



***Ph.D. School in Chemical Sciences
Cycle XXXVIII***

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Research project title: Extraction and characterization of bioactive compounds from agri-food industry waste through the use of innovative solid-liquid extraction technologies. Production of food supplements from ecofriendly processes

Key words: Solid-liquid extraction; green chemistry; qualitative-quantitative analysis; food supplements; methods of analysis

Research project abstract: The research project is based on the optimization of solid-liquid extraction processes of waste materials from the agri-food sector in order to isolate the bioactive component. The objective of this first phase of the waste treatment is to optimize the extraction according to the application of different solid-liquid extraction techniques, starting from maceration and percolation up to the use of innovative solid-liquid extraction techniques such as ultrasound and RSLDE (Rapid solid-liquid dynamic extraction). Once the extraction process has been optimized, we will move on to the development of analysis methods for the qualitative and quantitative identification of the extracted active ingredients, if not existing in the literature. Finally, the active ingredients extracted, after being isolated, will be used for the low environmental impact production of innovative food supplements, cosmetics and pharmaceutical product.