

Search history

Search 1: FT=(vegetable oil and acid catalyst and alcali and tocopherol) (Results 0)

Search 2: FT=(vegetable oil and acid catalyst and alcali and tocopherol) (Results 11)

Search 3: IC=(c07d311/72) (Results 1655)

Search 4: FT=(tocopherol and vegetable oil) and IC=(c07d311/72) (Results 115)

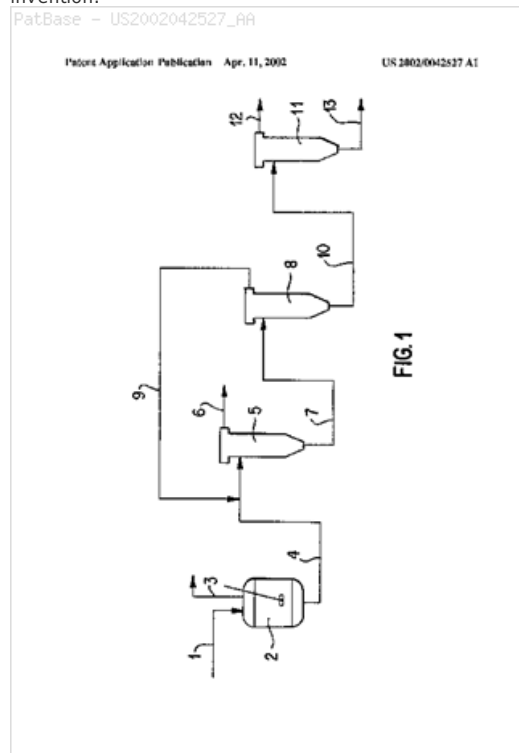
Search 5: FT=(tocopherol and vegetable oil and acid catalyst) and IC=(c07d311/72) (Results 19)

1) Family number: 30431274 (US2002042527A)

Title: METHODS FOR SEPARATING A TOCOPHEROL FROM A TOCOPHEROL-CONTAINING MIXTURE

Abstract:

Source: US2002042527A The invention relates to method for separating **tocopherol** from a first **tocopherol** admixture by heating the first **tocopherol** admixture composed of at least one **tocopherol**, a fatty acid, and an esterifying compound to esterify the fatty acid to produce a second **tocopherol** admixture composed of the **tocopherol**, the esterified fatty acid, and the unesterified fatty acid; distilling the second **tocopherol** admixture with the esterified fatty acid to remove the unesterified fatty acid from the second **tocopherol** admixture to produce a third **tocopherol** admixture composed of the **tocopherol**, with substantially removed unesterified fatty acid; distilling the third **tocopherol** admixture for a sufficient time and temperature to substantially remove the **tocopherol** from the third **tocopherol** admixture to produce a fourth **tocopherol** admixture composed of the removed **tocopherol** and a non-tocol component; and extracting the **tocopherol** from the fourth **tocopherol** admixture with an extraction solvent composed of a polar, organic solvent that is miscible with water to produce a two phase system composed of a first phase containing the majority of the extraction solvent and the second phase, wherein the selectivity of the extraction solvent for **tocopherol** with respect to the non-tocol component is greater than unity, and removing the first phase from the second phase, with the proviso that the extraction solvent is not a neat alcohol. The invention further relates to compositions produced by the methods of the present invention.



International class (IPC 8-9): A23L1/302 A23L33/15 A61K31/352 A61K31/355 B01D11/00 B01D11/04 B01D3/00 C07D311/04

C07D311/72 (Advanced/Invention);

C07D311/72 (Advanced/Non-invention);

A23L1/302 B01D11/04 C07D311/00 (Core/Invention);

B01D (Subclass/Invention)

International class (IPC 1-7): A23L1/302 A61K31/355 B01D B01D 11/00 B01D11/00 B01D11/04 B01D3/00 C07D311/04 C07D311/72

CPC: C07D311/72

European class: C07D311/72

US class: 203/43 203/43S 203/71 203/71S 203/74 549/413 549/413P

Family:

Publication number	Pub. date	Application number	App. date
AU2000028571 A1	20000807	AU20000028571	20000127
AU2000028571 A5	20000807	AU20000028571	20000127
AU759309 B2	20030410	AU20000028571	20000127
BRPI0007665 A	20020409	BR2000PI07665	20000127
BRPI9907278 A	20001024	BR1999PI07278	19990126
BRPI9908141 A	20001128	BR1999PI08141	19990126
CA2359938 AA	20010723	CA20002359938	20000127
CN1221542 C	20051005	CN1998002444	19990126
CN1295568 A	20010516	CN1998002443	19990126
CN1314901 A	20010926	CN1998002444	19990126
CN1348448 A	20020508	CN20008004330	20000127
EP1051411 A1	20001115	EP19990904266	19990126
EP1051411 B1	20020828	EP19990904266	19990126
EP1051412 A1	20001115	EP19990904267	19990126
EP1051412 B1	20030924	EP19990904267	19990126
EP1163235 A2	20011219	EP20000907000	20000127
EP1163235 A4	20020626	EP20000907000	20000127
ES2178384 T3	20021216	ES19990904266T	19990126
ES2207931 T3	20040601	ES19990904267T	19990126
JP2002501915 T2	20020122	JP20000529327T	19990126
JP2002501916 T2	20020122	JP20000529328T	19990126
JP2003508345 T2	20030304	JP20000594546T	20000127
KR20010101669 A	20011114	KR20017009321	20000127
MY124273 A	20060630	MY19990000291	19990128
TH40845 A	20001025	TH19991000220	19990127
TH40846 A	20001025	TH19991000221	19990127
US2002042527 AA	20020411	US19990360947	19990727
US6159347 A	20001212	US19990237406	19990126
US6224717 BA	20010501	US19990237384	19990126
US6706898 BB	20040316	US19990360947	19990727
WO0043095 A2	20000727	WO2000US01624	20000127
WO0043095 A3	20000928	WO2000US01624	20000127
WO9938859 A1	19990805	WO1999US01570	19990126
WO9938860 A1	19990805	WO1999US01571	19990126
ZA200106170 A	20030526	ZA20010006170	20000127

