
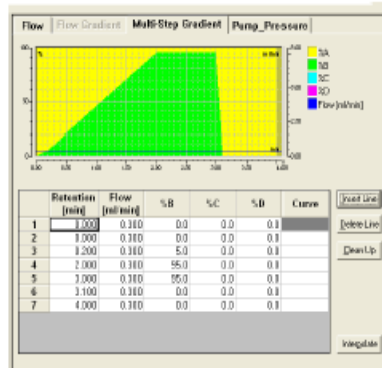


- 
- Introduction to setting up a tox screening method using the Exactive™ Orbitrap™, including quantification

- *Gerard Hommema*
- *Femy Smit*

Analysis Conditions – Exactive Quantitation

- Column: Hypersil Gold, 50 x 2.1 mm, 1.9 µm particles
- Mobile Phase A: 5mM Ammonium Acetate + Acetic acid (0.1%) in Water
- Mobile Phase B: 5 mM Ammonium Acetate + Acetic acid (0.1%) in Acetonitrile
- Gradient



- Column temp: 40°C
- Injection Volume: 2.5 µl



Instrument Control

Scan parameters

History: [arrow]

Scan range: **50.0 to 1,000.0 m/z**

Fragmentation: **HCD Gas On**

Resolution: **Enhanced**

Polarity: **Positive**

Microscans: **1**

Lock masses: **Pos: 391.2843**

AGC target: **Balanced**

Maximum inject time: **250 ms**

Apply Help Hot link

HESI source

Parameter	Value	actual
Sheath gas flow rate	50	0
Aux gas flow rate	30	0
Sweep gas flow rate	0	0
Spray voltage (kV)	3.00	0.00
Spray current (µA)		0.00
Capillary temp. (°C)	350	350
Capillary voltage (V)	25.00	
Tube lens voltage (V)	98.00	
Skimmer voltage (V)	16.00	
Heater temp (°C)	300	49

Apply Help Hot link

Acquisition

Acquisition state: standby

Progress: 0.00 min

File in use: unknown

Destination file: C:\ULS\03 service 26 april 2013\pierce pos cal mix

Method file: by time

Acquisition time: continuously

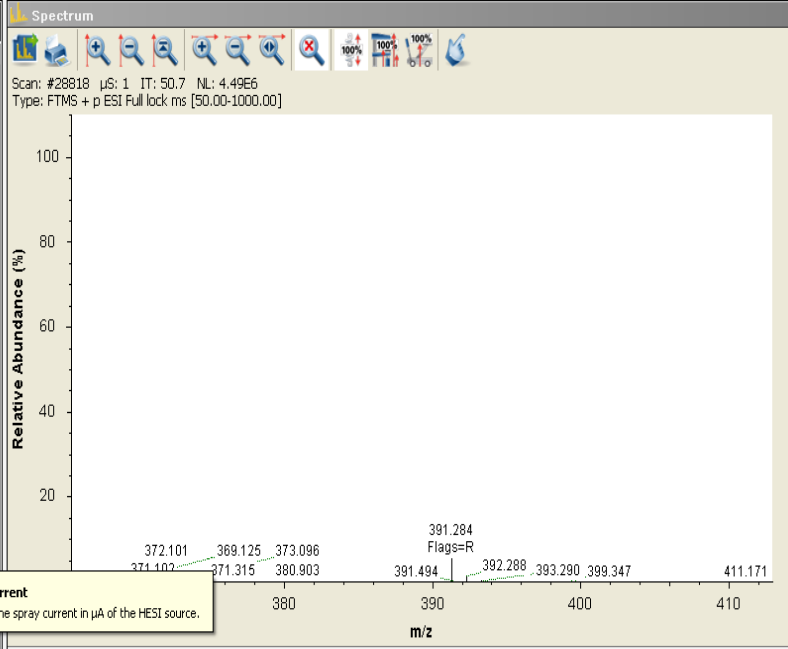
Sample:

Tune

Calibrate

Evaluate

Vacuum / Bakeout



Spray current
Observe the spray current in µA of the HESI source.

Instrument Status

- Instrument
 - Current Scan
 - Total Ion Current: 23.21 E6 ions/sec
 - TIC Variation: 4 %
 - Inject time: 50.67 ms
 - AGC Target reached: 100 %
 - AGC Prescan Mode: -1
 - Scan Rate: 4.9 scans/sec
 - Lock masses
 - System
 - Analysis Graph
 - Performance: Warn: Calibrate...
 - Electronics
 - Peripheral Devices
 - Ion source
 - Vacuum System
 - Status: Ok - HV enabled
 - Fore Vacuum: 1.80e+00 mbar
 - High Vacuum: Turned off
 - Ultra High Vacuum: 2.35e-10 mbar
 - Source TMP Speed: 100 %
 - UHV TMP Speed: 100 %

