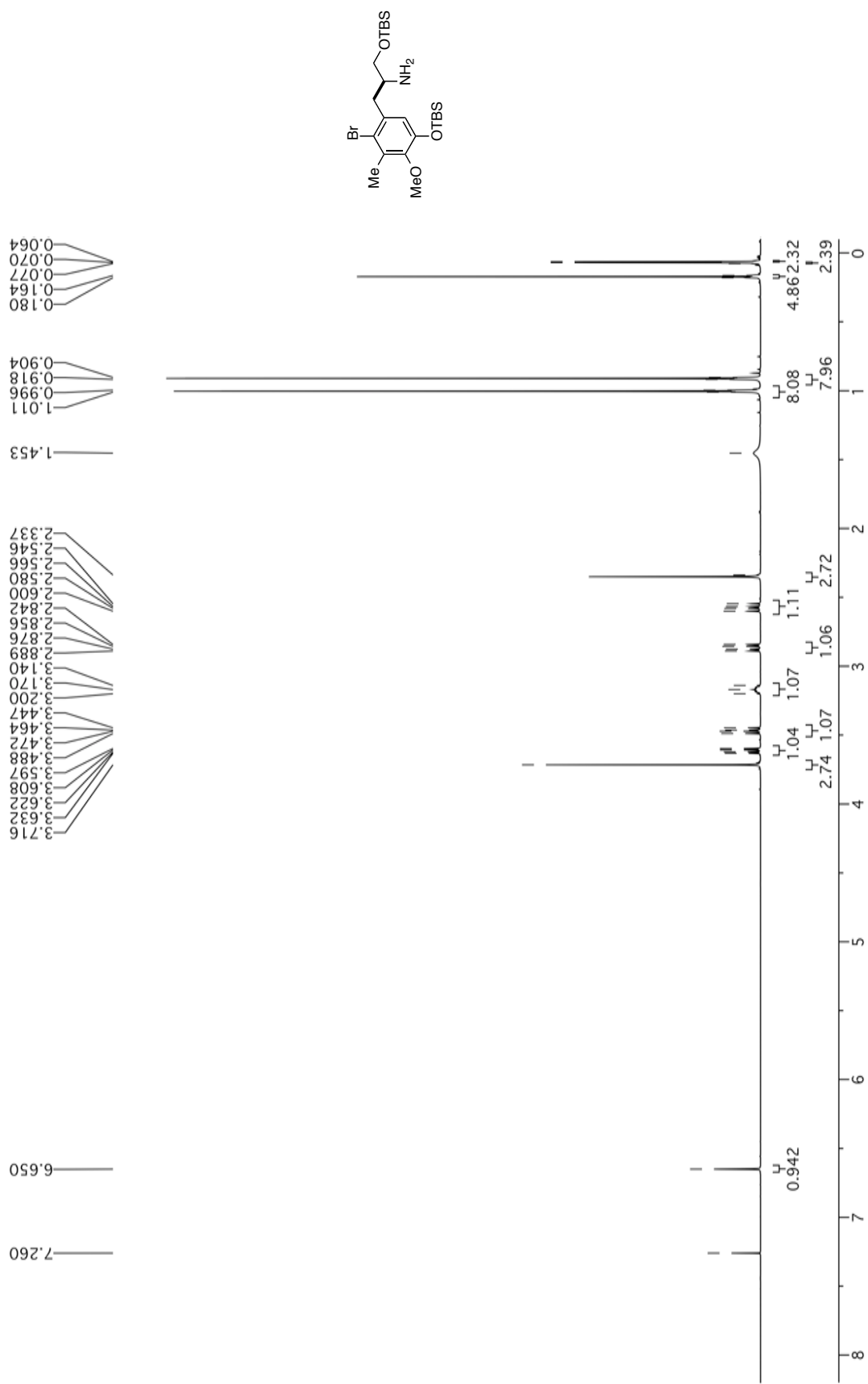


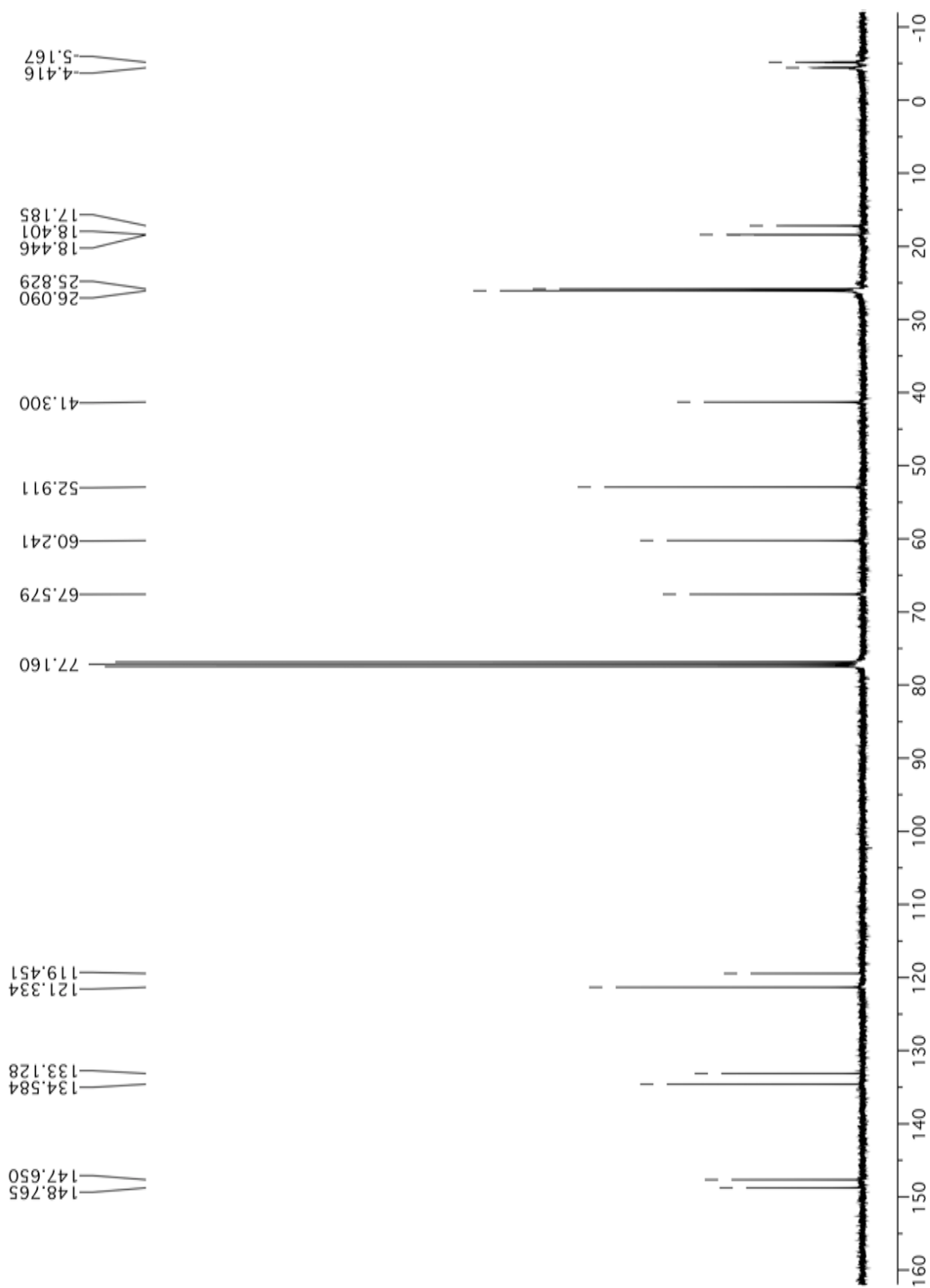
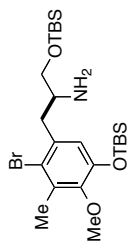
Synthetic studies on (-)-lemonomycin: construction of the tetracyclic core

Alberto Jiménez-Somarribas and Robert M. Williams
Department of Chemistry, Colorado State University, Fort Collins, Colorado 80523-1872

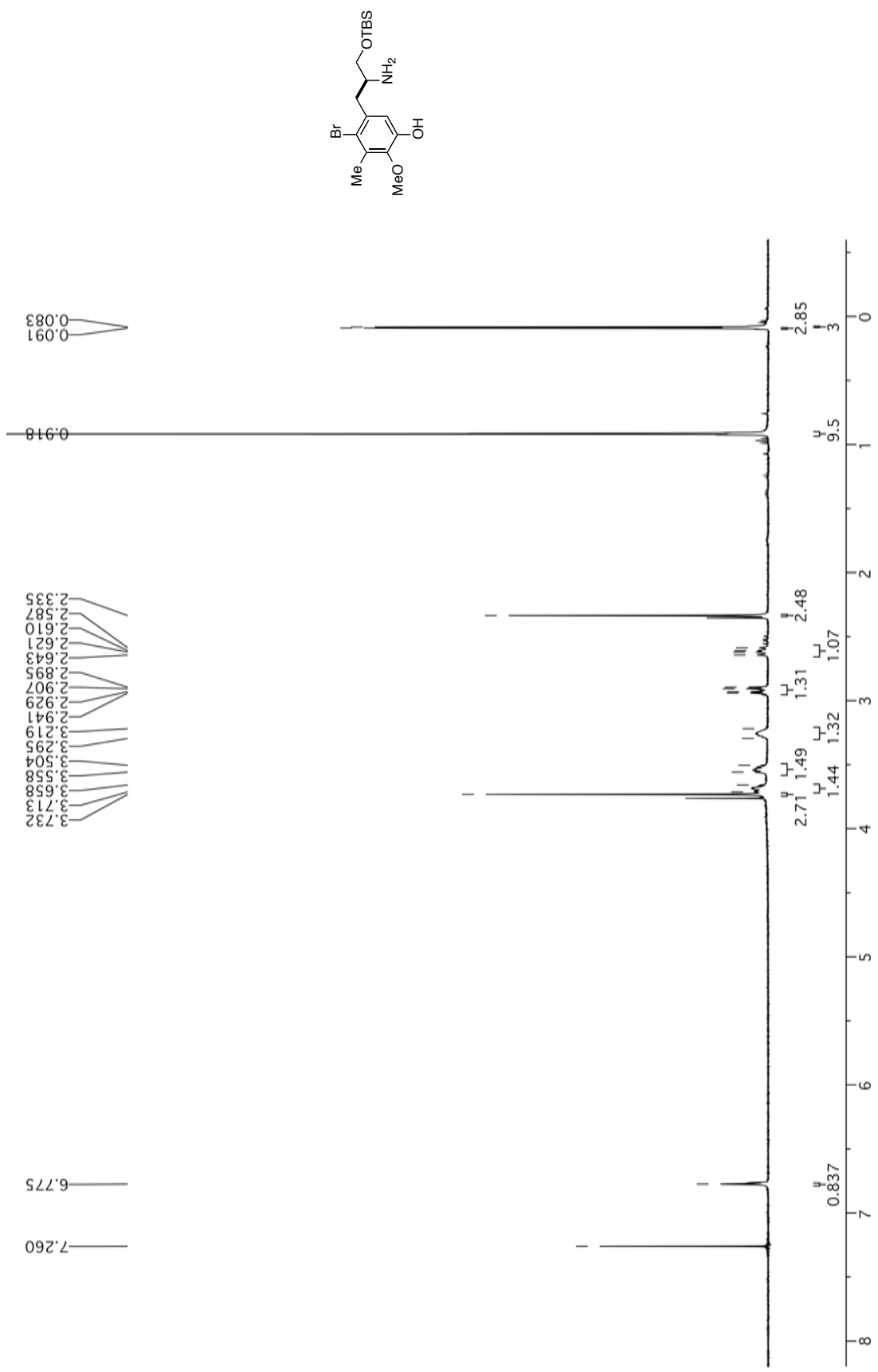
Supplemental Information



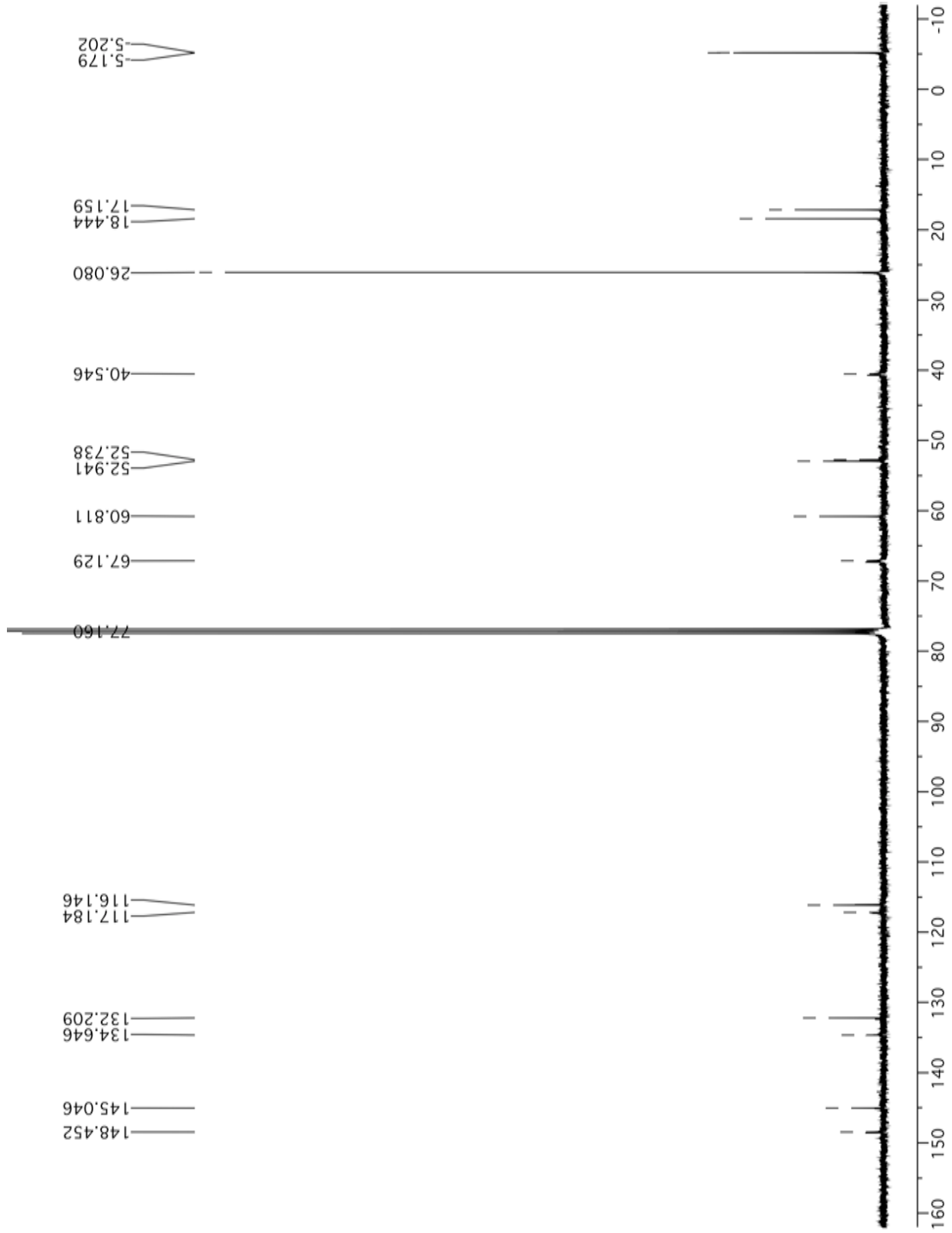
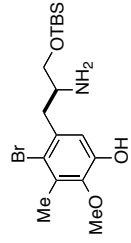
¹H-NMR spectrum of compound 8 (400 MHz, CDCl₃)



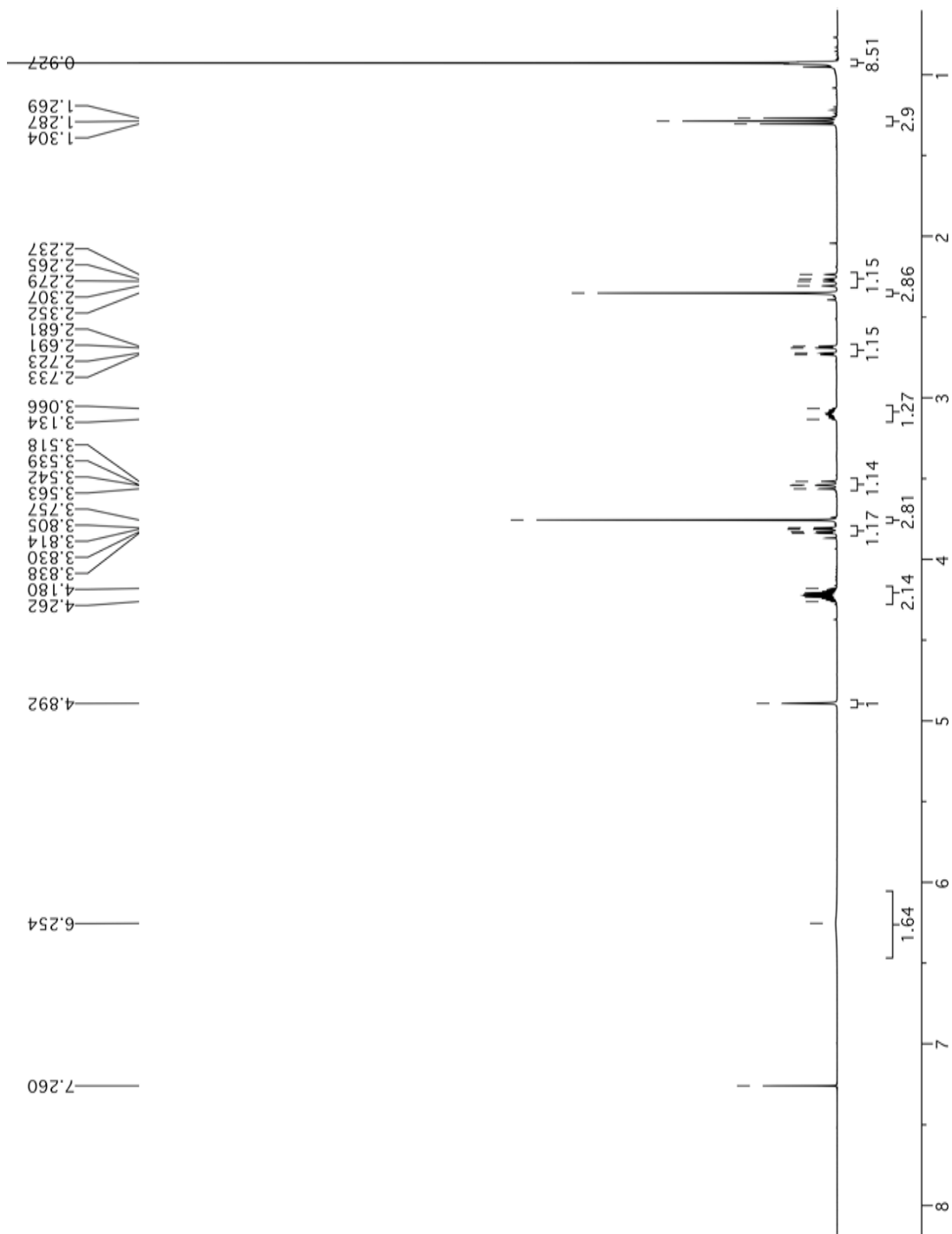
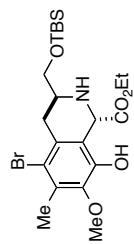
¹³C-NMR spectrum of compound 8 (101 MHz, CDCl₃)



