
Expeditious synthesis of dianionic headed 4-sulfoalkanoic acid surfactants

Jianhui Jiang and Jiayi Xu*

State Key Laboratory of Chemical Resource Engineering, Department of Organic Chemistry,
Faculty of Science, Beijing University of Chemical Technology, Beijing 100029, People's
Republic of China. Tel/Fax +8610-64435565, jxxu@mail.buct.edu.cn.

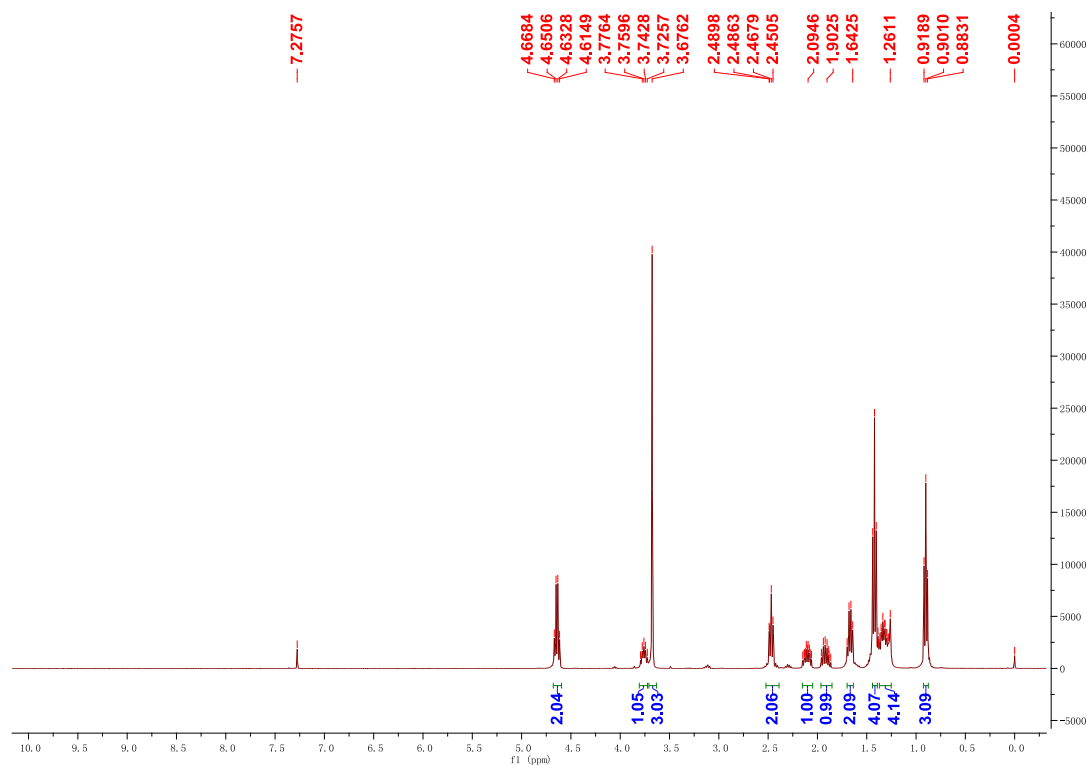
Contents

Copies of ^1H and ^{13}C NMR spectra of products 3 and 4	S2
--	----

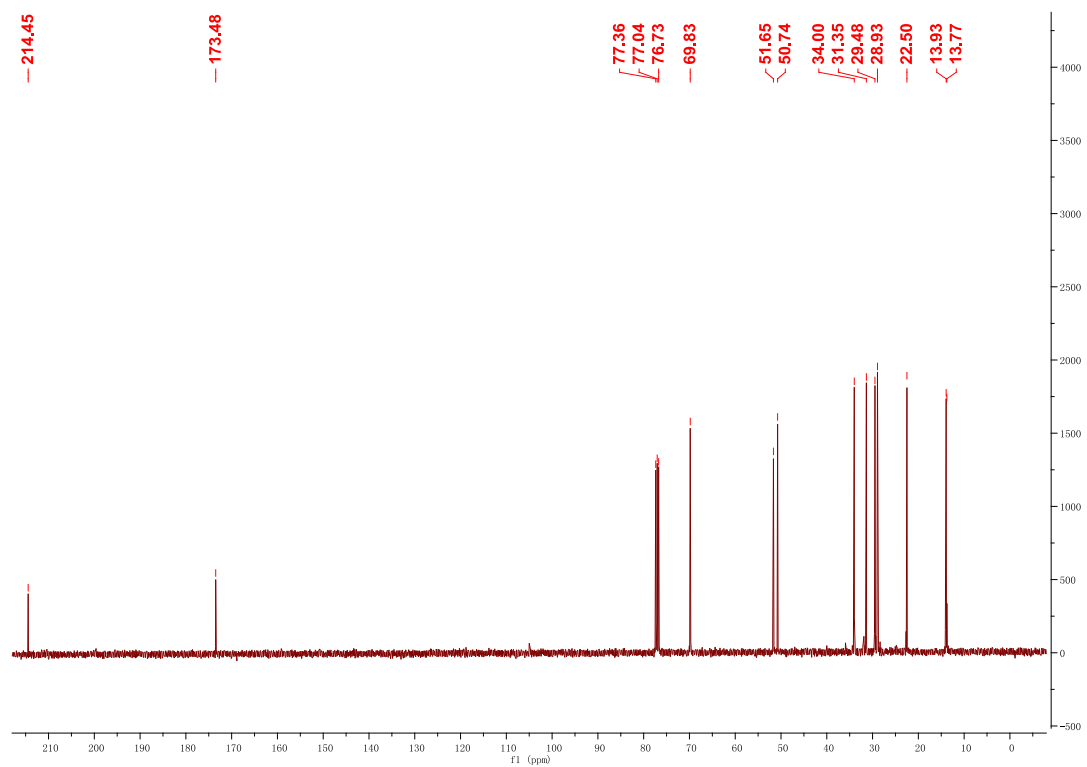
Copies of ^1H and ^{13}C NMR spectra of products **3** and **4**

3a

^1H NMR (400 MHz, CDCl_3)

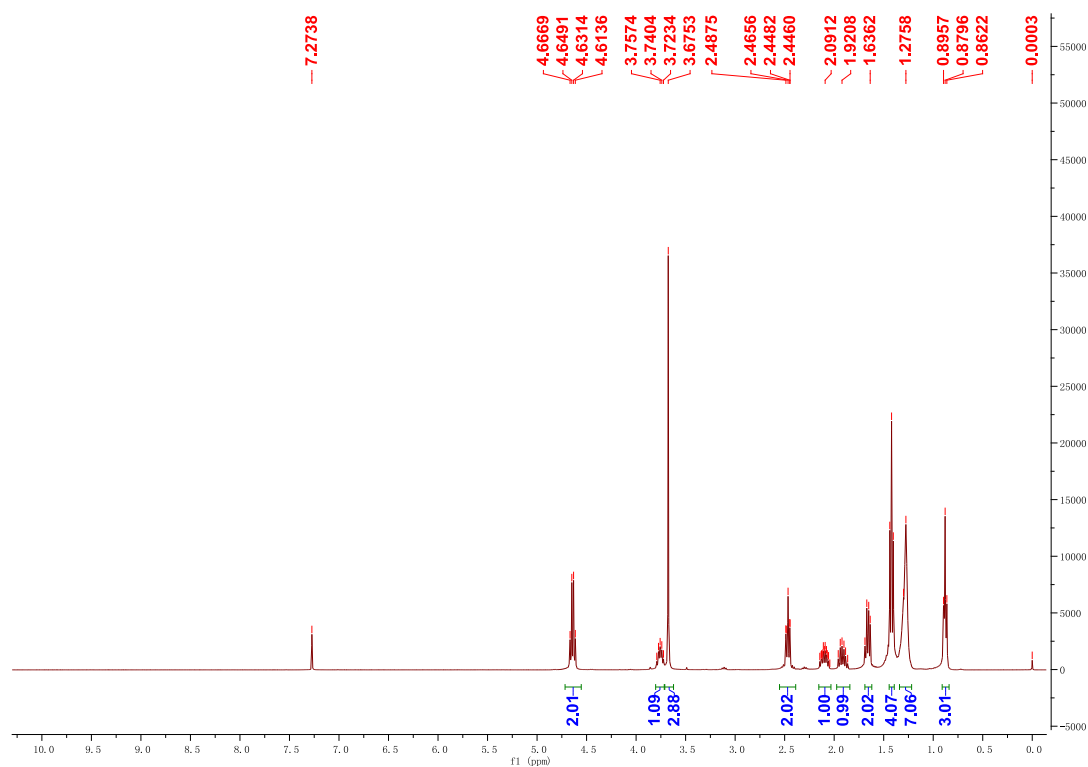


^{13}C NMR (101 MHz, CDCl_3)

