

## Drug Status Report

**Drug:** Cannabidiol related substances

The status of the following substances was requested:

Abnormal-cannabidiol - I

Cannabidiol C4 - II

Cannabidiol C2 - III

Cannabidiol-V- IV

**Drug Name Status:** The above names are common names.

### Chemical Name:

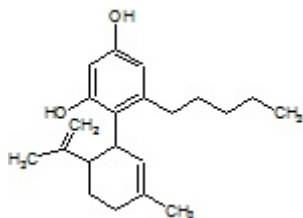
I- 4-[(1R,6R)-3-Methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl]-5-pentyl-1,3-benzenediol

II- 5-Butyl-2-[(1R,6R)-(3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl)-1,3-benzenediol

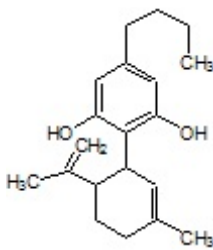
III- 5-Ethyl-2-[(1R,6R)-(3-methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl)-1,3-benzenediol

IV- 2-[(1R,6R)-(3-Methyl-6-(1-methylethenyl)-2-cyclohexen-1-yl)-5-propyl-1,3-benzenediol

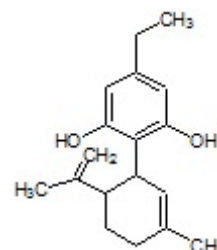
### Chemical structure:



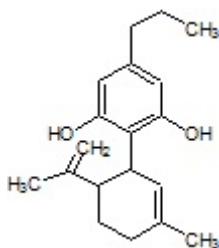
I



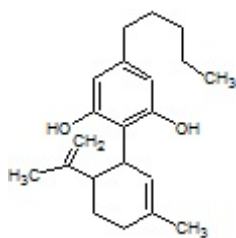
II



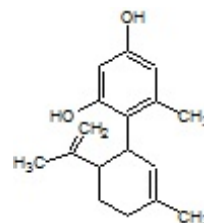
III



IV



Cannabidiol



O-1602

**Molecular Formula:** I-  $C_{21}H_{30}O_2$

II-  $C_{20}H_{28}O_2$

III-  $C_{18}H_{24}O_2$

IV-  $C_{19}H_{26}O_2$

**Pharmacological class / Application:** I - vasodilator; II-IV- cannabinoid related substances

**International status:**

US: Substances I-IV are not currently listed on the schedules to the US Controlled Substances Act and are not mentioned on the DEA website.

United Nations: Substances I-IV are not listed on the Yellow List - List of Narcotic Drugs under International Control nor the Green List - List of Psychotropic Substances under International Control.

Canadian Status: Item 1 of Schedule II to the CDSA is “Cannabis, its preparations, derivatives and similar synthetic preparations”. The structure of cannabidiol, subitem 1(3) of Schedule II is shown above for reference. Structures II, III and IV are very similar to cannabidiol (CBD); they are 5-analogues of CBD where the pentyl group has been replaced by butyl, ethyl and propyl groups respectively. Substance I on the other hand has an arrangement of groups on the benzene ring that is different than that for CBD. In CBD, the cyclohexene ring is attached to the benzene ring between the two OH groups and the pentyl group is attached to the benzene ring opposite to the cyclohexene ring. In substance I, the cyclohexene ring and pentyl groups are in adjacent positions on the benzene ring.

Substance O-1602 (structure above) was reviewed August 8, 2007 and is now considered a non-controlled substance. Substance I is similar to O-1602; the methyl group is replaced by a pentyl group.

Due to the structural differences between substance I and the CBD, substance I should not be considered to be included in item 1 of Schedule II.

Recommendation: Substance I is not included in the schedules to the CDSA and is not a controlled substance. Substances II, III and IV are included in item I of Schedule II to the CDSA and are controlled substances.

May 29, 2009