

# Program and Abstract Book



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(P7) Assessment of plant food supplements adulteration with psychopharmaceutical drugs Pág.85-86

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Lisbon,  
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## **(P7) Assessment of plant food supplements adulteration with psychopharmaceutical drugs**

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**Objective:** The purpose of this study was to compare three different extraction methods (two based on ethanol extraction and one on the Quick, Easy, Cheap, Effective, Rugged, and Safe (QuEChERS) method) to assess the possible addition of psychopharmaceutical drugs (fluoxetine, sertraline, citalopram, venlafaxine, paroxetine, trazodone, and diazepam) as adulterants in St. John's wort (*Hypericum perforatum*) based plant food supplements (PFS).

**Methodology:** Analysis was performed in a Nexera Ultra-High Performance Liquid Chromatograph (UHPLC) coupled to a triple-quadrupole mass spectrometer (LCMS-8030 Shimadzu) with an electrospray ionization source (ESI), operating in positive ion mode, using a Kinetex C18 fused core column (150 × 2.10 mm i.d.; 1.7 µm) (Phenomenex). Multiple reaction monitoring mode (MRM) was selected and pharmaceuticals were quantified by internal standard calibration method. Calibration curves were constructed in the range 10 – 1000 µg/L. The three different extraction methods were compared based on the analysis of spiked samples.

**Results:** The QuEChERS method provided the best results in terms of recovery, although the different *Hypericum perforatum* based PFS showed distinct behaviours during extraction, probably due to differences in their

composition since spiked samples included capsules and tablets. Average recovery values in the analysed samples were in the range 57.5 – 119.7%, reflecting matrix interference in some of them.

Conclusions: The methodology was applied to five St. John's wort based PFS commercially available in the Portuguese market, and none of the adulterants surveyed was detected.

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