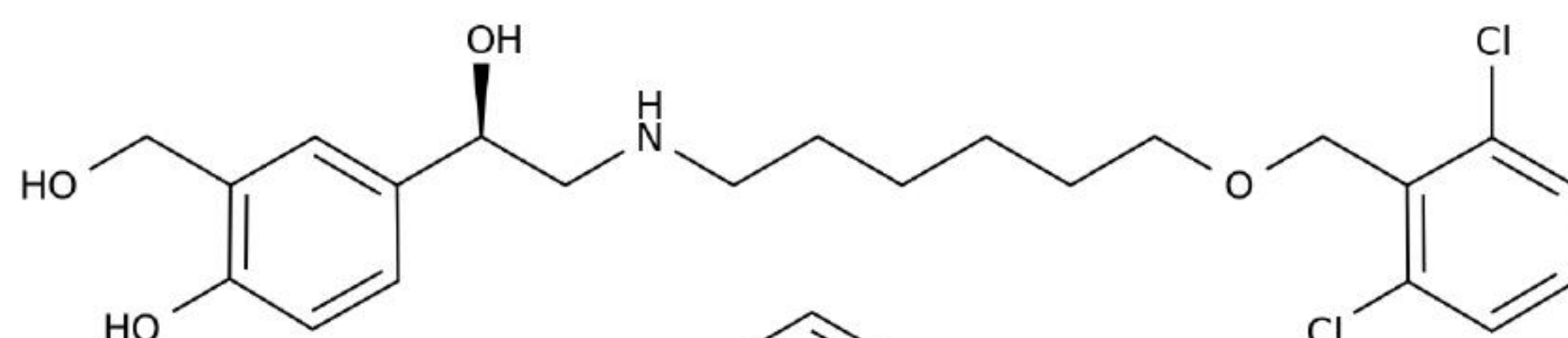


Certificate of Analysis

Reference Material

Product Name:	Vilanterol Impurity 29 Triphenylacetate	Catalogue Number:	C4X-193529
Chemical Name:	N/A	Lot Number:	0516-RD-0028
CAS Number:	N/A	Expiry Date:	Feb 03, 2024
Molecular Formula:	C ₂₂ H ₂₉ Cl ₂ NO ₄ C ₂₀ H ₁₆ O ₂	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	442.38 288.34		



Chemical Structure:

Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&IR&HNMR	Confirmed
Purity	HPLC	99.1643%
Water Content	Karl Fischer	0.3%
Residual Solvents	NMR	Not detected in NMR
Optical Rotation		[α] _D ^{20.0} (c=0.53, CH ₃ OH): -17.5°
Assay		98.9%

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: Feb 05, 2021

Date: May 17, 2022

Date: May 17, 2022

