

Biotransformation of the Diterpene *Ent*-18,19-dihydroxytrachylobane by *Rhizopus stolonifer*

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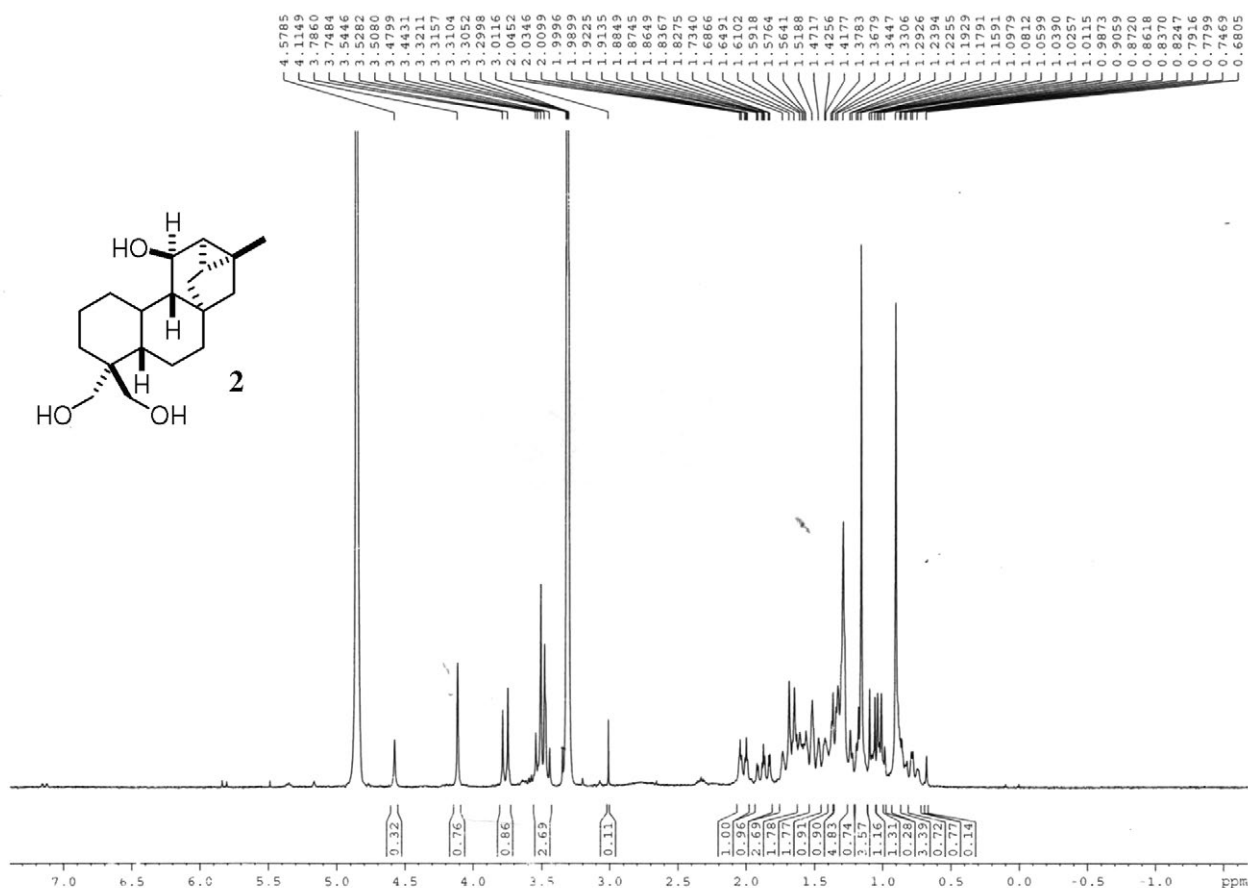


Figure S1. ¹H NMR (300 MHz, CD₃OD) spectrum of *ent*-11 β ,18,19-trihydroxytrachylobane **2**.

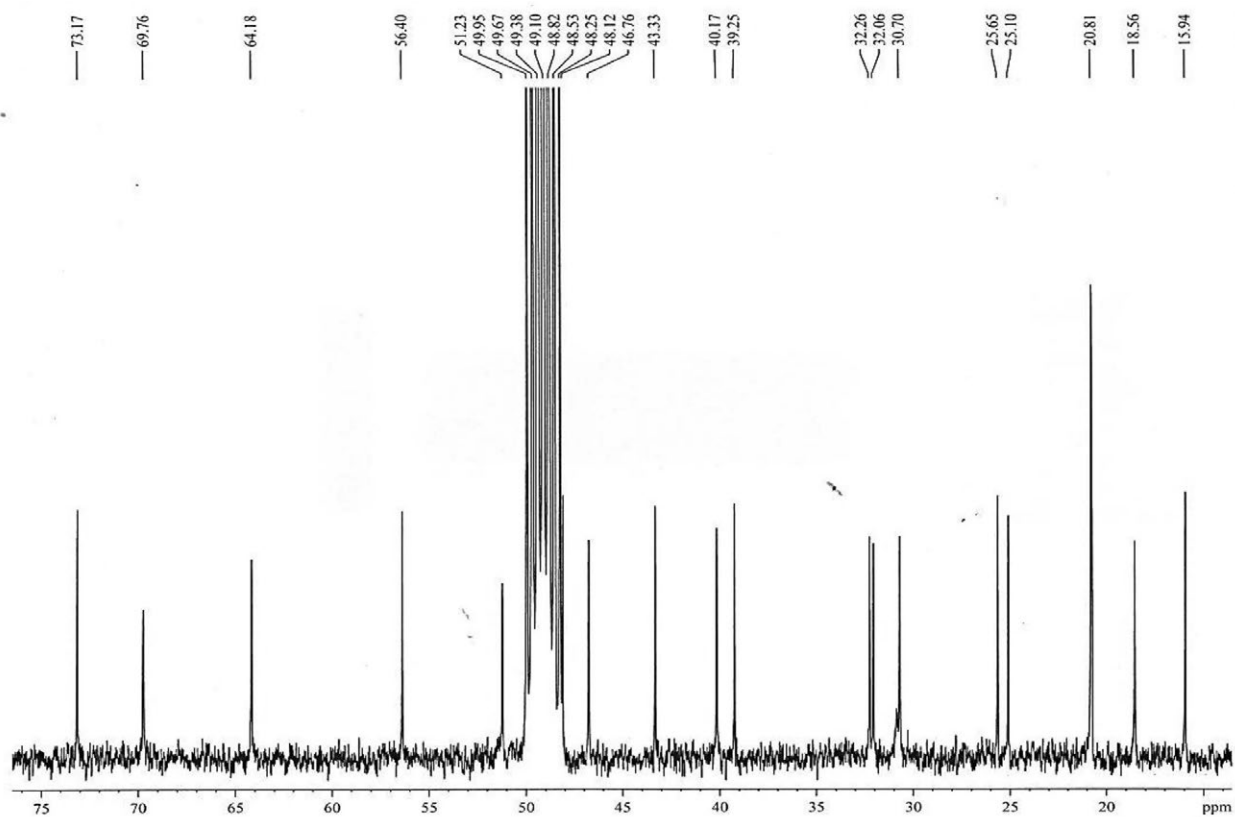


Figure S2. ^{13}C NMR (75 MHz, CD_3OD) spectrum of *ent*-11 β ,18,19-trihydroxytrachylobane **2**.

