Testing assignment by EV Biotech

Position: Bioprocess modeller
Deadline: the 31st of January 2022

Goal

Design and simulate the process of microbial production of yohimbine (CAS 146-48-5) by yeast on a scale of $50\ m^3$. The assignment should meet the next requirements:

- The Python library biosteam should be used for simulations
- The purity and final product form do not matter for the assignment, but the downstream processing should include at least 2 steps.
- The fermentation mode is fed-batch
- The virtual fermenter should have at least one subproduct and reflect oxygen consumption and CO2 generation
- The fermentation protocol and fermentations settings should be concisely described in the report and reflected in the simulation
- Techno-Economic Analysis should be run with default parameters from the Biosteam documentation

NB

- The highest precision is not a priority
- Default virtual fermenter for biosteam generates only ethanol but can be helpful to design your own one
- The applicant might need to create your own units since biosteam doesn't have all the possible options
- The applicant can ask questions. Though it can be done only by email d.bachin@evbio.tech

Deliverables

- The code of the process with comments available on the personal GitHub repository
- Report 0.5 - 1 page A4 (font 12) as pdf available in the same GitHub repository

Disclaimer

The code and the report fully belong to the applicant. The applicant is free to use the code and the report for any purposes including adding it to the portfolio or use as proof of skills for other job applications. EV Biotech refuses any rights to own the information provided in the code or the assignment report. The assignment has nothing to do with the current projects of EV Biotech.