

SUPPORTING INFORMATION

PROTON NMR AND SELECTED CARBON NMR SPECTRA

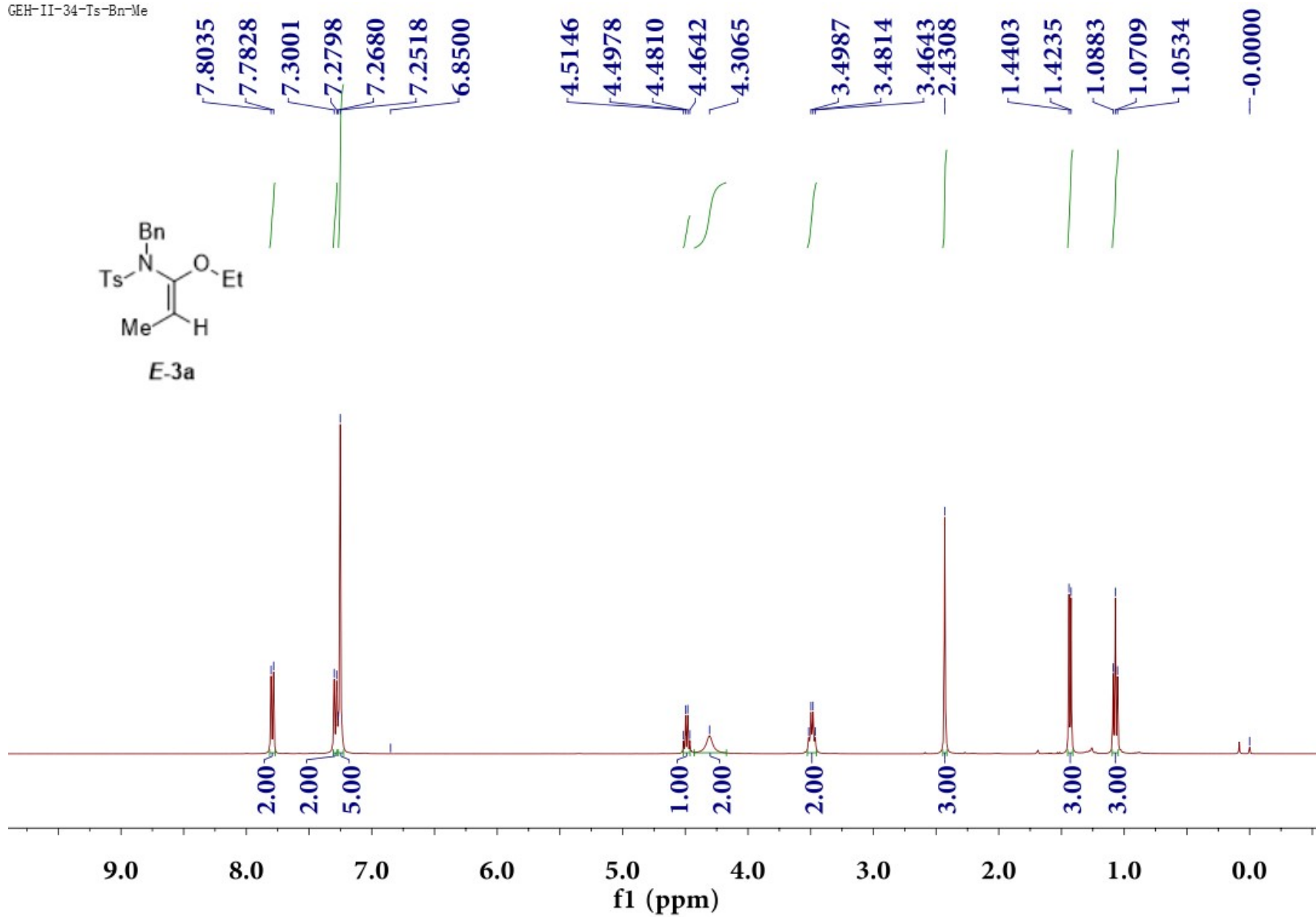
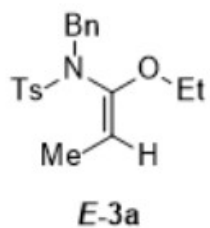
for the  
communication  
entitled

**Metal-free hydroalkoxylation of ynesulfonamides with esters**

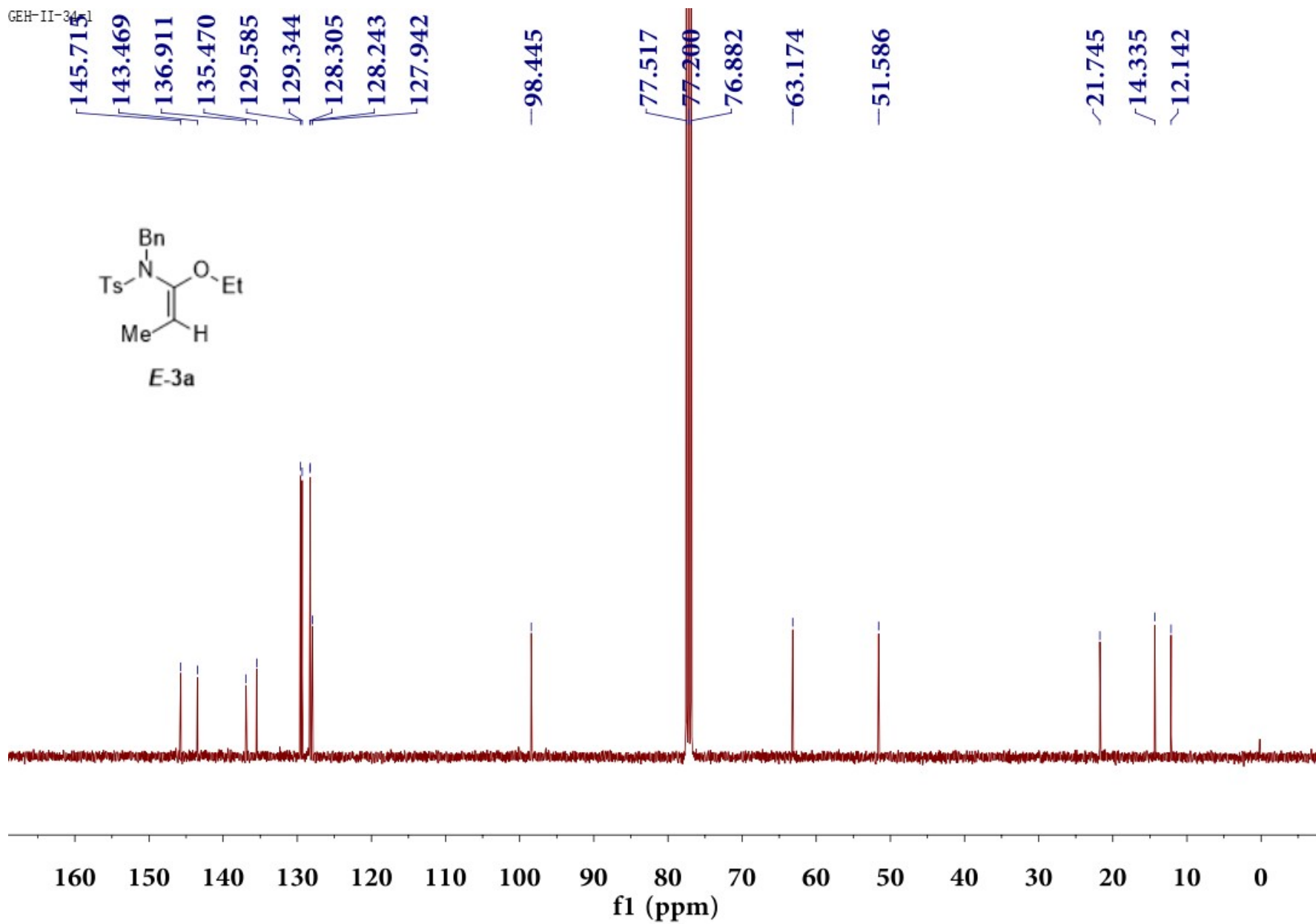
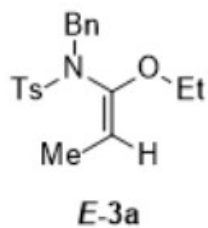
authored by

Erhui Gao,<sup>a†</sup> Cheng Peng,<sup>a†</sup> Jingyi Zhang,<sup>a</sup> Xiao-Na Wang,<sup>a\*</sup> and Junbiao Chang<sup>a\*</sup>

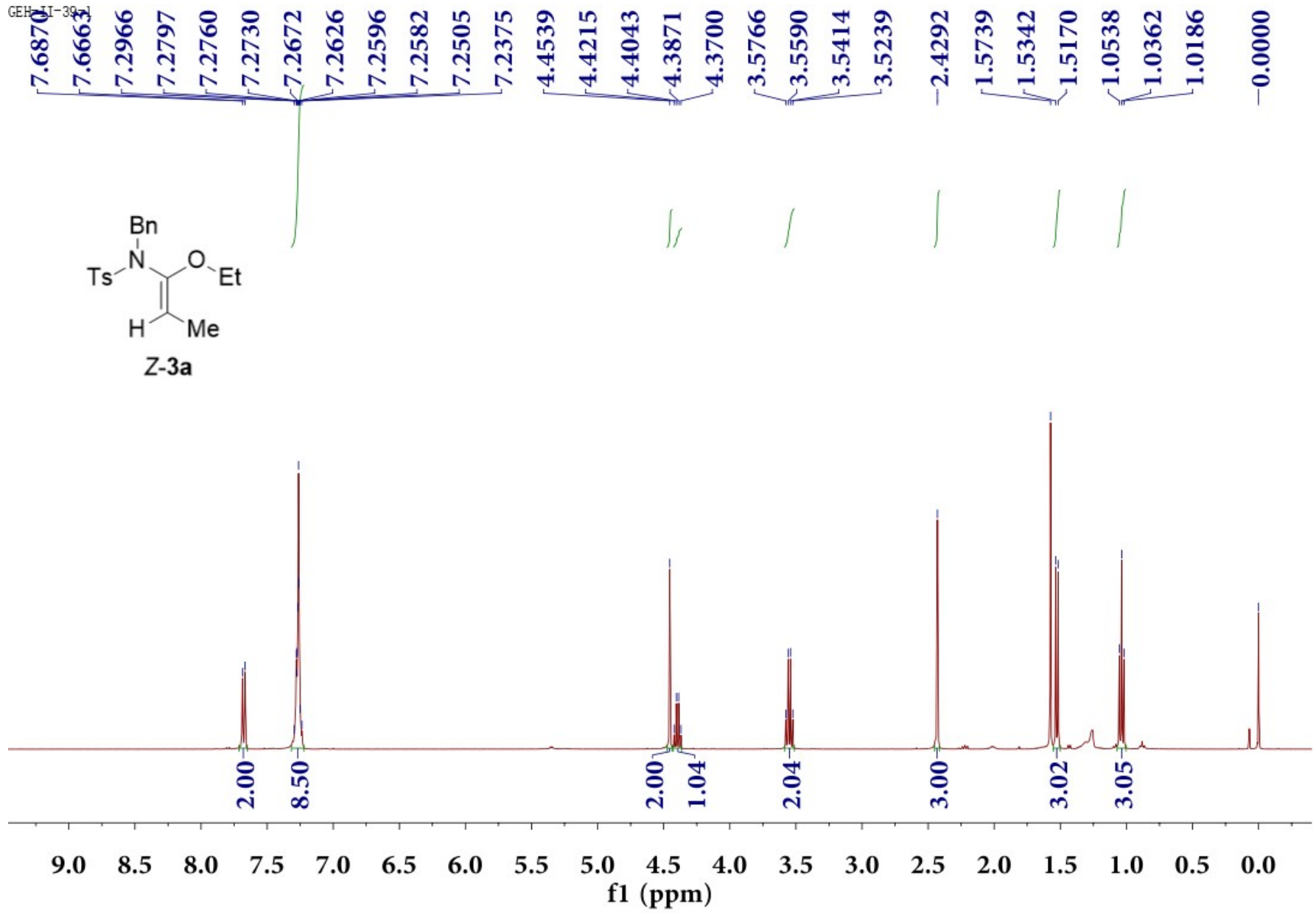
*Collaborative Innovation Center of New Drug Research and Safety Evaluation, Henan Province, Key Laboratory of Advanced Drug Preparation Technologies, Ministry of Education, School of Pharmaceutical Sciences, Zhengzhou University, Zhengzhou, Henan 450001, P. R. China.*



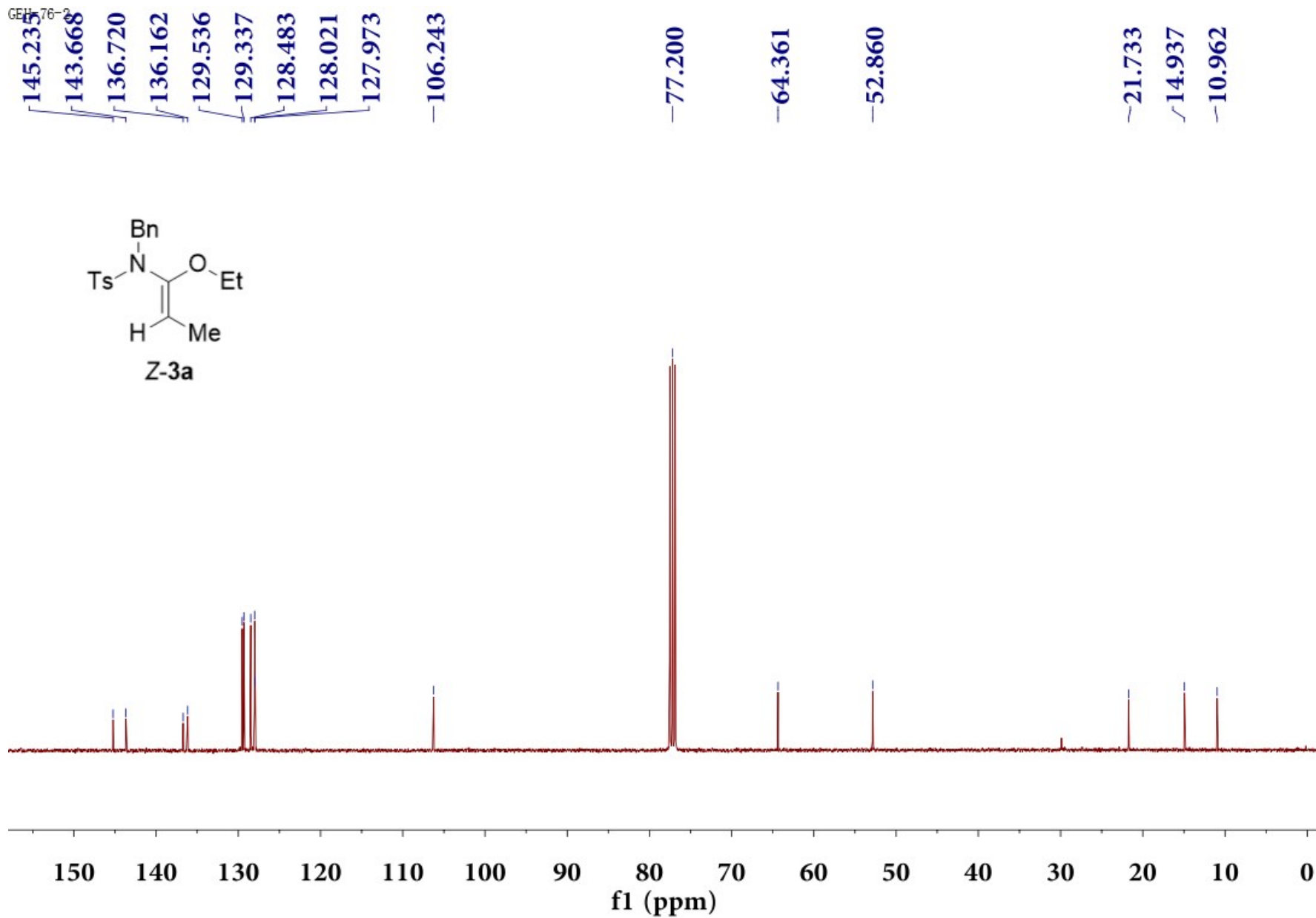
GEH-II-3451

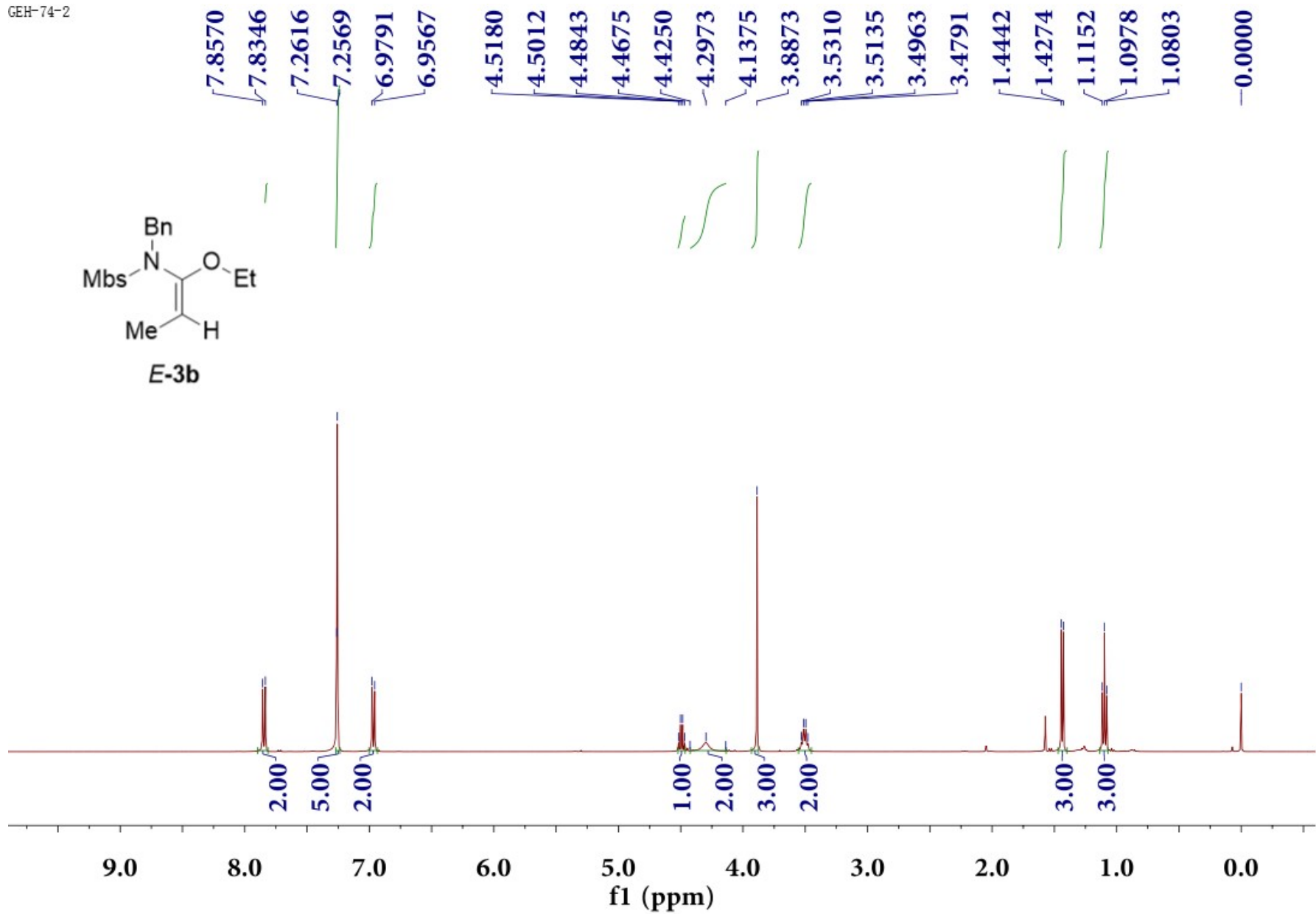


GEH-1-39-1

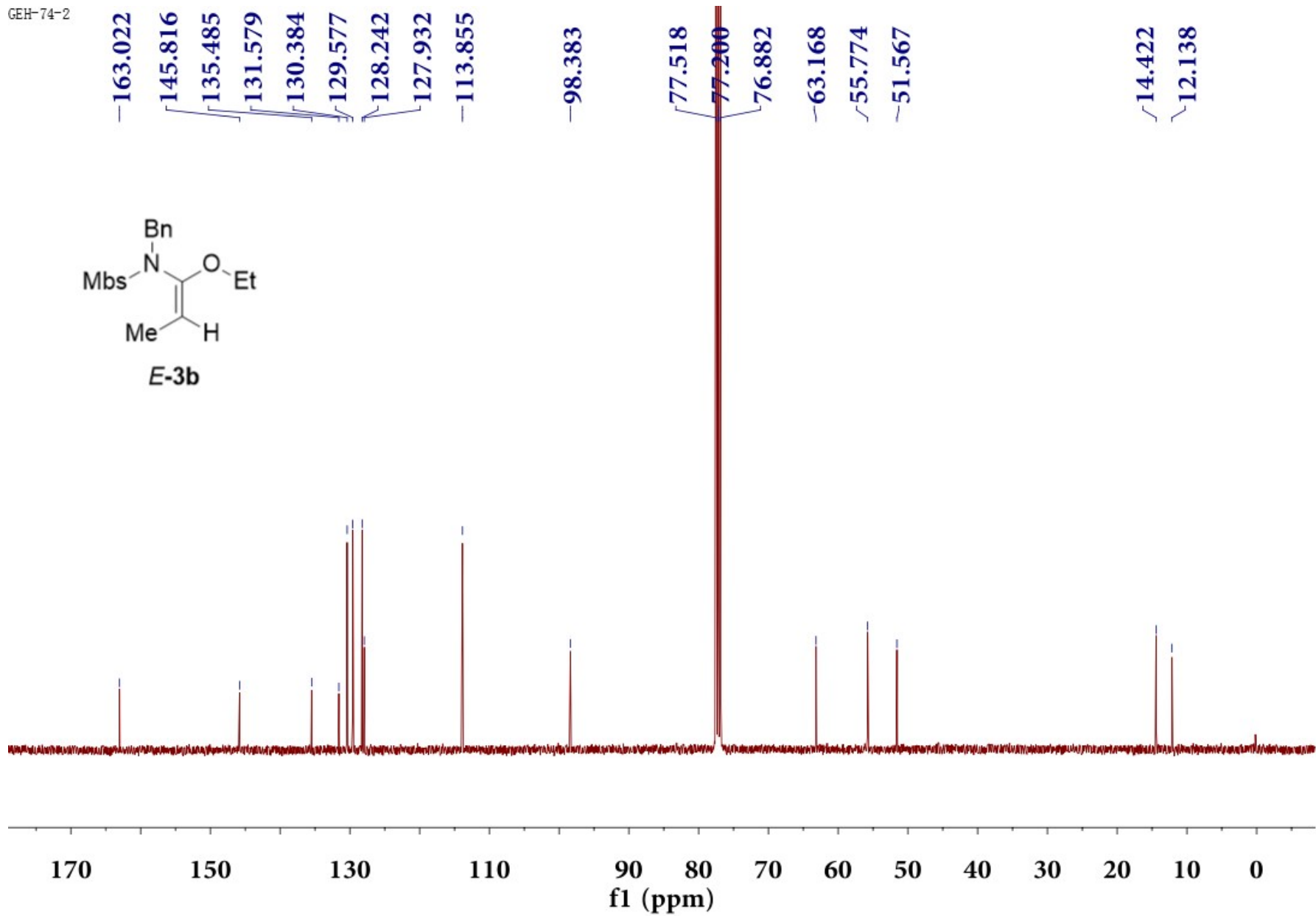


GEH-76-2

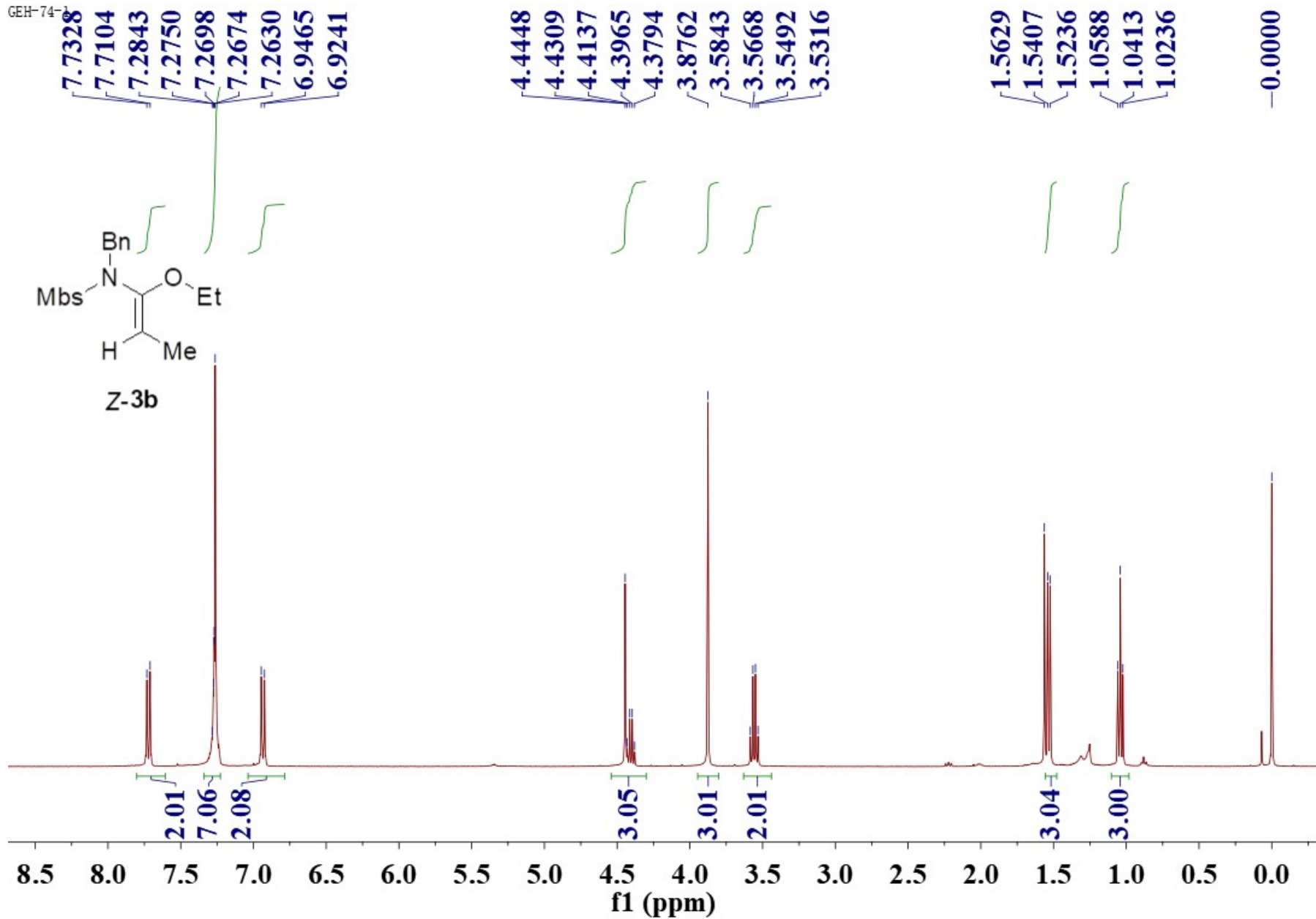




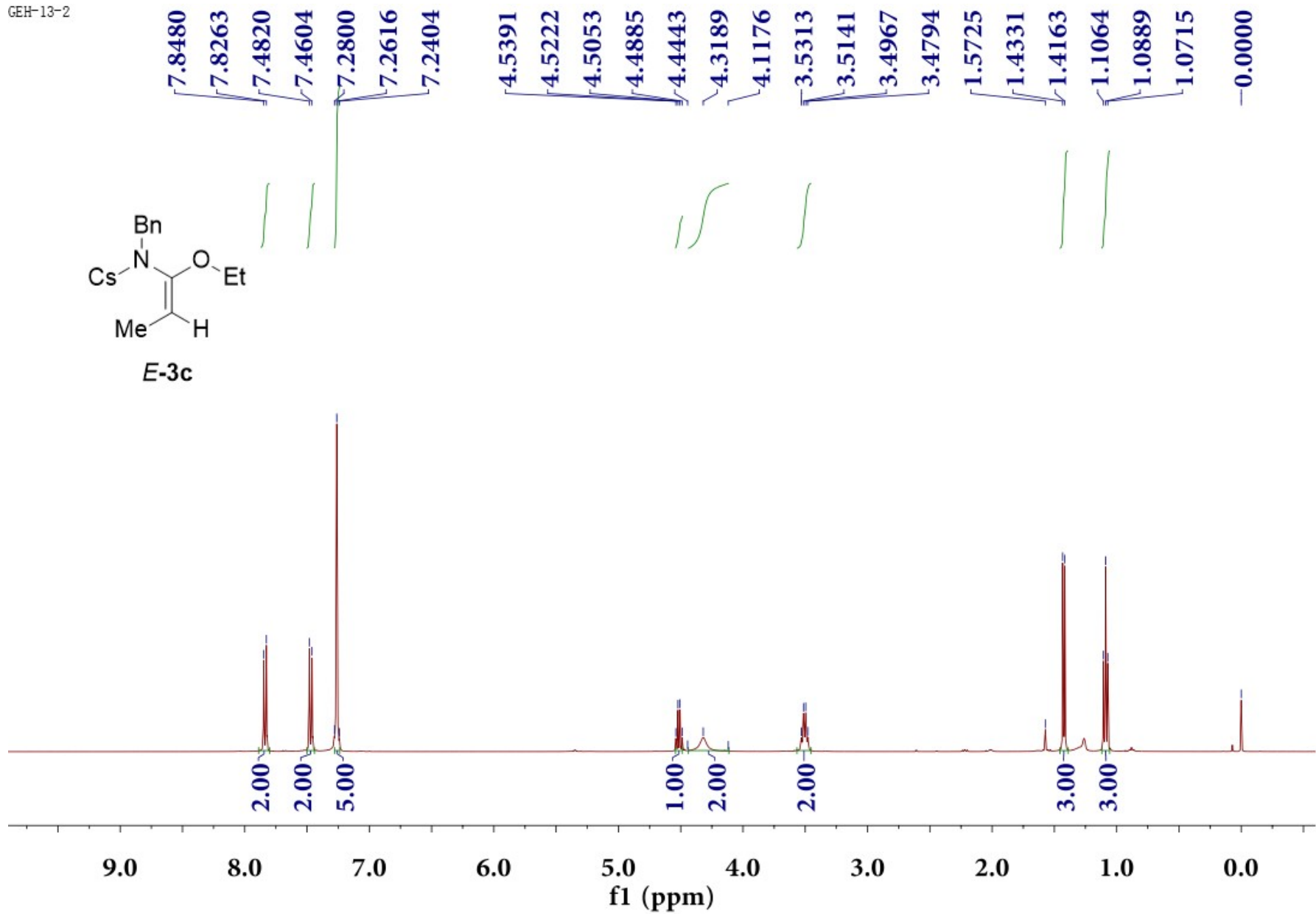
GEH-74-2



GEH-74-1







GEH-II-881

145.469  
139.203  
138.390  
135.043  
129.688  
129.600  
128.990  
128.324  
128.112

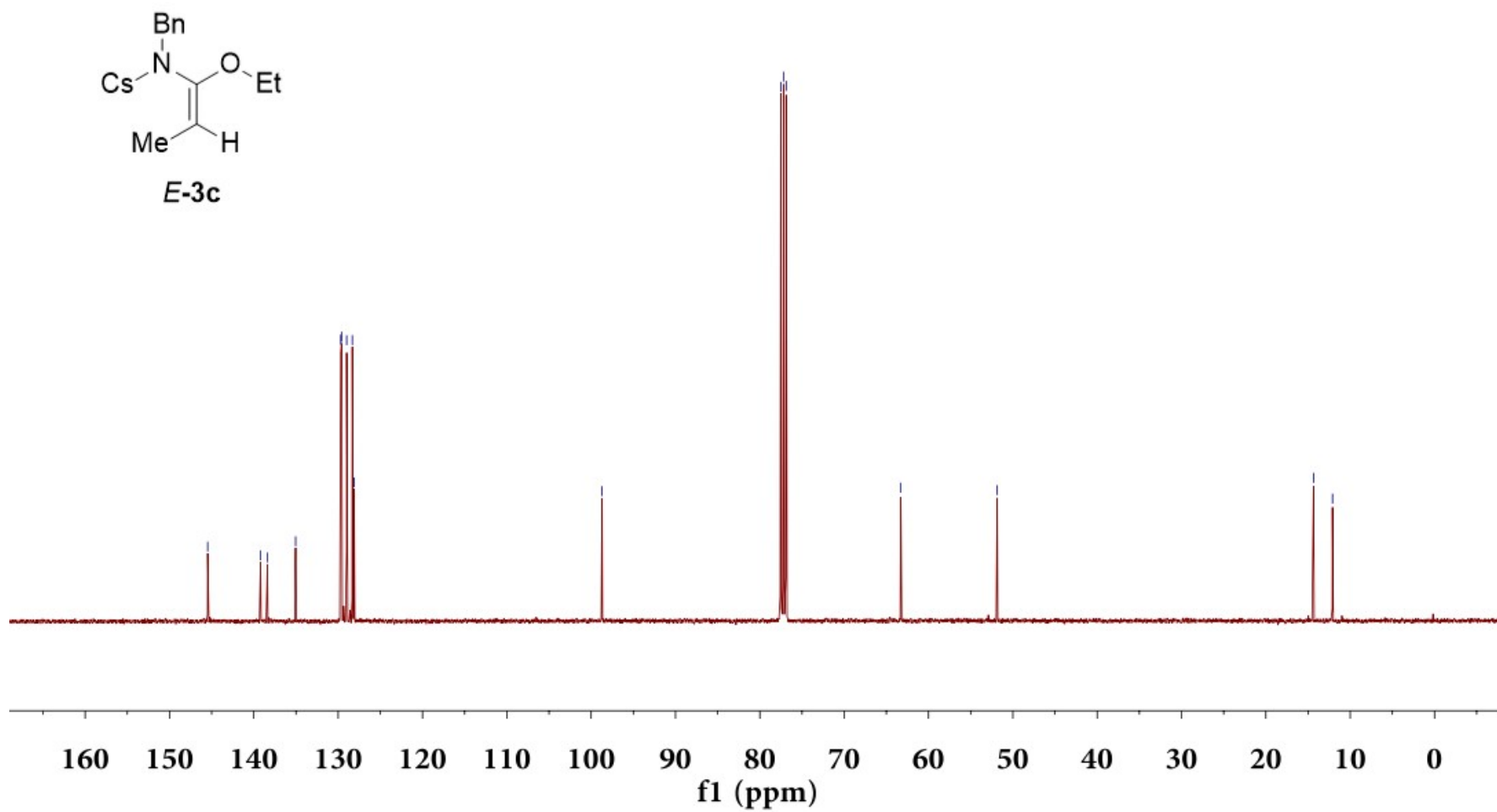
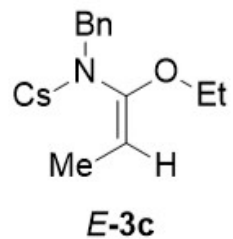
98.711

