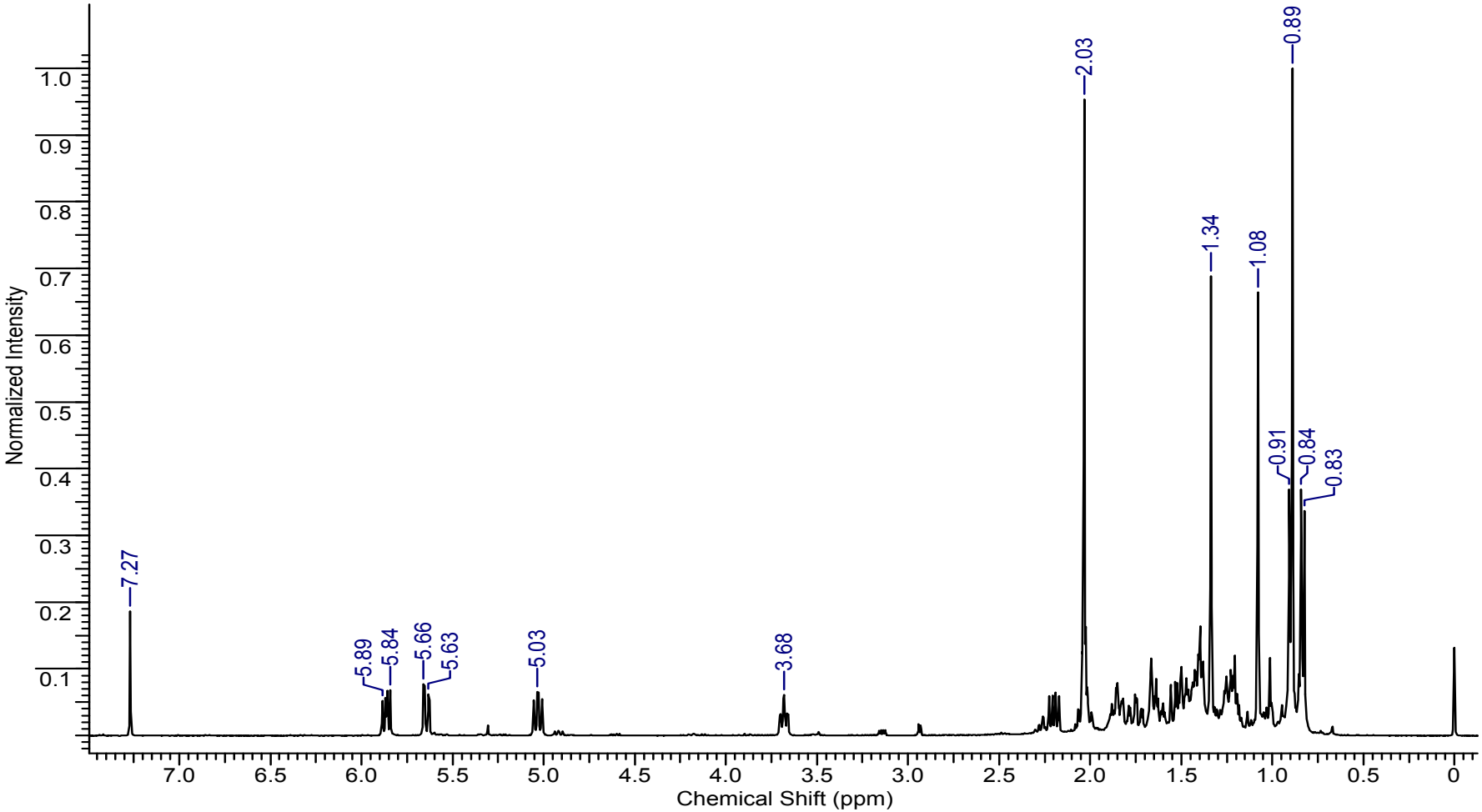
Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

