Co-Crystals of Finerenone, Pecavaptan, and SGLT2 inhibitors

The invention refers to a co-crystal according to any one of formulae (I), (II), (III), (IV), (V), (VI) and/or (VII)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I),

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; a is above 0 to equal or below 10; b is above 0 to equal or below 10; c is above 0 to equal or below 10;

$$(Finerenone)_a * (API)_b$$

(II),

wherein API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; a is above 0 to equal or below 10; b is above 0 to equal or below 10;

$$(Finerenone)_a * (API)_b * (S)_d$$

(III),

wherein API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; S is a solvent; a is above 0 to equal or below 10; b is above 0 to equal or below 10; d is above 0 to equal or below 15;

$$(Finerenone)_a * (CF)_c$$

(IV),

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; a is above 0 to equal or below 10; c is above 0 to equal or below 10;

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V),

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient, and mixtures thereof; S is a solvent; a is above 0 to equal or below 10; c is above 0 to equal or below 10; d is above 0 to equal or below 15;

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VI)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i), and pecavaptan; S is a solvent; a is above 0 to equal or below 10; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is above 0 to equal or below 15;

$$(\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15.

Furthermore, the invention refers to a pharmaceutical formulation comprising any one of co-crystals according to formulae (I), (II), (III), (IV), (V), (VI) and/or (VII), the medical use of these co-crystals or the pharmaceutical formulation comprising such co-crystal(s) as well as to a process for preparing these co-crystals.

The invention further refers to crystalline forms of and/or Empagliflozin as well as pharmaceutical comprising such crystalline forms.

Poor solubility has been an issue in the development of pharmaceutical dosage forms. Amorphous solids may be considered as an option, however, these solids have their own limitations related to stability. The composition and the arrangement of molecules/ions in a crystal lattice directly affects the crystal properties. Co-crystals can be made for drugs containing sensitive functional groups as well as for drugs containing non-ionizable moieties.

Pharmaceutical co-crystals have established a new paradigm in the solid-state modification. These are multicomponent systems. The formation of active pharmaceutical ingredient ("API") co-crystal offers a wide range of physical and chemical enhancements to the properties of drugs without altering their

pharmacological properties' nature. Co-crystals can be composed of two or more compounds and held together by non-covalent interactions. They can also be present in form of a complex.

Co-crystal formation occurs via co-crystallization. Co-crystallization methods include a solvent evaporation technique, an anti-solvent method, a solvent drop grinding method, a slurry technique, and a solid state grinding method. In these methods, co-formers may be employed. Selection of suitable co-formers and screening of co-crystals for a drug are the main challenges to overcome during the process of co-crystal development. Despite of several co-crystal screening methods available, there is no confirmed way to predict whether two or more molecules will form a co-crystal. There are a lot of factors that govern the co-crystallization process and still there is a need for better understanding of this process. Moreover, the co-crystal structure cannot be predicted from the available sources.

The development of pharmaceutical co-crystals, a new solid crystalline form, offers some of the exemplary listed advantages: superior physico-chemical properties, such as melting point, chemical stability, mechanical stability, pharmacokinetic behavior, solubility, tabletability, bioavailability, taste masking, and the like. This co-crystal form may also increase the solubility and dissolution rate of the drug. Thereby, the bioavailability can be changed by changing the absorption rate of the drug in the human body.

For example, the SGLT2 inhibitor Empagliflozin is disclosed in International Patent Publication WO 2006/117359, has a water solubility of only 0.11 mg/mL and is also poorly stable. This fact may not allow for the required quality. Thus, empagliflozin has the disadvantage that it is difficult to maintain constant quality due to its poor stability as a pharmaceutical raw material, maybe also limiting shelf-life in the end. To overcome this disadvantage, empagliflozin can be transferred into a co-crystal.

Finerenone has also a high molecular weight and is poorly soluble in water.

One object is therefore the provision of an improved form of these drugs.

Furthermore, co-crystals can be formed between two APIs. Such multidrug co-crystals can be used for developing combination therapies. Such combinations may be useful in preventing multi-drug resistance, can synergistically increase the action of the drugs, reduce side effects, and the like.

The favorable effects of combinations comprising finerenone were already reported, e.g. Finerenone-Pecavaptan (EP 3900722 A1), and Finerenone-SGLT2 inhibitors (WO 2021214023 A1).

The respective drugs are available, however, there exists no optimized pharmaceutical formulation comprising both drugs.

A further object is the provision of an improved combination. This is solved by the provision of the co-crystals according to the invention.

The invention refers to a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c$$

(I),

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; a is above 0 to equal or below 10; b is above 0 to equal or below 10; c is above 0 to equal or below 10.

The invention refers to a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II),

wherein API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; a is above 0 to equal or below 10; b is above 0 to equal or below 10.

The invention refers to a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III),

wherein API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; S is a solvent; a is above 0 to equal or below 10; b is above 0 to equal or below 10; d is above 0 to equal or below 15.

The invention refers to a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV),

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; a is above 0 to equal or below 10; c is above 0 to equal or below 10.

The invention refers to a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V),

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient, and mixtures thereof; S is a solvent; a is above 0 to equal or below 10; c is above 0 to equal or below 10; d is above 0 to equal or below 15.

The invention refers to a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VI)}$$

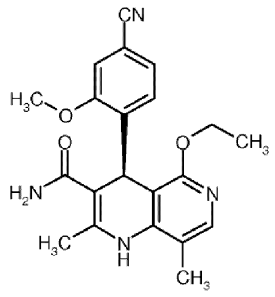
wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i), and pecavaptan; S is a solvent; a is above 0 to equal or below 10; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is above 0 to equal or below 15; wherein at least one of a and/or b is not equal to 0.

The invention refers to a co-crystal according to formula (VII)

$$(\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VII)}$$

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15.

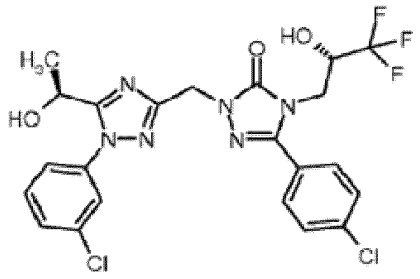
Finerenone, which is (S)-4-(4-cyano-2-methoxyphenyl)-5-ethoxy-2,8-dimethyl-1,4-dihydro-1,6-naphthyridin-3-carboxamide, a compound according to formula (VIII)



(VIII)

is a mineralocorticoid receptor antagonist (MR antagonist). The synthesis, pharmacological properties and pharmaceutical formulations/dosage forms are described in detail in WO 2008/104306 A1.

Pecavaptan, which is 5-(4-chlorophenyl)-2-({1-(3-chlorophenyl)-5-[(1S)-1-hydroxyethyl]-1H-1,2,4-triazol-3-yl}methyl)-4-[(2S)-3,3,3-trifluoro-2-hydroxypropyl]-2,4-dihydro-3H-1,2,4-triazol-3-one a compound of formula (IX)

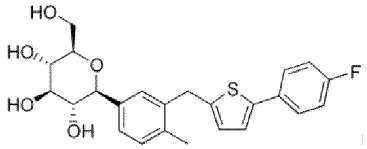


(IX)

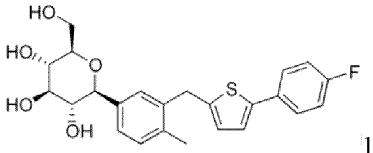
is a dual vasopressin antagonist (V1a and V2). The synthesis, pharmacological properties and pharmaceutical formulations/dosage forms are described in detail in WO 2016/071212 A1.

Known SGLT2 inhibitors are canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sergliflozin, sotagliflozin, and tofogliflozin.

Canagliflozin, which is (2S,3R,4R,5S,6R)-2-(3-{[5-(4-fluorophenyl)thiophen-2-yl]methyl}-4-methylphenyl)-6-(hydroxymethyl)oxane-3,4,5-triol (CAS-number: 842133-18-0) and is depicted in formula (X) or (Xa) (hemihydrate) below



(X)

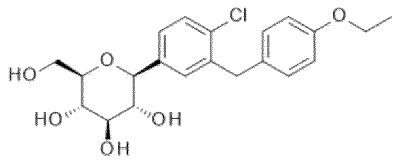


1/2 H_2O

(Xa)

is also known as Invokana® (market product by e.g. Janssen Pharmaceuticals, comprises canagliflozin hydrate), is a sodium-glucose cotransporter 2 (SGLT2) inhibitor used in the management of type 2 diabetes mellitus along with lifestyle changes including diet and exercise. It is described in e.g. US 7943582, US 7943788, US 8222219, and US 8513202. It was initially approved by the FDA in 2013 for the management of diabetes and later approved in 2018 for a second indication of reducing the risk of cardiovascular events in patients diagnosed with type 2 diabetes mellitus. Canagliflozin is the first oral antidiabetic drug approved for the prevention of cardiovascular events in patients with type 2 diabetes. Cardiovascular disease is the most common cause of death in these patients.

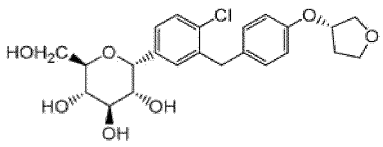
Dapagliflozin, which is (2S,3R,4R,5S,6R)-2-[4-chloro-3-[(4-ethoxyphenyl)methyl]phenyl]-6-(hydroxymethyl)oxane-3,4,5-triol and is depicted in formula (XI) below



(XI)

is sold under the brand name Farxiga® among others, is a medication used to treat type 2 diabetes and, with certain restrictions, type 1 diabetes. It is of the gliflozin class. It was developed by Bristol-Myers Squibb in partnership with AstraZeneca. Dapagliflozin is described in e.g. US 6414126.

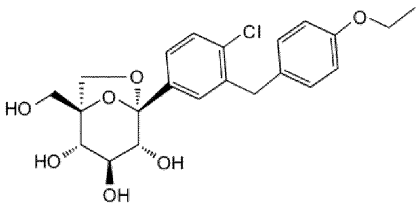
Empagliflozin, which is (2S,3R,4R,5S,6R)-2-[4-chloro-3-[[4-[(3S)-oxolan-3-yl]oxyphenyl]methyl]phenyl]-6-(hydroxymethyl)oxane-3,4,5-triol and depicted ion formula (XII) below



(XII)

is sold under the brand name Jardiance® among others, is a medication used together with diet and exercise to treat type 2 diabetes. It is described in e.g. US 7579449.

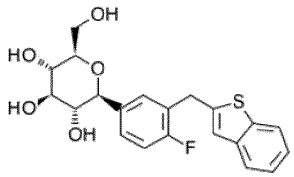
Ertugliflozin, which is (1S,2S,3S,4R,5S)-5-[4-chloro-3-[(4-ethoxyphenyl)methyl]phenyl]-1-(hydroxymethyl)-6,8-dioxabicyclo[3.2.1]octane-2,3,4-triol and is depicted in formula (XIII) below



(XIII)

is marketed under the trade name Steglatro® and is a drug for the treatment of type 2 diabetes. It is described in US 8080580. In the United States, it was approved by the Food and Drug Administration for use as a monotherapy and as a fixed dose combination with either sitagliptin or with metformin.

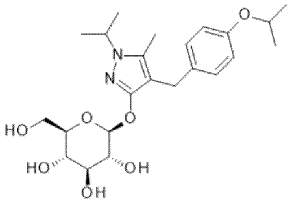
Ipragliflozin is depicted in formula (XIV) below



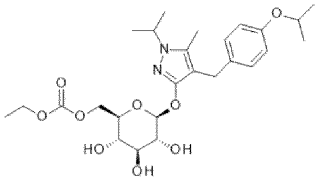
(XIV)

is a pharmaceutical drug for treatment of type 2 diabetes. The compound and methods of its synthesis are described in e.g. WO 2004/080990 A1.

Remogliflozin, which is depicted in formula (XV) below, and remogliflozin etabonate, which is depicted in formula (XV a) below,



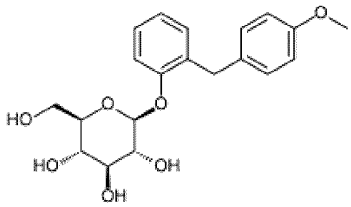
(XV)



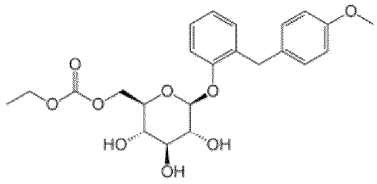
(XV a)

is a drug of the gliflozin class for the treatment of non-alcoholic steatohepatitis ("NASH") and type 2 diabetes. Remogliflozin was discovered by the Japanese company Kissei Pharmaceutical and is currently being developed by BHV Pharma. It is used as remogliflozin etabonate (ethyl [(2R,3S,4S,5R,6S)-3,4,5-trihydroxy-6-[5-methyl--propan-2-yl-4-[(4-propan-2-yloxyphenyl)methyl]pyrazol-3-yl]oxyoxan-2-yl]methyl carbonate; CAS 442201-24-3; remogliflozin etabonate). “Etabonate” refers to the ethyl carbonate group. The remaining structure, which is the active substance, is called remogliflozin.

Sergliflozin, which is depicted in formula (XVI) and is (2R,3S,4S,5R,6S)-2-(hydroxymethyl)-6-[2-[(4-methoxyphenyl)methyl]phenoxy]oxane-3,4,5-triol, and sergliflozin etabonate, which is depicted in formula (XVIa) below and is ethyl [(2R,3S,4S,5R,6S)-3,4,5-trihydroxy-6-[2-[(4-methoxyphenyl)methyl]phenoxy]oxan-2-yl]methyl carbonate,



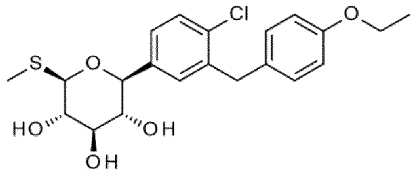
(XVI)



(XVIa)

is being developed by GlaxoSmithKline in form of sergliflozin etabonate and is an investigational anti-diabetic drug. "Etabonate" refers to the ethyl carbonate group. The remaining structure, which is the active substance, is called sergliflozin.

