

Diterpenoids from *Grindelia tarapacana*

Lin Zhou, Eduardo R. Fuentes, Joseph J. Hoffmann, Barbara N. Timmermann

Abstract

Seven new and two known diterpenoids, as well as α -spinasterol, were isolated from *Grindelia tarapacana*. The new diterpenoids were fully characterized, on the basis of spectroscopic analysis and chemical evidence, as 14,15-dihydroxy-13-epi-manoyloxide (tarapacol), 15-acetoxy-14-hydroxy-13-epi-manoyloxide (tarapacol 15-acetate), 14,15-diacetoxy-13-epi-manoyloxide (tarapacol diacetate), 11 α ,14,15-trihydroxy-13-epi-manoyloxide (tarapacanol A), 14,15-diacetoxy-11 α -hydroxy-13-epi-manoyloxide (tarapacanol A 14,15-dihydroxy-11-keto-13-epi-manoyloxide (tarapacanone) and 12 α ,14,15-trihydroxy-13-epi-manoyloxide (tarapacanol B). The known diterpenoids were identified as 13-epi-manoyloxide and 12 α -hydroxy-13-epi-manoyloxide.