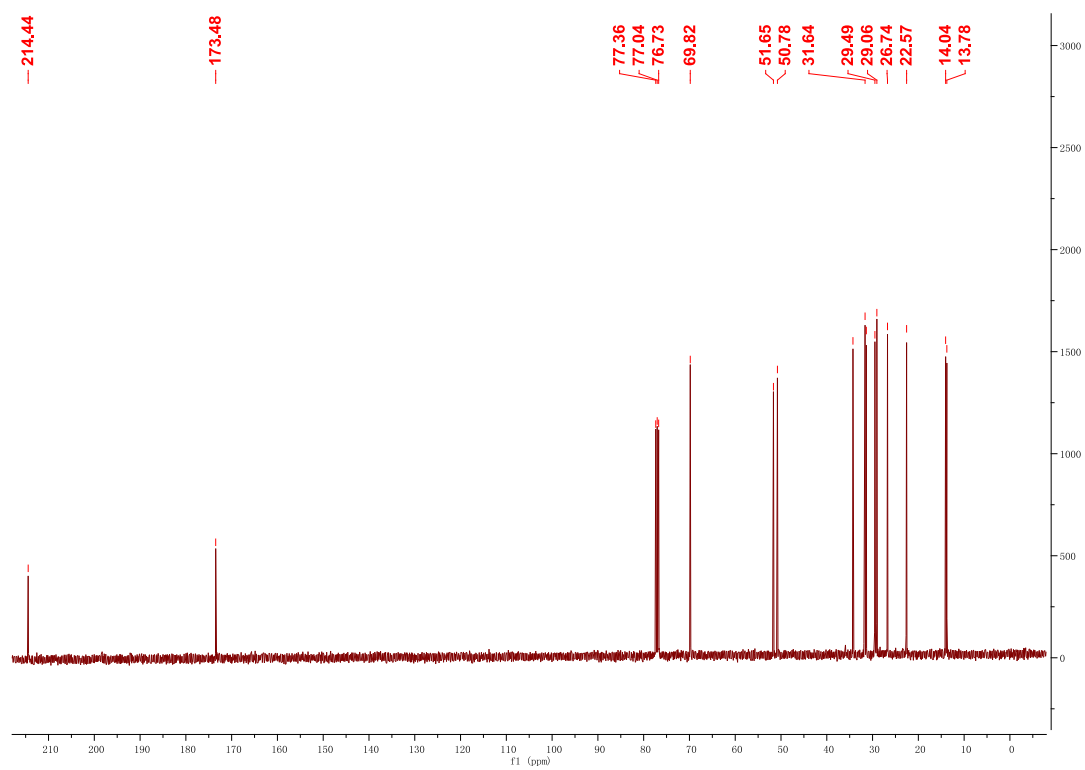


3b

^1H NMR (400 MHz, CDCl_3)

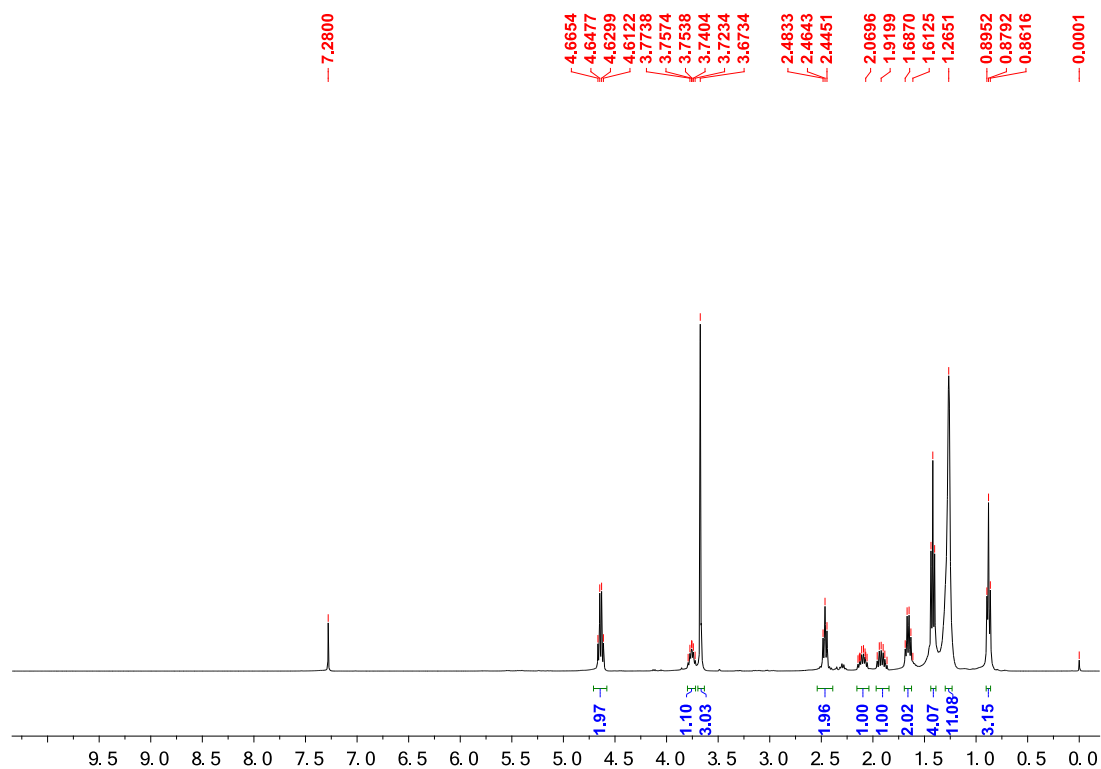


^{13}C NMR (101 MHz, CDCl_3)

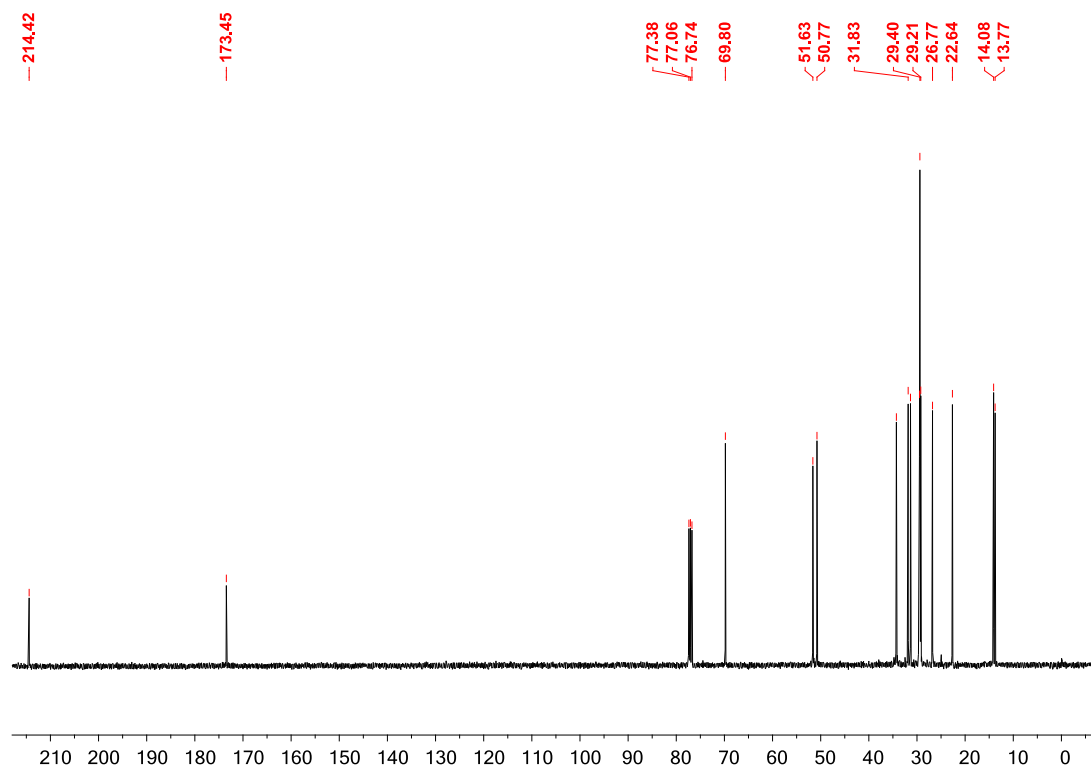


3c

^1H NMR (400 MHz, CDCl_3)

