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**Identification of an industrial microalgal strain for starch production in biorefinery context: the effect of nitrogen and carbon concentration on starch accumulation.**

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### Highlights

- *C. sorokiniana* was selected as robust strain for starch production in biorefinery context.
- At 300  $\mu\text{mol m}^{-2} \text{s}^{-1}$ , the optimal N and CO<sub>2</sub> concentration for starch production were 32 mgL<sup>-1</sup> and 2%.
- The highest starch content of 38%DW was reached after the first day of N-depletion (early N-depletion).
- The optimal harvesting time for starch recovery and biorefinery applications was the early N-depletion.

### Abstract

The recent trends in microalgal cultures are focused on the biorefinery of the biomass components. Some of them are not completely valorised, for example starch. Since there is a wide market for starch products

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