77.518  
77.200  
76.883

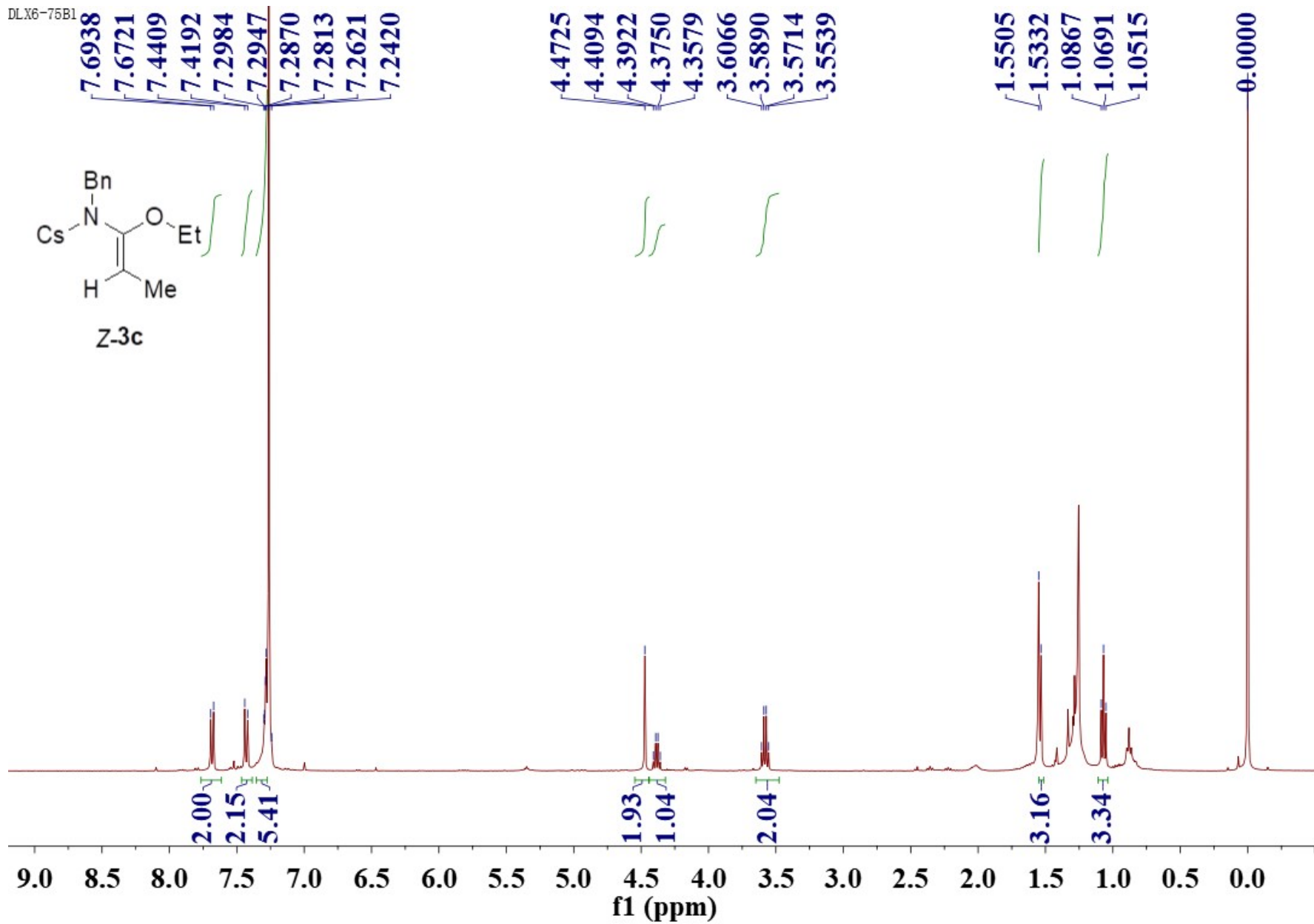
63.280

51.861

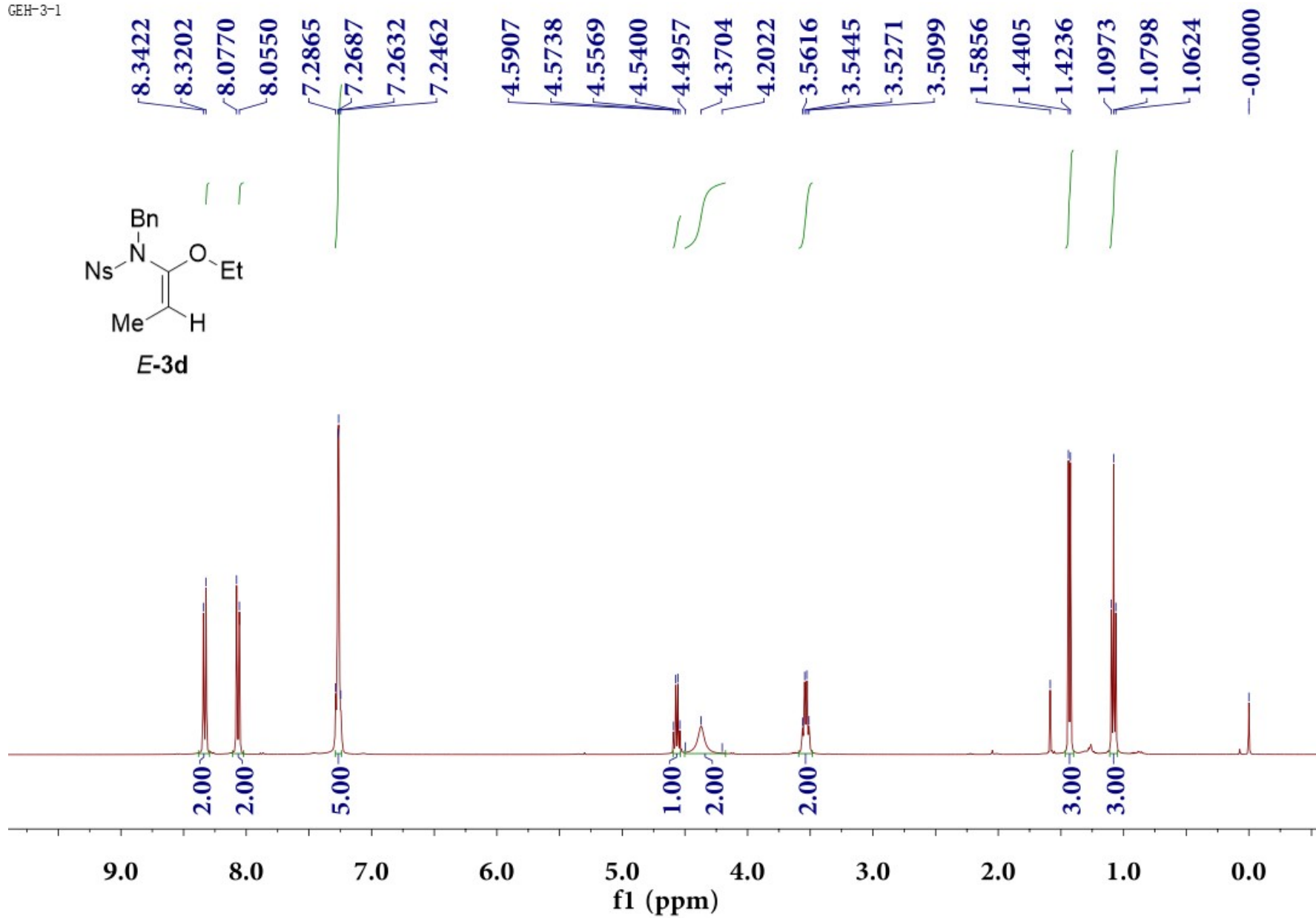
14.340  
12.100



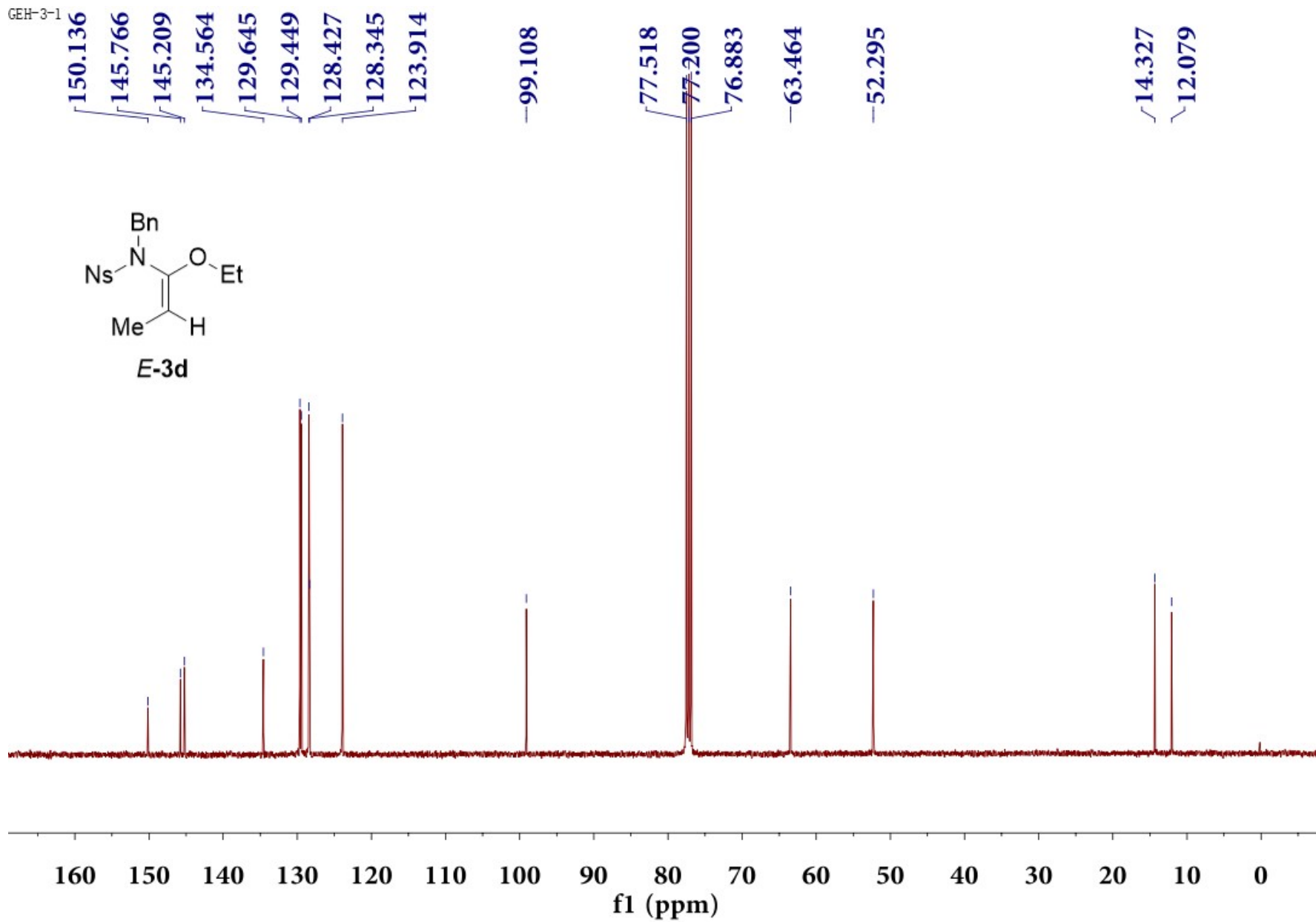
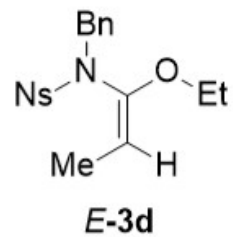
DLX6-75B1

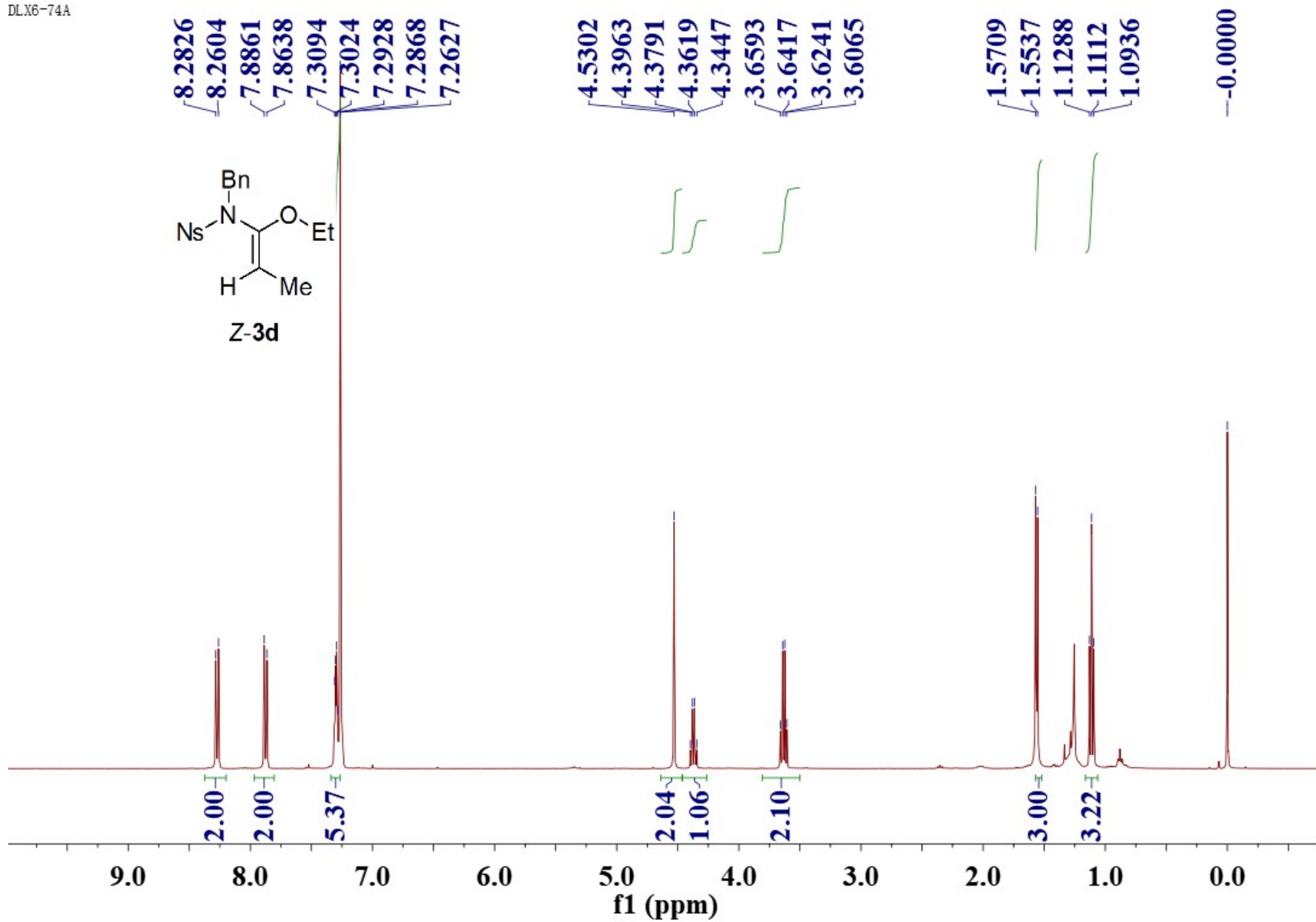


GEH-3-1

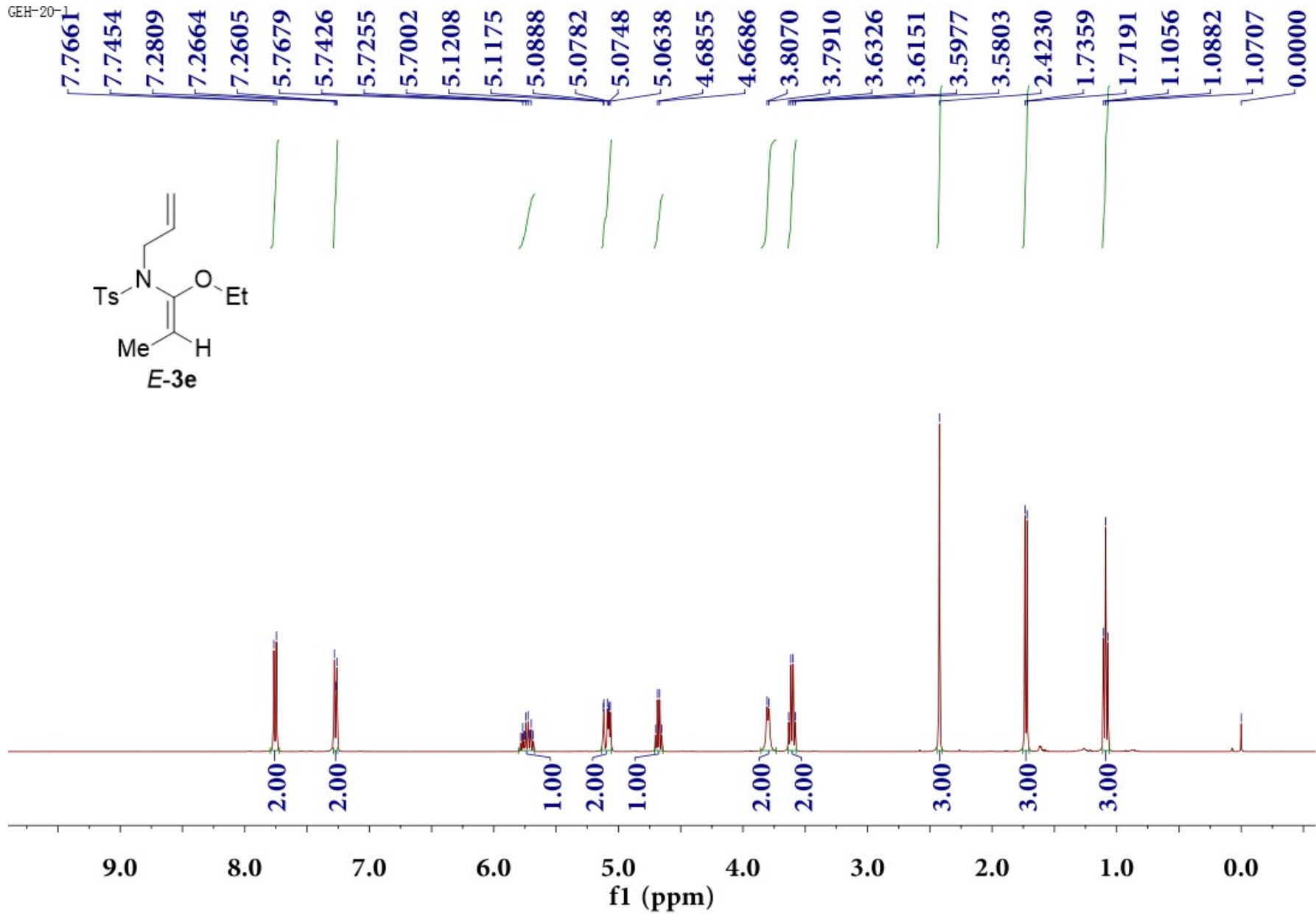


GEH-3-1

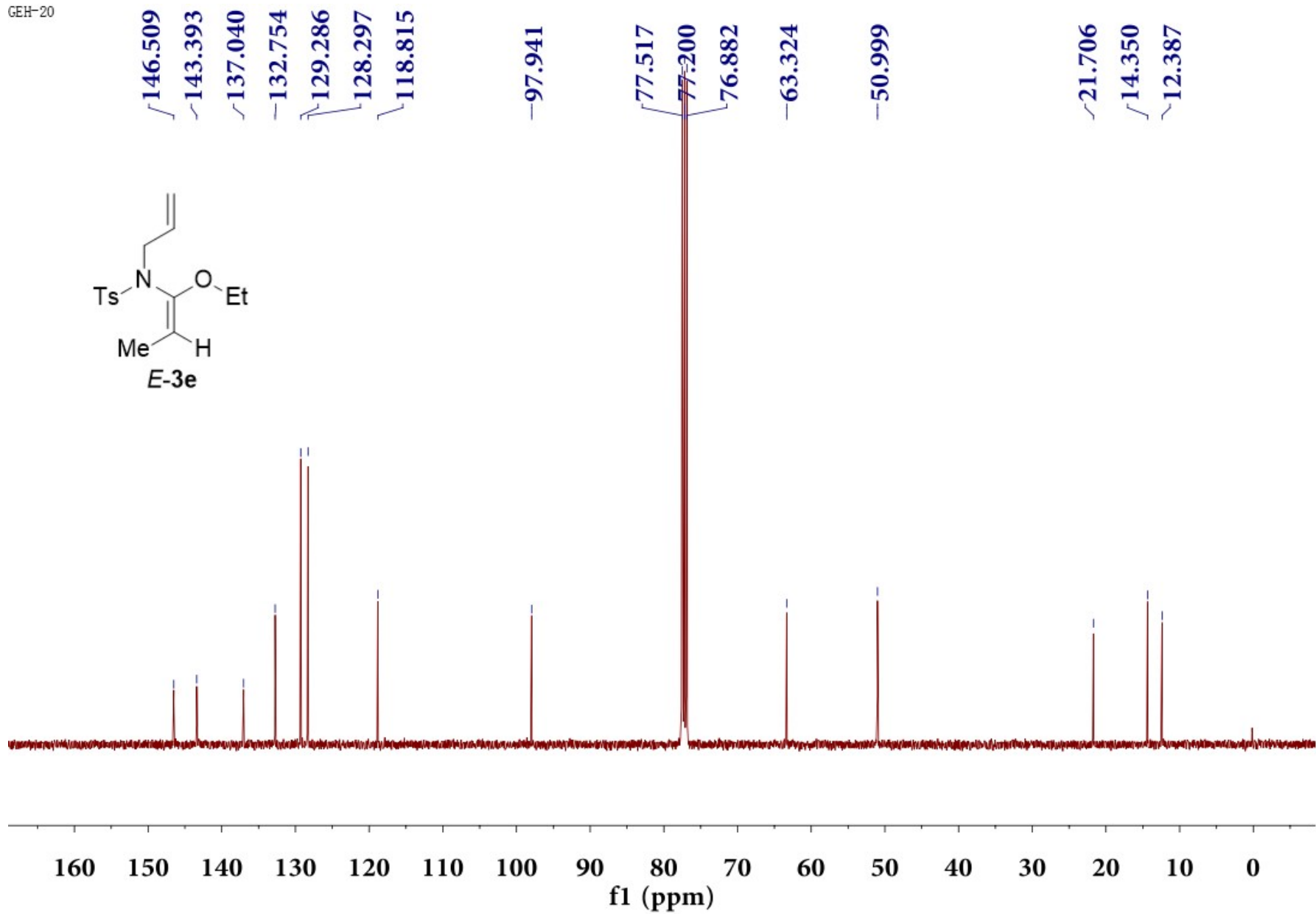




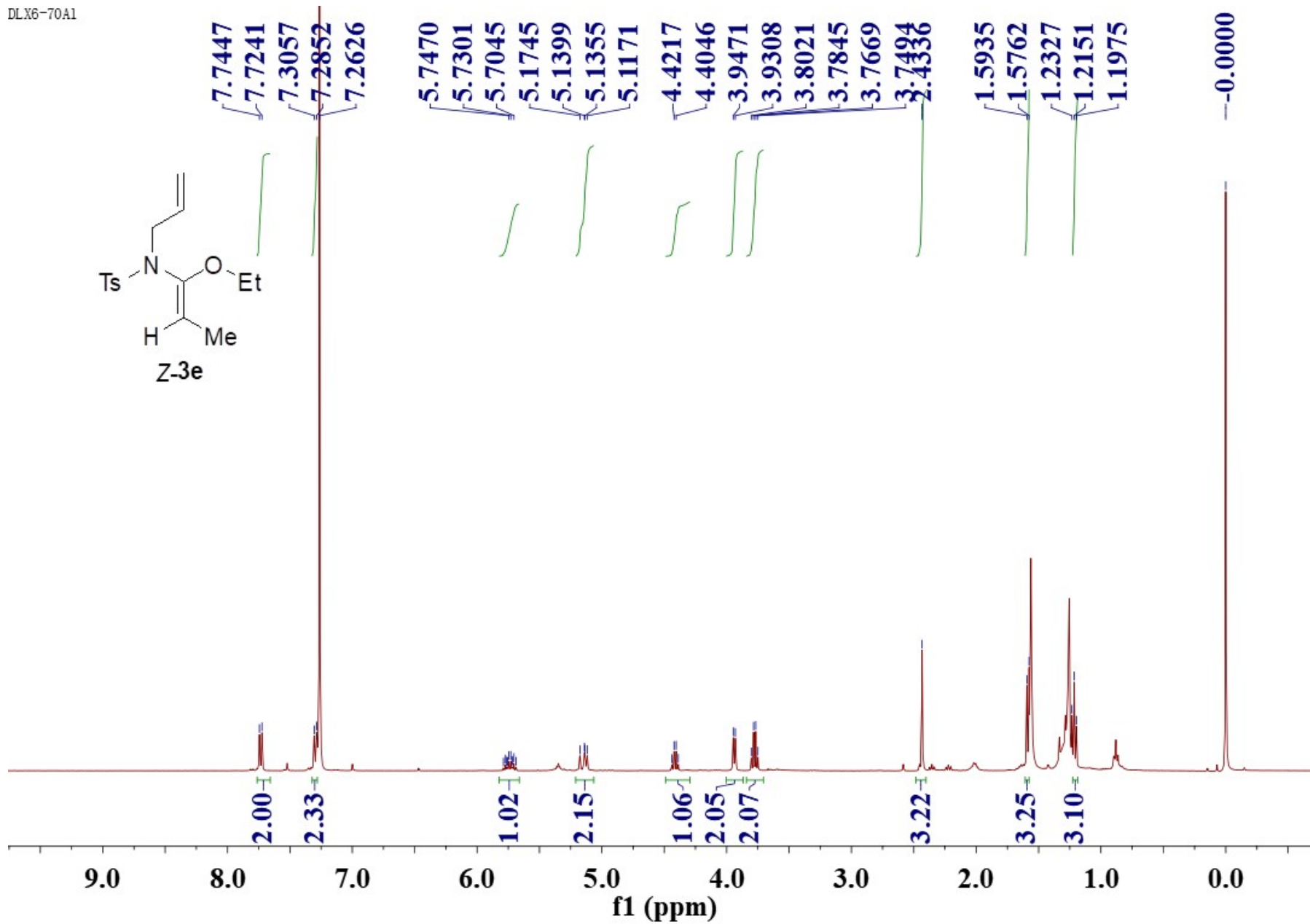
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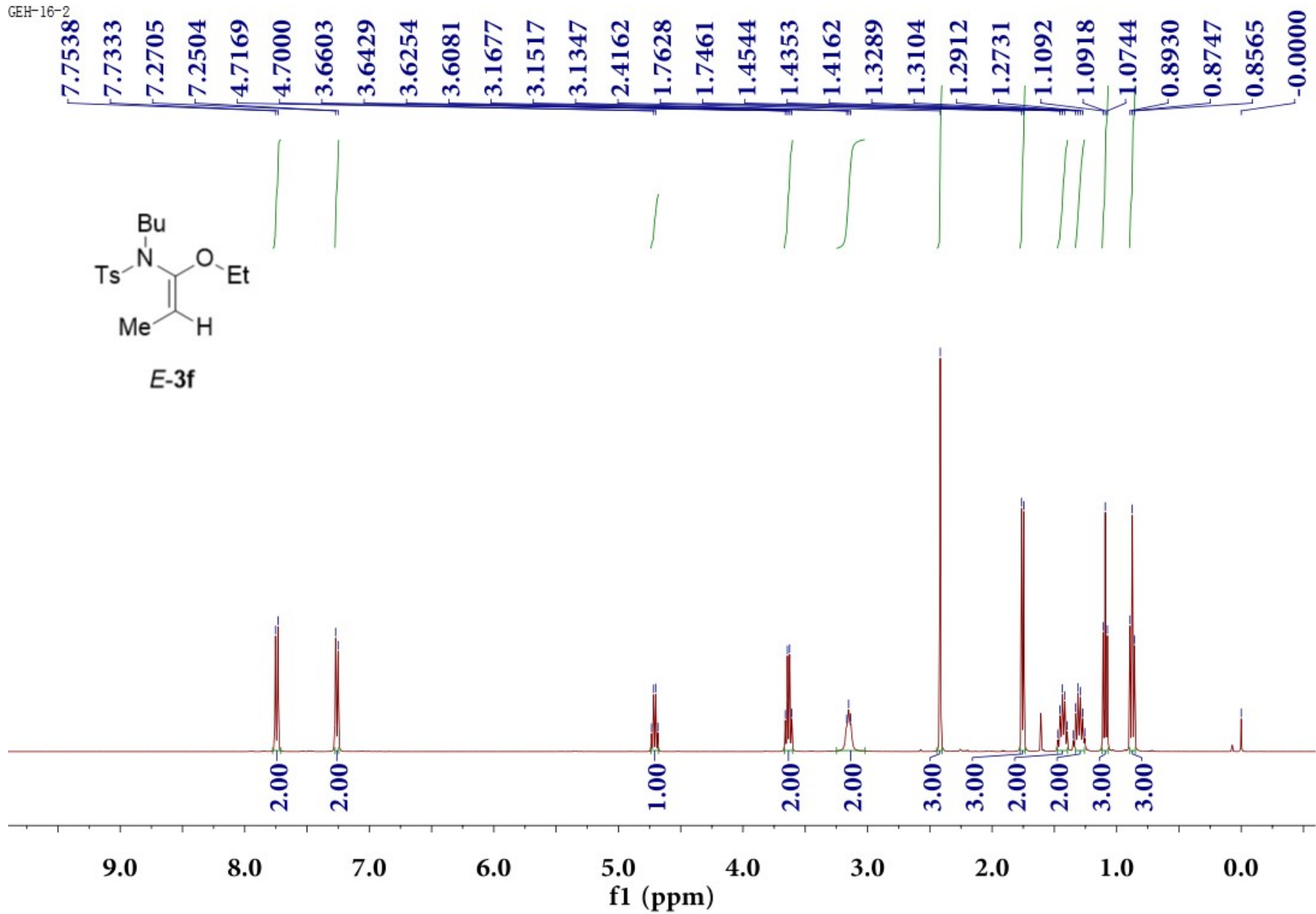
GEH-20



