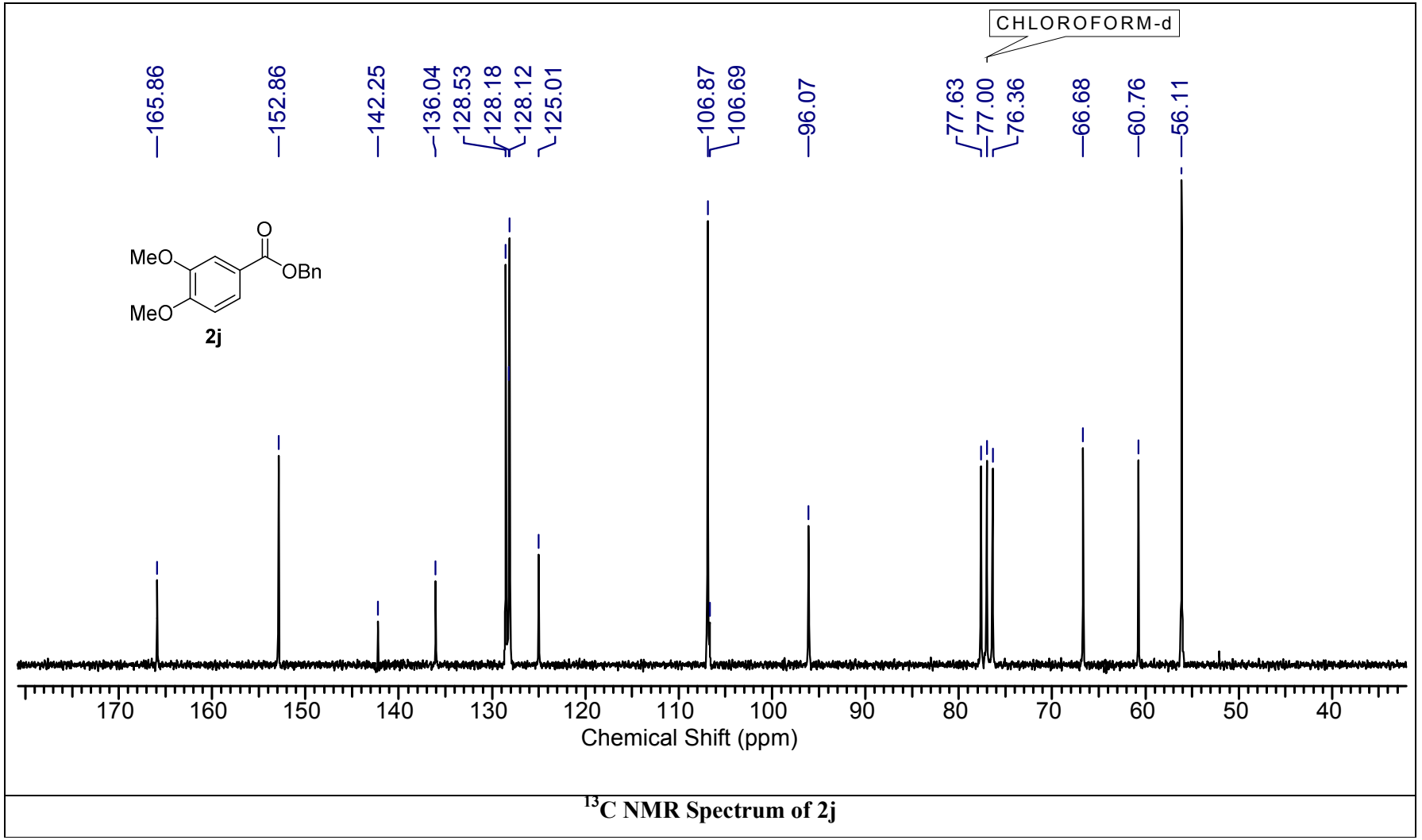
^{1}H NMR Spectrum of 2i



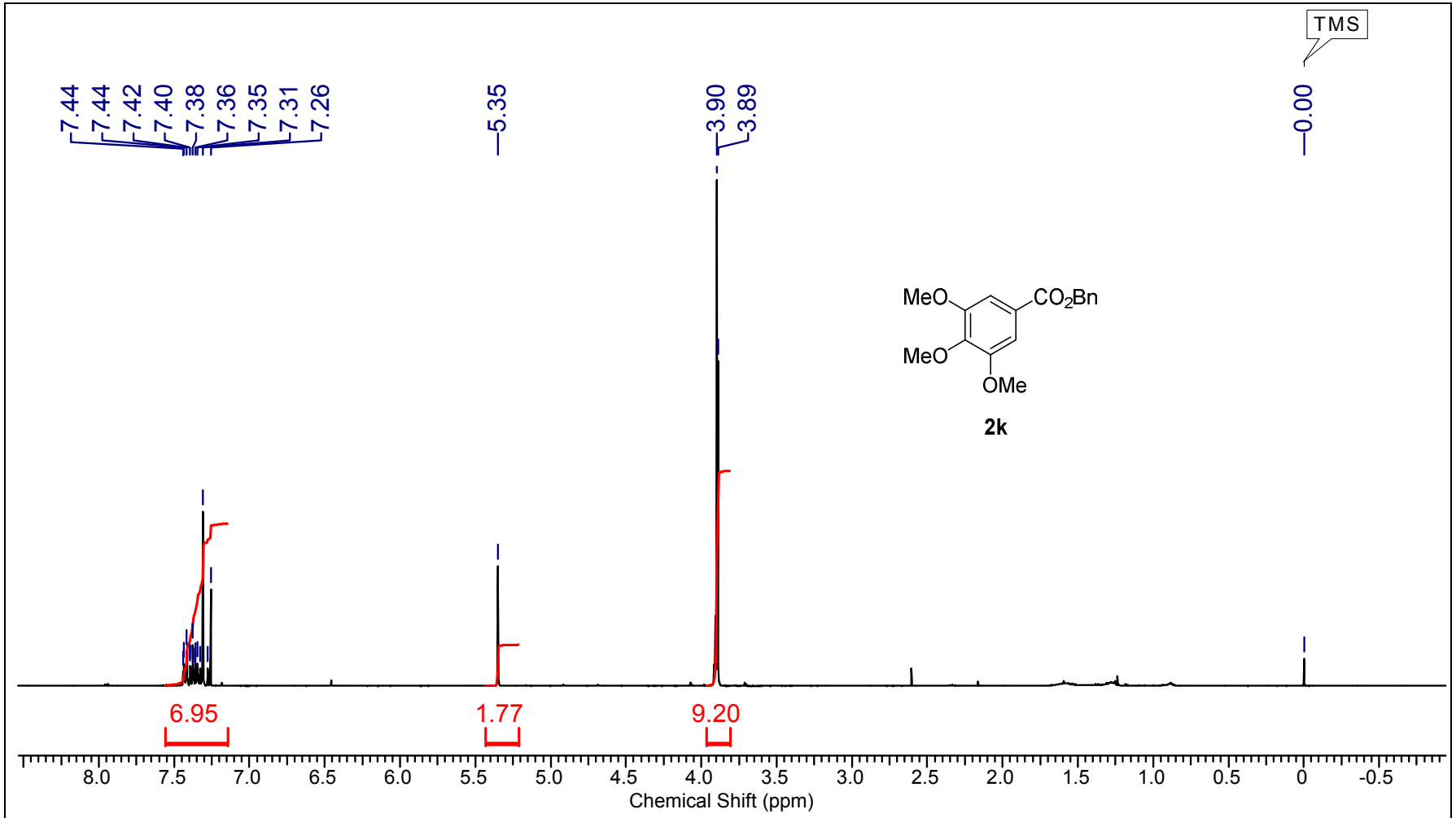
^{13}C NMR Spectrum of 2i



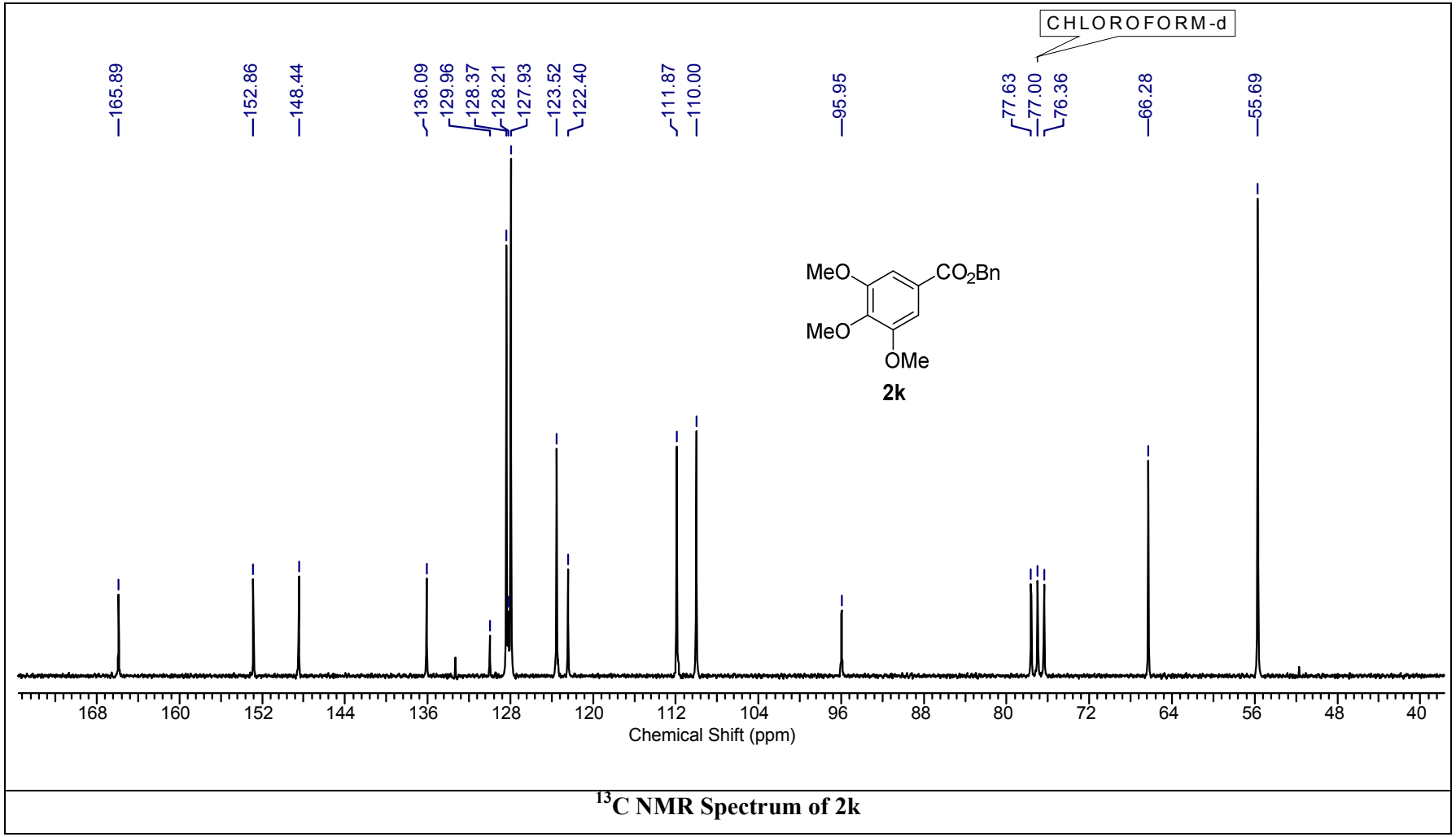
^{1}H NMR Spectrum of 2j



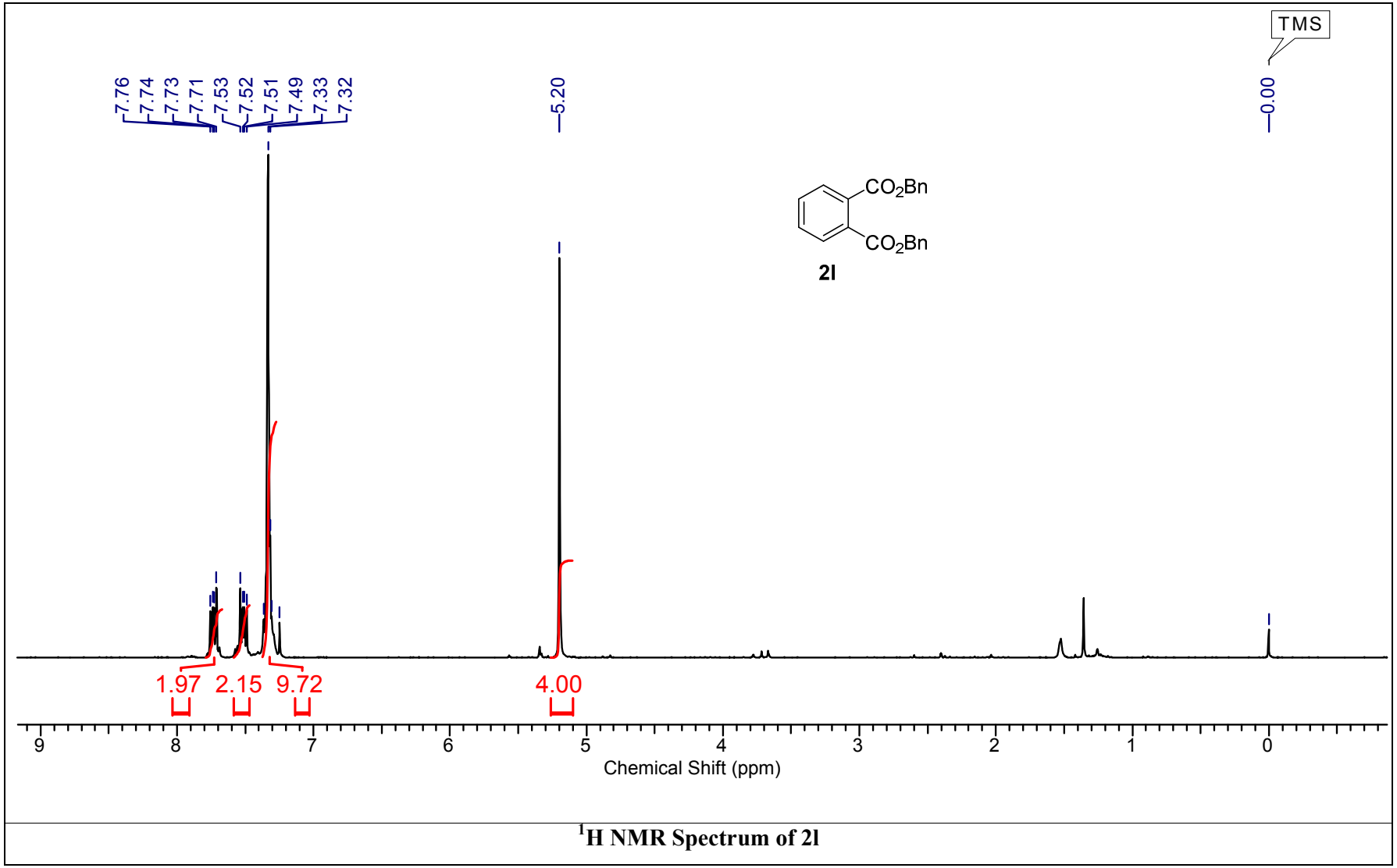
^{13}C NMR Spectrum of 2j



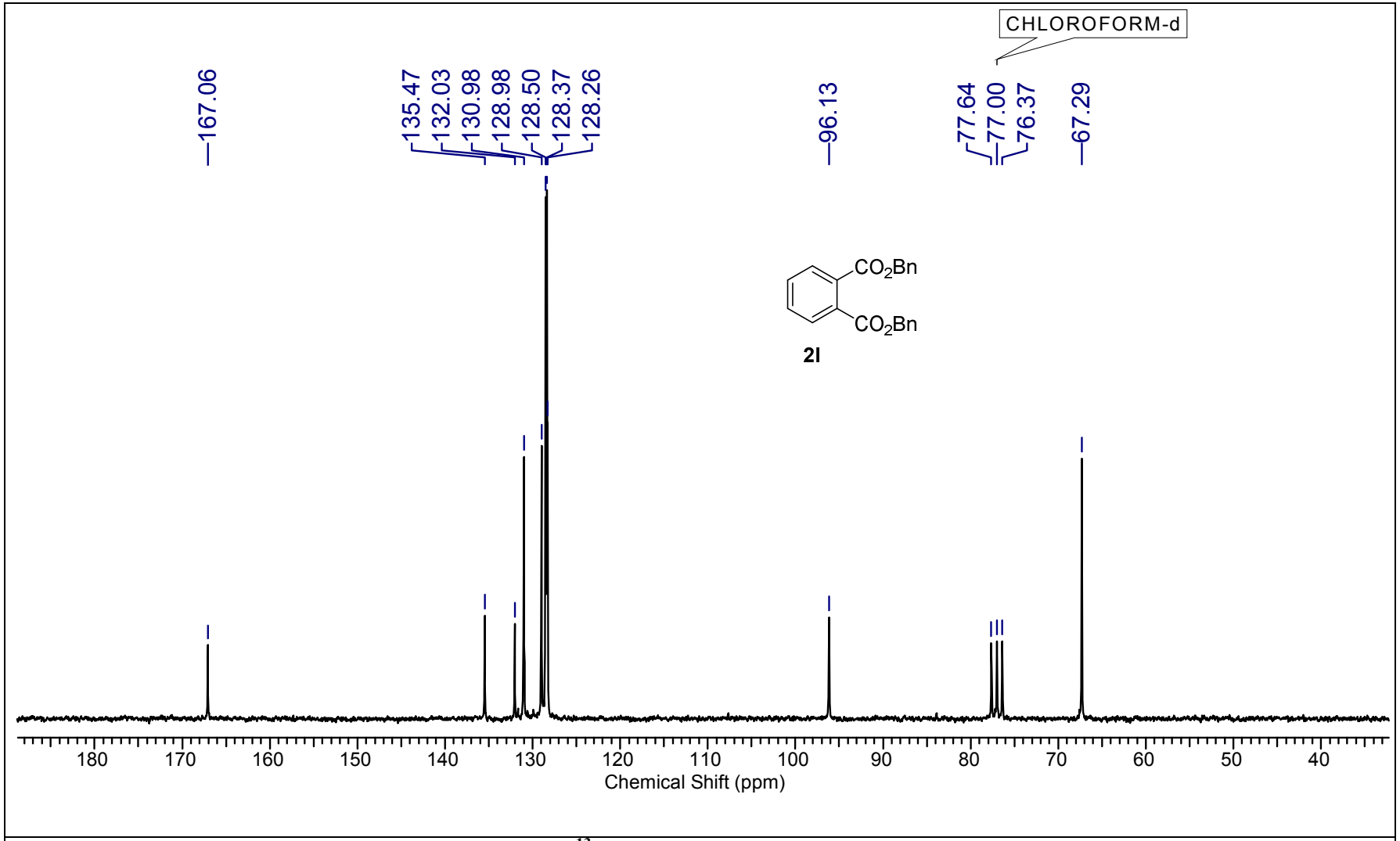
^{1}H NMR Spectrum of 2k



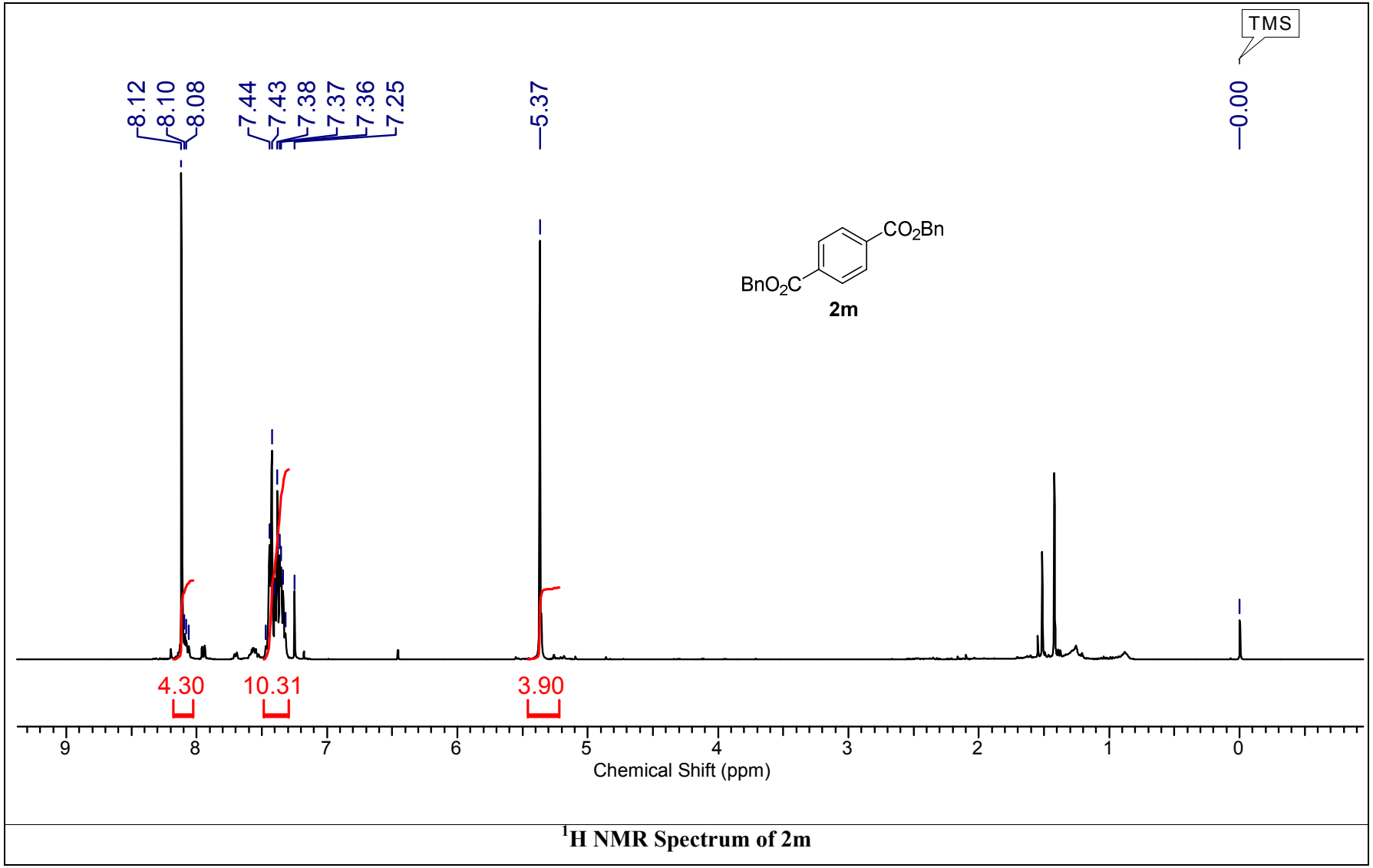
^{13}C NMR Spectrum of 2k



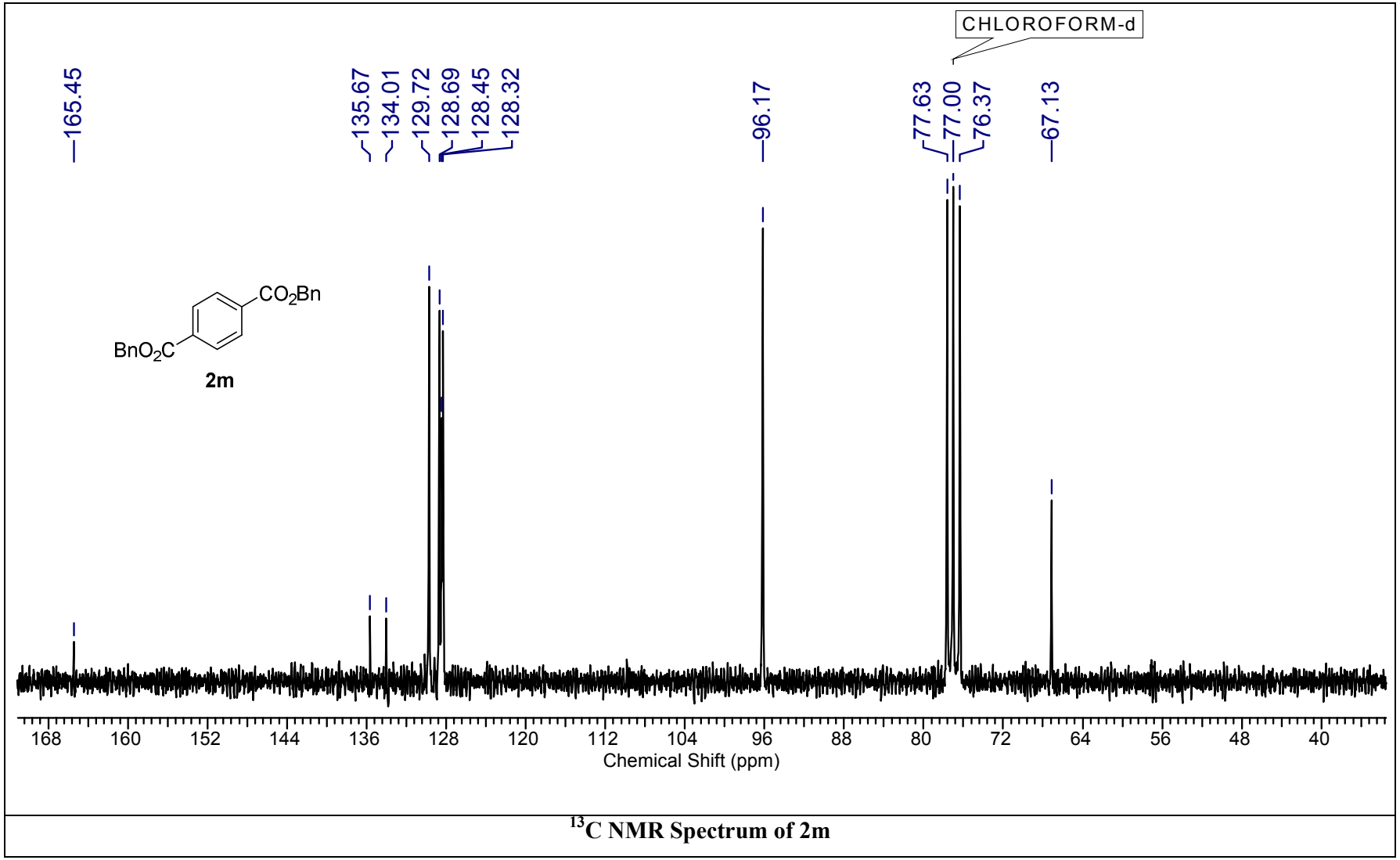
^{1}H NMR Spectrum of 2l



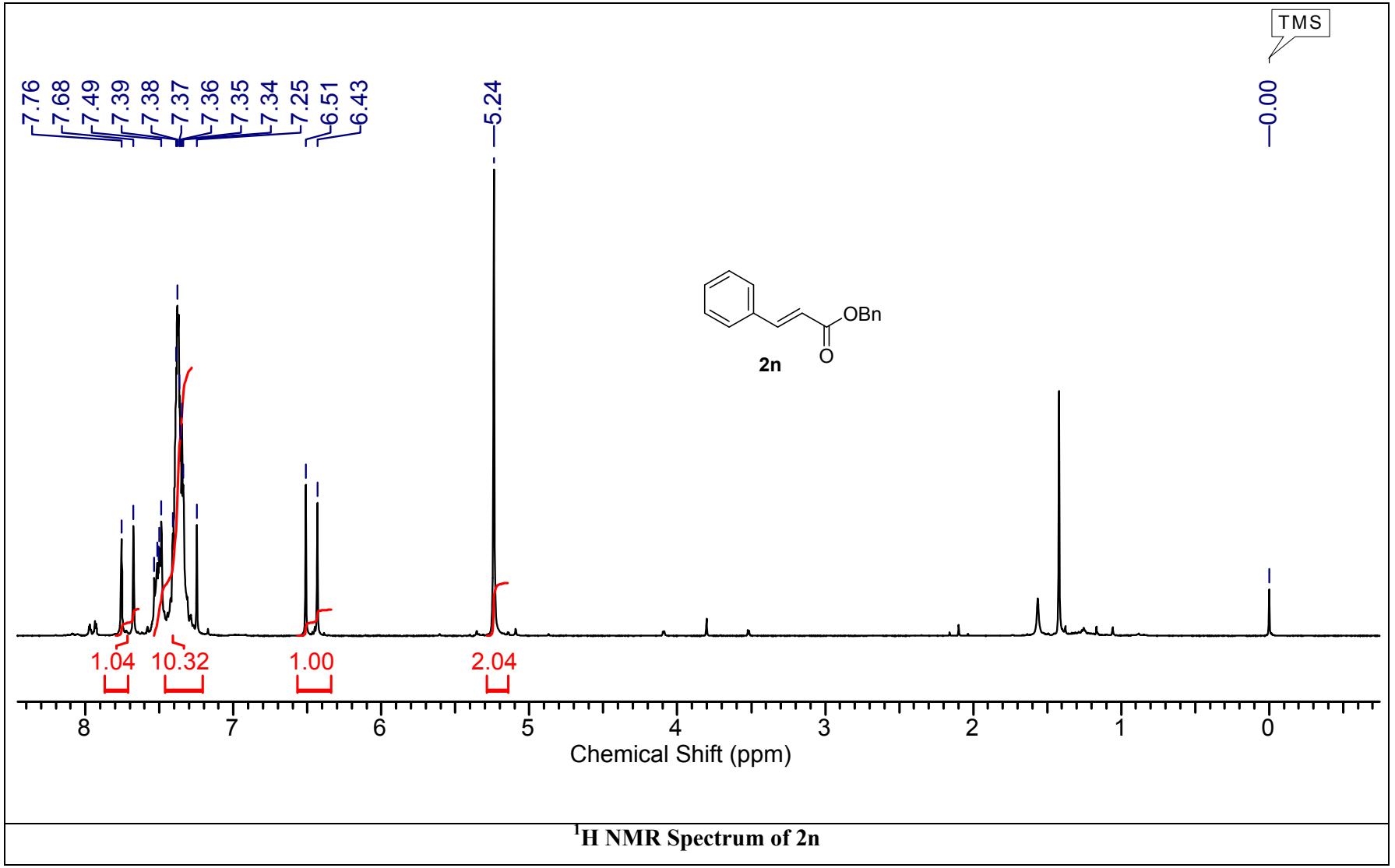
^{13}C NMR Spectrum of 2l



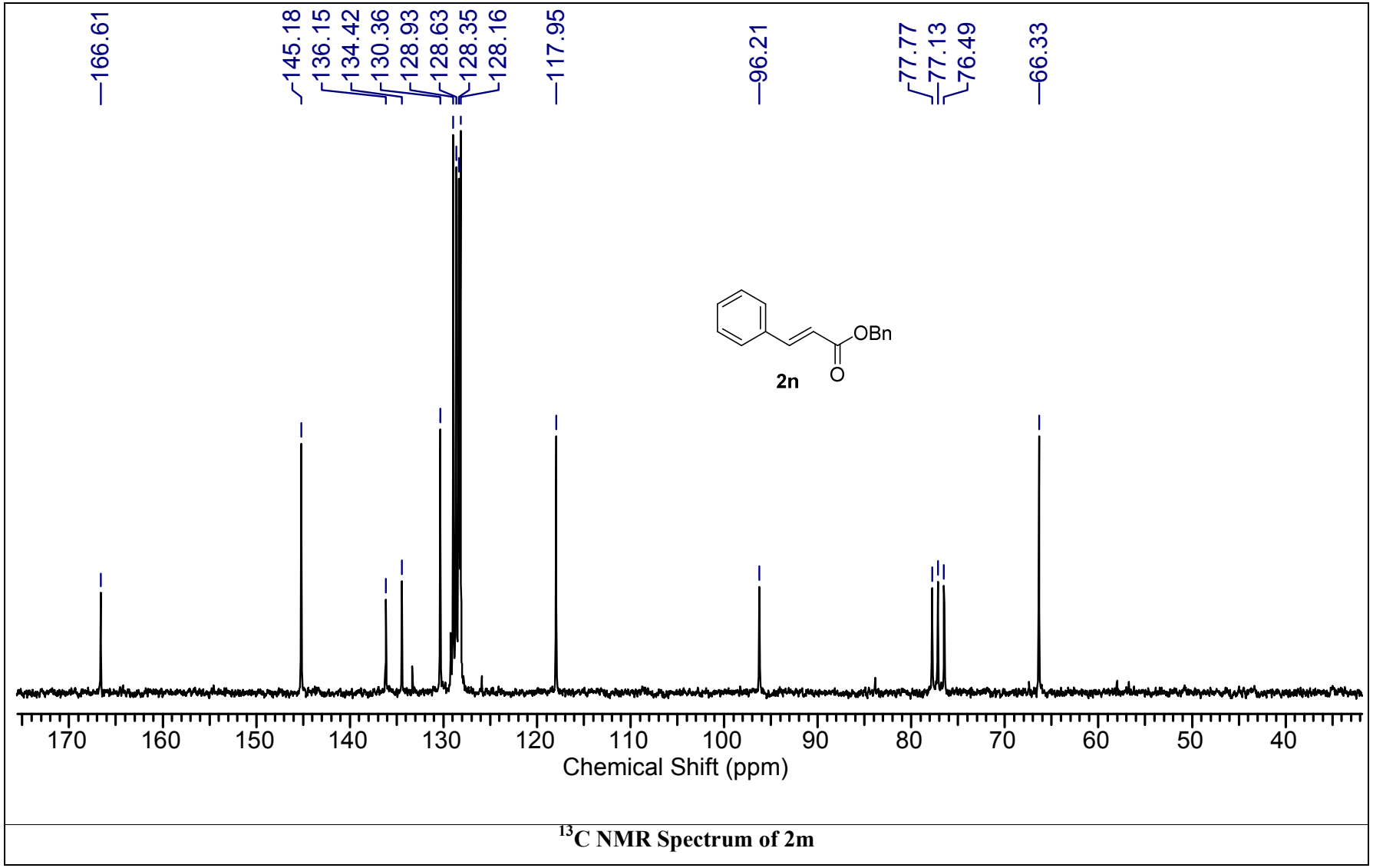
^{1}H NMR Spectrum of 2m



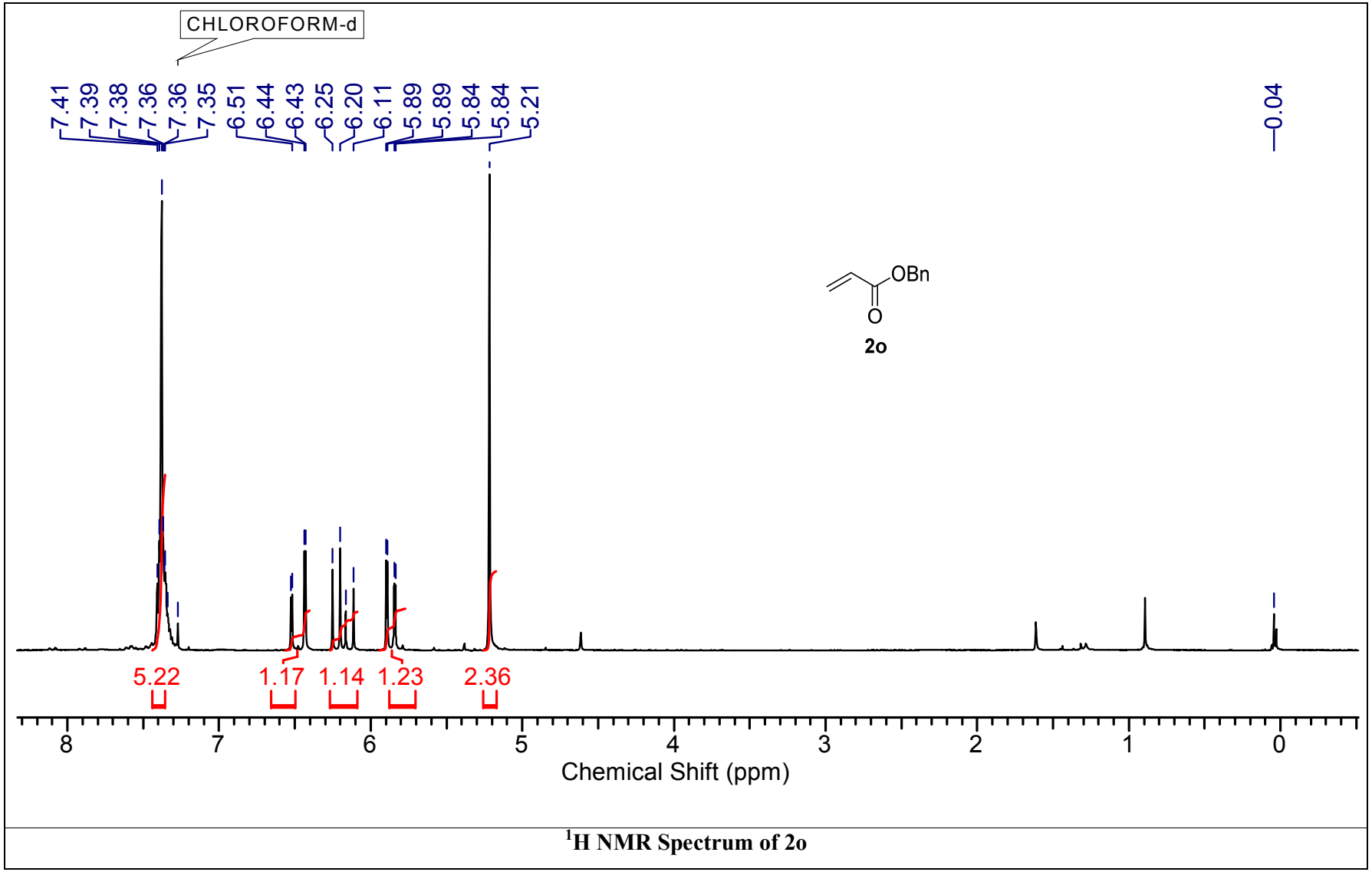
^{13}C NMR Spectrum of 2m



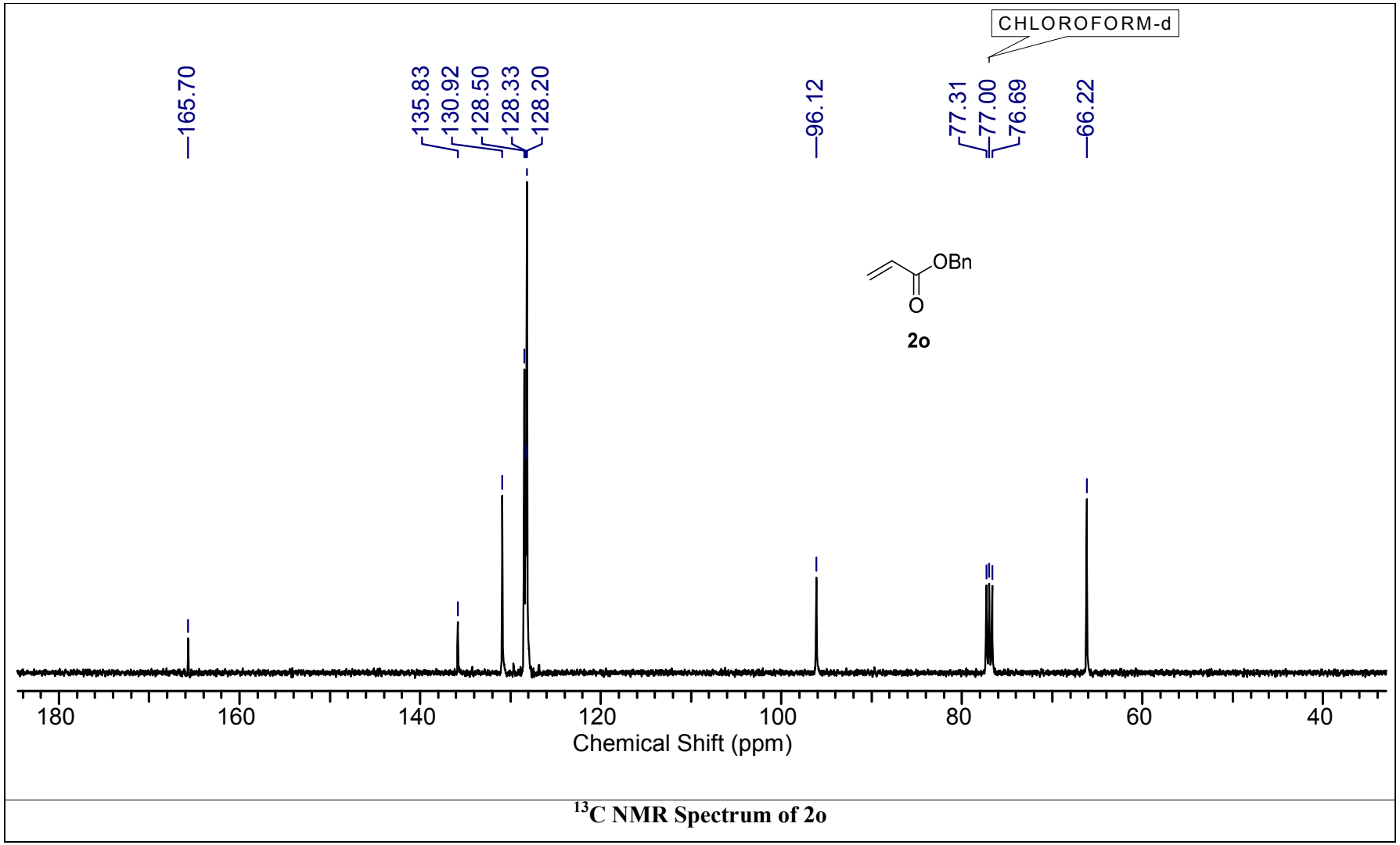
^{1}H NMR Spectrum of 2n



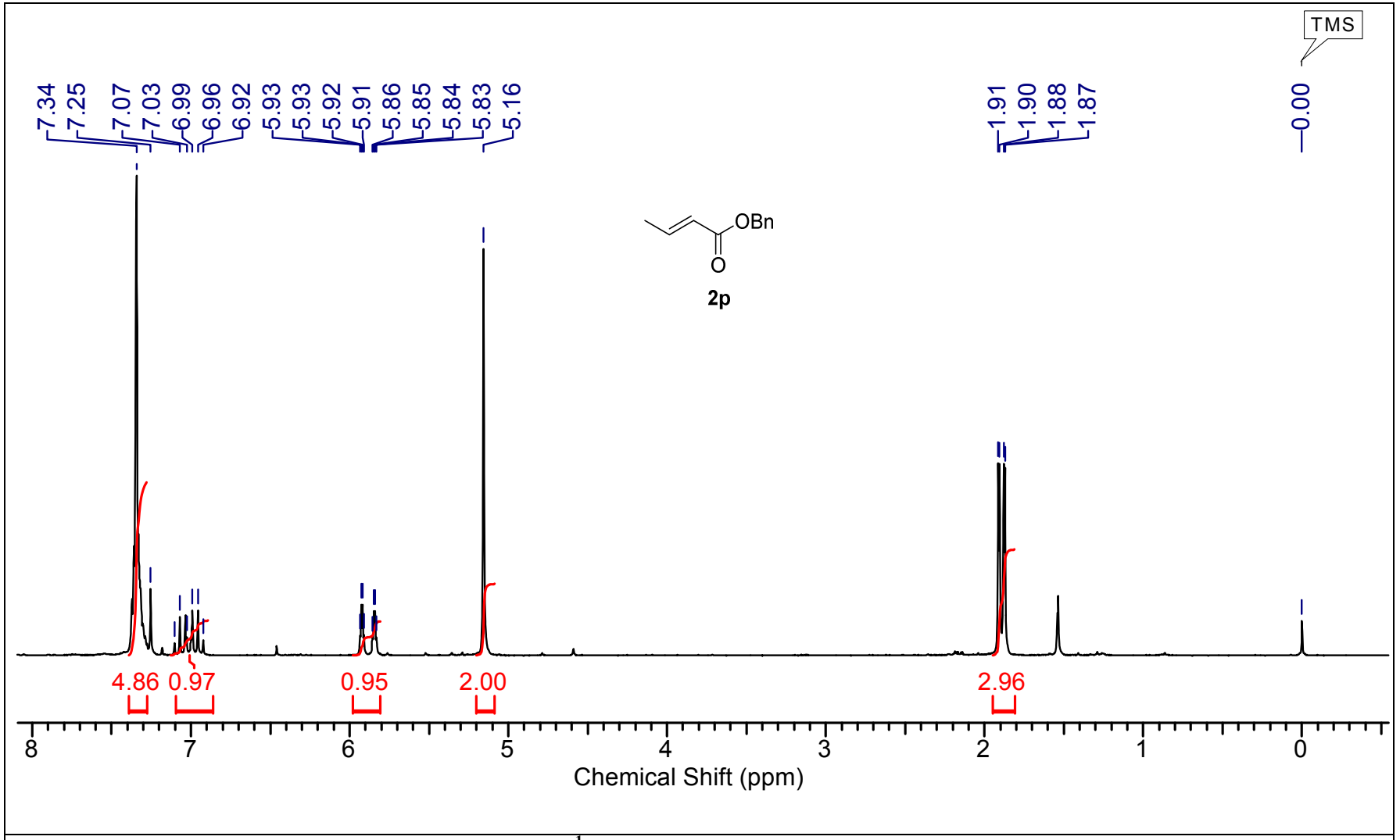
