BDG SYNTHESIS

Certificate of Analysis

BDG Synthesis certifies that this reference material meets or exceeds the specifications stated herein.

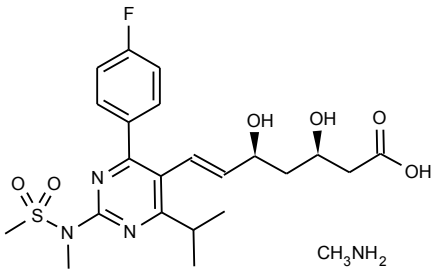
Barry Dent

Barry R. Dent, PhD, Director
29 October 2012

Name: **Rosuvastatin Methylamine Salt**

CAS Number: 287714-41-4 (free acid)

Structure:



Molecular Weight: $C_{22}H_{28}FN_3O_6S \cdot CH_5N$ = 512.60

Lot Number: BDG 6233.4

Appearance: White, crystalline solid

Corrected Purity: 99.5 % (HPLC) - 0.2 % (diethyl ether) - 0.3 % (ethanol) - 1.6 % (water) = 97.4 %

Re-test Date: 29 October 2014

Storage and Handling:

Temperature:	refrigerate for prolonged storage; may be handled and shipped at ambient temperature.
Humidity:	not believed to be hygroscopic; may be handled in normal laboratory atmosphere.
Light:	protect from strong sunlight.
Caution:	only experienced laboratory personnel should handle the material.

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Identity and Purity

Proton NMR Spectrum

Identity: the signals are consistent with the proposed structure and in accord with literature where available.
Residual Solvents: small amounts of diethyl ether (0.2 % *w/w*) and ethanol (0.3 % *w/w*) are observed.
Impurities: no significant impurities are evident in the spectrum.

Carbon-13 NMR Spectrum

Identity: the signals are consistent with the proposed structure and in accord with literature where available.

High-resolution Mass Spectrum (ESI+)

Found *m/z* 482.1764. $C_{22}H_{29}FN_3O_6S$ $[M+H]^+$ requires *m/z* 482.1761. The deviation of 0.6 ppm is within normally accepted limits for the establishment of identity by HRMS.

HPLC

A sharp, symmetrical peak is observed (99.5 %). Note: in the absence of reference materials for preparing calibration curves, it is assumed that all peaks have the same detector response. Where possible, the conditions of analysis follow a pharmacopeial or literature method, or have been adapted from same.

Elemental Analysis

	Found:	C 52.05, H 6.36, N 10.42 %
$C_{22}H_{28}FN_3O_6S{\cdot}CH_5N{\cdot}0.8H_2O$	Requires:	C 52.42, H 6.62, N 10.63 %
$C_{22}H_{28}FN_3O_6S{\cdot}CH_5N$	Requires:	C 53.89, H 6.49, N 10.93 %

The elemental analyses fall somewhat outside those expected for anhydrous material; the presence of water is reasonably expected from the method of purification and/or the type of material, and the “best-fit” hydrated molecular formula is given.

Karl-Fischer Analysis

	Found:	H_2O 1.6 %
$C_{22}H_{28}FN_3O_6S{\cdot}CH_5N{\cdot}0.8H_2O$	Requires:	H_2O 2.7 %

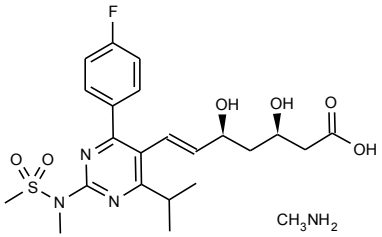
Of necessity, only a small sample could be used and only a single or duplicate analysis performed. We are unable to state what the errors in the reported water content are, but recommend that the result be used, as the best available, when determining corrected purity.

The available quantity of custom-synthesised material is always small, and this limits the extent and type of analytical data which can be obtained. This Certificate is presented in descriptive format for use by analytical chemists who are trained in the use of custom-synthesised materials. Custom materials often contain higher levels of residual solvents and/or water, and we urge you to use the corrected purity where needed rather than the raw HPLC purity. This compound is intended for use as an analytical reference material and it is not for human administration. Structures are shown with relative stereochemistry unless otherwise specified.

The re-test date is assigned from experience gained with the material in the laboratory and/or on storage. It is not possible to perform formal storage studies because of the small amount of material available.

