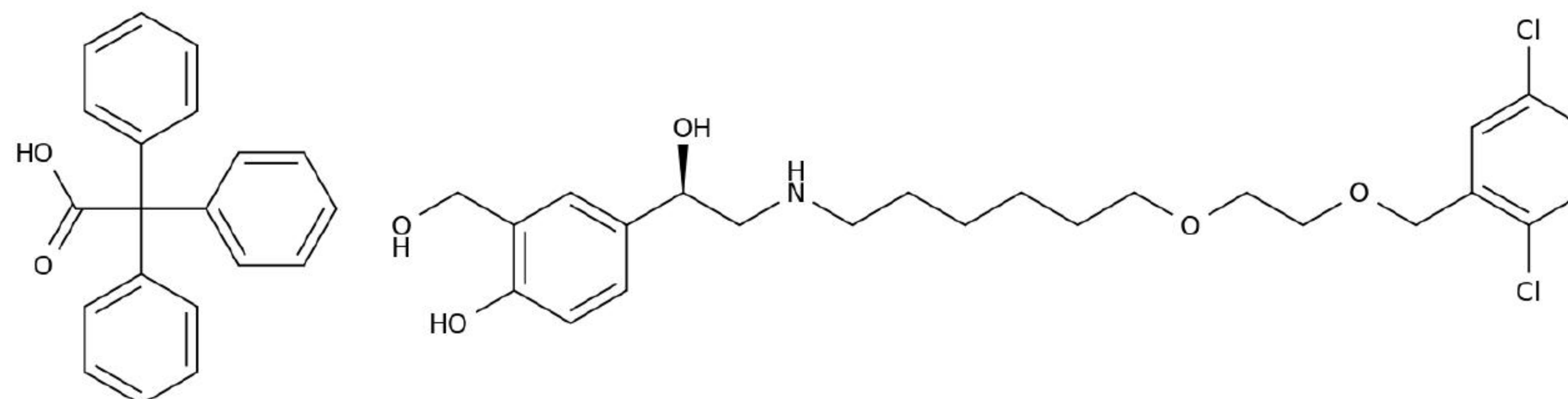


Certificate of Analysis

Reference Material

Product Name:	Vilanterol Impurity 28	Catalogue Number:	C4X-193528
Chemical Name:	N/A	Lot Number:	0519-RD-0035
CAS Number:	503069-68-9 (free base)	Expiry Date:	May 11, 2025
Molecular Formula:	C ₂₄ H ₃₃ Cl ₂ NO ₅ C ₂₀ H ₁₆ O ₂	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	486.43 288.34		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&IR&HNMR	Confirmed
Purity	HPLC	99.2497%
Water Content	Karl Fischer	0.2%
Residual Solvents	NMR	0.6% ethyl acetate
Optical Rotation		[α] _D ^{22.0} (c=0.45, CH ₃ OH): -15.0°
Assay		98.5%

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

Approved by General manager:

David

Date: May 13, 2022

Date: May 20, 2022

Date: May 20, 2022