^{13}C NMR Spectrum of 2m



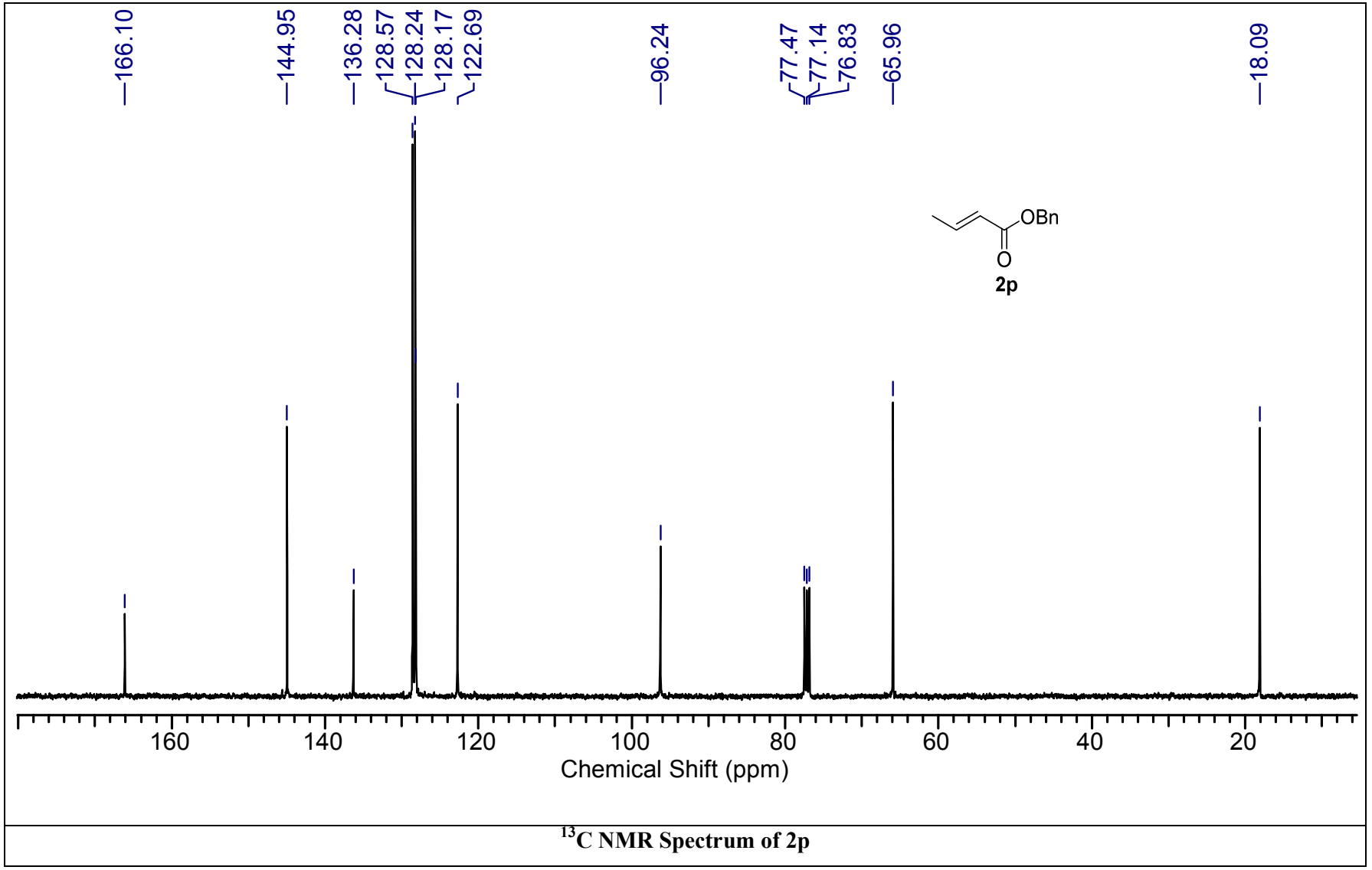
^{1}H NMR Spectrum of 2o



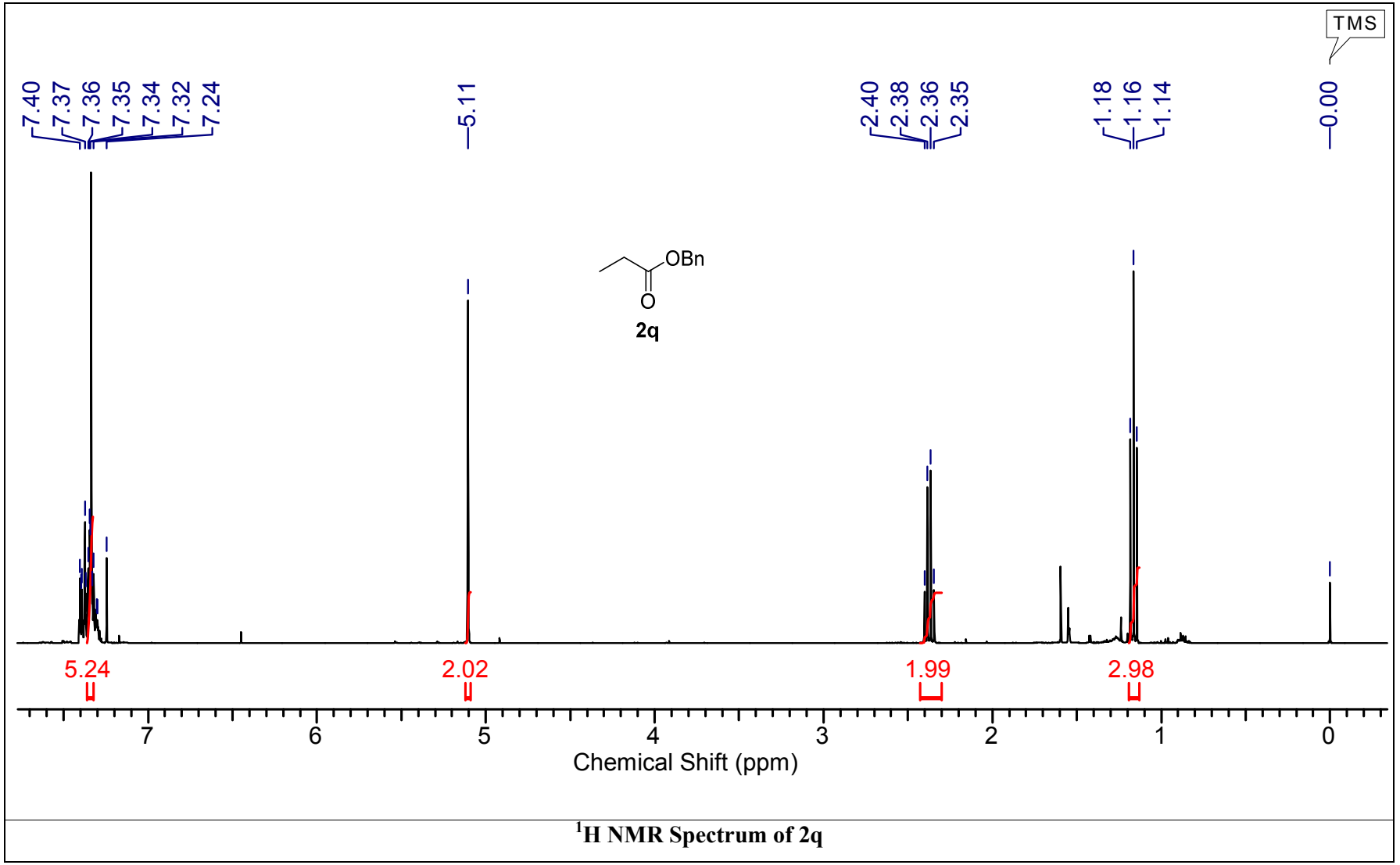
^{13}C NMR Spectrum of 2o



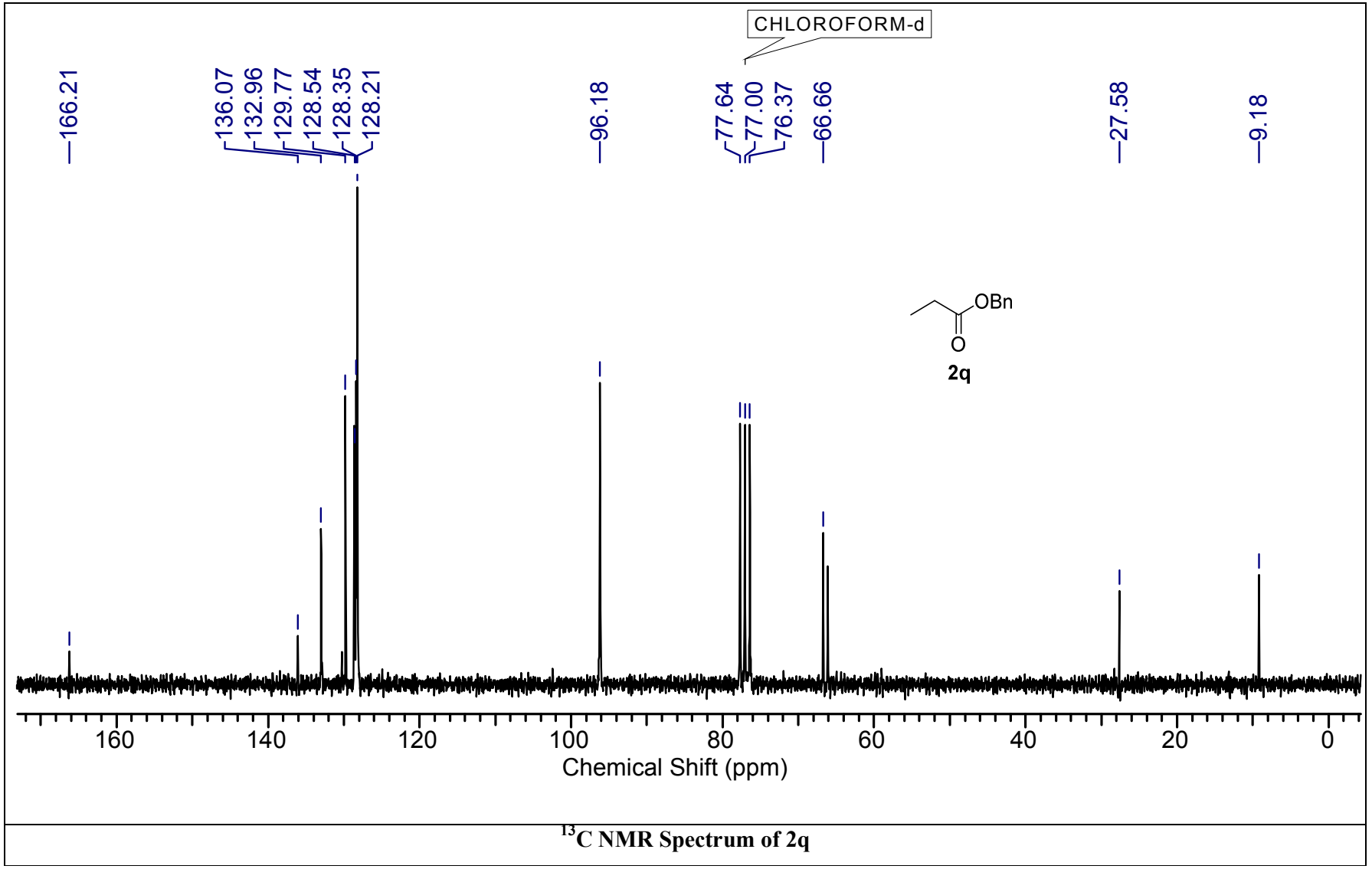
^{1}H NMR Spectrum of 2p



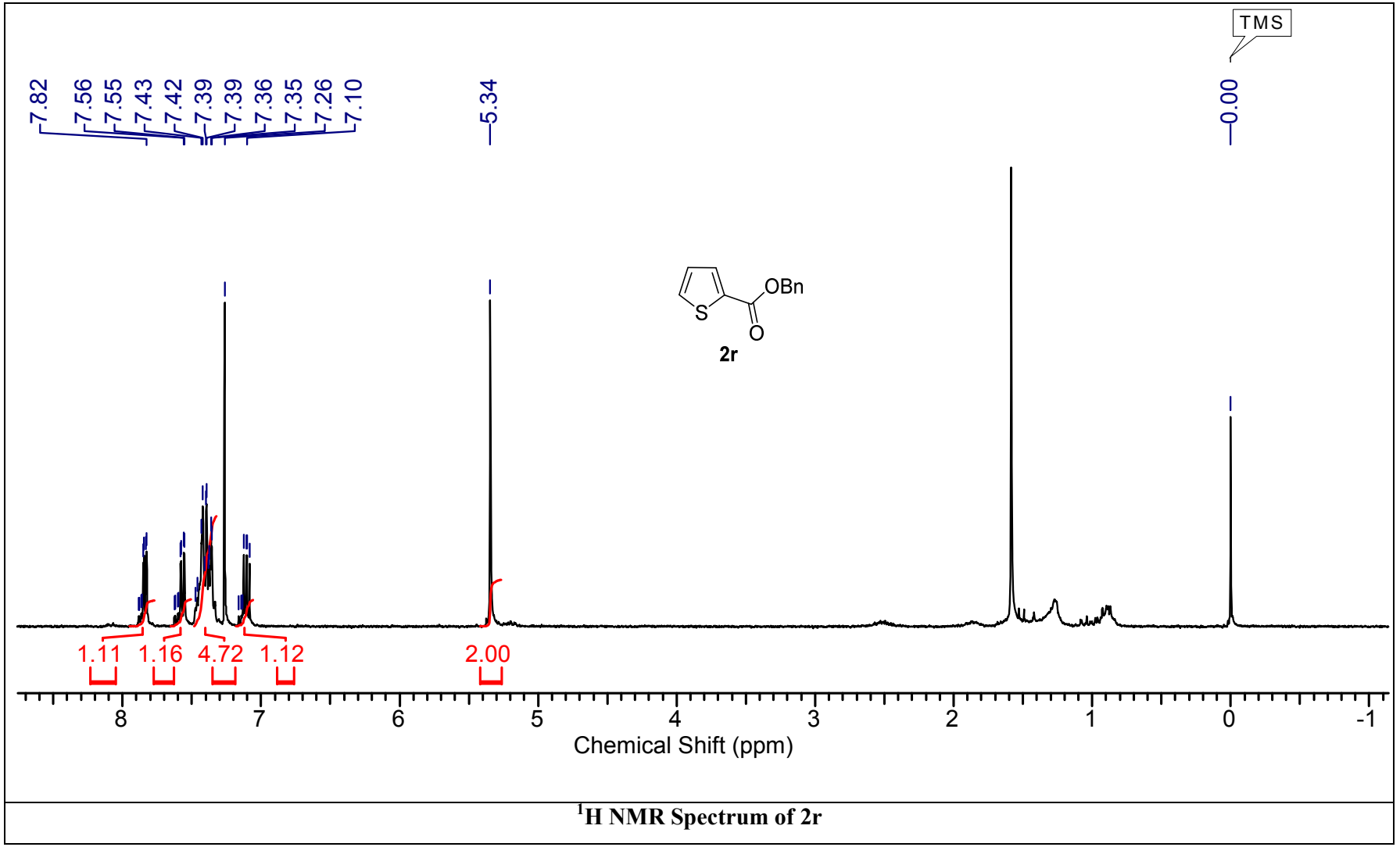
^{13}C NMR Spectrum of 2p



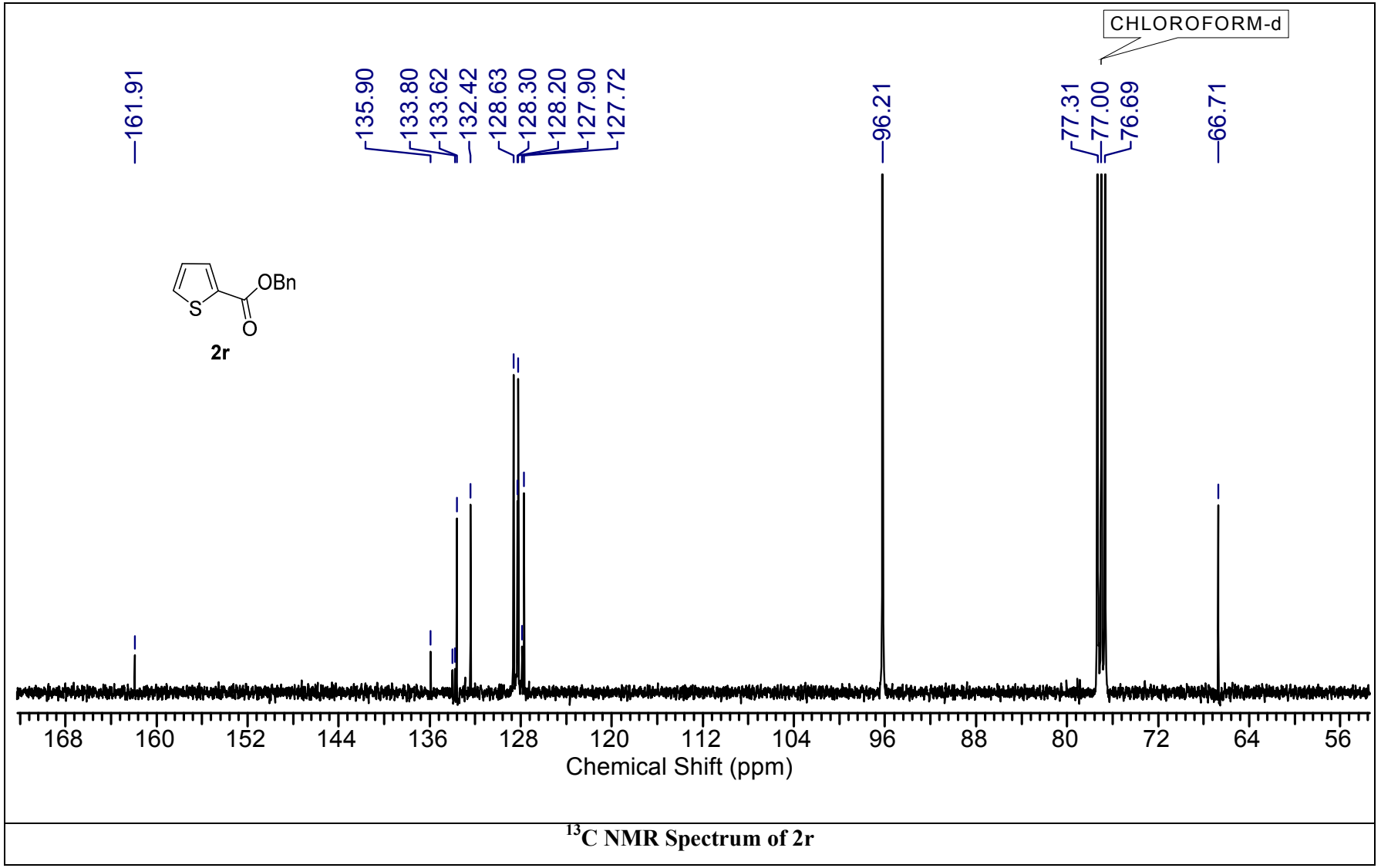
^{1}H NMR Spectrum of 2q



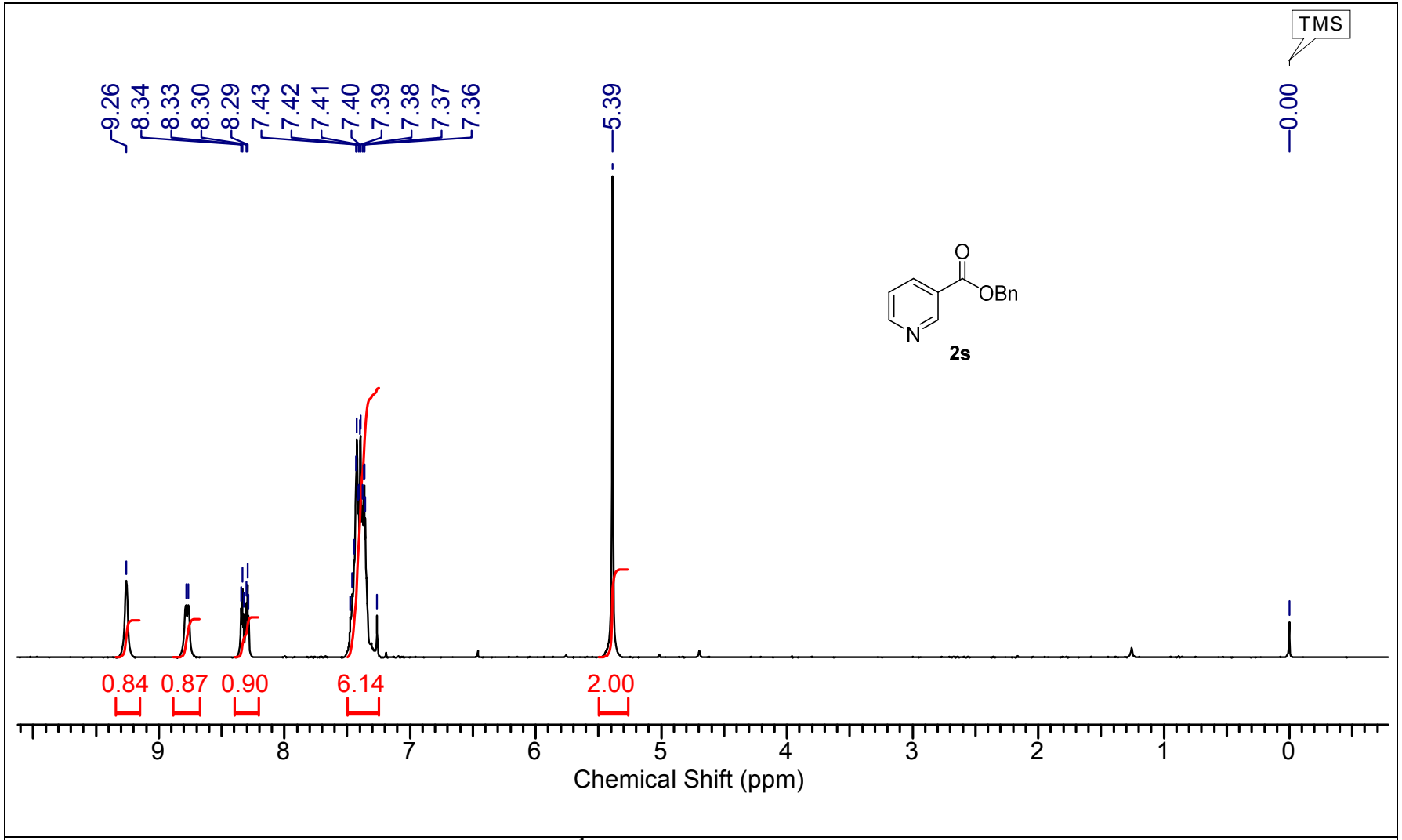
^{13}C NMR Spectrum of 2q



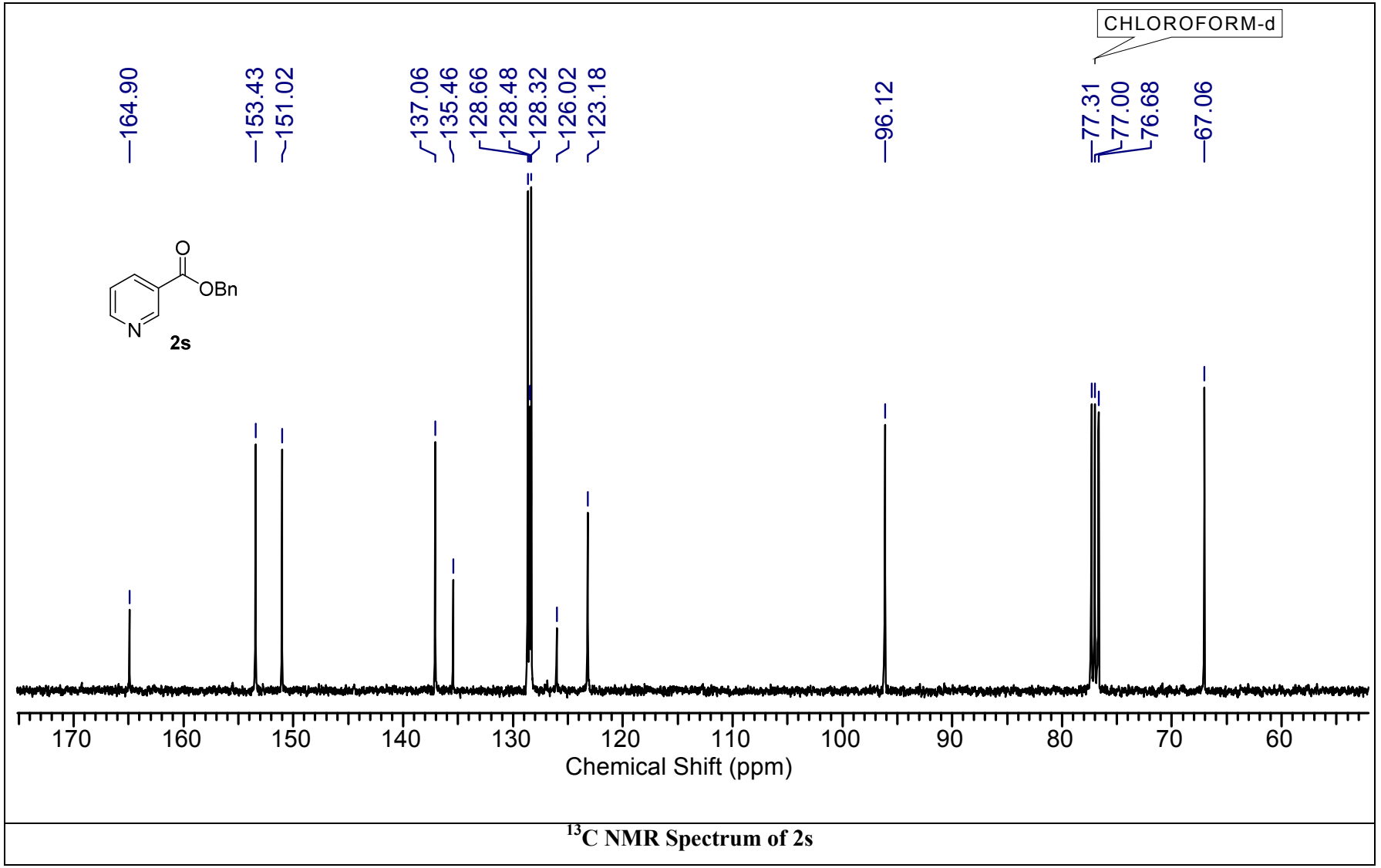
^{1}H NMR Spectrum of 2r



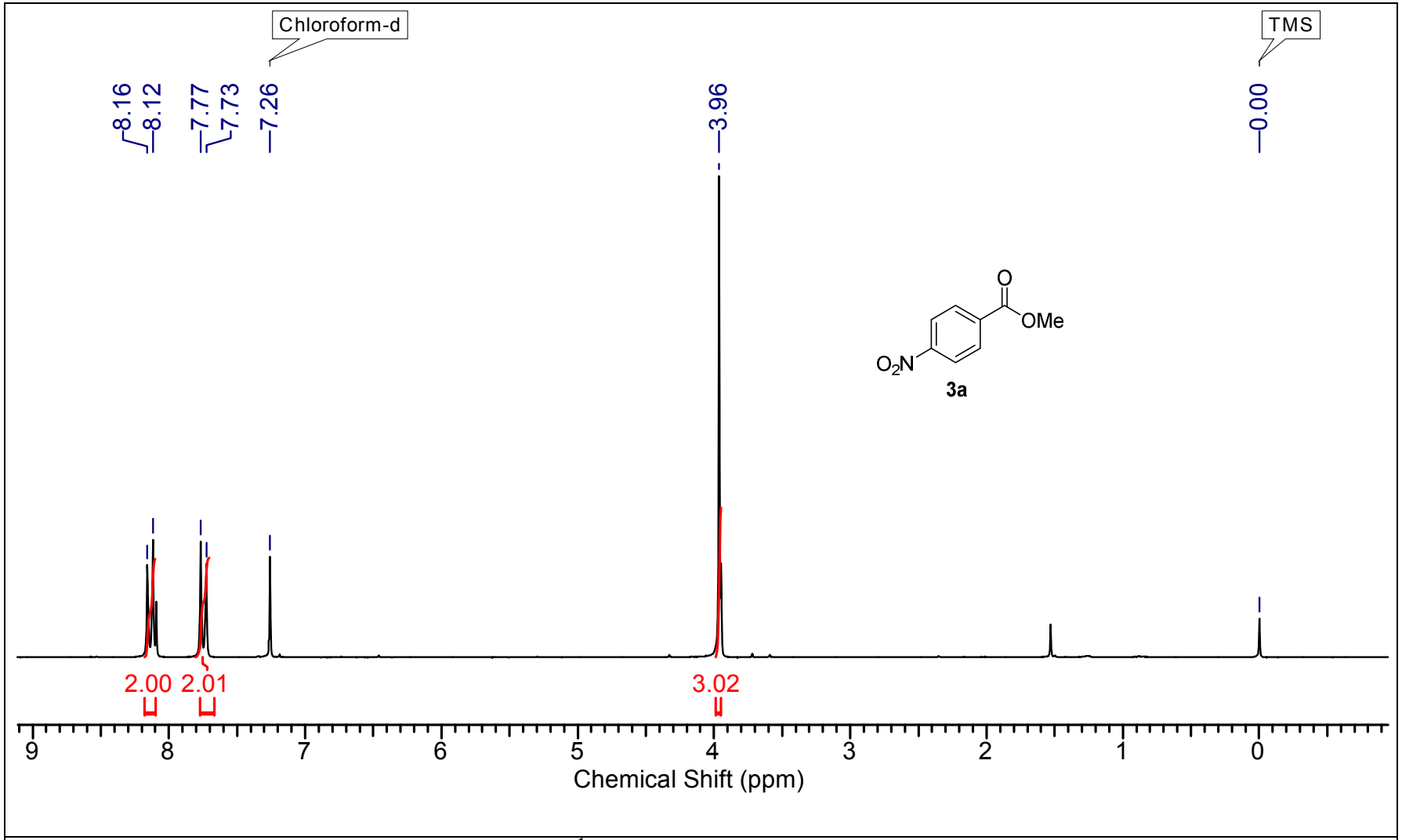
^{13}C NMR Spectrum of 2r



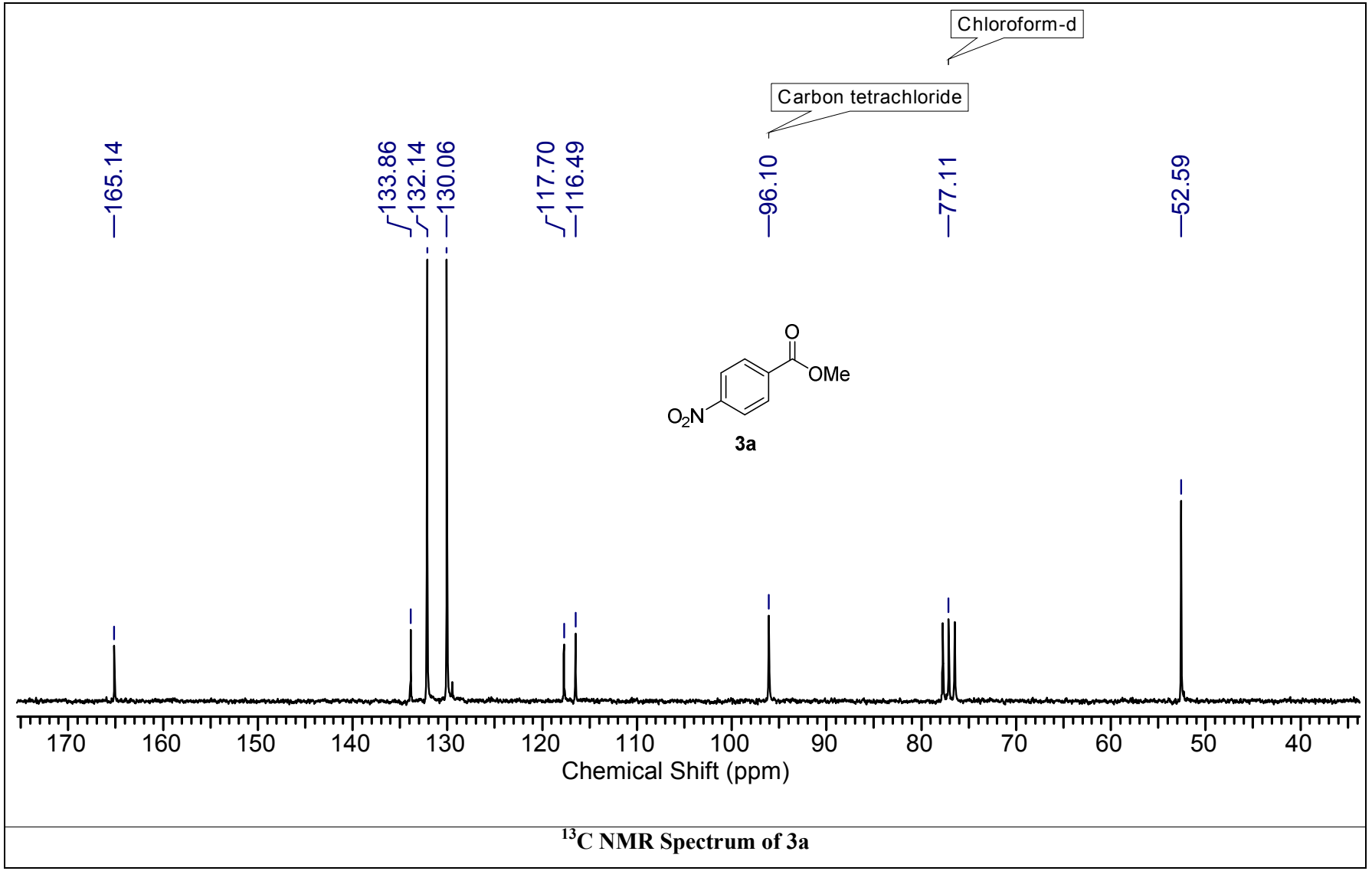
^{1}H NMR Spectrum of 2s



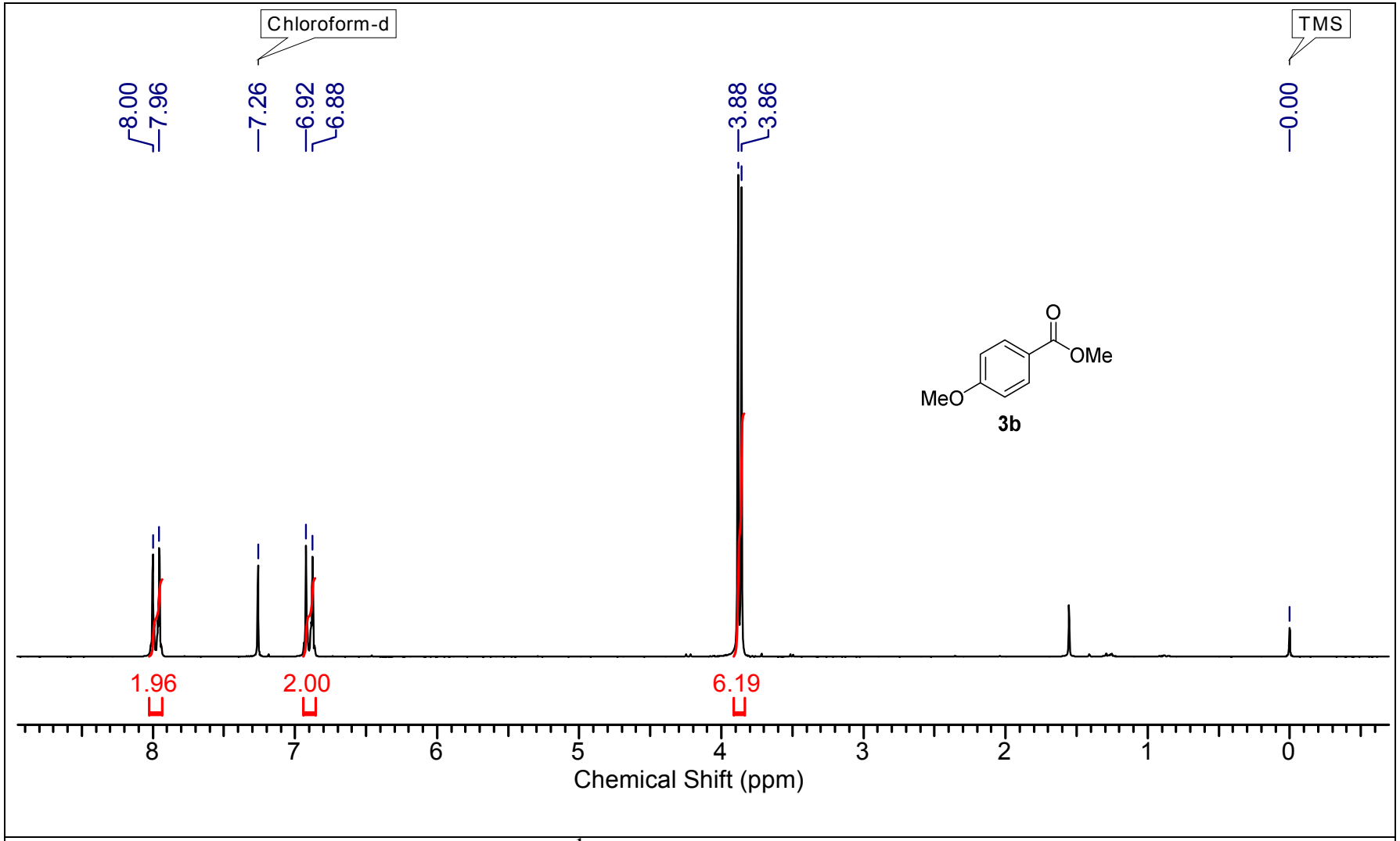
^{13}C NMR Spectrum of 2s



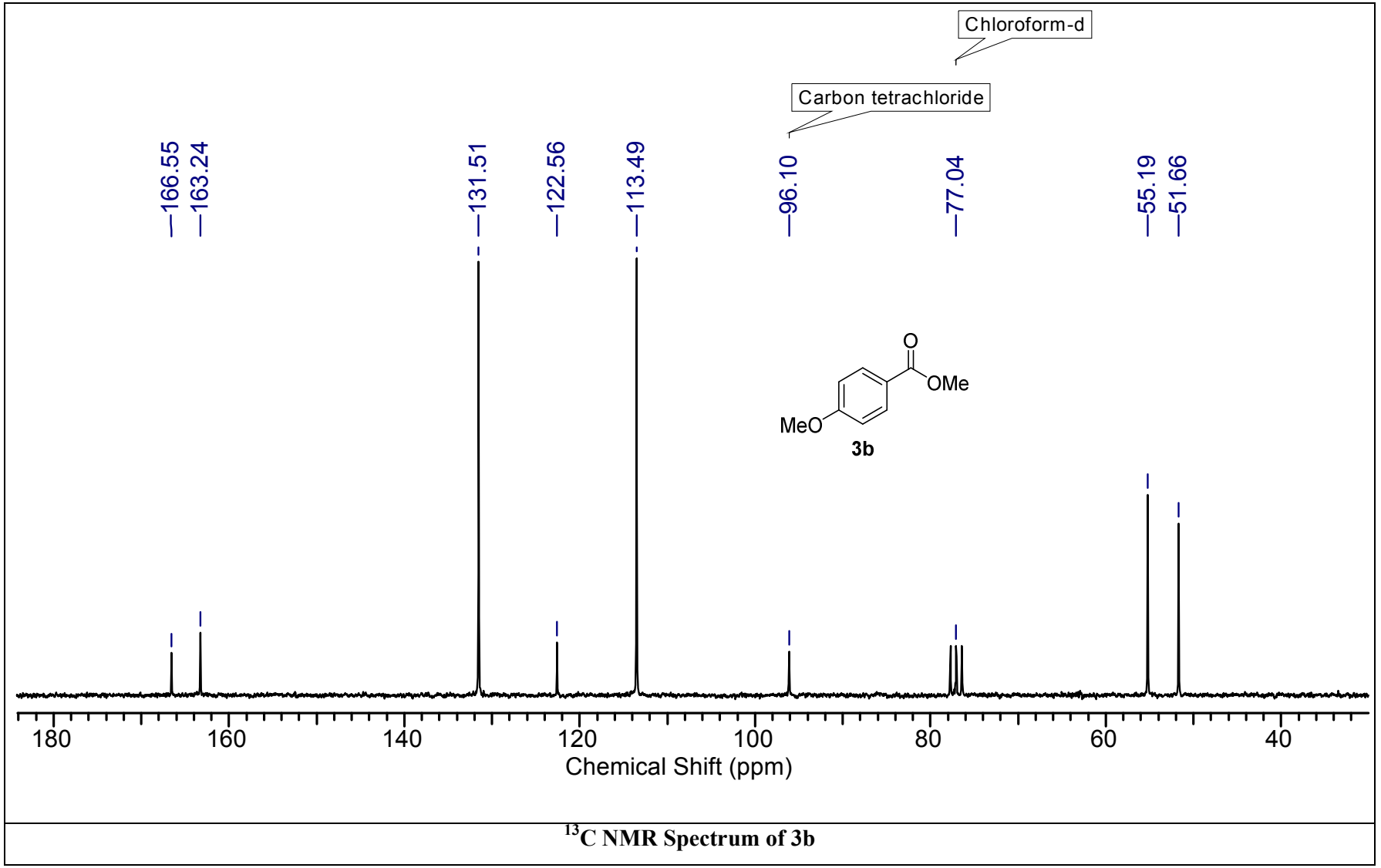
^{1}H NMR Spectrum of 3a