BDG SYNTHESIS

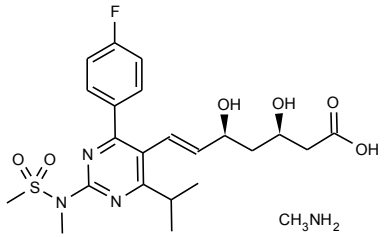
Proton NMR Spectrum of Rosuvastatin Methylamine Salt in DMSO-d_6



Lot Number: BDG 6233.4

BDG SYNTHESIS

Carbon-13 NMR Spectrum of Rosuvastatin Methylamine Salt in DMSO-d_6

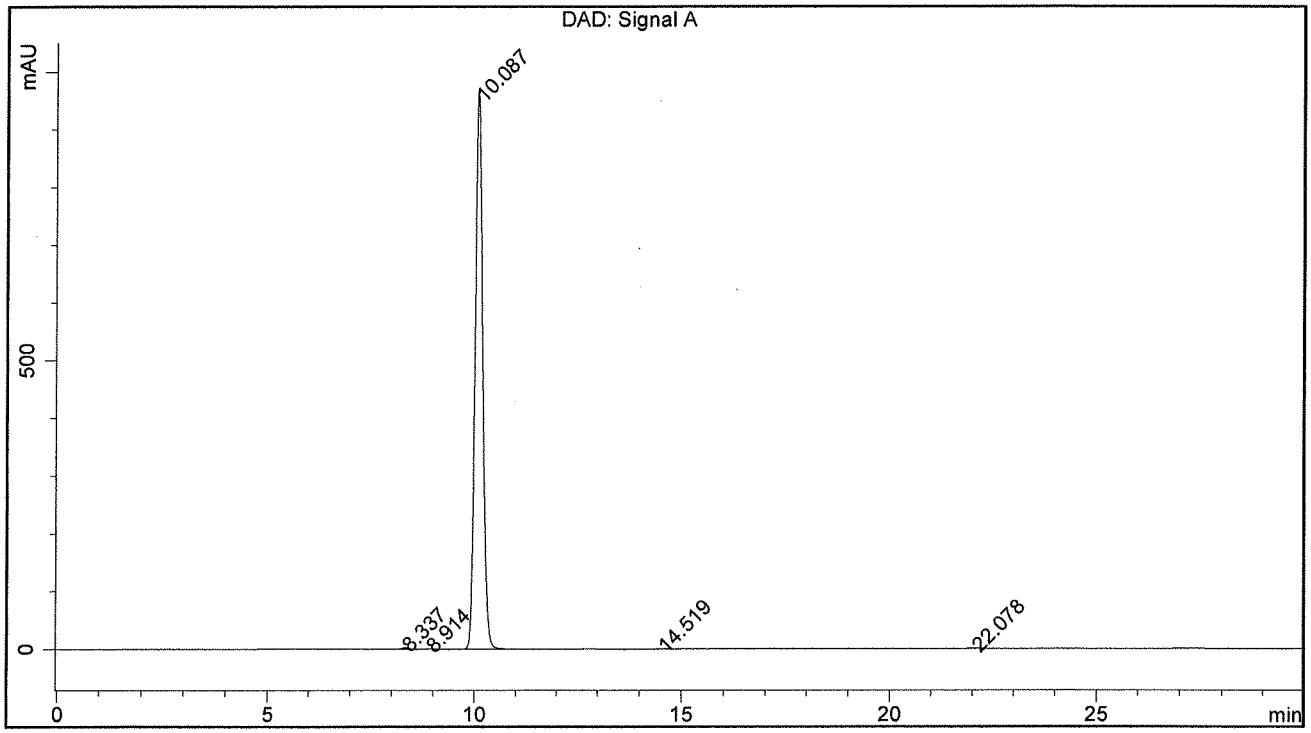


Lot Number: BDG 6233.4

BDG - Analysis of Rosuvastatin Methylamine salt

Column : Phenomenex Luna C18(2) 5um 250 x 4.6 mm
Guard : Phenomenex Security Guard C18 RP 4 x 3 mm
Mobile Phase : 55:45 50 mM Formic Acid : Acetonitrile
Flow Rate : 1.0 mL/min
Sample Solvent : Mobile Phase
Column Temperature : 20C
Injection Volume : 10 uL
Detection : UV at 240 nm

Sample Name	BDG 6233.4	**Instrument**	AnalyticalLC01
Acquisition	29/10/2012, 12:47:38	**Method (rev.)**	LC10009b (5)
Sequence	BDG_29Oct2012a - Reprocessed	**Vial Position**	1
Operator	solvation010\cerityadmin	**Injection**	1 of 1



Area Percent Report

Peak#	RT	Peak Height	Peak Area	Width	Area %
1	8.34 min	2.1404	26.7242	0.1857 min	0.213 %
2	8.91 min	0.3446	4.5411	0.1937 min	0.036 %
3	10.09 min	970.2910	12478.9187	0.1980 min	99.467 %
4	14.52 min	0.3774	7.0752	0.2667 min	0.056 %
5	22.08 min	0.8298	28.5084	0.4188 min	0.227 %