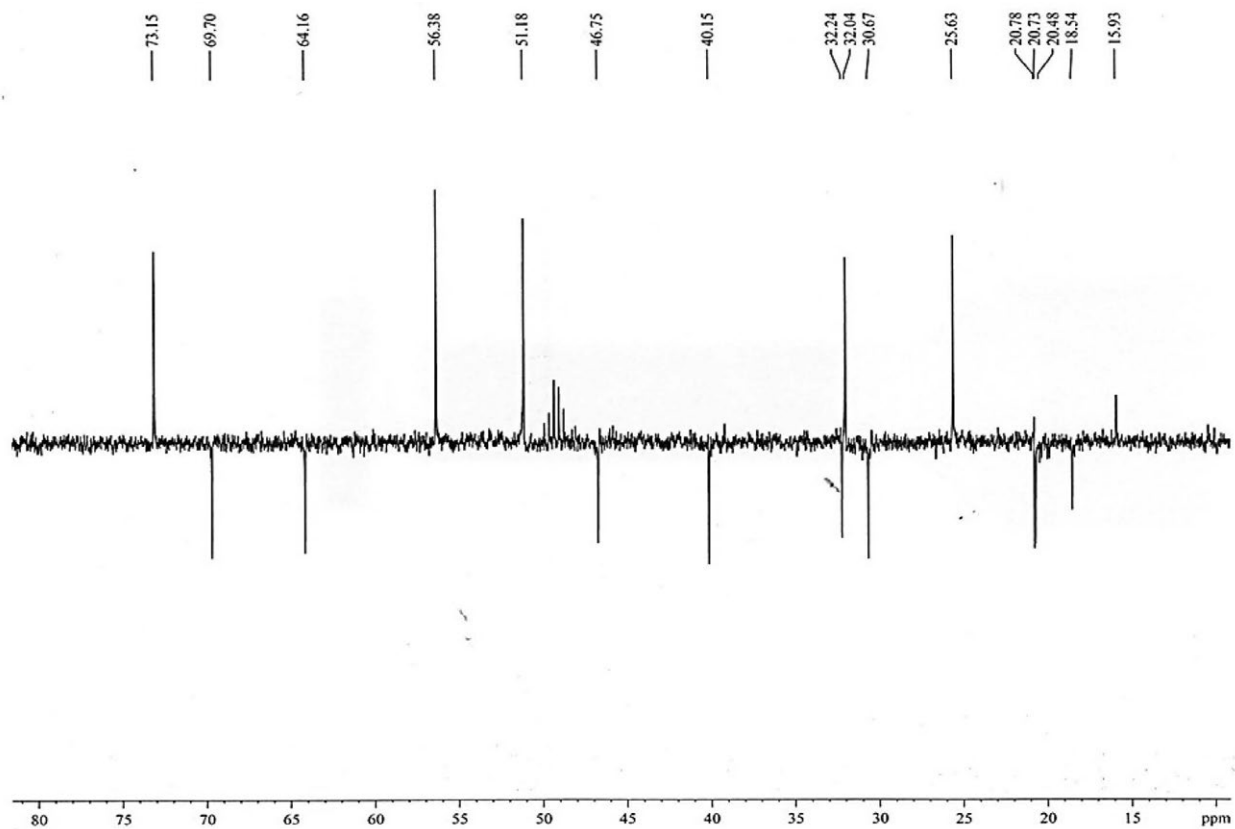


Figure S3. ^{13}C NMR DEPT 135° (75 MHz, CD_3OD) spectrum of *ent*-11 β ,18,19-trihydroxytrachylobane **2**.

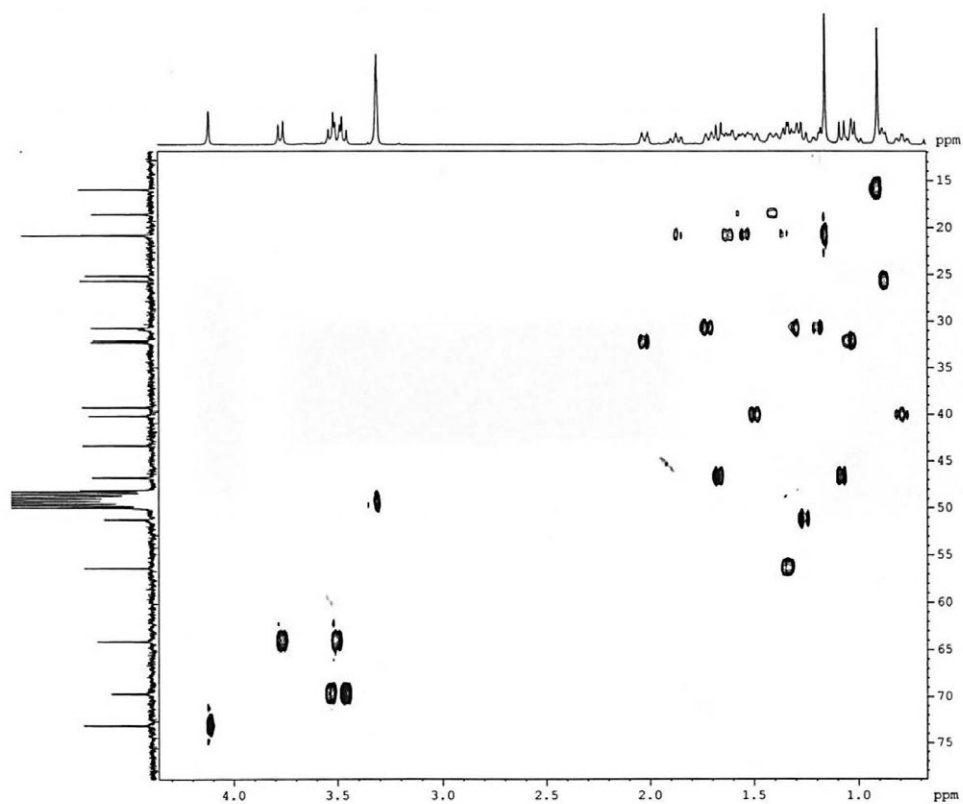


Figure S4. ¹H, ¹³C HSQC NMR (500 × 125 MHz, CD₃OD) spectrum of *ent*-11β,18,19-trihydroxytrachylobane **2**.

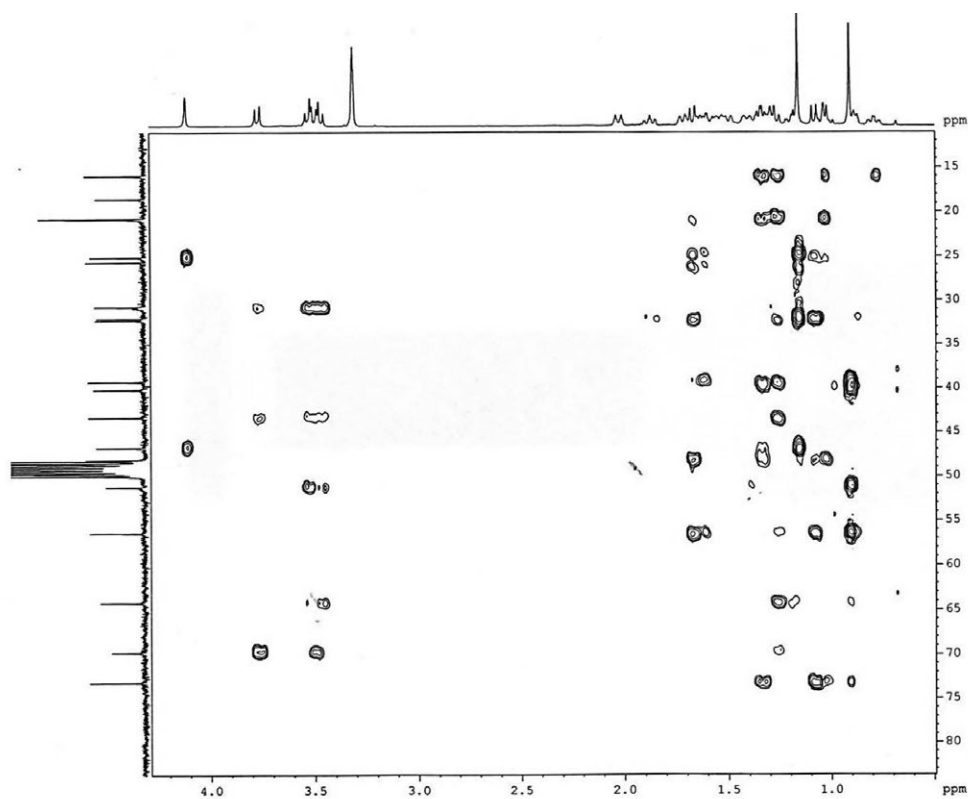


Figure S5. ¹H, ¹³C HMBC NMR (500 × 125 MHz, CD₃OD) spectrum of *ent*-11β,18,19-trihydroxytrachylobane **2**.