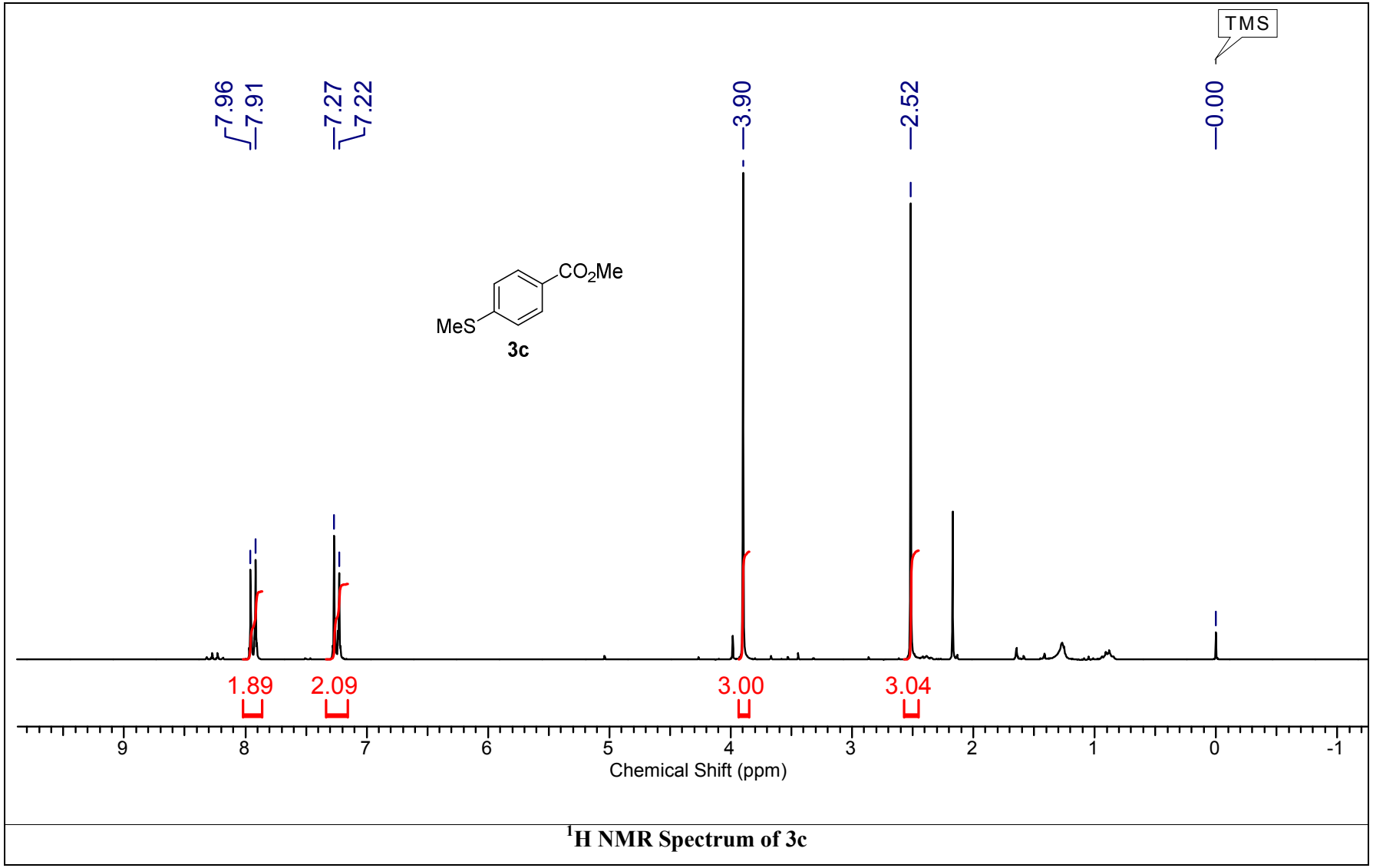
^{13}C NMR Spectrum of 3a



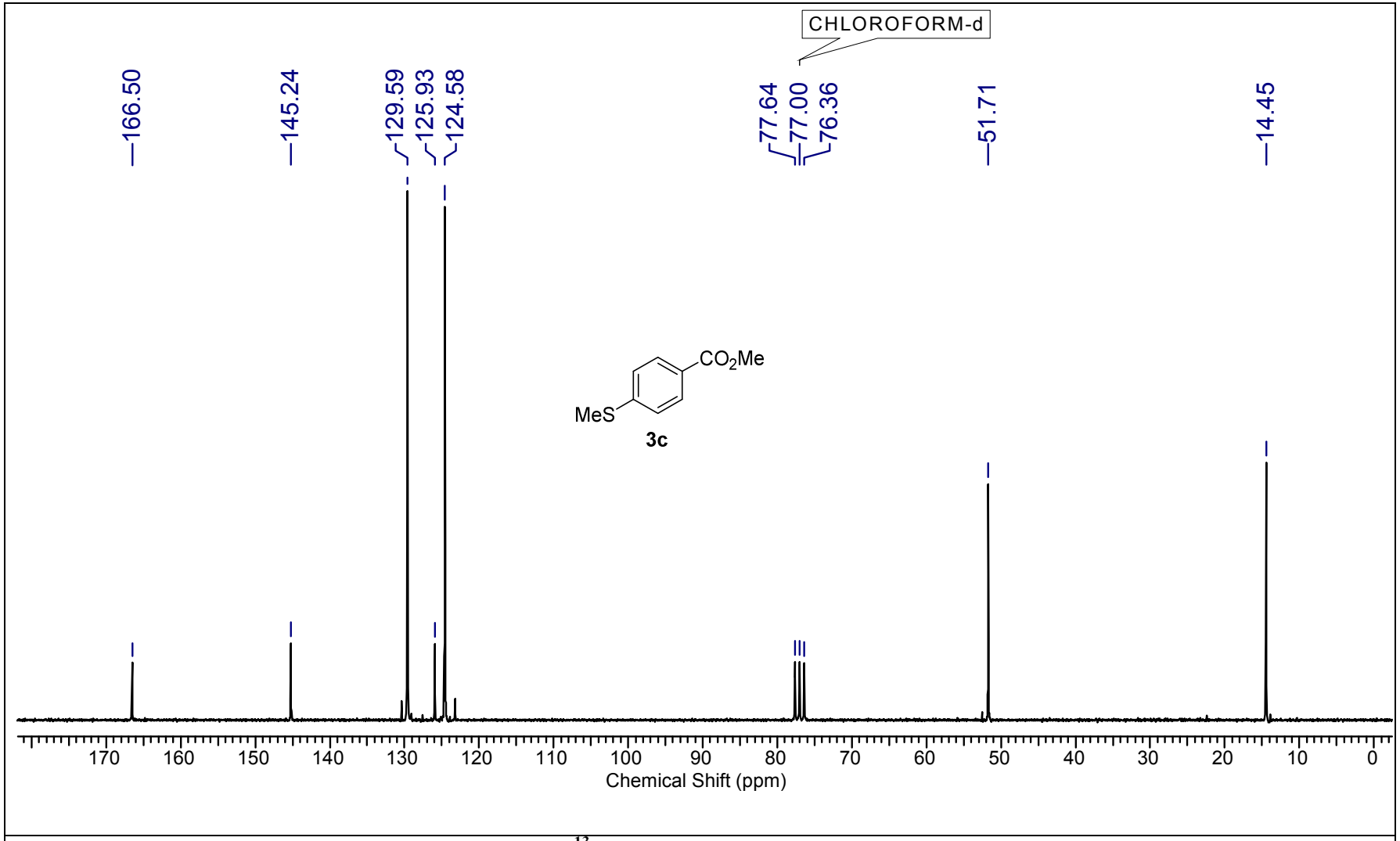
^{1}H NMR Spectrum of 3b



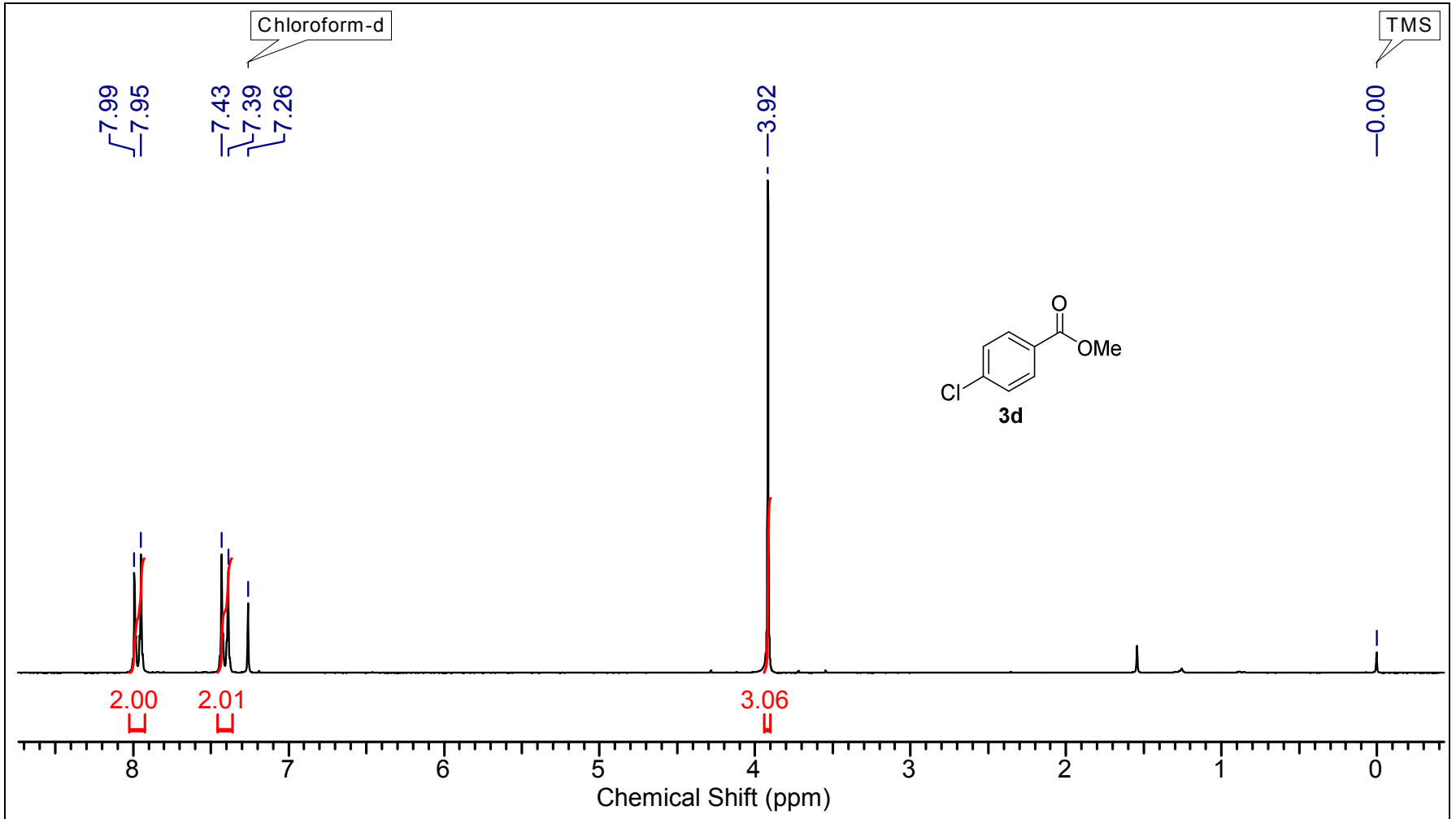
^{13}C NMR Spectrum of 3b



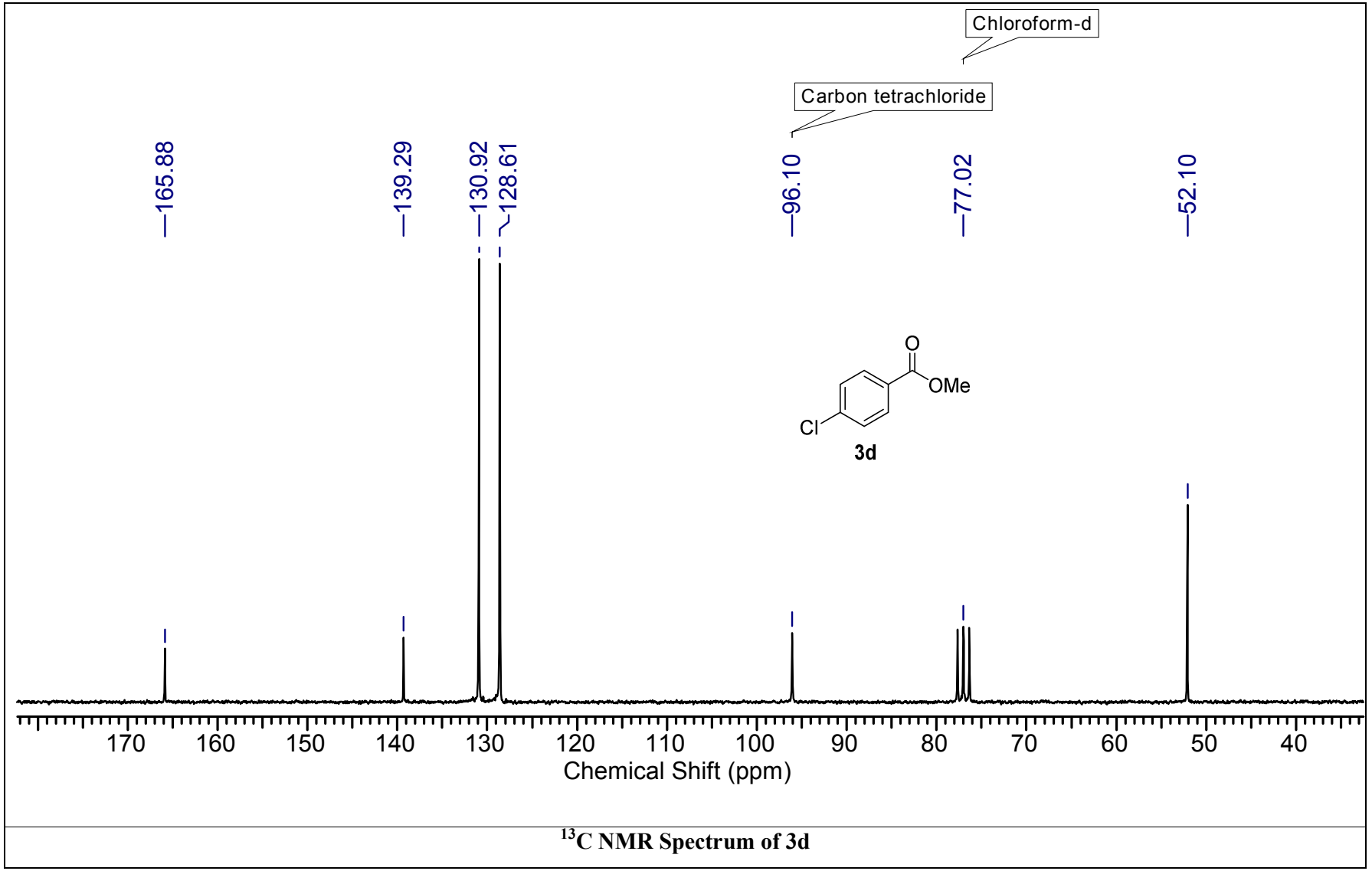
^{1}H NMR Spectrum of 3c



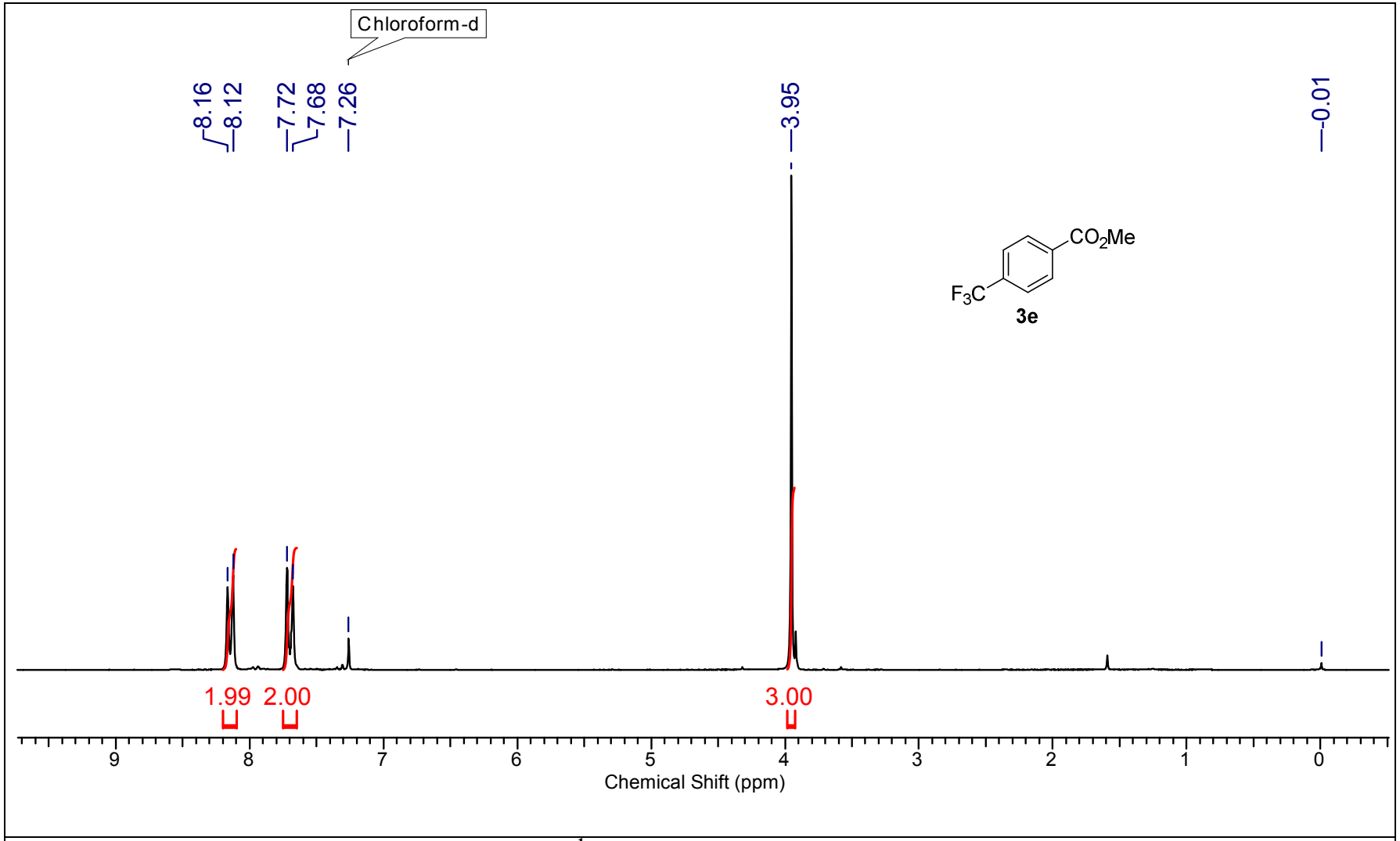
^{13}C NMR Spectrum of 3c



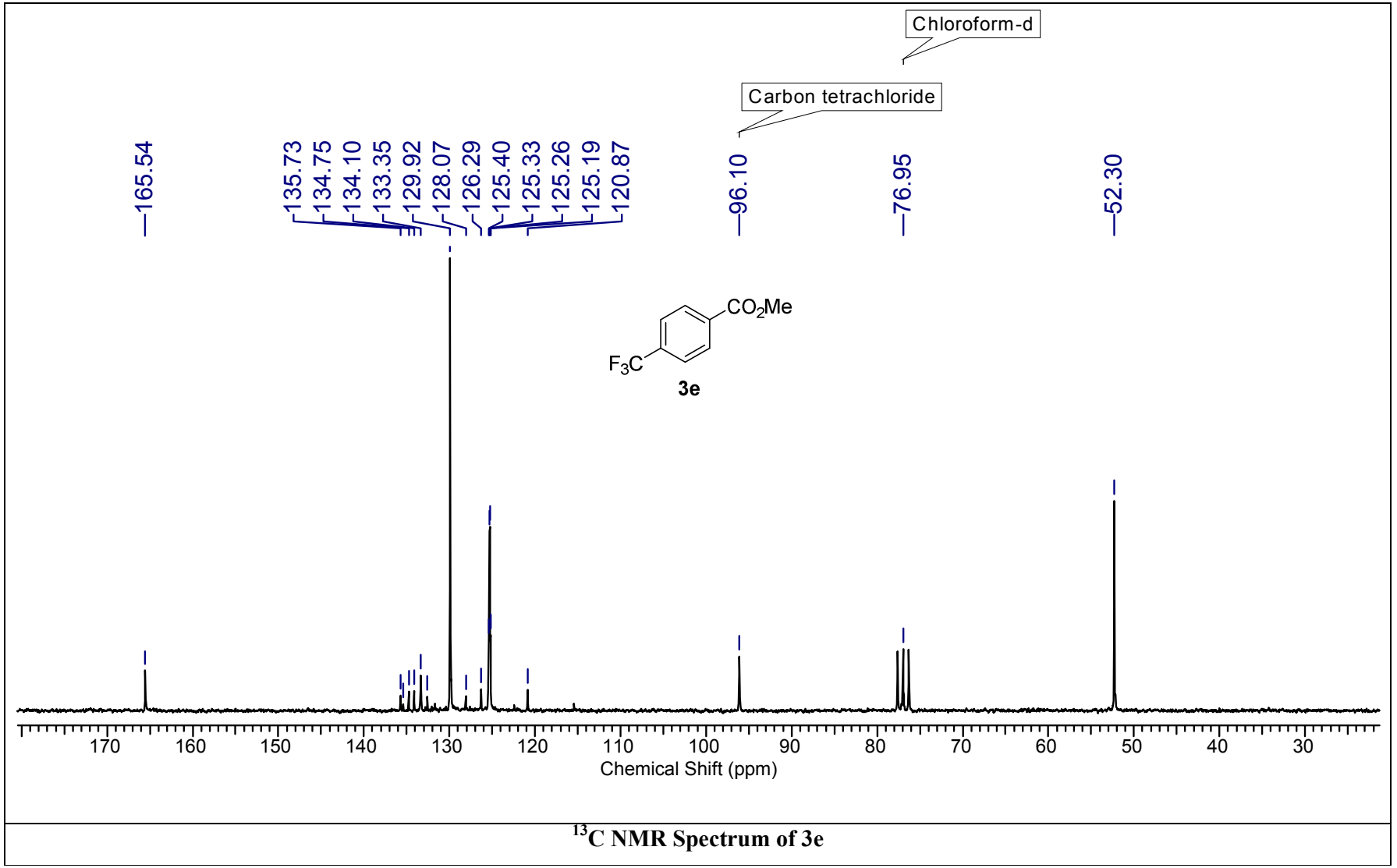
^{1}H NMR Spectrum of 3d



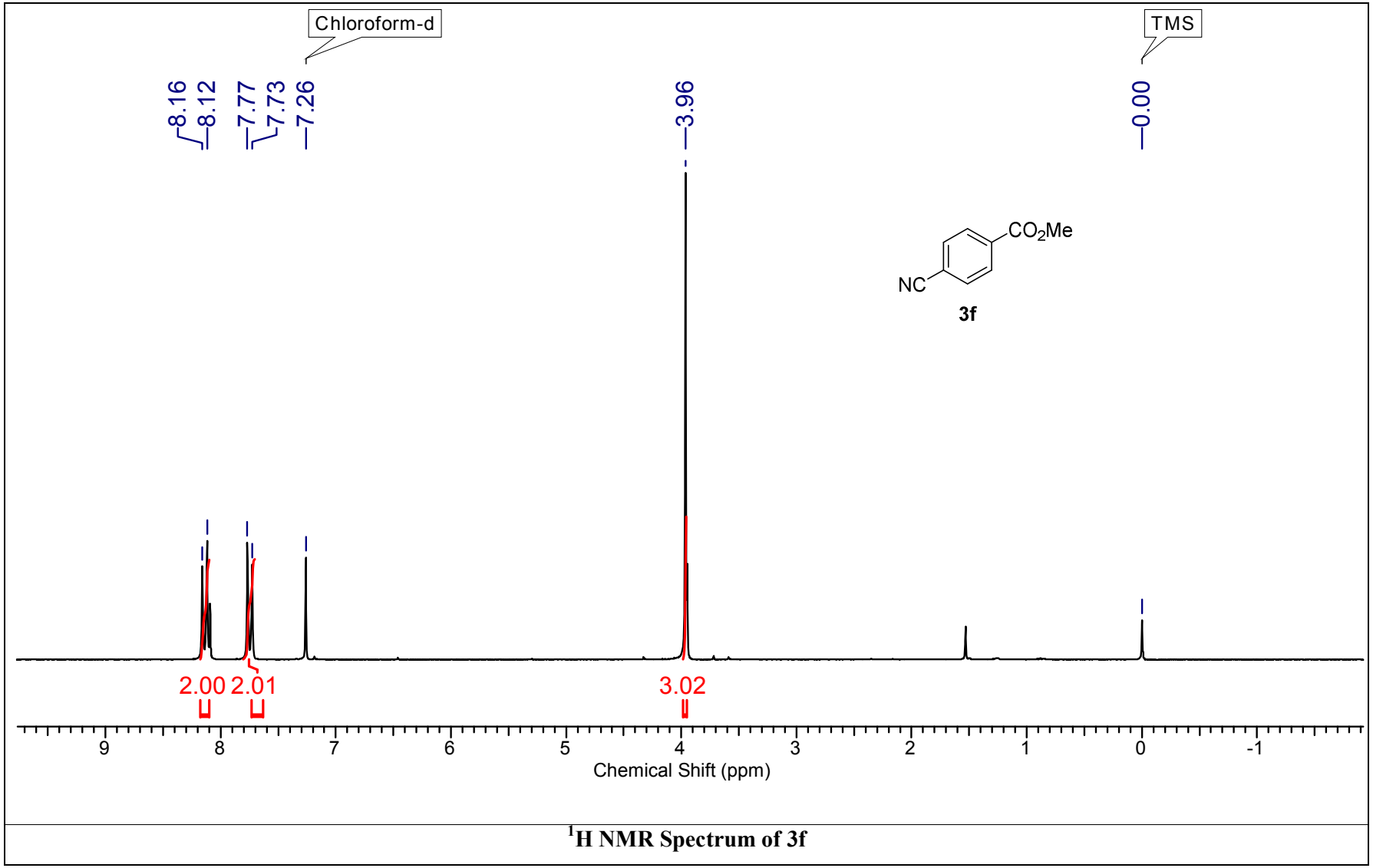
^{13}C NMR Spectrum of 3d



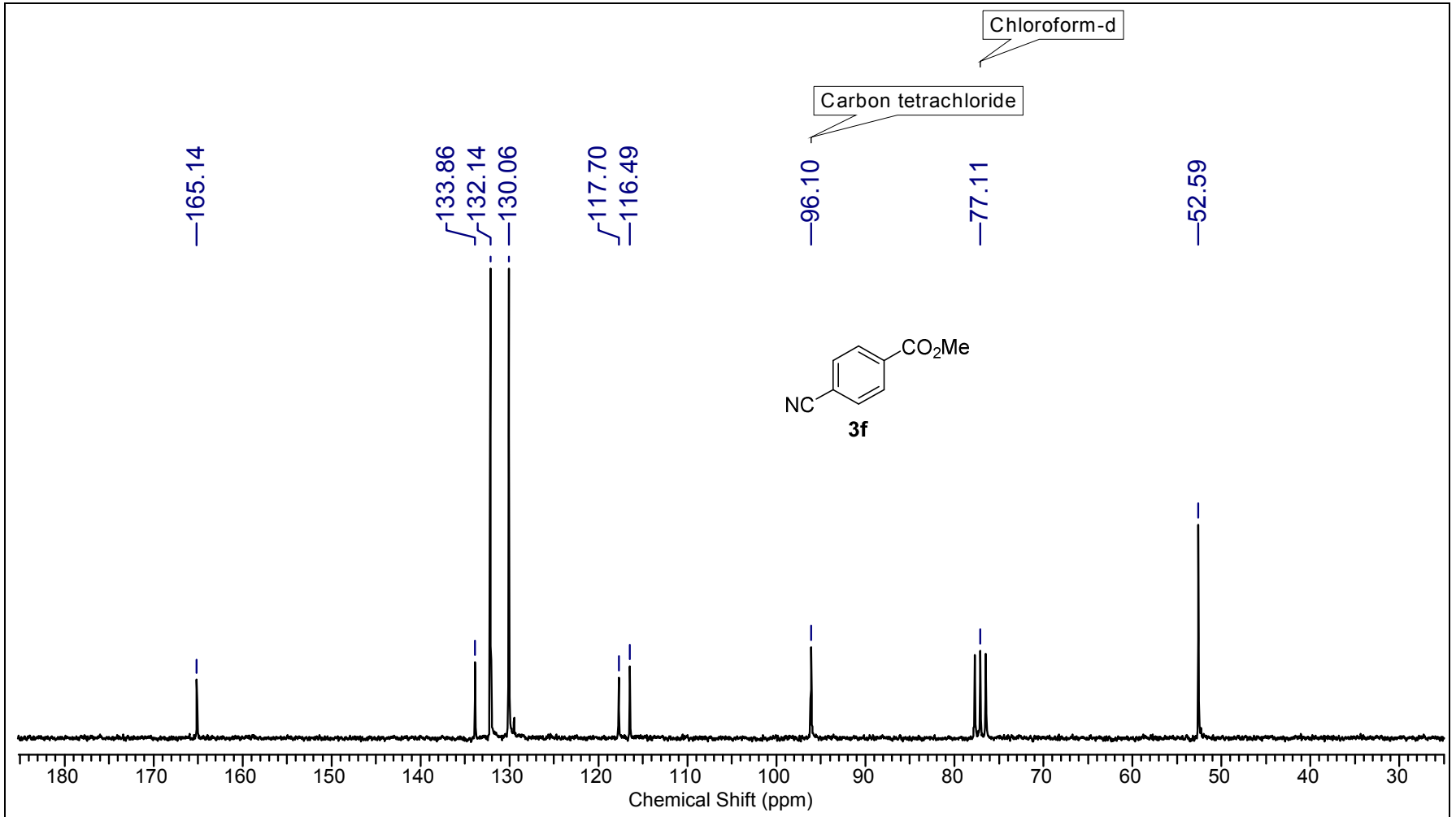
^{1}H NMR Spectrum of 3e



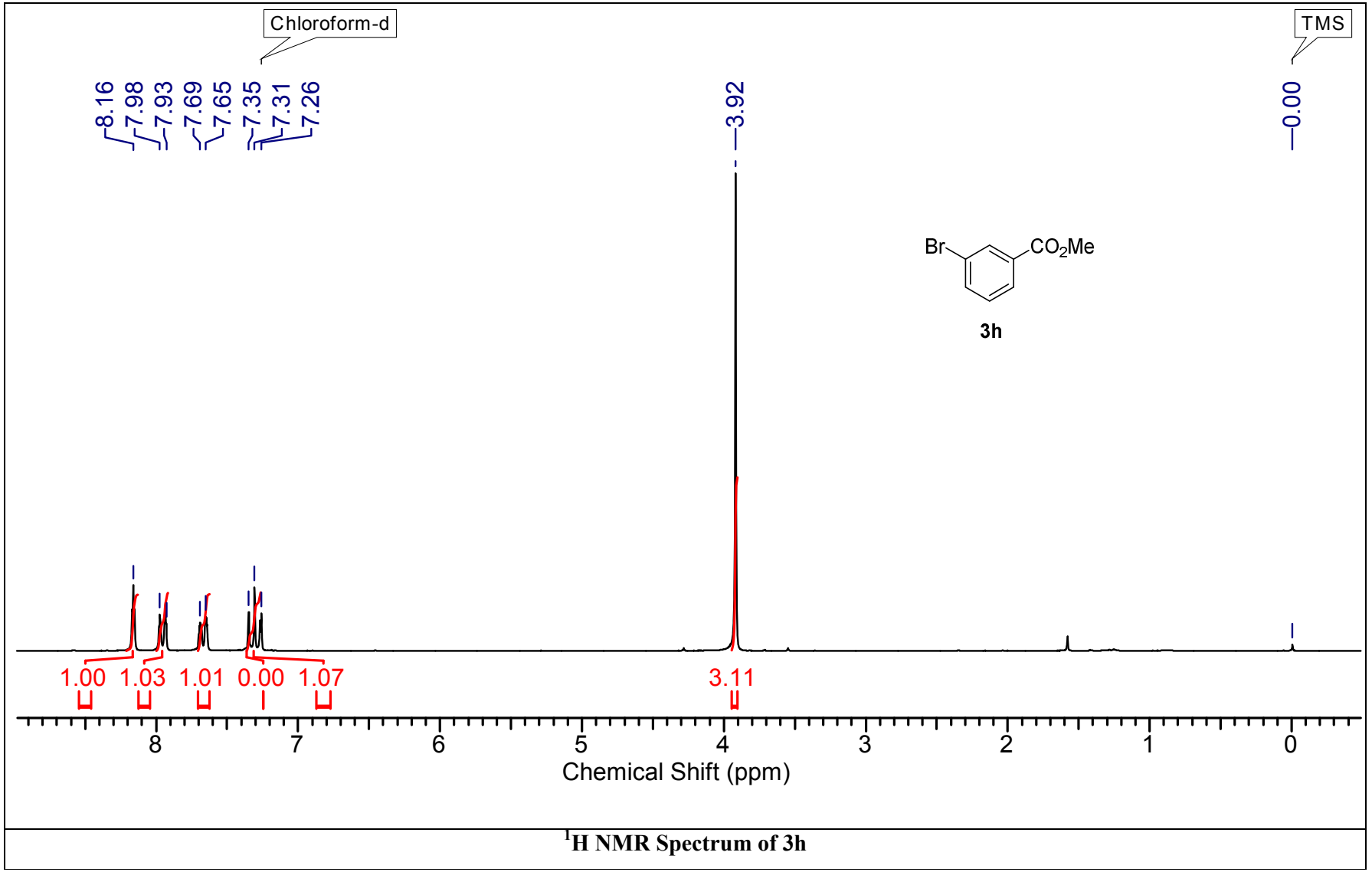
^{13}C NMR Spectrum of 3e



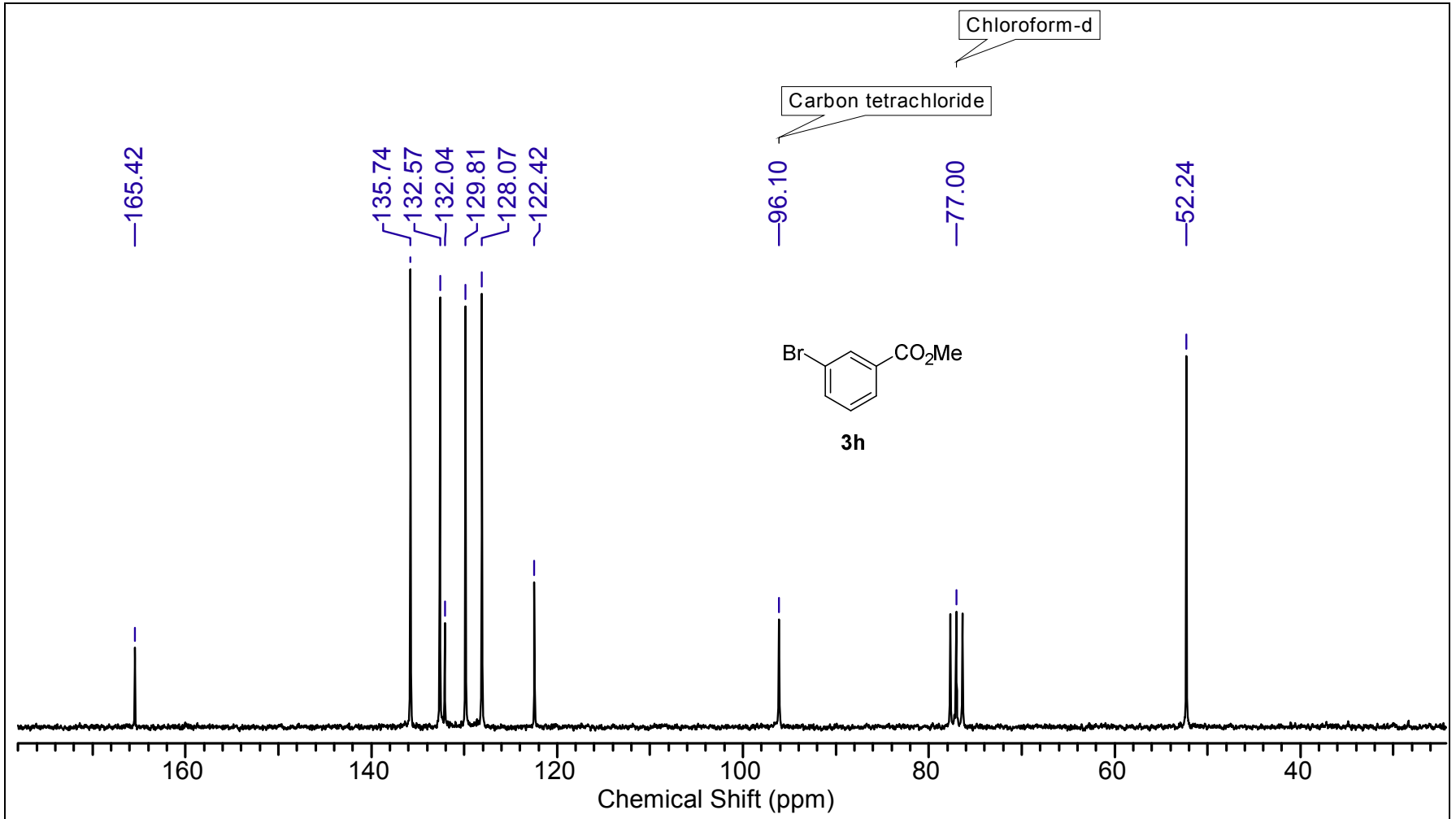
^{1}H NMR Spectrum of 3f



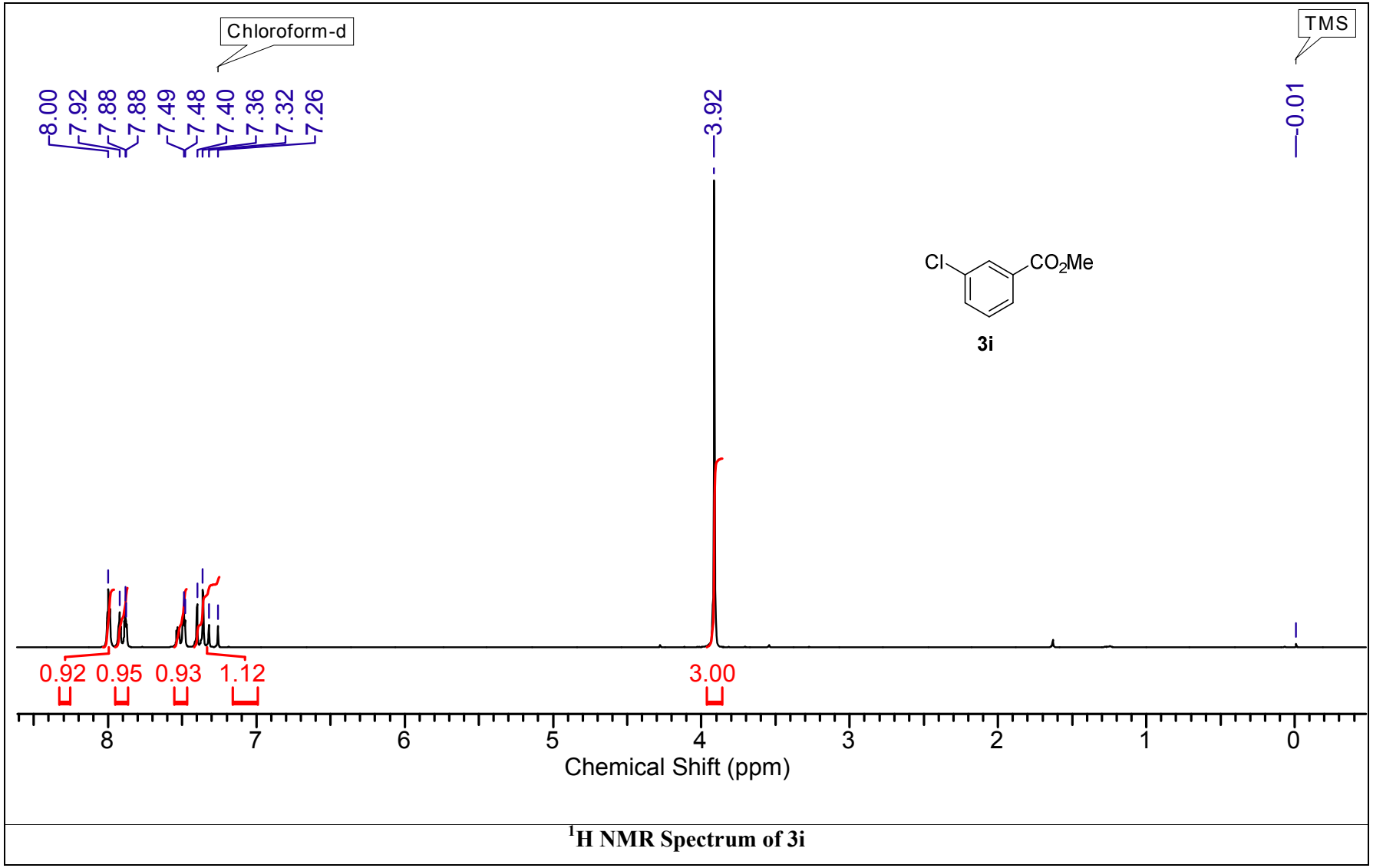
^{13}C NMR Spectrum of 3f



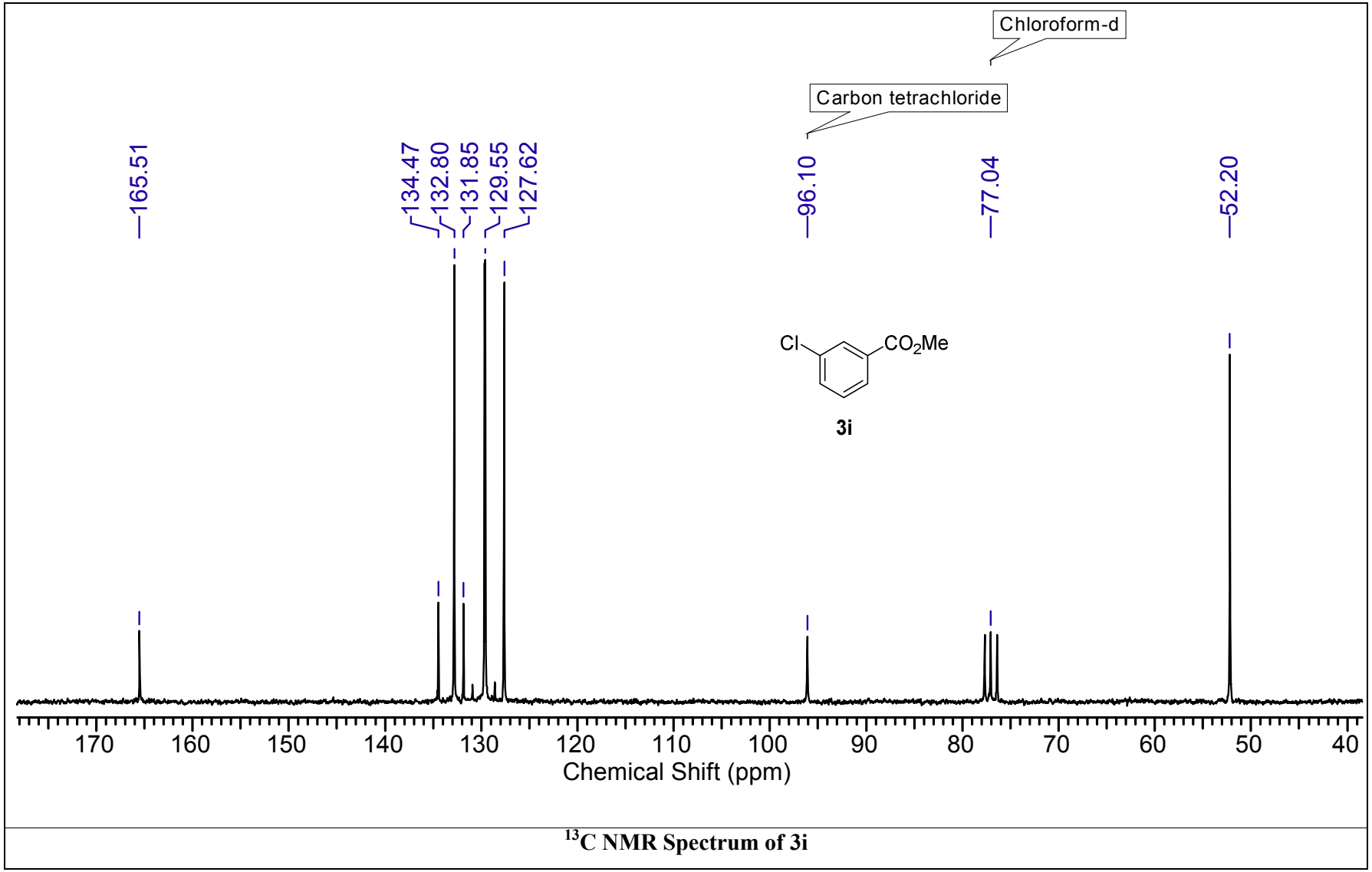
^{1}H NMR Spectrum of 3h



