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Appendix A

Xylene Concentration, Elimination Capacity, and Carbon dioxide Production

Table A-1 Inlet Concentration and Outlet Concentration for M1

Operation days	Q (L/m)	Q ($m^3 h^{-1}$)	Cin ($g m^{-3} h^{-1}$)	Cout ($g m^{-3} h^{-1}$)
8-14	0.2	0.01	0.01-0.06	0.002-0.007
15-23	0.2	0.01	0.14-0.18	0.008-0.02
24-32	0.2	0.01	0.18-0.35	0.006-0.02
33-41	0.2	0.01	0.22-0.45	0.02-0.03
42-50	0.2	0.01	0.43-0.67	0.13-0.24
51-59	0.2	0.01	0.72-0.93	0.23-0.34
60-65	0.2	0.01	1.1-1.2	0.32-0.34
66-74	0.5	0.03	1.9-2.6	0.56-0.67
75-80	0.5	0.03	3.1-3.3	0.97-1.0
81-89	1.0	0.06	5.3-5.4	2.1-2.6
90-95	1.0	0.06	6.3-6.4	2.9-3.0

Remark : Q =the volumetric gas flow rate

Table A-2 Inlet Concentration and Outlet Concentration for M2

Operation days	Q (L/m)	Q ($m^3 h^{-1}$)	Cin ($g m^{-3} h^{-1}$)	Cout ($g m^{-3} h^{-1}$)
8-14	0.2	0.01	0.01-0.05	0.002-0.008
15-23	0.2	0.01	0.07-0.19	0.005-0.011
24-32	0.2	0.01	0.18-0.33	0.009-0.031
33-41	0.2	0.01	0.24-0.44	0.010-0.030
42-50	0.2	0.01	0.43-0.56	0.034-0.13
51-59	0.2	0.01	0.65-0.87	0.23-0.33
60-65	0.2	0.01	0.93-1.1	0.32-0.33
66-74	0.5	0.03	1.9-2.6	0.56-0.66
75-80	0.5	0.03	3.1-3.3	1.0-1.2
81-89	1.0	0.06	5.3-6.3	2.1-2.8
90-95	1.0	0.06	5.3-6.3	2.4-2.9

Table A-3 Inlet Concentration and Outlet Concentration for M3

Operation days	Q (L/m)	Q ($m^3 h^{-1}$)	Cin ($g m^{-3} h^{-1}$)	Cout ($g m^{-3} h^{-1}$)
8-14	0.2	0.01	0.01-0.05	0.001-0.004
15-23	0.2	0.01	0.07-0.16	0.005-0.012
24-32	0.2	0.01	0.20-0.28	0.002-0.013
33-41	0.2	0.01	0.30-0.46	0.010-0.030
42-50	0.2	0.01	0.48-0.67	0.10-0.12
51-59	0.2	0.01	0.75-0.99	0.12-0.21
60-65	0.2	0.01	1.1-1.2	0.30-0.33
66-74	0.5	0.03	2.0-2.5	0.45-0.47
75-80	0.5	0.03	3.1-3.2	0.66-0.67
81-89	1.0	0.06	5.3-5.8	1.3-1.5
90-95	1.0	0.06	6.2-6.3	2.5-2.6

Table A-4 Inlet Concentration and Outlet Concentration for Control

Operation days	Q (L/m)	Q ($m^3 h^{-1}$)	Cin ($g m^{-3} h^{-1}$)	Cout ($g m^{-3} h^{-1}$)
8-14	0.2	0.01	0.01-0.06	0.01-0.04
15-23	0.2	0.01	0.15-0.23	0.13-0.18
24-32	0.2	0.01	0.26-0.39	0.19-0.28
33-41	0.2	0.01	0.46-0.56	0.33-0.40
42-50	0.2	0.01	0.65-0.89	0.50-0.74
51-59	0.2	0.01	0.99-1.2	0.74-1.0
60-65	0.2	0.01	1.2-1.3	1.0-1.1
66-74	0.5	0.03	3.1-3.3	2.3-3.0
75-80	0.5	0.03	5.0-5.3	4.0-4.9
81-89	1.0	0.06	5.2-6.3	4.2-5.7
90-95	1.0	0.06	6.2-6.3	5.3-5.7

Table A-5 Xylene Inlet Load and Elimination Capacity for M1

Operation days	IL ($g.m^{-3} h^{-1}$)	EC($g.m^{-3} h^{-1}$)	EC/IL
8-14	0.06-0.29	0.05-0.14	0.84-0.83
15-23	0.32-0.93	0.28-0.87	0.87-0.93
24-32	0.91-1.8	0.88-1.7	0.96-0.97
33-41	1.1-2.3	1.0-2.1	0.89-0.92
42-50	2.2-3.4	1.5-2.2	0.64-0.75
51-59	3.7-4.7	2.5-3.0	0.64-0.69
60-65	5.6-6.3	3.9-4.6	0.71-0.72
66-74	25-33	18-24	0.72-0.74
75-80	39-42	27-29	0.70-0.74
81-89	136-138	71-85	0.52-0.62
90-95	161-162	86-88	0.53-0.55

Table A-6 Xylene Inlet Load and Elimination Capacity for M2

Operation days	IL ($g.m^{-3} h^{-1}$)	EC($g.m^{-3} h^{-1}$)	EC/IL
8-14	0.27-0.17	0.06-0.22	0.85-0.86
15-23	0.34-0.96	0.29-0.90	0.86-0.94
24-32	0.90-1.7	0.86-1.6	0.87-0.95
33-41	1.2-2.2	1.2-2.1	0.91-0.96
42-50	2.2-2.8	1.5-2.2	0.71-0.92
51-59	3.3-4.4	2.1-2.8	0.62-0.71
60-65	4.7-5.6	3.0-4.0	0.65-0.71
66-74	25-33	18-24	0.69-0.75
75-80	39-42	26-28	0.65-0.68
81-89	136-162	73-91	0.53-0.61
90-95	136-161	74 -88	0.53-0.54

Table A-7 Xylene Inlet Load and Elimination Capacity for M3

Operation days	IL ($g.m^{-3} h^{-1}$)	EC ($g.m^{-3} h^{-1}$)	EC/IL
8-14	0.07-0.28	0.07-0.26	0.91-0.93
15-23	0.34-0.81	0.32-0.77	0.90-0.96
24-32	1.0-1.4	0.96-1.4	0.94-0.99
33-41	1.6-2.3	1.4-2.2	0.91-0.99
42-50	2.4-3.4	1.9-2.8	0.78-0.82
51-59	3.8-5.1	3.2-4.0	0.78-0.84
60-65	5.7-6.3	4.0-4.7	0.71-0.75
66-74	25-31	20-25	0.77-0.81
75-80	40-41	31-33	0.78-0.79
81-89	134-149	95 -115	0.71-0.77
90-95	159-161	91 –98	0.57-0.61

Table A-8 Xylene Inlet Load and Elimination Capacity for Control

Operation days	IL ($g.m^{-3} h^{-1}$)	EC($g.m^{-3} h^{-1}$)	EC/IL
8-14	0.08-0.28	0.01-0.08	0.20-0.38
15-23	0.78-1.16	0.11-0.23	0.14-0.20
24-32	1.3-2.0	0.21-0.54	0.16-0.27
33-41	2.4-2.8	0.62-0.79	0.26-0.29
42-50	3.3-4.5	0.73-0.88	0.16-0.23
51-59	5.1-6.3	0.67-1.1	0.13-0.17
60-65	6.1-6.8	0.46-1.5	0.074-0.23
66-74	40-43	4.1-10.1	0.097-0.25
75-80	64-68	10-13	0.14-0.20
81-89	138-161	16-26	0.10-0.19
90-95	158-160	14-24	0.09-0.15

Table A-9 Carbon dioxide Production (PCO_2) for M1, M2, and M3

Operation days	M1_PCO_2 ($g.m^{-3} h^{-1}$)	M2_PCO_2 ($g.m^{-3} h^{-1}$)	M3_PCO_2 ($g.m^{-3} h^{-1}$)
8-14	0.14-0.75	0.14-0.57	0.19-0.75
15-23	0.70-1.98	0.70-2.6	0.70-2.2
24-32	2.6-5.1	2.1-3.0	2.8-3.9
33-41	1.9-5.7	3.4-3.5	2.9-6.2
42-50	3.2-4.3	3.8-4.5	4.4-6.0
51-59	3.9-6.4	4.8-6.4	6.4-8.4
60-65	6.9-7.2	7.3-9.7	6.3-6.8
66-74	21.3-31.2	19.6-24.3	25.3-25.8
75-80	28.3-28.7	28.6-29.4	30.1-37.9
81-89	53.5-67.7	56.5-65.1	71.0-76.9
90-95	76.4-84.6	62.1-76.1	81.4-81.9

Table A-10 Carbon dioxide Production Rate Ratio for M1, M2, and M3

Operation days	M1_PCO_2/EC	M2_PCO_2/EC	M3_PCO_2/EC
8-14	2.7-2.8	2.3-2.5	2.8-2.9
15-23	1.8-2.5	2.4-2.9	2.2-2.9
24-32	2.1-3.0	2.2-2.9	2.8-2.9
33-41	1.9-2.7	1.6-2.9	2.1-3.1
42-50	1.5-2.8	2.1-2.5	2.1-2.3
51-59	1.4-2.1	2.1-2.3	2.0-2.2
60-65	1.6-1.7	2.4-2.4	1.3-1.7
66-74	1.1-1.4	1.0-1.4	1.0-1.3
75-80	0.99-1.0	1.0-1.1	0.9-1.2
81-89	0.76-0.90	0.62-0.89	0.67-0.77
90-95	0.89-0.96	0.84-0.87	0.83-0.90

Appendix B

Instruments and Materials

Figure B-1 Balance

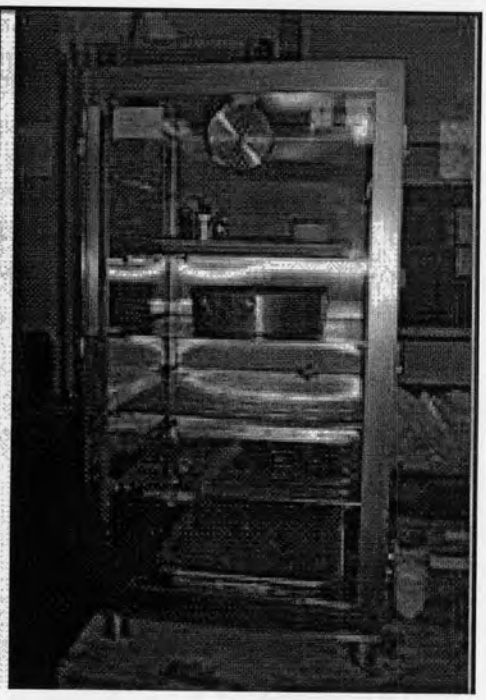

Figure B-2 Desiccator

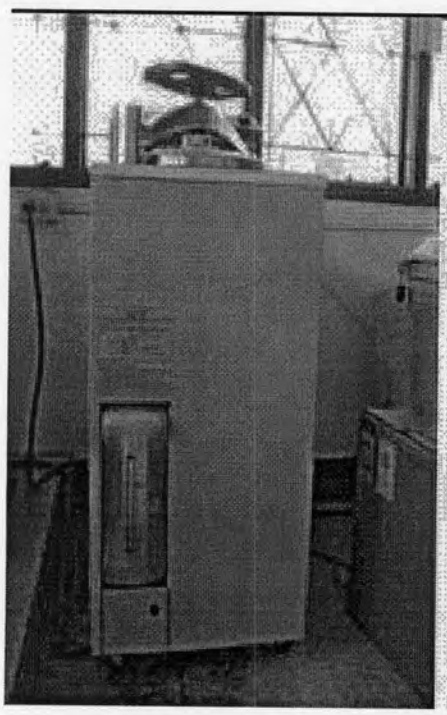

Figure B-3 Autoclave

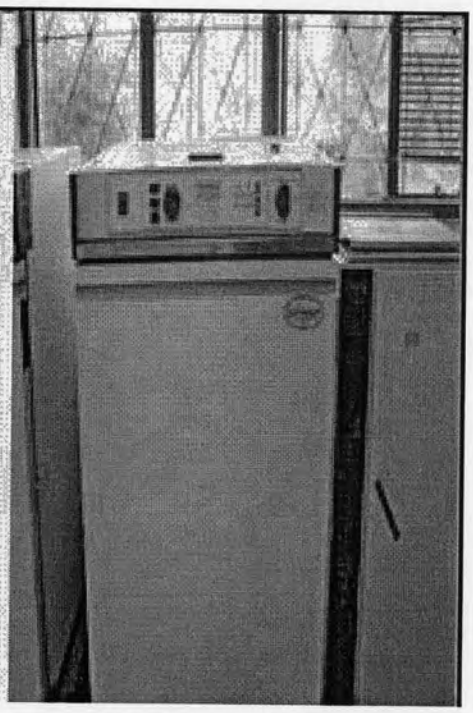

Figure B-4 Hot Air Oven

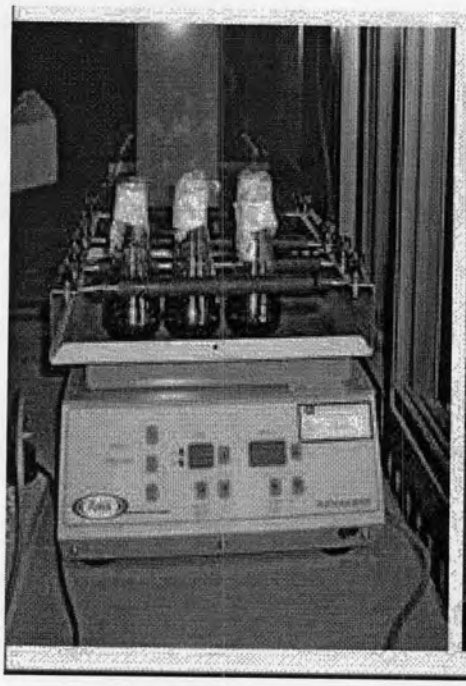

Figure B-5 Shaker

Figure B-6 Laminar Flow

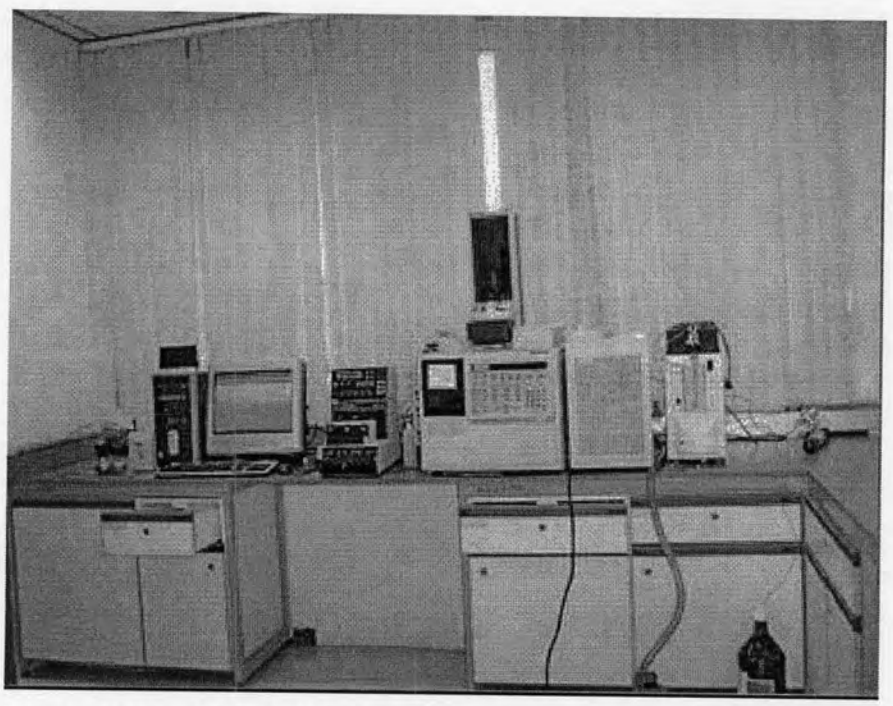

Figure B-7 Gas Chromatography Mass Spectrometry (GC/MS/MS)

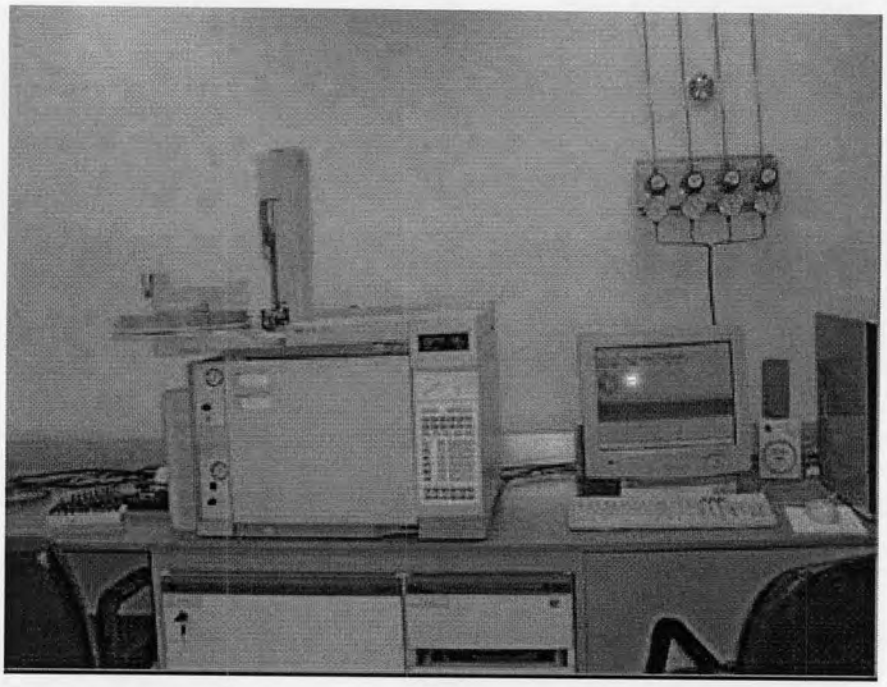

Figure B-8 Gas Chromatography (Flame Ionization Detector, FID)

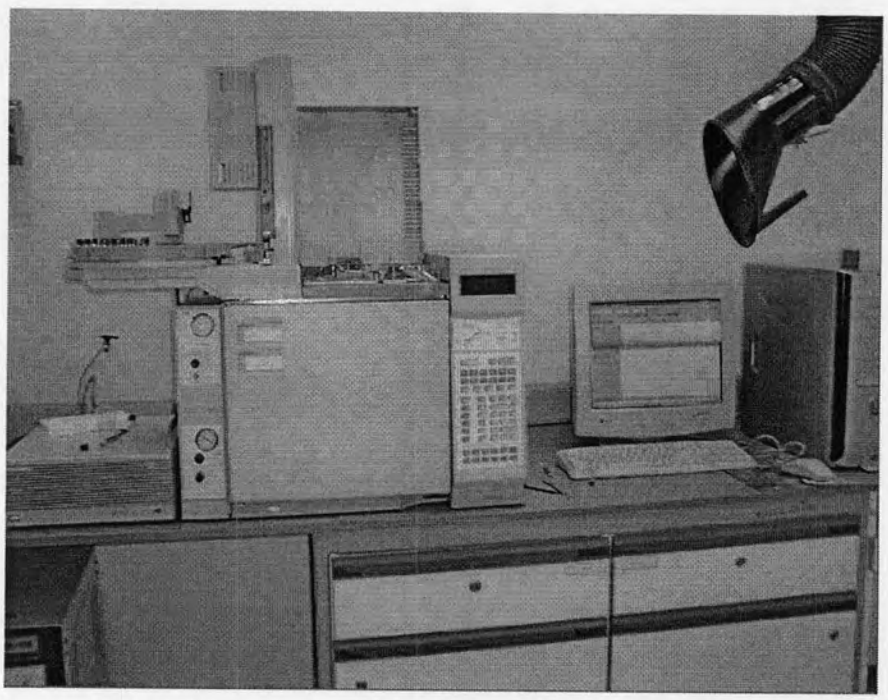

Figure B-9 Gas Chromatography (Thermal Conductivity Detector, TCD)

