

Transplanting biomass utilisation machinery into an industrial yeast for an affordable bioproduction

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IMPERIAL



Summary

This project combines the expertise of Imperial College in engineering *Yarrowia lipolytica* to utilize low-cost carbon sources with Viderabio's engineered strains that produce high-value terpenoids. The goal is to reduce production costs by using waste biomass instead of purified sugars, making the commercialisation of affordable bioproducts in the UK feasible.

Aims

- This project aimed at producing high value terpenes in yeast using low-cost substrates
- Showcase the power of engineering biology to make sustainable products

Outcomes

- Created new yeast strains with high production capacity of valuable molecules for the fragrance industry
- Engineered strains to provide capacity to grow on xylose, therefore allowing the use of lignocellulosic materials as substrate



"We used engineering biology to create yeast strains able to fully utilise agricultural waste and turn it into valuable molecules in a sustainable way"

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Image credit- Dr Cinzia Klemm