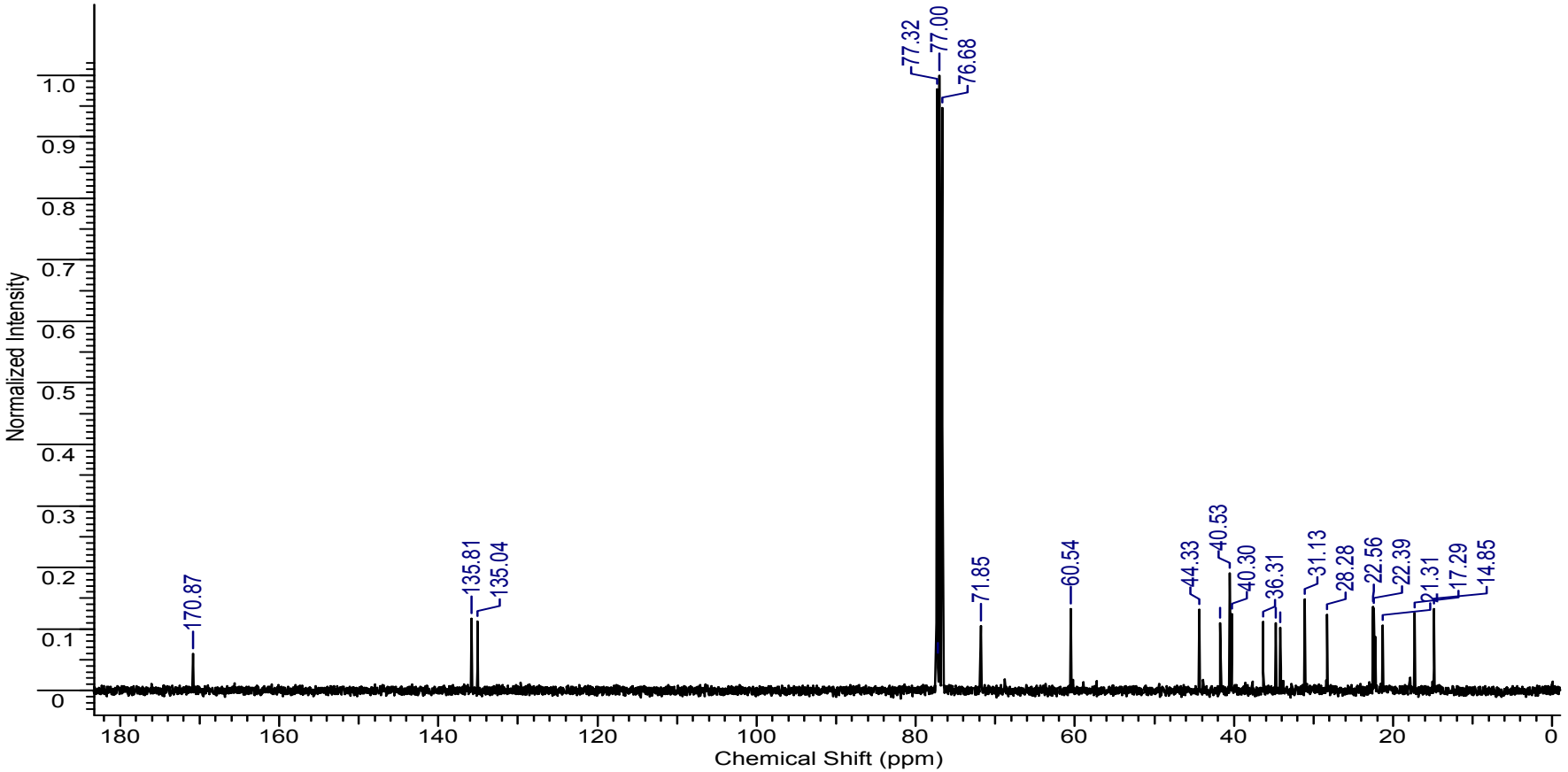
Electronic supplementary Information

An unusual mulinane diterpenoid from the Chilean plant *Azorella trifurcata* (Gaertn) Pers.

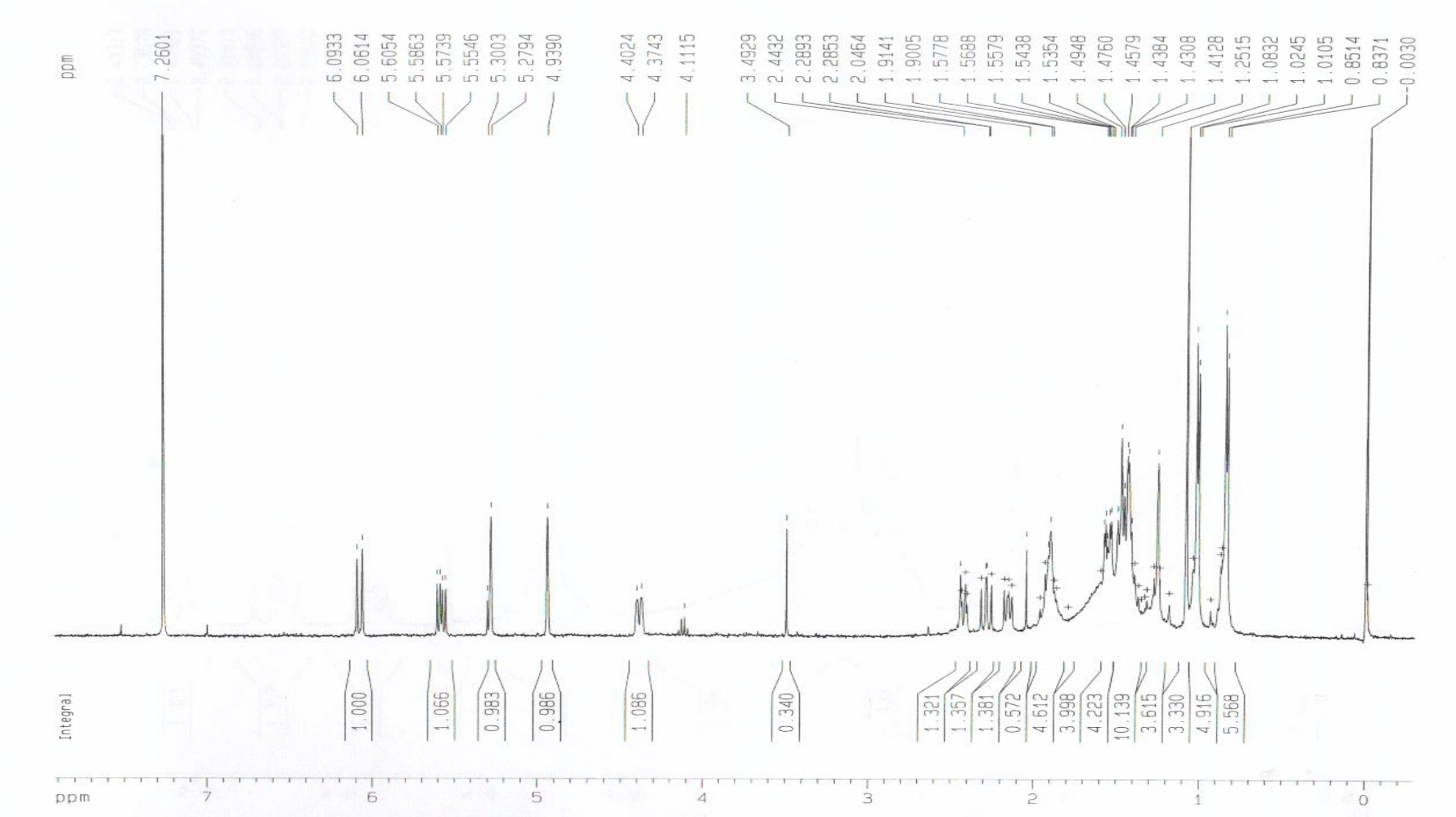
Carlos Areche,*[a] Beatriz Sepulveda,[b] Aurelio San Martin,[a] Olimpo Garcia-Beltrán,[a,c] Mario Simirgiotis,[d] Alvaro Cañete,[e]



