Journal of Molecular and Pharmaceutical Sciences

Original Research Article

Determination of the chemical composition of the pectic fractions of myrtle (*Myrtus communis* L.)

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Abstract

This work aims to determine the chemical structure of the pectic fractions of *Myrtus communis* L. (myrtle). This species' edible fruit, which was collected in the Annaba region (north-eastern Algeria), used for industrial, medicinal, and nutritional purposes. After 85% (v/v) ethanolic treatment, pectins were sequentially extracted using water at 80°C (water-soluble polysaccharide), EDTA solution at 60 °C (chelating soluble polysaccharide) and HCl solution at 80°C (acid soluble polysaccharide). High Performance Anion Exchange Chromatography with Pulsed Amperometric Detection (HPAEC-PAD) was used to determine the monosaccharide content. The results showed that the WSP fraction is composed of 3.3% (w/w) galacturonic acid and 27.7% (w/w) neutral sugars. While the CSP fraction contains 2.07% (w/w) neutral sugars and 1.2% (w/w) galacturonic acid. The results showed that the residue D is composed of 9.8% (w/w) neutral sugars, 0.07% (w/w) galacturonic acid, and 11.7% (w/w) neutral sugars after hydrolysis with TFA (2N) and H_2SO_4 (2N), respectively. Analysis by ^{1}H NMR spectroscopy showed that CSP and ASP are pectins.

Keywords:
Myrtle, *Myrtus communis*, HPAEC-PAD, ^{1}H NMR, Neutral sugars, Galacturonic acid, Pectins.

⋆Received October 17, 2022; accepted November 22, 2022
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Cited as: Chidouh A, Aouadi S, Heyraud A, Cheribot Cherif M. Determination of the chemical composition of the pectic fractions of myrtle (*Myrtus communis* L.). J. Mol. Pharm. Sci. 02 (01), 2023, 1-8.