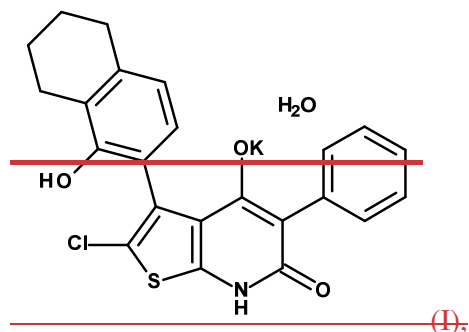


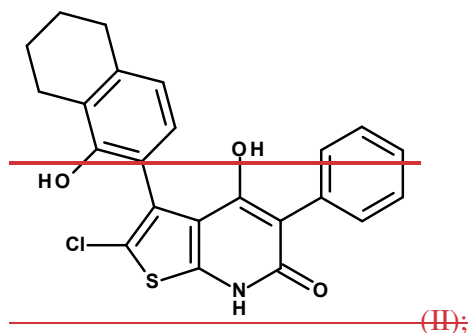
CLAIMS

1. A process for preparing a monohydrate potassium salt of formula (I):



5 said process comprising the steps of:

(A) reacting a compound of formula (II) with potassium carbonate in a solution comprising water and a solvent selected from *n* butyl acetate and isopropanol:



(B) forming a precipitate; and

10 (C) recovering the precipitate obtained in step (B), preferably by filtration.

2. The process according to claim 1, wherein step (B) comprises the following substeps of:

15 (b1) heating the mixture obtained in step (A) to a temperature comprised between 70 °C and 120 °C; and

(b2) cooling the mixture obtained in step (b1) to a temperature comprised between 15 °C and 35 °C, so as to obtain a precipitate.

3. The process according to any one of claims 1 to 2, wherein said solvent is isopropanol.

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4. The process according to any one of claims 1 to 3, wherein the amount of potassium carbonate used in step (a) is comprised between 0.25 and 3 equivalents, preferably between 0.5 and 0.6 equivalent, relative to said compound of formula (II).

5 5. The process according to any one of claims 1 to 4, wherein said compound of formula (II) is obtained by a process comprising the steps of:

————— (a') reacting 6 acetyl 5 hydroxytetralin with an electrophilic benzyl source, preferably benzyl bromide, in the presence of a base B₁;

10 ————— (b') reacting the compound obtained in step (a') with ethyl cyanoacetate in the presence of hexamethyldisilazane and acetic acid;

————— (c') reacting the compound obtained in step (b') with sulfur in the presence of a base B₂;

————— (d') optionally forming a salt of the compound obtained in step (c'), preferably a hydrochloride salt;

15 ————— (e') reacting the compound obtained in step (c') or (d') with an electrophilic chlorine source, preferably N-chlorosuccinimide;

————— (f') reacting the compound obtained in step (e') with phenylacetyl chloride;

————— (g') reacting the compound obtained in step (f') with a base B₃;

20 ————— (h') reacting the compound obtained in step (g') with boron tribromide or trichloride, preferably boron trichloride; and

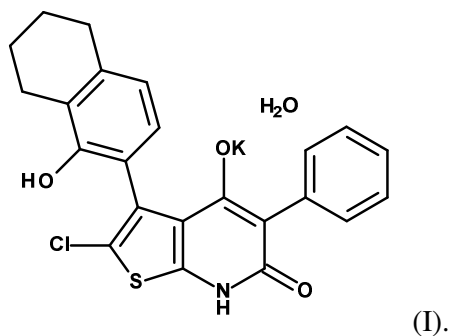
————— (i') optionally recovering the compound obtained in step (h').

25 6. The process according to claim 5, wherein step (a') is carried out in acetonitrile and B₁ is potassium carbonate.

7. The process according to claim 5 or 6, wherein said base B₂ is morpholine or sodium hydrogenocarbonate.

30 8. The process according to any one of claims 5 to 7, wherein B₃ is potassium bis(trimethylsilyl)amide and potassium *tert*-butoxide, preferably potassium *tert*-butoxide.