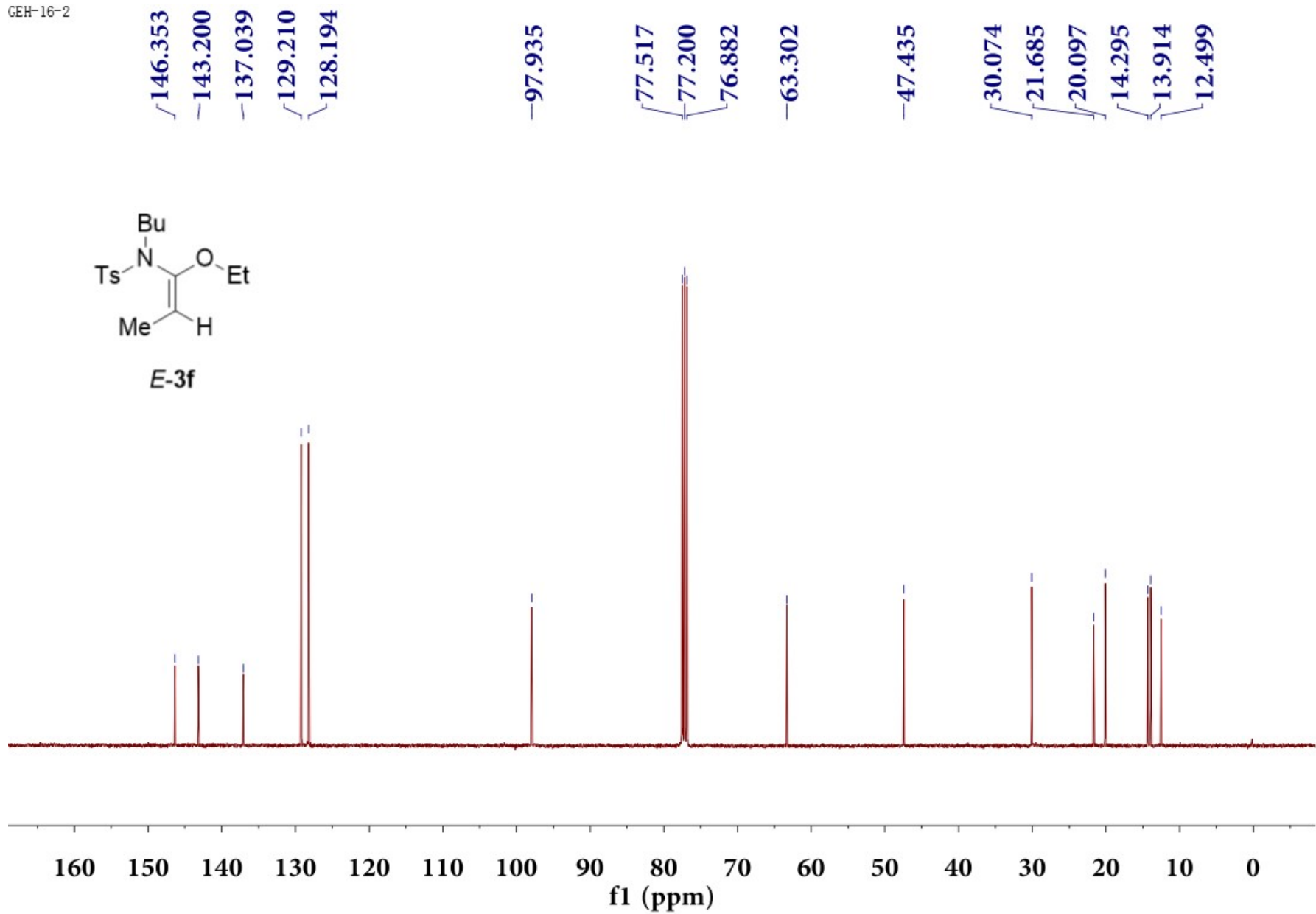




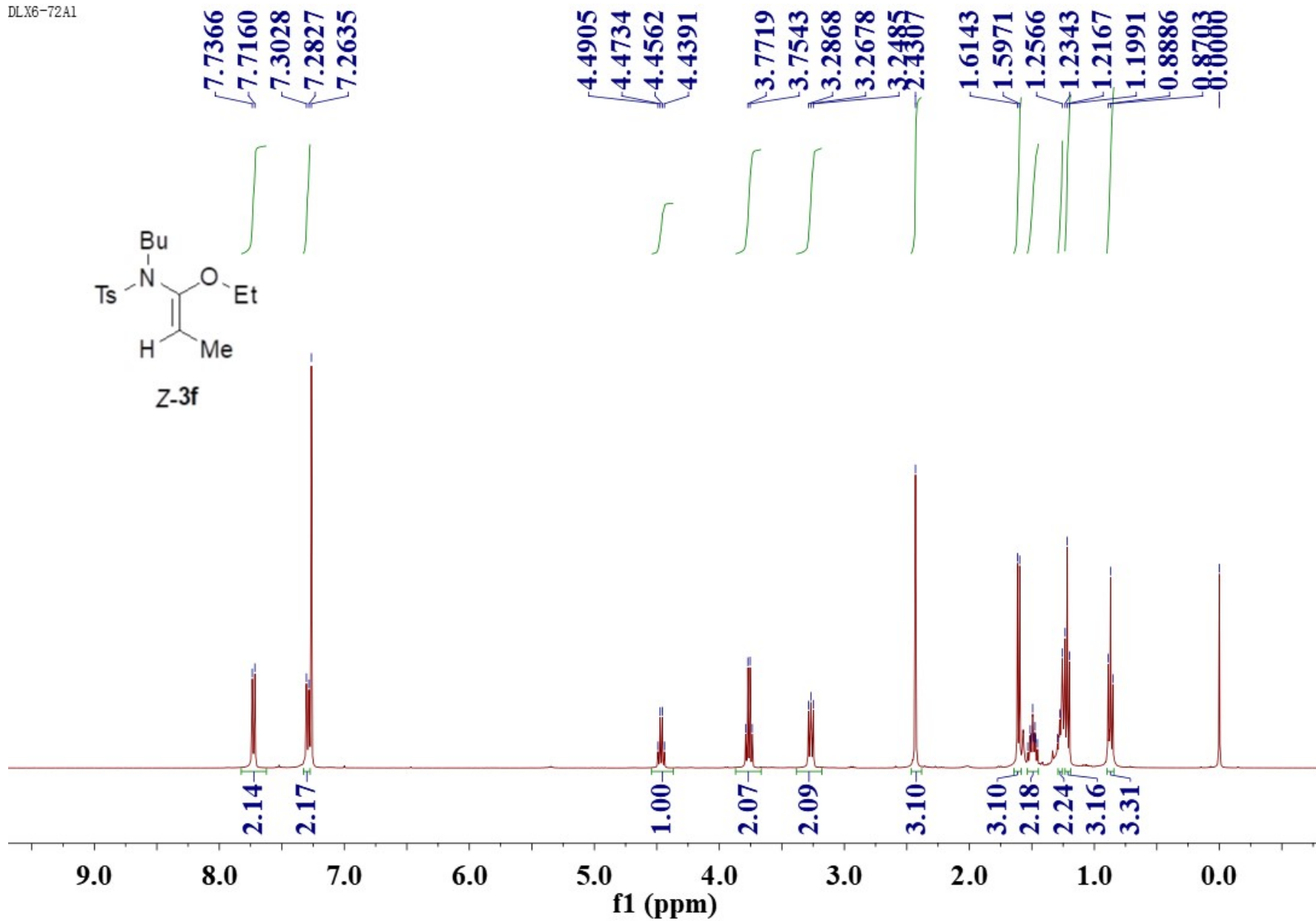
GEH-16-2



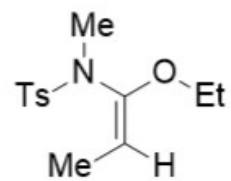
GEH-16-2



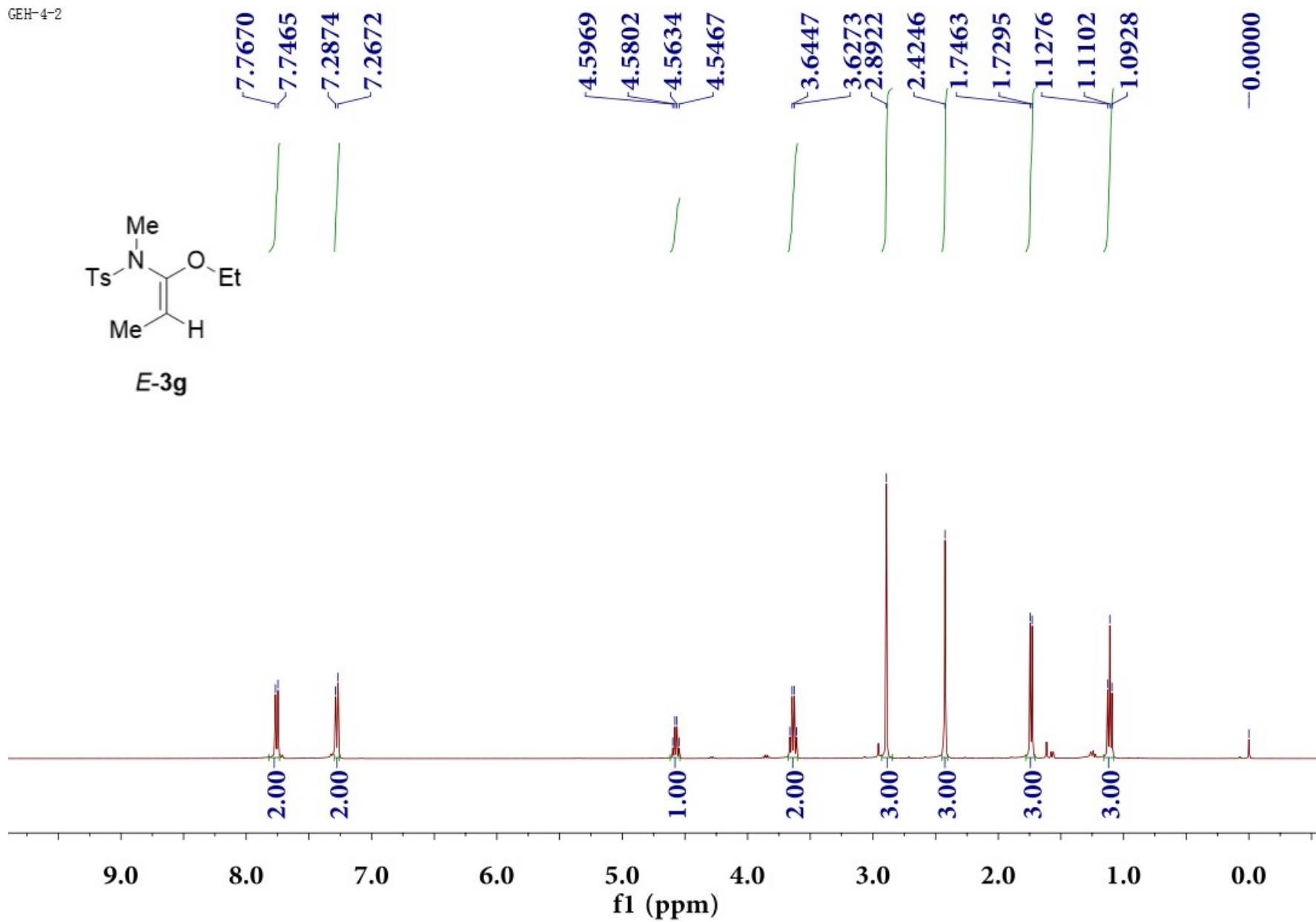
DLX6-72A1



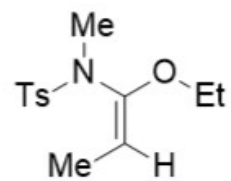
GEH-4-2



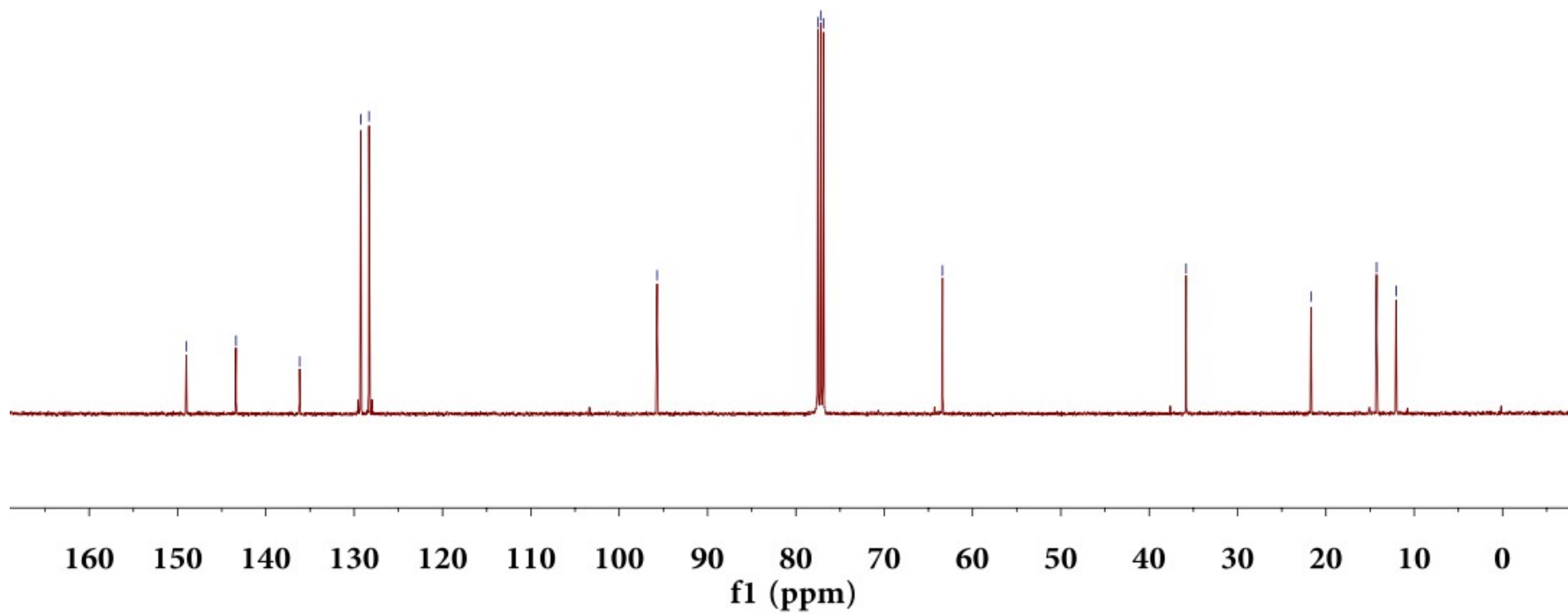
*E*-3g

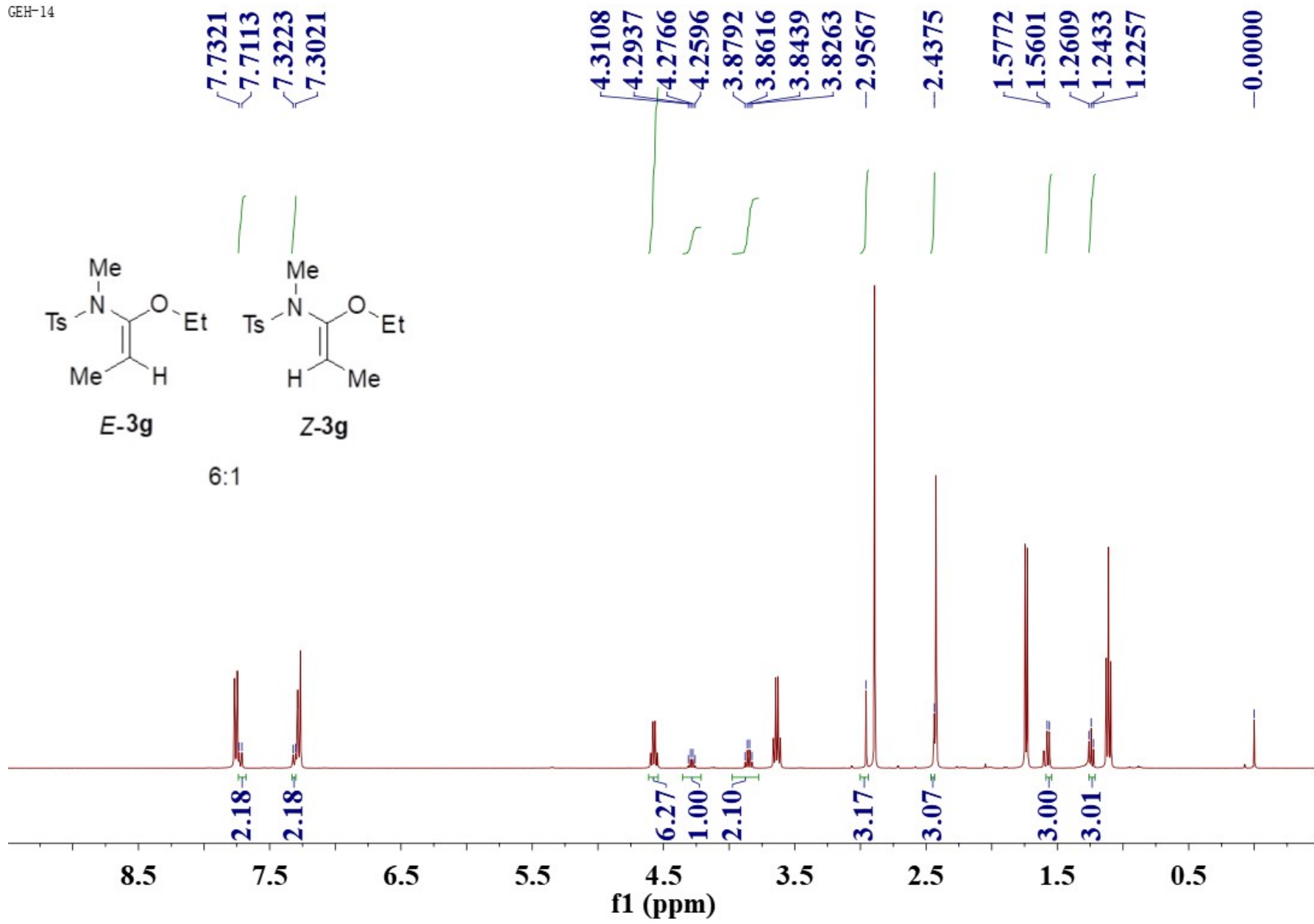


GEH-4-2

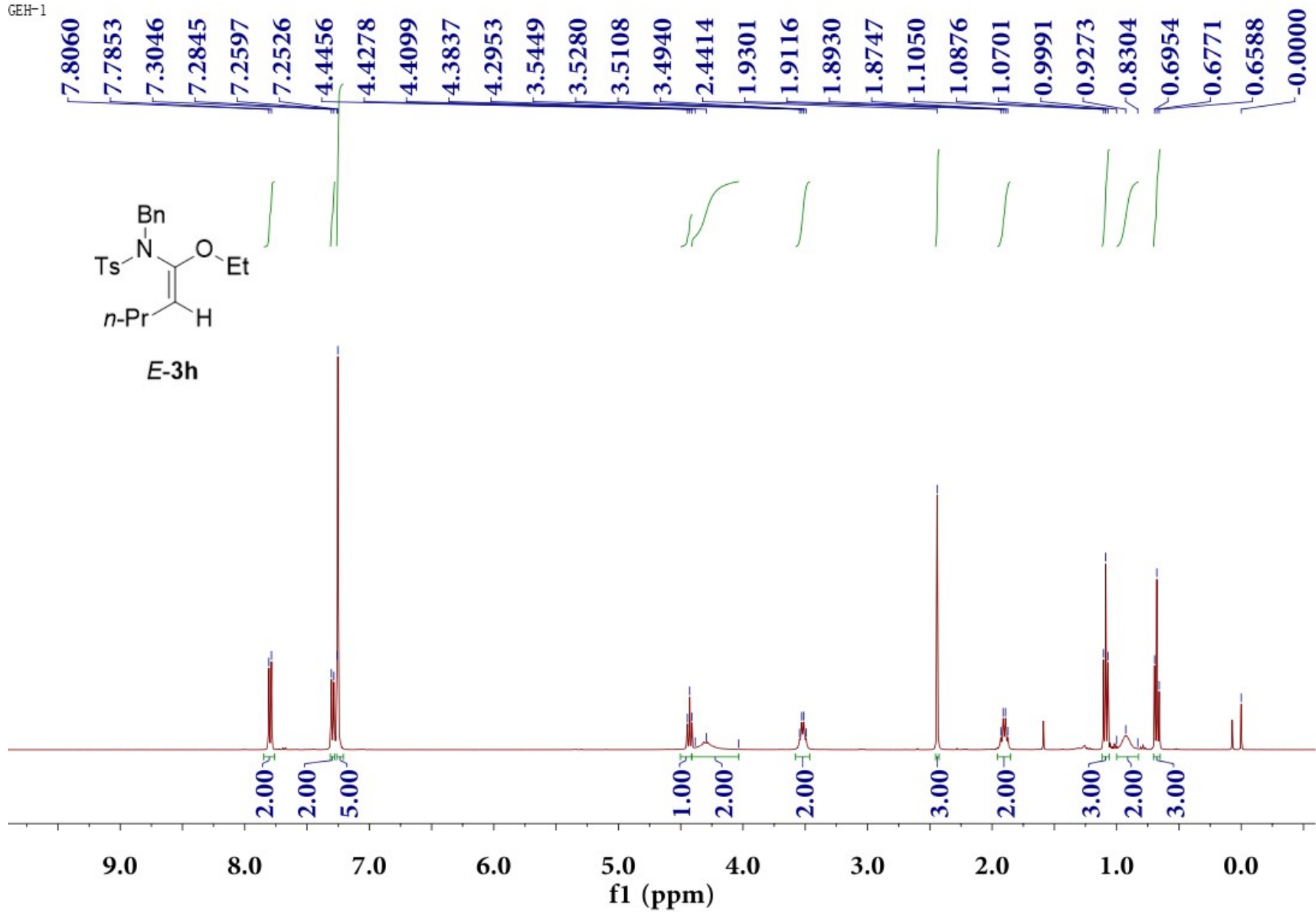


*E*-3g





GEH-1





GEH-71-1

144.662  
143.428  
136.928  
135.496  
129.650  
129.321  
128.300  
128.274  
127.920

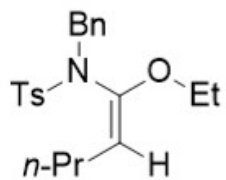
104.391

77.517  
77.200  
76.882

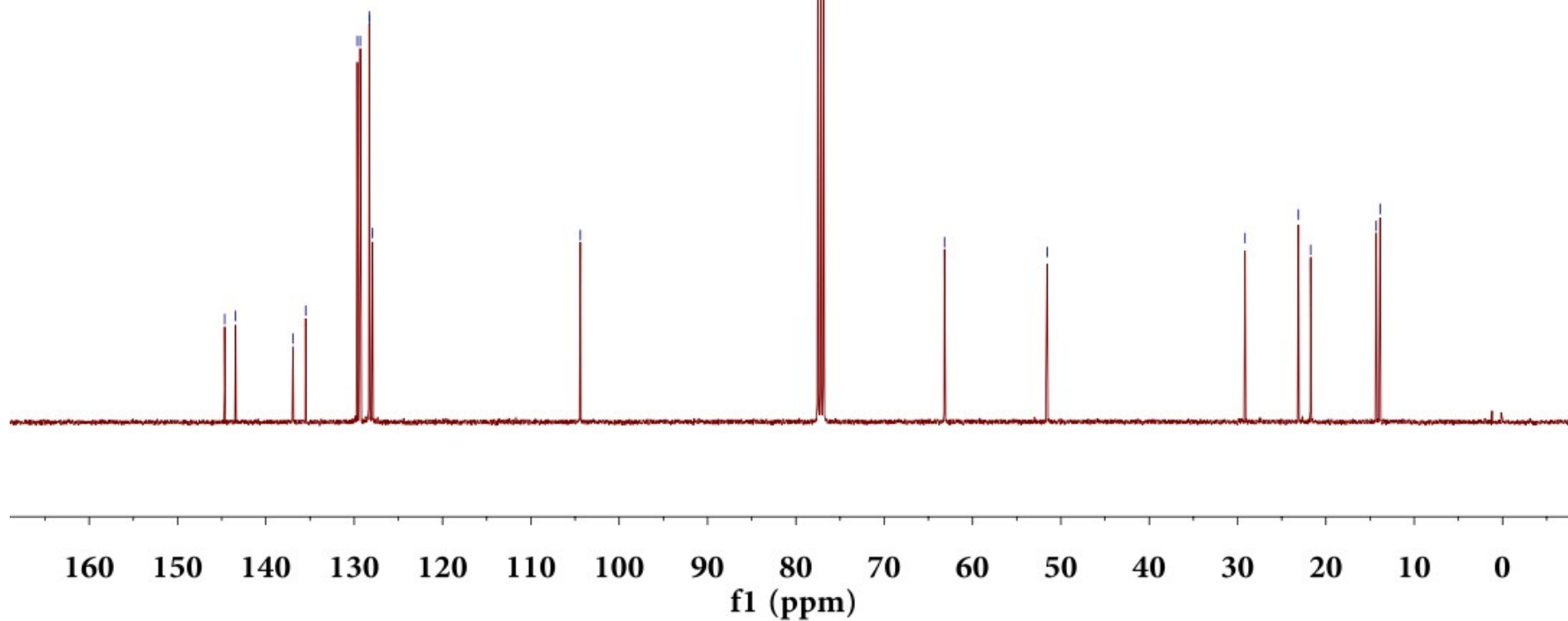
63.178

51.550

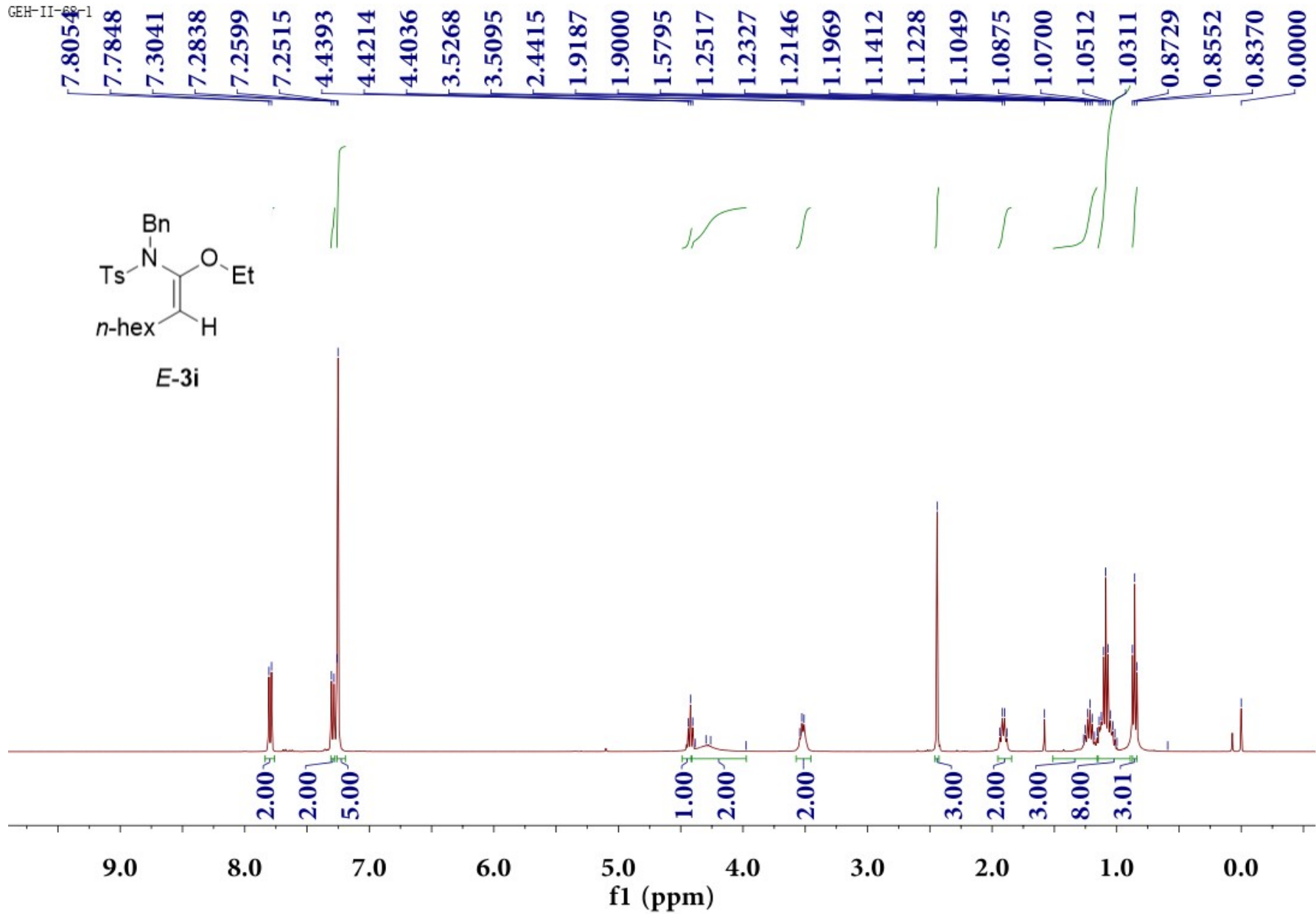
29.159  
23.106  
21.727  
14.301  
13.870



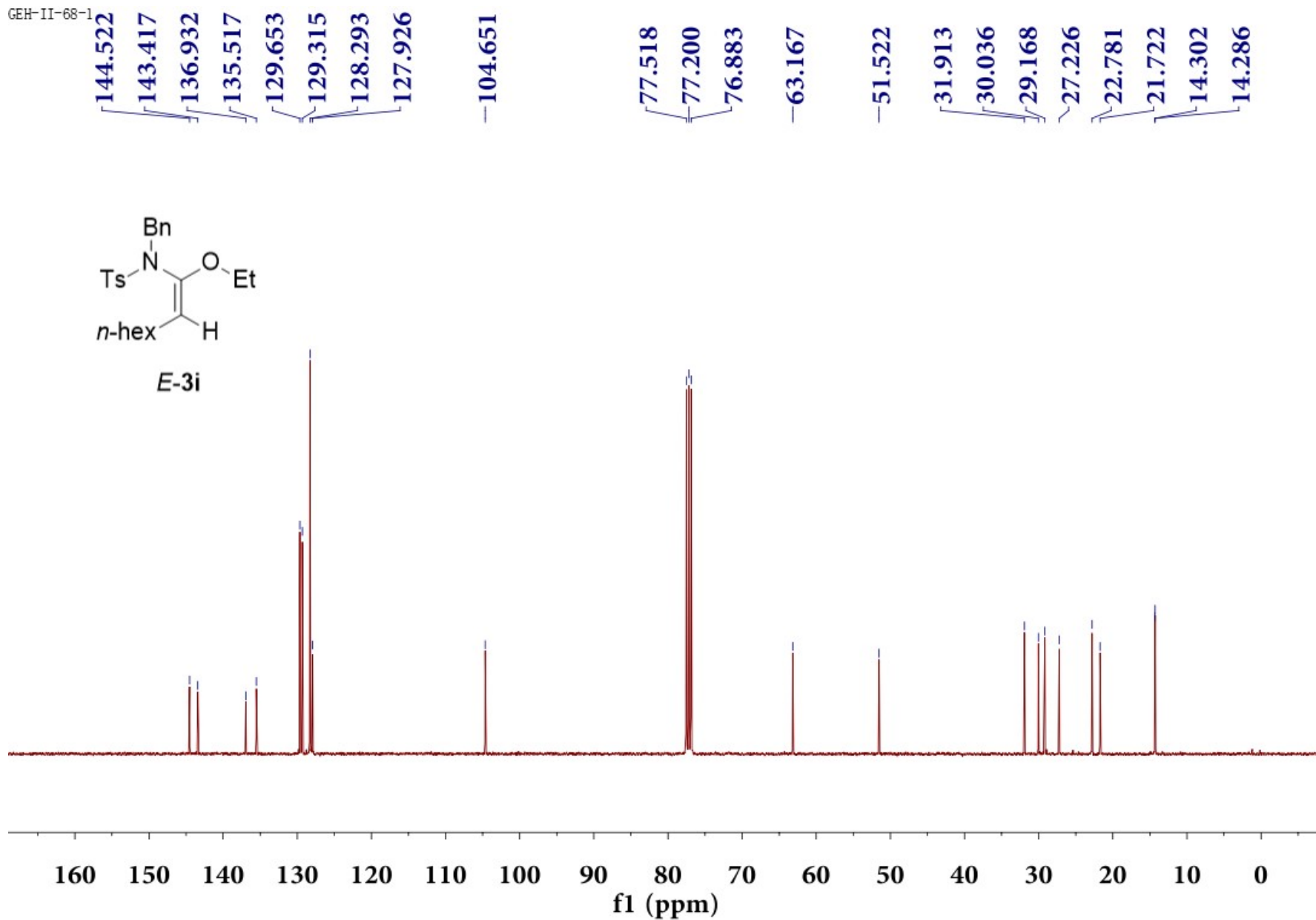
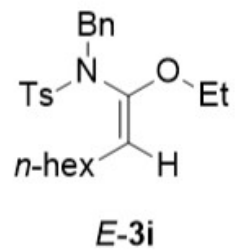
*E*-3h



