Determination of the Branching Ratio in Starch Based Raw Materials for Bioenergy by $^1$H HR MAS NMR Spectroscopy

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Accurate analyses of the starch based raw materials for biofuel production are necessary to set up more efficient procedures for saccharification leading to bioethanol production.

Current rapid methods of analysis of starch are secondary methods that are based on “apparent” estimates of starch structure in intact materials.

Proton NMR is a primary analysis method and is shown to provide accurate analyses by way of the starch branching ratio that still correlates well to the apparent amylose measurements.

The results provide a better reference method for rapid techniques such as near-infrared and Raman analysis of raw materials.