US 4268527 discloses a method for producing a cocoa butter substitute (CBE) by transesterification of fats and oils containing glycerides rich in the oleyl moiety at the 2-position with an alcohol ester of stearic acid and/or palmitic acid in the presence of a lipase having reaction specificity to the 1,3-position of triglycerides and not more than 0.18% by weight of water based on the total weight of the reaction mixture. A cocoa butter substitute, rich in 1,3-distearyl-2-oleyl compound and 1-palmityl-2-oleyl-3-stearyl compound is said to be obtained.

EP-A-0245076 describes the preparation of edible fats by the reaction of high oleic sunflower oil with stearic acid in the presence of a lipase. The resulting composition, after wet fractionation, is significantly different from shea stearin in its StOSt and StOO contents.

Nakaya *et al*, Biotechnology Techniques, vol 12, no 12, 1998, 881-884 describes the transesterification reaction between triolein and stearic acid using an immobilised lipase from *Mucor miehei* in supercritical CO_2.

Seriburi *et al*, JAOCS, vol 75, no 4, 1998, 511-516 discloses the transesterification of triolein and stearic acid using lipases from *Rhizomucor miehei* or *Candida antarctica*.

US 6090598 discloses an enzymatic process for interesterification of fats and oils using distillation. There is no disclosure of an example for producing StOSt and the only mention of the production of this triglyceride is starting from a stearic acid ester.

There remains a need for processes for the formation of StOSt triglycerides, in particular compositions that are similar to shea stearin in terms of the triglycerides that they contain. There is also a need for processes that do not involve the formation of undesirable side products that need to be removed from the product.

Summary

In one aspect, there is provided a process for preparing a triglyceride composition comprising from 50 to 80 % by weight StOSt and from 5 to 20 % weight StOO, which process comprises reacting triolein with stearic acid at a temperature of from 65 to 80 °C in the presence of a 1,3-specific lipase from *Rhizopus oryzae* to form interesterified glycerides and fractionating the interesterified triglycerides.

Accordingly, the present disclosure~~invention~~ provides a process for preparing a triglyceride composition comprising from 50 to 80 % by weight StOSt and from 5 to 20 % by weight StOO, which process comprises reacting triolein with stearic acid in the presence of a 1,3- specific lipase from *Rhizopus oryzae* to form interesterified glycerides and fractionating the interesterified triglycerides.

Also provided by the disclosure~~invention~~ is a triglyceride composition comprising from 50 to 80 % by weight StOSt and up to 20 % by weight StOSt obtainable by the process of the disclosure~~invention~~.

Description

It has surprisingly been found that it is possible to produce a triglyceride composition that is similar to shea stearin. This effect is achieved by using the 1,3- specific lipase from *Rhizopus oryzae* for the reaction of triolein with stearic acid and subsequently fractionating the product.

The reaction between triolein and stearic acid is typically carried out at a temperature of from 45 to 85 °C. Preferably, the step of reacting the triolein with stearic acid is carried out at a temperature of from 65 to 80 °C, more preferably from 65 to 75 °C, even more preferably from 68 to 73 °C. It has unexpectedly been found that surprisingly good results are obtained at these relatively higher reaction temperatures. It was surprising that the lipase retains sufficient activity at these high temperatures to catalyse the reaction effectively. The ability to carry out the reaction at these high temperatures permits the use of stearic acid as a starting material for the process rather than its esters which have lower melting points. This, in turn, means that the side products produced from the stearoyl esters during the reaction can be avoided.

The reaction of the triolein with the stearic acid is preferably carried out at atmospheric pressure i.e., in a non-pressurised system. The reaction may be carried out in a packed bed reactor. The reaction is preferably carried out as a continuous process.

The reaction of triolein with stearic acid is preferably carried out in the complete or substantial absence of added organic solvents, such as alcohols and/or ketones having from 1 to 6 carbon atoms. Typically, alcohols and/or ketones having from 1 to 6 carbon atoms will be absent from the reaction mixture or, if present, they will be present in an amount of less than 1 % by weight, more preferably less than 0.5 % by weight, such as less than 0.1 % by weight, based on the weight of the reaction mixture.

The lipase that is used in the invention is from *Rhizopus oryzae*. The lipase may be produced in *Rhizopus oryzae* itself or produced recombinantly using a different host cell. The lipase may be modified, for example by the substitution or deletion of up to 10% of the amino acid residues in the enzyme (i.e., the lipase may have at least 90% identity with the wild type enzyme) without loss of lipase activity, but it is preferably the