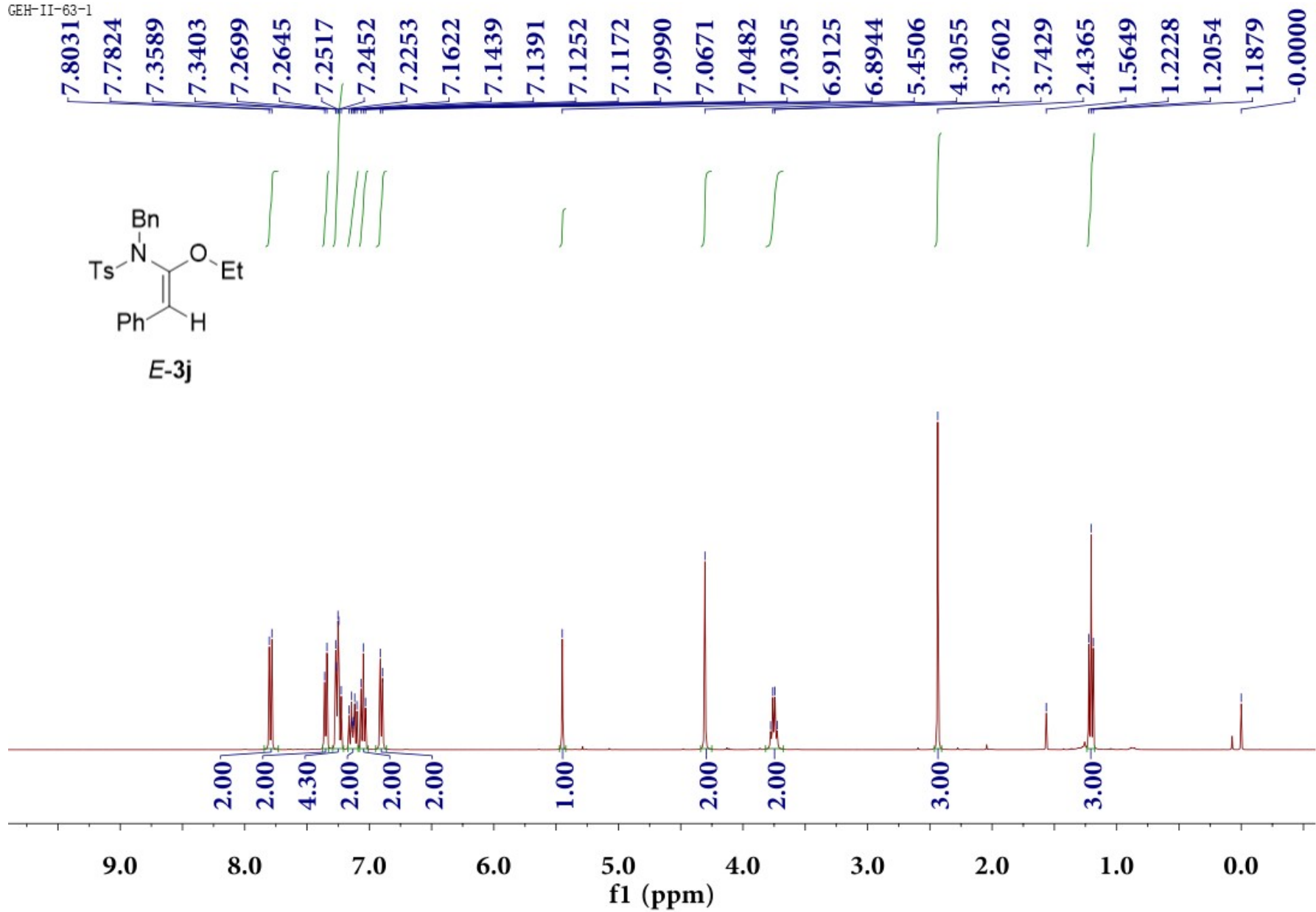
GEH-II-88-1



GEH-II-68-1



GEH-II-63-1



GEH-II-63-1

147.282  
143.653  
134.446  
129.351  
129.246  
128.646  
128.274  
128.006  
127.808  
126.284  
103.085

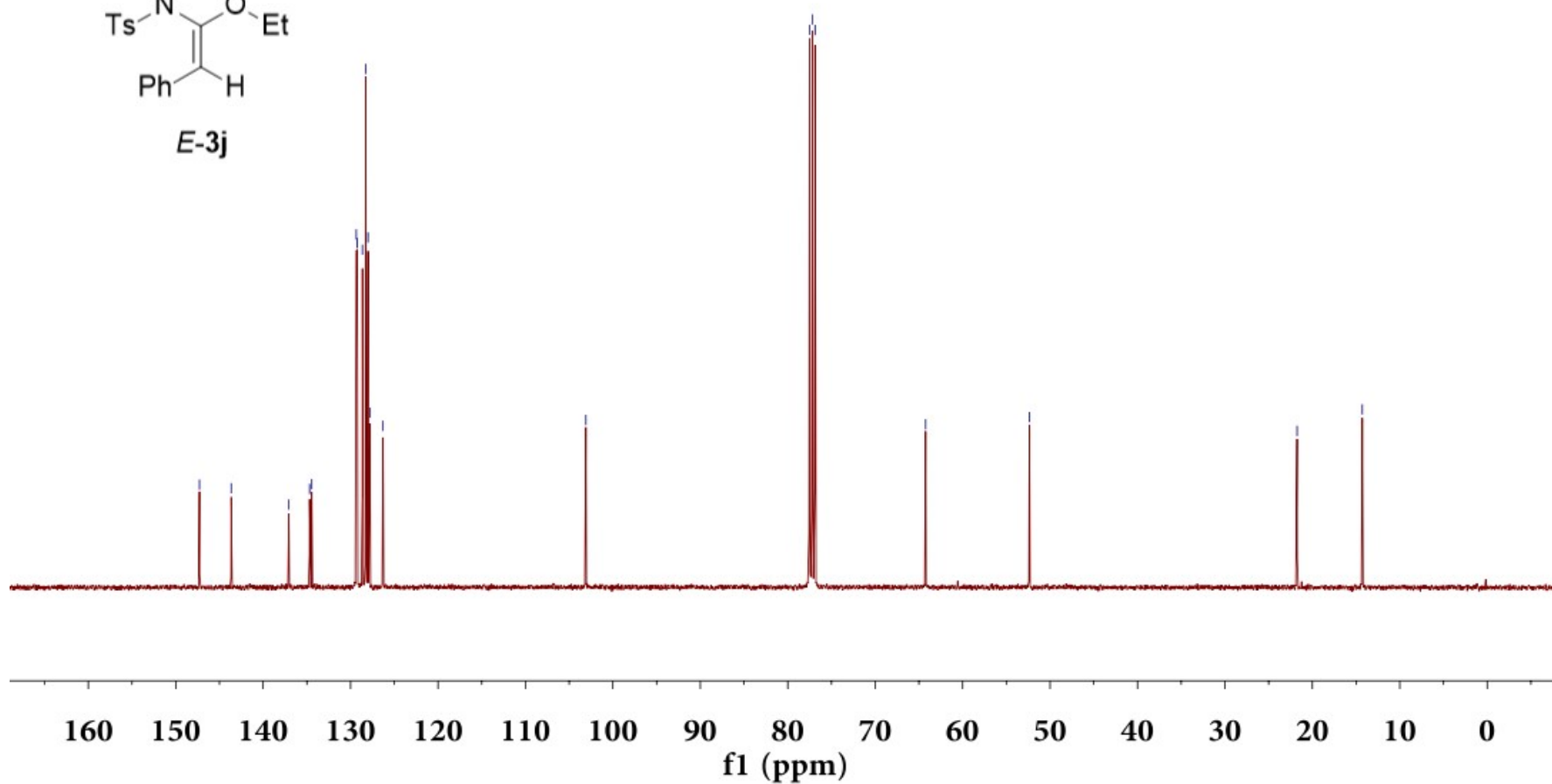
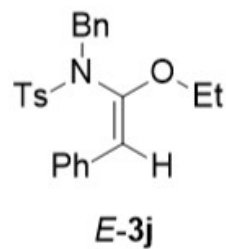
77.518  
77.200  
76.882

64.230

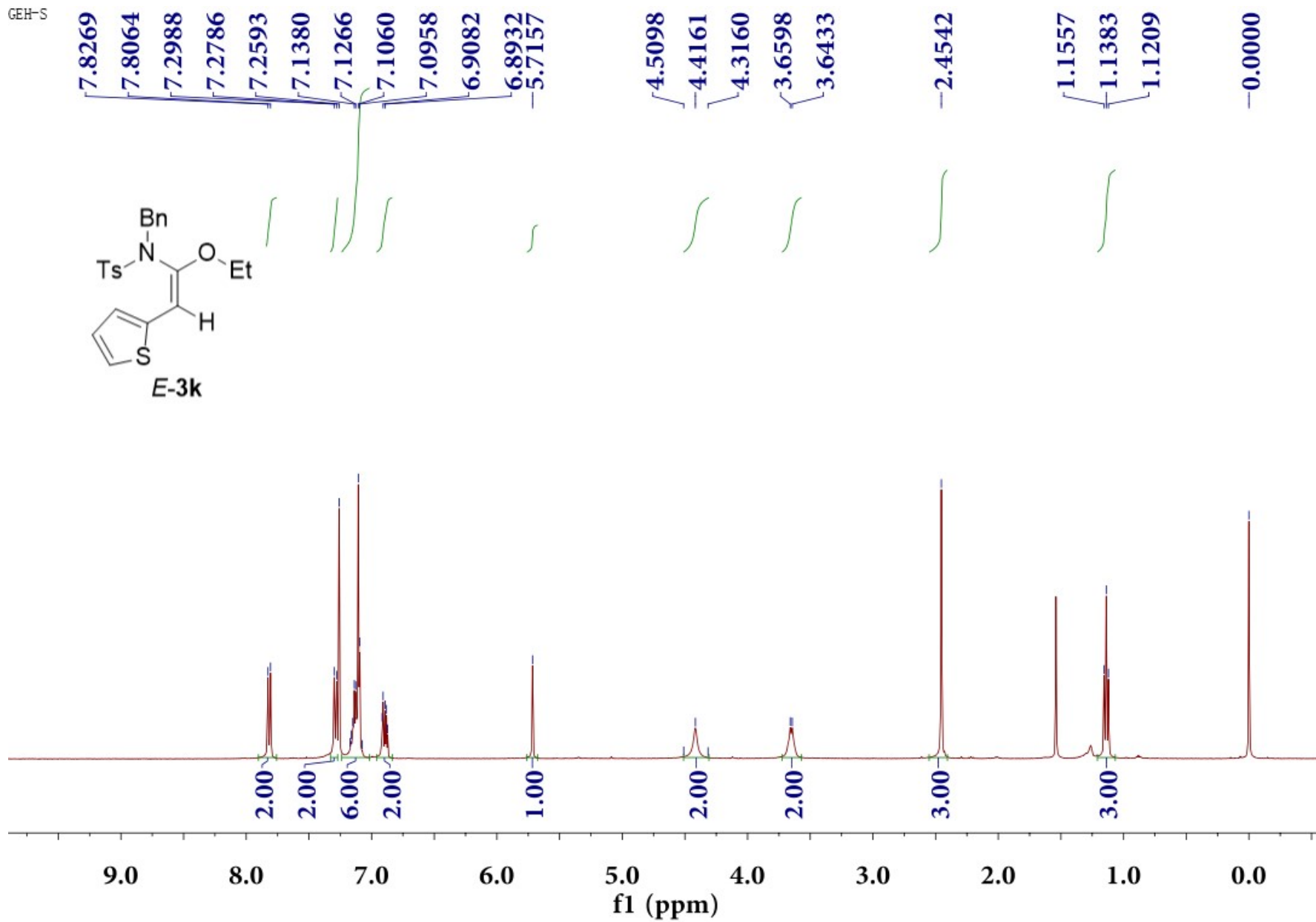
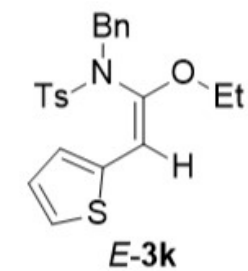
52.370

21.747

14.284



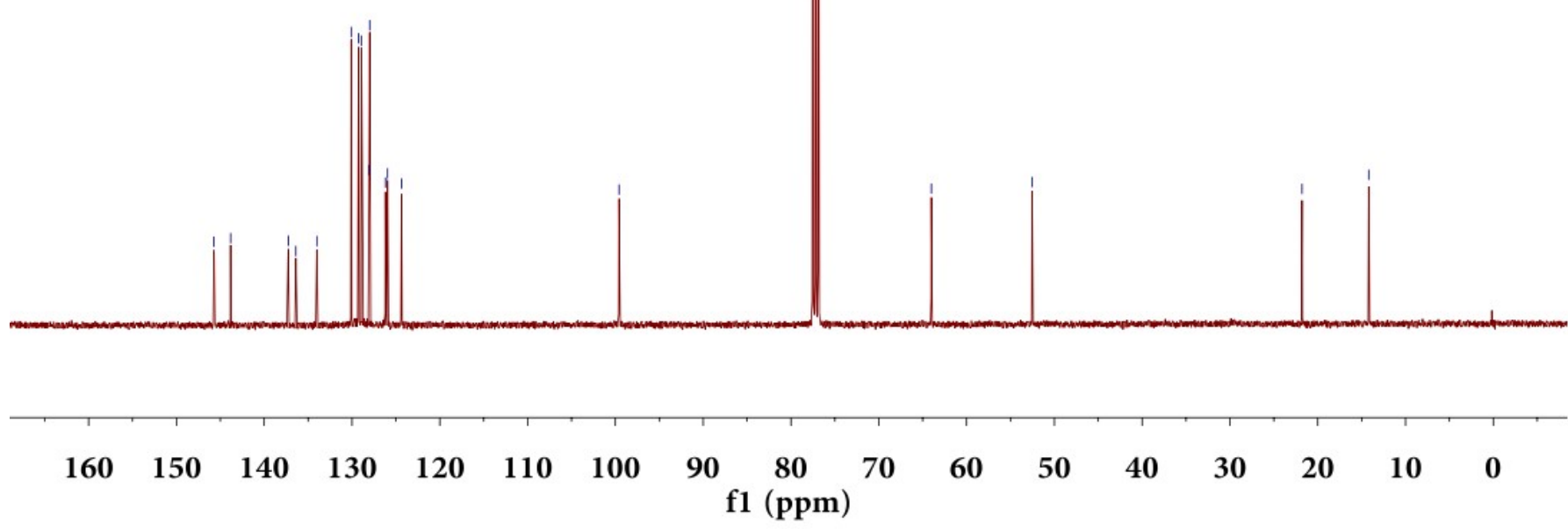
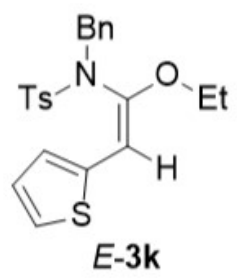
GEH-S

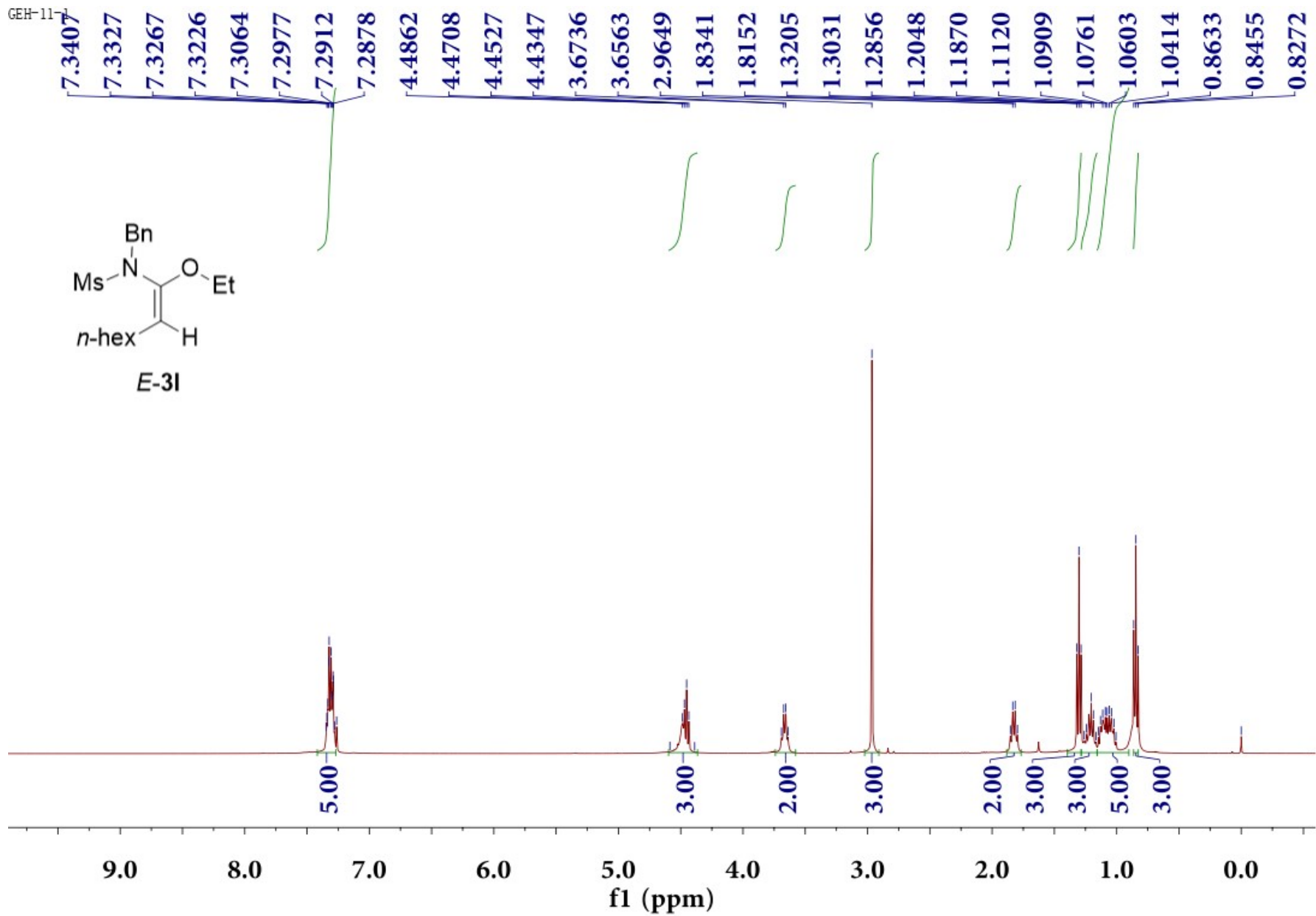


GEH-10-2

- 143.829
- 137.265
- 134.010
- 130.096
- 129.247
- 128.922
- 128.059
- 127.985
- 126.196
- 125.955
- 124.353
- 99.587

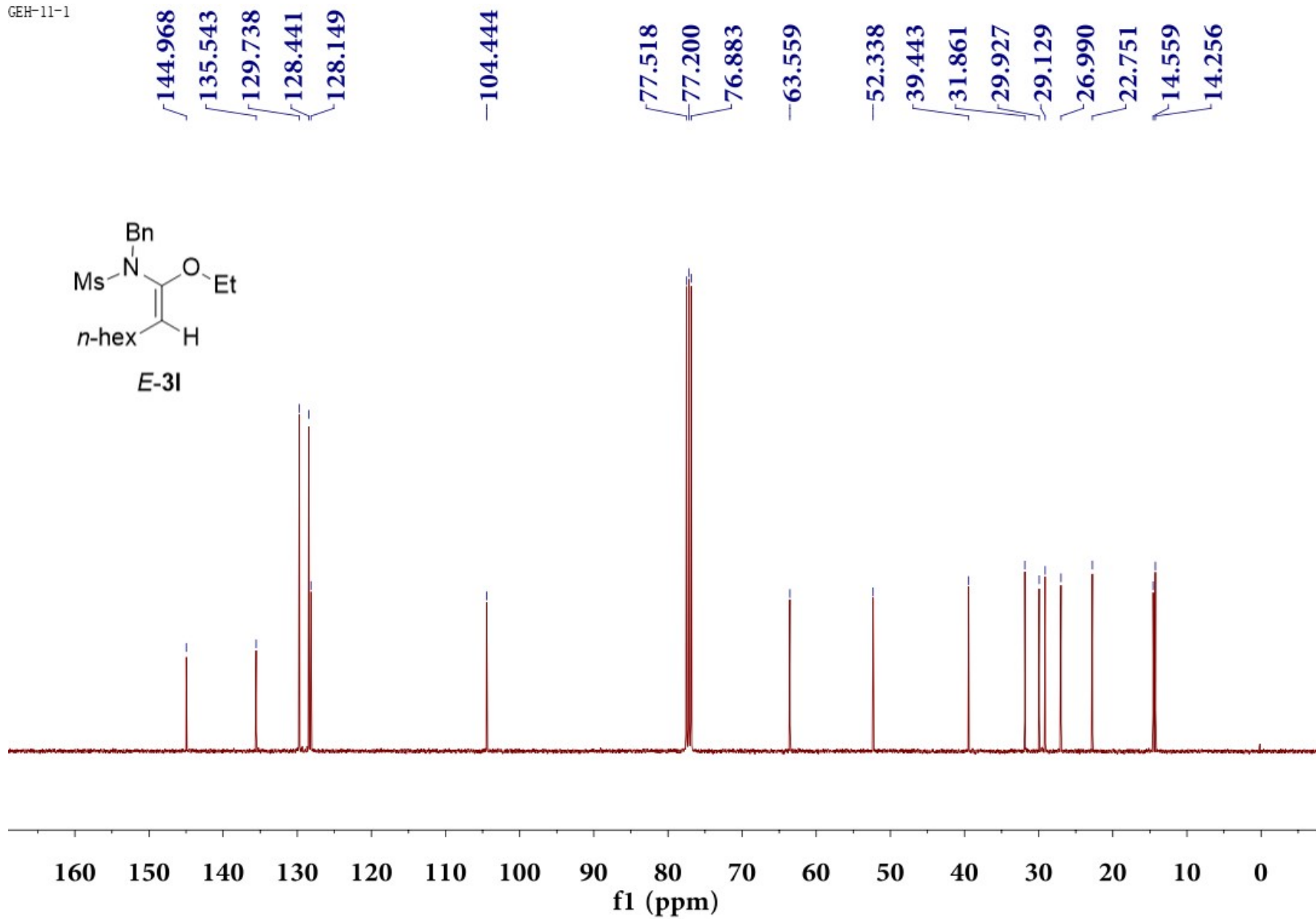
- 77.518
- 77.200
- 76.883
- 64.013
- 52.525
- 21.782
- 14.196



