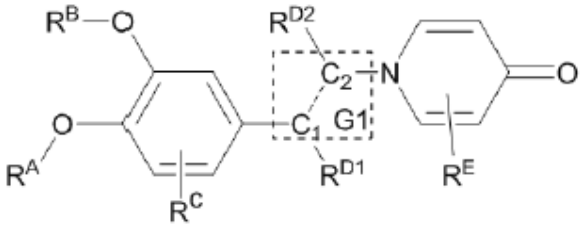
CLAIMS

WHAT IS CLAIMED IS:

1. An anti-inflammatory compound, which is a compound having a structure shown below:



wherein R^A is hydrogen, alkyl, or aryl, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are ~~optionally~~ substituted with alkyl, cycloalkyl, aryl, or halogen;

R^B is hydrogen, alkyl, cycloalkyl, heterocycloalkyl, aryl, alkenyl, or alkynyl, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are ~~optionally~~ substituted with alkyl, cycloalkyl, heterocycloalkyl, aryl, or halogen, and one or more carbon atom(s) in the groups is/are ~~optionally~~ substituted with sulfur, sulfoxide, sulfone, or sulfonyl; or R^B is a hydroxyl protecting group;

R^C is hydrogen, alkyl, halogen, alkoxy, or cyano;

R^{D1} is hydrogen, oxygen, nitrogen, hydroxy, cyano, amino, amido, alkyl, aryl, an ester group, carboxyl, alkenyl, or alkynyl, and in the above groups one or more hydrogen atom(s) attached to carbon/oxygen/nitrogen in the groups is/are ~~optionally~~ substituted with alkyl, cycloalkyl, alkynyl, alkenyl, aryl, halogen, sulfonyl, a sulfoxide group, or an ether group, and one or more carbon atom(s) in the groups is/are ~~optionally~~ substituted with sulfur, sulfoxide, sulfone, or sulfonyl;

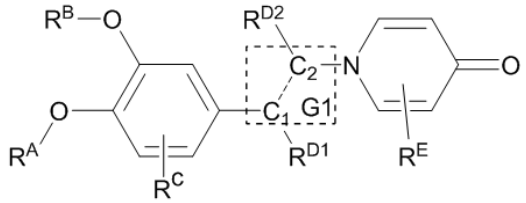
C_1-R^{D1} bond is a single bond or a double bond;

R^{D2} is hydrogen, cyano, alkyl, cycloalkyl, aryl, an ester group, or carboxyl, and in the 163above groups one or more hydrogen atom(s) attached to carbon/oxygen/nitrogen in the group is/are ~~optionally~~ substituted with alkyl, cycloalkyl, alkynyl, alkenyl, aryl, halogen, sulfonyl, a sulfoxide group, or an ether group;

G1 is a single bond, a double bond or a ring, that comprises C_I and C_2; and

R^E is a group where one or more hydrogen atom(s) attached to carbon on the pyridinone ring is/are substituted with alkyl, aryl, cyano, or halogen.

2. The anti-inflammatory compound according to claim 1, wherein the compound has a structure shown below:



wherein R^A is hydrogen, alkyl comprising from 1 to 6 carbon atoms, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with alkyl comprising from 1 to 6 carbon atoms, cycloalkyl which is three-membered, four-membered, five-membered or six-membered cycle, or halogen;

R^B is hydrogen, alkyl comprising from 1 to 6 carbon atoms, cycloalkyl which is a three-membered, four-membered, five-membered or six-membered cycle, heterocycloalkyl which is an oxa/thia three-membered, four-membered, five-membered or six-membered cycle, alkenyl comprising from 2 to 4 carbon atoms, or alkynyl comprising from 2 to 4 carbon atoms, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with alkyl comprising from 1 to 6 carbon atoms, cycloalkyl which is a three-

membered, four-membered, five-membered or six-membered cycle, or halogen, and one or more carbon atom(s) in the groups is/are substituted with a sulfur atom, sulfoxide, sulfone, or sulfonyl;

R^C is hydrogen;

R^{D1} is hydrogen, oxygen, nitrogen, hydroxy, cyano, alkyl comprising from 1 to 6 carbon atoms, phenyl, an ester group, carboxyl, or alkynyl comprising from 2 to 4 carbon atoms, and in the above groups one or more hydrogen atom(s) attached to carbon/oxygen in the groups is/are substituted with alkyl comprising 1 to 6 carbon atoms, cycloalkyl which is a three-membered, a four-membered, five-membered or six-membered ring, alkynyl comprising from 2 to 4 carbon atoms, alkenyl comprising from 2 to 4 carbon atoms, or phenyl, and one or more carbon atom(s) in the groups is/are substituted with a sulfur atom;

C_1-R^{D1} bond is a single bond or a double bond;

R^{D2} is hydrogen or cyano;

G1 is a single bond, a double bond or cyclopropane comprising C_1 and C_2; and

R^E is a group where one or more hydrogen atom(s) attached to carbon on the pyridinone ring is/are substituted with alkyl comprising from 1 to 6 carbon atoms or halogen.

