CLAIMS

What is claimed is:

1. A process comprising, in order, the steps of:

(a) providing a first reaction mixture comprising sucrose, a polar aprotic solvent and an organotin-based acylation promoter;

(b) removing water from the first reaction mixture to afford a second reaction mixture that is substantially free from water, and

(c) adding a carboxylic acid anhydride to the second reaction mixture to afford a third reaction mixture, thereby producing a sucrose-6-ester;

in which:

a non-polar co-solvent is not added to the reaction mixture during step (b); and

in step (b), the temperature does not exceed ~~about~~ 80°C.

2. The process of claim 1 in which, during step (b), the removing of water includes distillation of water with the polar aprotic solvent at reduced pressure.

3. The process of claim 1 or claim 2 in which the first reaction mixture and/or the second reaction mixture consist essentially of sucrose, the polar aprotic solvent, the organotin-based acylation promoter, and/or their reaction products.

4. The process of any preceding claim in which, during step (c), the third reaction mixture is maintained at 10°C or less for a period of time sufficient to produce the sucrose-6-ester.

5. The process of any preceding claim in which the temperature in step (b) is between ~~about~~ 80°C and ~~about~~ 20°C.

6. The process of any preceding claim in which the temperature in step (b) is between ~~about~~ 78°C and ~~about~~ 30°C.

7. The process of any preceding claim in which the temperature in step (b) is between ~~about~~ 75°C and ~~about~~ 40°C.

8. The process of any preceding claim in which the temperature in step (b) is between ~~about~~ 70°C and ~~about~~ 50°C.

9. The process of any preceding claim in which the polar aprotic solvent is *N,N*-dimethyl formamide.

10. The process of any preceding claim in which the organotin-based acylation promoter is a 1,3-di(acyloxy)-1,1,3,3-tetra-(hydrocarbyl)distannoxane.

11. The process of any preceding claim in which the organotin-based acylation promoter is 1,3-diacetoxy-1,1,3,3-tetrabutyldistannoxane.

12. The process of any one of claims 1-9 in which the organotin-based acylation promoter is a 1-acyloxy-3-hydroxy-1,1,3,3-tetra-(hydrocarbyl)distannoxane.

13. The process of claim 12 in which the organotin-based acylation promoter is 1-acetoxy-3-hydroxy-1,1,3,3-tetrabutyldistannoxane.

14. The process of any preceding claim in which the carboxylic acid anhydride is acetic anhydride and the sucrose-6-ester is sucrose-6-acetate.

15. The process of any one of claims 1 to 11 in which the carboxylic acid anhydride is benzoic anhydride and the sucrose-6-ester is sucrose-6-benzoate.

16. The process of any preceding claim in which the process is a batch process.

17. The process of any one of claims 1 to 15 in which the process is a continuous process.

18. The process of any preceding claim additionally comprising, after step (c), the additional step or steps of converting the sucrose-6-ester to sucralose.