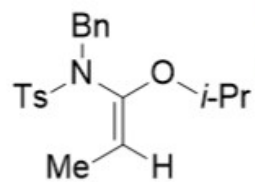




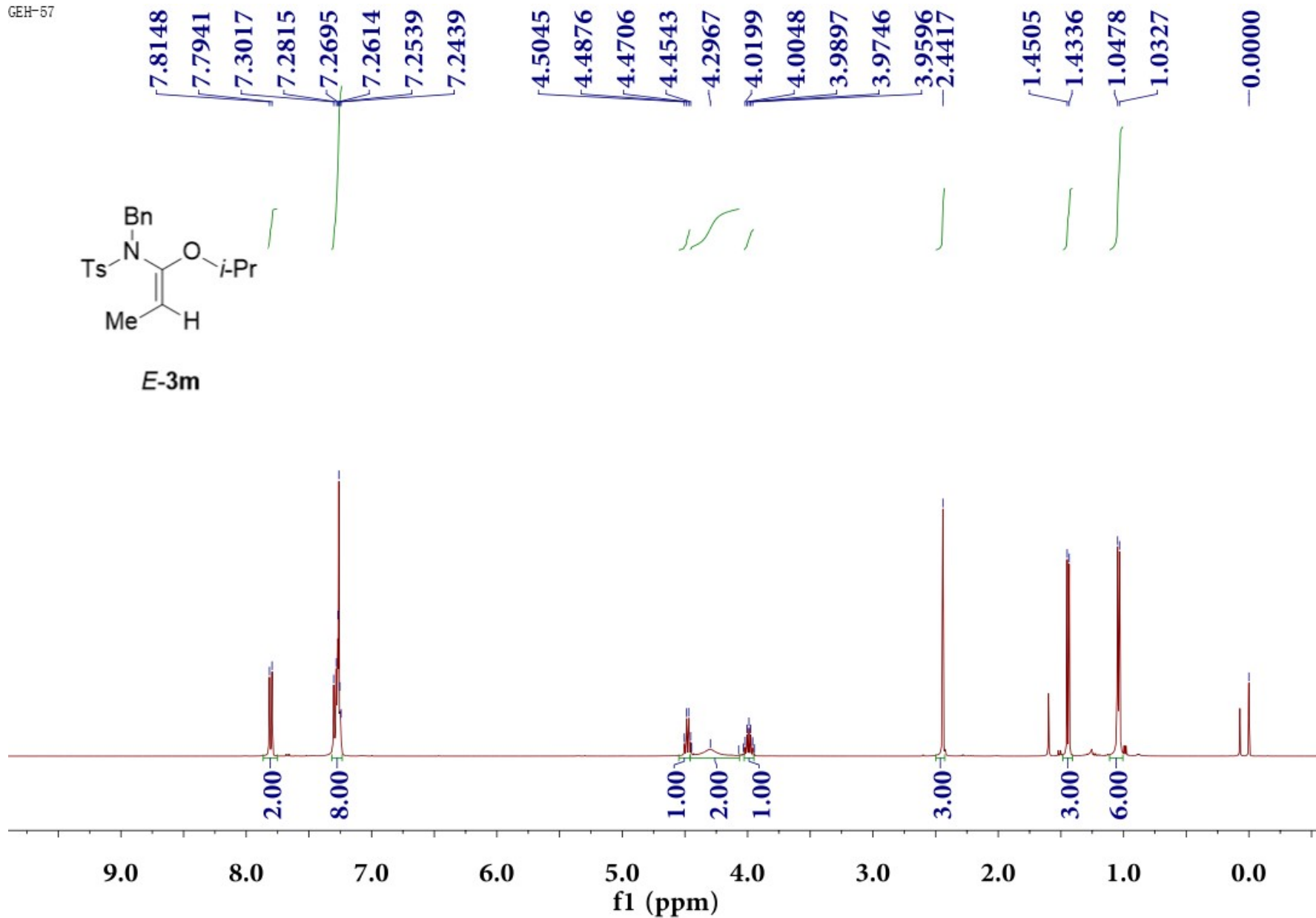
GEH-11-1



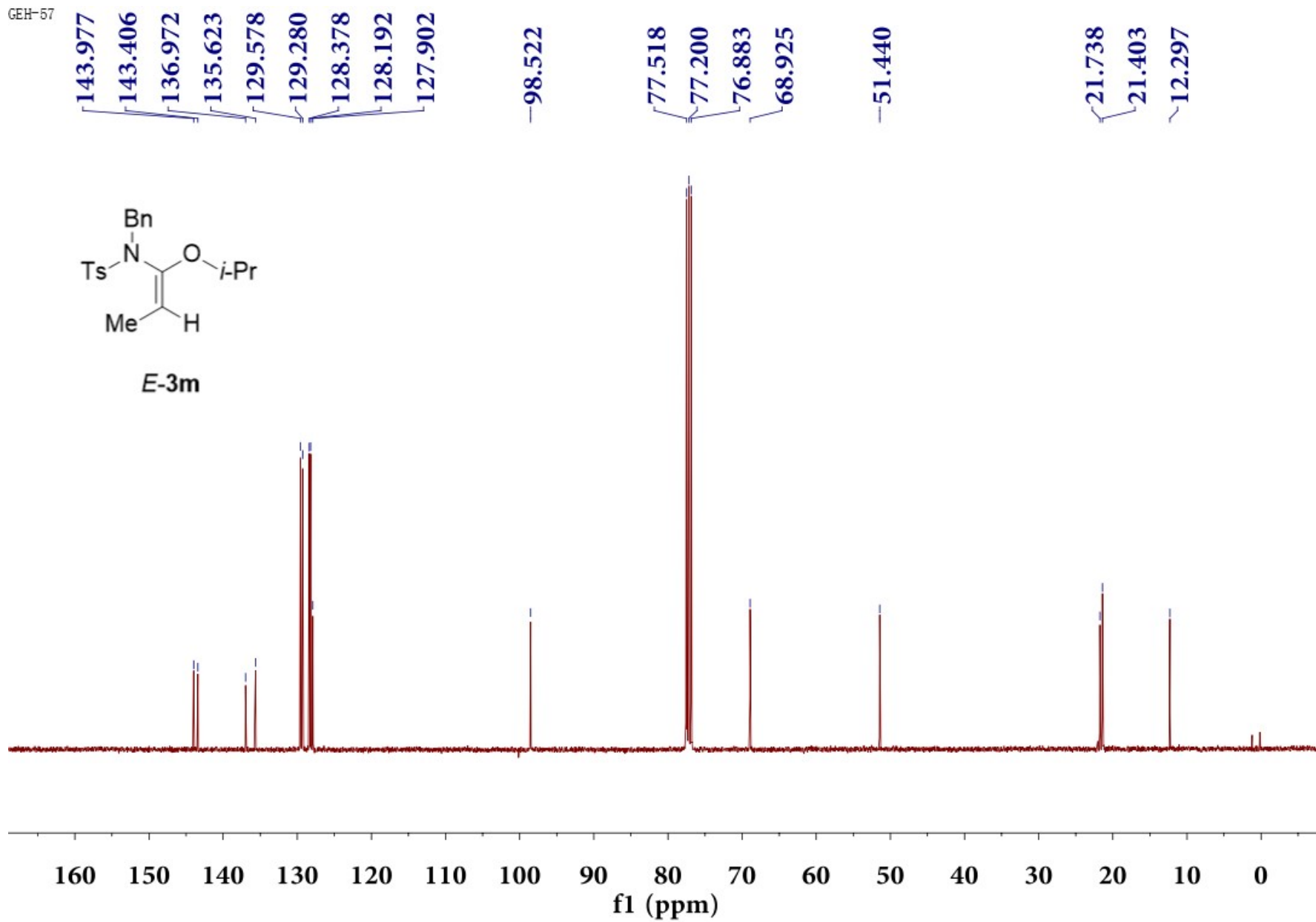
GEH-57



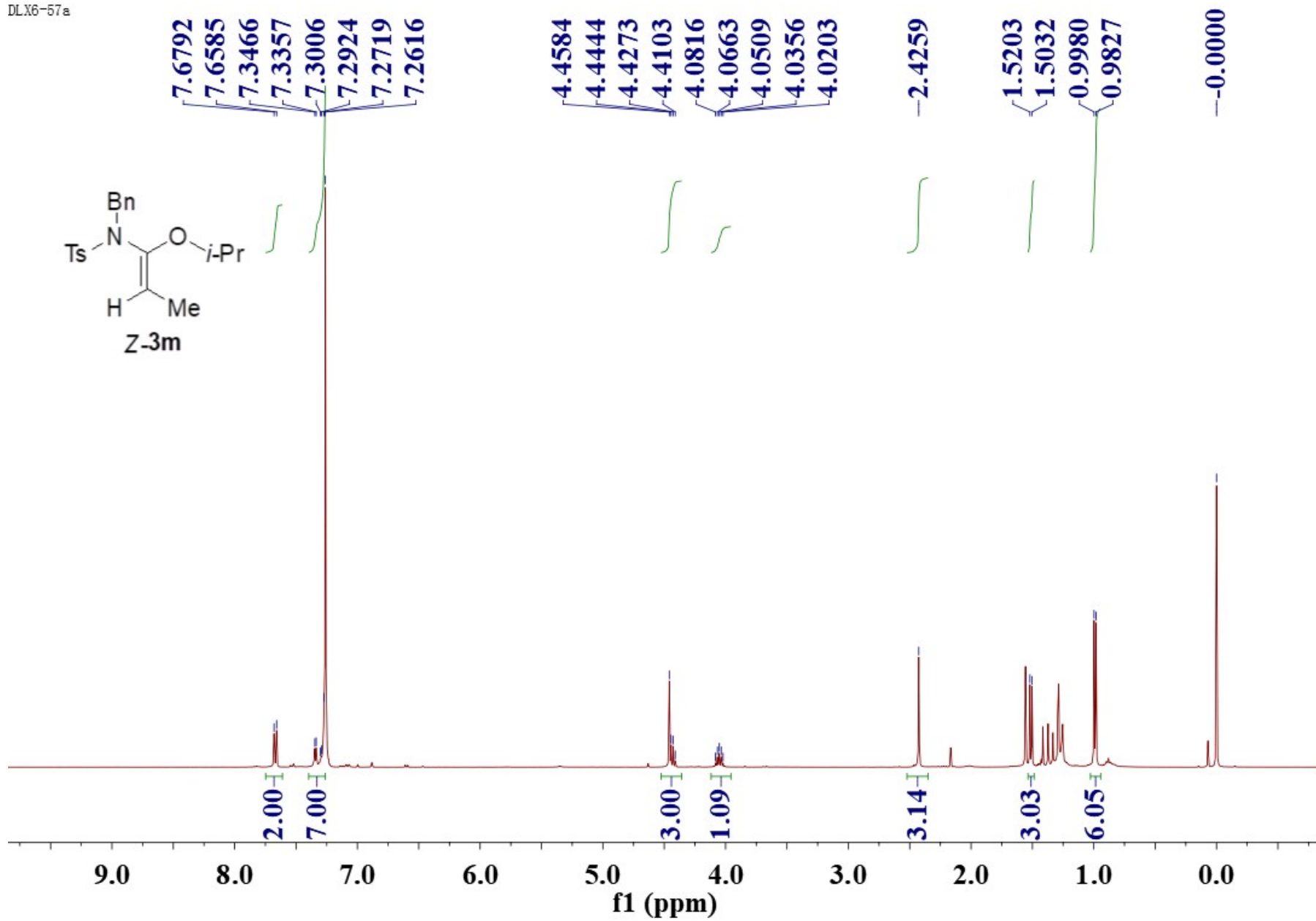
*E*-3m



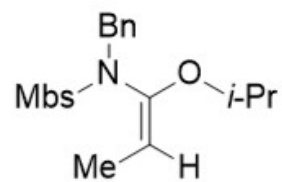
GEH-57



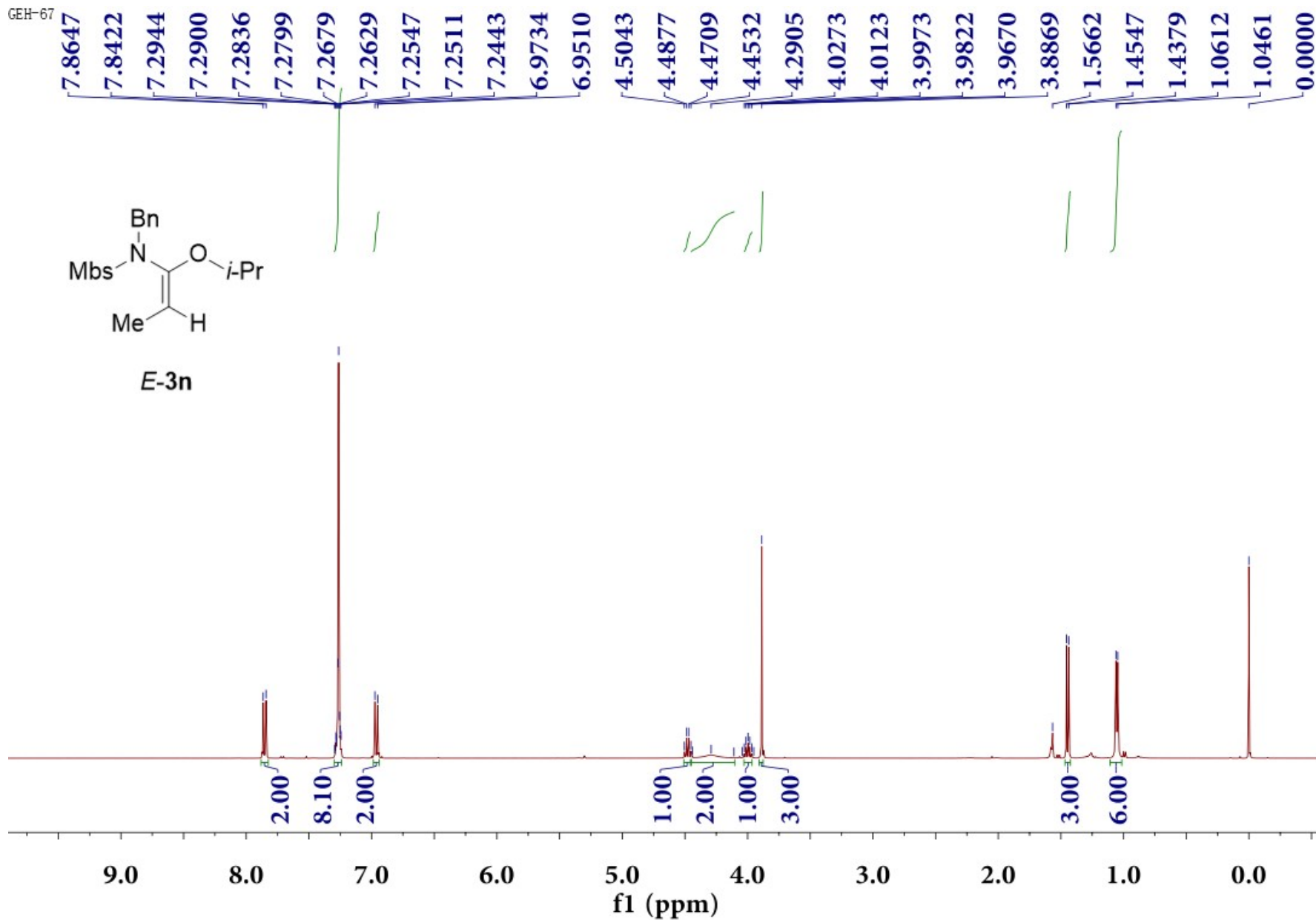
DLX6-57a



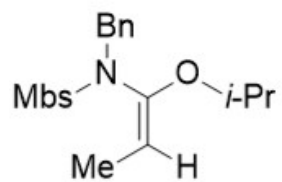
GEH-67



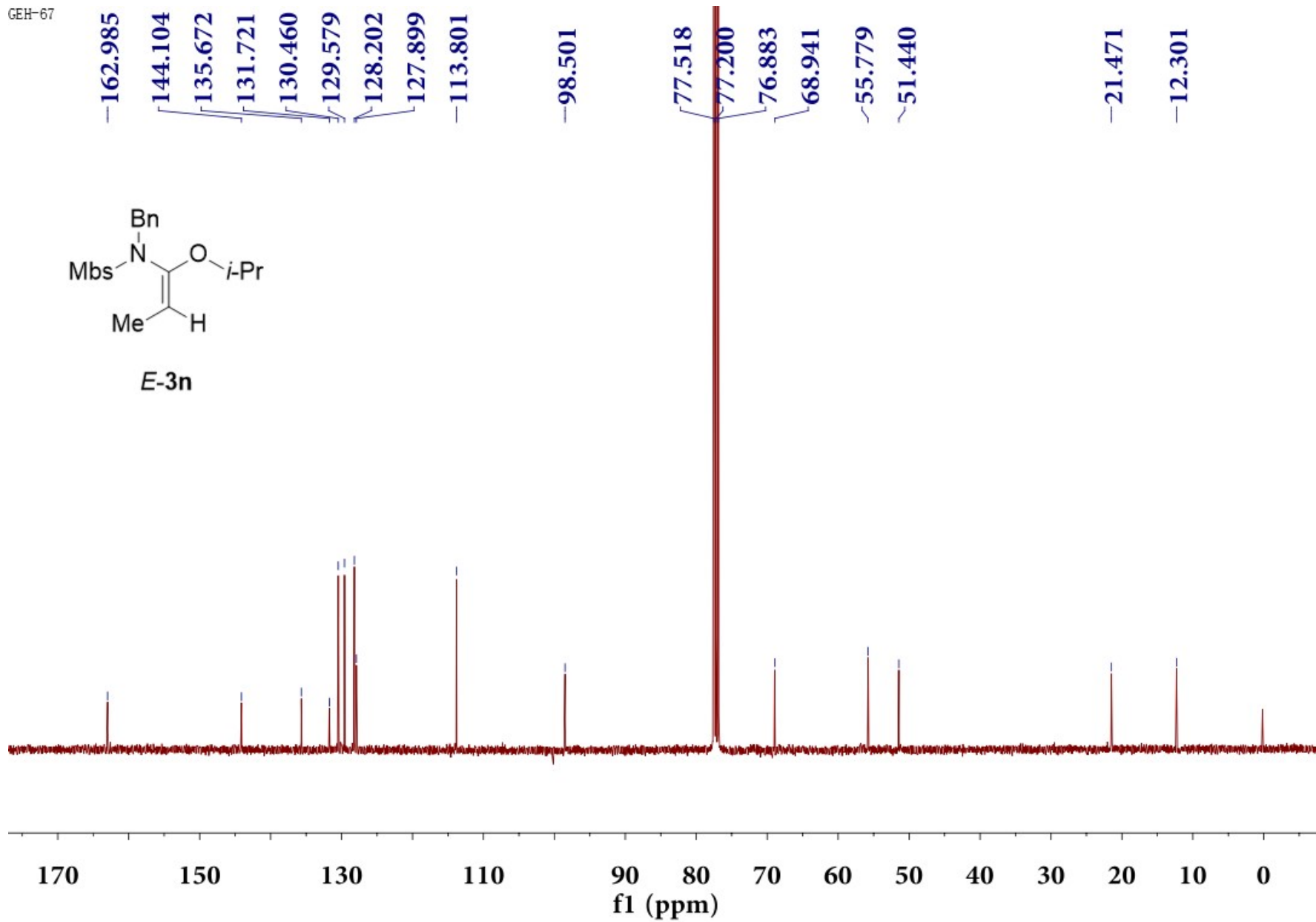
*E*-3n



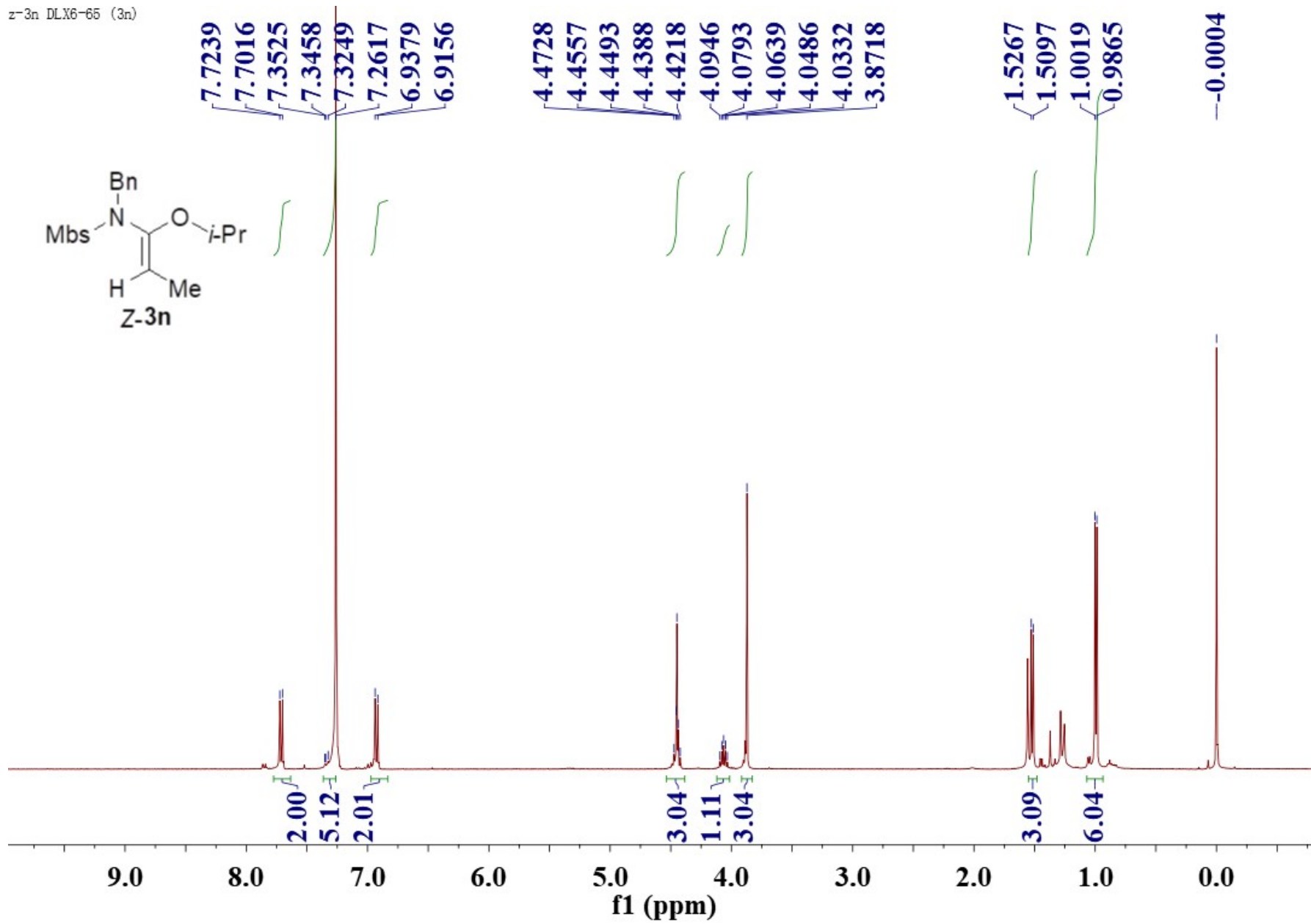
GEH-67



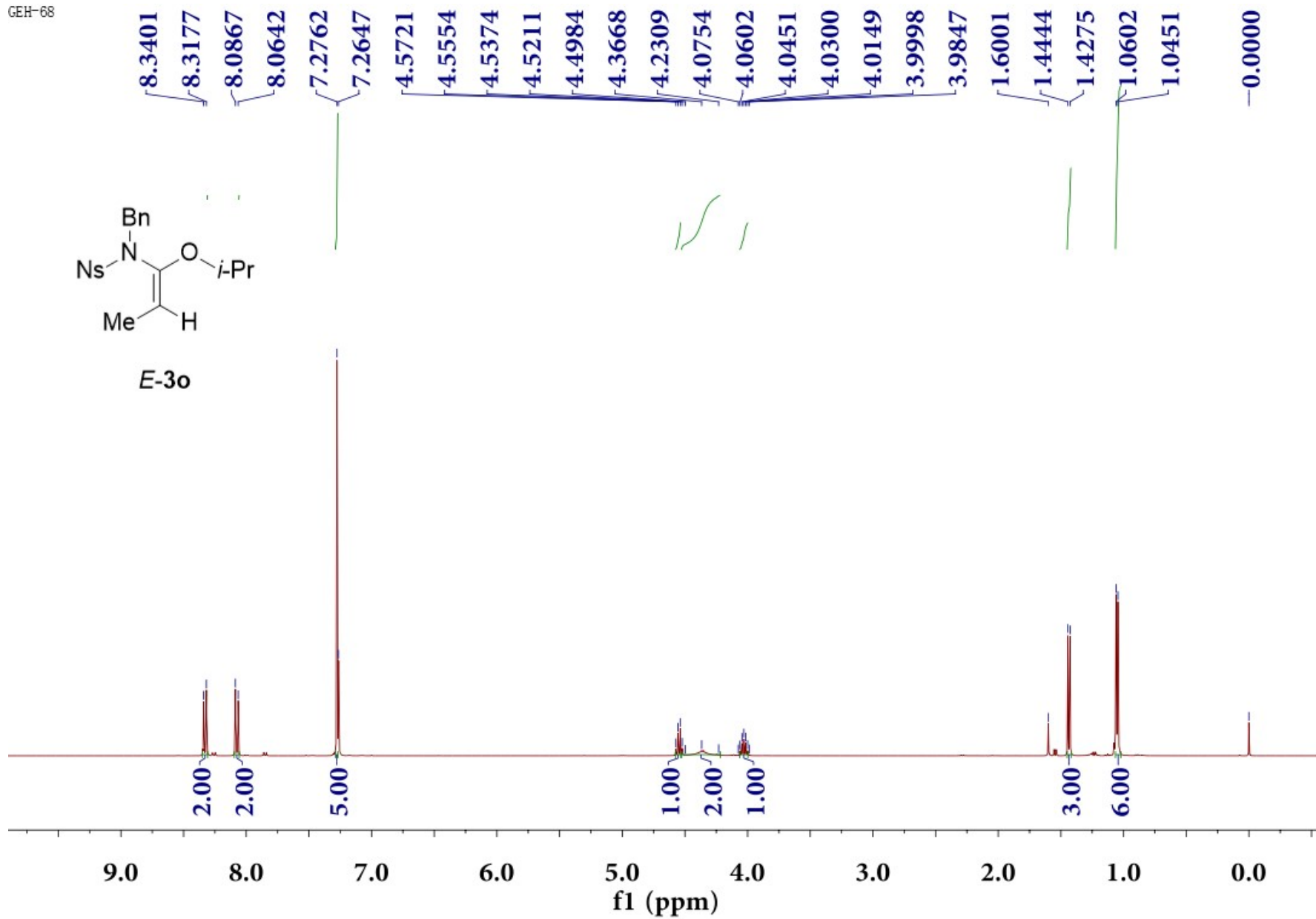
*E*-3n



z-3n DLX6-65 (3n)



GEH-68





GEH-68

150.085  
145.831  
143.521  
134.732  
129.635  
129.517  
128.386  
128.308  
123.868

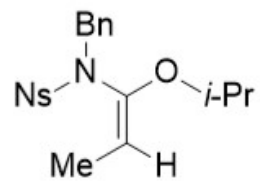
-99.095

77.517  
77.200  
76.882  
69.353

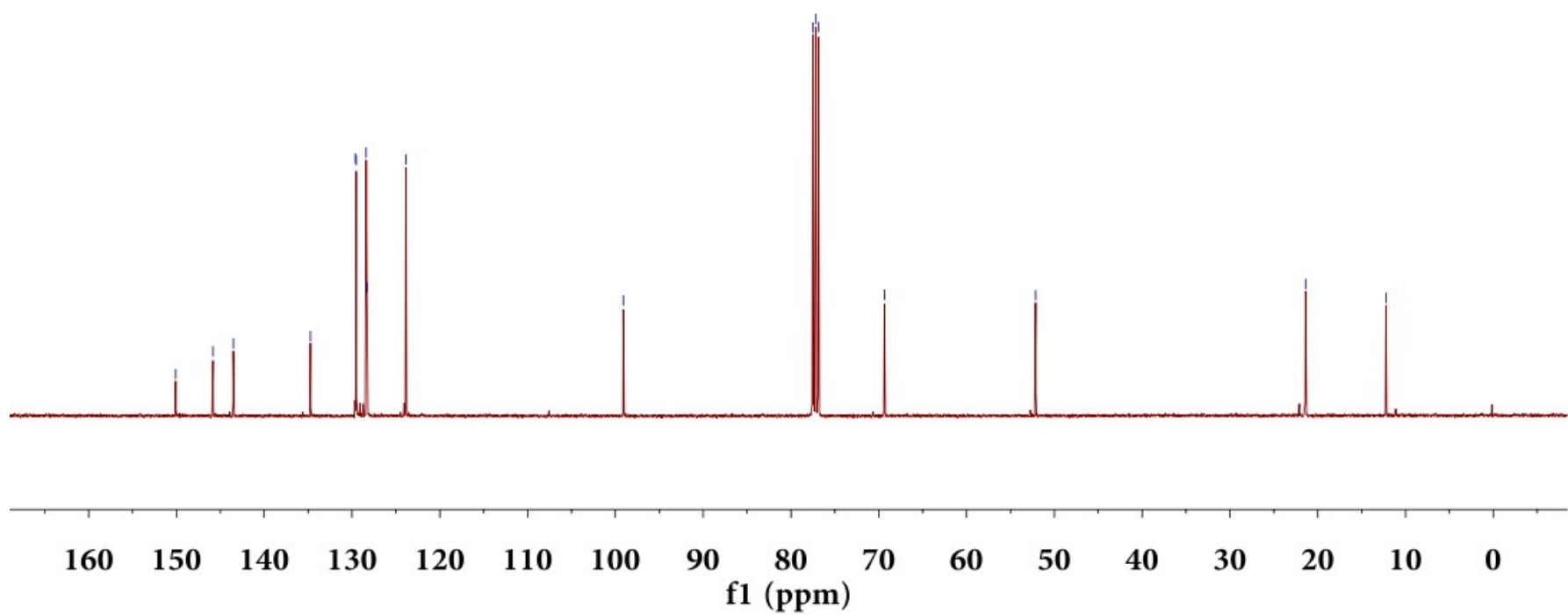
-52.130

-21.383

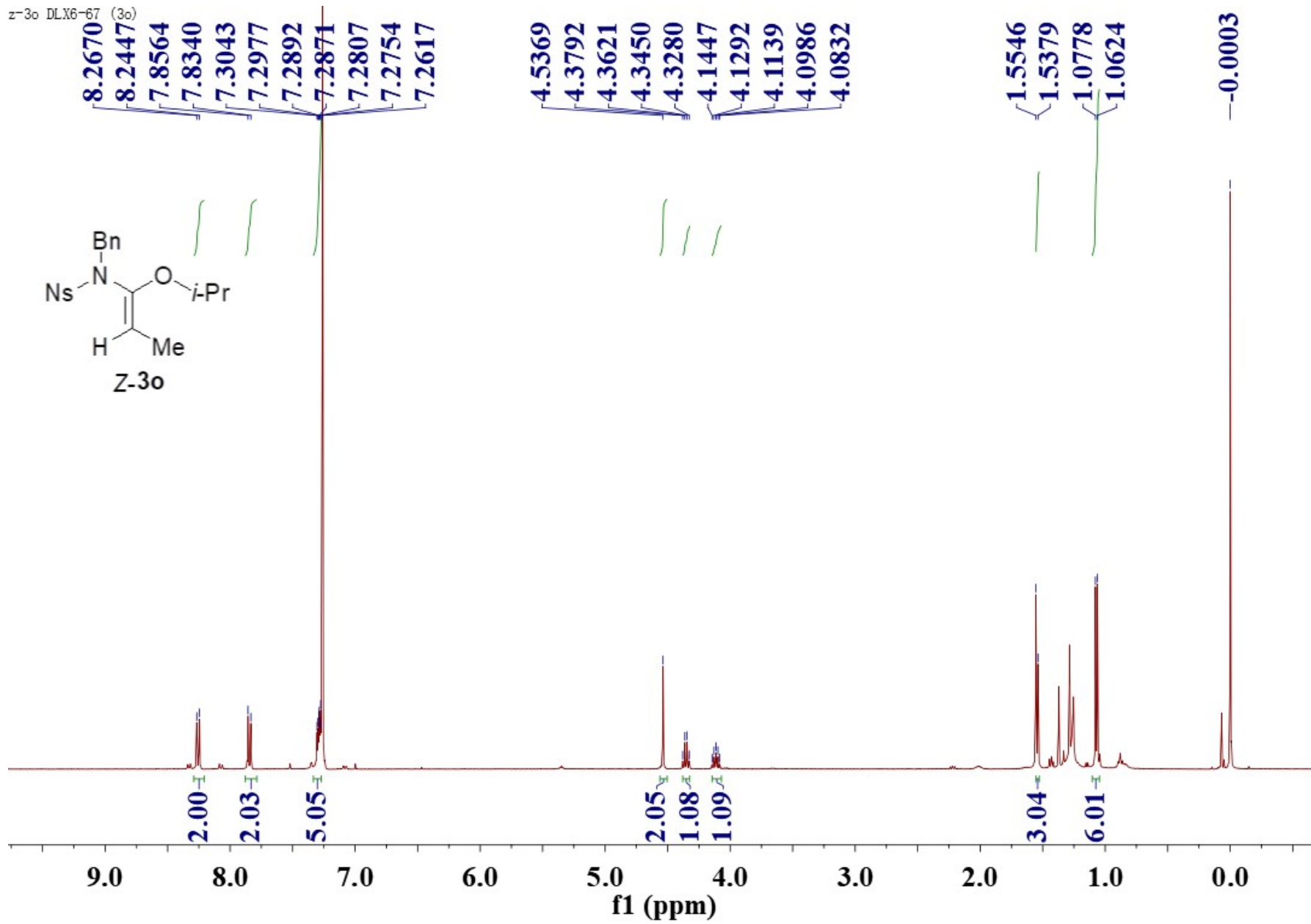
-12.224



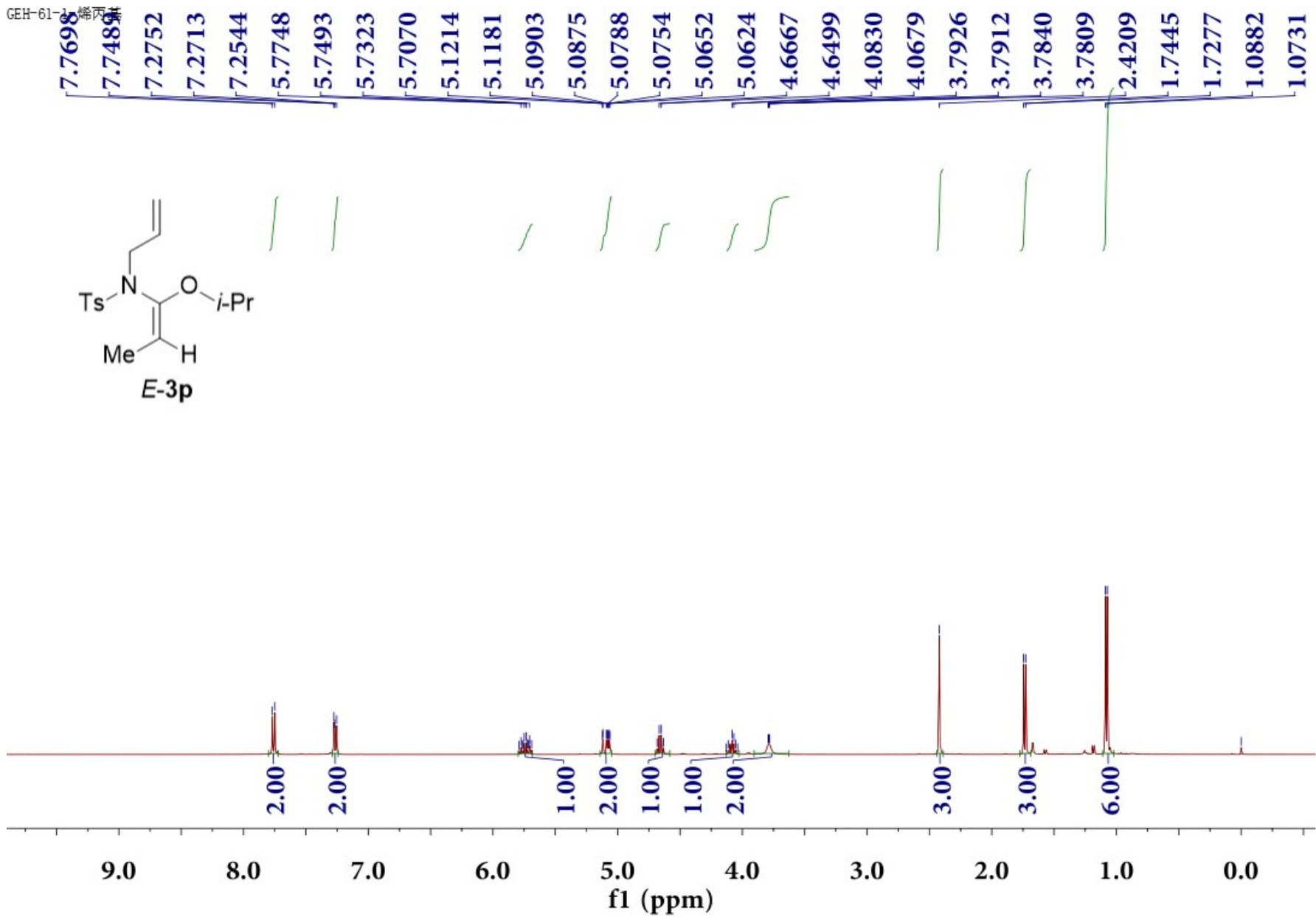
*E*-3o



z-3o DLX6-67 (3o)



GEH-61-1 烯丙基



GEH-61-1-烯丙基

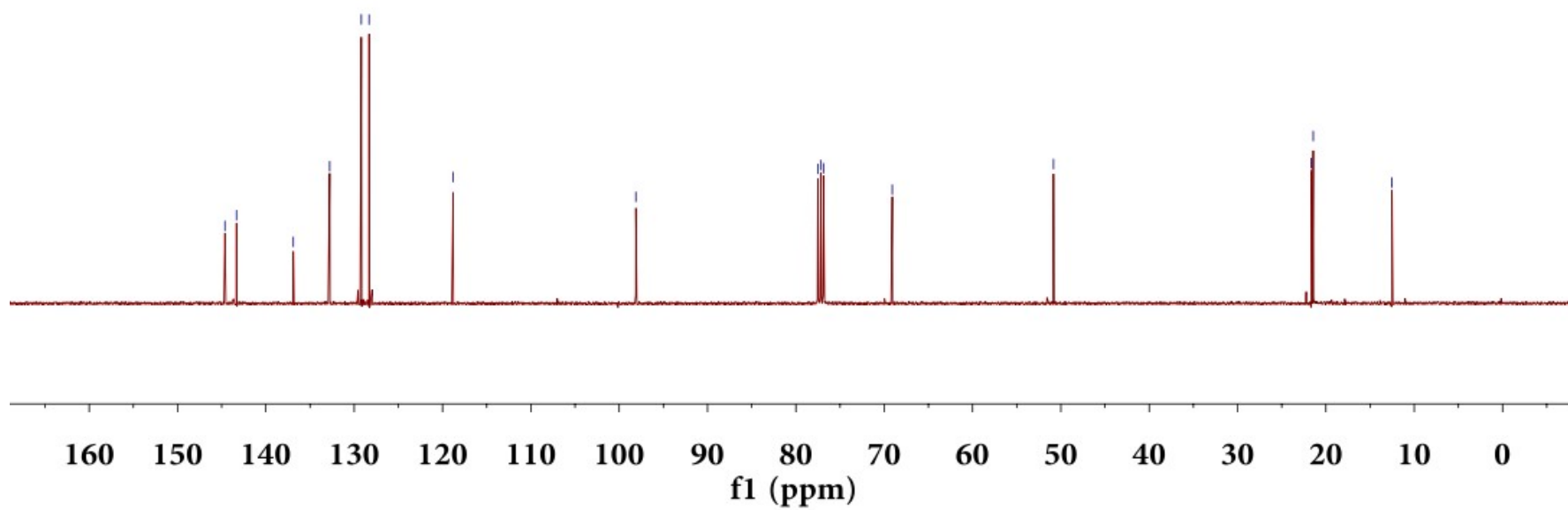
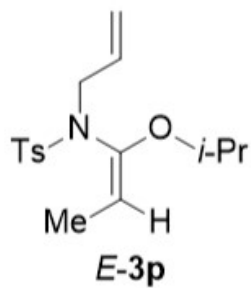
144.633  
143.328  
136.890  
132.775  
129.191  
128.318  
118.794

98.117

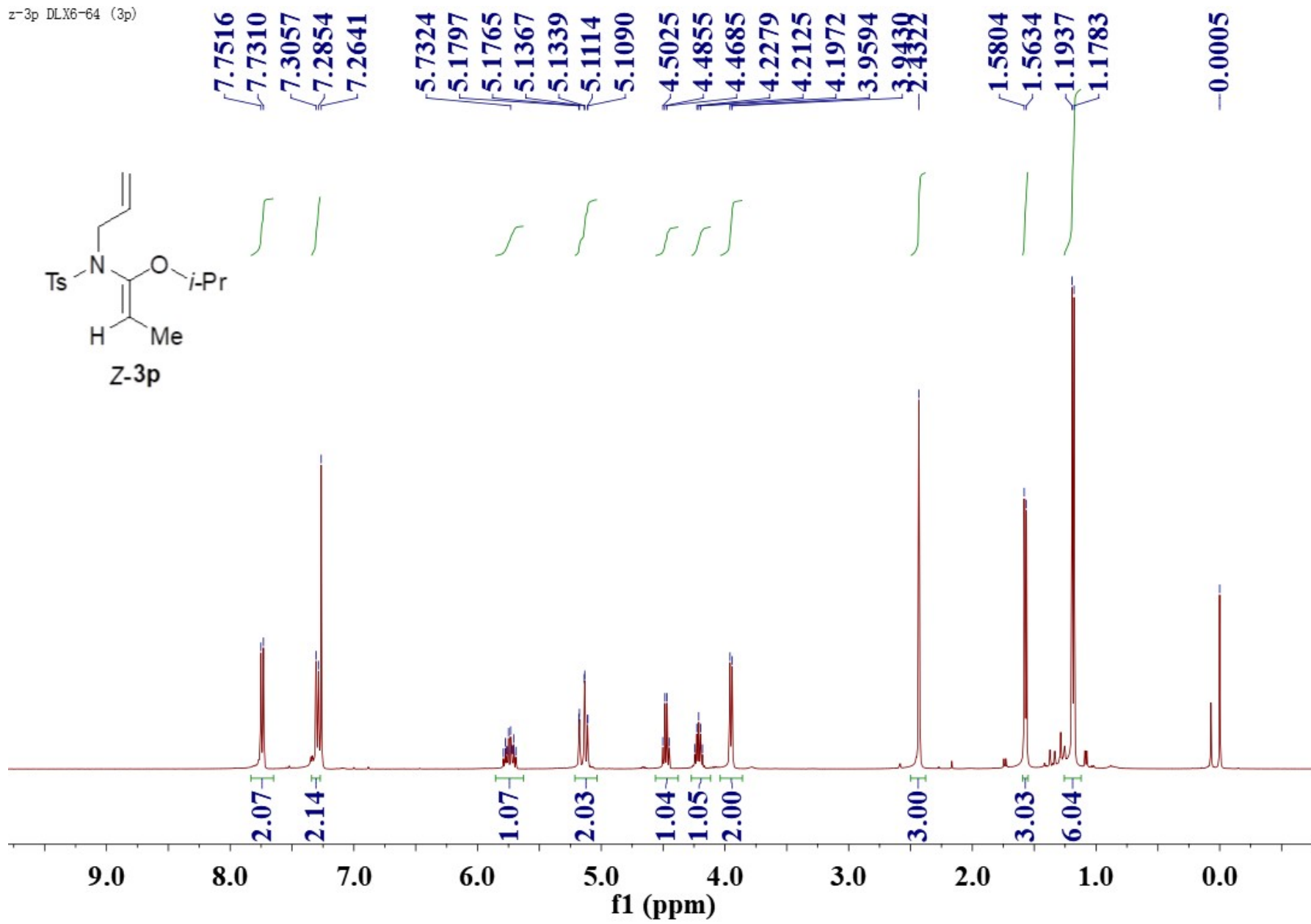
77.518  
77.200  
76.882  
69.089

50.836

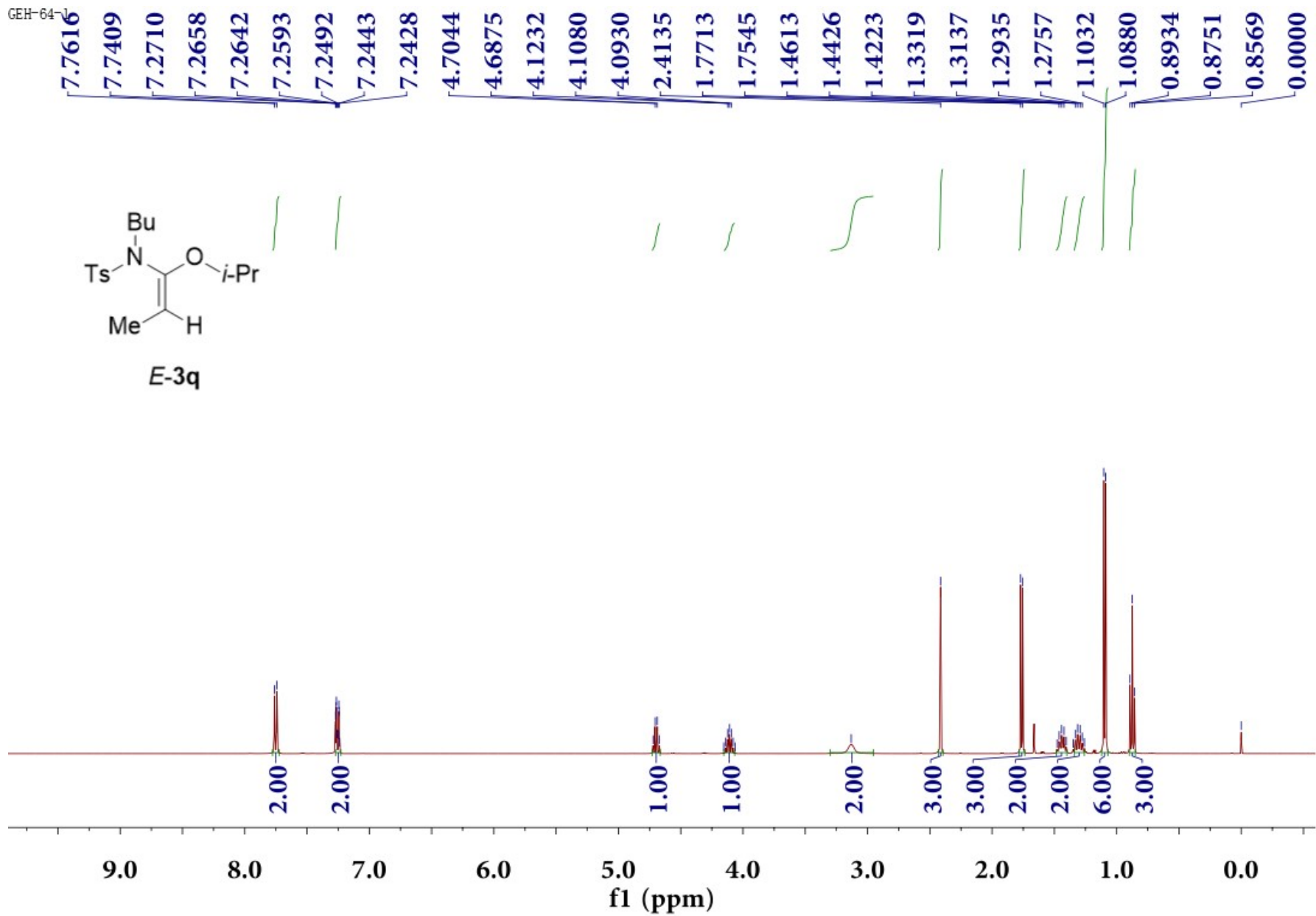
21.689  
21.435  
12.521



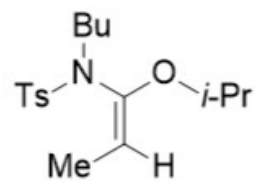
z-3p DLX6-64 (3p)