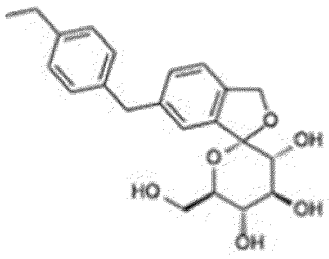
Sotagliflozin, which is (2S,3R,4R,5S,6R)-2-[4-chloro-3-[(4-ethoxyphenyl)methyl]phenyl]-6-methylsulfanyloxane-3,4,5-triol and is depicted in formula (XVII) below



(XVII)

is a drug approved in EU for certain patients with type I diabetes. It is marketed under the trade name Zynquista® and it was developed by Sanofi. WO 2017202351 A1 describes a crystal form of sotagliflozin, a method for preparation thereof and use thereof.

Tofogliflozin, which is and is depicted in formula (XVIII) below,



(XVIII)

is a drug for the treatment of diabetes mellitus and is being developed by Chugai Pharma in collaboration with Kowa and Sanofi. It is an inhibitor of SGLT2. The United States Adopted Name tofogliflozin applies to the monohydrate, which is the form used as a drug. The International Nonproprietary Name tofogliflozin applies to the anhydrous compound and the drug form is referred to as tofogliflozin hydrate.

In the following, embodiments of the API, Co-former (CF), Solvent (S), a, b, c, and/or d are described for the co-crystals according to formulae (I), (II), (III), (IV), (V), (VI) and/or (VII):

In one embodiment the API is a SGLT2 inhibitor selected from canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sotagliflozin, sergliflozin, and tofogliflozin. In one embodiment the API is a SGLT2 inhibitor selected from dapagliflozin, canagliflozin, and empagliflozin. In one embodiment the is a SGLT2 inhibitor selected from dapagliflozin and empagliflozin. In one embodiment the API is the SGLT2 inhibitor dapagliflozin. In one embodiment the API is the SGLT2 inhibitor empagliflozin. In one embodiment the API is selected from dapagliflozin, canagliflozin, and empagliflozin and pecavaptan. In one embodiment the API is pecavaptan.

In one embodiment, the co-crystal according to any one of formulae (I), (II), (III), (IV), (V), and/or (VI) is a polymorph. In one embodiment, the co-crystal according to formula (II) is a polymorph. In one embodiment, the co-crystal according to formula (III) is a polymorph. In one embodiment, the co-crystal according to formula (IV) is a polymorph. In one embodiment, the co-crystal according to formula (V) is a polymorph. In one embodiment, the co-crystal according to formula (VI) is a polymorph. In one embodiment, the co-crystal according to formula (VII) is a polymorph.

Co-formers (CF) are co-crystallizing agents that interact non-ionically with active pharmaceutical ingredients in a crystal lattice. CF can have high water solubility and can be non-volatile. Active ingredients and suitable CF can cause interactions e.g. through hydrogen bonds, van der Waals interaction, and π-π stacking. An obstacle is selecting a CF. The CF should be suited for the specific API. The CF also needs to be generally recognized as safe (GRAS). It is difficult to know a priori which CF will form co-crystals. The current selection for co-crystal discovery involves an expensive, time-consuming, and, at the early stages of pharmaceutical development, API material-limited experimental screen.

In one embodiment, the CF is selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof. Optionally the CF can be in a salted anionic or cationic form. In one embodiment, the CF is a carboxylic acid.

In one embodiment, the CF is a proteinogenic amino acid.

In one embodiment, the CF is a proteinogenic amino acid selected from a positively charged proteinogenic amino acid, negatively charges proteinogenic amino acid, a polar uncharged proteinogenic amino acid, a hydrophobic proteinogenic amino acid, and mixtures thereof.

In one embodiment, the CF is a proteinogenic amino acid selected from arginine, histidine, lysine, aspartic acid, glutamic acid, serine, threonine, asparagine, glutamine, glycine, proline, cysteine, selenocysteine, alanine, valine, isoleucine, leucine, methionine, phenylalanine, tyrosine, tryptophan, and mixtures thereof.

In one embodiment, the CF is selected from a carboxylic acid or mixtures thereof. In one embodiment the carboxylic acid n is a C_1-C_{10}-alkyl-carboxylic acid. The term "C_1C_{10}alkyl" means a linear or branched, saturated, monovalent hydrocarbon group having 1, 2, 3, 4, 5 or 6 carbon atoms, *e.g.* a methyl, ethyl, propyl, isopropyl, butyl, *sec*-butyl, isobutyl, *tert*-butyl, pentyl, isopentyl, 2-methylbutyl, 1-methylbutyl, 1-ethylpropyl, 1,2-dimethylpropyl, *neo*-pentyl, 1,1-dimethylpropyl, hexyl, 1methylpentyl, 2-methylpentyl, 3-methylpentyl, 4-methylpentyl, 1-ethylbutyl, 2-ethylbutyl, 1,1-dimethylbutyl, 2,2-dimethylbutyl, 3,3-dimethylbutyl, 2,3-dimethylbutyl, 1,2-dimethylbutyl or 1,3-dimethylbutyl group, or an isomer thereof. Particularly, said group has 1, 2, 3 or 4 carbon atoms ("C_1C_4alkyl"), *e.g.* a methyl, ethyl, propyl, isopropyl, butyl, sec-butyl isobutyl, or *tert*-butyl group, more particularly 1, 2 or 3 carbon atoms ("C_1C_3alkyl"), *e.g.* a methyl, ethyl, *n*-propyl or isopropyl group.

In one embodiment the carboxylic acid is a C_1-C_{10}-alkyl-mono-carboxylic acid. In one embodiment the carboxylic acid is a C_1- alkyl-C_{10}-di-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_6-alkyl-carboxylic acid. In one embodiment the carboxylic acid is a C_1- C_6-mono-carboxylic acid. In one embodiment the carboxylic acid is a C_1- C_6- alkyl-di-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_5- alkyl-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_5- alkyl-mono-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_5- alkyl-di-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_4- alkyl-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_4- alkyl-mono-carboxylic acid. In one embodiment the carboxylic acid is a C_1-C_4- alkyl-di-carboxylic acid.

In one embodiment, the CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, hydrochloric acid and mixtures thereof.

In one embodiment, the CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid and mixtures thereof.

In one embodiment, the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the CF is selected from ascorbic acid, fumaric acid, and mixtures thereof.

In one embodiment, the CF is selected from L-proline.

In one embodiment, the CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the CF is selected from gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the CF is selected from gentisic acid, malonic acid, and mixtures thereof.

In one embodiment, the CF is selected from gentisic acid, oxalic acid, malonic acid, tartaric acid, citric acid, L-malic acid, L-tartaric acid, L-cysteine HCl and mixtures thereof.

In one embodiment, the CF is selected from gentisic acid, oxalic acid, malonic acid, tartaric acid, citric acid, L-malic acid, L-tartaric acid, L-cysteine HCl, L-proline, and mixtures thereof.

In one embodiment, the CF is selected from hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid, methane sulphonic acid, trifluoromethanesulfonic acid, benzenesulfonic acid, p-toluene sulfonic acid, 1-naphthalenesulfonic acid, 2-naphthalenesulfonic acid, acetic acid, trifluoroacetic acid, malic acid, tartaric acid, lactic acid, succinic acid, maleic acid, benzoic acid, salicylic acid, phenylacetic acid, mandelic acid acetate, benzoic acid, besylate, bromide, camsylate, carbonate, edisylate, estolate, fumarate, gluceptate, gluconate, glucuronate, hippurate, iodide, isethionate, lactate, lactobionate, malate, maleate, mesylate, methylsulfate, napsylate, nitrate, oxalate, pamoate, phosphate, stearate, succinate, sulfate, tartrate, bitartrate, tosylate, calcium, diolamine, lithium, lysine, magnesium, meglumine, N-methylglucamine, olamine, potassium, tromethamine, tris(hydroxymethyl)aminomethane, benzenesulfonate, ethanesulfonate, ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, l-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

In one embodiment, S is selected from nonpolar solvent, aprotic-nonpolar solvent, aprotic-polar solvent, protic solvent and mixtures thereof.

Example of nonpolar solvents are pentane, hexane, benzene, chloroform, and diethyl ether.

Example of aprotic-polar solvent are dichloromethane, tetrahydrofuran, ethyl acetate, acetonitrile, dimethylformamide, dimethyl sulfoxide, acetone, pyridine, sulfolane, and hexamethyl phosphoric triamde (HMPT).

Example of polar protic solvent are water, methanol, ethanol, isopropyl alcohol and acetic acid.

In one embodiment, wherein S is selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethylsulfoxid, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, S is selected from water, acetone, acetonitrile, dioxane, ethyl acetate, isobutyl acetate, methanol, tetrahydrofuran, and mixtures thereof.

In one embodiment, S is selected from acetonitrile, methanol, isobutyl acetate, acetonitrile, tetrahydrofuran, ethyl acetate, acetone, and mixtures thereof.

In one embodiment, a is from above 0 to equal or below 10. In one embodiment, a is from above 0 to equal or below 9. In one embodiment, a is from above 0 to equal or below 9. In one embodiment, a is from above 0 to equal or below 8. In one embodiment, a is from above 0 to equal or below 7. In one embodiment, a is from above 0 to equal or below 6. In one embodiment, a is from above 0 to equal or below 5. In one embodiment, a is from above 0 to equal or below 4. In one embodiment, a is from above 0 to equal or below 3. In one embodiment, a is from above 0 to equal or below 2. In one embodiment, a is from above 0 to equal or below 1. In one embodiment, a is from above 0 to equal or below 0.5.

In one embodiment, a is equal or above 1 to equal or below 2. In one embodiment, a is equal or above 1 to equal or below 3. In one embodiment, a is equal or above 1 to equal or below 4. In one embodiment, a is equal or above 1 to equal or below 5. In one embodiment, a is equal or above 2 to equal or below 3. In one embodiment, a is equal or above 2 to equal or below 4. In one embodiment, a is equal or above 2 to equal or below 5. In one embodiment, a is equal or above 3 to equal or below 4. In one embodiment, a is equal or above 4 to equal or below 5. In one embodiment, a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6,

3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10.

In one embodiment, a is selected from 0.25, 0.3, 0.4, 0.5, 1, 2 and 3. In one embodiment, a is above 0. In one embodiment, a is 0.25. In one embodiment, a is 0.3. In one embodiment, a is 0.5. In one embodiment, a is 1. In one embodiment, a is 2. In one embodiment, a is 3. In one embodiment, a is 4. In one embodiment, a is 5.

In one embodiment, b is from above 0 to equal or below 10. In one embodiment, b is from above 0 to equal or below 9. In one embodiment, b is from above 0 to equal or below 9. In one embodiment, b is from above 0 to equal or below 8. In one embodiment, b is from above 0 to equal or below 7. In one embodiment, b is from above 0 to equal or below 6. In one embodiment, b is from above 0 to equal or below 5. In one embodiment, b is from above 0 to equal or below 4. In one embodiment, b is from above 0 to equal or below 3. In one embodiment, b is from above 0 to equal or below 2. In one embodiment, b is from above 0 to equal or below 1 In one embodiment, b is equal or above 1 to equal or below 2. In one embodiment, b is equal or above 1 to equal or below 3. In one embodiment, b is equal or above 1 to equal or below 4. In one embodiment, b is equal or above 1 to equal or below 5. In one embodiment, b is equal or above 2 to equal or below 3. In one embodiment, b is equal or above 2 to equal or below 4. In one embodiment, b is equal or above 2 to equal or below 5. In one embodiment, b is equal or above 3 to equal or below 4. In one embodiment, b is equal or above 4 to equal or below 5.

In one embodiment, b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10.

In one embodiment, b is selected from 0.25, 0.3, 0.4, 0.5, 1, 2 and 3. In one embodiment, b is above 0. In one embodiment, b is 0.25. In one embodiment, b is 0.3. In one embodiment, b is 0.5. In one embodiment,

b is 1. In one embodiment, b is 2. In one embodiment, b is 3. In one embodiment, b is 4. In one embodiment, b is 5.

In one embodiment, c is from above 0 to equal or below 10. In one embodiment, c is from above 0 to equal or below 9. In one embodiment, c is from above 0 to equal or below 9. In one embodiment, c is from above 0 to equal or below 8. In one embodiment, c is from above 0 to equal or below 7. In one embodiment, c is from above 0 to equal or below 6. In one embodiment, c is from above 0 to equal or below 5. In one embodiment, c is from above 0 to equal or below 4. In one embodiment, c is from above 0 to equal or below 3. In one embodiment, c is from above 0 to equal or below 2. In one embodiment, c is equal or above 1 to equal or below 2. In one embodiment, c is equal or above 1 to equal or below 3. In one embodiment, c is equal or above 1 to equal or below 4. In one embodiment, c is equal or above 1 to equal or below 5. In one embodiment, c is equal or above 2 to equal or below 3. In one embodiment, c is equal or above 2 to equal or below 4. In one embodiment, c is equal or above 2 to equal or below 5. In one embodiment, c is equal or above 3 to equal or below 4. In one embodiment, c is equal or above 4 to equal or below 5.

In one embodiment, wherein c is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10. .

In one embodiment, c is selected from 0.25, 0.3, 0.4, 0.5, 1, 2 and 3. In one embodiment, c is above 0.In one embodiment, c is 0.25. In one embodiment, c is 0.3. In one embodiment, c is 0.5. In one embodiment, c is 1. In one embodiment, c is 2. In one embodiment, c is 3. In one embodiment, c is 4. In one embodiment, c is 5.

