ABSTRACT

This paper describes the chemical composition of sapwood (SW) and heartwood (HW) of *Pinus halepensis* Mill stem. Extractives were first isolated by accelerated solvent extraction and then analysed by gas chromatography-mass spectrometry (GC-MS). The cellulosic polysaccharide content present in the pre-extracted wood samples was determined with acid hydrolysis and GC. The hemicelluloses content was determined with acid methanolysis and GC. Free monomers were additionally analysed by GC. The amount of lignin was determined gravimetrically by the Klason lignin method and the acid-soluble lignin was determined by a UV method. Formic and acetic acids in wood were determined after alkaline hydrolysis and analysed by HP-SEC. It was found that lipophilic and hydrophilic extractives were more abundant in heartwood (1.6% and 2.5%) than in sapwood (1.1% and 1.8%). Celluloses content was higher in sapwood (42.5%) than in heartwood (39.7%), whereas lignin, hemicelluloses and sugar monomer contents were more abundant in heartwood (28.9%, 26.8% and 0.3%) than in sapwood (28.0%, 24.5% and 0.2%). The variation in acetic and formic acids and ash contents between sapwood (0.7%, 0.2% and 0.5%) and heartwood (0.6%, 0.1% and 0.4%) was small. The acetylation degrees were found to be slightly similar in sapwood (0.4) and heartwood (0.3).