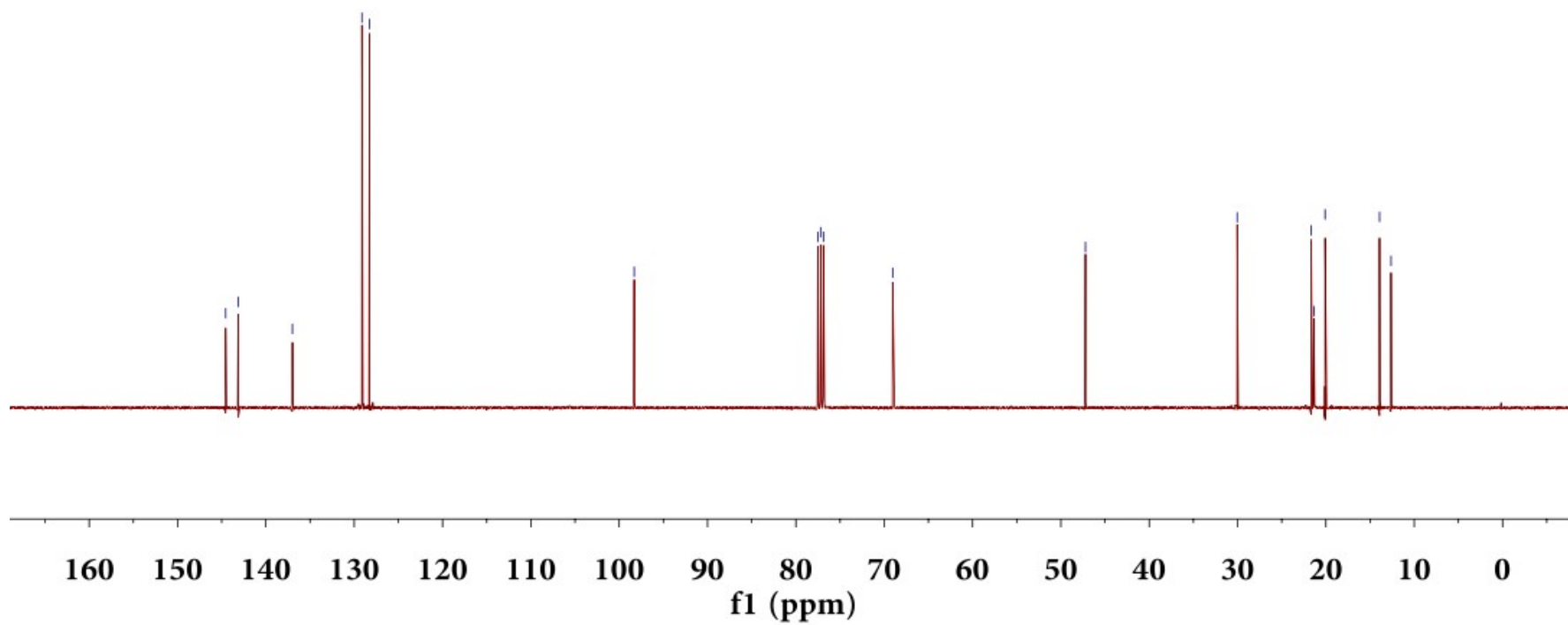
GEH-64-1



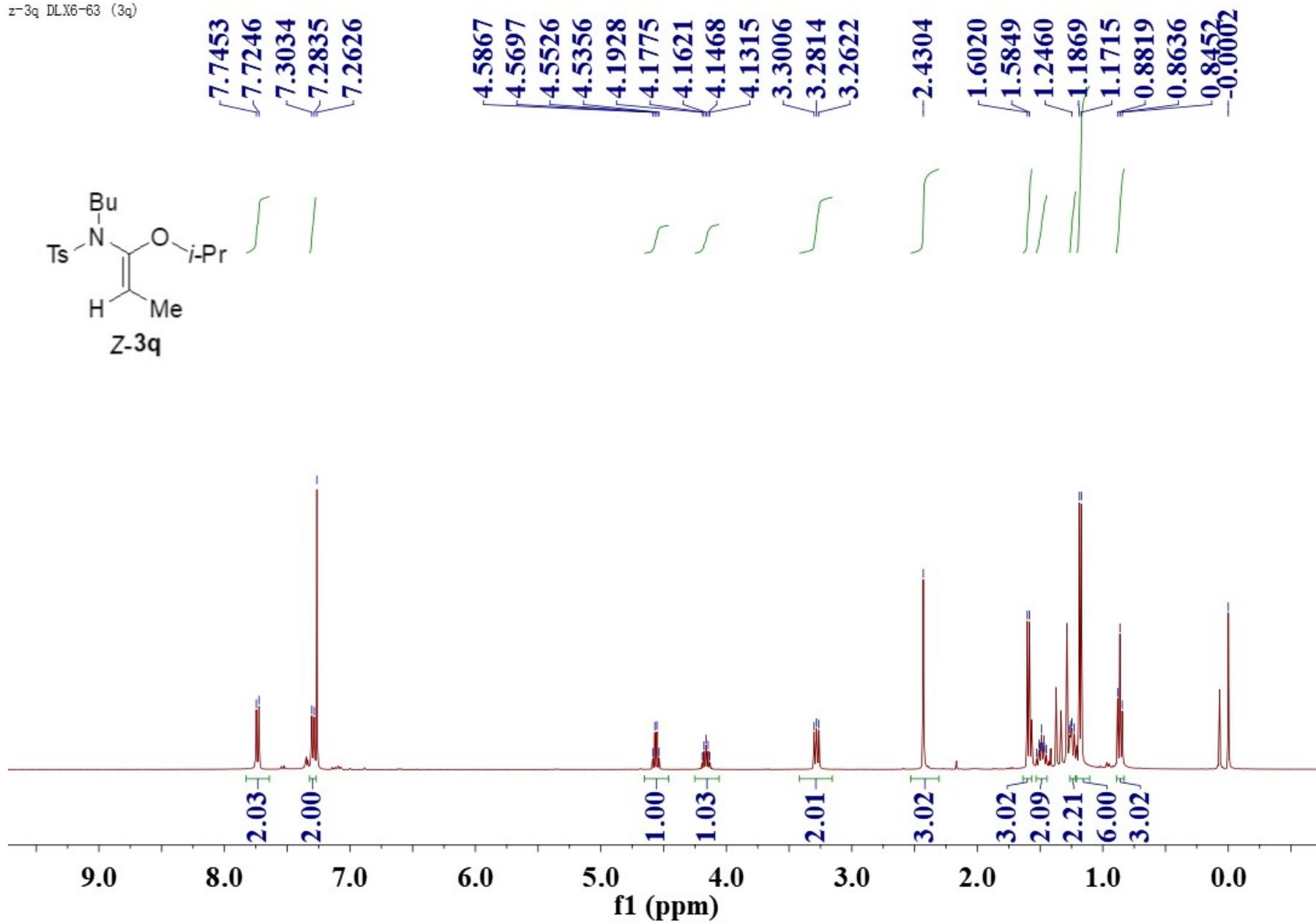
GEH-64-1



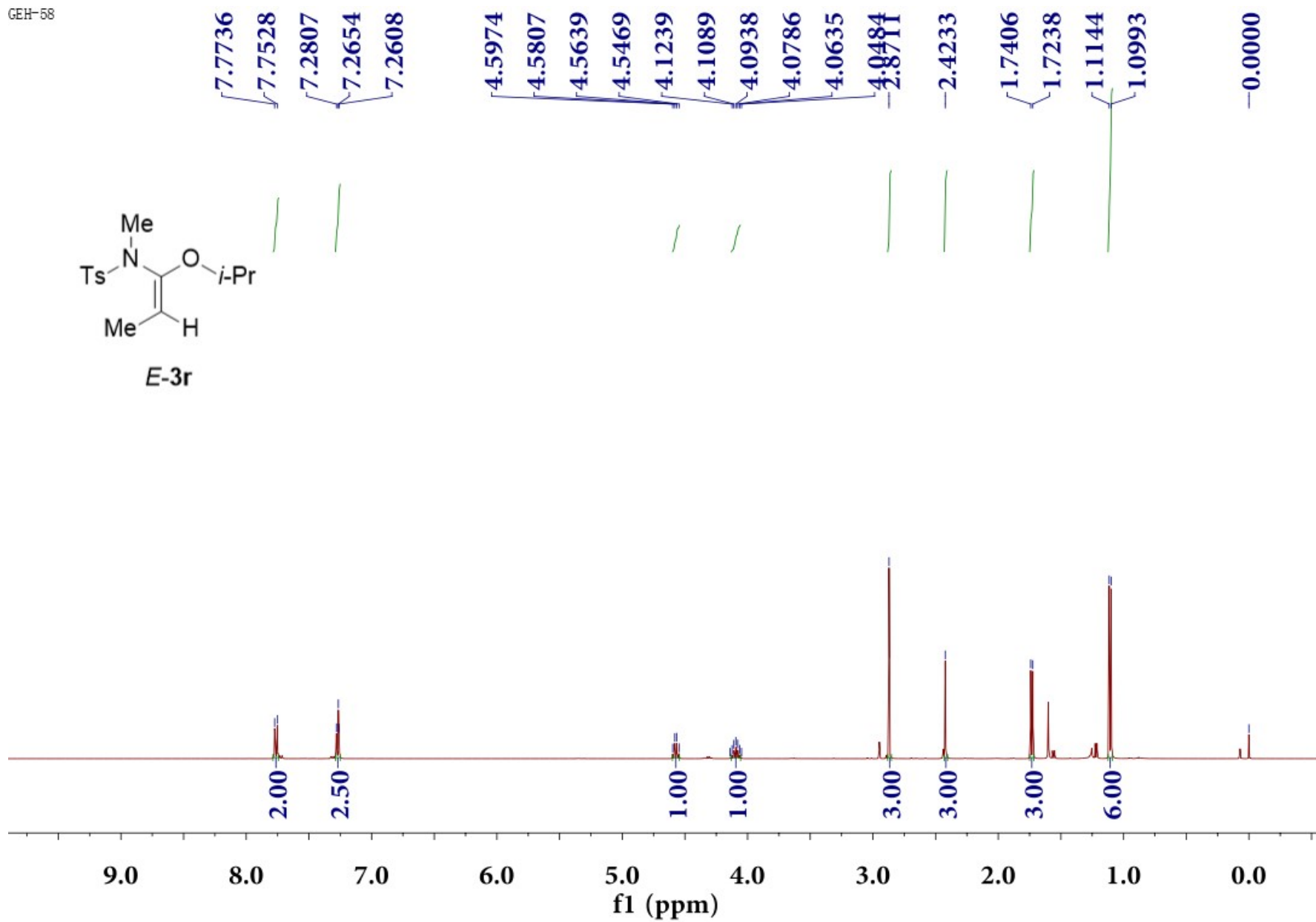
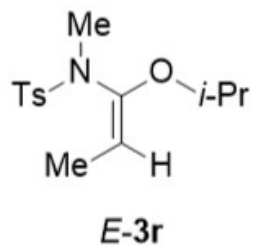
*E*-3q



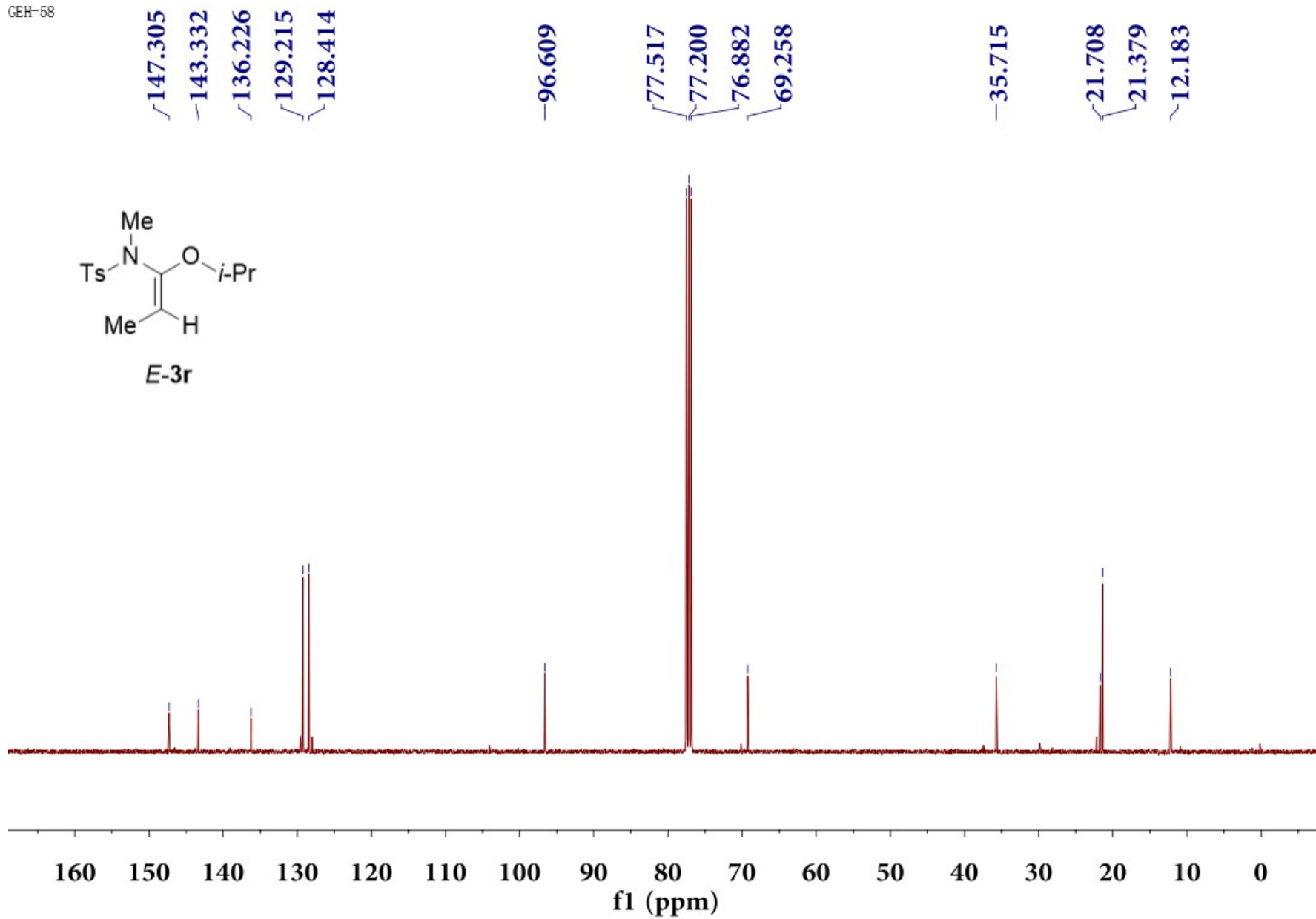
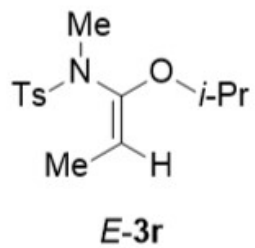
z-3q DLX6-63 (3q)



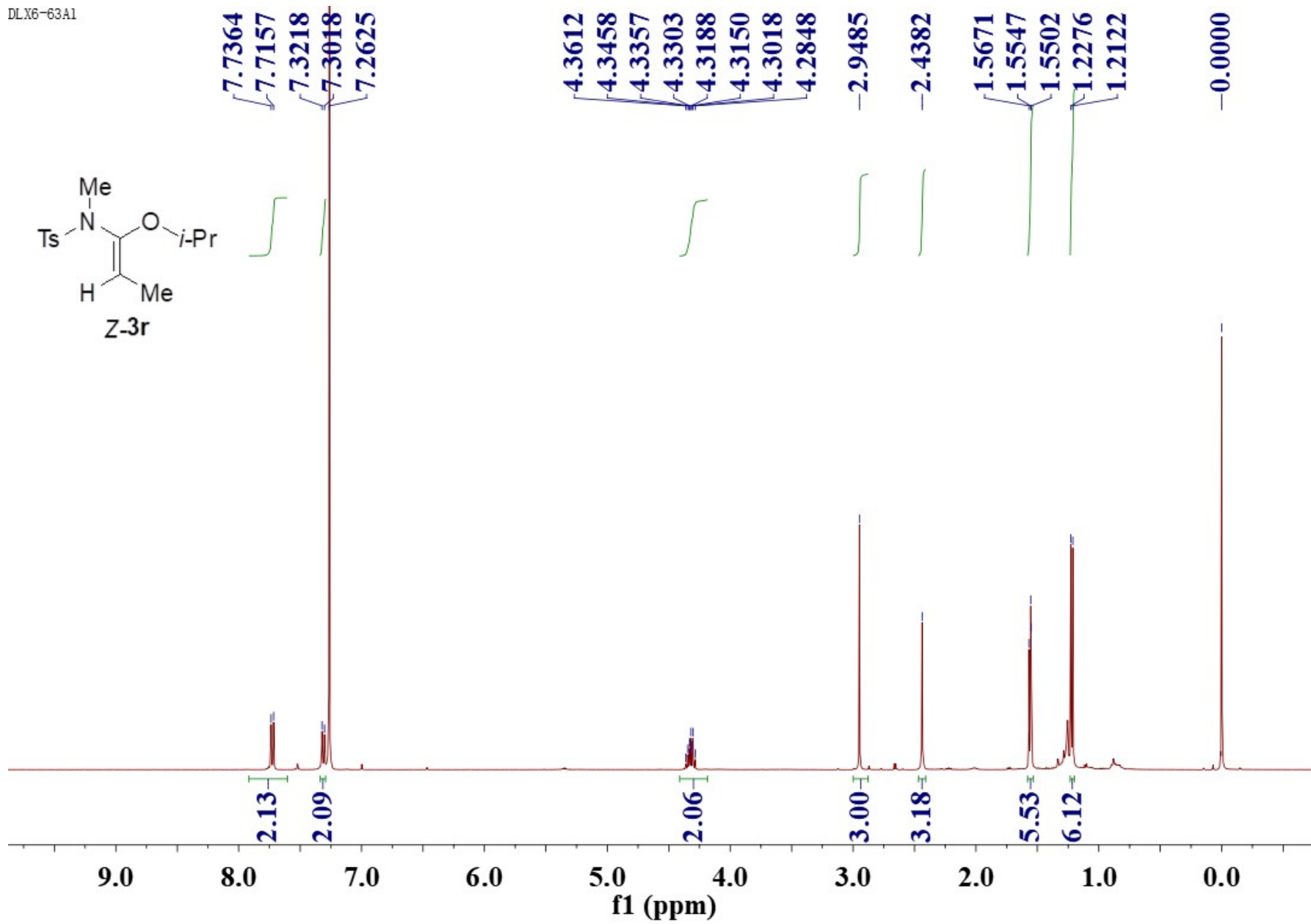




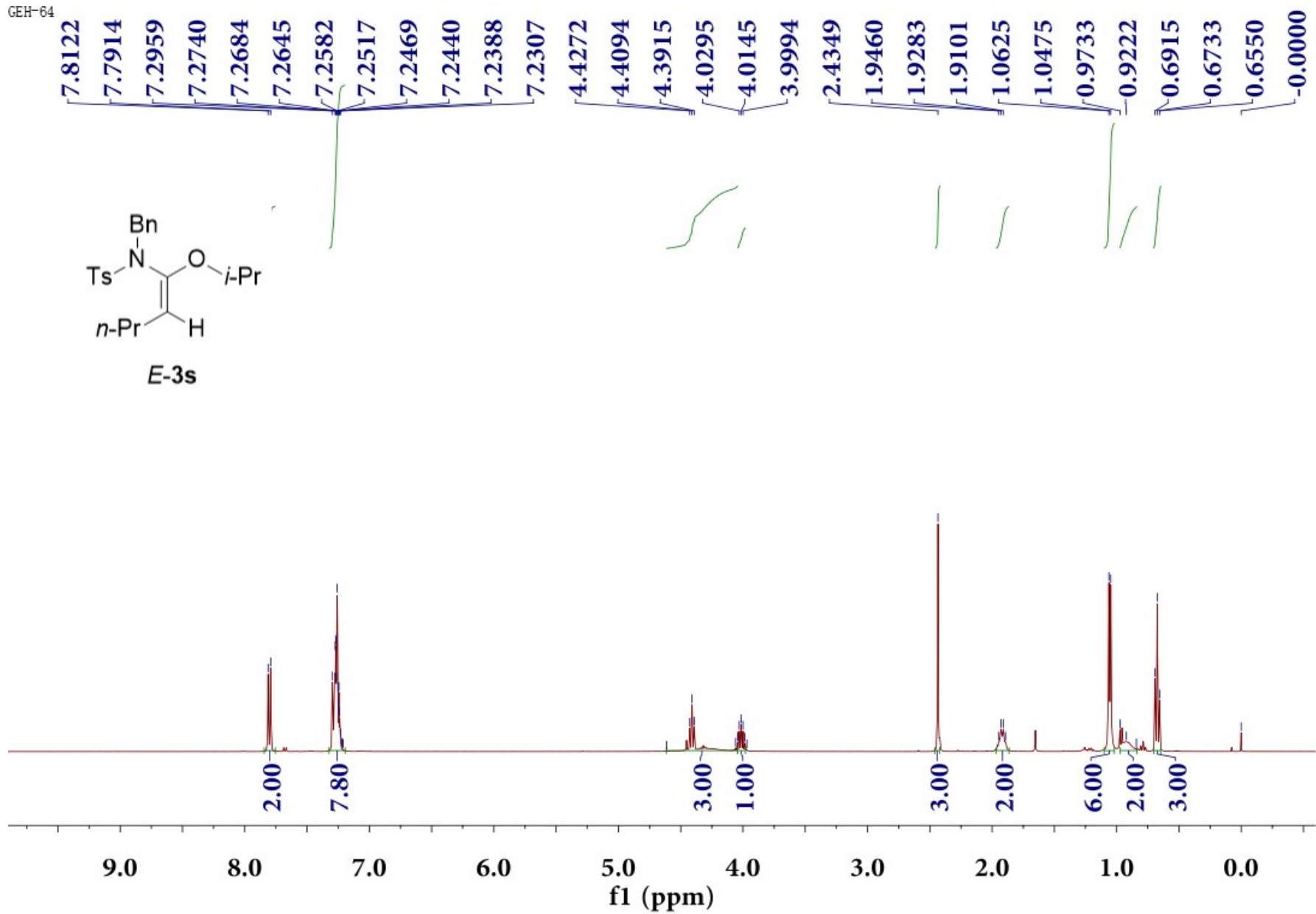
GEH-58



DLX6-63A1



GEH-64



GEH-64

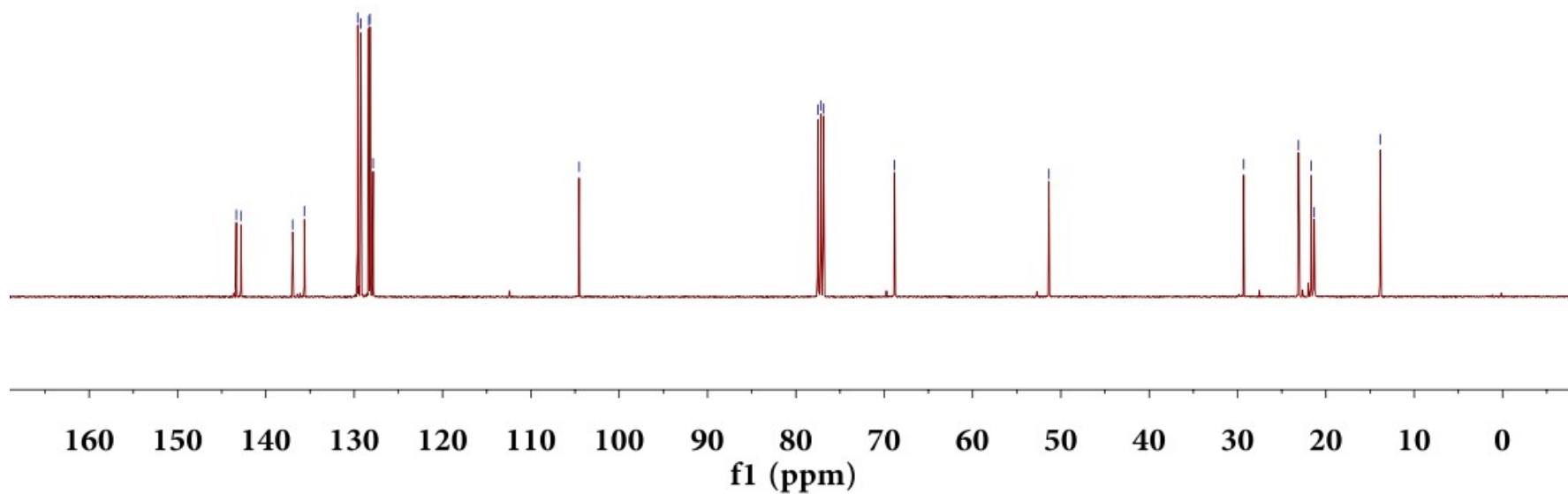
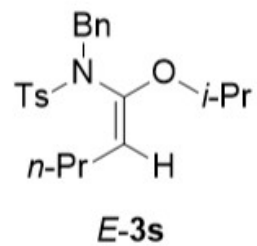
143.352  
142.825  
136.969  
135.648  
129.612  
129.237  
128.343  
128.208  
127.861

-104.539

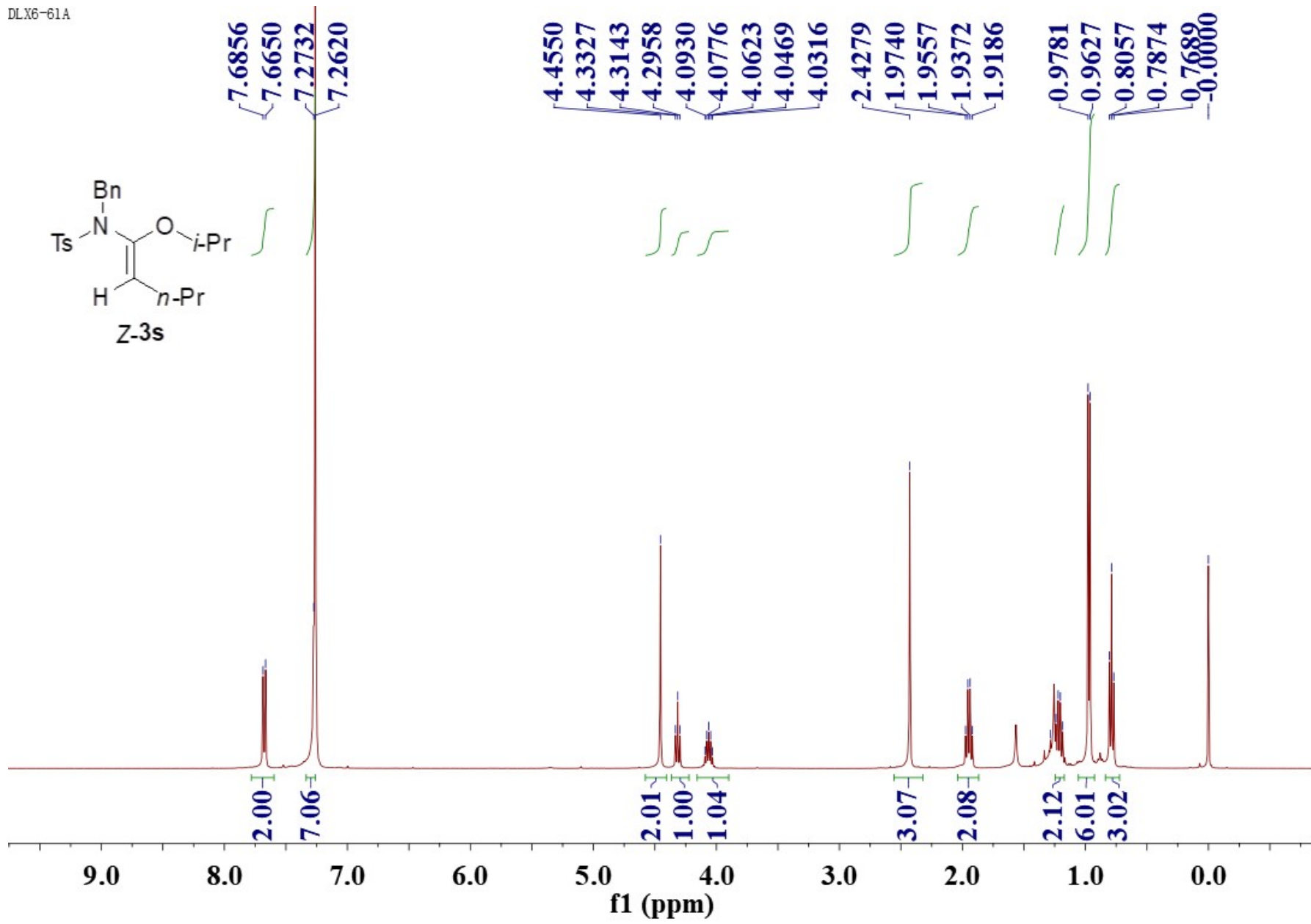
77.518  
77.200  
76.882  
68.832

-51.362

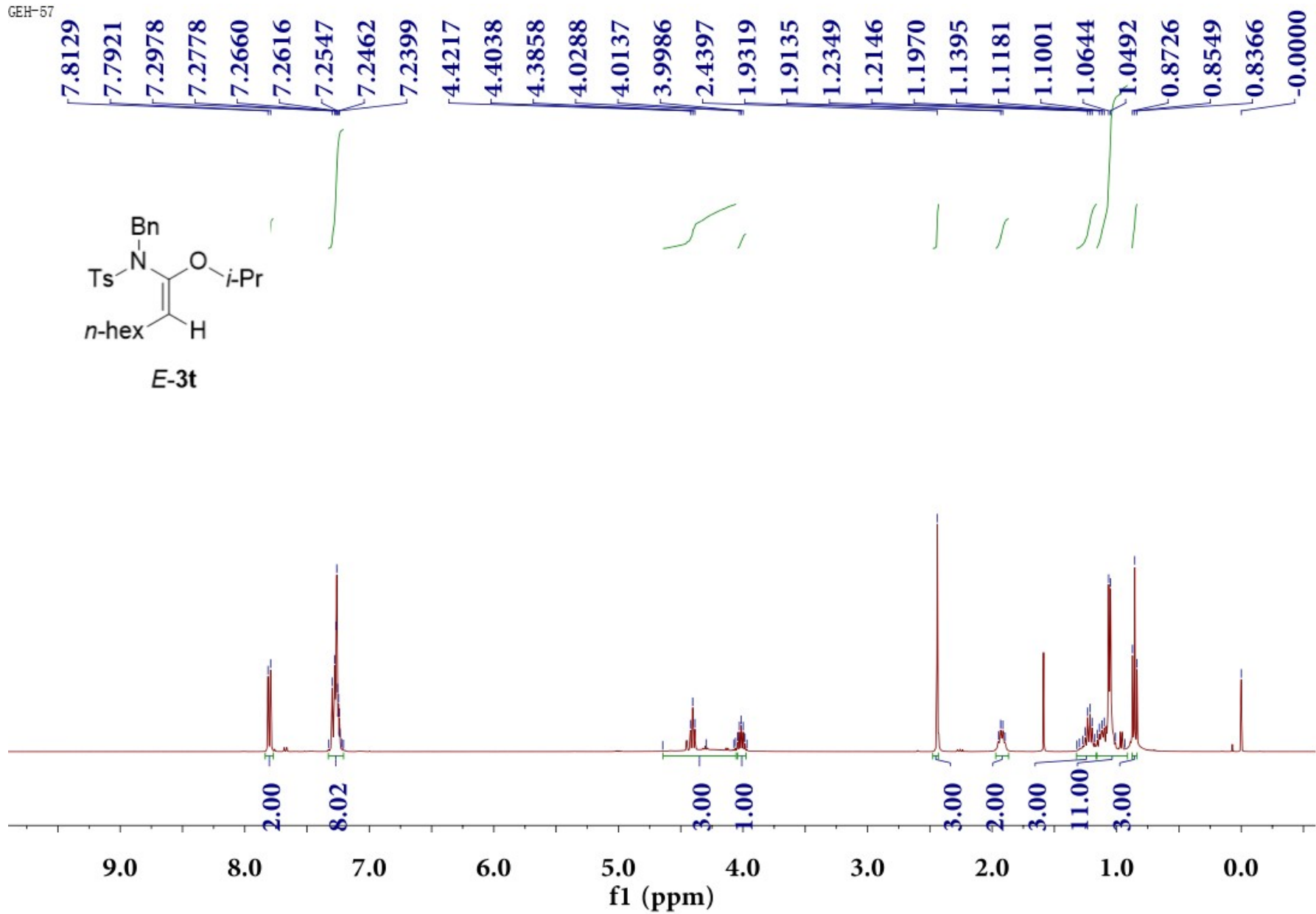
29.304  
23.098  
21.695  
21.323  
13.866