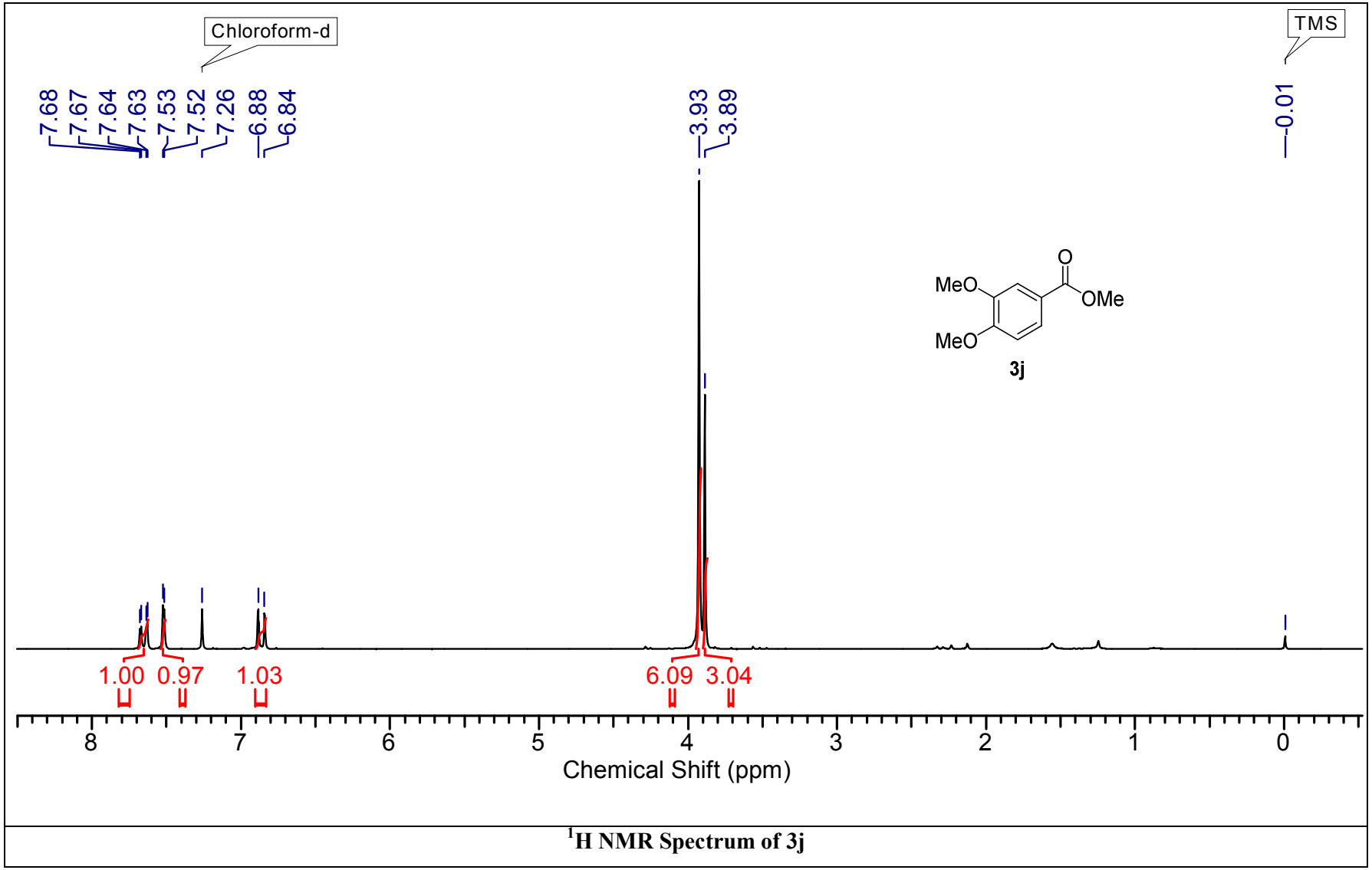
^{13}C NMR Spectrum of 3h



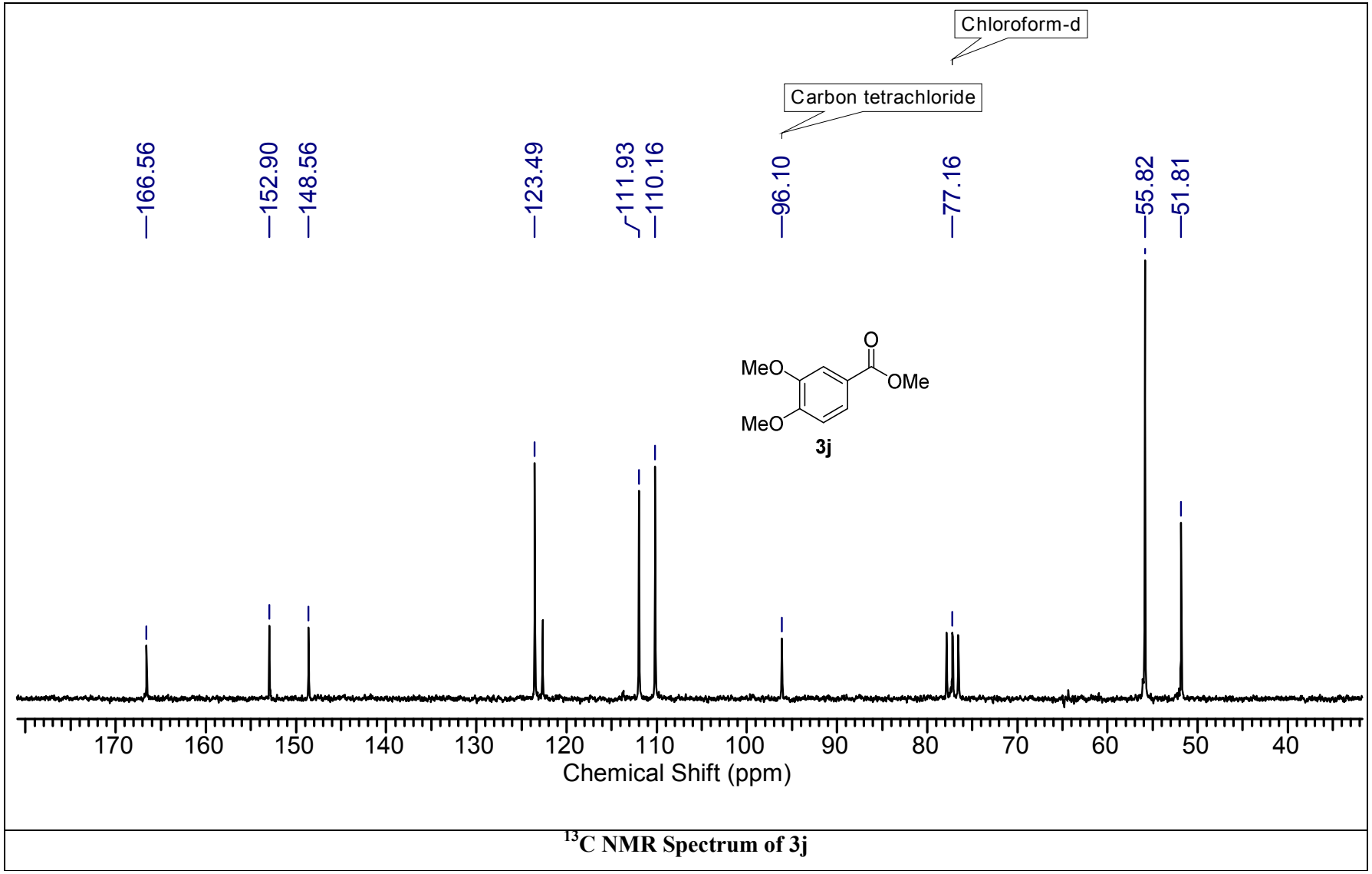
^{1}H NMR Spectrum of 3i



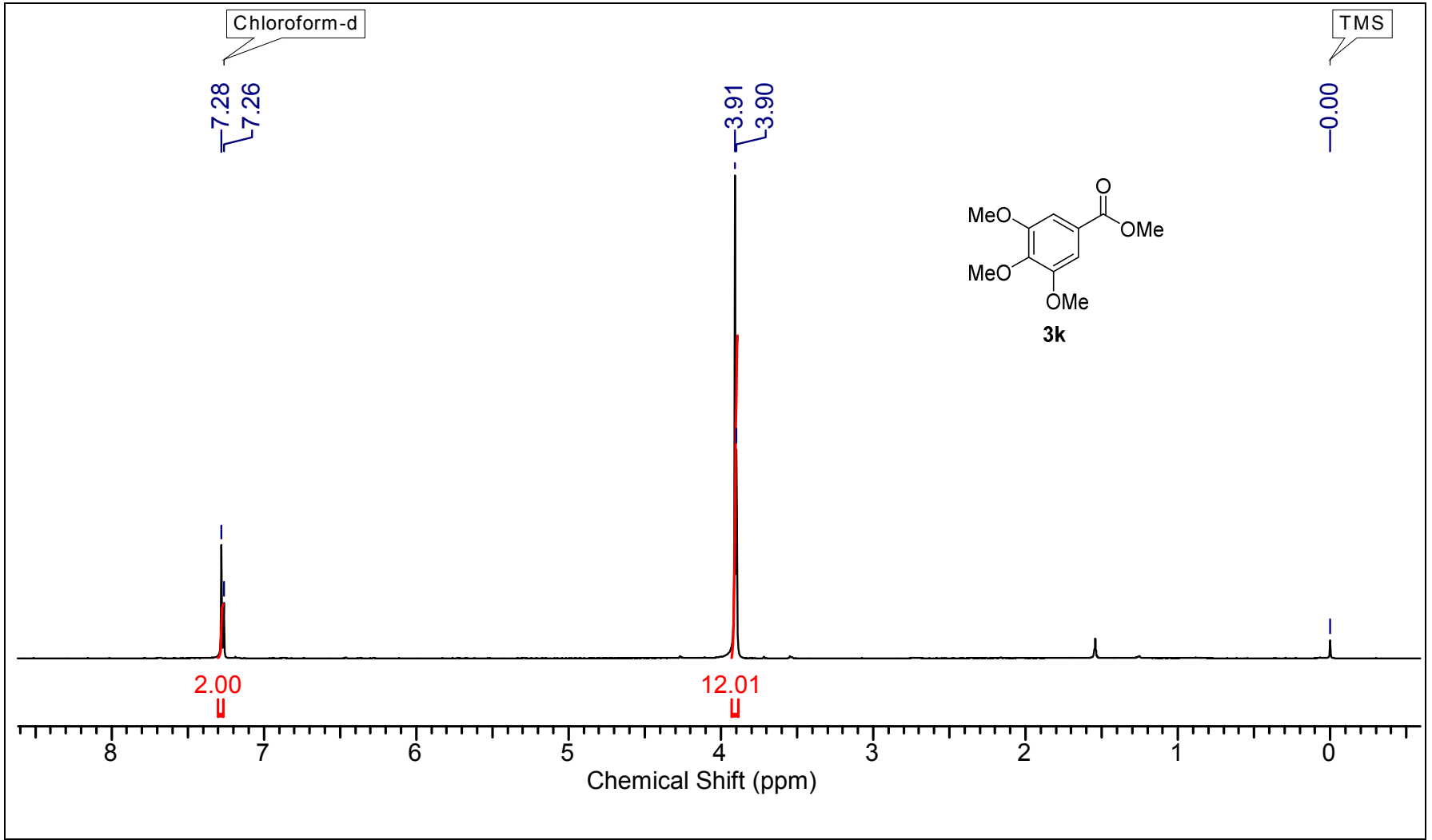
^{13}C NMR Spectrum of 3i



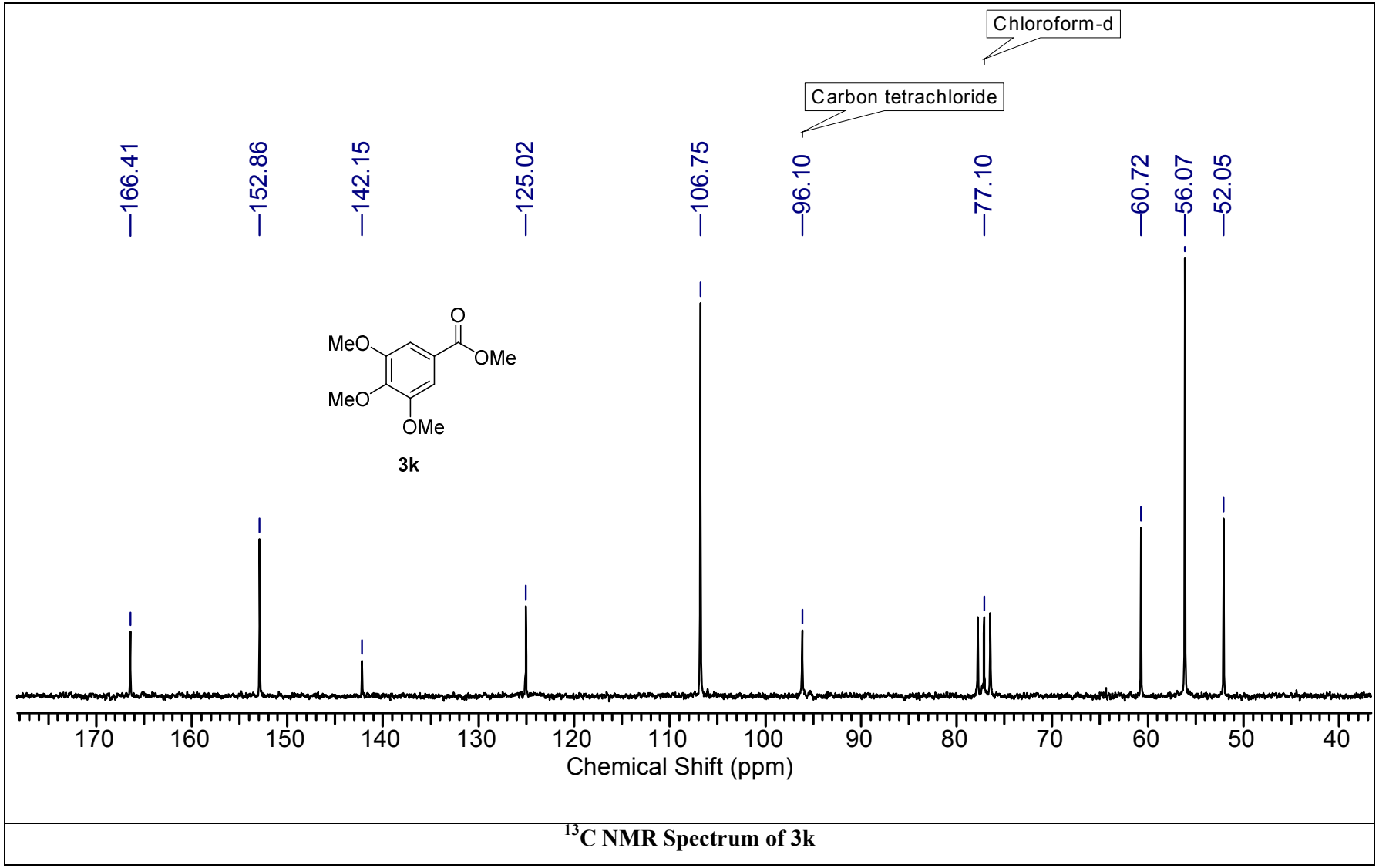
^{1}H NMR Spectrum of 3j



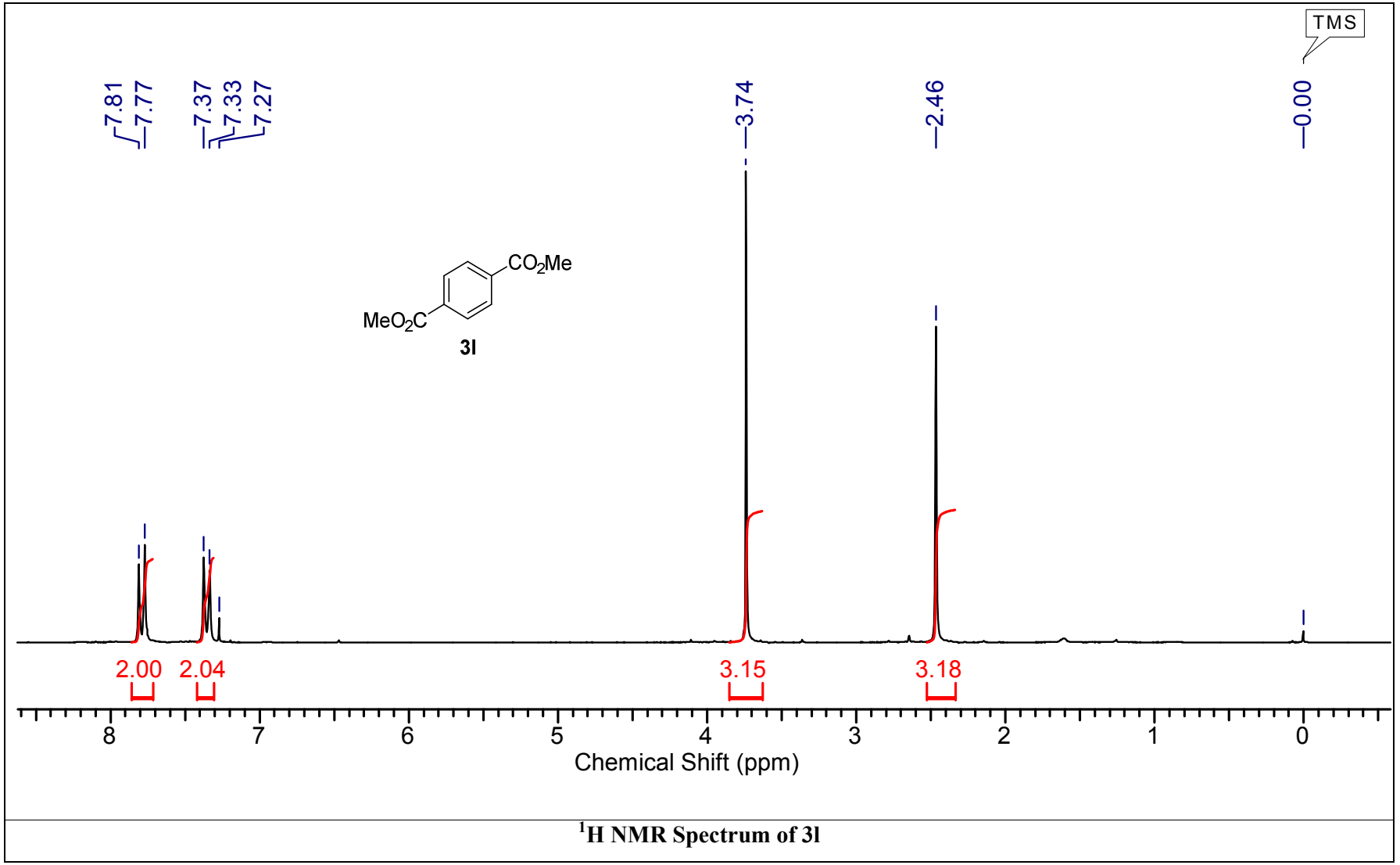
^{13}C NMR Spectrum of 3j



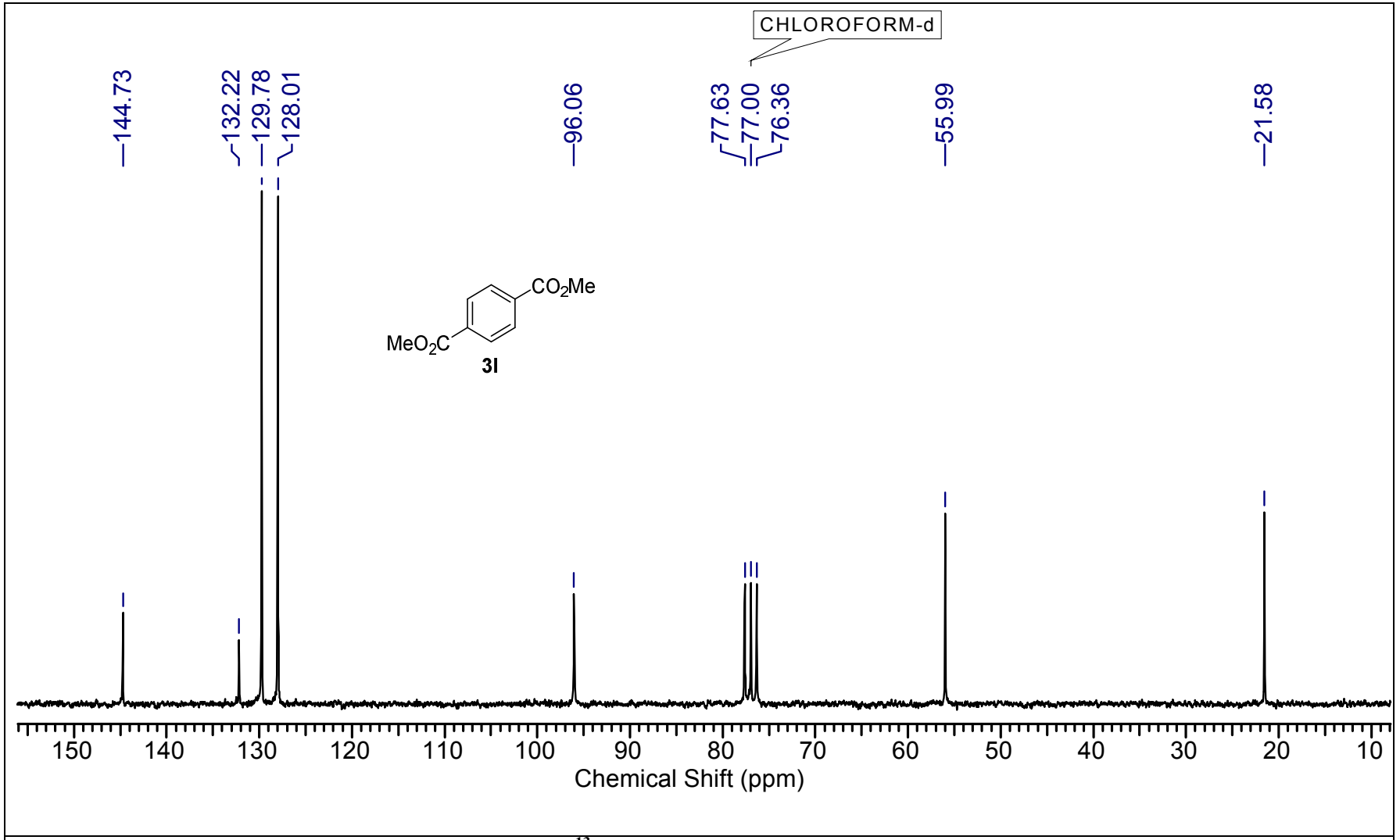
^{1}H NMR Spectrum of 3k



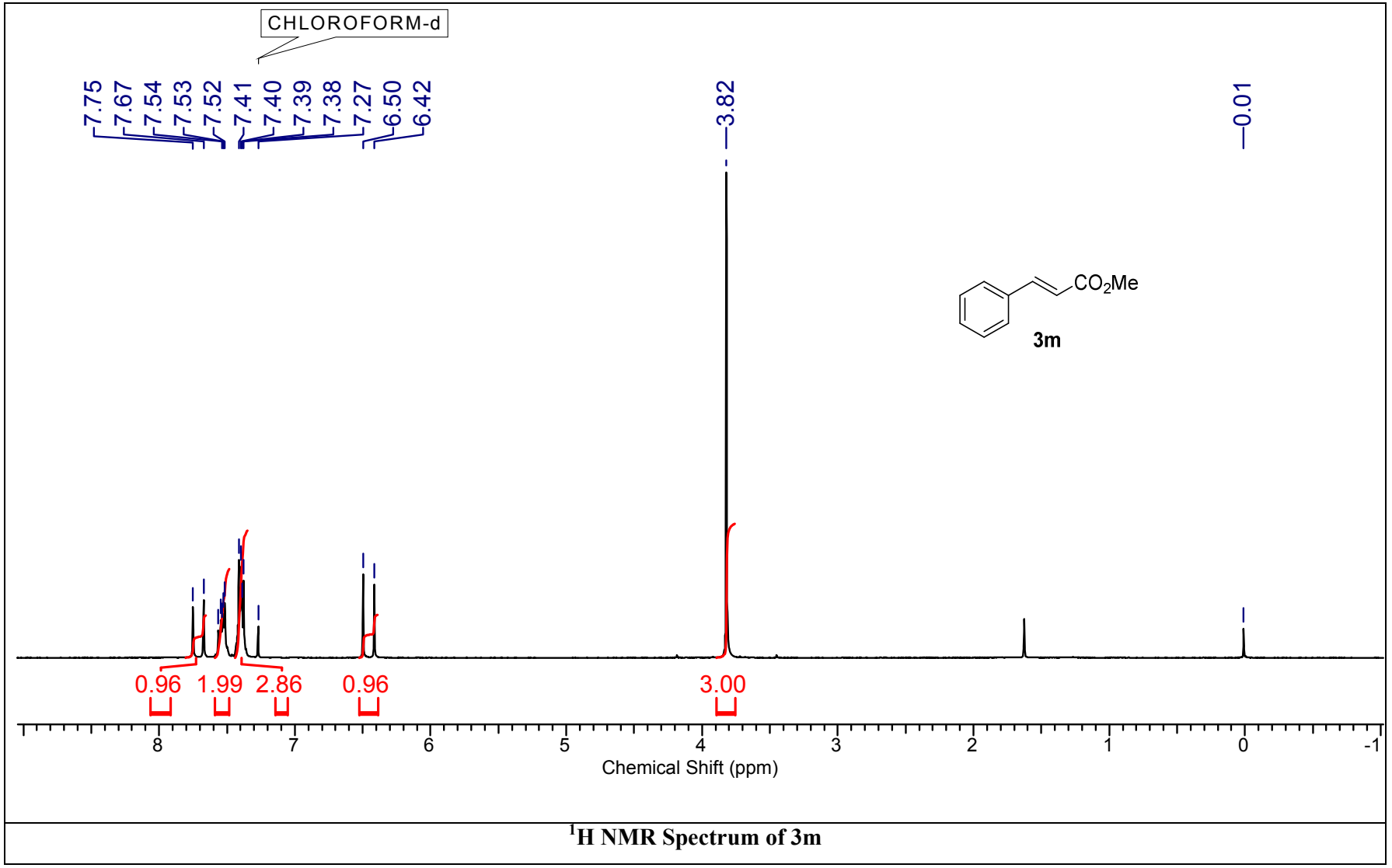
^{13}C NMR Spectrum of 3k



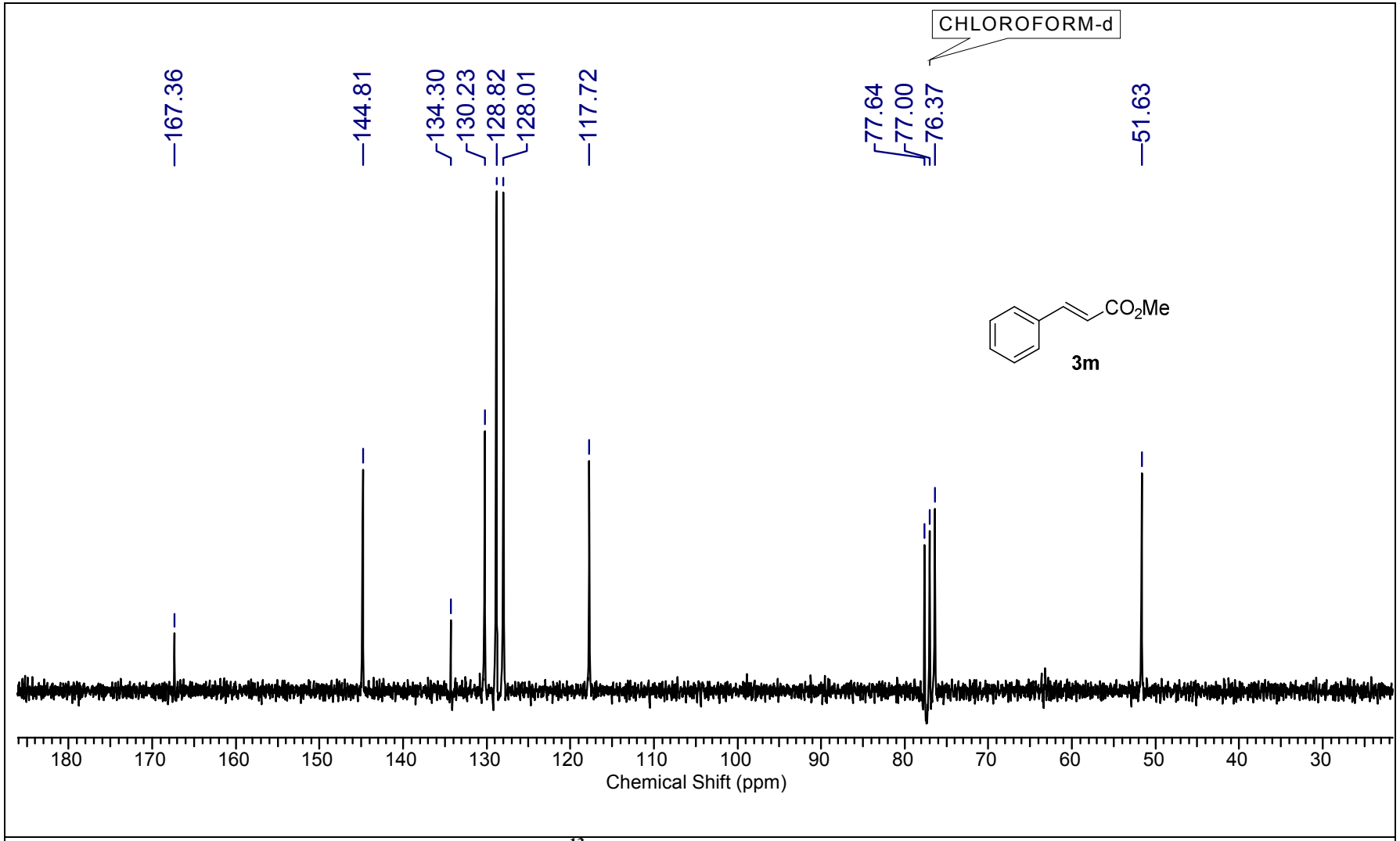
^{1}H NMR Spectrum of 3l



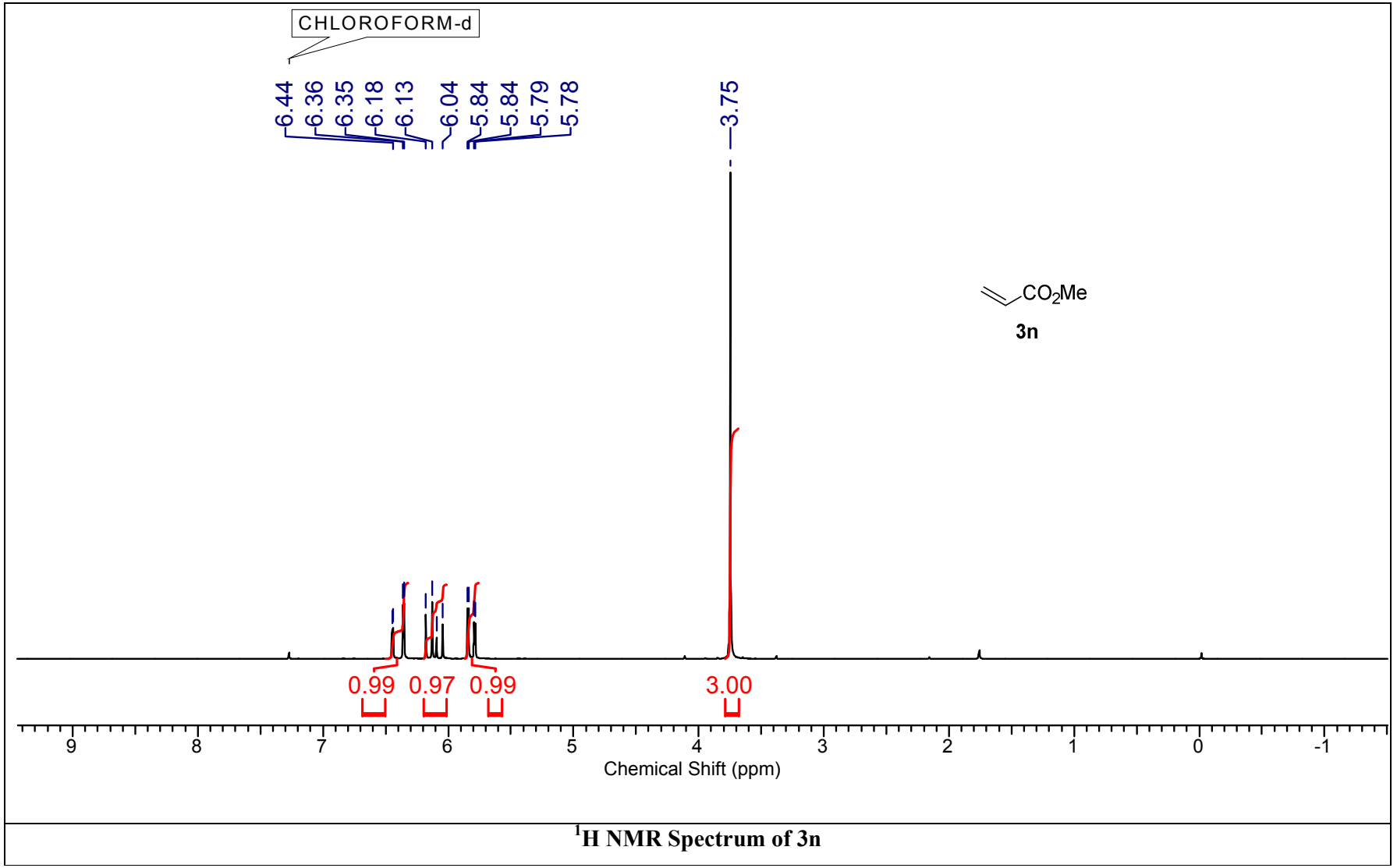
^{13}C NMR Spectrum of 3l



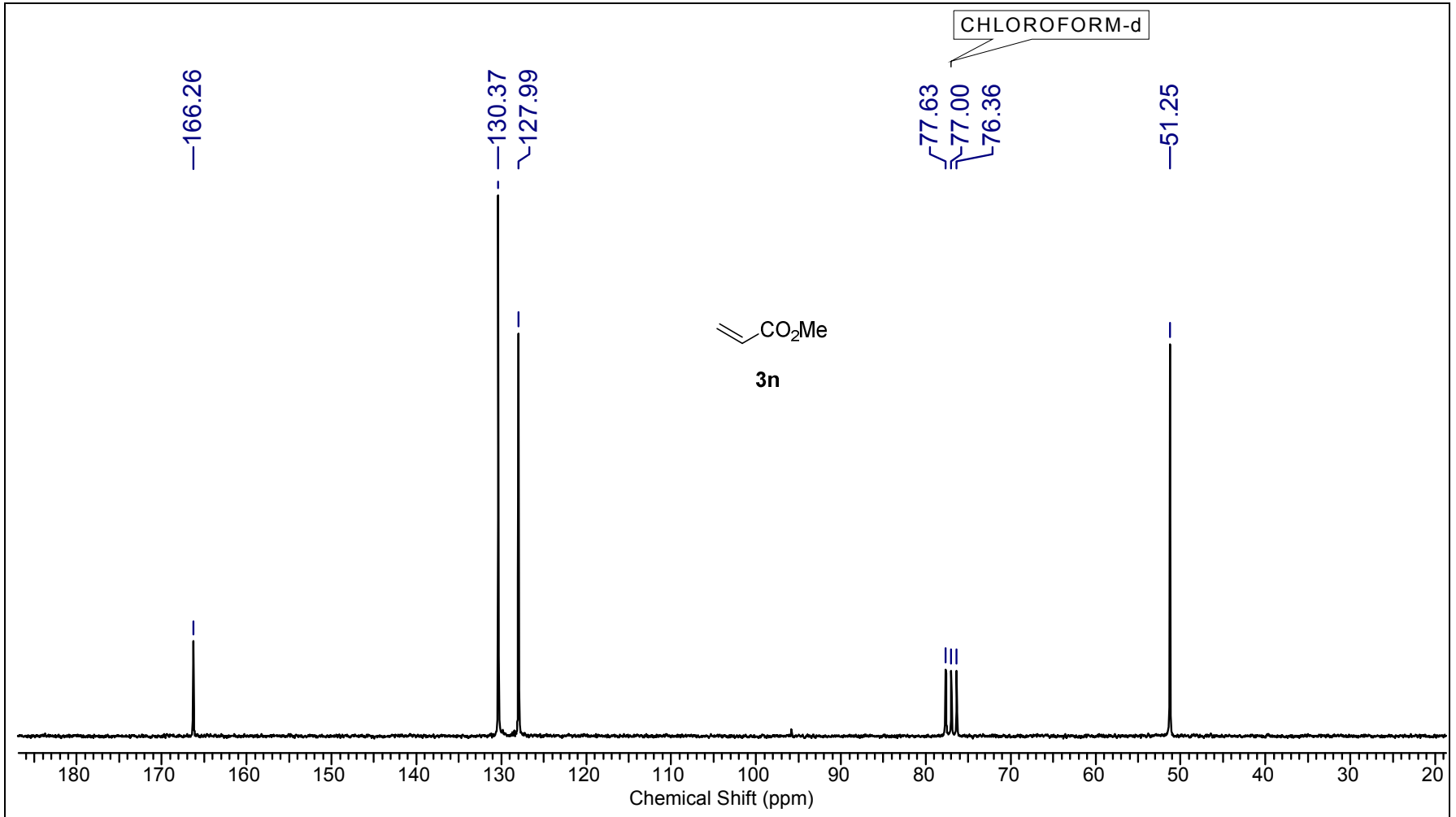
^{1}H NMR Spectrum of 3m



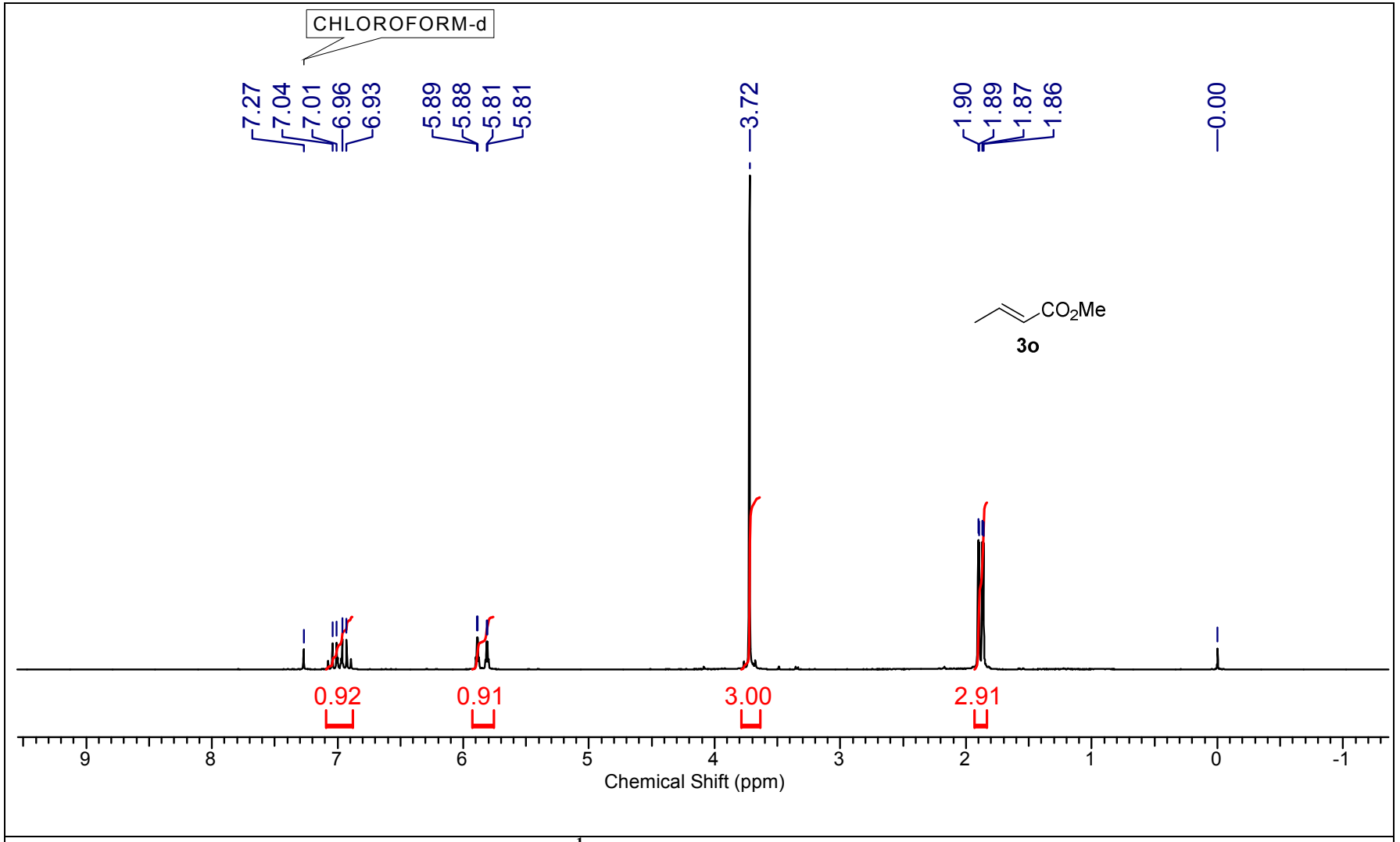
^{13}C NMR Spectrum of 3m



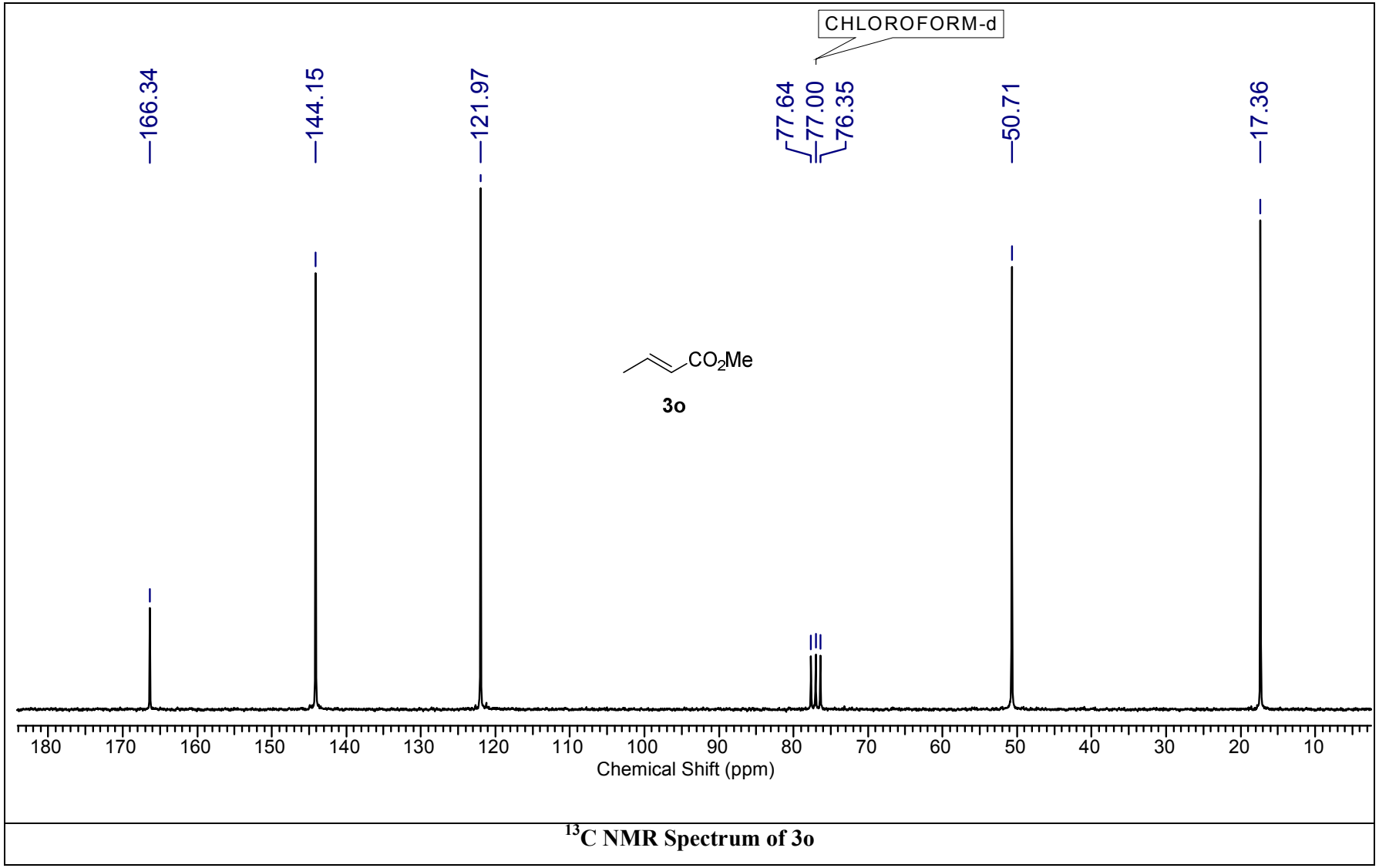