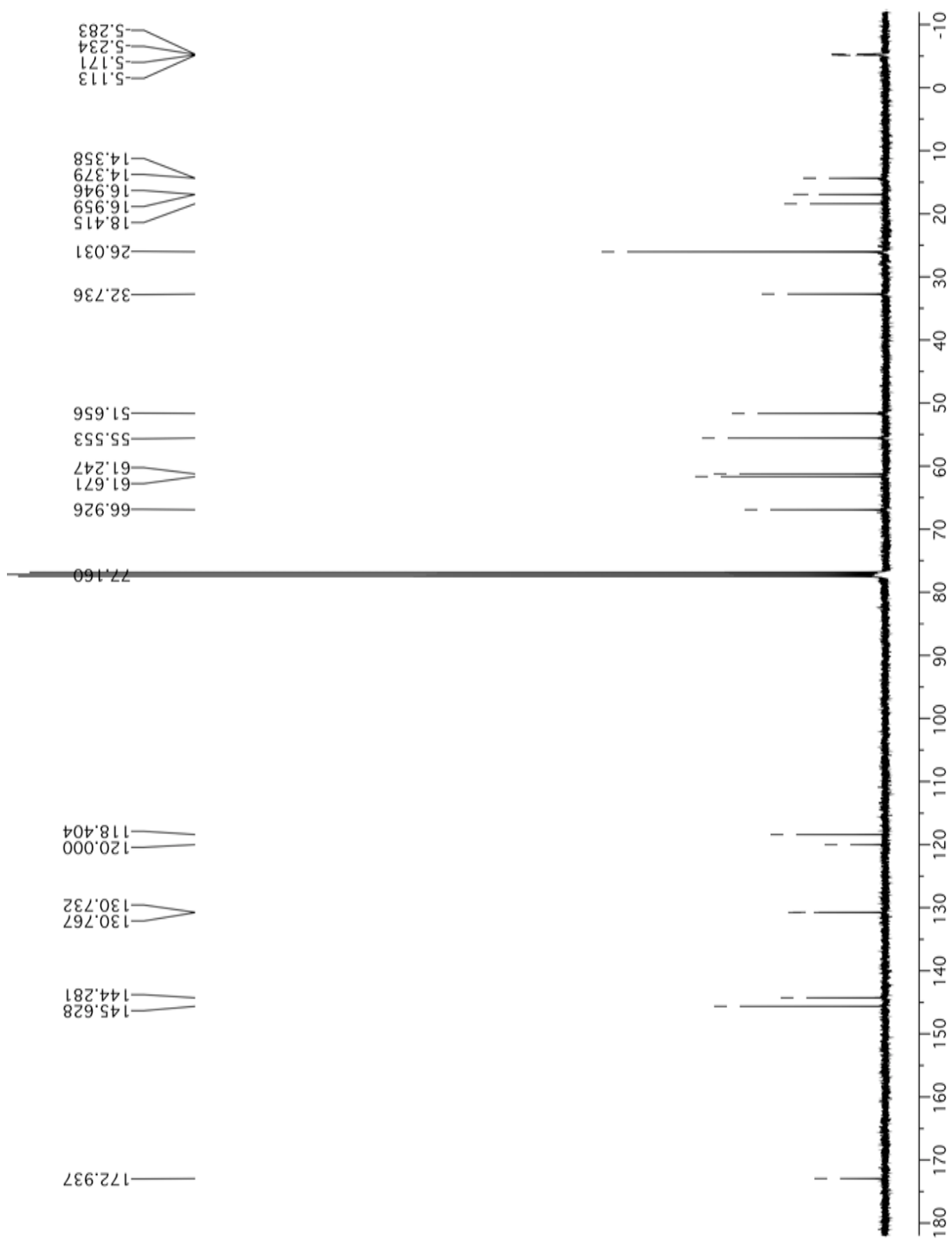
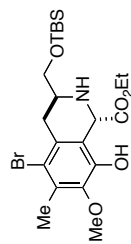
¹H-NMR spectrum of compound 9 (400 MHz, CDCl₃)



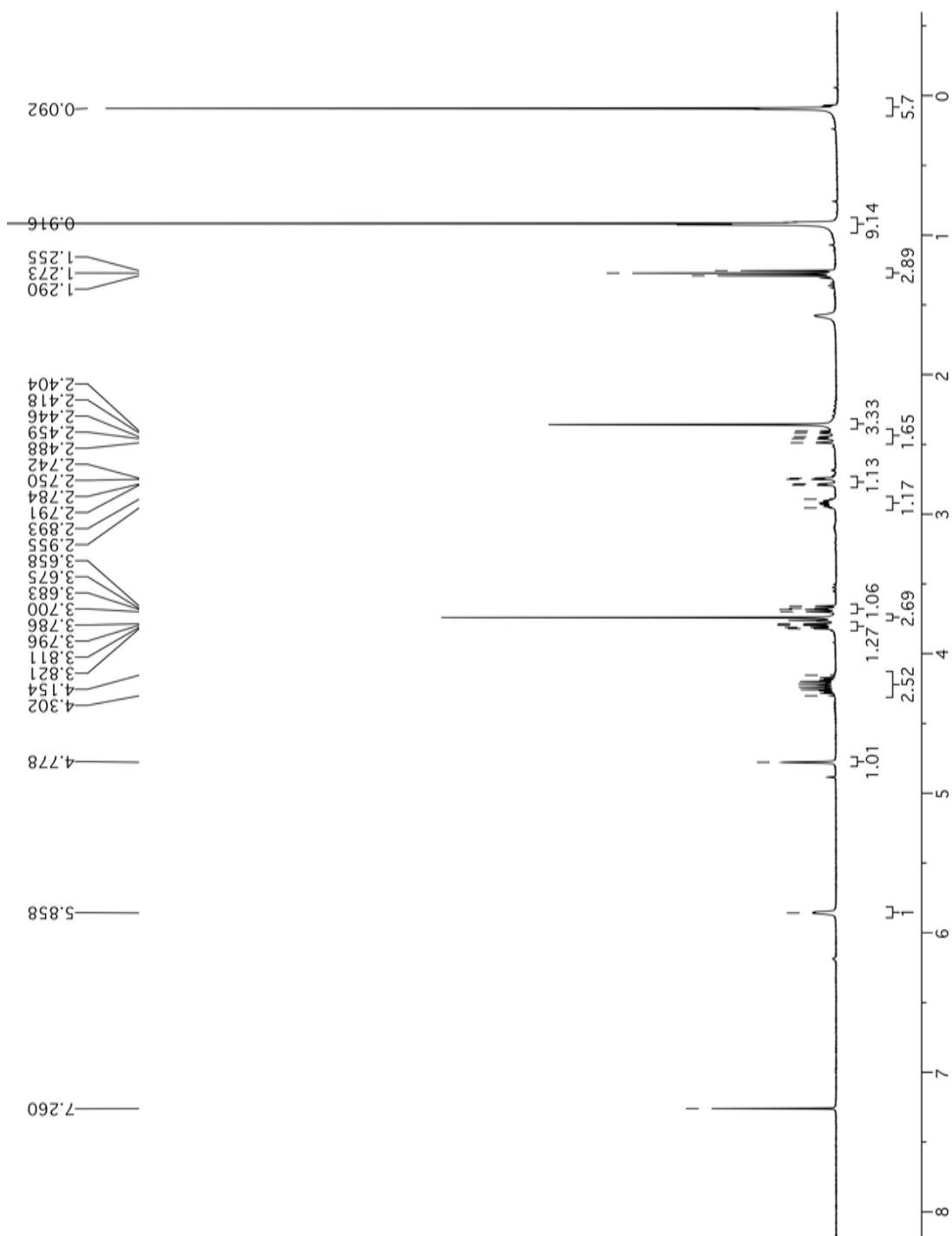
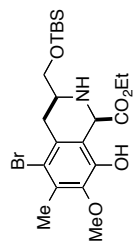
¹³C-NMR spectrum of compound 9 (101 MHz, CDCl₃)



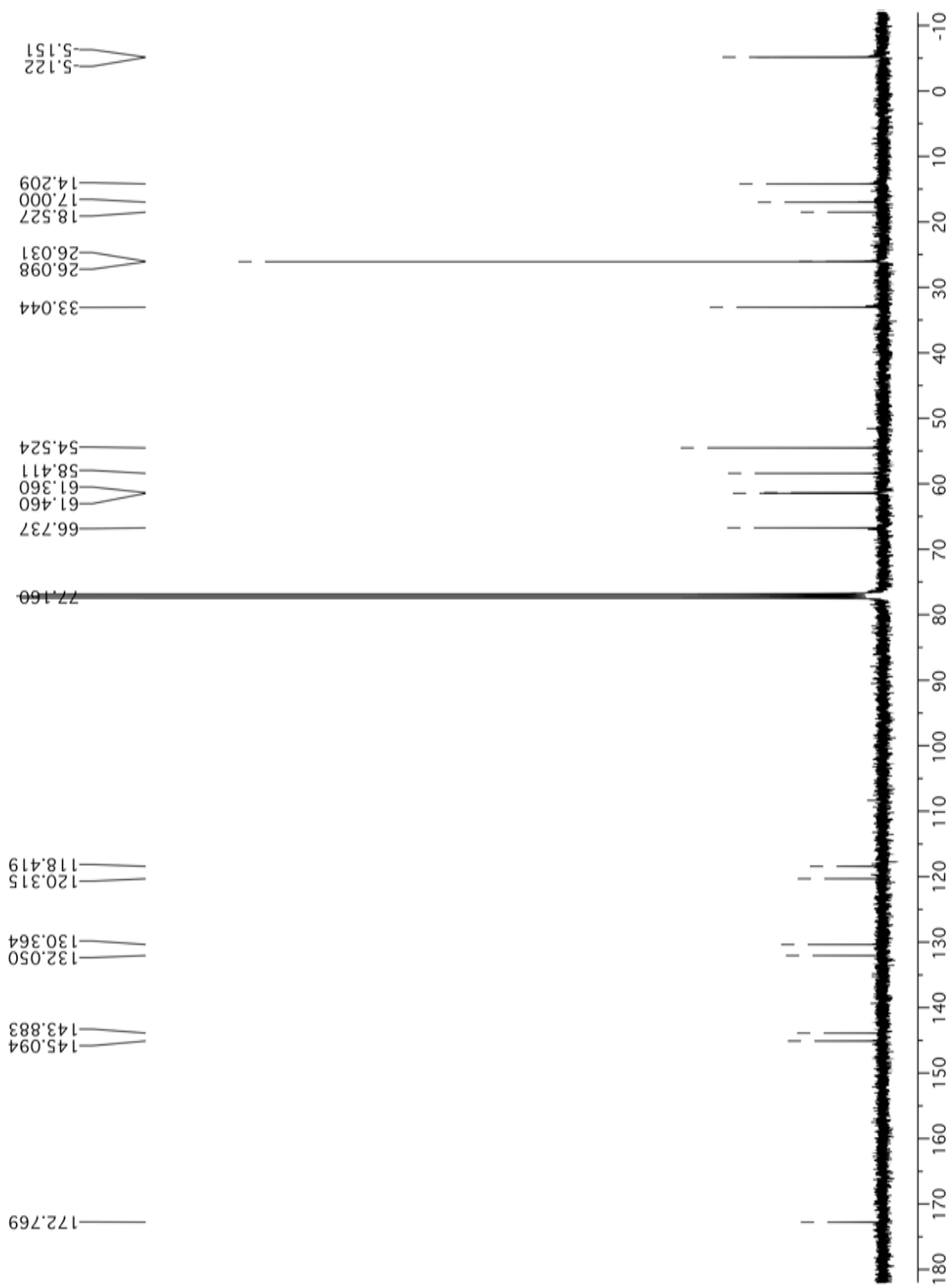
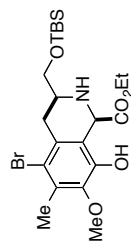
¹H-NMR spectrum of compound 10a (400 MHz, CDCl₃)



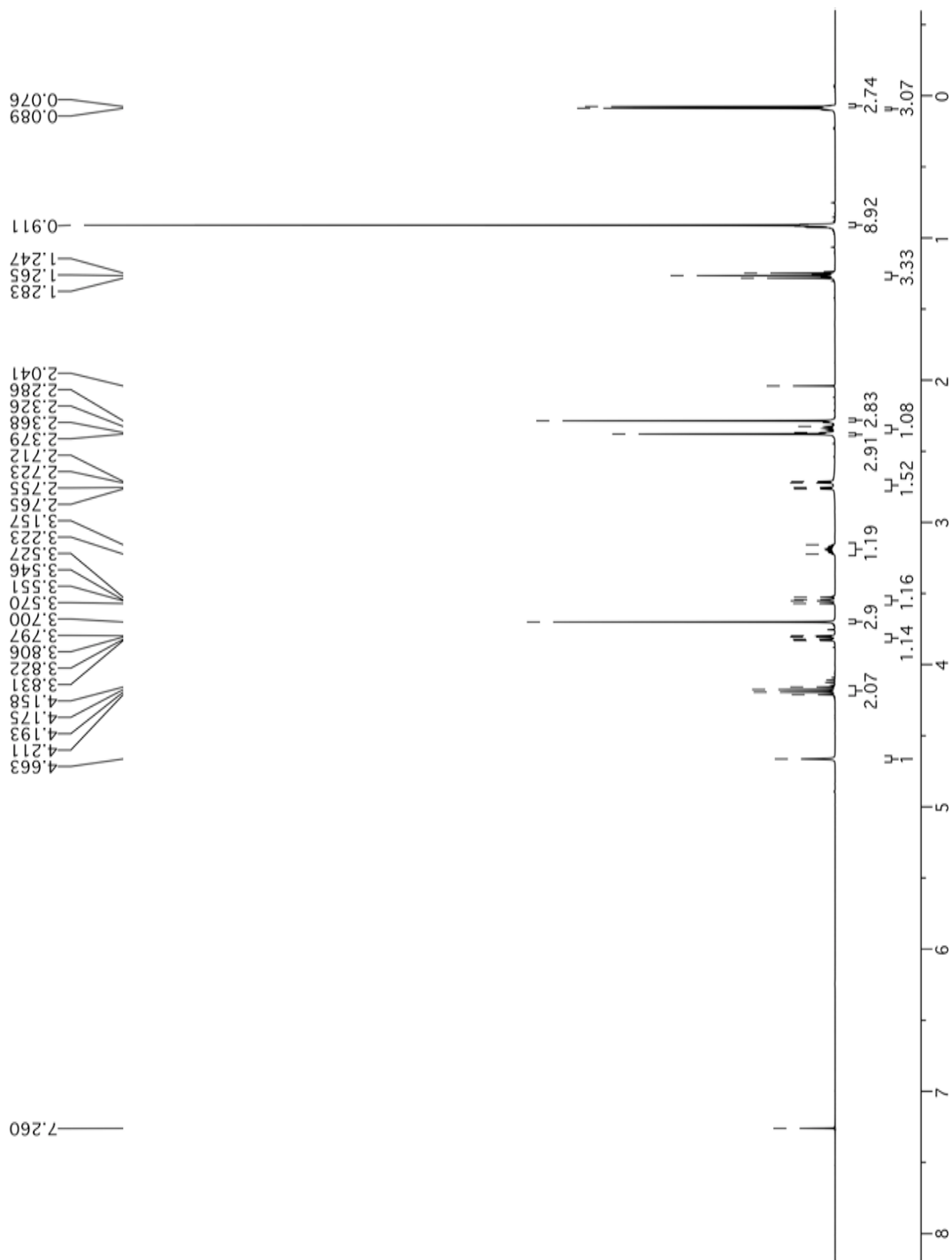
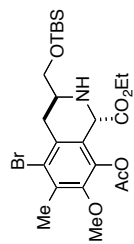
¹³C-NMR spectrum of compound 10a (101 MHz, CDCl₃)



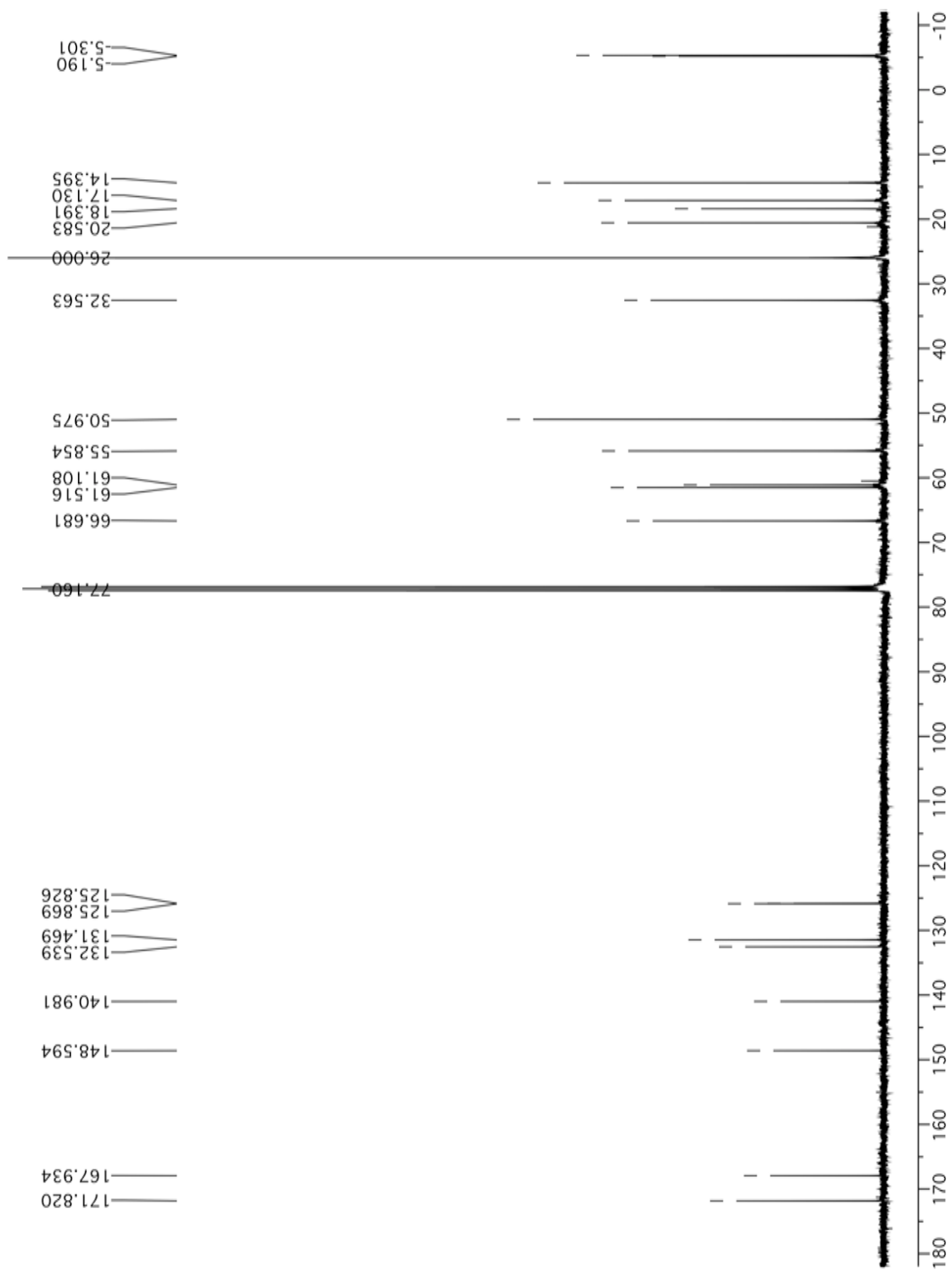
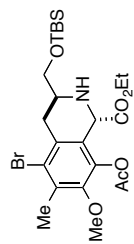
¹H-NMR spectrum of compound 10b (400 MHz, CDCl₃)



