Drug Status Report

**Drug:** (17beta)-17-Hydroxyandrosta-1,4,6-trien-3-one (I)

**Drug Name Status:** (17beta)-17-Hydroxyandrosta-1,4,6-trien-3-one is the chemical name.

**Chemical Name:** (17beta)-17-Hydroxyandrosta-1,4,6-trien-3-one

**Chemical structure:**

![Chemical structure of (17beta)-17-Hydroxyandrosta-1,4,6-trien-3-one]

**Molecular Formula:** C\textsubscript{19}H\textsubscript{24}O\textsubscript{2}

**Pharmacological class / Application:** steroid

**International status:**

US: The substance is not currently listed on the schedules to the US Controlled Substances Act and is not mentioned on the DEA website.

United Nations: The substance is 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: A status report on this substance was filed on August 8, 2006. The report recommended that the substance be considered a controlled substance as it could be derived from testosterone acetate. The report did not provide a reference for the conversion. This status report is written to address this deficiency.

Gao and Dias\textsuperscript{1} have reported the one-step conversion of testosterone acetate to 17-acetoxyandrosta-1,4,6-trien-3-one using chloranil. They hydrolysed the acetate ester with sodium hydroxide in methanol to give I. Parr et al.\textsuperscript{2} converted testosterone (II) to I using triethyl orthoformate to give 3-ethoxy-17-hydroxyandrosta-3,5-diene (III) which was further oxidized


with DDQ (2,3-dichloro-5,6-dicyano-1,4- benzoquinone) to give I on workup. See below.

These reports confirm that I is a derivative of testosterone acetate and testosterone. Testosterone is listed as subitem 23(40) of Schedule IV; testosterone acetate is included in item 23 of Schedule IV as it is a derivative of and anabolic steroid. As I is a derivative of either of these anabolic steroids it also is included in item 23 of Schedule IV.

Recommendation: (17beta)-17-Hydroxyandrost-4,6-tien-3-one is included in item 23 of Schedule IV and is a controlled substance.

February 20, 2009