



# Certificate of analysis

Productname: 17 $\alpha$ -Estradiol

Cas number: 57-91-0

Molecular Formula: C<sub>18</sub>H<sub>24</sub>O<sub>2</sub>

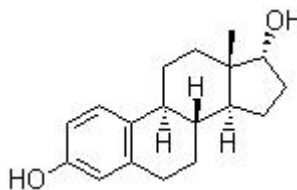
Molecular Weight: 272.39

Batch No. : 20200508

Date of production: Aug, 18, 2020

Date of Expiry: Aug, 17, 2022

Chemical structure:



Items	Specifications	Test results
Description	White or off -white crystalline powder	off -white crystalline powder
Identification	IR	complies
Appearance of the solution	Cleat & Colorless	complies
Solubility	Soluble in alcohol, acetone. Slightly sol in ether, chloroform. Insol in water.	complies
Specific optical rotation	+52.0° ~ +60.0°	+56.0°
Melting range	217~226°C	222~224.0°C
Water	≤ 3.5%	0.30%
Related substance	Any single impurity ≤0.5% Total impurities ≤1.0%	0.21% 0.2%
Residual Solvents	Ethyl acetate ≤5000ppm Toluene ≤890ppm	complies
Purity	≥99.0%	99.8%

**Conclusion: It complies with the Enterprise Standard.**

**Analyst: Zhao**

**Checker: Liu**

**Q.C Director: Fang**