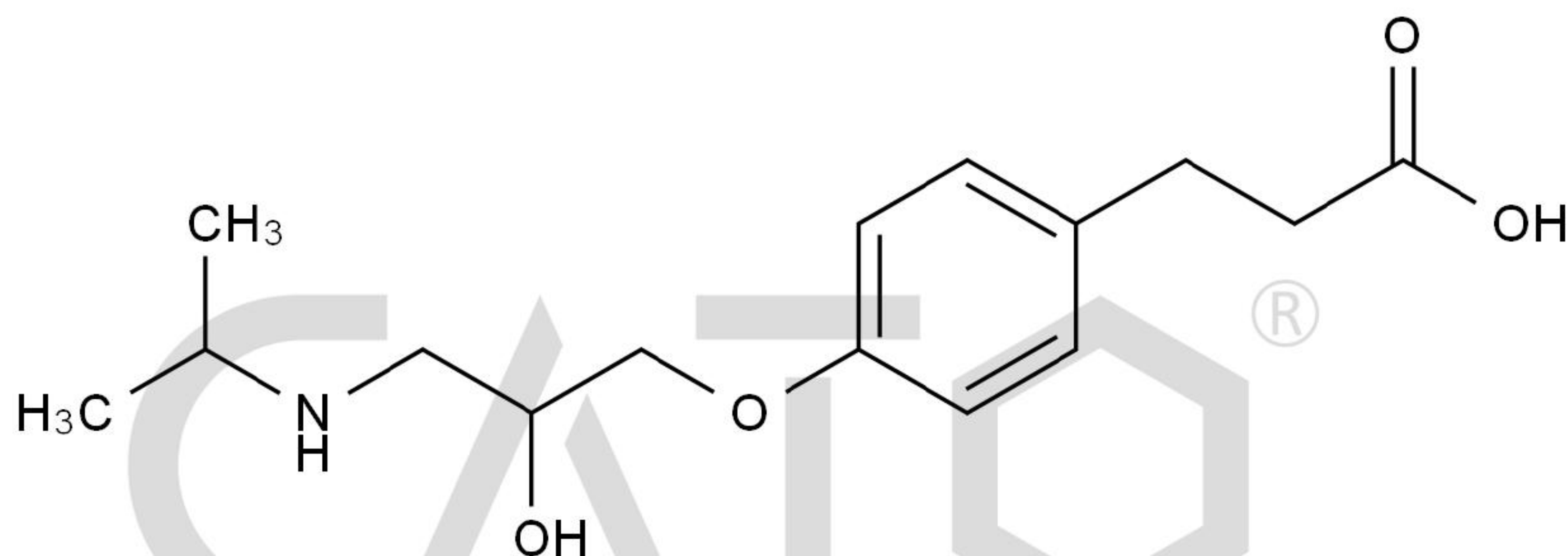


Certificate of Analysis

Reference Material & Standard

Product Name:	Esmolol Impurity 4	Catalogue Number:	C4X-18914
Synonyms:	Esmolol free acid	Lot Number:	0120-RH-0072
CAS Number:	81148-15-4	Expiry Date:	Jan 21, 2030
Molecular Formula:	C ₁₅ H ₂₃ NO ₄	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	281.35	Shipping Condition:	Shipping at Room Temperature

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White Solid
Identification	LCMS&HNMR	Confirmed
Purity	HPLC	99.854%
Loss On Drying	TGA	0.0125%
Assay		99.8%

Comment:

The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

Assay (%) = (100% - Loss On Drying) * Purity HPLC (%) / 100%

Loss On Drying is considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by:

Nice

Reviewed by:

Koi

Approved by General Manager:

David

Date: Jan 22, 2026

Date: Jan 22, 2026

Date: Jan 22, 2026



Add: 3rd Floor, Building B, No.179, Guangpu Rd East, Huangpu District, Guangzhou, China

Tel: +86-20-81960175

Email: supports@cato-chem.com

Web: <https://www.cato-chem.com>

