

8 results for (esterified and distilling and transesterifying)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX AND (C07D-311/72)/IPC - Collection: FAMPAT

#	Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
1.	Recovery of tocopherols/tocotrienols, glycerine, sterols and fatty acid esters from vegetable oil distillate and the process thereof	WO2016126152	2016-02-04	David. Tree. He	2016-08-11	2016-08-11

A process for recovering tocotrienols/tocopherols from vegetable oil distillate comprising the steps of esterifying the vegetable oil distillate with an alcohol in the presence of an acid catalyst to convert the fatty acids contained therein to produce an **esterified** mixture comprising fatty acid esters, thereby reducing fatty acid content in the oil to less than 3% by weight; **distilling** the **esterified** mixture for separating and removing the fatty acid esters therefrom; **transesterifying** the distilled mixture with an alcohol in the presence of a basic catalyst for converting glycerides present therein to fatty acid esters and glycerine, forming a transesterified mixture comprising glycerine and fatty acid esters; purifying the transesterified mixture to substantially remove glycerine therefrom; and **distilling** the purified mixture to substantially remove fatty acid esters, producing a composition comprising a predetermined concentration of tocotrienols/tocopherols.

2.	Recovery of tocopherols	WO9721697	1996-11-25	COGNIS* HENKEL	1997-06-19	1997-06-19
Starting from a mixture containing tocopherol, fats and/or fat derivatives, more particularly fatty acids, and optionally sterol and/or sterol derivatives, the free fatty acids present in the mixture are esterified with an alcohol and fatty glycerides are transesterified with an alcohol in the presence of a zinc oxide and/or zinc hydroxide catalyst. After the esterifications, the excess lower alcohol is distilled off from the reaction mixture. The transesterification catalyst and the glycerol present, if any, are removed and the fatty acid alkyl ester is distilled off from the mixture. Distillation of fatty acid alkyl esters can be accomplished with a packed column in sequence with a wiped film evaporator. The simultaneous recovery of tocopherol and sterol is possible. Tocopherols and sterols can be separated by the crystallization of sterols from a blend of organic solvents.						
3.	Isolation of tocopherol and sterol	DE4228476	1992-08-27	COGNIS* HENKEL	1994-03-03	1994-03-03

Starting from a mixture containing tocopherol, fats and/or derivatives of fats, in particular fatty acids, and optionally sterol and/or sterol derivatives, the free fatty acids present in the mixture are esterified using a lower alcohol. The mixture with the lower alcohol is then transesterified in the presence of a basic catalyst. Following the transesterification, excess lower alcohol is distilled off from the reaction mixture. The transesterification catalyst and any glycerin which may be present are separated off and the fatty acid alkyl ester is distilled off from the mixture. The method is suitable for use with many different starting mixtures and does not use any solvents with toxic or polluting effects. High yields are obtained with limited thermal effects. The method can also be carried out economically on an industrial scale. It is possible to isolate tocopherol and sterol simultaneously.						
4.	Recovery of tocopherols	WO9504731	1994-08-01	COGNIS* HENKEL	1995-02-16	1995-02-16

Starting from a mixture containing tocopherol, fats and/or fat derivatives, more particularly fatty acids, and optionally sterol and/or sterol derivatives, the free fatty acids present in the mixture are **esterified** with an alcohol. The mixture is then transesterified with an alcohol in the presence of a basic catalyst. After the transesterification, excess lower alcohol is distilled off from the reaction mixture. The transesterification catalyst and the glycerol present, if any, are removed and the fatty acid alkyl ester is distilled off from the mixture. Distillation of fatty acid alkyl esters can be accomplished with a packed column in sequence with a wiped film evaporator. The simultaneous recovery of tocopherol and sterol is possible. Tocopherols and sterols can be separated by the crystallization of sterols from a blend of organic solvents.