3. The anti-inflammatory compound according to claim 1, wherein

wherein R^A is alkyl comprising from 1 to 6 carbon atoms, and in the above group one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with halogen;

R^B is alkyl comprising from 1 to 6 carbon atoms or heterocycloalkyl which is an oxo/thia three-membered, four-membered, five-membered or six-membered cycle, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with cycloalkyl which is a three-membered, four-membered, five-membered or six-membered

cycle;

R^{D1} is hydrogen;

R^{D2} is hydrogen;

G1 is a double bond comprising C_1 and C_2; and

R^E is a group where one or more hydrogen atom(s) attached to carbon on the pyridinone ring is/are substituted with alkyl comprising from 1 to 6 carbon atoms.

4. The anti-inflammatory compound according to claim 3, wherein

wherein R^A is alkyl comprising from 1 to 6 carbon atoms, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with halogen;

R^B is heterocycloalkyl which is a thia five-membered cycle;

R^{D1} is hydrogen;

R^{D2} is hydrogen;

G1 is a double bond comprising C_1 and C_2; and

R^E is a group where one or more hydrogen atom(s) attached to carbon on the pyridinone ring is/are substituted with alkyl comprising from 1 to 6 carbon atoms.

5. The anti-inflammatory compound according to claim 3, wherein

wherein R^A is alkyl comprising from 1 to 6 carbon atoms, and in the above group one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with halogen;

R^B is alkyl comprising from 1 to 6 carbon atoms, and in the above group one or more hydrogen atom(s) attached to carbon in the groups is/are substituted with cycloalkyl which is a three-membered, four-membered, five-membered or six-membered cycle;

R^{D1} is hydrogen;

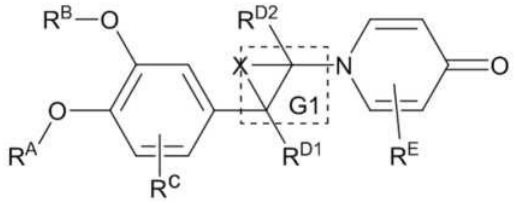
R^{D2} is hydrogen;

G1 is a double bond comprising C_1 and C_2; and

R^E is a group where one or more hydrogen atom(s) attached to carbon on the pyridinone ring is/are substituted with alkyl comprising from 1 to 6 carbon atoms.

~~2~~6. The anti-inflammatory compound according to claim 1, wherein

G1 is a three-membered ring having a specific structure shown below:



in which X is carbon, oxygen, nitrogen, or sulfur.

~~3~~7. A method for preparing the anti-inflammatory compound according to claim 1, comprising:

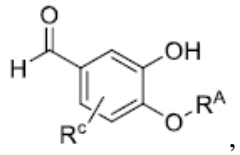
using a 3-hydroxybenzaldehyde derivative A as a starting material, and substituting the hydrogen in the hydroxyl group of the 3-hydroxybenzaldehyde derivative A with R^B to obtain an intermediate product B;

reacting the intermediate product B with trimethylsilyl cyanide to obtain an intermediate product C;

reducing the intermediate product C to obtain an intermediate product D having an amino group; and

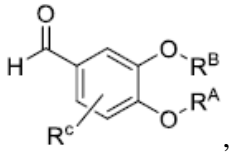
reacting the amino group in the intermediate product D with a six-membered oxygen-containing cyclic compound to obtain a type-A target product,

wherein the 3 -hydroxybenzaldehyde derivative A is a compound having a structure shown below:



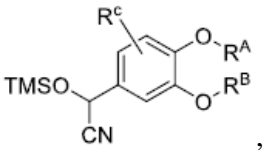
,

the intermediate product B is a compound having a structure shown below:



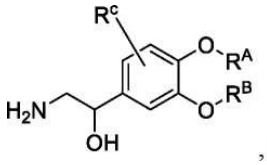
,

the intermediate product C is a compound having a structure shown below:



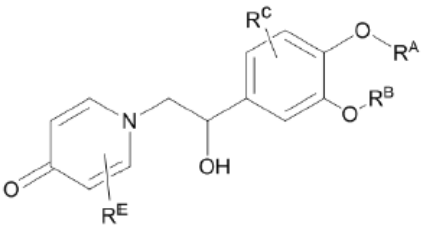
,

the intermediate product D is a compound having a structure shown below:



