

Certificate of Certified Reference Materials

NCS ZC 73008	Rice
NCS ZC73009	Wheat
NCS ZC73010	Mealie
NCS ZC73011	Soy bean
NCS ZC73012	Cabbage
NCS ZC73013	Spinage
NCS ZC73014	Tea
NCS ZC73015	Milk Powder
NCS ZC73016	Chicken
NCS ZC73017	Apple

38W

Reissued in 2008

Approved by China National Analysis Center for Iron and Steel

(Beijing China)

Pellet 4 p02 4.
Pellet 5
p02. 4

Certified values of biology reference materials

	NCS ZC73008	NCS ZC73009	NCS ZC73010	NCS ZC73011	NCS ZC73012
Al(10 ⁻²)	0.039±0.004	0.0104±0.0010	0.032±0.003	(0.043)	0.0166±0.0022
As(10 ⁻⁶)	0.102±0.008	0.031±0.005	0.028±0.006	0.035±0.012	0.062±0.014
B(10 ⁻⁶)	0.92±0.14	(0.55)	0.86±0.11	15.8±1.5	19.6±1.7
Ba(10 ⁻⁶)	0.40±0.09	2.4±0.3	0.45±0.16	3.3±0.4	12±2
Be(10 ⁻⁹)	1.8±0.4	(0.85)	1.7±0.4	3.5±0.6	(1.8)
Bi(10 ⁻⁹)	(2.0)	(2.5)	2.8±0.9	(2)	2.8±0.7
Br(10 ⁻⁶)	0.56±0.13	(0.33)	0.46±0.09	(0.6)	6.0±1.3
Ca(10 ⁻²)	0.011±0.001	0.034±0.002	0.0055±0.0008	0.153±0.008	0.70±0.02
Cd(10 ⁻⁹)	87±5	18±4	4.1±1.6	(11)	35±6
Ce(10 ⁻⁶)	0.011±0.002	0.009±0.002	0.12±0.02	0.040±0.006	0.044±0.004
Cf(10 ⁻²)	0.040±0.004	0.086±0.003	0.050±0.006	0.008±0.002	0.64±0.07
Co(10 ⁻⁶)	(0.010)	(0.008)	(0.012)	0.125±0.012	0.089±0.014
Cr(10 ⁻⁶)	(0.09)	0.096±0.014	(0.11)	0.28±0.04	1.8±0.3
Cs(10 ⁻⁶)	0.014±0.005	(0.010)	0.010±0.004	0.043±0.006	0.082±0.012
Cu(10 ⁻⁶)	4.9±0.3	2.7±0.2	0.66±0.08	10.2±0.5	2.7±0.2
Dy(10 ⁻⁹)	(0.8)	(0.8)	3.2±0.8	2.4±0.6	2.6±0.7
Er(10 ⁻⁹)	(0.32)	(0.31)	1.7±0.4	1.0±0.2	(1.4)
Eu(10 ⁻⁹)	(0.3)	(0.8)	(0.6)	1.3±0.5	(3.6)
Fe(10 ⁻⁹)	7.6±1.9	18.5±3.1	13.3±1.5	139±4	98±10
Gd(10 ⁻⁹)	(0.75)	(0.91)	4.3±0.9	3.3±0.9	3.1±0.5
Gc(10 ⁻⁹)	(5)	(2)	(1)	(2.5)	(4)
Hf(10 ⁻⁶)	(0.12)	(0.03)			
Hg(10 ⁻⁹)	5.3±0.5	(1.6)	(1.6)	(1.5)	10.9±1.6
Ho(10 ⁻⁹)	(0.12)	(0.12)	0.66±0.15	(0.5)	(0.5)
I(10 ⁻⁶)	(0.09)	(0.06)	(0.06)	(0.05)	0.24±0.03
K(10 ⁻²)	0.138±0.007	0.140±0.006	0.129±0.007	1.86±0.09	1.55±0.06
La(10 ⁻⁶)	0.008±0.003	0.006±0.002	0.057±0.006	0.023±0.004	0.024±0.003
Li(10 ⁻⁶)	0.044±0.007	0.024±0.005	0.038±0.006	0.062±0.014	0.54±0.08
Lu(10 ⁻⁹)	(0.04)	(0.04)	(0.21)	(0.13)	(0.16)
Mg(10 ⁻²)	0.041±0.006	0.045±0.007	0.018±0.002	0.230±0.014	0.241±0.015
Mn(10 ⁻⁶)	17±1	5.4±0.3	1.55±0.08	28±1	18.7±0.8
Mo(10 ⁻⁶)	0.53±0.05	0.48±0.05	0.045±0.009	0.71±0.04	0.71±0.07
N(10 ⁻²)	1.61±0.04	2.40±0.06	1.40±0.07	6.7±0.3	2.8±0.2
Na(10 ⁻⁶)	25±8	17±5	(10)	(15)	1.09±0.06(%)
Nb(10 ⁻⁶)		(0.008)	(0.009)	(0.011)	(0.014)
Nd(10 ⁻⁶)	(0.004)	0.0046±0.0014	0.022±0.004	0.016±0.003	0.015±0.002
Ni(10 ⁻⁶)	0.27±0.02	0.06±0.02	0.097±0.014	4.0±0.3	0.93±0.10
P(10 ⁻²)	0.136±0.006	0.154±0.007	0.061±0.003	0.66±0.03	0.46±0.03
Pb(10 ⁻⁶)	0.08±0.03	0.065±0.024	0.07±0.02	0.07±0.02	0.19±0.03
Pr(10 ⁻⁹)	1.1±0.3	1.1±0.4	7±1	4.5±0.5	4.0±0.6
Rb(10 ⁻⁶)	3.9±0.3	2.6±0.2	2.1±0.2	14.2±0.7	19.6±1.0
S(10 ⁻²)	0.147±0.024	0.178±0.017	0.123±0.016	0.364±0.027	0.72±0.05
Sb(10 ⁻⁶)	(0.004)	(0.006)	(0.008)	(0.005)	(0.012)
Sc(10 ⁻⁹)	(2.5)	(3)	3.5±0.9	(6.6)	(7)
Se(10 ⁻⁶)	0.061±0.015	0.053±0.007	0.021±0.008	(0.022)	0.20±0.03
Si(10 ⁻²)	0.025±0.003	(0.008)	0.008±0.001	(0.013)	0.024±0.005
Sm(10 ⁻⁹)	(0.9)	0.95±0.28	3.2±0.5	3.1±0.3	3.2±0.7
Sr(10 ⁻⁶)	0.30±0.05	2.5±0.3	0.19±0.05	9.9±0.6	48±3
Tb(10 ⁻⁹)	(0.10)	(0.10)	0.73±0.24	(0.42)	(0.5)
Th(10 ⁻⁹)	(4)	(2)	4.6±1.5	6.8±1.4	9±3
Ti(10 ⁻⁶)	(2)	(2)	1.6±0.5		(9)
Tl(10 ⁻⁹)	(0.7)	(0.5)	(0.4)	(2.3)	(6.3)
Tm(10 ⁻⁹)	(0.05)	(0.04)	(0.27)	(0.2)	(0.23)
U(10 ⁻⁹)	(1.2)	(1.6)	(2.3)	(2.5)	20±3
V(10 ⁻⁶)	(0.03)	0.034±0.012	0.30±0.11	(0.08)	(0.11)
Y(10 ⁻⁶)	0.052±0.009	0.023±0.005	0.021±0.004	0.022±0.004	0.015±0.002
Yb(10 ⁻⁹)	(0.3)	(0.34)	1.6±0.2	1.2±0.4	1.4±0.4
Zn(10 ⁻⁶)	23±2	11.6±0.7	2.9±0.3	38±2	26±2
Ash(%)	(0.8)	(1.0)	(0.5)	(5.1)	(8.2)

Note: Data behind "±" are uncertainty; Data in () is for reference only.

Rebet 4 p24
Rebet 5 p24

Certified values of biology reference materials

	NCS ZC73013	NCS ZC73014	NCS ZC73015	NCS ZC73016	NCS ZC73017
Al(10 ⁻²)	0.061±0.006	0.094±0.009	(0.003)	0.016±0.003	0.007±0.001
As(10 ⁻⁶)	0.23±0.03	0.09±0.01	0.031±0.007	0.109±0.013	0.020±0.004
B(10 ⁻⁶)	25±2	14±1	1.56±0.22	0.76±0.13	19±3
Ba(10 ⁻⁶)	9.0±0.8	9.6±0.5	1.0±0.3	1.5±0.4	2.5±0.3
Be(10 ⁻⁹)	17±2	10±2		(1.3)	(1.0)
Bi(10 ⁻⁹)	13.5±1.0	18±2	(1.2)	1.3±0.4	(2.5)
Br(10 ⁻⁶)	10±2	2.7±0.5	5.7±1.4	1.6±0.4	(0.2)
Ca(10 ⁻²)	0.66±0.03	0.326±0.008	0.94±0.03	0.022±0.002	0.049±0.001
Cd(10 ⁻⁶)	150±25	62±4		(5)	5.8±1.2
Ce(10 ⁻⁶)	0.66±0.05	0.39±0.05	(0.004)	0.06±0.01	0.025±0.005
Cl(10 ⁻²)	1.08±0.07	0.044±0.003	0.81±0.09	0.153±0.015	(0.008)
Co(10 ⁻⁶)	0.22±0.03	0.22±0.02	0.030±0.007	(0.010)	0.026±0.006
Cr(10 ⁻⁶)	1.4±0.2	0.45±0.10	0.39±0.04	0.59±0.11	0.30±0.06
Cs(10 ⁻⁶)	0.13±0.02	0.32±0.06	0.034±0.005	0.070±0.013	(0.02)
Cu(10 ⁻⁶)	8.9±0.4	18.6±0.7	0.51±0.13	1.46±0.12	2.5±0.2
Dy(10 ⁻⁹)	41±8	25±6	(0.45)	1.1±0.4	(1.1)
Er(10 ⁻⁹)	17±3	14±4	(0.16)	(0.8)	(0.65)
Eu(10 ⁻⁹)	11.1±1.4	6.7±1.4	(0.4)	(0.7)	(0.7)
F(10 ⁻⁶)	(14)	57±15			
Fe(10 ⁻⁶)	540±20	242±18	7.8±1.3	31±3	16±2
Gd(10 ⁻⁹)	54±7	31±5		(1.4)	0.95±0.11
Ge(10 ⁻⁹)	(20)	(8)		(2)	
Hf(10 ⁻⁶)	(0.04)	(0.17)			
Hg(10 ⁻⁹)	20±3	3.8±0.8	(2.2)	3.6±1.5	(2)
Ho(10 ⁻⁹)	8.1±1.7	5.4±1.2	(0.07)	(0.26)	(0.25)
I(10 ⁻⁶)	0.36±0.12	(0.13)	1.12±0.23	(0.08)	0.12±0.04
K(10 ⁻²)	2.49±0.11	1.63±0.07	1.25±0.05	1.46±0.07	0.77±0.04
La(10 ⁻⁶)	0.35±0.04	0.25±0.02	(0.0025)	0.024±0.004	0.014±0.004
Li(10 ⁻⁶)	1.46±0.23	0.14±0.02	(0.04)	0.034±0.007	0.115±0.009
Lu(10 ⁻⁹)	3.0±0.9	3.0±0.8		(0.10)	
Mg(10 ⁻²)	0.552±0.015	0.186±0.011	0.096±0.007	0.128±0.010	0.039±0.006
Mn(10 ⁻⁶)	41±3	500±20	0.51±0.17	1.65±0.07	2.7±0.2
Mo(10 ⁻⁶)	0.47±0.04	0.040±0.012	0.28±0.03	0.11±0.01	0.08±0.02
N(10 ⁻²)	3.4±0.2	5.1±0.3	3.8±0.2	14.8±0.5	0.31±0.03
Na(10 ⁻²)	1.50±0.06	0.009±0.001	0.47±0.03	0.144±0.009	0.116±0.009
Nb(10 ⁻⁶)	(0.06)	(0.025)	(0.008)	(0.006)	
Nd(10 ⁻⁶)	0.28±0.03	0.15±0.02	(0.002)	0.0095±0.0035	(0.006)
Ni(10 ⁻⁶)	0.92±0.12	3.4±0.3	(0.18)	0.15±0.03	0.14±0.05
P(10 ⁻²)	0.36±0.02	0.45±0.03	0.76±0.03	0.96±0.08	0.066±0.004
Pb(10 ⁻⁶)	11.1±0.9	1.5±0.2	0.07±0.02	0.11±0.02	0.084±0.032
Pr(10 ⁻⁹)	75±5	42±4	(0.7)	2.8±0.6	1.8±0.3
Rb(10 ⁻⁶)	30±2	117±5	11.6±0.7	33±2	5.0±0.6
S(10 ⁻²)	0.45±0.04	0.30±0.03	0.25±0.02	0.86±0.05	0.063±0.004
Sb(10 ⁻⁶)	0.043±0.014	0.022±0.006	(0.006)		(0.006)
Sc(10 ⁻⁹)	(93)	(23)	(2.8)	(4.5)	
Se(10 ⁻⁶)	0.092±0.024	0.098±0.008	0.11±0.03	0.49±0.06	(0.018)
Si(10 ⁻²)	0.212±0.024	0.099±0.008		(0.013)	0.0050±0.0013
Sm(10 ⁻⁹)	56±5	29±3	(0.5)	1.3±0.5	1.5±0.5
Sr(10 ⁻⁶)	87±5	9.1±1.2	5.3±0.6	0.64±0.08	6.9±0.5
Tb(10 ⁻⁹)	7.2±0.7	4.5±0.7	(0.7)	(0.23)	
Th(10 ⁻⁹)	114±19	38±12	(2.8)	(4.5)	4.0±0.3
Ti(10 ⁻⁶)	(28)	(14)			
Tl(10 ⁻⁹)	(49)	(50)	(0.9)	(14)	(1.8)
Tm(10 ⁻⁹)	3.1±0.9	2.6±1.0		(0.11)	(0.12)
U(10 ⁻⁹)	89±11	10±2	(3)	(3)	8.2±1.8
V(10 ⁻⁶)	0.87±0.23	0.17±0.03	(0.06)	(0.06)	(0.028)
Y(10 ⁻⁶)	0.20±0.04	0.23±0.03	0.008±0.003	0.007±0.002	0.008±0.002
Yb(10 ⁻⁹)	19±4	18±4		(0.7)	(0.66)
Zn(10 ⁻⁶)	35.3±1.5	51±2	34±2	26±1	2.1±0.4
Ash(%)	(12.0)	(5.0)	(6.2)	(5.0)	(2.4)

