

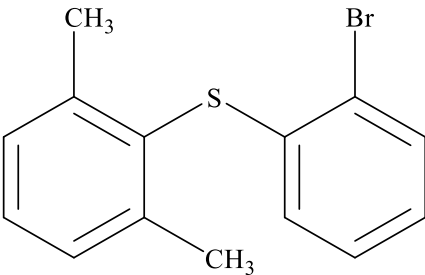
Certificate of Analysis

Certificate No.: 20210322015

Date: March 22, 2021

Retest date: March 12, 2024

Compound Name: Vortioxetine Impurity 48	
Synonyms:	(2-bromophenyl)(2,6-dimethylphenyl)sulfane
TLC Catalogue Number:	V-043056
CAS Number:	1474022-91-7
Molecular Weight:	293.22
Molecular Formula:	C ₁₄ H ₁₃ BrS
Source:	TLC Pharmaceutical Standards
Source Lot No.:	4439-001A4
Storage Conditions:	Store at 2-8 °C
Solubility:	DMSO, solution of Methanol and Acetonitrile



The chemical structure shows a central sulfur atom (S) bonded to two phenyl rings. The left phenyl ring has methyl groups (CH₃) at the 2 and 6 positions. The right phenyl ring has a bromine atom (Br) at the 1 position.

Test Description	Specifications	Results
Visual Description	White to off-white 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%	99.2%
Impurity (HPLC)	RT 8.76, 0.31%; RT 9.86, 0.20%; RT 14.25, 0.13%	
Water Content (KF)	N/A	0.1%
Residual Solvents (NMR)	0.2% methanol	
Assay (%)	Not less than 90.0%	98.9%
Recommendation:	Released.	

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

Attachments: HPLC, IR, MS and NMR spectra.