CLAIMS

[Claim 1] A process for producing a plurality of fat compositions by a combined reaction system, wherein the combined reaction system comprises two reaction systems which produce a target fat composition rich in triglyceride by 1,3-position specific interesterification of raw material fat and raw material fatty acid or lower alcohol ester thereof, comprising:

separating a fraction of fatty acid or lower alcohol ester thereof, which is liberated derived from 1,3-positions of the raw material fat, by distillation from a reaction product after the 1,3-position specific interesterification in each of the reaction systems; and

using mutually the fraction as a part or all of raw material fatty acid or lower alcohol ester thereof in another reaction system.

[Claim 2] The process for producing a plurality of fat compositions according to claim 1, wherein the combined reaction system comprises a first reaction system which produces a fat composition rich in USU and a second reaction system which produces a fat composition rich in SUS, the first reaction system comprises the following

steps (1) to (3), the second reaction system comprises the following steps (4) to (6), wherein a fraction obtained in step (6) is used for a part or all of raw material fatty acid or lower alcohol ester thereof (b) in step (1), and wherein a fraction obtained in step (3) is used for a part or all of raw material fatty acid or lower alcohol ester thereof (d) in step (4),

wherein S represents saturated fatty acid with C4 to C24, U represents unsaturated fatty acid with C18, USU represents triglyceride in which fatty acids at 1,3-positions are U and fatty acid at 2-position is S, and SUS represents triglyceride in which fatty acids at 1,3-positions are S and fatty acid at 2-position is U, and wherein steps (1) to (6) are as follows:

(1) a step of mixing raw material fat (a) comprising 80% by weight or more of S in the constituent fatty acid and raw material fatty acid or lower alcohol ester thereof (b) comprising U as a major component;

(2) a step of subjecting the raw material mixture obtained in step (1) to interesterification using 1,3-position-specific lipase;

(3) a step of separating a fraction of fatty acid or lower alcohol ester thereof, which is liberated derived from the 1,3-positions of the raw material fat (a), by distillation from a reaction product obtained in step (2);

(4) a step of mixing raw material fat (c) comprising 50% by weight or more of U in the constituent fatty acid and raw material fatty acid or lower alcohol ester thereof (d) comprising S as a major component;

(5) a step of subjecting the raw material mixture obtained in step (4) to interesterification using 1,3-position-specific lipase; and

(6) a step of separating a fraction of fatty acid or a lower alcohol ester thereof, which is liberated derived from the 1,3-positions of the raw material fat (c), by distillation from a reaction product obtained in step (5).

[Claim 3] The process for producing a plurality of fat compositions according to claim 2, wherein in step (3), a fat composition comprising 30% by weight or more of USU and a fraction of unreacted fatty acid or lower alcohol ester thereof are separated from the reaction product.

[Claim 4] The process for producing a plurality of fat compositions according to claim 2 or 3, wherein in step (6), a fat composition comprising 30% by weight or more of SUS and a fraction of unreacted fatty acid or a lower alcohol ester thereof are separated from the reaction product.

[Claim 5] The process for producing a plurality of fat

compositions according to any one of claims 2 to 4, wherein the USU comprises stearic acid (St) as a major component of fatty acid at 2-position, and has 0.5 or more of UStU/USU ratio.

[Claim 6] The process for producing a plurality of fat compositions according to claim 5, wherein the raw material fat (a) comprises 10 to 70% by weight of saturated fatty acid with C20 to C24 in the constituent fatty acid.

[Claim 7] The process for producing a plurality of fat compositions according to claim 6, wherein a fully hydrogenated oil of high erucic rapeseed oil is used for a part or all of the raw material fat (a), wherein oleic acid or lower alcohol ester thereof is used for the raw material fatty acid or lower alcohol ester thereof (b), wherein high oleic fat is used for a part or all of the raw material fat (c), and wherein behenic acid or lower alcohol ester thereof is used for the raw material fatty acid or lower alcohol ester thereof (d).

[Claim 8] The process for producing a plurality of fat compositions according to claim 5, wherein the raw material fat (a) comprises 10 to 70% by weight of saturated fatty acid with C4 to C16 in the constituent fatty acid.

[Claim 9] The process for producing a plurality of fat compositions according to claim 8, wherein a fully hydrogenated oil of palm mid fraction is used for a part or all of the raw material fat (a), wherein oleic acid or lower alcohol ester thereof is used for the raw material fatty acid or lower alcohol ester thereof (b), wherein high oleic fat is used for a part or all of the raw material fat (c), and wherein palmitic acid or lower alcohol ester thereof is used for the raw material fatty acid or lower alcohol ester thereof (d).

[Claim 10] The process for producing a plurality of fat compositions according to any one of claims 5 to 9, wherein a triglyceride fraction obtained in step (6) is fully hydrogenated and used for a part or all of the raw material fat (a) in step (1).

[Claim 11] The process for producing a plurality of fat compositions according to any one of claims 2 to 4, wherein the USU contains palmitic acid (P) as a major component of fatty acid at 2-position, and has 0.5 or more of UPU/USU ratio.

[Claim 12] The process for producing a plurality of fat

compositions according to claim 11, wherein the raw material fat (a) comprises 60% by weight or more of palmitic acid in the constituent fatty acid.

[Claim 13] The process for producing a plurality of fat compositions according to claim 12, wherein a fat rich in tripalmitin is used for a part or all of the raw material fat (a), wherein oleic acid or lower alcohol ester thereof is used for the raw material fatty acid or lower alcohol ester thereof (b), wherein high oleic fat is used for a part or all of the raw material fat (c), and wherein palmitic acid or lower alcohol ester thereof is used for the raw material fatty acid or lower alcohol ester thereof (d).