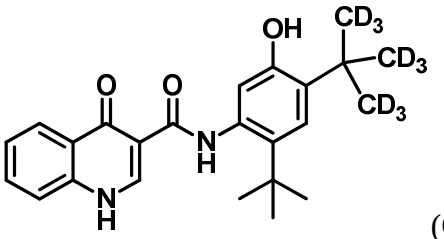
CLAIMS

1. Use of at least one compound selected from:

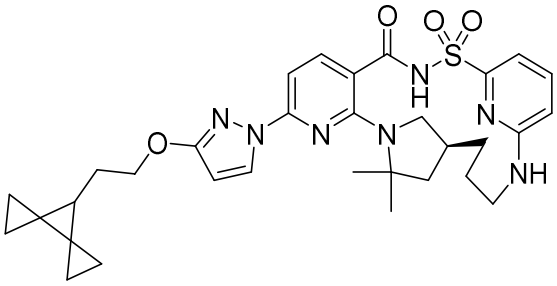
(i) Compound **I**:



(Compound **I**)

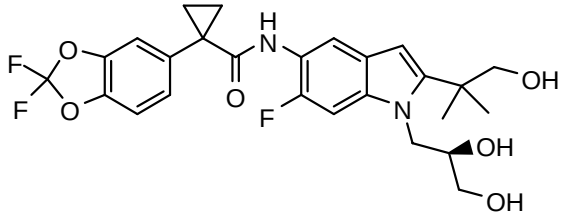
or a pharmaceutically acceptable salt thereof,

(ii) Compound **II** calcium salt hydrate Form D:



(Compound **II**), and

(iii) Compound **III**:



(Compound **III**)

or a pharmaceutically acceptable salt thereof,

in the manufacture of a medicament for the treatment of cystic fibrosis, wherein the treatment comprises daily administration of:

(a) 250 mg of Compound **I** or an equivalent amount of a pharmaceutically acceptable salt thereof;

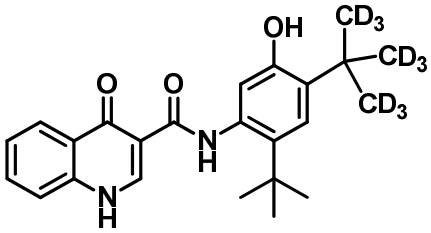
(b) 21.24 mg Compound **II** calcium salt hydrate Form D; and

(c) 100 mg of Compound **III** or an equivalent amount of a pharmaceutically acceptable salt thereof,

to a patient in need thereof.

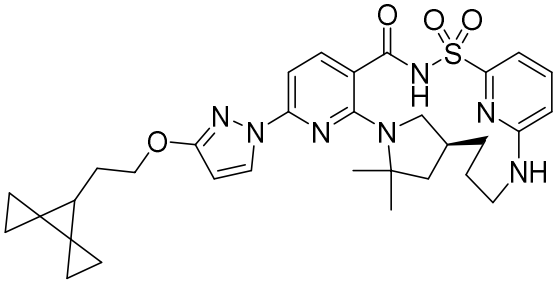
2. Use of at least one compound selected from:

(i) Compound **I**:



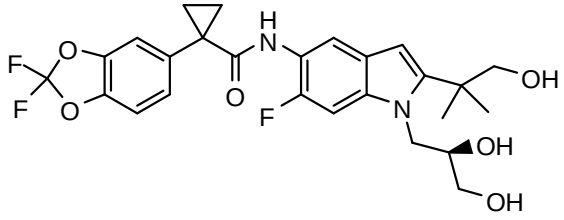
(Compound **I**),

(ii) Compound **II** calcium salt hydrate Form D:



(Compound **II**), and

(iii) Compound **III**:



(Compound **III**),

in the manufacture of a medicament for the treatment of cystic fibrosis, wherein the treatment comprises daily administration of:

(a) 250 mg of Compound **I**;

(b) 21.14 mg of Compound **II** calcium salt hydrate Form D; and

(c) 100 mg of Compound **III**,

to a patient in need thereof.

3. The use of claim 1 or claim 2, wherein the treatment comprises administering Compounds **I**, **II**, and **III** in separate compositions.

4. The use of claim 1 or claim 2, wherein the treatment comprises administering Compounds **I**, **II**, and **III** in a single composition.