Priority: US19980072962P 19980129; US19980072963P 19980129; US19990237384 19990126; WO1999US01570 19990126; WO1999US01571 19990126; US19990237406 19990126; US19990360947 19990727; WO2000US01624 20000127;

Cited documents: WO9938860 A1, WO9938859 A1, WO9721697 A1, WO9614311 A1, WO0001686 A1, WO0001685 A1, US5908940 A, US5670669 A, US5660691 A, US5512691 A, US5487817 A, US4550183 A, US4480108 A, US4454329 A, US3335154 A, US3153055 A, US2866797 A, US2432181 A, JP7002827 A2, JP61268677 A2, JP61151186 A2, JP61093178 A2, JP61060619 A2, JP61053280 A2, JP60185776 A2, JP60149582 A2, JP60048981 A2, JP3127730 A2, GB2117381 A1, EP0610742 A1, EP0333472 A2, EP01971009, EP0171009 A2, DE3615029 A1,

Assignee(s): (std): EASTMAN CHEM CO ; EASTMAN CHEMICAL CO ; ARCHER DANIELS MIDLAND CO ; SUMMER CHARLES E

Assignee(s): SUMNER CHARLES E JR ; ARCHER DANIELS MIDLAND COMPANY ; EASTMAN CHEMICAL COMPANY

Inventor(s): (std): CE SUMNER ; CE SUMNER JR ; CHARLES E SUMNER JR ; FOSTER MARY K ; JD MONCIER ; JR ; JS KANEL ; KANEL J S ; KANEL JEFFREY S ; MONCIER J D ; MONCIER JOHN D ; SUMNER C E JR ; SUMNER CHARLES E ; SUMNER CHARLES E JR ; SUMNER JR CHARLES E ; SUMNER C E ; SUMMER CHARLES E

Inventor(s): MARY K FOSTER ; JOHN D MONCIER ; JEFFREY S KANEL ; J S KANEL ; J D MONCIER ; C E SUMNER JR ; C E SUMNER

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

PatBase PDF Export - Page: 4 29/11/2018

3) Family number: 30277126 (US2004138479A)

Title: COLOR-STABLE, LOW IMPURITY TOCOPHEROL COMPOSITIONS AND PROCESSES FOR PREPARING THE SAME

Abstract:

Source: US2004138479A Processes for preparing color-stable, low-impurity **tocopherol** compositions are described, wherein the processes comprise: (a) providing a protecting group-substituted **tocopherol** compound, for example an acetate of a natural-source **tocopherol** compound; (b) purifying the protecting group-substituted **tocopherol** compound, for example through crystallization; and (c) solvolyzing the purified compound to form free **tocopherol**. Also described are the **tocopherol** compositions prepared thereby.

International class (IPC 8-9): A61K31/355 A61K47/22 C07D311/72 C07D311/78 (Advanced/Invention);

C07B61/00 (Advanced/Non-invention);

A61K31/352 A61K47/22 C07D311/00 (Core/Invention);

C07B61/00 (Core/Non-invention)

International class (IPC 1-7): A61K31/355 C07D311/04 C07D311/72

CPC: Y02P20/55 C07D311/78

European class: C07D311/78

US class: 549/408 549/413 549/413P

Family:

Publication number	Pub. date	Application number	App. date
AU2003252162 AA	20040216	AU20030252162	20030725
CA2492831 AA	20050117	CA20032492831	20030725
CA2492831 C	20100608	CA20032492831	20030725
CN1671374 A	20050921	CN20038017907	20030725
EP1534266 A2	20050601	EP20030771829	20030725
EP1534266 A4	20090422	EP20030771829	20030725
IN00069CN2005 A	20070330	IN2005CN00069	20050125
IN228010 B	20090306	IN2005CN00069	20050125
JP2006511454 T2	20060406	JP20040524807T	20030725
US2004138479 AA	20040715	US20030626281	20030724
US7138532 BB	20061121	US20030626281	20030724
WO04010931 A2	20040205	WO2003US23277	20030725
WO04010931 A3	20040624	WO2003US23277	20030725

Priority: US20020398900 20020726; US20020398900P 20020726; US20030626281 20030724; WO2003US23277 20030725;

Cited documents: WO0211720 A1, US6414166 BA, US5670668 A, US4607111 A, US4602098 A, US2349271 A, US2317353 A, JP52014772 A2, JP5170757 A2, JP48091075 A2, JP2000063350 A2, JP11302170, JP10310562 A2,

Assignee(s): (std): COGNIS CORP ; COGNIS IP MAN GMBH

Assignee(s): COGNIS IP MANAGEMENT GMBH ; MILSTEIN NORMAN ; COGNIS (COGNIS CORP) CORP ; COGNIS COGNIS CORP CORP

Inventor(s): (std): MILSTEIN NORMAN ; NORMAN MILSTEIN

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

4) Family number: 28234328 (US2002072620A)

Title: Processes for the purification of tocopherol and/or sterol compounds and compositions containing orthoborate ester mixtures

Abstract:

Source: US2002072620A Processes for purifying compounds are disclosed which include reacting (i) a mixture of at least one **tocopherol** compound or sterol compound, and an alcohol having from about 10 to 30 carbons with (ii) one or more boron-containing compounds to form a second mixture of orthoborate esters, wherein the mole ratio of **tocopherol**, sterol and alcohol to boron is at least about 2.5:1; heating the second mixture to form a residue containing the orthoborate esters; contacting the residue with a compound capable of solvolyzing the orthoborate esters to form a third mixture including the boron-containing compound(s), the alcohol and the **tocopherol** and/or sterol compound(s); and recovering the **tocopherol** and/or sterol compound(s). Another process for purifying such compounds includes an activated carbon treatment, which may alternatively follow the other process steps; formation of borate esters; heating to remove low boiling point components; formation of a residue comprising the borate esters; contacting the residue with a compound capable of solvolyzing the borate esters; and separation of the remaining components. Compositions including mixtures of alkyl/**tocopherol**/sterol orthoborate esters are also disclosed.