TABLE 1.A						
No.	Temp. (°C)	Time (min)	Yield (%)	Material	Temp. (°C)	Material
1	100	10	100	100	100	100
2	100	10	100	100	100	100
3	100	10	100	100	100	100
4	100	10	100	100	100	100
5	100	10	100	100	100	100
6	100	10	100	100	100	100
7	100	10	100	100	100	100
8	100	10	100	100	100	100
9	100	10	100	100	100	100
10	100	10	100	100	100	100
11	100	10	100	100	100	100
12	100	10	100	100	100	100
13	100	10	100	100	100	100
14	100	10	100	100	100	100
15	100	10	100	100	100	100
16	100	10	100	100	100	100
17	100	10	100	100	100	100
18	100	10	100	100	100	100
19	100	10	100	100	100	100
20	100	10	100	100	100	100
21	100	10	100	100	100	100
22	100	10	100	100	100	100
23	100	10	100	100	100	100
24	100	10	100	100	100	100
25	100	10	100	100	100	100
26	100	10	100	100	100	100
27	100	10	100	100	100	100
28	100	10	100	100	100	100
29	100	10	100	100	100	100
30	100	10	100	100	100	100
31	100	10	100	100	100	100
32	100	10	100	100	100	100
33	100	10	100	100	100	100
34	100	10	100	100	100	100
35	100	10	100	100	100	100
36	100	10	100	100	100	100
37	100	10	100	100	100	100
38	100	10	100	100	100	100
39	100	10	100	100	100	100
40	100	10	100	100	100	100
41	100	10	100	100	100	100
42	100	10	100	100	100	100
43	100	10	100	100	100	100
44	100	10	100	100	100	100
45	100	10	100	100	100	100
46	100	10	100	100	100	100
47	100	10	100	100	100	100
48	100	10	100	100	100	100
49	100	10	100	100	100	100
50	100	10	100	100	100	100
51	100	10	100	100	100	100
52	100	10	100	100	100	100
53	100	10	100	100	100	100
54	100	10	100	100	100	100
55	100	10	100	100	100	100
56	100	10	100	100	100	100
57	100	10	100	100	100	100
58	100	10	100	100	100	100
59	100	10	100	100	100	100
60	100	10	100	100	100	100
61	100	10	100	100	100	100
62	100	10	100	100	100	100
63	100	10	100	100	100	100
64	100	10	100	100	100	100
65	100	10	100	100	100	100
66	100	10	100	100	100	100
67	100	10	100	100	100	100
68	100	10	100	100	100	100
69	100	10	100	100	100	100
70	100	10	100	100	100	100
71	100	10	100	100	100	100
72	100	10	100	100	100	100
73	100	10	100	100	100	100
74	100	10	100	100	100	100
75	100	10	100	100	100	100
76	100	10	100	100	100	100
77	100	10	100	100	100	100
78	100	10	100	100	100	100
79	100	10	100	100	100	100
80	100	10	100	100	100	100
81	100	10	100	100	100	100
82	100	10	100	100	100	100
83	100	10	100	100	100	100
84	100	10	100	100	100	100
85	100	10	100	100	100	100
86	100	10	100	100	100	100
87	100	10	100	100	100	100
88	100	10	100	100	100	100
89	100	10	100	100	100	100
90	100	10	100	100	100	100
91	100	10	100	100	100	100
92	100	10	100	100	100	100
93	100	10	100	100	100	100
94	100	10	100	100	100	100
95	100	10	100	100	100	100
96	100	10	100	100	100	100
97	100	10	100	100	100	100
98	100	10	100	100	100	100
99	100	10	100	100	100	100
100	100	10	100	100	100	100

TABLE 1.A									
No.	Temp. (°C)	Time (min)	Yield (%)	Material	No.	Temp. (°C)	Time (min)	Yield (%)	Material
1	100	10	100	100	11	100	10	100	100
2	100	10	100	100	12	100	10	100	100
3	100	10	100	100	13	100	10	100	100
4	100	10	100	100	14	100	10	100	100
5	100	10	100	100	15	100	10	100	100
6	100	10	100	100	16	100	10	100	100
7	100	10	100	100	17	100	10	100	100
8	100	10	100	100	18	100	10	100	100
9	100	10	100	100	19	100	10	100	100
10	100	10	100	100	20	100	10	100	100
TABLE 1.B									
No.	Temp. (°C)	Time (min)	Yield (%)	Material	No.	Temp. (°C)	Time (min)	Yield (%)	Material
21	100	10	100	100	31	100	10	100	100
22	100	10	100	100	32	100	10	100	100
23	100	10	100	100	33	100	10	100	100
24	100	10	100	100	34	100	10	100	100
25	100	10	100	100	35	100	10	100	100
26	100	10	100	100	36	100	10	100	100
27	100	10	100	100	37	100	10	100	100
28	100	10	100	100	38	100	10	100	100
29	100	10	100	100	39	100	10	100	100
30	100	10	100	100	40	100	10	100	100
TABLE 1.C									
No.	Temp. (°C)	Time (min)	Yield (%)	Material	No.	Temp. (°C)	Time (min)	Yield (%)	Material
41	100	10	100	100	51	100	10	100	100
42	100	10	100	100	52	100	10	100	100
43	100	10	100	100	53	100	10	100	100
44	100	10	100	100	54	100	10	100	100
45	100	10	100	100	55	100	10	100	100
46	100	10	100	100	56	100	10	100	100
47	100	10	100	100	57	100	10	100	100
48	100	10	100	100	58	100	10	100	100
49	100	10	100	100	59	100	10	100	100
50	100	10	100	100	60	100	10	100	100
TABLE 1.D									
No.	Temp. (°C)	Time (min)	Yield (%)	Material	No.	Temp. (°C)	Time (min)	Yield (%)	Material
61	100	10	100	100	71	100	10	100	100
62	100	10	100	100	72	100	10	100	100
63	100	10	100	100	73	100	10	100	100
64	100	10	100	100	74	100	10	100	100
65	100	10	100	100	75	100	10	100	100
66	100	10	100	100	76	100	10	100	100
67	100	10	100	100	77	100	10	100	100
68	100	10	100	100	78	100	10	100	100
69	100	10	100	100	79	100	10	100	100
70	100	10	100	100	80	100	10	100	100
TABLE 1.E									
No.	Temp. (°C)	Time (min)	Yield (%)	Material	No.	Temp. (°C)	Time (min)	Yield (%)	Material
81	100	10	100	100	91	100	10	100	100
82	100	10	100	100	92	100	10	100	100
83	100	10	100	100	93	100	10	100	100
84	100	10	100	100	94	100	10	100	100
85	100	10	100	100	95	100	10	100	100
86	100	10	100	100	96	100	10	100	100
87	100	10	100	100	97	100	10	100	100
88	100	10	100	100	98	100	10	100	100
89	100	10	100	100	99	100	10	100	100
90	100	10	100	100	100	100	10	100	100

7. A method of chromatographic isolation for CA2334068
vitamin e isomers

2001-02-01

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2001-08-02

2001-08-02

A method of chromatographic isolation of Vitamin E isomers (alpha-tocopherol, beta-tocopherol, gamma-tocopherol, delta-tocopherol, alpha-tocotrienol, beta-tocotrienol, gamma-tocotrienol, and delta-tocotrienol) from Vitamin E- comprising compounds, said method including the steps of (a) introducing the substances, which form the source of the Vitamin E isomers, onto selective adsorbents to effect adsorption of Vitamin E isomers and subsequently, (b) effecting an individual desorption of the adsorbed Vitamin E isomers, wherein the adsorption and/or desorption of the Vitamin E isomers are carried out under a supercritical fluid environment.

Oil	α-T	β-T	γ-T	δ-T	α-T ₃	β-T ₃	γ-T ₃	δ-T ₃
Castor oil	28	29	111	240	-	-	-	-
Kakadu oil	11	-	170	17	2	-	-	-
Cocconut oil	-	-	-	2.4	20	-	-	-
Wheat	134	18	412	38	-	-	-	-
Neem oil	573	40	317	10	-	-	-	-
Edible oil	169	5	144	13	-	-	-	-
Linseed oil	-	-	-	-	-	-	-	-
Safflower	75	-	404	31	-	-	-	-
Chenopod	83	-	7	-	-	-	-	-
Linseed oil	1862	-	-	-	455	455	142	-
Peanut	180	-	-	-	1127	287	80	-
Peanut	279	-	81	-	274	388	89	-
Rapeseed	79	18	178	7	-	-	-	-
Rapeseed	324	18	53	-	236	349	-	-
Safflower	477	-	44	18	-	-	-	-
Sesamum	12	6	244	33	-	-	-	-
Soyabean oil	178	34	737	275	-	-	-	-
Sunflower oil	608	17	11	-	-	-	-	-
Unrefined oil	1179	388	483	118	3000	-	-	-

Fraction	Summed	α-T	β-T	γ-T	δ-T
1	20.41	100	-	-	-
2	42.47	-	100	-	-
3	48.55	-	-	100	-
4	58.65	-	-	-	100

Fraction	Summed	α-T	β-T	γ-T	δ-T
1	20.41	100	-	-	-
2	42.47	-	100	-	-
3	48.55	-	-	100	-
4	58.65	-	-	-	100

Fraction	Summed	α-T	β-T	γ-T	δ-T
1	20.41	100	-	-	-
2	42.47	-	100	-	-
3	48.55	-	-	100	-
4	58.65	-	-	-	100

Fraction	Summed	α-T	β-T	γ-T	δ-T
1	20.41	100	-	-	-
2	42.47	-	100	-	-
3	48.55	-	-	100	-
4	58.65	-	-	-	100

Fraction	Summed	α-T	β-T	γ-T	δ-T
1	20.41	100	-	-	-
2	42.47	-	100	-	-
3	48.55	-	-	100	-
4	58.65	-	-	-	100

8. Process for recovery of plant sterols from HU0202024
by-product of vegetable oil refining

2002-06-19

BANGQI
BUNGE NOVENYOLAJIPARI ZRT
BUNGE RT
BUNGE ZRT*
CEREOL NOVENYOLAJIPARI RT
CEREOL NÖVENYOLAJIPARI RT
HUNGARIAN COUNTRY HER 1 1 3 9
BUDAPEST PETNEHÁZY UZZA 2 4
BUNGHA NOVENO RAI PARIS
SEEERCHÉ

2002-08-28

2002-08-28

The process for recovery of plant sterols and tocopherols from deodorization distillates formed during chemical or physical refining of vegetable oils consists of the following steps: free fatty acids are removed from the deodorization distillate by vacuum distillation or by continuation solvent saponification, after the removal of free fatty acids, the received material is reacted with an aromatic carboxylic acid anhydride at a temperature of 50-150 DEG C, under reduced pressure, after the treatment with anhydride, tocopherols are removed from the mixture, and crystalline free sterols are recovered from the distillation residue containing sterol esters, di- and triglycerides by transesterification.

