

STRUCTURAL CHARACTERIZATION OF THE POLYSACCHARIDE FROM THE  
GUM EXUDATE OF PINEAPPLES (*ANANAS COMOSUS*)

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The gum exudate from pineapples (var. "Pérola") was extracted successively with water and 0.5% aqueous KOH, at 25° C, to give fractions APA and APK, respectively, APK being formed in higher yield. APK was heterogeneous on HPSEC-MALLS and consisted of Ara:Xyl:Gal:Glc and uronic acids in a 31:18:13:7:31 molar ratio. Treatment with 2.5% aq. cetylpyridinium chloride gave a homogeneous fraction (PAPK), composed of Ara:Xyl:Gal:Glc and uronic acids in a 25:18:14:14:29 molar ratio. Methylation data showed nonreducing end-units of Araf (23%), Xylp (8%), and Galp (16%), 3-O-substituted Araf units (11%), and 4-O- (3%), 3,4-di-O-(4%), and 2,3,4-tri-O-substituted (24%) Xylp units, suggesting a main-chain of Xylp units. The <sup>13</sup>C-NMR spectrum of PAPK had ~8 C-1 signals, confirming a complex structure. The signals at δ 108.9-107.9 are from C-1 of α-L-Araf and at δ 176.3-175.7 are from -C(=O)OH of uronic acids. In order to obtain the core of PAPK it was submitted to a partial acid hydrolysis to give PHPAPK (10% yield), that was composed of Ara:Xyl:Glc:uronic acids in a 2:34:24:40 molar ratio. Methylation data showed mainly 3,4-di-O-substituted Xylp main-chain units (56%). On carboxy-reduction PHPAPK gave a polysaccharide composed of Xyl:Man:Glc in a 46:3:51 molar ratio, indicating that the uronic acid was GlcA.

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