International class (IPC 8-9): A61K31/355 C07D311/72 C07D311/76 C07D315/00 C07F5/04 C07J9/00 (Advanced/Invention)

International class (IPC 1-7): A61K31/355 C07D311/72 C07D311/76 C07D315/00 C07F5/04 C07J9/00

CPC: C07D311/72

European class: A61K47/48H4 C07D311/72

US class: 549/407 549/408 549/413 549/413P 552/545 552/545S 552/547 558/286 558/286S

Family:

Publication number	Pub. date	Application number	App. date
AT380801 E	20071215	AT20010961944T	20010806
AU2001283166 AA	20020218	AU20010283166	20010806
DE60131853 D1	20080124	DE20016031853	20010806
DE60131853 T2	20081127	DE20016031853T	20010806
EP1305022 A1	20030502	EP20010961944	20010806
EP1305022 A4	20060802	EP20010961944	20010806
EP1305022 B1	20071212	EP20010961944	20010806
ES2296787 T3	20080501	ES20010961944T	20010806
US2002072620 AA	20020613	US20010922208	20010803
US6429320 BA	20020806	US20010922208	20010803
WO0211720 A1	20020214	WO2001US24782	20010806

Priority: US20000223217P 20000804; US20010922208 20010803; WO2001US24782 20010806;

Cited documents: WO0160409 A1, US5892058 A, US5487817 A, US4617406 A, US4550183 A,

Assignee(s): (std): COGNIS CORP ; COGNIS IP MAN GMBH ; TURNER STEPHEN W

Assignee(s): VARVIL JAN R ; PICKENS CARL ; COGNIS COGNIS CORP CORP ; COGNIS IP MANAGEMENT GMBH ; MCCURRY PATRICK M

Inventor(s): (std): TURNER STEPHEN ; VARVIL JAN R ; TURNER STEPHEN W ; PICKENS CARL E DI ; PICKENS CARL E ; PICKENS CARL ; MCCURRY PATRICK M JR ; MCCURRY PATRICK M ; MCCURRY JR PATRICK M ; MCCURRY PATRICK

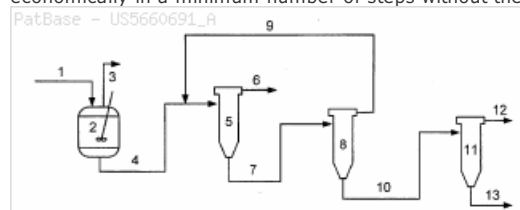
Inventor(s): PATRICK M MCCURRY JR ; STEPHEN W TURNER ; CARL E PICKENS

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

PatBase PDF Export - Page: 7 29/11/2018

6) Family number: 13197045 (US5660691A)**Title:** Process for the production of tocotrienol/tocopherol blend concentrates**Abstract:**

Source: US5660691A Disclosed is an improved process for the preparation of tocotrienol/tocopherol blend concentrates from vegetable oil distillates which are enriched in tocotrienols. Tocotrienol/tocopherol blend concentrates are obtained containing 20-80 percent tocotrienols/tocopherols by weight, with an overall recovery of tocotrienols/tocopherols of 72 percent to 97 percent. The process is comprised first of an esterification reaction where the more volatile alcohols are converted to their less volatile fatty acid esters, followed by a series of distillation steps where components boiling higher and lower than the tocotrienols/tocopherols are separated from tocotrienols/tocopherols and other like boiling substances. Advantages of the process are that tocotrienol/tocopherol blend concentrates are produced efficiently and economically in a minimum number of steps without the use of solvents and with a relatively small capital investment.

**International class (IPC 8-9):** C07D311/72 (Advanced/Invention)**International class (IPC 1-7):** C07D311/76**CPC:** C07D311/72**European class:** C07D311/72**US class:** 203/28 203/72 203/80 549/413**Family:**

Publication number	Pub. date	Application number	App. date
US5660691 A	19970826	US19950558073	19951113

Priority: US19950558073 19951113;**Cited documents:** US5512691 A, US5487817 A, US5424457 A, US5371245 A, US4977282 A, US4454329 A, US3335154 A, US3153055 A, US2432181 A,**Assignee(s):** (std): EASTMAN CHEM CO**Assignee(s):** EASTMAN CHEMICAL CO ; EASTMAN CHEMICAL COMPANY**Inventor(s):** (std): WILLIAMS III HAMPTON LOYD CHIP ; SUMNER JR CHARLES EDWAN ; BARNICKI SCOTT DONALD

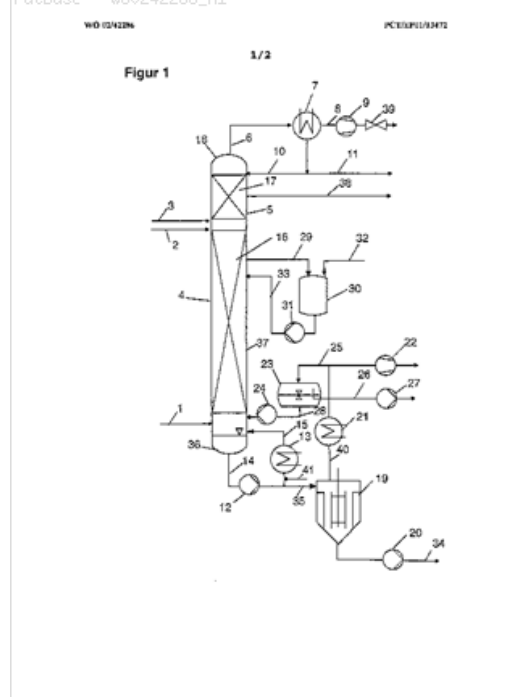
7) Family number: 28937005 (US2004014996A)

Title: METHOD FOR CONTINUOUSLY ACYLATING CHROMANOL ESTER DERIVATIVES

Abstract:

Source: US2004014996A A process is described for continuously preparing chromanol ester derivatives, in particular for continuously preparing carboxylic esters of **tocopherols** and tocotrienols by continuous acylation with carboxylic acids or carboxylic anhydrides.

