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Data article

GC-EI-MS identification data of neutral sugars of polysaccharides extracted from *Zizyphus lotus* fruit

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ABSTRACT

Gas chromatography coupled to mass spectrometer (GC-MS) was used to identify and to quantify neutral sugars that constitute the water soluble polysaccharides from *Zizyphus lotus* fruit. The trimethylsilyl (TMS) method was successfully used for derivatization of the monosaccharides units of extracted polysaccharides that were released by hydrolysis method. Sugars were identified based on their retention times compared with those of standards and the NIST MS Spectral Library. All sugars were quantified in TIC (Total Ion Current) mode using calibration curves. Data is related to "Optimization extraction of polysaccharide from Tunisian *Zizyphus lotus* fruit by response surface methodology: Composition and antioxidant activity" (Mkadmini Hammi et al., 2016) [1].

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Specifications table

Subject area	Chemistry
More specific subject area	Analytical chemistry
Type of data	Figure
How data was acquired	Gas chromatography coupled to mass spectrometer
Data format	Analyzed
Experimental factors	Lyophilized polysaccharides (ZLP) was hydrolyzed by trifluoroacetic acid (2M, 70°C, 2 h)
Experimental features	The released monosaccharides were converted to their trimethylsilyl (TMS) derivatives by adding 100 μ L of dry pyridine and 100 μ L of N,O-bis(trimethylsilyl)-trifluoroacetamide (BSTFA).
Data source location	n/a
Data accessibility	Data is within this article

Value of the data

- The data can be used to identify neutral sugars of polysaccharides by GC–MS.
- Method and data provide information for acidic hydrolysis conditions of polysaccharides.
- The data provide information for trimethylsilyl (TMS) derivatization conditions of all neutral sugars for GC–MS analysis.

1. Data

This data shows the GC–EI–MS total ion current profiles of the trimethylsilylated sugars obtained from ZLP and those of standards which injected under the same chromatographic conditions (Fig. 1).

2. Experimental design, materials and methods

0.45 mg of lyophilized ZLP was hydrolyzed by 1 mL of 2 M trifluoroacetic acid at 70 °C for 2 h in a sealed tube in nitrogen atmosphere. Then, 100 μ L of D-myo-inositol (Internal standard) at a concentration of 1800 μ g/mL in deionized water was added to the hydrolysate. The released monosaccharides were converted to their trimethylsilyl (TMS) derivatives by adding 100 μ L of dry pyridine and 100 μ L of N,O-bis(trimethylsilyl)-trifluoroacetamide (BSTFA) to the dried sample. The residue was dissolved in dichloromethane (100 μ L) and 1 μ L of silylated sample was injected to gas chromatography coupled to mass spectrometer analysis (Agilent technologies, 5975C inert MSD with its Triple-Axis Detector, Germany) [1].

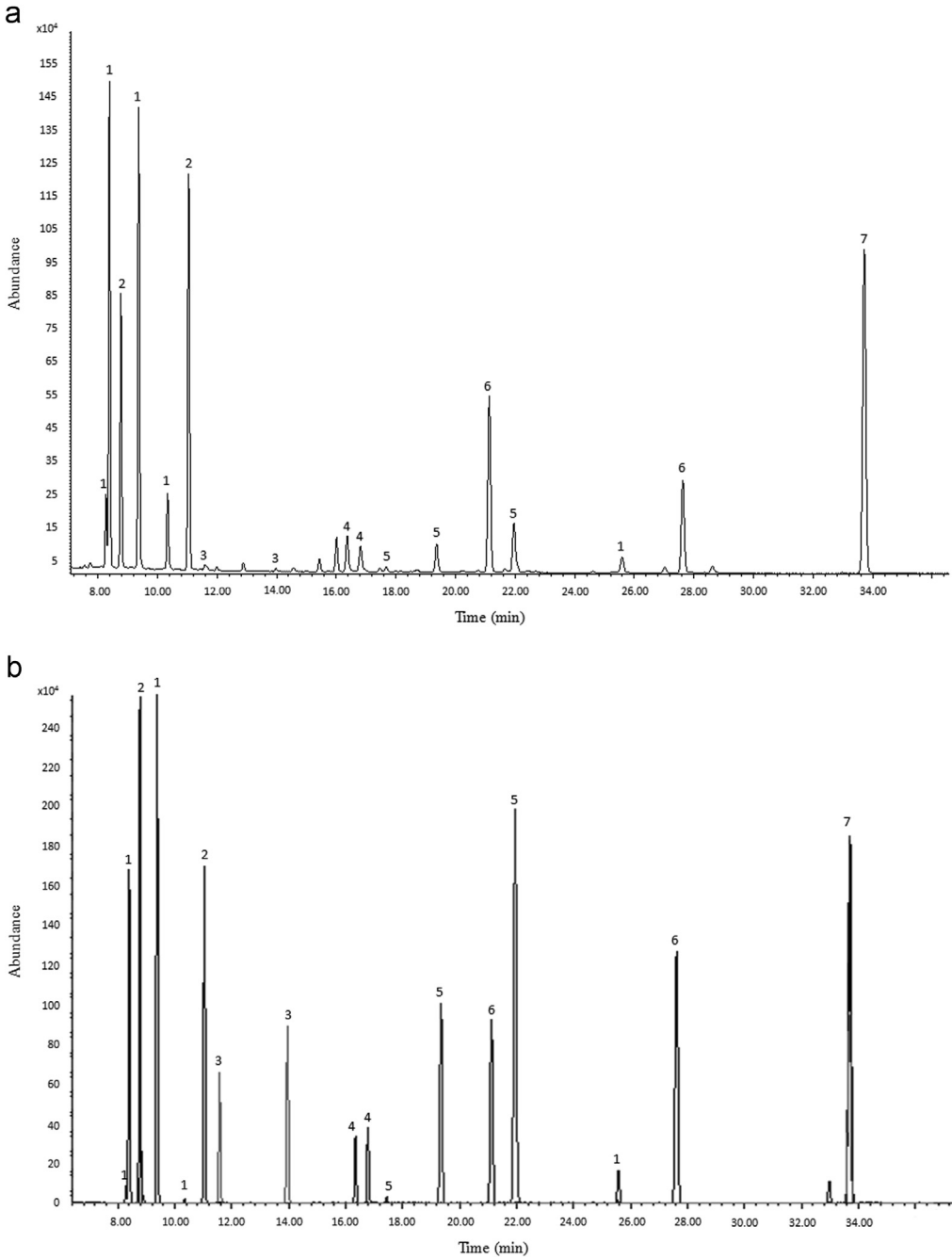


Fig. 1. GC-MS total ion current profiles of the trimethylsilylated sugars: a) ZLP; b) Standards mixture.

Transparency document. Supporting information

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.dib.2018.01.085>.

Reference

- [1] K. Mkadmini Hammi, M. Hammami, C. Rihouey, D. Le Cerf, R. Ksouri, H. Majdoub, Optimization extraction of polysaccharide from Tunisian *Zizyphus lotus* fruit by response surface methodology: composition and antioxidant activity, *Food Chem.* 212 (2016) 476–484.