Analysis Report

Report No: 20251125-1; Project No: P0034943

MACQUARIE University
SYDNEY·AUSTRALIA

Macquarie Analytical and Fabrication Facility

To: House of Supplements Australia Pty Ltd

25 November 2025

Report: bulk purity determination of NMN by qNMR

The sample was delivered packaged in sealed pouches protected from light.

Table 1. Samples submitted for the NMR analysis.

Sample ID	Description
NMN POWDER SAMPLE	White crystalline material

Chemicals and instrumentation

NMR spectra were recorded on a Bruker 400 MHz Avance III HD spectrometer. The qNMR standard and the deuterated solvent were acquired from Sigma Aldrich. The standard was dried at 100°C overnight before the analysis.

Sample preparation

The replicates of each sample (15-35 mg each) and 10-25 mg of maleic acid (qNMR internal standard) were accurately weighted to ±10 µg, mixed in glass HPLC vials and dissolved in 0.6 mL of D_2O. The resulting solutions were transferred into NMR tubes and submitted for analysis.

Acquisition of NMR spectra

The qNMR spectra were recorded with 7.0 s acquisition time and 53.0 s of interscan delay thus covering the duration of the free induction decay by at least factor of 7×T1 per scan for all protons (FID size 89742 points, spectral width 16 ppm; transmitter frequency offset 4.70 ppm, 16 scans). The standard **zg30** ^{1}H NMR pulse sequence was applied for acquisition. The concentration of the target product was determined against the singular response of the maleic acid standard at 6.29 ppm.

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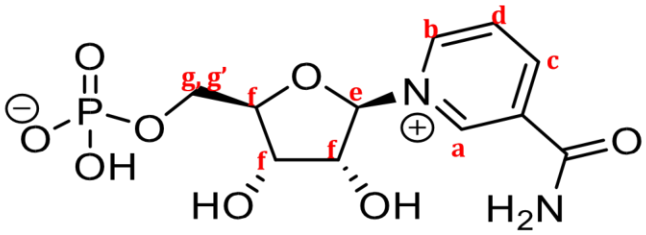

β-Nicotinamide Mononucleotide

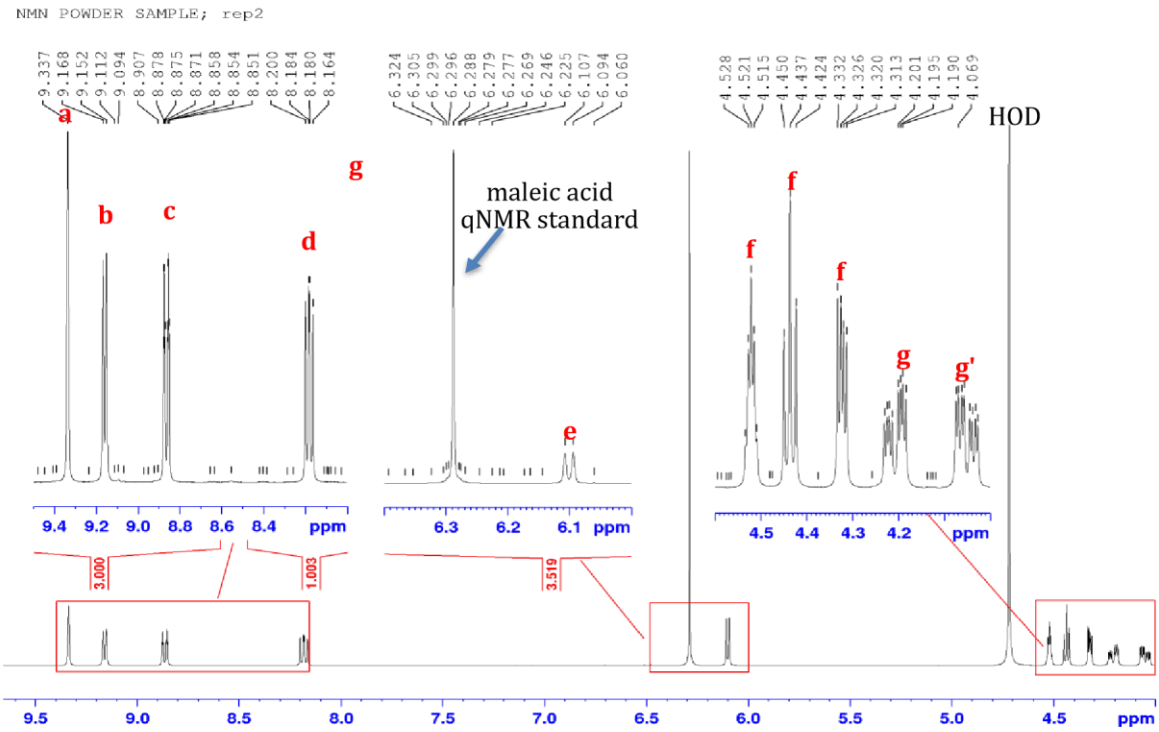

Figure 1. Structural formula of NMN and ^{1}H NMR with the assignment of all observed signals (zg30, D_2O, 400.15 MHz). The positions of the residual solvent signal and the internal standard are marked.

Table 1. Absolute purity of NMN.

Sample ID	Absolute content replicate 1, wt.%	Absolute content replicate 2, wt.%
NMN POWDER SAMPLE	**99.56**	**99.49**

Notes

- Spectral signature of the compound coincides with the nicotinamide mononucleotide.