PatBase - WO0242286_R1



International class (IPC 8-9): B01D3/00 B01D3/14 B01D3/32 C07D311/72 (Advanced/Invention); B01D1/22 (Advanced/Non-invention); B01D3/00 B01D3/14 C07D311/00 (Core/Invention); B01D1/22 (Core/Non-invention)

International class (IPC 1-7): C07D307/94 C07D311/04 C07D311/72 C07D311/76

CPC: Y02P20/127 C07D311/72 B01D1/22 B01D3/009 B01D3/146 B01D3/322

European class: B01D3/00R B01D3/14B2 B01D3/32B C07D311/72 L01D1/22

US class: 549/408 549/410 549/410P 549/412

Family:

Publication number	Pub. date	Application number	App. date
AT298330 E	20050715	AT20010989492T	20011121
AU2002227934 AA	20020603	AU20020227934	20011121
AU200227934 A1	20020603	AU20020027934	20011121
AU200227934 A5	20020603	AU20020027934	20011121
CN1205200 C	20050608	CN20018019350	20011121
CN1476441 A	20040218	CN20018019350	20011121
DE50106594 D1	20050728	DE20015006594	20011121
EP1339704 A1	20030903	EP20010989492	20011121
EP1339704 B1	20050622	EP20010989492	20011121
ES2243585 T3	20051201	ES20010989492T	20011121
US2004014996 AA	20040122	US20030416468	20030512
US6784303 BB	20040831	US20030416468	20030512
WO0242286 A1	20020530	WO2001EP13472	20011121

Priority: DE20001058132 20001122; DE20015006594 20011121; WO2001EP13472 20011121;

Cited documents: WO9728151 A1, WO9319057 A1, US6365758 BA, US6005122 A, US5886196 A, US5468883 A, US3708505 A, US3444213 A, JP49055633 A2, EP0850937 A1, EP0784042 A1, DE4208477 A1, DE2208795 A1, DE19603142 A1, CZ205951, CS205951 B1, CS205951 A, CS205951 A, **Assignee(s):** (std): BASF AG ; BASF CORP ; BASF SE ; OOST CARSTEN ; KAIBEL GERD ; LAAS HARALD ; SCHMITT PETER ; VON ERDEN JENS

Assignee(s): ERDEN JENS VON ; BASF AKTIENGESSELLSCHAFT

Inventor(s): (std): ERDEN JENS VON ; KAIBEL GERD ; LAAS HARALD ; OOST CARSTEN ; SCHMITT PETER ; VON ERDEN JENS ; OOST C ; LAAS H ; KAIBEL G

Inventor(s): H LAAS ; G KAIBEL ; C OOST ; PETER SCHMITT ; GERD KAIBEL ; HARALD LAAS ; JENS VON ERDEN ; CARSTEN OOST

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

8) Family number: 11942437 (US5703252A)**Title:** Recovery of Tocopherols**Abstract:**

Source: US5703252A 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.

International class (IPC 8-9): C07D311/72 (Advanced/Invention);

C07D311/00 (Core/Invention)

International class (IPC 1-7): C07D311/72**CPC:** C07D311/72**European class:** C07D311/72**US class:** 549/413**Family:**

Publication number	Pub. date	Application number	App. date
AR005061 AA	19990407	AR1996P105657	19961213
BRPI9611932 A	19990302	BR1996PI11932	19961206
CA2240123 AA	19980609	CA19962240123	19961206
EA000870 B1	20000626	EA19980000552	19961206
EA199800552 A1	19981224	EA19980000552	19961206
EP0866789 A1	19980930	EP19960945568	19961206
EP0866789 A4	19990407	EP19960945568	19961206
IN182428 A	19990410	IN1996MA02198	19961205
JP2002515861 T2	20020528	JP19970522074T	19961206
MX9804560 A1	19980930	MX19980004560	19980608
TR9801067 T2	20020521	TR19960001067T	19961206
TR9801067 T2	20020521	TR19980001067T	19961206
US5703252 A	19971230	US19960753460	19961125
WO9721697 A1	19970619	WO1996US19146	19961206

Priority: US19950008762P 19951213; US19960753460 19961125; WO1996US19146 19961206;**Cited documents:** WO9504731 A1, US5512691 A, US5424457 A, US5190618 A, US4451564 A, US4374776 A, US4148810 A, US3840570 A, US3335154 A, US3153055 A, US2729655 A, US2432181 A, EP0171009 A2, DE4228476 A1, DE3126110 A1,**Assignee(s):** (std): HENKEL CORP**Assignee(s):** HUNT TRACY K ; SCHWARZER JOERG ; COGNIS CORP ; COGNIS IP MANAGEMENT GMBH**Inventor(s):** (std): HUNT TRACY K ; SCHWARZER JOERG ; SCHWAZER JOERG**Inventor(s):** TRACY K HUNT ; JOERG SCHWARZER ; JOERG SCHWAZER**Designated states:** AM AT AZ BE BR BY CA CH CN DE DK ES FI FR GB GR IE IT JP KG KZ LI LU MC MD MX NL PT RU SE TJ TM TR UA

9) Family number: 42103839 (IN00300MA2001A)

Title: AN IMPROVED PROCESS FOR PRODUCTION OF TOCOPHEROL CONCENTRATES FORM DEODORIZED SOYA DISTILLATES

Abstract:

Source: IN00300MA2001A This invention relates to an improved process for production of **tocopherol** concentrates from deodorized soya distillates. The **tocopherol** concentrates produced according to the process of the invention are useful as pharmaceuticals, for cosmetic applications, and as food additive.

