

Certificate

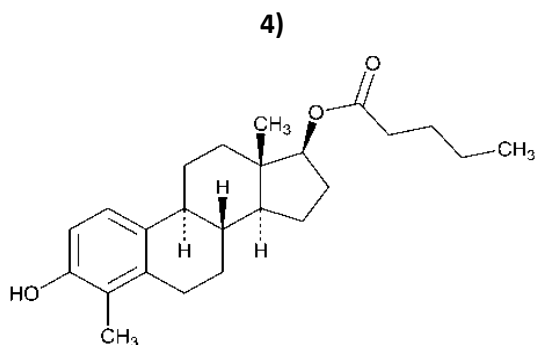
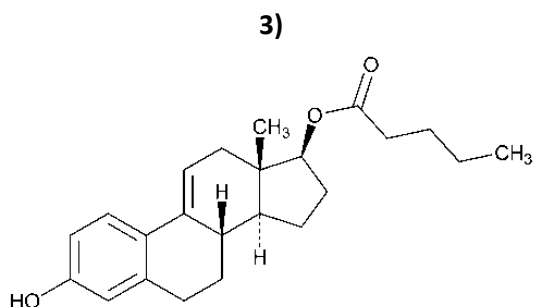
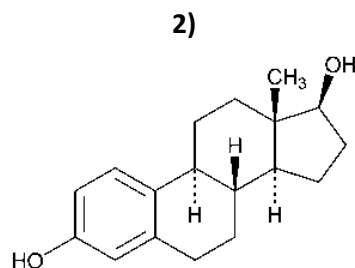
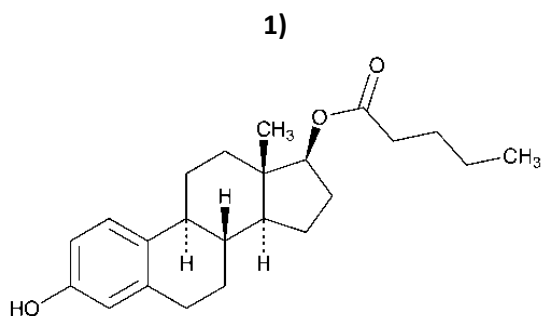
ESTRADIOL VALERATE IDENTIFICATION MIXTURE

(Mixture of estradiol valerate, estradiol, estradiol-9-ene valerate, 4-methylestradiol valerate and estradiol divalerate)

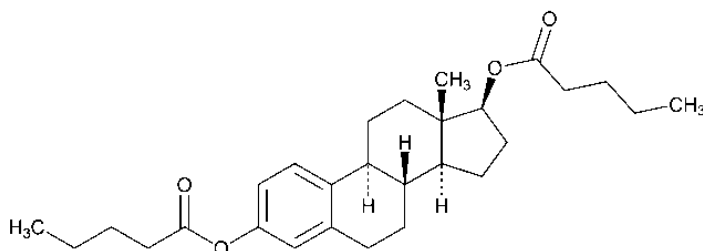
USP Catalog No.: 1254031

USP Lot No.: F056U0

Only compendial components as listed in the monograph are shown below



5)



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| Item | Name/Chemical name | CAS | Molecular Formula | Molecular Weight | Content |
|------|----------------------------|----------|--|------------------|---------|
| 1 | Estradiol Valerate | 979-32-8 | C ₂₃ H ₃₂ O ₃ | 356.50 | 99.30 |
| 2 | Estradiol | N/A | C ₁₈ H ₂₄ O ₂ | 272.38 | 0.07 |
| 3 | Estradiol-9-ene valerate | N/A | C ₂₃ H ₃₀ O ₃ | 354.48 | 0.14 |
| 4 | 4-Methylestradiol valerate | N/A | C ₂₄ H ₃₄ O ₃ | 370.52 | 0.26 |
| 5 | Estradiol divalate | N/A | C ₂₈ H ₄₀ O ₄ | 440.61 | 0.15 |

| | Chemical name |
|---|---|
| 1 | Estra-1,3,5(10)-triene-3,17-diol(17β)-,17-pentanoate |
| 2 | Estra-1,3,5(10)-triene-3,17β-diol |
| 3 | 3-Hydroxyestra-1,3,5(10),9(11)-tetraen-17β-yl valerate |
| 4 | 3-Hydroxy-4-methylestra-1,3,5(10)-trien-17β-yl valerate |
| 5 | Estra-1,3,5(10)-trien-3,17β-diyl divalate |

LABEL TEXT

For use with specified USP compendial tests.
Not for use as a drug. See SDS prior to use
at www.usp.org/sds.



Lot: F056U0



REFERENCE STANDARD

ESTRADIOL VALERATE IDENTIFICATION MIXTURE 15 mg



Danger! May cause cancer. May damage fertility or the unborn child.

This material is a mixture of estradiol valerate, estradiol, estradiol-9-ene valerate, 4-methylestradiol valerate and estradiol divalate. See accompanying typical chromatogram. Do not dry. Keep container tightly closed. Protect from light. Store in the refrigerator.

