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## High-efficiency second generation ethanol from the hemicellulosic fraction of softwood chips mixed with construction and demolition residues

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### Abstract

Using lignocellulosic residues for bioethanol production could provide an alternative solution to current approaches at competitive costs, once challenges related to substrate recalcitrance, process complexity and limited knowledge are overcome. Thus, the impact of different process variables on the ethanol production by *Saccharomyces cerevisiae* using the hemicellulosic fraction extracted through the steam-treatment of softwood chips mixed with construction & demolition residues was assessed. A statistical design of experiments approach was developed and implemented in order to identify the influencing factors (various nutrient addition sources as well as yeast inoculum growth conditions and inoculation strategies) relevant for enhancing the ethanol production potential and substrate

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