International class (IPC 1-7): C07D311/72

Family:

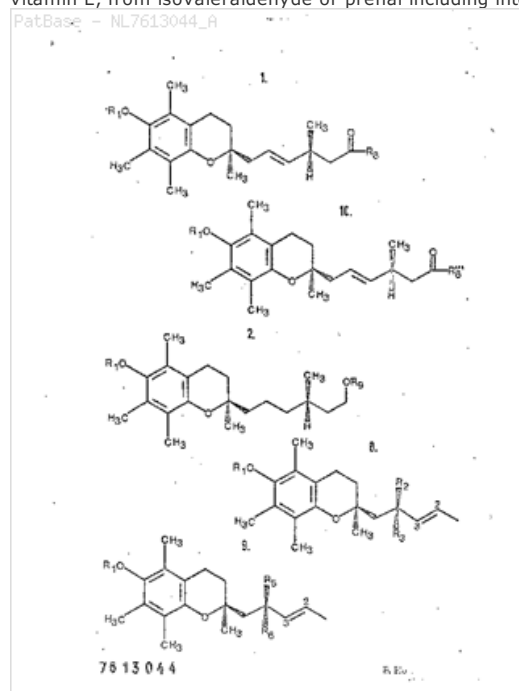
Publication number	Pub. date	Application number	App. date
IN00300MA2001 A	20070209	IN2001MA00300	20010409
IN210216 B	20071214	IN2001MA00300	20010409

Assignee(s): M S NATCO PHARMA LTD ; NATCO PHARMA LTD

Inventor(s): NATCO PHARMA LTD ; SUDHEER PALADUGU ; VENKATA RAO ERRAGUNTLA

10) Family number: 6805945 (US4000169A)**Title:** ASYMMETRIC SYNTHESIS OF OPTICALLY ACTIVE COMPOUNDS**Abstract:**

Source: US4000169A Asymmetric synthesis of optically active 3,7,11-trimethyl-dodecan-1-ol, an intermediate for producing optically active vitamin E, from isovaleraldehyde or prenal including intermediates in this synthesis.



International class (IPC 8-9): C07C235/28 C07C29/09 C07C29/147 C07C29/17 C07C29/42 C07C45/00 C07C45/51 C07C47/21 C07C51/06 C07C51/09 C07C51/16 C07C51/36 C07C53/126 C07C57/03 C07C67/00 C07C69/145 C07C69/52 C07D311/58 C07D311/72

C07F7/18 (Advanced/Invention);

C07C235/00 C07C29/00 C07C45/00 C07C47/20 C07C51/06 C07C51/09 C07C51/16 C07C51/347 C07C53/00 C07C57/00 C07C67/00 C07C69/00 C07D311/00 C07F7/00 (Core/Invention)

International class (IPC 1-7): C07C103/127 C07C103/133 C07C103/34 C07C103/58 C07C33/02 C07C45/00 C07C47/02 C07C47/20 C07C49/20 C07C57/02 C07C69/02 C07C69/145 C07C69/34 C07C69/52 C07C69/83 C07C79/46 C07C97/03 C07D311/70 C07D311/72 C07F7/04 C07F7/18 C09F5/00 C11C1/00 C11C3/02

CPC: Y10S260/44 C07C29/147 C07C29/17 C07C29/42 C07C29/92 C07C47/02 C07C69/587 C07B2200/07 C07B2200/09 C07C33/02 C07C33/025 C07C45/29 C07C45/513 C07C51/06 C07C51/09 C07C51/16 C07C51/36 C07C53/126 C07C57/03 C07C69/007 C07C205/57 C07D311/58 C07D311/72 C07F7/1804 C07C67/08 C07C67/303 C07C67/52 C07C69/24 C07C69/533 C07C69/80 C07C67/27 C07C69/145 C07C67/00 C07C29/095

European class: 124AA19D18 124B69/24 124B69/52 124BC2B1B 124BC2B5A 124BC2B5K2 124BC2B5K2A 124BC2B5K2A1 124BC2B5K2B 124BC4C2B 124BC5D2 124BD122X111+69/24 124BD122X122+69/24 124BD122X26 124BD122X26+69/52 124BG12B2B2B3C3 124BG2B1A2A 12019C2 C07C205/57 C07C29/09A C07C29/147 C07C29/17 C07C29/42 C07C33/02 C07C33/025 C07C45/29 C07C45/51B4 C07C51/06 C07C51/09 C07C51/16 C07C51/36 C07C53/126 C07C57/03 C07C69/007 C07D311/58 C07D311/72 C07F7/18C C07F7/18C4D4C M07B200/07 M07B200/09

US class: 260/345.5 260/404 260/410.9R 260/488H 260/DIG.44 512/25 512/26 549/214 549/407 549/408 549/410 554/1 554/124 554/125 554/223 554/35 554/68 554/77 556/442 560/171 560/201 560/205 560/22 560/261 560/95 564/504 564/508 568/448 568/485 568/596 568/599 568/687 568/840 568/873 568/909.5

Family:

Publication number	Pub. date	Application number	App. date
DE2602508 A1	19760729	DE19762602508	19760123
DE2655174 A1	19770616	DE19762655174	19761206
FR2357554 A1	19780203	FR19760036962	19761208
FR2357554 B1	19800328	FR19760036962	19761208
FR2399402 A1	19790302	FR19760002162	19760127
GB1510053 A	19780510	GB19760003081	19760127
GB1561548 A	19800220	GB19760050981	19761207
GB1561549 A	19800220	GB19780001244	19761207
JP51100012 A2	19760903	JP19760007194	19760127
JP52071472 A2	19770614	JP19760145715	19761206
NL7600807 A	19760729	NL19760000807	19760127
NL7613044 A	19770610	NL19760013044	19761123
US4000169 A	19761228	US19750544153	19750127
US4029678 A	19770614	US19750638382	19751208
US4045475 A	19770830	US19760723401	19760915
US4093632 A	19780606	US19770770542	19770222
US4094885 A	19780613	US19770770336	19770222
US4094892 A	19780613	US19770796918	19770516
US4097495 A	19780627	US19770770540	19770222
US4100175 A	19780711	US19770777808	19770315
US4102909 A	19780725	US19770796922	19770516
US4151360 A	19790424	US19770796928	19770516
US4160865 A	19790710	US19770797153	19770516

