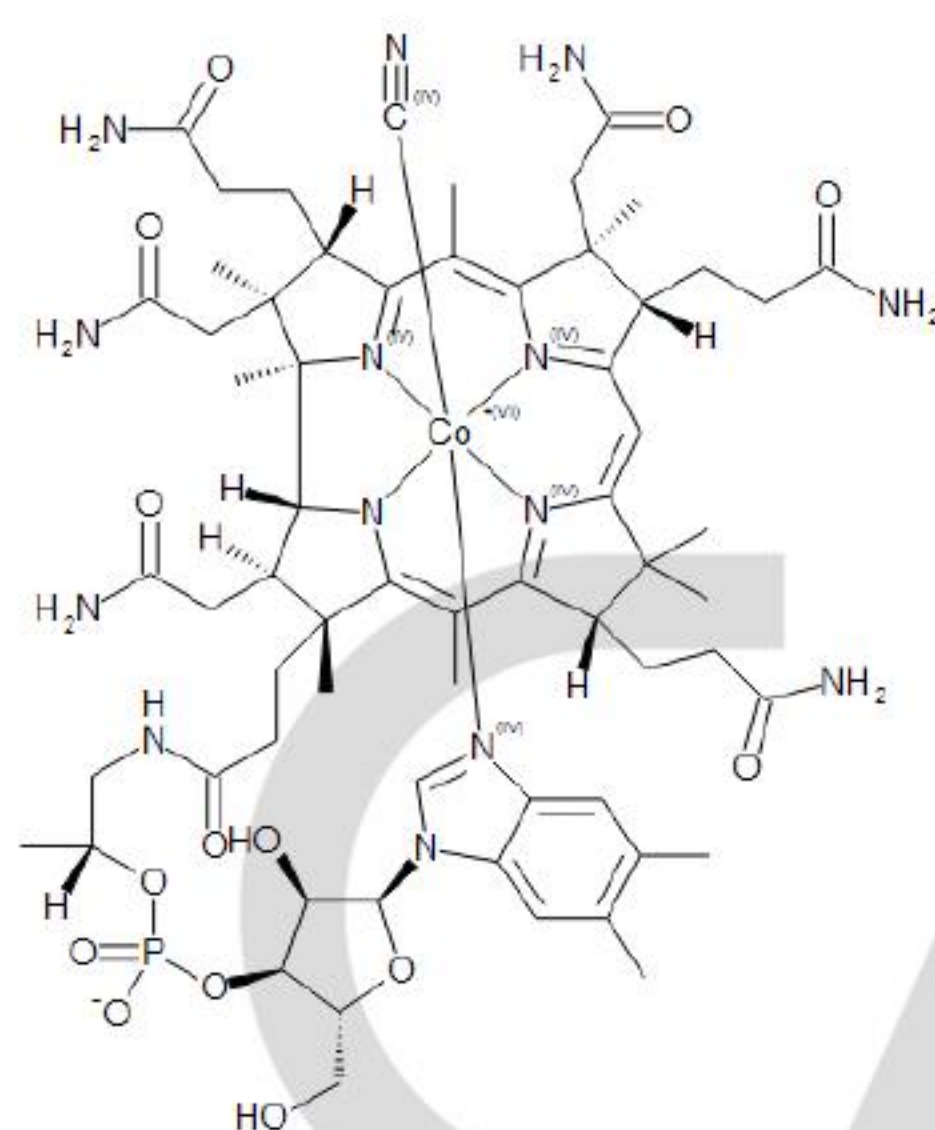


Certificate of Analysis

Reference Material & Standard

Product Name:	Cyanocobalamin (Vitamin B12)	Catalogue Number:	CCFD200070
Synonyms:	N/A	Lot Number:	0603-RH-0078
CAS Number:	68-19-9	Expiry Date:	Jun 04, 2030
Molecular Formula:	C ₆₂ H ₈₈ N ₁₃ O ₁₄ P Co CN	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	1270.41 58.93 26.02	Shipping Condition:	Shipping at Room Temperature
Solubility:	Water		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Red Solid
Identification	LCMS&HNMR	Confirmed
Purity	HPLC	99.722%
Loss on Drying	TGA	4.7278%
Assay		95.0%
Uncertainty		±0.5%

Comment:

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

$$\text{Assay (\%)} = (100\% - \text{Loss on Drying}) * \text{Purity HPLC (\%)} / 100\%$$

Loss on Drying is considered as absolute effect, HPLC purity is considered as relative effect.
- The uncertainty values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Signature:

Prepared by:

Nice

Reviewed by:

Lisa

Approved by General Manager:

David

Date: Jun 05, 2026

Date: Jun 05, 2026

Date: Jun 05, 2026



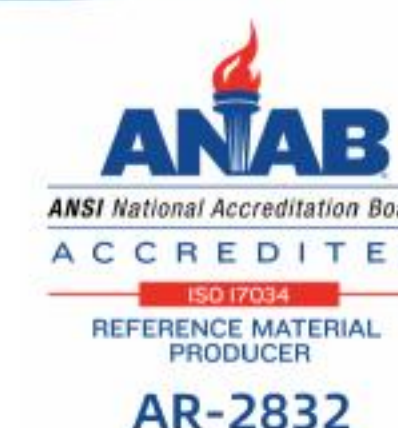
Add: 3rd Floor, Building B, No.179, Guangpu Rd East, Huangpu District, Guangzhou, China

Tel: +86-20-81960175

Email: supports@cato-chem.com

Web: <https://www.cato-chem.com>

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