

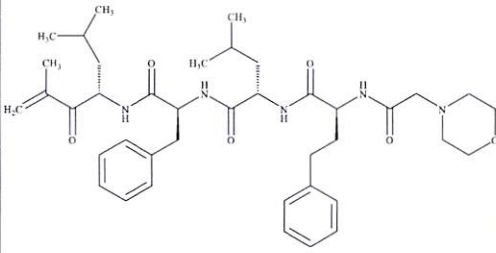
## Certificate of Analysis

Certificate No.: **20220825008**



Date: August 25, 2022

Retest date: August 24, 2025

<b>Compound Name:</b> Carfilzomib Impurity 8	
<b>Synonyms:</b>	(S)-N-((S)-1-(((S)-2,6-dimethyl-3-oxohept-1-en-4-yl)amino)-1-oxo-3-phenylpropan-2-yl)-4-methyl-2-((S)-2-(2-morpholinoacetamido)-4-phenylbutanamido)pentanamide
<b>TLC Catalogue Number:</b>	C-121011
<b>CAS Number:</b>	1660143-42-9
<b>Molecular Weight:</b>	703.93
<b>Molecular Formula:</b>	C <sub>40</sub> H <sub>57</sub> N <sub>5</sub> O <sub>6</sub>
<b>Source:</b>	TLC Pharmaceutical Standards
<b>Source Lot No.:</b>	3857-073A4
<b>Storage Conditions:</b>	Store at 2-8 °C
<b>Solubility:</b>	Methanol, DMSO, DMF, Acetonitrile



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>98.2%</b>
<b>Impurity (HPLC)</b>	RT 8.62, 0.61%; RT 17.01, 1.23%	
<b>Water Content (KF)</b>	N/A	<b>0.7%</b>
<b>Optical Rotation</b>	N/A	[α] <sub>D</sub> <sup>25.0</sup> (c=0.58, CHCl <sub>3</sub> ): <b>-25.7°</b>
<b>Residual Solvents (NMR)</b>	No residual solvent	
<b>Assay (%)</b>	Not less than 90.0%	<b>97.5%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		08 / 26 / 2022
Approved by:	Quality Assurance		08 / 26 / 2022

**Attachments:** HPLC, IR, MS and NMR spectra.