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Analysis of the oligosaccharide composition in wort samples by capillary electrophoresis with laser induced fluorescence detection.

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ABSTRACT

Determination of the oligosaccharide composition in different wort samples is important to monitor their change during the brewing process with different yeast types. In our work, the concentration of fermentable and non-fermentable sugars were monitored by capillary electrophoresis to observe the effect of two different types of yeasts, *Saccharomyces pastorianus* and *Saccharomyces ludwigii*. The former first ferments the monosaccharides, then the higher sugar oligomers, such as maltose and maltotriose, to ethanol, while the latter fully ferments the monosaccharides, but ferments only very low percentages of the oligosaccharides. Therefore, breweries use *Saccharomyces ludwigii* to produce beers with low alcohol content. The CE-LIF traces of the wort samples represented unique oligosaccharide signatures.

Keywords: wort, fermentation, yeast, oligosaccharide, capillary electrophoresis

Abbreviations: CE – capillary electrophoresis; APTS – aminopyrenetrisulfonate; LIF – laser induced fluorescence; °B – Balling degree

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