5. The use of claim 1 or claim 2, wherein the treatment comprises administering Compounds **I**, **II**, and **III** as two compositions once daily, each composition comprising

125 mg of Compound **I**, 10.62 mg of Compound **II** calcium salt hydrate Form D, and 50 mg of Compound **III**.

6. The use of any one of claims 1-5, wherein the patient is homozygous for the F508del mutation or has an F508del/minimal function genotype, a F508del/gating genotype, or a F508del/residual function genotype.

7. The use of any one of claims 1-5, wherein the patient has a heterozygous genotype and has one F508del mutation.

8. The use of claim 7, wherein the patient has one mutation selected from:

711+3A>G	L206W	K1060T
2789+5G>A	R347H	A1067T
3272-26A>G	R352Q	G1069R
3849+10kbC>T	A455E	R1070Q
E56K	S549N	R1070W
P67L	S549R	F1074L
R74W	G551D	D1152H
D110E	G551S	G1244E
D110H	D579G	S1251N
R117C	E831X	S1255P
R117H	S945L	D1270N
G178R	S977F	G1349D.
E193K	F1052V	

9. The use of claim 7, wherein the patient has one mutation selected from:

3141del9	E822K	G1244E
546insCTA	F191V	G1249R
A46D	F311del	G1349D
A120T	F311L	H139R
A234D	F508C	H199Y
A349V	F508C;S1251N	H939R

A455E	F575Y	H1054D
A554E	F1016S	H1085P
A1006E	F1052V	H1085R
A1067T	F1074L	H1375P
D110E	F1099L	I148T
D110H	G27R	I175V
D192G	G85E	I336K
D443Y	G126D	I502T
D443Y;G576A;R668C	G178E	I601F
D579G	G178R	I618T
D614G	G194R	I807M
D836Y	G194V	I980K
D924N	G314E	I1027T
D979V	G463V	I1139V
D1152H	G480C	I1269N
D1270N	G551D	I1366N
E56K	G551S	K1060T
E60K	G576A	L15P
E92K	G576A;R668C	L165S
E116K	G622D	L206W
E193K	G628R	L320V
E403D	G970D	L346P
E474K	G1061R	L453S
E588V	G1069R	L967S
L997F	R117P	S945L
L1077P	R170H	S977F
L1324P	R258G	S1159F
L1335P	R334L	S1159P
L1480P	R334Q	S1251N
M152V	R347H	S1255P
M265R	R347L	T338I

M952I	R347P	T1036N
M952T	R352Q	T1053I
M1101K	R352W	V201M
P5L	R553Q	V232D
P67L	R668C	V456A
P205S	R751L	V456F
P574H	R792G	V562I
Q98R	R933G	V754M
Q237E	R1066H	V1153E
Q237H	R1070Q	V1240G
Q359R	R1070W	V1293G
Q1291R	R1162L	W361R
R31L	R1283M	W1098C
R74Q	R1283S	W1282R
R74W	S13F	Y109N
R74W;D1270N	S341P	Y161D
R74W;V201M	S364P	Y161S
R74W;V201M;D1270N	S492F	Y563N
R75Q	S549N	Y1014C
R117C	S549R	Y1032C
R117G	S589N	
R117H	S737F	
R117L	S912L	

wherein D443Y;G576A;R668C, R74W;D1270N, R74W;V201M, R74W;V201M;D1270N, F508C;S1251N, and G576A;R668C are compound mutations where a single allele of the CFTR gene has multiple mutations that exist independently of the presence of mutations on the other allele.

10. The use of any one of claims 1-5, wherein the patient has at least one mutation selected from:

3141del9	E822K	G1244E

546insCTA	F191V	G1249R
A46D	F311del	G1349D
A120T	F311L	H139R
A234D	F508C	H199Y
A349V	F508C;S1251N	H939R
A455E	F575Y	H1054D
A554E	F1016S	H1085P
A1006E	F1052V	H1085R
A1067T	F1074L	H1375P
D110E	F1099L	I148T
D110H	G27R	I175V
D192G	G85E	I336K
D443Y	G126D	I502T
D443Y;G576A;R668C	G178E	I601F
D579G	G178R	I618T
D614G	G194R	I807M
D836Y	G194V	I980K
D924N	G314E	I1027T
D979V	G463V	I1139V
D1152H	G480C	I1269N
D1270N	G551D	I1366N
E56K	G551S	K1060T
E60K	G576A	L15P
E92K	G576A;R668C	L165S
E116K	G622D	L206W
E193K	G628R	L320V
E403D	G970D	L346P
E474K	G1061R	L453S
E588V	G1069R	L967S
L997F	R117P	S945L
L1077P	R170H	S977F

