

## Drug Status Report

**Drug:** Morphine and codeine synthetic starting materials

Tyramine (I)

Norcoclaurine (II)

S-N-Methylcoclaurine (III)

S-Coclaurine (IV)

3'-Hydroxy-N-methylcoclaurine (V)

Reticuline (VI)

1,2-Dehydroreticuline (VII)

Salutaridine (VIII)

Salutaridinol (IX)

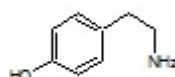
Salutaridinol-7-O-acetate (X)

Neopinone (XI)

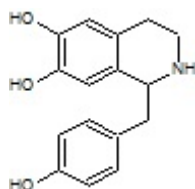
Oripavine (XII)

**Drug Name Status:** All of the above are common names.

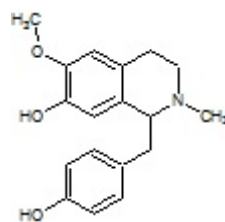
### Chemical structure:



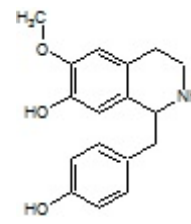
Tyramine



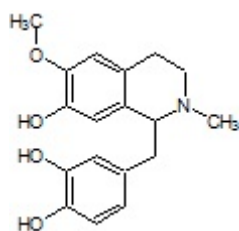
Norcoclaurine



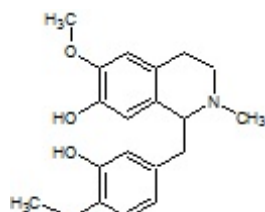
N-Methylcoclaurine



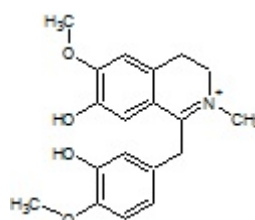
Coclaurine



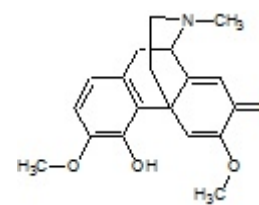
3'-Hydroxy-N-methylcoclaurine



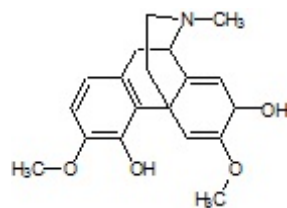
Reticuline



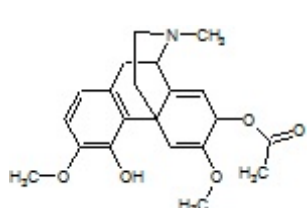
1,2-Dehydroreticuline



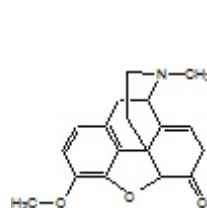
Salutaridine



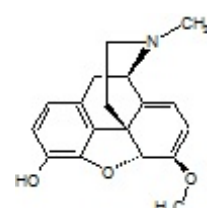
Salutaridinol



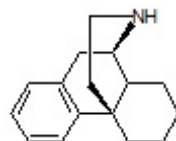
Salutaridinol-7-O-acetate



Neopinone



Oripavine



Morphinan

**Molecular Formula:** I -  $C_8H_{11}NO$  II -  $C_{18}H_{17}NO_3$  III -  $C_{18}H_{21}NO_3$  IV -  $C_{17}H_{19}NO_3$

V -  $C_{18}H_{21}NO_4$  VI  $C_{19}H_{23}NO_4$  VII  $C_{19}H_{22}NO_4$  VIII  $C_{19}H_{21}NO_4$  IX  $C_{19}H_{23}NO_4$  X  $C_{21}H_{25}NO_5$

XI  $C_{18}H_{19}NO_3$  XII  $C_{18}H_{19}NO_3$

**Pharmacological class / Application:** opiate related substances

**International status:**

US: With the exception of oripavine, none of these substances are listed on the Schedules to the CSA. Oripavine has been included in Schedule II to the CSA since 2007.

United Nations: Oripavine has been listed on Schedule I to the Single Convention since 2007. The other substances above 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: Tyramine is a phenethylamine, a class of substances that is not generally controlled, by the CDSA.

Norcoclaurine (II), S-N-methylcoclaurine (III), S-coclaurine (IV), 3'-hydroxy-N-methylcoclaurine (V), reticuline (VI), and 1,2-dehydroreticuline (VII) are not similar to substances listed on the schedules to the CDSA.

Item 10 of Schedule I is , "Morphinans, their salts, derivatives and salts of derivatives". The structure of morphinan is shown above. Structurally, salutaridine (VIII), salutaridinol (IX), salutaridinol-7-O-acetate (X), and neopinone (XI) are morphinans. Oripavine

has been considered to be included in Schedule I to the CDSA based on its similarity to thebaine (subitem 1(4)) and based on its structural similarity to morphinan (item 10)<sup>1</sup>.

Recommendation: Tyramine (I), norcoclaurine (II), S-N-methylcoclaurine (III), S-coclaurine (IV), 3'-hydroxy-N-methylcoclaurine (V), reticuline (VI) and 1,2-dehydroreticuline (VII) are not included in the schedules to the CDSA and are not controlled substances.

Salutaridine (VIII), salutaridinol (IX), salutaridinol-7-O-acetate (X), and neopinone (XI) are included in item 10 of Schedule I to the CDSA and are controlled substances.

September 10, 2009

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<sup>1</sup> See status report dated September 26, 2006