Note: Data behind "±" are uncertainty; Data in () is for reference only.

Note:

1. The certified value is the mean of analytical results of no less than 6 independent laboratories.
2. Standard uncertainty U is got by

$$U = t_{0.05(n-1)} \cdot \sqrt{u_a^2 + u_b^2} = t_{0.05(n-1)} \cdot \sqrt{(s/\sqrt{n})^2 + [R/(2 \cdot \sqrt{3m})]^2}$$

U_a , U_b is type A and type B standard uncertainty respectively, t is t value of t distribution from 95% confidence interval and degree of freedom n-1; S is standard deviation; n is number of data; R is the max difference of the mean of analytical method; m is number of analytical methods for statistic ($n \geq 2$). If there is only one kind of method, S is used for estimate of uncertainty.

3. The sample is packed in bottle with size less 80 meshes. The minimum package is 35g. The minimum weight for analysis is 0.2g.
4. The sample should be tight sealed after each use and stored in drier at dark and cool place. The samples (NCS ZC73011, NCS ZC73015 and NCS ZC73016) should be stored at temperature lower than -10°C. If the sample was find moldy, it should be stop to use.
5. The certification will expire in Dec.2012, although we reserve the right to make change as issue revisions.

Analytical Methods

Methods	Element
ICP-MS	As, B, Ba, Be, Bi, Br, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Gd, Ge, Hf, Ho, I, La, Li, Lu, Mn, Mo, Nb, Nd, Ni, Pb, Pr, Rb, Sb, Sc, Se, Sm, Sn, Sr, Tb, Th, Ti, Tl, Tm, U, V, Y, Yb, Zn
ICP-AES	Al, B, Ba, Ca, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Na, Ni, P, Pb, S, Sb, Si, Sr, Zn
INAA	Al, As, Ba, Br, Ca, Ce, Cl, Co, Cr, Cs, Cu, Eu, Fe, Hf, I, K, La, Mg, Mn, Mo, Na, Rb, S, Sb, Sc, Sm, Sr, Tb, Th, U, V, Zn
XRF	Al, Br, Ca, Rb, Cu, Fe, K, Mg, Mn, Na, Rb, S, Si, Sr, Zn
AFS	As, Bi, Hg, Sb, Se
AAS	Ca, Cu, Fe, K, Mg, Mn, Na, Zn
GFAAS	Cd, Pb
COL	Al, B, Cl, I, P, Si
VOL	N, S
POL	Mo
IC	Br, Cl, I
IES	F
AES	B, Sn

Note: AAS: Atomic Absorption Spectrophotometry
 AES: Atomic Emission Spectrography
 AFS: Atomic Fluorescence Spectrophotometry
 COL: Colorimetry
 IC: Ion Chromatogram
 ICP-AES: Inductively Coupled Plasma- Atomic Emission Spectrography
 ICP-MS Inductively Coupled Plasma- Mass spectrometry
 INAA: Instrumental Neutron Activation Analysis method
 GFAAS: Graphite Furnace Atomic Absorption Spectrophotometry
 POL: Polarography
 VOL: Volumetry
 XRF: X-Ray Fluorescence spectrometry

6

1. General Information

Formula: C₅₀H₇₄O₁₄
CAS-No.: [117704-25-3]
Usage : Acaricide, Insecticide

Molar mass: 899.11 g/Mole
Recomm. storage temp.: -20 °C

The estimated uncertainty of a single measurement of the assay can be expected to be 1 % relative (confidence level = 95%, n= 6) whereby the assay measurements are calculated by 100% minus found impurities.

2. Batch Analysis

Assay (HPLC)	95.1	area %
Identity (LC-MS)	complying	
Water (Karl Fischer)	1.97	%
Date of Analysis	15.Oct.2013	

3. Advice and Remarks

- The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks/ packages.
- Whenever the container is opened for removal of aliquot portions of the substance, the person handling the substance must assure, that the integrity of the substance is maintained and proper records of all its handlings are kept. Special care has to be taken to avoid any contamination or adulteration of the substance.
- We herewith confirm that the delivery is effected according to the technical delivery conditions agreed.
- Particular properties of the products or the suitability for a particular area of application are not assured.
- We guarantee a proper quality within our General Conditions of Sales.

7
Folien 17
P. 1

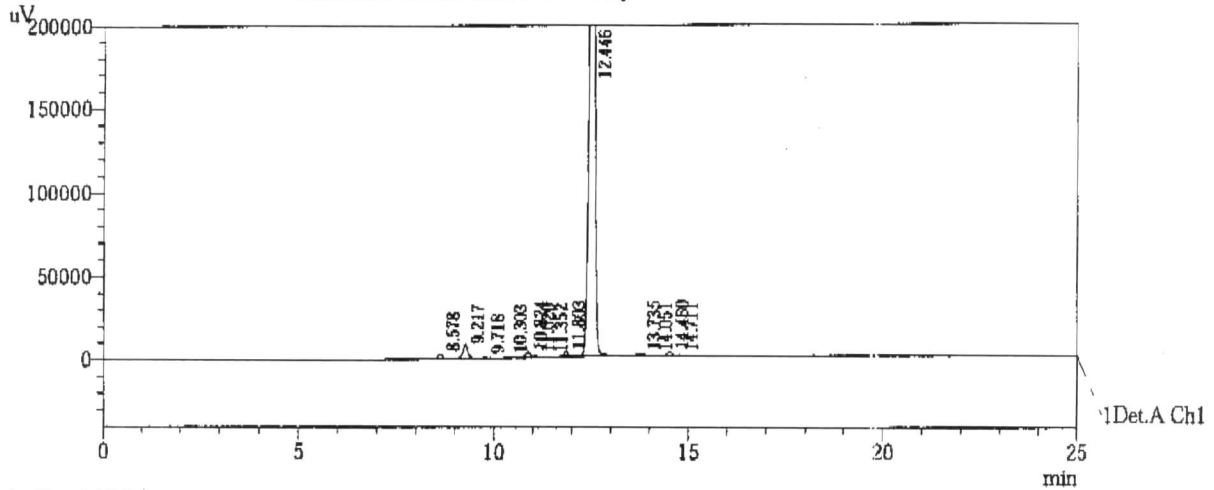
HPLC-Method

Article : Doramectin
 Article-No : 33993
 Batch : SZBD281XV

Column : Supelcosil LC-18 5µm, L=250mm, ID=4,6mm
 Eluent A : Acetonitrile
 Eluent B : Water + 0.1% Phosphoric acid
 Gradient : time(min) % A % B
 5 70 30
 15 90 10
 25 Stop

Flow : 1.4ml/min
 Detector : UV-245nm
 Injection-Volume : 10µl
 Sample-Preparation : 0.3mg/ml starting Eluent
 Linearity : checked
 Evaluation : Normalisation
 Operator : Schowe

Chromatogram
 Doramectin C:\LabSolutions\Data\Project1\1321996.AIA\SIGNAL.01.cdf



1 Det.A Ch1 /

PeakTable

Ch1	Ret. Time	Area	Area %
	8.578	26	0.530
	9.217	80	1.648
	9.718	5	0.104
	10.303	8	0.168
	10.824	34	0.690
	11.020	12	0.248
	11.352	5	0.109
	11.803	26	0.534
	12.446	4630	95.106
	13.735	15	0.304
	14.051	4	0.077
	14.460	18	0.376
	14.711	5	0.106
		4869	100.000

8

CERTIFICATE

Certification Date: July 2012
Manufacture date: March 2012
Expiration Date: March 2017
Product Number: TR-Z100 Lot # ZC-326
Sample Weight: 100 grams
Description: Corn Naturally Contaminated with Zearalenone

Analysis Compound	Detection Limits	Mean ppb	Mean SI units (µg/kg)	1 sd range	2 sd range	3 sd range
Zearalenone	50 ppb	91.1	(µg/kg)	80.7 to 101.5	70.3 to 111.9	59.9 to 122.3

Total 91.1 ppb
Std dev 10.4 ppb
% CV or %RSD 11.5 %

ND=None Detected

Method Reference – AOAC 976.22 with modifications

Expanded measurement of uncertainty (k=2) = 29.4% or ± 26.8 (ppb or µg/kg)

Range of product incorporating uncertainty ranges = 64.3 to 117.9 (ppb or µg/kg)

Storage conditions: Recommended Storage of this product is at less than 8°C.

To obtain the results above, 30 different extracts were prepared on a minimum of 6 different analyses dates. These were extracted with 84/16 CH₃CN/H₂O for 1 hour on an Eberbach shaker. Samples were analyzed by HPLC using AOAC method 976.22 with modifications. This result represents the results you would find from one laboratory performing one specific method repeatedly over the course of several weeks. The standard deviation ranges notes above represent results you would anticipate with 66% (1 sd range), 95% (2 sd range) and 99% (3 sd range) confidence with the method specifics listed above. Additionally, uncertainty has been calculated and the range is also reported above. These ranges will allow you, the end user to determine which range best suits your individual requirements. Results of this sample may vary with methodology and extraction procedures utilized in your laboratory. These results relate only to the sample material listed above. The certified value is the best estimate of the true value based on these multiple analyses.