Priority: US19750544153 19750127; US19750638382 19751208; US19760723401 19760915; US19770796928 19770516;

Cited documents: US4016178 A, US4003919 A, US4003319 A, US3996380 A, US3996379 A, US3947473 A, US3859366 A, US3803187 A, US3755411 A, US3716565 A, US3697543 A, US3692851 A, US3631179 A, US3579550 A, US3484489 A, US3121752 A, US2979538 A, GB777515 A, BE505421 A, Assignee(s): (std): HOFFMANN LA ROCHE

Assignee(s): HOFFMANN LA ROCHE AND CO AG F ; HOFFMANN LA ROCHE AND CO F AG ; HOFFMANN LA ROCHE ET CIE SA ; HOFFMANN LA ROCHE INC ; HOFFMANN LA ROCHE AND CO KG F ; F HOFFMANN LA ROCH CO AG ; F HOFFMANN LA ROCHE AND CO AG ; F HOFFMANN LA ROCHE AND CO AKTIENGESELL SCHAFT TE ; F HOFFMANN LA ROCHE AND CO AKTIENGESELL SCHAFT TE BAZEL ZWITZERLAND

Inventor(s): (std): CHAN KA KONG ; GABURIERU SAUSHII ; GABURIERU SOOSHII ; KA KON CHAN ; KAKON CHIYAN ; SAUCY GABRIEL

Inventor(s): KA KONG CHAN ET GABRIEL SAUCY

11) Family number: 63123133 (US2018030024A)

Title: RECOVERY OF TOCOPHEROLS/TOCOTRIENOLS, GLYCERINE, STEROLS AND FATTY ACID ESTERS FROM VEGETABLE OIL DISTILLATE AND THE PROCESS THEREOF

Abstract:

Source: US2018030024A 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 percent 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**.

International class (IPC 8-9): C07D311/58 C07D311/72 C11B3/00 C11B3/04 C11B3/06 C11B3/12 C11C3/04 C11C3/10 (Advanced/Invention)

CPC: C11B3/001 C07D311/72

Family:

Publication number	Pub. date	Application number	App. date
CN107922372 A	20180417	CN201680017318	20160204
CO20170009084 A2	20170920	CO20170009084	20170905
EP3253744 A1	20171213	EP20160746892	20160204
EP3253744 A4	20181010	EP20160746892	20160204
ID201804121 A	20180420	ID2017P0005074	20160204
TW201629030 A	20160816	TW20160104150	20160205
US2018030024 AA	20180201	US20160549155	20160204
WO16126152 A1	20160811	WO2016MY50007	20160204

Priority: MY20150000389 20150206; MY20150700389 20150206; WO2016MY50007 20160204;

Cited documents: US7544822 BB, US5627289 A, US5616735 A, US5190618 A, US2008015367 AA,

Assignee(s): (std): HO DAVID SUE SAN

Assignee(s): DAVID SUE SAN HO

Inventor(s): (std): HO DAVID SUE SAN

Inventor(s): DAVID SUE SAN HO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

12) Family number: 22289180 (US2592531A)

Title: FORMYLATING TOCOPHEROL MATERIAL

Abstract:

Source: US2592531A (Claim 1) 1. The method of making biologically active material which is convertible by reduction to material of high-vitamin E biological activity which comprises reacting hexamethylene tetramine and **tocopherol** material having at least one aromatic hydrogen atom on the benzenoid nucleus, and hydrolyzing the resulting substituent group in the position of said aromatic hydrogen atom on the nucleus of said tocopherol material to a formyl group.

International class (IPC 8-9): C07D311/72 (Advanced/Invention);

C07D311/00 (Core/Invention)

International class (IPC 1-7): C07D311/70

CPC: C07D311/72

European class: C07D311/72

US class: 549/405 549/412

Family:

Publication number	Pub. date	Application number	App. date
US2592531 A	19520415	US19490123989	19491027

Priority: US19490123989 19491027;

Assignee(s): (std): EASTMAN KODAK CO

Assignee(s): EASTMAN KODAK COMPANY

Inventor(s): (std): BAXTER JAMES G

13) Family number: 2172998 (EP0176690A1)

Title: Vapor/liquid phase methylation of non-alpha-tocopherol. Dampffluessigphasenmethylierung von Nicht-alpha-Tocopherol. Methylation en phase vapeur/liquide de non-alpha-tocopherol.

Abstract:

Source: EP0176690A1 This invention relates to the production of alpha-**tocopherol** from non-alpha-**tocopherol** homologues by contacting the non-alpha-**tocopherol** homologue with an alkylation agent such as methanol, formaldehyde, or dimethyl ether for a sufficient length of time at a temperature in the range of from about 300 DEG Centigrade to about 550 degrees centigrade in the presence of an alkylation catalyst. Methylation will occur in a substantial amount, producing alpha-**tocopherol**.

International class (IPC 8-9): C07D311/72 (Advanced/Invention);
C07D311/00 (Core/Invention)

International class (IPC 1-7): A61K31/355 C07B37/04 C07D311/72

CPC: C07D311/72

European class: C07D311/72

Family:

Publication number	Pub. date	Application number	App. date
AU198545671 A1	19860327	AU19850045671	19850731
EP0176690 A1	19860409	EP19850109467	19850727
ES545838 A0	19860601	ES19850545838	19850802
ES8607272 A1	19860601	ES19850545838	19850802
JP61072776 A2	19860414	JP19850170985	19850801

Priority: US19840651726 19840918;

Cited documents: US4239691 A, US3338922 A, US2519863 A,

Assignee(s): (std): HENKEL CORP

Assignee(s): HENKEL A DELAWARE CORP CORP

Inventor(s): (std): RONARUDO AARU SUWANSON ; SWANSON RONALD R

Inventor(s): RONALD R SWANSON

Designated states: AT BE CH DE FR GB IT LI LU NL SE

15) Family number: 5278888 (US4665204A)

Title: Diester derivatives of tocopherol

Abstract:

Source: US4665204A **Tocopherol** diester derivatives having high vitamin E potency can be produced by the esterification of **tocopherol** acid esters with amino alcohols. Some preferred **tocopherol** diesters also have excellent water solubility. One of the preferred diesters is the **tocopherol** diester having choline, a vitamin B4 moiety.