Vacuum System

Status: Ok - HV enabled

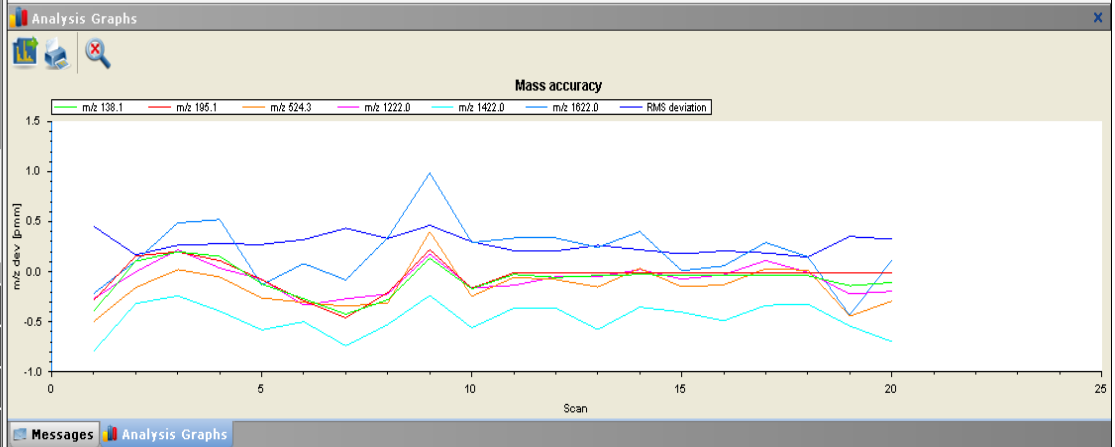
Fore Vacuum: 1.80e+00 mbar

High Vacuum: Turned off

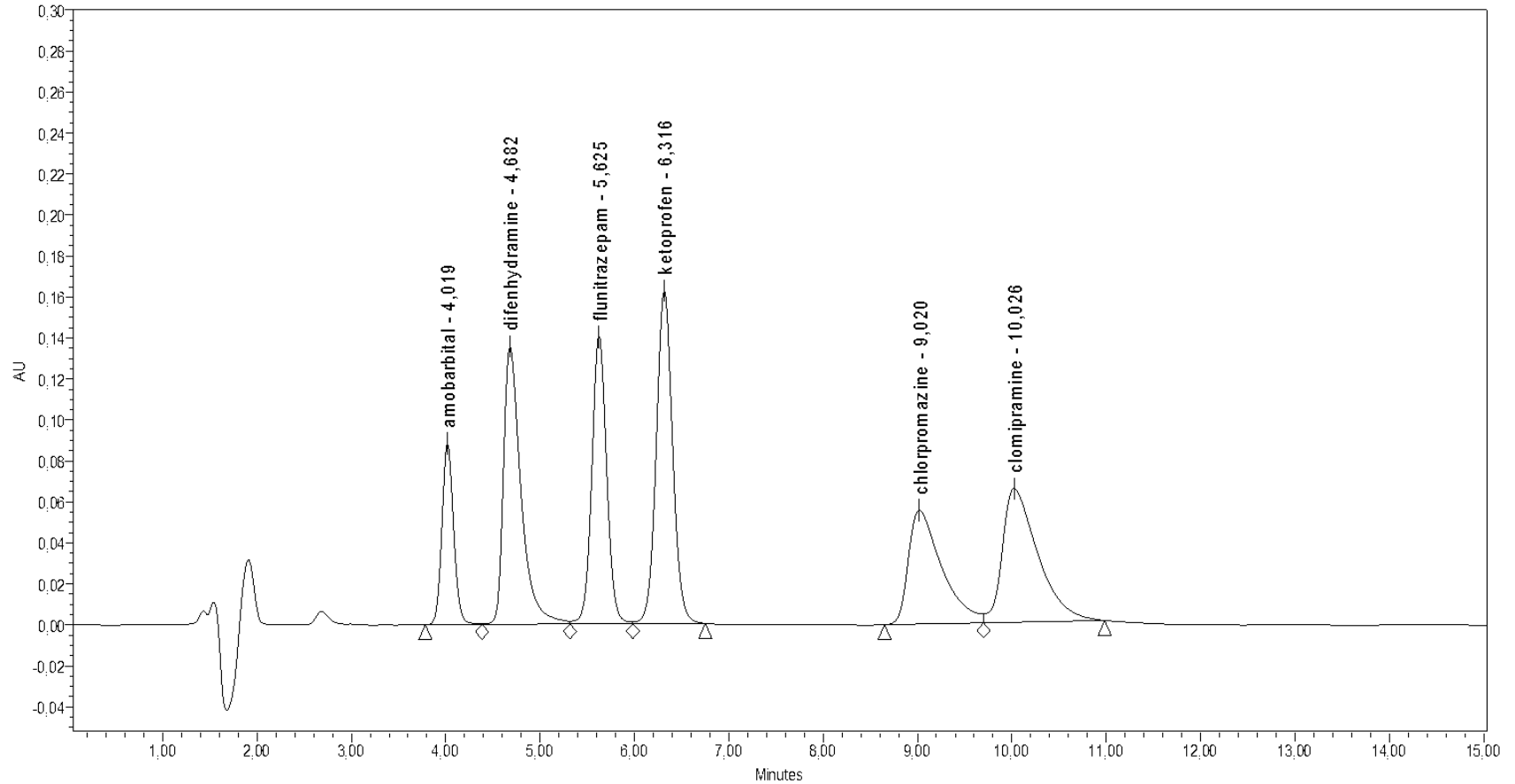
Ultra High Vacuum: 2.35e-10 mbar

Source TMP Speed: 100 %

UHV TMP Speed: 100 %



Stip testmengsel

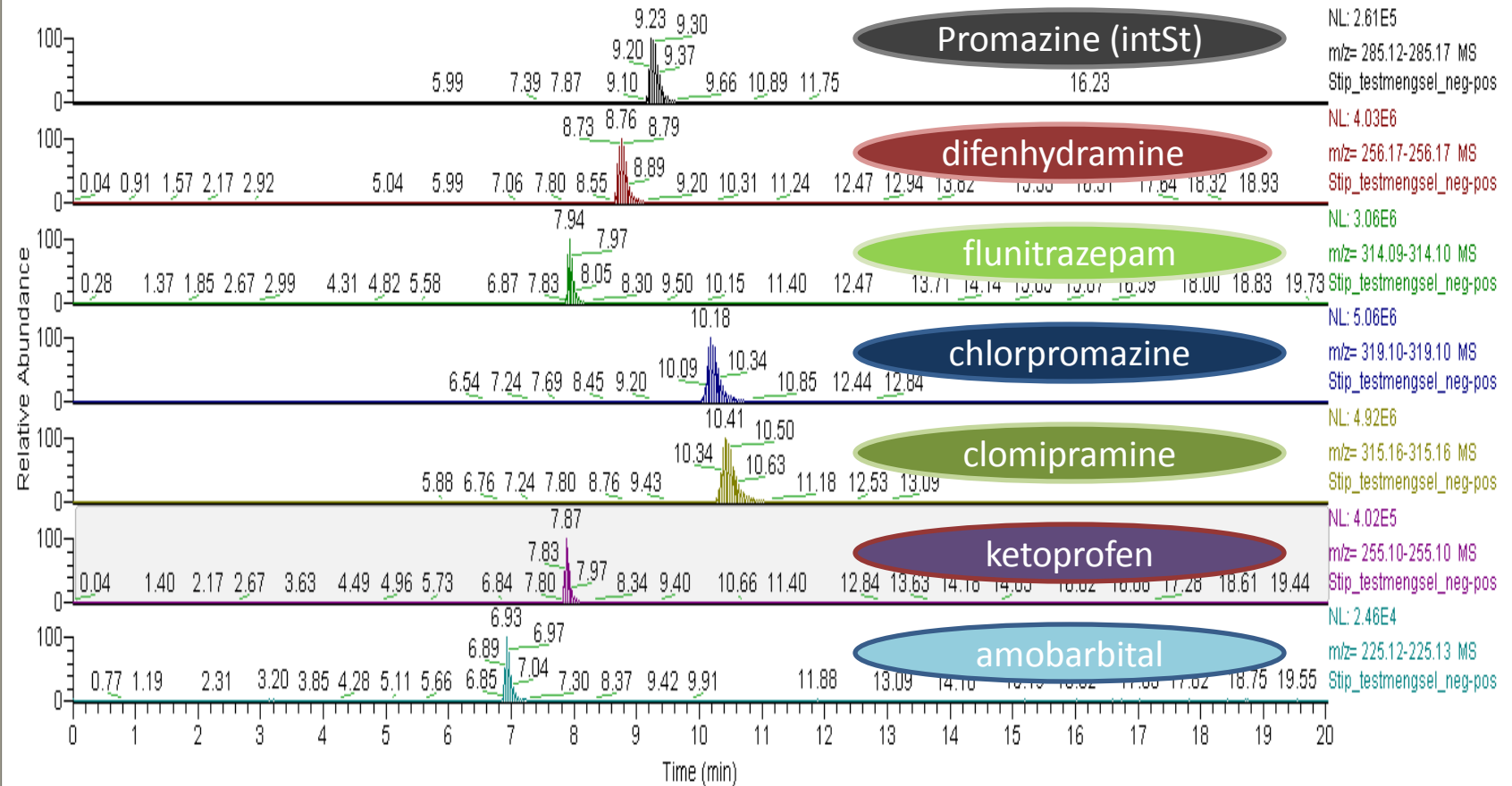


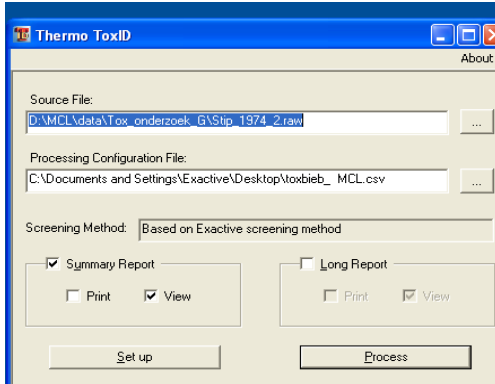
