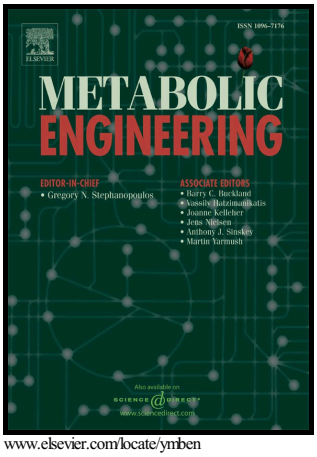

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Biosynthesis of monoethylene glycol in *Saccharomyces cerevisiae* utilizing native glycolytic enzymes

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Abstract

Monoethylene glycol (MEG) is an important commodity chemical with applications in numerous industrial processes, primarily in the manufacture of polyethylene terephthalate (PET) polyester used in packaging applications. In the drive towards a sustainable chemical industry, bio-based production of MEG from renewable biomass has attracted growing interest. Recent attempts for bio-based MEG production have investigated metabolic network modifications in *Escherichia coli*, specifically rewiring the xylose assimilation pathways for the synthesis of MEG. In the present study, we examined the suitability of *Saccharomyces cerevisiae*, a preferred organism for industrial applications, as platform for MEG biosynthesis. Based on combined genetic, biochemical and fermentation studies, we report evidence for the existence of an