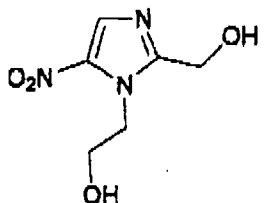
9

1

Polinet 4
2012.1

Data Sheet

Name: MNZOH (Metronidazole-OH)
Order No.: NM008
Batch: 241841
Formula:



Chemical Name: 1-(2-Hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole
2-(2-Hydroxymethyl-5-nitro-imidazol-1-yl)-ethanol
CAS Reg. Nr.: 4812-40-2
Molecular Formula: C₆H₉N₃O₄
Molecular Weight: 187.15 g/mole

Analytcs

Melting Point: 119.5-120°C
Melting Point (Lit.): 117-119°C
H NMR: 500 MHz, DMSO-D₆: 3.69 (q, 2H), 4.50 (t, 2H), 4.61 (d, 2H), 5.07 (t, 1H), 5.65 (t, 1H), 8.04 (s, 1H) ppm

HPLC:
Column Type: Luna Phenyl-Hexyl, 250 × 4.6 mm, 5 μm
Solvent: MeCN/water/TFA = 60 : 40 : 0.1
Detection Wavelength: 300 nm
Detection Time: 4.38 min

Elemental Analysis:	calc.	found
C:	38.51 %	38.44 %
H:	4.85 %	4.83 %
N:	22.45 %	22.16 %

The substance corresponds to the physical data from the literature. According to HPLC the purity is > 99.9 %.

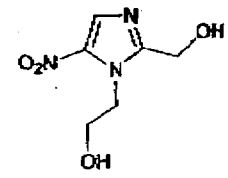
Relist 10 p021

10

R_6065
 MS201 241941
 Nitaya Laboratorien GmbH
 DMSO-D6

Sample Name:
 Data Collected on:
 MMS500-vnmrs500
 Archive directory:
 Sample directory:
 Fidfile: FPCUON
 Pulse Sequence: FPCUON (a2pul)
 Solvent: dms
 Data collected on: Jul 2 2012

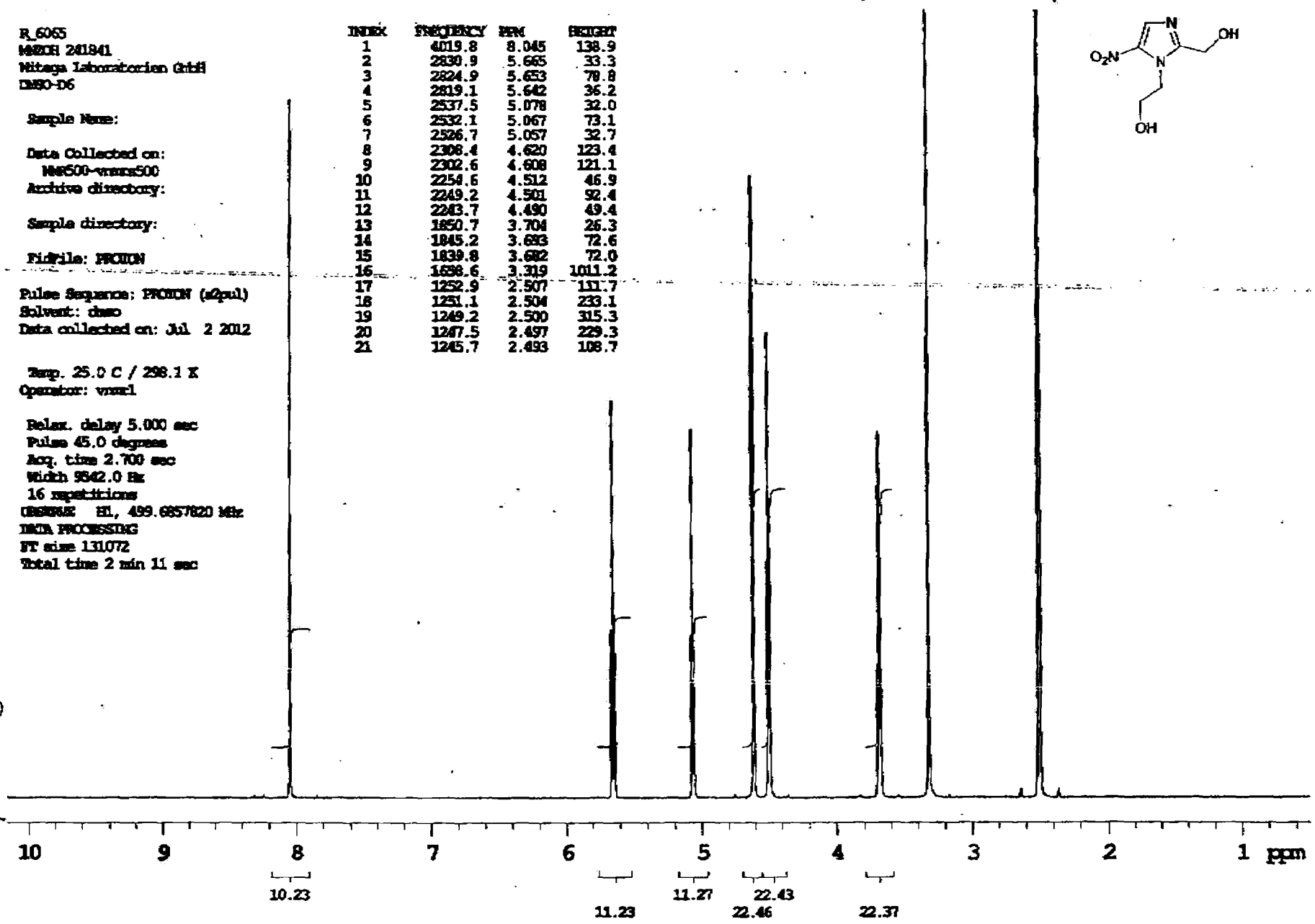
INDEX	FREQUENCY	PPM	HEIGHT
1	4019.8	8.045	138.9
2	2830.9	5.665	33.3
3	2824.9	5.653	78.8
4	2819.1	5.642	36.2
5	2537.5	5.078	32.0
6	2532.1	5.067	73.1
7	2526.7	5.057	32.7
8	2308.4	4.620	123.4
9	2302.6	4.608	121.1
10	2254.6	4.512	46.9
11	2249.2	4.501	92.4
12	2243.7	4.490	49.4
13	1850.7	3.704	25.3
14	1845.2	3.693	72.6
15	1839.8	3.682	72.0
16	1698.6	3.319	1011.2
17	1252.9	2.507	111.7
18	1251.1	2.504	233.1
19	1249.2	2.500	315.3
20	1247.5	2.497	229.3
21	1245.7	2.493	108.7



Temp. 25.0 C / 298.1 K
 Operator: vmsl

Relax. delay 5.000 sec
 Pulse 45.0 degrees
 Acq. time 2.700 sec
 Width 9542.0 Hz
 16 repetitions
 OBSERVE: EL, 499.6857820 MHz
 DATA PROCESSING
 FT size 131072
 Total time 2 min 11 sec

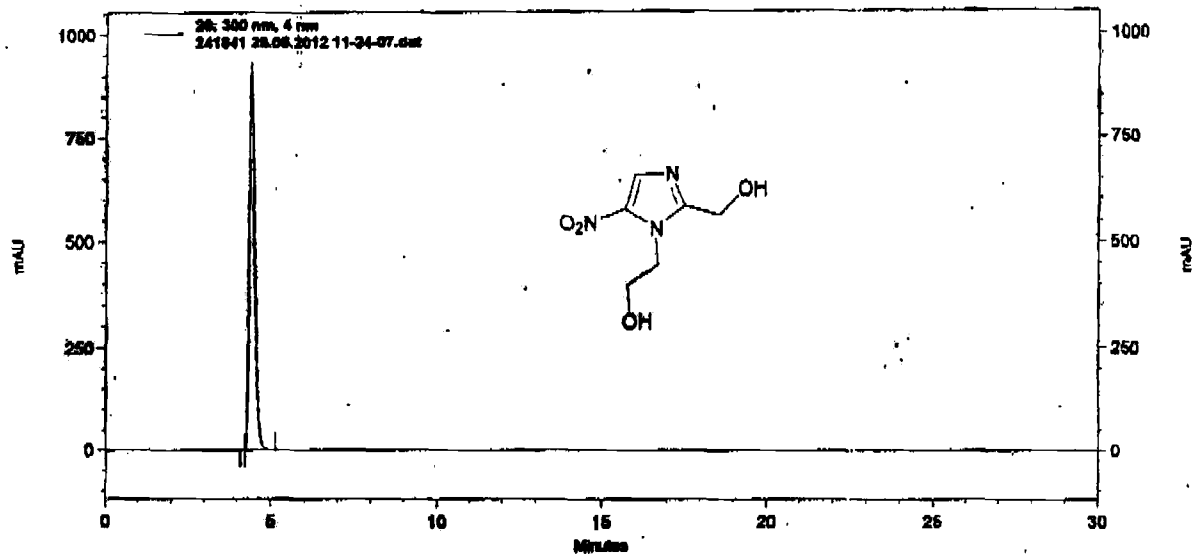
Vmsl / CV.D



M

Data File: C:\HPLC_Daten\Analytik\Data\MNZOH\241841_29.06.2012_11-24-07.dat
 Method: C:\HPLC_Daten\Analytik\Method\AN_60W_40TFA_0,1_Luna_Phenyl_Hexyl_0,6ml.met
 Acquired: 29.06.2012 11:24:43
 Printed: 29.06.2012 12:02:58
 Sample ID: 241841
 Column: Luna Phenyl-Hexyl 5µ 250 x 4.60 mm
 Flow rate: 0,6 ml/min
 Temperature: 25°C

Mobile Phase: 60% Acetonitrile 40% water 0.1% TFA



26: 300 nm, 4 nm

Results

Retention Time	Height	Height Percent	Area	Area %
4,183	923	0,098	3951	0,04
4,383	936579	99,902	11240491	99,96

12

P. 10 p. 2 A

Datasheet 17 β -Estradiol-D3

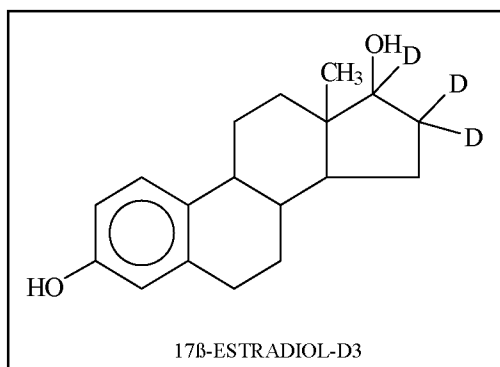
Reference number : EU/CRL: 54

Date of preparation : 2005.07.18

date : 23 June, 2010

source : Diosynth

“Bank of Reference Standards”