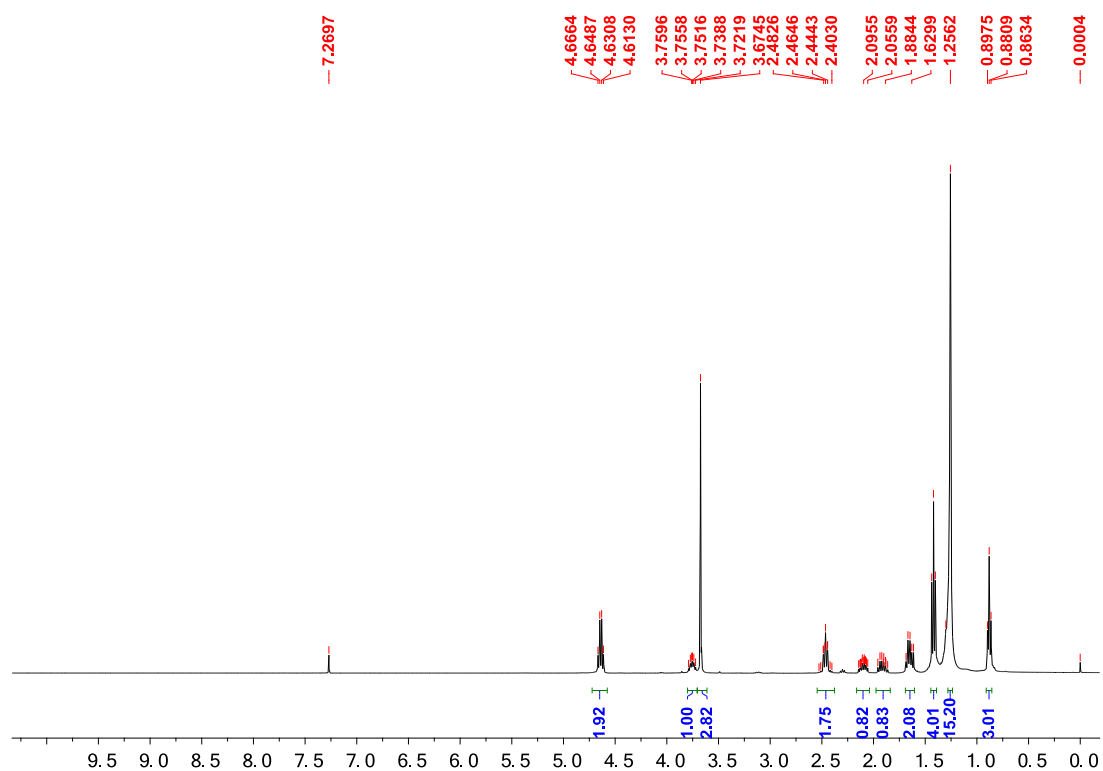


^{13}C NMR (101 MHz, CDCl_3)

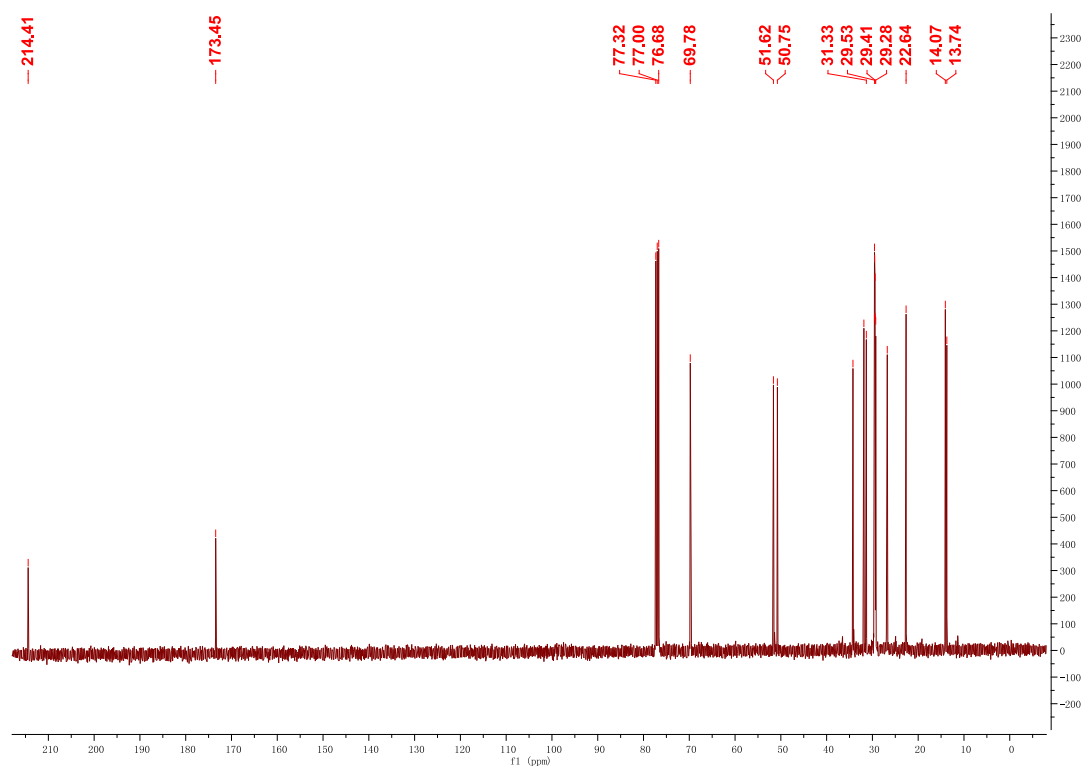


3d

^1H NMR (400 MHz, CDCl_3)