91. A crystalline monohydrate potassium salt of formula (I):



102. The crystalline monohydrate potassium salt according to claim 91, which is in the form of a solid having the following XRPD peaks, as measured by means of a diffractometer, using Cu K(alpha) radiation:

2-theta (°)	d-value (Å)
13.010	6.7992
14.720	6.0130
17.330	5.1128
19.640	4.5164
21.170	4.1933
22.700	3.9140
23.860	3.7263
24.410	3.6435
26.730	3.3323
28.700	3.1079
30.960	2.8860
34.750	2.5794
35.530	2.5246
35.950	2.4960
36.660	2.4493

3. The crystalline monohydrate potassium salt according to claim 1, having the following XRPD pattern obtained by means of a diffractometer, using Cu K(alpha) radiation:

<u>2-theta (°)</u>	<u>d-value (Å)</u>
<u>4.910</u>	<u>17.9826</u>
<u>11.560</u>	<u>7.6486</u>
<u>13.010</u>	<u>6.7992</u>
<u>14.720</u>	<u>6.0130</u>
<u>16.450</u>	<u>5.3843</u>
<u>17.330</u>	<u>5.1128</u>
<u>17.770</u>	<u>4.9872</u>
<u>18.690</u>	<u>4.7437</u>
<u>19.220</u>	<u>4.6141</u>
<u>19.640</u>	<u>4.5164</u>
<u>20.190</u>	<u>4.3946</u>

<u>21.170</u>	<u>4.1933</u>
<u>21.580</u>	<u>4.1145</u>
<u>22.190</u>	<u>4.0028</u>
<u>22.700</u>	<u>3.9140</u>
<u>23.240</u>	<u>3.8243</u>
<u>23.860</u>	<u>3.7263</u>
<u>24.410</u>	<u>3.6435</u>
<u>25.330</u>	<u>3.5133</u>
<u>26.230</u>	<u>3.3947</u>
<u>26.730</u>	<u>3.3323</u>
<u>28.700</u>	<u>3.1079</u>
<u>29.590</u>	<u>3.0164</u>
<u>29.950</u>	<u>2.9810</u>
<u>30.960</u>	<u>2.8860</u>
<u>31.570</u>	<u>2.8316</u>
<u>32.200</u>	<u>2.7776</u>
<u>33.080</u>	<u>2.7057</u>
<u>33.530</u>	<u>2.6704</u>
<u>34.050</u>	<u>2.6308</u>
<u>34.750</u>	<u>2.5794</u>
<u>35.530</u>	<u>2.5246</u>
<u>35.950</u>	<u>2.4960</u>
<u>36.660</u>	<u>2.4493</u>
<u>37.300</u>	<u>2.4087</u>
<u>38.320</u>	<u>2.3469</u>
<u>39.490</u>	<u>2.2801</u>

~~114.~~ A pharmaceutical composition comprising a crystalline monohydrate potassium salt ~~according to as defined in any one of claims 1 to 3-9 or 10,~~ and a pharmaceutically acceptable support.

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~~125.~~ The crystalline monohydrate potassium salt ~~according to as defined in any one of claims 1 to 3 or the pharmaceutical composition as defined in claim 4 9 or 10 or the pharmaceutical composition according to claim 11,~~ for use as a medicament.

10 ~~136.~~ Use of the crystalline monohydrate potassium salt according to claims 1 to 3 9 or 10 or the pharmaceutical composition according to claim ~~114~~, in the manufacture of a medicament for the treatment or prevention of a disorder selected from the group consisting of diabetes, metabolic syndrome, obesity, liver disease, hepatic steatosis, non-alcoholic fatty liver disease (NAFLD), non-alcoholic steato-hepatitis (NASH), liver fibrosis, dyslipidemia,