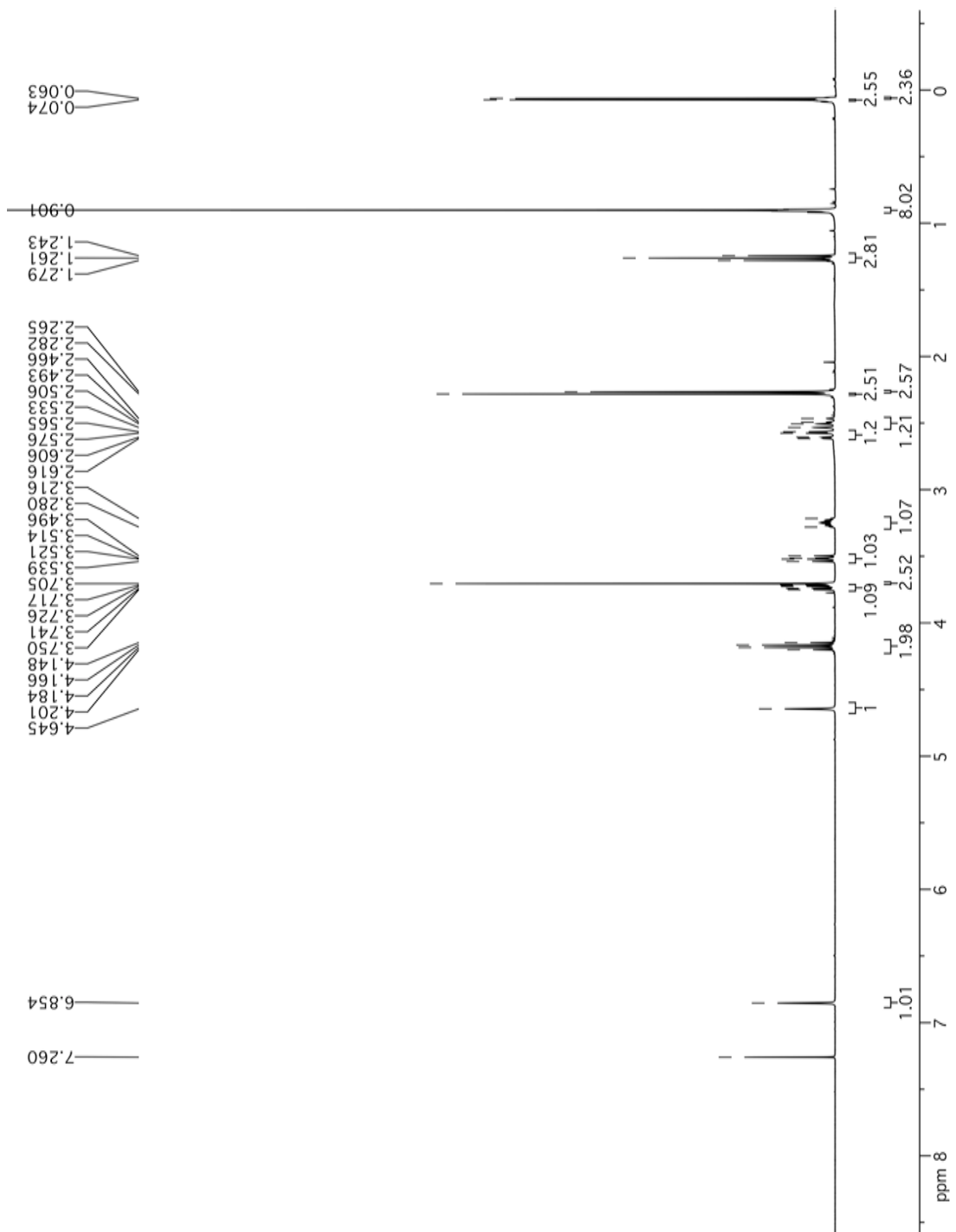
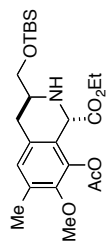
¹³C-NMR spectrum of compound 10b (101 MHz, CDCl₃)



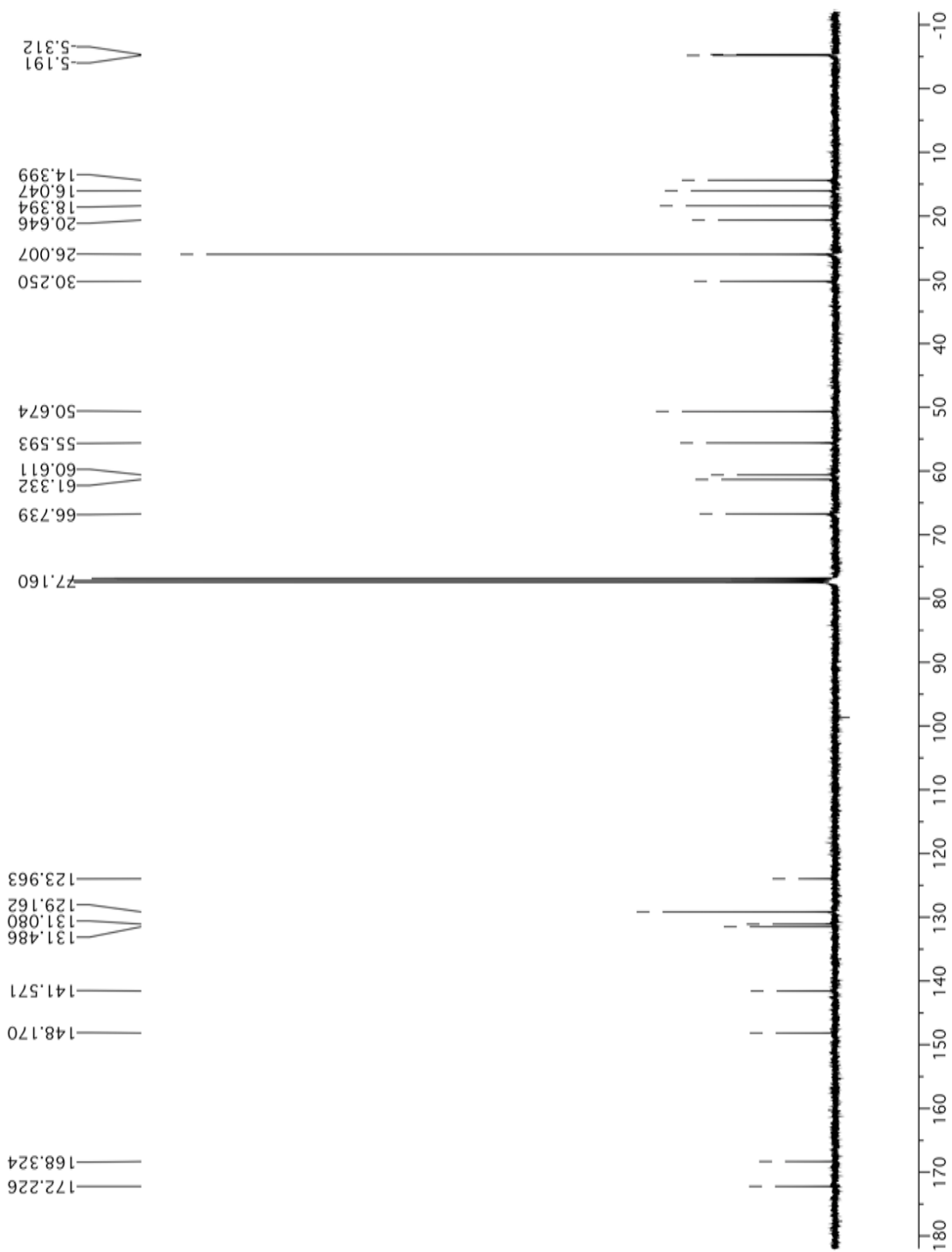
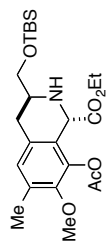
¹H-NMR spectrum of compound 11 (400 MHz, CDCl₃)



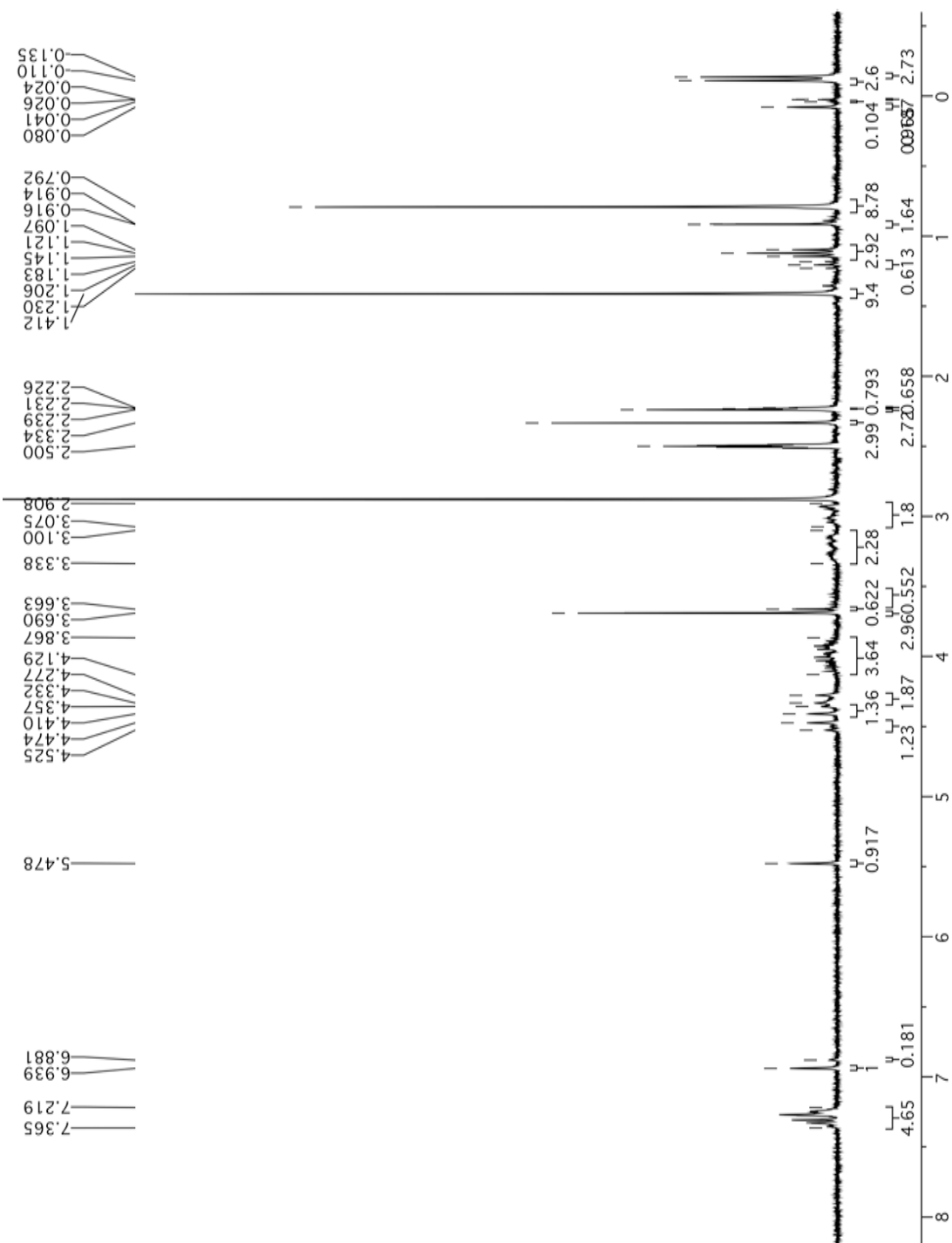
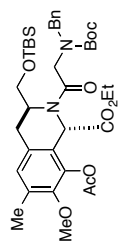
¹³C-NMR spectrum of compound 11 (101 MHz, CDCl₃)



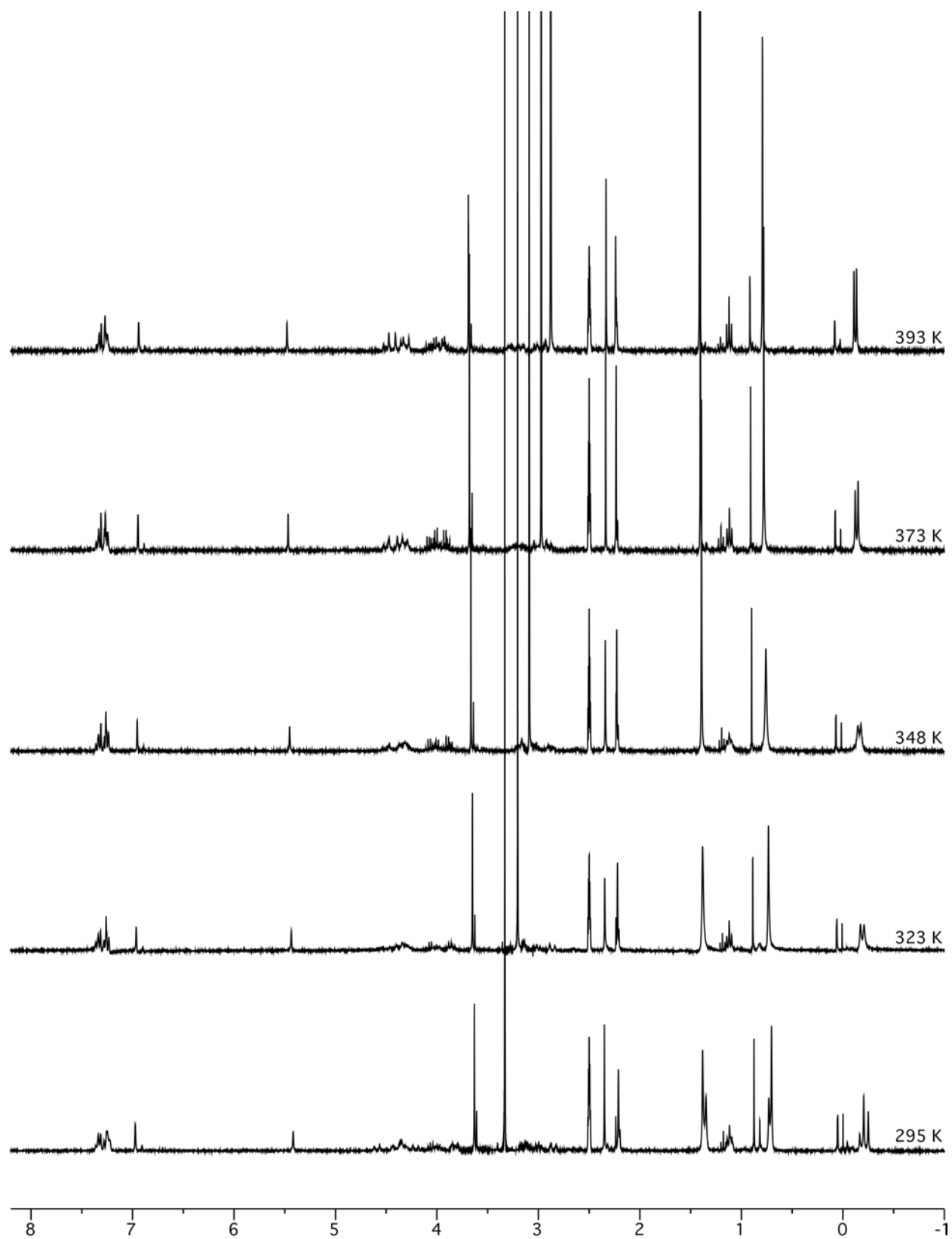
¹H-NMR spectrum of compound 12 (400 MHz, CDCl₃)



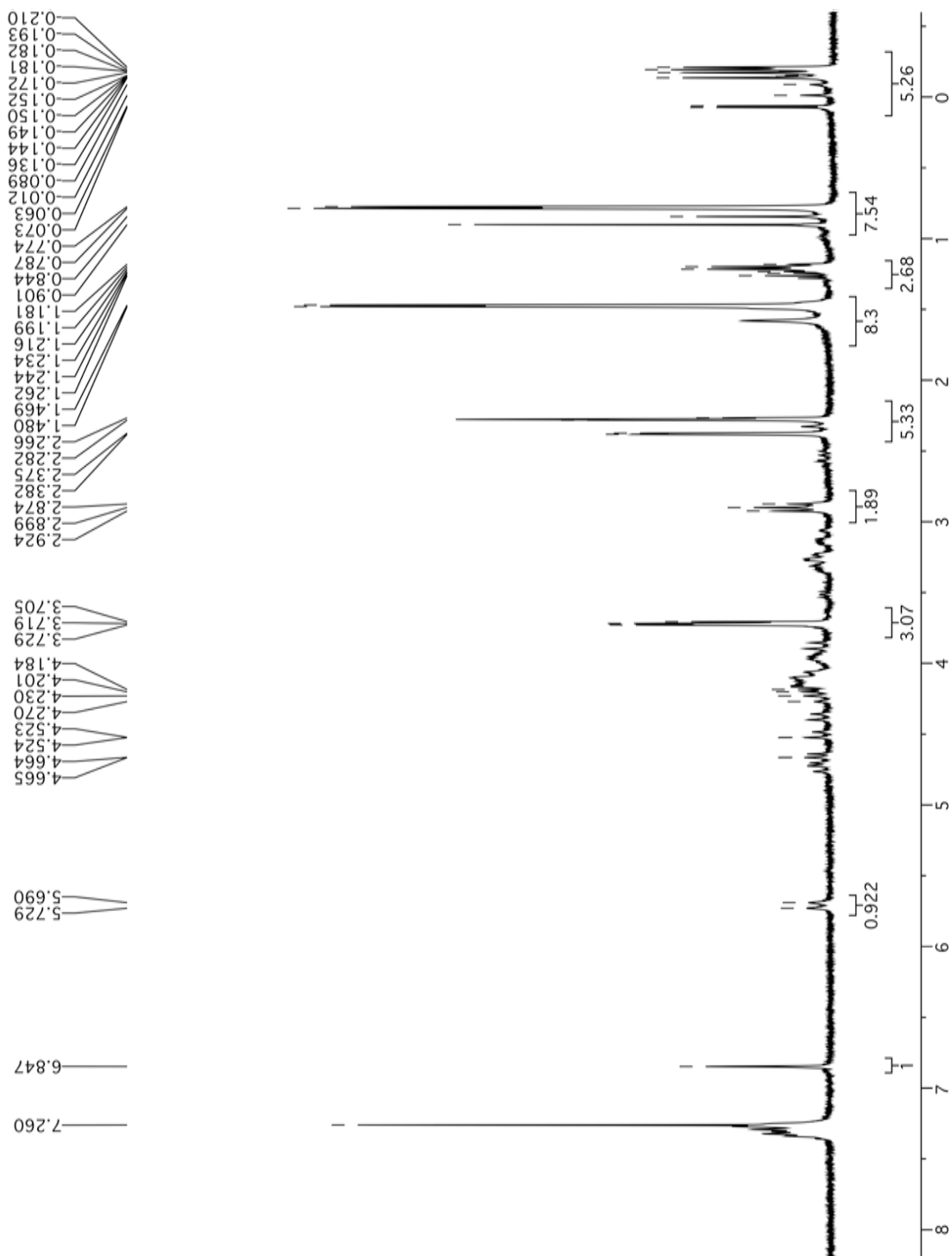
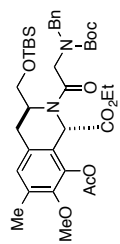
¹³C-NMR spectrum of compound 12 (101 MHz, CDCl₃)



