

CLAIMS

1. A flavoring precursor composition comprising:

- a) a first oligosaccharide;
- b) a second oligosaccharide that is a different type of oligosaccharide to the first oligosaccharide; and
- c) an acidity regulator;

wherein:

the first oligosaccharide and the second oligosaccharide of the flavoring precursor composition comprise a ratio of the second oligosaccharide to the first oligosaccharide of up to 90:10 w/w;

a composition of 100 mg of the flavoring precursor added to 1 mL of water can attain a temperature greater than 120 °C (under atmospheric conditions), wherein at least 5% by weight of the added water remains in the composition at 120 °C;

the heating of the flavoring precursor produces a plurality of non-enzymatic oligosaccharide breakdown products comprising one or more compound(s) selected from the group consisting of ketones, esters, aldehydes, furans, pyrazines, and aromatic compounds; and

the first oligosaccharide and the second oligosaccharide are selected independently from one of the following types of oligosaccharide:

- i. cello-oligosaccharides having a degree of polymerization (DP) of 2-6
- ii. fructo-oligosaccharides having a DP of 2-12
- iii. mannan-oligosaccharides having a DP of 2-12
- iv. galacto-oligosaccharides having a DP of 2-12
- v. mixed-linkage glucan oligosaccharides having a DP of 2-12
- vi. malto-oligosaccharides having a DP of 2-12
- vii. xylo-oligosaccharides having a DP of 2-12.

2. The flavoring precursor composition of claim 1, wherein upon heating to a temperature of 170 °C and maintaining the temperature for five minutes, a 100 mg/mL aqueous solution in total concentration prepared from the first oligosaccharide and the second oligosaccharide of the flavoring precursor composition has a background-subtracted absorbance (using water as a reference) at room temperature and 420 nm that is greater than a sucrose solution, of equivalent mass-concentration, treated in the same manner.
3. The flavoring precursor composition of claim 1 or claim 2, wherein upon heating an aqueous solution of the flavoring precursor to greater than or equal to 170 °C, the relative amount of saccharides remaining in the flavoring precursor is at least 45% of the relative amount of saccharides in the flavoring precursor prior to heating.
4. The flavoring precursor composition of claim 1, wherein the flavoring precursor further comprises moisture and/or water.
5. The flavoring precursor composition of claim 1, wherein the first oligosaccharide is cello-oligosaccharides having a DP of 2-6.
6. The flavoring precursor of claim 1, wherein the first oligosaccharide or the second oligosaccharide is selected from the following:
 - i) cello-oligosaccharide having a DP of 2-6
 - ii) fructo-oligosaccharide having a DP of 2-12
 - iii) xylo-oligosaccharide having a DP of 2-12.
7. The flavoring precursor composition of claim 5, wherein the ratio of the first oligosaccharide to the second oligosaccharide is from 10:90 to 50:50 w/w.
8. A cooked food product produced from a raw food product, the cooked food product comprising a flavoring component which comprises:
 - a plurality of non-enzymatic oligosaccharide breakdown products comprising one or more compound(s) selected from the group consisting of ketones, esters, aldehydes, furans, pyrazines, and aromatic compounds;

wherein the non-enzymatic oligosaccharide breakdown products were produced during cooking of the raw food product,

wherein the raw food product comprises a flavoring precursor composition, the flavoring precursor composition comprising:

- a) a first oligosaccharide;
- b) a second oligosaccharide, that is a different type of oligosaccharide to the first oligosaccharide;
- c) an acidity regulator;

wherein:

the first oligosaccharide and the second oligosaccharide of the flavoring precursor composition comprise a ratio of the second oligosaccharide to the first oligosaccharide of up to 90:10 w/w;

a composition of 100 mg of the flavoring precursor added to 1 mL of water can attain a temperature greater than 120 °C (under atmospheric conditions), wherein at least 5% by weight of the added water remains in the composition at 120 °C; and

the first oligosaccharide and the second oligosaccharide are selected independently from one of the following types of oligosaccharide i-vii):

- i. cello-oligosaccharides having a DP of 2-6
- ii. fructo-oligosaccharides having a DP of 2-12
- iii. mannan-oligosaccharides having a DP of 2-12
- iv. galacto-oligosaccharides having a DP of 2-12
- v. mixed-linkage glucan oligosaccharides having a DP of 2-12
- vi. malto-oligosaccharides having a DP of 2-12
- vii. xylo-oligosaccharides having a DP of 2-12.

9. The cooked food product of claim 8, wherein at least one of the plurality of non-enzymatic oligosaccharide breakdown products is present at a higher concentration than a cooked food product produced from a raw food product wherein the first oligosaccharide and the second oligosaccharide are substituted for sucrose.
10. The cooked food product of claim 8 or claim 9, wherein the flavoring precursor composition further comprises an amino acid, one or more lipids, or a combination thereof.
11. The cooked food product of any one of claims 8 to 10, wherein the cooked food product is a baked good or a confectionary product.
12. The cooked food product of claim 8 to 11, wherein the raw food product and/or cooked food product comprises polysaccharides.
13. The cooked food product of claim 12, wherein the polysaccharides comprise cellulose.
14. A method of making a cooked food the method comprising:
 - (a) providing a composition having a first pH, the composition comprising:
 - a first oligosaccharide; and
 - a second oligosaccharide that is a different oligosaccharide from the first oligosaccharide;
 - (b) adjusting, if necessary, the first pH of to be from 3 to 10; and
 - (c) heating the composition to greater than 100 °C, wherein a flavoring component, comprising a plurality of non-enzymatic breakdown products, is produced;wherein:
 - at least one of the plurality of non-enzymatic oligosaccharide breakdown products is present at a higher concentration than if the first oligosaccharide and the second oligosaccharide in the composition of a) are substituted for sucrose;wherein an acidity regulator is provided during a) and/or b); and

a composition of 100 mg of the flavoring precursor added to 1 mL of water can attain a temperature greater than 120 °C (under atmospheric conditions), wherein at least 5% by weight of the added water remains in the composition at 120 °C.

15. The method of claim 14, wherein (b) further comprises adjusting the pH of the composition to a second pH, the second pH being 4 to 7.
16. The method of claim 14 or claim 15, wherein (c) comprises heating the composition to at most 177 °C.
17. The method of any one of claim 14 to claim 16, further comprising: (d) maintaining the heat for a time period sufficient to achieve a predetermined sugar stage.
18. The method of claim 17, wherein (d) comprises heating the composition to from 110 °C to 112 °C such that the composition has a consistency of sucrose at a thread stage.
19. The method of claim 17, wherein (d) comprises heating the composition to from 112 °C to 116 °C such that the composition has a consistency of sucrose in a soft ball stage.
20. The method of claim 17, wherein (d) comprises heating the composition to from 118 °C to 120 °C such that the composition has a consistency of sucrose in a firm ball stage.
21. The method of claim 17, wherein (d) comprises heating the composition to from 121 °C to 130 °C such that the composition has a consistency of sucrose in a hard ball stage.
22. The method of claim 17, wherein (d) comprises heating the composition to from 133 °C to 143 °C such that the composition has a consistency of sucrose in a soft crack stage.
23. The method of claim 17, wherein (d) comprises heating the composition to from 146 °C to 154 °C such that the composition has a consistency of sucrose in a hard crack stage.