## Accepted Manuscript

Title: How amylose molecular fine structure of rice starch affects functional properties

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PII: S0144-8617(18)31165-2

DOI: https://doi.org/10.1016/j.carbpol.2018.09.078

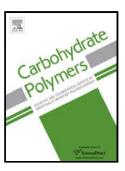
Reference: CARP 14121

To appear in:

Received date: 1-7-2018 Revised date: 13-9-2018 Accepted date: 28-9-2018

Please cite this article as: Tao K, Li C, Yu W, Gilbert RG, Li E, How amylose molecular fine structure of rice starch affects functional properties, *Carbohydrate Polymers* (2018), https://doi.org/10.1016/j.carbpol.2018.09.078

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### ACCEPTED MANUSCRIPT

# How amylose molecular fine structure of rice starch affects functional properties

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#### **Highlights**

- A new methodology shows amylose fine structure influences pasting & gelatinization
- Peak and trough viscosities are increased by short and medium amylose chains
- Peak, trough & setback viscosities are suppressed by long amylose chains
- Molecular mechanisms are put forward to explain these new observations

#### **Abstract**

Starch molecular fine structure can have significant effects on pasting and thermal properties of rice flour. This study investigates the mechanistic explanation of these effects, by obtaining

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