^{1}H NMR Spectrum of 3n



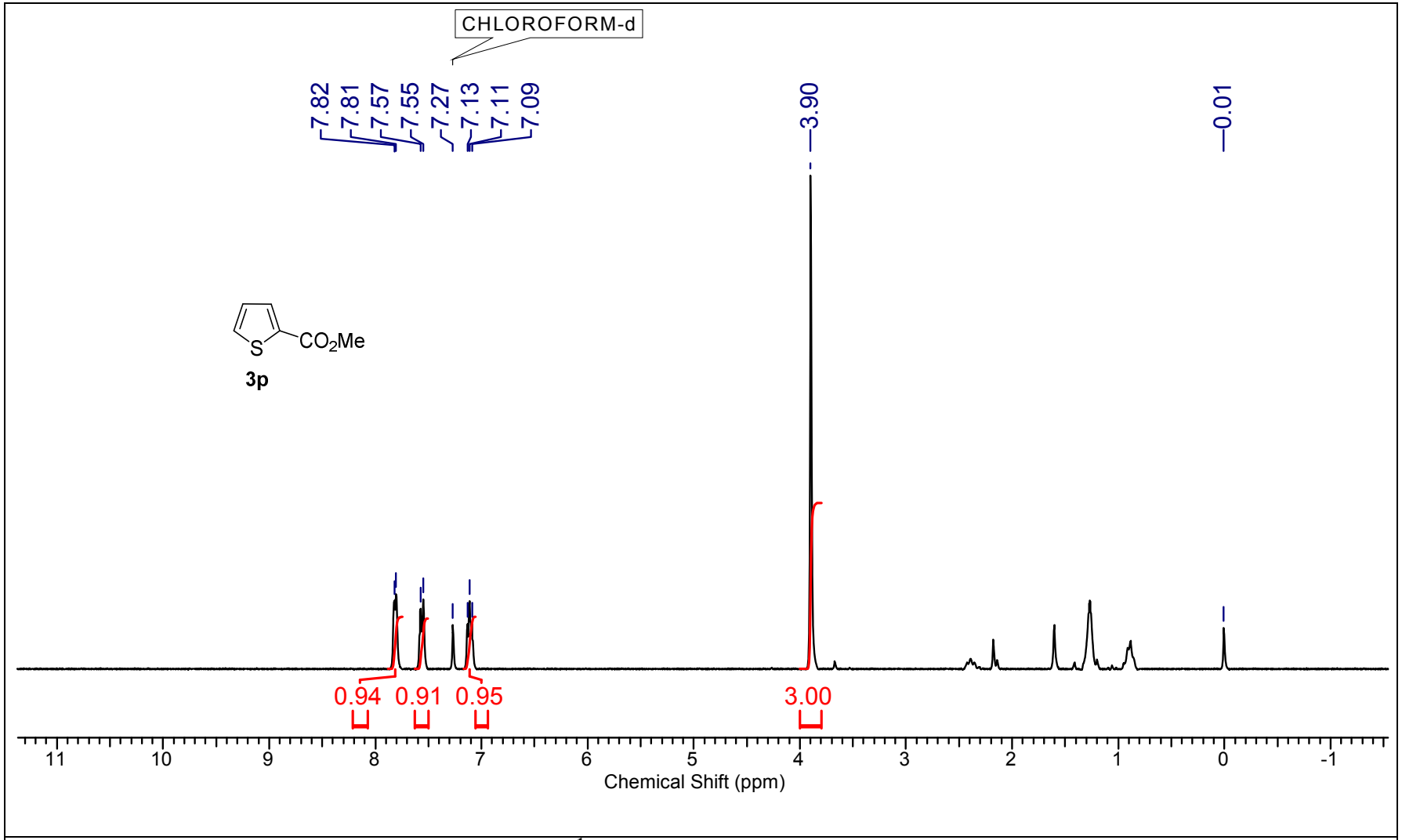
^{13}C NMR Spectrum of 3n



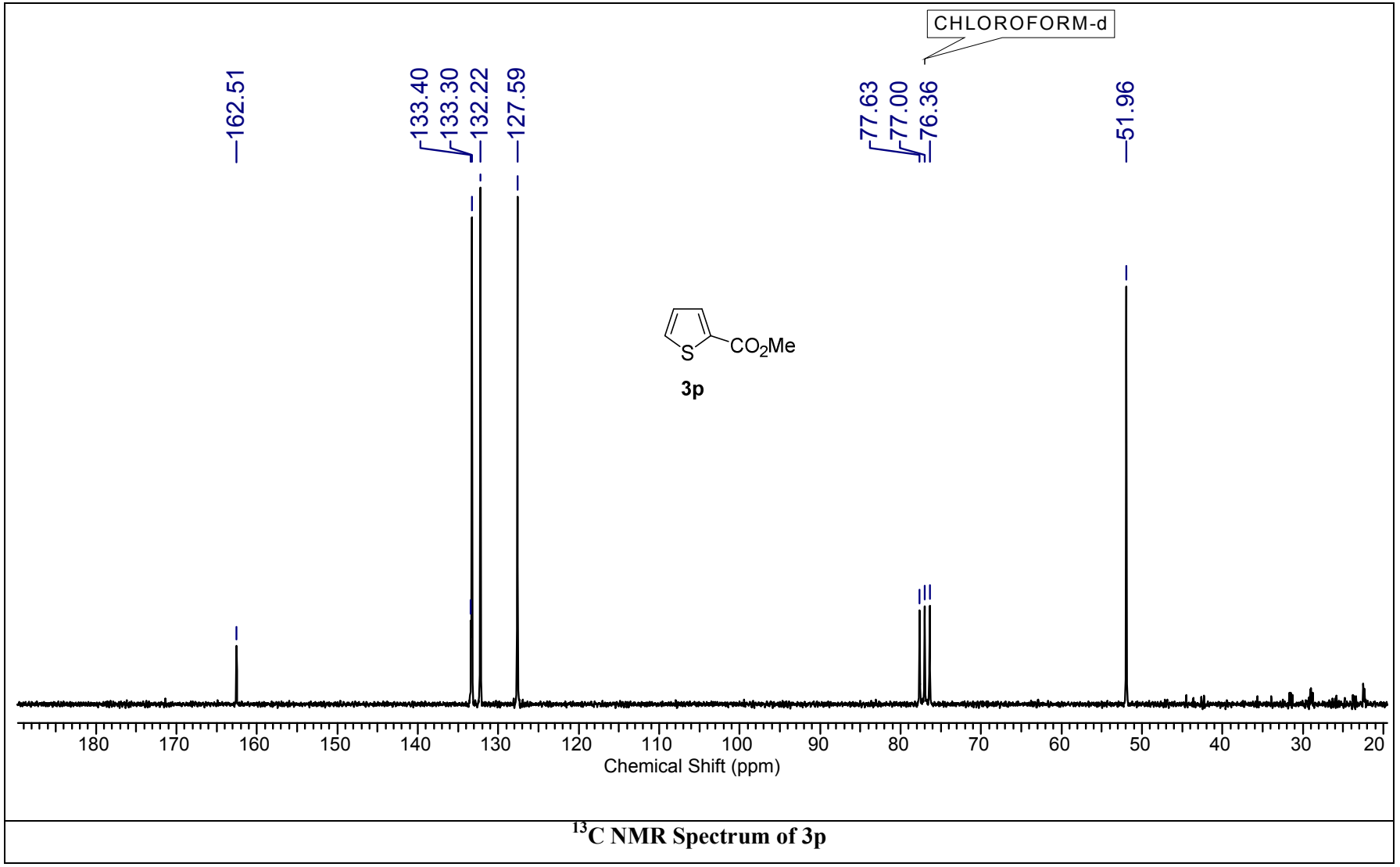
^{1}H NMR Spectrum of 3o



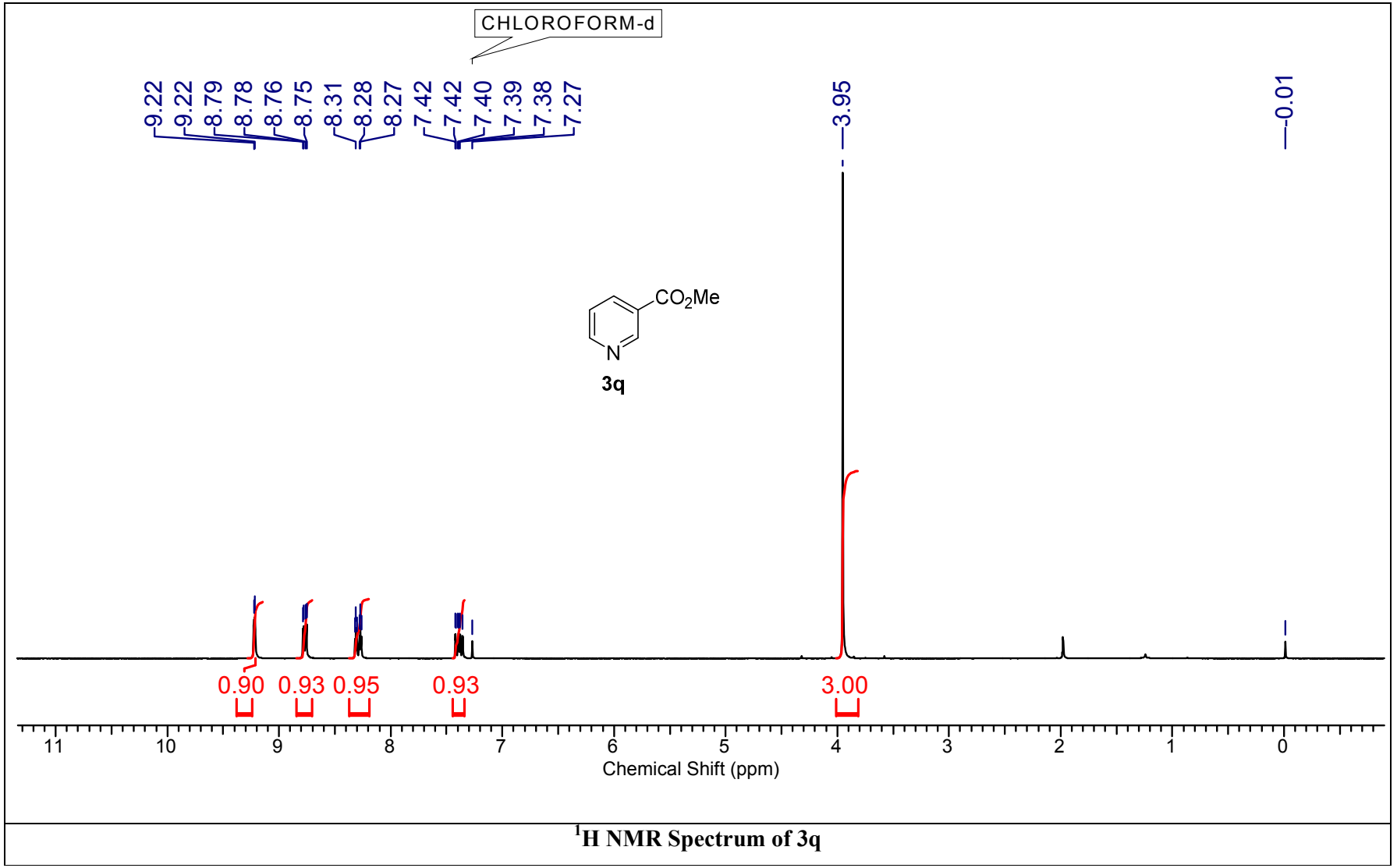
^{13}C NMR Spectrum of 3o



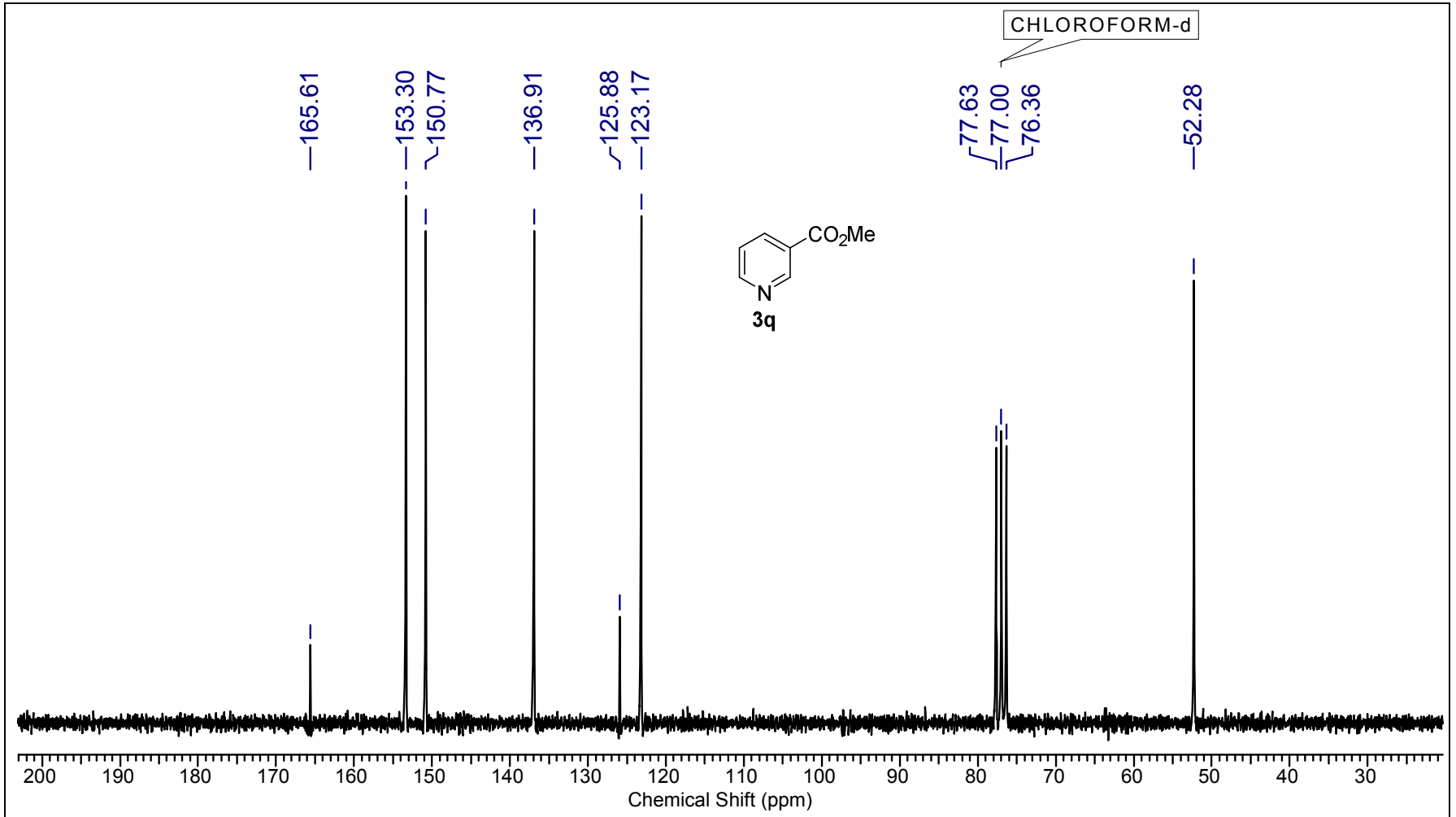
^{1}H NMR Spectrum of 3p



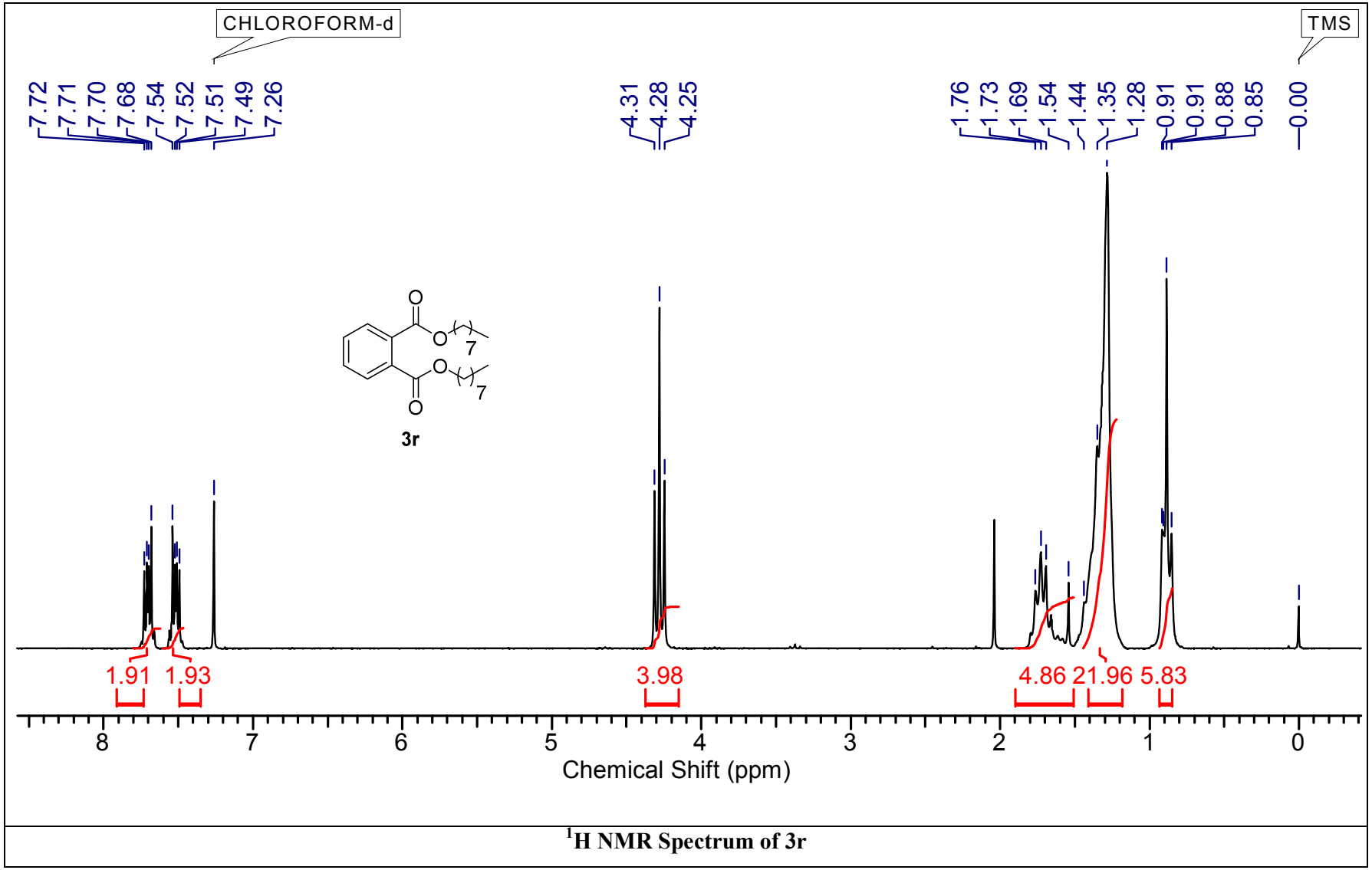
^{13}C NMR Spectrum of 3p



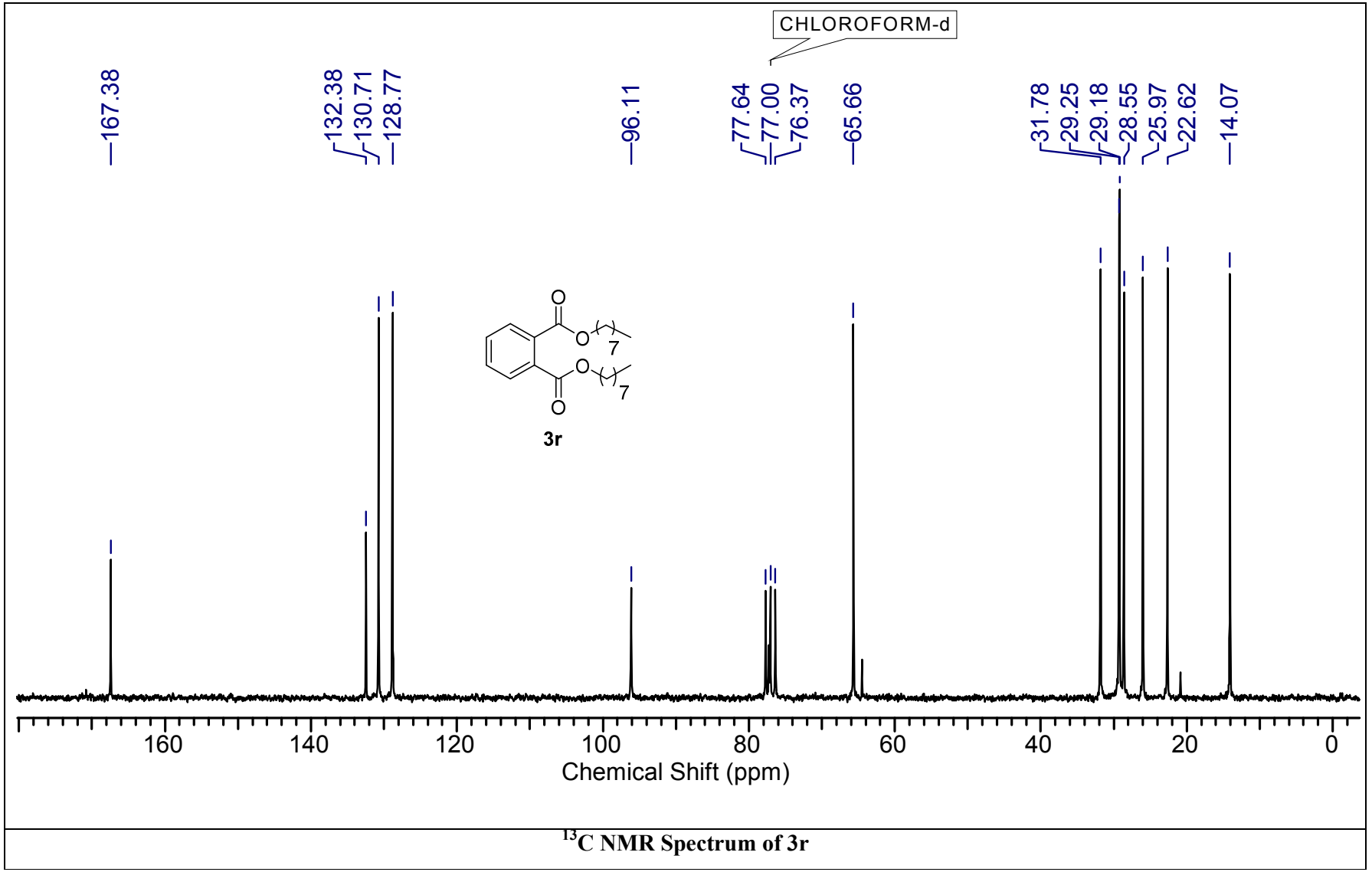
^{1}H NMR Spectrum of 3q



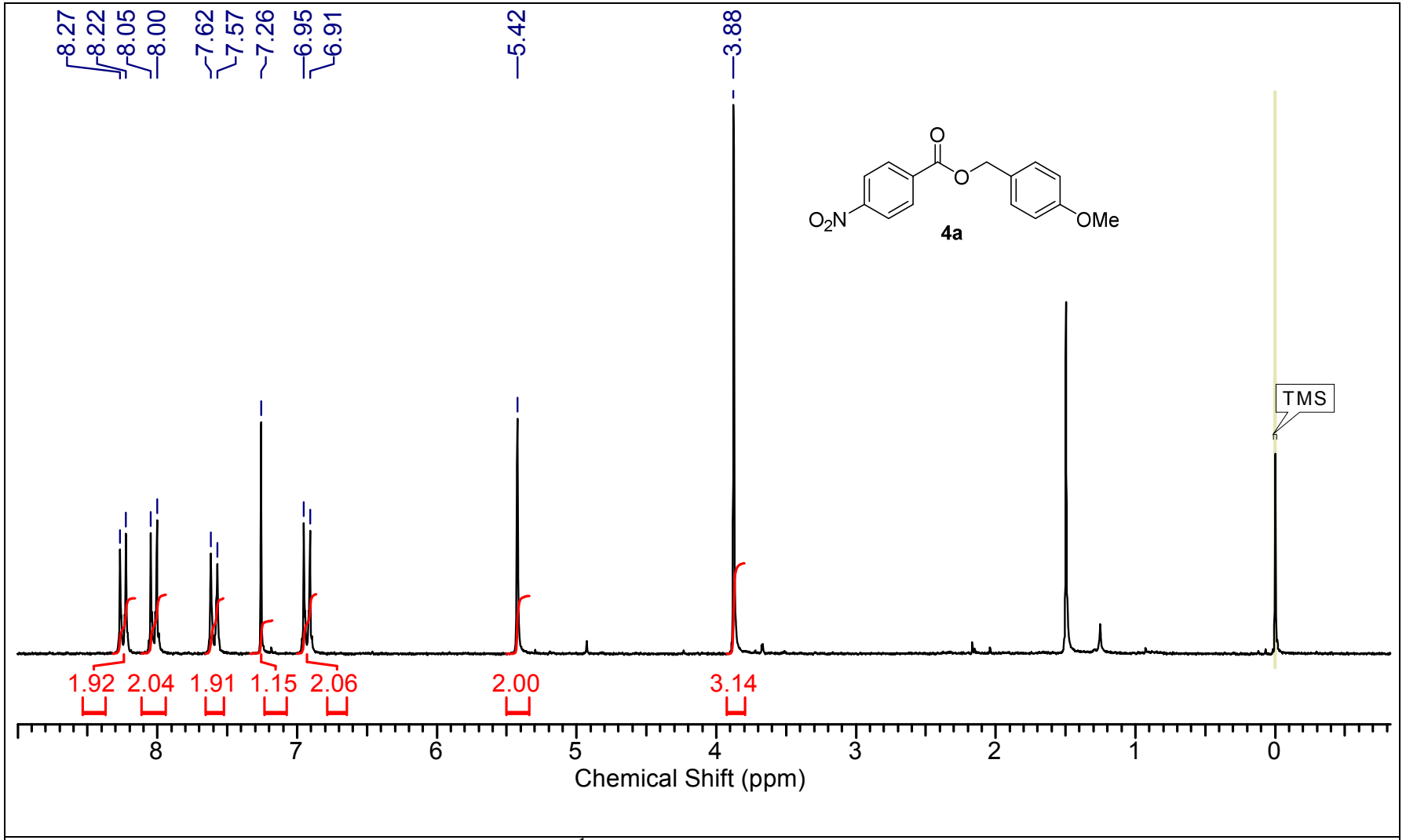
^{13}C NMR Spectrum of 3q



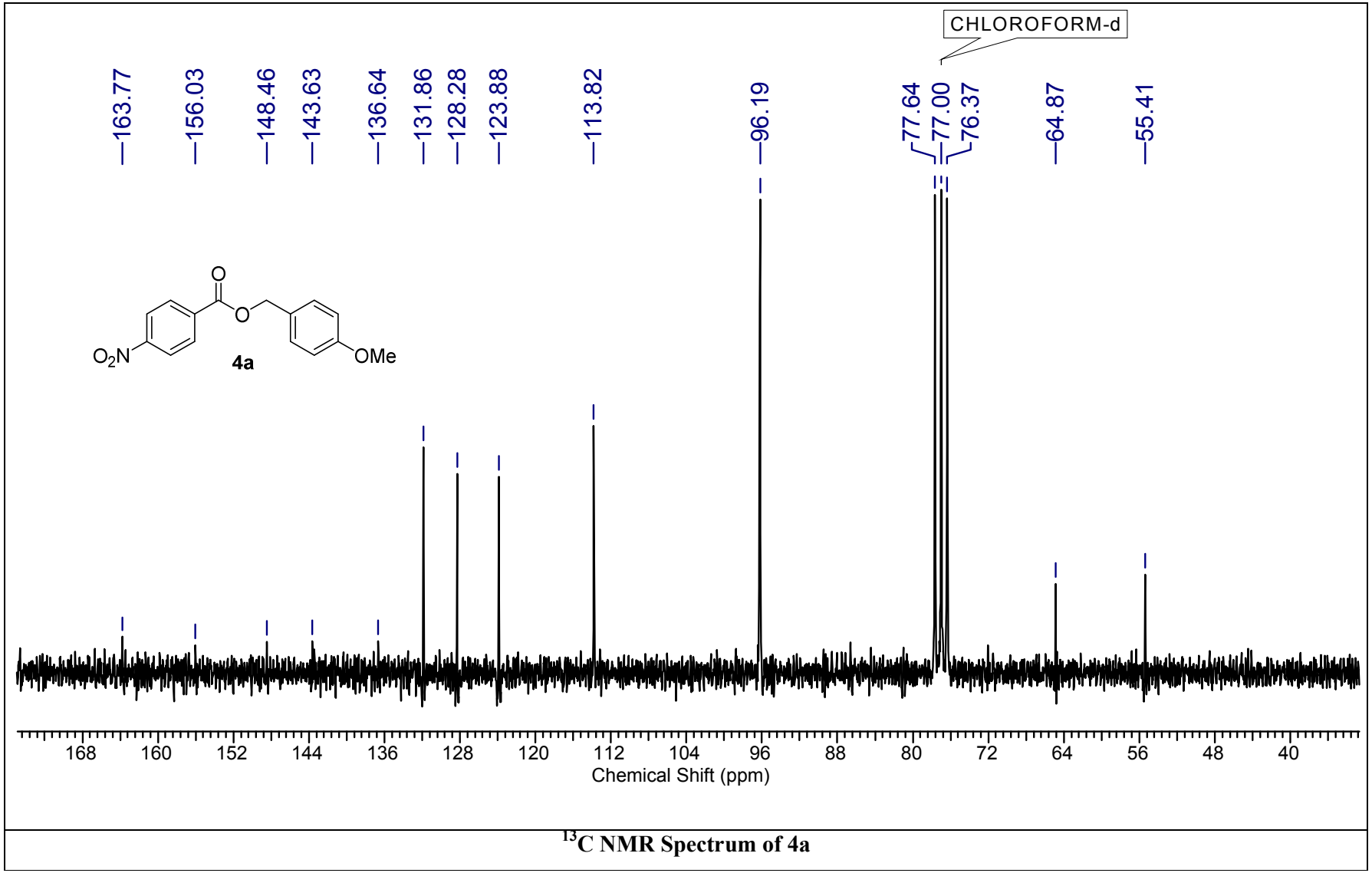
^{1}H NMR Spectrum of 3r



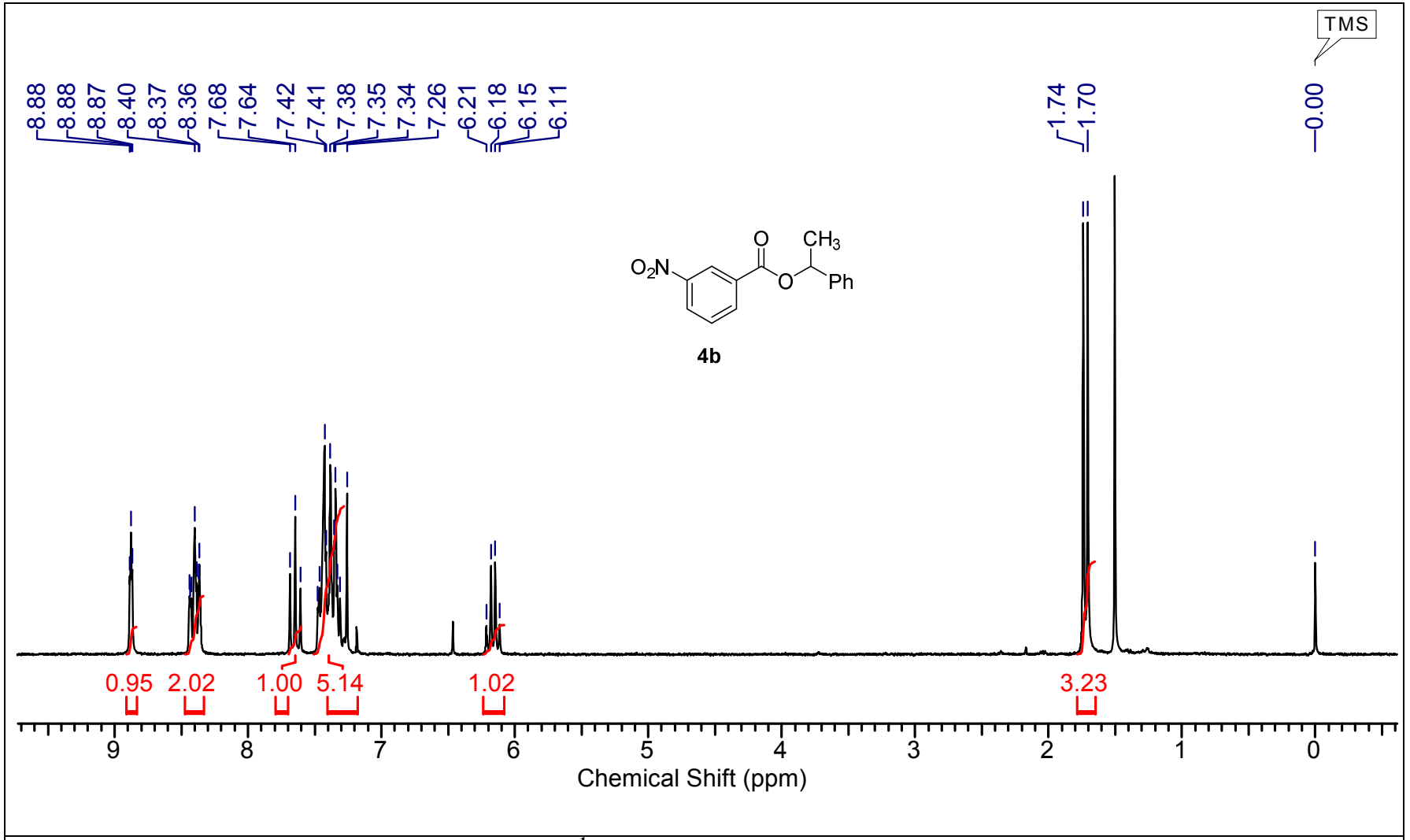
^{13}C NMR Spectrum of 3r



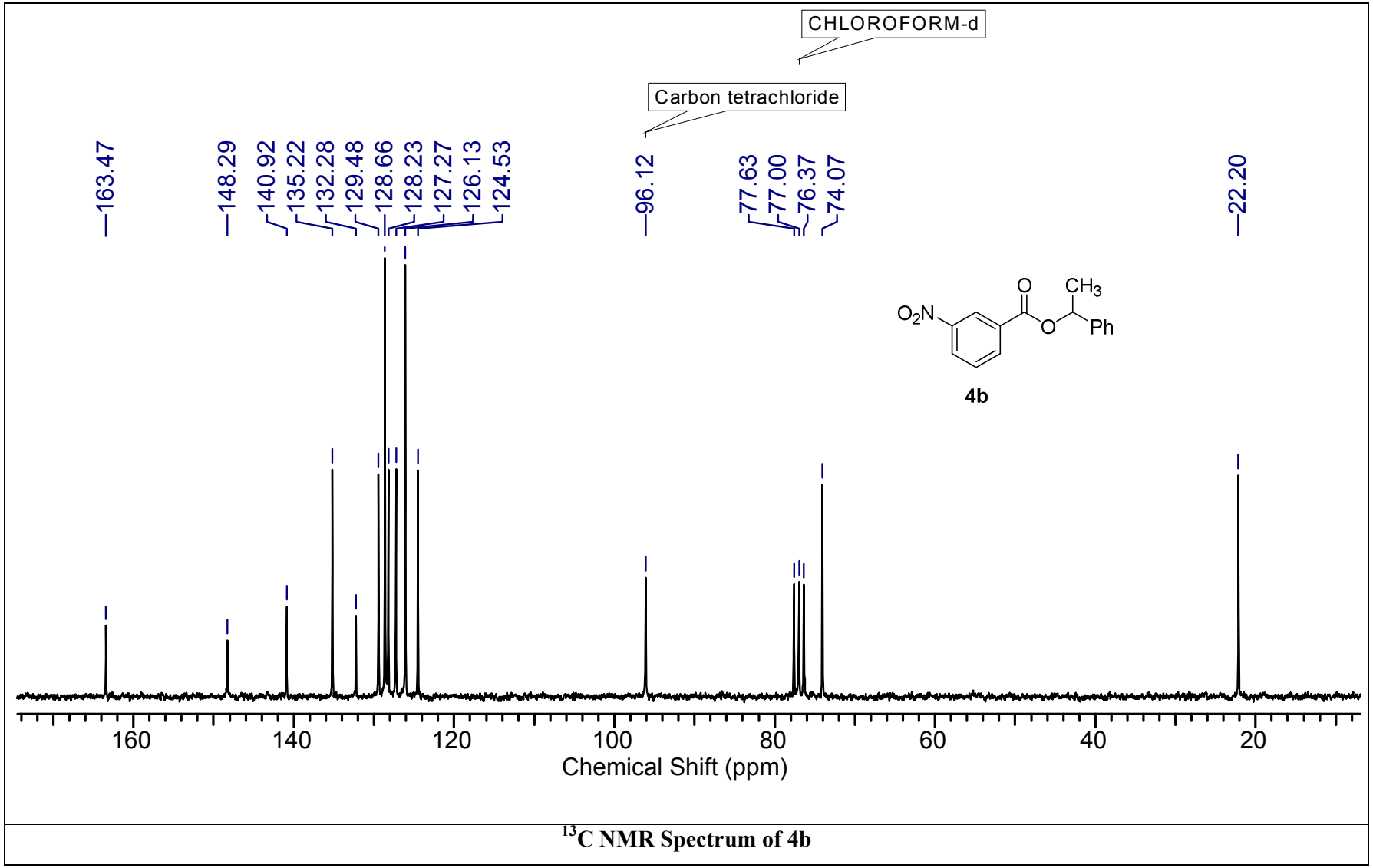
^{1}H NMR Spectrum of 4a



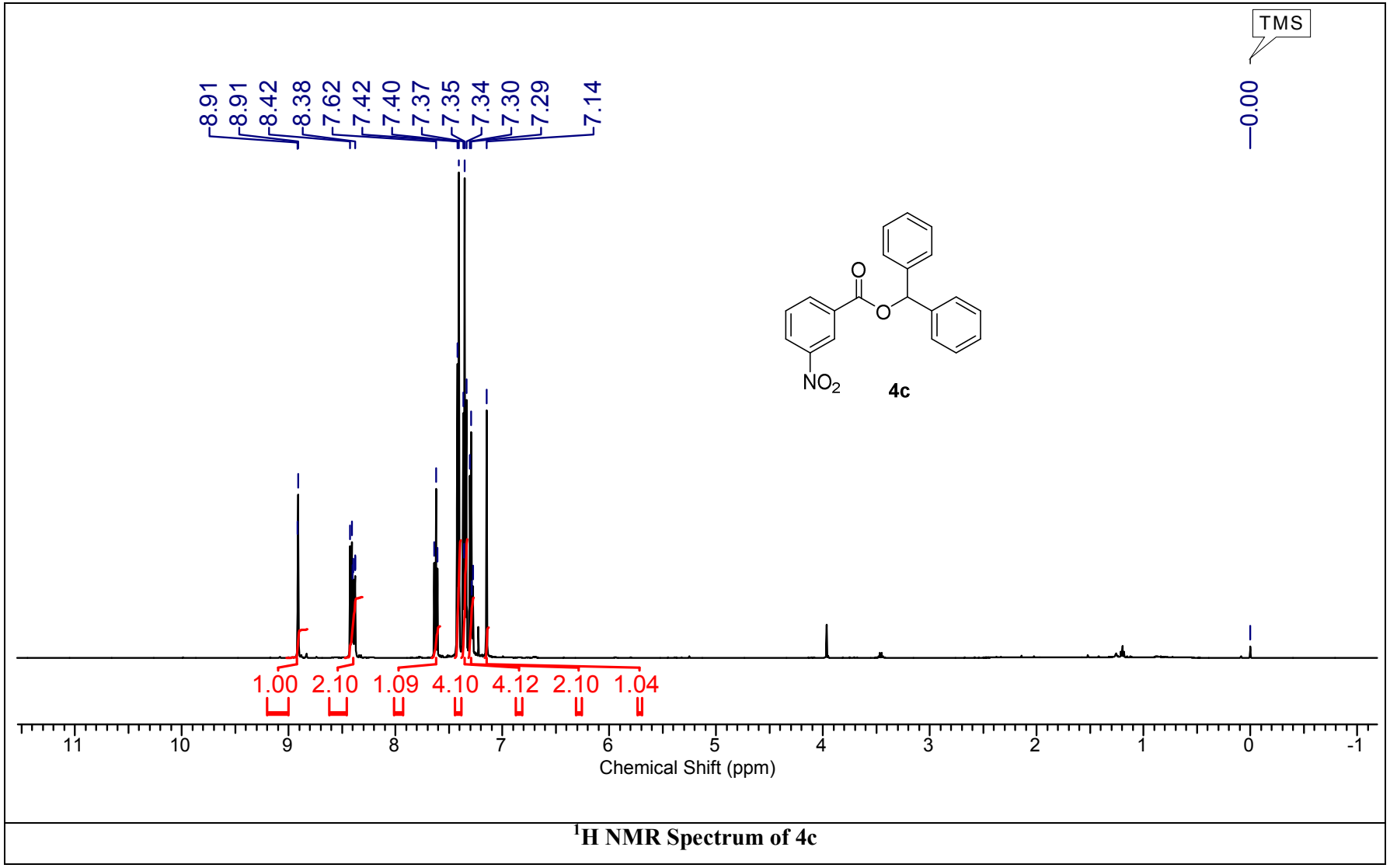
^{13}C NMR Spectrum of 4a



