

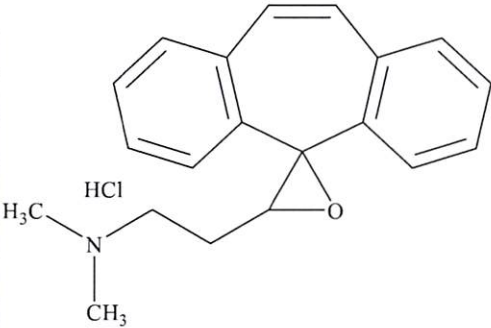
## Certificate of Analysis

Certificate No.: **20250630017**

Date: June 30, 2025



Retest date: June 25, 2028

<b>Compound Name:</b> Cyclobenzaprine Impurity 7 HCl	
<b>Synonyms:</b>	<i>N,N</i> -dimethyl-2-(spiro[dibenzo[ <i>a,d</i> ][7]annulene-5,2'-oxiran]-3'-yl)ethan-1-amine, hydrochloride (1:1)
<b>TLC Catalogue Number:</b>	C-3123
<b>CAS Number:</b>	N/A
<b>Alternate CAS Number:</b>	1645267-83-9 (free base)
<b>Molecular Weight:</b>	291.39 36.46
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>21</sub> NO. HCl
<b>Source:</b>	TLC Pharmaceutical Standards
<b>Source Lot No.:</b>	6699-053A5
<b>Storage Conditions:</b>	Store at 2-8 °C
<b>Solubility:</b>	Methanol, DMSO, DMF



The chemical structure shows a spirocyclic system consisting of a dibenzospiro[7.5]annulene core with an oxirane ring at the 2' position. Attached to the 3' position of the annulene is a 2-(dimethylamino)ethyl chain, which is shown as a hydrochloride salt (HCl).

Test Description	Specifications	Results
<b>Visual Description</b>	White to off-white solid	<b>Conforms</b>
<b>Identification</b>		
IR	Conforms to structure	<b>Conforms</b>
MS	Conforms to structure	<b>Conforms</b>
<sup>1</sup> H NMR	Conforms to structure	<b>Conforms</b>
<b>Purity (HPLC)</b>	Not less than 95.0%	<b>99.3%</b>
<b>Impurity (HPLC)</b>	RT 7.88, 0.19%; RT 11.36, 0.29%	
<b>Water Content (KF)</b>	N/A	<b>0.3%</b>
<b>Residual Solvents (NMR)</b>	0.2% acetonitrile	
<b>Assay (%)</b>	Not less than 90.0%	<b>98.8%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		07/02/2025
Approved by:	Quality Assurance		07/02/2025

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