



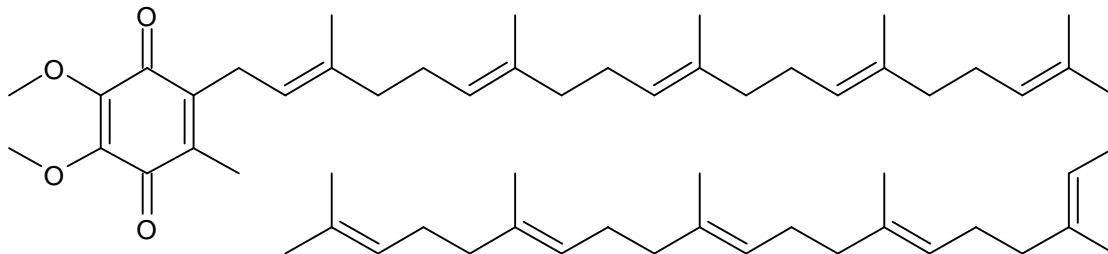
Test Report

Sample name: "CoQ10 sample"
Client: Hansen Sp. z o.o., ul. Zaborowska 8, 05-083 Zaborów, Poland
Purpose of test: Verification of delivered product
Sample description: Coenzyme Q10
Brand name: Hansen Supplements

Description of substance:

Sample size: 2 g
Property: pale yellow powder
Formula: C₅₉H₉₀O₄
CAS number: 303-98-0
Chemical name: 2-[(2E,6E,10E,14E,18E,22E,26E,30E,34E)-3,7,11,15,19,23,27,31,35,39-Decamethyltetraconta-2,6,10,14,18,22,26,30,34,38-decaen-1-yl]-5,6-dimethoxy-3-methylcyclohexa-2,5-diene-1,4-dione

Structure:



Batch No.: XJY17220301
Date received: 10.02.2023
Test items: Identification of substance, purity, heavy metals
Summary: The sample has been identified and found to be of high quality
Measured purity: **Above 98%** according to ¹H NMR analysis. Appropriate spectra are shown in (Fig. 1 and 2).

Authentication method: Standard and literature NMR shifts according to Monakhova, Yulia B., Ingrid Ruge, Thomas Kuballa, Christiane Lerch, and Dirk W. Lachenmeier. "Rapid determination of coenzyme Q10 in food supplements using 1H NMR spectroscopy." *Int. J. Vitam. Nutr. Res* 83, no. 1 (2013): 67-72; Bao, Kangde, Chaojun Zhang, Shenggu Xie, Guifang Feng, Shiyu Liao, Lietao Cai, Jiajia He, Yueqin Guo, and Chengxi Jiang. "A Simple and Accurate Method for the Determination of Related Substances in Coenzyme Q10 Soft Capsules." *Molecules* 24, no. 9 (2019): 1767 and ACDLABS database.



All values are within the relevant standards

Test results:

Purity:

Heavy metals: n.d.

Pb (Lead): n.d.

Hg (Mercury): n.d.

Cd (Cadmium): n.d.

As (Arsen): n.d.

Comments:

n.d. – not detected, below limit of detection on AAS spectr AA240FS + AA240Z + GTA120

