Claims

1. Acetone solvate crystals of trityl olmesartan medoxomil.

2. The crystals according to claim 1, which exhibit a pattern equivalent to Figure 1 or Figure 2 in powder X-ray crystal diffraction.

3. The crystals according to claim 1 or 2, which exhibit a pattern equivalent to Figure 4 or Figure 5 in differential scanning calorimeter analysis of the crystals.

4. The crystals according to any one of claims 1 to 3, which comprise 1 mol of acetone per 1 mol of trityl olmesartan medoxomil.

5. A method for producing crystals according to any one of claims 1 to 4, which comprises a step of precipitating acetone solvate crystals of trityl olmesartan medoxomil from an acetone containing solution of trityl olmesartan medoxomil.

6. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone optionally containing water.

7. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 20% (w/w) or less of water.

8. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 10% (w/w) or less of water.

9. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 5% (w/w) or less of water.

10. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 2% (w/w) or less of water.

11. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone.

12. The method according to any one of claims 5 to 11, wherein a seed crystal is added.

13. A method for producing crystals according to any one of claims 1 to 4, which comprises the following steps:

(step 1) a step of tritylation and DMDO esterification of olmesartan in an acetone solvent optionally containing water; and

(step 2) a step of precipitating acetone solvate crystals of trityl olmesartan medoxomil from the reaction mixture obtained in step 1.

14. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 20% (w/w) or less.

15. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 10% (w/w) or less.

16. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 5% (w/w) or less.

17. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 2% (w/w) or less.

18. The method according to any one of claims 13 to 17, wherein acetone solvate crystals of trityl olmesartan medoxomil are precipitated by cooling the reaction mixture obtained in step 1 at 0°C to 25°C.

19. The method according to any one of claims 13 to 17, wherein acetone solvate crystals of trityl olmesartan medoxomil are precipitated by cooling the reaction mixture obtained in step 1 at 15°C to 25°C.

20. The method according to any one of claims 13 to 19, wherein a seed crystal is added.

21. A method for producing olmesartan medoxomil, which comprises a step of removing the trityl group in crystals according to any one of claims 1 to 4.

22. The method according to claim 21, which comprises the step described in claim 5.

23. The method according to claim 21, which comprises step 1 and step 2 described in claim 13.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. Acetone solvate crystals of trityl olmesartan medoxomil.

2. The crystals according to claim 1, which exhibit the pattern of Figure 1 or Figure 2 in powder X-ray crystal diffraction.

3. The crystals according to claim 1 or 2, which exhibit the pattern of Figure 4 or Figure 5 in differential scanning calorimeter analysis of the crystals.

4. The crystals according to any one of claims 1 to 3, which comprise 1 mol of acetone per 1 mol of trityl olmesartan medoxomil.

5. A method for producing crystals as defined in any one of claims 1 to 4, which comprises a step of precipitating acetone solvate crystals of trityl olmesartan medoxomil from an acetone containing solution of trityl olmesartan medoxomil.

6. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone optionally containing water.

7. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 20% (w/w) or less of water.

8. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 10% (w/w) or less of water.

9. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 5% (w/w) or less of water.

10. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone containing 2% (w/w) or less of water.

11. The method according to claim 5, wherein the solvent of the acetone containing solution is acetone.

12. The method according to any one of claims 5 to 11, wherein a seed crystal is added.

13. A method for producing crystals as defined in any one of claims 1 to 4, which comprises the following steps:

(step 1) a step of tritylation and (5-methyl-2-oxo-1,3-dioxolen-4-yl)methyl (DMDO) esterification of olmesartan in an acetone solvent optionally containing water; and

step 2) a step of precipitating acetone solvate crystals of trityl olmesartan medoxomil from the reaction mixture obtained in step 1.

14. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 20% (w/w) or less.

15. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 10% (w/w) or less.

16. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 5% (w/w) or less.

17. The method according to claim 13, wherein the water content in the acetone solvent during crystal precipitation is 2% (w/w) or less.

18. The method according to any one of claims 13 to 17, wherein acetone solvate crystals of trityl olmesartan medoxomil are precipitated by cooling the reaction mixture obtained in step 1 at 0°C to 25°C.

19. The method according to any one of claims 13 to 17, wherein acetone solvate crystals of trityl olmesartan medoxomil are precipitated by cooling the reaction mixture obtained in step 1 at 15°C to 25°C.

20. The method according to any one of claims 13 to 19, wherein a seed crystal is added.

21. A method for producing olmesartan medoxomil, which comprises a step of removing the trityl group in crystals as defined in any one of claims 1 to 4.

22. A method for producing olmesartan medoxomil, which comprises producing acetone solvate crystals of trityl olmesartan medoxomil as defined in any one of claims 1 to 4 by the method according to claim 5 and a step of removing the trityl group in the produced crystals.

23. A method for producing olmesartan medoxomil, which comprises producing acetone solvate crystals of trityl olmesartan medoxomil as defined in any one of claims 1 to 4 by the method according to claim 13 and a step of removing the trityl group in the produced crystals.