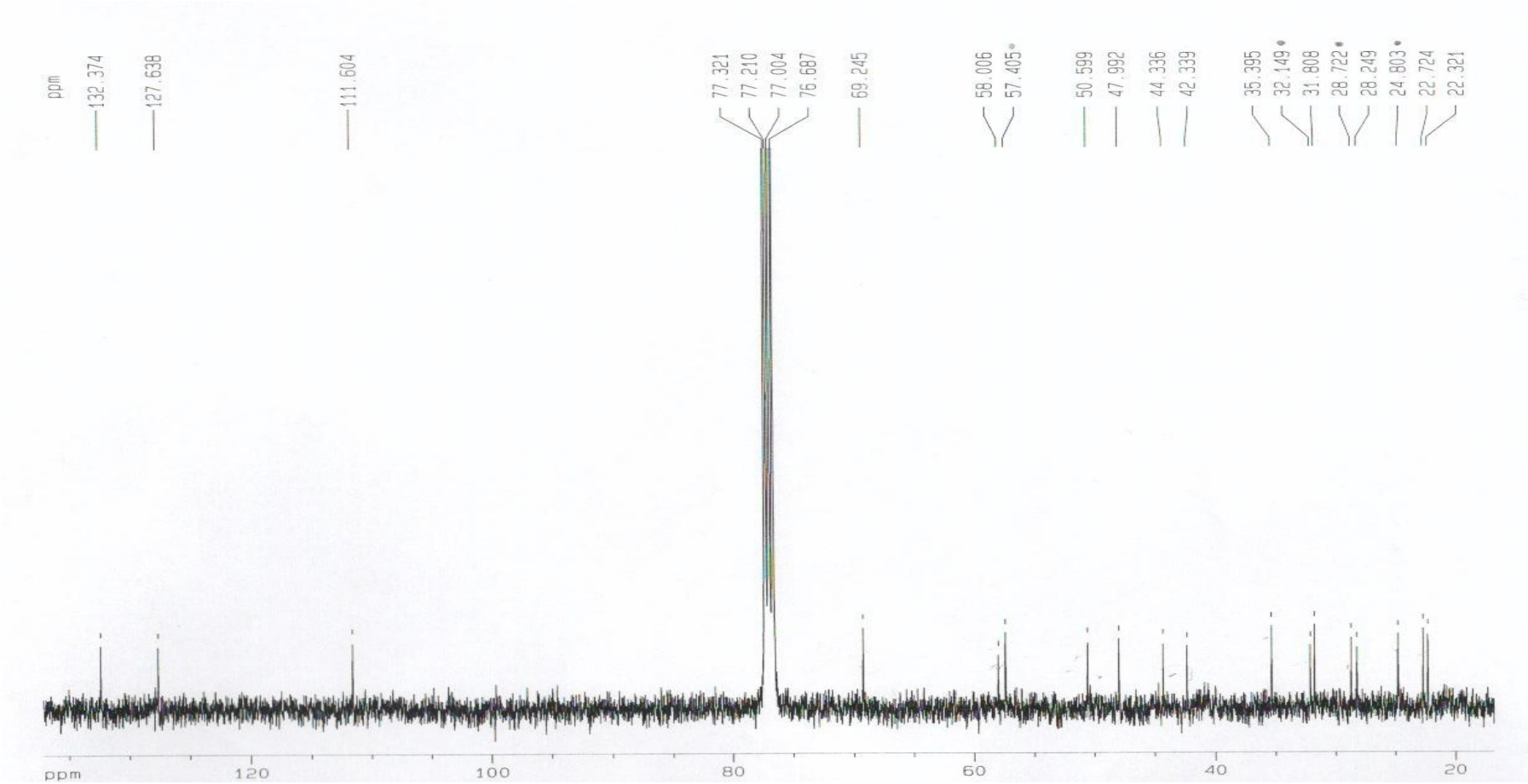
1.^{1}H NMR spectrum of 7α-acetoxy-9-epi-13β-hydroxymulinane **4** in $CDCl_3$.