, and

the type-A target product is a compound having a structure shown below:



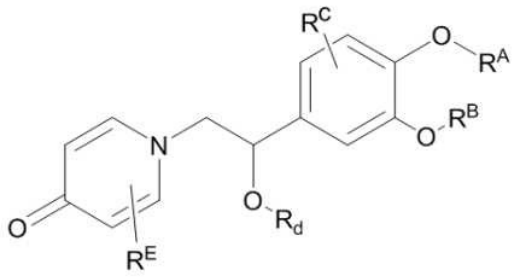
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48. A method for preparing the anti-inflammatory compound according to claim 1,

comprising:

subjecting the hydroxyl group on the middle bridge of the type-A target product according to claim ~~3~~ 7 to an addition/substitution reaction to obtain a type-A-1 target product,

wherein the type-A-1 target product is a compound having a structure shown below:

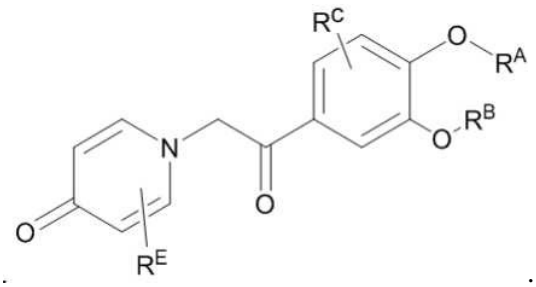


in which Rd is alkyl, cycloalkyl, or an ester group, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are ~~optionally~~ substituted with alkyl, alkynyl, alkenyl, cycloalkyl, aryl, halogen, hydroxy, thio, cyano, or thioalkyl.

~~5~~9. A method for preparing the anti-inflammatory compound according to claim 1, comprising:

oxidizing the hydroxyl group on the middle bridge of the type-A target product according to claim ~~3~~ 7 to obtain a type-B target product,

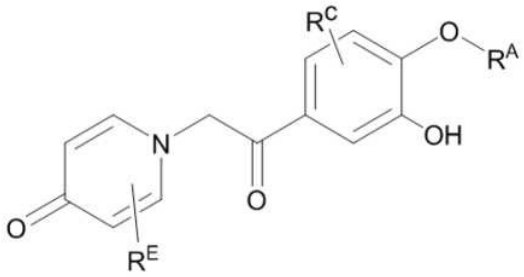
wherein the type-B target product is a compound having a structure shown below:



~~6~~10. The method for preparing the anti-inflammatory compound according to claim ~~5~~9, comprising:

deprotecting the group R^B that is a hydroxyl protecting group on the type-B target product to obtain a type-B-1 target product,

wherein the type-B-1 target product is a compound having a structure shown below:

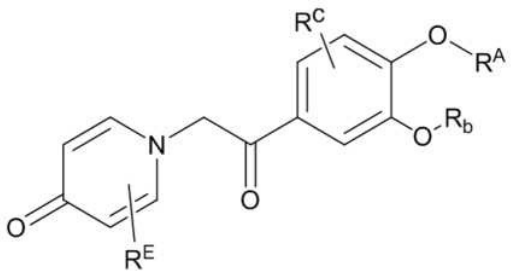


.

~~7~~11. A method for preparing the anti-inflammatory compound according to claim 1, comprising:

subjecting the hydroxyl group on the benzene ring of the type-B-1 target product according to claim 6 to an addition/ substitution reaction to obtain a type-B-2 target product,

wherein the type-B-2 target product is a compound having a structure shown below:



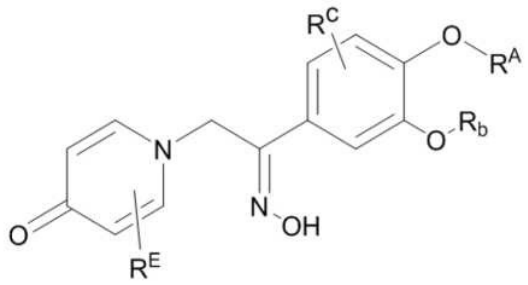
,

in which R_b is alkyl, cycloalkyl, or an ester group, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are ~~optionally~~ substituted with alkyl, alkynyl, alkenyl, cycloalkyl, aryl, halogen, hydroxy, thio, cyano, or thioalkyl.