In one embodiment, d is from above 0 to equal or below 15. In one embodiment, d is from above 0 to equal or below 14. In one embodiment, d is from above 0 to equal or below 13. In one embodiment, d is from above 0 to equal or below 12. In one embodiment, d is from above 0 to equal or below 11. In one embodiment, d is from above 0 to equal or below 10. In one embodiment, d is from above 0 to equal or below 9. In one embodiment, d is from above 0 to equal or below 9. In one embodiment, d is from above 0 to equal or below 8. In one embodiment, d is from above 0 to equal or below 7. In one embodiment, d

is from above 0 to equal or below 6. In one embodiment, d is from above 0 to equal or below 10. In one embodiment, d is from above 0 to equal or below 9. In one embodiment, d is from above 0 to equal or below 8. In one embodiment, c is from above 0 to equal or below 7. In one embodiment, d is from above 0 to equal or below 6. In one embodiment, d is from above 0 to equal or below 5. In one embodiment, d is from above 0 to equal or below 4. In one embodiment, d is from above 0 to equal or below 3. In one embodiment, d is from above 0 to equal or below 2. In one embodiment, d is from above 0 to equal or below 1.

In one embodiment, d is equal or above 0 to equal or below 15. In one embodiment, d is equal or above 0 to equal or below 14. In one embodiment, d is equal or above 0 to equal or below 13. In one embodiment, d is equal or above 0 to equal or below 12. In one embodiment, d is equal or above 0 to equal or below 11. In one embodiment, d is equal or above 0 to equal or below 10. In one embodiment, d is equal or above 0 to equal or below 9. In one embodiment, d is equal or above 0 to equal or below 9. In one embodiment, d is equal or above 0 to equal or below 8. In one embodiment, d is equal or above 0 to equal or below 7. In one embodiment, d is equal or above 0 to equal or below 6. In one embodiment, d is equal or above 0 to equal or below 10. In one embodiment, d is equal or above 0 to equal or below 9. In one embodiment, d is equal or above 0 to equal or below 8. In one embodiment, c is from above 0 to equal or below 7. In one embodiment, d is equal or above 0 to equal or below 6. In one embodiment, d is equal or above 0 to equal or below 5. In one embodiment, d is equal or above 0 to equal or below 4. In one embodiment, d is equal or above 0 to equal or below 3. In one embodiment, d is equal or above 0 to equal or below 2. In one embodiment, d is equal or above 0 to equal or below 1.

In one embodiment d is 0.

In one embodiment, d is selected from 0, 1, 2, 3, 4, 5, 6, 8, 9 and 10. In one embodiment, d is selected from 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. In one embodiment, d is selected from 0, 1, 2, 3, 4, 5, 6, 7 and 8. In one embodiment, d is selected from 0, 1, 2, 3, 4, 5, 6 and 7. In one embodiment, d is selected from 0, 1, 2, 3, 4, 5 and 6. In one embodiment, d is selected from 0, 1, 2, 3, 4, 5 and 6. In one embodiment, d is selected from 0, 1, 2, 3 and 4. In one embodiment, d is selected from 0, 1, 2 and 3. In one embodiment, d is selected from 0.5, 1 and 2.

In one embodiment, d is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35,

7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10.

In one embodiment, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5, and d is above 0 to equal or below 5. In one embodiment, a is above 0 to equal or below 4, b is above 0 to equal or below 4, c is above 0 to equal or below 4, and d is above 0 to equal or below 4. In one embodiment, a is above 0 to equal or below 3, b is above 0 to equal or below 3, c is above 0 to equal or below 3, and d is above 0 to equal or below 3. In one embodiment, a is above 0 to equal or below 2, b is above 0 to equal or below 2, c is above 0 to equal or below 2, and d is above 0 to equal or below 2. In one embodiment, a is above 0 to equal or below 1, b is above 0 to equal or below 1, c is above 0 to equal or below 1, and d is above 0 to equal or below 1.

In one embodiment, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5, and d is equal or above 0 to equal or below 5. In one embodiment, a is above 0 to equal or below 4, b is above 0 to equal or below 4, c is above 0 to equal or below 4, and d is equal or above 0 to equal or below 4. In one embodiment, a is above 0 to equal or below 3, b is above 0 to equal or below 3, c is above 0 to equal or below 3, and d is equal or above 0 to equal or below 3. In one embodiment, a is above 0 to equal or below 2, b is above 0 to equal or below 2, c is above 0 to equal or below 2, and d is equal or above 0 to equal or below 2. In one embodiment, a is above 0 to equal or below 1, b is above 0 to equal or below 1, c is above 0 to equal or below 1, and d is equal or above 0 to equal or below 1.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I),

wherein a, b, c, API or CF is defined according to any one of the embodiments disclosed above.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-

carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan; CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

wherein a is selected from 0.5, 1 and 2; b is selected from 0.25, 0.4, 0.5, 1 and 2; c is from 0.5, 1 and 2; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is selected from empagliflozin and dapagliflozin, wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is selected from empagliflozin and dapagliflozin; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is selected from empagliflozin and dapagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is selected from 0.5, 1 and 2; b is selected from 0.25, 0.4, 0.5, 1 and 2; c is from 0.5, 1 and 2; wherein the API is selected from empagliflozin and dapagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-betaine HCL, L-Carnitine HCL, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is empagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

a is selected from 0.5, 1 and 2; b is selected from 0.25, 0.4, 0.5, 1 and 2; c is from 0.5, 1 and 2; wherein the API is empagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

a is selected from 0.5, 1 and 2; b is selected from 0.25, 0.4, 0.5, 1 and 2; c is from 0.5, 1 and 2;wherein the API is empagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-betaine HCL, L-Carnitine HCL, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-betaine HCL, L-Carnitine HCL, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c \quad (I)$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein the CF is selected from citric acid, L-proline, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is dapagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is dapagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is dapagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

a is selected from 0.5, 1 and 2; b is selected from 0.25, 0.4, 0.5, 1 and 2; c is from 0.5, 1 and 2; wherein the API is dapagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

a is selected from 0.5, 1 and 2; b is selected from 0.25, 0.4, 0.5, 1 and 2; c is from 0.5, 1 and 2;wherein the API is dapagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-betaine HCL, L-Carnitine HCL, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is selected from 1 and 2; wherein b is 1, 2, 3 and 4; wherein c is selected from 1, 2, 3 and 4; wherein the API is dapagliflozin; CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is selected from 1 and 2; wherein b is 1; wherein c is selected from 1 and 2; wherein the API is dapagliflozin; wherein the CF is selected from l-proline, l-pyroglutamic acid, fumaric acid, L-tartaric acid, citric acid, L-malic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is selected from 1 and 2; wherein b is 1, 2, 3 and 4; wherein c is selected from 1, 2, 3 and 4; wherein the API is pecavaptan; CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is pecavaptan; wherein CF is gentisic acid, wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 5.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c$$

(I)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein the API is pecavaptan; wherein CF is malonic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 9b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 1; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.5; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.4; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.25; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 1; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.5; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.4; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.25; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 1; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.5; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.4; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c \quad (I)$$

wherein a is 1; b is 0.25; c is 1; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c \quad (I)$$

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is above 0 to equal or below 1; wherein c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c \quad (I)$$

wherein a is above 0 to equal or below 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55,

2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c \quad \text{(I)}$$

wherein a is above 0 to equal or below 1; wherein b is above 0 to equal or below 1; wherein c is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is empagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c \quad \text{(I)}$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c \quad \text{(I)}$$

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is above 0 to equal or below 1; wherein c is above 0 to equal or below 1; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is above 0 to equal or below 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein c is above 0 to equal or below 1; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is above 0 to equal or below 1; wherein b is above 0 to equal or below 1; wherein c is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15,

2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is dapagliflozin;

wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is selected from 1 and 2; wherein b is 1; wherein c is selected from 1 and 2; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is 1; wherein b is 1; wherein c is 1; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is 2; wherein b is 1; wherein c is 1; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is 2; wherein b is 1; wherein c is 2; wherein the API is dapagliflozin; wherein the CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 1; c is 1; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.5; c is 1; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.4; c is 1; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is 1; b is 0.25; c is 1; wherein the API is empagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is above 0 to equal or below 1; wherein c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein the CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein c is above 0 to equal or below 1; wherein the API is empagliflozin; wherein the CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is above 0 to equal or below 1; wherein b is above 0 to equal or below 1; wherein c is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is empagliflozin; wherein the CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05,

3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is above 0 to equal or below 1; wherein c is above 0 to equal or below 1; wherein the API is dapagliflozin; wherein the CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is above 0 to equal or below 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein c is above 0 to equal or below 1; wherein the API is dapagliflozin; wherein the CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c$$

(I)

wherein a is above 0 to equal or below 1; wherein b is above 0 to equal or below 1; wherein c is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45,

5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is dapagliflozin; wherein the CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a, b, or API is defined according to any one of the embodiments described above.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 2; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 2; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 3; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 3; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is 1; b is 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is 2; b is 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is 1; b is 2; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is 3; b is 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 3; b is 2; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 3; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 2; b is 3; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 0.5; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 0.25; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is 0.5; b is 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is 0.25; b is 1; wherein the API is selected from dapagliflozin and empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 2; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 2; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 3; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 3; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 1; b is 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 2; b is 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 1; b is 2; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 3; b is 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 3; b is 2; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 1; b is 3; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 2; b is 3; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 1; b is 0.5; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 1; b is 0.25; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 0.5; b is 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is 0.25; b is 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b \quad (II)$$

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15,

4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is 1; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is empagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 2; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 2; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 3; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$(Finerenone)_a * (API)_b$

(II)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 3; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 2; b is 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 2; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 3; b is 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 3; b is 2; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 3; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 2; b is 3; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 0.5; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 1; b is 0.25; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is 0.5; b is 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(Finerenone)_a * (API)_b$$

(II)

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is 1; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is dapagliflozin.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a, b, d, API or S is defined according to any one of the embodiments.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; d is above 0 to 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan, wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; d is above 0 to 5; wherein the API is selected from dapagliflozin, empagliflozin, and pecavaptan, wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 2; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 2; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 3; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 2; b is above 0 to equal or below 3; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is 1; b is 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 2; b is 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 1; b is 2; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 3; b is 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 3; b is 2; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is 1; b is 3; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is 2; b is 3; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is 1; b is 0.5; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 1; b is 0.25; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 0.5; b is 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is 0.25; b is 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein b is 1; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is 1; wherein b is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a, c or CF is defined according to any one of the embodiments described above.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is selected from gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-tartaric acid, tartaric acid, malonic acid, oxalic acid, and mixture thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; wherein CF is selected from gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-tartaric acid, tartaric acid, malonic acid, oxalic acid, and mixture thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is gentisic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is gentisic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 6.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is oxalic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is oxalic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 7.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is malonic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is malonic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 8.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 10.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 11.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 12.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-tartaric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-tartaric acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 16.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is malic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-malic acid.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-malic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 15a.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-malic acid; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 15b.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c \quad \text{(IV)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-cystein HCl; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 17.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a, c, d or S are defined according to any one of the embodiments described above.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to equal or below 10; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is selected from gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-tartaric acid, tartaric acid, malonic acid, oxalic acid, and mixture thereof; wherein S is a solvent selected from acetonitrile, methanol, isobutyl acetate, tetrahydrofuran, ethyl acetate, acetone and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85, 2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein c is 1; wherein d is above 0 to 5; wherein CF is selected from gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-tartaric acid, tartaric acid, malonic acid, oxalic acid, and mixture thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is 1; wherein c is selected from 0.05, 0.1, 0.15, 0.2, 0.25, 0.3, 0.35, 0.4, 0.45, 0.5, 0.55, 0.6, 0.65. 0.75, 0.8, 0.85, 0.9. 0.95, 1.05, 1, 1.1, 1.15, 1.2, 1.25, 1.3, 1.35, 1.4, 1.45, 1.5, 1.55, 1.6, 1.65. 1.75, 1.8, 1.85, 1.9. 1.95, 2, 2.05, 2.1, 2.15, 2.2, 2.25, 2.3, 2.35, 2.4, 2.45, 2.5, 2.55, 2.6, 2.65. 2.75, 2.8, 2.85,

2.9. 2.95, 3, 3.05, 3.1, 3.15, 3.2, 3.25, 3.3, 3.35, 3.4, 3.45, 3.5, 3.55, 3.6, 3.65. 3.75, 3.8, 3.85, 3.9. 3.95, 4, 4.05, 4.1, 4.15, 4.2, 4.25, 4.3, 4.35, 4.4, 4.45, 4.5, 4.55, 4.6, 4.65. 4.75, 4.8, 4.85, 4.9. 4.95, 5, 5.05, 5.1, 5.15, 5.2, 5.25, 5.3, 5.35, 5.4, 5.45, 5.5, 5.55, 5.6, 5.65, 5.7, 5.75, 5.8, 5.85, 5.9. 5.95, 6, 6.05, 6.1, 6.15, 6.2, 6.25, 6.3, 6.35, 6.4, 6.45, 6.5, 6.55, 6.6, 6.65, 6.75, 6.8, 6.85, 6.9. 6.95, 7.05, 7.1, 7.15, 7.2, 7.25, 7.3, 7.35, 7.4, 7.45, 7.5, 7.55, 7.6, 7.7. 7.75, 7.8, 7.85, 7.9. 7.95, 8, 8.05, 8.1, 8.15, 8.2, 8.25, 8.3, 8.35, 8.4, 8.45, 8.5, 8.55, 8.6, 8.7. 8.75, 8.8, 8.85, 8.9. 8.95, 9, 9.05, 9.1, 9.15, 9.2, 9.25, 9.3, 9.35, 9.4, 9.45, 9.5, 9.55, 9.6, 9.65, 9.7, 9.75, 9.8, 9.85, 9.9. 9.95 and 10; wherein d is above 0 to 5; wherein CF is selected from gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-tartaric acid, tartaric acid, malonic acid, oxalic acid, and mixture thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is a solvent selected from acetonitrile, methanol and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is acetonitrile.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is methanol.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 6.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is a solvent selected from acetonitrile, methanol and mixtures thereof; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 6.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad \text{(V)}$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 6.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is methanol; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 6.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is oxalic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is isobutyl acetate.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is oxalic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether,

tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 7.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is gentisic acid; wherein S is isobutyl acetate; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 7.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is malonic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is malonic acid; wherein S is isobutyl acetate.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is malonic acid; wherein S is acetonitril.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is malonic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 8.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is malonic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 9b.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is malonic acid; wherein S is acetonitril; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 8.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is selected from tetrahydrofuran, acetonitrile, ethyl acetate and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is tetrahydrofuran.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is tetrahydrofuran; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 10.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is acetonitrile.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 11.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is ethyl acetate.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is tartaric acid; wherein S is ethyl acetate; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 12.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-malic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane,

isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad (\text{V})$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-malic acid; wherein S is acetonitrile.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad (\text{V})$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-malic acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 15a.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad (\text{V})$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-malic acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 15b.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(\text{Finerenone})_a * (\text{CF})_c * (\text{S})_d \quad (\text{V})$$