DLX6-61A



GEH-57



GEH-57

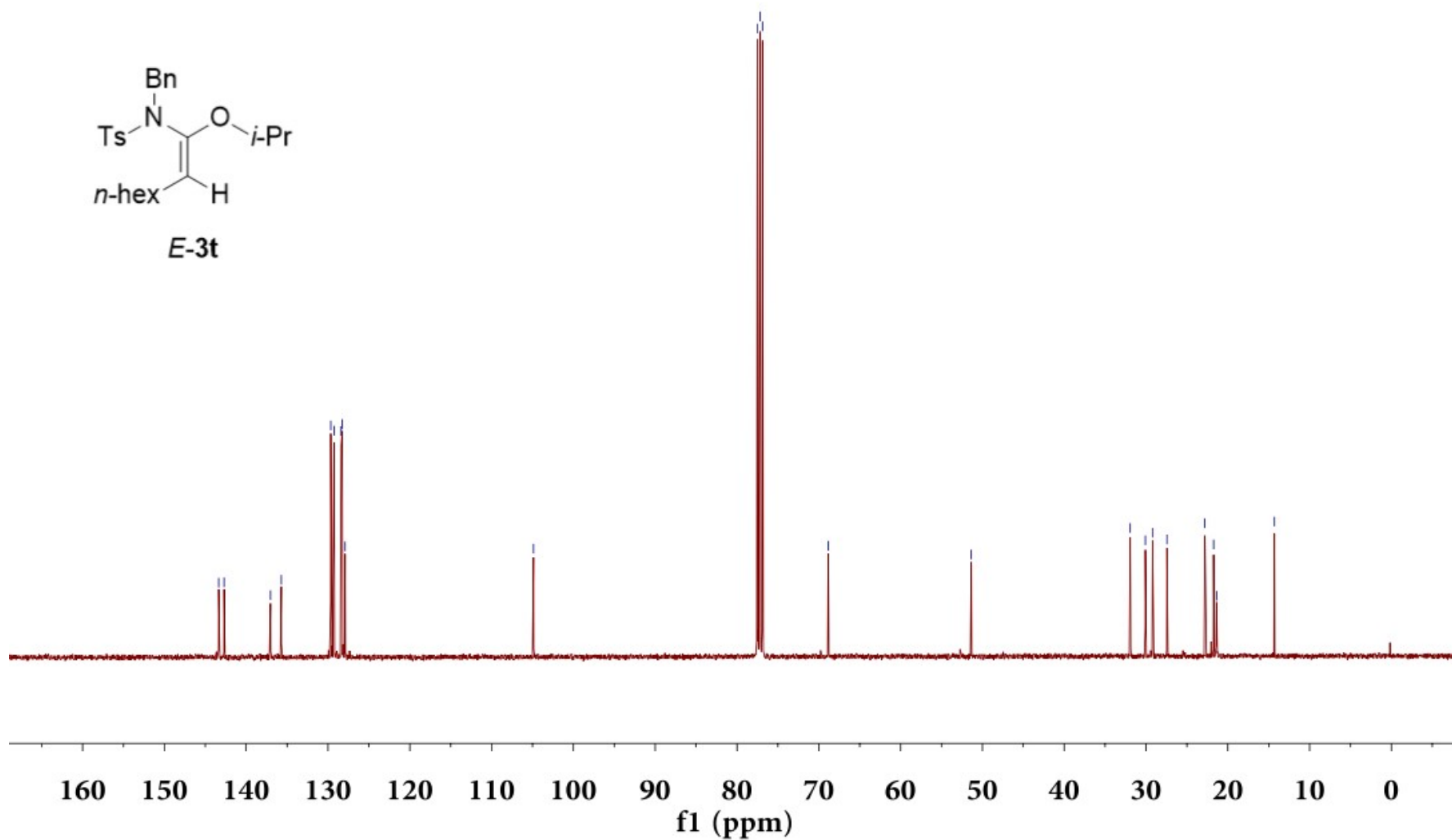
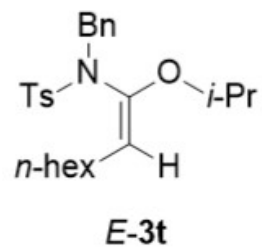
143.359  
142.703  
137.025  
135.711  
129.654  
129.263  
128.388  
128.263  
127.904

104.873

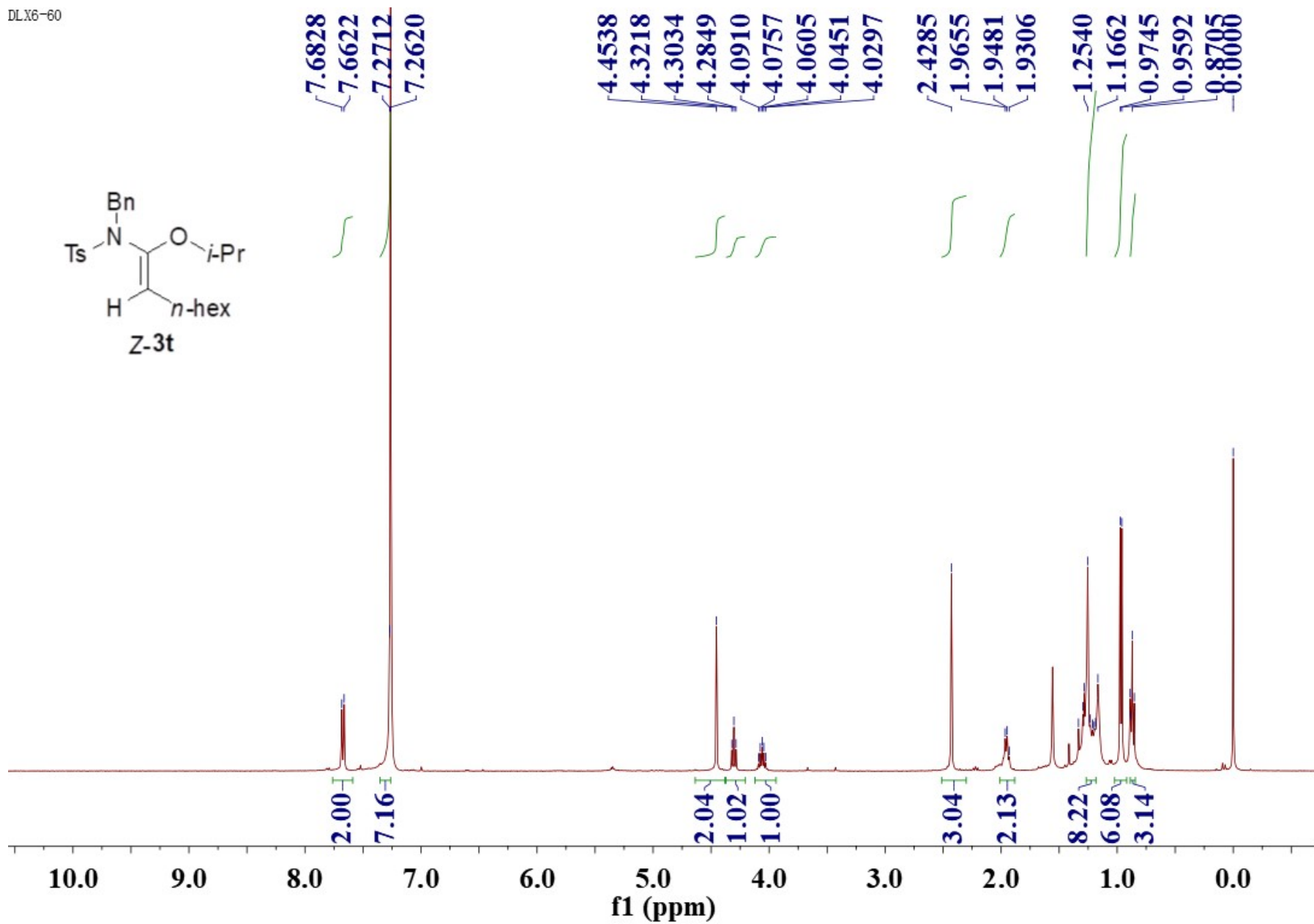
77.517  
77.200  
76.882  
68.848

51.366

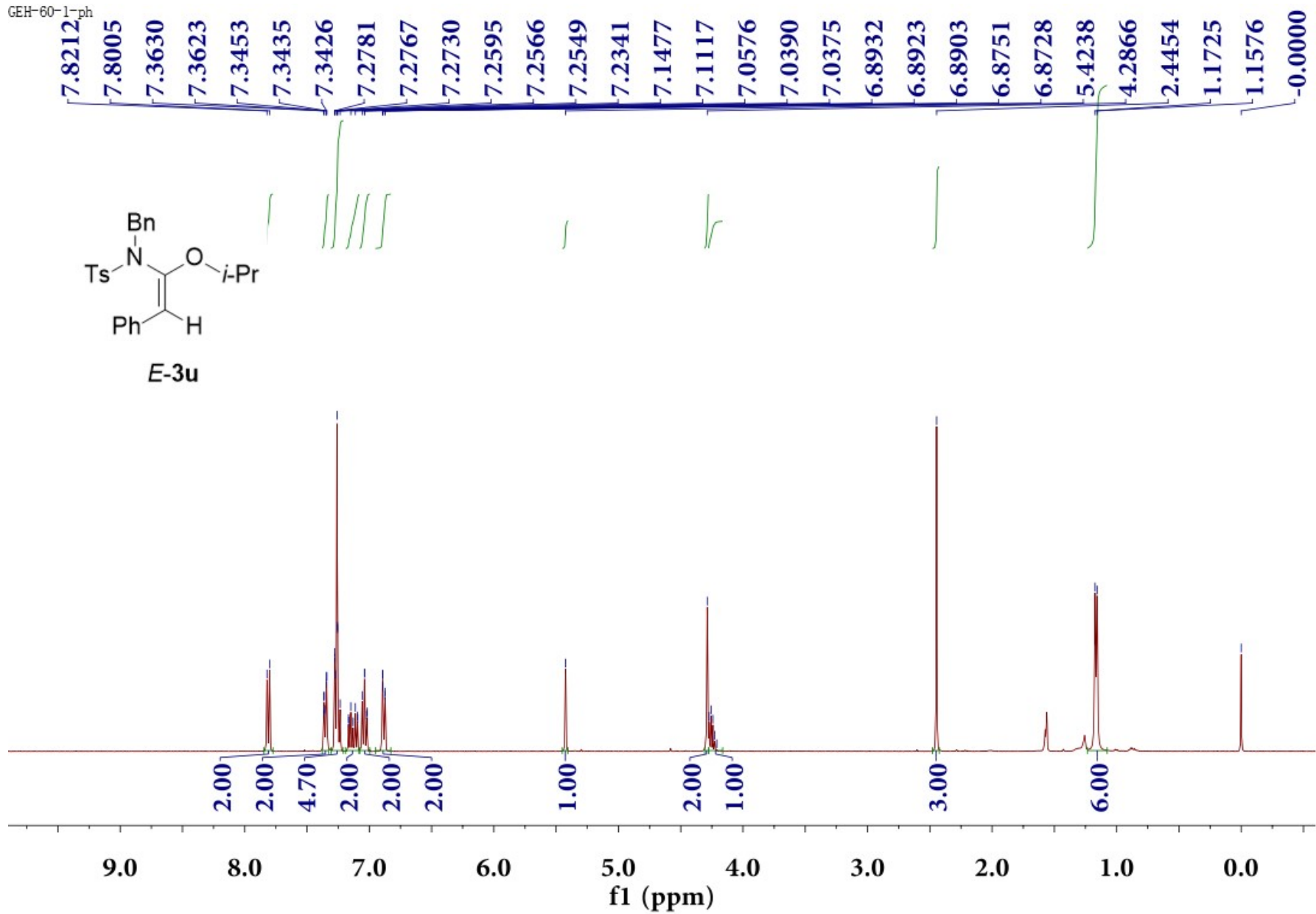
31.935  
30.076  
29.207  
27.436  
22.796  
21.735  
21.371  
14.298



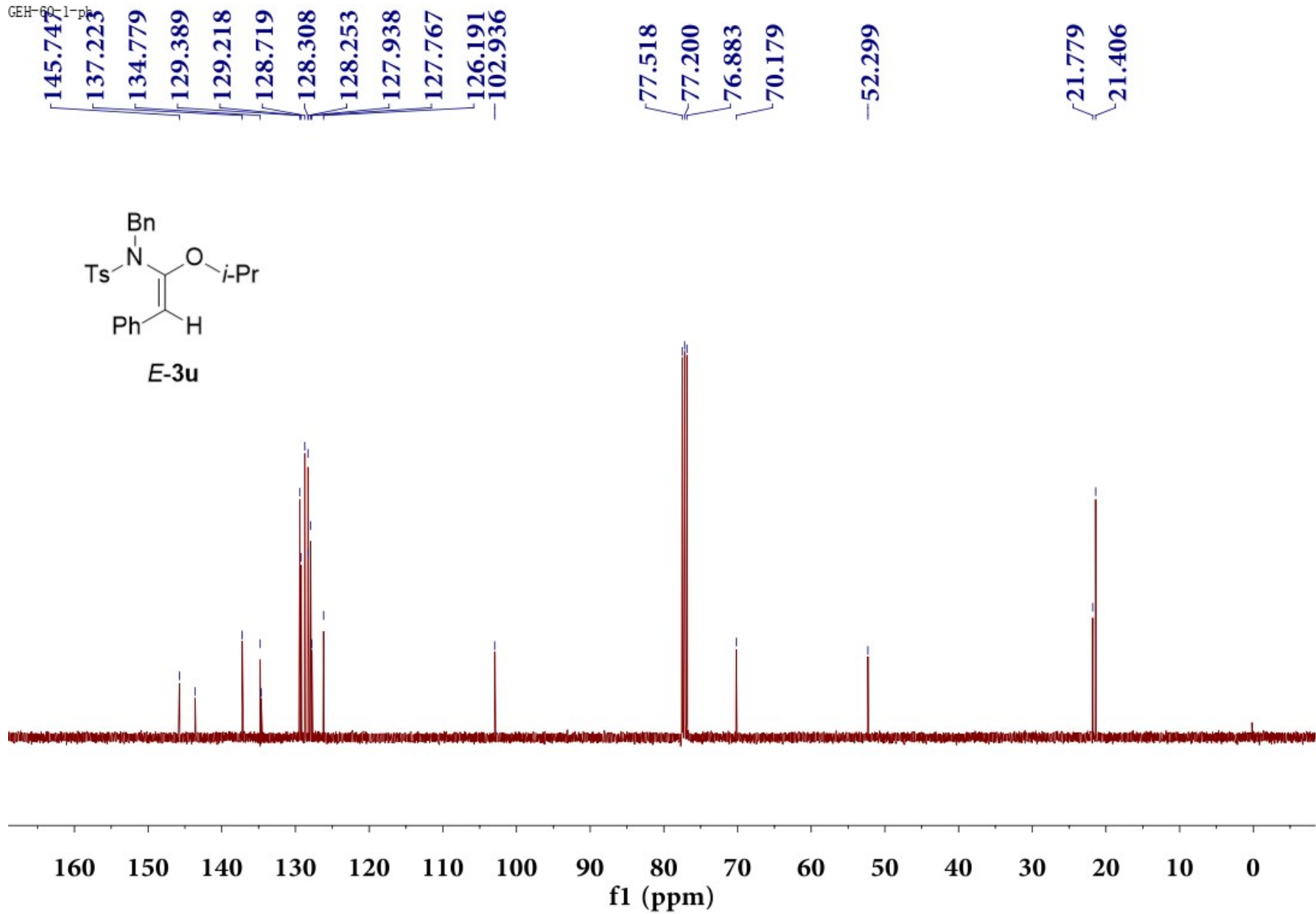


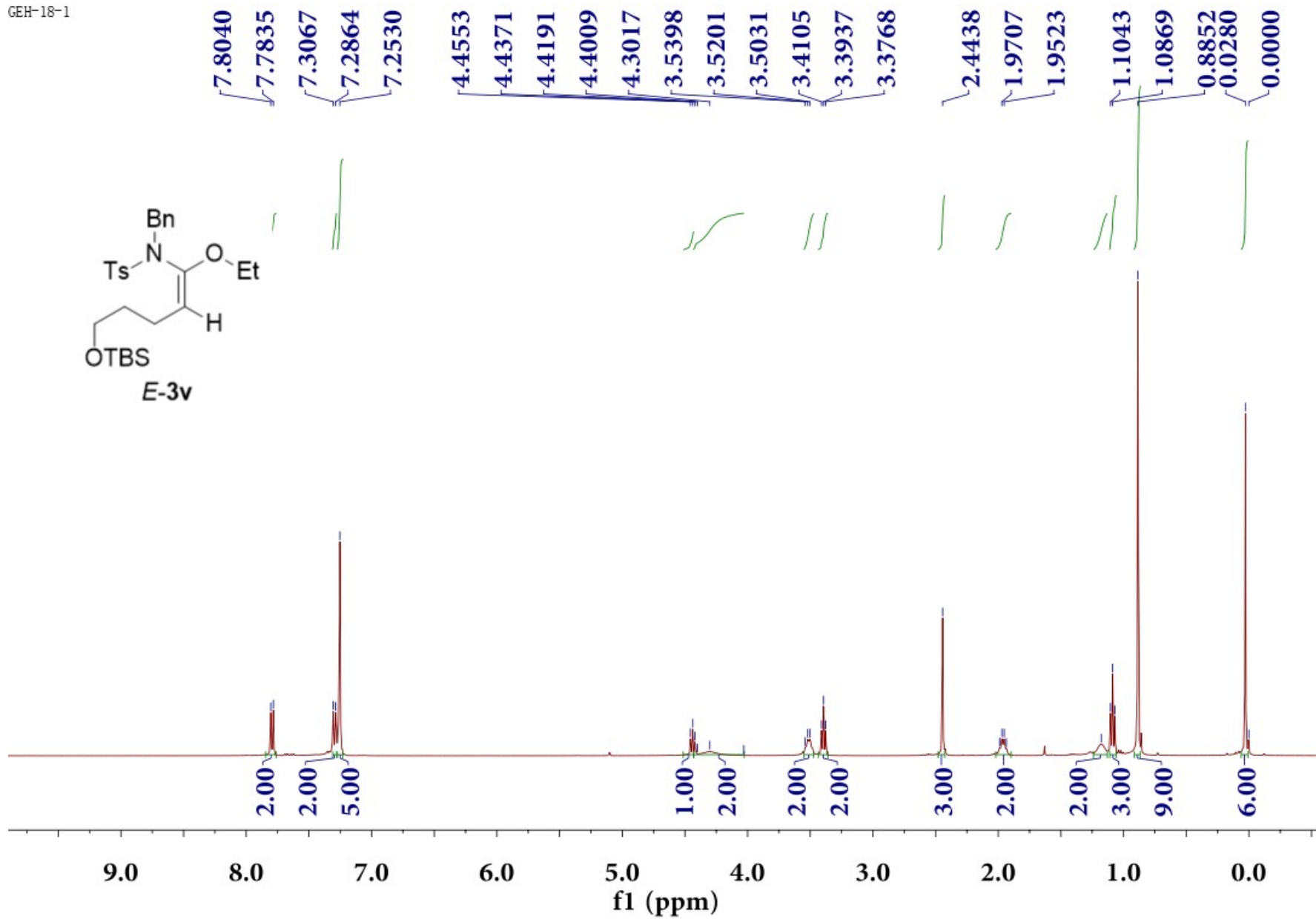


GEH-60-1-ph



GEH-69-1-pt





GEH-18-1

144.805  
143.439  
136.889  
135.464  
129.629  
129.324  
128.315  
128.294  
127.985

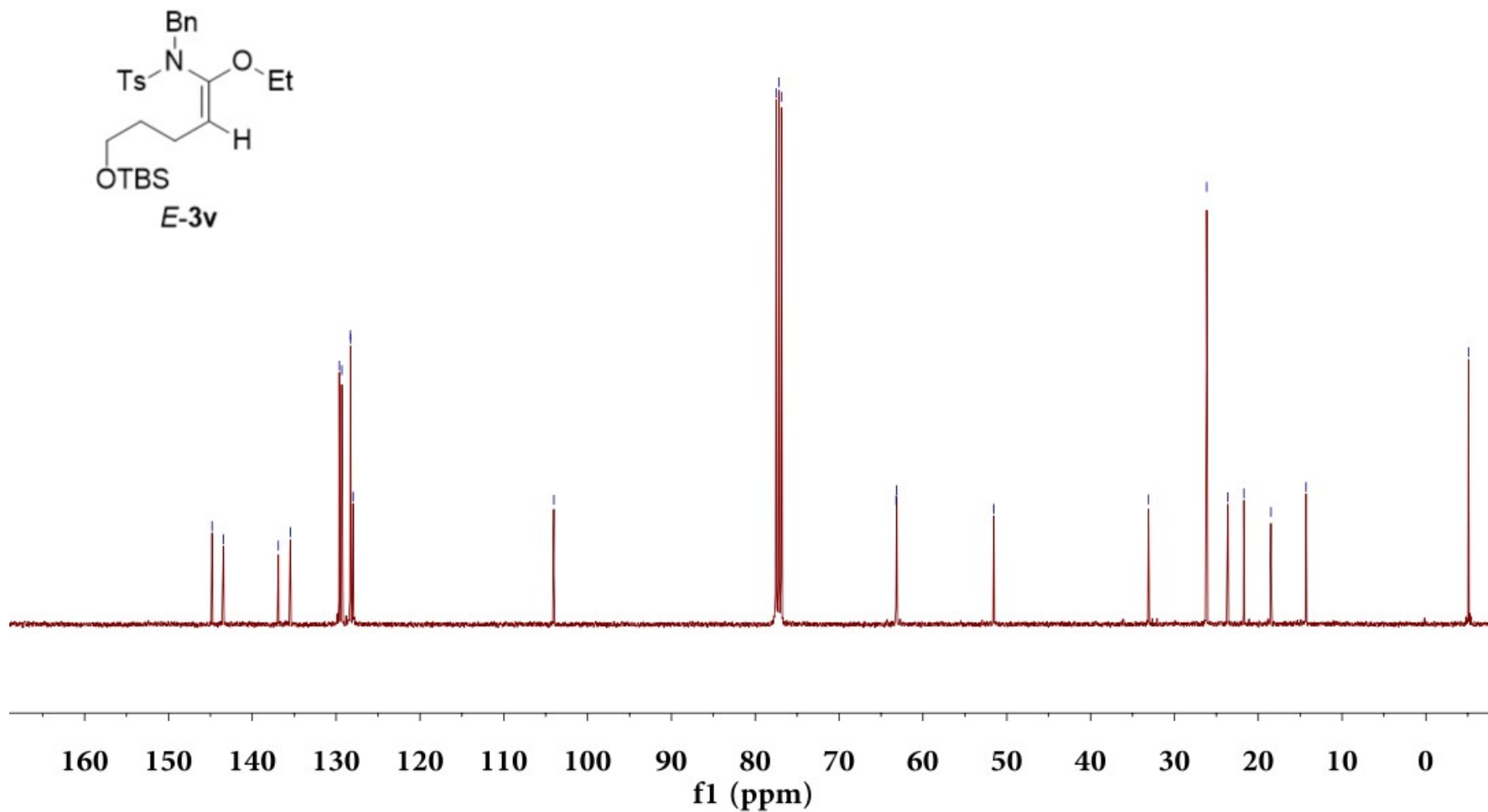
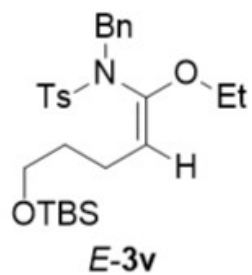
104.031

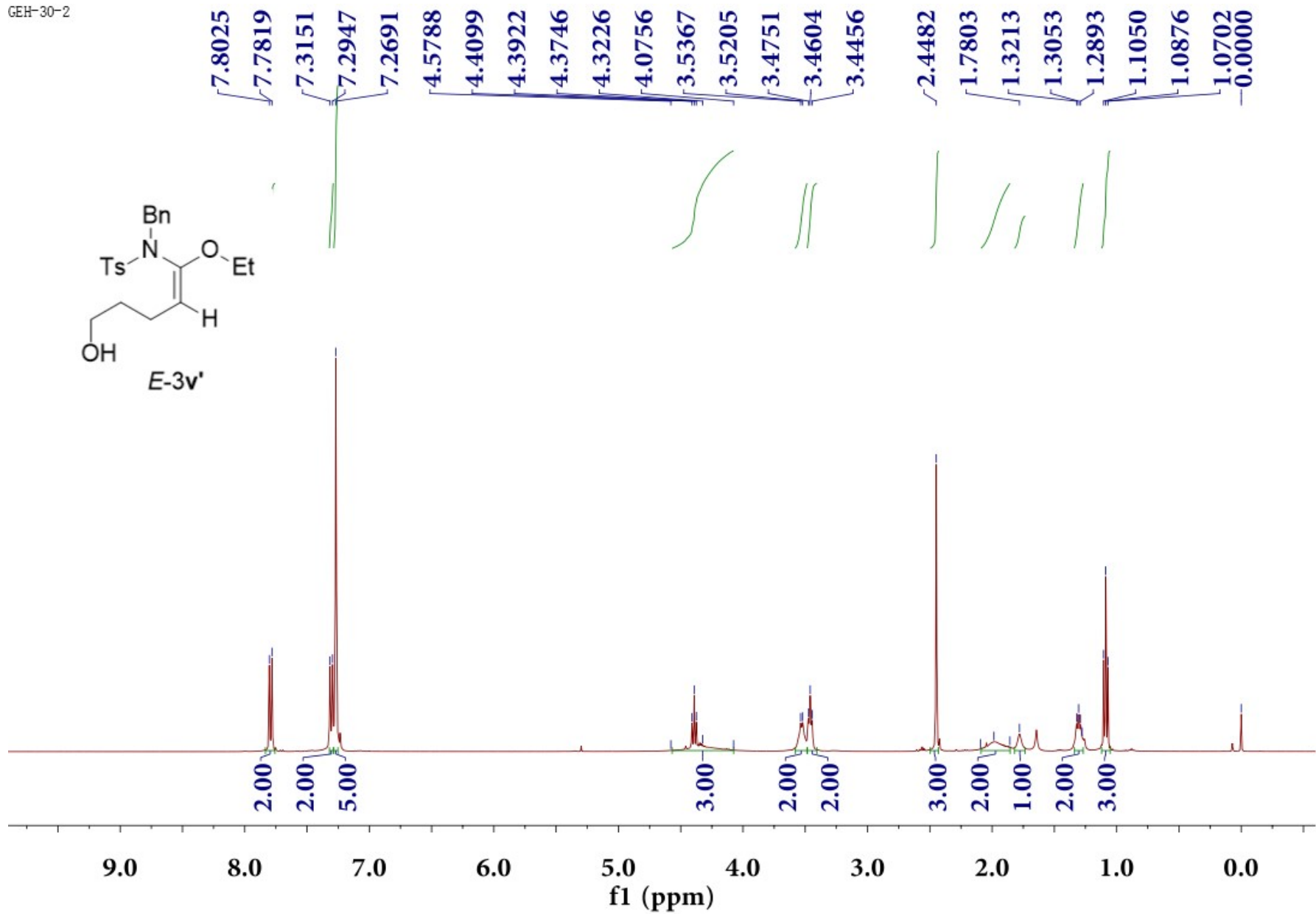
77.518  
77.200  
76.882  
63.193  
63.124

51.536

33.094  
26.152  
23.613  
21.721  
18.489  
14.288

-5.077





GEH-30-2

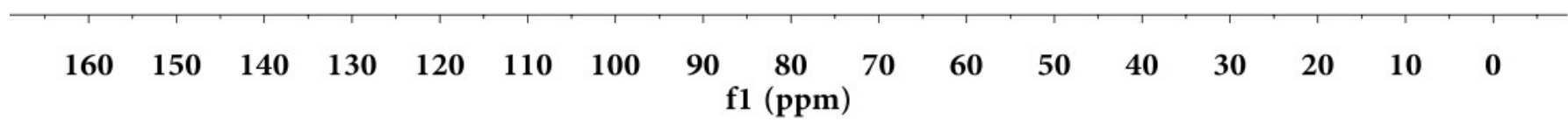
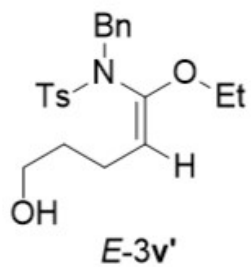
145.079  
143.652  
136.634  
135.412  
129.770  
129.390  
128.376  
128.331  
128.089

103.969

77.518  
77.200  
76.882

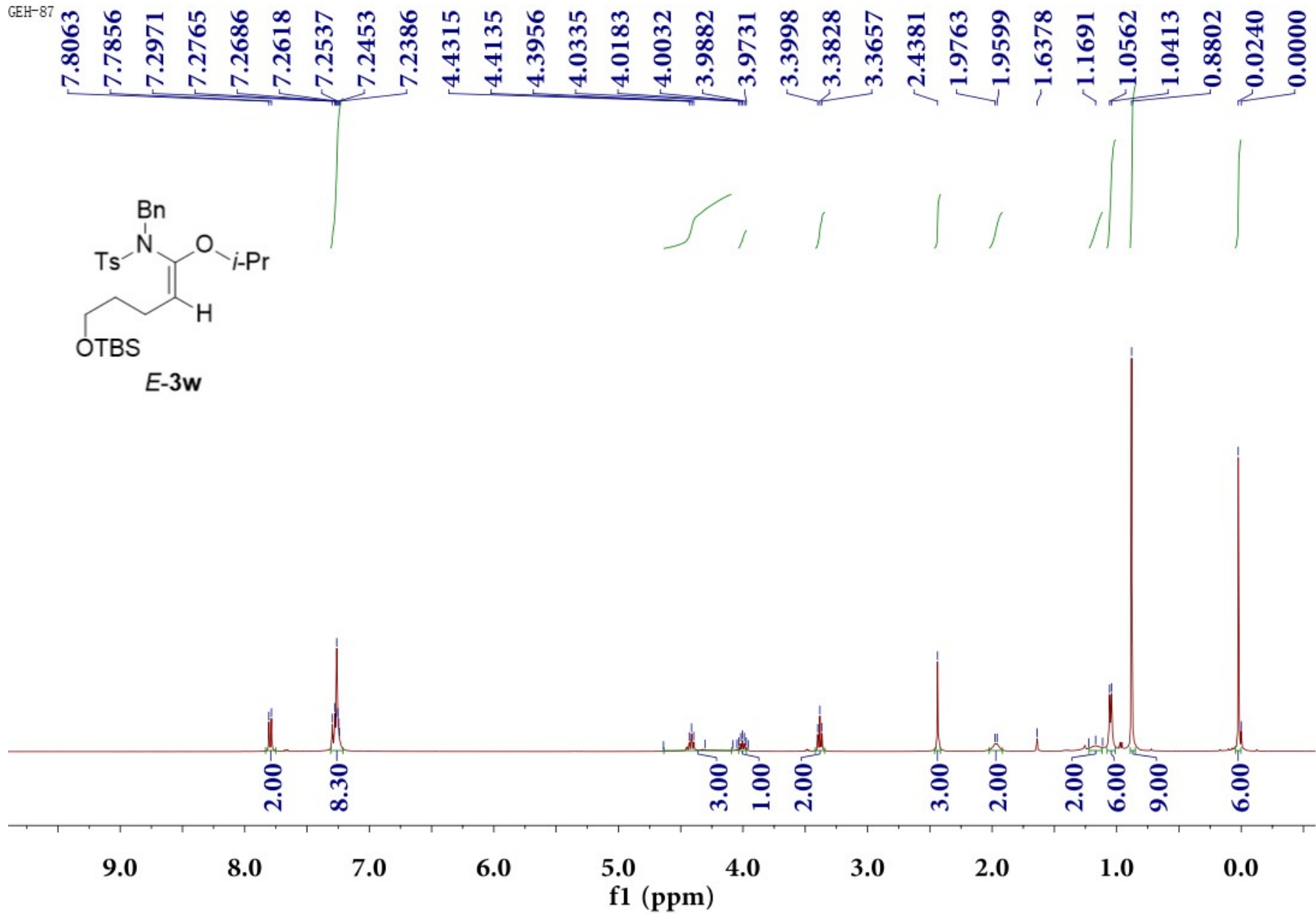
63.296  
62.096  
51.677

32.636  
23.237  
21.747  
14.260





GEH-87





GEH-87

143.387  
142.996  
136.945  
135.638  
129.622  
129.268  
128.374  
128.282  
127.963

