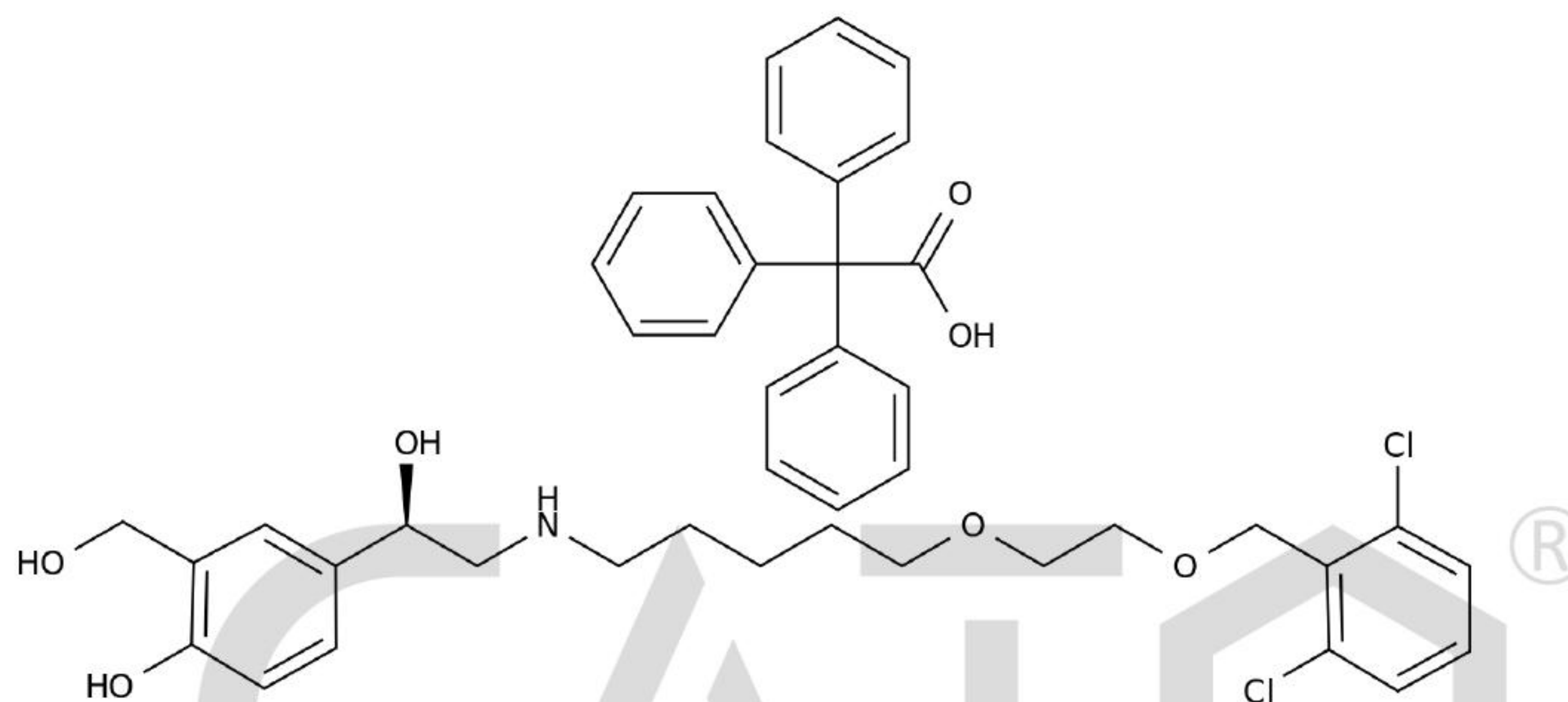


Certificate of Analysis

Reference Material

Product Name:	Vilanterol Impurity 30	Catalogue Number:	C4X-193530
Chemical Name:	N/A	Lot Number:	0516-RD-0027
CAS Number:	503070-62-0 (free base)	Expiry Date:	Nov 18, 2024
Molecular Formula:	C ₂₃ H ₃₁ Cl ₂ NO ₅ C ₂₀ H ₁₆ O ₂	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	472.40 288.34		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&IR&HNMR	Confirmed
Purity	HPLC	99.5892%
Water Content	Karl Fischer	0.2%
Residual Solvents	NMR	Not detected in NMR
Optical Rotation		[α] _D ^{25.0} (c=0.55, CH ₃ OH): -15.0°
Assay		99.4%

Comment:

The calculation of the 100% method follows the formula:

Assay (%) = (100% - Water Content - Residual Solvents) * Purity HPLC (%) / 100%

Water Content and Residual Solvents are considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by:

Hin Lam

Reviewed by:

Cady

Aporoved by General manager:

David

Date: Nov 23, 2021

Date: May 17, 2022

Date: May 17, 2022

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