International class (IPC 8-9): C07D311/72 (Advanced/Invention)

International class (IPC 1-7): C07D311/72

CPC: C07D311/72

European class: C07D311/72

US class: 549/410

Family:

Publication number	Pub. date	Application number	App. date
US4665204 A	19870512	US19850749958	19850627

Priority: US19850749958 19850627;

Cited documents: US2988553 A, US2875195 A, US2680749 A, JP58203982 A2,

Assignee(s): (std): HENKEL CORP

Assignee(s): COGNIS CORP ; HENKEL A CORP OF DE CORP

Inventor(s): (std): WIRTH RONALD P

16) Family number: 15704721 (ES2152856A)

Title: Extraction of tocopherols from vegetable oil byproducts by catalyzed esterification of fatty acids by monohydroxylic alcohols with distillation and extraction PROCEDIMIENTO PARA EL AISLAMIENTO Y EXTRACCION DE TOCOFEROLES Y OTROS COMPUESTOS A PARTIR DE SUBPRODUCTOS OBTENIDOS EN LA REFINACION DE ACEITES VEGETALES.

Abstract:

Source: ES2152856A The extraction of **tocopherols** from **vegetable oil** by-products comprises esterification of fatty acids by monohydroxylic alcohols with the reaction catalyzed by inorganic and organic acids. The residual catalyst is removed, for vacuum distillation of the esters based on laminar-flow distillation. Procedimiento para el aislamiento y la extraccion de tocoferoles naturales y otros compuestos a partir de subproductos obtenidos en la refinacion de aceites vegetales que consiste en la esterificacion de acidos grasos con alcoholes monohidroxilicos catalizada con acidos inorganicos u organicos, eliminandose posteriormente el catalizador no consumidor para a continuacion realizar la destilacion a vacio de los esterres formados en la etapa de esterificacion mediante la destilacion a flujo laminar, efectuandose la extraccion liquido-liquido del residuo obtenido en la destilacion anterior y posteriormente separar por fraccionamiento en fase solvente de esterroles e hidrocarburos, efectuandose en ultimo lugar la destilacion del solvente y una destilacion molecular.

International class (IPC 8-9): B01D3/12 C07D311/72 (Advanced/Invention);
B01D3/12 C07D311/00 (Core/Invention)

International class (IPC 1-7): B01D3/12 C07D311/72

Family:

Publication number	Pub. date	Application number	App. date
ES2152856 AA	20010201	ES19980002098	19981008
ES2152856 BA	20011116	ES19980002098	19981008

Priority: ES19980002098 19981008;

Cited documents: US5424457 A, US3335154 A, GB774855 A, ES2043560 AA,

Assignee(s): (std): BIOCAPS S A

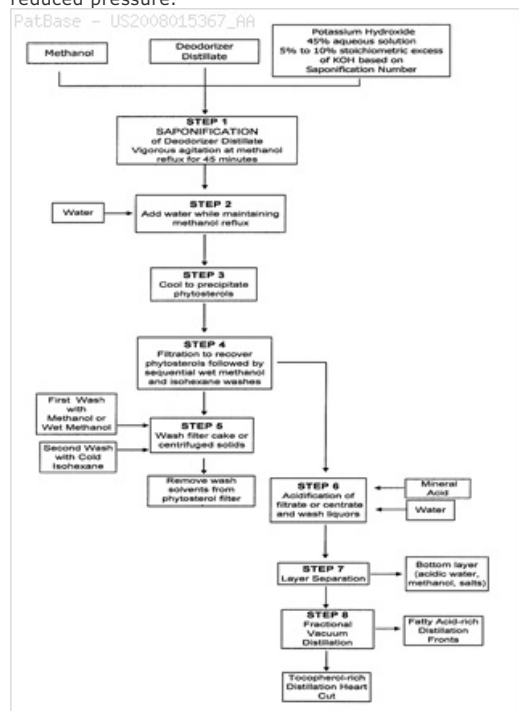
Inventor(s): (std): MURO BENAYAS ANDRES ELOY

17) Family number: 41080904 (US2008015367A)

Title: PROCESS FOR ISOLATING PHYTOSTEROLS AND TOCOPHEROLS FROM DEODORIZER DISTILLATE

Abstract:

Source: US2008015367A A process is described for efficiently recovering at least one of phytosterols and **tocopherols** in substantially pure form from the deodorizer distillates that may be obtained as by-products of the refining of edible oils. The phytosterol fatty acid esters present in deodorizer distillate are saponified with potassium hydroxide in a solvent medium containing methanol and water, thereby forming a solvent medium containing methanol, water, and the potassium soaps of fatty acids. Unsaponifiable matter including **tocopherols** remain dissolved in this medium, allowing recovery of substantially pure phytosterols. **Tocopherols** in substantially pure form may be recovered by distillation under reduced pressure.



