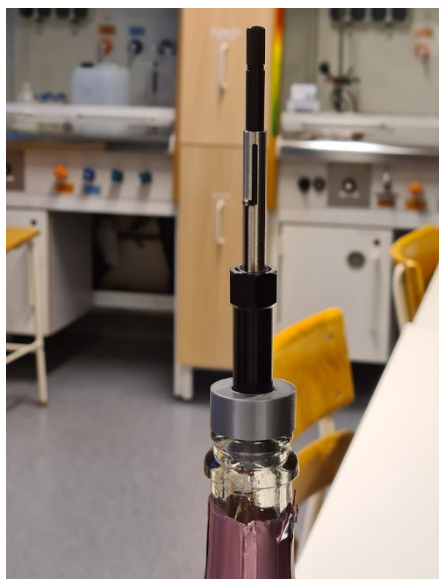


## Investigating glass geometry influence on wine VOC release



Wine glass geometry effects on aroma composition for sensory evaluation is a topic with conflicting evidence regarding geometrical properties. Hirson, Heymann & Ebeler (2012) analysed closed headspace from wine glasses and showed difference in accumulation rate and aroma profile between glass geometries. A previous BSc. (Uzoni 2021) thesis in our group has shown similar trends when comparing an expensive glass to a more standard glass as can be seen in figure 1. Here the more expensive glass brings out more flavour/aroma than the standard glass.

In this project, we will further investigate the ability of wine glasses to retain aroma compounds in an open headspace. Using Solid Phase Micro-Extraction Gas Chromatography Mass Spectrometry (SPME-GCMS) we will examine volatile organic compound (VOC) release from several beverages in different glasses. VOC release will be correlated to different geometric

properties of the glasses by multivariate methods such as Partial Least Square Discriminant Analysis (PLS-DA). This will lead to a better understanding of how the shape of a glass influences aroma and possibly offer an understanding of optimal design of glass geometry.

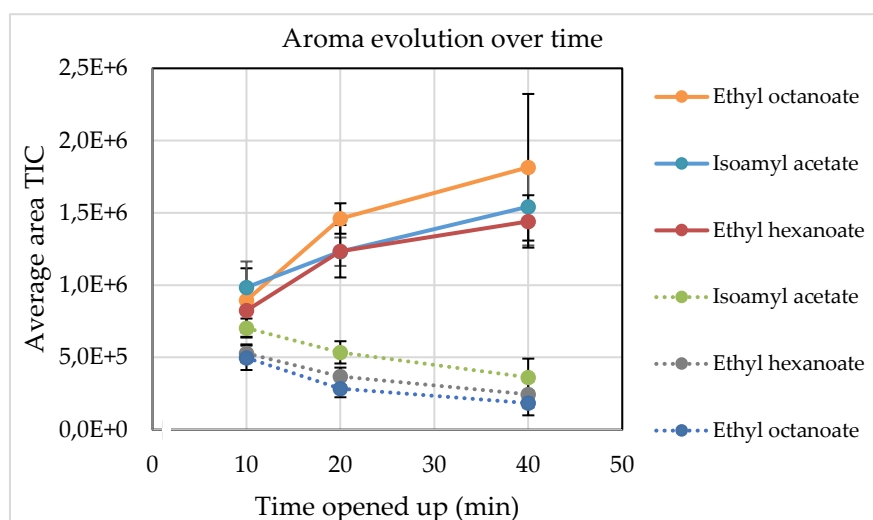


Figure 1: Difference in headspace concentration for ethyl octanoate, isoamyl acetate and ethyl hexanoate between an expensive glass (solid line) and standard glass (dotted line) as the wine opens up to the atmosphere.

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