

NMR METABOLOMICS AND SPECTROPHOTOMETRIC STUDIES TO INFUSIONS AND DECOCTIONS OF PLANT SPECIES TO ASSESS AND COMPARE THE METABOLIC AND ANTIOXIDANT PROFILES

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NMR metabolomics and spectrophotometric studies (Folin–Ciocalteu, FRAP, ABTS) are implemented to infusions and decoctions of plant species to assess and compare the metabolic and antioxidant profiles for each botanical family. Multivariate and univariate data analyses highlighted the differences among the samples and pinpointed specific classes of compounds for each plant species as well as infusions and decoctions. The identified phenolic compounds by NMR, as well as the antioxidant profile, framed a trend of increased values in infusions compared to the decoctions. Furthermore, the infusion procedure positively affected the extractability of the phenolic compounds compared to decoctions. The highest total phenolic content (TPC) was found in *Mentha spicata*, while the lowest in *Matricaria chamomilla* preparations, irrespective of the preparation method. The preparation time for the decoctions was examined showing that the 15 min preparations were generally found richer in phenolics and of higher antioxidant activity.