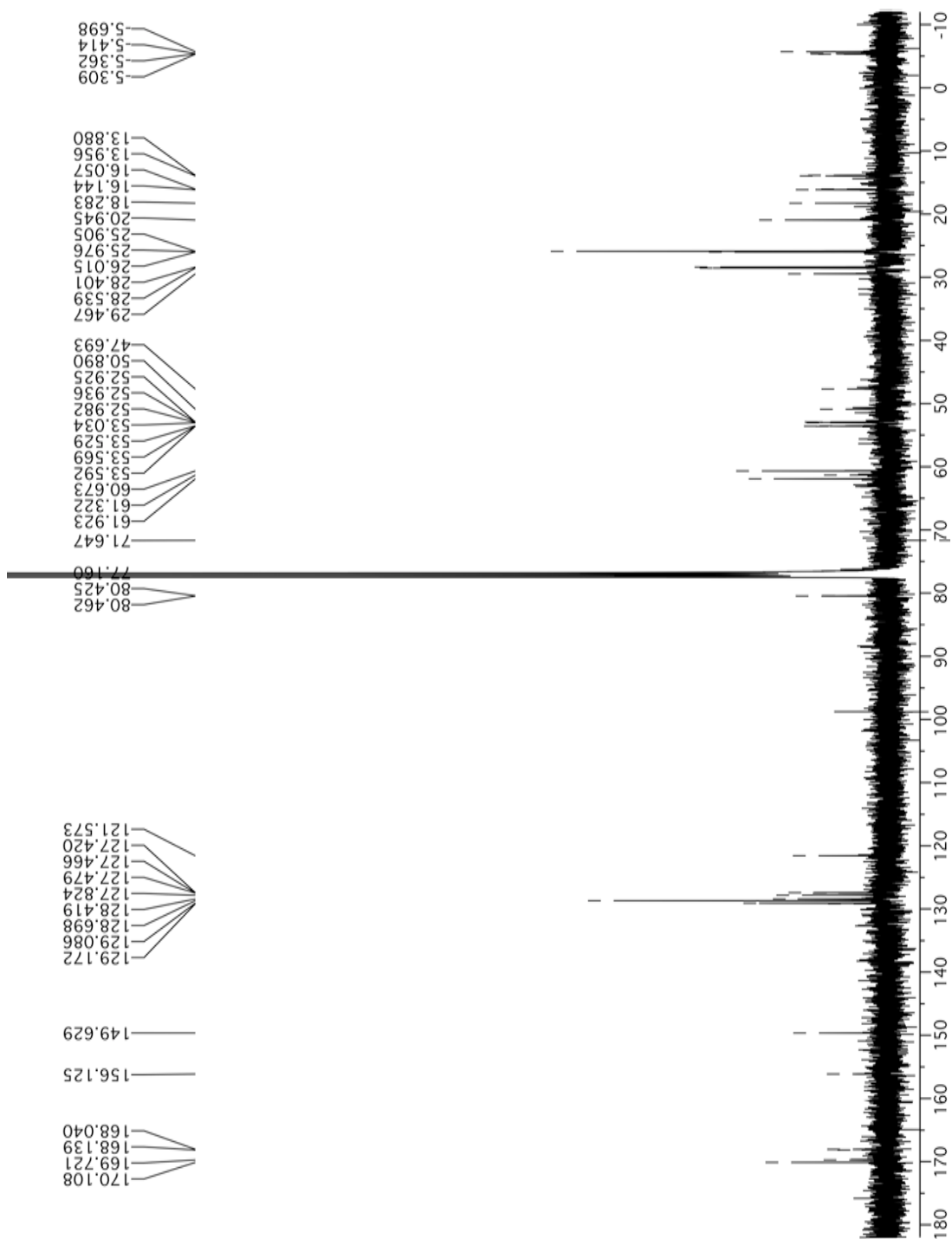
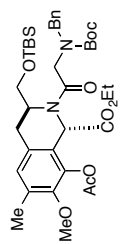
¹H-NMR spectrum of compound 13 (400 MHz, DMSO-d₆, 393K)



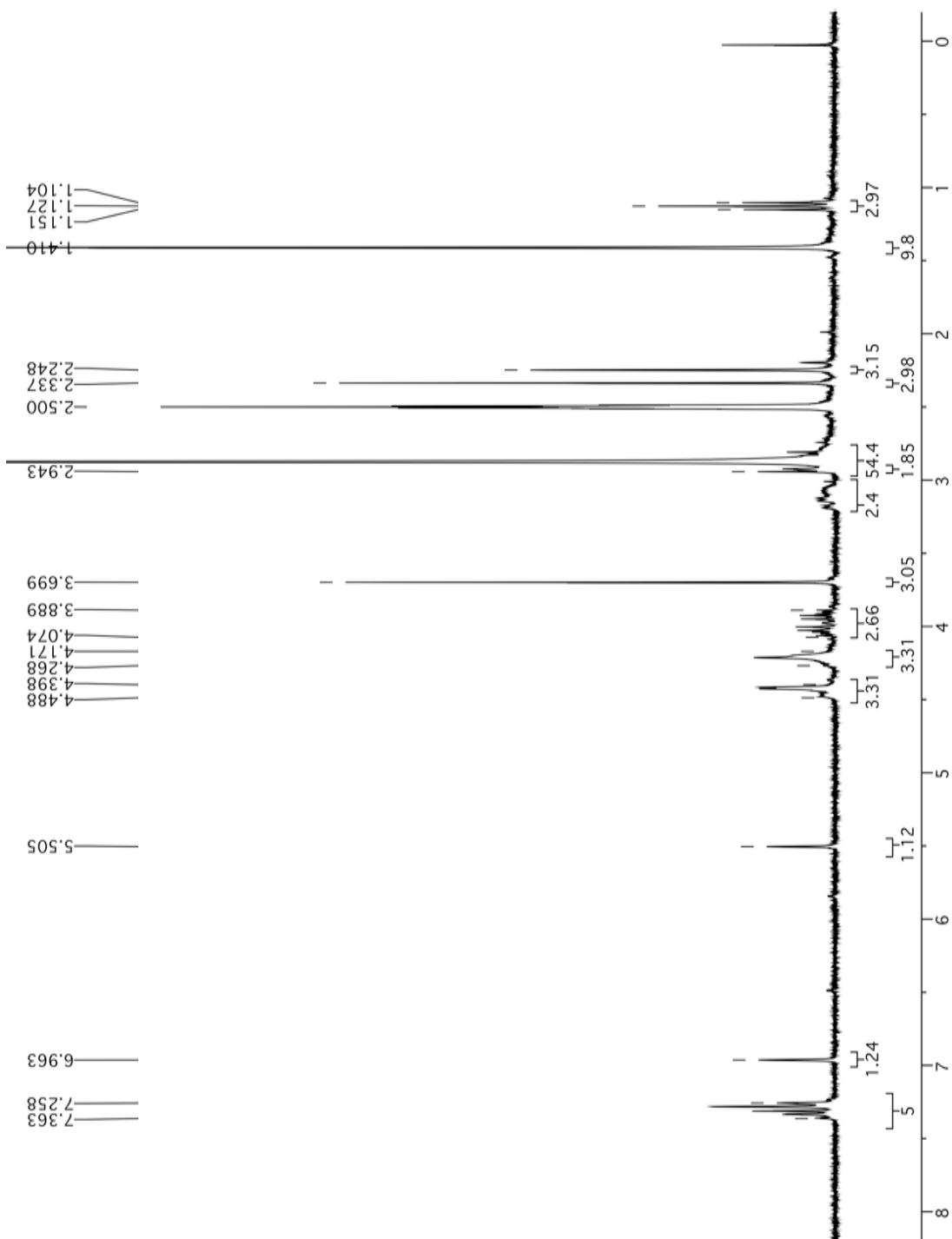
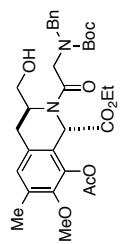
$^1\text{H-NMR}$ spectra of compound 13 (400 MHz, DMSO-d_6 , 295, 323, 348, 373 and 393K)



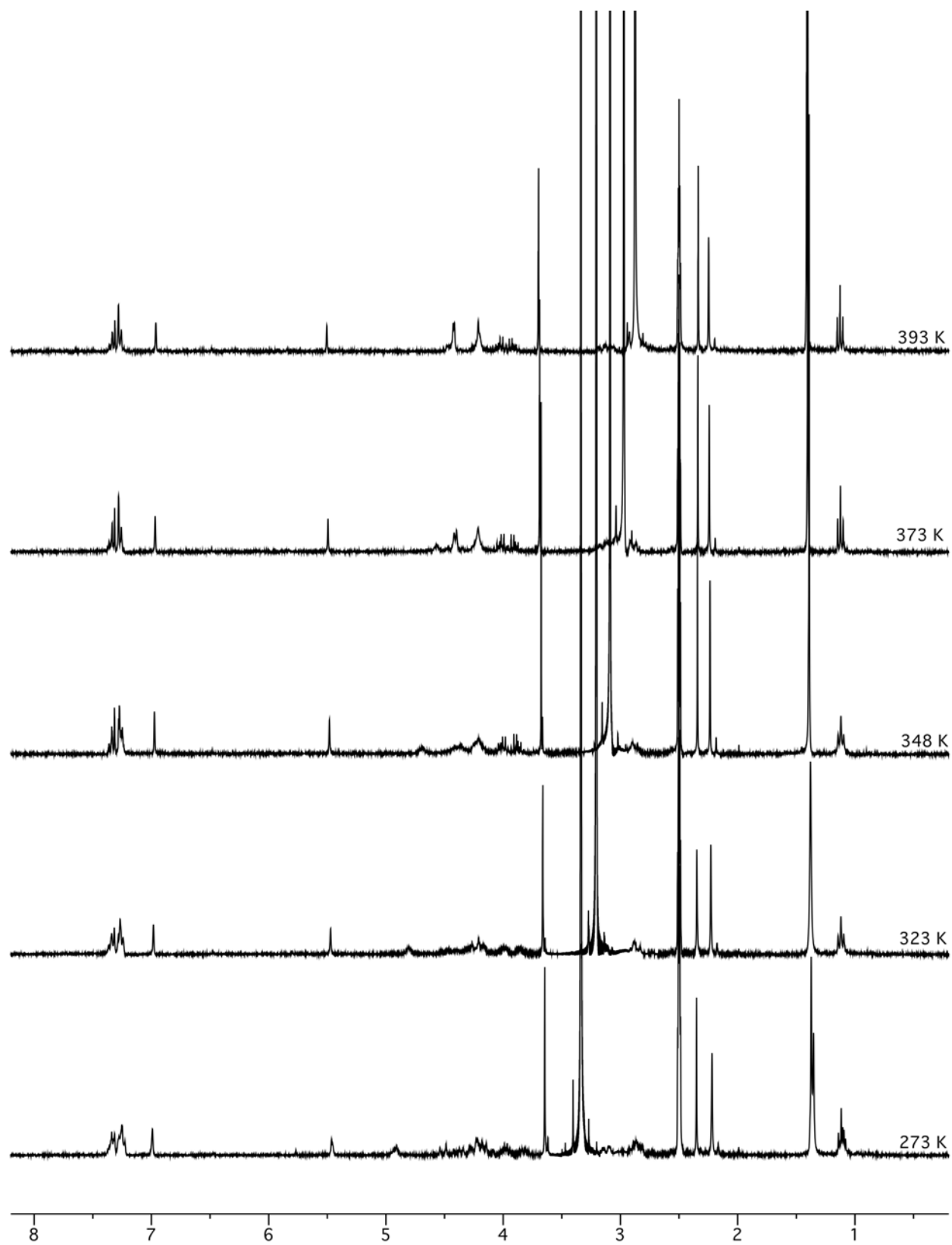
¹H-NMR spectrum of compound 13 (400 MHz, CDCl₃)



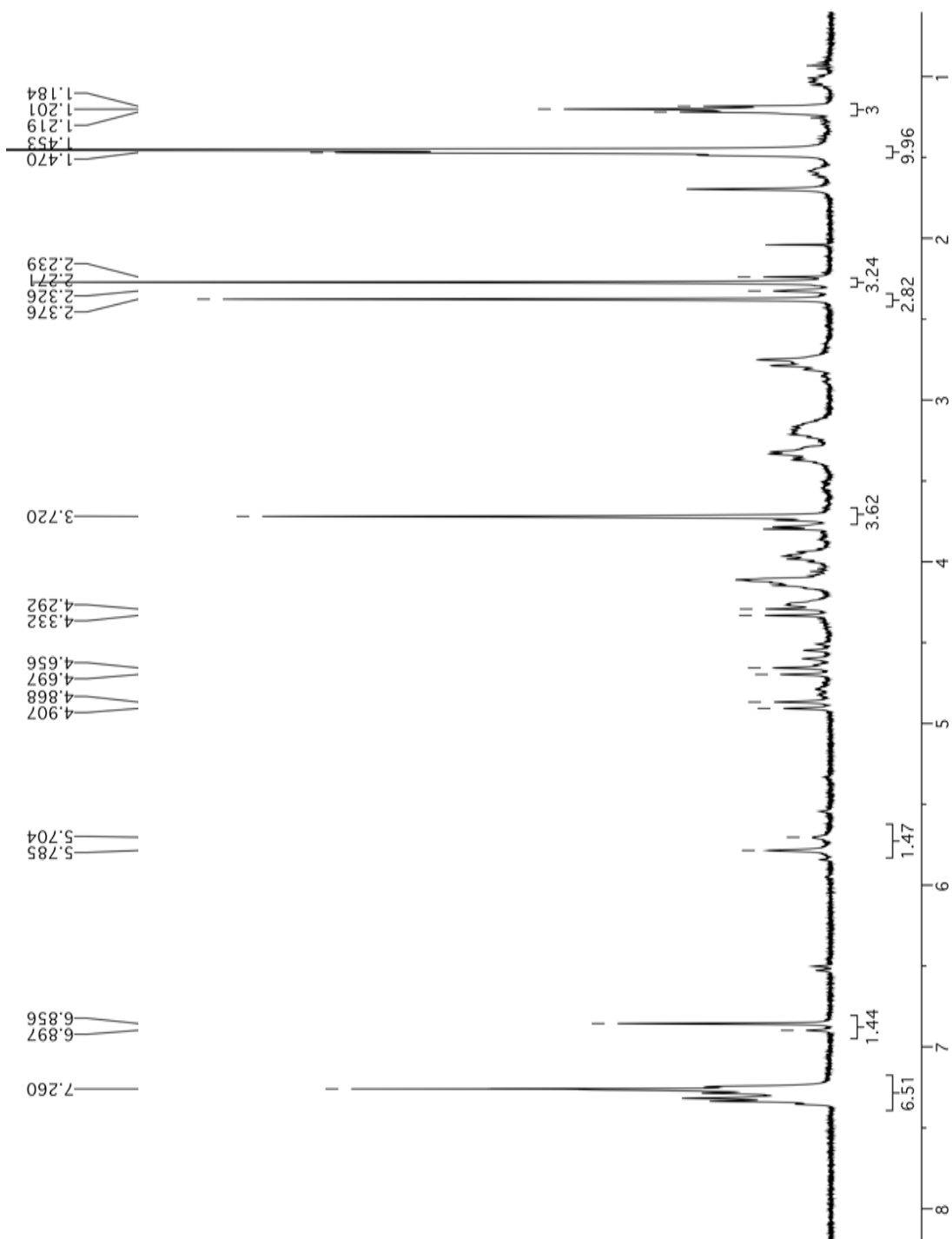
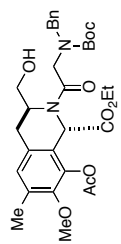
¹³C-NMR spectrum of compound 13 (101 MHz, CDCl₃)



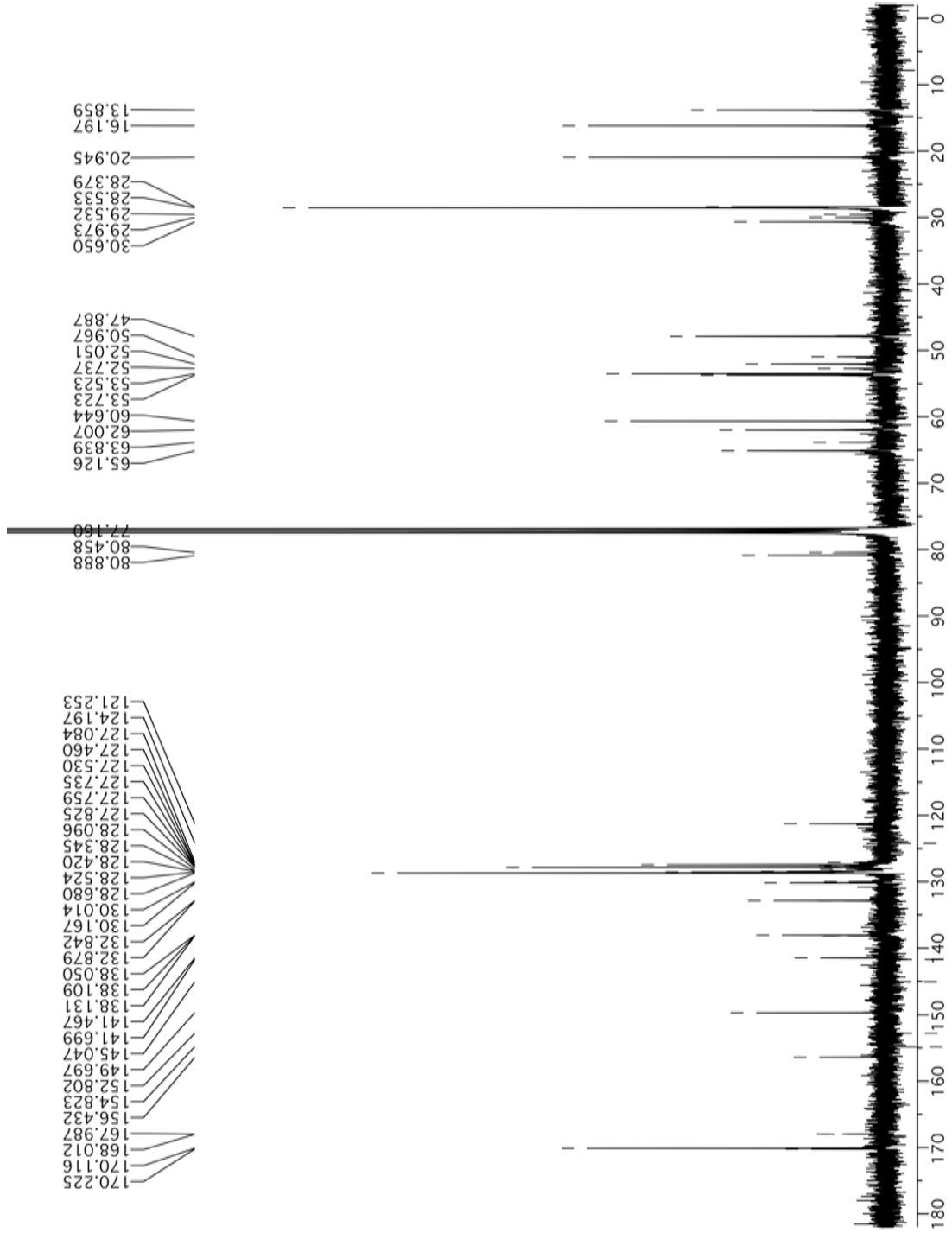
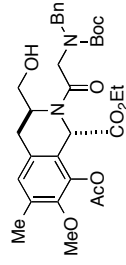
¹H-NMR spectrum of compound 14 (400 MHz, DMSO-d₆, 393K)



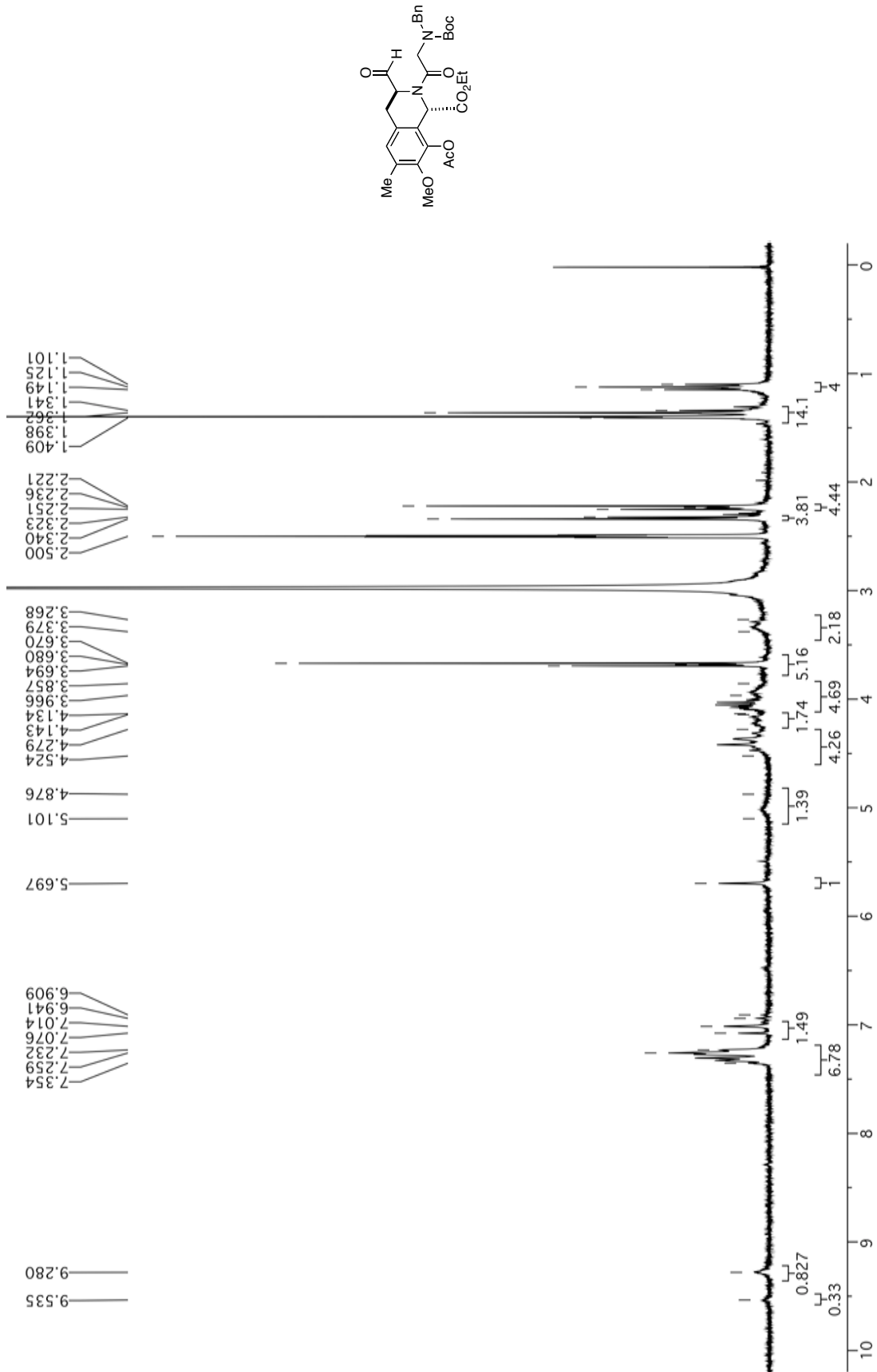
¹H-NMR spectra of compound 14 (400 MHz, DMSO-d₆, 295, 323, 348, 373 and 393K)