~~8~~12. A method for preparing an anti-inflammatory compound according to claim 1, comprising:

oximating the carbonyl group on the middle bridge of the type-B target product according to claim ~~5~~ 9 to obtain a type-B-3 target product,

wherein the type-B-3 target product is a compound having a structure shown below:

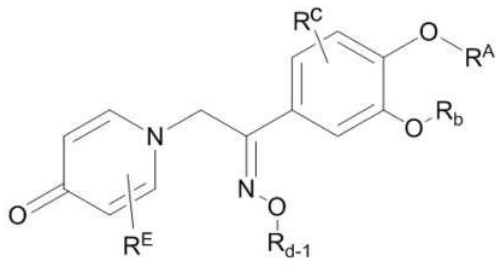


.

~~9~~13. A method for preparing an anti-inflammatory compound according to claim 1, comprising:

subjecting the hydroxyl group on the oxime of the type-B-3 target product according to claim ~~8~~ 12 to an addition/ substituti on reaction to obtain a type-B-4 target product,

wherein the type-B-4 target product is a compound having a structure shown below:



,

in which R_{d-1} is alkyl, cycloalkyl, or an ester group, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are ~~optionally~~ substituted with alkyl, alkynyl, alkenyl, cycloalkyl, aryl, halogen, hydroxy, thio, cyano, or thioalkyl.

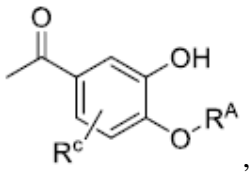
~~10~~14. The method for preparing the anti-inflammatory compound according to claim ~~5~~9, comprising:

using a 3 -hydroxyacetophenone derivative I as a starting material, and substituting the hydrogen in the hydroxyl group of the 3 -hydroxyacetophenone derivative I with RB to obtain an intermediate product II;

reacting the intermediate product II in the presence of a halogenating agent to obtain an intermediate product III; and

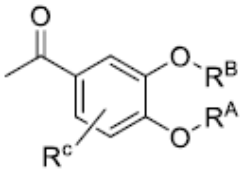
reacting the halogen of the intermediate product III with a six-membered oxygen-containing cyclic compound to obtain the type-B target product,

wherein the 3-hydroxyacetophenone derivative I is a compound having a structure shown below:



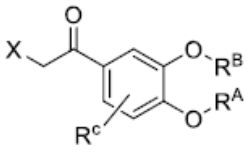
,

the intermediate product II is a compound having a structure shown below:



, and

the intermediate product III is a compound having a structure shown below:



, in which X is halogen.

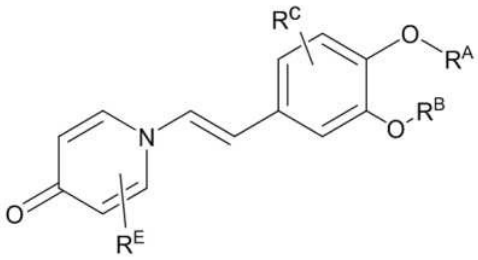
~~11~~15. A method for preparing the anti-inflammatory compound according to claim 1, comprising: removing the hydroxyl group on the middle bridge of the type-A target product according to claim ~~3~~ 7 to obtain a type-C target product,

or

reducing and then eliminating the carbonyl group on the middle bridge of the

type-B target product according to claim ~~5~~ 9 to obtain a type-C target product,

wherein the type-C target product is a compound having a structure shown below:

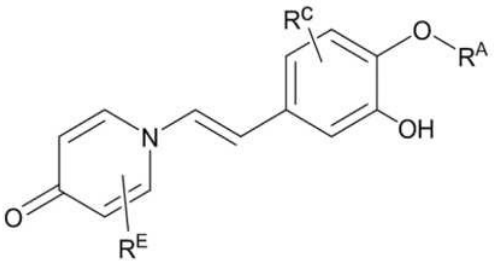


.

~~12~~16. A method for preparing the anti-inflammatory compound according to claim 1, comprising:

reducing and then eliminating the carbonyl group on the middle bridge of the type-B-2 target product according to claim ~~7~~ 11 to obtain a type-C-1 target product,

wherein the type-C-1 target product is a compound having a structure shown below:

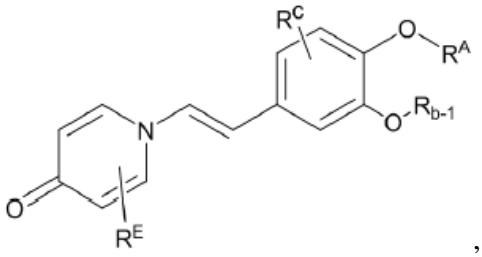


.