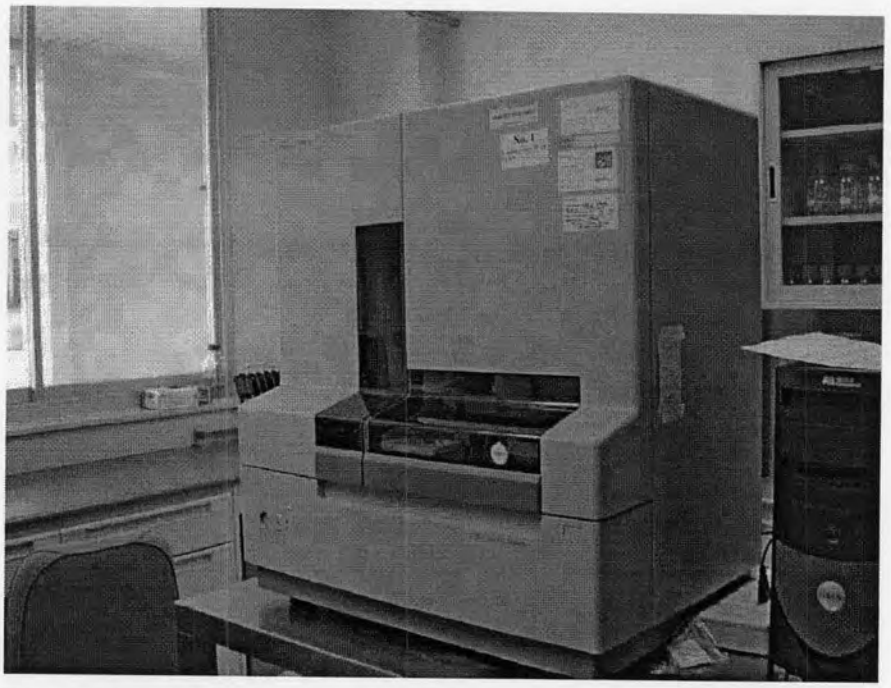

Figure B-10 DNA Sequencer

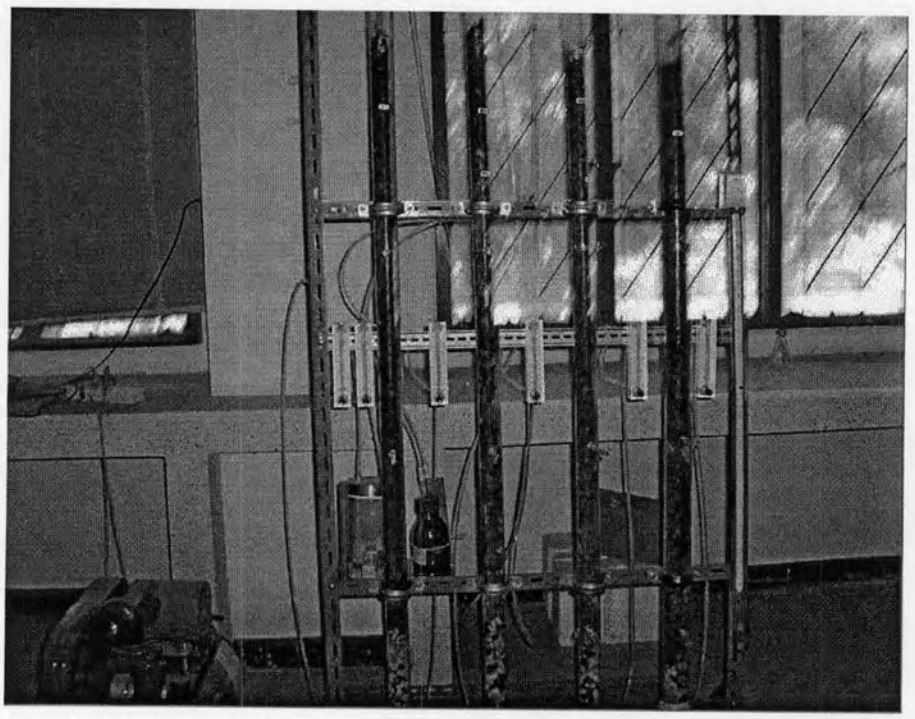

Figure B-11 Four Column of Biofilters

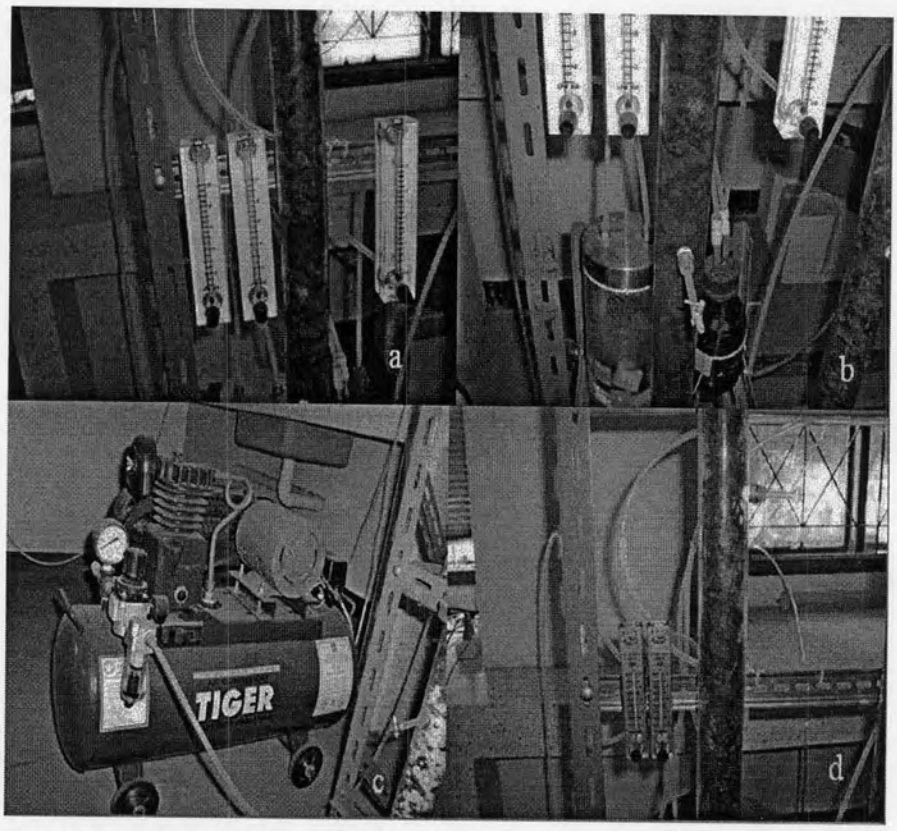

Figure B-12 Biofilter Compartments

a) Flow meter

b) Water and Xylene Tanks

c) Air Pump

d) Biofilter

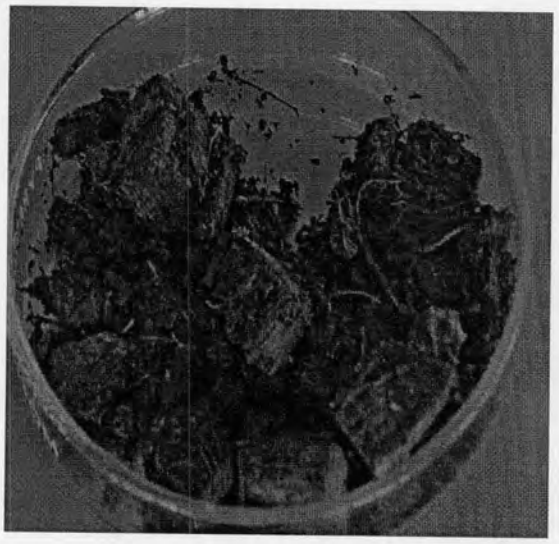

Figure B-13 Biofilter Media

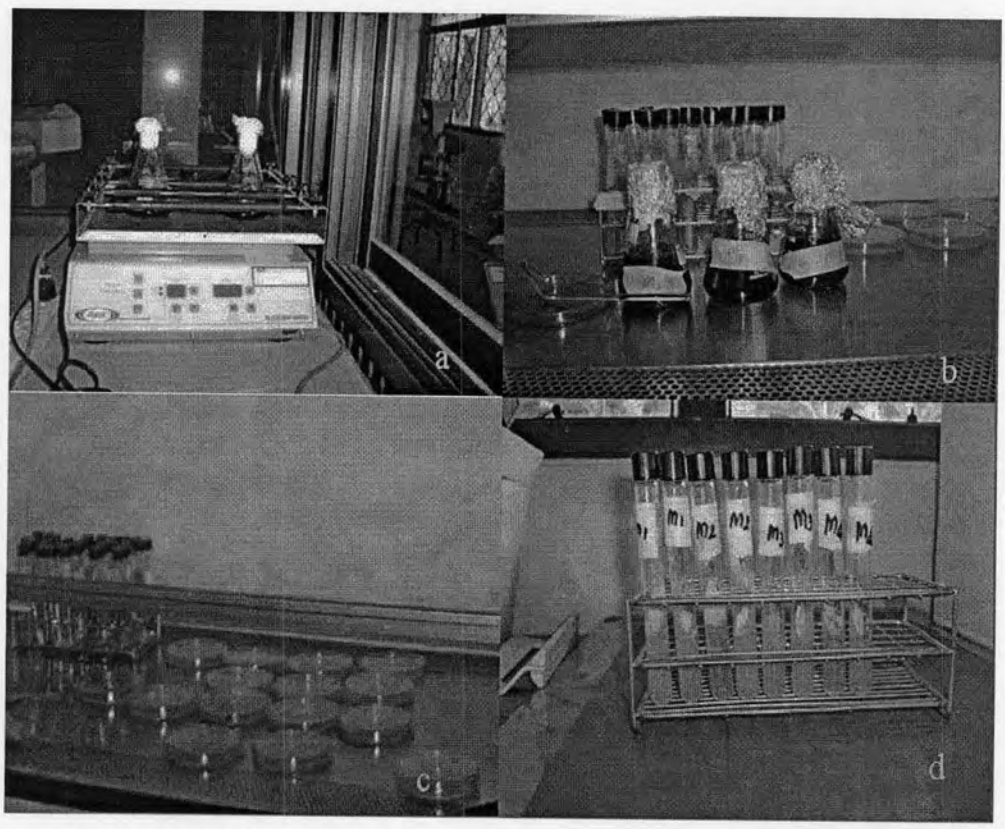

Figure B-14 Materials for Microorganisms Preparation

a) Biofilter Media in Flask

b) Dilution Plate Count

c) Dilution Plate Count

d) Stock Culture Media

Appendix C

Chromatogram Mass Spectra for Intermediate Species

Chromatogram Plot

File: c:\varianws\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms
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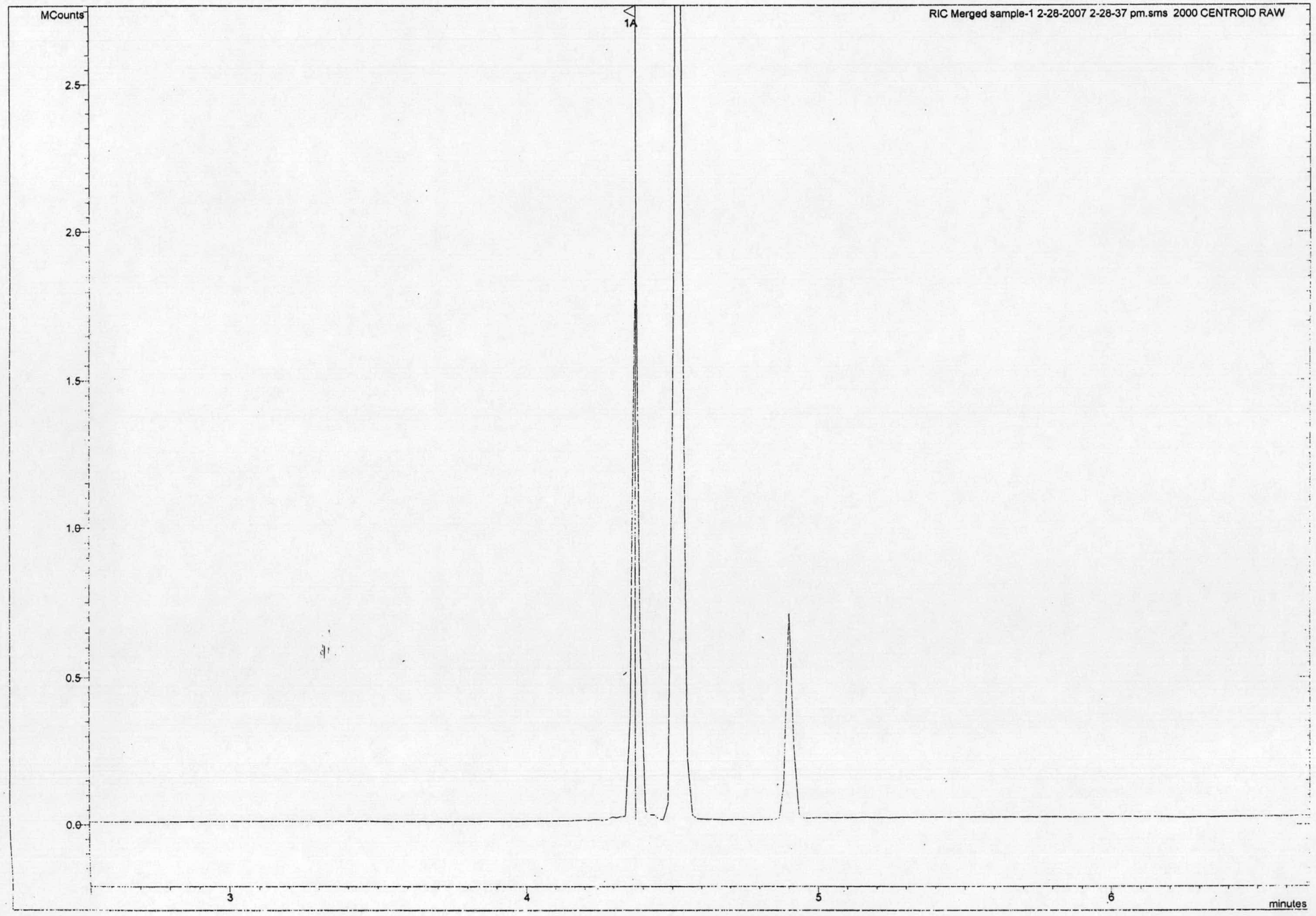
Operator: somkiat
Date: 2/28/2007 2:28 PM



M1

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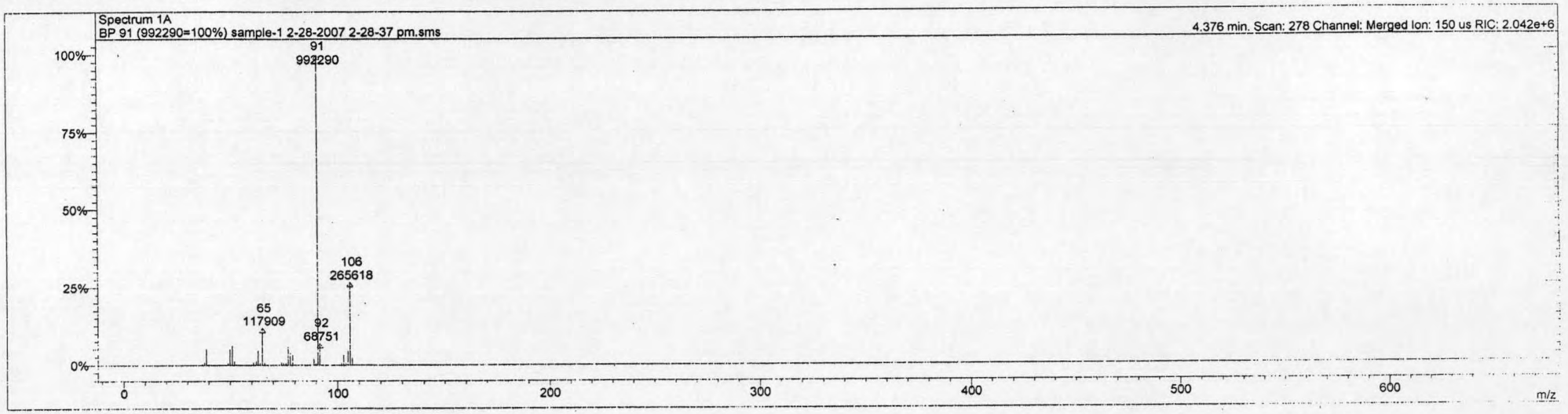

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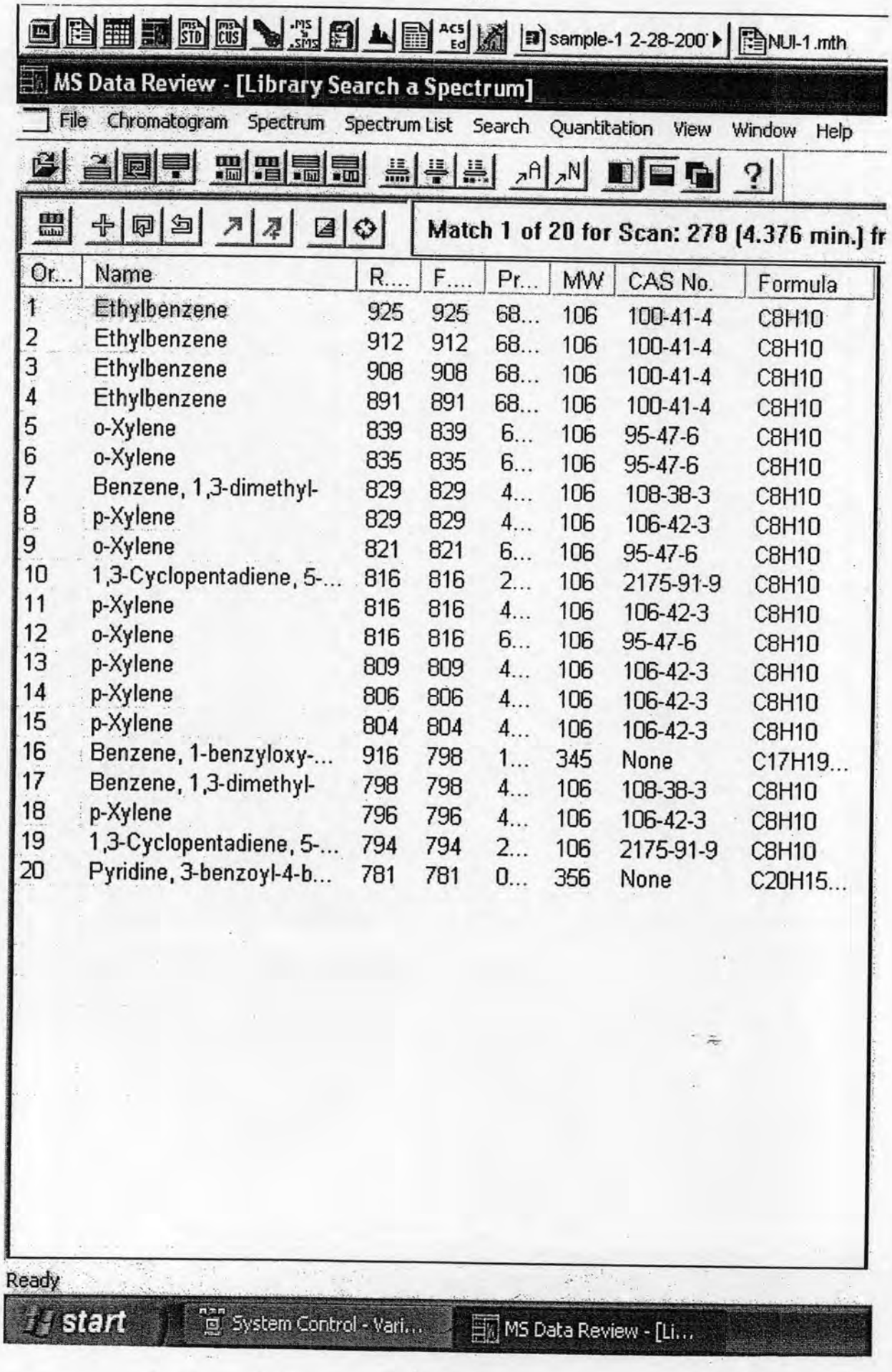
No averaging. Not background corrected.
Comment: 4.376 min. Scan: 278 Channel: Merged Ion: 150 us RIC: 2.042e+6
Pair Count: 88 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
21	14	0	62	13085	13	92	68751	69	155	579	1
23	29	0	63	46394	47	93	1790	2	207	528	1
25	14	0	64	6437	6	94	29	0	250	14	0
28	29	0	65	117909	119	97	29	0	250	14	0
29	247	0	66	7790	8	98	399	0	252	29	0
37	4718	5	67	14	0	99	29	0	255	29	0
38	8503	9	72	80	0	100	194	0	267	80	0
39	50742	51	73	2303	2	101	318	0	281	218	0
40	3871	4	74	9655	10	102	8433	8	341	289	0
41	1608	2	75	5894	6	103	33966	34	400	14	0
43	914	1	76	7532	8	104	6503	7	401	14	0
44	180	0	77	56846	57	105	44099	44	403	209	0
45	29	0	78	37933	38	106	265618	267	405	14	0
48	219	0	79	32423	33	107	22261	22	405	14	0
49	5856	6	80	1652	2	108	14	0	410	29	0
50	50980	51	84	123	0	110	29	0	415	14	0
51	61299	62	85	689	1	115	499	1	422	29	0
52	12223	12	86	1761	2	128	29	0	429	29	0
53	3252	3	87	2751	3	129	137	0	634	29	0
55	180	0	89	22132	22	139	109	0	639	14	0
60	832	1	90	6503	7	141	80	0	644	29	0
61	8032	8	91	992290	999	153	29	0	649	29	0