International class (IPC 8-9): C07D311/72 C07J75/00 C07J9/00 C11B3/12 (Advanced/Invention); C07D311/00 C07J75/00 C07J9/00 C11B3/00 (Core/Invention)

CPC: C07J9/00 C11C1/025 C11C3/003

European class: C07J9/00 C11C1/02B C11C3/00B

US class: 549/407 549/407P 552/502 552/502S

Family:

Publication number	Pub. date	Application number	App. date
US2008015367 AA	20080117	US20070776123	20070711
WO08008810 A2	20080117	WO2007US73218	20070711
WO08008810 A3	20080403	WO2007US73218	20070711

Priority: US20060819848P 20060711; US20070776123 20070711;

Cited documents: WO0132681 A1, US6846941 BB, US6414166 BA, US6344573 BA, US5660691 A, US5627289 A, US5616735 A, US5487817 A, US5371245 A, US5117016 A, US4454329 A, US4044031 A, US3840570 A, US3335154 A, US3153055 A, US3122565 A, US3108120 A, US2870176 A, US2866797 A, US2843610 A, US2835682 A, US2729655 A, US2704767 A, US2704764 A, US2530809 A, US2349270 A, US2263550 A, FR2856067 A1, EP1394144 A1,

Assignee(s): (std): DOBBINS DEBORAH C ; DOBBINS THOMAS A ; WILEY DAVID B ; WILEY ORGANICS INC

Inventor(s): (std): DOBBINS DEBORAH C ; DOBBINS THOMAS A ; WILEY DAVID B

Inventor(s): DOBBINS THOMAS ; WILEY DAVID ; DOBBINS DEBORAH

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

18) Family number: 9817091 (US5487817A)

Title: PROCESS FOR TOCOPHEROLS AND STEROLS FROM NATURAL SOURCES

Abstract:

Source: US5487817A A novel process for the recovery of **tocopherols** and sterols from natural, especially vegetable, sources. This process is especially a process for the separation of **tocopherols** and sterols from deodorizer sludges by distillation of these deodorizer sludges, in that prior to the distillation the sterols present in the deodorizer sludge are esterified with the fatty acids which are also present, the resulting mixture is distilled to obtain residual fatty acids and subsequently to obtain **tocopherols**, whereby the sterol esters formed in the esterification remain in the residue of this distillation, and then the **tocopherols** are isolated from the distillate and the sterols, after cleavage of their esters, are isolated from the distillation residue.

PatBase - JP2648450_B2	重量%
トコフェロール類	3.5
ステロール類	12.5
脂肪酸	34
グリセリド類	20
スクアレン	2.4
残り	27.6

International class (IPC 8-9): B01D3/00 C07D311/72 C07J75/00 C07J9/00 (Advanced/Invention); B01D3/00 C07D311/00 C07J75/00 C07J9/00 (Core/Invention)

International class (IPC 1-7): B01D3/00 B01D3/34 C07D311/72 C07J75/00 C07J9/00

CPC: C07D311/72 C07J9/00 Y10S203/17

European class: C07D311/72 C07J9/00

US class: 203/38 203/73 203/80 203/DIG.16 549/413 552/545 554/174 554/175

Family:

Publication number	Pub. date	Application number	App. date
AT178061 E	19990415	AT19940101257T	19940128
DE59407982 D1	19990429	DE19945007982	19940128
DK0610742 T3	19991018	DK19940101257T	19940128
EP0610742 A1	19940817	EP19940101257	19940128
EP0610742 B1	19990324	EP19940101257	19940128
ES2130294 T3	19990701	ES19940101257T	19940128
JP2648450 B2	19970827	JP19940034234	19940208
JP7002827 A2	19950106	JP19940034234	19940208
US5487817 A	19960130	US19940185571	19940121

Priority: CH19930000467 19930211;

Cited documents: US3335154 A, US3153055 A, US3153054 A, US3122565 A, US3108120 A, US2866797 A, US2704764 A, JP7722349 A2,

Assignee(s): (std): HOFFMANN LA ROCHE

Assignee(s): HOFFMANN LA ROCHE INC ; ROCHE VITAMINS INC ; DSM NUTRITIONAL PRODUCTS INC ; EFU HOFUMAN RA ROSHU AG ; F HOFFMANN LA ROCHE AG ; F HOFFMANN LA ROCHE AG BASEL CH ; F HOFFMANN LA ROCHE AKTIENGESellschaft

Inventor(s): (std): KURISUCHIYAN FUIZE ; FIZET CHRISTIAN

Inventor(s): FIZET CHRISTIAN F 68440 ZIMMERSHEIM FR ; KURISUCHAN FUIZE

Designated states: AT BE CH DE DK ES FR GB IT LI NL

19) Family number: 70170384 (WO18109780A1)

Title: PROCESS FOR THE PREPARATION OF TOCOLS AND SQUALENE PROCEDE DE PREPARATION DE TOCOLS ET DE SQUALENE

Abstract:

Source: WO18109780A1 The invention relates to a process for the preparation of tocols [tocopherols (T) and tocotrienols (T3)] and squalene from **vegetable oil** refining by- products like fatty acid distillates. It particularly relates to the process of preparation of **tocopherols**, tocotrienols and squalene without any degradation from the fatty acid distillates obtained during processing of oils from the palm. L'invention concerne un procede de preparation de tocols [tocopherols (T) et tocotrienols (T3)] et de squalene a partir de sous-produits de raffinage d'huile vegetale tels que des distillats d'acides gras. La presente invention concerne en particulier, le procede de preparation de **tocopherols**, tocotrienols et de squalene sans aucune degradation des distillats d'acides gras obtenus lors du traitement d'huiles a partir de la paume.

International class (IPC 8-9): C07D311/72 (Advanced/Invention)

CPC: C07D311/72

Family:

Publication number	Pub. date	Application number	App. date
IN201621042970 A	20180622	IN201621042970	20161216
WO18109780 A1	20180621	WO2017IN50557	20171127

Priority: IN201621042970 20161216;

Cited documents: EP1689353 B1, EP0333472 A2,

Assignee(s): (std): PRAJ IND LTD

Inventor(s): (std): CHARHATE PRAJAKT SUBHASH ; KURKARNI MANGESH GANESH ; PATHAK PALLAVI VINITKUMAR

Inventor(s): PRAJAKT SUBHASH CHARHATE ; MANGESH GANESH KULKARNI ; PALLAVI VINITKUMAR PATHAK

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW