

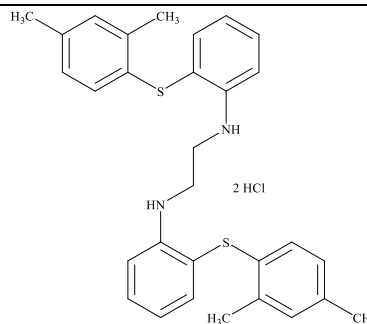
Certificate of Analysis

Certificate No.: 20210926003

Date: September 26, 2021

Retest date: September 22, 2024

Compound Name: Vortioxetine Impurity 28 DiHCl	
Synonyms:	<i>N</i> ¹ , <i>N</i> ² -bis(2-((2,4-dimethylphenyl)thio)phenyl)ethane-1,2-diamine, hydrochloride (1:2)
TLC Catalogue Number:	V-043031
CAS Number:	N/A
Molecular Weight:	484.72 2*36.46
Molecular Formula:	C ₃₀ H ₃₂ N ₂ S ₂ . 2 HCl
Source:	TLC Pharmaceutical Standards
Source Lot No.:	4631-077A3
Storage Conditions:	Store at 2-8 °C
Solubility:	Methanol, DMSO, Water



Test Description	Specifications	Results
Visual Description	White to off-white 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%	99.0%
Impurity (HPLC)	RT 1.41, 0.56%; RT 1.67, 0.26%	
Water Content (KF)	N/A	7.2%
Residual Solvents (NMR)	1.0% diethyl ether	
Assay (%)	Not less than 90.0%	90.9%
Recommendation:	Release.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		
Approved by:	Quality Assurance		

Attachments: HPLC, IR, MS and NMR spectra.