Stip testmengsel

D:\MCLV...Stip_testmengsel_neg-pos

9/20/2013 12:20:15 PM

RT: 0.00 - 20.04





ToxID

MCL Summary Report

Raw File Name: D:\MCL\data\Tox_ onderzoek_ G\Stip_ 1974_ 2.raw

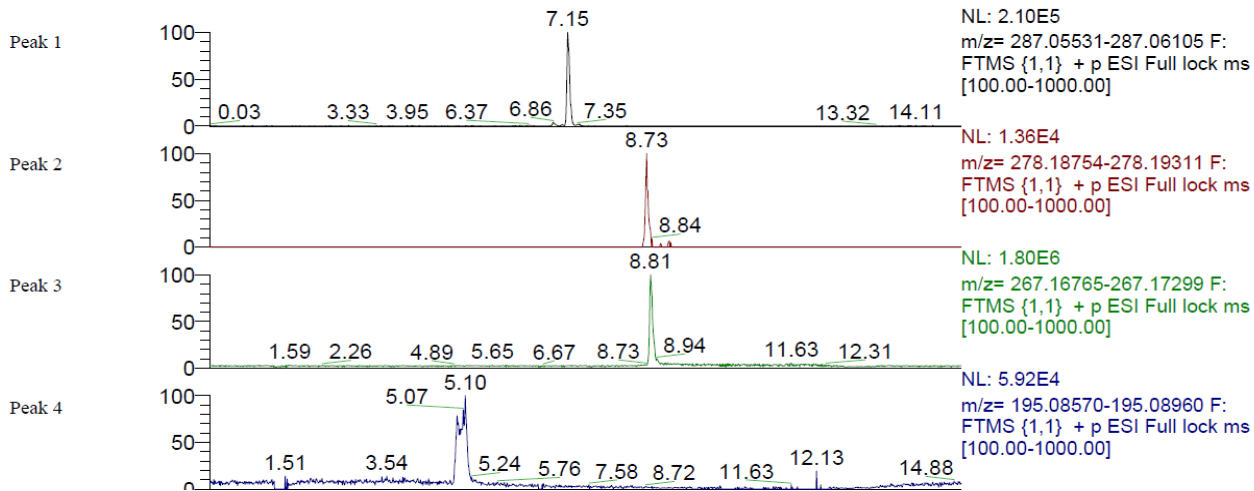
Config File Name: C:\Documents and Settings\Exactive\Desktop\toxbieb_ MCL.csv

Sample Name:

Laboratory: Apotheek lab MCL

Acquisition Start Time: March 14,2013 11:58:59 AM

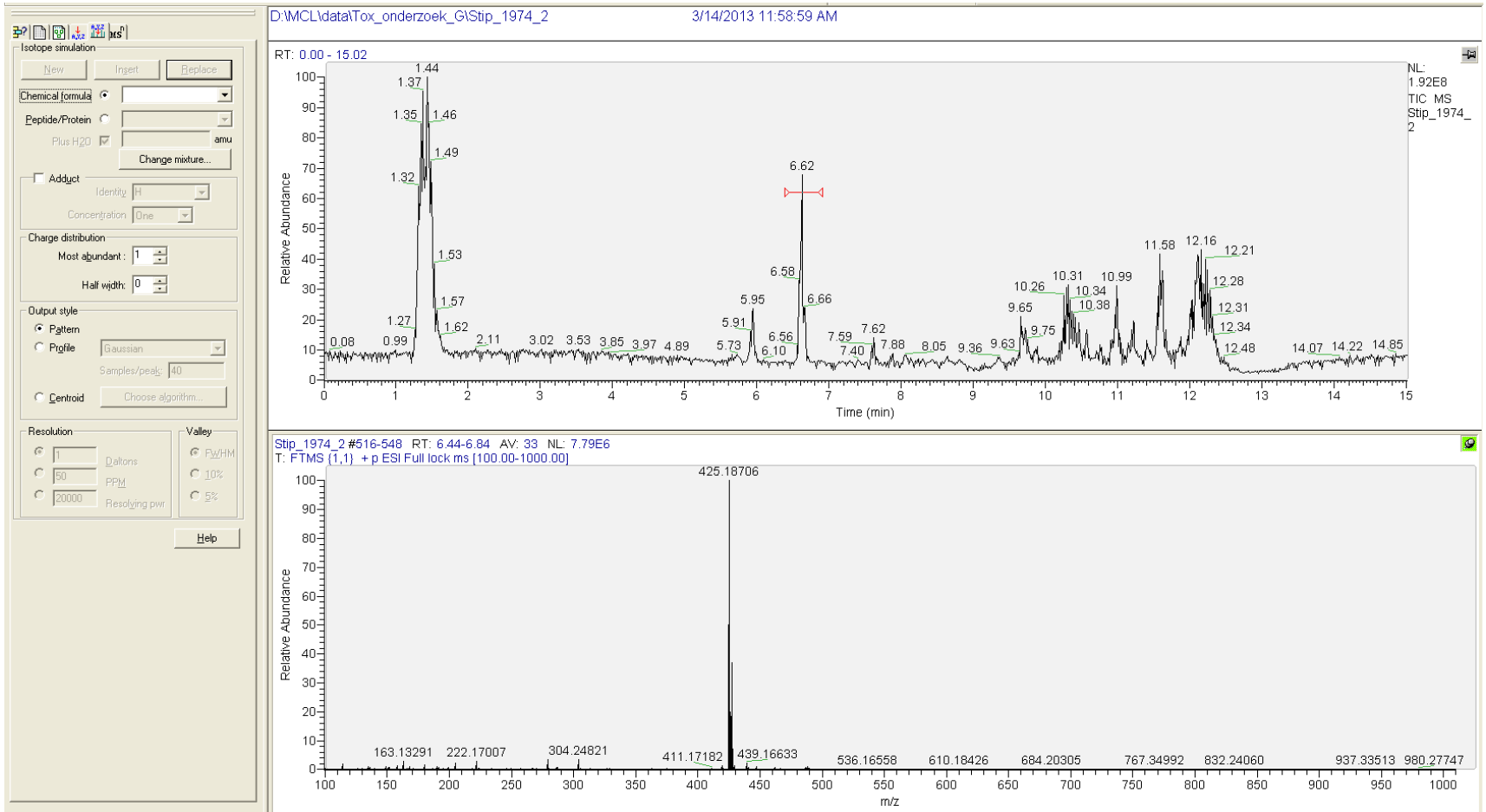
Screening Conditions: Based on Exactive screening method. Accurate mass window (ppm): 10, Adducts: H+, NH4+, Na+, RT window (min): 1.00. The Delta, Actual RT and intensity are reported based on the adduct labeled with "**".



Summary report ToxID

#	Comp. Index	Compound Name	Formula	Detected m/z	Delta (ppm)	Expected RT	Actual RT	Intensity	Adducts			Fragments		
									H+	NH4+	Na+	1	2	3
1	145	4-Hydroxynordiazepam/de moxepam(?)	C15H11ClN2O2	287.05820	0.1	6.88	7.15	209265	Y*	-	-	-	-	-
2	391	Amitriptyline	C20H23N	278.18768	-9.5	8.77	8.73	13506	Y*	-	-	N	N	N
3	134	Atenolol	C14H22N2O3	267.17197	6.2	8.85	8.81	1766796	Y*	-	-	-	-	-
4	604	Caffeine	C8H10N4O2	195.08783	0.9	5.10	5.10	56047	Y*	-	-	N	N	N
5	329	Clindamycine	C18H33ClN2O5S	425.18695	-0.5	6.62	6.62	52404986	Y*	-	-	-	-	-
6	186	Clobazam	C16H13ClN2O2	301.07382	-0.0	7.76	7.59	985112	Y*	-	-	N	N	N
7	140	Desalkylflurazepam	C15H10ClFN2O	289.05521	4.7	7.58	7.15	65831	Y*	-	-	N	N	N
8	223	Desmethylvenlafaxine	C16H25NO2	264.19580	-0.0	5.72	5.73	2605174	Y*	-	-	N	N	N
9	185	Diazepam	C16H13ClN2O	285.07898	0.2	8.09	8.05	1910027	Y*	-	-	N	N	N
10	119	Diclofenac	C14H11Cl2NO2	296.02408	0.4	8.70	8.70	75042	Y*	-	-	-	-	-
11	464	Gentamicin	C21H43N5O7	478.32813	9.6	10.54	10.31	20953	Y*	-	-	N	N	N
12	641	Lamotrigine	C9H7Cl2N5	256.01511	-0.1	6.16	6.19	28142	Y*	-	-	N	N	N
13	143	N-Desmethyl clobazam	C15H11ClN2O2	287.05820	0.1	7.32	7.15	209265	Y*	-	-	N	N	N
14	148	Nitrazepam	C15H11N3O3	282.08734	0.1	7.44	7.40	1117916	Y*	-	-	N	N	N
15	142	Nordiazepam	C15H11ClN2O	271.06329	0.1	7.63	7.62	8650667	Y*	-	-	N	N	N
16	249	Omeprazole	C17H19N3O3S	346.12201	0.1	7.04	7.04	26499	Y*	-	-	N	N	N
17	144	Oxazepam	C15H11ClN2O2	287.05820	0.1	7.19	7.15	209265	Y*	-	-	N	-	-
18	257	Promazine	C17H20N2S	285.14203	0.1	8.45	8.43	1330360	Y*	-	-	N	N	N
19	258	Promethazine	C17H20N2S	285.14203	0.1	8.30	8.43	1330360	Y*	-	-	N	N	N
20	187	Temazepam	C16H13ClN2O2	301.07382	-0.0	7.61	7.59	985112	Y*	-	-	N	N	N
21	85	Tolbutamide	C12H18N2O3S	271.11096	-0.5	7.59	7.57	11400	Y*	-	-	N	N	N
22	282	Venlafaxine	C17H27NO2	278.21152	0.2	6.77	6.86	749631	Y*	-	-	N	N	N

