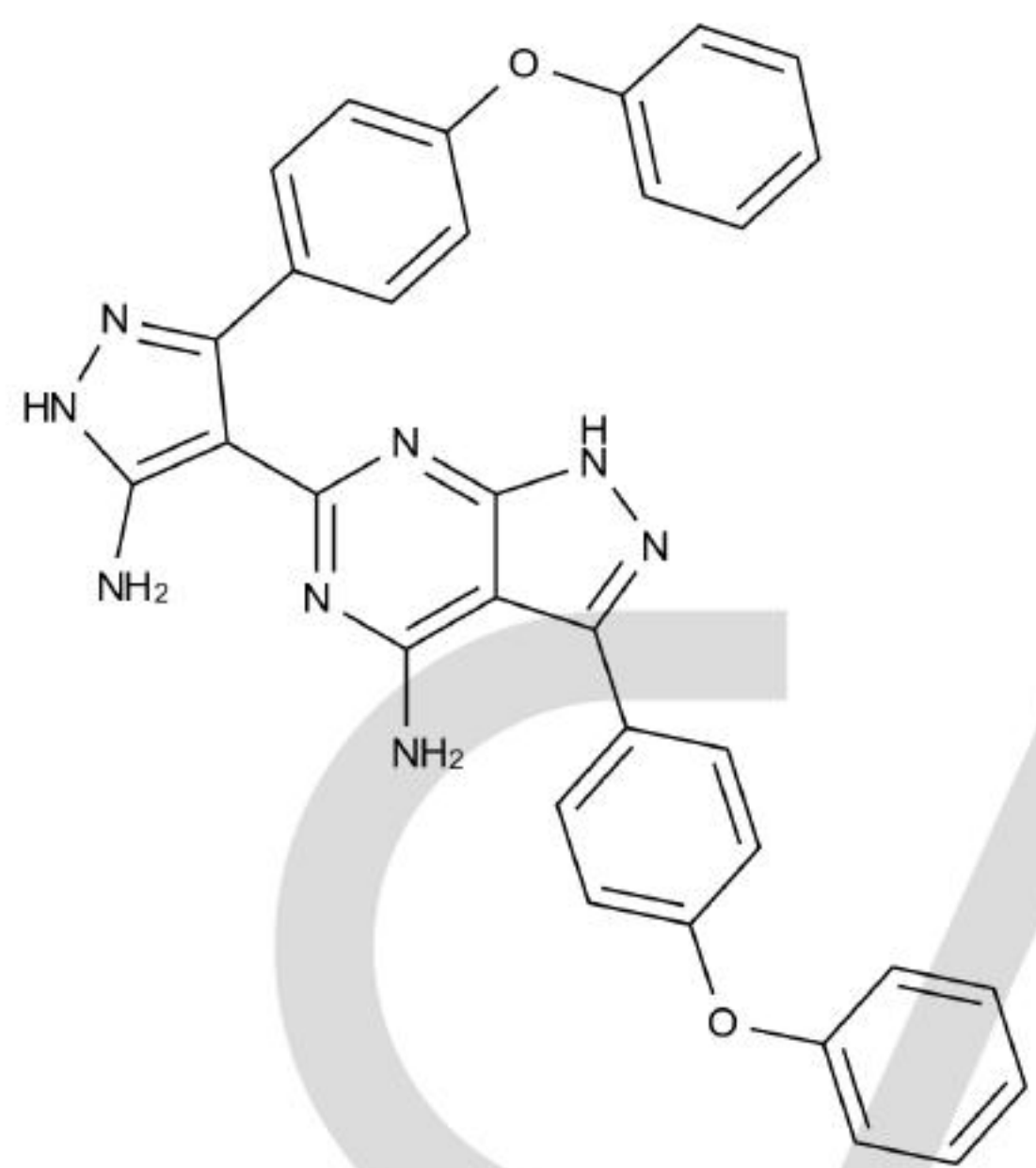


Certificate of Analysis

Reference Material & Standard

Product Name:	Ibrutinib Impurity 148	Catalogue Number:	C4X-1064148
Synonyms:	N/A	Lot Number:	1117-RG-0067
CAS Number:	N/A	Expiry Date:	Dec 25, 2029
Molecular Formula:	C ₃₂ H ₂₄ N ₈ O ₂	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	552.59	Shipping Condition:	Shipping at Room Temperature

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Pale Yellow Solid
Identification	LCMS&HNMR	Confirmed
Purity	HPLC	96.1339%
Loss On Drying	TGA	0.7884%
Assay		95.4%

Comment:

The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

Assay (%) = (100% - Loss On Drying) * Purity HPLC (%) / 100%

Loss On Drying is considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by:

Nice

Reviewed by:

Koi

Approved by General Manager:

David

Date: Dec 29, 2025

Date: Dec 29, 2025

Date: Dec 29, 2025

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