Compound 18 (60 mg) was weighed in a glass vial. After adding t-butyl methyl ether (300 μL) and isopropanol (300 μL) thereto and dissolving Compound 18 under heating at 40°C, the solution was stirred for 60 minutes. t-Butyl methyl ether (900 μL) was further added thereto and the solution was stirred under heating at room temperature for six hours. The slurry obtained was further stirred at 55°C overnight. The slurry was collected by filtration and then dried at room temperature under reduced pressure and the title compound (30 mg, crystal) was obtained. The powder X-ray diffraction spectrum of the obtained crystal is shown in Table 2 and Fig. 1 below and the chart of differential scanning calorimetry is shown in Fig. 2. The onset of the endothermic peak of Crystalline form A of Compound 18 was 118°C.

[0148]

[Table 2]

Diffraction angle	Relative j intensity
2θ(°)	%
9.05	78.4
9.44	85.9
12.61	36
13.96	33.6
15.57	24.6
16.82	34.4
17.45	29.5
18.09	66.1
18.91	90.5
19.42	48.2
20.53	100
21.77	62.9
22.60	33
23.38	37.3
24.59	51.2

[0149]

Example 18(2): Crystalline form B of piperidin-4-ylmethanol 2-[(2-{(1R,5R)-2-oxo-5-[(1E,4S)-7,8,8-trifluoro-4-hydroxy-4-methyl-1,7-octadien-1-yl]cyclopentyl}ethyl)thio]-1,3-thiazole-4-carboxylate

Compound 18 (5.0 g) was weighed in a 200 mL eggplant flask. After adding ethyl acetate (50 mL) and isopropanol (12.5 mL) thereto and dissolving Compound 18

under heating at 60°C, the solution was stirred for 30 minutes. The solution was cooled to 0°C and stirred overnight. The slurry obtained was collected by filtration and then dried at room temperature under reduced pressure and the title compound (4.6 g, crystal) was obtained. The powder X-ray diffraction spectrum of the obtained crystal is shown in Table 3 and Fig. 3 below and the chart of differential scanning calorimetry is shown in Fig. 4. The onset of the endothermic peak of Crystalline form B of Compound 18 was 113°C.

[0150]

[Table 3]

Diffraction angle	Relative j intensity
2θ(°)	%
8.91	57
9.71	37.9
11.97	22.4
13.23	21.8
14.30	19.6
14.78	20.8
15.88	35.2
16.37	25.7
16.87	31.2
18.26	54.5
18.63	100
19.02	94.7
19.47	52.6
21.02	76
21.72	37.6
22.91	37.1
23.85	58.6

[0151]

Example 18(3): Crystalline form C of piperidin-4-ylmethanol 2-[(2-{(1R,5R)-2-oxo-5-[(1E,4S)-7,8,8-trifluoro-4-hydroxy-4-methyl-1,7-octadien-1-yl]cyclopentyl}ethyl)thio]-1,3-thiazole-4-carboxylate

Compound 18 (50 mg) was weighed in a glass container. Tetrahydrofuran (50 mL) was added thereto and Compound 18 was dissolved under heating at 40°C.

[Table 4]

Diffraction angle	Relative j intensity
2θ(°)	%
8.12	19.2
9.11	55.6
9.72	22.4
12.06	18.7
13.43	25.9
14.38	23.2
14.97	20.8
16.16	44.8
16.85	26.3
17.77	90
18.69	94.3
19.24	65.8
19.86	53.5
20.81	72.1
21.19	100
22.12	40
22.72	53.5
24.20	79.1

[0153]

Example 19: β-Cyclodextrin clathrate of piperidin-4-ylmethanol 2-[(2-{(1R,5R)-2-oxo-5-[(1E,4S)-7,8,8-trifluoro-4-hydroxy-4-methyl-1,7-octadien-1-yl]cyclopentyl}ethyl)thio]-1,3-thiazole-4-carboxylate (mixing molar ratio of 1:8)

Compound 18 (112.5 mg) and β-cyclodextrin (1.8 g) were weighed and dissolved in purified water (108 g). This solution (18.3 g) was weighed and dispensed into vials each in an amount of 600 μL. The vials were placed in a freeze drier (Triomaster type A04: manufactured by Kyowa Vacuum Engineering Co.,Ltd) to freeze-dry the solution and the title compound was obtained.

The peaks derived from Compound 18

NMR (D_2O) : δ 7.83 (s, 1H), 5.62-5.40 (m, 2H), 3.40-3.15 (m, 6H), 2.83 (dt, J = 3.0, 13.2 Hz, 2H), 2.51 (m, 1H), 2.40-1.45 (m, 16H), 1.35-1.08 (m, 2H), 1.03 (s, 3H).