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-tartaric acid; wherein S is isobutyl acetate.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-tartaric acid; wherein S is isobutyl acetate; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 16.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-cysteine HCl; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-cysteine HCl; wherein S is acetone.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein CF is L-cysteine HCl; wherein S is acetone; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 17.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a * (API)_b * (CF)_c * (S)_d$$

(VI)

wherein a, b, d, c, API, CF or S is defined according to any one of the embodiments.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a * (API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan, wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a * (API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to 10; wherein the API is dapagliflozin; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof;

wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a * (API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to 10; wherein the API is empagliflozin; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VI)}$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to 10; wherein the API is pecavaptan; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VI)}$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to 10; wherein the API is pecavaptan; wherein CF is gentisic acid; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 5.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VI)}$$

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is pecavaptan; wherein CF is gentisic acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 5.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is pecavaptan; wherein CF is malonic acid; wherein S is isobutyl acetate; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 9b.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein S is acetonitrile; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a *(API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is citric acid; wherein S is acetonitrile.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from 1. a SGLT2 inhibitor selected from pecavaptan, canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sotagliflozin, sergliflozin, and tofogliflozin; S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is above 0 to equal or below 15.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is a SGLT2 inhibitor selected from pecavaptan, canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sotagliflozin, sergliflozin, and tofogliflozin; S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal

or above 0 to equal or below 15.In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15; API is a SGLT2 inhibitor selected from pecavaptan, canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sotagliflozin, sergliflozin, and tofogliflozin; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof; wherein S is a solvent selected from water, acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethylsulfoxid, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15; API is a SGLT2 inhibitor selected from pecavaptan, canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sotagliflozin, sergliflozin, and tofogliflozin; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic

acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof; wherein S is a solvent selected from water, acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethylsulfoxid, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 10; wherein API is selected from dapagliflozin and empagliflozin; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof: wherein S is a solvent selected from water, acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethylsulfoxid, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof; wherein S is a solvent selected from methanol, dioaxane, ethyl acetate, tetrahydrofuran.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is equal or above 0 to equal or below 3; wherein API is selected from dapagliflozin and empagliflozin; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof; wherein S is a solvent selected from water, acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethylsulfoxid, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$(API)_b *(CF)_c * (S)_d$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is selected from dapagliflozin; wherein CF is selected from L-proline, oxalic acid, citric acid, and mixtures thereof; wherein S is a solvent selected from acetone, methanol, dioxane, ethyl acetate, tetrahydrofuran.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$(API)_b *(CF)_c * (S)_d$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is selected from dapagliflozin; wherein CF is L-proline; wherein S is methanol.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$(API)_b *(CF)_c * (S)_d$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is selected from dapagliflozin; wherein CF is L-proline.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$(API)_b *(CF)_c * (S)_d$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is selected from dapagliflozin; wherein CF is citric acid.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$(API)_b *(CF)_c * (S)_d$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is empagliflozin; wherein CF is proline.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is dapagliflozin; wherein CF is selected from L-proline, citric acid, and mixtures thereof; wherein S is a solvent selected from acetone, methanol, dioxane, ethyl acetate, tetrahydrofuran.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is dapagliflozin; wherein CF is L-proline; wherein S is dioxane.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is dapagliflozin; wherein CF is L-proline; wherein S is dioxane; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 18b.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is selected from empagliflozin; wherein CF is selected from L-proline, oxalic

acid, citric acid, and mixtures thereof: wherein S is a solvent selected from acetone, methanol, dioxane, ethyl acetate, tetrahydrofuran.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 5; wherein API is empagliflozin; wherein CF is L-proline; wherein S is dioxane; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 19.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 3; wherein API is empagliflozin; wherein CF is L-proline; wherein S is tetrahydrofuran; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 20.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is 0.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is dapagliflozin; wherein CF is L-proline; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 18b.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is selected from empagliflozin; wherein CF is selected from L-proline, oxalic acid, citric acid, and mixtures thereof.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is empagliflozin; wherein CF is L-proline; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 19.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is empagliflozin; wherein CF is L-proline; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 20.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan; wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-

carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof, wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-betaine HCL, L-Carnitine HCL, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is selected from citric acid, oxalic acid, and mixtures thereof; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is selected from oxalic acid, and mixtures thereof; wherein the co-crystal according to formula (I) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is selected from oxalic acid, and mixtures thereof; wherein the co-crystal according to formula (I) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is citric acid; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein the CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-betaine HCL, L-Carnitine HCL, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein the CF is oxalic acid; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 10; wherein the API is dapagliflozin; wherein the CF is citric acid; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c$$

(I)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein the API is pecavaptan; wherein CF is malonic acid; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b * (CF)_c$$

(I)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein the API is pecavaptan; wherein CF is malonic acid; wherein the co-crystal according to formula (I) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 9b.

Formula (I) – Fine –peca –gentisic acid

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is pecavaptan; wherein CF is gentisic acid; wherein the co-crystal according to formula (I) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (I)

$$(Finerenone)_a * (API)_b *(CF)_c$$

(I)

wherein a is above 0 to equal or below 1; b is above 0 to equal or below 0.5; c is above 0 to equal or below 1; wherein the API is pecavaptan; wherein CF is gentisic acid; wherein the co-crystal according to formula (I) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 5.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan; wherein the co-crystal according to formula (II) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is selected from dapagliflozin and empagliflozin; wherein the co-crystal according to formula (II) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is empagliflozin; wherein the co-crystal according to formula (II) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (II)

$$(\text{Finerenone})_a * (\text{API})_b$$

(II)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; wherein the API is dapagliflozin; wherein the co-crystal according to formula (II) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; d is above 0 to 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan, wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof; wherein the co-crystal according to formula (III) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is empagliflozin or dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the co-crystal according to formula (III) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{S})_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is empagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the co-crystal according to formula (III) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (III)

$$(Finerenone)_a * (API)_b * (S)_d$$

(III)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; wherein the API is dapagliflozin; d is above 0 to 5; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene and mixtures thereof; wherein the co-crystal according to formula (III) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein the co-crystal according to formula (III) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is gentisic acid; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is gentisic acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 6.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5, wherein CF is oxalic acid; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5, wherein CF is oxalic acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 7.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is malonic acid; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is malonic acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 8.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 10.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 11.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is tartaric acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 12.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(\text{Finerenone})_a * (\text{CF})_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-malic acid; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-malic acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 15a.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-malic acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 15b.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-tartaric acid; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-tartaric acid; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 16.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$(Finerenone)_a * (CF)_c$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-cysteine HCl; wherein the co-crystal according to formula (IV) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (IV)

$$(Finerenone)_a * (CF)_c$$

(IV)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; wherein CF is L-cystein HCl; wherein the co-crystal according to formula (IV) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 17.

In one embodiment, the co-crystal is a co-crystal according to formula (V)

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V)

wherein a is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to equal or below 10; wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof; wherein the co-crystal according to formula (V) is a polymorph.

In this embodiment, CF can be gentisic acid, S can be methanol and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to tables 6.

In this embodiment, CF can be oxalic acid, S can be isobutyl acetate and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 7.

In this embodiment, CF can be malonic acid, S can be acetonitrile and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 8.

In this embodiment, CF can be tartaric acid, S can be tetrahydrofuran and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 10.

In this embodiment, CF can be tartaric acid, S can be and acetonitrile the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 11.

In this embodiment, CF can be tartaric acid, S can be ethyl acetate and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 12.

In this embodiment, CF can be L-malic acid, S can be acetonitrile and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 15a.

In this embodiment, CF can be L-malic acid, S can be acetonitrile and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 15b.

In this embodiment, CF can be L-tartaric acid, S can be isobutyl acetate and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 16.

In this embodiment, CF can be L-cysteine HCl, S can be acetone and the x-ray diffractogram of the co-crystal can exhibit at least one or more of peak maxima of the 2 theta angle according to table 17.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VI)}$$

wherein a is above 0 to equal or below 5; b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is above 0 to 10; wherein the API is selected from dapagliflozin, empagliflozin and pecavaptan, wherein CF is selected from ascorbic acid, citric acid, fumaric acid, gentisic acid, L-cysteine, L-cysteine HCl, L-malic acid, L-proline, tartaric acid, L-tartaric acid, malonic acid, oxalic acid, and mixtures thereof; wherein S is a solvent selected from acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethyl sulfoxide, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof; wherein the co-crystal according to formula (VI) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d \quad \text{(VI)}$$

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is pecavaptan; wherein CF is gentisic acid; wherein

S is acetonitrile; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 5.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a *(API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is pecavaptan; wherein CF is malonic acid; wherein S is isobutyl acetate; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 9b.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a *(API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein S is acetonitrile; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13a.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a *(API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the API is empagliflozin; wherein CF is oxalic acid; wherein S is acetonitrile; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 13b.

In one embodiment, the co-crystal is a co-crystal according to formula (VI)

$$(Finerenone)_a *(API)_b * (CF)_c * (S)_d$$

(VI)

wherein a is above 0 to equal or below 3; b is above 0 to equal or below 3; c is above 0 to equal or below 3; d is above 0 to equal or below 10; wherein the co-crystal according to formula (VI) is a polymorph; wherein the API is empagliflozin; wherein CF is citric acid; wherein S is acetonitrile.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is equal or above 0 to equal or below 15; wherein the co-crystal according to formula (VI) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is above 0 to equal or below 15; wherein the co-crystal according to formula (VI) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 3; wherein API is empagliflozin; wherein CF is L-proline; wherein S is dioxane; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 19.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is equal or above 0 to equal or below 3; wherein API is empagliflozin; wherein CF is L-proline; wherein S is tetrahydrofuran; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 20.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein CF is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; API is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); S is a solvent; b is above 0 to equal or below 10; c is above 0 to equal or below 10; d is 0 wherein the co-crystal according to formula (VI) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is dapagliflozin; wherein CF is L-proline; wherein the co-crystal according to formula (VI) is a polymorph; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 18b.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is selected from empagliflozin; wherein CF is selected from L-proline, oxalic acid, citric acid, and mixtures thereof wherein the co-crystal according to formula (VI) is a polymorph.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is empagliflozin; wherein the co-crystal according to formula (VI) is a polymorph; wherein CF is L-proline; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 19.

In one embodiment, the co-crystal is a co-crystal according to formula (VII)

$$(API)_b *(CF)_c * (S)_d$$

(VII)

wherein b is above 0 to equal or below 5; c is above 0 to equal or below 5; d is 0; wherein API is empagliflozin; wherein the co-crystal according to formula (VI) is a polymorph; wherein CF is L-proline; wherein the x-ray diffractogram of the co-crystal exhibits at least one or more of peak maxima of the 2 theta angle according to table 20.

The invention further refers to a pharmaceutical composition.

In one embodiment, the pharmaceutical composition comprises the co-crystal according to any one of formulae (I), (II), (III), (IV), (V), (VI) and/or (VII) according to any one of the embodiments described above.

A pharmaceutical composition according to the present invention comprises the co-crystal according to formula (I), (II), (III), (IV), (V), (VI) and/or (VII). A pharmaceutical composition according to the present invention comprises the co-crystal according to formula (I), (II), (III), (IV), (V), (VI) and/or (VII)and a further pharmaceutically acceptable excipient.

It is possible for the co-crystal according to formula (I), (II), (III), (IV), (V), (VI) and/or (VII)according to the present invention to have systemic and/or local activity. For this purpose, it can be administered in a suitable manner, such as, for example, via the oral, parenteral, pulmonary, nasal, sublingual, lingual, buccal, rectal, vaginal, dermal, transdermal, conjunctival, otic route or as an implant or stent.

For these administration routes, it is possible for the co-crystal according to formula (I), (II), (III), (IV), (V), (VI) and/or (VII)according to the present invention to be administered in suitable administration forms.

For oral administration, it is possible to formulate the co-crystal according to formula (I), (II), (III), (IV), (V), (VI) and/or (VII)according to the present invention to dosage forms known in the art that deliver the co-crystals of the invention rapidly and/or in a modified manner, such as, for example, tablets (uncoated or coated tablets, for example with enteric or controlled release coatings that dissolve with a delay or are insoluble), orally-disintegrating tablets, films/wafers, films/lyophylisates, capsules (for example hard or soft gelatine capsules), sugar-coated tablets, granules, pellets, powders, emulsions, suspensions, aerosols or solutions.

Parenteral administration can be affected with avoidance of an absorption step (for example intravenous, intraarterial, intracardial, intraspinal or intralumbal) or with inclusion of absorption (for example intramuscular, subcutaneous, intracutaneous, percutaneous or intraperitoneal). Administration forms which are suitable for parenteral administration are, inter alia, preparations for injection and infusion in the form of solutions, suspensions, emulsions, lyophylisates or sterile powders.

Examples which are suitable for other administration routes are pharmaceutical forms for inhalation [inter alia powder inhalers, nebulizers], nasal drops, nasal solutions, nasal sprays; tablets/films/wafers/capsules for lingual, sublingual or buccal administration; suppositories; eye drops, eye ointments, eye baths, ocular inserts, ear drops, ear sprays, ear powders, ear-rinses, ear tampons; vaginal capsules, aqueous suspensions (lotions, mixturae agitandae), lipophilic suspensions, emulsions, ointments, creams, transdermal therapeutic systems (such as, for example, patches), milk, pastes, foams, dusting powders, implants or stents.