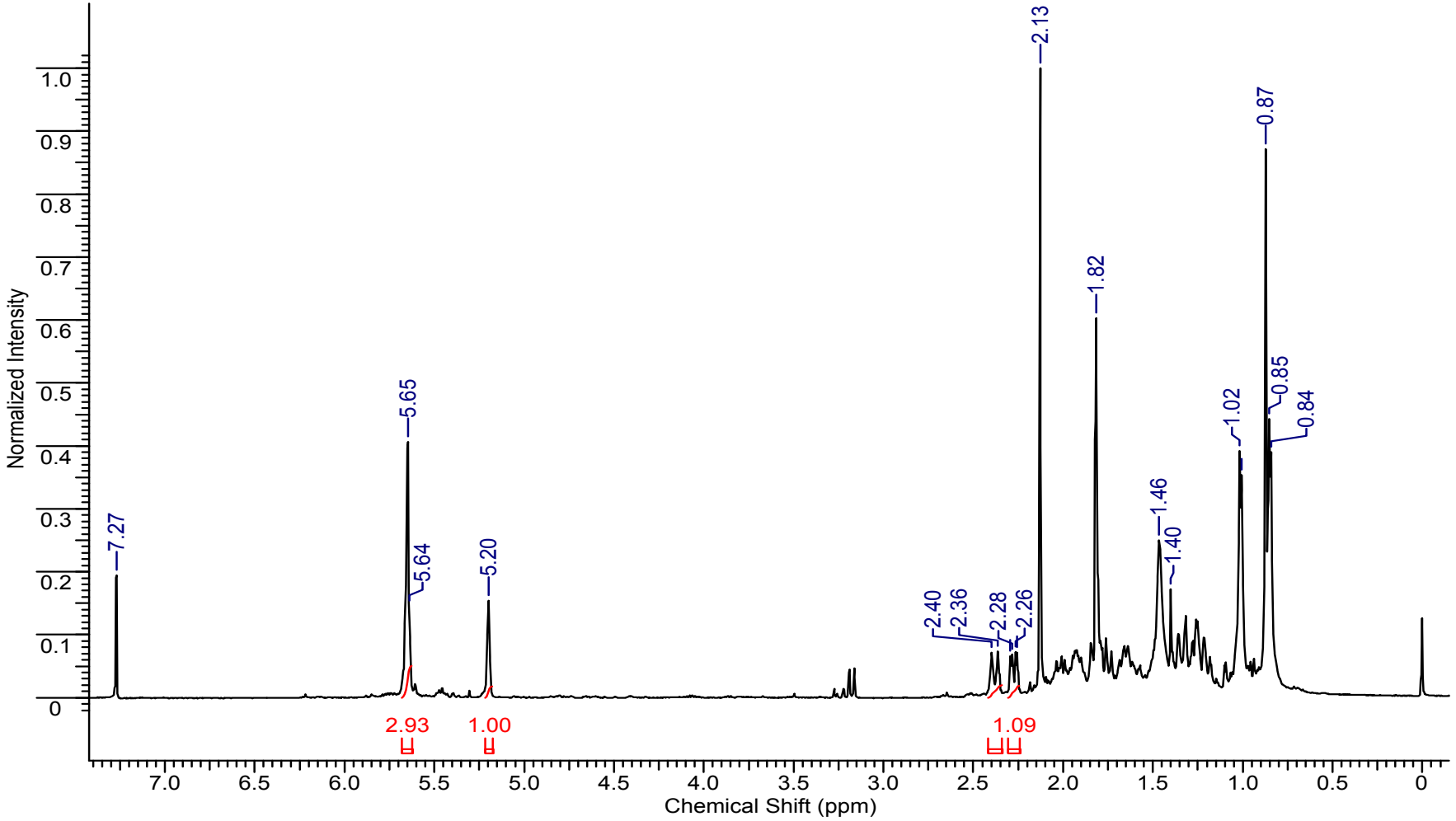
2. ^{13}C NMR spectrum of 7α-acetoxy-9-epi-13β-hydroxymulinane **4** in $CDCl_3$.