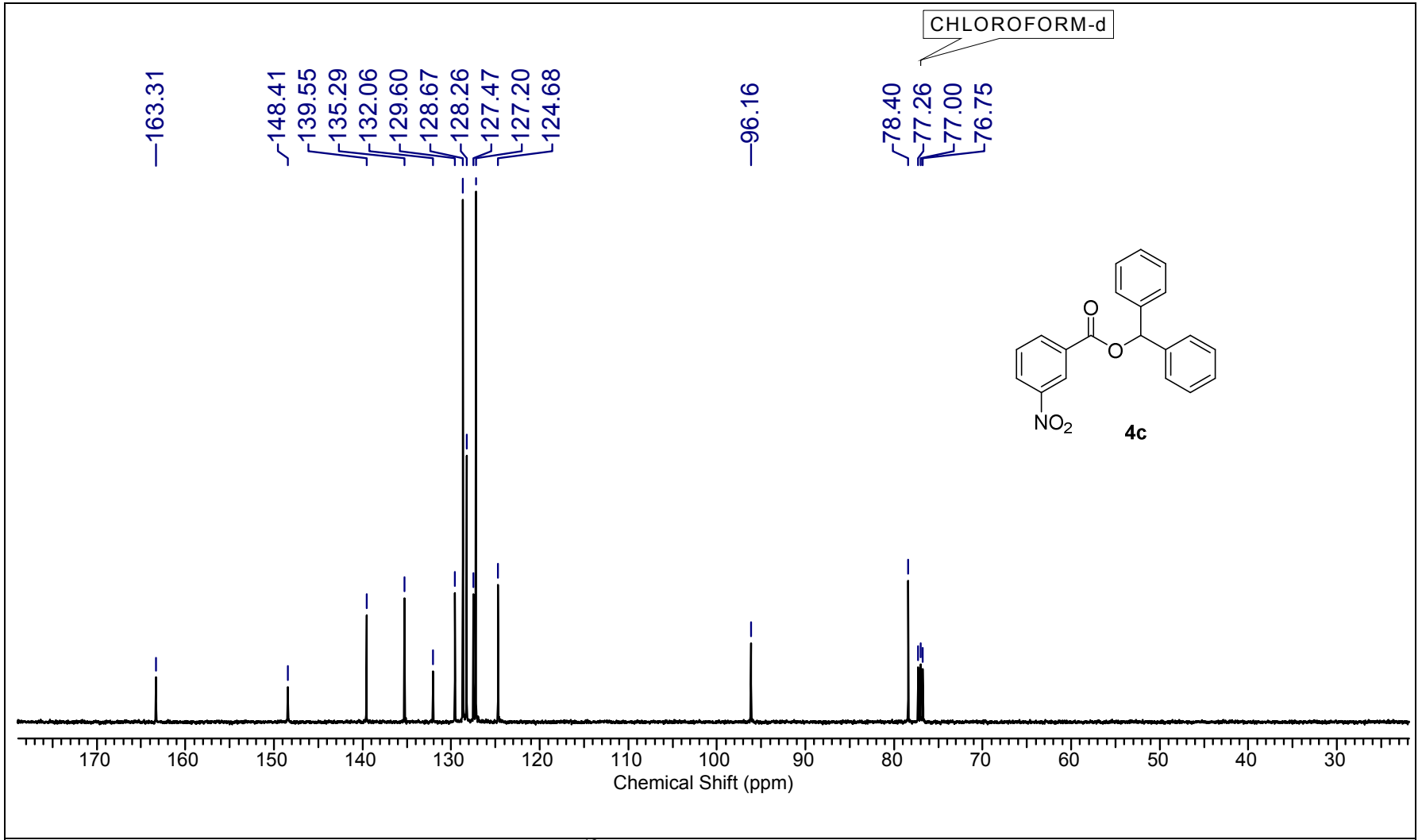
^{1}H NMR Spectrum of 4b



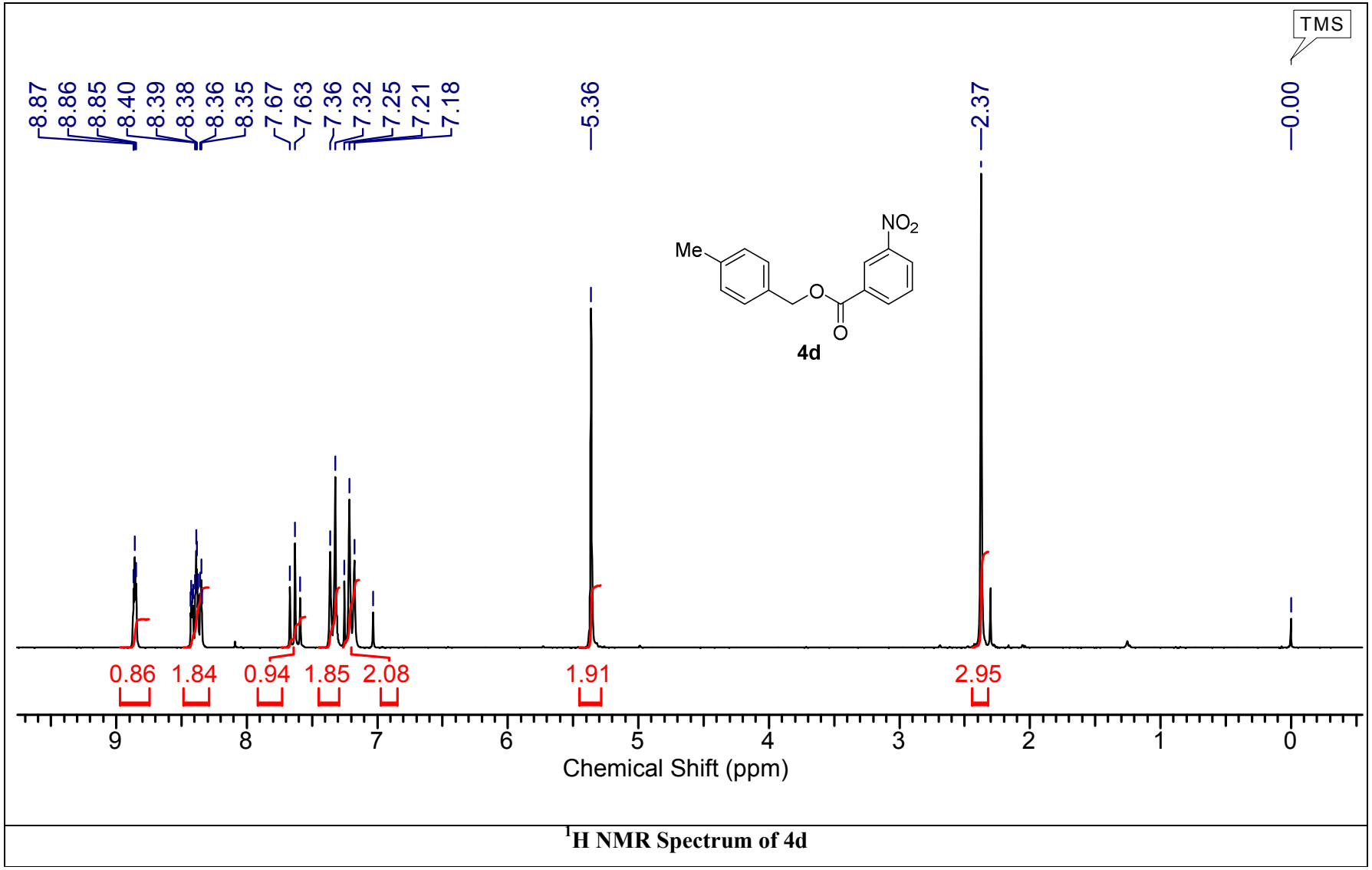
^{13}C NMR Spectrum of 4b



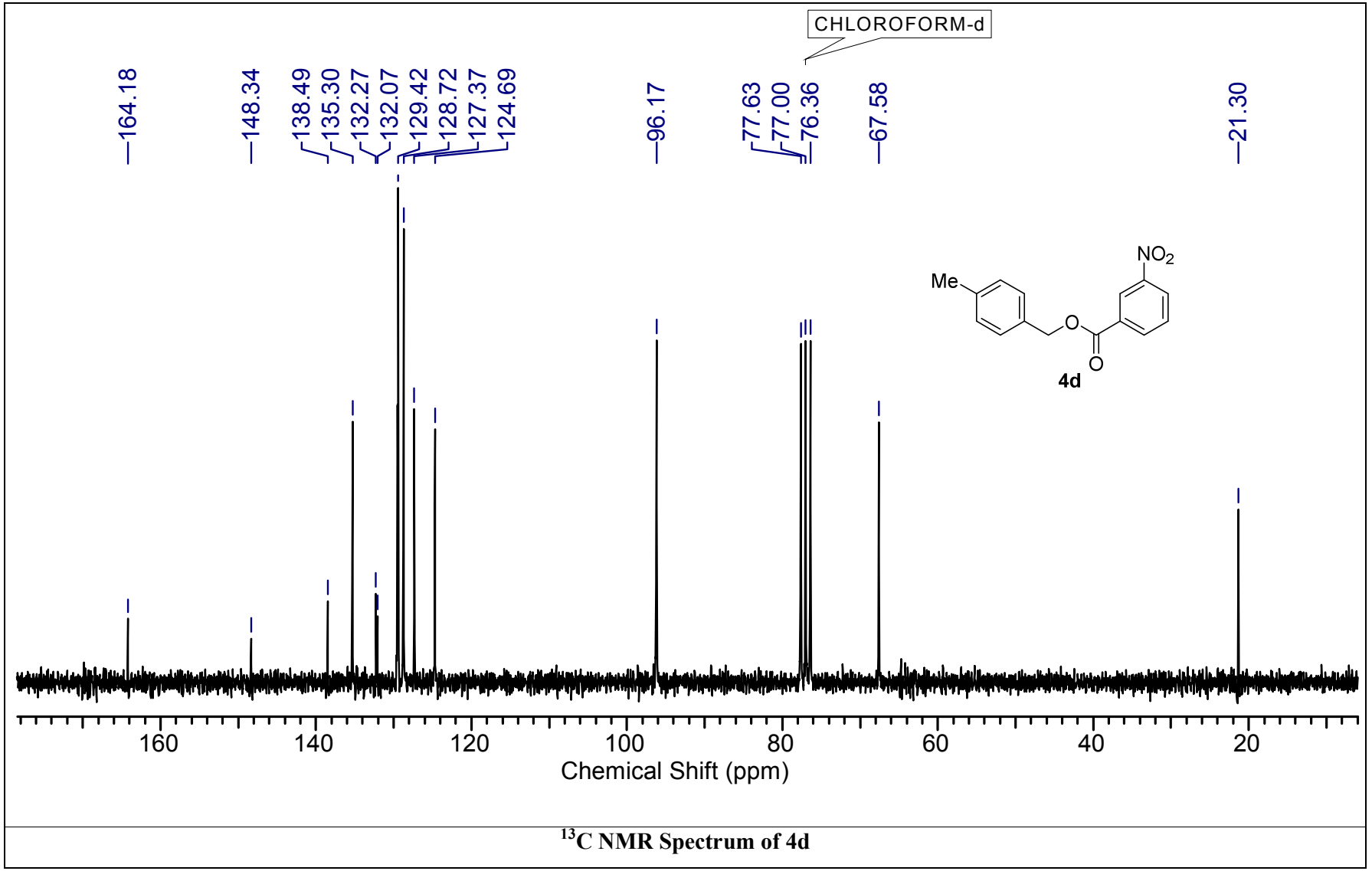
^{1}H NMR Spectrum of 4c



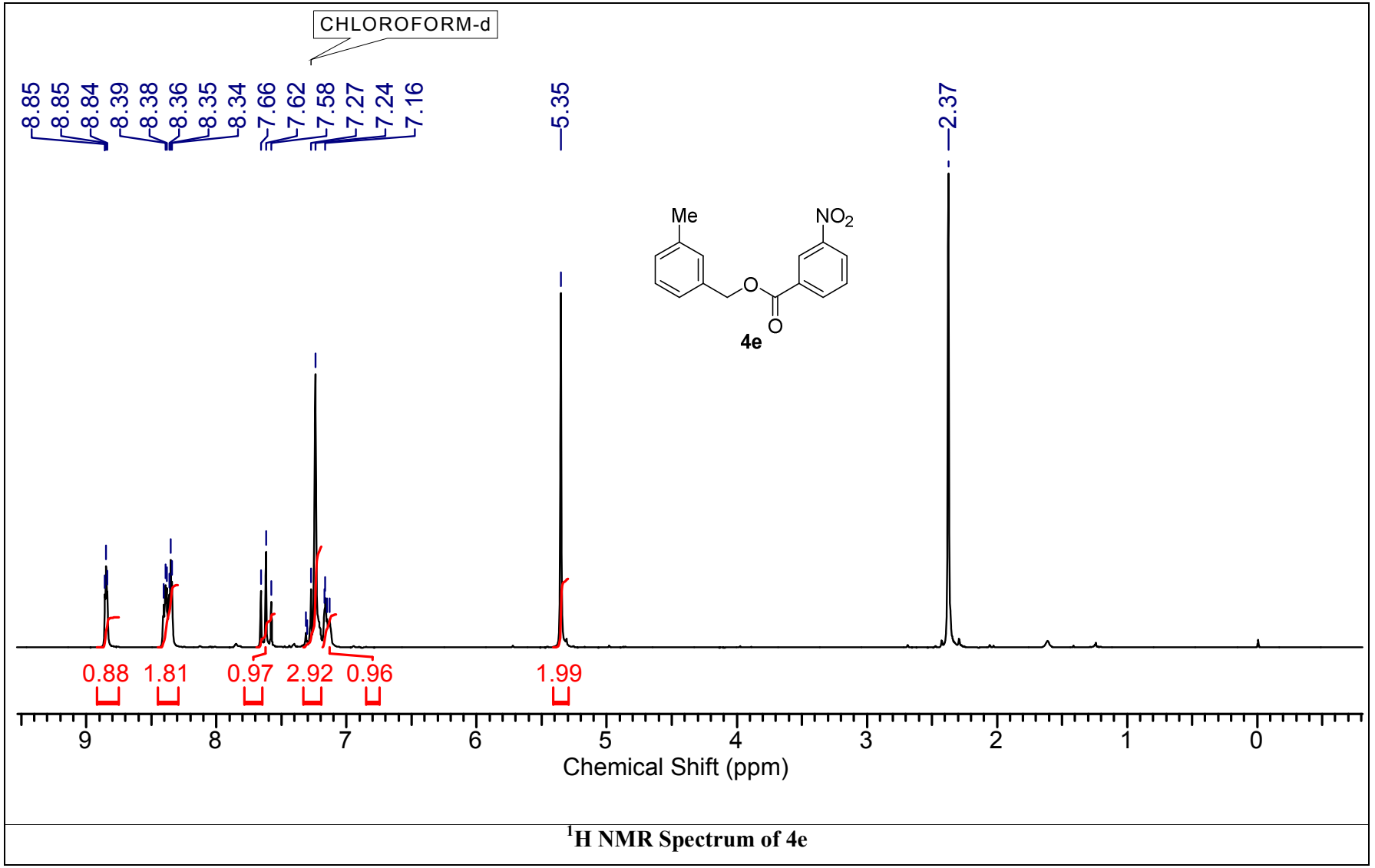
^{13}C NMR Spectrum of 4c



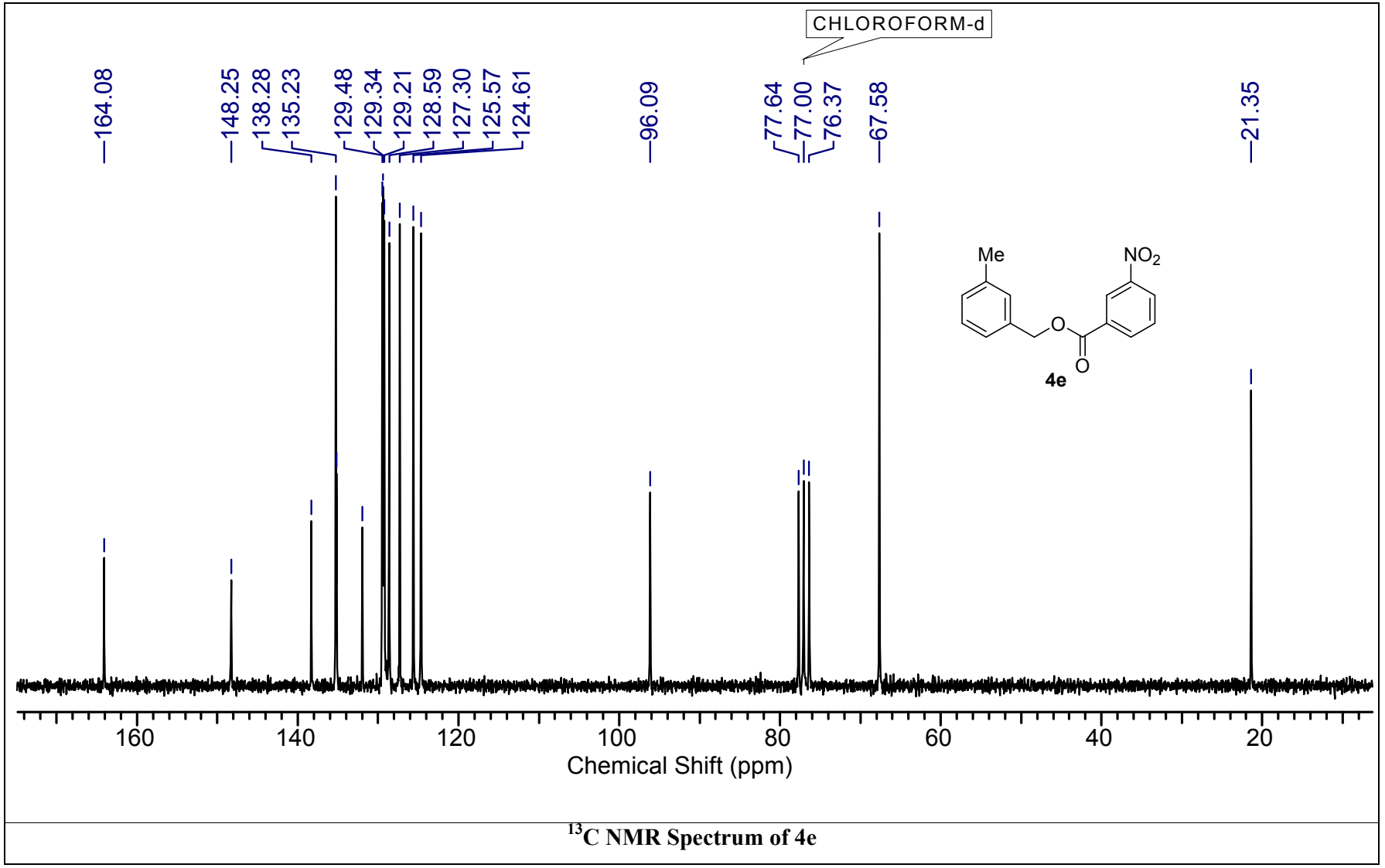
^{1}H NMR Spectrum of 4d



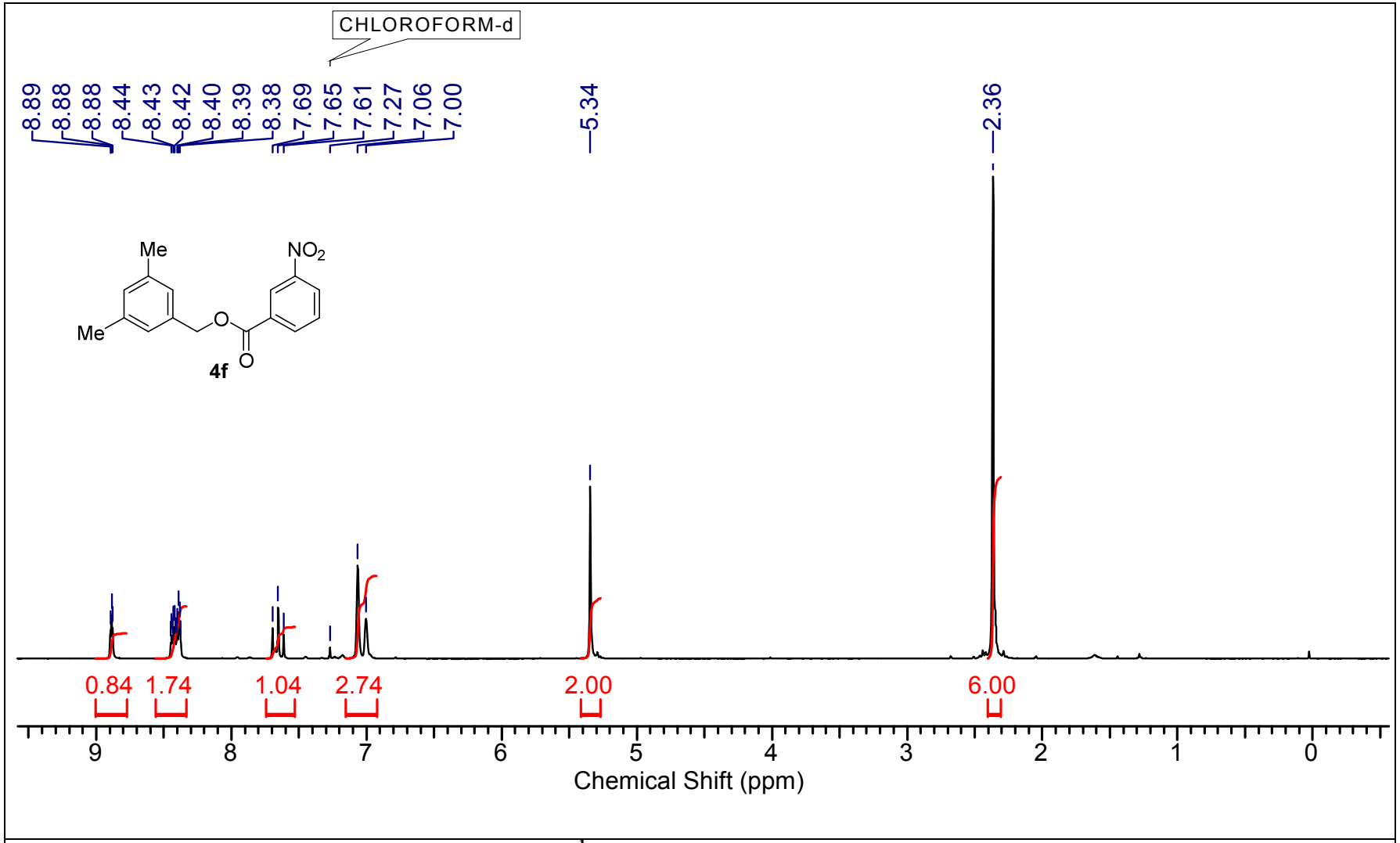
^{13}C NMR Spectrum of 4d



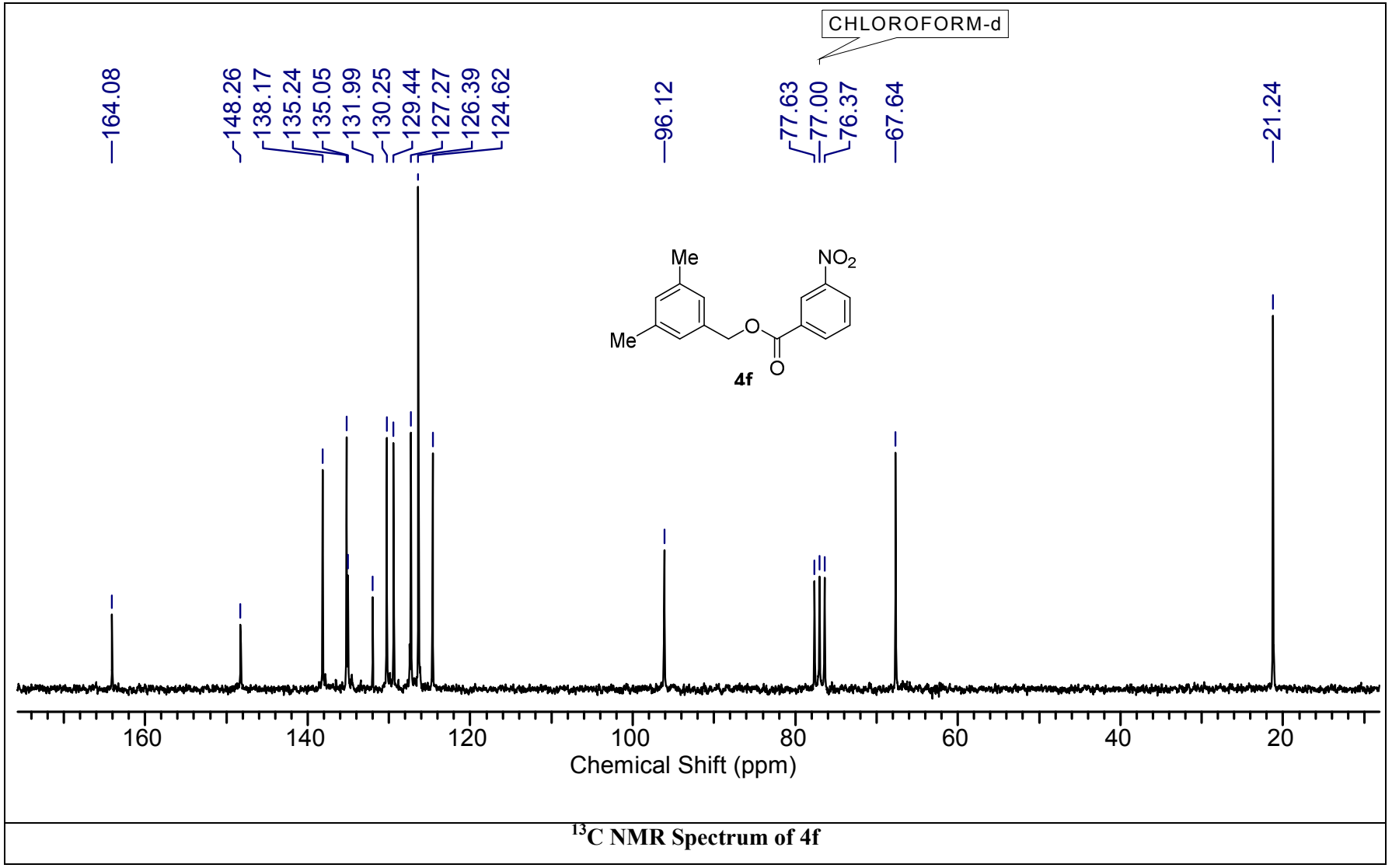
^{1}H NMR Spectrum of 4e



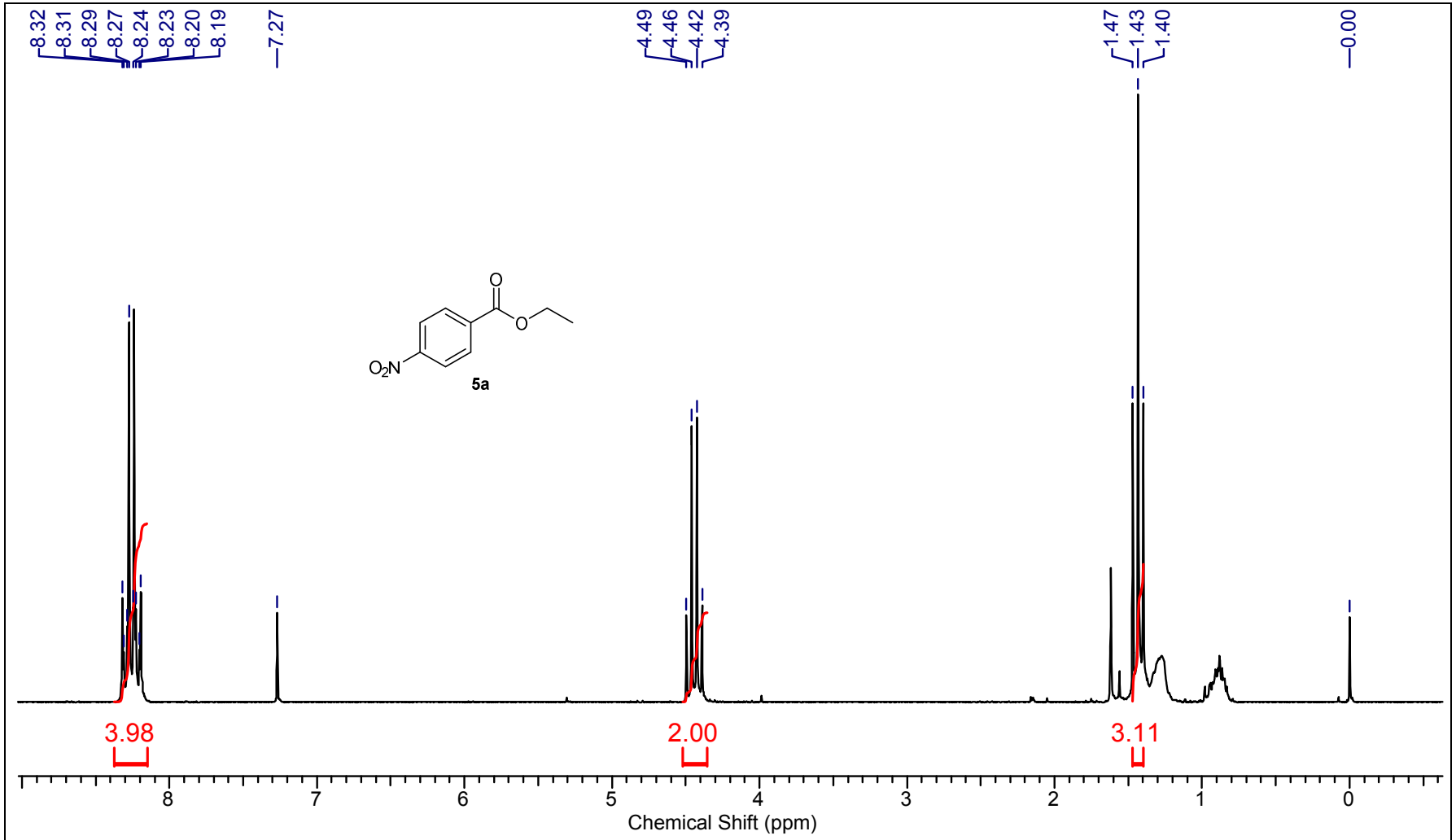
^{13}C NMR Spectrum of 4e



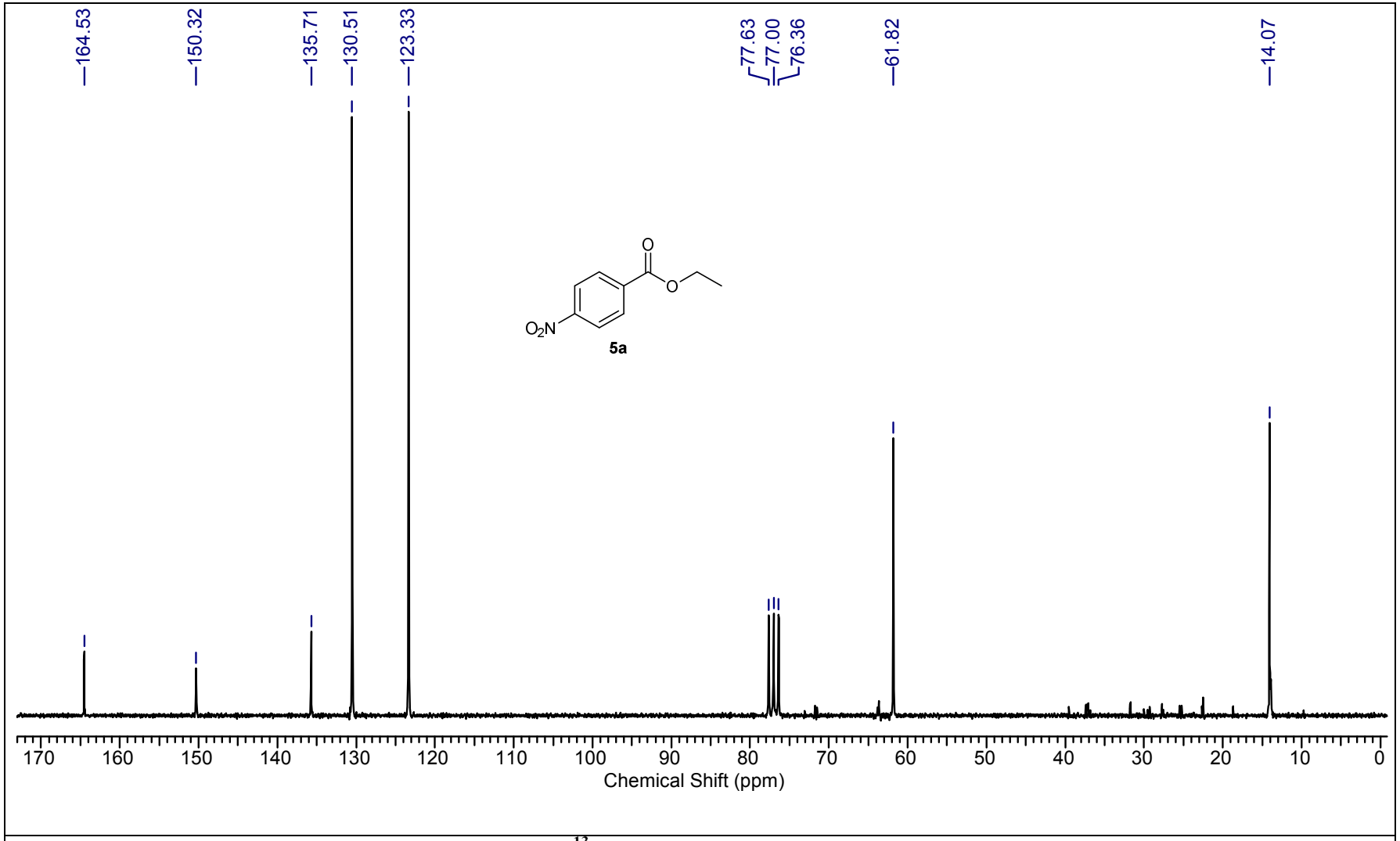
^{1}H NMR Spectrum of 4f



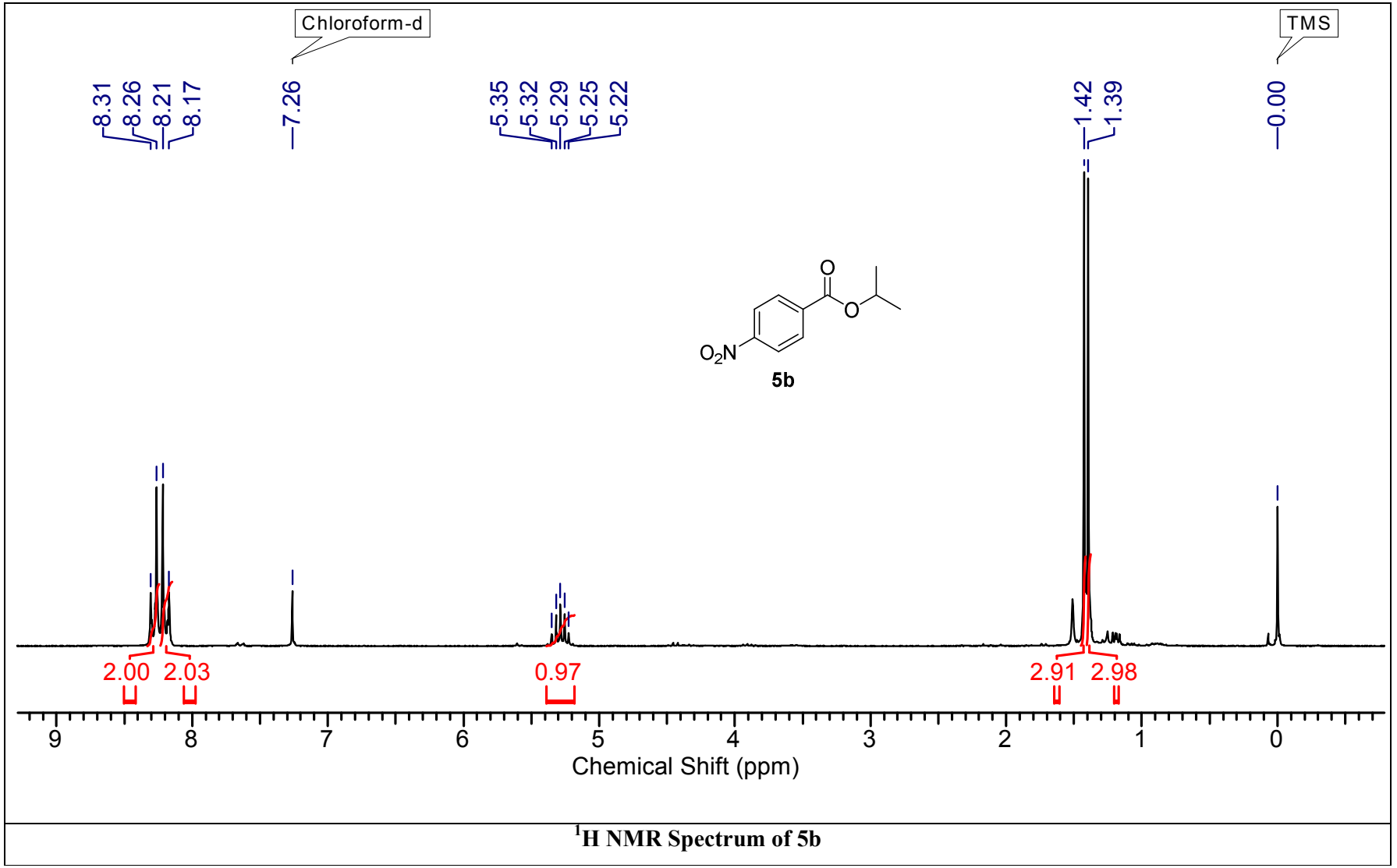
^{13}C NMR Spectrum of 4f



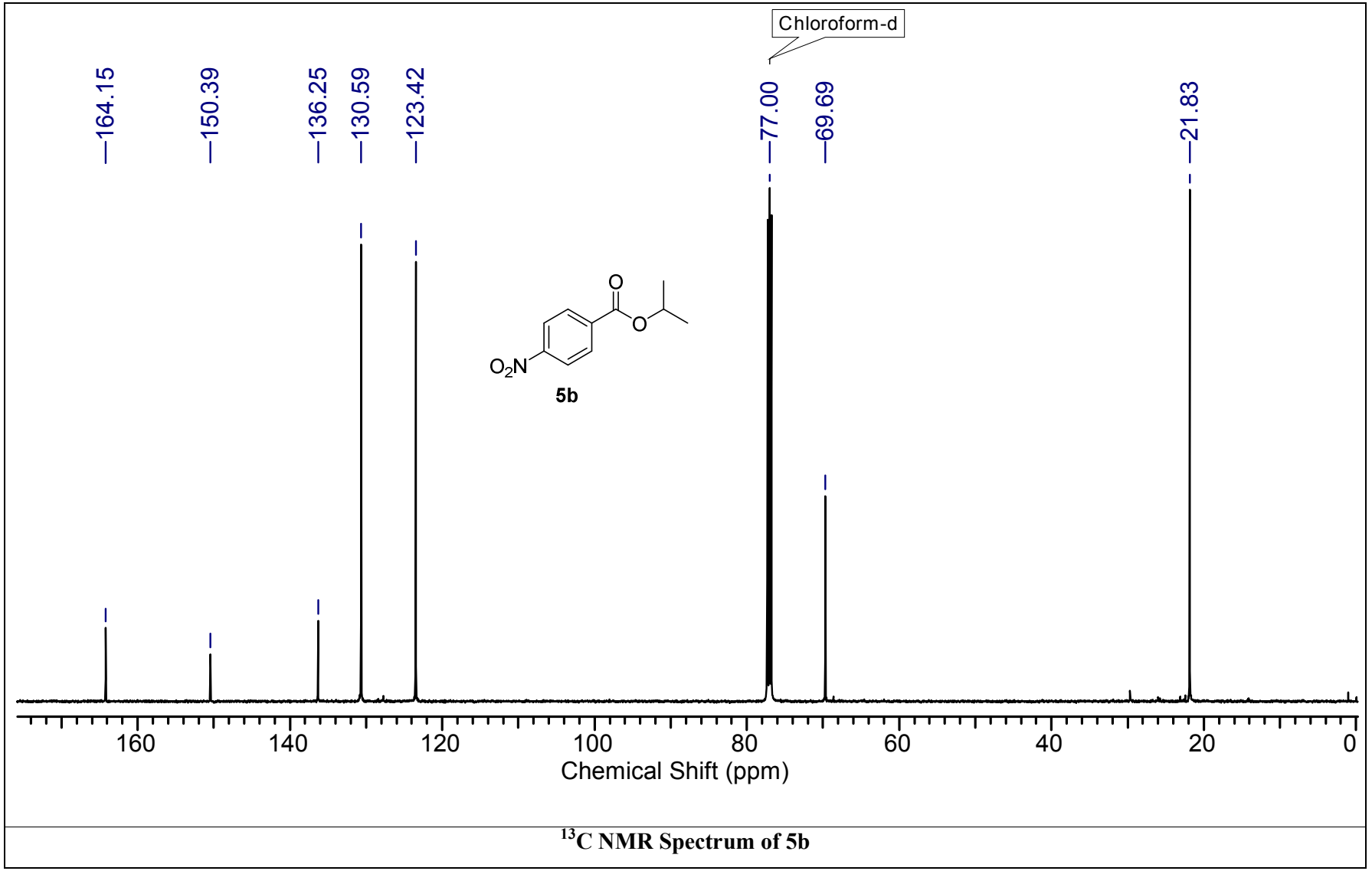
^{1}H NMR Spectrum of 5a



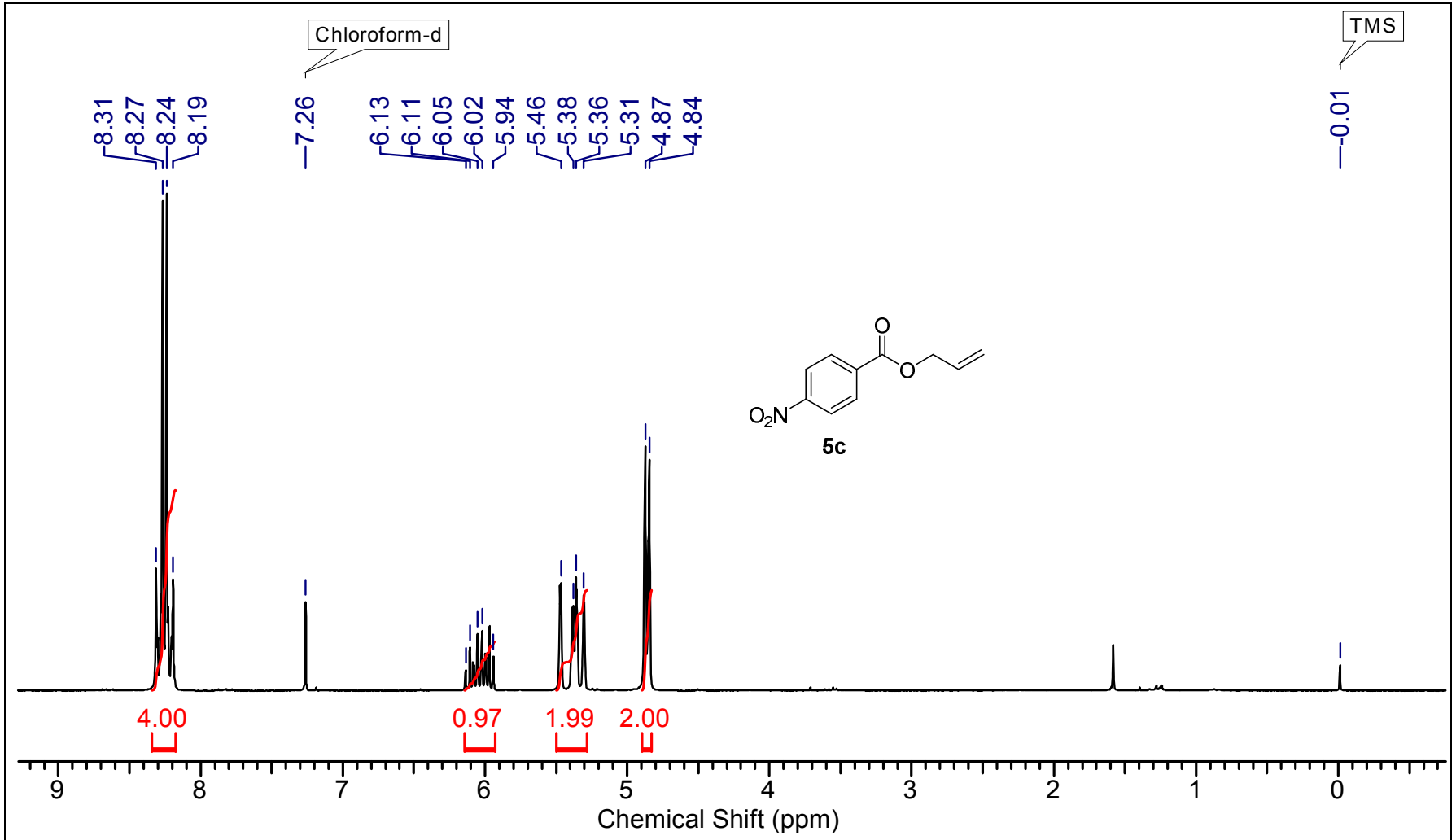
^{13}C NMR Spectrum of 5a