USP, 12601 Twinbrook Pkwy, Rockville, MD, +1-301-881-0666
Cat. No. 1254031 Material mfd. in Germany

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. If exposed or concerned: Get medical advice/attention. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

Jeri L. Ioth

Quality Assurance

Calculation Value

If a value is not provided on the label or accompanying documentation and the Reference Standard has a quantitative USP compendial application, a value of 100.0% is used. The purity value is not applicable for qualitative uses. Please refer to the specific Reference Standard label for further information.

Expiration

Current lots are identified in the current USP Catalog. In some cases, the previous lot may still be considered valid for use. If so, it is identified in the column marked "Previous Lot/Valid Use Date."

It is the responsibility of each user to determine that this lot is current or valid when used. For the most up-to-date information, please refer to the USP Store at www.usp.org.

Instructions for Use

Follow the instructions on the label of the USP Reference Standard and in the appropriate USP documentary standard(s).

Non-Monograph Use

The suitability of this Reference Standard for use in non-compendial applications is solely the responsibility of the user.

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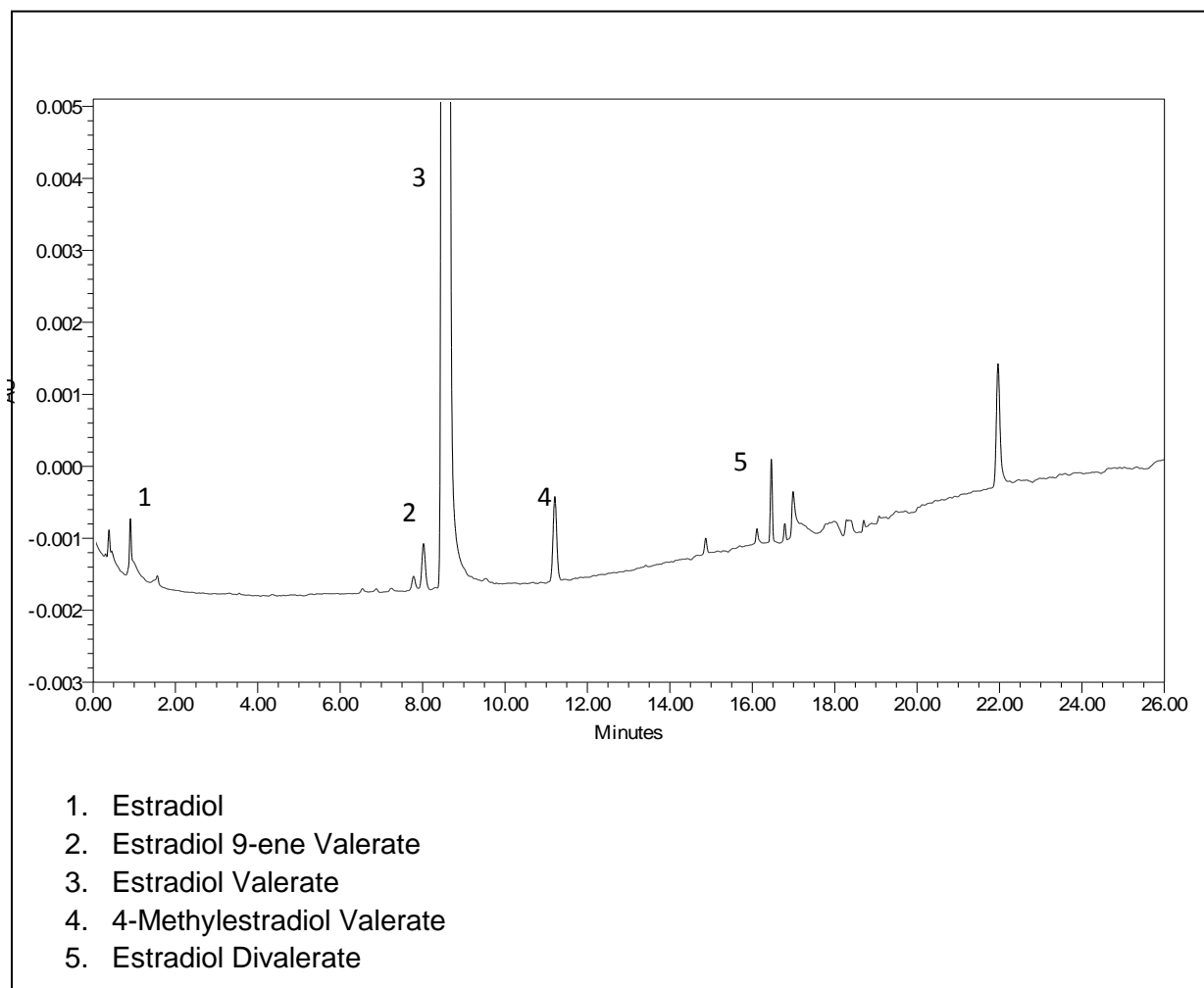
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Typical Chromatogram

USP Estradiol Valerate Identification Mixture RS

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| Catalog Number: 1254031 |
| Lot: F056U0 |
| Monograph: Estradiol Valerate |
| Publication: PF 42(2) |
| Test: Organic Impurities |
| Sample: System Suitability Solution |



This chromatogram is supplied for information only, unless otherwise specified in an applicable monograph or general chapter.