The co-crystal according to formula (I) can be incorporated into the stated administration forms. This can be effected in a manner known per se by mixing with pharmaceutically suitable excipients. Pharmaceutically suitable excipients include, inter alia,

- fillers and carriers (for example cellulose, microcrystalline cellulose (such as, for example, Avicel®), lactose, mannitol, starch, calcium phosphate (such as, for example, Di-Cafos®)),

- ointment bases (for example petroleum jelly, paraffins, triglycerides, waxes, wool wax, wool wax alcohols, lanolin, hydrophilic ointment, polyethylene glycols),

- bases for suppositories (for example polyethylene glycols, cacao butter, hard fat),

- solvents (for example water, ethanol, isopropanol, glycerol, propylene glycol, medium chain-length triglycerides fatty oils, liquid polyethylene glycols, paraffins),

- surfactants, emulsifiers, dispersants or wetters (for example sodium dodecyl sulfate), lecithin, phospholipids, fatty alcohols (such as, for example, Lanette®), sorbitan fatty acid esters (such as, for example, Span®), polyoxyethylene sorbitan fatty acid esters (such as, for example, Tween®), polyoxyethylene fatty

acid glycerides (such as, for example, Cremophor®), polyoxethylene fatty acid esters, polyoxyethylene fatty alcohol ethers, glycerol fatty acid esters, poloxamers (such as, for example, Pluronic®),

- buffers, acids and bases (for example phosphates, carbonates, citric acid, acetic acid, hydrochloric acid, sodium hydroxide solution, ammonium carbonate, trometamol, triethanolamine),
- isotonicity agents (for example glucose, sodium chloride),
- adsorbents (for example highly-disperse silicas),
- viscosity-increasing agents, gel formers, thickeners and/or binders (for example polyvinylpyrrolidone, methylcellulose, hydroxypropylmethylcellulose, hydroxypropyl¬cellulose, carboxymethylcellulose-sodium, starch, carbomers, polyacrylic acids (such as, for example, Carbopol®); alginates, gelatine),
- disintegrants (for example modified starch, carboxymethylcellulose-sodium, sodium starch glycolate (such as, for example, Explotab®), cross- linked polyvinylpyrrolidone, croscarmellose-sodium (such as, for example, AcDiSol®)),
- flow regulators, lubricants, glidants and mould release agents (for example magnesium stearate, stearic acid, talc, highly-disperse silicas (such as, for example, Aerosil®)),
- coating materials (for example sugar, shellac) and film formers for films or diffusion membranes which dissolve rapidly or in a modified manner (for example polyvinylpyrrolidones (such as, for example, Kollidon®), polyvinyl alcohol, hydroxypropylmethylcellulose, hydroxypropylcellulose, ethylcellulose, hydroxypropyl¬methylcellulose phthalate, cellulose acetate, cellulose acetate phthalate, polyacrylates, polymethacrylates such as, for example, Eudragit®)),
- capsule materials (for example gelatine, hydroxypropylmethylcellulose),
- synthetic polymers (for example polylactides, polyglycolides, polyacrylates, polymethacrylates (such as, for example, Eudragit®), polyvinylpyrrolidones (such as, for example, Kollidon®), polyvinyl alcohols, polyvinyl acetates, polyethylene oxides, polyethylene glycols and their copolymers and blockcopolymers),
- plasticizers (for example polyethylene glycols, propylene glycol, glycerol, triacetine, triacetyl citrate, dibutyl phthalate),
- penetration enhancers,
- stabilisers (for example antioxidants such as, for example, ascorbic acid, ascorbyl palmitate, sodium ascorbate, butylhydroxyanisole, butylhydroxytoluene, propyl gallate),

- preservatives (for example parabens, sorbic acid, thiomersal, benzalkonium chloride, chlorhexidine acetate, sodium benzoate),
- colourants (for example inorganic pigments such as, for example, iron oxides, titanium dioxide),
- flavourings, sweeteners, flavour- and/or odor-masking agents.

The present invention furthermore relates to a pharmaceutical composition which comprise at least the co-crystal according to formula (I), (II), (III), (IV), (V), (VI) and/or (VII) according to the present invention, conventionally together with one or more pharmaceutically suitable excipient(s), and to their use according to the present invention.

One embodiment refers to the pharmaceutical composition comprising finerenone in an amount of 0.1 to 80 mg, 5 to 80 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 5 to 80 mg, 5 to 70 mg, 5 to 60 mg, 5 to 50 mg, 5 to 40 mg, 10 to 80 mg, 10 to 70 mg, 10 to 60 mg, 10 to 50 mg or 10 to 40 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 10 to 40 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 20 to 40 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 0.25, 0.5, 0.75, 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75, 3, 3.25, 3.5, 3.75, 4, 4.25, 4.5, 4.75, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75 or 80 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75 or 80 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 5 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 10 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 15 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 20 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 25 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 30 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 35 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 40 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 5 mg, 10 mg, 15 mg, 20 mg, 25 mg, 30 mg, 35 mg or 40 mg. In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 5 mg, 10 mg, 20 mg, 30 mg or 40 mg.

One embodiment according to the invention refers to the pharmaceutical composition comprising a SGLT2 inhibitor in an amount of 0.5 to 400 mg. In one embodiment, the pharmaceutical composition comprises a SGLT2 inhibitor in an amount of 0.5 to 300 mg, 1 to 300 mg, 2 to 200 mg, 3 to 100 mg, 5 to 100 mg, 5 to 90 mg, 5 to 80 mg, 5 to 70 mg, 5 to 60 mg, 5 to 50 mg, 5 to 40 mg, 5 to 30 mg 10 to 90 mg, 10 to 80

mg, 10 to 70 mg, 10 to 60 mg, 10 to 50 mg or 10 to 40 mg, 10 to 30 mg 15 to 90 mg, 15 to 80 mg, 15 to 70 mg, 15 to 60 mg, 15 to 50 mg, 15 to 40 mg or 15 to 30 mg.

In one embodiment, the pharmaceutical composition comprises finerenone in an amount 5 to 80 mg and a SGLT2 inhibitor in an amount of 0.5 to 300 mg.

In one embodiment, the pharmaceutical composition comprises finerenone and wherein the SGLT2 inhibitor is selected from

- empagliflozin,
- dapagliflozin, and
- canagliflozin.

In one embodiment, the pharmaceutical composition comprises finerenone and wherein the SGLT2 inhibitor is selected from

- empagliflozin in an amount of 0.5 to 30 mg,
- dapagliflozin in an amount of 0.5 to 20 mg, and
- canagliflozin in an amount of 0.5 mg to 300 mg.

In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 0.5 to 80 mg and wherein the SGLT2 inhibitor is selected from

- empagliflozin in an amount of 0.5 to 30 mg,
- dapagliflozin in an amount of 0.5 to 20 mg, and
- canagliflozin in an amount of 0.5 mg to 300 mg.

In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 0.5 to 80 mg and empagliflozin in an amount of 0.5 to 30 mg.

In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 0.5 to 80 mg and dapagliflozin in an amount of 0.5 to 20 mg.

In one embodiment, the pharmaceutical composition comprises finerenone in an amount of 0.5 to 80 mg and canagliflozin in an amount of 0.5 mg to 300 mg.

In one embodiment, the pharmaceutical composition comprises Finerenone and Pecavaptan. In one embodiment, the pharmaceutical composition comprises 0.5 to 80 mg Finerenone and Pecavaptan. In one embodiment, the pharmaceutical composition comprises Finerenone and 0.5 to 80 mg Pecavaptan. In one embodiment, the pharmaceutical composition comprises 10 to 40 mg Finerenone and 0.5 to 80 mg Pecavaptan. In one embodiment, the pharmaceutical composition comprises 0.5 to 80 mg Finerenone and 5

to 60 mg Pecavaptan. In one embodiment, the pharmaceutical composition comprises 5, 10, 20, 30 or 40 mg Finerenone and 5, 10, 20, 30 or 40 mg Pecavaptan.

The invention also refers to the use of the co-crystal according to any one of formulae (I), (II), (III), (IV), (V), (VI) and/or (VII) in the treatment and/or prevention of diseases.

The invention also refers to the pharmaceutical composition comprising a co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII) according to the invention for use in the treatment and/or prevention of diseases.).

The co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII) according to the invention may have useful pharmacological properties and may be employed for the prevention and treatment of disorders in humans and animals. The forms of the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII) according to the invention may open up a further treatment alternative and may therefore be an enrichment of pharmacy.

In one embodiment, for use in the treatment and/or prevention of diseases, wherein the disease is selected from

- cardiovascular disorders such as congestive heart failure, acute heart failure, chronic heart failure, worsening chronic heart failure (WCHF), hospitalization for heart failure, heart failure with preserved ejection fraction (HFpEF), heart failure with mid-range ejection fraction (HFmrEF) or heart failure with reduced ejection fraction (HFrEF), cardiomyopathies including hypertrophic cardiomyopathy, dilatative or dilated cardiomyopathy, arrhythmogenic cardiomyopathy, syndromic and metabolic cardiomyopathies, amyloidosis, Chagas Disease, Friedreich's ataxia, Fabry disease, Barth syndrome;
- heart failure, from symptomatic heart failure, heart failure with improved ejection fraction (HFimpEF), heart failure with mid-range ejection fraction (HFmrEF), heart failure preserved ejection fraction (HFpEF), heart failure with reduced ejection fraction (HFrEF), chronic heart failure (CHF), congestive heart failure, acute heart failure, chronic heart failure, worsening chronic heart failure (WCHF), hospitalization for heart failure;
- renal and cardiorenal disorders such as chronic kidney disease (CKD), non-diabetic chronic kidney disease (ndCKD), diabetic kidney disease (DKD), hypertensive kidney disease, cardiorenal syndrome, nephrotic syndrome, hepatorenal syndrome, renal hypoperfusion, intradialytic hypotension, obstructive uropathy, glomerulopathies, IgA nephropathy, glomerulonephritis, glomerulosclerosis, tubulointerstitial diseases, nephropathic diseases such as primary and congenital kidney disease, nephritis, Alport syndrome, kidney inflammation, immunological kidney diseases, kidney transplant rejection, immune complex-induced kidney

diseases, nephropathy induced by toxic substances, contrast medium-induced nephropathy; minimal change glomerulonephritis (lipoid), focal segmental glomerulosclerosis (FSGS), amyloidosis, renal cysts, hypertensive nephrosclerosis and nephrotic syndrome (which can be characterized diagnostically, for example, by abnormally reduced creatinine and/or water excretion, abnormally increased blood concentrations of urea, nitrogen, potassium and/or creatinine, altered urine osmolarity or urine volume, increased microalbuminuria, macroalbuminuria, lesions of glomeruli and arterioles, tubular dilatation, hyperphosphataemia and/or the need for dialysis), uraemia, anaemia, electrolyte disturbances (for example hyperkalaemia and hypokalemia, hyperatraemia, disturbances in bone and carbohydrate metabolism, polycystic kidney disease (PCKD) and of the syndrome of inadequate ADH secretion (SIADH);

- edema, pulmonary edema, cerebral edema, renal edema and heart failure-related edema;
- cirrhosis;
- NASH (non-alcoholic steatohepatitis);
- arterial hypertension, resistant hypertension, pulmonary hypertension, essential hypertension;
- cardiovascular disorders such as hypertension, left ventricular dysfunction, hypertrophic cardiomyopathy, diabetic cardiomyopathy, supraventricular arrythmias, ventricular arrythmias, atrial fibrillation, atrial flutter,
- cardiovascular disorders such as stable angina pectoris, unstable angina pectoris, myocardial infarction and sequelae thereof, aneurysms, detrimental vascular remodelling, atherosclerosis, atrial fibrillation, stroke;
- shock such as cardiogenic shock, septic shock and anaphylactic shock;
- hypertensive kidney disease, peripheral arterial disease (PAD) including claudication and including critical limb ischemia, coronary microvascular dysfunction (CMD) including CMD type 1-4, primary and secondary Raynaud's phenomenon, microcirculation disturbances, peripheral and autonomic neuropathies, diabetic microangiopathies, diabetic retinopathy, diabetic limb ulcers, gangrene, CREST syndrome, erythematous disorders, rheumatic diseases, for promoting wound healing, inflammatory diseases, asthmatic diseases, chronic obstructive pulmonary disease (COPD), acute respiratory distress syndrome (ARDS), acute lung injury (ALI), alpha-1-antitrypsin deficiency (AATD), pulmonary fibrosis, pulmonary emphysema (for example smoking-induced pulmonary emphysema) and cystic fibrosis (CF);
- lung disorders and cardiopulmonary disorders such as pulmonary hypertension, disorders of the central nervous system;
- fibrotic disorders including liver fibrosis, lung fibrosis, renal fibrosis, cardiac fibrosis and other disease manifestations (for example end organ damage affecting brain, kidney or heart);
- Obstructive sleep apnea (OSA);

- Obesity;
- Diabetes
- Coronary Artery Disease (CAD),
- Acute Kidney Injury (AKI),
- Chronic kidney disease after Acute Kidney Injury following Major surgery (AKIM),
- ocular disesases including diabetic retinopathy, non-prolerative diabetic retinopathy, or insults such as ischemia-reperfusion injury, radiocontrast administration, cardiopulmonary bypass surgery, shock and sepsis,
- chronic kidney disease (CKD), hypertensive kidney disease, diabetic kidney disease (DKD), non-diabetic chronic kidney disease (ndCKD), chronic kidney disease in patients with type-1-diabetes, chronic kidney disease in patients with type-2-diabetes, diabetic retinopathy, diabetic retinopathy in patients with type-1-diabetes, diabetic retinopathy in patients with type-2-diabetes, worsening chronic heart failure (WCHF), heart failure with preserved ejection fraction (HFpEF), heart failure with mid-range ejection fraction (HFmrEF), heart failure with reduced ejection fraction (HFrEF).

