

## Proposition for tutored project M2 MAFEN

**Title : Terpene instability in flavours and fragrances**

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Context:

*Lipid degradation is a critical determinant of quality, stability, and consumer acceptance in food, beverages, flavors, and fragrances. Yet, research in this field has focused almost exclusively on fatty acid-based lipids, overlooking other unsaturated classes such as mono- and sesquiterpenes. This neglect is striking given that these terpenes dominate the essential oils that define aroma, taste, and fragrance profiles. Their structural features, especially the cyclic frameworks present in most, make them highly susceptible to oxidative degradation, while their vulnerability to acid-catalyzed reactions further accelerates the loss or alteration of critical sensory properties. Such degradation not only compromises flavor integrity and fragrance persistence but also undermines product stability and value across food industries.*

Objectives:

*This work aims to shed light on these underexplored degradation mechanisms and their implications for the food and flavor industries.*