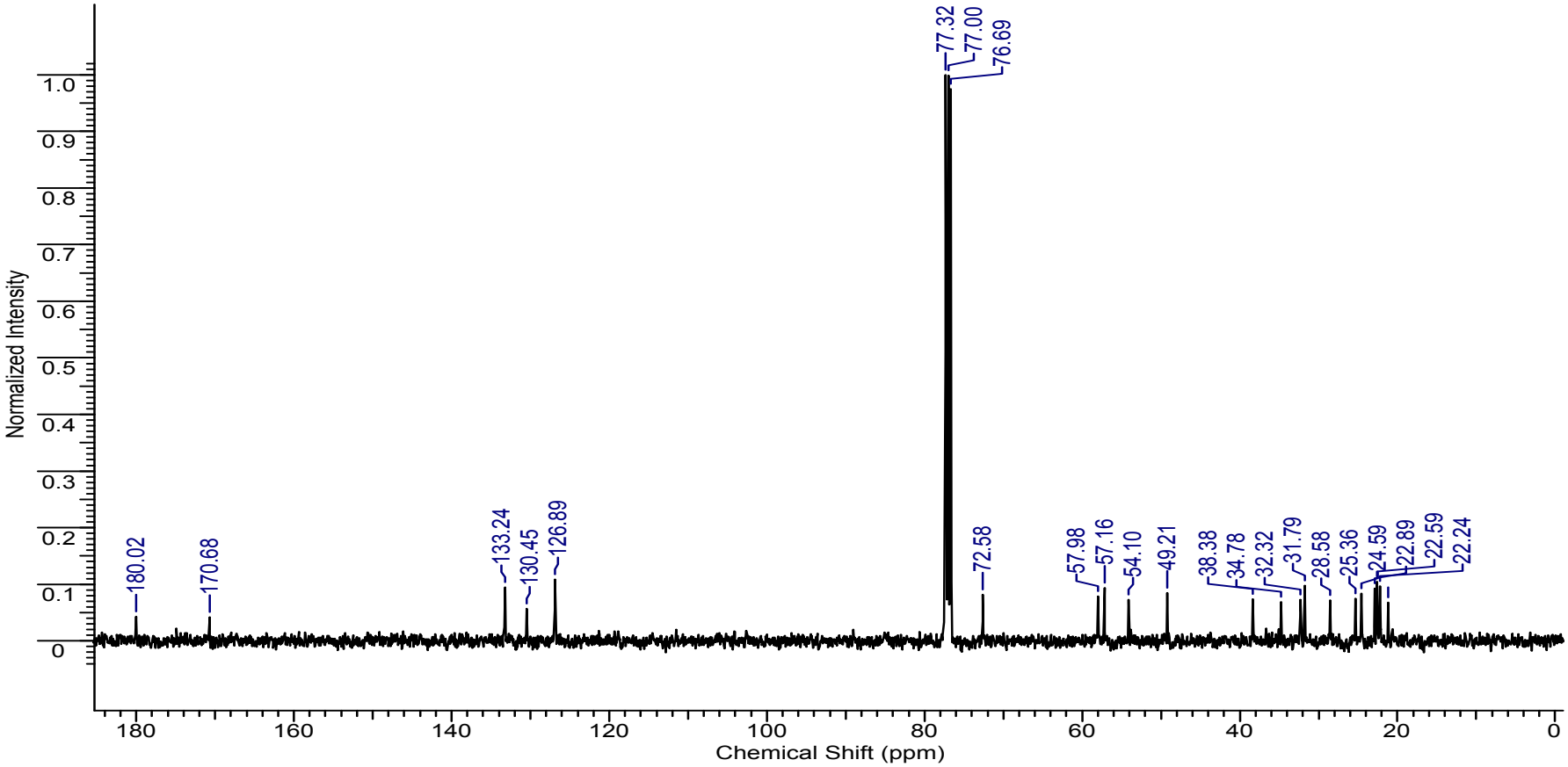
3.^{1}H NMR spectrum of 14α-hydroxymulin-11,13(16)-dien-20-oic acid **5** in $CDCl_3$.



