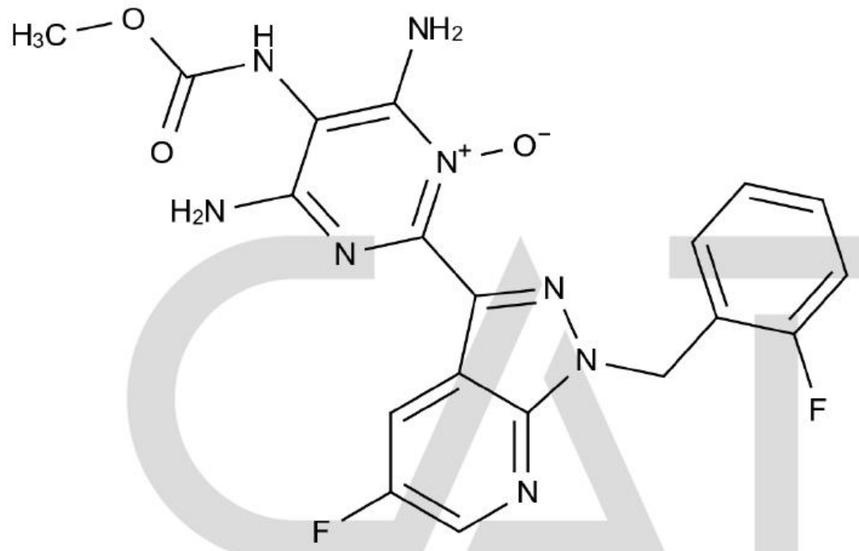
Certificate of Analysis

Reference Material & Standard

Product Name:	Vericiguat impurity 49	**Catalogue Number:**	C4X-289649
Synonyms:	N/A	**Lot Number:**	0927-RH-0090
CAS Number:	N/A	**Expiry Date:**	Mar 30, 2029
Molecular Formula:	$C_{19}H_{16}F_2N_8O_3$	**Storage:**	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	442.38	**Shipping Condition:**	Shipping at Room Temperature
		Warning:	

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Yellow Solid
Identification	LCMS&UV&HNMR	Confirmed
Purity	HPLC	98.143%
Water Content	Karl Fischer	2.16%
Residual Solvents	NMR	2.71% methanol
Assay	Mass Balance	93.4%

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Comment:

The calculation of the mass balance method follows the formula (calculated on the non-dried basis):
*Assay (%) = (100%-Water Content-Residual Solvents) * Purity HPLC (%) /100%*
Water Content and Residual Solvents are considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by: Date: Sep 30, 2026

Reviewed by: Date: Sep 30, 2026

Approved by General Manager: Date: Sep 30, 2026

CATO Research Chemicals Inc.