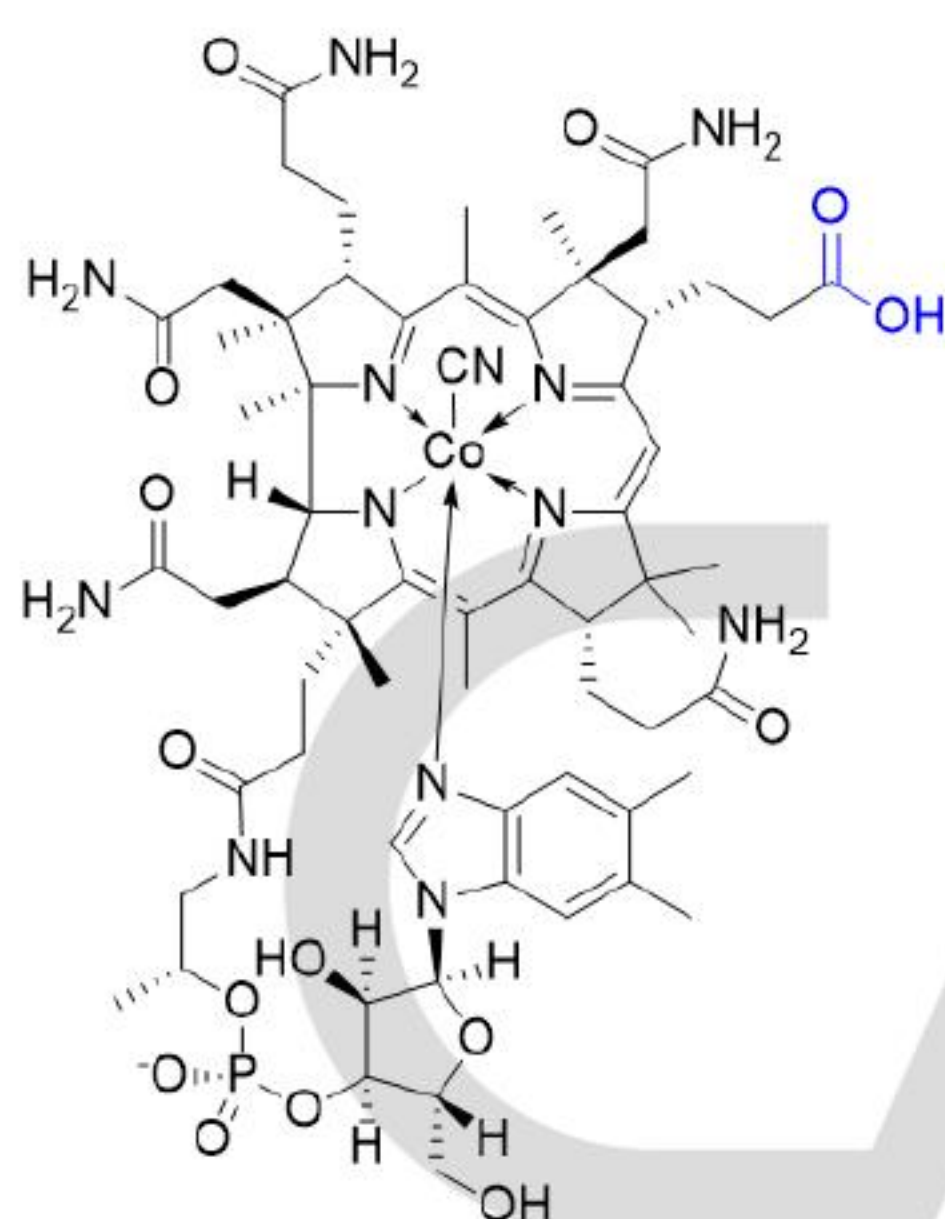


Certificate of Analysis

Reference Material & Standard

Product Name:	Cyanocobalamin /Vitamin B12 Impurity 23	Catalogue Number:	C4X-187423
Synonyms:	N/A	Lot Number:	1015-RF-0032
CAS Number:	38218-55-2	Expiry Date:	Jun 28, 2027
Molecular Formula:	C ₆₃ H ₈₇ CoN ₁₃ O ₁₅ P	Storage:	-20°C±5°C Protected from light and Sealed
Molecular Weight:	1356.37	Warning:	

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Red Solid
Identification	LCMS&CNMR&HNMR	Confirmed
Purity	HPLC	98.325%
Water Content	Karl Fischer	7.92%
Residual Solvents	NMR	Not detected in NMR
Assay		90.5%

Comment:

The calculation of the 100% 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:

Koi

Reviewed by:

Lisa

Approved by General Manager:

David

Date: Dec 16, 2024

Date: Dec 16, 2024

Date: Dec 16, 2024

