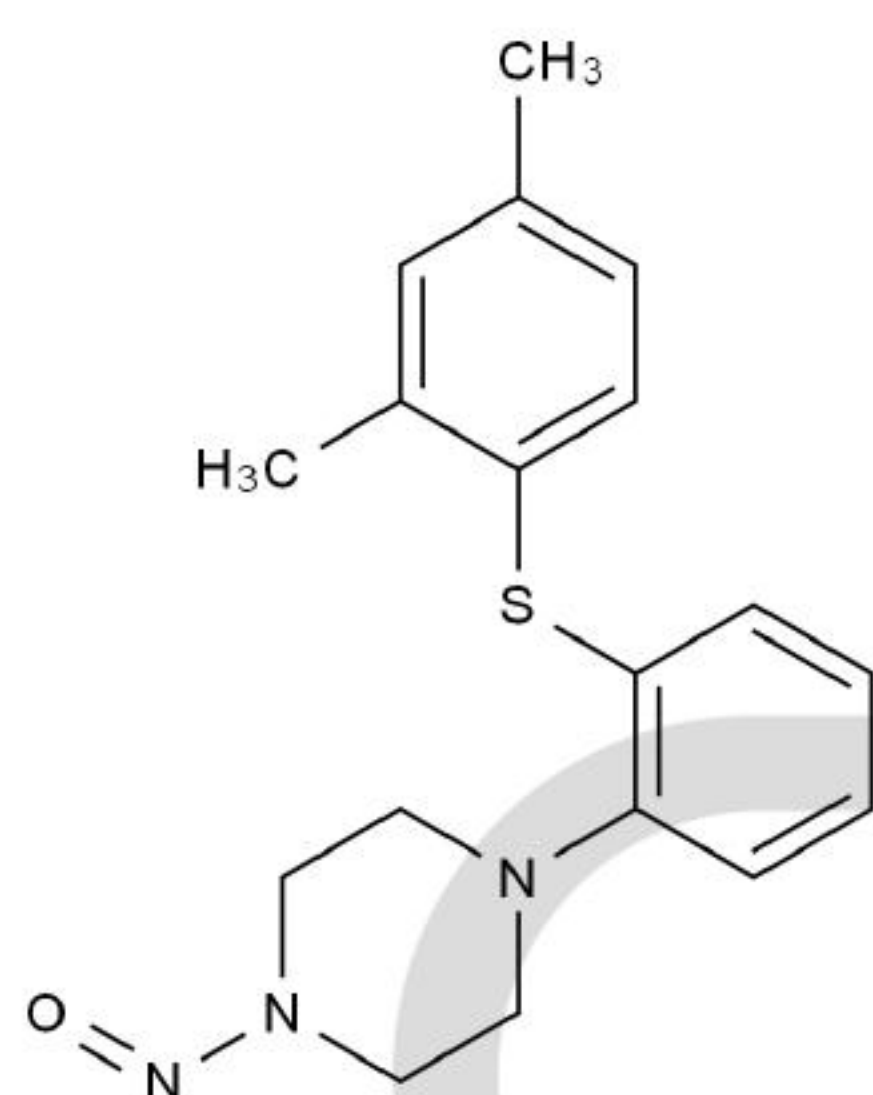


Certificate of Analysis

Reference Material & Standard

Product Name:	Vortioxetine Impurity 45	Catalogue Number:	C4X-105645
Synonyms:	1-{2-[(2,4-Dimethylphenyl)thio]phenyl}-4-nitropiperazine	Lot Number:	0525-RH-0108
CAS Number:	2925447-38-5	Expiry Date:	May 31, 2030
Molecular Formula:	C ₁₈ H ₂₁ N ₃ OS	Storage:	2°C ~ 8°C Sealed
Molecular Weight:	327.44	Shipping Condition:	Shipping at Room Temperature
Solubility:	Soluble in Acetonitrile, DMSO and Chloroform		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Light Yellow Solid
Identification	LCMS&IR&CNMR&HNMR	Confirmed
Purity	HPLC	99.895%
Residue on Ignition	TGA	0.7992%
Loss on Drying	TGA	0.0494%
Assay	qNMR	98.3%
Assay	Mass Balance	99.0%

Comment:

- The retest date of this product is May 31, 2029.
- The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

$$\text{Assay (\%)} = (100\% - \text{Residue on Ignition} - \text{Loss on Drying}) * \text{Purity HPLC (\%)} / 100\%$$
Residue on Ignition and Loss on Drying are considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by:

Koi

Reviewed by:

Alice

Approved by General Manager:

David

Date: Jun 01, 2026

Date: Jun 01, 2026

Date: Jun 01, 2026



Add: 3rd Floor, Building B, No.179, Guangpu Rd East, Huangpu District, Guangzhou, China

Tel: +86-20-81960175

Email: supports@cato-chem.com

Web: <https://www.cato-chem.com>

