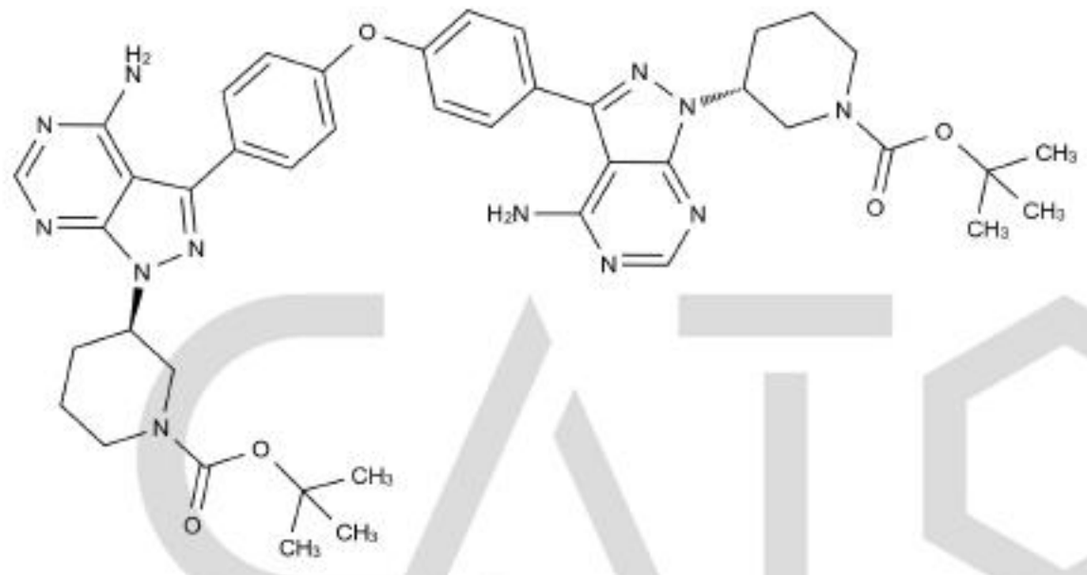
Certificate of Analysis

Reference Material & Standard

Product Name:	Ibrutinib Impurity 178	**Catalogue Number:**	C4X-1064178
Synonyms:	N/A	**Lot Number:**	1005-SA-7136
CAS Number:	N/A	**Expiry Date:**	Oct 04, 27
Molecular Formula:	$C_{42}H_{50}N_{12}O_5$	**Storage:**	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	802.92		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Solid
Identification:	LC&HNMR	Confirmed
Purity:	HPLC	98.634%

CATO Research Chemicals Inc.

Signature:

Prepared by: Lisa Date: Oct 05, 23

Reviewed by: Yuki Date: Oct 05, 23

Approved by General Manager: David Date: Oct 05, 23

CATO Research Chemicals Inc.

Directions:

1. Intended use: This product is suitable for identification and quantification of the analyte(s), instrument calibration, method development and quality control in analytical and R&D applications. It is not intended for administration to humans or animals, and shall not be used to diagnose, treat or cure any diseases.

2. Minimum sample size: 1mg is recommended as the minimum sample size.

3. Metrological traceability: This product meets the requirements of ISO 17034 and is traceable to NMI through an unbroken chain of comparisons.

4. Instructions for handling and correct use: Handling in a well-ventilated place.

Document Version:

Revision No.	Date	Reason for Revision
01	Oct 05, 23	First release.

CATO Research Chemicals Inc.