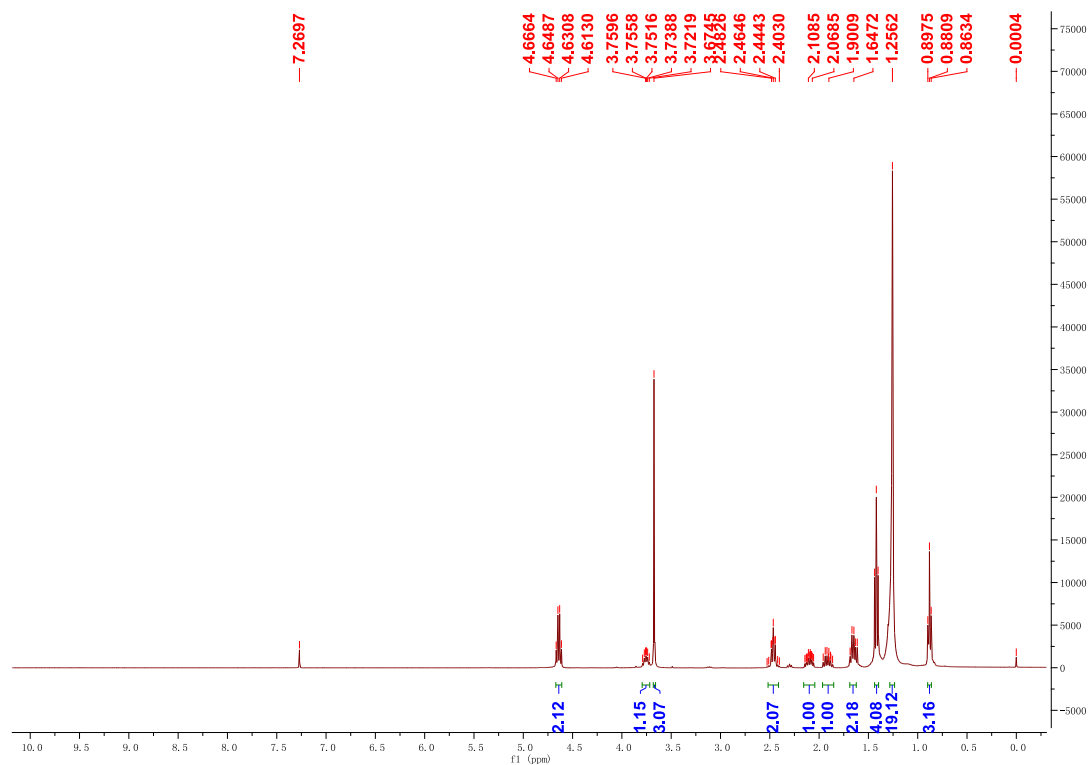


^{13}C NMR (101 MHz, CDCl_3)

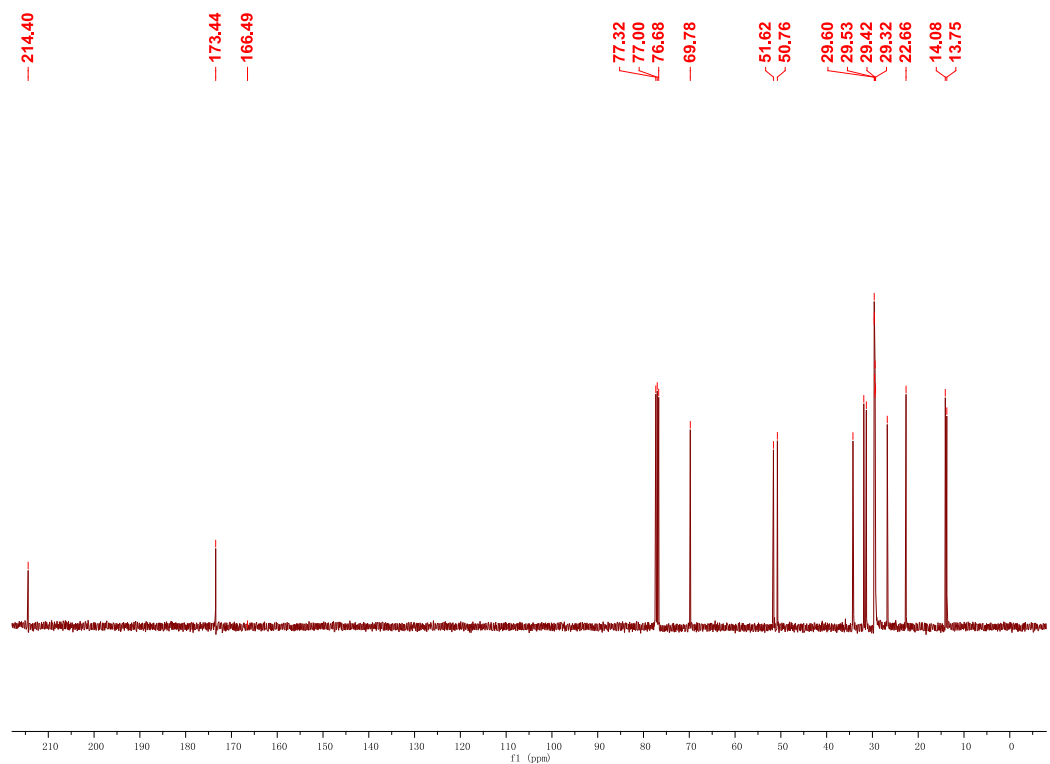


3e

^1H NMR (400 MHz, CDCl_3)

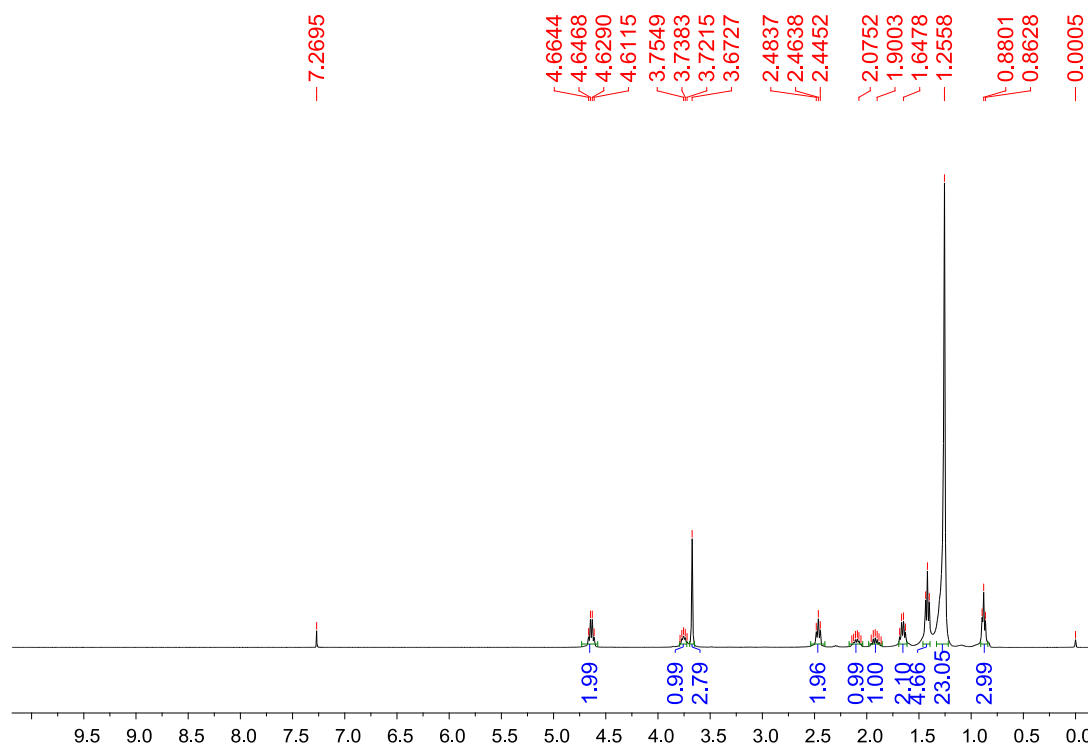


^{13}C NMR (101 MHz, CDCl_3)