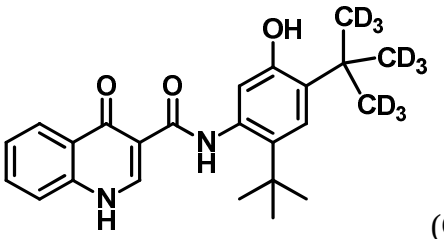
L1324P	R258G	S1159F
L1335P	R334L	S1159P
L1480P	R334Q	S1251N
M152V	R347H	S1255P
M265R	R347L	T338I
M952I	R347P	T1036N
M952T	R352Q	T1053I
M1101K	R352W	V201M
P5L	R553Q	V232D
P67L	R668C	V456A
P205S	R751L	V456F
P574H	R792G	V562I
Q98R	R933G	V754M
Q237E	R1066H	V1153E
Q237H	R1070Q	V1240G
Q359R	R1070W	V1293G
Q1291R	R1162L	W361R
R31L	R1283M	W1098C
R74Q	R1283S	W1282R
R74W	S13F	Y109N
R74W;D1270N	S341P	Y161D
R74W;V201M	S364P	Y161S
R74W;V201M;D1270N	S492F	Y563N
R75Q	S549N	Y1014C
R117C	S549R	Y1032C,
R117G	S589N	
R117H	S737F	
R117L	S912L	

wherein D443Y;G576A;R668C, R74W;D1270N, R74W;V201M, R74W;V201M;D1270N, F508C;S1251N, and G576A;R668C are compound mutations

where a single allele of the CFTR gene has multiple mutations that exist independently of the presence of mutations on the other allele.

11. A pharmaceutical composition comprising:

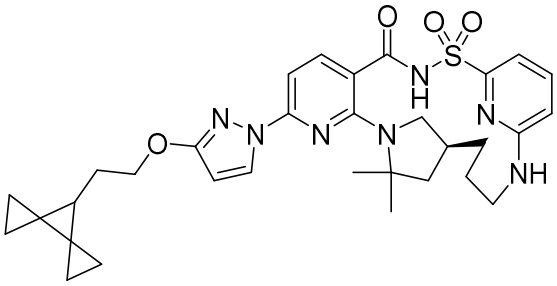
(a) 250 mg of Compound **I**:



(Compound **I**)

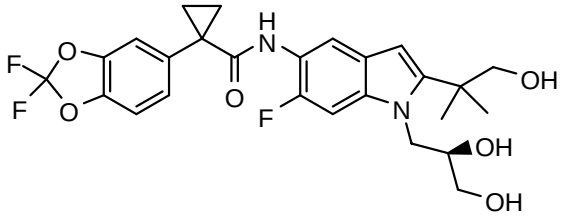
or an equivalent amount of a pharmaceutically acceptable salt thereof,

(b) 21.24 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**), and

(c) 100 mg of Compound **III**:

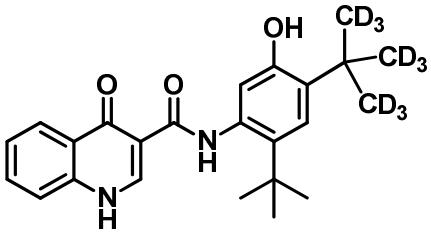


(Compound **III**)

or an equivalent amount of a pharmaceutically acceptable salt thereof.