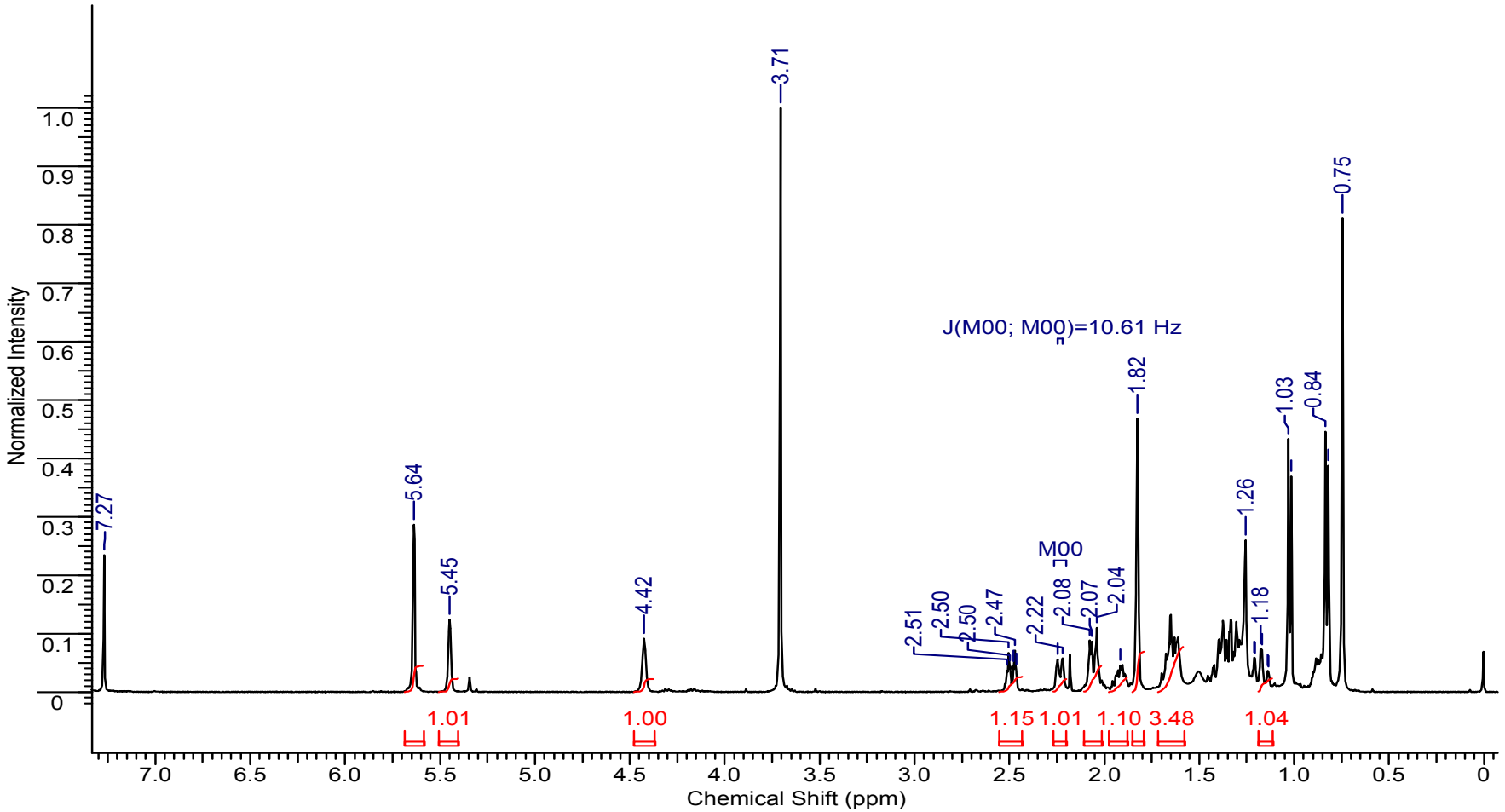
4. ^{13}C NMR spectrum of 14α-hydroxymulin-11,13(16)-dien-20-oic acid **5** in $CDCl_3$.



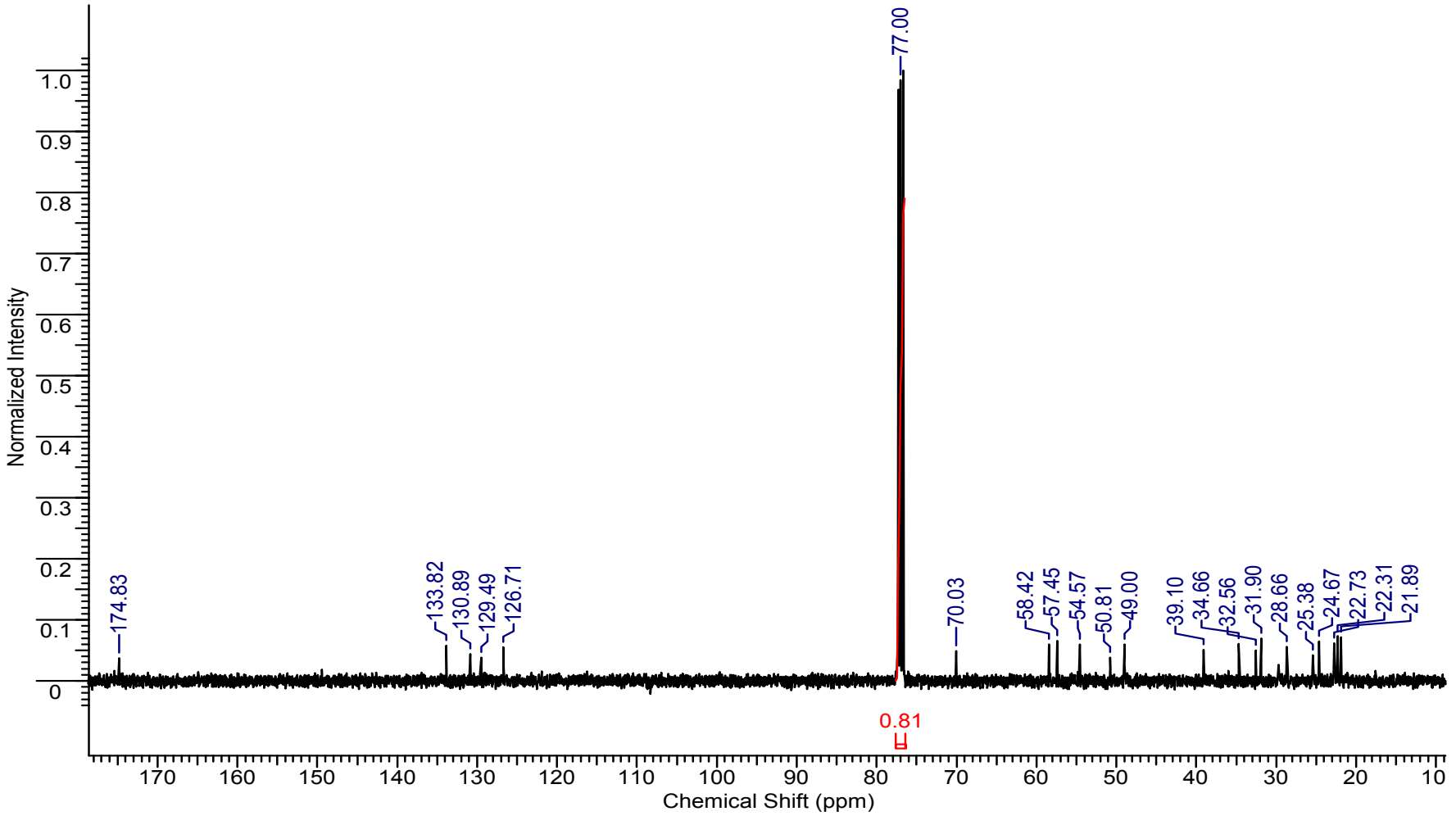
5. ^{1}H NMR spectrum of 15α-acetoxymulin-11,13-dien-20-oic acid **8** in $CDCl_3$.