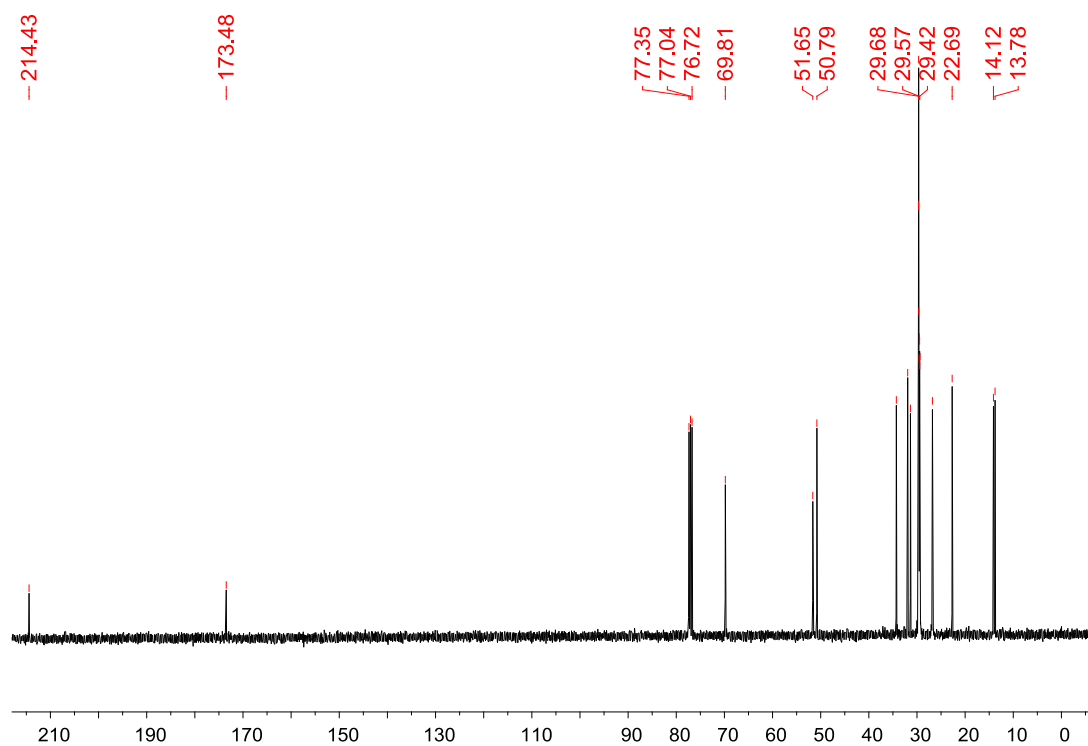


3f

^1H NMR (400 MHz, CDCl_3)

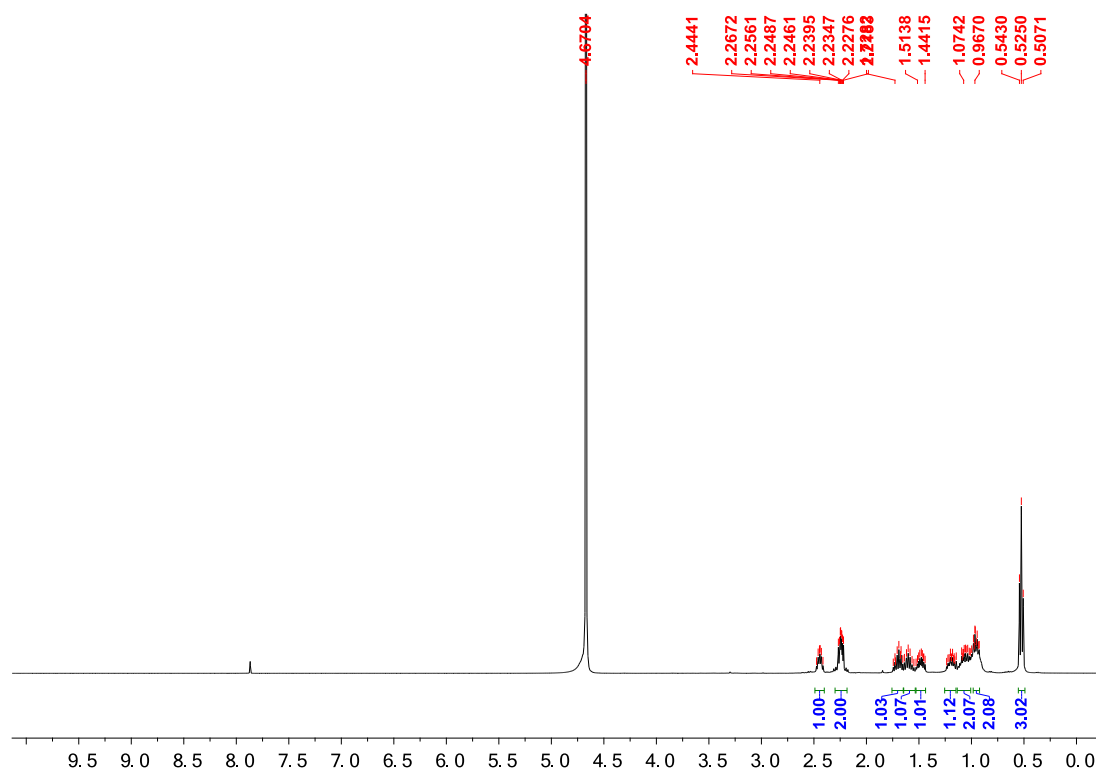


^{13}C NMR (101 MHz, CDCl_3)

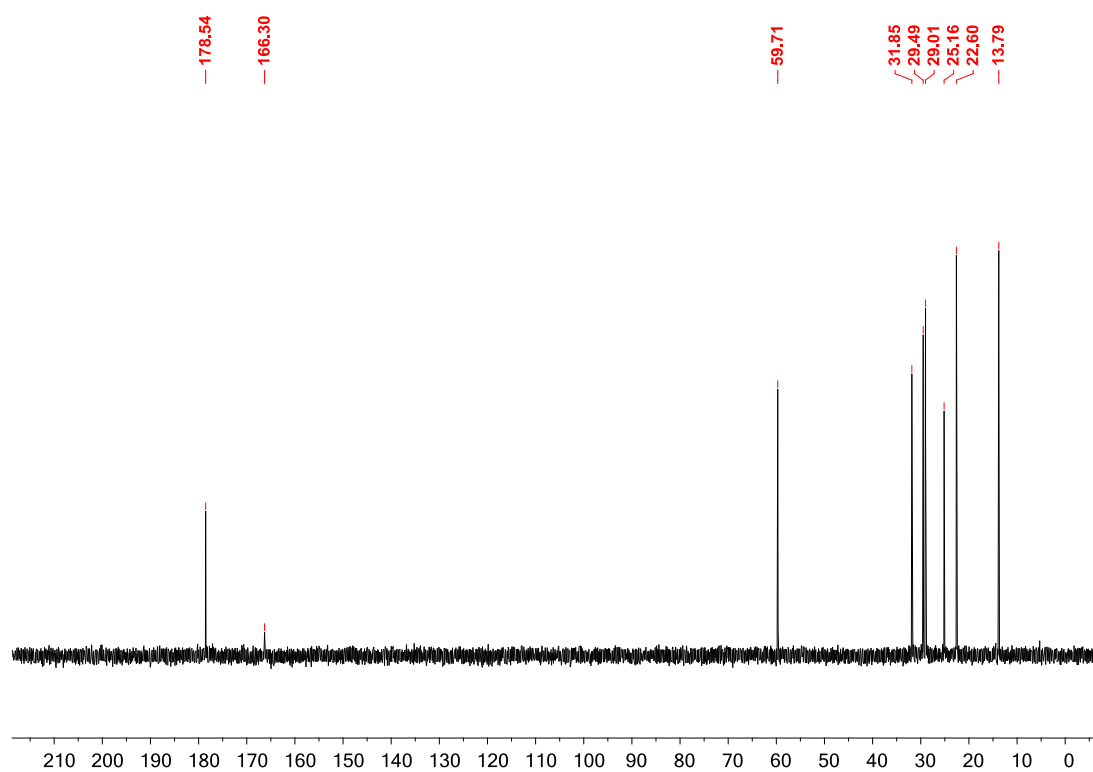


4a

^1H NMR (400 MHz, D_2O)