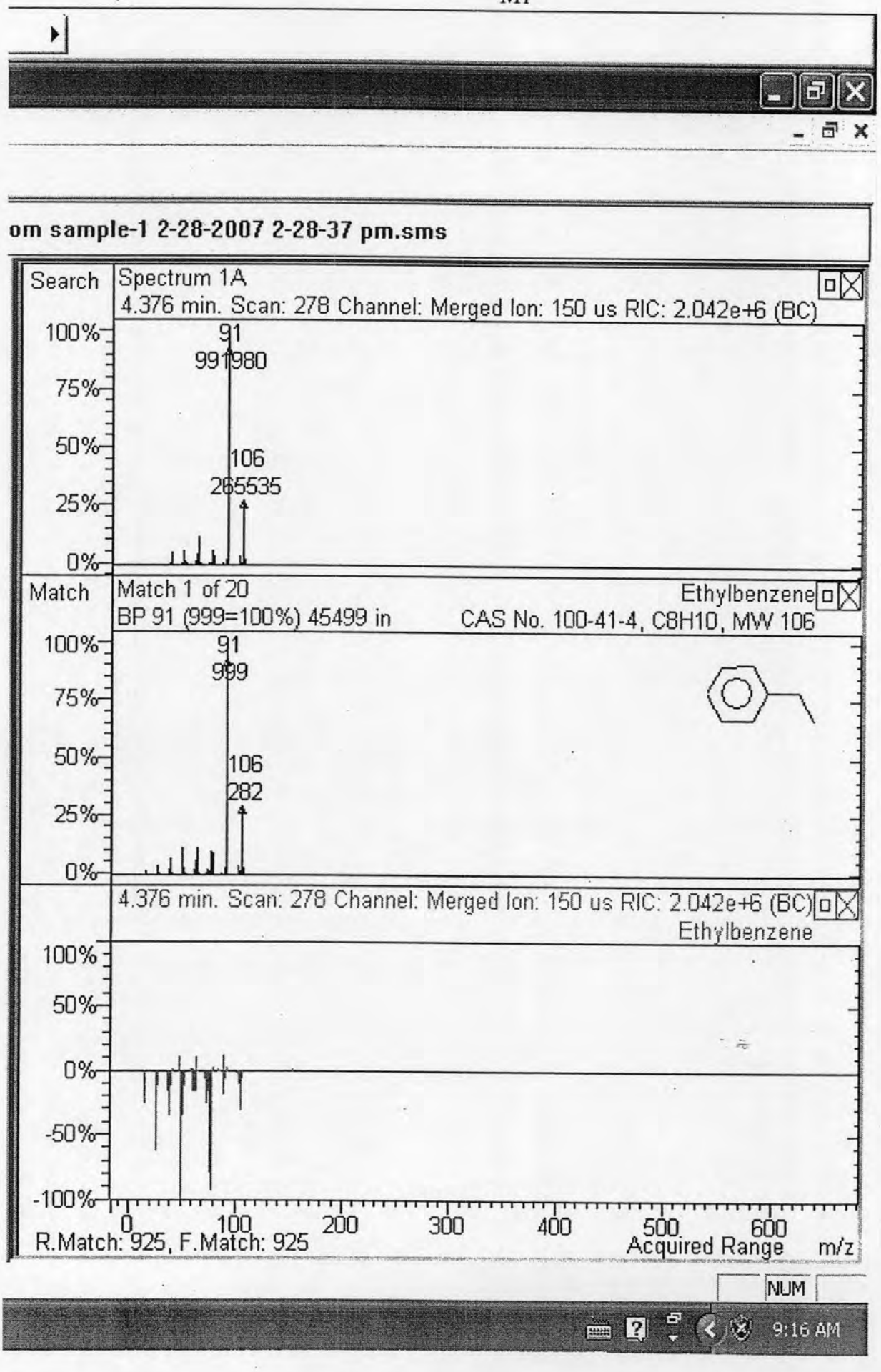
M1

M1



Or...	Name	R....	F....	Pr...	MW	CAS No.	Formula
1	Ethylbenzene	925	925	68...	106	100-41-4	C8H10
2	Ethylbenzene	912	912	68...	106	100-41-4	C8H10
3	Ethylbenzene	908	908	68...	106	100-41-4	C8H10
4	Ethylbenzene	891	891	68...	106	100-41-4	C8H10
5	o-Xylene	839	839	6...	106	95-47-6	C8H10
6	o-Xylene	835	835	6...	106	95-47-6	C8H10
7	Benzene, 1,3-dimethyl-	829	829	4...	106	108-38-3	C8H10
8	p-Xylene	829	829	4...	106	106-42-3	C8H10
9	o-Xylene	821	821	6...	106	95-47-6	C8H10
10	1,3-Cyclopentadiene, 5-...	816	816	2...	106	2175-91-9	C8H10
11	p-Xylene	816	816	4...	106	106-42-3	C8H10
12	o-Xylene	816	816	6...	106	95-47-6	C8H10
13	p-Xylene	809	809	4...	106	106-42-3	C8H10
14	p-Xylene	806	806	4...	106	106-42-3	C8H10
15	p-Xylene	804	804	4...	106	106-42-3	C8H10
16	Benzene, 1-benzyloxy-...	916	798	1...	345	None	C17H19...
17	Benzene, 1,3-dimethyl-	798	798	4...	106	108-38-3	C8H10
18	p-Xylene	796	796	4...	106	106-42-3	C8H10
19	1,3-Cyclopentadiene, 5-...	794	794	2...	106	2175-91-9	C8H10
20	Pyridine, 3-benzoyl-4-b...	781	781	0...	356	None	C20H15...

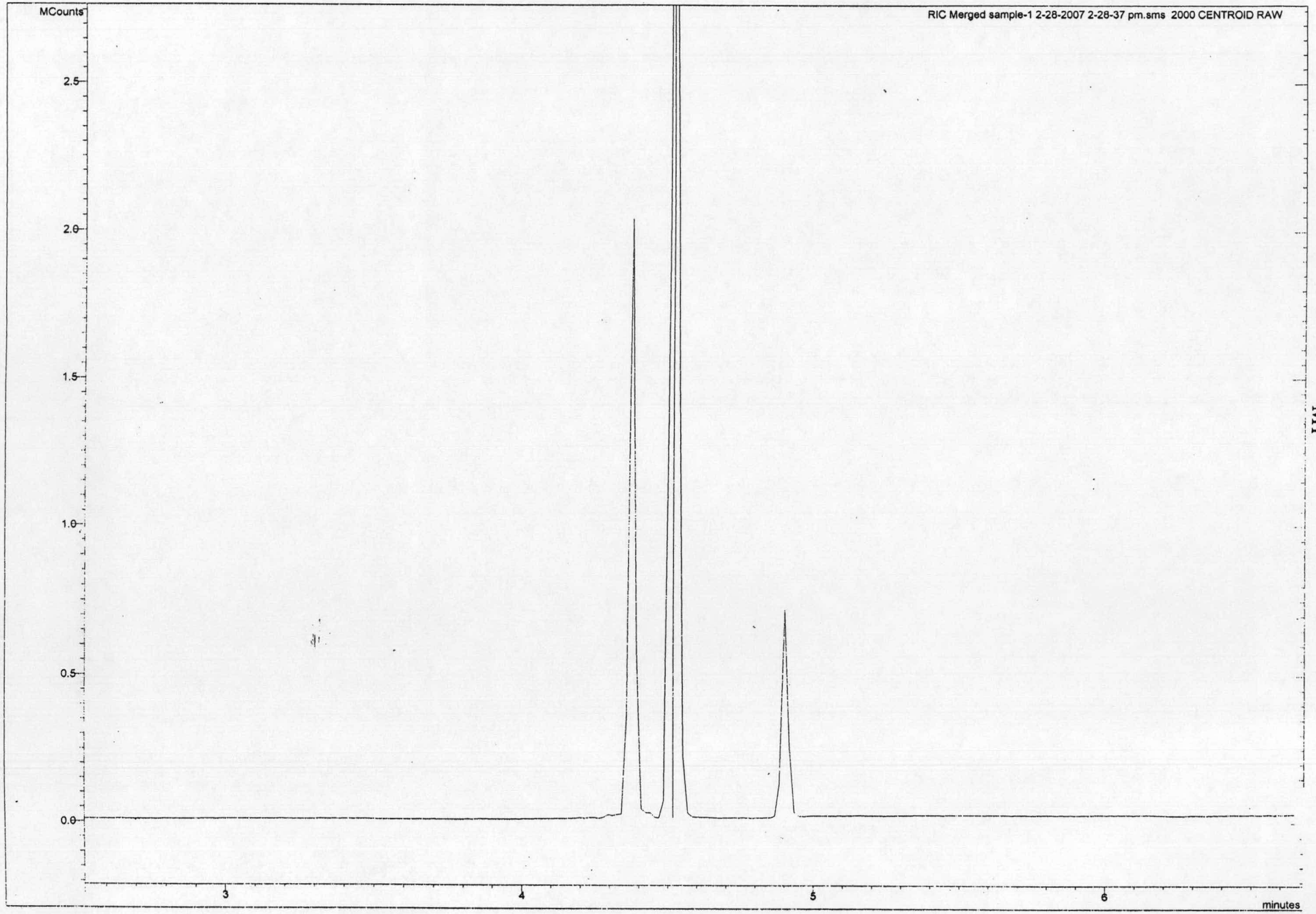
M1


om sample-1 2-28-2007 2-28-37 pm.sms
Search
Spectrum 1A
4.376 min. Scan: 278 Channel: Merged Ion: 150 us RIC: 2.042e+6 (BC)
100%
75%
50%
25%
0%
91
991980
106
265535
Match
Match 1 of 20
Ethylbenzene
BP 91 (999=100%) 45499 in
CAS No. 100-41-4, C8H10, MW 106
91
999
106
282
4.376 min. Scan: 278 Channel: Merged Ion: 150 us RIC: 2.042e+6 (BC)
Ethylbenzene
50%
-50%
-100%
0
100
200
300
400
500
600
R.Match: 925, F.Match: 925
Acquired Range
m/z
NUM
9:16 AM

Chromatogram Plot

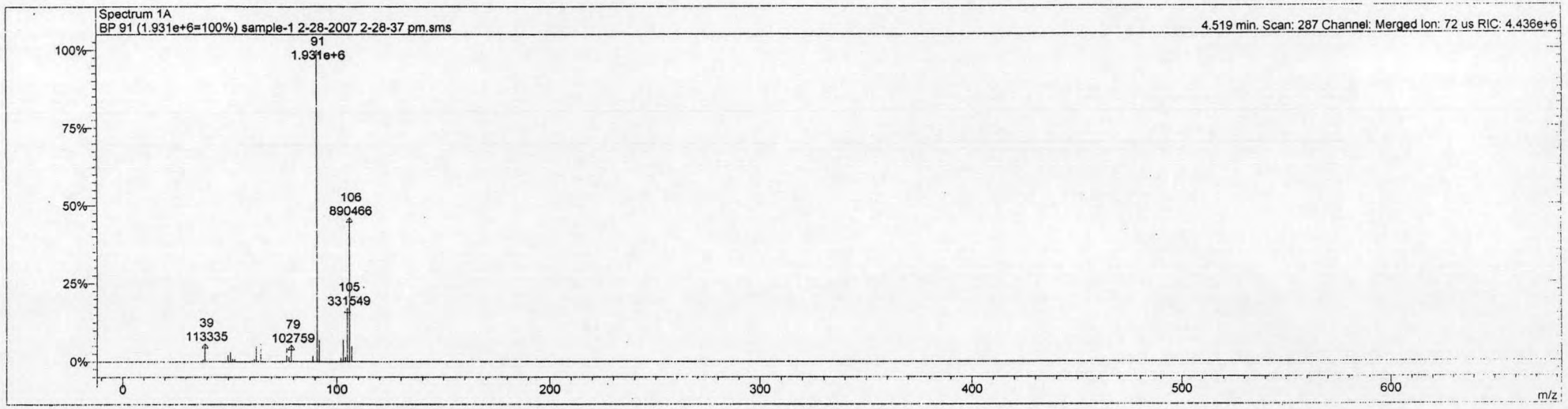
File: c:\varianws\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms
Sample: sample-1
Scan Range: 1 - 1168 Time Range: 0.00 - 18.50 min.

Operator: somkiat
Date: 2/28/2007 2:28 PM



M1

Scan 287 from c:\varianws\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms



Spectrum from ...\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms
Scan No: 287, Time: 4.519 minutes
No averaging. Not background corrected.
Comment: 4.519 min. Scan: 287 Channel: Merged Ion: 72 us RIC: 4.436e+6
Pair Count: 105 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
21	30	0	73	1350	1	108	2252	1	263	59	0
21	30	0	74	4396	2	110	59	0	267	228	0
23	59	0	75	8185	4	115	1042	1	281	59	0
26	59	0	76	6290	3	119	605	0	341	288	0
28	59	0	77	85070	44	127	59	0	400	30	0
37	5060	3	78	33235	17	128	59	0	401	30	0
38	14009	7	79	102759	53	129	605	0	403	30	0
39	113335	59	80	7342	4	130	605	0	405	30	0
40	3839	2	84	59	0	141	1677	1	405	30	0
41	3761	2	85	59	0	142	3036	2	408	59	0
43	258	0	86	545	0	143	288	0	412	59	0
48	169	0	87	3502	2	151	59	0	417	59	0
49	5041	3	88	169	0	152	2004	1	422	59	0
50	45139	23	89	42639	22	153	2024	1	429	59	0
51	60387	31	91	1.931e+6	999	155	169	0	456	59	0
52	23216	12	92	135884	70	156	1102	1	493	59	0
53	16281	8	93	3174	2	165	457	0	498	59	0
55	377	0	98	426	0	166	59	0	502	139	0
60	665	0	100	605	0	167	169	0	515	30	0
61	9226	5	101	1121	1	168	3235	2	554	59	0
62	17203	9	102	24684	13	183	59	0	581	59	0
63	94803	49	103	136439	71	207	169	0	593	59	0
64	6480	3	104	29931	15	250	30	0	603	59	0

M1

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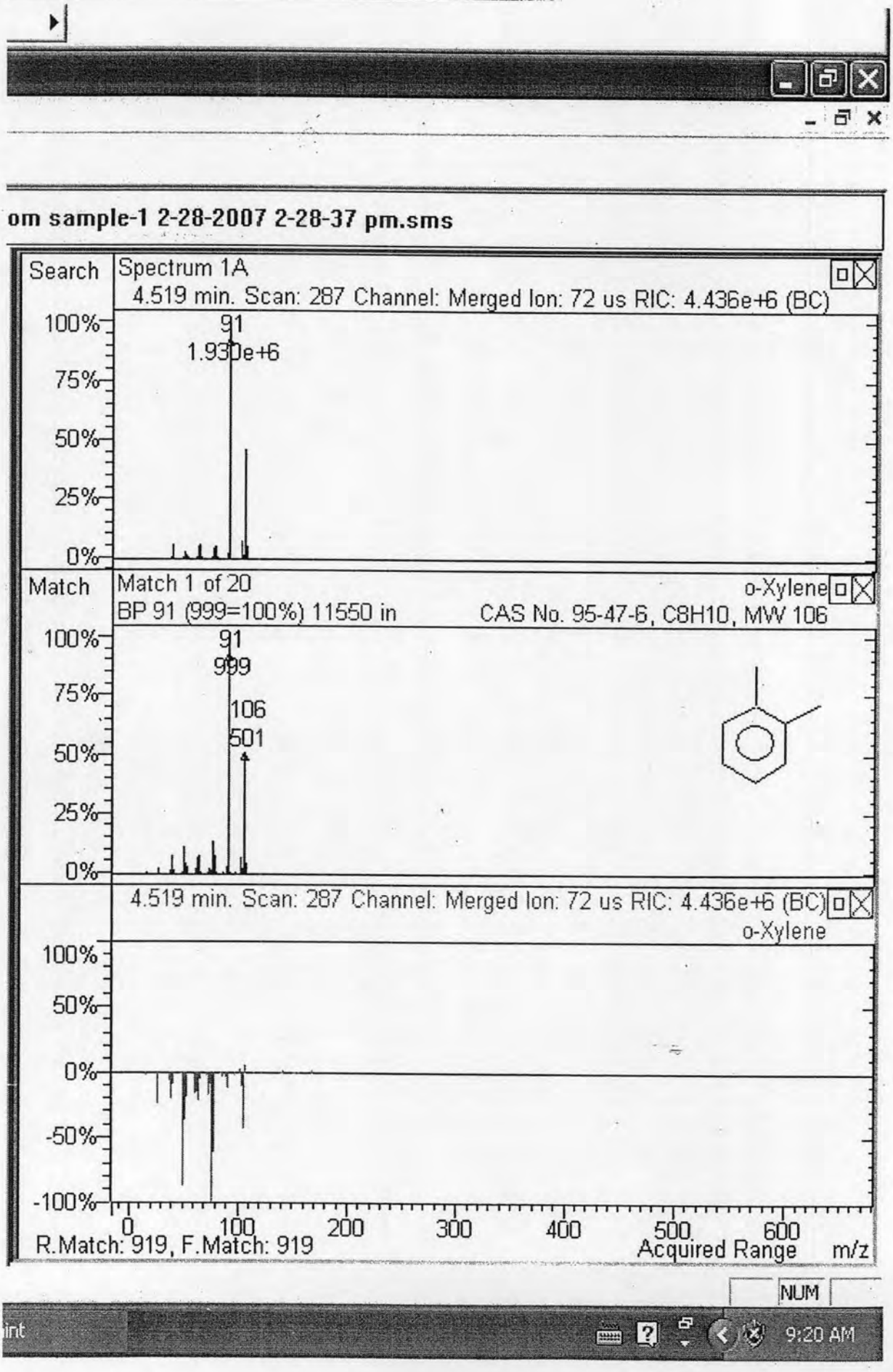
Print Date: 25 Apr 2007 09:19:14

Scan 287 from c:\varianws\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms - Page 1