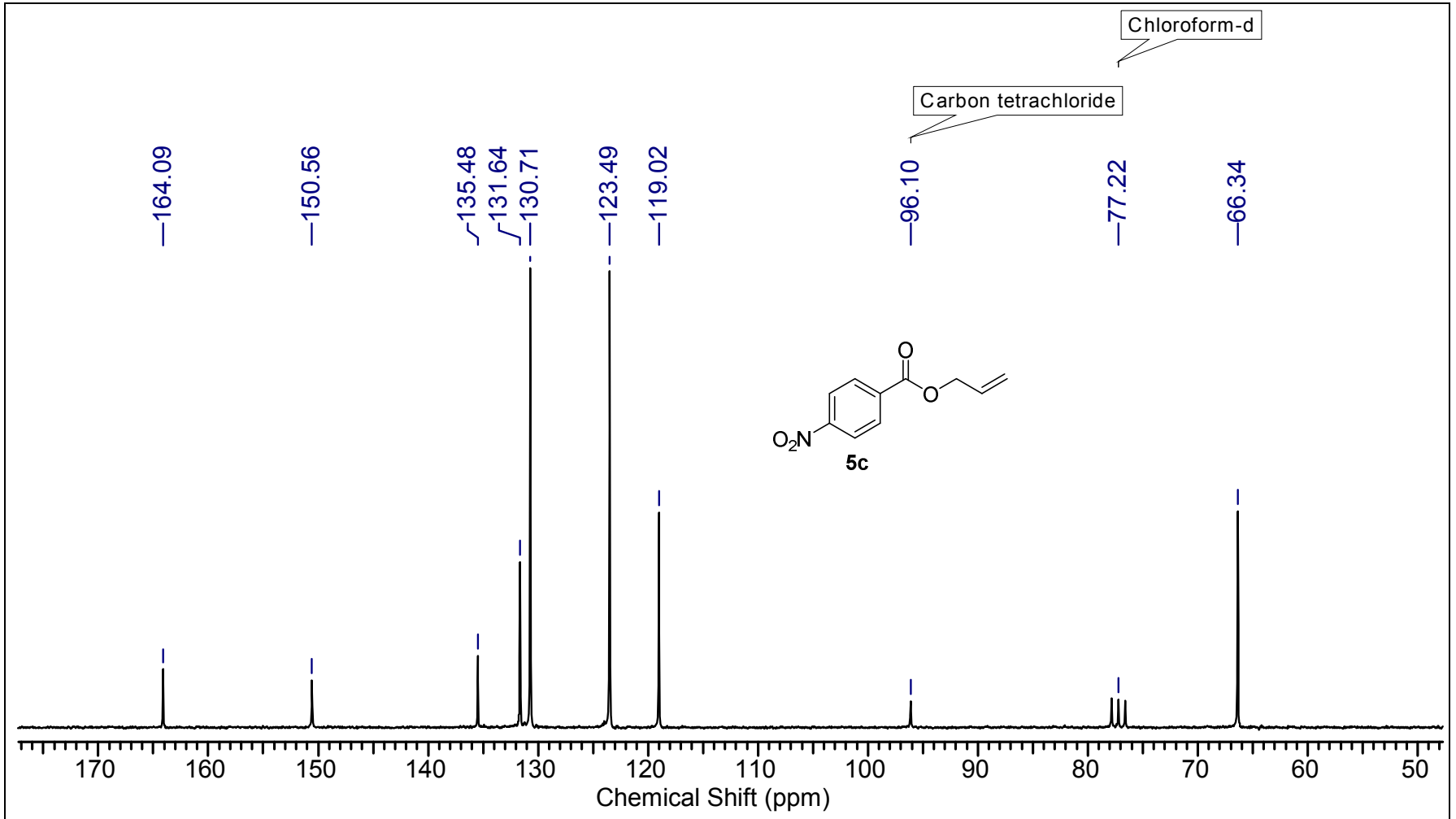
^{1}H NMR Spectrum of 5b



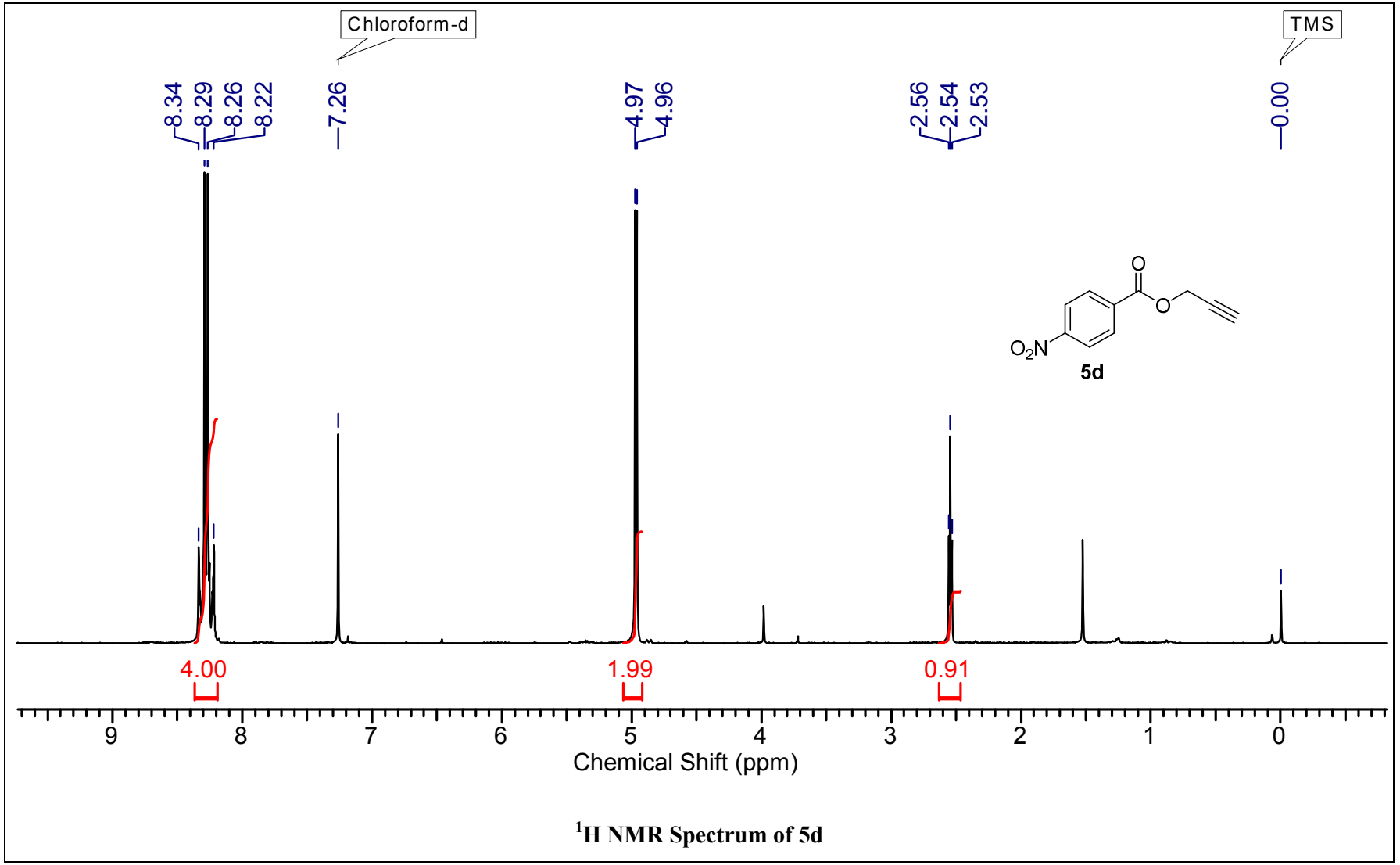
^{13}C NMR Spectrum of 5b



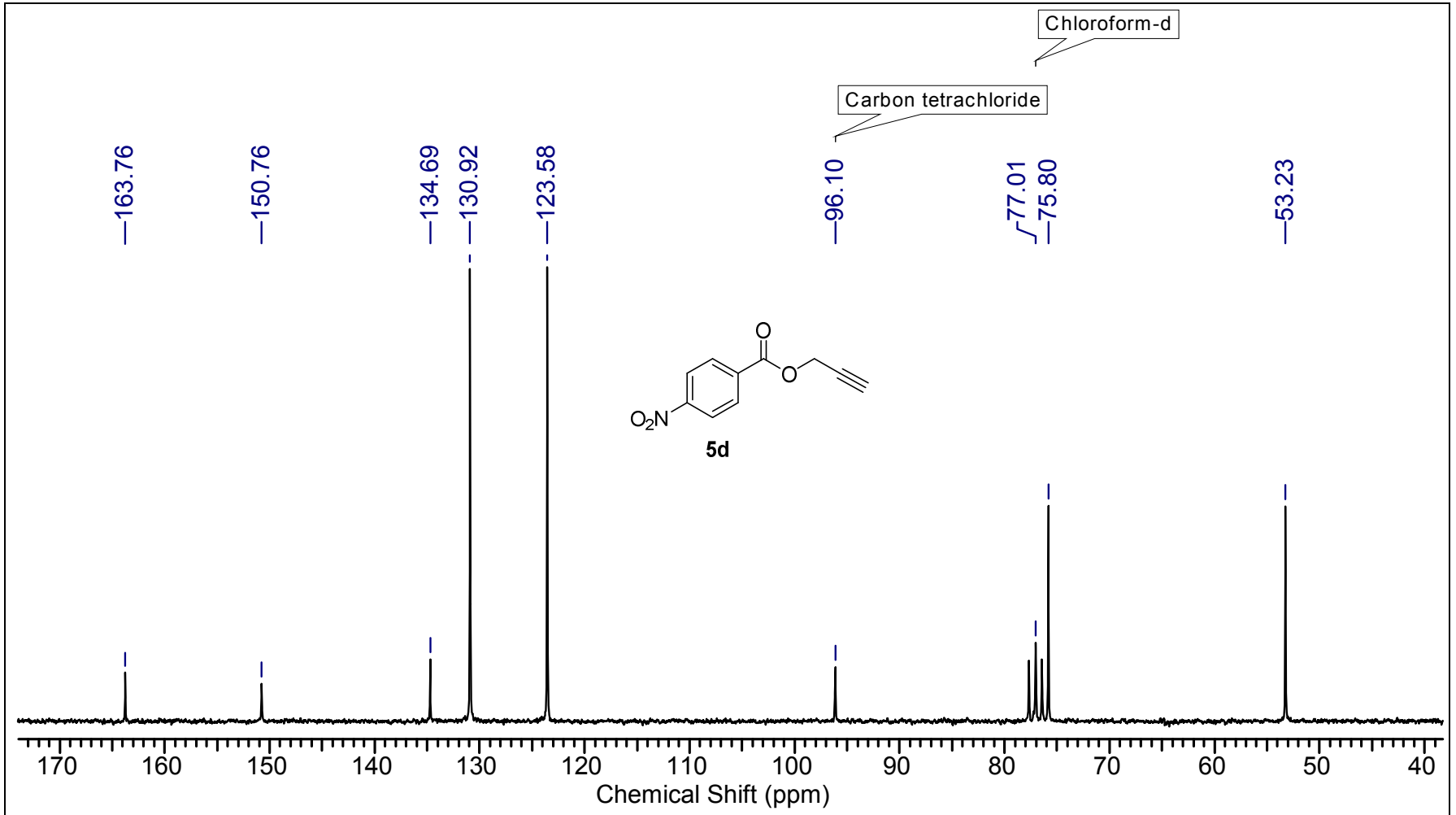
^{1}H NMR Spectrum of 5c



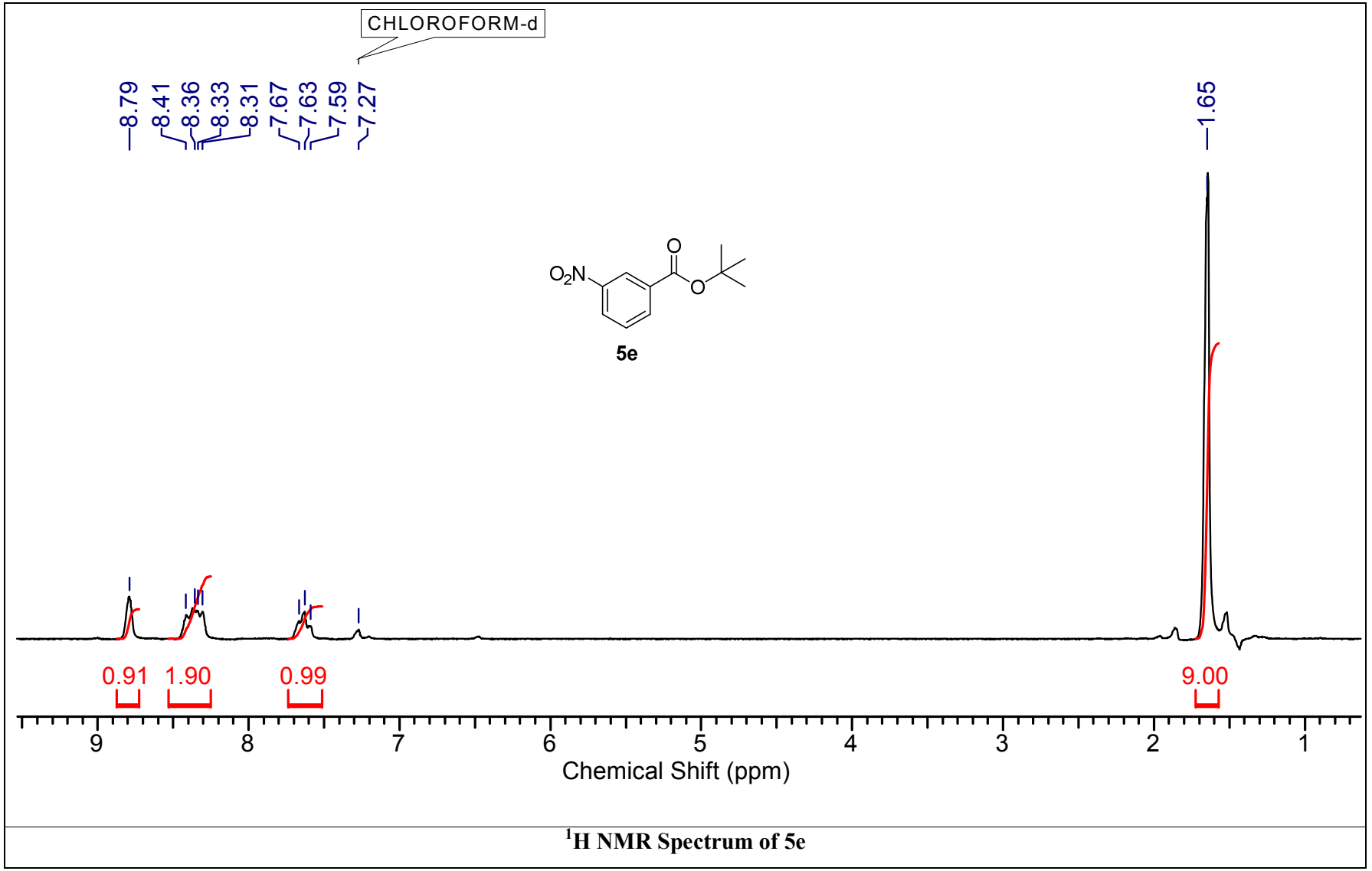
^{13}C NMR Spectrum of 5c



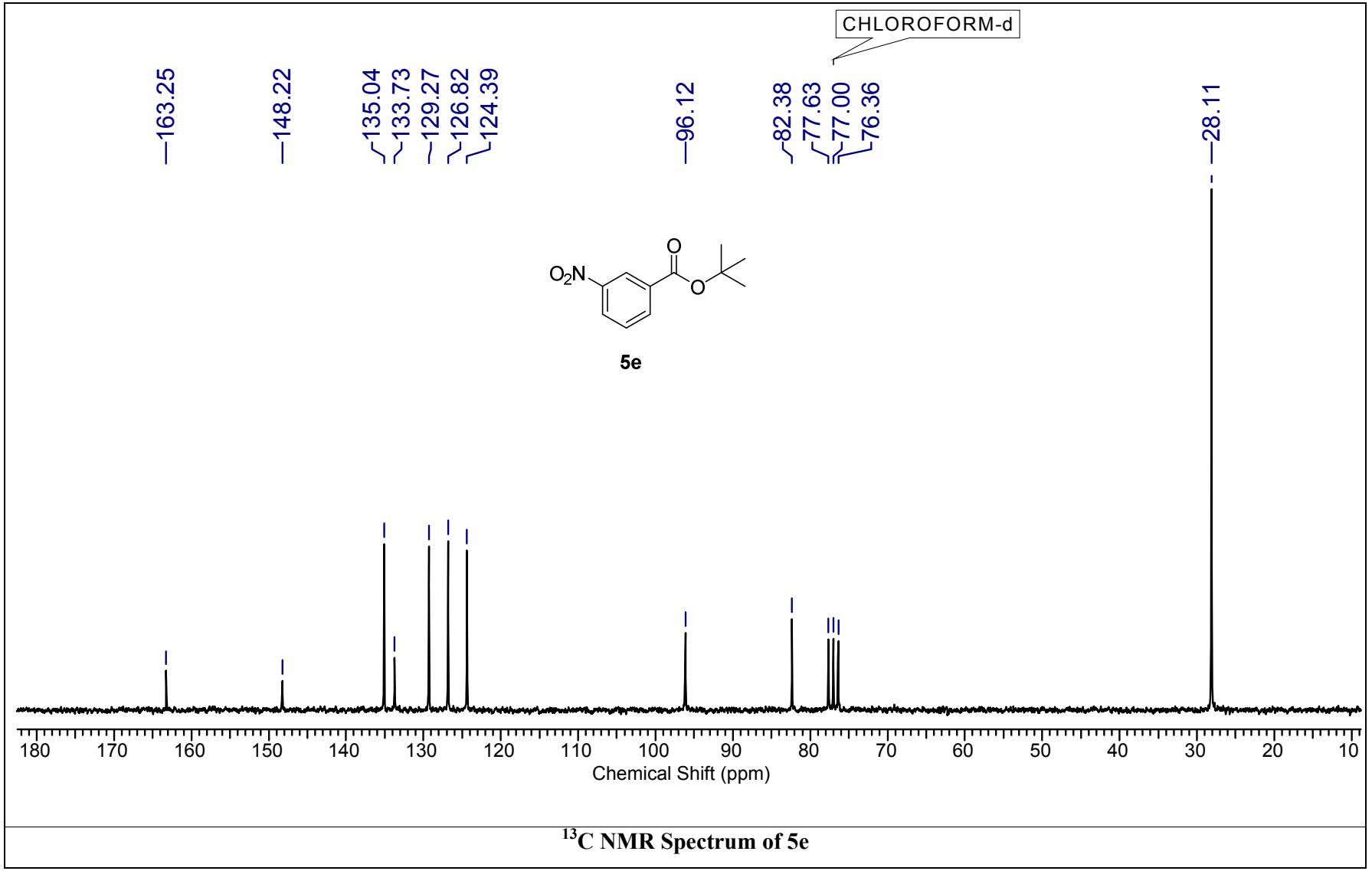
^{1}H NMR Spectrum of 5d



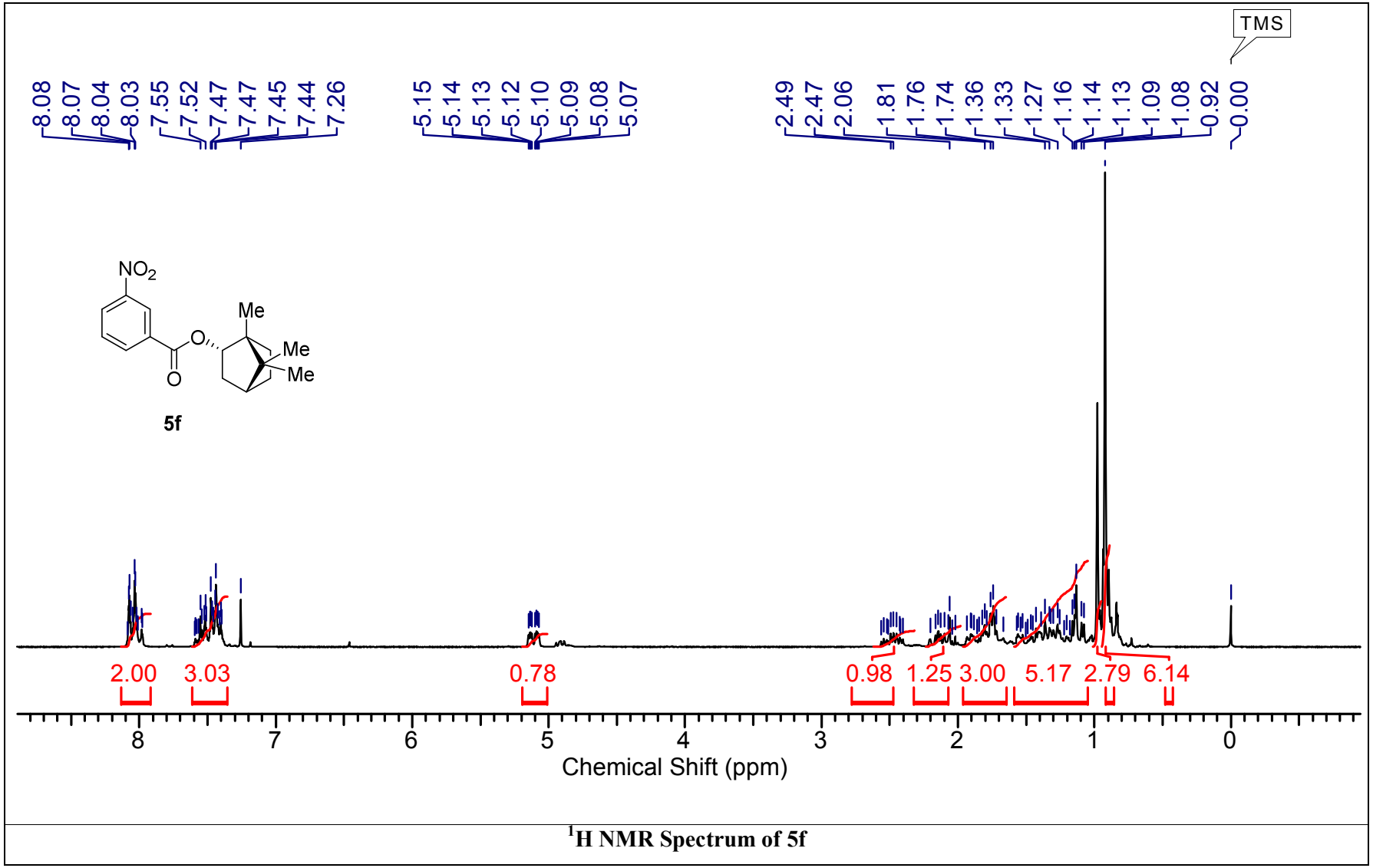
^{13}C NMR Spectrum of 5d



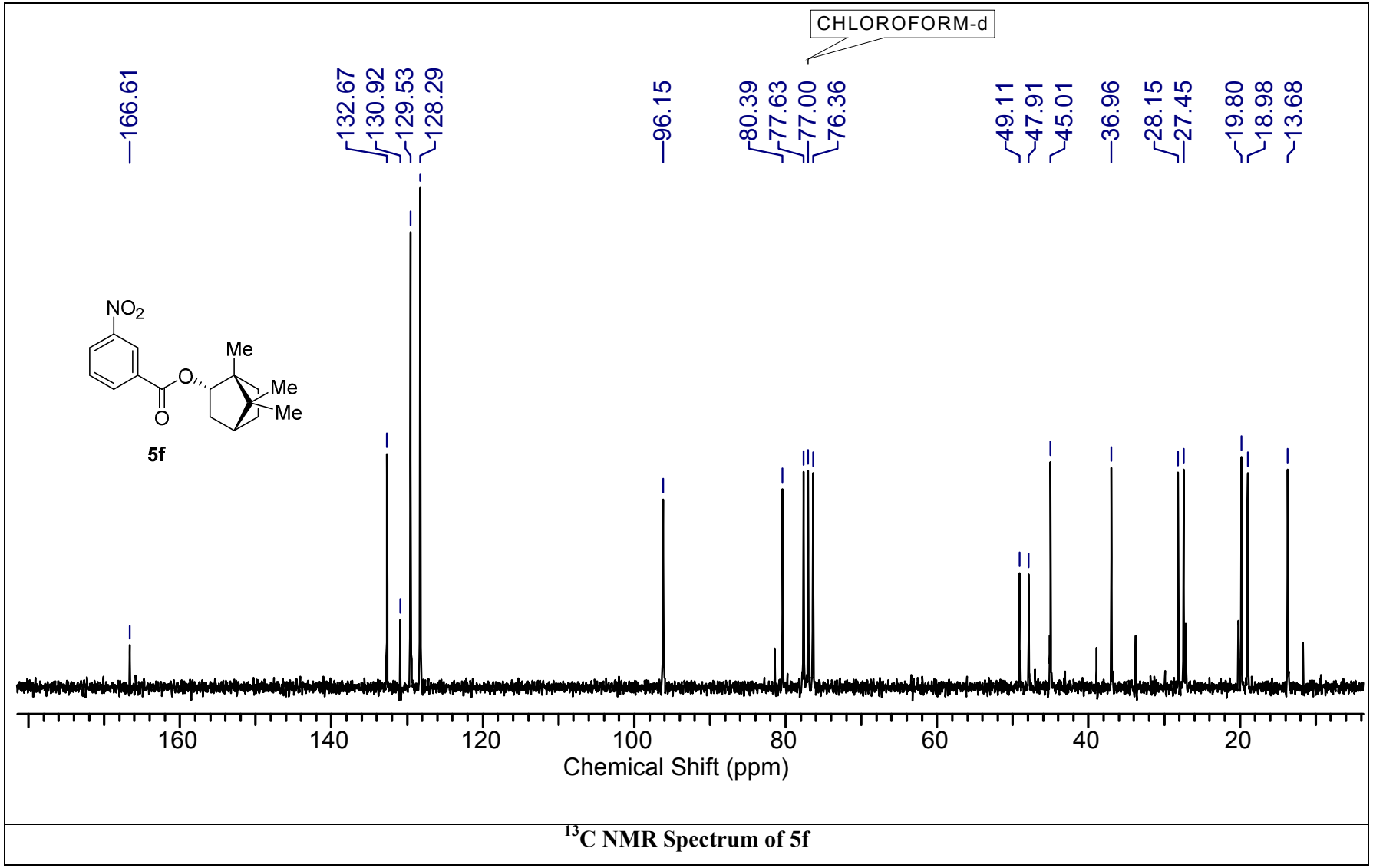
^{1}H NMR Spectrum of 5e



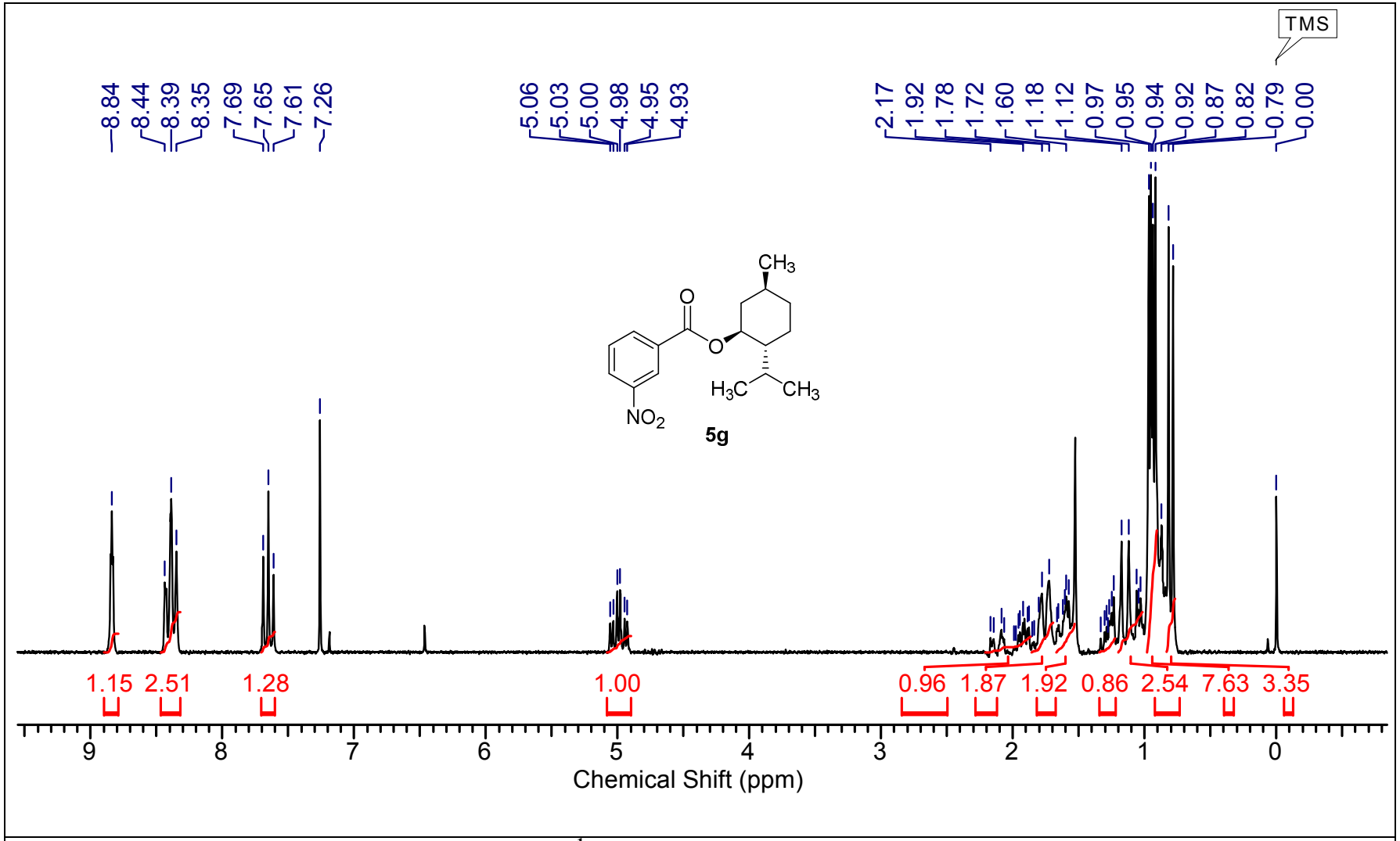
^{13}C NMR Spectrum of 5e



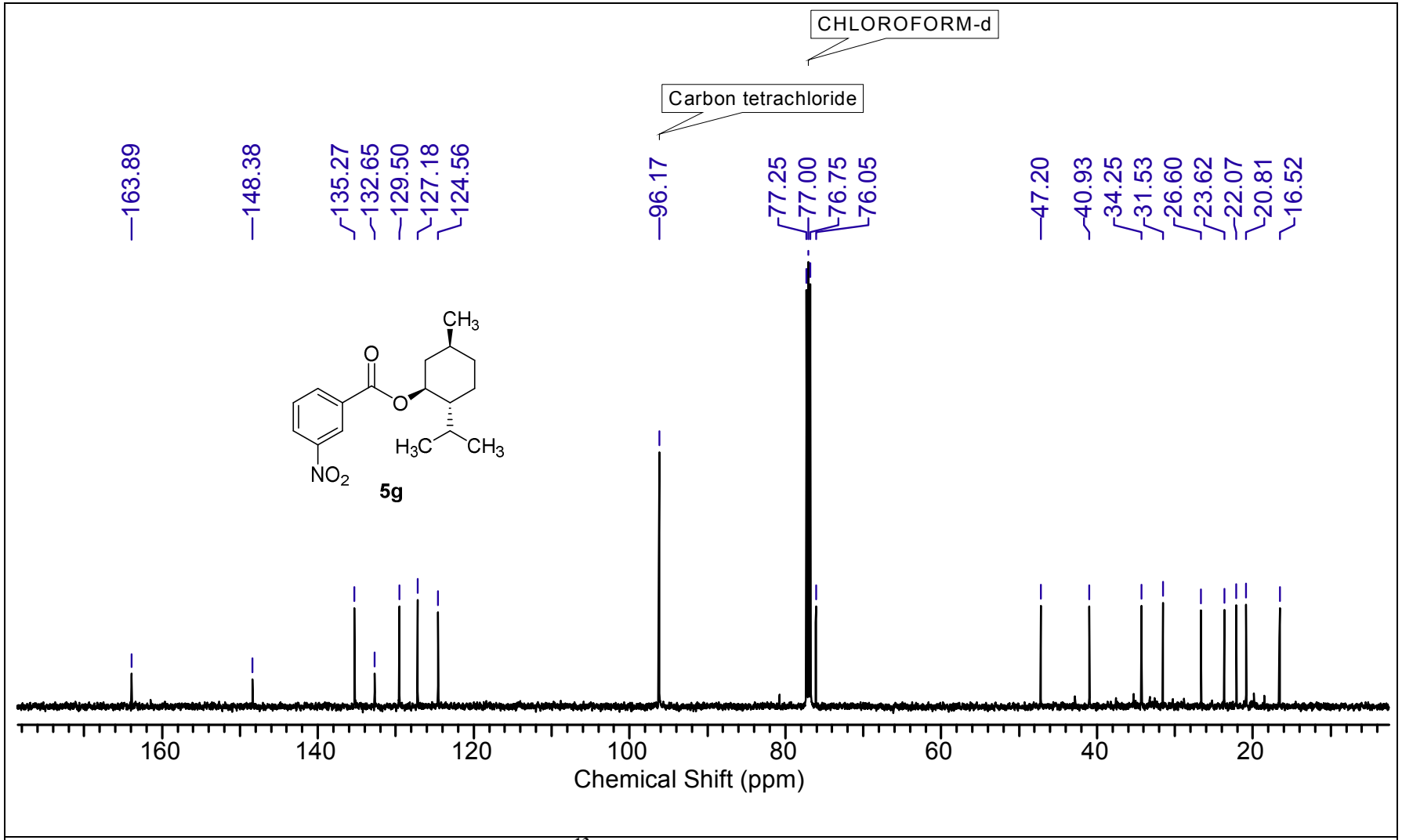
^{1}H NMR Spectrum of 5f



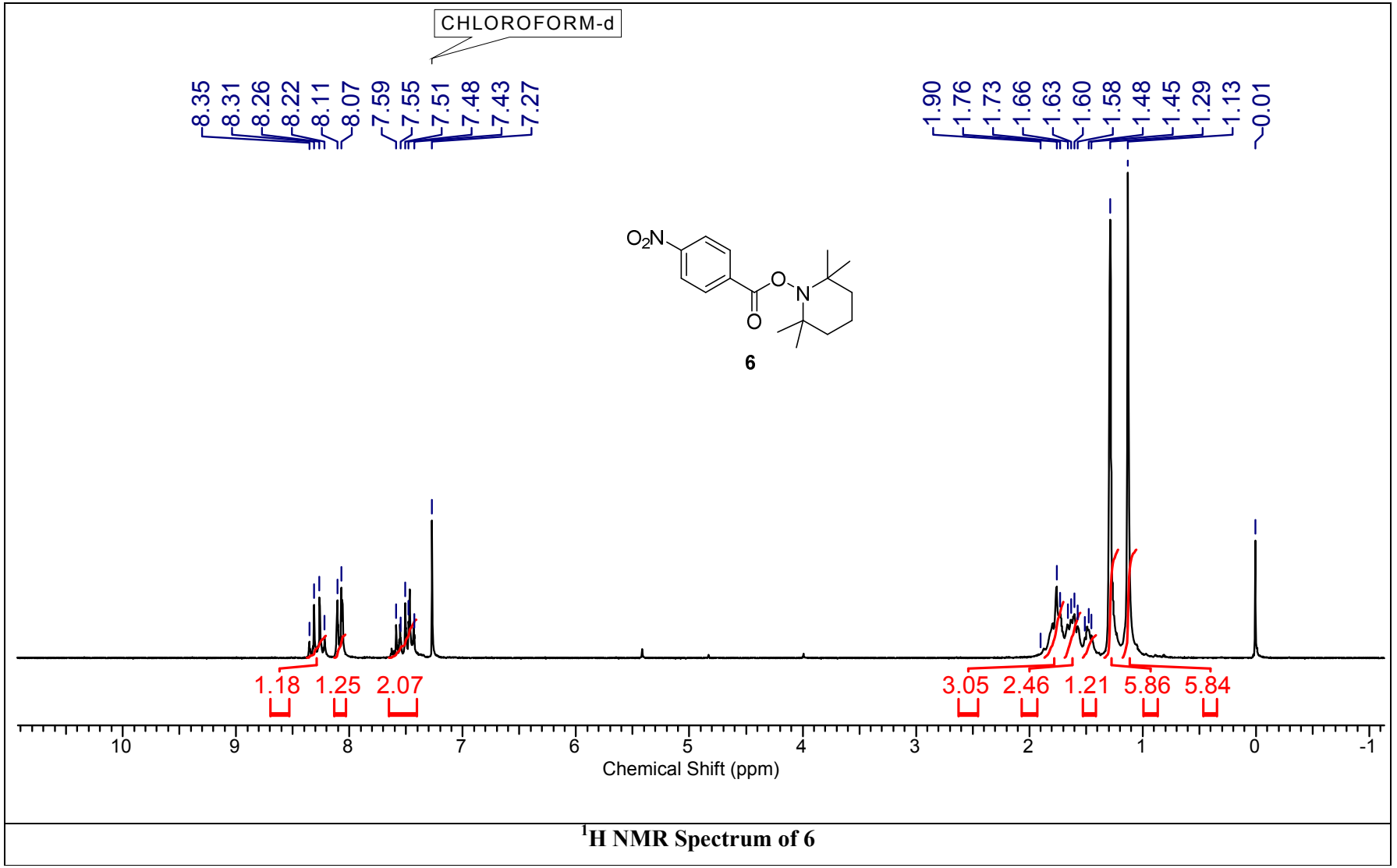
^{13}C NMR Spectrum of 5f



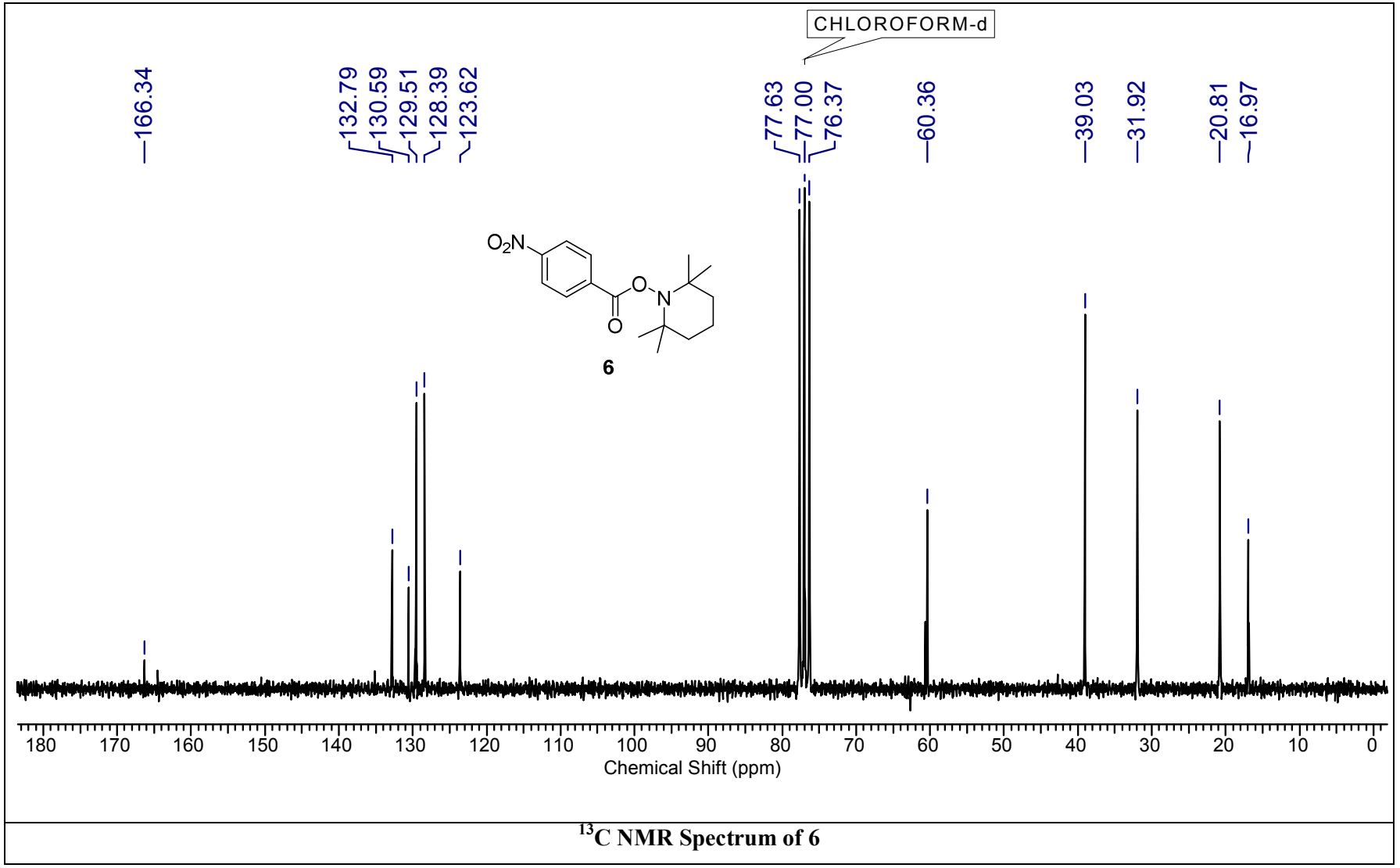
^{1}H NMR Spectrum of 5g



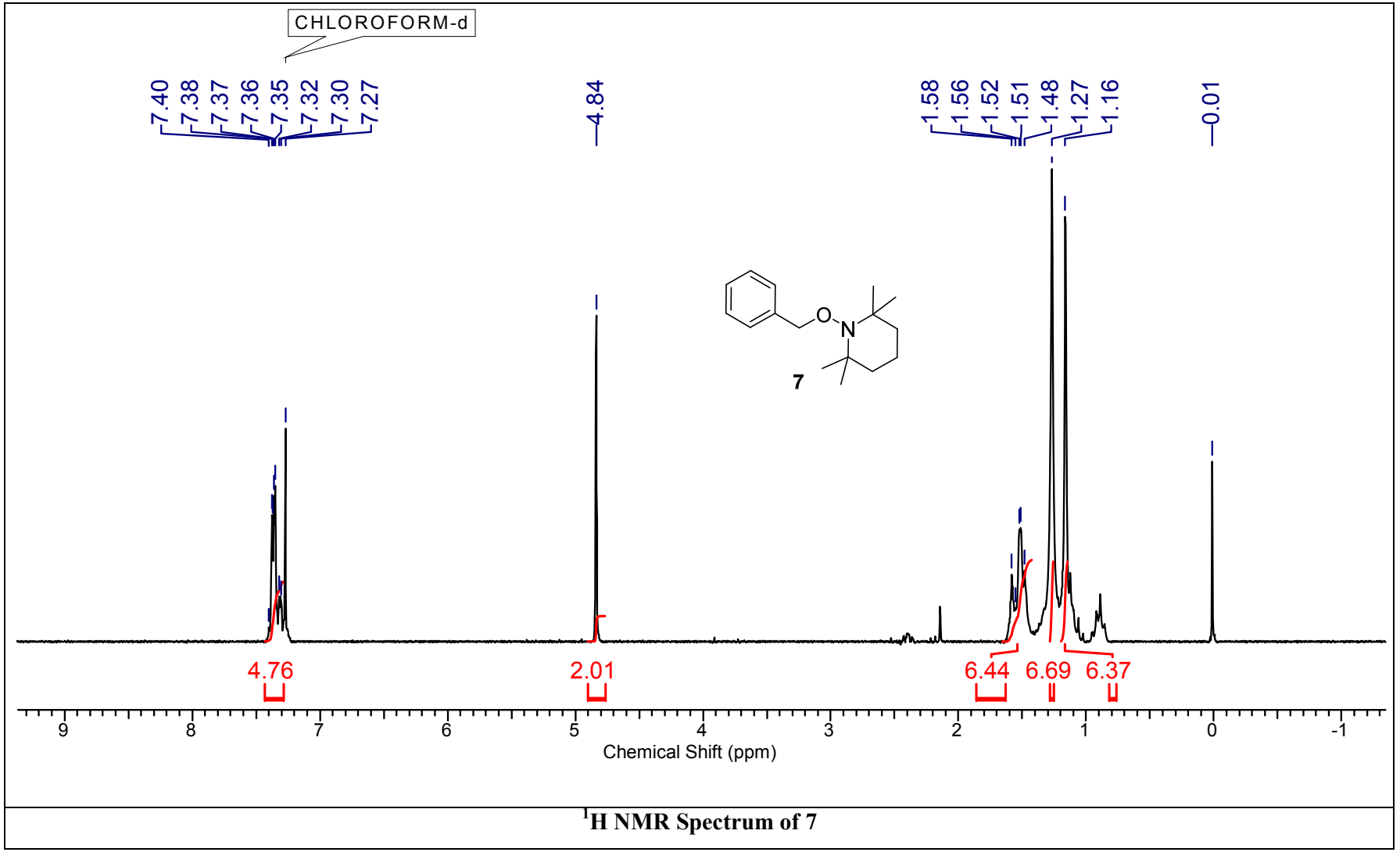