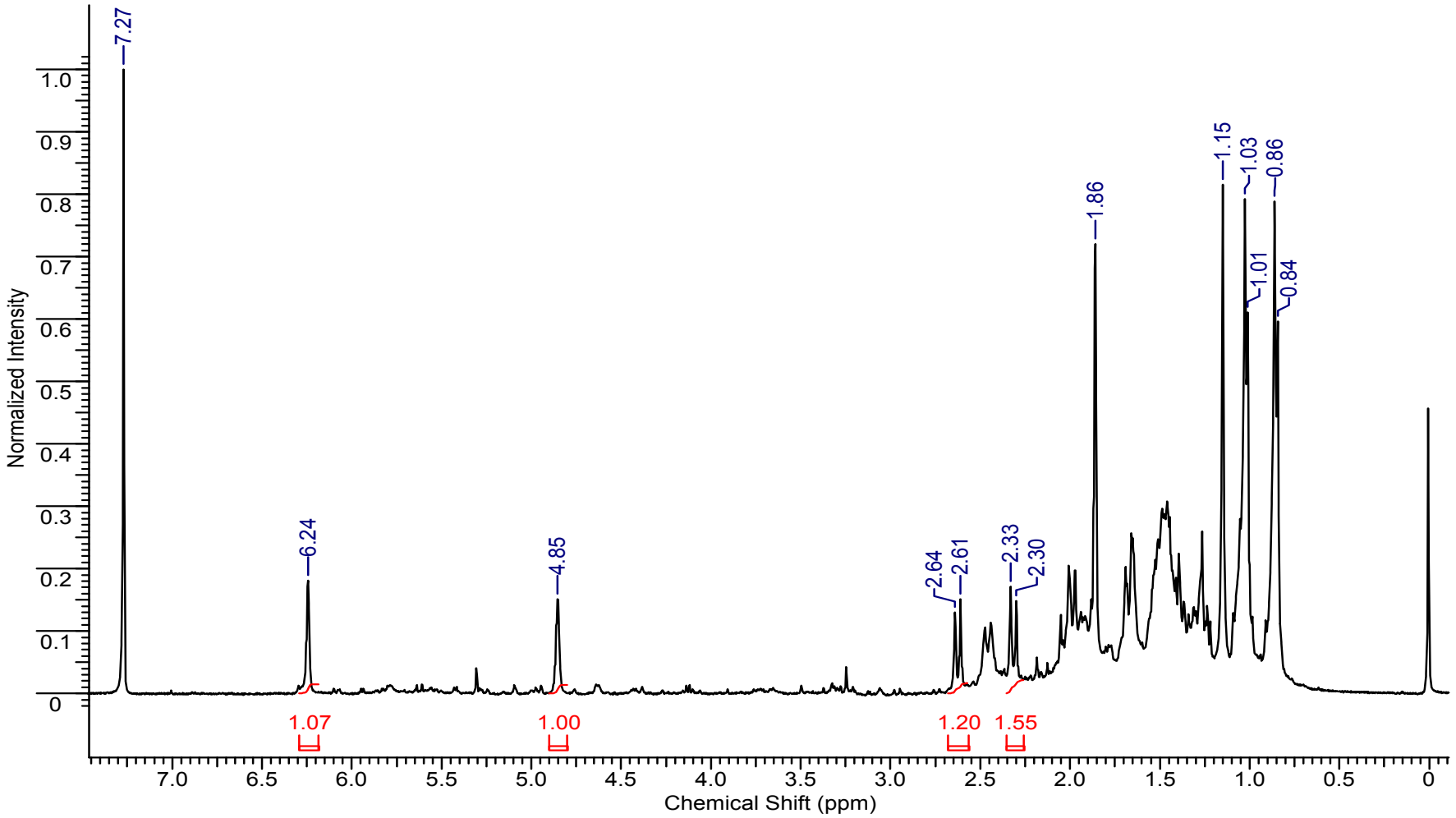
6. ^{13}C NMR spectrum of 15α-acetoxymulin-11,13-dien-20-oic acid **8** in $CDCl_3$.