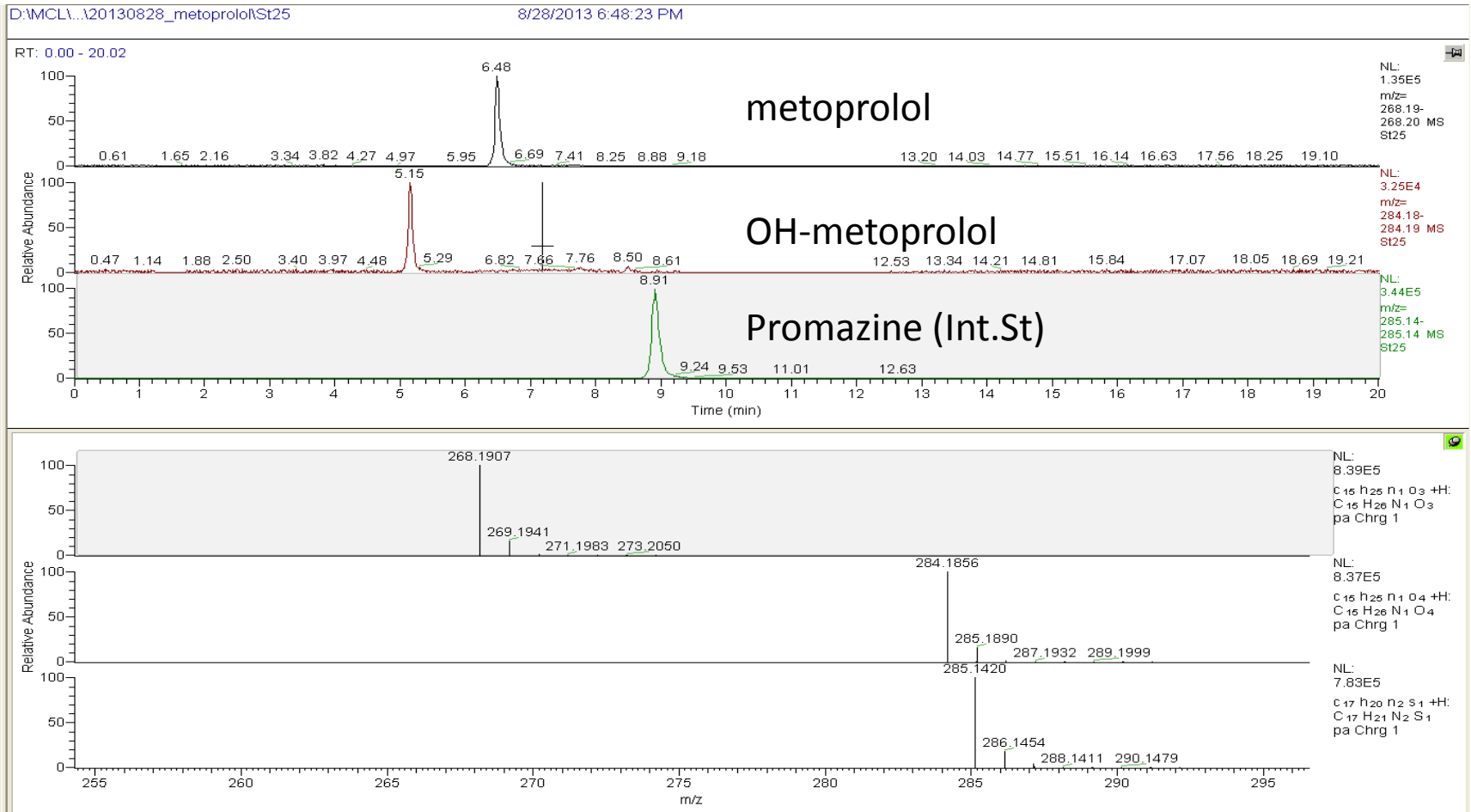
Clindamycine





CROMAZUIPEN

Metoprolol

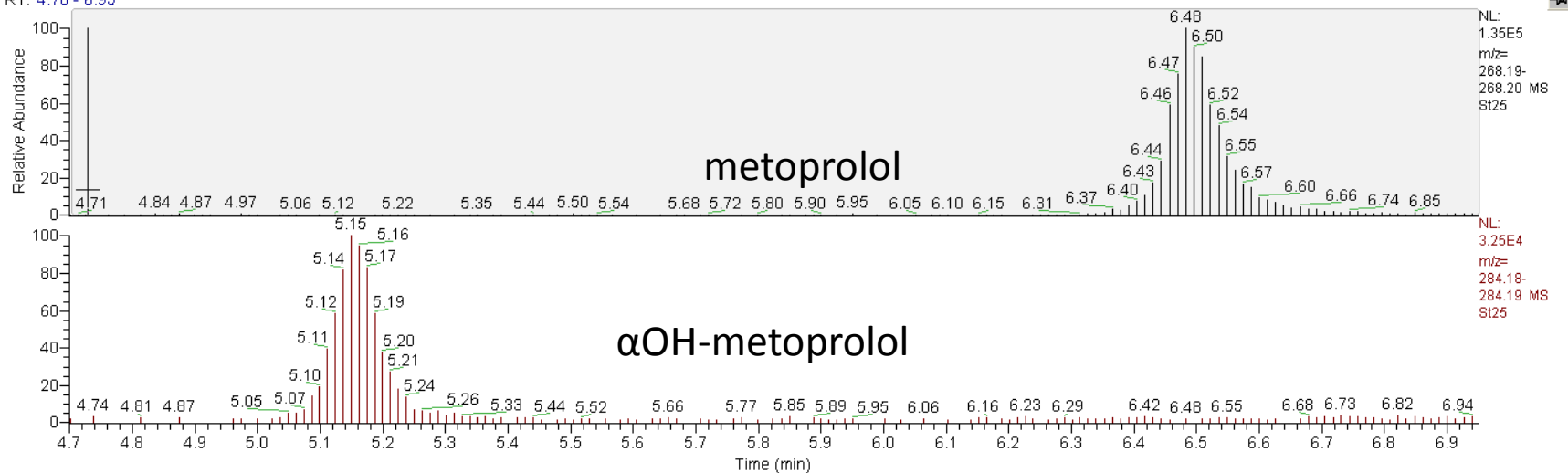


Metoprolol/ α OH metoprolol

D:\MCL\...120130828_metoprolol\St25

8/28/2013 6:48:23 PM

RT: 4.70 - 6.95





Bracket in use: Bracket 1 Calibration File: Embedded Calibration

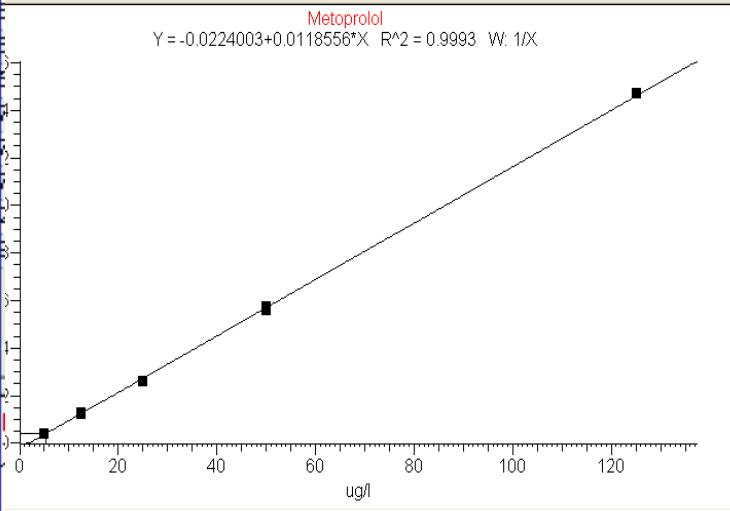
	File Name	Sample Type	Sample Name	Integration Type	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	%RSD-AMT	Peak Status	Level	Units	RT
1	S15	Standard		Method Settings	80327	0	0.000	5.000	0.000	-100.00	NA	Excluded	1	ug/l	6.48 1
2	S15_2_130828174630	Standard		Method Settings	103506	2529165	0.041	5.000	5.341	6.83	0.00		1	ug/l	6.49 1
3	S112_5	Standard		Method Settings	319927	2606845	0.123	12.500	12.241	-2.07	3.88		2	ug/l	6.48 1
4	S112_5_2	Standard		Method Settings	335330	2561491	0.131	12.500	12.932	3.45	3.88		2	ug/l	6.49 1
5	S125	Standard		Method Settings	680910	2614382	0.260	25.000	23.858	-4.57	0.04		3	ug/l	6.48 1
