

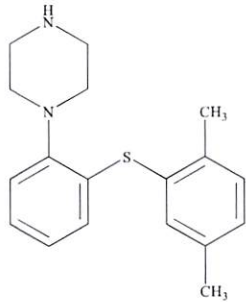
Certificate of Analysis

Certificate No.: 20230712501



Date: July 12, 2023

Retest date: July 7, 2026

Compound Name: Vortioxetine Impurity 8	
Synonyms:	1-(2-((2,5-dimethylphenyl)thio)phenyl)piperazine
TLC Catalogue Number:	V-043009
CAS Number:	508233-77-0
Molecular Weight:	298.45
Molecular Formula:	C ₁₈ H ₂₂ N ₂ S
Source:	TLC Pharmaceutical Standards
Source Lot No.:	4317-098A4
Storage Conditions:	Store at 2-8 °C
Solubility:	Methanol, DMSO, Acetonitrile



Test Description	Specifications	Results
Visual Description	Pale brown solid	Conforms
Identification		
IR	Conforms to structure	Conforms
MS	Conforms to structure	Conforms
¹H NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.3%
Impurity (HPLC)	RT 2.80, 0.17%; RT 3.99, 0.21%	
Water Content (KF)	N/A	0.3%
Residual Solvents (NMR)	0.1% methanol	
Assay (%)	Not less than 90.0%	98.9%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		07 / 15 / 2023
Approved by:	Quality Assurance		07 / 13 / 2023

Attachments: HPLC, IR, MS and NMR spectra.