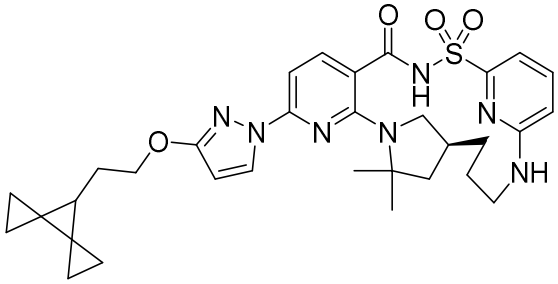
12. A pharmaceutical composition comprising:

(a) 250 mg of Compound **I**:



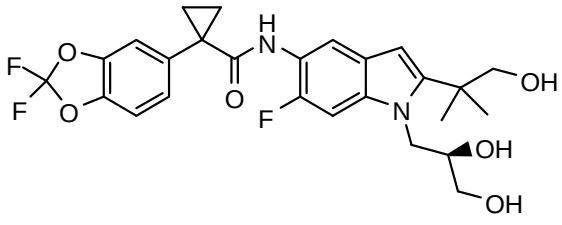
(Compound **I**),

(b) 21.24 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**), and

(c) 100 mg of Compound **III**:

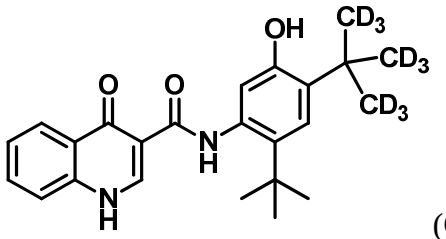


(Compound **III**)

.

13. A pharmaceutical composition comprising:

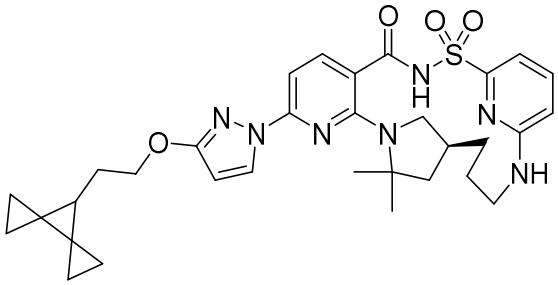
(a) 125 mg of Compound **I**:



(Compound **I**)

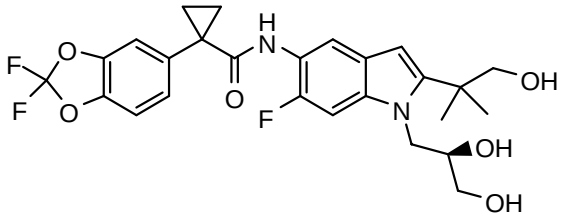
or an equivalent amount of a pharmaceutically acceptable salt thereof,

(b) 10.62 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**), and

(c) 50 mg of Compound **III**:

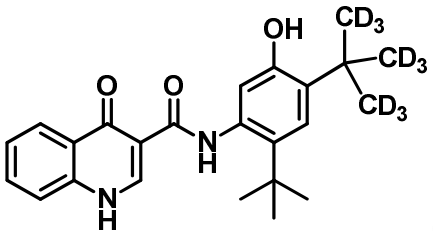


(Compound **III**)

or an equivalent amount of a pharmaceutically acceptable salt thereof.

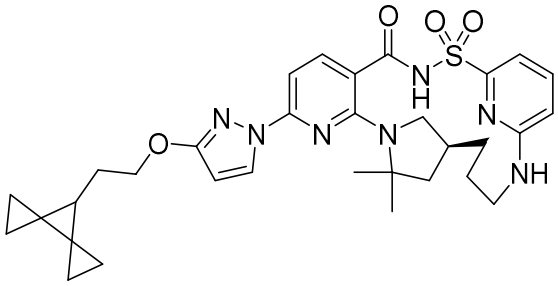
14. A pharmaceutical composition comprising:

(a) 125 mg of Compound **I**:



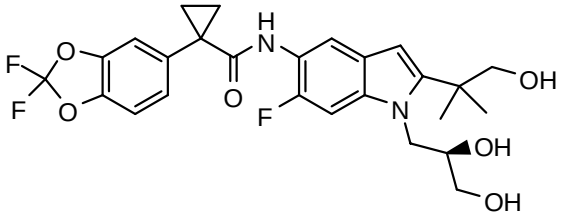
(Compound **I**),

(b) 10.62 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**), and

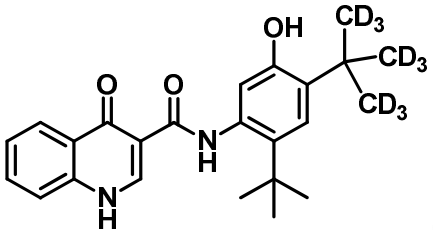
(c) 50 mg of Compound **III**:



(Compound **III**).