6	S125_2	Standard		Method Settings	651842	2501194	0.261	25.000	23.872	-4.51	0.04		3	ug/l	6.50 1
7	S150	Standard		Method Settings	1431600	2559697	0.559	50.000	49.064	-1.87	2.03		4	ug/l	6.49 1
8	S150_2	Standard		Method Settings	1441571	2501847	0.576	50.000	50.491	0.98	2.03		4	ug/l	6.49 1
9	S1125	Standard		Method Settings	3732073	2531791	1.474	125.000	126.226	0.98	0.14	Response High	5	ug/l	6.49 1
10	S1125_2	Standard		Method Settings	3461721	2353145	1.471	125.000	125.975	0.78	0.14	Response High	5	ug/l	6.49 1
11	patient_1	Unknown		Method Settings	125339	2321010	0.054	NA	6.444	NA	NA		NA	ug/l	6.50 1
12	patient_2	Unknown		Method Settings	393035	2300331	0.171	NA	16.301	NA	NA		NA	ug/l	6.50 1

alfaOH metoprolol
Metoprolol
Promazine

Peak Information - Metoprolol

Info	Flags	More Flags	Suitability	Spectrum
Left (min)	6.42	Base Peak (m/z)	268.19	
Apex (min)	6.49	Signal to Noise	53.01	
Right (min)	6.58	Expected RT (min)	6.47	
Height	20298.31	ISTD Response	2529164.76	
Area (cts-sec)	103506.28	Response Ratio	0.04	
Baseline	14383.52	Calculated Amount	5.27	