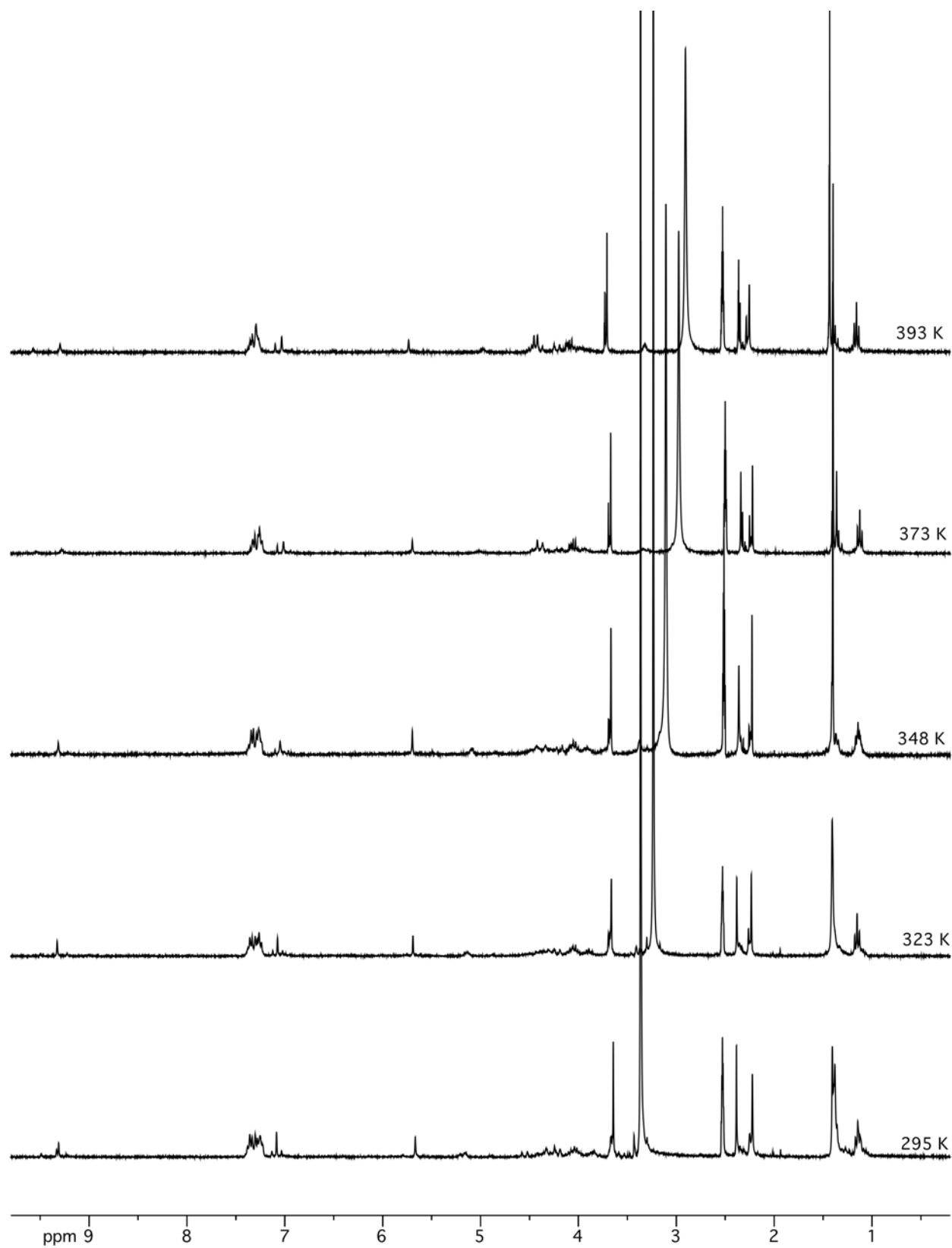
¹H-NMR spectrum of compound 14 (400 MHz, CDCl₃)



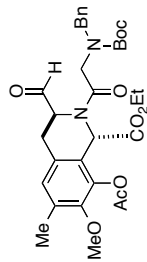
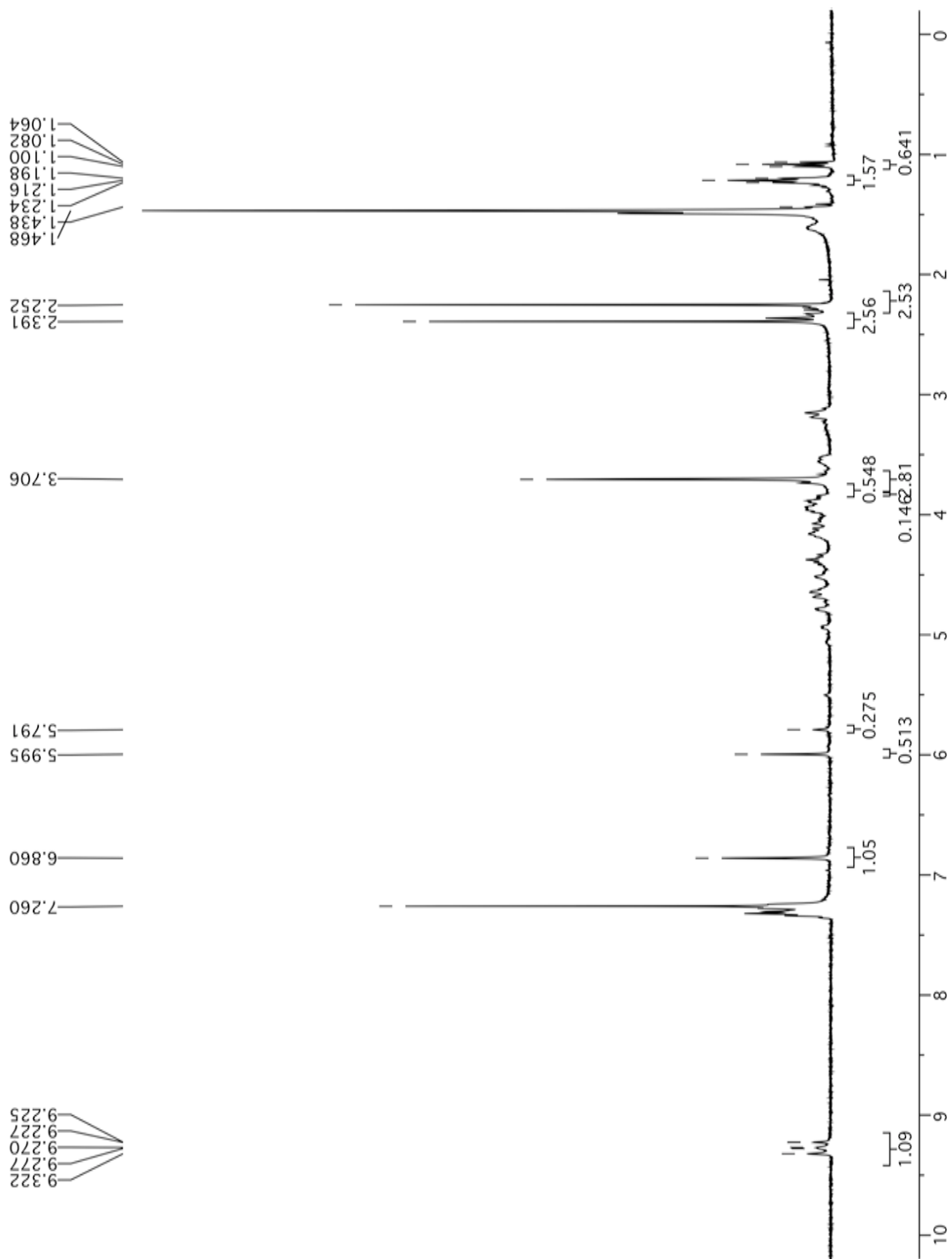
¹³C-NMR spectrum of compound 14 (101 MHz, CDCl₃)



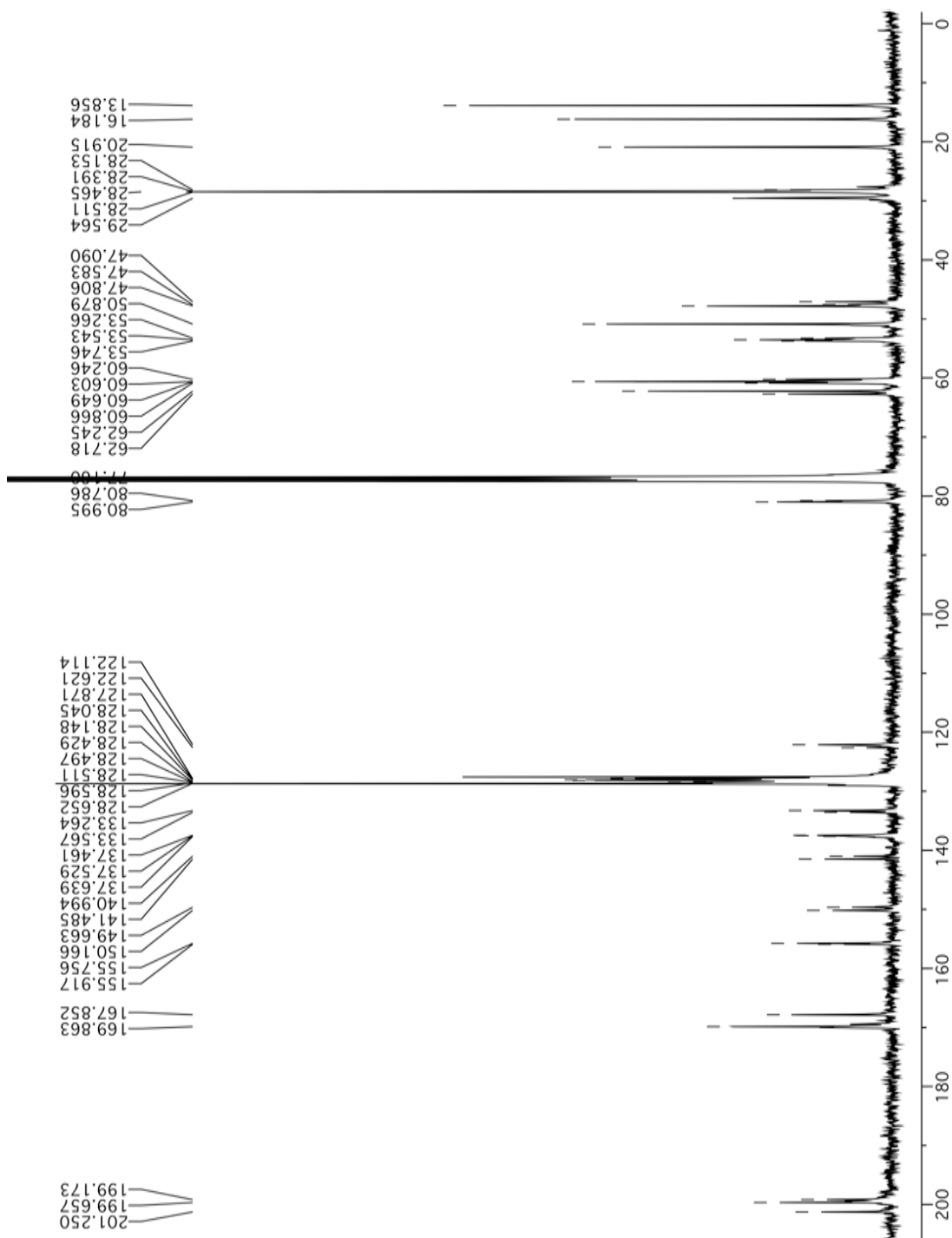
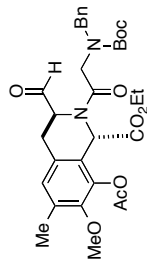
¹H-NMR spectrum of compound 15 (400 MHz, DMSO-d₆, 373K)



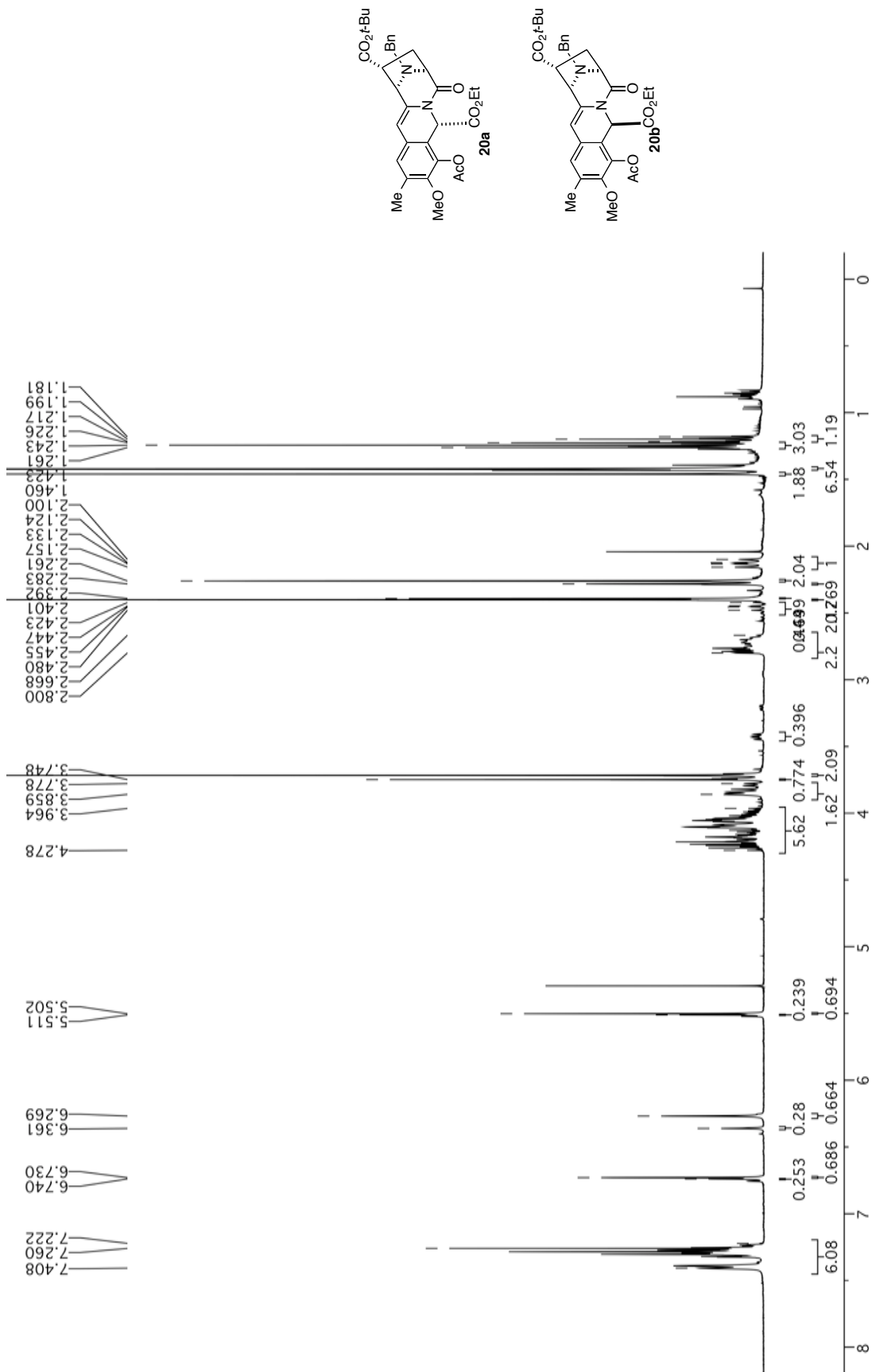
¹H-NMR spectra of compound 15 (400 MHz, DMSO-d₆, 295, 323, 348, 373 and 393K)



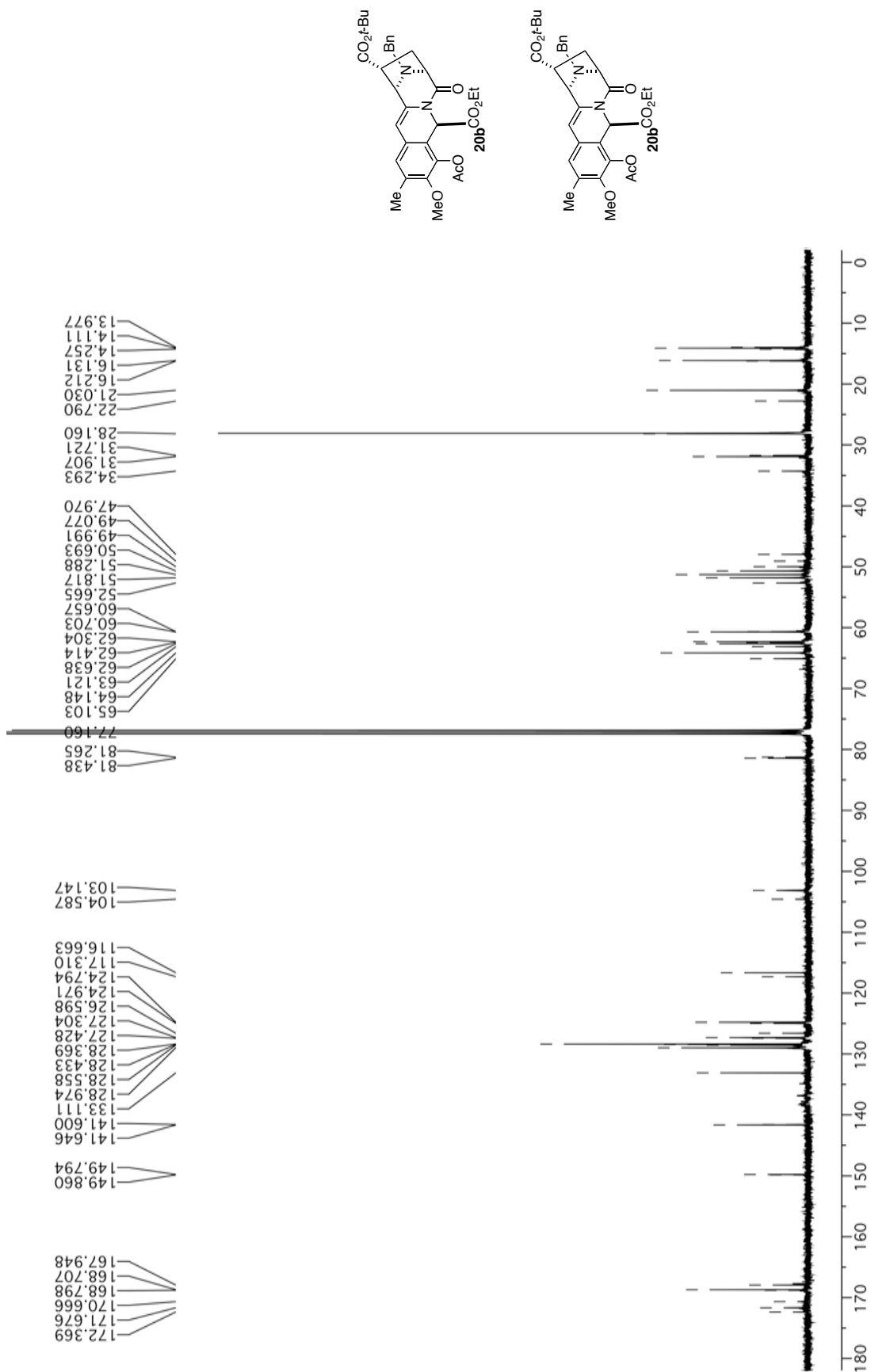
¹H-NMR spectrum of compound 15 (400 MHz, CDCl₃)