Date: 2.05.2023

Tested by: Antoni Szumny

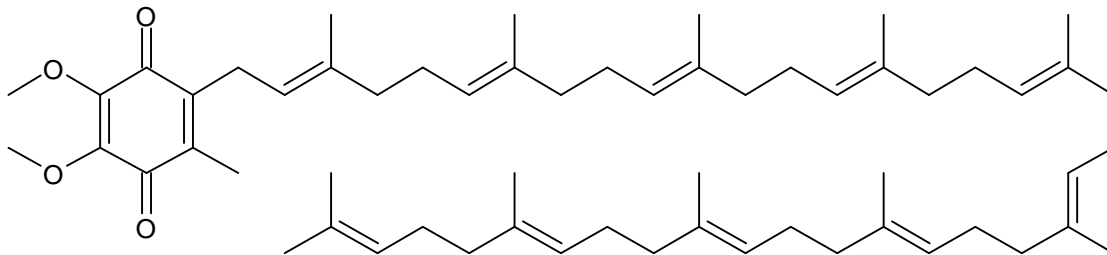


Figure 1. Chemical structure of Coenzyme Q10

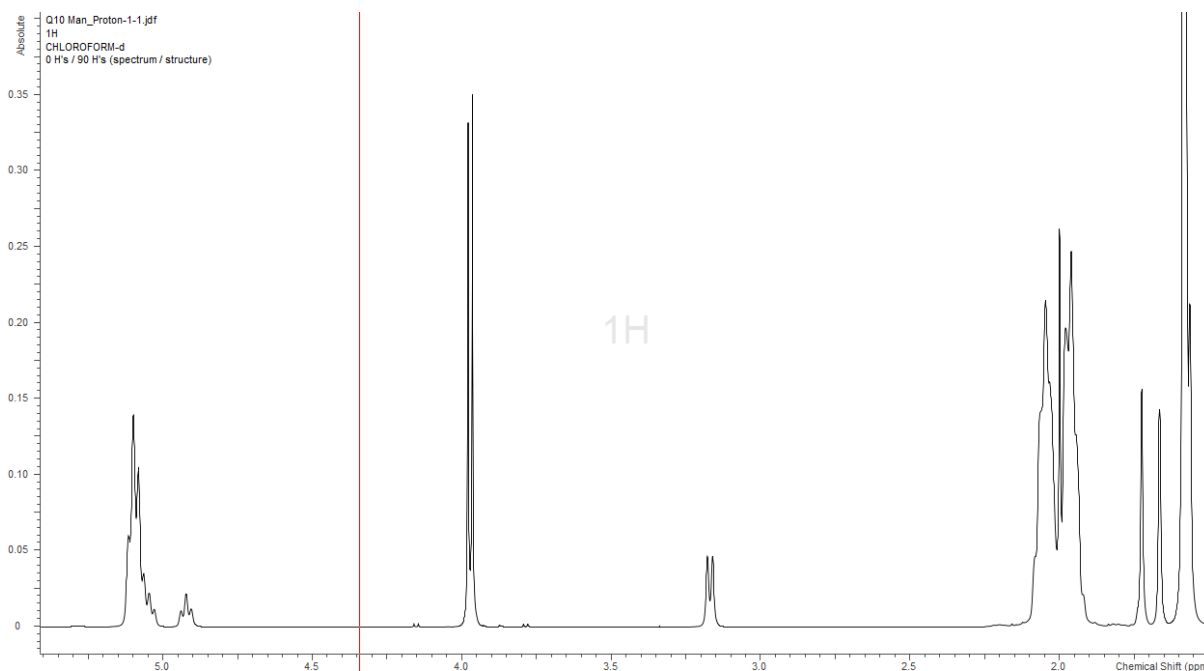


Figure 1. ^1H NMR of Q-10, batch No. XJY17220301 of NMR (in CDCl_3) full spectrum;

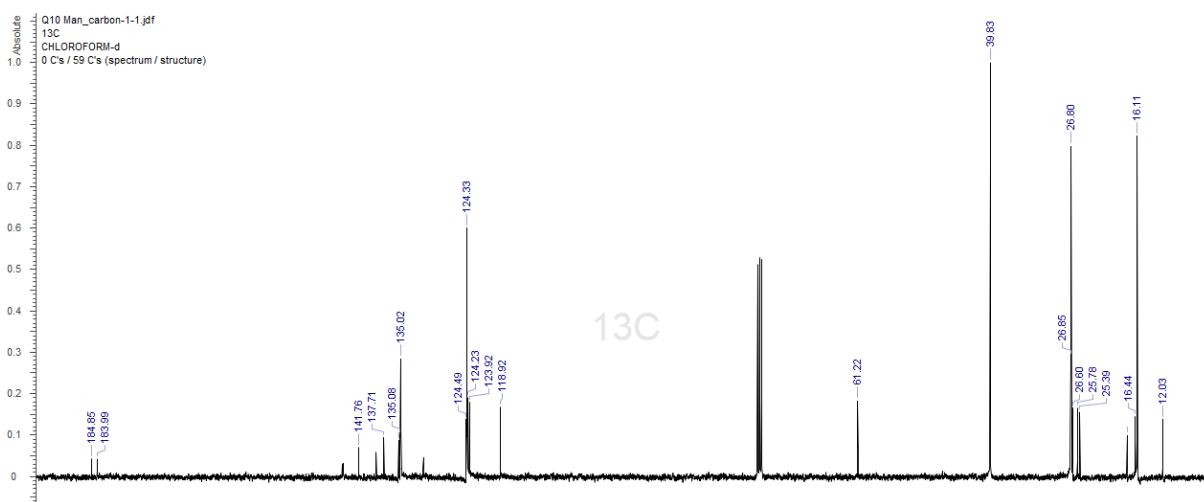


Figure 2. ^{13}C NMR of Q-10, batch No. XJY17220301 of NMR (in CDCl_3) full spectrum;



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02.05.2023, Antoni Szumny