Name : Estra-1,3,5 (10)-triene-3-17β-diol-D3

Synonym : 17β-Estradiol-D3

Molecular formula : C₁₈H₂₁D₃O₂

Cas # : not available

Molecular weight : 275.2

Indication of purity: > 95 %

Last update : 1998.01.06

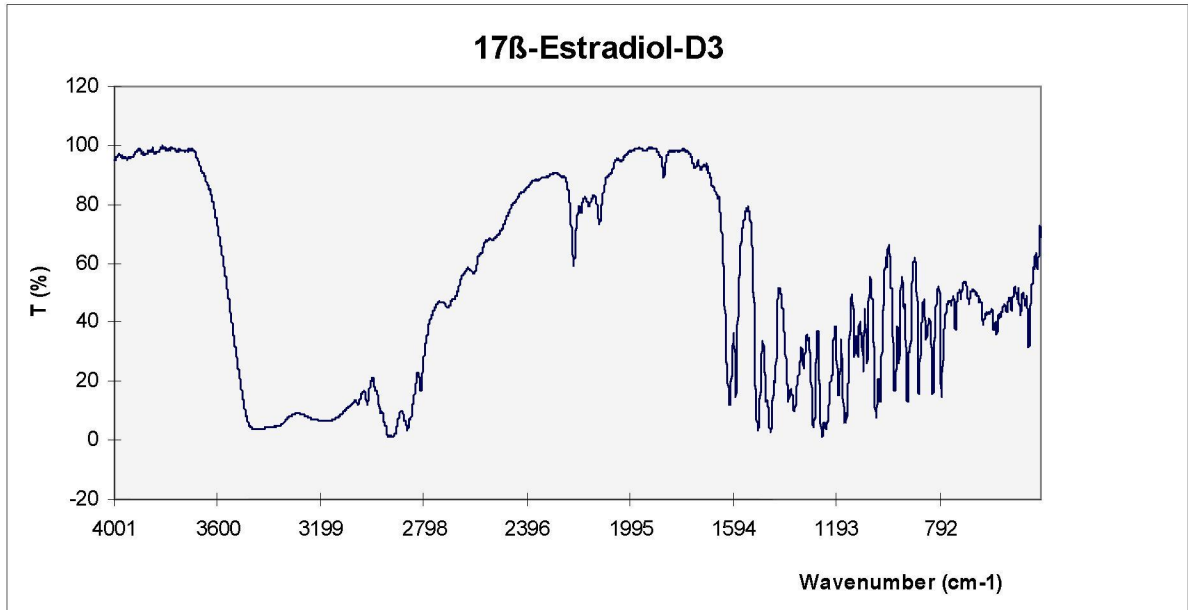
Methods used for characterization

- I IR spectroscopy
- II UV spectroscopy
- III Mass spectrometry
- III Homogeneity and stability

I IR SPECTROSCOPY

Instrument : Bruker IFS-55 FTIR ; detector DTGS

Sampling technique: KBr-tablet.

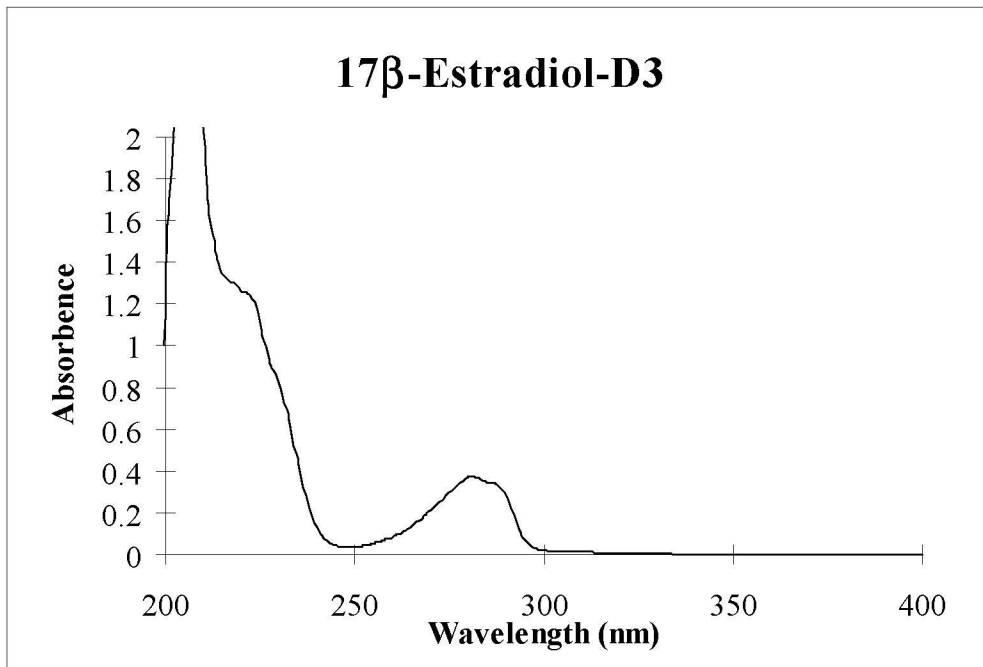


II UV SPECTROSCOPY

Instrument : Cary 3 UV-Visible Spectrophotometer

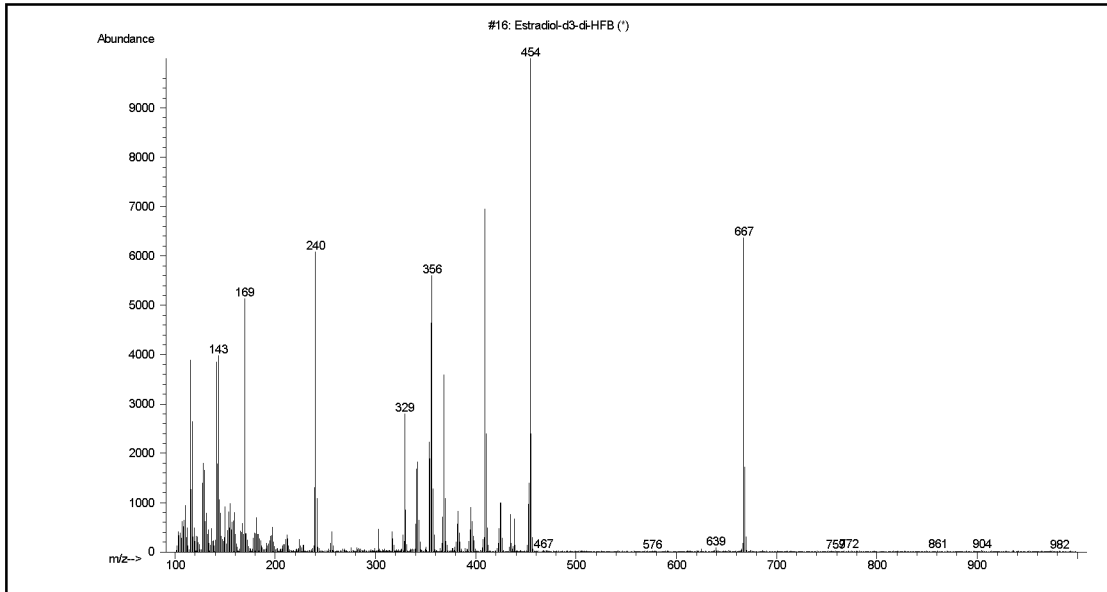
Concentration Estradiol-D3 = 0.182 mM ; solvent : methanol

$\epsilon_{281.0 \text{ nm}} = 2060$

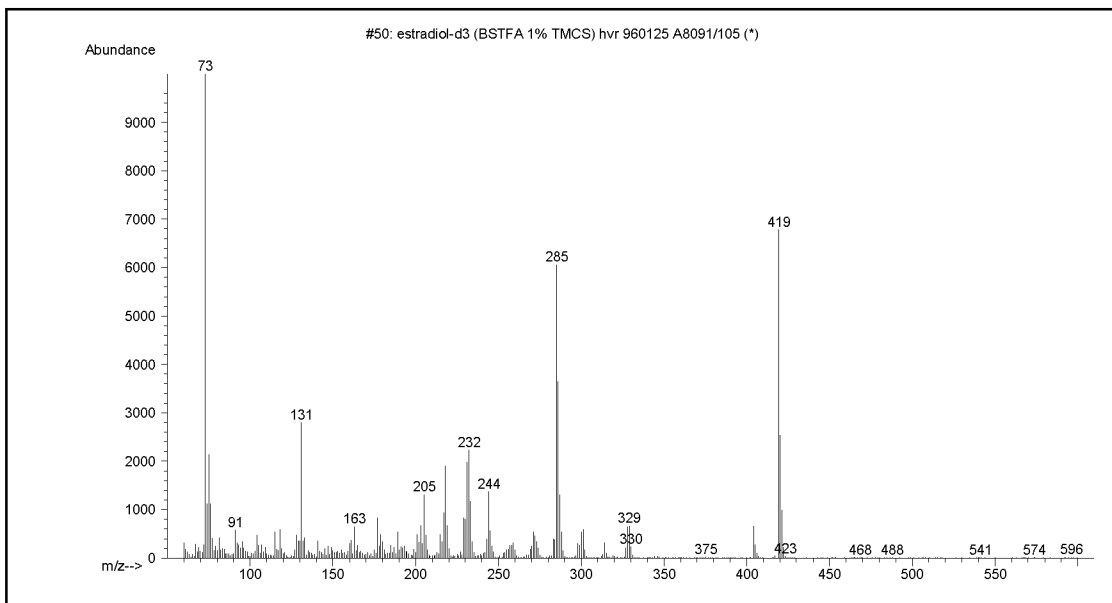


III MASS-SPECTROMETRY

GC-MS spectrum (EI, full scan)



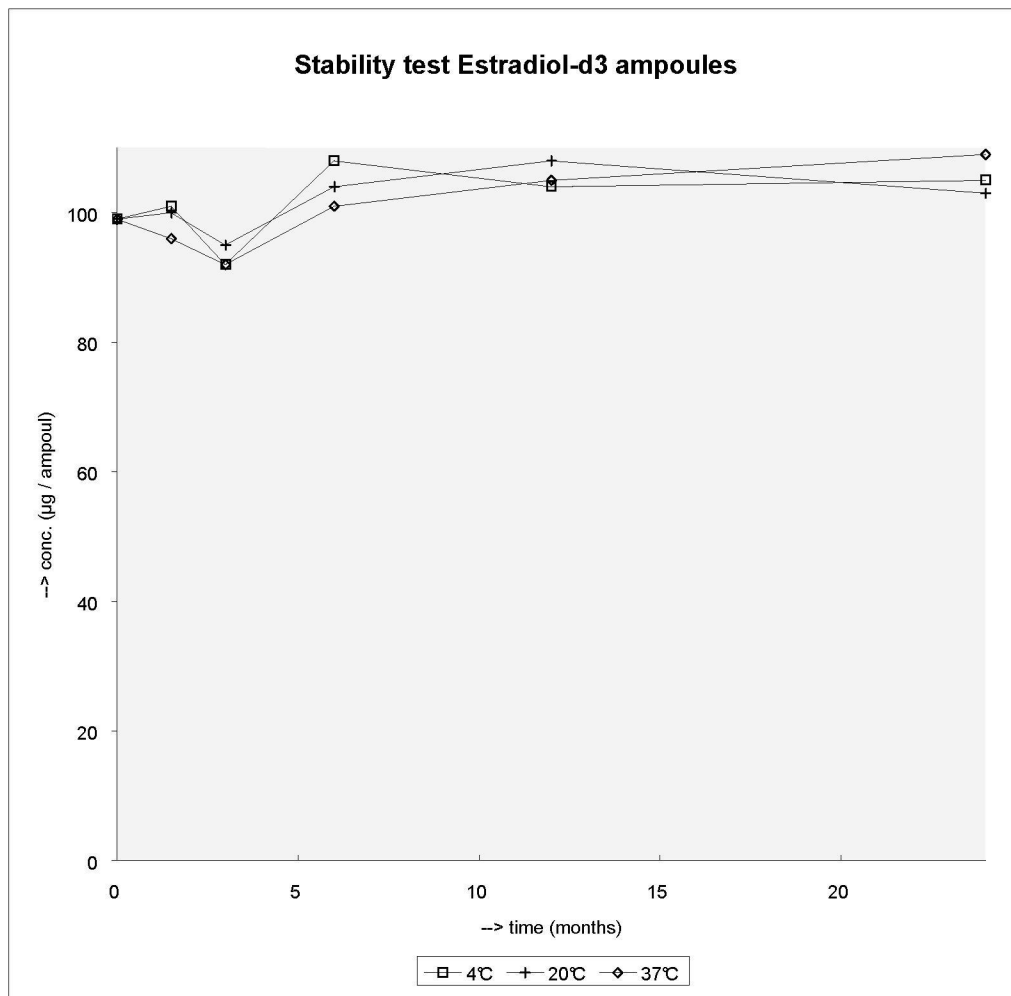
Mass spectrum (EI) of estradiol-d3 as di-HFB-derivative (HFBA/Acetone 1:4)



