

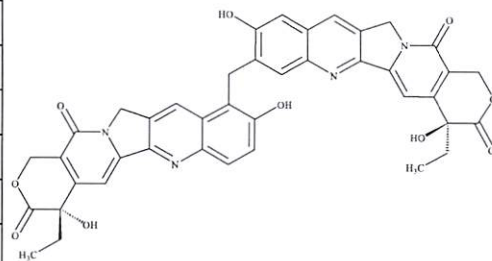
## Certificate of Analysis

Certificate No.: **20250605003**



Date: June 5, 2025

Retest date: May 26, 2028

<b>Compound Name:</b> Camptothecin Impurity 12	
<b>Synonyms:</b>	(S)-4-ethyl-8-(((S)-4-ethyl-4,9-dihydroxy-3,14-dioxo-3,4,12,14-tetrahydro-1H-pyrano[3',4':6,7]indolizino[1,2-b]quinolin-10-yl)methyl)-4,9-dihydroxy-1,12-dihydro-14H-pyrano[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H)-dione
<b>TLC Catalogue Number:</b>	C-7331
<b>CAS Number:</b>	N/A
<b>Alternate CAS Number:</b>	N/A
<b>Molecular Weight:</b>	740.73
<b>Molecular Formula:</b>	C <sub>41</sub> H <sub>32</sub> N <sub>4</sub> O <sub>10</sub>
<b>Source:</b>	TLC Pharmaceutical Standards
<b>Source Lot No.:</b>	6760-025A7
<b>Storage Conditions:</b>	Store at 2-8 °C
<b>Solubility:</b>	DMSO, DMF



Test Description	Specifications	Results
<b>Visual Description</b>	Pale yellow 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>99.1%</b>
<b>Impurity (HPLC)</b>	RT 4.93, 0.24%; RT 6.92, 0.17%; RT 12.70, 0.16%	
<b>Optical Rotation</b>	N/A	[α] <sub>D</sub> <sup>25.0</sup> (c=0.72, DMSO): <b>-68.6°</b>
<b>Residual Solvents (NMR)</b>	0.1% dichloromethane	
<b>Assay (qNMR)</b>	Not less than 90.0%	<b>92.9%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		06/05/2025
Approved by:	Quality Assurance		06/05/2025

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