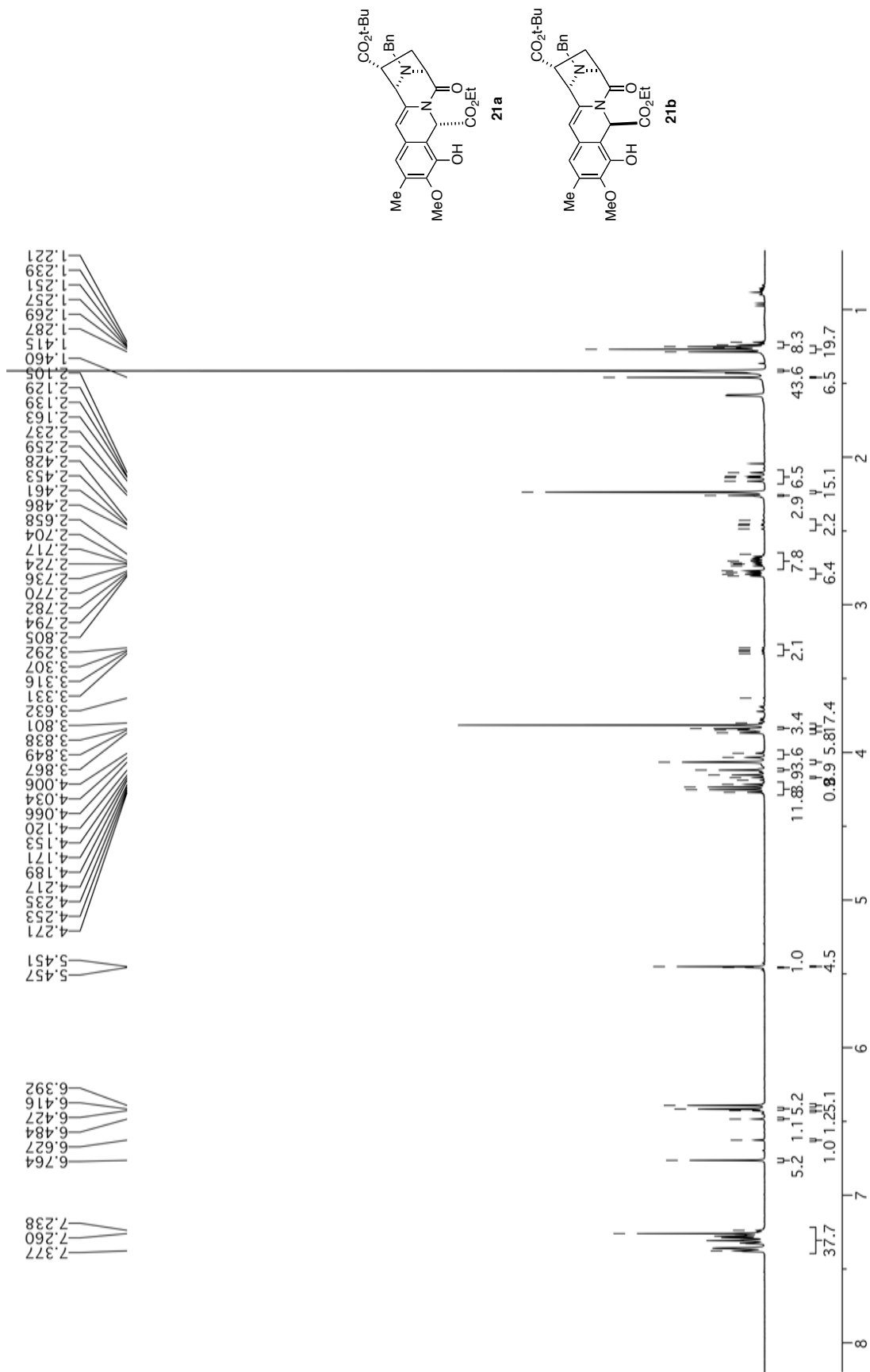
¹³C-NMR spectrum of compound 15 (101 MHz, CDCl₃)



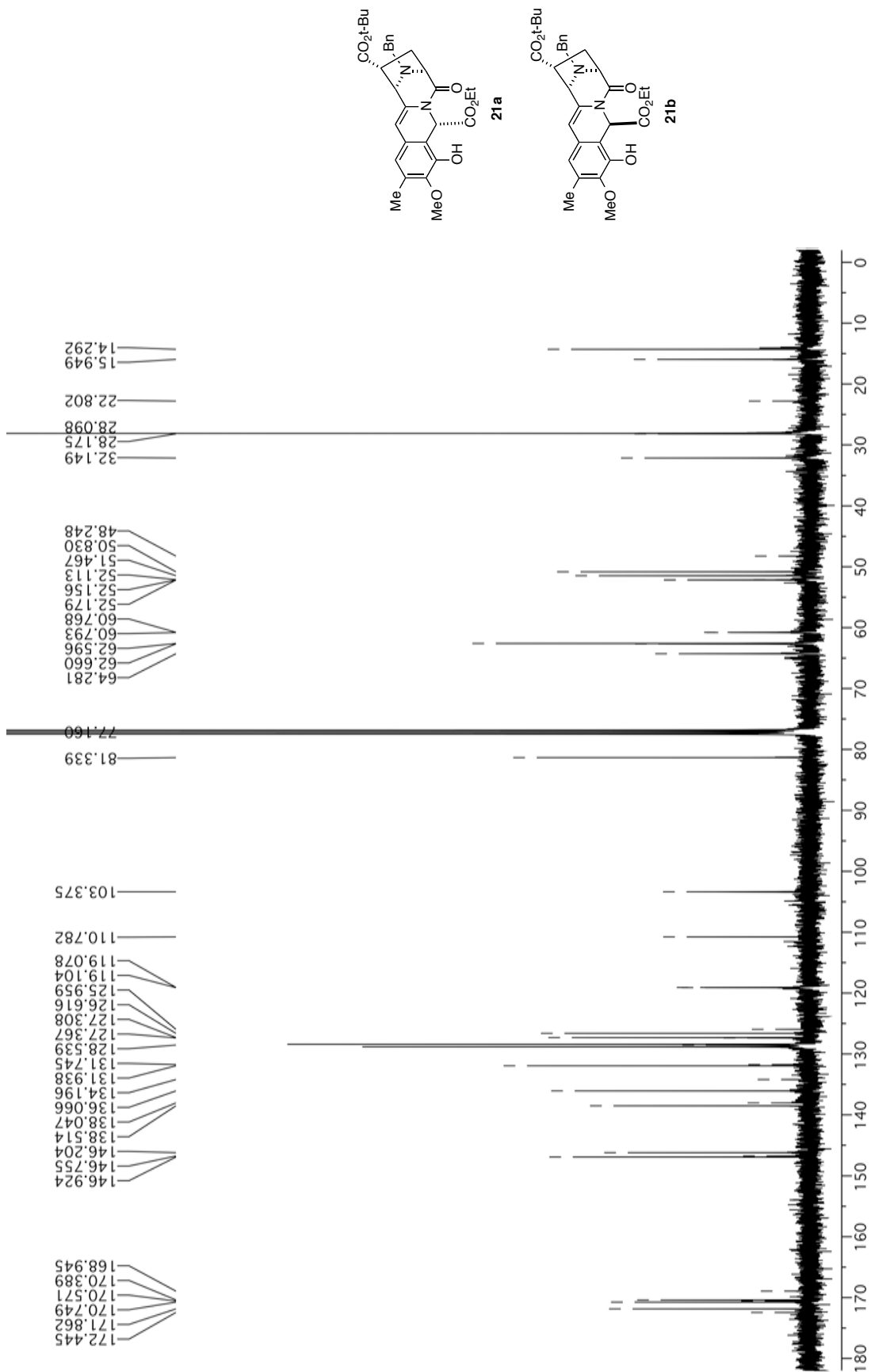
¹H-NMR spectrum of a 2.4:1 mixture of compounds 20a and 20b (400 MHz, CDCl₃)



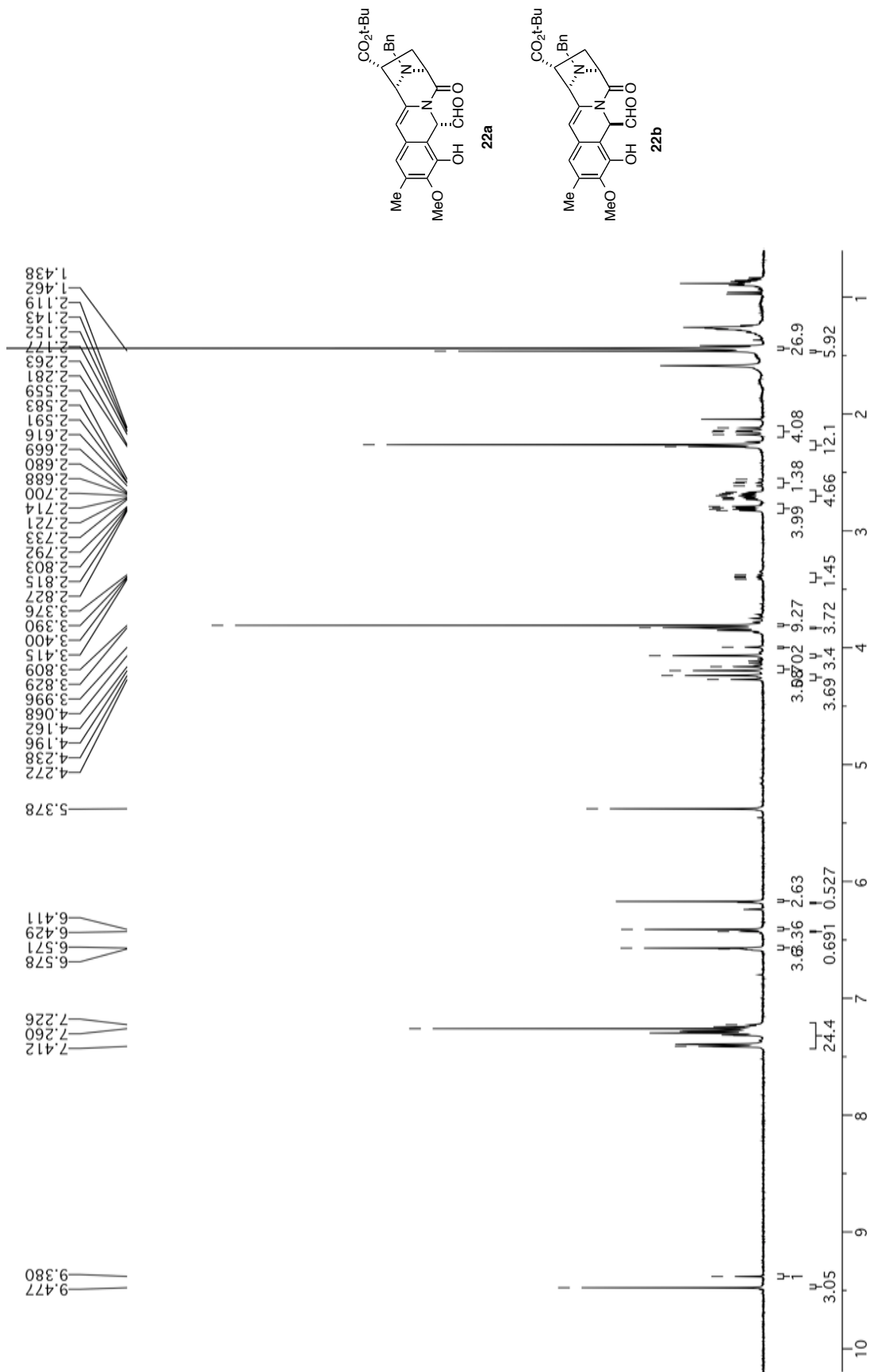
¹³C-NMR spectrum of a 2.4:1 mixture of compounds 20a and 20b (101 MHz, CDCl₃)



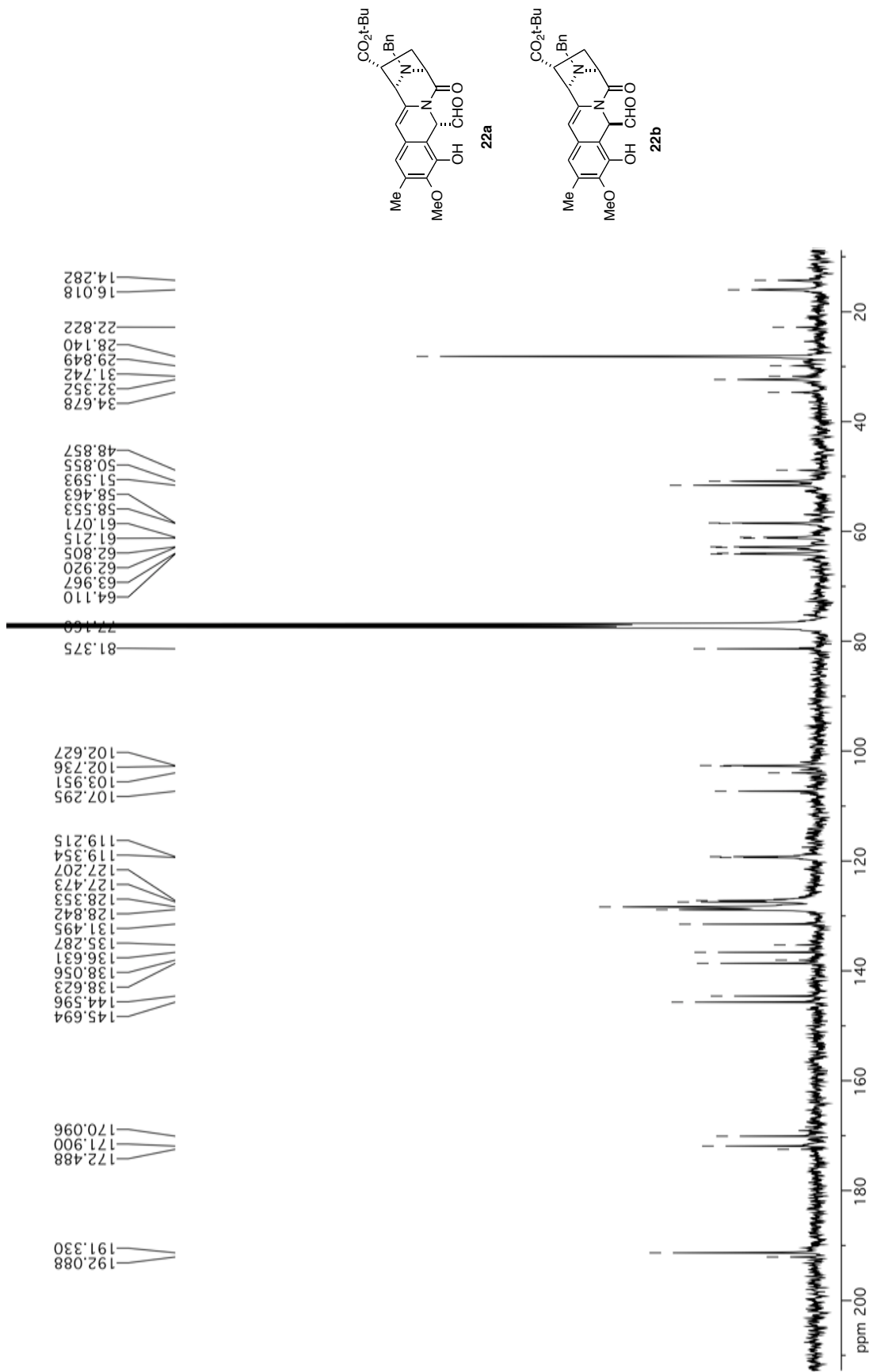
¹H-NMR spectrum of a 5:1 mixture of compounds 21a and 21b (400 MHz, CDCl₃)



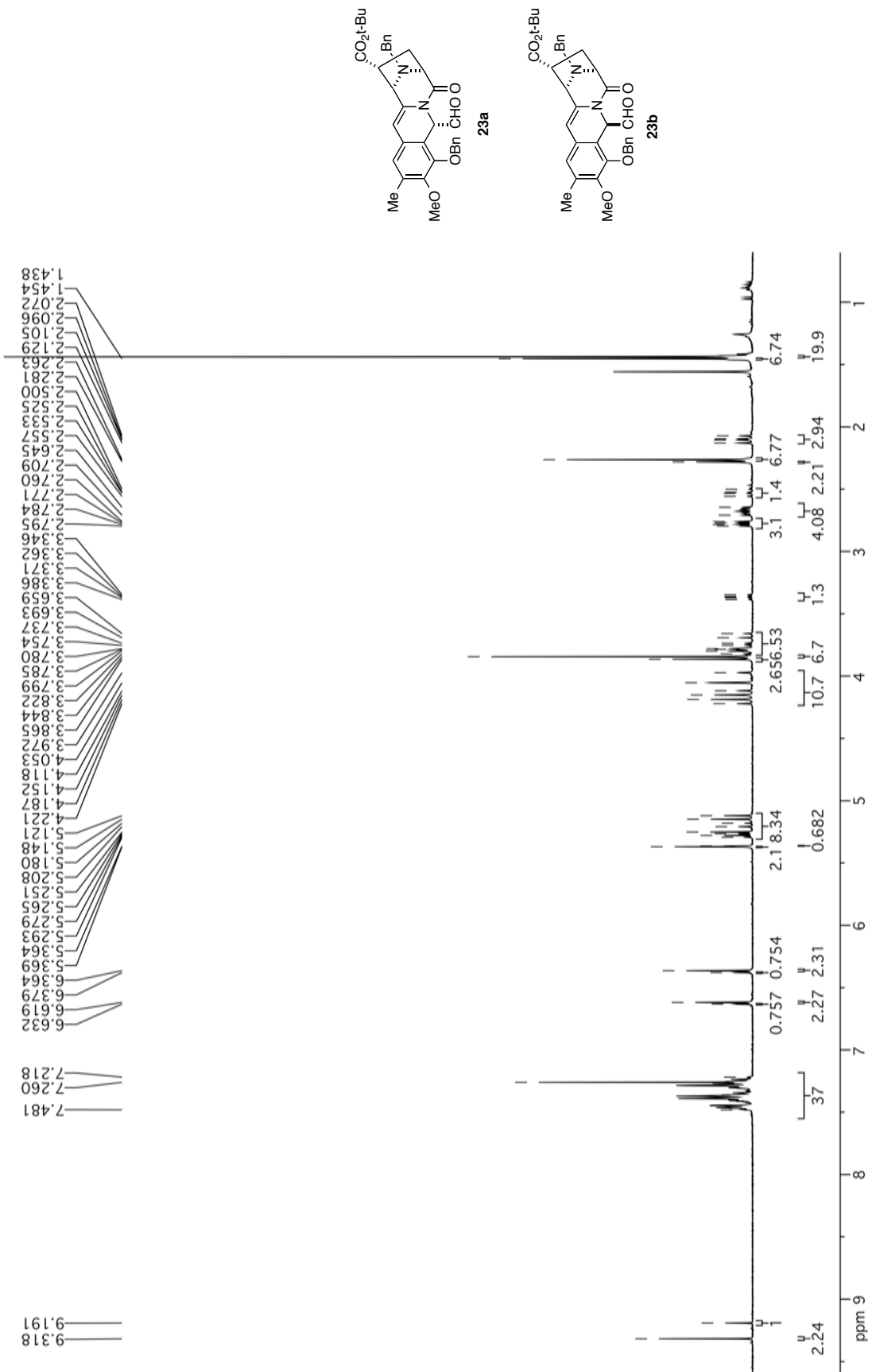
¹³C-NMR spectrum of a 5:1 mixture of compounds 21a and 21b (101 MHz, CDCl₃)