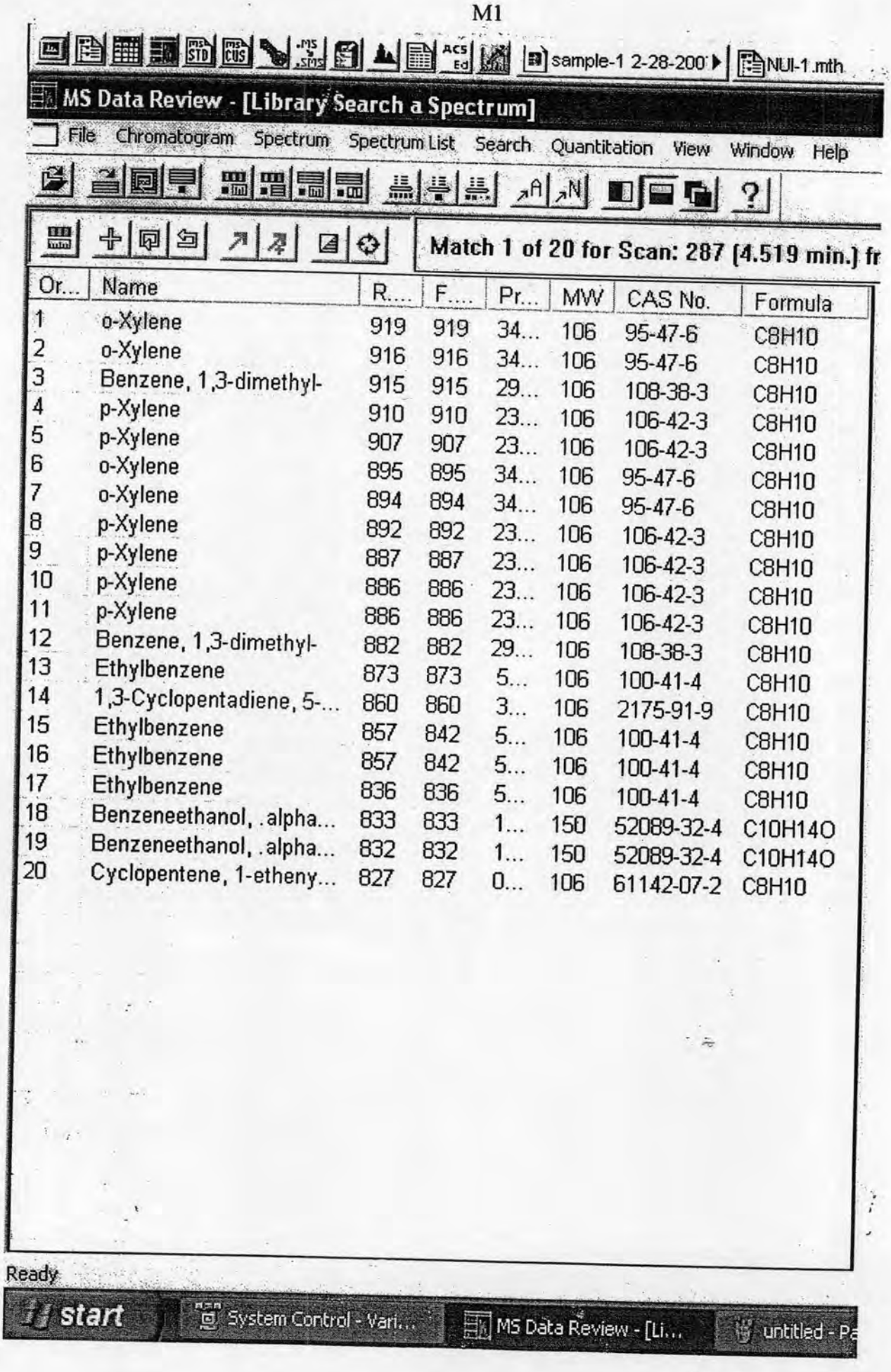
Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
66	6251	3	106	890466	461	255	59	0	642	59	0
67	605	0	107	95536	49	257	59	0	647	30	0
72	59	0									

M1

M1


om sample-1 2-28-2007 2-28-37 pm.sms
Search
Spectrum 1A
4.519 min. Scan: 287 Channel: Merged Ion: 72 us RIC: 4.436e+6 (BC)
100%
75%
50%
25%
0%
91
1.930e+6
Match
Match 1 of 20
o-Xylene
BP 91 (999=100%) 11550 in
CAS No. 95-47-6, C8H10, MW 106
91
999
106
501
4.519 min. Scan: 287 Channel: Merged Ion: 72 us RIC: 4.436e+6 (BC)
o-Xylene
100%
50%
0%
-50%
-100%
0
100
200
300
400
500
600
R.Match: 919, F.Match: 919
Acquired Range
m/z
NUM
9:20 AM

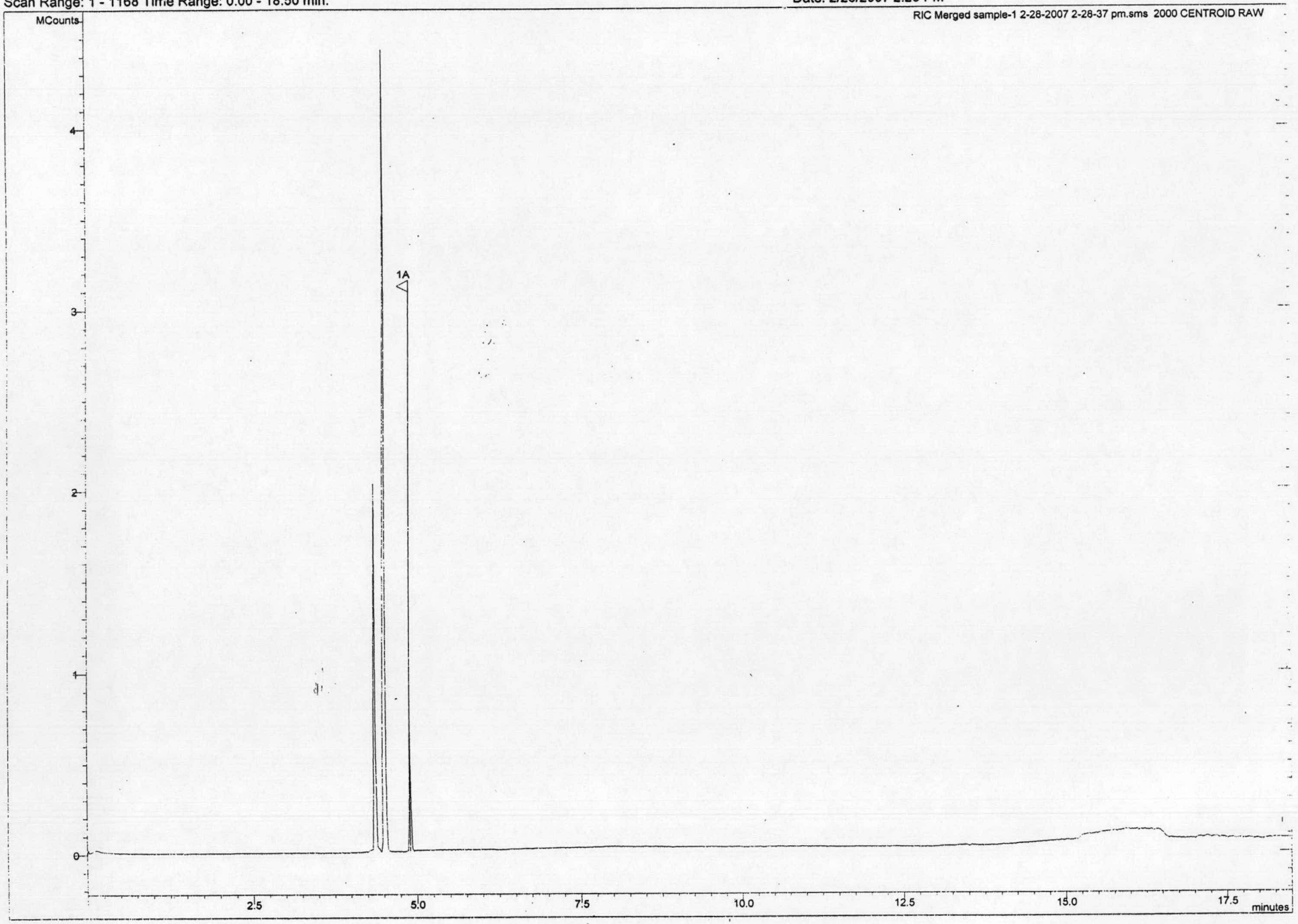
M1



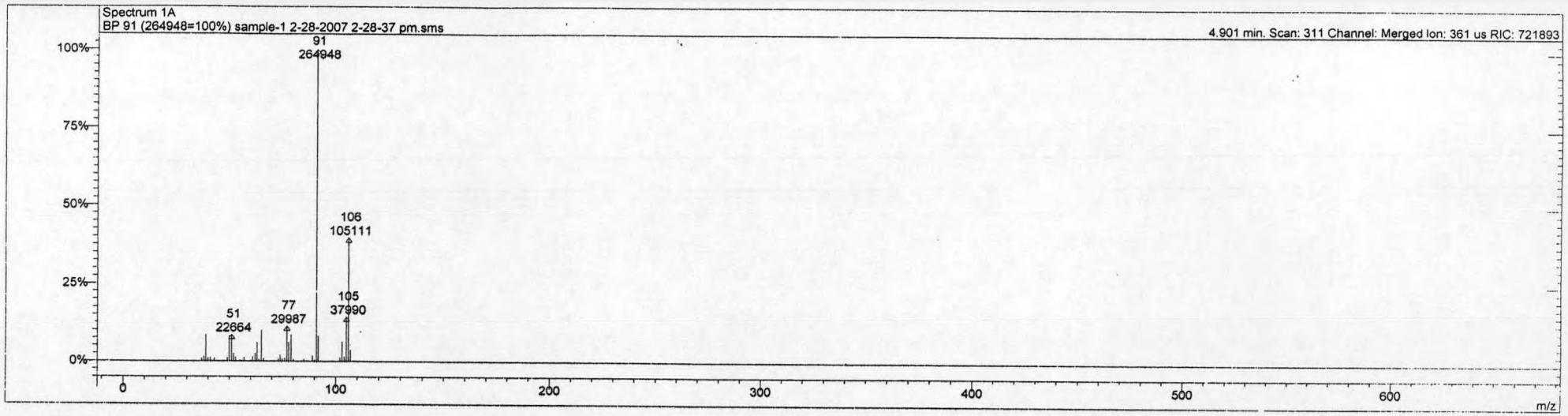
Or...	Name	R....	F....	Pr...	MW	CAS No.	Formula
1	o-Xylene	919	919	34...	106	95-47-6	C8H10
2	o-Xylene	916	916	34...	106	95-47-6	C8H10
3	Benzene, 1,3-dimethyl-	915	915	29...	106	108-38-3	C8H10
4	p-Xylene	910	910	23...	106	106-42-3	C8H10
5	p-Xylene	907	907	23...	106	106-42-3	C8H10
6	o-Xylene	895	895	34...	106	95-47-6	C8H10
7	o-Xylene	894	894	34...	106	95-47-6	C8H10
8	p-Xylene	892	892	23...	106	106-42-3	C8H10
9	p-Xylene	887	887	23...	106	106-42-3	C8H10
10	p-Xylene	886	886	23...	106	106-42-3	C8H10
11	p-Xylene	886	886	23...	106	106-42-3	C8H10
12	Benzene, 1,3-dimethyl-	882	882	29...	106	108-38-3	C8H10
13	Ethylbenzene	873	873	5...	106	100-41-4	C8H10
14	1,3-Cyclopentadiene, 5-...	860	860	3...	106	2175-91-9	C8H10
15	Ethylbenzene	857	842	5...	106	100-41-4	C8H10
16	Ethylbenzene	857	842	5...	106	100-41-4	C8H10
17	Ethylbenzene	836	836	5...	106	100-41-4	C8H10
18	Benzeneethanol, .alpha...	833	833	1...	150	52089-32-4	C10H14O
19	Benzeneethanol, .alpha...	832	832	1...	150	52089-32-4	C10H14O
20	Cyclopentene, 1-etheny...	827	827	0...	106	61142-07-2	C8H10

File: c:\varianws\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms
Sample: sample-1
Scan Range: 1 - 1168 Time Range: 0.00 - 18.50 min.

Operator: somkiat
Date: 2/28/2007 2:28 PM



M1



Spectrum from ...\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms
Scan No: 311, Time: 4.901 minutes
No averaging. Not background corrected.
Comment: 4.901 min. Scan: 311 Channel: Merged Ion: 361 us RIC: 721893
Pair Count: 116 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
20	6	0	65	26374	99	102	3140	12	327	139	1
21	6	0	66	2331	9	103	16845	64	341	1121	4
21	12	0	67	12	0	104	3999	15	342	197	1
23	6	0	69	290	1	105	37990	143	343	128	0
29	12	0	70	487	2	106	105111	396	355	504	2
31	12	0	71	375	1	107	9921	37	356	58	0
37	2231	8	72	82	0	108	110	0	400	6	0
38	4077	15	73	2105	8	115	12	0	401	6	0
39	22456	85	74	5377	20	127	12	0	402	6	0
40	2549	10	75	2173	8	129	58	0	403	6	0
41	3400	13	76	2464	9	147	12	0	405	12	0
42	526	2	77	29987	113	165	58	0	407	12	0
43	2733	10	78	15946	60	191	28	0	412	6	0
44	365	1	79	22456	85	193	139	1	412	6	0
45	312	1	80	1762	7	207	648	2	415	94	0
48	46	0	84	278	1	209	157	1	417	12	0
49	3076	12	85	1568	6	250	6	0	429	82	0
50	22001	83	86	524	2	251	6	0	430	122	0
51	22664	85	87	925	3	252	6	0	432	12	0
52	6566	25	89	4807	18	253	6	0	461	6	0
53	3394	13	90	1298	5	255	12	0	478	12	0
55	977	4	91	264948	999	262	12	0	493	12	0
56	787	3	92	21404	81	265	12	0	502	34	0

M1

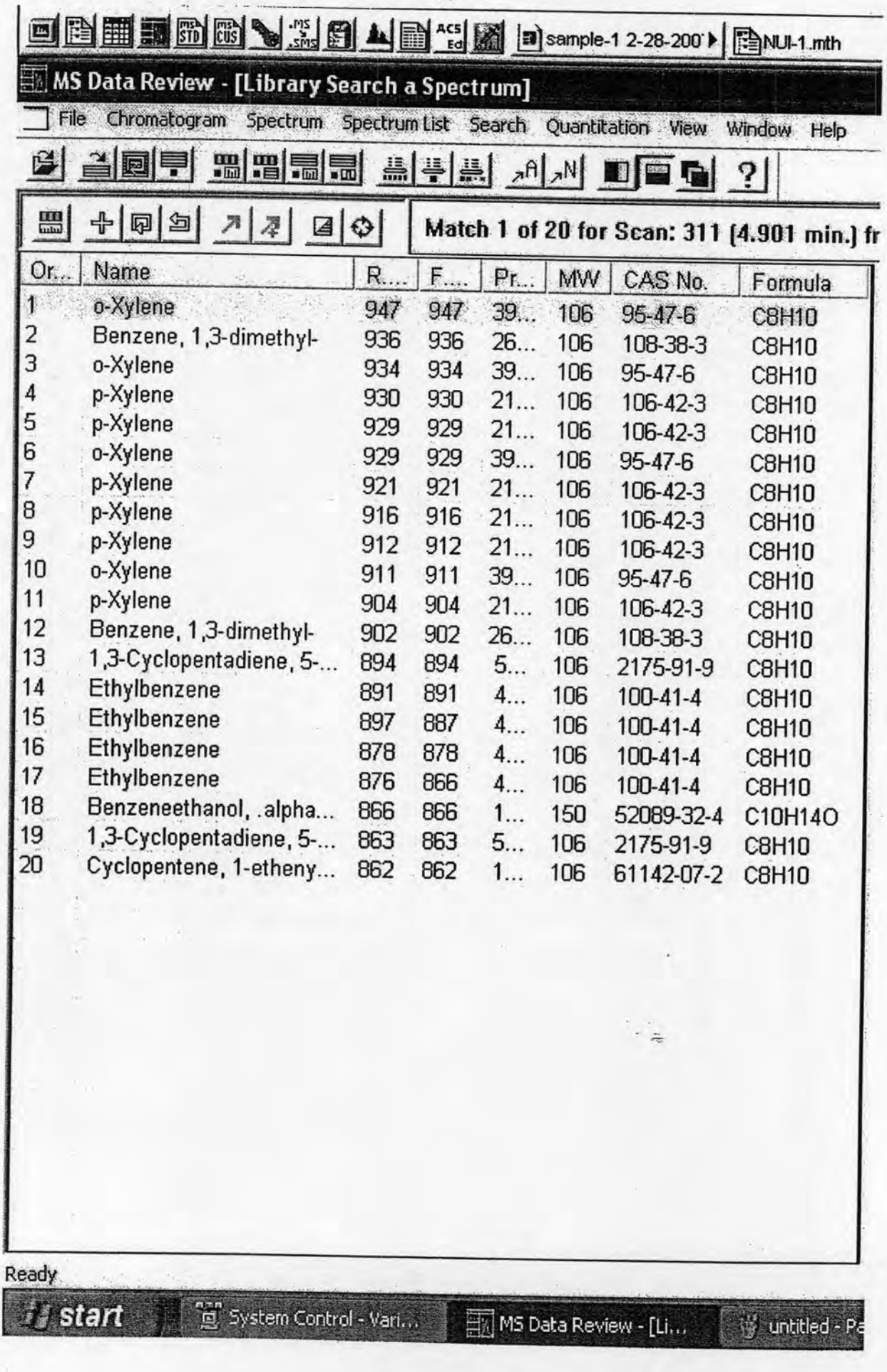
Print Date: 25 Apr 2007 09:22:16

Scan 311 from c:\varianws\data\burapau\sample-1 2-28-2007 2-28-37 pm.sms - Page 1

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
60	775	3	97	52	0	270	12	0	581	12	0
61	4061	15	98	267	1	281	507	2	629	12	0
62	6937	26	99	151	1	282	260	1	632	12	0
63	15971	60	100	6	0	283	92	0	637	12	0
64	1745	7	101	145	1	325	185	1	642	12	0