~~13~~17. A method for preparing the anti-inflammatory compound according to claim 1, comprising:

subjecting the hydroxyl group on the phenyl ring of the type-C-1 target product according to claim ~~12~~ 16 to an addition/ substitution reaction to obtain a type-C-2 target product,

wherein the type-C-2 target product is a compound having a structure shown below:



,

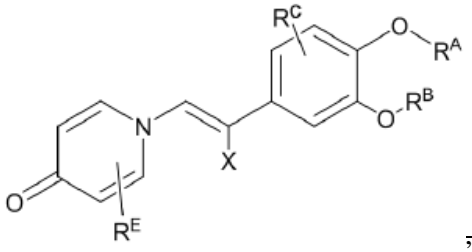
in which R_{b-1} is alkyl, cycloalkyl, or an ester group, and in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are ~~optionally~~ substituted with alkyl, alkynyl, alkenyl, cycloalkyl, aryl, halogen, hydroxy, thio, cyano, or thioalkyl.

~~14. A method for preparing the anti-inflammatory compound according to claim 1, comprising:~~

~~reacting the carbonyl group on the middle bridge of the type-B target product according to claim 5 with a halogenating reagent to obtain an intermediate product X1, and~~

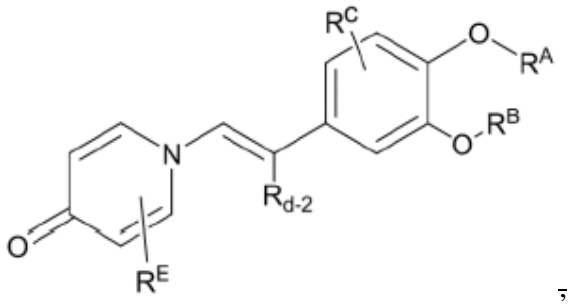
~~replacing the halogen in the intermediate product X1 to obtain a type-C-3 target product,~~

~~wherein the intermediate product X1 is a compound having a structure shown below:~~



~~, in which X is halogen; and~~

~~the type-C-3 target product is a compound having a structure shown below:~~



;

in which R_{d-2} is aryl, alkyl, cycloalkyl, an ether group, or an ester group, and in the above groups one or more hydrogen atom(s) attached to carbon in the group is/are optionally substituted with alkyl, alkynyl, alkenyl, cycloalkyl, aryl, halogen, hydroxy, thio, cyano, or thioalkyl.

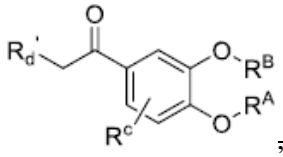
15. A method for preparing the anti-inflammatory compound according to claim 1, comprising:

reacting an acetophenone derivative 1 as a starting material with trimethylsilyl cyanide, to obtain an intermediate product 2;

reducing the intermediate product 2 to obtain an intermediate product 3; and

reacting the amino group in the intermediate product 3 with a six-membered oxygen-containing cyclic compound to obtain a type-A' target product,

wherein the acetophenone derivative 1 is a compound having a structure shown below:

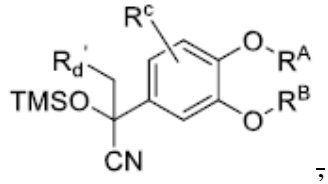


, in which R_d' is hydrogen, alkyl, aryl, alkynyl, or alkenyl, and

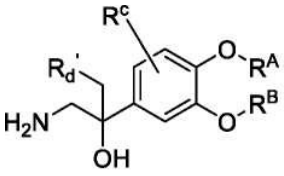
in the above groups one or more hydrogen atom(s) attached to carbon in the groups is/are optionally substituted with alkyl, alkynyl, alkenyl, cycloalkyl, aryl, halogen, hydroxy, thio,

~~cyano, or thioalkyl;~~

~~the intermediate product 2 is a compound having a structure shown below:~~

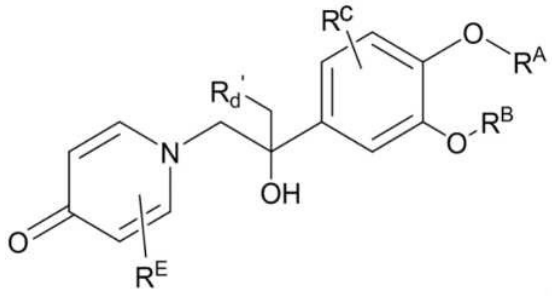


~~the intermediate product 3 is a compound having a structure shown below:~~



, and

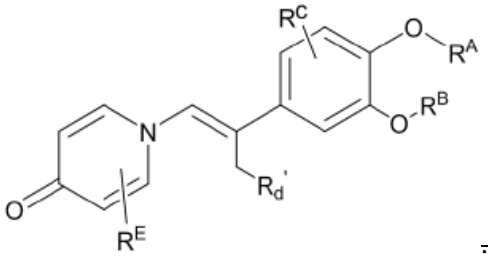
~~the type-A' target product is a compound having a structure shown below:~~