15. A tablet comprising:

(a) 156.3 mg of a solid dispersion comprising Compound **I**:



(Compound **I**),

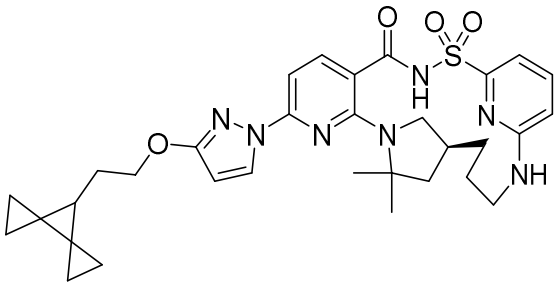
wherein the solid dispersion comprises:

(i) 80 wt% Compound **I**, by weight of the solid dispersion,

(ii) 19.5 wt% hypromellose acetate succinate, by weight of the solid dispersion, and

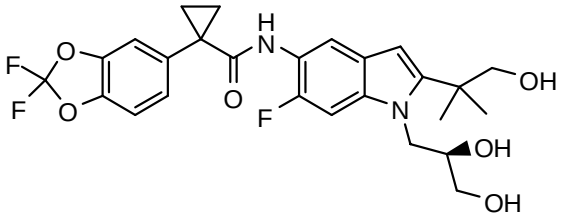
(iii) 0.5 wt% sodium lauryl sulfate, by weight of the solid dispersion;

(b) 10.6 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**);

(c) 62.5 mg of a solid dispersion comprising Compound **III**:



(Compound **III**),

wherein the solid dispersion comprises:

(i) 80 wt% Compound **III**, by weight of the solid dispersion, and

(ii) 20 wt% hypromellose, by weight of the solid dispersion;

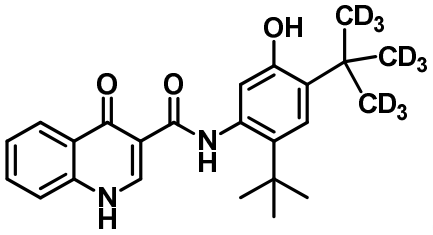
(d) 124.5 mg of microcrystalline cellulose;

(e) 22.8 mg of croscarmellose sodium; and

(f) 3.8 mg of magnesium stearate.

16. A tablet comprising:

(a) 156.3 mg of a solid dispersion comprising Compound **I**:



(Compound **I**),

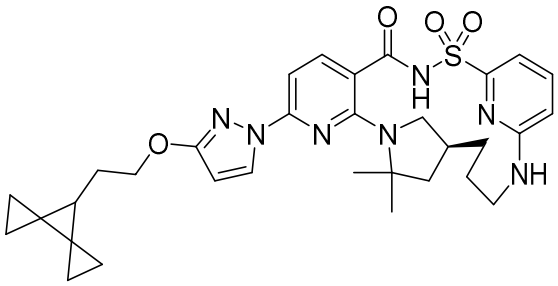
wherein the solid dispersion comprises:

(i) 80 wt% Compound **I**, by weight of the solid dispersion,

(ii) 19.5 wt% hypromellose acetate succinate, by weight of the solid dispersion, and

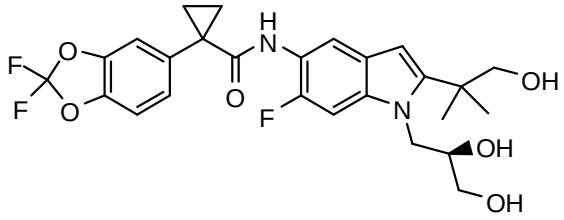
(iii) 0.5 wt% sodium lauryl sulfate, by weight of the solid dispersion;

(b) 10.6 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**); and

(c) 62.5 mg of a solid dispersion comprising Compound **III**:



(Compound **III**),

wherein the solid dispersion comprises:

(i) 80 wt% Compound **III**, by weight of the solid dispersion, and

(ii) 20 wt% hypromellose, by weight of the solid dispersion.