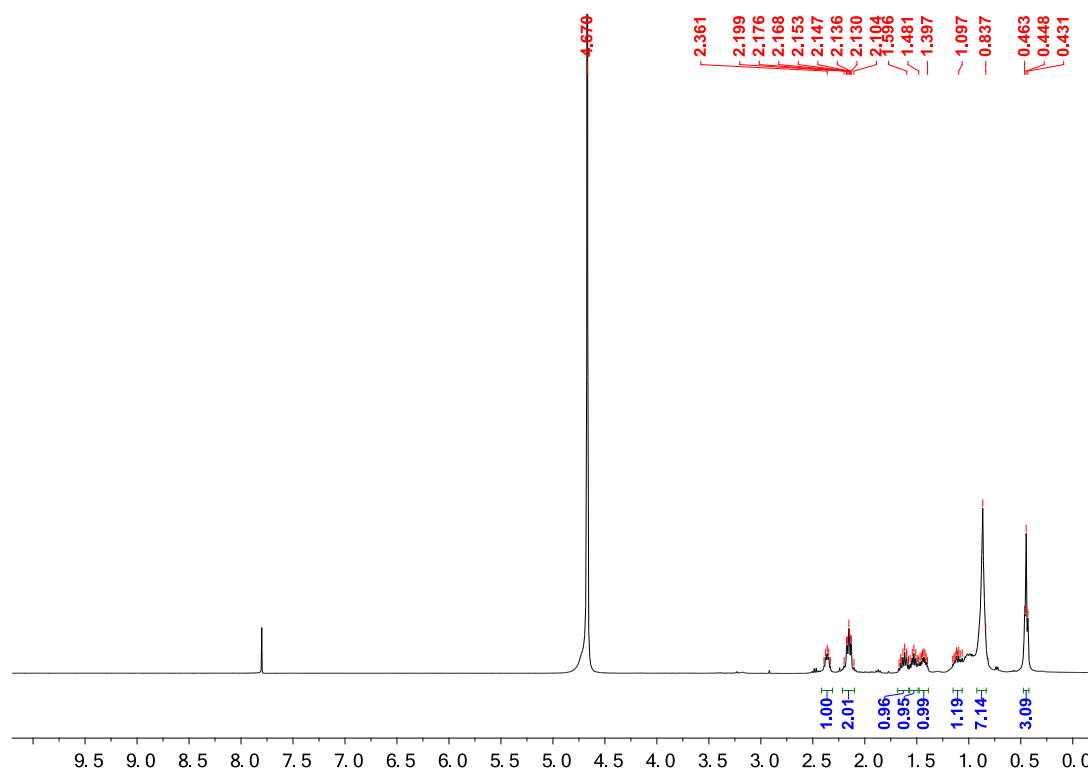


^{13}C NMR (101 MHz, D_2O)

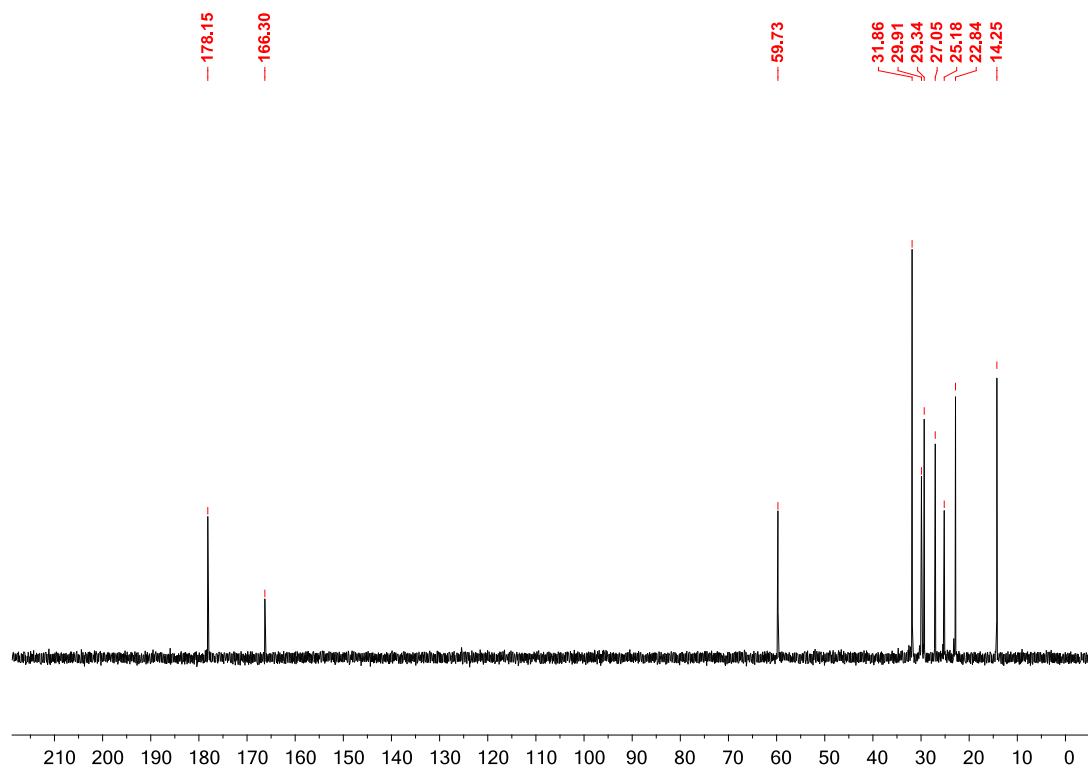


4b

^1H NMR (400 MHz, D_2O)

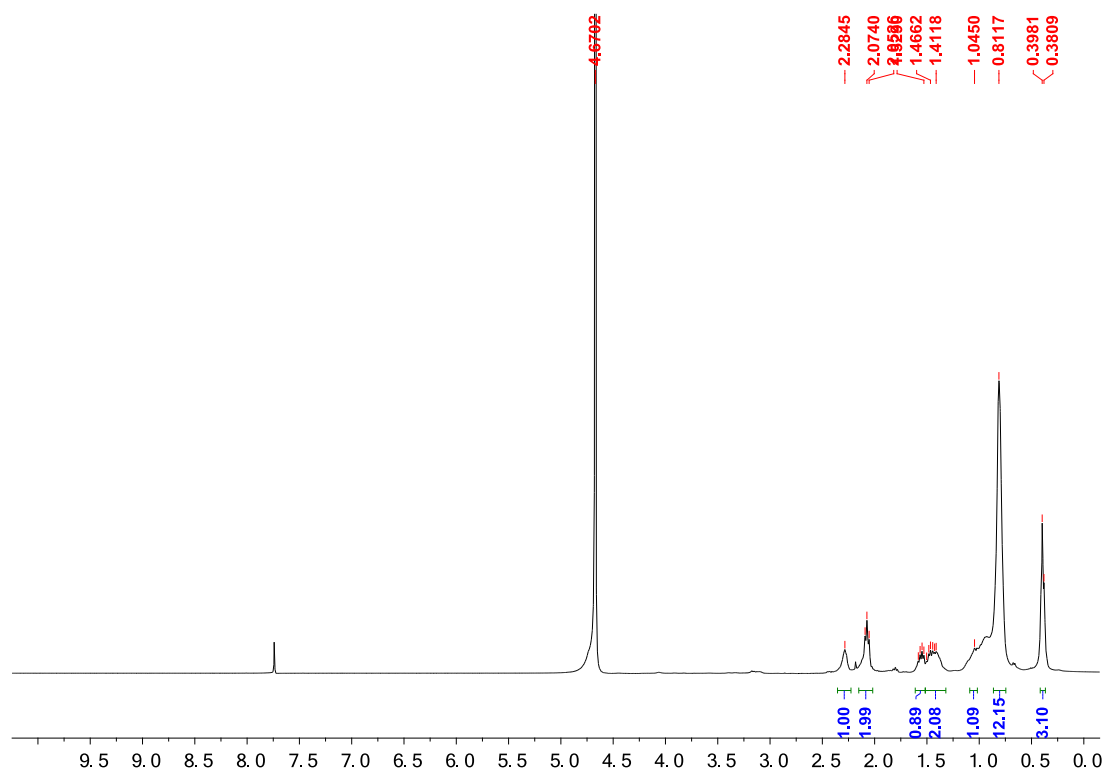


^{13}C NMR (101 MHz, D_2O)

