

Influence of different extraction solvents on lipophilic extractives of Acacia hybrid in different wood portions

Abstract

In this study, Acacia hybrid was divided into bark, sapwood and heartwood. Each portion undergone Soxhlet extraction according to ASTM Standard D1108-96, D1107-96 and D1110-84 using different polarity solvents; hexane, methanol and hot water. The crude extract of each portion was analyzed to know the chemical components of wood extractives from the extraction solvents. Wood extractives covered in this study were low molecular weight compounds; fatty acids, sterols, glycerides and steryl ester. Gas chromatography analysis was carried out for crude extract of hexane and methanol due to these volatile solvents. Crude extract of hot water was analyzed by High Performance Liquid Chromatography (HPLC) due to its non-volatility. Results shown that total extractives analyzed by Gas chromatography for methanol extract in heartwood was highest, 1.45 mg g^{-1} , followed by bark and sapwood of 1.39 and 0.89 mg g^{-1} , respectively. For hot water extract, heartwood was found to have the most in total extractives, 1.83 mg g^{-1} , followed by bark 1.26 mg g^{-1} and sapwood, 0.82 mg g^{-1}