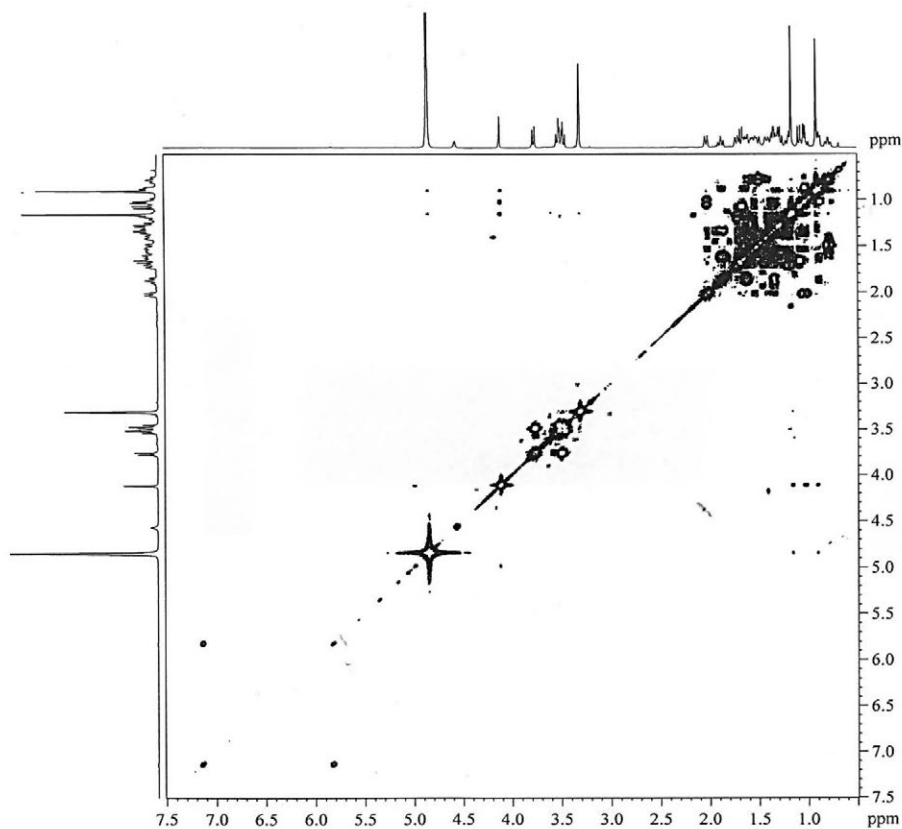


Figure S6. ^1H , ^1H COSY NMR (500 MHz, CD_3OD) spectrum of *ent*-11 β ,18,19-trihydroxytrachylobane **2**.

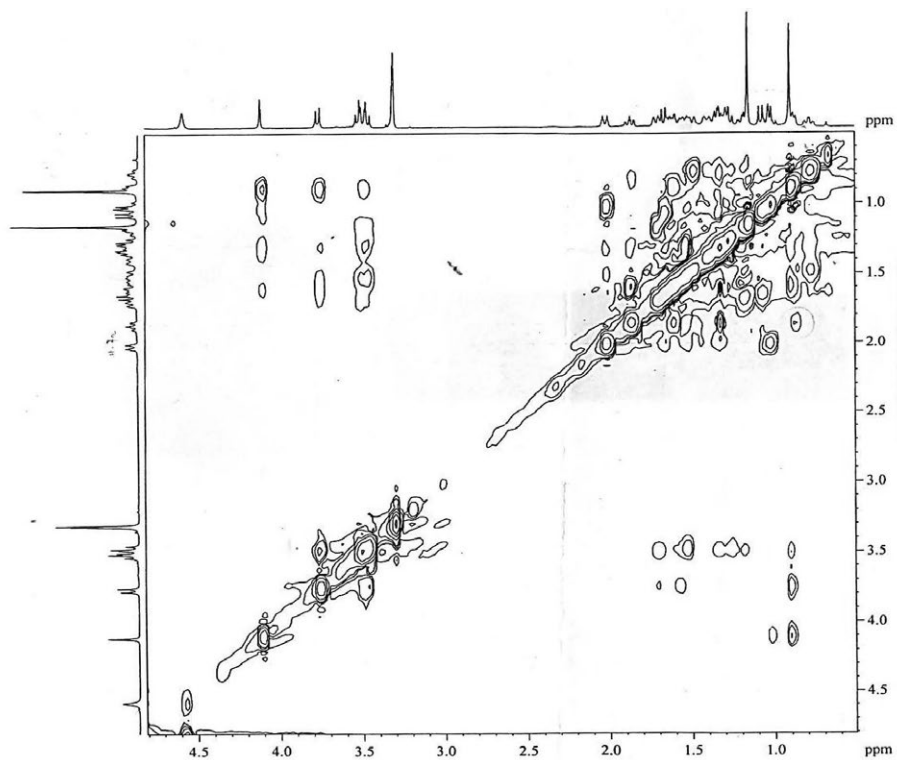
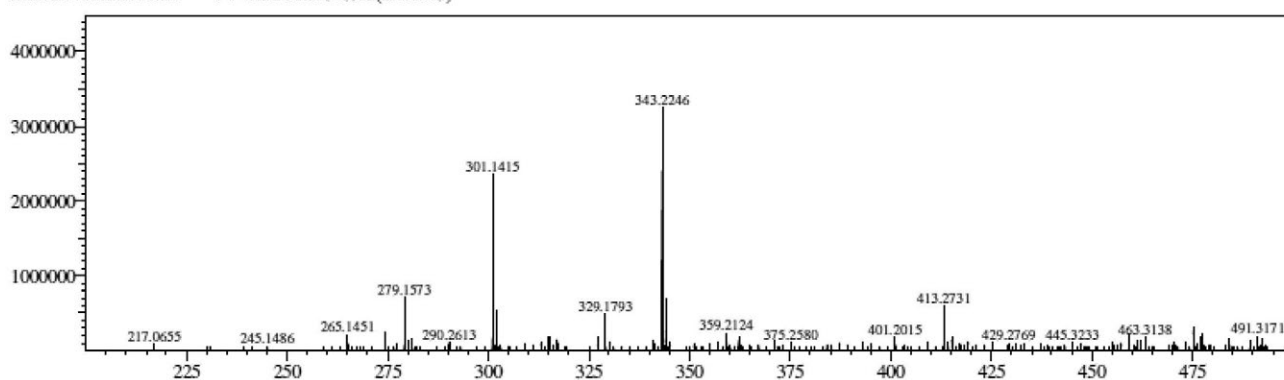
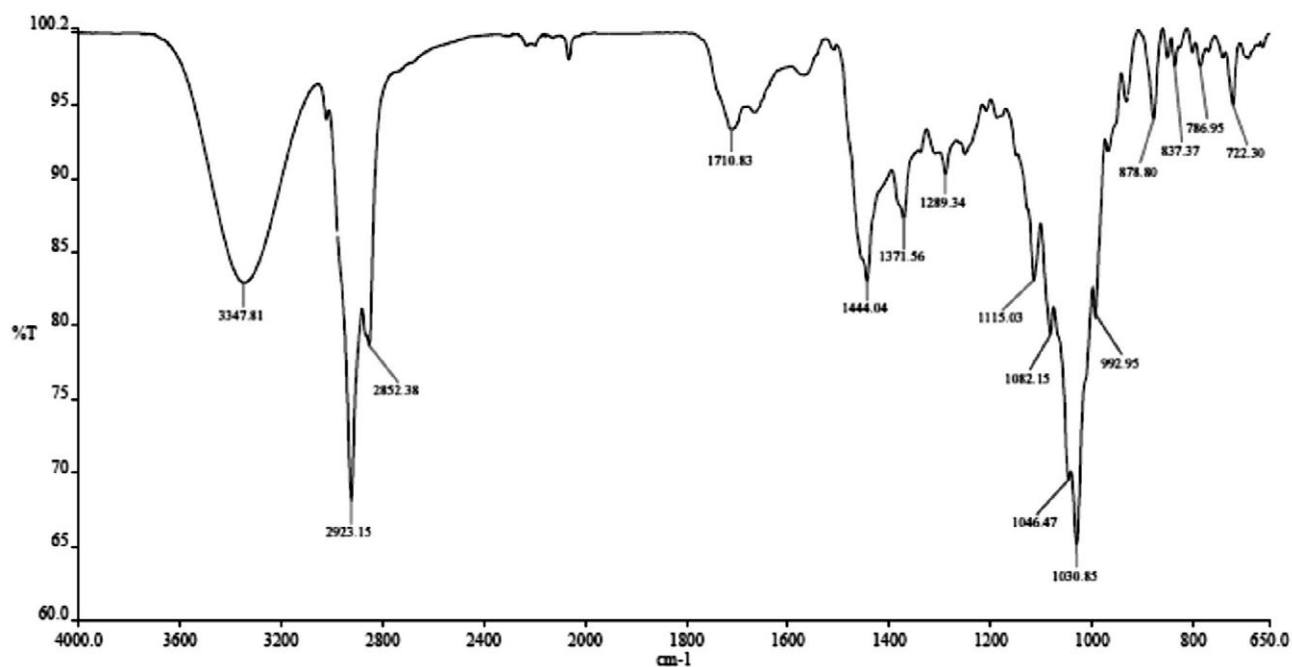


Figure S7. NOESY NMR (500 MHz, CD_3OD) spectrum of *ent*-11 β ,18,19-trihydroxytrachylobane **2**.

MSMS: Precursor m/z --- /+ Base Peak 343.22(2767773)**Figure S8.** High resolution electrospray ionization mass spectrum of *ent*-11 β ,18,19-trihydroxytrachylobane 2.**Figure S9.** Infrared spectrum (KBr) of *ent*-11 β ,18,19-trihydroxytrachylobane 2.