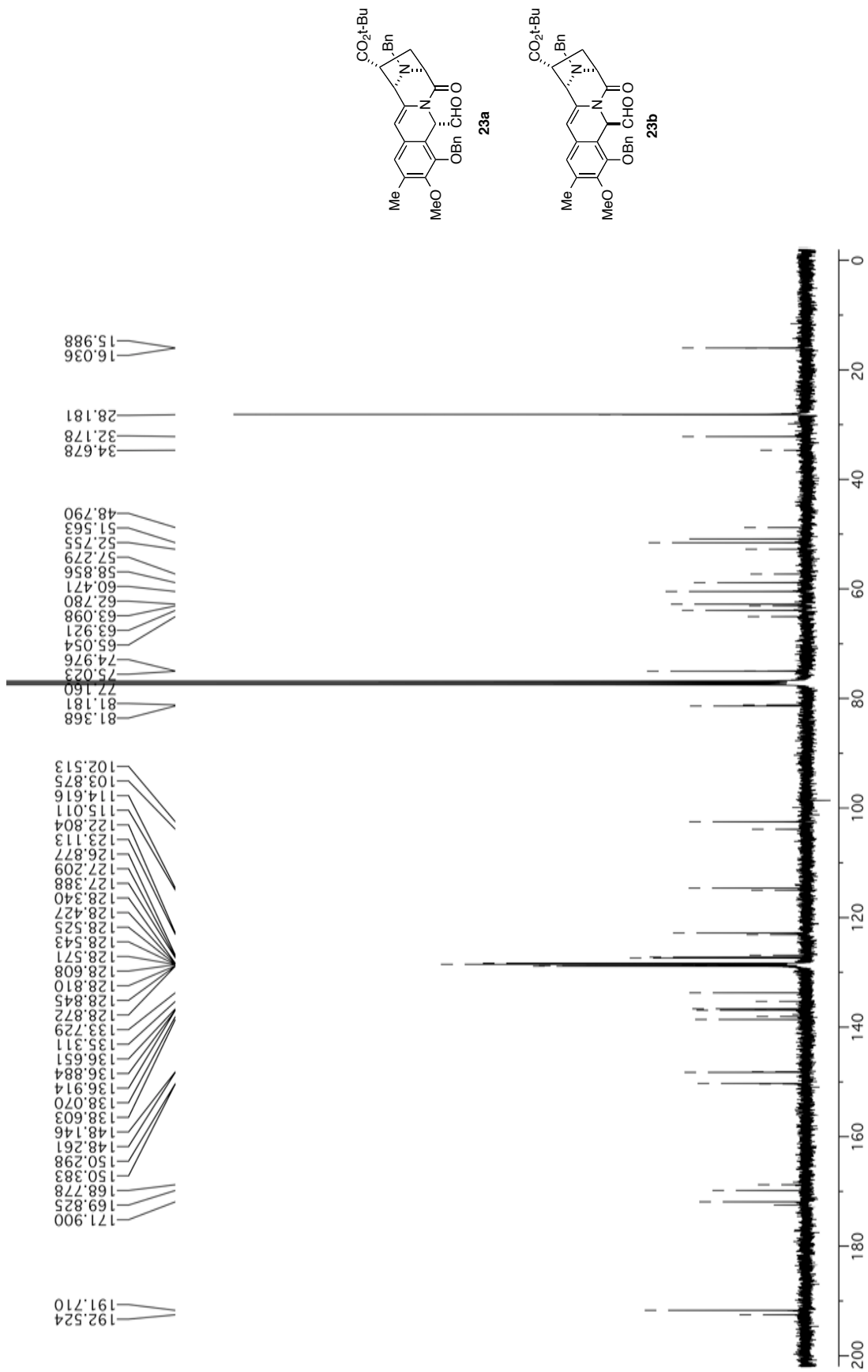
¹H-NMR spectrum of a 3:1 mixture of compounds 22a and 22b (400 MHz, CDCl₃)



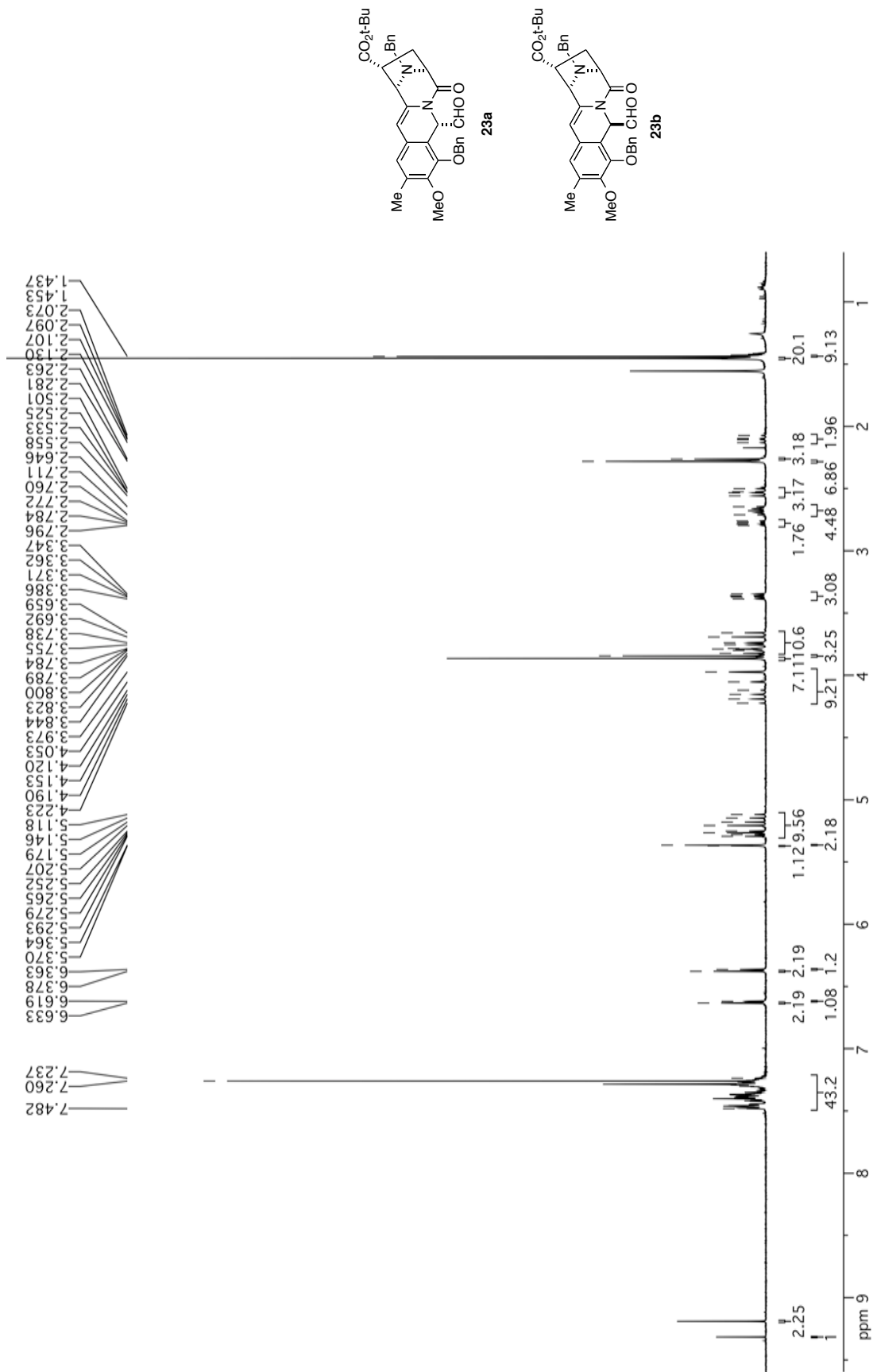
¹³C-NMR spectrum of a 3:1 mixture of compounds 22a and 22b (101 MHz, CDCl₃)



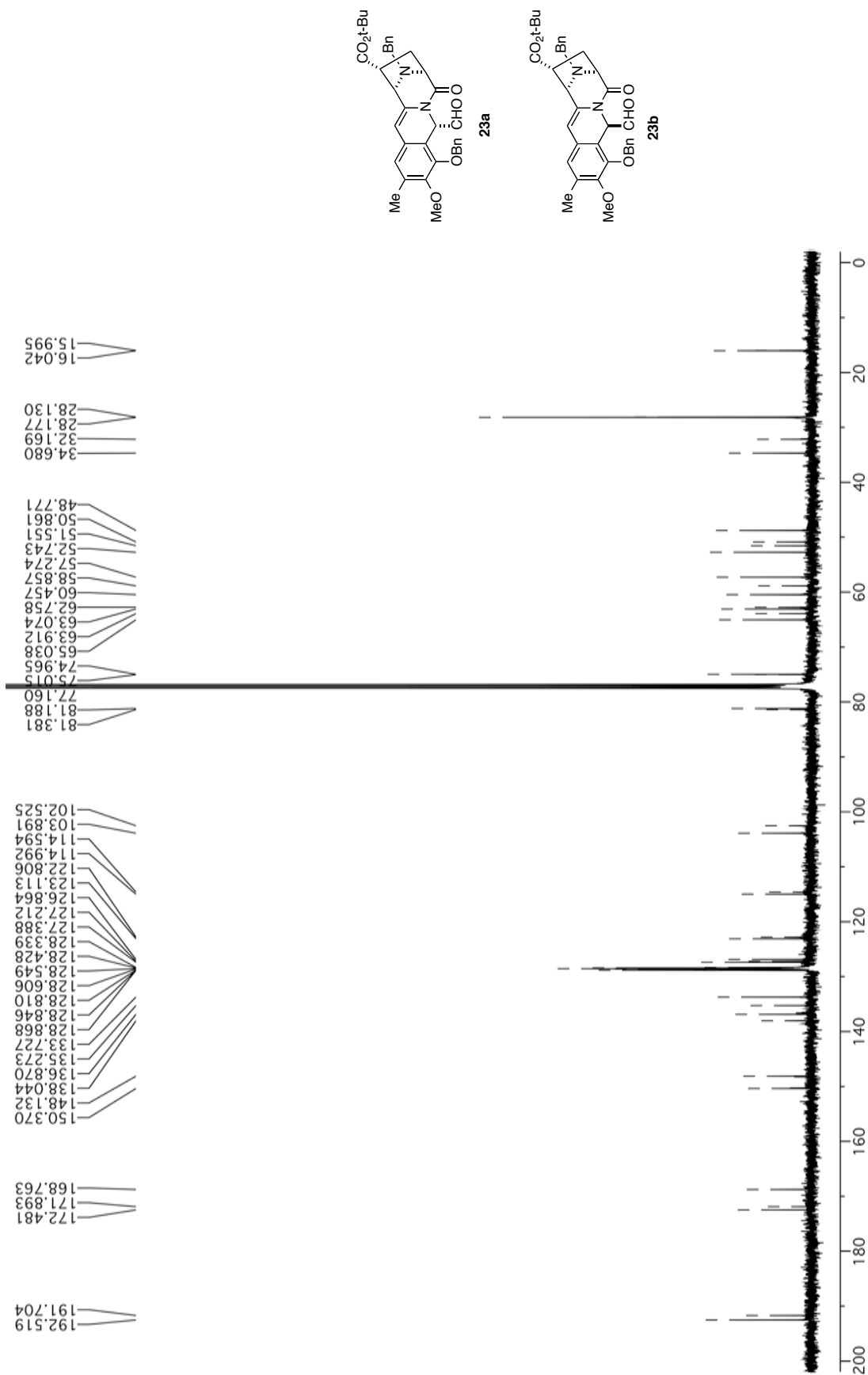
¹H-NMR spectrum of a 2.2:1 mixture of compounds 23a and 23b (400 MHz, CDCl₃)



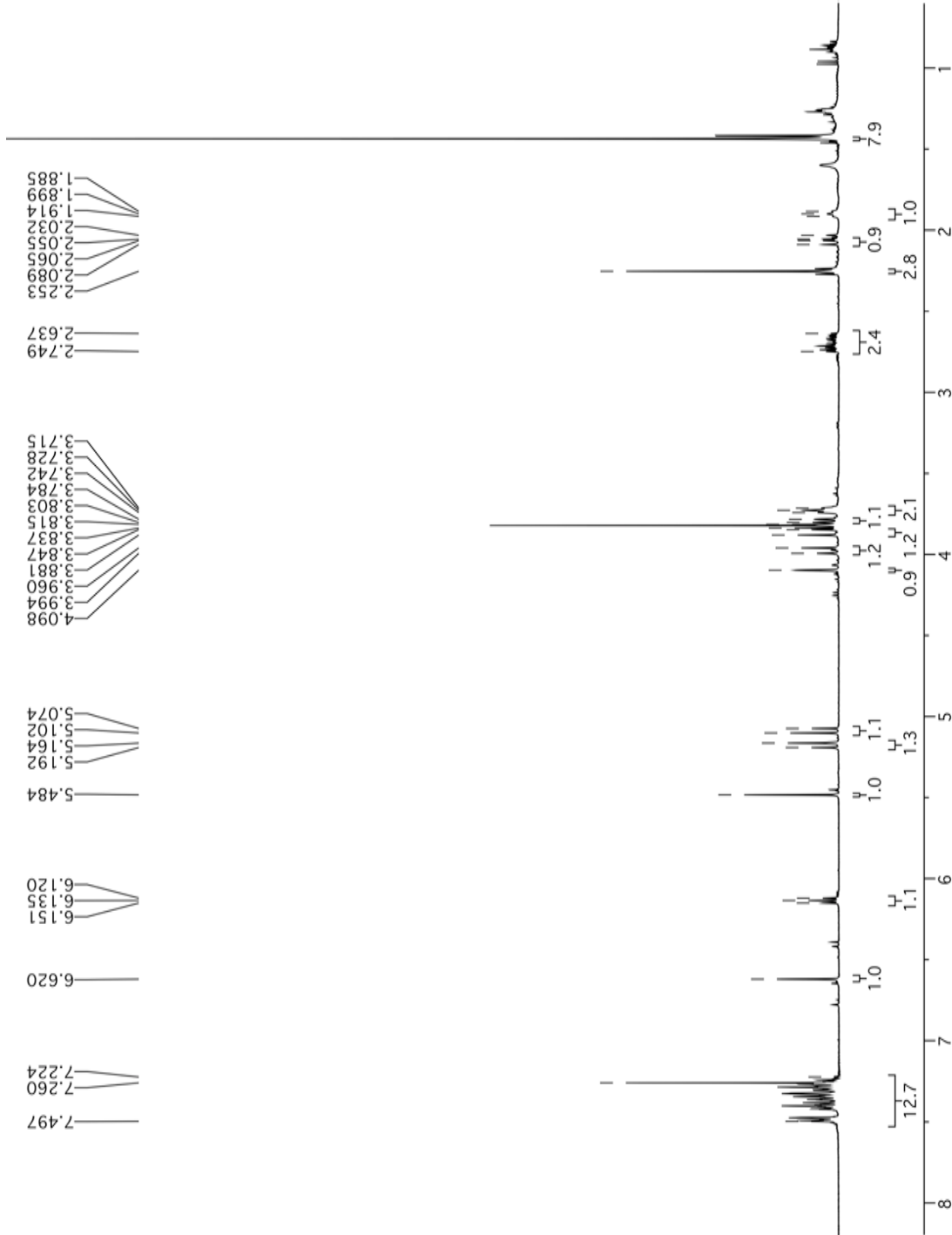
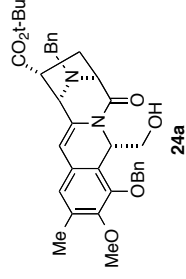
¹³C-NMR spectrum of a 2.2:1 mixture of compounds 23a and 23b (101 MHz, CDCl₃)



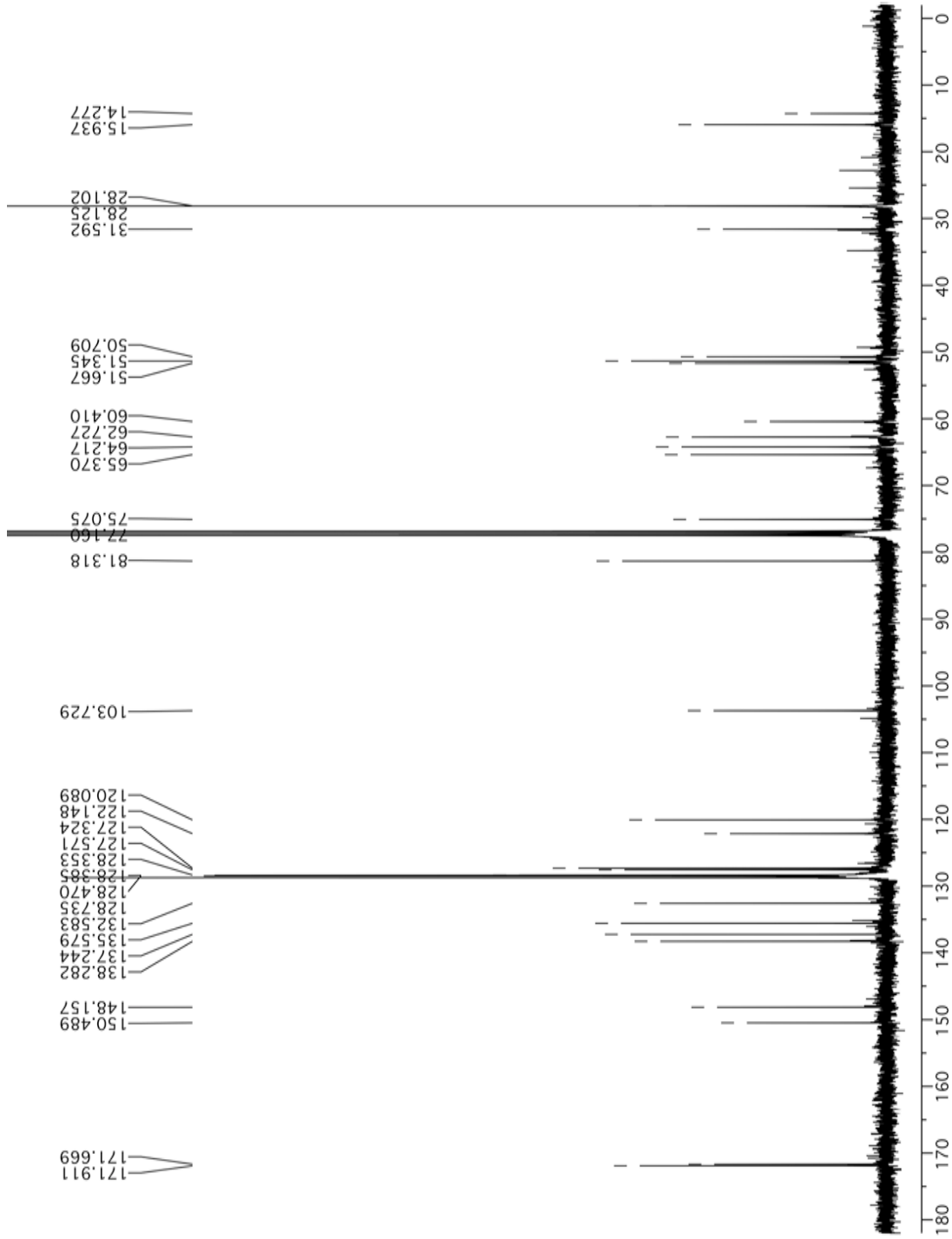
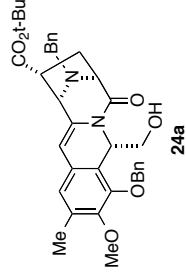
¹H-NMR spectrum of a 1:2:2 mixture of compounds 23a and 23b (400 MHz, CDCl₃)



