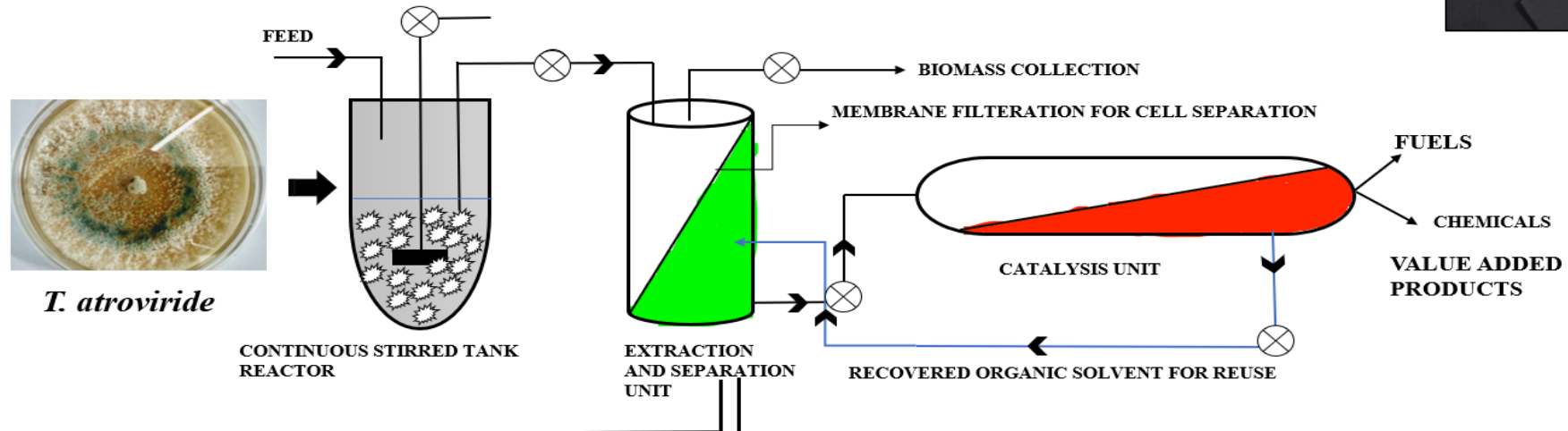


Integrated fermentation and catalytic processing of biomass derived 6 amyl alpha pyrone to valuable products



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6 amyl alpha pyrone (6PP) is an unsaturated lactone with characteristic coconut aroma widely used as flavour for foodstuff aromatisation and posses anti-fungal properties (Collins and Halim, 1972). Immense commercial application requires high yield and cost effective production of 6PP at large scale. The only constraint in 6PP production at large scale is its low yield due to inhibition at a low concentration of 100 mg/L. The chemical method for 6PP production is a multi-step process which is not only costly but requires higher temperatures (400°C). This project aims to demonstrate an integrated method in which 6PP will be produced by fermentation using fungus *Trichoderma atroviride*, followed catalytic conversion of 6PP to produce high-value chemicals which will be used as food additives and fuels. The goal for the proposed work is to produce pure 6PP at levels of 5-10 g/L. The constraint of low yield will be mitigated by strain improvement through random mutagenesis.