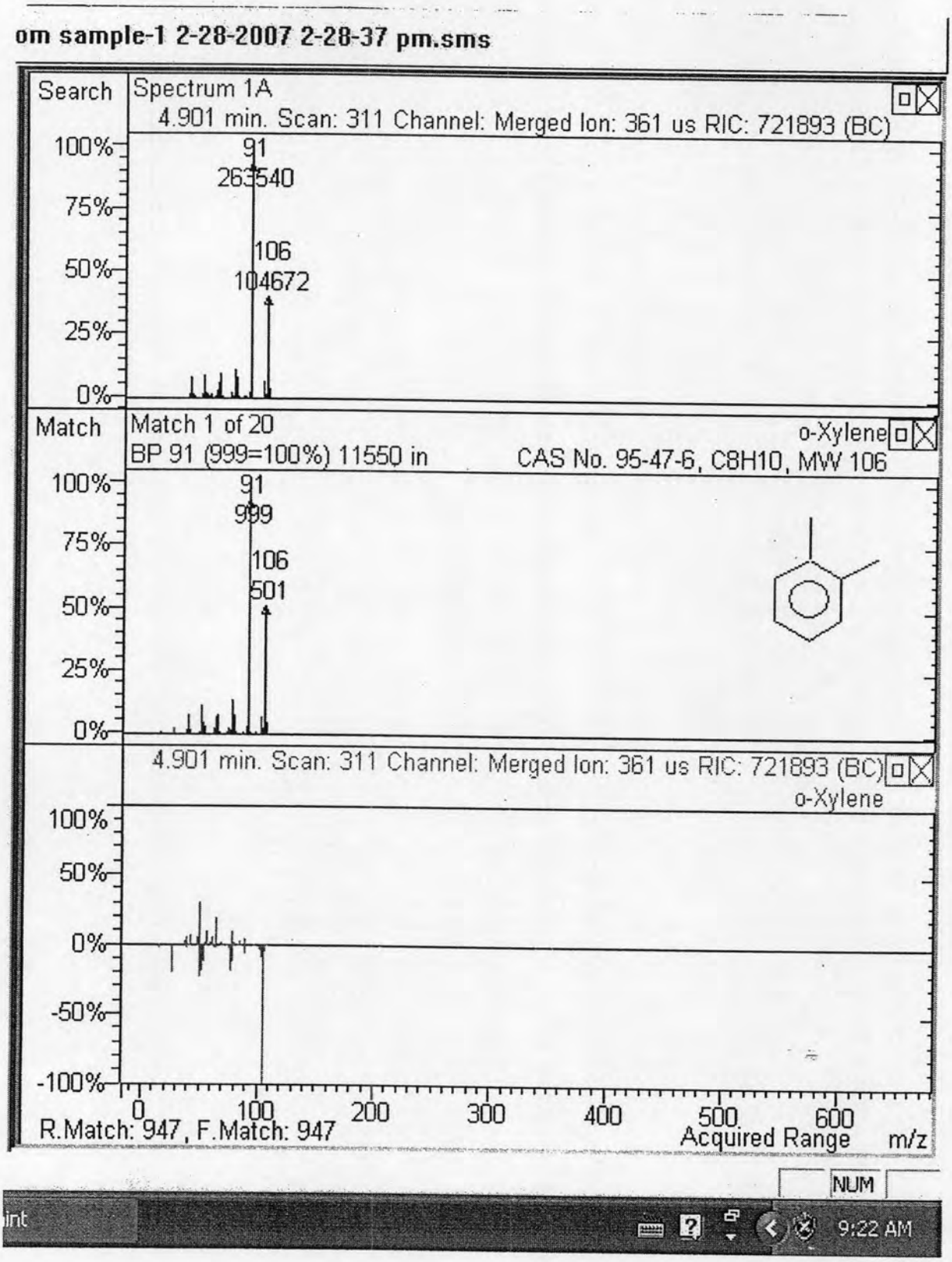
M1

M1



Or...	Name	R....	F....	Pr...	MW	CAS No.	Formula
1	o-Xylene	947	947	39...	106	95-47-6	C8H10
2	Benzene, 1,3-dimethyl-	936	936	26...	106	108-38-3	C8H10
3	o-Xylene	934	934	39...	106	95-47-6	C8H10
4	p-Xylene	930	930	21...	106	106-42-3	C8H10
5	p-Xylene	929	929	21...	106	106-42-3	C8H10
6	o-Xylene	929	929	39...	106	95-47-6	C8H10
7	p-Xylene	921	921	21...	106	106-42-3	C8H10
8	p-Xylene	916	916	21...	106	106-42-3	C8H10
9	p-Xylene	912	912	21...	106	106-42-3	C8H10
10	o-Xylene	911	911	39...	106	95-47-6	C8H10
11	p-Xylene	904	904	21...	106	106-42-3	C8H10
12	Benzene, 1,3-dimethyl-	902	902	26...	106	108-38-3	C8H10
13	1,3-Cyclopentadiene, 5-...	894	894	5...	106	2175-91-9	C8H10
14	Ethylbenzene	891	891	4...	106	100-41-4	C8H10
15	Ethylbenzene	897	887	4...	106	100-41-4	C8H10
16	Ethylbenzene	878	878	4...	106	100-41-4	C8H10
17	Ethylbenzene	876	866	4...	106	100-41-4	C8H10
18	Benzeneethanol, .alpha...	866	866	1...	150	52089-32-4	C10H14O
19	1,3-Cyclopentadiene, 5-...	863	863	5...	106	2175-91-9	C8H10
20	Cyclopentene, 1-etheny...	862	862	1...	106	61142-07-2	C8H10

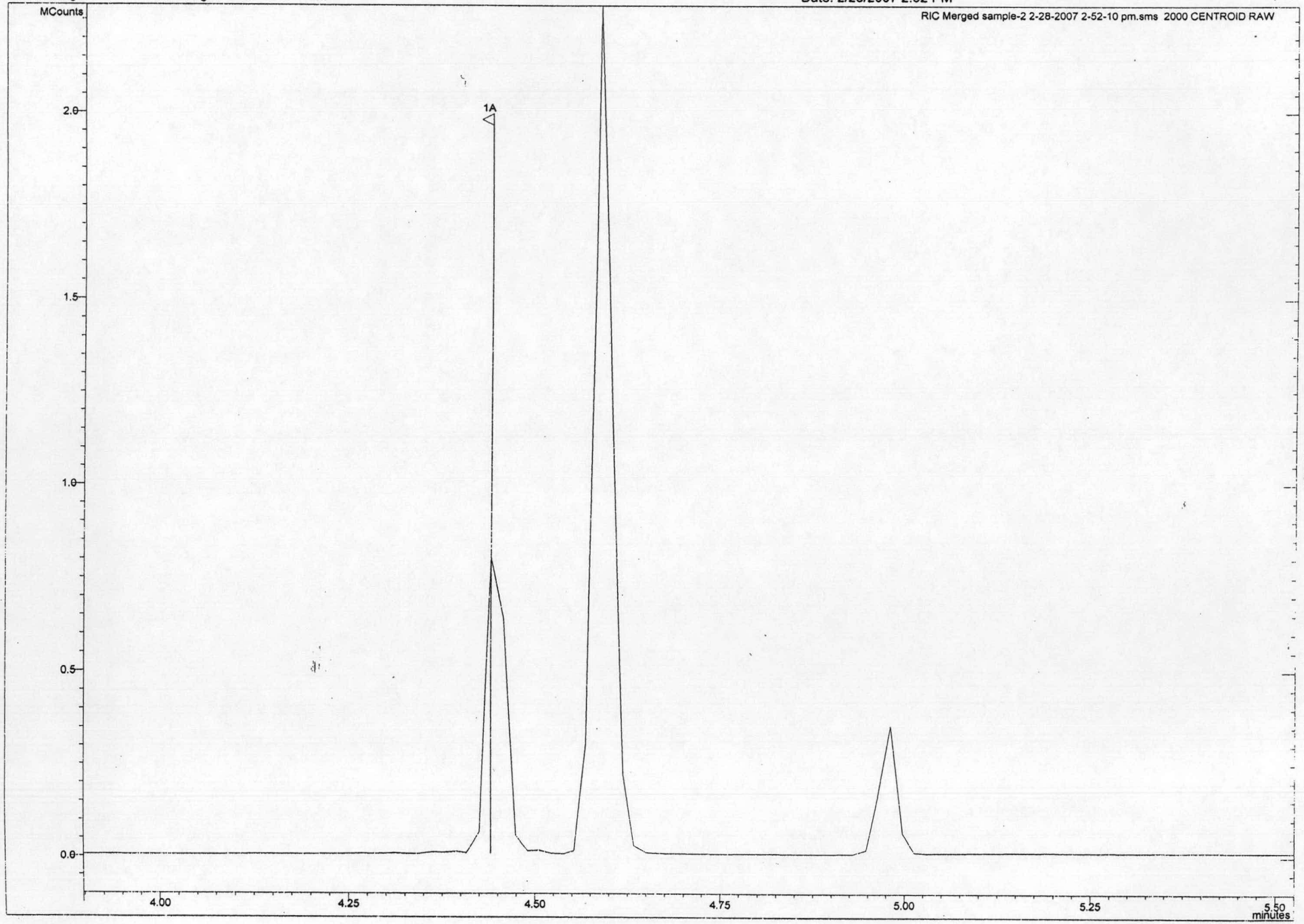
M1


om sample-1 2-28-2007 2-28-37 pm.sms
Search
Spectrum 1A
4.901 min. Scan: 311 Channel: Merged Ion: 361 us RIC: 721893 (BC)
100%
75%
50%
25%
0%
91
263540
106
104672
Match
Match 1 of 20
o-Xylene
BP 91 (999=100%) 11550 in
CAS No. 95-47-6, C8H10, MW 106
91
999
106
501
4.901 min. Scan: 311 Channel: Merged Ion: 361 us RIC: 721893 (BC)
o-Xylene
100%
50%
0%
-50%
-100%
0
100
200
300
400
500
600
R.Match: 947, F.Match: 947
Acquired Range
m/z
NUM
int
9:22 AM

Chromatogram Plot

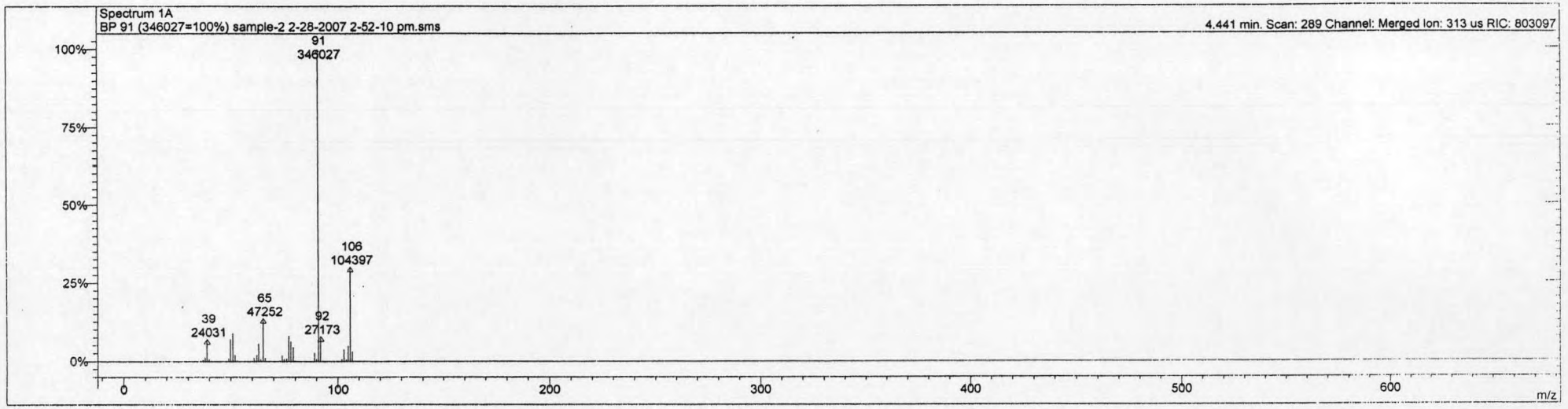
File: c:\varianws\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms
Sample: SAMPLE-2
Scan Range: 1 - 781 Time Range: 0.00 - 12.31 min.

Operator: somkiat
Date: 2/28/2007 2:52 PM



M2

Scan 289 from c:\varianws\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms



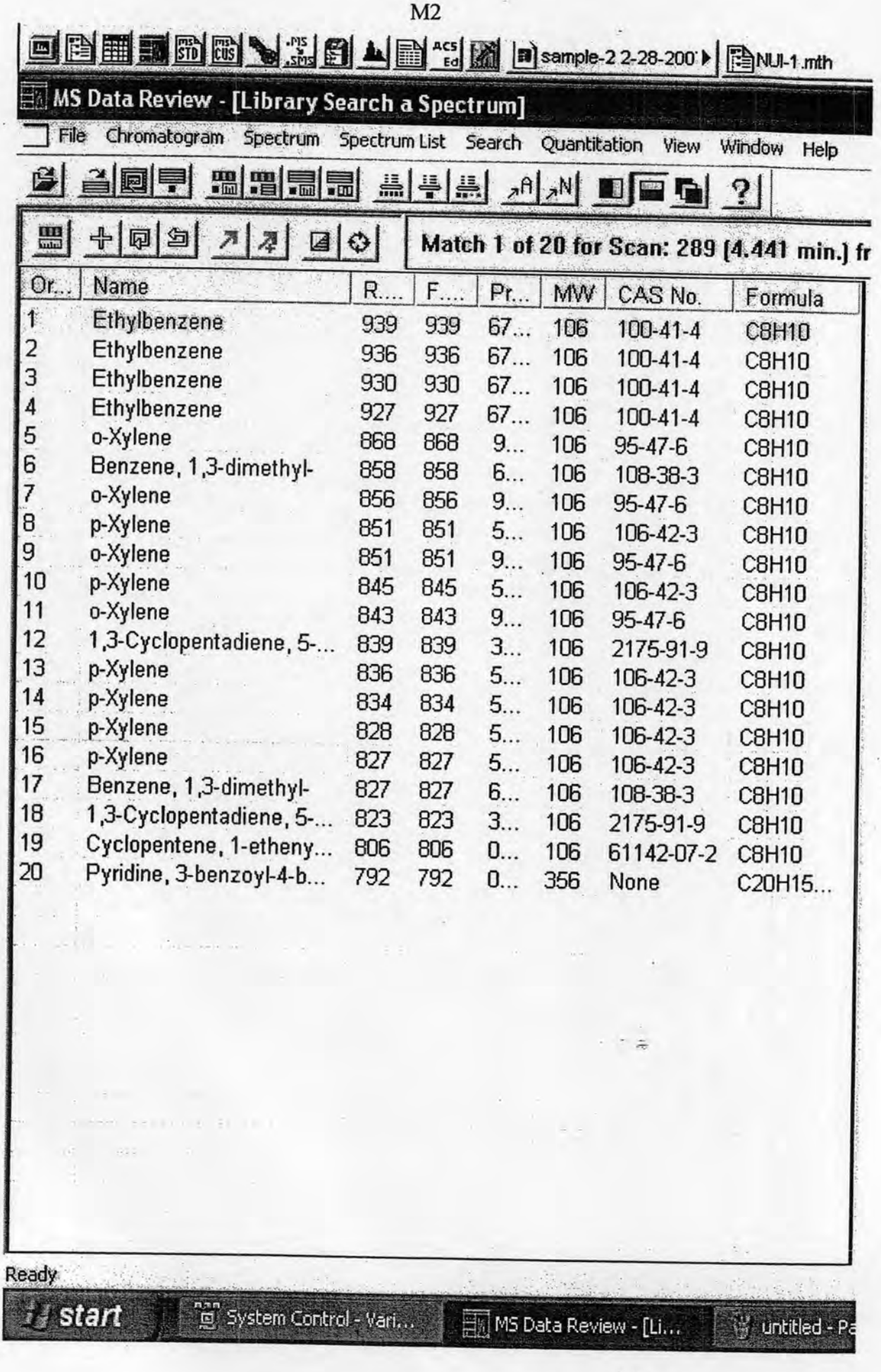
Spectrum from ...\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms
Scan No: 289, Time: 4.441 minutes
No averaging. Not background corrected.
Comment: 4.441 min. Scan: 289 Channel: Merged Ion: 313 us RIC: 803097
Pair Count: 62 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
23	14	0	60	784	2	85	406	1	105	16946	49
29	14	0	61	4224	12	86	503	1	106	104397	301
33	14	0	62	7009	20	87	611	2	107	10412	30
37	2222	6	63	19714	57	89	9370	27	108	254	1
38	4919	14	64	2320	7	90	2633	8	117	14	0
39	24031	69	65	47252	136	91	346027	999	129	39	0
40	2073	6	66	3941	11	92	27173	78	139	39	0
41	826	2	72	119	0	93	1011	3	207	160	0
43	126	0	73	1125	3	97	14	0	250	14	0
44	98	0	74	6358	18	98	365	1	355	39	0
48	153	0	75	2626	8	100	7	0	400	14	0
49	3202	9	76	3244	9	101	139	0	405	14	0
50	24064	69	77	28044	81	102	2382	7	407	14	0
51	30591	88	78	21613	62	103	12772	37	420	14	0
52	7096	20	79	15310	44	104	2156	6	649	14	0
53	1219	4	80	799	2						

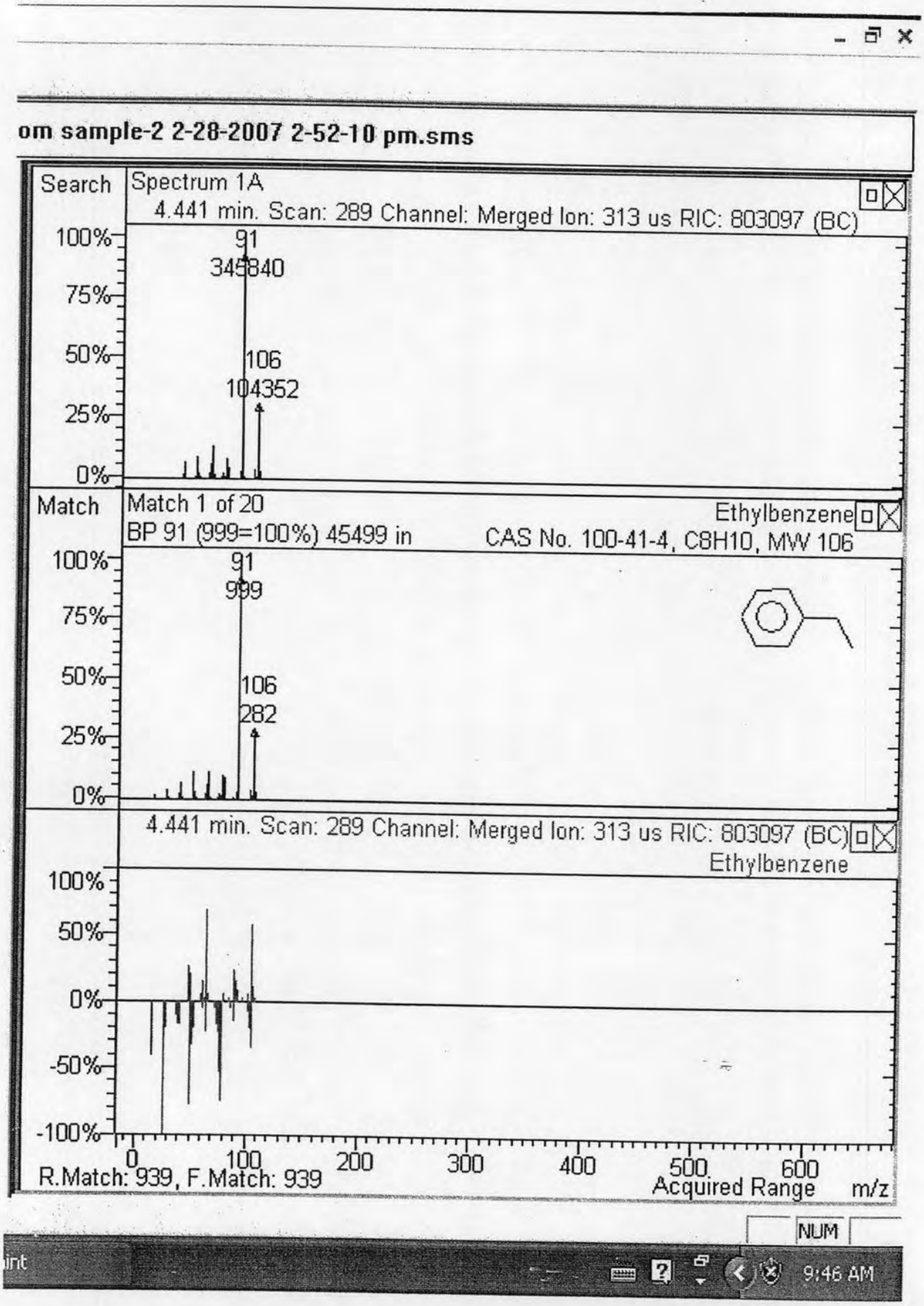
M2

M2



Or...	Name	R....	F....	Pr...	MW	CAS No.	Formula
1	Ethylbenzene	939	939	67...	106	100-41-4	C8H10
2	Ethylbenzene	936	936	67...	106	100-41-4	C8H10
3	Ethylbenzene	930	930	67...	106	100-41-4	C8H10
4	Ethylbenzene	927	927	67...	106	100-41-4	C8H10
5	o-Xylene	868	868	9...	106	95-47-6	C8H10
6	Benzene, 1,3-dimethyl-	858	858	6...	106	108-38-3	C8H10
7	o-Xylene	856	856	9...	106	95-47-6	C8H10
8	p-Xylene	851	851	5...	106	106-42-3	C8H10
9	o-Xylene	851	851	9...	106	95-47-6	C8H10
10	p-Xylene	845	845	5...	106	106-42-3	C8H10
11	o-Xylene	843	843	9...	106	95-47-6	C8H10
12	1,3-Cyclopentadiene, 5-...	839	839	3...	106	2175-91-9	C8H10
13	p-Xylene	836	836	5...	106	106-42-3	C8H10
14	p-Xylene	834	834	5...	106	106-42-3	C8H10
15	p-Xylene	828	828	5...	106	106-42-3	C8H10
16	p-Xylene	827	827	5...	106	106-42-3	C8H10
17	Benzene, 1,3-dimethyl-	827	827	6...	106	108-38-3	C8H10
18	1,3-Cyclopentadiene, 5-...	823	823	3...	106	2175-91-9	C8H10
19	Cyclopentene, 1-etheny...	806	806	0...	106	61142-07-2	C8H10
20	Pyridine, 3-benzoyl-4-b...	792	792	0...	356	None	C20H15...