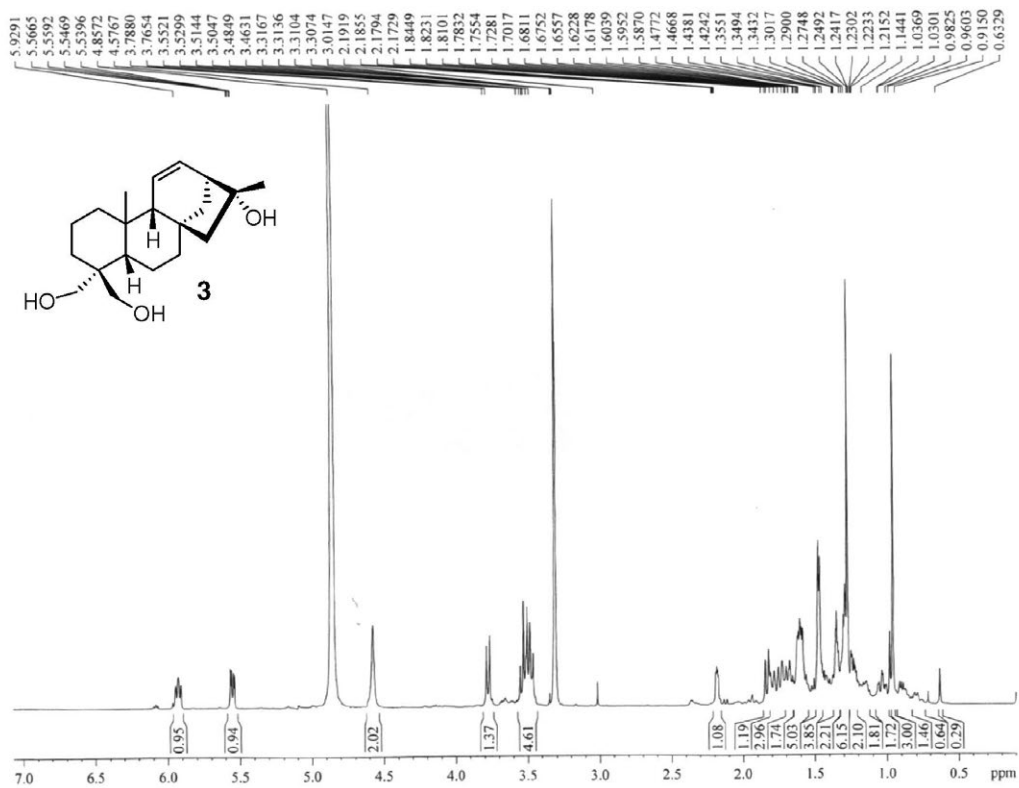


Figure S10. ¹H NMR (500 MHz, CD₃OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

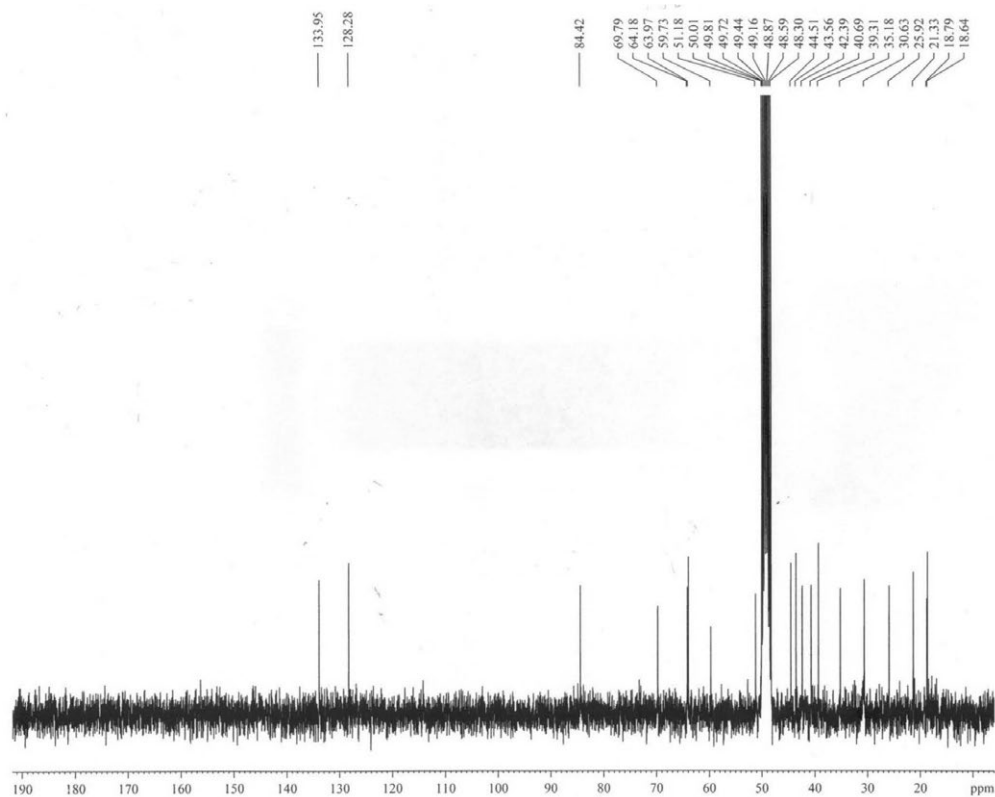


Figure S11. ¹³C NMR (75 MHz, CD₃OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

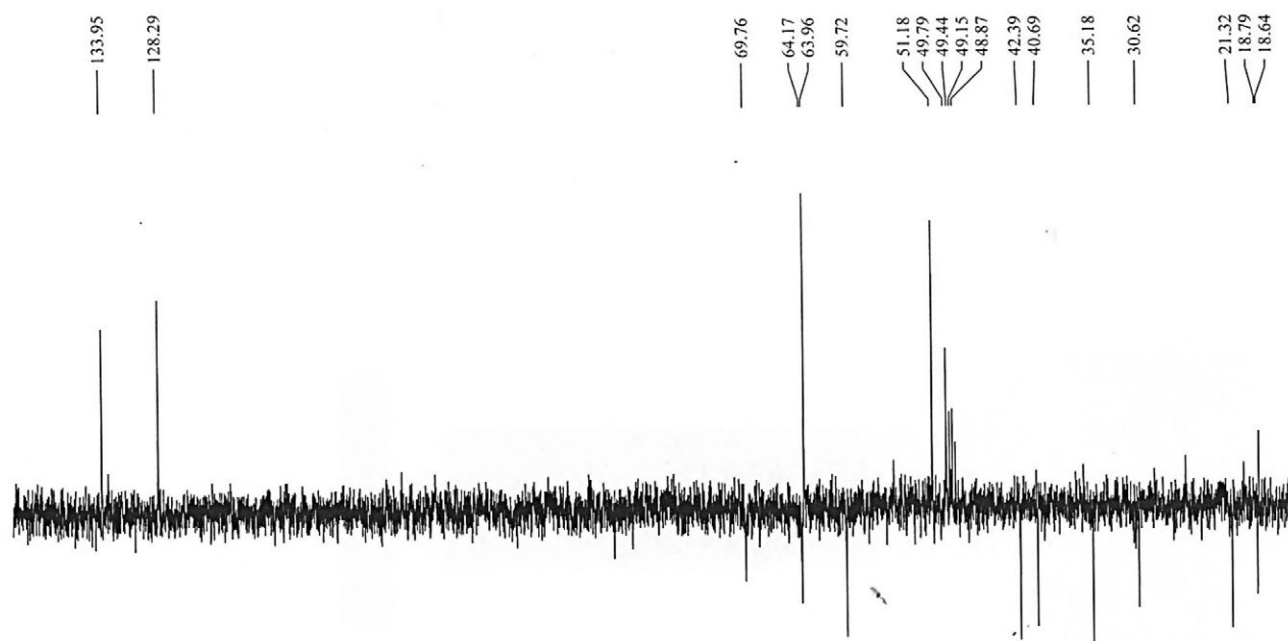


Figure S12. ^{13}C NMR DEPT 135° (75 MHz, CD_3OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