In some embodiments, the present invention further relates to a method for the treatment and/or prophylaxis of diseases using an effective amount of the co-crystal according to formula (I) according to the invention.

In some embodiments, the present invention further relates to a method for the treatment and/or prophylaxis of diseases, in particular the aforementioned diseases, using an effective amount of the co-crystal according to formula (I) according to the invention.

The invention also refers to the use of the co-crystal according to formula (I), in the treatment and/or prevention of diseases using an effective amount of the co-crystal according to formula (I) according to the invention. In one embodiment, the co-crystal is a co-crystal according to formula (II), (III), (IV), (V) or (VI).

The amount of the administered active ingredient can vary widely according to such considerations as the particular co-crystal and dosage form employed, the mode and time of administration, the period of treatment, the age, sex, and general condition of the patient treated, the nature and extent of the condition treated, the rate of drug metabolism and excretion, the potential drug combinations and drug-drug interactions, and the like. Pharmaceutical compositions comprising effective amounts of Finerenone and/or API are disclosed above.

Nevertheless, it may in some cases be advantageous to deviate from the amounts specified, depending on body weight, individual behaviour towards the active ingredient, type of preparation and time or interval

over which the administration is affected. For instance, less than the aforementioned minimum amounts can be sufficient in some cases, while the upper limit specified has to be exceeded in other cases.

In the case of administration of relatively large amounts, it can be advisable to divide these into several individual doses over the day.

The relative ratios of each co-crystal in the combination can also be selected based on their respective mechanisms of action and the disease biology. The relative ratios of each co-crystal can vary widely.

The invention also refer to a process for preparing the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII).

The invention provides a process for preparing the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII), wherein the process comprises the following steps:

Step 1) providing finerenone, API, S and/or co-former,
Step 2) grinding the compounds provided in step 1).

The invention provides a process for preparing the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII), wherein the process comprises the following steps:

Step 1) providing finerenone, API, S and/or co-former,
Step 2) grinding the compounds provided in step 1),
Step 3) stirring the mixture from Step 2) in a solvent.

The invention provides a process for preparing the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII), wherein the process comprises the following steps:

Step 1) providing finerenone, API, S and/or co-former,
Step 2) grinding the compounds provided in step 1),
Step 3) stirring the mixture from Step 2) in a solvent
Step 4) evaporation the solvent.

The invention provides a process for preparing the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII), wherein the process comprises the following steps:

Step 1) providing finerenone, API, S and/or co-former,
Step 2) grinding the compounds provided in step 1),
Step 3) stirring the mixture from Step 2) in a solvent.

The invention provides a process for preparing the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII), wherein the process comprises the following steps:

Step 1) providing finerenone, API, S and/or co-former,
Step 2) grinding the compounds provided in step 1),
Step 3) stirring the mixture from Step 2) in a solvent,
Step 4) filtering the mixture obtained in step 2).

The invention further refers to a co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII) obtainable by the process described above. In one embodiment, the Finerenone, API, conformer or solvent is defined according to any one of the embodiments above. In one embodiment, the co-crystal according to any one of formulae (II), (III), (IV), (V), (VI) and/or (VII) is obtainable by any one of the experiments as described in the experimental part below.

The invention further refers to crystalline forms of Finerenone according to formula (VIII).

In one embodiment, Finerenone according to formula (VIII) is in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a.

In one embodiment, Finerenone according to formula (VIII) is a polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a.

In one embodiment, Finerenone according to formula (VIII) is in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1b.

In one embodiment, Finerenone according to formula (VIII) is a polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1b.

The invention further refers to crystalline forms of Empagliflozin according to formula (XII).

In one embodiment, Empagliflozin according to formula (XII) is in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

In one embodiment, Empagliflozin according to formula (XII) is a polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

The invention further refers to a pharmaceutical composition comprising crystalline forms and/or polymorphs of Finerenone according to formula (VIII) and/or Empagliflozin according to formula (XII). Embodiments for pharmaceutical composition, for example excipients, application ways and the like, are described above

In one embodiment, the pharmaceutical composition comprises Finerenone according to formula (VIII) in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a.

In one embodiment, the pharmaceutical composition comprises Finerenone according to formula (VIII) as polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a.

In one embodiment, the pharmaceutical composition comprises Finerenone according to formula (VIII) as polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1b.

In one embodiment, the pharmaceutical composition comprises Empagliflozin according to formula (XII)

in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

In one embodiment, the pharmaceutical composition comprises Empagliflozin according to formula (XII) as polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

In one embodiment, the pharmaceutical composition comprises

- Finerenone according to formula (VIII) in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a; and
- Empagliflozin according to formula (XII) in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

In one embodiment, the pharmaceutical composition comprises

- Finerenone according to formula (VIII) in a crystalline form, wherein the x-ray diffractogram at least one or more of peak maxima of the 2 theta angle according to table 1b; and
- Empagliflozin according to formula (XII) in a crystalline form, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

In this embodiment, Finerenone according to formula (VIII) and/or Empagliflozin according to formula (XII) can be a polymorph.

In one embodiment, the pharmaceutical composition comprises

- Finerenone according to formula (VIII) as polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a; and
- Empagliflozin according to formula (XII) as polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

In one embodiment, the pharmaceutical composition comprises

- Finerenone according to formula (VIII) as polymorph, wherein the x-ray diffractogram at least one or more of peak maxima of the 2 theta angle according to table 1b; and
- Empagliflozin according to formula (XII) as polymorph, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

The invention further refers to the use of the crystalline forms of Finerenone according to formula (VIII) in the treatment and/or prevention of diseases. The invention further refers to the use of the crystalline forms of Empagliflozin according to formula (XII) in the treatment and/or prevention of diseases.

The invention further refers to the use of the pharmaceutical compositions comprising the crystalline forms of Finerenone according to formula (VIII) in the treatment and/or prevention of diseases. The invention further refers to the use of the pharmaceutical compositions comprising the crystalline forms of Empagliflozin according to formula (XII) in the treatment and/or prevention of diseases.

The pharmaceutical compositions are described in detail above. The diseases to be treated are described in detail above.

Figures:

Figure 1a	shows the XRPD of Finerenone, Example 1a
Figure 1b	shows the XRPD of Finerenone, Example 1b
Figure 2	shows the XRPD of Pecavaptan (Example 2)
Figure 3	shows the XRPD of Empagliflozin (Example 3)
Figure 4	shows the XRPD of Dapagliflozin (Example 4)
Figure 5	shows the XRPD of Finerenone : Pecavaptan : gentisic acid (Example 5)
Figure 6	shows the ^{1}HNMR in DMSO Finerenone : Pecavaptan : gentisic acid (Example 5)
Figure 7	shows the XRPD of Finerenone : gentisic acid (Example 6)
Figure 8	shows the XRPD of Finerenone : oxalic acid (Example 7)
Figure 9	shows the XRPD of Finerenone : malonic acid (Example 8)
Figure 10	shows the XRPD of Finerenone : Pecavaptan : malonic acid (Example 9b)
Figure 11	shows the XRPD of Finerenone : tartaric acid (Example 10)
Figure 12	shows the XRPD of Finerenone : tartaric acid (Example 11)
Figure 13	shows the XRPD of Finerenone : tartaric acid (Example 12)
Figure 14	shows the XRPD of a mixture comprising Finerenone : Empagliflozin : oxalic acid and Empagliflozin (Example 13a)

Figure 15	shows the XRPD of a mixture comprising Finerenone : Empagliflozin : oxalic acid and Empagliflozin (Example 13b)
Figure 16	shows the XRPD of Finerenone : L-malic acid (Example 15a)
Figure 17	shows the XRPD of Finerenone : L-malic acid (Example 15b)
Figure 18	shows the XRPD of Finerenone : L-tartaric acid (Example 16)
Figure 19	shows the XRPD of Finerenone : L-cysteine HCl (Example 17)
Figure 20	shows the XRPD of Dapagliflozin : L -proline (Example 18b)
Figure 21	shows the XRPD of Dapagliflozin : citric acid (Example 19)
Figure 22	shows the XRPD of Empagliflozin : L -proline (Example 20)
Figure 23	shows the XRPD of Finerenone : tartaric acid (Example 21))
Figure 24	shows the XRPD of Finerenone : oxalic acid (Example 22)

Experimental part

Abbreviations:

^{1}H NMR	Proton Nuclear Magnetic Resonance
°	degree
°C	Degree Celsius
Å	Angström
g	Gramm
cm	centimeter
ACN	acetonitrile
DAP	Dapagliflozin
d	day
DSC	differential scanning calorimetry
DMSO	dimethylsulfoxide
eq	equivalents
EtOH	ethanol
EtOAc	Ethyl acetate
h	hour
iBuOAc	isobutylacetate
kV	Kilovolt
mA	Milli-Ampere
min	minute
mm	millimeter
MHz	Megahertz
MeOH	Methanol
NMR	nuclear magnetic resonance
o/n	overnight
~~Θ~~	Theta
rev	revolutions
RT	room temperature
s	second
THF	tetrahydrofuran
u.v.	under vacuum
V	volumes
XRPD	X-ray powder diffraction

Methods:

XRPD

Measurements examples 1 to 20 were performed at ambient conditions on a PANanalytical XPert Pro ~~Θ~~ ~~Θ~~ diffractometer of 240 mm of radius in reflection geometry, equipped with Cu Ka radiation and a PIXcel detector, operated at 45 kV and 40 mA. Each sample was mounted on a zero background silicon holder and allowed to spin at 0.25 rev/s during the data collection. The measurement angular range was 3.-40.0° (2 ~~Θ~~) with a step size of 0.013°. The scanning speed was 0.328°/s (10.20 s/step) for the samples from the screening and 0.082 (40.80 s/step) for the references.

Measurements for example 21 was performed on a Bruker D8 diffractometer using Cu Kα radiation (40 kV, 40 mA) in reflection geometry and a θ-2θ goniometer fitted with a Ge monochromator. The incident beam passes through a 2.0 mm divergence slit followed by a 0.2 mm anti-scatter slit and knife edge. The diffracted beam passes through an 8.0 mm receiving slit with 2.5° Soller slits followed by the Lynxeye Detector. The software used for data collection was Diffrac *Plus* XRD Commander and data analysis was HighScore Plus. Samples were run under ambient conditions as flat plate specimens using powder as received. The sample was prepared on a polished, zero-background (510) silicon wafer by gently pressing onto the flat surface or packed into a cut cavity. The sample was rotated in its own plane. Details of the standard data collection method are: Angular range: 2 to 42° 2θ; Step size: 0.05° 2θ; Collection time: 0.5 s/step (total collection time: 6.40 min)

Measurements for example 23 was performed on a PANalytical diffractometer using Cu Ka radiation (40 kV, 40 mA) in transmission geometry and a θ-θ goniometer. The incident beam passes through a focusing X-ray mirror for Cu radiation, a 0.02 rad soller slit, a fixed incident 10 mm beam mask, a 1° fixed anti-scatter slit and a ½° fixed primary divergence slit. The diffracted beam path passes through a 2.0 mm Anti-scatter slit and a 0.04 rad soller slit followed by the PIXcel3D 1x1 detector. The software used for data collection is *Data Collector* and the data analysis is performed with *HighScore Plus*.
The samples were run under ambient conditions as flat plate specimens using powder as received. The sample was prepared between two acetate foils and placed in a transmission sample holder. The sample is spinning in its own plane at a rate of 1.0 s/rotation.
The details of the standard Currenta data collection method are:

- Angular range: 2 to 40° 2θ
- Step size: 0.013° 2θ
- Collection time: 25 s/step (total collection time: 9:41 minutes)

^{1}HNMR (^{1}H Nuclear Magnetic Resonance)

^{1}HNMR analyses were recorded in deuterated DMSO in a Varian Mercury 400 MHz spectrometer, equipped with a broadband probe ATB 1H/19F/X of 5 mm. Spectra were acquired dissolving 5-10 mg sample in 0.7 mL deuterated solvent.

DSC (differential scanning calorimetry)

DSC analyses were recorded with a Mettler Toledo DSC2. The samples were weighed into a 4 microliter aluminum crucible with a pinhole lid and heated from 25 to 300 °C at a rate of 10 °C/min, under nitrogen (50 mL/min).