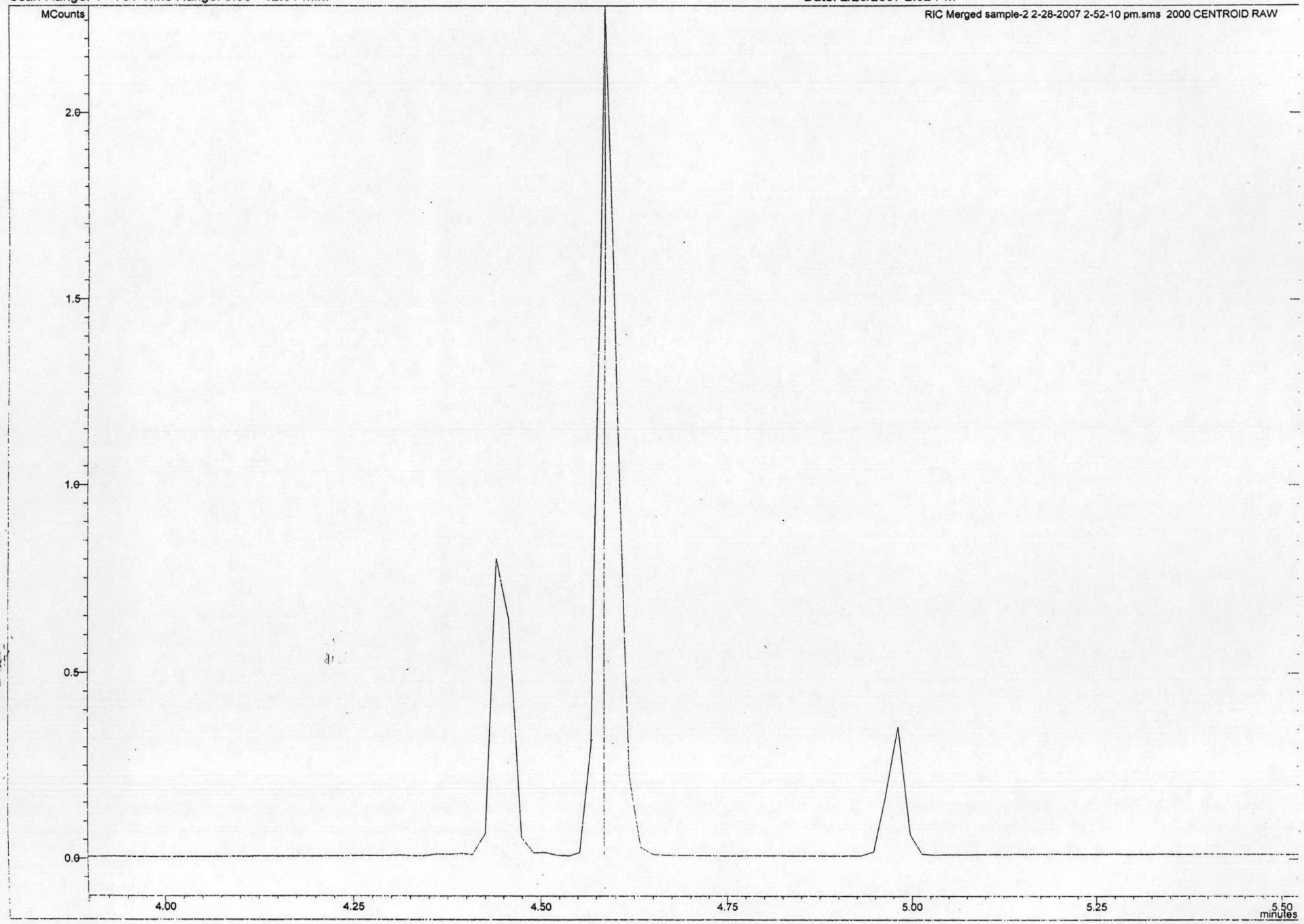
M2


om sample-2 2-28-2007 2-52-10 pm.sms
Search
Spectrum 1A
4.441 min. Scan: 289 Channel: Merged Ion: 313 us RIC: 803097 (BC)
100%
75%
50%
25%
0%
91
345840
106
104352
Match
Match 1 of 20
BP 91 (999=100%) 45499 in
Ethylbenzene
CAS No. 100-41-4, C8H10, MW 106
91
999
106
282
4.441 min. Scan: 289 Channel: Merged Ion: 313 us RIC: 803097 (BC)
Ethylbenzene
50%
0%
-50%
-100%
0
100
200
300
400
500
600
R.Match: 939, F.Match: 939
Acquired Range
m/z
NUM
9:46 AM

Chromatogram Plot

File: c:\varianws\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms
Sample: SAMPLE-2
Scan Range: 1 - 781 Time Range: 0.00 - 12.31 min.

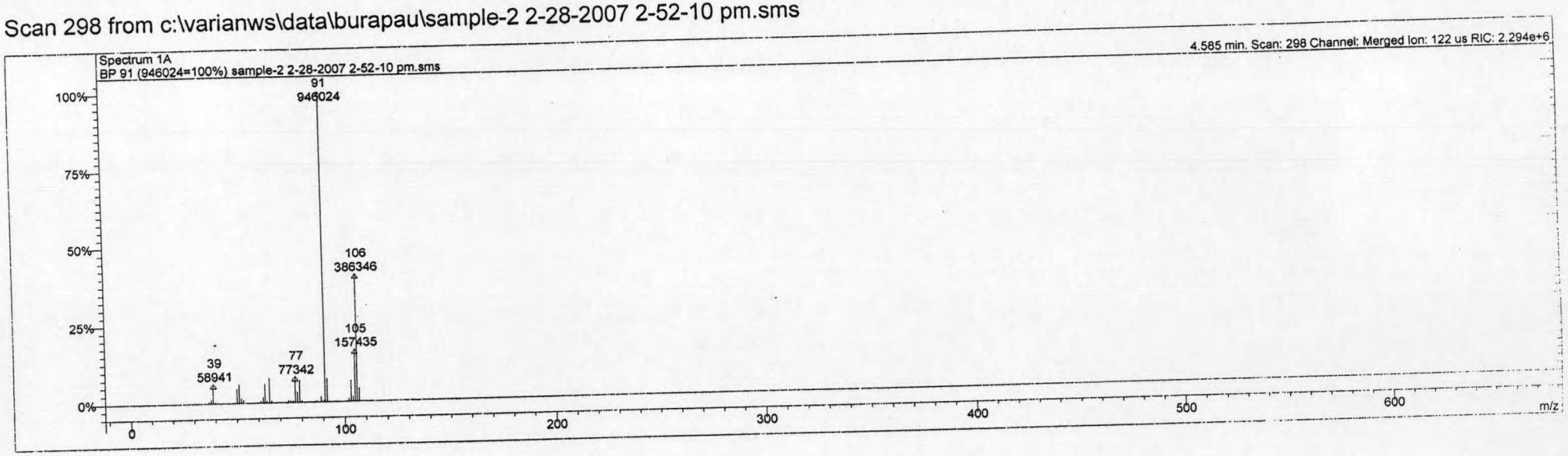
Operator: somkiat
Date: 2/28/2007 2:52 PM



M2

Print Date: 25 Apr 2007 09:48:12

Scan 298 from c:\varianws\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms



Spectrum from ...\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms
Scan No: 298, Time: 4.585 minutes
No averaging. Not background corrected.
Comment: 4.585 min. Scan: 298 Channel: Merged Ion: 122 us RIC: 2.294e+6
Pair Count: 61 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

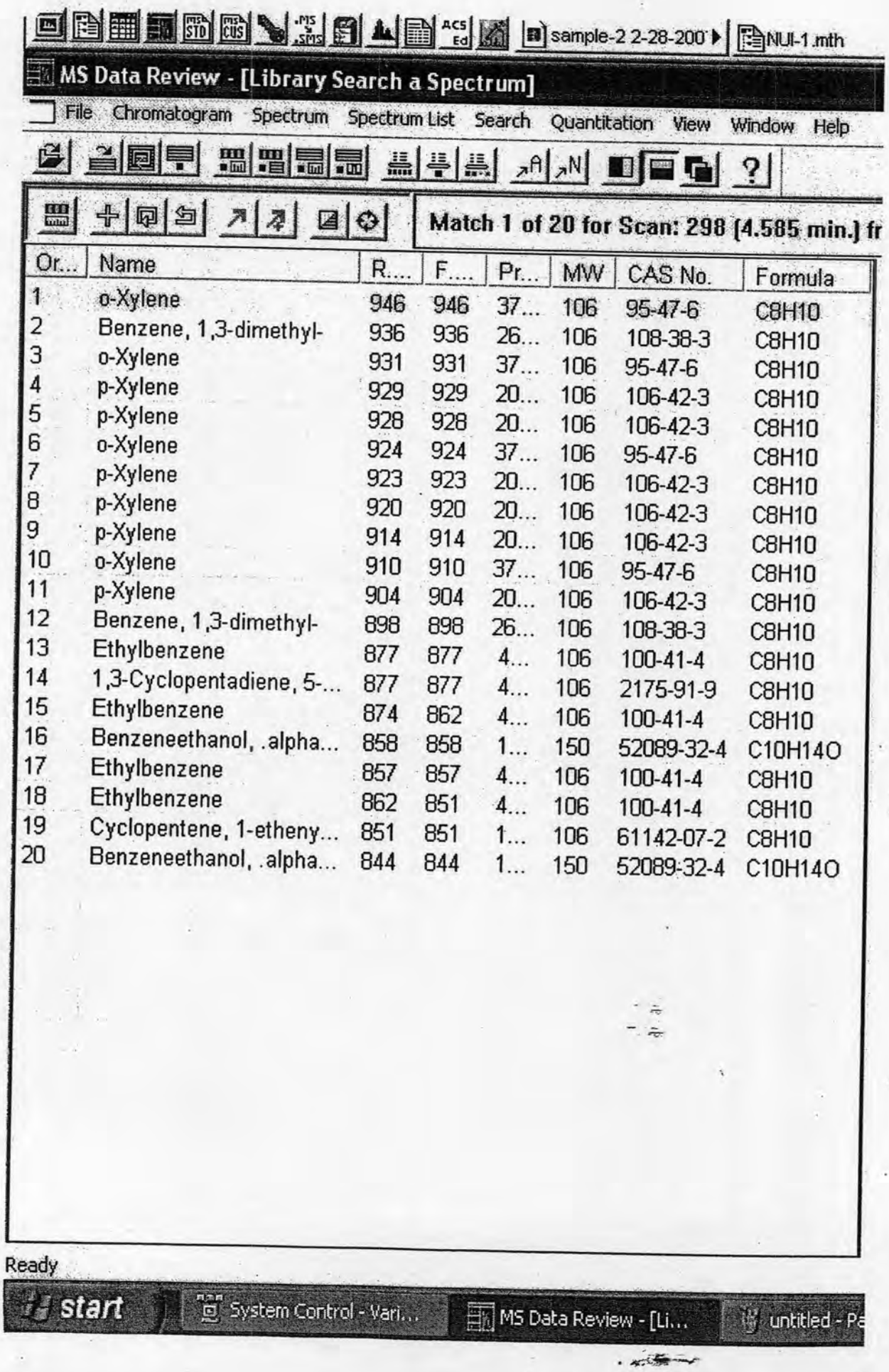
MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
37	5498	6	62	16545	17	86	1007	1	107	38746	41
38	11160	12	63	57342	61	87	3770	4	108	1447	2
39	58941	62	64	5615	6	88	100	0	115	152	0
40	4163	4	65	75369	80	89	16388	17	128	100	0
41	2922	3	66	5615	6	90	5702	6	129	35	0
43	152	0	67	492	1	91	946024	999	141	100	0
48	445	0	73	1107	1	92	70468	74	142	597	1
49	3941	4	74	7909	8	93	2079	2	153	439	0
50	41985	44	75	4450	5	100	18	0	156	35	0
51	56715	60	76	5562	6	101	187	0	166	35	0
52	13373	14	77	77342	82	102	8805	9	168	269	0
53	9578	10	78	30585	32	103	63688	67	207	170	0
54	100	0	79	66270	70	104	14075	15	250	18	0
55	410	0	80	4180	4	105	157435	166	400	18	0
60	252	0	85	439	0	106	386346	408	574	100	0
61	6974	7									

M2

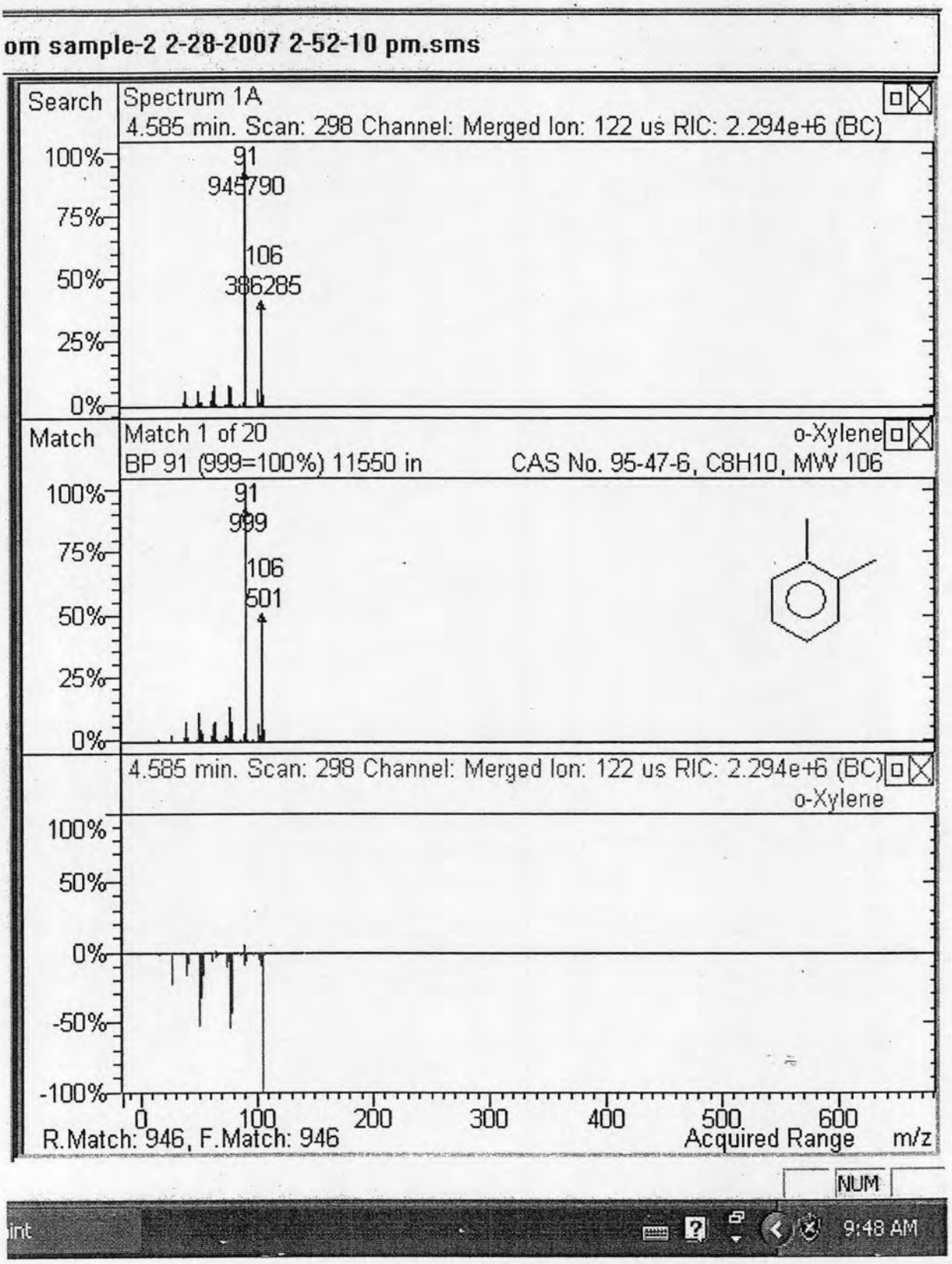
162

M2



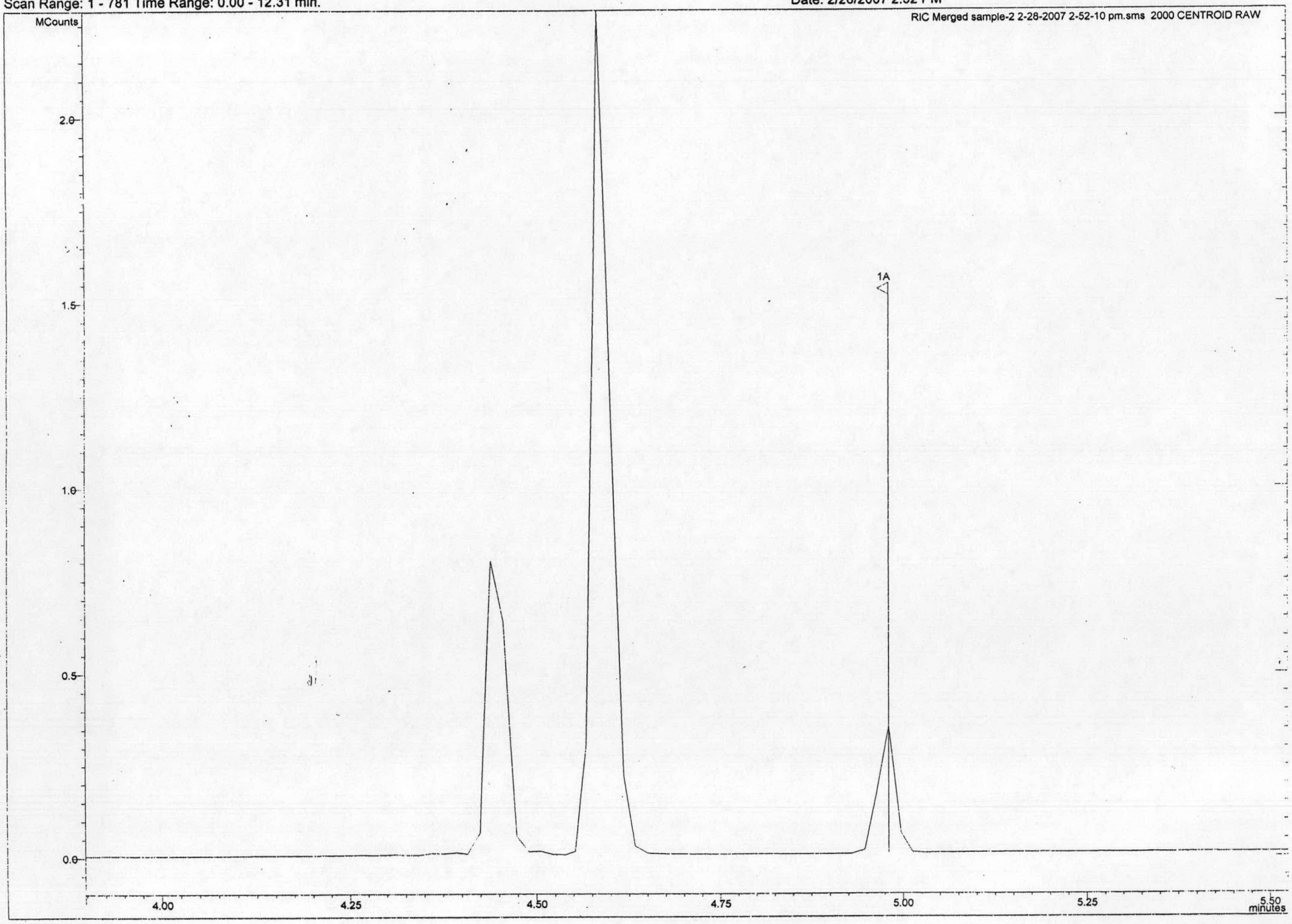
Or...	Name	R....	F....	Pr...	MW	CAS No.	Formula
1	o-Xylene	946	946	37...	106	95-47-6	C8H10
2	Benzene, 1,3-dimethyl-	936	936	26...	106	108-38-3	C8H10
3	o-Xylene	931	931	37...	106	95-47-6	C8H10
4	p-Xylene	929	929	20...	106	106-42-3	C8H10
5	p-Xylene	928	928	20...	106	106-42-3	C8H10
6	o-Xylene	924	924	37...	106	95-47-6	C8H10
7	p-Xylene	923	923	20...	106	106-42-3	C8H10
8	p-Xylene	920	920	20...	106	106-42-3	C8H10
9	p-Xylene	914	914	20...	106	106-42-3	C8H10
10	o-Xylene	910	910	37...	106	95-47-6	C8H10
11	p-Xylene	904	904	20...	106	106-42-3	C8H10
12	Benzene, 1,3-dimethyl-	898	898	26...	106	108-38-3	C8H10
13	Ethylbenzene	877	877	4...	106	100-41-4	C8H10
14	1,3-Cyclopentadiene, 5-...	877	877	4...	106	2175-91-9	C8H10
15	Ethylbenzene	874	862	4...	106	100-41-4	C8H10
16	Benzeneethanol, .alpha...	858	858	1...	150	52089-32-4	C10H14O
17	Ethylbenzene	857	857	4...	106	100-41-4	C8H10
18	Ethylbenzene	862	851	4...	106	100-41-4	C8H10
19	Cyclopentene, 1-etheny...	851	851	1...	106	61142-07-2	C8H10
20	Benzeneethanol, .alpha...	844	844	1...	150	52089-32-4	C10H14O