Mass spectrum (EI) of estradiol-d3 as di-TMS-derivative (BSTFA + 1% TMCS)

IV HOMOGENEITY AND STABILITY

temp.	t = 0 months homogeneity (n = 10) µg (m ± SD)	t = 0 months (n = 2) µg (m ± SD)	t = 0 months (n = 2) µg (m ± SD)	t = 0 months (n = 2) µg (m ± SD)	t = 0 months (n = 2) µg (m ± SD)	t = 0 months (n = 2) µg (m ± SD)
4°C	(99 +/- 4)	(101 +/- 1)	(92 +/- 5)	(108 +/- 4)	(104 +/- 2)	(105 +/- 2)
20°C		(100 +/- 1)	(95 +/- 3)	(104 +/- 1)	(108 +/- 3)	(103 +/- 2)
37°C		(96 +/- 3)	(92 +/- 1)	(101 +/- 2)	(105 +/- 3)	(109 +/- 1)



Datasheet 17 β -Testosterone-D2

Reference number : EU/CRL: 55

Date of preparation : 1992.10.21

date : 17 January, 2003

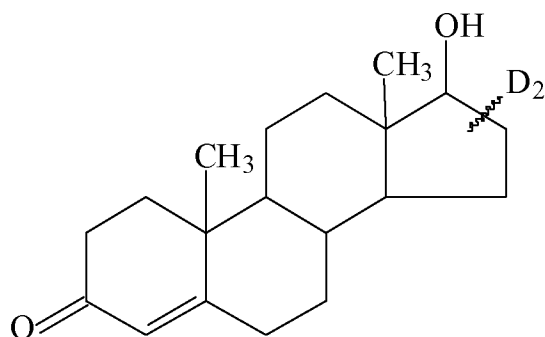
source : MSD

“Bank of Reference Standards”

The Bank of Reference Standards was financially supported by the European Commission

Directorate General “Science, Research and Development DG XII”

Contract MAT 1 - CT92 - 0020



17 β -testosterone-D2

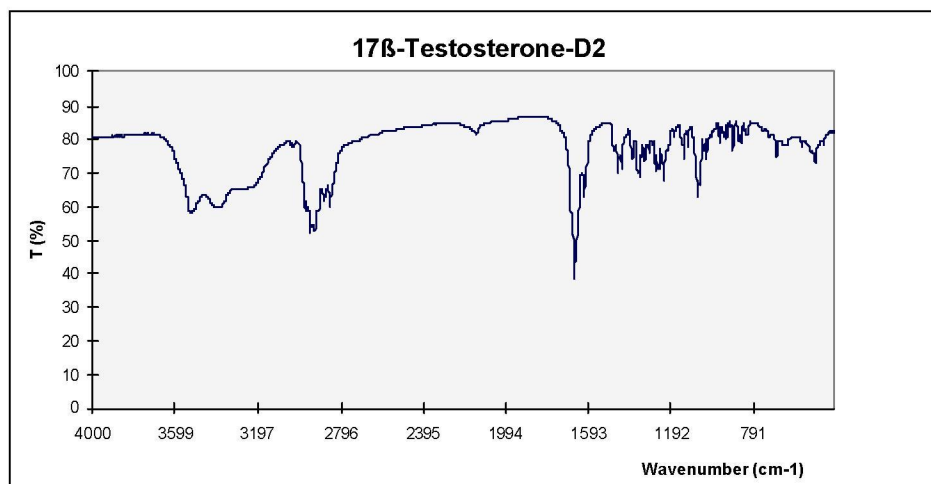
Name : 17 β -hydroxy-4-androsten-3-one-D2
Synonym : 17 β -Testosterone -D2
Molecular formula : C₁₉H₂₆D₂O₂
Cas # : not available
Molecular weight : 290.4
Indication of purity: > 95 %

Last update : 1998.01.06

Methods used for characterization

- I IR spectroscopy**
- II UV spectroscopy**
- III Mass spectrometry**
- IV Homogeneity and stability**

I IR SPECTROSCOPY

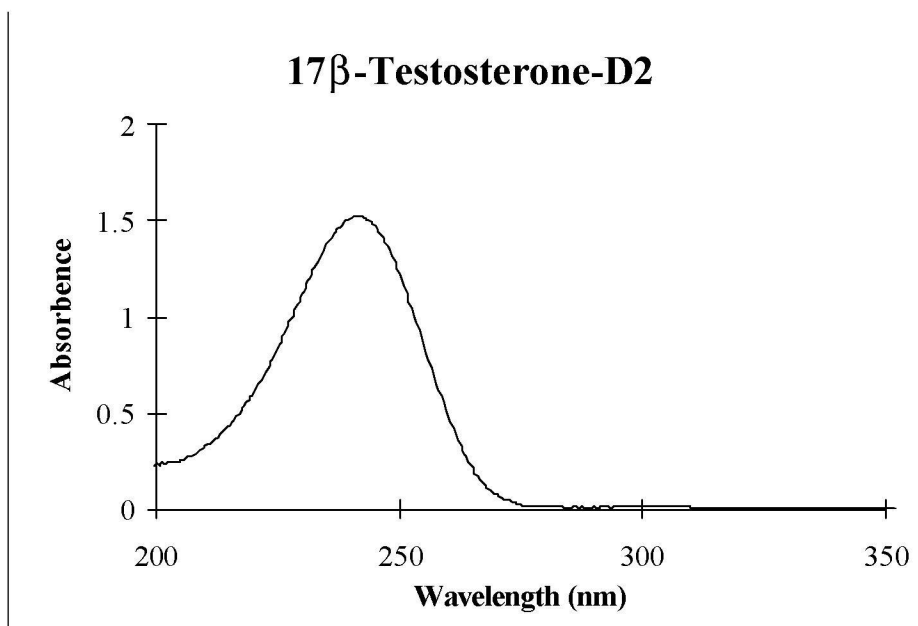


II UV SPECTROSCOPY

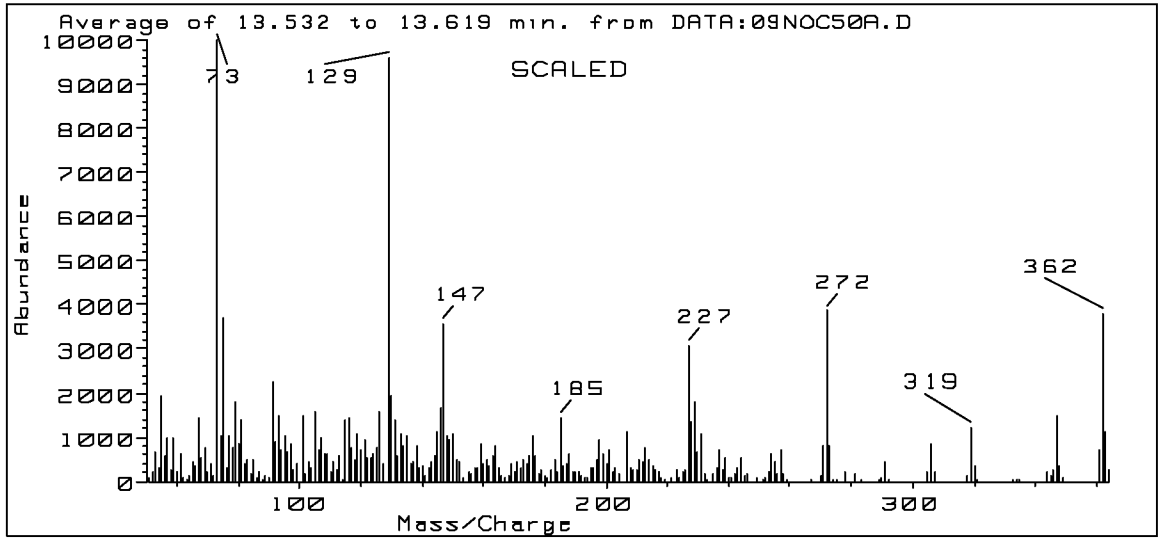
Instrument: Cary 3 UV-Visible Spectrophotometer.