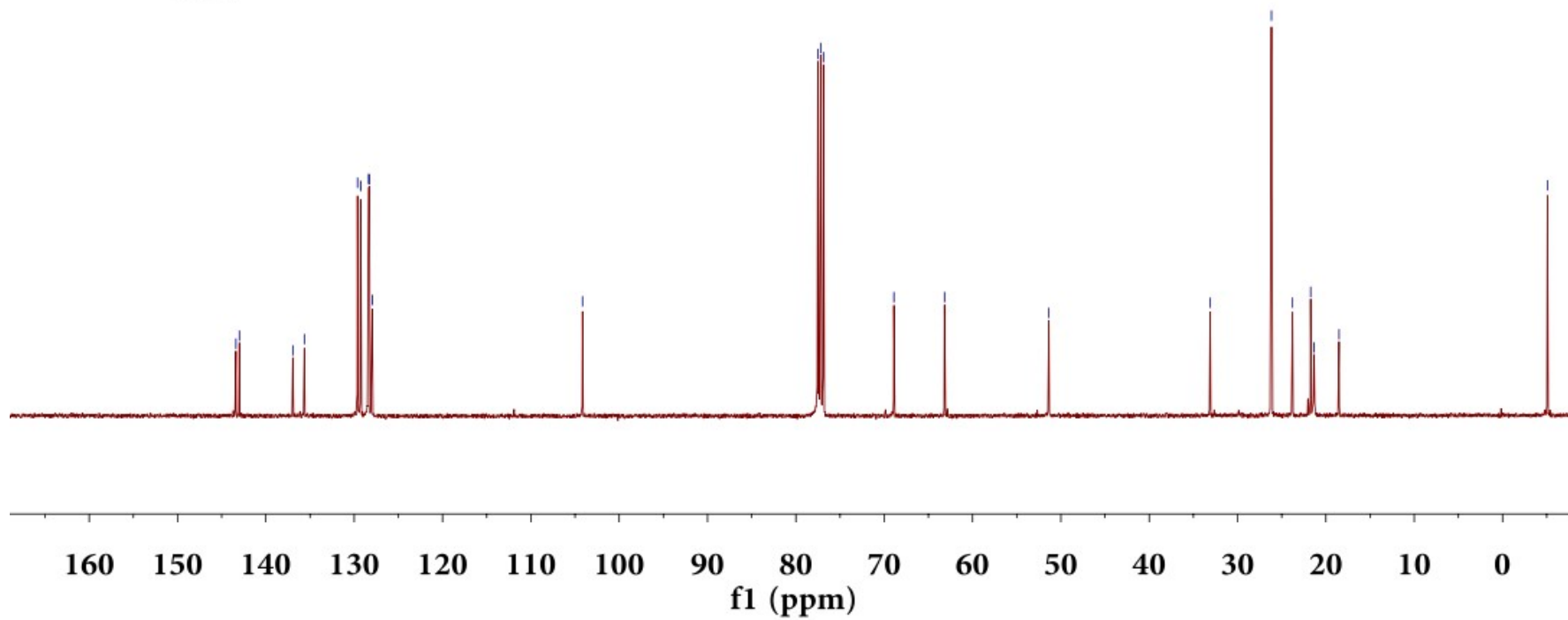
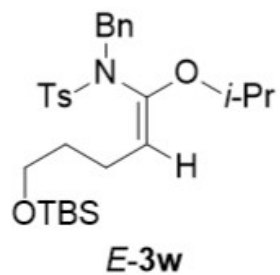
104.150

77.517  
77.200  
76.882  
68.905  
63.172

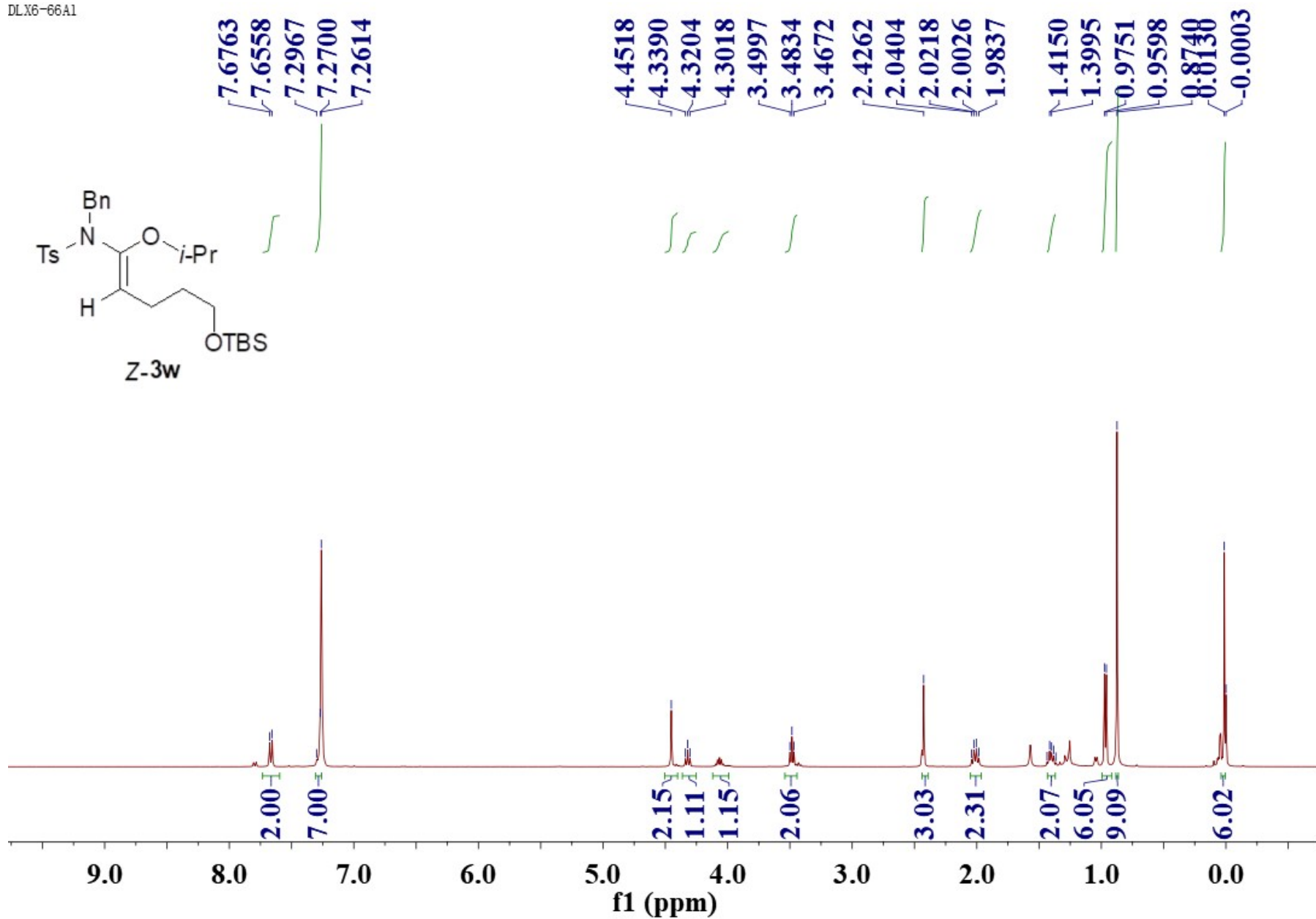
51.371

33.101  
26.160  
23.775  
21.727  
21.346  
18.509

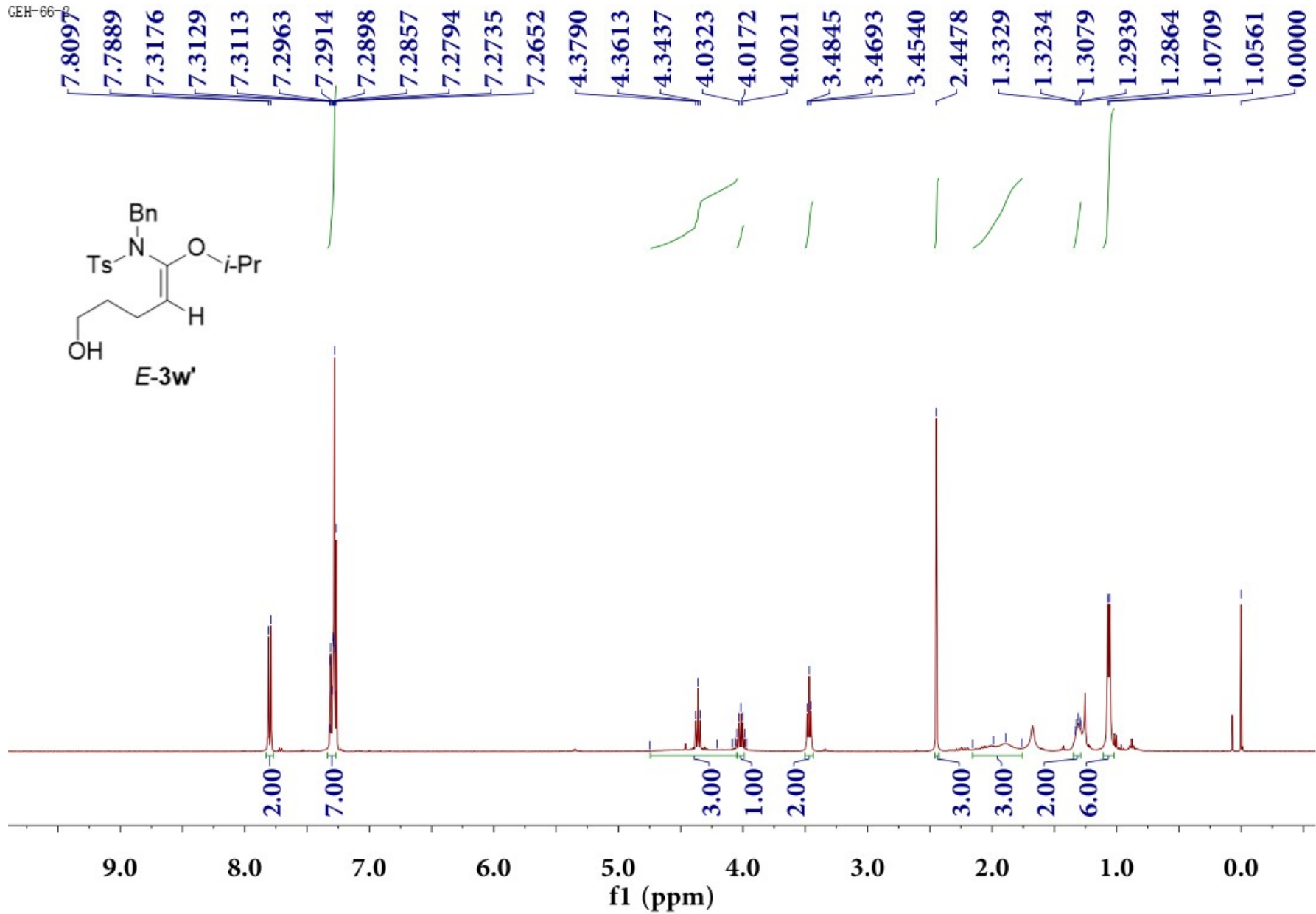
5.080



DLX6-66A1



GEH-66-9



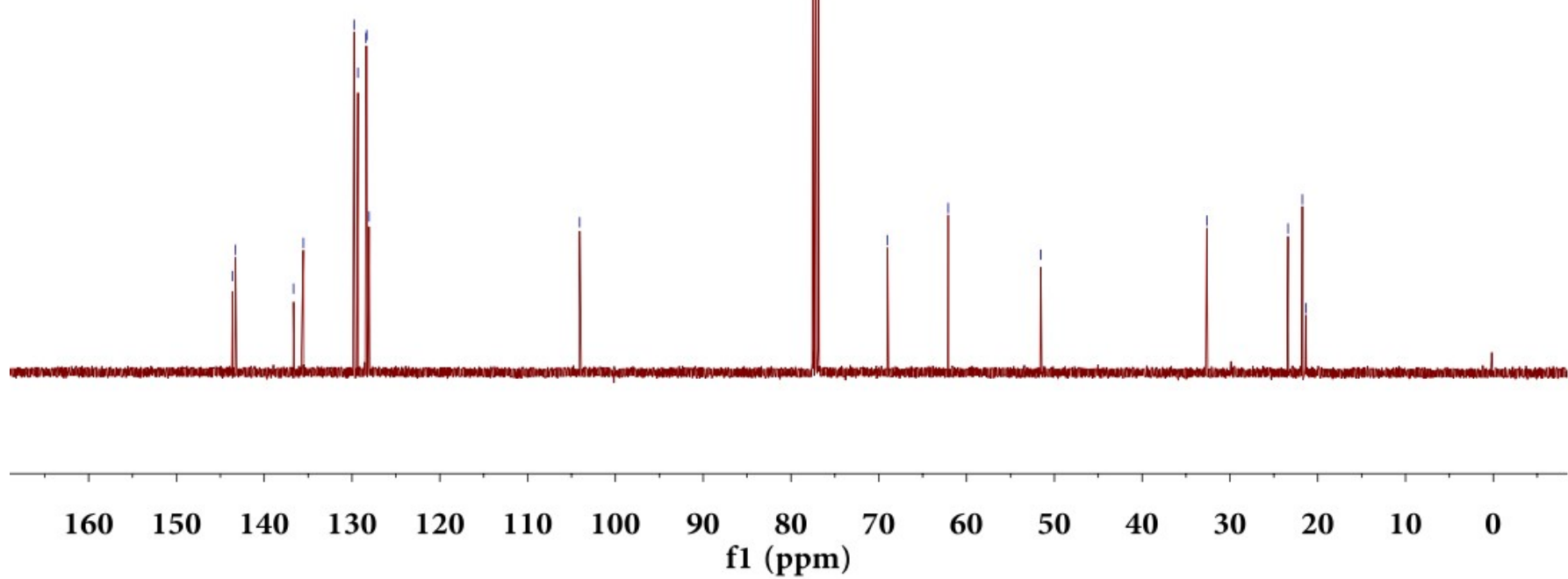
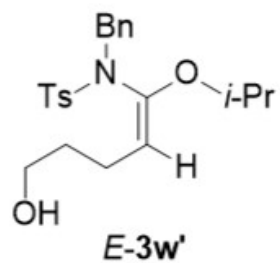
GEH-66-2

143.597  
143.279  
136.660  
135.547  
129.769  
129.323  
128.402  
128.329  
128.055

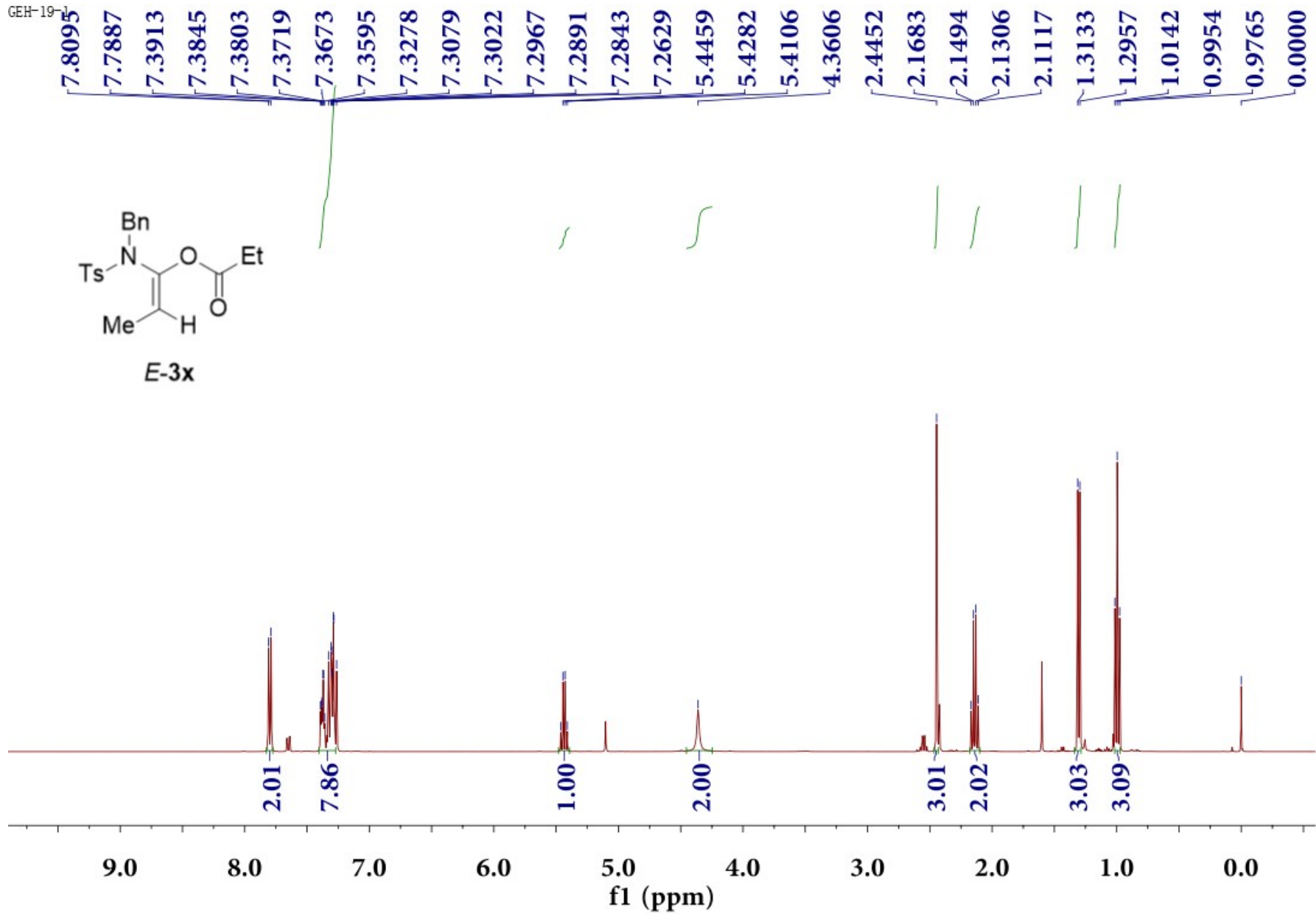
104.069

77.517  
77.200  
76.882  
69.006  
62.087  
51.550

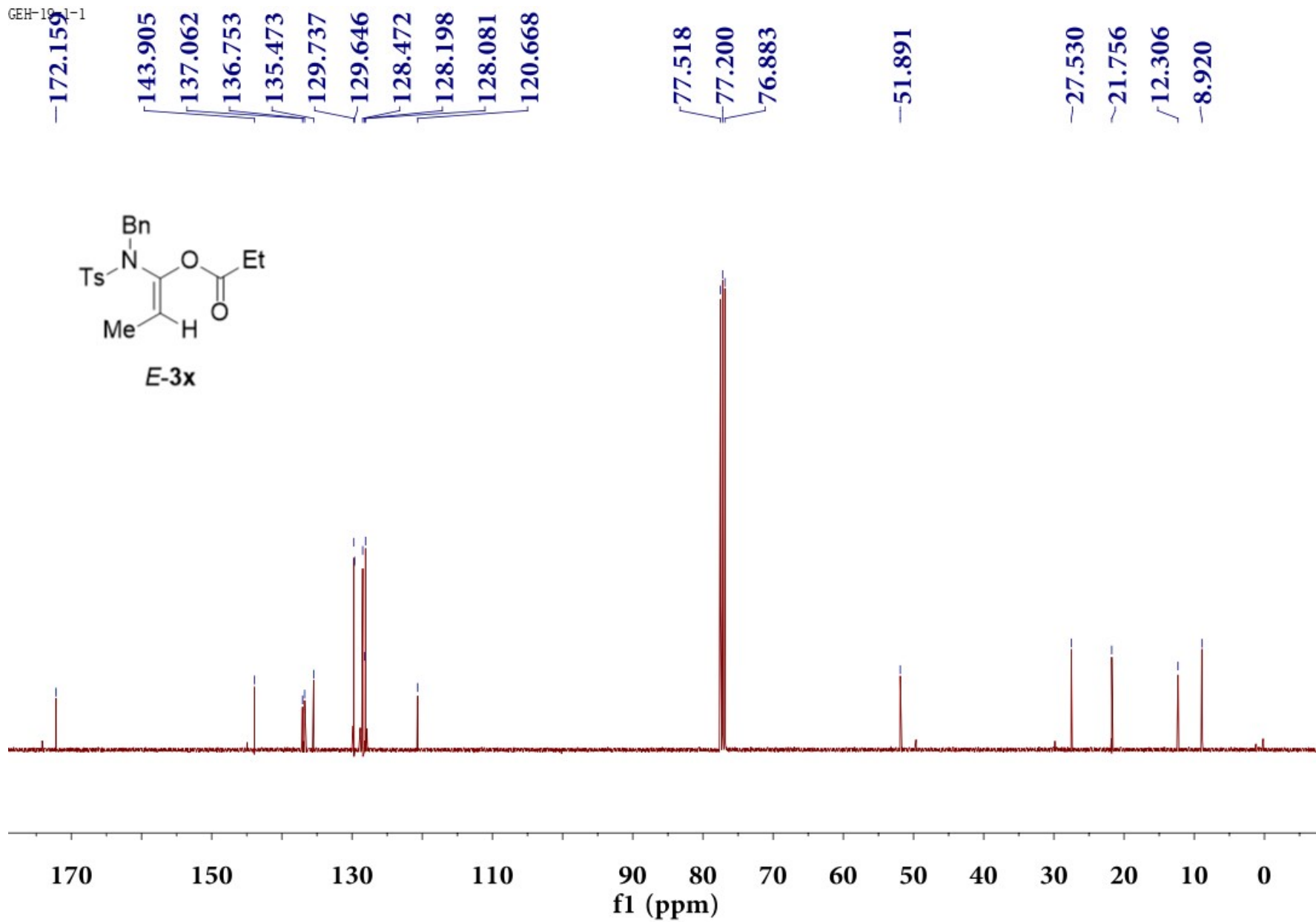
32.630  
23.381  
21.752  
21.362



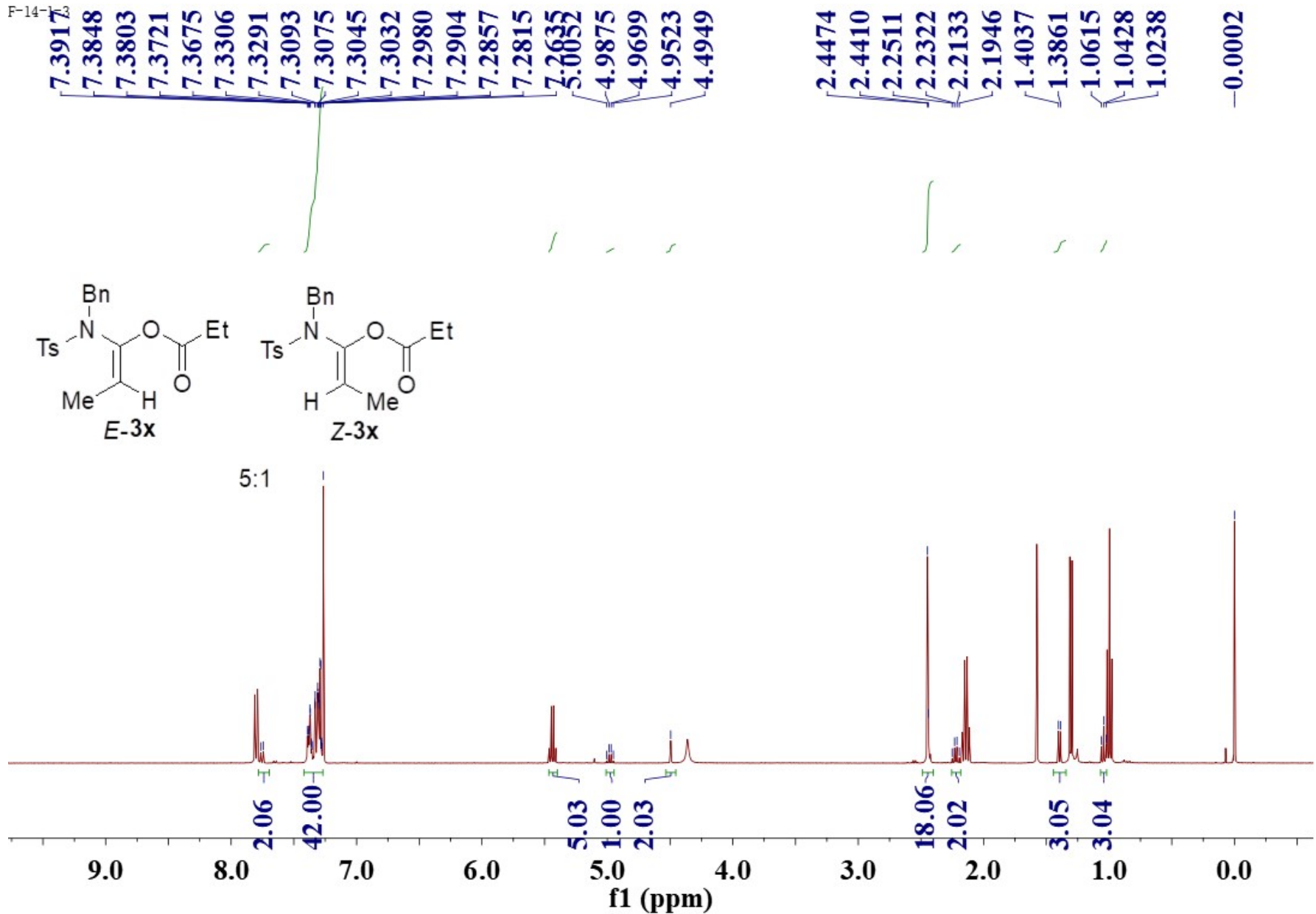
GEH-19-1



GEH-18-1-1

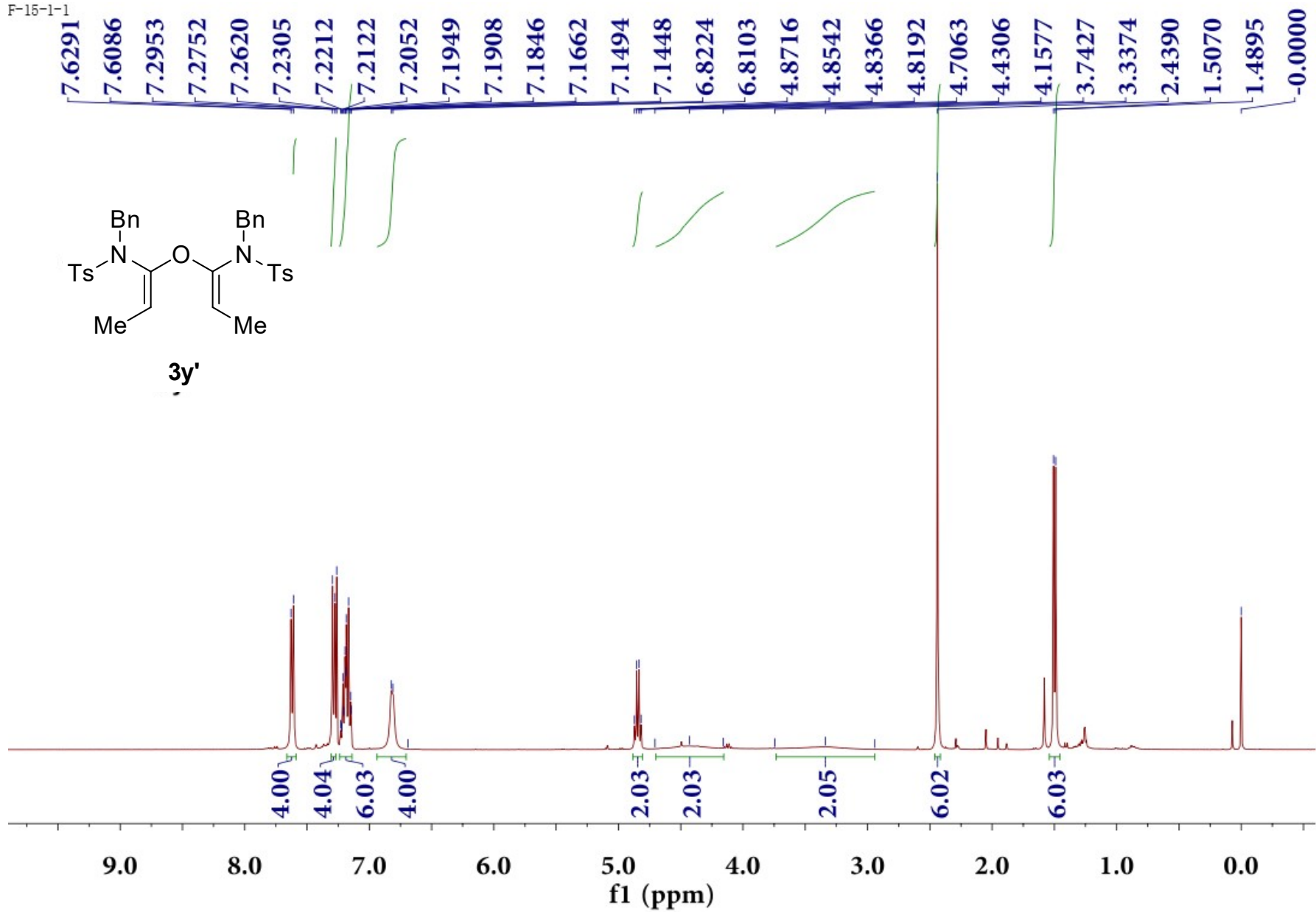


F-14-73



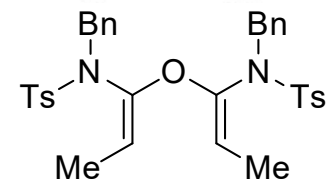


F-15-1-1

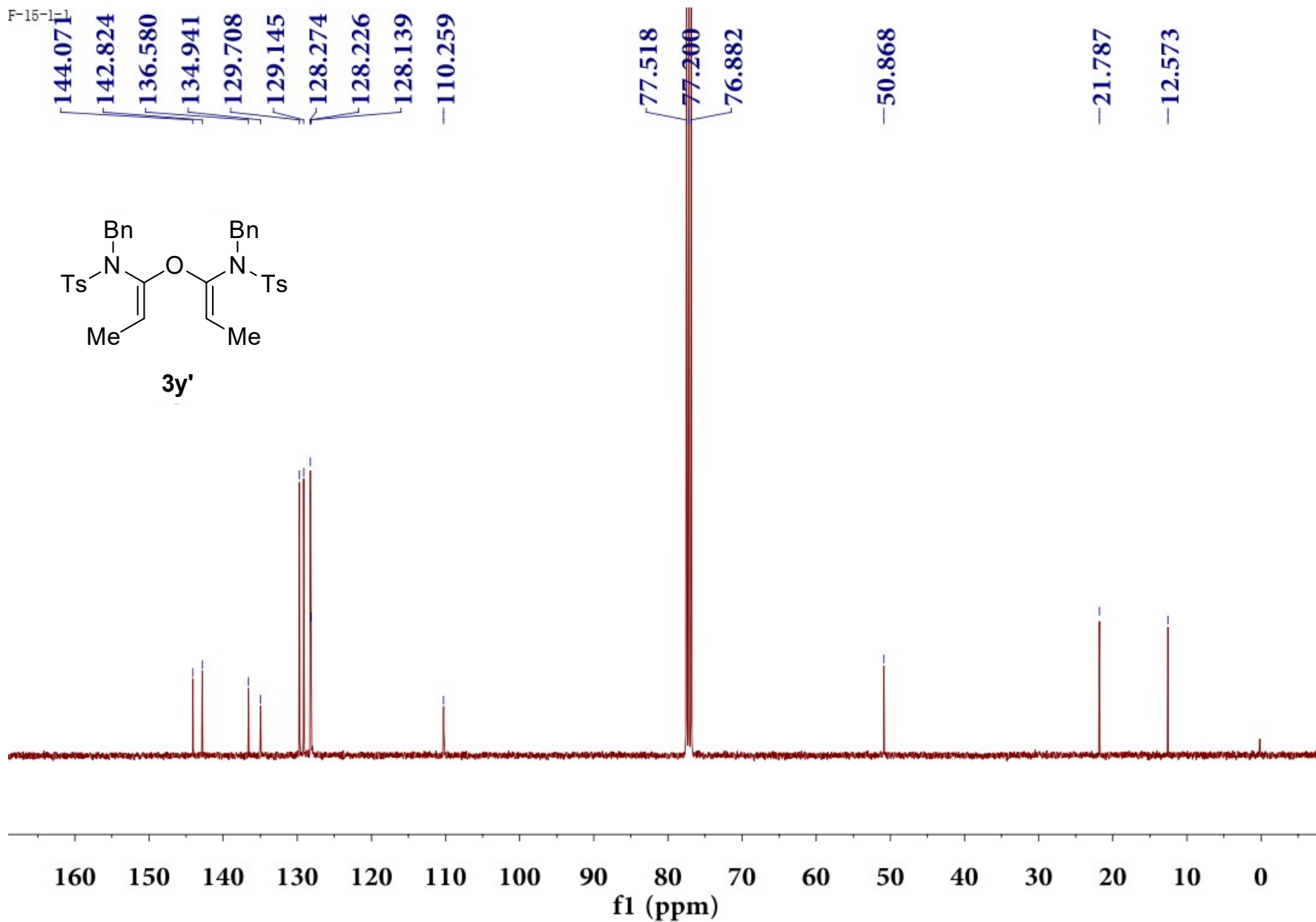




F-15-1



3y'



NOESY for *E-3a*, *Z-3a*, *E-3b*, *E-3d*, *E-3h*,  
*E-3i*, *E-3j*, *E-3k*, *E-3l*, *E-3n*, *E-3o*, *E-3t*, *E-3u*, and *E-3x*