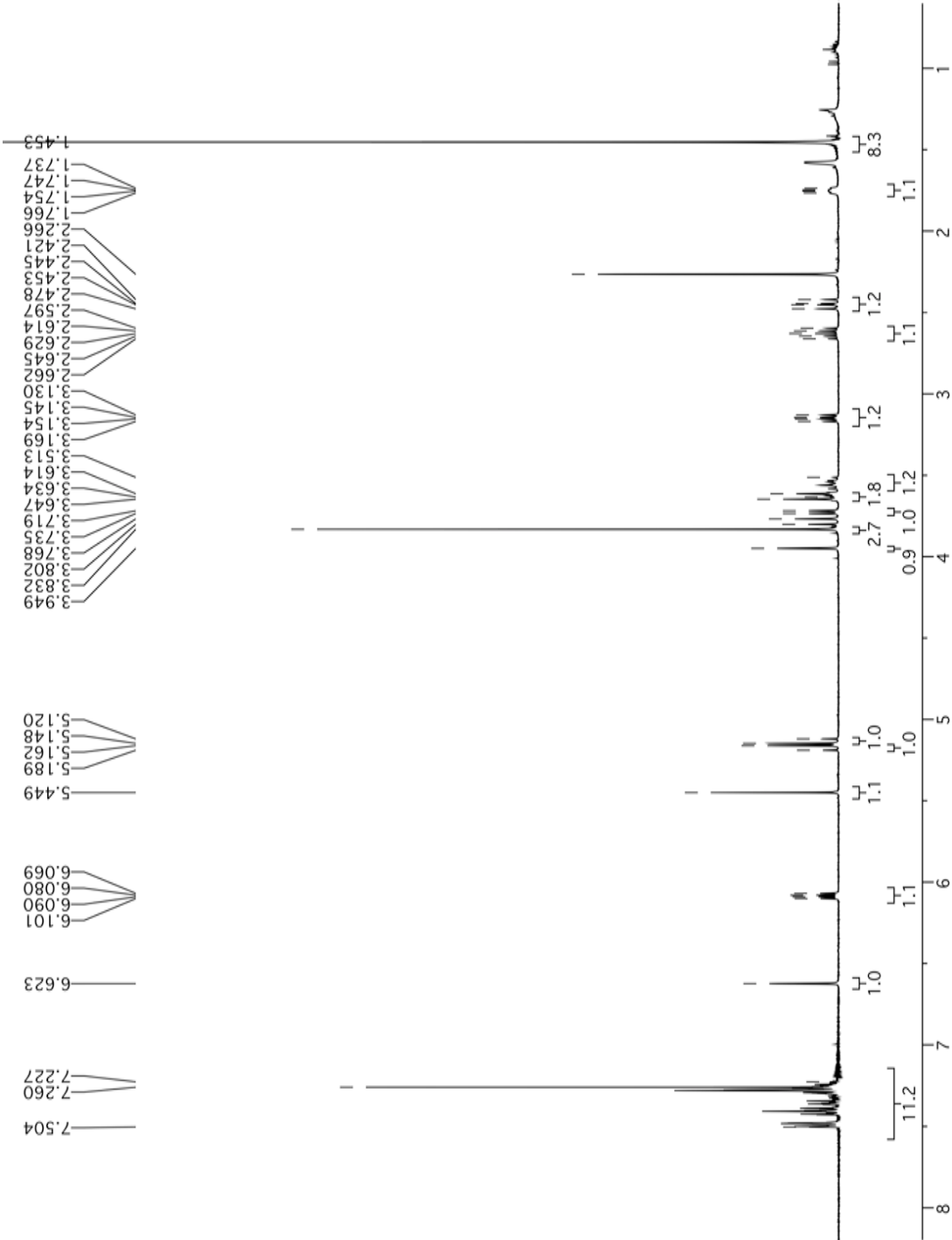
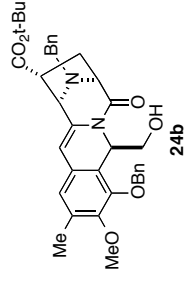
¹³C-NMR spectrum of a 1:2:2 mixture of compounds 23a and 23b (101 MHz, CDCl₃)



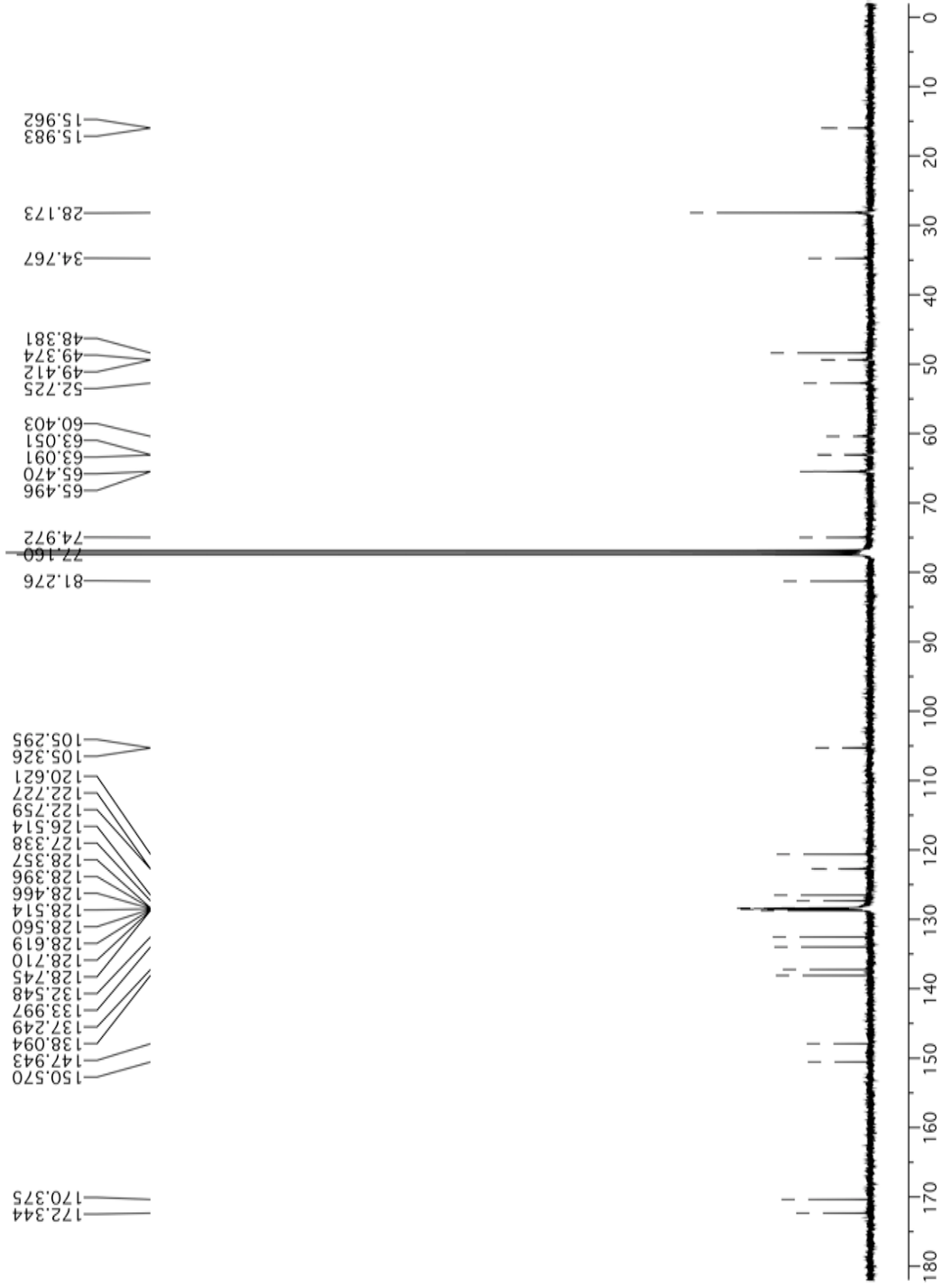
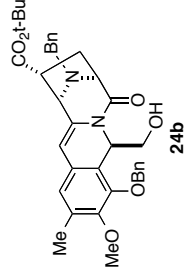
¹H-NMR spectrum of compound 24a (400 MHz, CDCl₃)

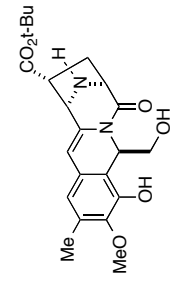
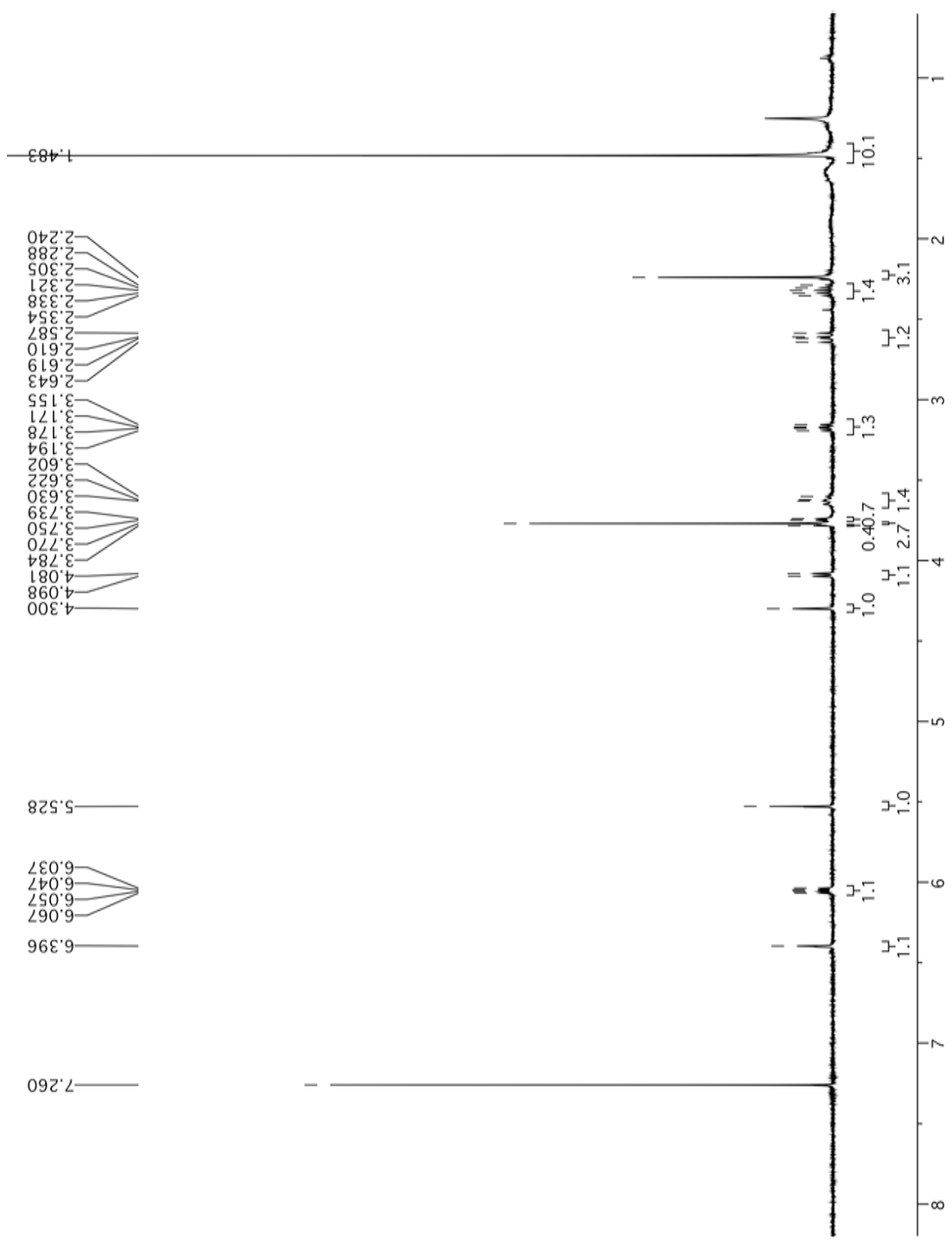


¹³C-NMR spectrum of compound 25a (101 MHz, CDCl₃)

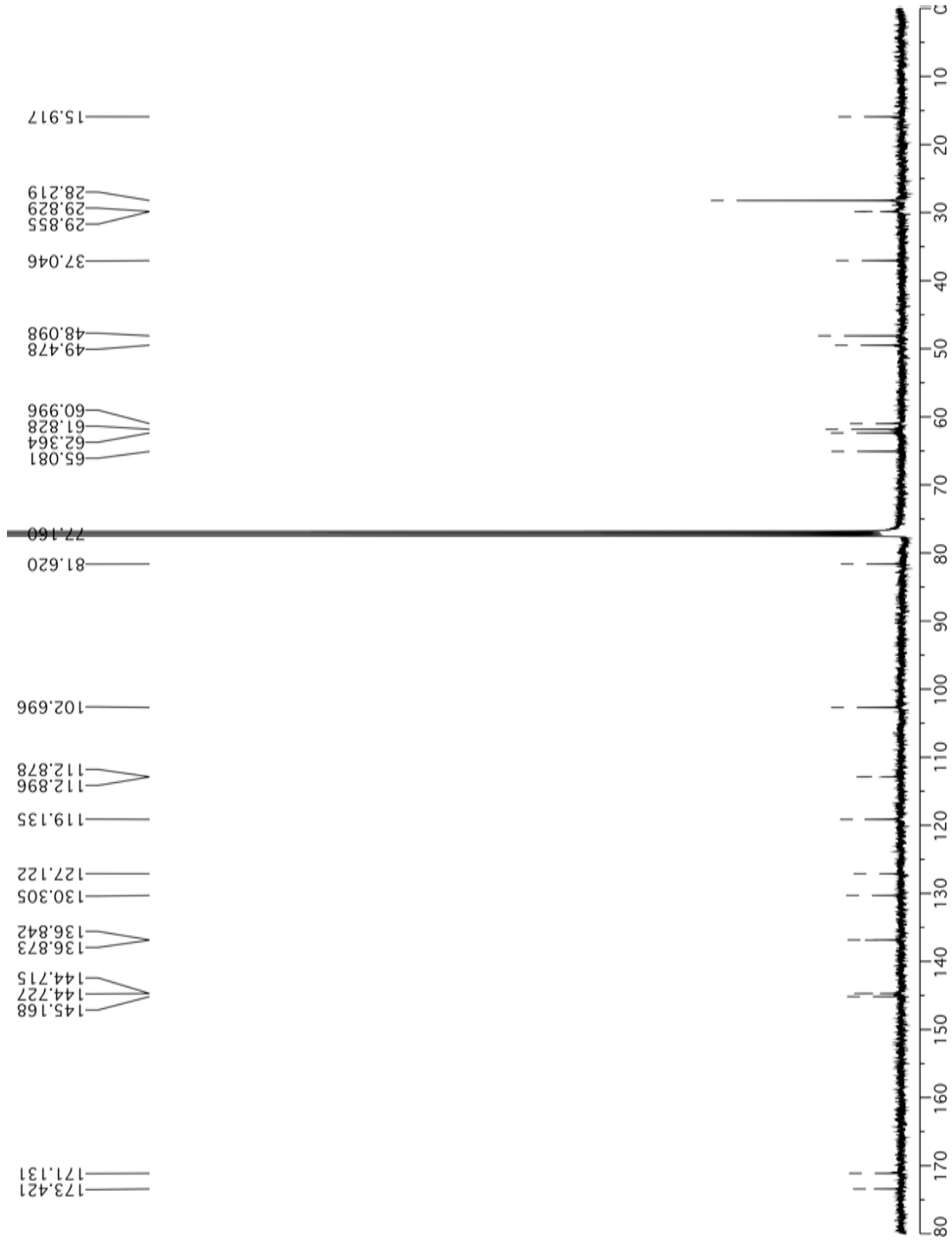
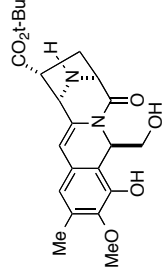


¹H-NMR spectrum of compound 24b (400 MHz, CDCl₃)

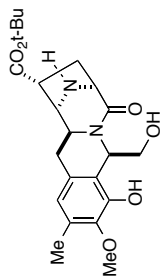
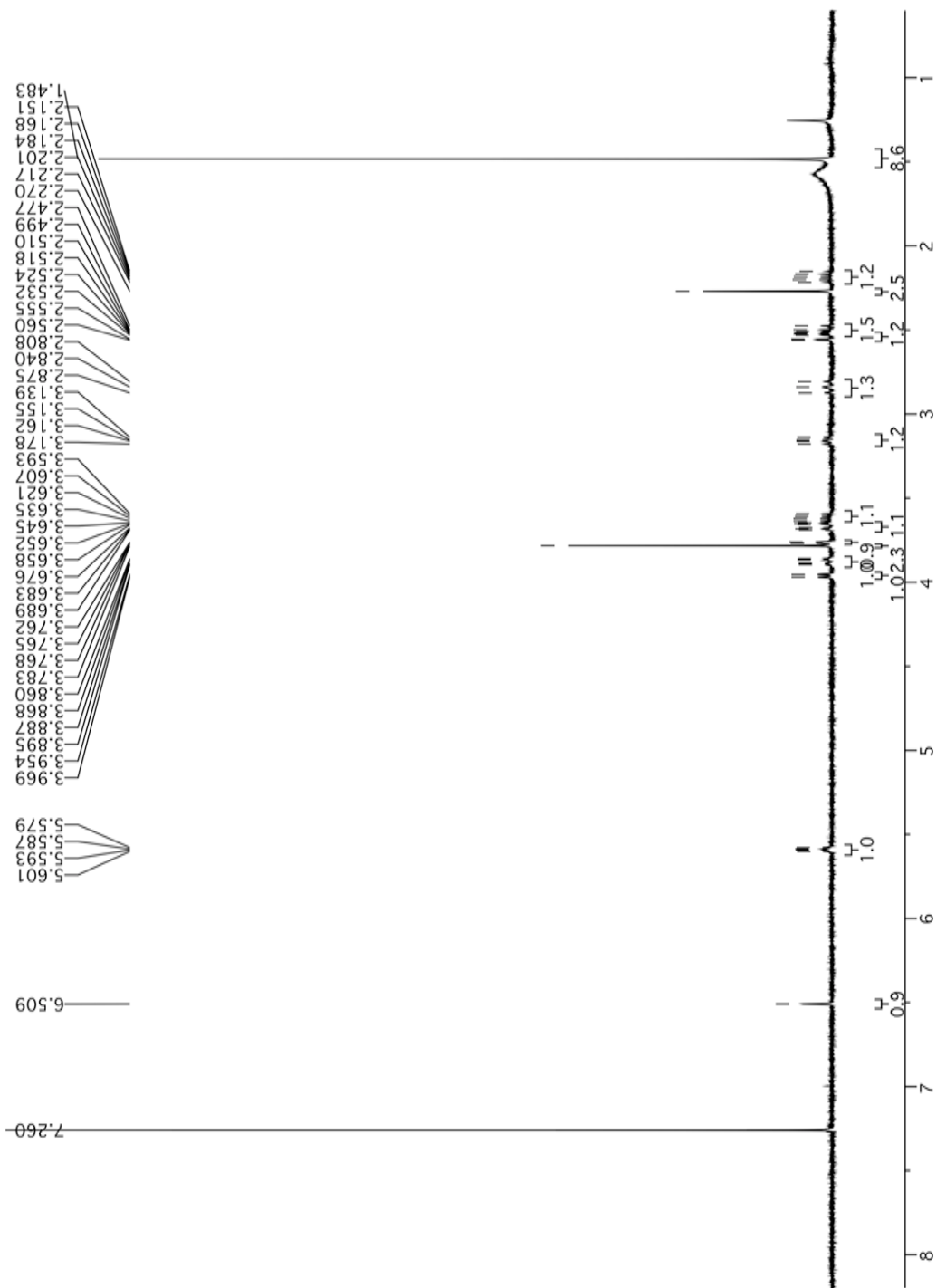




¹H-NMR spectrum of compound 25 (400 MHz, CDCl₃)



¹³C-NMR spectrum of compound 25 (101 MHz, CDCl₃)



¹H-NMR spectrum of compound 26 (400 MHz, CDCl₃)

