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Bio-utilization of cheese manufacturing wastes (cheese whey powder) for bioethanol and specific product (galactonic acid) production via a two-step bioprocess

Xin Zhou^{1,2,3}, Xia Hua^{1,2,3}, Lu Huang^{1,2,3}, Yong Xu^{1,2,3*}

¹ Jiangsu Co-Innovation Center of Efficient Processing and Utilization of Forest Resources, Nanjing Forestry University, Nanjing 210037, People's Republic of China;

² College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, People's Republic of China;

³ Jiangsu Province Key Laboratory of Green Biomass-based Fuels and Chemicals, Nanjing 210037, People's Republic of China

*Corresponding author. College of Chemical Engineering, Nanjing Forestry University, No. 159 Longpan Road, Nanjing 210037, China.

Tel/Fax: +86-025-85427537.

Abstract

Cheese whey, produced from coagulation of milk during cheese manufacture, is a major environmental pollutant. The most abundant component in cheese whey is lactose, which is a potential resource for various value-added chemicals. Here, a two-step bioprocess using *Saccharomyces cerevisiae* and *Gluconobacter oxydans* to bioconvert cheese whey into ethanol and galactonic acid was first proposed. First, the lactose in cheese whey powder was pretreated with β-galactosidase to obtain glucose

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