M2


om sample-2 2-28-2007 2-52-10 pm.sms
Search
Spectrum 1A
4.585 min. Scan: 298 Channel: Merged Ion: 122 us RIC: 2.294e+6 (BC)
91
945790
106
386285
Match
Match 1 of 20
o-Xylene
BP 91 (999=100%) 11550 in
CAS No. 95-47-6, C8H10, MW 106
91
999
106
501
4.585 min. Scan: 298 Channel: Merged Ion: 122 us RIC: 2.294e+6 (BC)
o-Xylene
R.Match: 946, F.Match: 946
Acquired Range
m/z
NUM
9:48 AM

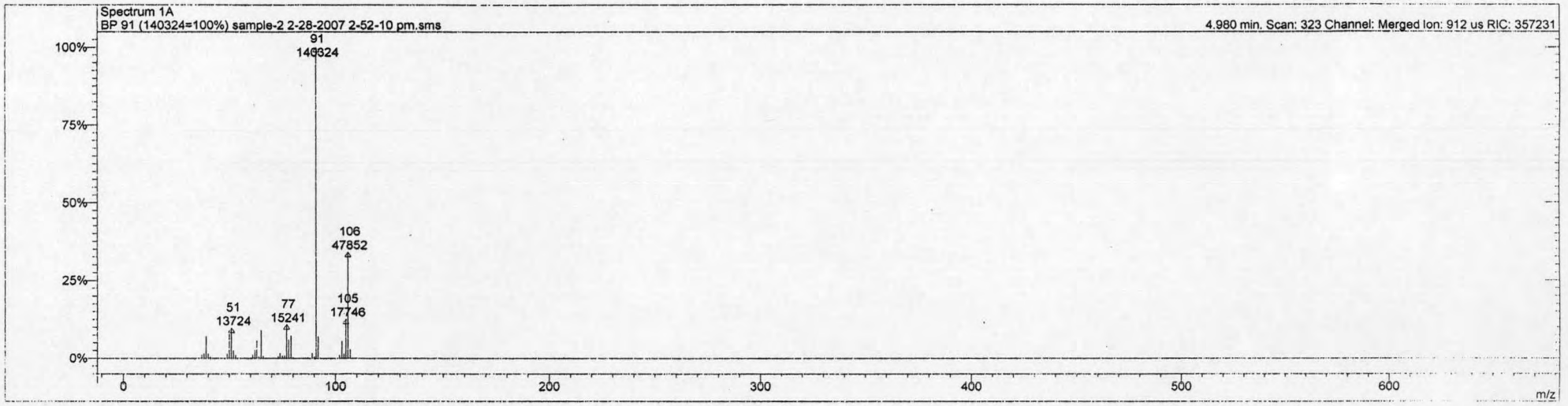
File: c:\varianws\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms
Sample: SAMPLE-2
Scan Range: 1 - 781 Time Range: 0.00 - 12.31 min.

Operator: somkiat
Date: 2/28/2007 2:52 PM



M2

Scan 323 from c:\varianws\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms



Spectrum from ...\data\burapau\sample-2 2-28-2007 2-52-10 pm.sms
Scan No: 323, Time: 4.980 minutes
No averaging. Not background corrected.
Comment: 4.980 min. Scan: 323 Channel: Merged Ion: 912 us RIC: 357231
Pair Count: 89 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

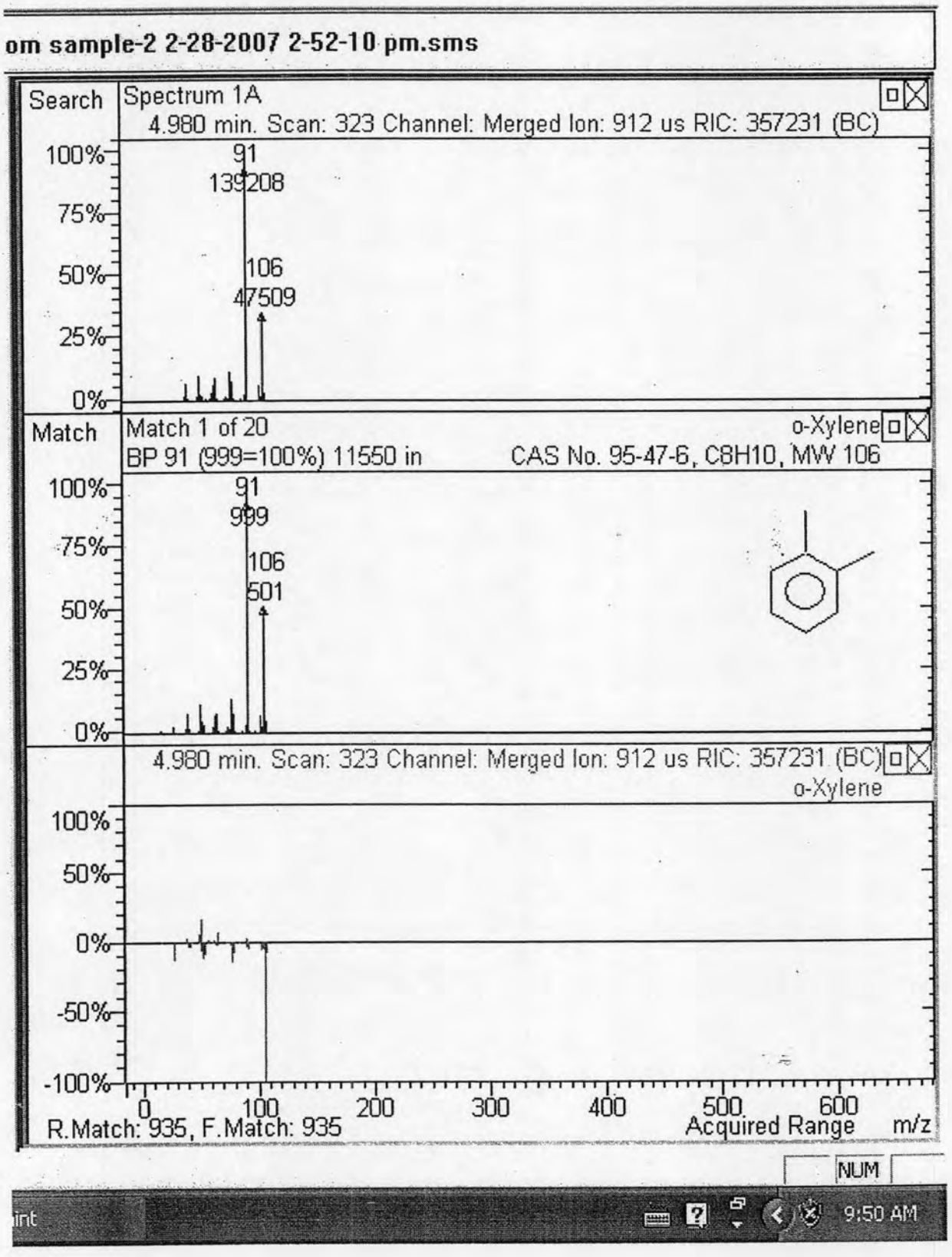
MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
23	5	0	60	385	3	86	352	3	147	5	0
24	12	0	61	1746	12	87	475	3	149	21	0
25	5	0	62	3796	27	88	2	0	152	24	0
28	5	0	63	8011	57	89	2621	19	191	44	0
37	1517	11	64	766	5	90	712	5	207	463	3
38	2245	16	65	12777	91	91	140324	999	208	24	0
39	9969	71	66	1043	7	92	10117	72	209	261	2
40	2002	14	67	55	0	93	293	2	210	37	0
41	766	5	69	43	0	97	113	1	225	5	0
42	42	0	70	21	0	98	213	2	250	5	0
43	419	3	71	68	0	99	24	0	255	5	0
44	455	3	72	21	0	100	2	0	265	28	0
45	123	1	73	867	6	101	19	0	267	44	0
48	94	1	74	2294	16	102	1499	11	281	103	1
49	2014	14	75	1096	8	103	7876	56	282	49	0
50	11194	80	76	1224	9	104	2076	15	341	76	1
51	13724	98	77	15241	109	105	17746	126	341	14	0
52	3477	25	78	8358	60	106	47852	341	355	167	1
53	1490	11	79	10191	73	107	4073	29	400	2	0
54	101	1	80	578	4	108	49	0	401	2	0
55	172	1	84	133	1	115	5	0	405	2	0
56	96	1	85	302	2	133	14	0	420	5	0
57	445	3									

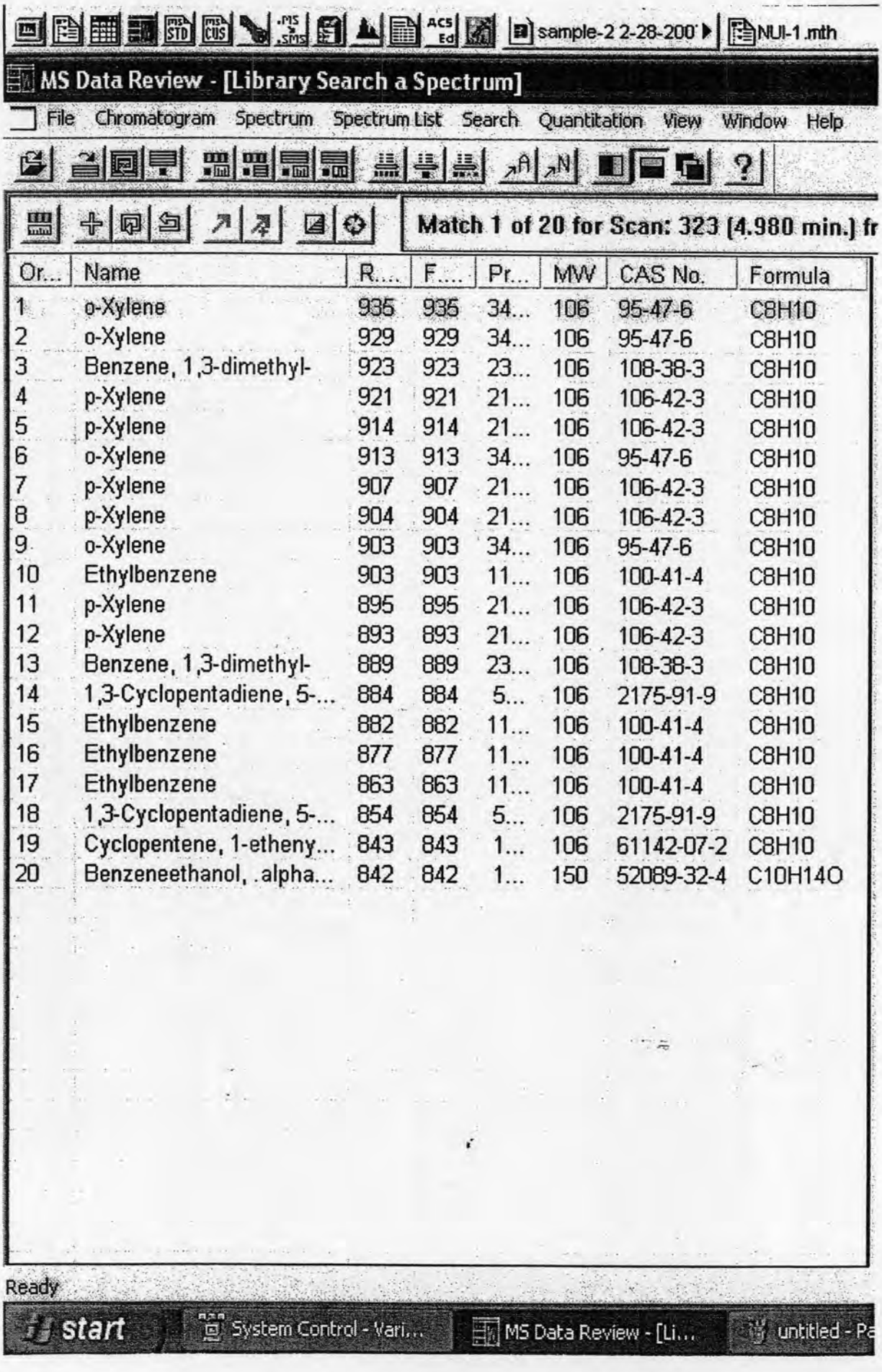
M2

166

M2


om sample-2 2-28-2007 2-52-10 pm.sms
Search
Spectrum 1A
4.980 min. Scan: 323 Channel: Merged Ion: 912 us RIC: 357231 (BC)
100%
75%
50%
25%
0%
91
139208
106
47509
Match
Match 1 of 20
o-Xylene
BP 91 (999=100%) 11550 in
CAS No. 95-47-6, C8H10, MW 106
91
999
106
501
4.980 min. Scan: 323 Channel: Merged Ion: 912 us RIC: 357231 (BC)
o-Xylene
100%
50%
0%
-50%
-100%
0
100
200
300
400
500
600
R.Match: 935, F.Match: 935
Acquired Range
m/z
NUM
9:50 AM

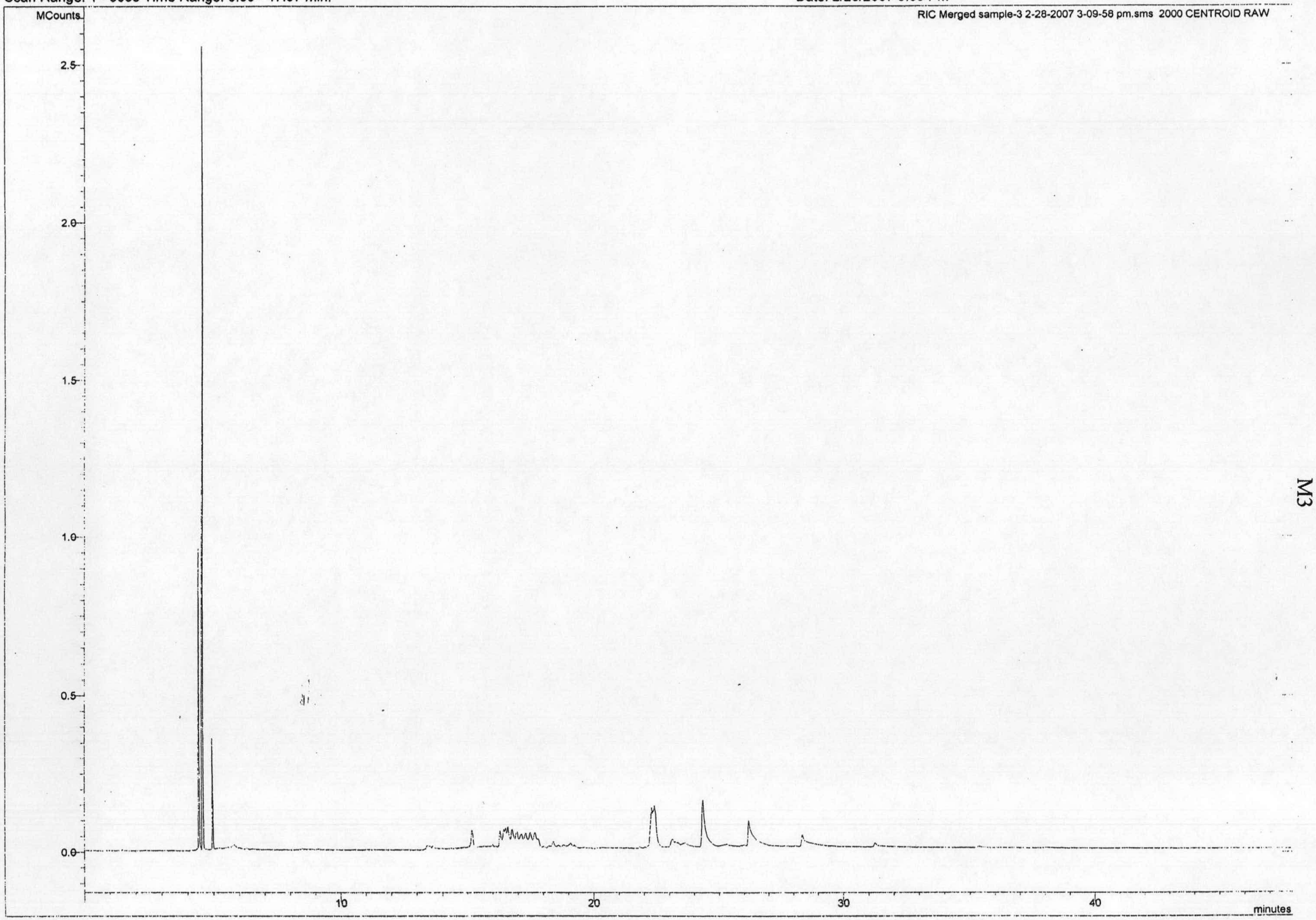
M2



Or...	Name	R....	F....	Pr...	MW	CAS No.	Formula
1	o-Xylene	935	935	34...	106	95-47-6	C8H10
2	o-Xylene	929	929	34...	106	95-47-6	C8H10
3	Benzene, 1,3-dimethyl-	923	923	23...	106	108-38-3	C8H10
4	p-Xylene	921	921	21...	106	106-42-3	C8H10
5	p-Xylene	914	914	21...	106	106-42-3	C8H10
6	o-Xylene	913	913	34...	106	95-47-6	C8H10
7	p-Xylene	907	907	21...	106	106-42-3	C8H10
8	p-Xylene	904	904	21...	106	106-42-3	C8H10
9	o-Xylene	903	903	34...	106	95-47-6	C8H10
10	Ethylbenzene	903	903	11...	106	100-41-4	C8H10
11	p-Xylene	895	895	21...	106	106-42-3	C8H10
12	p-Xylene	893	893	21...	106	106-42-3	C8H10
13	Benzene, 1,3-dimethyl-	889	889	23...	106	108-38-3	C8H10
14	1,3-Cyclopentadiene, 5-...	884	884	5...	106	2175-91-9	C8H10
15	Ethylbenzene	882	882	11...	106	100-41-4	C8H10
16	Ethylbenzene	877	877	11...	106	100-41-4	C8H10
17	Ethylbenzene	863	863	11...	106	100-41-4	C8H10
18	1,3-Cyclopentadiene, 5-...	854	854	5...	106	2175-91-9	C8H10
19	Cyclopentene, 1-etheny...	843	843	1...	106	61142-07-2	C8H10
20	Benzeneethanol, .alpha...	842	842	1...	150	52089-32-4	C10H14O

File: c:\varianws\data\burapadt\sample-3 2-28-2007 3-09-58 pm.sms
Sample: SAMPLE-3
Scan Range: 1 - 3033 Time Range: 0.00 - 47.97 min.