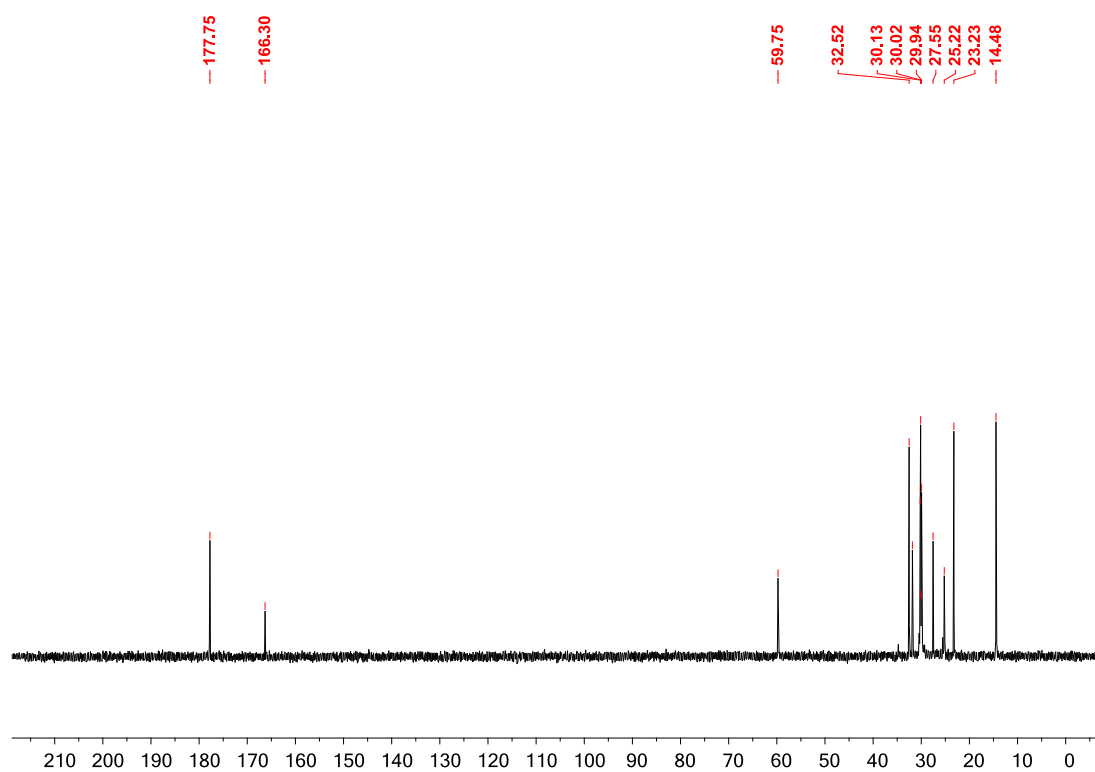


4c

^1H NMR (400 MHz, D_2O)

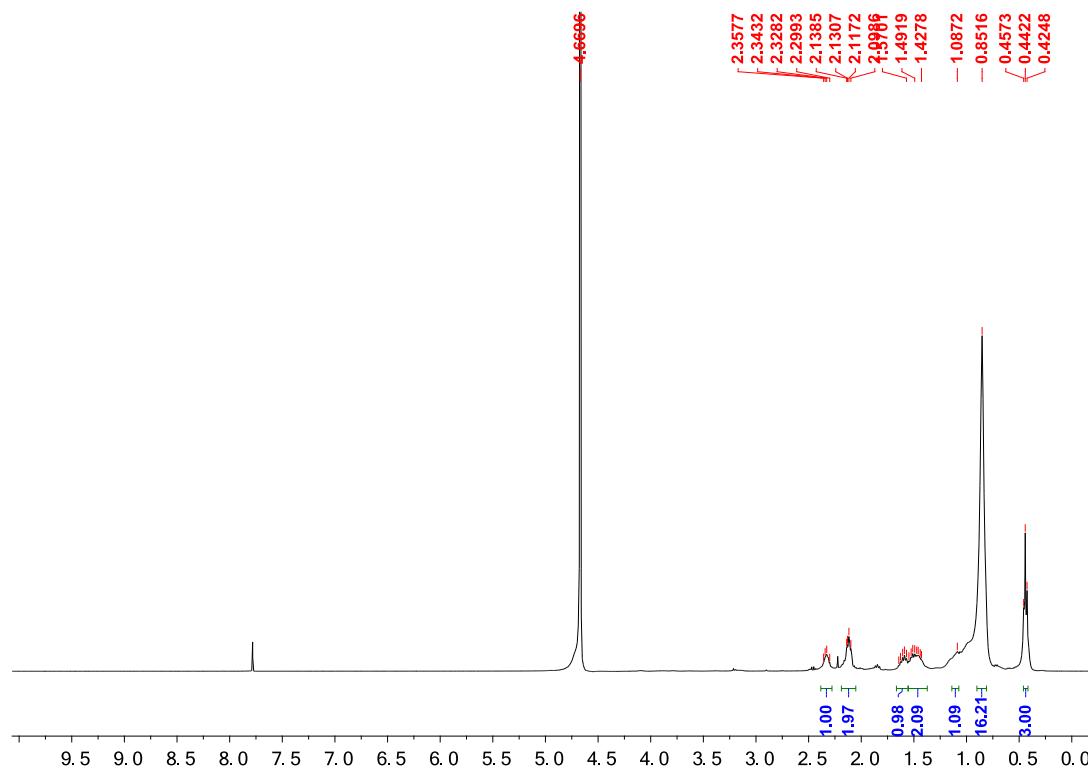


^{13}C NMR (101 MHz, D_2O)

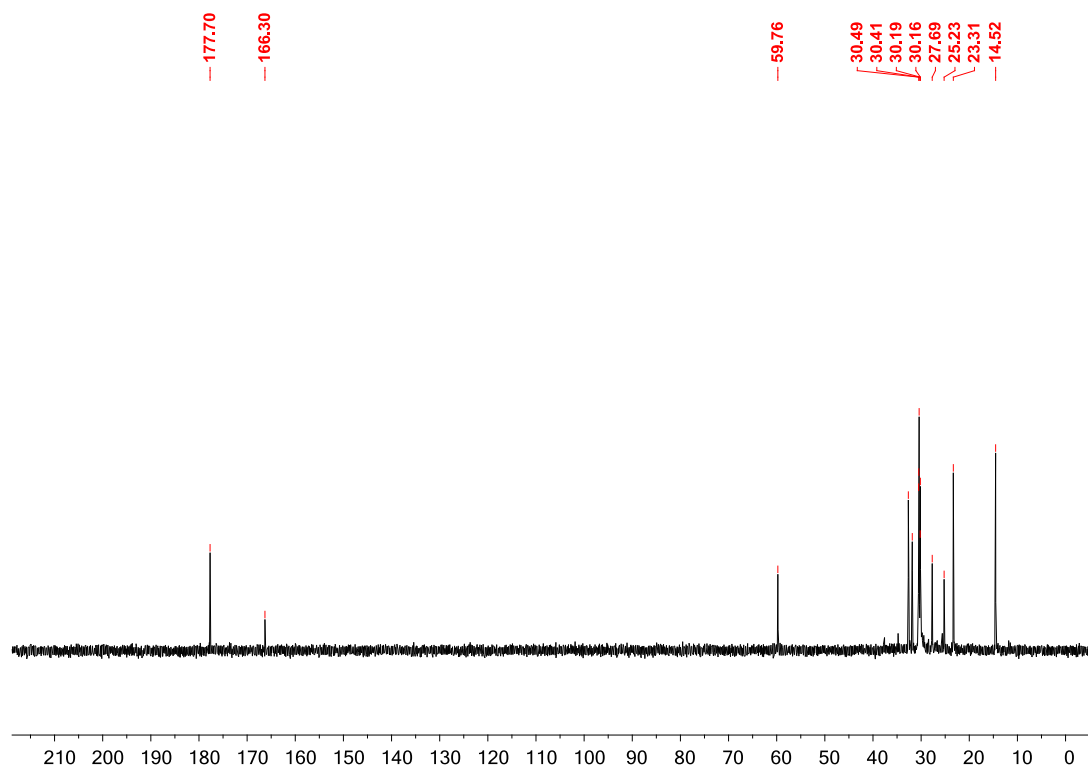


4d

^1H NMR (400 MHz, D_2O)