Concentration 17 β -testosterone-D2 = 0.098 mM ; solvent : methanol

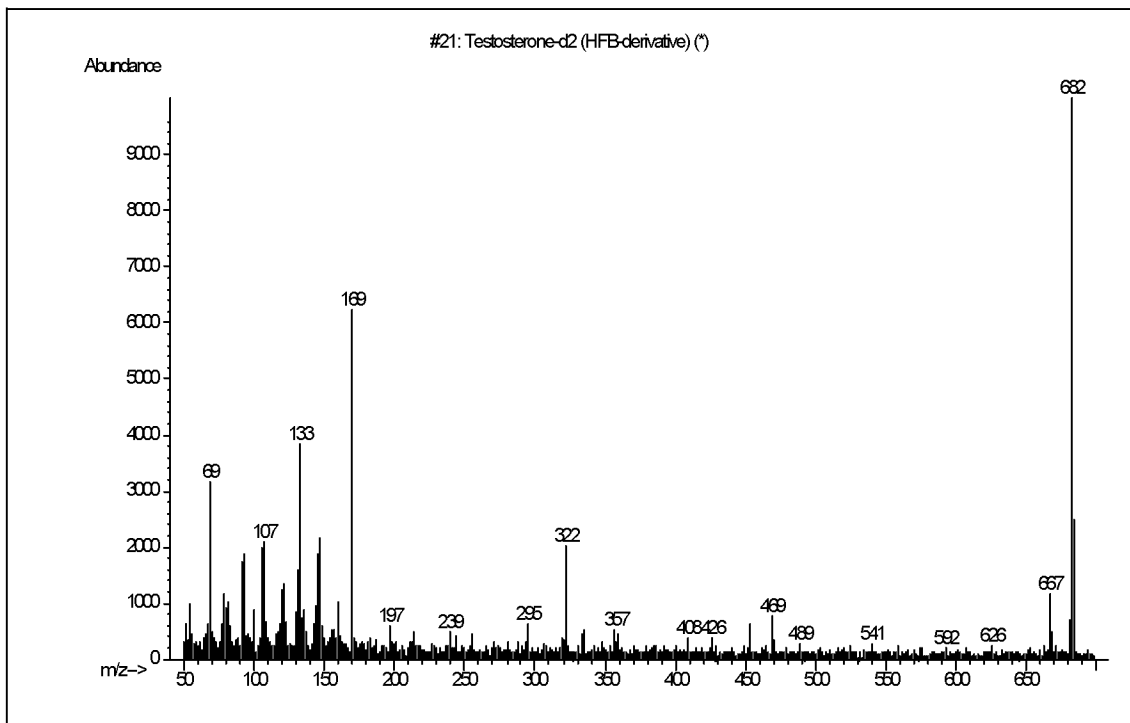
$\epsilon_{241.0 \text{ nm}} = 15490$



III MASS-SPECTROMETRY



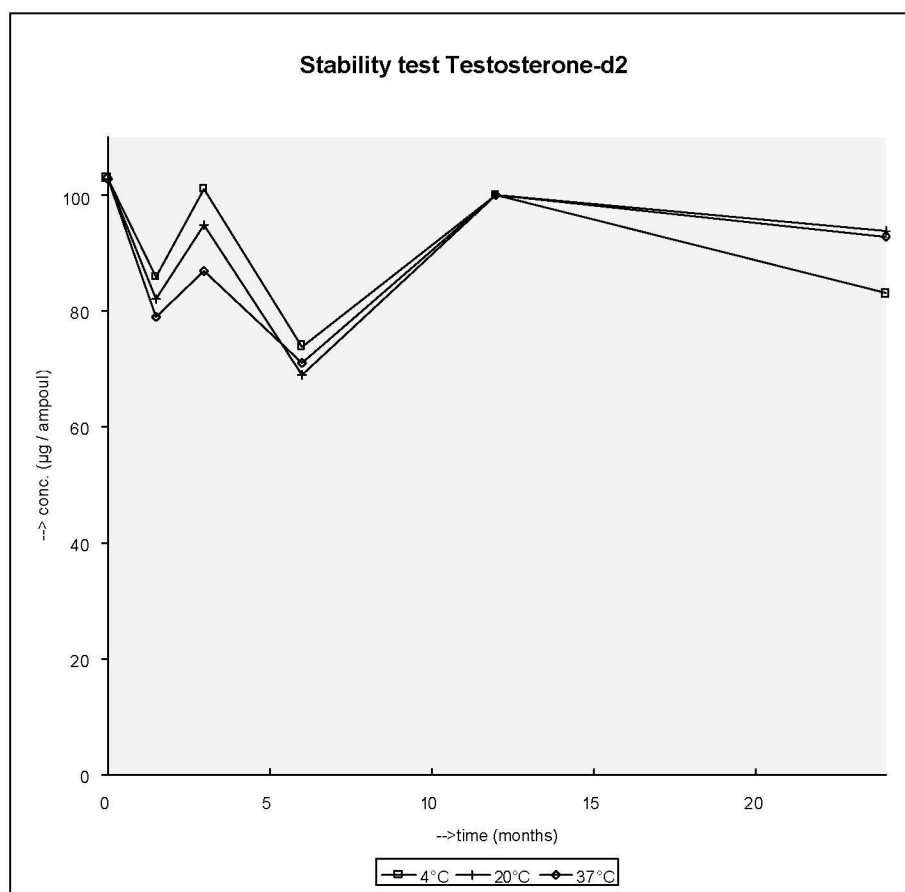
Mass spectrum (EI) of β -testosterone-D2 as mono-TMS derivative (BSTFA + 1% TMCS)



Mass spectrum (EI) of β -testosterone-D2 as di-HFB derivative (Aceton/HFBA (1:4))

IV HOMOGENEITY AND STABILITY

temp.	t = 0 months homogeneity (n = 10) µg (m ± SD)	t = 1.5 months (n=2) µg (m ± SD)	t = 3 months (n=2) µg (m ± SD)	t = 6 months (n=2) µg (m ± SD)	t = 12 months (n=2) µg (m ± SD)	t = 24 months (n=2) µg (m ± SD)
4°C	(103 +/- 10)	(86 +/- 2)	(101 +/- 2)	(74 +/- 10)	(100 +/- 10)	(83 +/- 13)
20°C		(82 +/- 2)	(95 +/- 4)	(69 +/- 1)	(100 +/- 7)	(94 +/- 3)
37°C		(79 +/- 1)	(87 +/- 6)	(71 +/- 5)	(100 +/- 7)	(93 +/- 3)



CERTIFICATE

Certification Date: July 2012
Manufacture date: March 2012
Expiration Date: March 2017
Product Number: TR-Z100 Lot # ZC-326
Sample Weight: 100 grams
Description: Corn Naturally Contaminated with Zearalenone

Analysis Compound	Detection Limits	Mean ppb	Mean SI units	1 sd range	2 sd range	3 sd range
Zearalenone	50 ppb	91.1	($\mu\text{g}/\text{kg}$)	80.7 to 101.5	70.3 to 111.9	59.9 to 122.3

Total 91.1 ppb
Std dev 10.4 ppb
% CV or %RSD 11.5 %

ND=None Detected

Method Reference – AOAC 976.22 with modifications

Expanded measurement of uncertainty ($k=2$) = 29.4% or ± 26.8 (ppb or $\mu\text{g}/\text{kg}$)

Range of product incorporating uncertainty ranges = 64.3 to 117.9 (ppb or $\mu\text{g}/\text{kg}$)

Storage conditions: Recommended Storage of this product is at less than 8°C.

To obtain the results above, 30 different extracts were prepared on a minimum of 6 different analyses dates. These were extracted with 84/16 CH₃CN/H₂O for 1 hour on an Eberbach shaker. Samples were analyzed by HPLC using AOAC method 976.22 with modifications. This result represents the results you would find from one laboratory performing one specific method repeatedly over the course of several weeks. The standard deviation ranges notes above represent results you would anticipate with 66% (1 sd range), 95% (2 sd range) and 99% (3 sd range) confidence with the method specifics listed above. Additionally, uncertainty has been calculated and the range is also reported above. These ranges will allow you, the end user to determine which range best suits your individual requirements. Results of this sample may vary with methodology and extraction procedures utilized in your laboratory. These results relate only to the sample material listed above. The certified value is the best estimate of the true value based on these multiple analyses.

CERTIFICATE

1. General Information

Formula: C₅₀H₇₄O₁₄
CAS-No.: [117704-25-3]
Usage : Acaricide, Insecticide

Molar mass: 899.11 g/Mole
Recomm. storage temp.: -20 °C

The estimated uncertainty of a single measurement of the assay can be expected to be 1 % relative (confidence level = 95%, n= 6) whereby the assay measurements are calculated by 100% minus found impurities.

2. Batch Analysis

Assay (HPLC)	95.1	area %
Identity (LC-MS)	complying	
Water (Karl Fischer)	1.97	%
Date of Analysis	15.Oct.2013	

3. Advice and Remarks

- The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks/ packages.
- Whenever the container is opened for removal of aliquot portions of the substance, the person handling the substance must assure, that the integrity of the substance is maintained and proper records of all its handlings are kept. Special care has to be taken to avoid any contamination or adulteration of the substance.
- We herewith confirm that the delivery is effected according to the technical delivery conditions agreed.
- Particular properties of the products or the suitability for a particular area of application are not assured.
- We guarantee a proper quality within our General Conditions of Sales.

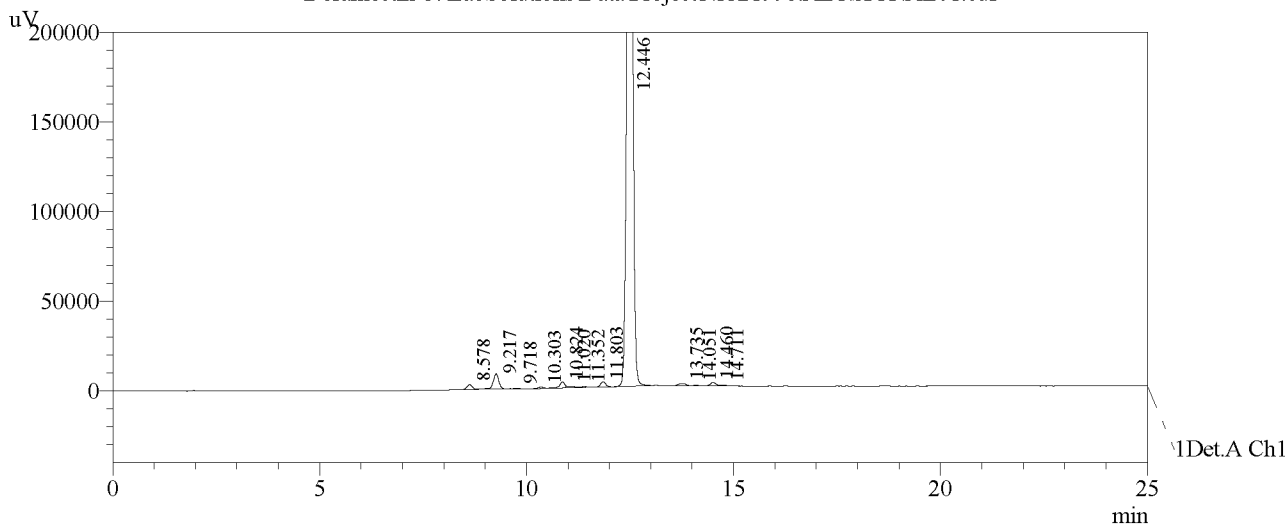
HPLC-Method

Article : Doramectin
 Article-No : 33993
 Batch : SZBD281XV

Column : Supelcosil LC-18 5µm, L=250mm, ID=4,6mm
 Eluent A : Acetonitrile
 Eluent B : Water + 0,1% Phosphoric acid
 Gradient : time(min) % A % B
 5 70 30
 15 90 10
 25 Stop

Flow : 1,4ml/min
 Detector : UV-245nm
 Injection-Volume : 10µl
 Sample-Preparation : 0,3mg/ml starting Eluent
 Linearity : checked
 Evaluation : Normalisation
 Operator : Schowe

Chromatogram
 Doramectin C:\LabSolutions\Data\Project1\1321996.AIA\SIGNAL01.cdf



1 Det.A Ch1 /

PeakTable

Ret. Time	Area	Area %
8.578	26	0.530
9.217	80	1.648
9.718	5	0.104
10.303	8	0.168
10.824	34	0.690
11.020	12	0.248
11.352	5	0.109
11.803	26	0.534
12.446	4630	95.106
13.735	15	0.304
14.051	4	0.077
14.460	18	0.376
14.711	5	0.106
	4869	100.000

Certificate of Certified Reference Materials

NCS ZC73008	Rice
NCS ZC73009	Wheat
NCS ZC73010	Mealie
NCS ZC73011	Soy bean
NCS ZC73012	Cabbage
NCS ZC73013	Spinage
NCS ZC73014	Tea
NCS ZC73015	Milk Powder
NCS ZC73016	Chicken
NCS ZC73017	Apple

Reissued in 2010

Approved by China National Analysis Center for Iron and Steel

(Beijing China)