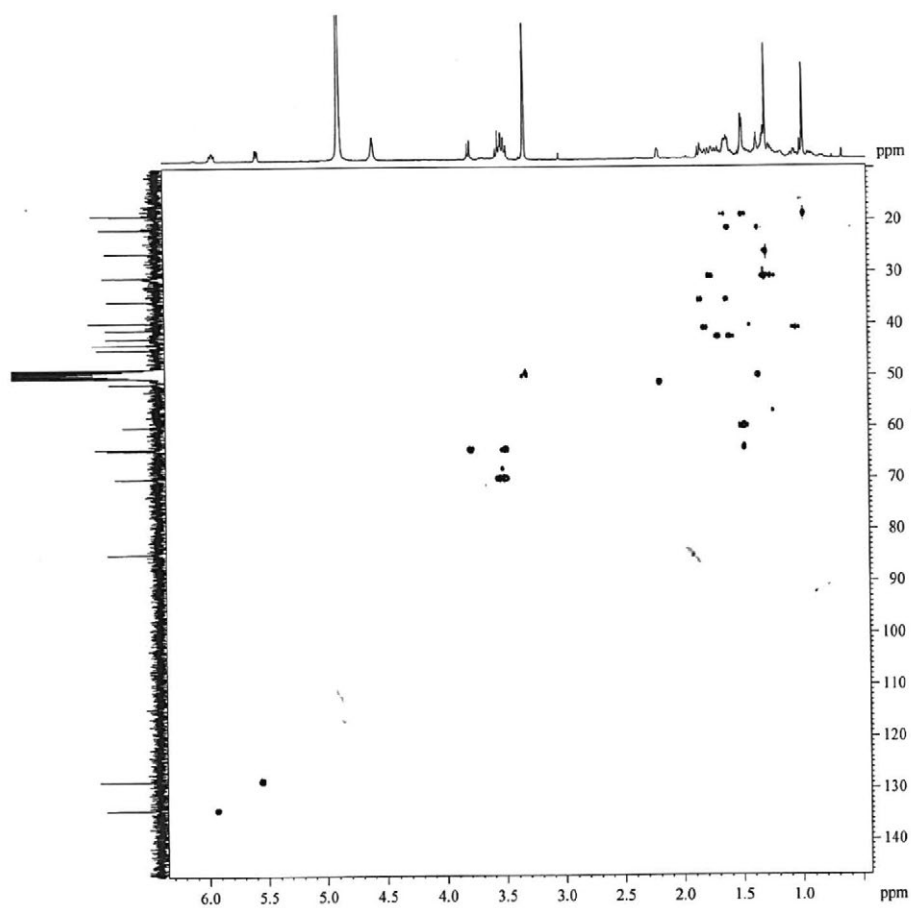


Figure S13. ^1H , ^{13}C HSQC NMR (500 \times 125 MHz, CD_3OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

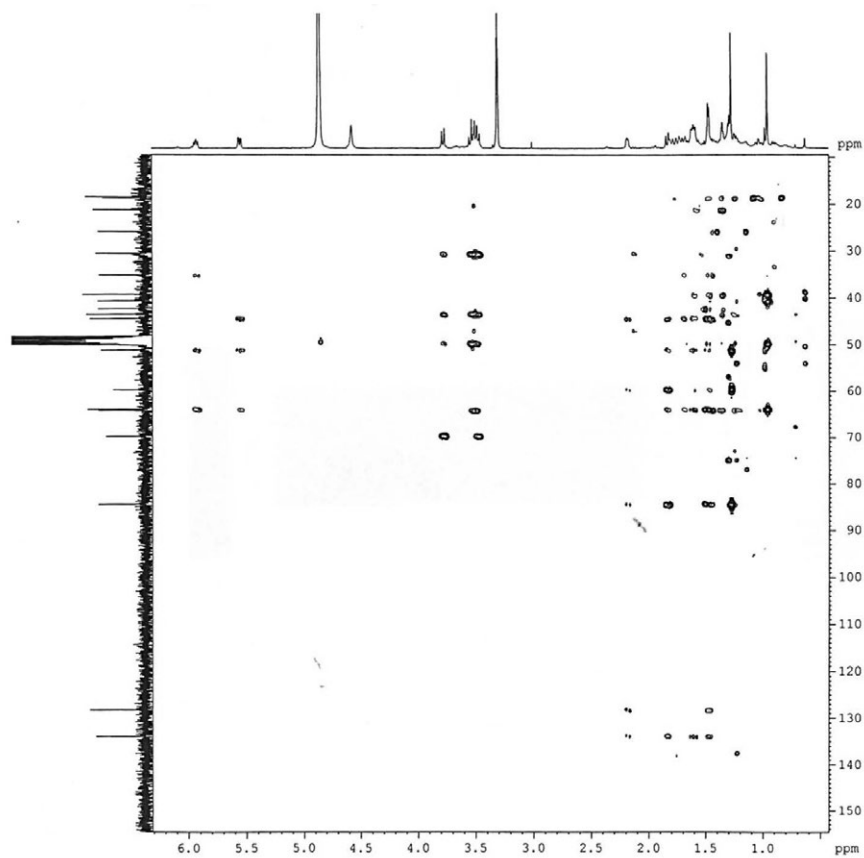


Figure S14. ^1H , ^{13}C HMBC NMR (500 \times 125 MHz, CD_3OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

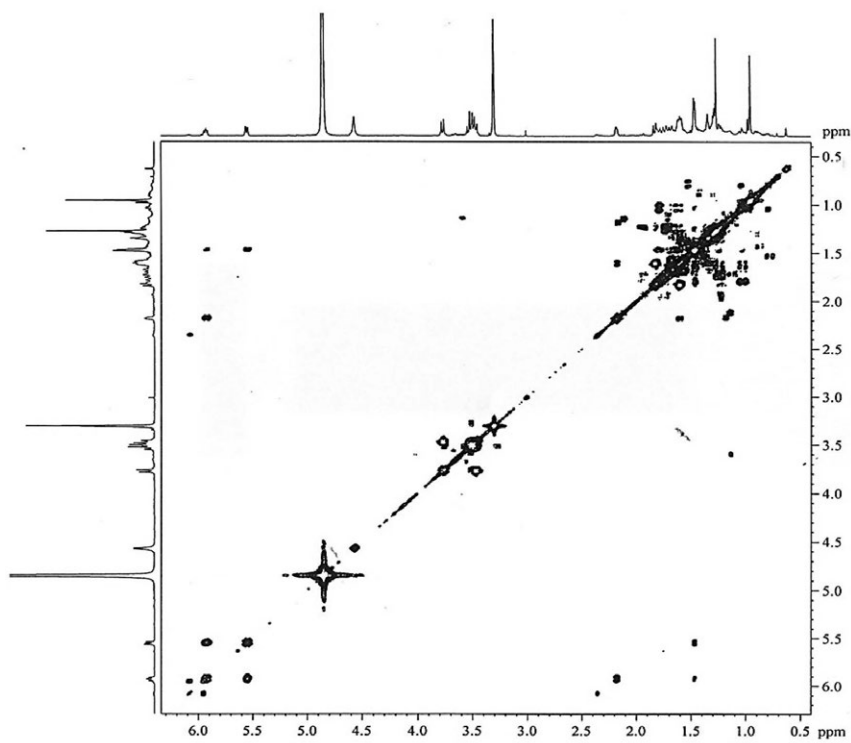


Figure S15. ^1H , ^1H COSY NMR (500 MHz, CD_3OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

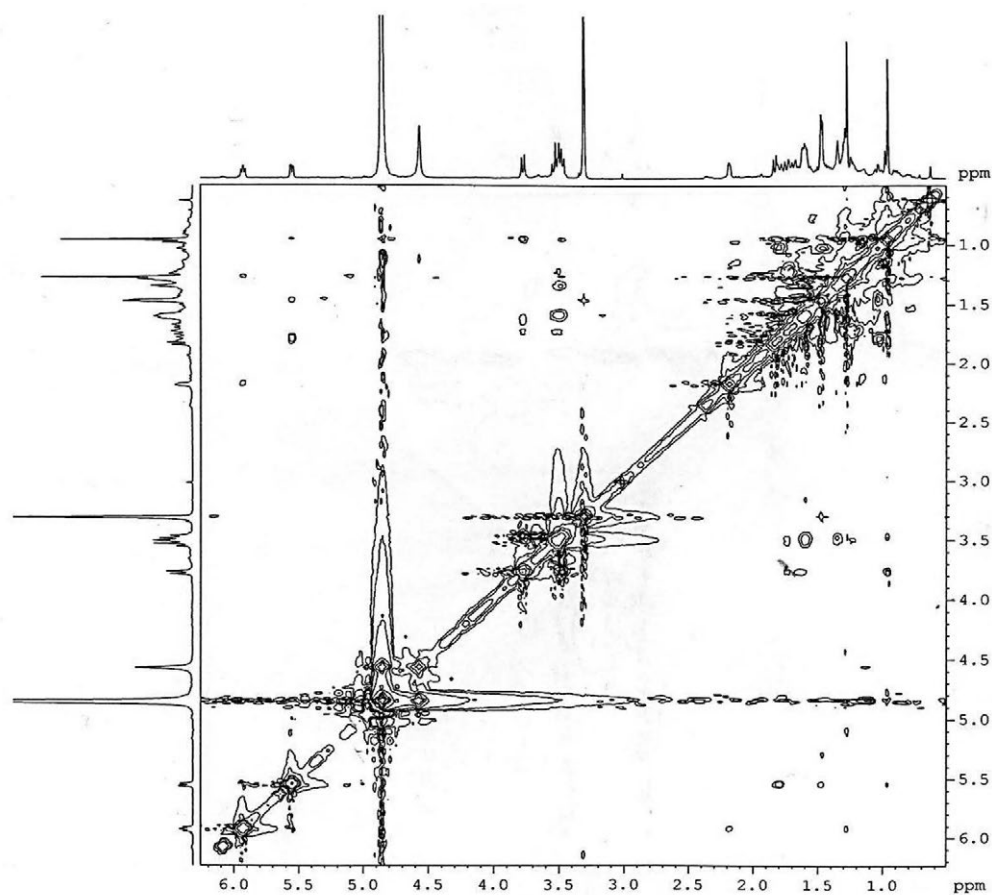


Figure S16. NOESY NMR (500 MHz, CD₃OD) spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

