

E - 55 <sup>13</sup>C-NMR CHEMICAL SHIFTS OF SOME OXYGENATED LUPANE DERIVATIVES  
FROM *PLEUROSTYLIA OPPOSITA* (CELASTRACEAE)

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Although complete assignment of the <sup>13</sup>C-NMR chemical shifts of lupenone, lupeol, 1,3-, 1,20- and 1,23-dioxygenated lupanes have been reported, chemical shifts of 6-oxygenated derivatives have not been assigned in the lupane, hcpene, ursane and oleanane triterpenes. In this paper the <sup>13</sup>C-NMR chemical shifts of 3 $\beta$ , 20-dihydroxy-lupane, 6 $\beta$ , 20-dihydroxy-lupan-3-one, 6 $\beta$ -hydroxy-lup-20 (29)-ene-3-one, 6 $\beta$ , 28-dihydroxy-lup-20(29)-ene-3-one and lup-5,20(29)-diene-3-one isolated from *Pleurostylia opposita* (Celastraceae) are reported for the first time.

<sup>13</sup>C-NMR data confirmed the structures assigned to these compounds. 6 $\beta$ -Hydroxy lupane derivatives showed characteristic effects in the chemical shifts of carbons in the neighbourhood of the hydroxy group due to the electronic effect of the hydroxy group and *syn*-diaxial interaction with axial methyl groups 24, 25 and 26. The large *T*-gauche shielding effect normally observed for hydroxy compounds was not present in the 6 $\beta$ -hydroxy lupanes studied. The methyl carbons C-24, C-25 and C-26 were shifted downfield due to their *syn*-diaxial interaction with the 6 $\beta$ -hydroxy group.

The <sup>13</sup>C-NMR data indicate that the hydroxy group at C-28 in 6 $\beta$ , 28-dihydroxy-lup-20 (29)-ene-3-one, has a *T*-gauche conformation to C-22.