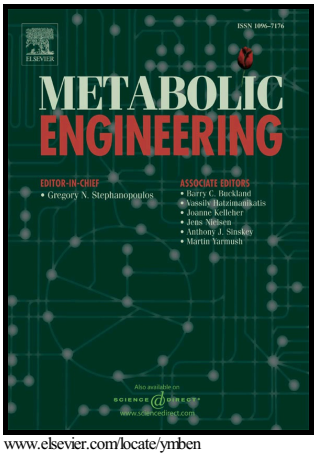

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An engineered Calvin-Benson-Bassham cycle for carbon dioxide fixation in *Methylobacterium extorquens* AM1

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Abstract

Organisms are either heterotrophic or autotrophic, meaning that they cover their carbon requirements by assimilating organic compounds or by fixing inorganic carbon dioxide (CO_2). The conversion of a heterotrophic organism into an autotrophic one by metabolic engineering is a long-standing goal in synthetic biology and biotechnology, because it ultimately allows for the production of value-added compounds from CO_2. The heterotrophic Alphaproteobacterium *Methylobacterium extorquens* AM1 is a platform organism for a future C1-based bioeconomy. Here we show that *M. extorquens* AM1 provides unique advantages

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