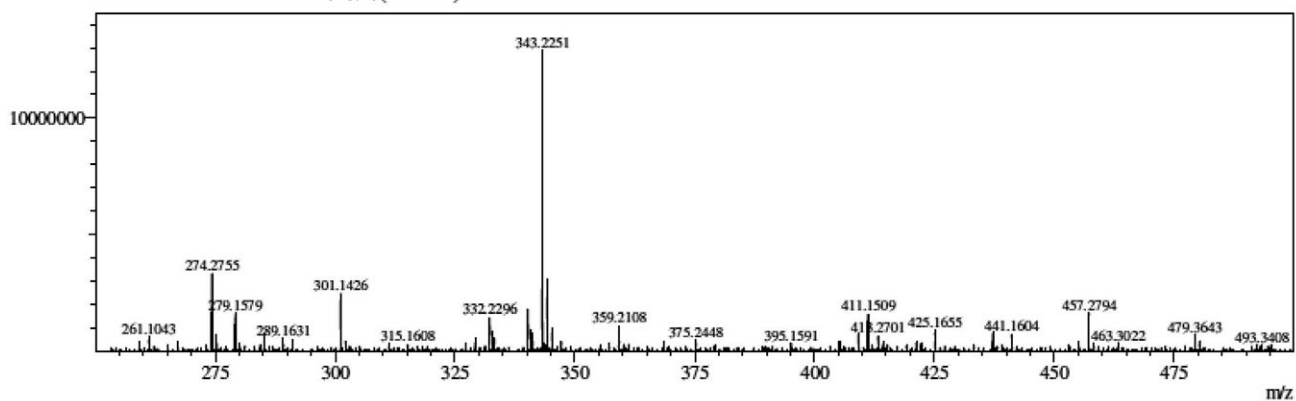


Figure S17. High resolution electrospray ionization mass spectrum of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

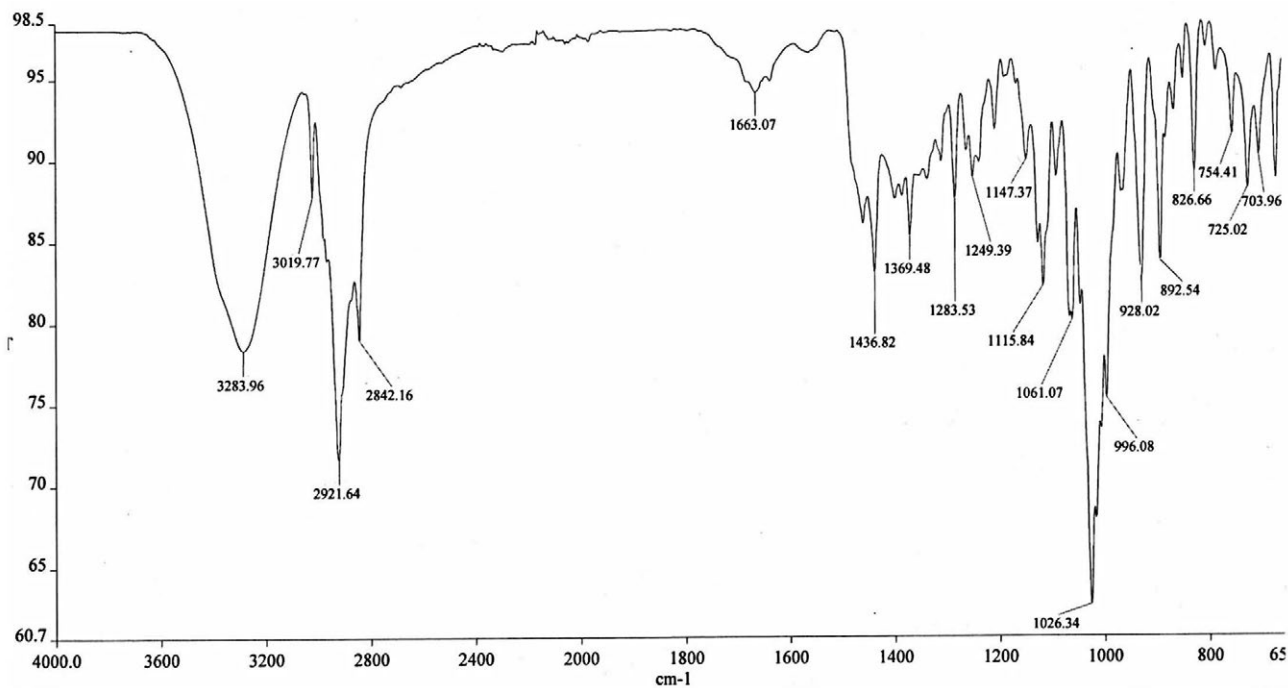


Figure S18. Infrared spectrum (KBr) of *ent*-16 α ,18,19-trihydroxykaur-11-ene **3**.

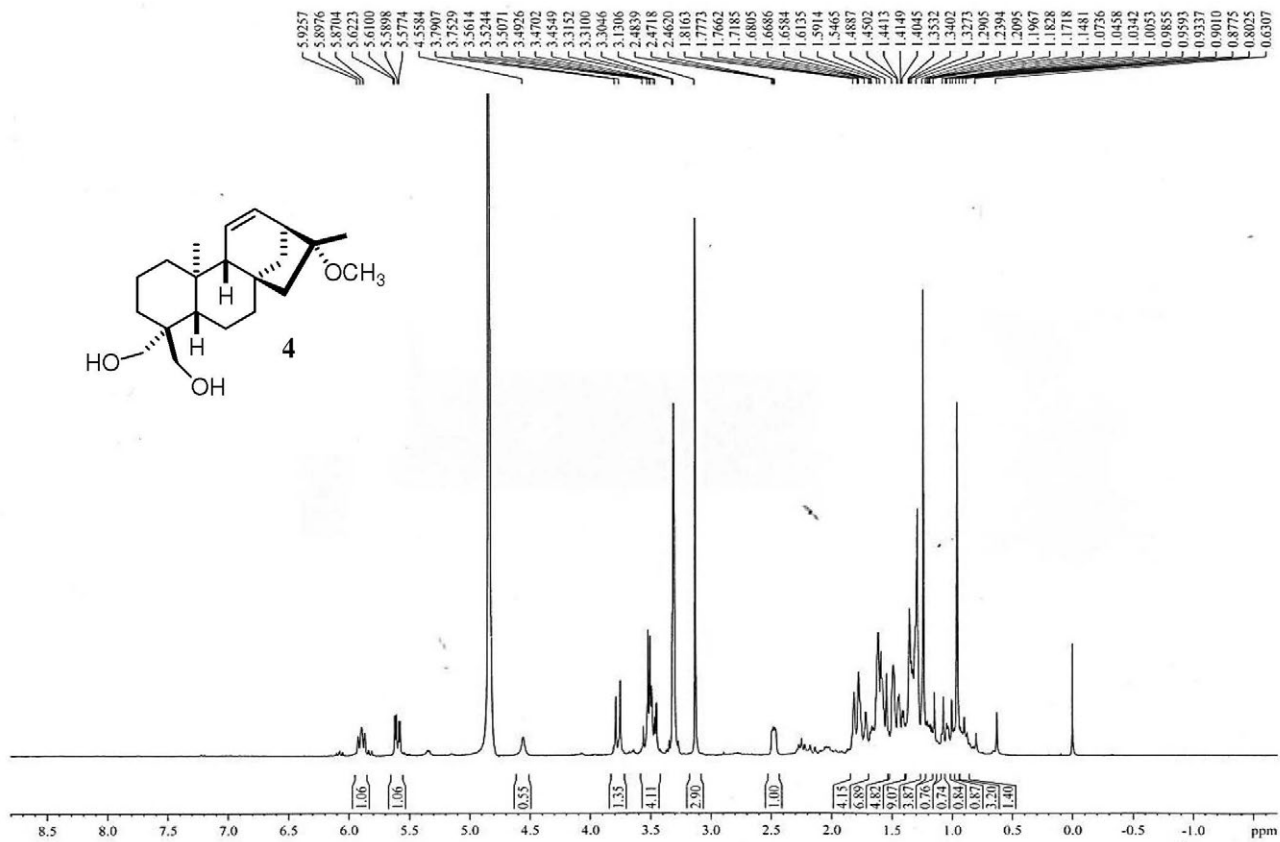


Figure S19. ^1H NMR (300 MHz, CD_3OD) spectrum of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.

