

GROUP NAME: LABORATORY FOR AROMA ANALYSIS AND ENOLOGY (LAAE)

CODE: T29_23R



LINES OF RESEARCH

- Keys to wine longevity: resistance to oxidation/reduction; development of aroma quality
- Compensating for the effects of climate change (ripeness and alcohol content)
- Modelling the sensory quality of wine based on its aroma content
- Enhancing the value of Aragonese autochthonous grape and fruit varieties by characterizing their aromatic precursors using metabolomic techniques

We unravel the chemical basis of the smell and taste of food and things: from truffles to household appliances. We have a long track record in the world of wine, where we have identified the molecules and bio(chemical) processes critical to sensory quality and stability, and we are proposing new processes and products. We employ powerful analytical tools (GC-MS, HPLC-MS), metabolomics studies and modeling tools that allow us to link sensory perception with the responsible molecules, their precursors, and with the (bio)chemical processes of formation/degradation.

PROYECTOS DESTACADOS

- PDC2021-121343-C21. A measuring tool for sulfuric acid control in the wine cellar; new, clean, effective elimination methods based on modified polyphenols (DESULFHIDRIN1). Ministerio de Ciencia e Innovación. (2021-2023)
- PID2021-126031OB-C21. Parametrization and modeling of the quality and longevity of Spanish wines as key tools for excellence and resilience in the winemaking industry (LongLivingWine). Agencia Estatal de Investigación/ Unión Europea (2022-2025).
- Forest management of cork oak groves: its potential for improving the properties of cork, its processing, quality, and interaction with wine. (Cork2wine) within the framework of the Spanish Strategic Program of National Business Research Consortiums (CIEN).CDTI. (2020-2023)
- Analysis of aromatic profiles of wines aged in underground wine caves, within the framework of the Collaboration Group "WINE OF HILL: Social innovation for the production of Energy Zero Wines". European Union. (2022-2025)
- Innovative transformation of the wine path toward becoming a more digitized, sustainable sector (GRAPERTE) within the framework of the program "PERTE del Sector Agroalimentario" of the Ministerio de Industria, Comercio y Turismo. (2023-2025)

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