

Extraction of hemicelluloses from wood for their chemical valorization



1st
year

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Chemical Processes

This thesis is a part of a biorefinery project. The study aims at removing hemicelluloses from hardwoods, and particularly Eucalyptus Globulus wood chips, prior to Kraft pulping. These hemicelluloses, which are mainly constituted of pentose sugars, can be valorised into chemicals.

We will focus on the optimization of the selective removal of the hemicelluloses prior to Kraft pulping but also on the cooking ability of the prehydrolysed wood chips. Furthermore, the cellulosic fibres will be studied for their bleaching ability and strength properties. The extracted hemicelluloses will be analysed and studied for their chemical valorisation in partnership with industry. Thus, the Kraft pulp mill will become a biorefinery mill through the simultaneous production of bleached cellulosic fibres and added-value chemicals such as surface-active agents.