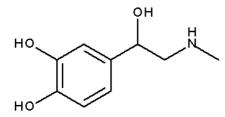


Certificate of Analysis



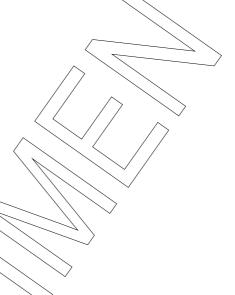
DL-Adrenaline Hydrochloride



Molecular Formula: $C_9H_{13}NO_3$. HCI

Molecular Weight: 219.67

CAS Number: 329-63-5



Catalogue Number: LGCFOR0614.12

Lot Number: 996802

Long-term Storage: 2 to 8 °C, dark Appearance: light grey solid

Melting Point (DSC): 162 °C Assay 'as is': 100.1 %

Date of shipment: 2020-November-30

HCI

This certificate is valid one year from the date of shipment provided the substance is stored under the recommended conditions unopened in the original container.

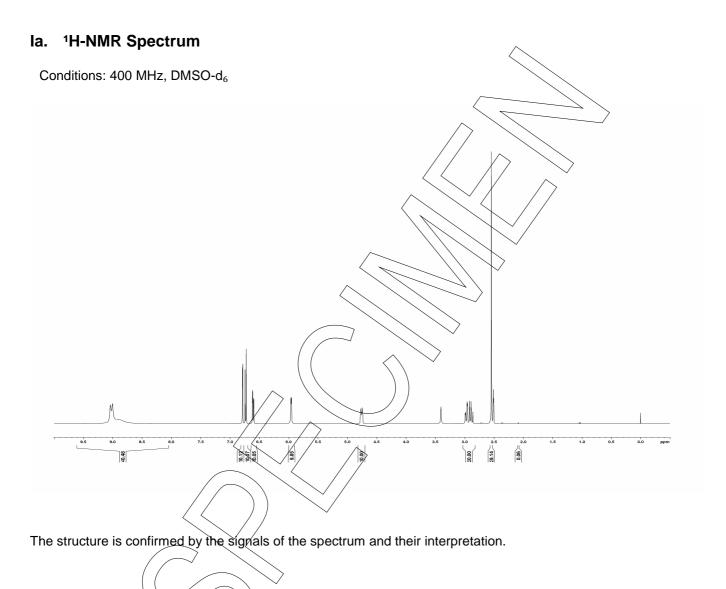






I. Identity

The identity of the reference substance was established by following analyses.

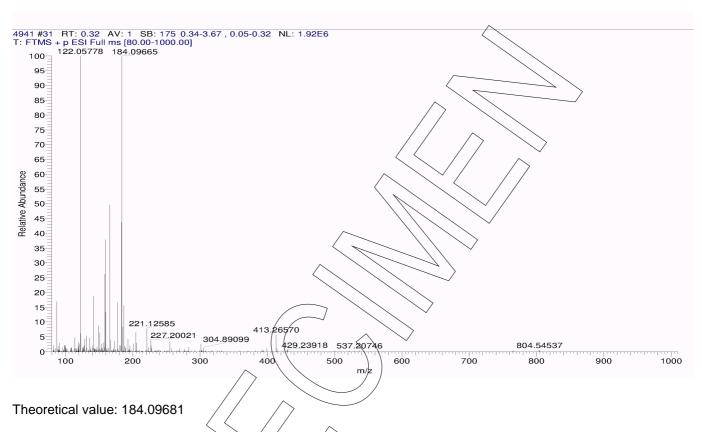




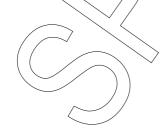


lb. Mass Spectrum

Method: HRMS; 3.5 kV ESI+; capillary temperature: 269 °C



The signal of the MS spectrum is consistent with the theoretical value and its interpretation is consistent with the structural formula.

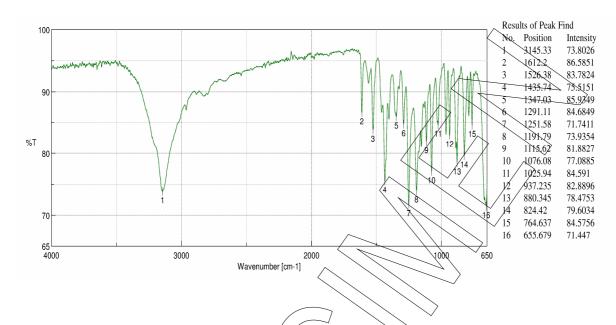






Ic. IR Spectrum

Method: Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy



The signals of the IR spectrum and their interpretation are consistent with structural formula.



IIa. Water Content

Method: Karl Fischer titration Results:

Average Number of results n<u>≥</u>3

Standard deviation 0.02 %

Ilb. Residual Solvents

Residual Solvent Average Method Acetic acid 0.05 % ¹H-NMR

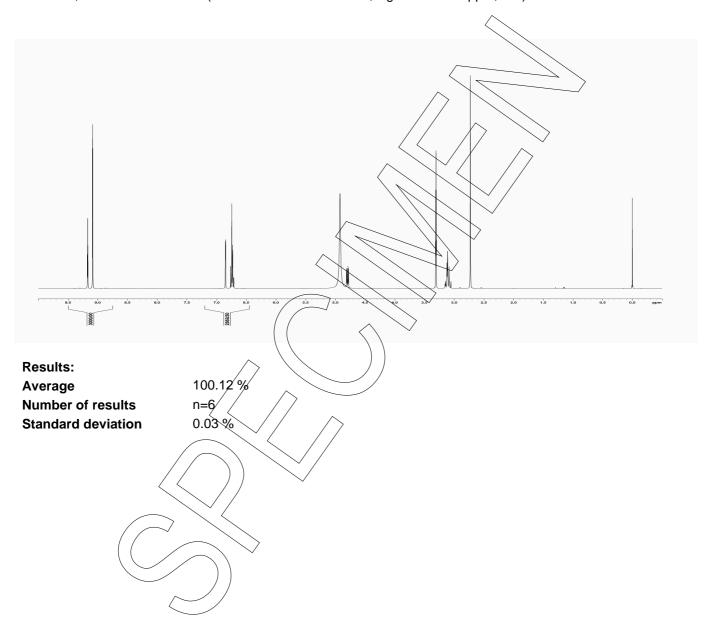
0.08/%

produced by LGC



III. Assay by quantitative NMR spectroscopy

The assay of the reference substance was established by quantitative NMR spectroscopy using CD₃OD as solvent and with 3,5-Dinitrobenzoic acid (certified reference material, signal 8.8 - 9.5 ppm, 3 H) as internal standard.





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IV. Final Result

Water content 0.08 % Residual solvents 0.05 %

Assay

Quantitative NMR spectroscopy 100.12 %

The assay is assessed to be 100.1 % 'as is'

The assay 'as is' is equivalent to the assay based on the not anhydrous and not dried substance respectively.

Release Date:

Luckenwalde, 2019-January-09

Signed:

Dr. Sabine Schröder Rroduct Release

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