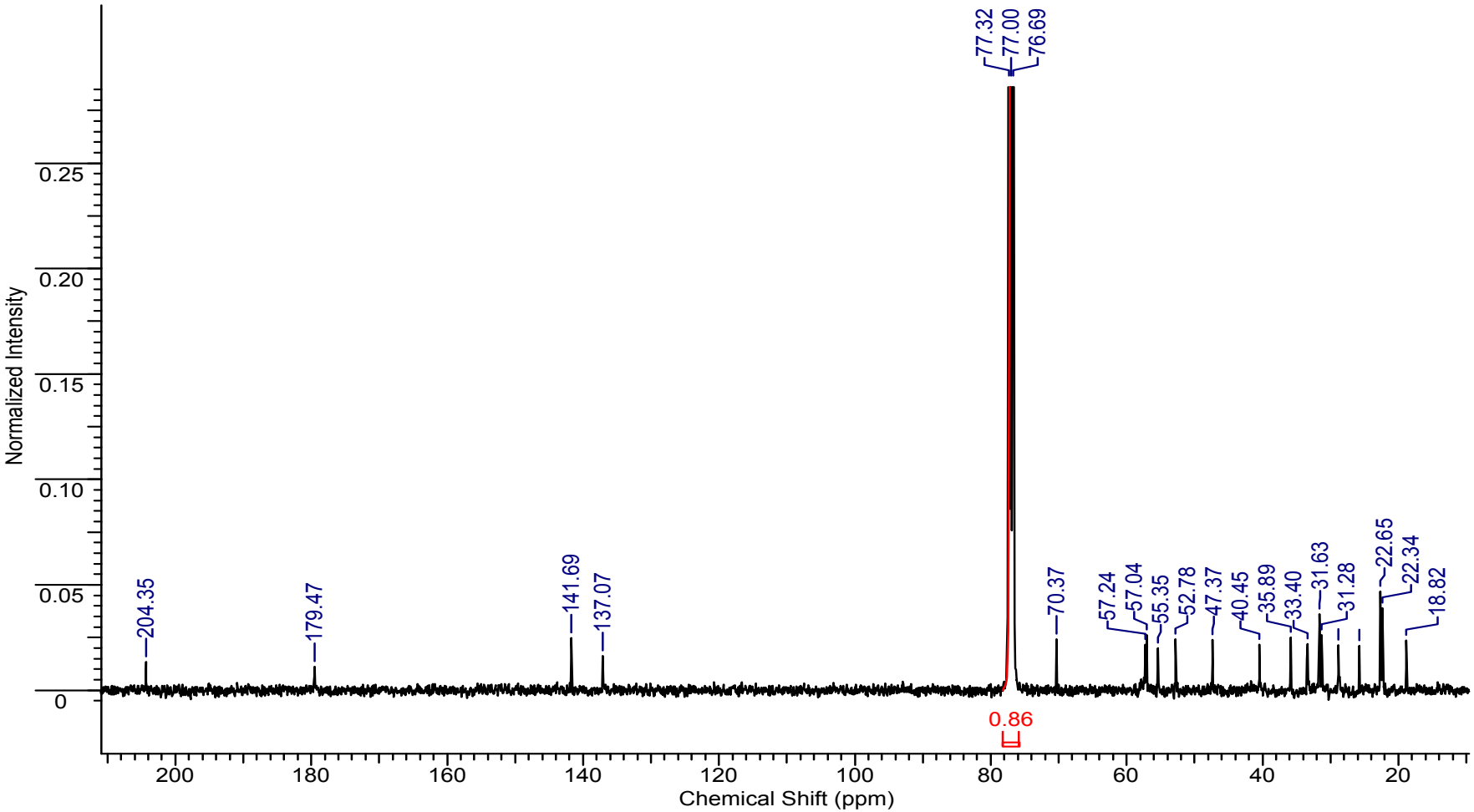
7. ^{1}H NMR spectrum of 15α-hydroxymulin-11,13-dien-20-oic acid methyl ester **8a** in $CDCl_3$



8. ^{13}C NMR spectrum of 15α-hydroxymulin-11,13-dien-20-oic acid methyl ester **8a** in $CDCl_3$.



9. ^{1}H NMR spectrum of 11α-hydroxymulin-12-en-14-one-20-oic acid **9** in $CDCl_3$.



10. ^{13}C NMR spectrum of 11α-hydroxymulin-12-en-14-one-20-oic acid **9** in $CDCl_3$.

Preparation of 8a

In a flask containing a stirred solution of 10 mg of the compound **8** in Et_2O (5 mL) at 10ºC, ethereal diazomethane (0.5 mL) was added dropwise. The resulting solution was stirred for 3h. Then, the solution was concentrated in vacuo and monitored by TLC to give quantitatively the methyl ester. To a solution of 10 mg of this methyl ester in MeOH (5mL), K_2CO_3 (catalytic amount) was added. The resulting solution was stirred for 12h. After usual work-up, purification by CC on silica gel using an *n*-hexane/EtOAc 10:1 to 4:6 gradient gave compound **8a** (8mg).