~~16. A method for preparing the anti-inflammatory compound according to claim 1, comprising:~~

~~removing the hydroxyl group on the middle bridge of the type-A' target product according to claim 15 to obtain a type-C' target product,~~

~~wherein the type-C' target product is a compound having a structure shown below:~~

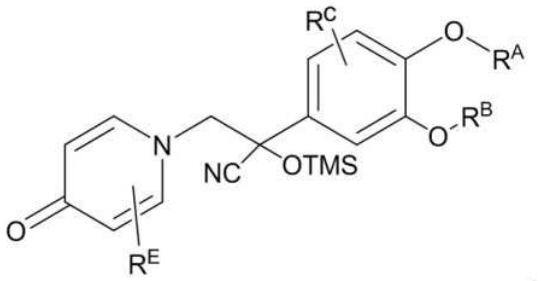


~~17. A method for preparing the anti-inflammatory compound according to claim 1, comprising:~~

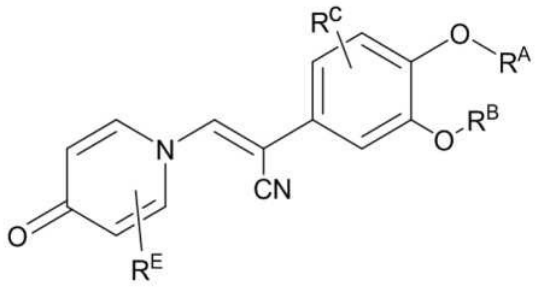
~~reacting the carbonyl group on the middle bridge of the type-B target product according to claim 5 with trimethylsilyl cyanide to obtain an intermediate product Y1, and~~

~~subjecting the intermediate product Y1 to reduction and elimination to obtain a type-C" target product,~~

~~wherein the intermediate product Y1 is a compound having a structure shown below:~~



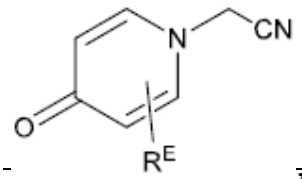
~~the type-C" target product is a compound having a structure shown below:~~



~~18. The method for preparing the anti-inflammatory compound according to claim 1, comprising:~~

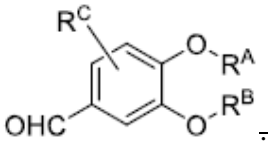
~~reacting a six-membered N-acetonitrile compound Z1 with a benzaldehyde derivative Z2 to obtain a type C" target product,~~

~~wherein the six-membered N-acetonitrile compound Z1 is a compound having a structure shown below:~~

- 

~~, and~~

~~the benzaldehyde derivative Z2 is a compound having a structure shown below:~~



.

~~19~~18. A method for preparing an anti-inflammatory compound according to claim 1, comprising:

using a cinnamic acid derivative 1 as a starting material, and esterifying the cinnamic acid derivative 1 to obtain an intermediate product 2;

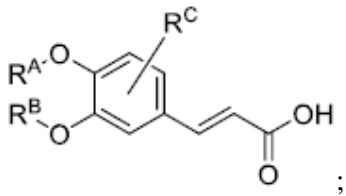
forming a ring from the double bond on the intermediate product 2 to obtain an intermediate product 3;

hydrolyzing the terminal ester group on the intermediate product 3 to give an intermediate product 4 having a carboxyl group;

aminating the terminal carboxyl group of the intermediate product 4 to obtain an intermediate product 5; and

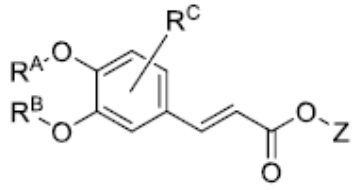
reacting the intermediate product 5 with a six-membered oxygen-containing cyclic compound to obtain a type-D target product,

wherein the cinnamic acid derivative 1 is a compound having a structure shown below:



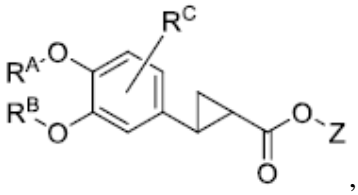
;

the intermediate product 2 is a compound having a structure shown below:



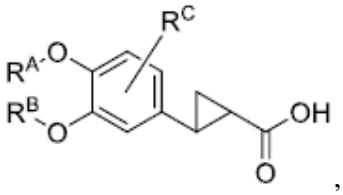
, in which Z is alkyl;

the intermediate product 3 is a compound having a structure shown below:



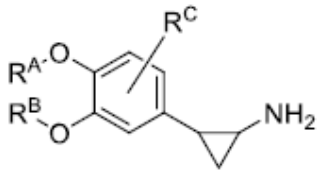
,

the intermediate product 4 is a compound having a structure shown below:



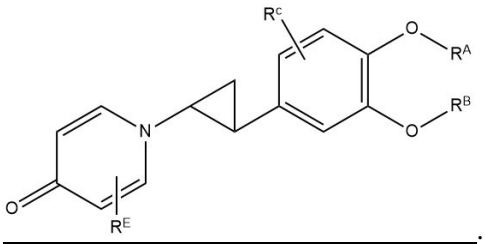
, ~~and~~

the intermediate product 5 is a compound having a structure shown below:



, and

the type-D target product is a compound having a structure shown below:



.

19. The compound according to claim 1, wherein the compound is selected from the group consisting of:

1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-hydroxyethyl)-2,6, dimethylpyridin-4(1H)-one;

(1-(3-cyclopropylmethoxy-4methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4H)-yl)ethyl) acetate;

(1-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethyl) propionate;

(1-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethyl) cyclopropylcarboxylate;

(1-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethyl) benzoate;

(1-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethyl) crotonate;

(1-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-

1(4*H*)-yl)ethyl) 3-methylcrotonate;

(1-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethyl) but-2-ynoate;

1-(2-(but-2-yn-1-yloxy)-2-(3-cyclopropylmethoxy-4-methoxyphenyl)ethyl)-2,6-dimethylpyridin-4-(1*H*)-one;

1-(2-(3-hydroxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3,4-dimethoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-ethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-propoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-isopropoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-n-butoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)- one;

1-(2-(3-iso-butoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-n-pentyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-n-hexyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclopropyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-oxo)ethyl-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclobutyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclobutylmethoxy-4-methoxyphenyl)-2-oxo)ethyl-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclopentyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclohexyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-(cyclopent-3-en-1-yloxy)-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-allyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-((3-methylbut-2-en-1-yl)oxy)-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-propargyloxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-(but-2-yn-1-yloxy)-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-(oxacyclobutan-3-yl-oxy)-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-(tetrahydrofuran-2-yl)oxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-methylthiomethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-

4(1*H*)-one;

1-(2-(3-methylsulfinylmethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-methylsulfonylmethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-methylthioethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-methylsulfinylethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-methylsulfonylethoxy-4-methoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(hydroxyimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(methoxyimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(methoxylimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(methylthiomethoxyimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(methylthiomethoxyimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-

(methylsulfinylmethoxyimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(methylsulfonylmethoxyimido)ethyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-oxoethyl)pyridin-4(1*H*)-one;

1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-oxoethyl)-2-methylpyridin-4(1*H*)-one;

1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-oxoethyl)-2-chloropyridin-4(1*H*)-one;

1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)cyclopropyl)-2,6-dimethylpyridin-4(1*H*)-one;

1-(2-(3-cyclopropylmethoxy-4-difluoromethoxyphenyl)-2-oxoethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-cyclopropylmethoxy-4-methoxystyryl)pyridin-4(1*H*)-one;

(*E*)-1-(3-cyclopropylmethoxy-4-methoxystyryl)-2-methylpyridin-4(1*H*)-one;

(*E*)-1-(3-hydroxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-propoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-isopropoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-n-butoxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-iso-butoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-neopentyloxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-cyclopropyloxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-cyclopropylmethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-cyclopropylmethoxy-4-methoxyphenethyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-cyclobutyloxy-4-methoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-cyclopentyloxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-(cyclopent-3-en-1-yloxy)-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-allyloxy-4-methoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-(3-methylbut-2-en-1-yl)oxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-(prop-2-yn-1-yloxy)-4-methoxy)styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-(but-2-yn-1-yloxy)-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-(oxacyclobutan-3-yl-oxy)-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-(thiacyclobutan-3-yl-oxy)-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-(tetrahydrofuran-2-yl)oxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-2-(5-(2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethenyl)-2-methoxyphenoxy)-*N*-methylacetamide;

(*E*)-1-((3-cyclopropylformyloxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-5-(2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)ethenyl)-2-methoxyphenylmethyl sulfonate;