Certified values of biology reference materials

	NCS ZC73008	NCS ZC73009	NCS ZC73010	NCS ZC73011	NCS ZC73012
Al(10^{-2})	0.039±0.004	0.0104±0.0010	0.032±0.003	(0.043)	0.0166±0.0022
As(10^{-6})	0.102±0.008	0.031±0.005	0.028±0.006	0.035±0.012	0.062±0.014
B(10^{-3})	0.92±0.14	(0.55)	0.86±0.11	15.8±1.5	19.6±1.7
Ba(10^{-6})	0.40±0.09	2.4±0.3	0.45±0.16	3.3±0.4	12±2
Be(10^{-3})	1.8±0.4	(0.85)	1.7±0.4	3.5±0.6	(1.8)
Bi(10^{-3})	(2.0)	(2.5)	2.8±0.9	(2)	2.8±0.7
Br(10^{-6})	0.56±0.13	(0.33)	0.46±0.09	(0.6)	6.0±1.3
Ca(10^{-2})	0.011±0.001	0.034±0.002	0.0055±0.0008	0.153±0.008	0.70±0.02
Cd(10^{-3})	87±5	18±4	4.1±1.6	(11)	35±6
Ce(10^{-6})	0.011±0.002	0.009±0.002	0.12±0.02	0.040±0.006	0.044±0.004
Cf(10^{-2})	0.040±0.004	0.086±0.003	0.050±0.006	0.008±0.002	0.64±0.07
Co(10^{-6})	(0.010)	(0.008)	(0.012)	0.125±0.012	0.089±0.014
Cr(10^{-6})	(0.09)	0.096±0.014	(0.11)	0.28±0.04	1.8±0.3
Cs(10^{-6})	0.014±0.005	(0.010)	0.010±0.004	0.043±0.006	0.082±0.012
Cu(10^{-6})	4.9±0.3	2.7±0.2	0.66±0.08	10.2±0.5	2.7±0.2
Dy(10^{-3})	(0.8)	(0.8)	3.2±0.8	2.4±0.6	2.6±0.7
Er(10^{-3})	(0.32)	(0.31)	1.7±0.4	1.0±0.2	(1.4)
Eu(10^{-3})	(0.3)	(0.8)	(0.6)	1.3±0.5	(3.6)
Fe(10^{-6})	7.6±1.9	18.5±3.1	13.3±1.5	139±4	98±10
Gd(10^{-3})	(0.75)	(0.91)	4.3±0.9	3.3±0.9	3.1±0.5
Ge(10^{-3})	(5)	(2)	(1)	(2.5)	(4)
Hf(10^{-6})	(0.12)	(0.03)			
Hg(10^{-3})	5.3±0.5	(1.6)	(1.6)	(1.5)	10.9±1.6
Ho(10^{-3})	(0.12)	(0.12)	0.66±0.15	(0.5)	(0.5)
I(10^{-3})	(0.09)	(0.06)	(0.06)	(0.05)	0.24±0.03
K(10^{-2})	0.138±0.007	0.140±0.006	0.129±0.007	1.86±0.09	1.55±0.06
La(10^{-6})	0.008±0.003	0.006±0.002	0.057±0.006	0.023±0.004	0.024±0.003
Li(10^{-6})	0.044±0.007	0.024±0.005	0.038±0.006	0.062±0.014	0.54±0.08
Lu(10^{-3})	(0.04)	(0.04)	(0.21)	(0.13)	(0.16)
Mg(10^{-2})	0.041±0.006	0.045±0.007	0.018±0.002	0.230±0.014	0.241±0.015
Mn(10^{-6})	17±1	5.4±0.3	1.55±0.08	28±1	18.7±0.8
Mo(10^{-6})	0.53±0.05	0.48±0.05	0.045±0.009	0.71±0.04	0.71±0.07
N(10^{-2})	1.61±0.04	2.40±0.06	1.40±0.07	6.7±0.3	2.8±0.2
Na(10^{-6})	25±8	17±5	(10)	(15)	1.09±0.06(%)
Nb(10^{-6})		(0.008)	(0.009)	(0.011)	(0.014)
Nd(10^{-6})	(0.004)	0.0046±0.0014	0.022±0.004	0.016±0.003	0.015±0.002
Ni(10^{-6})	0.27±0.02	0.06±0.02	0.097±0.014	4.0±0.3	0.93±0.10
P(10^{-2})	0.136±0.006	0.154±0.007	0.061±0.003	0.66±0.03	0.46±0.03
Pb(10^{-6})	0.08±0.03	0.065±0.024	0.07±0.02	0.07±0.02	0.19±0.03
Pr(10^{-3})	1.1±0.3	1.1±0.4	7±1	4.5±0.5	4.0±0.6
Rb(10^{-6})	3.9±0.3	2.6±0.2	2.1±0.2	14.2±0.7	19.6±1.0
S(10^{-2})	0.147±0.024	0.178±0.017	0.123±0.016	0.364±0.027	0.72±0.05
Sb(10^{-6})	(0.004)	(0.006)	(0.008)	(0.005)	(0.012)
Sc(10^{-3})	(2.5)	(3)	3.5±0.9	(6.6)	(7)
Se(10^{-6})	0.061±0.015	0.053±0.007	0.021±0.008	(0.022)	0.20±0.03
Si(10^{-2})	0.025±0.003	(0.008)	0.008±0.001	(0.013)	0.024±0.005
Sm(10^{-3})	(0.9)	0.95±0.28	3.2±0.5	3.1±0.3	3.2±0.7
Sr(10^{-6})	0.30±0.05	2.5±0.3	0.19±0.05	9.9±0.6	48±3
Tb(10^{-3})	(0.10)	(0.10)	0.73±0.24	(0.42)	(0.5)
Th(10^{-3})	(4)	(2)	4.6±1.5	6.8±1.4	9±3
Ti(10^{-6})	(2)	(2)	1.6±0.5		(9)
Tl(10^{-3})	(0.7)	(0.5)	(0.4)	(2.3)	(6.3)
Tm(10^{-3})	(0.05)	(0.04)	(0.27)	(0.2)	(0.23)
U(10^{-3})	(1.2)	(1.6)	(2.3)	(2.5)	20±3
V(10^{-6})	(0.03)	0.034±0.012	0.30±0.11	(0.08)	(0.11)
Y(10^{-6})	0.052±0.009	0.023±0.005	0.021±0.004	0.022±0.004	0.015±0.002
Yb(10^{-3})	(0.3)	(0.34)	1.6±0.2	1.2±0.4	1.4±0.4
Zn(10^{-6})	23±2	11.6±0.7	2.9±0.3	38±2	26±2
Ash(%)	(0.8)	(1.0)	(0.5)	(5.1)	(8.2)

	NCS ZC73013	NCS ZC73014	NCS ZC73015	NCS ZC73016	NCS ZC73017
Al(10 ⁻²)	0.061±0.006	0.094±0.009	(0.003)	0.016±0.003	0.007±0.001
As(10 ⁻⁶)	0.23±0.03	0.09±0.01	0.031±0.007	0.109±0.013	0.020±0.004
B(10 ⁻⁶)	25±2	14±1	1.56±0.22	0.76±0.13	19±3
Ba(10 ⁻⁶)	9.0±0.8	9.6±0.5	1.0±0.3	1.5±0.4	2.5±0.3
Be(10 ⁻³)	17±2	10±2		(1.3)	(1.0)
Bi(10 ⁻³)	13.5±1.0	18±2	(1.2)	1.3±0.4	(2.5)
Br(10 ⁻⁶)	10±2	2.7±0.5	5.7±1.4	1.6±0.4	(0.2)
Ca(10 ⁻²)	0.66±0.03	0.326±0.008	0.94±0.03	0.022±0.002	0.049±0.001
Cd(10 ⁻³)	150±25	62±4		(5)	5.8±1.2
Ce(10 ⁻⁶)	0.66±0.05	0.39±0.05	(0.004)	0.06±0.01	0.025±0.005
Cl(10 ⁻²)	1.08±0.07	0.044±0.003	0.81±0.09	0.153±0.015	(0.008)
Co(10 ⁻⁶)	0.22±0.03	0.22±0.02	0.030±0.007	(0.010)	0.026±0.006
Cr(10 ⁻⁶)	1.4±0.2	0.45±0.10	0.39±0.04	0.59±0.11	0.30±0.06
Cs(10 ⁻⁶)	0.13±0.02	0.32±0.06	0.034±0.005	0.070±0.013	(0.02)
Cu(10 ⁻⁶)	8.9±0.4	18.6±0.7	0.51±0.13	1.46±0.12	2.5±0.2
Dy(10 ⁻³)	41±8	25±6	(0.45)	1.1±0.4	(1.1)
Er(10 ⁻³)	17±3	14±4	(0.16)	(0.8)	(0.65)
Eu(10 ⁻³)	11.1±1.4	6.7±1.4	(0.4)	(0.7)	(0.7)
F(10 ⁻⁶)	(14)	57±15			
Fe(10 ⁻⁶)	540±20	242±18	7.8±1.3	31±3	16±2
Gd(10 ⁻³)	54±7	31±5		(1.4)	0.95±0.11
Ge(10 ⁻³)	(20)	(8)		(2)	
Hf(10 ⁻⁶)	(0.04)	(0.17)			
Hg(10 ⁻³)	20±3	3.8±0.8	(2.2)	3.6±1.5	(2)
Ho(10 ⁻³)	8.1±1.7	5.4±1.2	(0.07)	(0.26)	(0.25)
I(10 ⁻³)	0.36±0.12	(0.13)	1.12±0.23	(0.08)	0.12±0.04
K(10 ⁻²)	2.49±0.11	1.63±0.07	1.25±0.05	1.46±0.07	0.77±0.04
La(10 ⁻⁶)	0.35±0.04	0.25±0.02	(0.0025)	0.024±0.004	0.014±0.004
Li(10 ⁻⁶)	1.46±0.23	0.14±0.02	(0.04)	0.034±0.007	0.115±0.009
Lu(10 ⁻³)	3.0±0.9	3.0±0.8		(0.10)	
Mg(10 ⁻²)	0.552±0.015	0.186±0.011	0.096±0.007	0.128±0.010	0.039±0.006
Mn(10 ⁻⁶)	41±3	500±20	0.51±0.17	1.65±0.07	2.7±0.2
Mo(10 ⁻⁶)	0.47±0.04	0.040±0.012	0.28±0.03	0.11±0.01	0.08±0.02
N(10 ⁻²)	3.4±0.2	5.1±0.3	3.8±0.2	14.8±0.5	0.31±0.03
Na(10 ⁻²)	1.50±0.06	0.009±0.001	0.47±0.03	0.144±0.009	0.116±0.009
Nb(10 ⁻⁶)	(0.06)	(0.025)	(0.008)	(0.006)	
Nd(10 ⁻⁶)	0.28±0.03	0.15±0.02	(0.002)	0.0095±0.0035	(0.006)
Ni(10 ⁻⁶)	0.92±0.12	3.4±0.3	(0.18)	0.15±0.03	0.14±0.05
P(10 ⁻²)	0.36±0.02	0.45±0.03	0.76±0.03	0.96±0.08	0.066±0.004
Pb(10 ⁻⁶)	11.1±0.9	1.5±0.2	0.07±0.02	0.11±0.02	0.084±0.032
Pr(10 ⁻³)	75±5	42±4	(0.7)	2.8±0.6	1.8±0.3
Rb(10 ⁻⁶)	30±2	117±5	11.6±0.7	33±2	5.0±0.6
S(10 ⁻²)	0.45±0.04	0.30±0.03	0.25±0.02	0.86±0.05	0.063±0.004
Sb(10 ⁻⁶)	0.043±0.014	0.022±0.006	(0.006)		(0.006)
Sc(10 ⁻³)	(93)	(23)	(2.8)	(4.5)	
Se(10 ⁻⁶)	0.092±0.024	0.098±0.008	0.11±0.03	0.49±0.06	(0.018)
Si(10 ⁻²)	0.212±0.024	0.099±0.008		(0.013)	0.0050±0.0013
Sm(10 ⁻³)	56±5	29±3	(0.5)	1.3±0.5	1.5±0.5
Sr(10 ⁻⁶)	87±5	9.1±1.2	5.3±0.6	0.64±0.08	6.9±0.5
Tb(10 ⁻³)	7.2±0.7	4.5±0.7	(0.7)	(0.23)	
Th(10 ⁻³)	114±19	38±12	(2.8)	(4.5)	4.0±0.3
Ti(10 ⁻⁶)	(28)	(14)			
Tl(10 ⁻³)	(49)	(50)	(0.9)	(14)	(1.8)
Tm(10 ⁻³)	3.1±0.9	2.6±1.0		(0.11)	(0.12)
U(10 ⁻³)	89±11	10±2	(3)	(3)	8.2±1.8
V(10 ⁻⁶)	0.87±0.23	0.17±0.03	(0.06)	(0.06)	(0.028)
Y(10 ⁻⁶)	0.20±0.04	0.23±0.03	0.008±0.003	0.007±0.002	0.008±0.002
Yb(10 ⁻³)	19±4	18±4		(0.7)	(0.66)
Zn(10 ⁻⁶)	35.3±1.5	51±2	34±2	26±1	2.1±0.4
Ash(%)	(12.0)	(5.0)	(6.2)	(5.0)	(2.4)

Note:

1. Data behind "±" are uncertainty; Data in () is for reference only. The certified value is the mean of analytical results of no less than 6 independent laboratories.

2. Standard uncertainty U is got by

$$U = t_{0.05(n-1)} \cdot \sqrt{u_a^2 + u_b^2} = t_{0.05(n-1)} \cdot \sqrt{(s/\sqrt{n})^2 + [R/(2 \cdot \sqrt{3m})]^2}$$

U_a , U_b is type A and type B standard uncertainty respectively, t is t value of t distribution from 95% confidence interval and degree of freedom n-1; S is standard deviation; n is number of data; R is the max difference of the mean of analytical method; m is number of analytical methods for statistic ($n \geq 2$). If there is only one kind of method, S is used for estimate of uncertainty.

3. The sample is packed in bottle with size less 80 meshes. The minimum package is 35g.

The minimum weight for analysis is 0.2g.