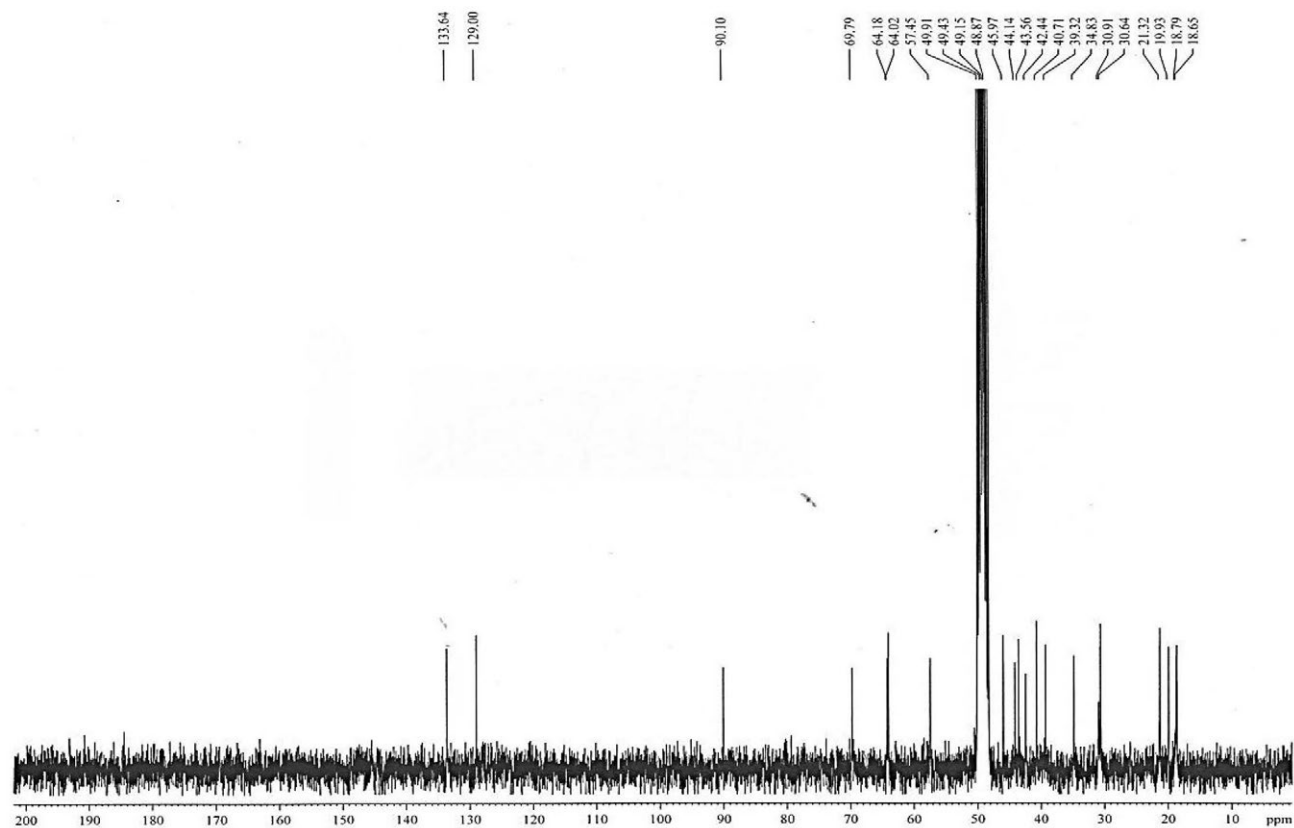


Figure S20. ^{13}C NMR (75 MHz, CD_3OD) spectrum of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.

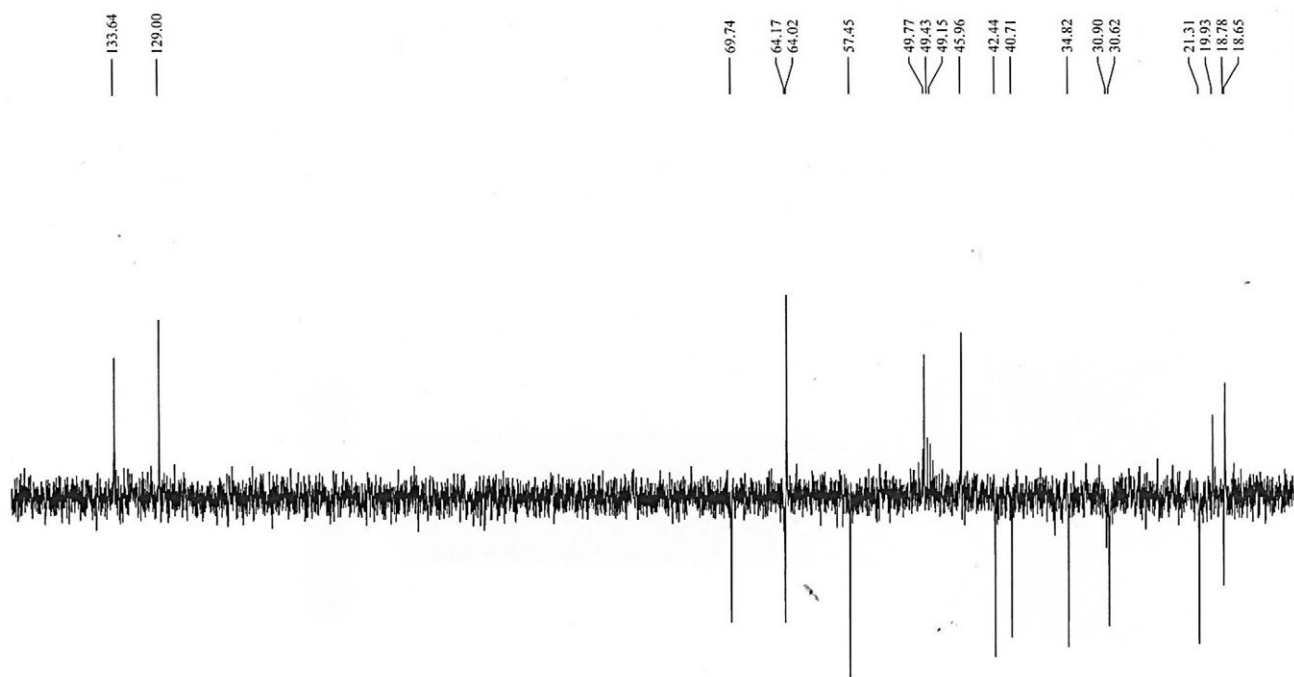


Figure S21. ^{13}C NMR DEPT 135° (75 MHz, CD_3OD) spectrum of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.

