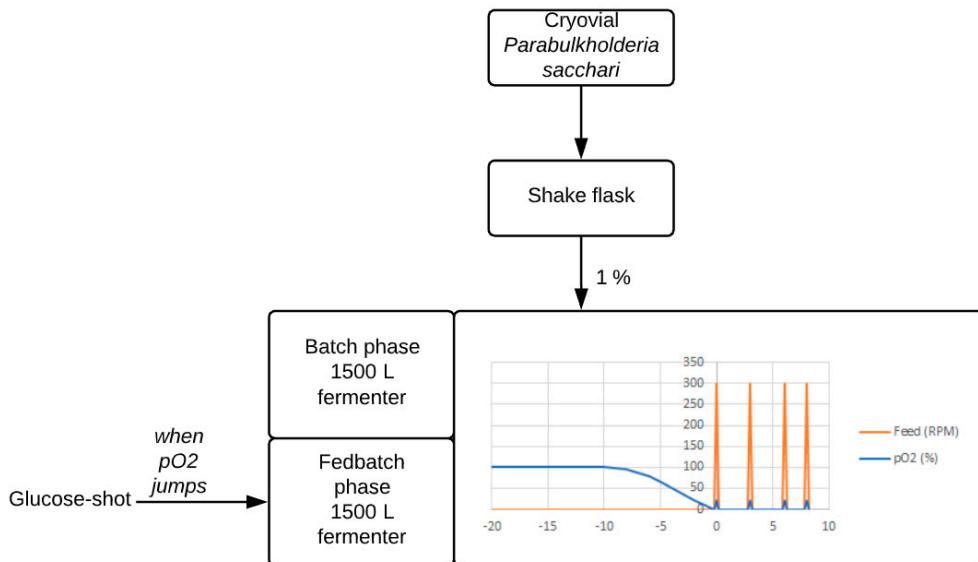


## Supplementary Information

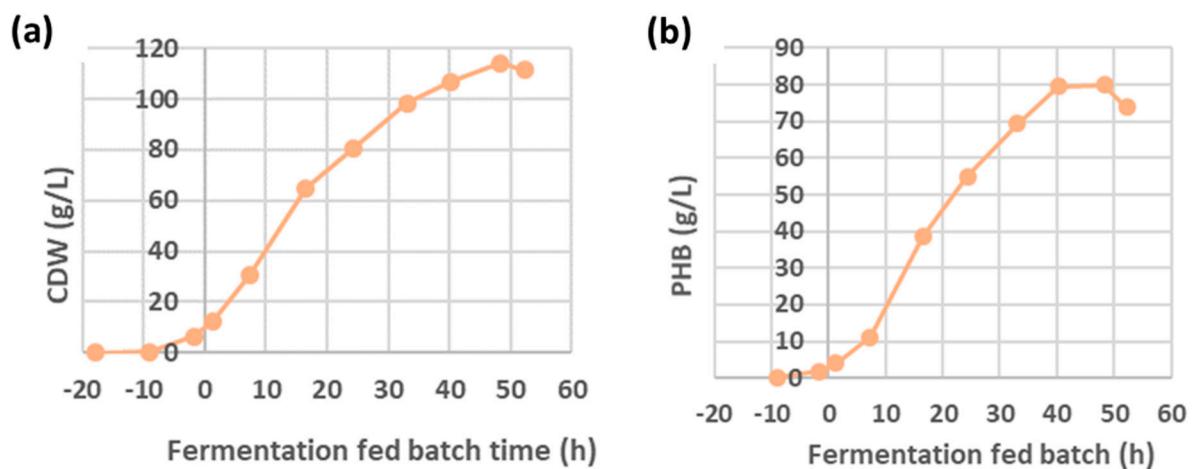
# Influence of Chitin Nanocrystals on the Crystallinity and Mechanical Properties of Poly(hydroxybutyrate) Biopolymer

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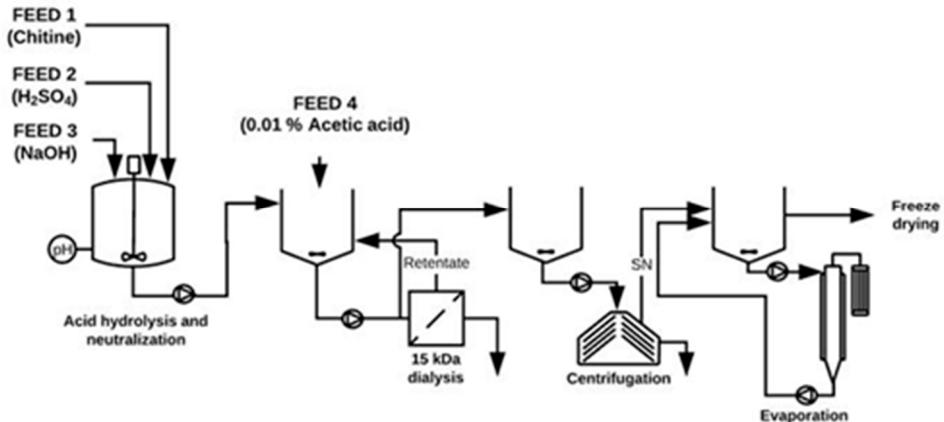
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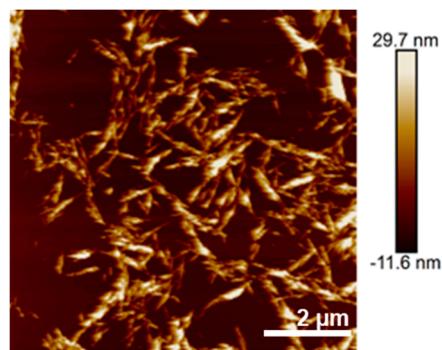
**Figure S1.** Fermentation process flow diagram for PHB production.



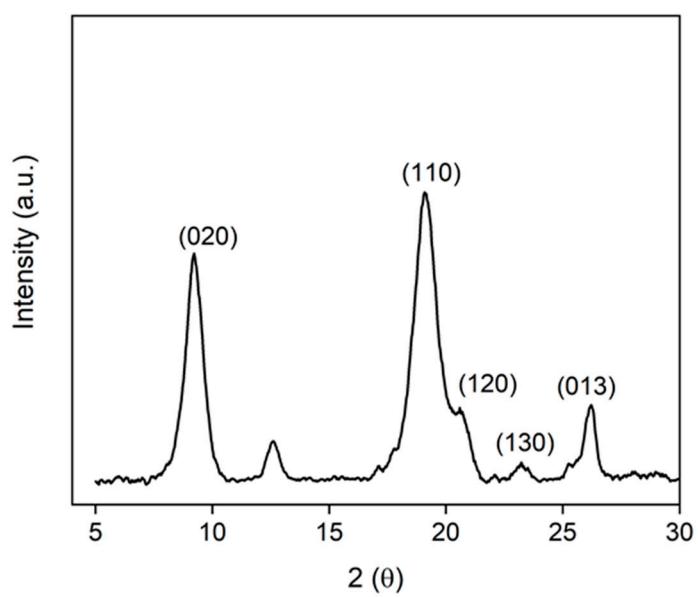
**Figure S2.** Time course of (a)CDW (g/L) accumulation in a 1.5 m<sup>3</sup> reactor and (b)PHB (g/L) production.



**Figure S3.** Processing scheme of the large-scale ChNCs production process.



**Figure S4.** AFM height image of the produced ChNCs showing diameters between 5-15 nanometers, and length between 200-480 nm.



**Figure S5.** XRD analysis of raw chitin powder confirming the presence of  $\alpha$ -crystallite structure of chitin.