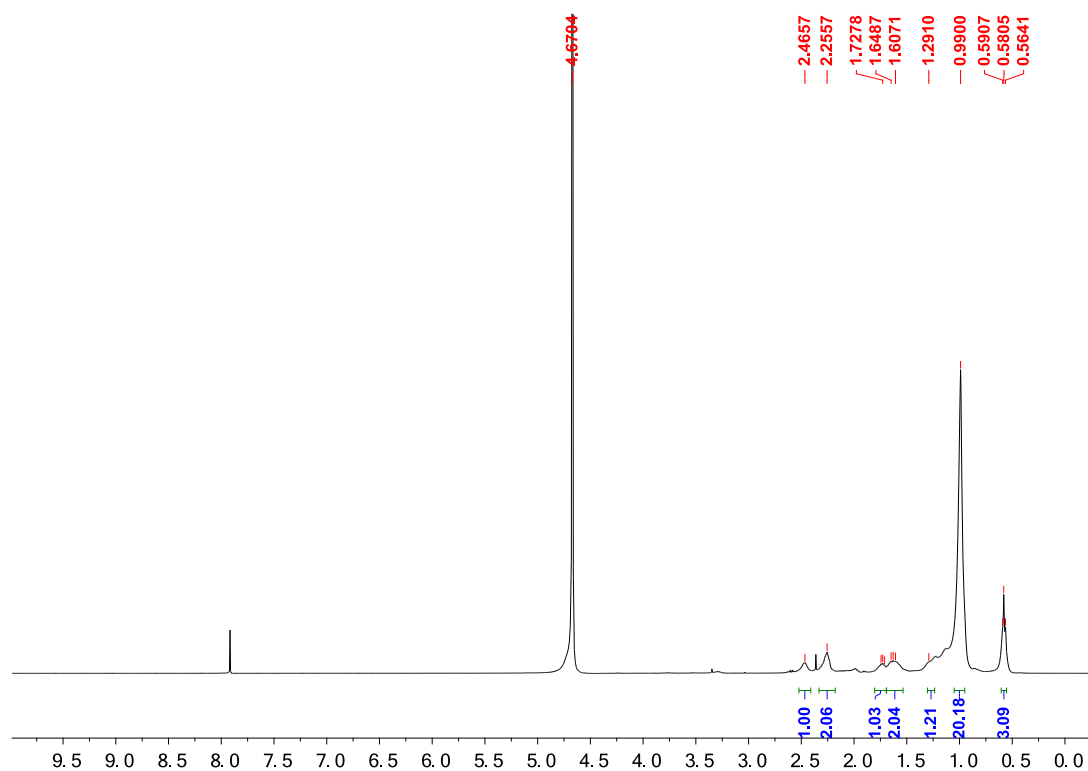


^{13}C NMR (101 MHz, D_2O)

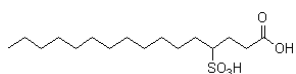
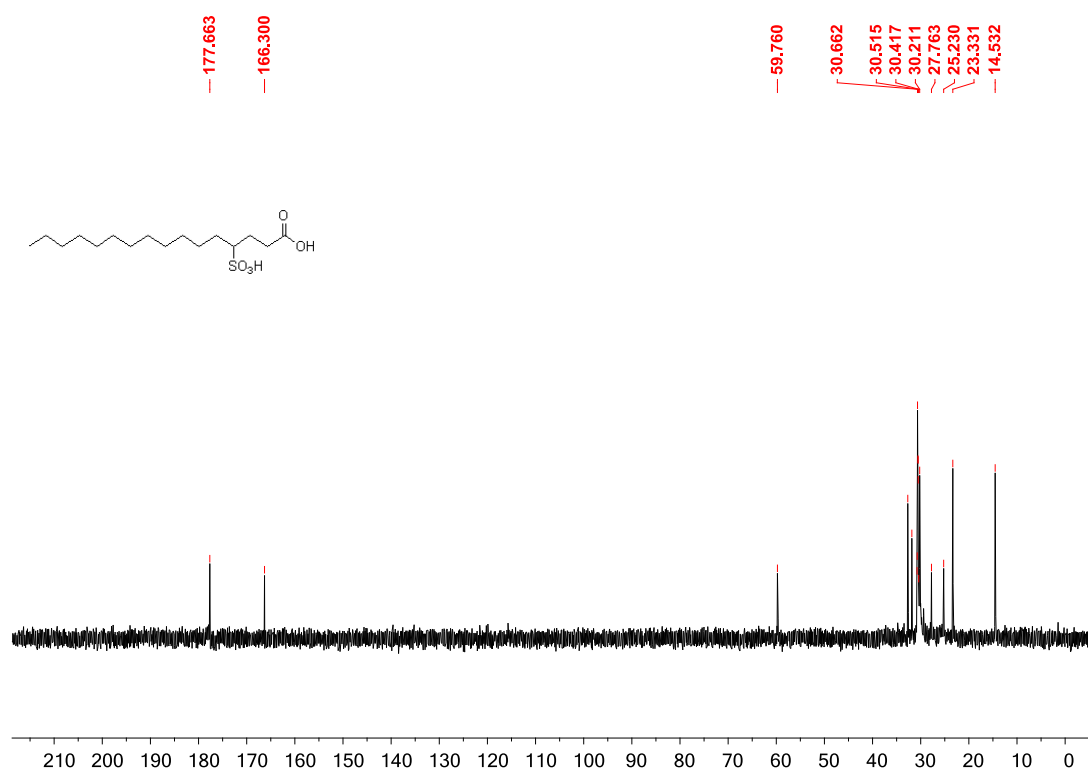


4e

^1H NMR (400 MHz, D_2O)

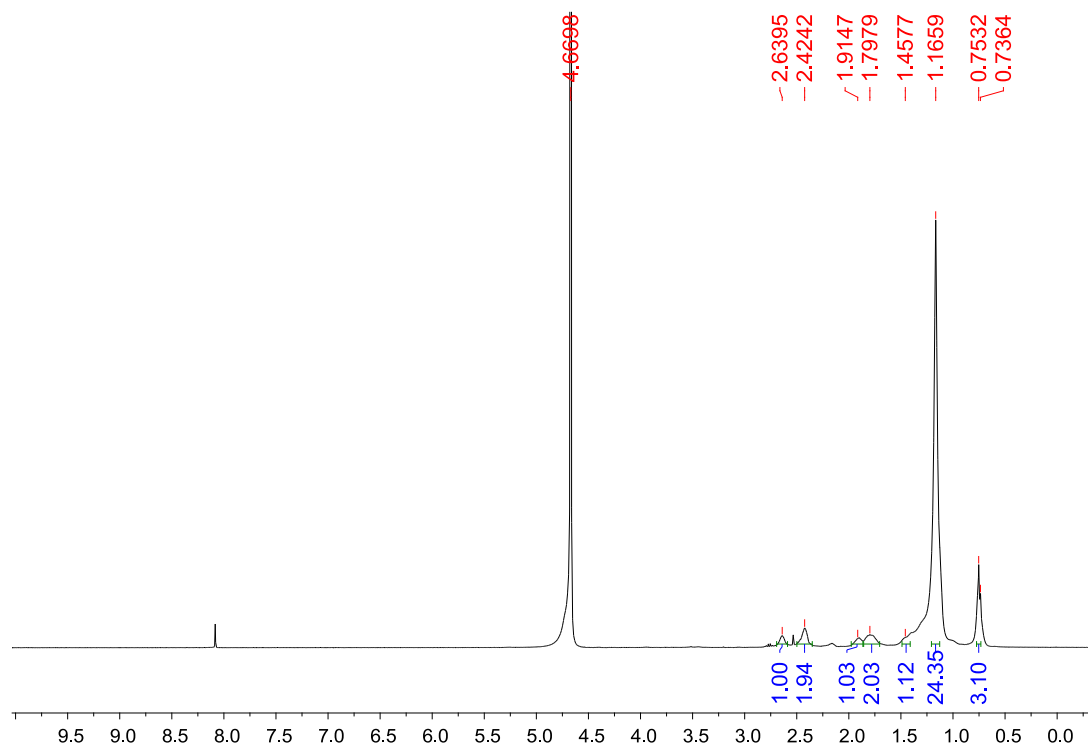


^{13}C NMR (101 MHz, D_2O)



4f

^1H NMR (400 MHz, D_2O)



^{13}C NMR (101 MHz, D_2O)