^{13}C NMR Spectrum of 5g



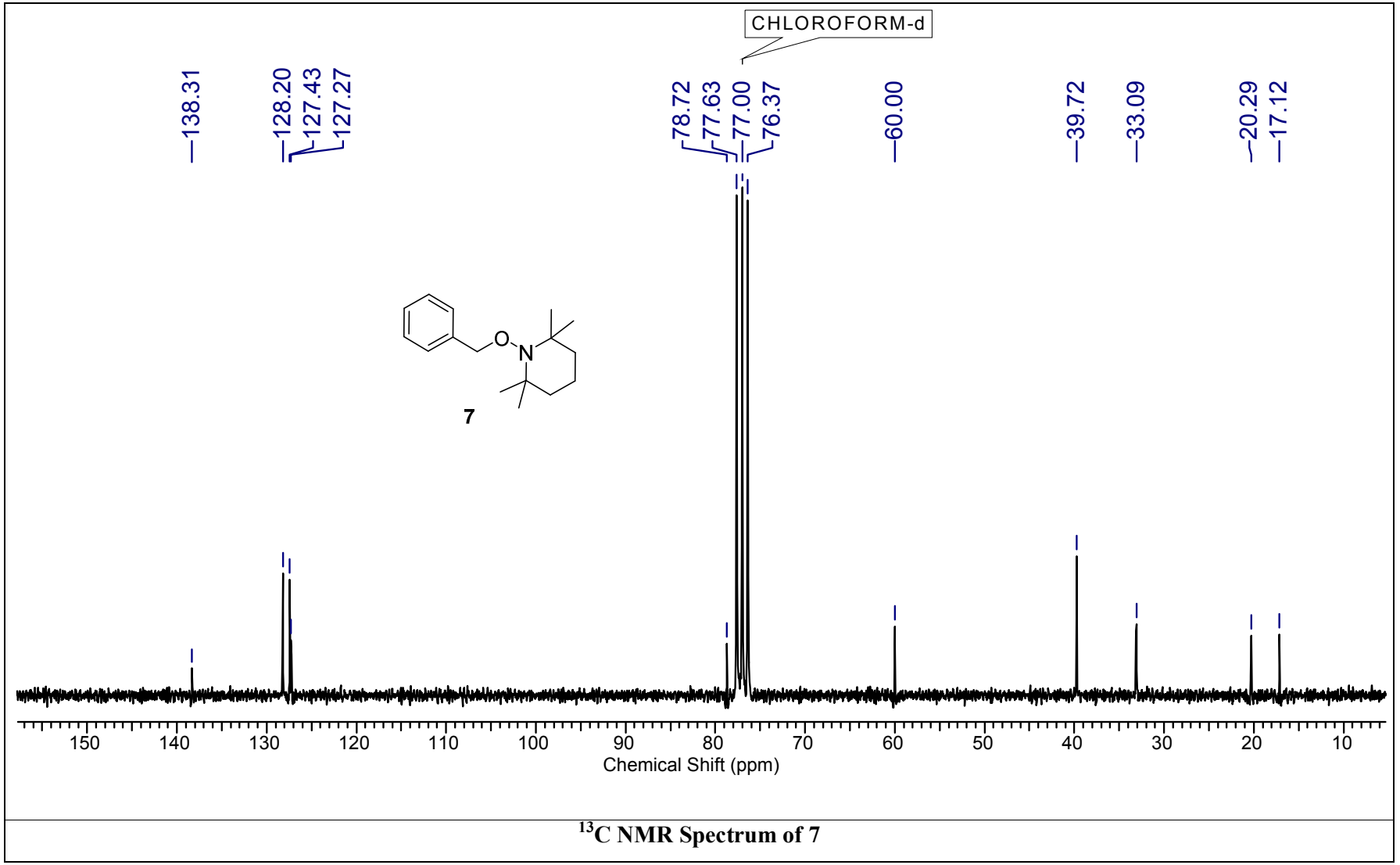
^{1}H NMR Spectrum of 6



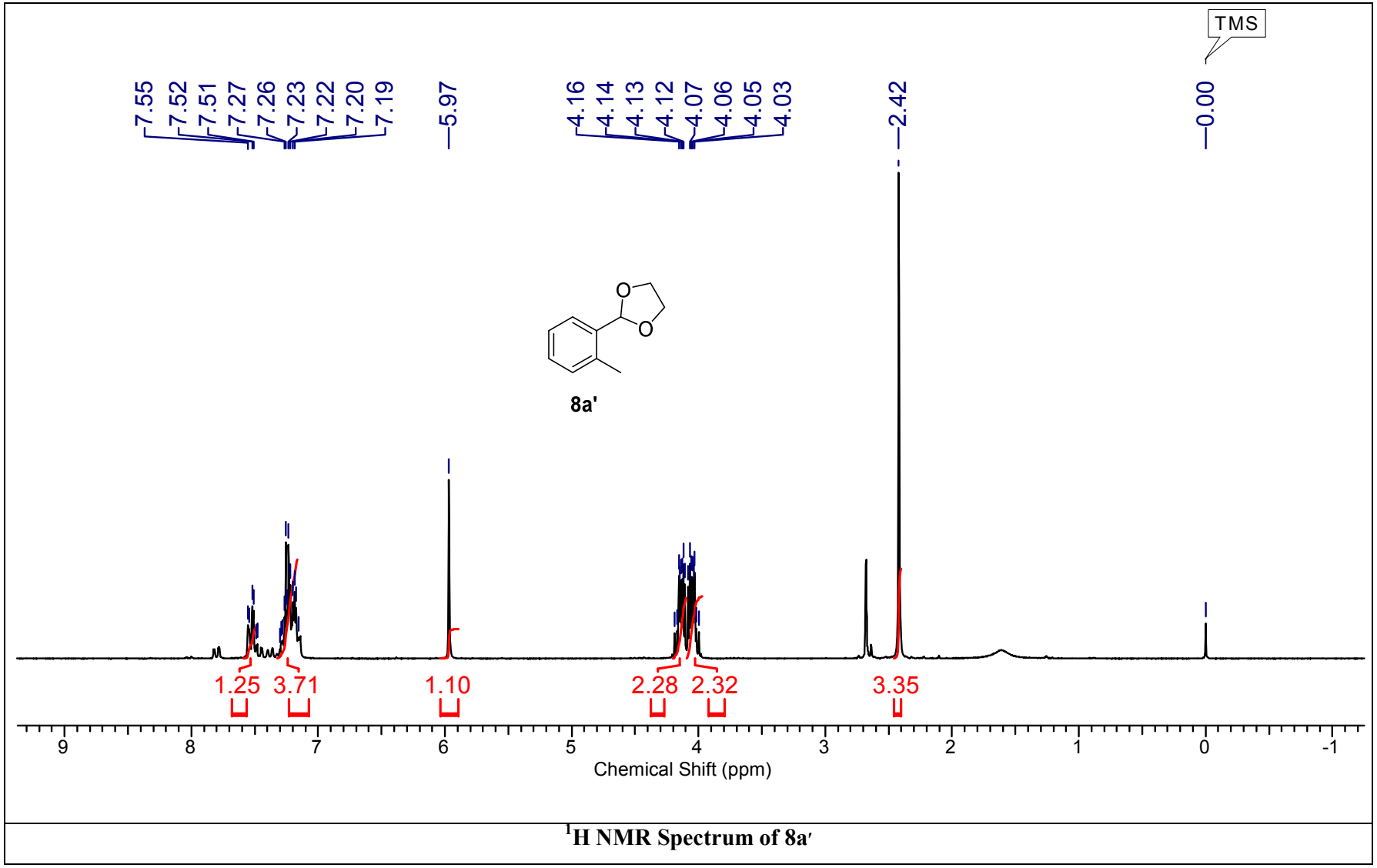
^{13}C NMR Spectrum of 6



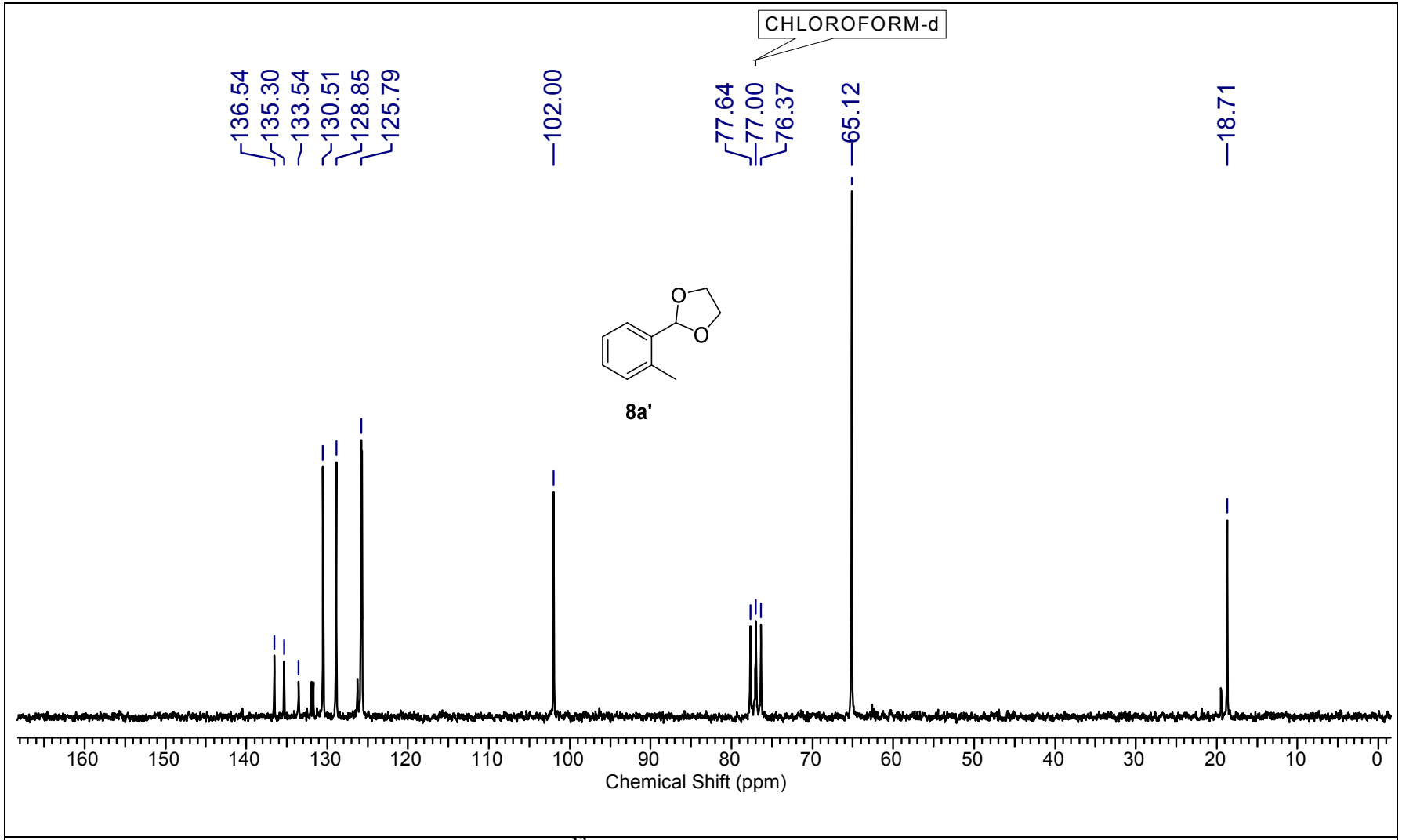
^{1}H NMR Spectrum of 7



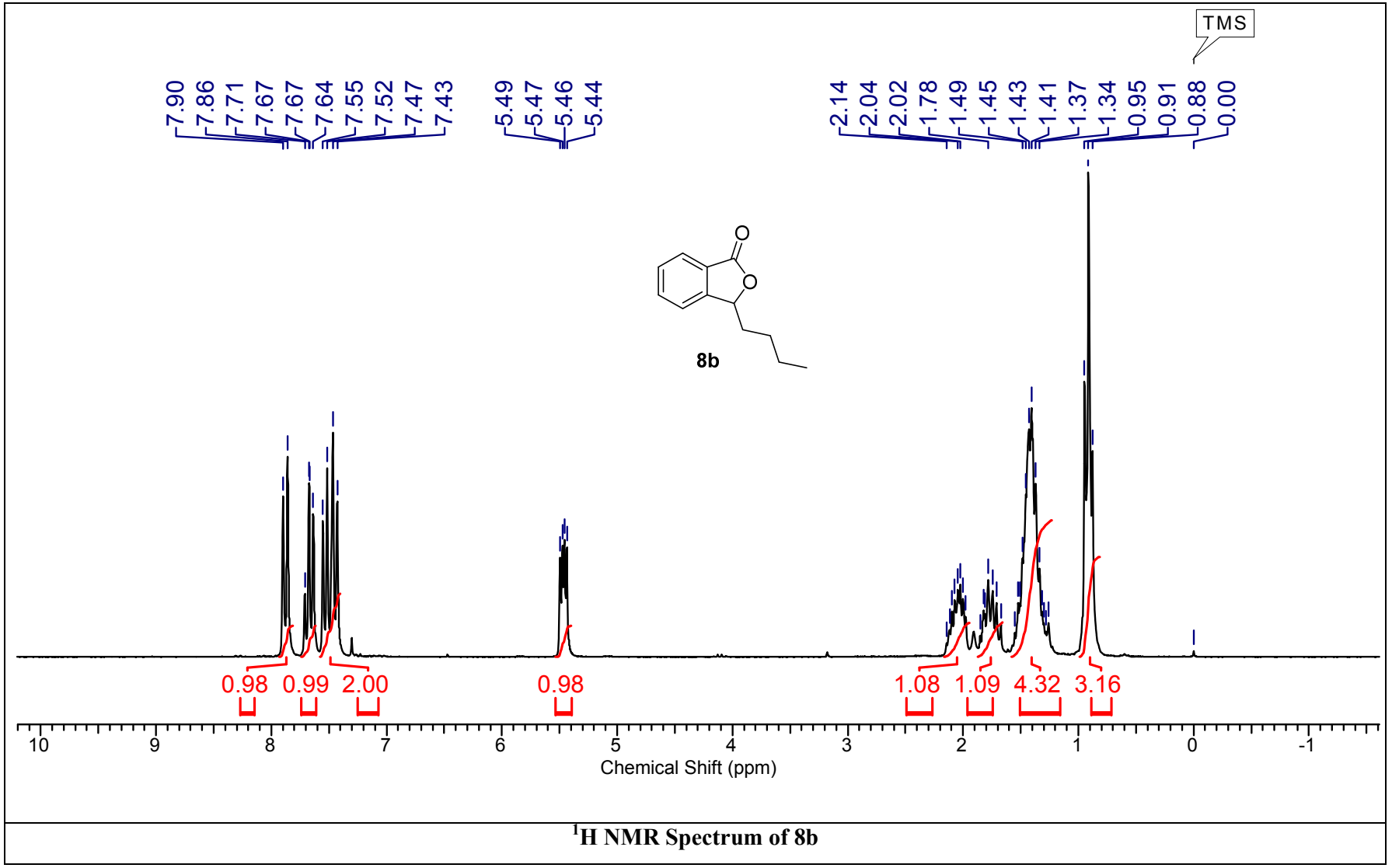
^{13}C NMR Spectrum of 7



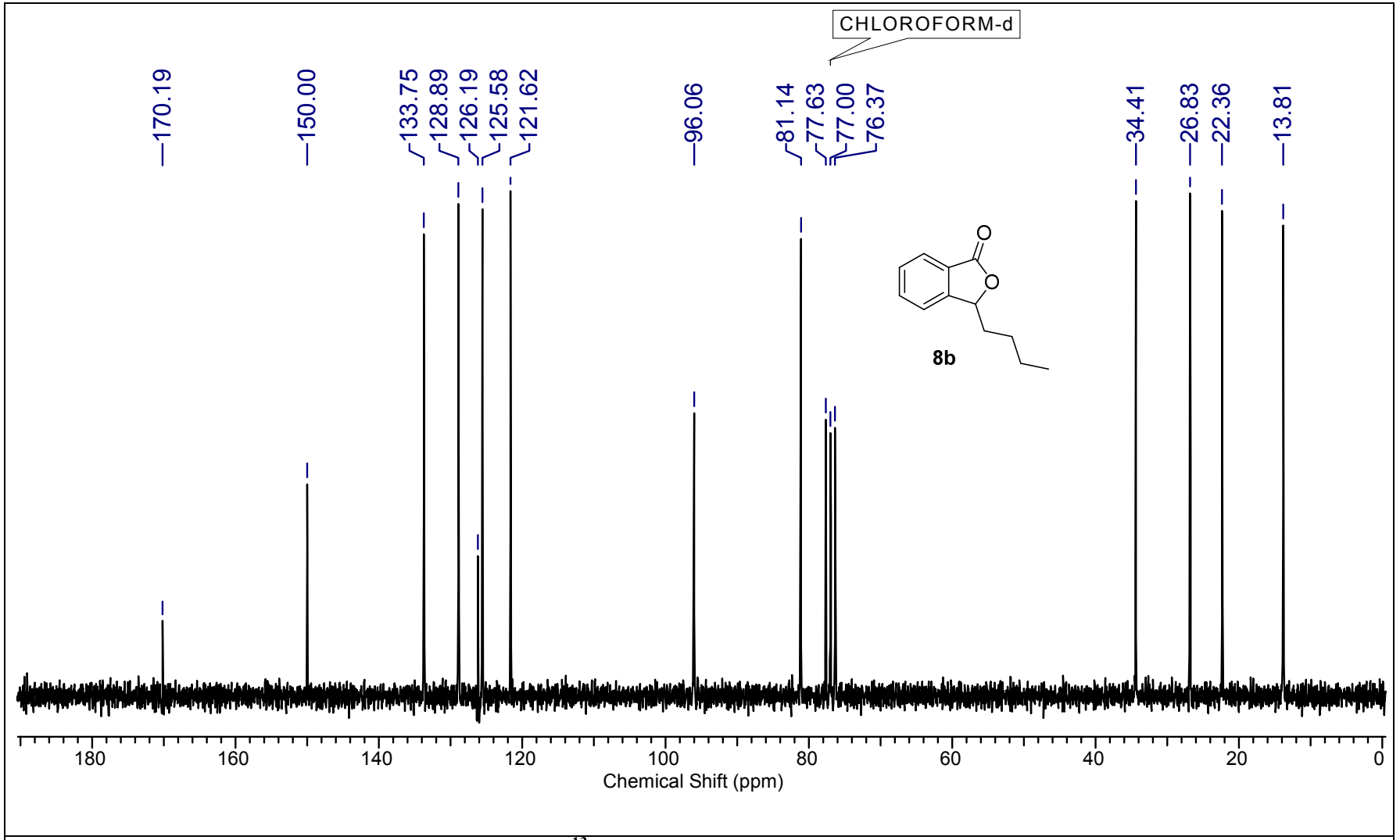
^{1}H NMR Spectrum of 8a′



^{13}C NMR Spectrum of 8a′

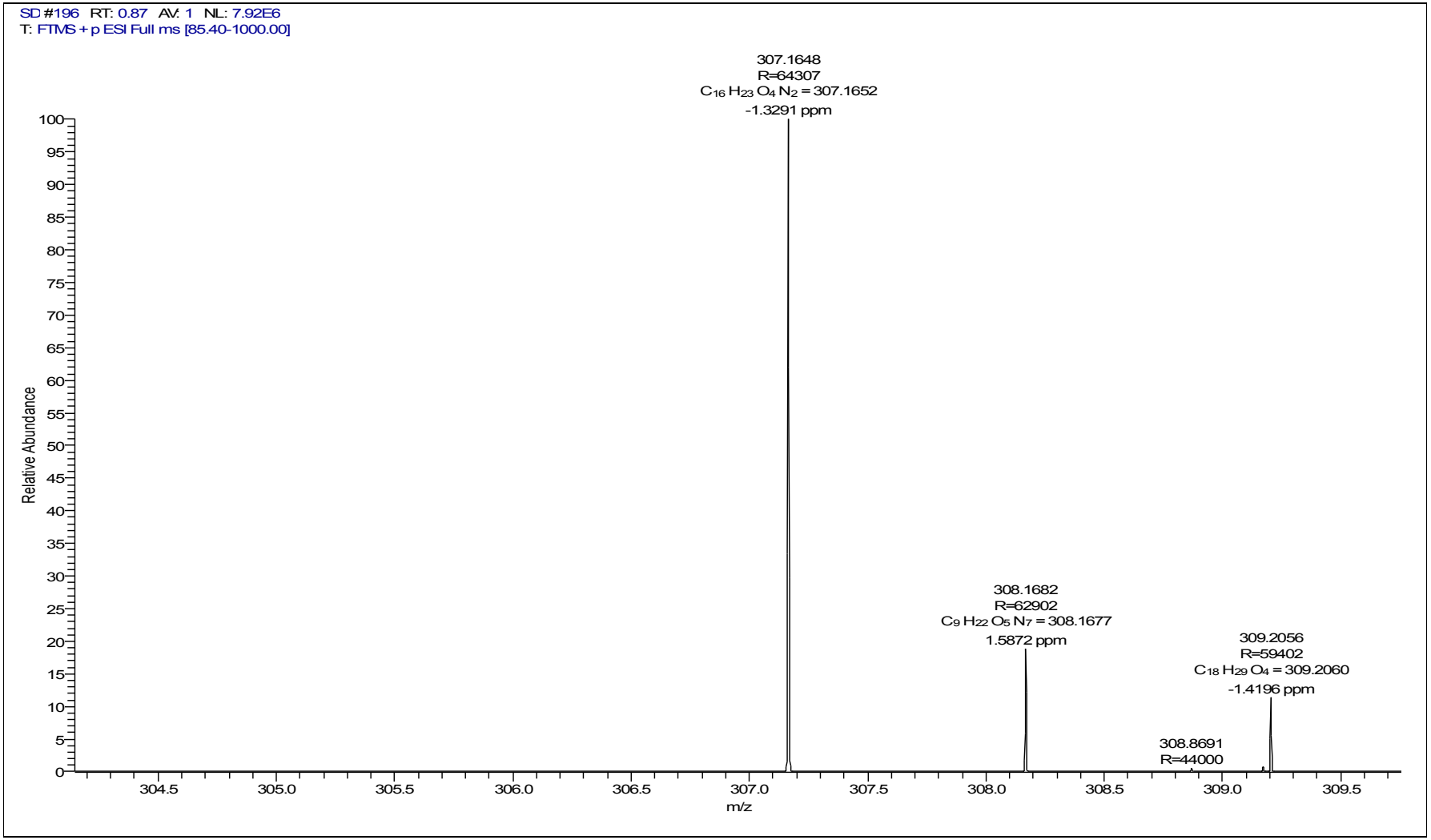


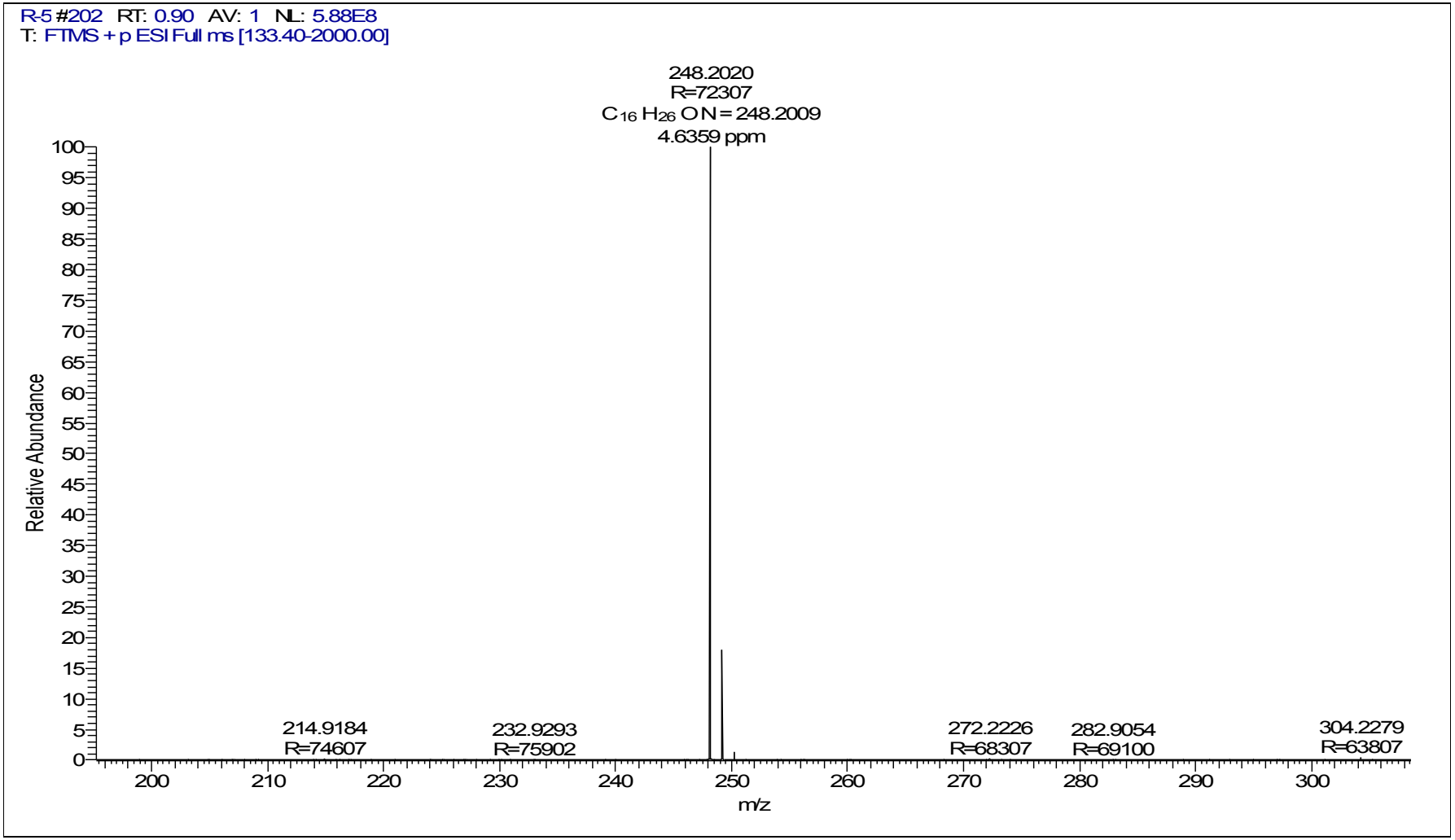
^{1}H NMR Spectrum of 8b



^{13}C NMR Spectrum of 8b

2. HRMS (ESI) DATA:




R-5 #202 RT: 0.90 AV: 1 NL: 5.88E8
T: FTMS + p ESI Full ms [133.40-2000.00]
248.2020
R=72307
C16 H26 O N = 248.2009
4.6359 ppm
Relative Abundance
m/z
214.9184
R=74607
232.9293
R=75902
272.2226
R=68307
282.9054
R=69100
304.2279
R=63807