



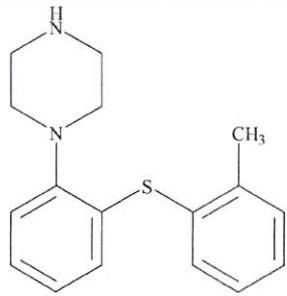
Certificate of Analysis

Certificate No.: 20250124505

Date: January 24, 2025

Retest date: January 22, 2028

Compound Name: Vortioxetine Impurity 1	
Synonyms:	1-(2-(<i>o</i> -tolylthio)phenyl)piperazine
TLC Catalogue Number:	V-043002
CAS Number:	1293489-71-0
Molecular Weight:	284.42
Molecular Formula:	C ₁₇ H ₂₀ N ₂ S
Source:	TLC Pharmaceutical Standards
Source Lot No.:	4861-037A3
Storage Conditions:	Store at 2-8 °C
Solubility:	Methanol, DMSO



Test Description	Specifications	Results
Visual Description	Brown semi-solid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.4%
Impurity (HPLC)	RT 6.80, 0.48%	
Water Content (KF)	N/A	0.2%
Residual Solvents (NMR)	0.1% methanol	
Assay (%)	Not less than 90.0%	99.1%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		01/24/2025
Approved by:	Quality Assurance		01/24/2025

Attachments: Peak Attribution Table, HPLC, IR, MS and NMR spectra.