Close Help





Bracket in use: Bracket 1 Calibration File: Embedded Calibration

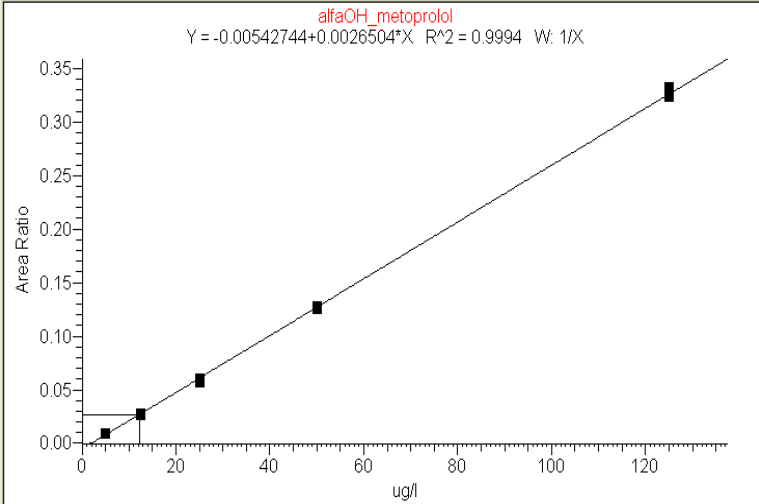
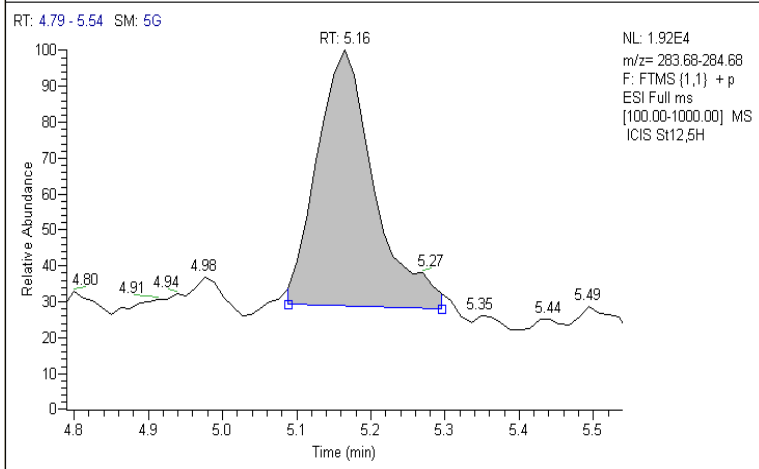
	File Name	Sample Type	Sample Name	Integration Type	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	%RSD-AMT	Peak Status	Level	Units	F
1	St5	Standard		Method Settings	12123	0	0.000	5.000	0.000	-100.00	NA	Excluded	1	ug/l	
2	St5_2_130828174630	Standard		Method Settings	22379	2529165	0.009	5.000	5.386	7.73	0.00		1	ug/l	
3	St12,5	Standard		Method Settings	71904	2606845	0.028	12.500	12.455	-0.36	1.46		2	ug/l	
4	St12,5_2	Standard		Method Settings	68929	2561491	0.027	12.500	12.201	-2.39	1.46		2	ug/l	
5	St25	Standard		Method Settings	150715	2614382	0.058	25.000	23.799	-4.81	2.57		3	ug/l	
6	St25_2	Standard		Method Settings	150038	2501194	0.060	25.000	24.681	-1.28	2.57		3	ug/l	
7	St50	Standard		Method Settings	321842	2559697	0.126	50.000	49.488	-1.02	1.37		4	ug/l	
8	St50_2	Standard		Method Settings	320975	2501847	0.128	50.000	50.454	0.91	1.37		4	ug/l	
9	St125	Standard		Method Settings	841774	2531791	0.332	125.000	127.493	1.99	1.94	Response High	5	ug/l	
10	St125_2	Standard		Method Settings	760864	2353145	0.323	125.000	124.044	-0.76	1.94		5	ug/l	
11	patient_1	Unknown		Method Settings	261456	2321010	0.113	NA	44.550	NA	NA	NA	NA	ug/l	
12	patient_2	Unknown		Method Settings	494880	2300331	0.215	NA	83.218	NA	NA	NA	NA	ug/l	

alfaOH_metoprolol
Metoprolol
Promazine

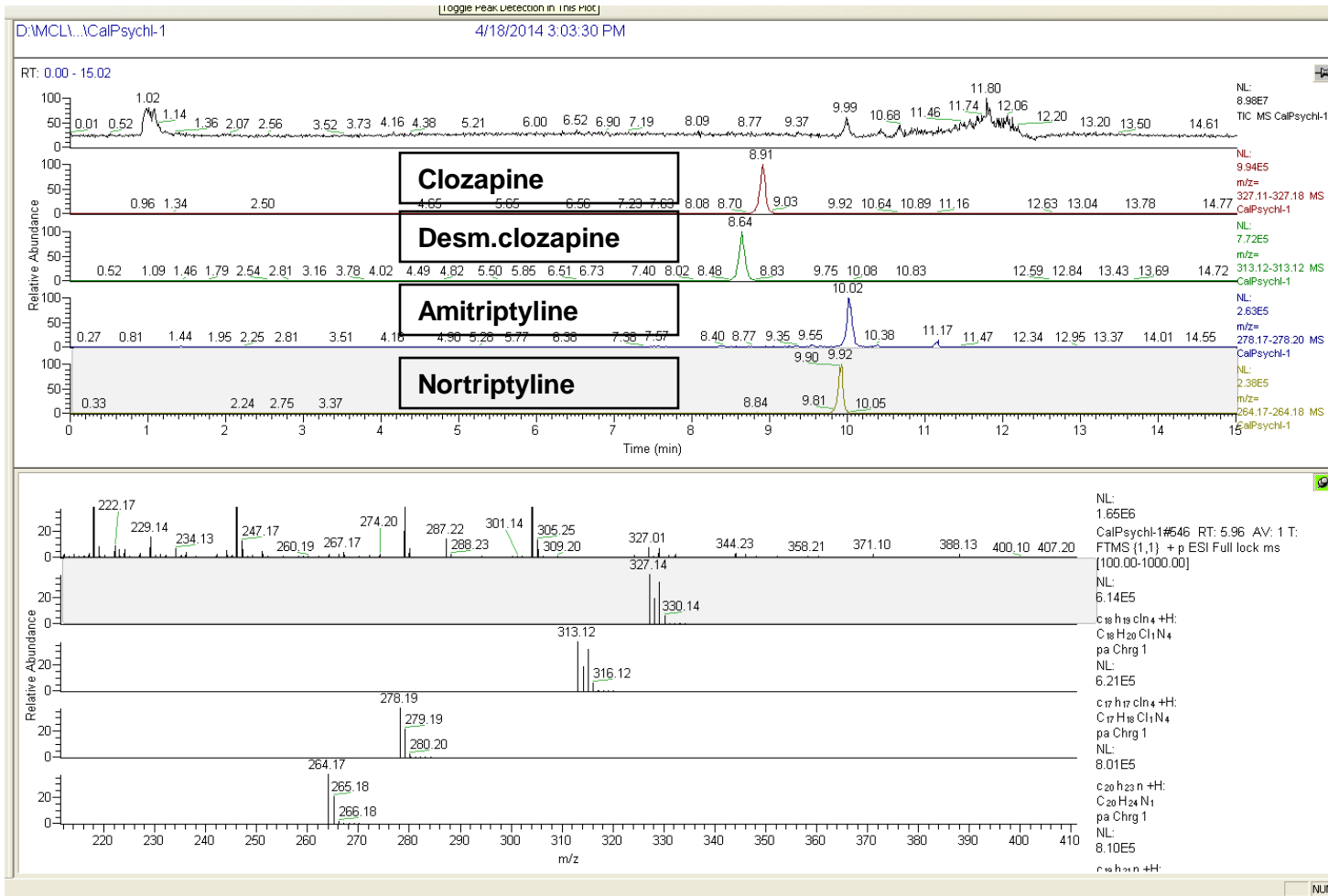
All Standards QCs Blanks Unknowns

St12,5 (Method Settings)

8/28/2013 10:14:39 PM



Psychofarmaca I en II



Psychofarmaca I en II

The image displays three overlapping windows from the Thermo Xcalibur Processing Setup software, configured for the analysis of Desmethyl-clozapine.