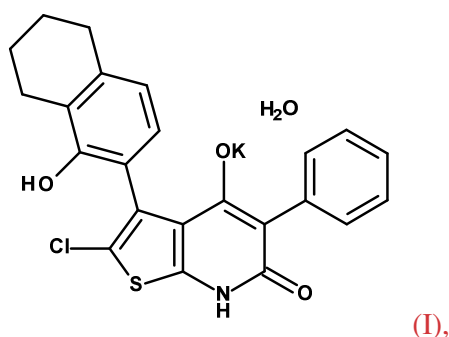
15 hypertriglyceridemia, hypercholesterolemia, inflammation, cancer, cardiovascular diseases, atherosclerosis, high blood pressure, retinopathies, neuropathies, mitochondrial disorders and

myopathies, including but not limited to, MELAS (mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes), Leigh Syndrome, LHON (Leber's hereditary optic neuropathy), or MNGIE (Mitochondrial neurogastrointestinal encephalomyopathy), neuromuscular diseases such as Duchenne Muscular Dystrophy, Becker Muscular Dystrophy (BMD), or Spinal Muscular Dystrophy, neurodegenerative diseases, pulmonary fibrosis, age-associated neurological diseases, Alzheimer disease, ~~or~~ and metabolic diseases, preferably NAFLD or NASH.

147. The pharmaceutical composition or the monohydrate potassium salt for use according to claim ~~125~~, or the use according to claim 6, wherein the crystalline monohydrate potassium salt or the pharmaceutical composition is to be administered at an amount corresponding to a daily dose of 20 mg to 1000 mg, preferably 60 to 500 mg of the crystalline monohydrate potassium salt of formula (I), to a subject.

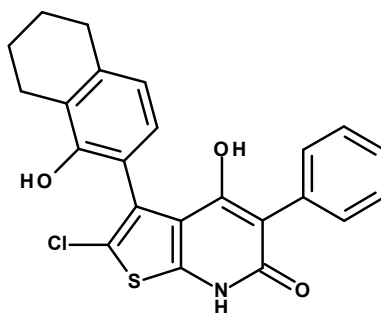
~~15. The use according to claim 13, wherein the monohydrate potassium salt is to be administered at a daily dose of 20 mg to 1000 mg, preferably 60 to 500 mg, to a subject.~~

8. A process for preparing a crystalline monohydrate potassium salt of formula (I) as defined in any one of claims 1 to 3:



said process comprising the steps of:

(A) reacting a compound of formula (II) with potassium carbonate in a solution comprising water and a solvent selected from *n*-butyl acetate or isopropanol:



(II);

(B) forming a precipitate; and

(C) recovering the precipitate obtained in step (B), preferably by filtration.

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9. The process according to claim 8, wherein step (B) comprises the following substeps of:

(b1) heating the mixture obtained in step (A) to a temperature comprised between 70 °C and 120 °C; and

(b2) cooling the mixture obtained in step (b1) to a temperature comprised between -15 °C and 35 °C, so as to obtain a precipitate.

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10. The process according to any one of claims 8 and 9, wherein said solvent is isopropanol.

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11. The process according to any one of claims 8 to 10 wherein the amount of potassium carbonate used in step (a) is comprised between 0.25 and 3 equivalents, preferably between 0.5 and 0.6 equivalent, relative to said compound of formula (II).

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12. The process according to any one of claims 8 to 11, wherein said compound of formula (II) is obtained by a process comprising the steps of:

(a') reacting 6-acetyl-5-hydroxytetralin with an electrophilic benzyl source, preferably benzyl bromide, in the presence of a base B₁;

(b') reacting the compound obtained in step (a') with ethyl cyanoacetate in the presence of hexamethyldisilazane and acetic acid;

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(c') reacting the compound obtained in step (b') with sulfur in the presence of a base B₂;

(d') optionally forming a salt of the compound obtained in step (c'), preferably a hydrochloride salt;

- _____ (e') reacting the compound obtained in step (c') or (d') with an electrophilic chlorine source, preferably N-chlorosuccinimide;
- _____ (f') reacting the compound obtained in step (e') with phenylacetyl chloride;
- _____ (g') reacting the compound obtained in step (f') with a base B₃;
- 5 _____ (h') reacting the compound obtained in step (g') with boron tribromide or trichloride, preferably boron trichloride; and
- _____ (i') optionally recovering the compound obtained in step (h').
13. The process according to claim 12, wherein step (a') is carried out in acetonitrile and B₁ is
 10 potassium carbonate.
14. The process according to claim 12, wherein said base B₂ is morpholine or sodium hydrogenocarbonate.
- 15 15. The process according to any one of claims 12 to 14, wherein B₃ is potassium bis(trimethylsilyl)amide and potassium *tert*-butoxide, preferably potassium *tert*-butoxide.