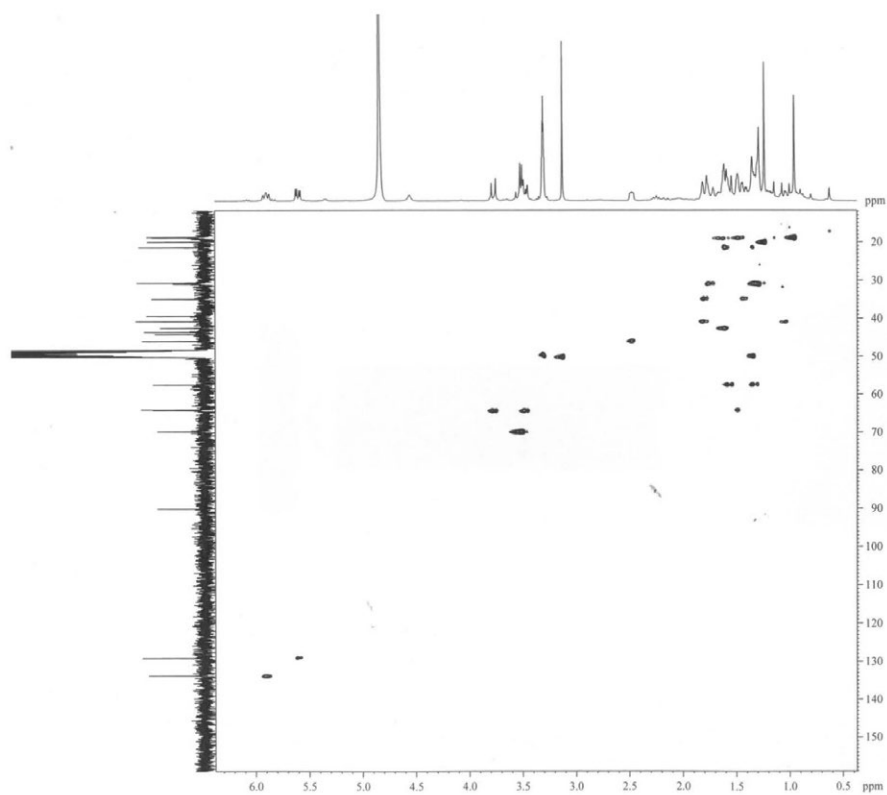


Figure S22. ^1H , ^{13}C HSQC NMR (300 \times 75 MHz, CD_3OD) spectrum of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.

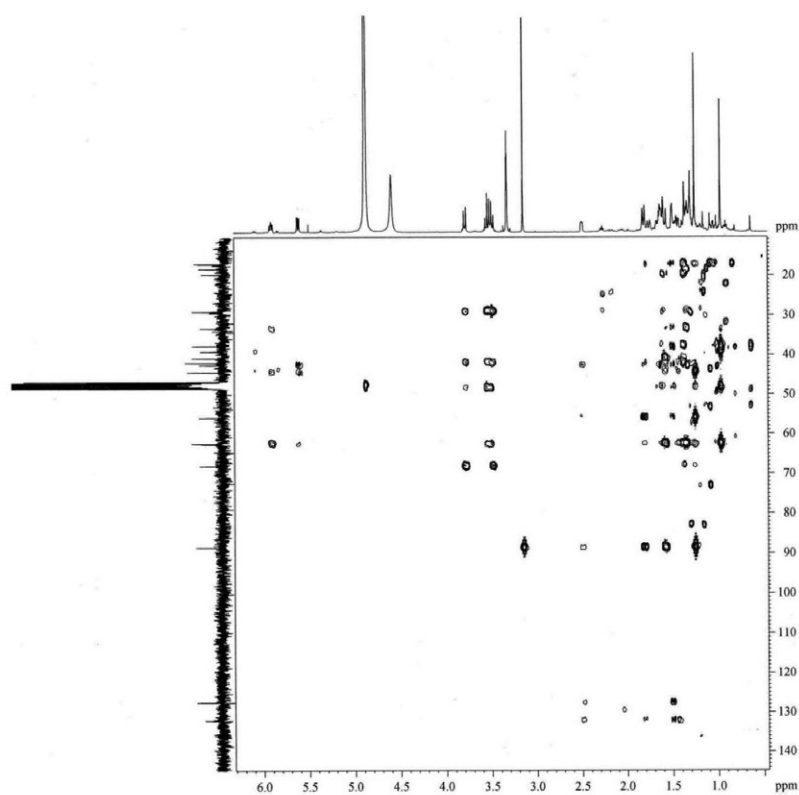


Figure S23. ^1H , ^{13}C HMBC NMR (500 \times 125 MHz, CD_3OD) spectrum of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.

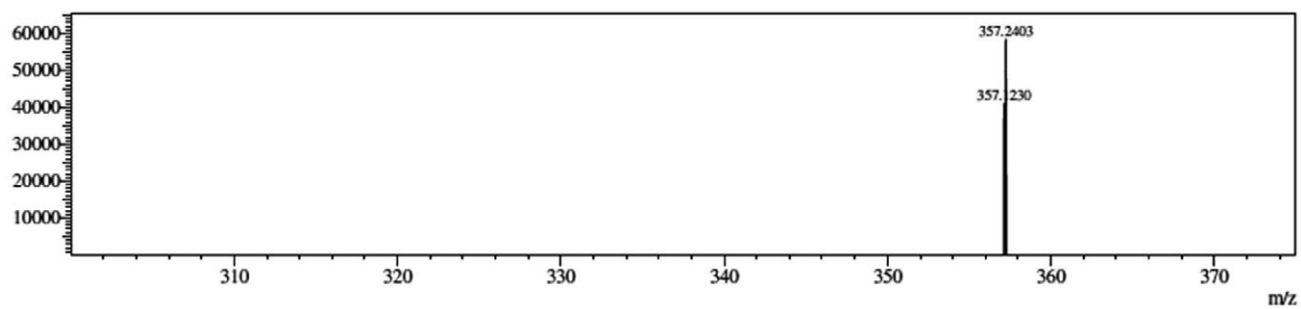


Figure S24. High resolution electrospray ionization mass spectrum of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.

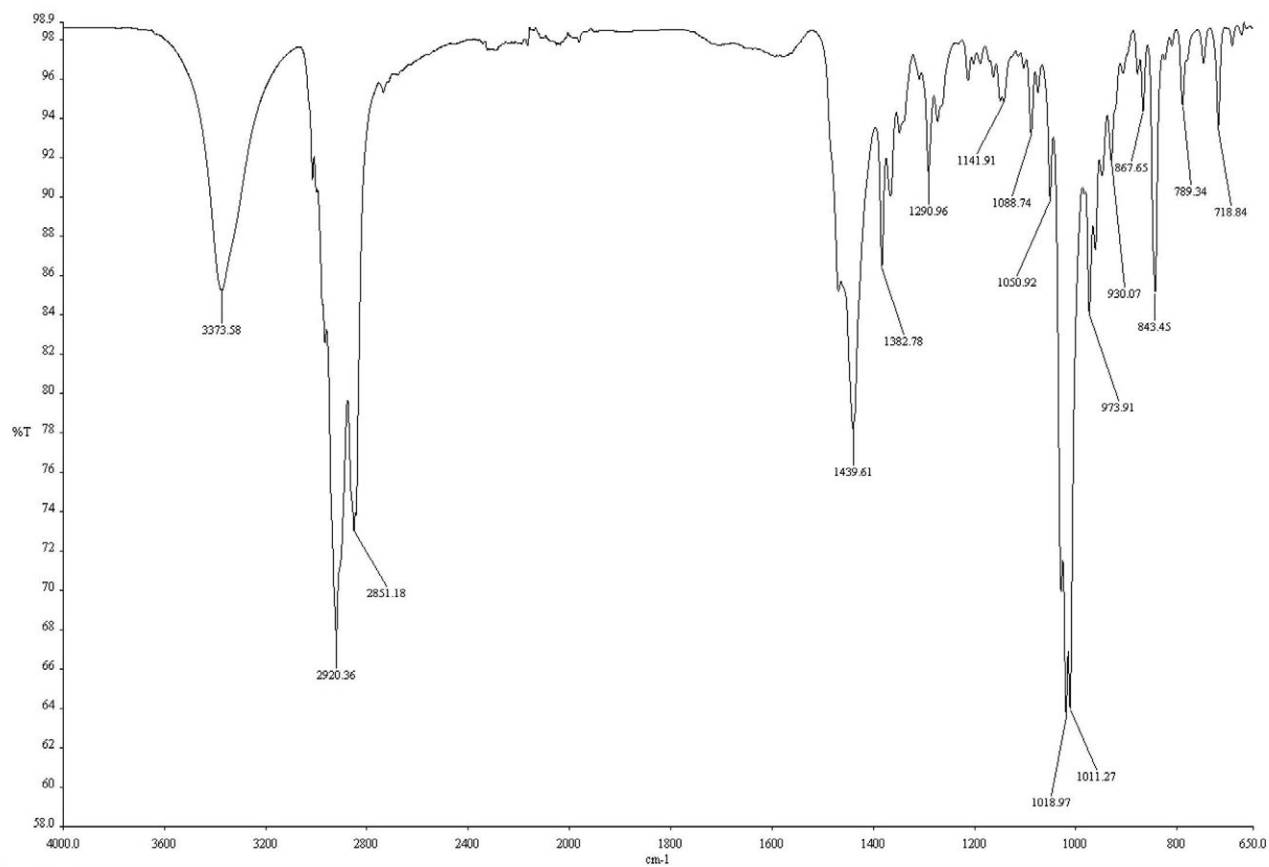


Figure S25. Infrared spectrum (KBr) of *ent*-18,19-dihydroxy-16 α -methoxykaur-11-ene **4**.