P36 UHPLC-DAD-MS^n analysis of phenolic compounds bioavailability throughout *in vitro* simulated gastrointestinal digestion

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Phenolic compounds, one of the most widely distributed and structural diverse plant secondary metabolites families, have been the focus of several studies due to their vast range of biological activities (such as antioxidant, anti-inflammatory and/or antiproliferative). Since they are commonly present in human diet, phenolic compounds could be responsible for human health beneficial effects, preventing some disorders [1–4]. Notwithstanding, these health effects are strictly dependent on their bioavailability, which consists in the amount of each ingested compound that reaches the target tissue where it can have a promising biological effect [5]. Therefore, compound's structure, human enzymatic activity and gut microbiota are some of the numerous factors that influenced phenolic compounds bioavailability, and consequently their human health beneficial effects [5].
In this vein, the bioavailability of phenolic compounds from different classes, particularly, flavonols (rutin), flavanones (naringenin and naringin), dihydrochalcones (phloretin) and tannin monomeric units (phloroglucinol), were evaluated in an *in vitro* simulated gastrointestinal digestion and further analyzed and quantified through ultra-high performance liquid chromatography with diode-array detection and coupled to electrospray ionization tandem mass spectrometry (UHPLC-DAD-MS^n). Most of them showed a bioavailability >70% in intestinal digestion phase and seemed to be absorbed, reaching the systemic circulation. Thus, these results could be a future remark to evaluate the human health effects of promising phenolic compounds combination, or of plant-based extracts with a similar composition or even extracts enriched with them.

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