Example 1 - Finerenone

Example 1a: Polymorph of Finerenone

Lattice Constants of Finerenone in Crystalline Form of Polymorph I of
Polymorph I
Crystal system orthorhombic
Space group P2(1)2(1)2(1)
Molecules per unit
cell 4
Length of axis a [Å] 7.8610(3)
Length of axis b [Å] 11.7797(6)
Length of axis c [Å] 20.1792(8)
α [°] 90
β [°] 90
γ [°] 90
Calculated density at
100 K [g cm^{-3}] 1.345

Measuring parameters of the x-ray diffractometry for the measurement of compound of the formula (I) in crystalline form of polymorph I

Data set name	2429-08a r2
Scan axis	2Theta-Omega
Start position [°2Th.]	2.0000
End position [°2Th.]	37.9900
Type of divergence screen	Fixed

Size of divergence screen [°]	1.0000
Measurement temperature [° C]	25
Anode material	Cu
K-Alpha1 [Å]	1.54060
Generator setting	35 mA, 45 kV
Diffractometer type	Transmission diffractometer
Goniometer radius [mm]	240.00
Focus-div. screen gap [mm]	91.00
Primary beam monochromator	Yes
Sample rotation	Yes

Table 1a: XRPD table of Example 1a

Peak maximum [2 Theta] Polymorph I
8.5
11.4
11.9
13.4
14.1
14.8
15.0
15.4
16.0
17.2
18.5
19.0
19.8
20.5
20.8
22.1
22.7
23.0
23.1
23.6
23.9
24.6
24.9

25.2
25.6
26.0
26.5
27.1
27.3
28.3
28.5
28.8
29.6
30.1
30.6
31.5
31.9
32.4
32.9
33.1
33.4
33.7
34.5
34.7
35.0
35.8
36.2
36.5
37.2
37.4

Measuring Conditions for the IR and Raman Spectroscopy for the Measurement of the Compound of the Formula (I) in Crystalline Form of Polymorph I:

IR:	
Instrument	Perkin Elmer Spectrum One
Number of scans	32
Resolution	4 cm^{-1}
Technique	Diamond ATR unit

Raman:	
Instrument	Bruker Raman RFS 100/S
Number of scans	64
Resolution	2 - 4 cm^{-1}

Laser Power	350 mW
Laser wavelength	1064 nm

Band maximum [cm^{-1}]	
1R-ATR	Raman
Polymorph I	Polymorph I
3475	3074
3416	2997
3366	2970
3074	2941
2992	2920
2952	2836
2835	2231
2230	1659
1681	1641
1658	1623
1606	1601
1572	1577
1485	1487
1464	1443
1454	1383
1431	1362
1420	1327
1407	1303
1381	1267
1355	1230
1341	1191
1325	1161
1303	1123
1285	1093
1267	1032
1255	991
1229	883
1222	827
1161	810
1136	759
1097	734
1031	708
991	671
976	613

967	528
924	505
909	471
875	442
847	346
827	320
810	297
776	186
758	155
746	114
733	
723	
706	
697	
670	

The XRPD is shown in **Figure 1a.**

Example 1b: Finerenone

25 mg of Finerenone was stirred in test tubes with screw cap and magnetic stirring in THF. The solvent was added in small portions of 2 volumes at RT up to observe a clear solution (24 V). After a slow evaporation to dryness under atmospheric conditions, the form as shown in the XRPD in Figure 1b was recovered.

Table 1b: XRPD table of Example 1b

Peak maximum [2 Theta]
5,8
6,4
7,4
10,2
10,6
11,0
11,2
11,6
12,0
13,1
14,3
14,8
15,7
17,1
18,1
18,6
19,1
19,8
20,2
20,5
21,6
21,9
22,2
22,5
22,9
24,1
24,7
26,5

Example 2 – Pecavaptan

Measurements of the XRPD were performed according to "Methods – XRPD" as described above.

The XRPD is shown in **figure 2**.

Example 3 – Empagliflozin

Measurements of the XRPD were performed according to "Methods – XRPD" as described above.

The XRPD is shown in **figure 3**.

Table 3: XRPD table of Example 3

Peak maximum [2 Theta]
4,4
8,8
9,8
11,6
13,0
13,3
14,6
15,6
16,1
17,9
18,2
18,4
18,8
19,1
19,2
19,4
20,3
20,5
21,1
21,4
22,0
22,1
22,6
23,4
24,3
24,7
25,1
25,6
26,3
26,8
27,2
27,8
28,2
29,2
29,3
30,3
30,7
31,4
32,0
32,6
32,9
33,5
34,2

35,1
35,4
35,7
36,8
37,7
38,9
39,1
39,6
39,9

Example 4 – Dapagliflozin

Measurements of the XRPD were performed according to "Methods – XRPD" as described above.

Dapagliflozin was used in an amorphous form.

The XRPD is shown in **figure 4**.

Example 5 – Finerenone : Pecavaptan : gentisic acid

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol), Pecavaptan (29 mg, 0.53 mmol, 1 eq.) and gentisic acid (8 mg, 0.053 mmol, 1 eq.), 1-2 drops of acetonitrile and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : Pecavaptan : gentisic acid was obtained.

To a test tube equipped with magnetic stirrer containing a mixture of Finerenone : Pecavaptan : gentisic acid and Pecavaptan (20 mg), acetonitrile (0.2 mL) was added before stirring at room temperature overnight. Then the resulting solid was isolated by centrifugation and dried under vacuum (1-3 mbar) at RT overnight.

To a test tube equipped with magnetic stirrer, containing a mixture of Finerenone (20 mg, 0.053 mmol), Pecavaptan (29 mg, 0.053 mmol, 1 eq.) and gentisic acid (8 mg, 0.053 mmol, 1 eq.), acetonitrile (0.3 mL) was added before stirring at room temperature overnight. Then the resulting suspension was filtered through a sinter funnel (porosity n°3) and washed with acetonitrile (2 x 0.1 mL). After drying under vacuum (1-3 mbar) at RT overnight, Finerenone : Pecavaptan : gentisic acid was obtained as a white solid.

The XRPD is shown in **Figure 5** and the ^{1}HNMR in DMSO is shown in **Figure 6.**

Table 5: XRPD table of Example 5

Peak maximum [2 Theta]
3,2
6,8
7,8
8,7
9,2
9,9
10,8
11,1
17,5
18,7
22,9

Example 6 – Finerenone : gentisic acid

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and gentisic acid (8 mg, 0.053 mmol, 1 eq.), 1-2 drops of methanol and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : gentisic acid was obtained according to XRPD. The XRPD is shown in **Figure 7**.

Table 6: XRPD table of Example 6

Peak maximum [2 Theta]
4,3
7,4
8,5
9,1
9,7
10,9
10,9
11,9
12,5
14,5
14,9
16,3
17,2
18,2
18,7
21,6
22,1
23,2
25,9
27,0

Example 7 – Finerenone : oxalic acid

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and oxalic acid (5 mg, 0.053 mmol, 1 eq.), 1-2 drops of iBuOAc (isobutylacetate) and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : gentisic acid was obtained as a mixture with finerenone according to XRPD.

The XRPD of this mixture is shown in **figure 8**.

Table 7: XRPD table of Example 7

Peak maximum [2 Theta]
3,2
4,4
4,8
5,9
7,4
8,5
9,5
11,2
12,8
14,1
17,2
17,7
19,0
20,5
22,7
25,5

Example 8 – Finerenone : Malonic acid

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and malonic acid (6 mg, 0.053 mmol, 1 eq.), 1-2 drops of acetonitrile and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : Malonic acid was obtained according to XRPD **(Figure 9)**.

Table 8: XRPD table of Example 8

Peak maximum [2 Theta]
7,0
8,2
9,6
11,1
14,7
17,2
18,9
21,2
22,6
27,7

Example 9 – Finerenone : Pecavaptan : Malonic acid

Example 9a:

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol), Pecavaptan (29 mg, 0.53 mmol, 1 eq.) and malonic acid (6 mg, 0.053 mmol, 1 eq.), 1-2 drops of iBuOAc and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. An amorphous solid was obtained according to XRPD.

To a test tube equipped with magnetic stirrer containing an amorphous mixture coming from the preparation above, iBuOAc (0.2 mL) was added before stirring at room temperature overnight. Then, the resulting solid was isolated by centrifugation and dried under vacuum (1-3 mbar) at RT overnight. According to XRPD, Finerenone : Pecavaptan : malonic acid was obtained.

Example 9b:

To a test tube equipped with magnetic stirrer, containing a mixture of Finerenone (20 mg, 0.053 mmol), Pecavaptan (58 mg Form PA, 0.11 mmol, 2 eq.) and malonic acid (11 mg, 0.11 mmol, 2 eq.), iBuOAc (0.4 mL) was added before stirring at room temperature overnight. Then, the resulting suspension was filtered through a sinter funnel (porosity n°3) and washed with iBuOAc (2 x 0.1 mL). After drying under vacuum (1-3 mbar) at RT overnight, Finerenone : Pecavaptan : malonic acid was obtained according to XRPD. The XRPD of Finerenone : Pecavaptan : malonic acid is shown in **Figure 10**.

Table 9b: XRPD table of Example 9b

Peak maximum [2 Theta]
4,3
5,1
7,0
7,0
8,2
8,6
11,1
14,6
17,3
18,2
20,0
21,6
22,6

Example 10 – Finerenone : tartaric acid

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and L-tartaric acid (8 mg, 0.053 mmol, 1 eq.), 1-2 drops of THF and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : tartaric acid was obtained according to XRPD (**Figure 11**).

Table 10: XRPD of Example 10

Peak maximum [2 Theta]
3,1
3,3
4,2
4,3
5,3
5,3
5,7
5,8
5,8
6,8
6,8
7,6
8,1
8,5
9,2
9,7

9,8
10,6
11,0
11,6
13,6
13,6
14,8
16,0
16,4
16,6
17,4
18,0
18,7
20,3
20,4
20,6
20,8
21,7
22,8
23,7
25,5
27,0
27,2
27,9
28,9

Example 11 - Finerenone : tartaric acid

E112-1-104A): To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and L-tartaric acid (8 mg, 0.053 mmol, 1 eq.), 1-2 drops of ACN and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. An amorphous mixture was obtained according to XRPD.

To a test tube equipped with magnetic stirrer, containing the amorphous mixture coming from the wet grinding experiment (20 mg), ACN (0.2 mL) was added before stirring at room temperature overnight. Then the resulting solid was isolated by centrifugation and dried under vacuum (1-3 mbar) at RT overnight. According to XRPD, Finerenone : tartaric acid was obtained.

The XRPD is shown in **Figure 12**.

Table 11: XRPD table of Example 11

Peak maximum [2 Theta]
4,3
6,8
7,9
8,7
9,6
9,9
10,8
11,1
11,2
12,3
17,5
17,8
19,0
20,1
22,5
22,5
25,3
27,0
30,8

Example 12 - Finerenone : tartaric acid

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and L-tartaric acid (8 mg, 0.053 mmol, 1 eq.), 1-2 drops of EtOAc and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. According to XRPD, Finerenone : tartaric acid was obtained.

The XRPD is shown in **Figure 13**.

Table 12: XRPD table of Example 12

Peak maximum [2 Theta]
3,1
3,3
4,0
4,1
4,3
4,4
4,6
5,1
5,5

5,7
5,9
6,3
6,5
6,6
7,0
7,9
8,6
9,0
9,6
9,8
10,8
10,9
11,1
12,3
12,6
14,0
15,0
16,5
17,7
18,8
19,0
20,1
22,0
26,6
26,8
26,9
30,3
32,0
32,9

Example 13 – Finerenone : Empagliflozin : oxalic acid

Example 13a:

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol), Empagliflozin (24 mg, 0.053 mmol, 1 eq.) and oxalic acid (5 mg, 0.053 mmol, 1 eq.), 1-2 drops of ACN and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The recovered solid was dried at RT under vacuum o/n. A mixture comprising Finerenone : Empagliflozin : oxalic acid and residues of Empagliflozin and Finerenone : oxalic acid was obtained according to XRPD.

To a test tube equipped with magnetic stirrer, containing this mixture (20 mg), ACN (0.2 mL) was added

before stirring at room temperature overnight. Then the suspension was centrifuged and dried under vacuum (1-3 mbar) at RT overnight. According to XRPD, Finerenone : Empagliflozin : oxalic acid was obtained as a mixture with Empagliflozin. The XRPD is shown in **Figure 14**.

Table 13a: XRPD of Example 13a

Peak maximum [2 Theta]
3,2
3,3
4,5
5,7
7,2
9,0
9,3
9,5
10,2
11,1
12,0
12,4
12,9
13,3
14,6
14,8
15,3
15,7
16,2
17,6
17,7
17,9
18,3
18,4
18,8
19,1
19,4
20,3
21,1
21,4
22,3
22,6
23,4
24,1
24,7
25,1
25,6
26,2

27,2
27,9
29,4
31,2
32,0
32,6
33,4
35,2
38,7

Example 13b:

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol), Empagliflozin (12 mg, 0.026 mmol, 0.5 eq.) and oxalic acid (5 mg, 0.053 mmol, 1 eq.), 1-2 drops of iBuOAc and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The recovered solid was dried at RT under vacuum o/n. A mixture comprising Finerenone : Empagliflozin : oxalic acid and residues of Empagliflozin and Finerenone : oxalic acid was obtained according to XRPD.

To a test tube equipped with magnetic stirrer, containing Finerenone mixed with Empagliflozin and Finerenone : oxalic acid (20 mg) coming from the above, iBuOAc (0.2 mL) was added before stirring at room temperature overnight. Then the suspension was centrifuged and dried under vacuum (1-3 mbar) at RT overnight. According to XRPD, Finerenone : Empagliflozin : oxalic acid was obtained as a mixture with Empagliflozin.

Same results were obtained with 1 eq. instead of 0.5 eq. of Empagliflozin. The XRPD is shown in **Figure 15**.

Table 13b: XRPD of Example 13b

Peak maximum [2 Theta]
3,1
4,4
4,7
6,7
7,0
7,1
7,5
7,8
8,1

8,6
8,8
9,6
9,7
11,2
11,9
12,5
13,3
14,6
15,1
15,6
16,1
17,3
17,6
17,8
18,3
18,8
19,1
19,4
20,2
20,3
21,1
22,4
23,4
24,0
25,1
25,5
26,8
27,1
28,2
28,5
29,2
29,4
29,5
32,9
35,9

Example 14 – Finerenone : Empagliflozin : citric acid

Finerenone (20 mg, 0.053 mmol), Empagliflozin (24 mg, 0.053 mmol, 1 eq.) and citric acid (10 mg, 0.053 mmol, 1 eq.) were loaded in a 2 mL Eppendorf tube together with three stainless steel balls. Then, two drops of ACN were added before milling for 45 minutes (3 cycles of 15 minutes each) at a rate of 30 Hz with a Retsch Ball Mill MM400. The resulting mixture was analysed by XRPD after drying under vacuum at RT o/n. Finerenone : Empagliflozin : citric acid mixed with Empagliflozin was obtained according to XRPD.

To a test tube equipped with magnetic stirrer, containing the mixture (20 mg), ACN (0.2 mL) was added before stirring at room temperature overnight. Then the suspension was centrifuged and dried under vacuum (1-3 mbar) at RT overnight. According to XRPD Finerenone : Empagliflozin : citric acid and Empagliflozin was obtained as a mixture.