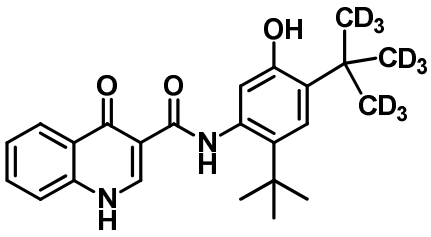
17. The tablet of claim 16, wherein the tablet further comprises 70-170 mg of microcrystalline cellulose.

18. The tablet of claim 16, wherein the tablet further comprises 10-40 mg of croscarmellose sodium.

19. The tablet of claim 16, wherein the tablet further comprises 70-170 mg of microcrystalline cellulose and 10-40 mg of croscarmellose sodium.

20. A tablet comprising:

(a) 156.3 mg of a solid dispersion comprising Compound **I**:



(Compound **I**),

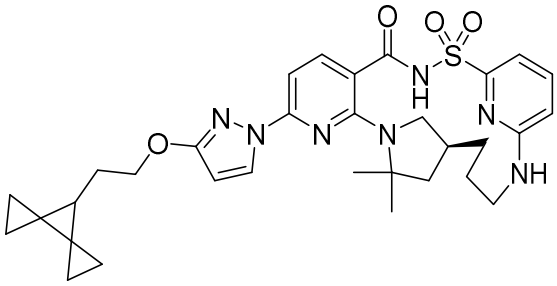
wherein the solid dispersion comprises:

(i) 80 wt% Compound **I**, by weight of the solid dispersion,

(ii) 19.5 wt% hypromellose acetate succinate, by weight of the solid dispersion, and

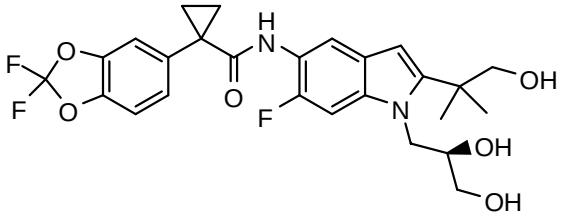
(iii) 0.5 wt% sodium lauryl sulfate, by weight of the solid dispersion;

(b) 10.6 mg of Compound **II** calcium salt hydrate Form D:



(Compound **II**);

(c) 62.5 mg of a solid dispersion comprising Compound **III**:



(Compound **III**),

wherein the solid dispersion comprises:

(i) 80 wt% Compound **III**,

by weight of the solid dispersion, and

(ii) 20 wt% hypromellose, by weight of the solid dispersion;

(d) 124.5 mg of microcrystalline cellulose;

(e) 22.8 mg of croscarmellose sodium;

(f) 3.8 mg of magnesium stearate; and optionally

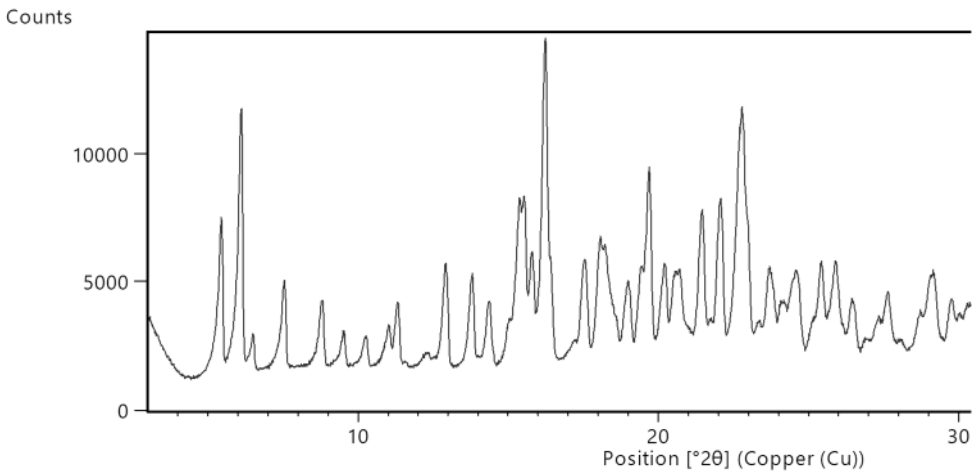
(g) 15.9 mg of a film coat.

21. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein the Compound **II** calcium salt hydrate Form D is characterized by an X-ray powder diffractogram (XRPD) having signals at 6.1 ± 0.2 degrees two-theta, 16.2 ± 0.2 degrees two-theta, and 22.8 ± 0.2 degrees two-theta.

22. The use, pharmaceutical composition, or tablet of claim 21, wherein the Compound **II** calcium salt hydrate Form D is characterized by an XRPD having signals at 6.1 ± 0.2 degrees two-theta, 16.2 ± 0.2 degrees two-theta, and 22.8 ± 0.2 degrees two-theta, and 27.6 ± 0.2 degrees two-theta.

23. The use, pharmaceutical composition, or tablet of claim 21, wherein the Compound **II** calcium salt hydrate Form D is characterized by an XRPD having signals at 6.1 ± 0.2 degrees two-theta, 15.5 ± 0.2 degrees two-theta, 16.2 ± 0.2 degrees two-theta, 19.7 ± 0.2 degrees two-theta, 22.8 ± 0.2 degrees two-theta, and 27.6 ± 0.2 degrees two-theta.

24. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein the Compound **II** calcium salt hydrate Form D is characterized by an X-ray powder diffractogram substantially similar to:



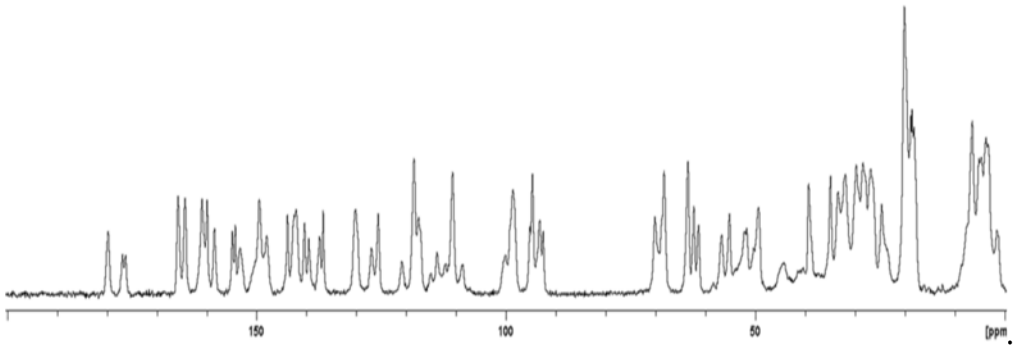
25. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein the Compound **II** calcium salt hydrate Form D is characterized by a triclinic crystal system, a P1 space group, and unit cell dimensions measured at 100 K on a Bruker diffractometer equipped with Cu Kα radiation (λ = 1.5478 Å) of

a	12.78 ± .01 Å	α	64.93 ± .02 º
b	16.64 ± .01 Å	β	75.10 ± .02 º
c	18.19 ± .01 Å	γ	68.22 ± .02 º.

26. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein the Compound **II** calcium salt hydrate Form D is characterized by a ^{13}C solid state nuclear magnetic resonance (^{13}C ss NMR) spectrum with one or more peaks selected from 130.2 ± 0.2 ppm, 125.6 ± 0.2 ppm, and 35.0 ± 0.2 ppm.

27. The use, pharmaceutical composition, or tablet of claim 26, wherein the Compound **II** calcium salt hydrate Form D is characterized by a ^{13}C ss NMR spectrum with (a) one or more peaks selected from 130.2 ± 0.2 ppm, 125.6 ± 0.2 ppm, and 35.0 ± 0.2 ppm; and (b) one or more peaks selected from 176.9 ± 0.2 ppm, 160.9 ± 0.2 ppm, 142.0 ± 0.2 ppm, and 98.6 ± 0.2 ppm.

28. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein the Compound **II** calcium salt hydrate Form D is characterized by a ^{13}C solid state nuclear magnetic resonance spectrum substantially similar to**:**



29. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein at least 85% of the Compound **II** is Compound **II** calcium salt hydrate Form D.

30. The use of any one of claims 1-10, the pharmaceutical composition of any one of claims 11-14, or the tablet of any one of claims 15-20, wherein at least 95% of the Compound **II** is Compound **II** calcium salt hydrate Form D.