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## BOOK OF ABSTRACTS



# OR35 - TARGET AND UNTARGET ANALYTICAL METHOD FOR ALKALOIDS ANALYSIS IN HERBAL EXTRACTS BY HIGH RESOLUTION MASS SPECTROMETRY

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Alkaloids are a group of nitrogenous basic compounds commonly found in certain families of plants. Pyrrolizidine alkaloids present the hepatotoxic, mutagenic, and cancerogenic [1,2] and the Federal German Authority for Risk Assessment (BfR) recommends not to exceed a daily PA intake of 0.42 µg/60 kg adult. Nonetheless, some of them, if assumed at appropriate dose, are supposed to be beneficial for human health by traditional medicines.

Some studies suggest that commercial preparations for herbal infusion teas may contain high amounts of PAs exceeding current recommendations [2,3].

Quadrupole/High-Resolution Mass Spectrometry (Orbitrap) coupled with an on-line SPE/UHPLC proved to be an effective approach for a rapid untargeted and targeted screening method for alkaloids. The mass spectrometer operated in positive ion mode with sheath gas flow rate set at 30 arbitrary units, aux gas flow rate at 10 arbitrary units, spray voltage at 3.5 kV, capillary temperature at 330 °C, and auxiliary gas heater temperature at 300 °C. Mass spectra were acquired in full MS-data dependent MS/MS analysis (full MS–dd MS/MS) at mass resolving power of 140.000. With this method was possible to compare our d with a database of about 300 alkaloid molecules built from literature.

In this work we investigated a selection of commercial infusion extracts (mint, peppermint, fennel, aloe vera, chamomile, basil, almonds, lemon, passion fruit, black tea, white tea, green tea etc.) in order to asses the possible presence of a large number of these compounds.

## References

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