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# Preparation and characterization of microcrystalline cellulose (MCC) from tea waste

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## Highlights

MCC was prepared from tea waste by chemical and hydrolysis treatments.

The effects of hydrolysis conditions on the DP and yield of MCC were studied.

Hydrolysis conditions were optimized by orthogonal experiment.

Tea waste MCC maintained the cellulosic structure and had good thermal stability.

**Abstract** Microcrystalline cellulose (MCC) was prepared from Oolong tea waste by acid hydrolysis in the present study. Based on the single factor experiment results, the hydrolysis conditions were optimized by an orthogonal  $L_9(3)^4$  experiment. Results showed that the degree of polymerization (DP) and yield of MCC were strongly

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