

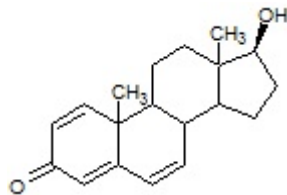
Drug Status Report

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:



Molecular Formula: C₁₉H₂₄O₂

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.

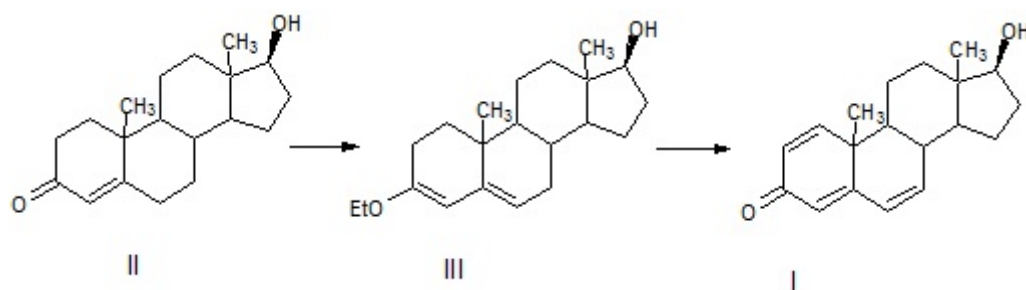
Canadian Status: A status report on this substance was filed on August 8, 2006. The report recommended that the substance be considered a controlled substance as it could be derived from testosterone acetate. The report did not provide a reference for the conversion. This status report is written to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

Gao and Dias¹ 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.² converted testosterone (II) to I using triethyl orthoformate to give 3-ethoxy-17-hydroxyandrosta-3,5-diene (III) which was further oxidized

¹ Gao H and Dias JR, Fourth International Electronic Conference on Synthetic Organic Chemistry (2000). <http://pages.unibas.ch/mdpi/ecsoc-4/a0099/a0099.htm>

² Parr MK, Fusshöller G, Schlörer N, Opfermann G, Piper T, Rodchenkov G, Schänzer W. Rapid Commun Mass Spectrom. 2009 Jan;23(2):207-18.

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-Hydroxyandrosta-1,4,6-trien-3-one is included in item 23 of Schedule IV and is a controlled substance.

February 20, 2009