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## **Structural and spectroscopic characterisation of potato starch following $\alpha$ -amylase and temperature treatment**

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# Structural and spectroscopic characterisation of potato starch following $\alpha$ -amylase and temperature treatment

Project report submitted in partial fulfillment of the requirements for the degree  
of

**Bachelor of Science in Biotechnology**

Submitted by:

**Ms. Sreeshna Jagadeesan**

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6<sup>th</sup> Semester B.Sc. Biotechnology

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**May 2020**

**Abstract:** The hydrolysis of starch using  $\alpha$ -amylase is the basis on which the effect of enzymatic digestion on starch granules is quantified. The subsequent characterisation performed using microscopic and spectroscopic techniques broadens knowledge on the behaviour of potato starch under different conditions, such as temperature treatment. Potatoes are known to consist of resistant starch (RS) in raw form and rapidly digesting starch (RDS) when cooked. This information can be linked with glycaemic index of potatoes under different conditions, as it is an important factor to consider for individuals who are required to monitor their blood sugar levels as a result of health conditions, such as diabetics and people suffering from chronic heart diseases. The study of alpha amylase digestion of potato starch can therefore be useful for health practitioners as well as in various industrial domains such as food and textile industries.