



## CERTIFICATE OF ANALYSIS

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### 1. Identification

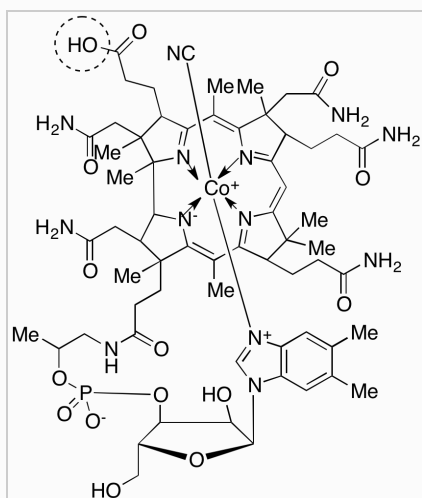
**Catalogue Number:** C953620

**CAS Number:** 38218-77-8

**Product:** Cyanocobalamin-b-carboxylic Acid

**Synonym:** 3'-Ester with 5,6-dimethyl-1- $\alpha$ -D-ribofuranosylbenzimidazole Cobinic acid-acdeg-pentamide Cyanide Phosphate Inner Salt; 3'-Ester with 5,6-dimethyl-1- $\alpha$ -D-ribofuranosyl-1H-benzimidazole Cobinic Acid-acdeg-pentamide Cyanide, Dihydrogen Phosphate (Ester) Inner Salt; CBC 195; 32-Carboxycyanocobalamin;

**Structure:**



**Molecular Formula:**

$C_{63}H_{87}CoN_{13}O_{15}P$

**Molecular weight:**

1356.35

**Source of Product:**

Synthetic

**Solubility:**

Methanol (Slightly), Water (Slightly)

**Lot Number:** 12-AQL-32-1

**Purity:** 98%

**Shipping Condition:** This Product Is Stable To Be Shipped At Room Temperature

**Storage Condition:** -20°C

### 2. Warning

**Warning 1:**

**Warning 2:**

**Warning 3:**

### 3. Analytical Information

Tests:	Specifications:	Results:
Appearance	Red to Very Dark Red Solid	Red to Dark Red Solid
FT-IR	Conforms to Structure	Conforms
NMR	Conforms to Structure	Conforms
HPLC Purity	Report Result	99.53% (210 nm)
P NMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 53.53, %H: 6.61, %N: 13.08
MS	Conforms to Structure	Conforms
Water Content	Report Result	~3.8% based on Elemental Analysis

**Additional Information:** N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of  $\pm 2\%$ . Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

### 4. Signatures

Reviewed By	Reviewed By	C of A Approved By	Test Date	Retest Date
Henry Tieu	Toni Rantanen	Christina Gouliaras	12/24/2021	12/22/2025
				