Thermo Xcalibur Processing Setup - Quan - Identification - Psych I en II (Int Std)

Identification | Detection | Calibration | Levels | System Suitability | Peak Purity

Name: **Desmethyl-clozapine**

Retention time: Expected (min): 8.61

Detector type: MS | Peak Detect: ICIS

Filter: FTMS (1,1) + p ESI Full ms [100.00-1000.00]

Trace: Mass Range

Mass (m/z): 313.1214

Thermo Xcalibur Processing Setup - Quan - Calibration - Psych I en II (Int Std)

Identification | Detection | Calibration | Levels | System Suitability | Peak Purity

Component type: Target compound

Target compounds: ISID: Promazine

Weighting: Equal

Calibration curve: Linear

Units: mg/L

Origin: Force

Response: Area

Thermo Xcalibur Processing Setup - Quan - Levels - Psych I en II (Int Std)

Identification | Detection | Calibration | Levels | System Suitability | Peak Purity

Units: mg/L

Cal Level	Amount	OC Level	Amount	% Test
1 Cal Psych II	0.000	*	0.010	0.00
2 Cal Psych I	0.701			
*	0.000			

Chromatogram

RT: 8.24 - 8.99 SM: 56

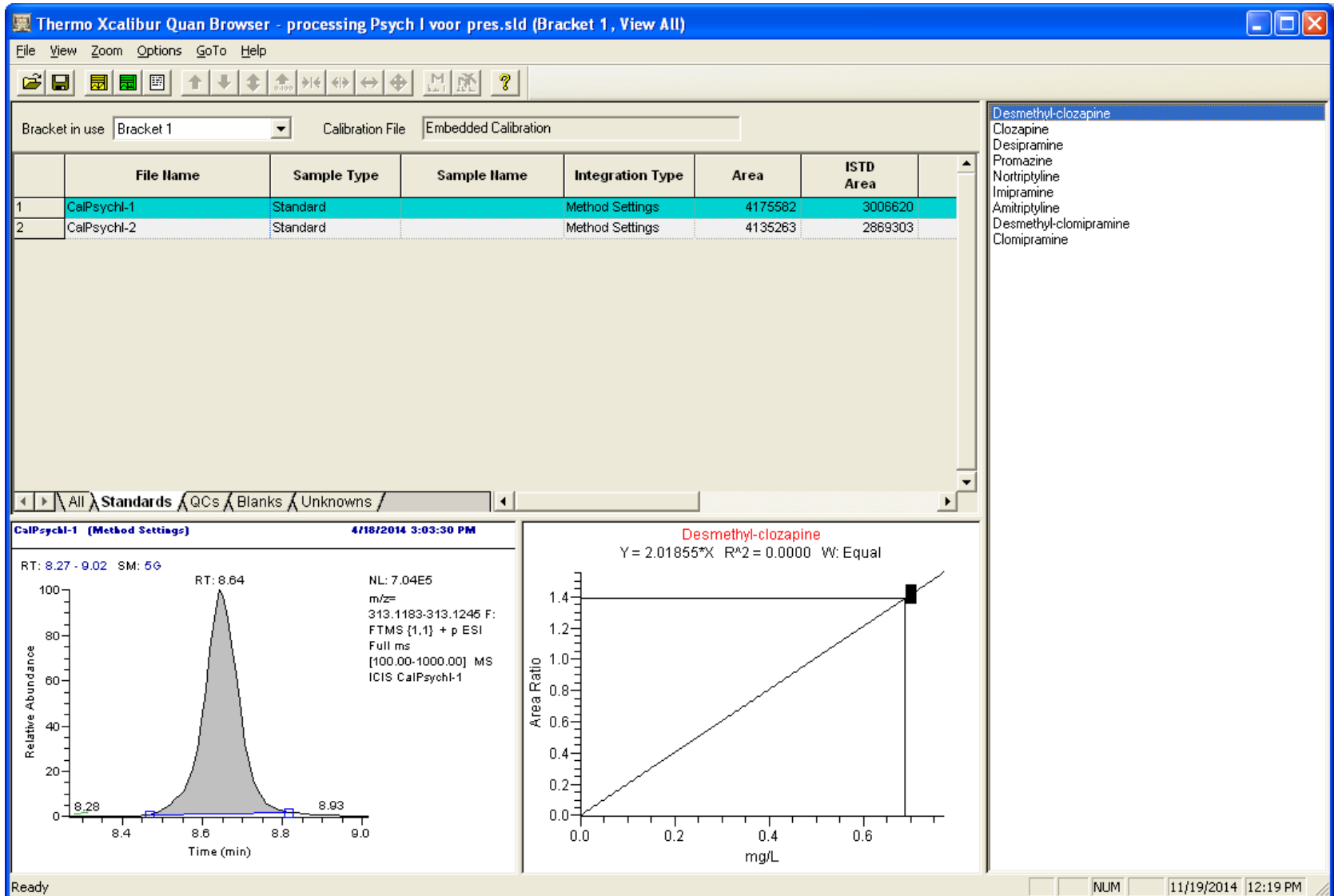
RT: 8.61 SN: 11

Relative Abundance vs Time (min)

Components List

- Desmethyl-clozapine
- Clozapine
- Desipramine
- Promazine
- Nortriptyline
- Imipramine
- Amitriptyline
- Desmethyl-clomipramine
- Clomipramine

Psychofarmaca I en II



urbi



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orbi