4. The sample should be tight sealed after each use and stored in drier at dark and cool place.

The samples (NCS ZC73011, NCS ZC73015 and NCS ZC73016) should be stored at temperature lower than -10°C . If the sample was found moldy, it should be stop to use.

5. The certification will expire in Dec.2015, although we reserve the right to make change as issue revisions.

Analytical Methods

Methods	Element
ICP-MS	As, B, Ba, Be, Bi, Br, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Gd, Ge, Hf, Ho, I, La, Li, Lu, Mn, Mo, Nb, Nd, Ni, Pb, Pr, Rb, Sb, Sc, Se, Sm, Sn, Sr, Tb, Th, Ti, Tl, Tm, U, V, Y, Yb, Zn
ICP-AES	Al, B, Ba, Ca, Co, Ce, Cu, Fe, K, Li, Mg, Mn, Na, Ni, P, Pb, S, Sb, Si, Sr, Zn
INAA	Al, As, Ba, Br, Ca, Ce, Cl, Co, Cr, Cs, Cu, Eu, Fe, Hf, I, K, La, Mg, Mn, Mo, Na, Rb, S, Sb, Se, Sm, Sr, Tb, Th, U, V, Zn
XRF	Al, Br, Ca, Rb, Cu, Fe, K, Mg, Mn, Na, Rb, S, Si, Sr, Zn
AFS	As, Bi, Hg, Sb, Se
AAS	Ca, Cu, Fe, K, Mg, Mn, Na, Zn
GFAAS	Cd, Pb
COL	Al, B, Cl, I, P, Si
VOL	N, S
POL	Mo
IC	Br, Cl, I
ISE	F
AES	B, Sn

Note: AAS: Atomic Absorption Spectrophotometry

AES: Atomic Emission Spectrography

AFS: Atomic Fluorescence Spectrophotometry

COL: Colorimetry

IC: Ion Chromatogram

ISE: Ion Selective Electrode

ICP-AES: Inductively Coupled Plasma- Atomic Emission Spectrography

ICP-MS Inductively Coupled Plasma- Mass spectrometry

INAA: Instrumental Neutron Activation Analysis method

GFAAS: Graphite Furnace Atomic Absorption Spectrophotometry

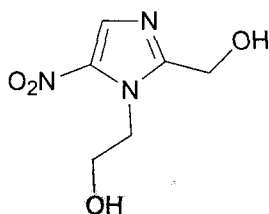
POL: Polarography

VOL: Volumetry

XRF: X-Ray Fluorescence spectrometry

Data Sheet

Name: MNZOH (Metronidazole-OH)
Order No.: NM008
Batch: 241841
Formula:



Chemical Name: 1-(2-Hydroxyethyl)-2-hydroxymethyl-5-nitroimidazole
2-(2-Hydroxymethyl-5-nitro-imidazol-1-yl)-ethanol
CAS Reg. Nr.: 4812-40-2
Molecular Formula: C₆H₉N₃O₄
Molecular Weight: 187.15 g/mole

Analytics

Melting Point: 119.5-120°C
Melting Point (Lit.): 117-119°C
¹H NMR: 500 MHz, DMSO-D₆: 3.69 (q, 2H), 4.50 (t, 2H), 4.61 (d, 2H), 5.07 (t, 1H), 5.65 (t, 1H), 8.04 (s, 1H) ppm

HPLC:
Column Type: Luna Phenyl-Hexyl, 250 × 4.6 mm, 5 μm
Solvent: MeCN/water/TFA = 60 : 40 : 0.1
Detection Wavelength: 300 nm
Detection Time: 4.38 min

Elemental Analysis:	calc.	found
C:	38.51 %	38.44 %
H:	4.85 %	4.83 %
N:	22.45 %	22.16 %

The substance corresponds to the physical data from the literature. According to HPLC the purity is > 99.9 %.

R_6065
MNOH 241841
Witega Laboratorien GmbH
DMSO-D6

Sample Name:

Data Collected on:
NMR500-vnmrs500
Archive directory:

Sample directory:

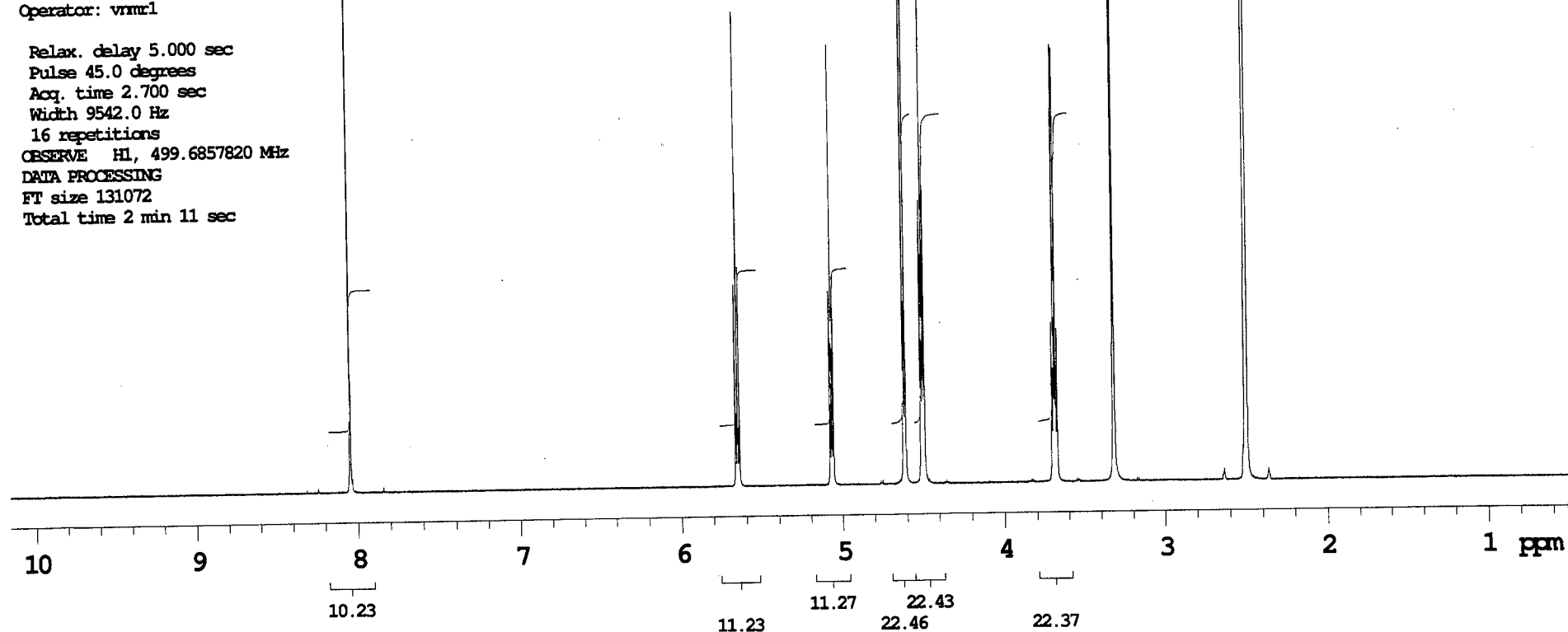
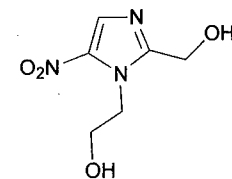
FidFile: PROTON

Pulse Sequence: PROTON (s2pul)
Solvent: dms
Data collected on: Jul 2 2012

Temp. 25.0 C / 298.1 K
Operator: vnmr1

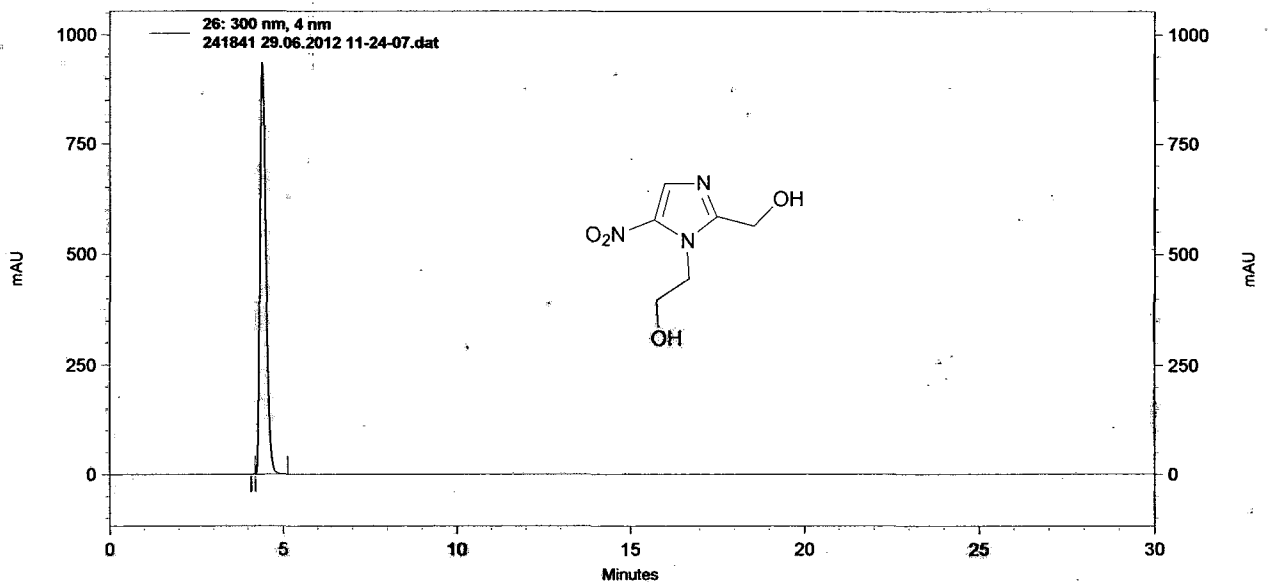
Relax. delay 5.000 sec
Pulse 45.0 degrees
Acq. time 2.700 sec
Width 9542.0 Hz
16 repetitions
OBSERVE H1, 499.6857820 MHz
DATA PROCESSING
FT size 131072
Total time 2 min 11 sec

INDEX	FREQUENCY	PPM	HEIGHT
1	4019.8	8.045	138.9
2	2830.9	5.665	33.3
3	2824.9	5.653	78.8
4	2819.1	5.642	36.2
5	2537.5	5.078	32.0
6	2532.1	5.067	73.1
7	2526.7	5.057	32.7
8	2308.4	4.620	123.4
9	2302.6	4.608	121.1
10	2254.6	4.512	46.9
11	2249.2	4.501	92.4
12	2243.7	4.490	49.4
13	1850.7	3.704	26.3
14	1845.2	3.693	72.6
15	1839.8	3.682	72.0
16	1658.6	3.319	1011.2
17	1252.9	2.507	111.7
18	1251.1	2.504	233.1
19	1249.2	2.500	315.3
20	1247.5	2.497	229.3
21	1245.7	2.493	108.7



Data File: C:\HPLC_Daten\Analytik\Data\MNZOH\241841 29.06.2012 11-24-07.dat
 Method: C:\HPLC_Daten\Analytik\Method\AN_60W_40TFA_0,1_Luna_Phenyl_Hexyl_0,6ml.met
 Acquired: 29.06.2012 11:24:43
 Printed: 29.06.2012 12:02:58
 Sample ID: 241841
 Column: Luna Phenyl-Hexyl 5µ 250 x 4.60 mm
 Flow rate: 0,6 ml/min
 Temperature: 25°C

Mobile Phase: 60% Acetonitrile 40% water 0.1% TFA



26: 300 nm, 4 nm
Results

<i>Retention Time</i>	<i>Height</i>	<i>Height Percent</i>	<i>Area</i>	<i>Area %</i>
4,183	923	0,098	3951	0,04
4,383	936579	99,902	11240491	99,96