The peaks derived from β-cyclodextrin

Compound 18 (60 mg) was weighed in a glass vial. After adding t-butyl methyl ether (300 μL) and isopropanol (300 μL) thereto and dissolving Compound 18 under heating at 40°C, the solution was stirred for 60 minutes. t-Butyl methyl ether (900 μL) was further added thereto and the solution was stirred under heating at room temperature for six hours. The slurry obtained was further stirred at 55°C overnight. The slurry was collected by filtration and then dried at room temperature under reduced pressure and the title compound (30 mg, crystal) was obtained. The powder X-ray diffraction spectrum of the obtained crystal is shown in Table 2 and Fig. 1 below and the chart of differential scanning calorimetry is shown in Fig. 2. The onset of the endothermic peak of Crystalline form A of Compound 18 was 118°C.

[0148]

[Table 2]

Diffraction angle	Relative intensity
2θ(°)	%
9.05	78.4
9.44	85.9
12.61	36
13.96	33.6
15.57	24.6
16.82	34.4
17.45	29.5
18.09	66.1
18.91	90.5
19.42	48.2
20.53	100
21.77	62.9
22.60	33
23.38	37.3
24.59	51.2

[0149]

Example 18(2): Crystalline form B of piperidin-4-ylmethanol 2-[(2-{(1R,5R)-2-oxo-5-[(1E,4S)-7,8,8-trifluoro-4-hydroxy-4-methyl-1,7-octadien-1-yl]cyclopentyl}ethyl)thio]-1,3-thiazole-4-carboxylate

Compound 18 (5.0 g) was weighed in a 200 mL eggplant flask. After adding ethyl acetate (50 mL) and isopropanol (12.5 mL) thereto and dissolving Compound 18

under heating at 60°C, the solution was stirred for 30 minutes. The solution was cooled to 0°C and stirred overnight. The slurry obtained was collected by filtration and then dried at room temperature under reduced pressure and the title compound (4.6 g, crystal) was obtained. The powder X-ray diffraction spectrum of the obtained crystal is shown in Table 3 and Fig. 3 below and the chart of differential scanning calorimetry is shown in Fig. 4. The onset of the endothermic peak of Crystalline form B of Compound 18 was 113°C.

[0150]

[Table 3]

Diffraction angle	Relative intensity
2θ(°)	%
8.91	57
9.71	37.9
11.97	22.4
13.23	21.8
14.30	19.6
14.78	20.8
15.88	35.2
16.37	25.7
16.87	31.2
18.26	54.5
18.63	100
19.02	94.7
19.47	52.6
21.02	76
21.72	37.6
22.91	37.1
23.85	58.6

[0151]

Example 18(3): Crystalline form C of piperidin-4-ylmethanol 2-[(2-{(1R,5R)-2-oxo-5-[(1E,4S)-7,8,8-trifluoro-4-hydroxy-4-methyl-1,7-octadien-1-yl]cyclopentyl}ethyl)thio]-1,3-thiazole-4-carboxylate

Compound 18 (50 mg) was weighed in a glass container. Tetrahydrofuran (50 mL) was added thereto and Compound 18 was dissolved under heating at 40°C.

[Table 4]

Diffraction angle	Relative intensity
2θ(°)	%
8.12	19.2
9.11	55.6
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14.38	23.2
14.97	20.8
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16.85	26.3
17.77	90
18.69	94.3
19.24	65.8
19.86	53.5
20.81	72.1
21.19	100
22.12	40
22.72	53.5
24.20	79.1

[0153]

Example 19: β-Cyclodextrin clathrate of piperidin-4-ylmethanol 2-[(2-{(1R,5R)-2-oxo-5-[(1E,4S)-7,8,8-trifluoro-4-hydroxy-4-methyl-1,7-octadien-1-yl]cyclopentyl}ethyl)thio]-1,3-thiazole-4-carboxylate (mixing molar ratio of 1:8)

Compound 18 (112.5 mg) and β-cyclodextrin (1.8 g) were weighed and dissolved in purified water (108 g). This solution (18.3 g) was weighed and dispensed into vials each in an amount of 600 μL. The vials were placed in a freeze drier (Triomaster type A04: manufactured by Kyowa Vacuum Engineering Co.,Ltd) to freeze-dry the solution and the title compound was obtained.

The peaks derived from Compound 18

NMR (D_2O) : δ 7.83 (s, 1H), 5.62-5.40 (m, 2H), 3.40-3.15 (m, 6H), 2.83 (dt, J = 3.0, 13.2 Hz, 2H), 2.51 (m, 1H), 2.40-1.45 (m, 16H), 1.35-1.08 (m, 2H), 1.03 (s, 3H).

The peaks derived from β-cyclodextrin