(*E*)-1-(3-methylthiomethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfinylmethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfonylmethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylthioethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfinylethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfonylethoxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-(tetrahydrothiophen-3-yl)oxy-4-methoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-((1,1,-dioxotetrahydrothiophen-3-yl)oxy)-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*S*,*E*)-1-(3-(tetrahydrothiophen-3-yl)oxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

1-((*E*)-4-methoxy-3-(((3*S*)-1-oxotetrahydrothiophen-3-yl)oxy)styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(S,*E*)-1-(3-((1,1-dioxotetrahydrothiophen-3-yl)oxy)-4-methoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*R*,*E*)-1-(3-(tetrahydrothiophen-3-yl)oxy-4-methoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

1-((*E*)-4-methoxy-3-(((3*R*)-1-oxotetrahydrothiophen-3-yl)oxy)styryl)-2,6-

dimethylpyridin-4(1*H*)-one;

(R,*E*)-1-(3-((1,1-dioxotetrahydrothiophen-3-yl)oxy)-4-methoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-(cyclopropylmethoxy)-4-(difluoromethoxy)styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methoxy-4-difluoromethoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylthiomethoxy-4-difluoromethoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfinylmethoxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfonylmethoxy-4-difluoromethoxy-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

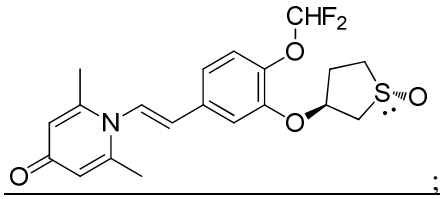
(*E*)-1-(3-methylthioethoxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(3-methylsulfinylethoxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

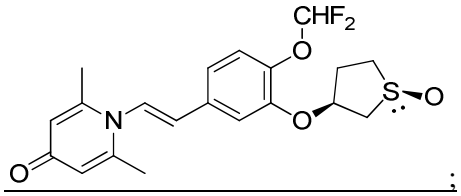
(*E*)-1-(3-methylsulfonylethoxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-((3-(tetrahydrothiophen-3-yl)oxy-4-difluoromethoxy)-styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*S*,*E*)-1-(3-(tetrahydrothiophen-3-yl)oxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;



;



;

(S,*E*)-1-(3-(1,1-dioxotetrahydrothiophen-3-yl)oxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*R*,*E*)-1-(3-(tetrahydrothiophen-3-yl)oxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

1-((*E*)-4-difluoromethoxy-3-(((3*R*)-1-oxotetrahydrothiophen-3-yl)oxy)styryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*R*,*E*)-1-(3-(1,1-dioxotetrahydrothiophen-3-yl)oxy-4-difluoromethoxystyryl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-methylethenyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-phenylethenyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)pent-1-en-3-yn-1-yl)-2,6-dimethylpyridin-4(1*H*)-one;

(*E*)-1-(2-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-cyanoethenyl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-acrylamide;

(*Z*)-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-*N*-methylacrylamide;

(*Z*)-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-*N*,*N*-dimethylacrylamide;

(*Z*)-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-*N*,*N*-diethylacrylamide;

(*Z*)-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-acrylic acid;

(*Z*)-methyl-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-acrylate;

(*Z*)-ethyl-2-(3-cyclopropylmethoxy-4-methoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)-acrylate;

(*Z*)-1-(2-(3-cyclopropylmethoxy-4-difluoromethoxyphenyl)pent-1-en-3-yn-1-yl)-2,6-dimethylpyridin-4(1*H*)-one;

(*Z*)-2-(3,4-dimethoxyphenyl)-3-(2,6-dimethyl-4-carbonylpyridine)-1(4*H*)-yl)acrylonitrile;

(*E*)-3-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)acrylonitrile;

(*E*)-3-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridin-1(4*H*)-yl)acrylamide; and

(*E*)-3-(3-cyclopropylmethoxy-4-methoxyphenyl)-2-(2,6-dimethyl-4-carbonylpyridine)-1(4*H*)-yl)-*N*,*N*-dimethylacrylamide.

20. Use of the anti-inflammatory compound according to claim 1 in the manufacture of ~~as~~ a PDE4 inhibitor.

21. Use of the anti-inflammatory compound according to claim 1 in the manufacture of a medicament for treatment of inflammatory skin diseases.

22. A drug for treating the inflammatory skin diseases ~~according to claim 21~~, comprising

0.01-10% of the anti -inflammatory compound according to claim 1; and

other components selected from a surfactant, a lipid compound, and an auxiliary agent;

wherein the amount of the surfactant accounts for 10-30% of the total weight of the drug;

the amount of the lipid compound accounts for 50-85% of the total weight of the drug; and

the amount of the auxiliary agent accounts for 10-30% of the total weight of the drug.