Example 15 – Finerenone : L-malic acid

XRPD of Finerenone : L-malic acid is shown in **Figure 16 and Figure 17**.Example 15a:

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and L-malic acid (7 mg, 0.053 mmol, 1 eq.), 1-2 drops of ACN and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. Then the solid was dried at RT under vacuum o/n. Finerenone : L-malic acid was obtained according to XRPD.

Table 15a: XRPD table of Example 15a, see Figure 16.

Peak maximum [2 Theta]
3,06
7,26
8,26
10,73
11,01
11,36
13,01
15,34
17,48
19,80
21,22
22,04
25,05
27,06

Example 15b:

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and L-malic acid (7 mg, 0.053 mmol, 1 eq.), 1-2 drops of ACN and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : L-malic acid was obtained according to XRPD.

Table 15b: XRPD table of Example 15b, see Figure 17

Peak maximum [2 Theta]
4,3
6,8
7,6
8,6
9,2
10,2
11,1
14,1
17,2
19,0
20,7
22,4
25,9
27,3

Example 16 – Finerenone : L-tartaric acid

To a test tube equipped with magnetic stirrer and containing a mixture of Finerenone (20 mg, 0.053 mmol) and L-tartaric acid (8 mg, 0.053 mmol, 1 eq.), iBuOAc was added (0.2 mL). The resulting suspension was stirred at room temperature overnight. The resulting thick suspension was diluted with 0.4 ml iBuOAc. Then it was centrifuged and dried under vacuum (1-3 mbar) at RT overnight. Finerenone : L-tartaric acid was obtained according to XRPD (**Figure 18**).

Table 16: XRPD table of Example 16

Peak maximum [2 Theta]
4,3
6,7
7,4
8,6
9,8
11,2
11,6
12,3
15,1
17,4
20,7
22,5
23,0
25,1

Example 17 – Finerenone : L-cysteine HCl

To a 2 mL Eppendorf tube containing Finerenone (20 mg, 0.053 mmol) and Cysteine·HCl·H_2O (9 mg, 0.053 mmol, 1 eq.), 1-2 drops of acetone and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Finerenone : L-cysteine HCl was obtained according to XRPD.

To a test tube equipped with magnetic stirrer, containing Finerenone : L-cysteine HCl (20 mg), acetone (0.2 mL) was added before stirring at room temperature overnight. Then the suspension was centrifuged and dried under vacuum (1-3 mbar) at RT overnight. Finerenone : L-cysteine HCl was obtained according to XRPD (**Figure 19**).

Table 17: XRPD table of Example 17

Peak maximum [2 Theta]
5,2
7,6
9,9
10,6
11,4
14,9
15,7
17,5
19,8
22,4
23,0
24,5
27,8

Example 18 – Dapagliflozin : L-proline

Example 18a:

To a 2 mL Eppendorf tube containing Dapagliflozin (20 mg, 0.049 mmol) and L-Proline (6 mg, 0.049 mmol, 1 eq.), 1-2 drops of MeOH and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. Dapagliflozin : L-proline was obtained according to XRPD.

Example 18b:

To a 2 mL Eppendorf tube containing Dapagliflozin (20 mg, 0.049 mmol) and L-Proline (6 mg, 0.049 mmol, 1 eq.), 1-2 drops of dioxane and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. According to XRPD, Dapagliflozin : L-proline was obtained (**Figure 20**).

Table 18b: XRPD table of Example 18b

Peak maximum [2 Theta]
3,05
14,32
14,79
15,51
16,49
17,22
18,38
19,50
19,74
20,14
20,19
22,28
22,75
22,93
23,20
24,99
25,48
27,50

Example 19 – Dapagliflozin : citric acid

To a 2 mL Eppendorf tube containing Dapagliflozin (20 mg, 0.049 mmol) and citric acid (9 mg, 0.049 mmol, 1 eq.), 1-2 drops of EtOAc and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. According to XRPD, Dapagliflozin : citric acid was obtained (**Figure 21**).

Table 19: XRPD table of Example 19

Peak maximum [2 Theta]
3,07
4,48
14,04
17,75
18,06
19,40
23,82
25,90
28,78
30,98
36,64

Example 20 – Empagliflozin : L-proline

To a 2 mL Eppendorf tube containing Empagliflozin (20 mg, 0.044 mmol) and L-Proline (5 mg, 0.044 mmol, 1 eq.), 1-2 drops of THF and three stainless steel grinding balls were added before milling for 45 minutes at a rate of 30 Hz (3 x 15 minutes) with a Retsch Ball Mill MM400. The solid was dried at RT under vacuum o/n. According to XRPD, Empagliflozin : L-proline was obtained as a mixture with Dapagliflozin.

To a test tube with magnetic stirrer containing Empagliflozin : L-proline and **Empagliflozin** (20 mg), THF (0.2 mL) was added before stirring at room temperature overnight. Then, the resulting solid was isolated by centrifugation and dried under vacuum (1-3 mbar) at RT overnight. According to XRPD, Empagliflozin : L-proline was obtained **(Figure 22)**.

Table 20: XRPD table of Example 20

Peak maximum [2 Theta]
3,0
3,2
4,3
4,5
6,1
7,2
8,3
11,7
12,9
14,0
14,9
15,1

15,6
16,9
17,2
18,1
18,7
19,7
20,1
21,6
22,3
23,0
24,3
28,3
29,5
31,8

Example 21 – Finerenone: tartaric acid

To Finerenone (20 mg, 0.053 mmol) and L-tartaric acid (8 mg, 0.053 mmol, 1 eq.), three 3 mm stainless steel milling balls and acetonitrile (10 µL) were added and sample was milled using Retsch Ball Mill MM400 at 30 Hz (3 runs of 15 minutes, waiting interval of 2-3 mins between runs). Solids were recovered into a HPLC vial and dried in the vacuum oven at RT overnight. Observations were recorded and solids were analysed by XRPD.

Sample was treated with acetonitrile (200 µL) and stirred on a Polar Bear heating/cooling block at RT, 400 rpm overnight. The next day, observations were recorded and sample was centrifuged for 1 min. Supernatant was transferred into a clean HPLC vial and left to slowly evaporate at. Isolated pellet was placed in the vacuum oven at RT overnight and solids were analysed by XRPD the following day (**Figure 23**).

Table 21: XRPD table of Example 21

Peak maximum [2 Theta]
4,4
8,8
17,5
22,6

Example 22 – Finerenone: oxalic acid

20 mg (0.053 mmol) Finerenone was dissolved in 1.7 mL acetonitrile. Furthermore, 4.8 mg (0.053 mmol) oxalic acid was dissolved in 200 µL acetonitrile. Both solutions were combined and stirred for 3 days in a sealed container. A suspension was formed, which was opened and stirred to dryness. XRPD of the solid is shown in **Figure 24.**

Table 22: XRPD table of Example 22

Peak maximum [2 Theta]
7,5
8,6
9,6
12,0
13,0
14,2
14,9
17,3
17,7
17,8
19,2
19,6
20,0
20,7
20,9
22,4
22,6
22,7
23,4
24,1
25,3
25,7
26,3
26,5
27,0
27,3
28,0
28,8
29,5
29,8
30,0
31,2
32,7
33,3
35,4
36,6
38,0

Claims

1. A co-crystal according to any one of formulae (I), (II), (III), (IV), (V), (VI) and/or (VII)

$$(Finerenone)_a * (API)_b * (CF)_c$$

(I),

wherein **CF** is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; **API** is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; **a** is above 0 to equal or below 10; **b** is above 0 to equal or below 10; **c** is above 0 to equal or below 10;

$$(Finerenone)_a * (API)_b$$

(II),

wherein **API** is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; **a** is above 0 to equal or below 10; **b** is above 0 to equal or below 10;

$$(Finerenone)_a * (API)_b * (S)_d$$

(III),

wherein **API** is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i) and pecavaptan; **S** is a solvent; **a** is above 0 to equal or below 10; **b** is above 0 to equal or below 10; **d** is above 0 to equal or below 15;

$$(Finerenone)_a * (CF)_c$$

(IV),

wherein **CF** is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; **a** is above 0 to equal or below 10; **c** is above 0 to equal or below 10;

$$(Finerenone)_a * (CF)_c * (S)_d$$

(V),

wherein **CF** is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient, and mixtures thereof; **S** is a solvent; **a** is above 0 to equal or below 10; **c** is above 0 to equal or below 10; **d** is above 0 to equal or below 15;

$$(\text{Finerenone})_a * (\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VI)

wherein **CF** is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; **API** is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i), and pecavaptan; **S** is a solvent; **a** is above 0 to equal or below 10; **b** is above 0 to equal or below 10; **c** is above 0 to equal or below 10; **d** is above 0 to equal or below 15;

$$(\text{API})_b * (\text{CF})_c * (\text{S})_d$$

(VII)

wherein **CF** is a co-former selected from organic excipient, inorganic excipient, acidic excipient, basic excipient and mixtures thereof; **API** is an active pharmaceutical ingredient selected from sodium glucose linked transporter 2 inhibitor (SGLT2-i); **S** is a solvent; **b** is above 0 to equal or below 10; **c** is above 0 to equal or below 10; **d** is equal or above 0 to equal or below 15.

2. The co-crystal according to formula (I) according to claims 1, wherein the co-crystal is a polymorph thereof.

3. The co-crystal according to formula (I) according to any one of claims 1 to 2, wherein **API** is a sodium glucose linked transporter 2 inhibitor (SGLT2-i) selected from pecavaptan, canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, ipragliflozin, remogliflozin, sotagliflozin, sergliflozin, and tofogliflozin.

4. The co-crystal to any one of claims 1 to 3, wherein CF is selected from organic excipient, inorganic excipient, acidic excipient, basic excipient, and mixtures thereof.

5. The co-crystal to any one of claims 1 to 4, wherein CF is selected from ascorbic acid, betaine HCl, citric acid, formic acid, fumaric acid, gentisic acid, glutaric acid, L-carnitine HCl, L-cysteine, L-cysteine HCl, L-lysine HCl, L-malic acid, L-proline, L-pyroglutamic acid, L-tartaric acid, malonic acid, nicotinamide, oxalic acid, succinic acid, and mixtures thereof.

6. The co-crystal to any one of claims 1 to 5, wherein S is selected from aprotic-nonpolar solvent, aprotic-polar solvent, protic solvent and mixtures thereof.

7. The co-crystal to any one of claims 1 to 6, wherein S is selected from water, acetone, acetonitrile, chloroform, cyclohexane, dichloromethane, diethyl ether, dioxane, dimethylsulfoxid, ethyl acetate, ethanol, heptane, isobutyl acetate, isopropyl acetate, methanol, methyl isobutyl ketone, tert-butyl-methyl ether, tetrahydrofuran, toluene, water, xylene, and mixtures thereof.

8. The co-crystal to any one of claims 1 to 7, wherein a is from above 0 to equal or below 5, wherein b is from above 0 to equal or below 5, wherein c is from above 0 to equal or below 5, and/or wherein d is from above 0 to equal or below 10.

9. The co-crystal to any one of claims 1 to 8, wherein the co-crystal is a co-crystal selected from

- a co-crystal according to formula (I), wherein the API is pecavaptan, CF is gentisic acid or oxalic acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (I), wherein the API is empagliflozin, CF is oxalic acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (I), wherein the API is empagliflozin, CF is citric acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (I), wherein the API is dapagliflozin, CF is oxalic acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (I), wherein the API is dapagliflozin, CF is citric acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from malonic acid, tartaric acid, L- tartaric acid, L-malic acid, L-cysteine, L-cysteine HCl, citric acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from malonic acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from tartaric acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from L-tartaric acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from L-malic acid, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from L-cysteine, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;
- a co-crystal according to formula (IV), wherein CF is selected from L-cysteine HCl, a is above 0 to equal or below 5, b is above 0 to equal or below 5, c is above 0 to equal or below 5;

- a co-crystal according to formula (VII), wherein API is empagliflozin, CF is L-proline, b is above 0 to equal or below 5, c is above 0 to equal or below 5, d is equal or above 0 to equal or below 15;
- a co-crystal according to formula (VII), wherein API is empagliflozin, CF is citric acid, b is above 0 to equal or below 5, c is above 0 to equal or below 5, d is equal or above 0 to equal or below 15;
- a co-crystal according to formula (VII), wherein API is dapagliflozin, CF is L-proline, b is above 0 to equal or below 5, c is above 0 to equal or below 5, d is equal or above 0 to equal or below 15; and
- a co-crystal according to formula (VII), wherein API is dapagliflozin, CF is acid, b is above 0 to equal or below 5, c is above 0 to equal or below 5, d is equal or above 0 to equal or below 15.

10. A crystalline form of finerenone, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1a.

11. A crystalline form of finerenone, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 1b.

12. A crystalline form of Empagliflozin, wherein the x-ray diffractogram exhibits at least one or more of peak maxima of the 2 theta angle according to table 3.

13. A pharmaceutical composition comprising the co-crystal to any one of claims 1 to 9, a crystalline form of finerenone according to any one of claims 10 or 11, and/or a crystalline form of empagliflozin according to claim 12.

14. The pharmaceutical composition according to claim 13, wherein the pharmaceutical composition comprises finerenone in an amount of 0.5 to 80 mg, and empagliflozin in an amount of 0.5 to 30 mg.

15. The pharmaceutical composition according to claim 13 or 14, wherein the pharmaceutical composition comprises finerenone in an amount of 0.5 to 80 mg, and dapagliflozin in an amount of 0.5 to 20 mg.

16. The co-crystal according to any one of claims 1 to 9, a crystalline form of finerenone according to any one of claims 10 or 11, and/or a crystalline form of empagliflozin according to claim 12 or the pharmaceutical composition according to any one of claims 13 to 15, for use in the treatment and/or prevention of diseases.

17. A process for preparing the co-crystal according to any one of claims 1 to 12, wherein the process comprises the following steps:

Step 1) providing finerenone, API, S and/or co-former according to any one of the proceedings claims,

Step 2) grinding the co-crystals provided in step 1).

18. The co-crystal according to any one of claims 1 to 12 obtainable by the process according to claim 17.