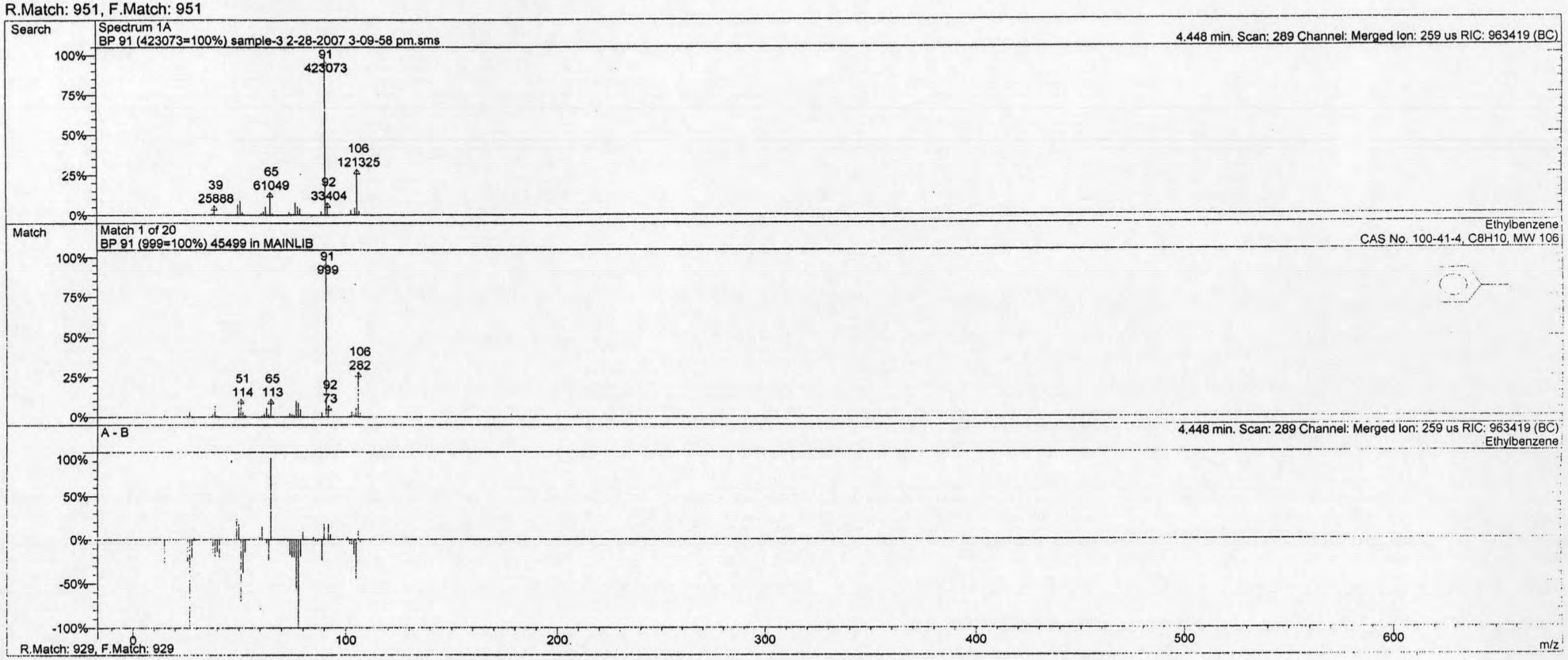
Operator: somkiat
Date: 2/28/2007 3:09 PM



M3

Entry 45499 from MAINLIB NIST Library

R.Match: 951, F.Match: 951



1st Spectrum from ...\data\burapau\sample-3 2-28-2007 3-09-58 pm.sms
Scan No: 289, Time: 4.448 minutes
No averaging. Background corrected.
Comment: 4.448 min. Scan: 289 Channel: Merged Ion: 259 us RIC: 963419 (BC)
Pair Count: 65 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
23	12	0	62	9358	22	87	1206	3	108	165	0
28	1	0	63	22761	54	89	10357	24	115	13	0
29	281	1	64	2818	7	90	2555	6	129	91	0
37	2923	7	65	61049	144	91	423073	999	207	169	0
38	5019	12	66	3955	9	92	33404	79	250	11	0
39	25888	61	72	57	0	93	937	2	262	16	0
40	1613	4	73	1541	4	98	16	0	270	14	0
41	563	1	74	7465	18	99	12	0	400	17	0

Scan 289 from c:\varianws\data\burapau\sample-3 2-28-2007 3-09-58 pm.sms - Page –

Entry 45499 from MAINLIB NIST Library

R.Match: 951, F.Match: 951

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
15	-14	0	53	2075	5	85	327	1	107	10687	25
23	12	0	60	505	1	86	723	2	108	165	0
26	-9	0	61	5179	12	87	1202	3	115	13	0
27	-33	0	62	9336	22	89	10325	24	129	91	0
28	-6	0	63	22705	54	90	2555	6	207	169	0
29	281	1	64	2803	7	91	422074	999	250	11	0
37	2917	7	65	60936	144	92	33331	79	262	16	0
38	5001	12	66	3946	9	93	937	2	270	14	0
39	25818	61	72	57	0	98	16	0	400	17	0
40	1604	4	73	1536	4	99	12	0	403	8	0
41	555	1	74	7441	18	100	7	0	405	16	0
43	169	0	75	3261	8	101	261	1	410	17	0
48	14	0	76	3282	8	102	3377	8	420	17	0
49	3596	9	77	33874	80	103	13988	33	434	17	0
50	28840	68	78	22907	54	104	2762	7	513	17	0
51	38550	91	79	17446	41	105	19218	45	627	17	0
52	7551	18	80	1087	3	106	121043	286	649	17	0

M3

Entry 45499 from MAINLIB NIST Library

R.Match: 951, F.Match: 951

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
48	14	0	76	3297	8	101	261	1	405	16	0
49	3596	8	77	33973	80	102	3387	8	410	17	0
50	28902	68	78	22994	54	103	14023	33	420	17	0
51	38664	91	79	17494	41	104	2775	7	434	17	0
52	7582	18	80	1087	3	105	19279	46	513	17	0
53	2085	5	85	327	1	106	121325	286	627	17	0
60	505	1	86	726	2	107	10713	25	649	17	0
61	5186	12									

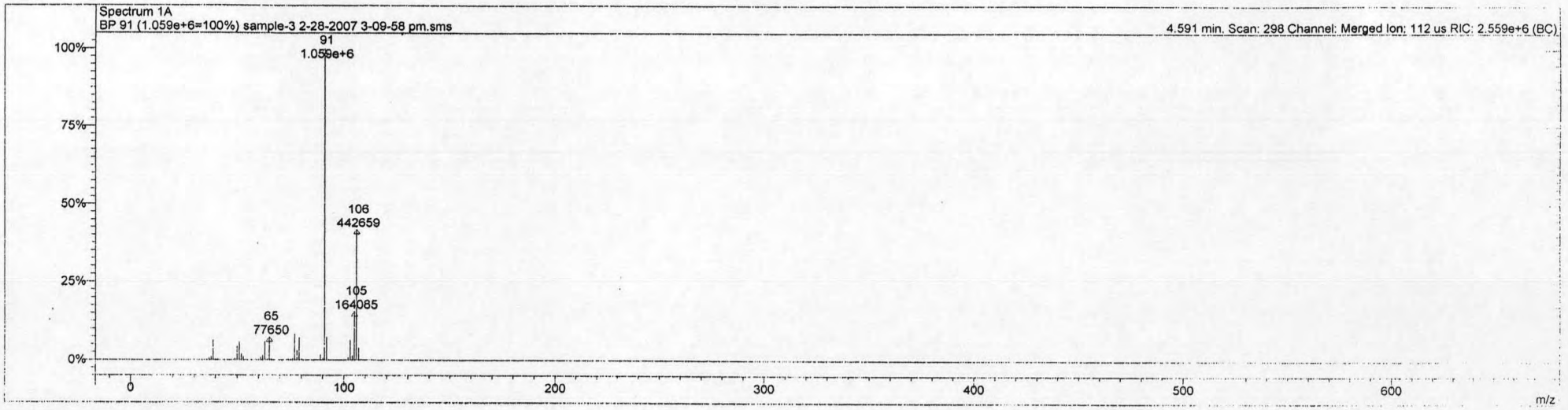
2nd Spectrum 45499 from MAINLIB Library
Name: Ethylbenzene
Pair Count: 37 MW: 106 Formula: C8H10
CAS No: 100-41-4 Acquired Range: 15 - 107 m/z
NIST No: 114918
Contributor: NIST Mass Spectrometry Data Center, 1990.
Synonyms: 12
Benzene, ethyl-
Ethylbenzol
EB
Phenylethane
Aethylbenzol
Ethylbenzeen
Etilbenzene
Etylobenzen
NCI-C56393
UN 1175
.alpha.-Methyltoluene
Ethyl benzene
Other Databases: None
Replicates: 3
11531 in REPLIB
11532 in REPLIB
11533 in REPLIB

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
15	14	14	61	7	7	79	48	48
26	9	9	62	22	22	86	3	3
27	33	33	63	56	56	87	4	4
28	7	7	64	15	15	89	32	32
37	6	6	65	113	113	91	999	999
38	18	18	66	9	9	92	73	73
39	70	70	73	5	5	102	10	10
40	9	9	74	24	24	103	35	35
41	8	8	75	15	15	104	13	13
50	62	62	76	15	15	105	61	61
51	114	114	77	99	99	106	282	282
52	31	31	78	87	87	107	26	26
53	10	10						

Difference Spectrum (Straight Subtraction)

M3

Scan 298 from c:\varianws\data\burapau\sample-3 2-28-2007 3-09-58 pm.sms



Spectrum from ...\data\burapau\sample-3 2-28-2007 3-09-58 pm.sms
Scan No: 298, Time: 4.591 minutes
No averaging. Background corrected.
Comment: 4.591 min. Scan: 298 Channel: Merged Ion: 112 us RIC: 2.559e+6 (BC)
Pair Count: 62 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
20	103	0	63	61446	58	88	425	0	107	42044	40
37	6995	7	64	5041	5	89	18444	17	108	1185	1
38	11462	11	65	77650	73	90	6296	6	115	477	0
39	67082	63	66	5699	5	91	1.059e+6	999	119	677	1
40	3433	3	73	1081	1	92	79100	75	129	162	0
41	3325	3	74	7420	7	93	2240	2	141	348	0
48	34	0	75	3909	4	97	73	0	142	447	0
49	5352	5	76	5535	5	98	484	0	152	32	0
50	46268	44	77	89355	84	100	19	0	153	180	0
51	61480	58	78	32792	31	101	1374	1	168	108	0
52	20227	19	79	76213	72	102	10419	10	177	6	0
53	10657	10	80	5238	5	103	67664	64	250	30	0
55	64	0	84	8	0	104	15077	14	400	37	0
60	1170	1	85	471	0	105	164085	155	410	38	0
61	8971	8	86	1968	2	106	442659	418	415	15	0
62	18835	18	87	3119	3						

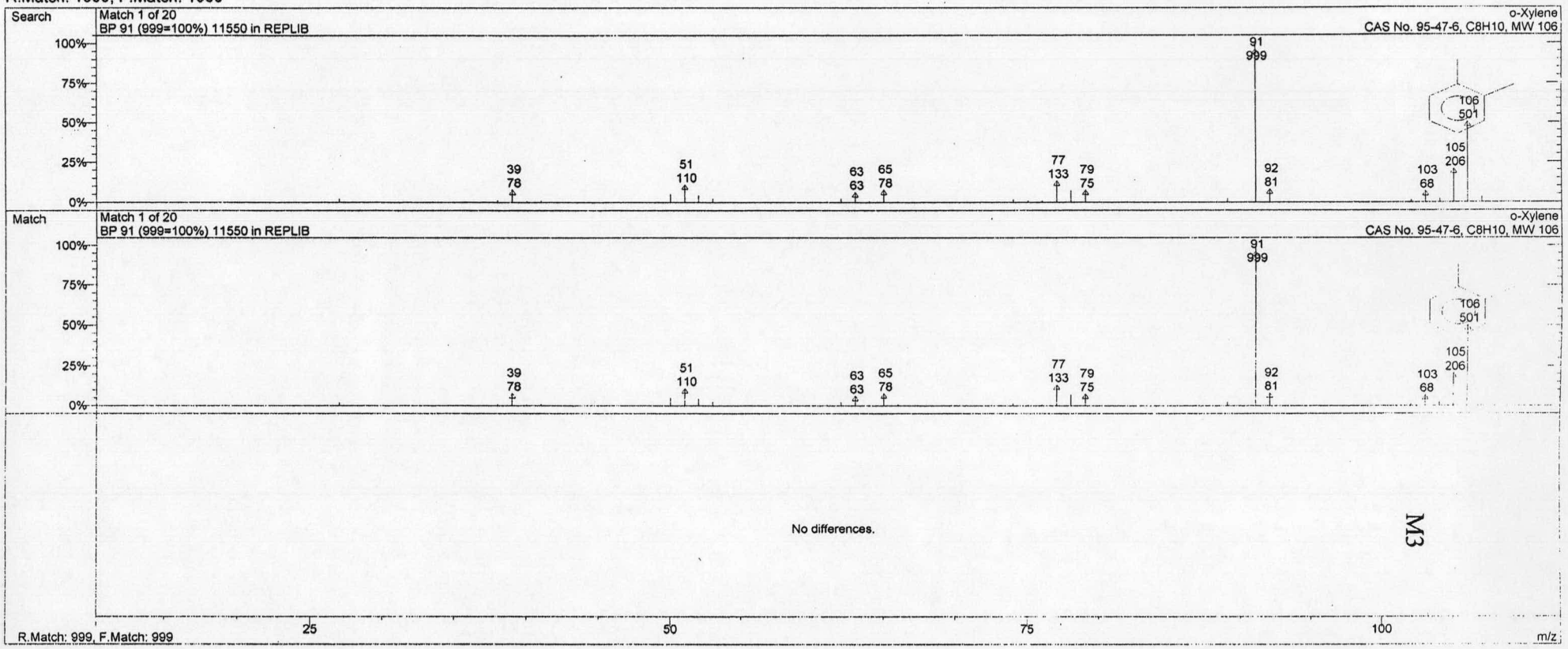
M3

Entry 11550 from REPLIB NIST Library

Entry 11550 from REPLIB NIST Library

(2)

R.Match: 1000, F.Match: 1000



M3

1st Spectrum 11550 from REPLIB Library
Name: o-Xylene
Pair Count: 53 MW: 106 Formula: C8H10
CAS No: 95-47-6 Acquired Range: 15 - 108 m/z
NIST No: 291483
Contributor: NIST Mass Spectrometry Data Center, 1998.
Synonyms: 10
Benzene, 1,2-dimethyl-
o-Dimethylbenzene
o-Methyltoluene
o-Xylol
1,2-Dimethylbenzene
1,2-Xylene
3,4-Xylene
ortho-Xylene
UN 1307
Benzene,1-2-dimethyl-
Other Databases: None
Replicates: 3
11548 in REPLIB
11549 in REPLIB

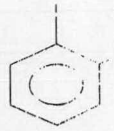
Entry 11550 from REPLIB NIST Library

R.Match: 1000, F.Match: 1000
11550 in REPLIB

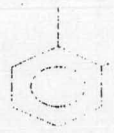
Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
15	3	3	60	1	1	87	4	4
26	4	4	61	9	9	88	1	1
27	22	22	62	24	24	89	26	26
29	1	1	63	63	63	91	999	999
37	5	5	64	11	11	92	81	81
38	14	14	65	78	78	93	3	3
39	78	78	66	9	9	97	1	1
40	8	8	67	1	1	98	3	3
41	11	11	73	3	3	99	1	1
43	1	1	74	19	19	101	2	2
45	1	1	75	12	12	102	15	15
49	5	5	76	12	12	103	68	68
50	51	51	77	133	133	104	25	25
51	110	110	78	73	73	105	206	206
52	45	45	79	75	75	106	501	501
53	26	26	80	5	5	107	44	44
54	2	2	85	2	2	108	2	2
55	1	1	86	4	4			

2nd Spectrum 11550 from REPLIB Library
Name: o-Xylene
Pair Count: 53 MW: 106 Formula: C8H10
CAS No: 95-47-6 Acquired Range: 15 - 108 m/z
NIST No: 291483
Contributor: NIST Mass Spectrometry Data Center, 1998.
Synonyms: 10
Benzene, 1,2-dimethyl-
o-Dimethylbenzene
o-Methyltoluene
o-Xylol
1,2-Dimethylbenzene
1,2-Xylene
3,4-Xylene
ortho-Xylene
UN 1307
Benzene,1-2-dimethyl-
Other Databases: None
Replicates: 3
11548 in REPLIB
11549 in REPLIB
11550 in REPLIB

Ion	Int	Norm	Ion	Iht	Norm	Ion	Int	Norm
15	3	3	60	1	1	87	4	4
26	4	4	61	9	9	88	1	1
27	22	22	62	24	24	89	26	26
29	1	1	63	63	63	91	999	999
37	5	5	64	11	11	92	81	81
38	14	14	65	78	78	93	3	3
39	78	78	66	9	9	97	1	1
40	8	8	67	1	1	98	3	3



M3



Entry 11550 from REPLIB NIST Library - Page 3

Entry 11550 from REPLIB NIST Library

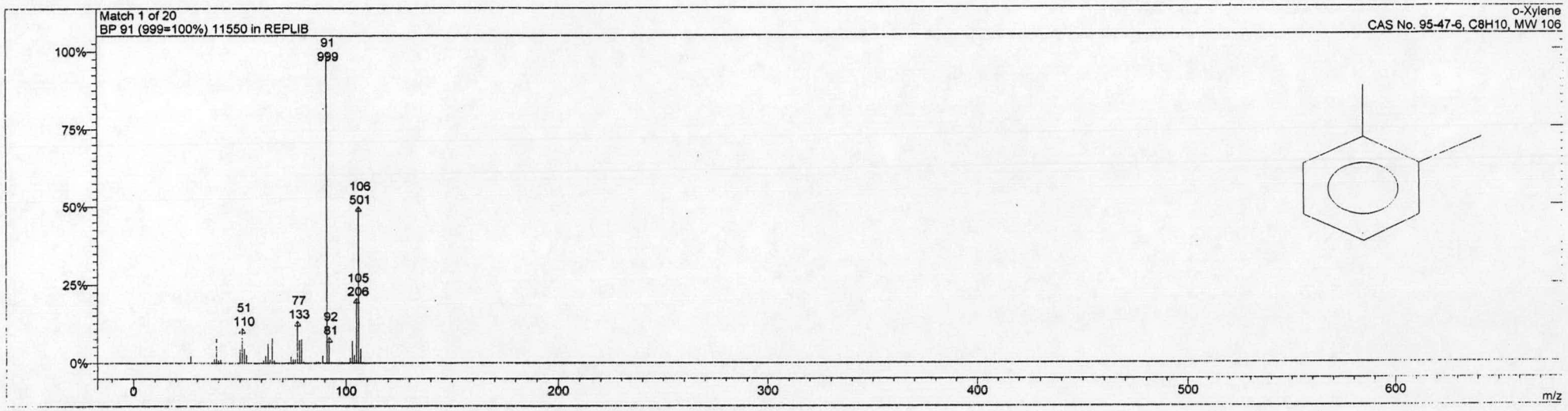
R.Match: 1000, F.Match: 1000

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
41	11	11	73	3	3	99	1	1
43	1	1	74	19	19	101	2	2
45	1	1	75	12	12	102	15	15
49	5	5	76	12	12	103	68	68
50	51	51	77	133	133	104	25	25
51	110	110	78	73	73	105	206	206
52	45	45	79	75	75	106	501	501
53	26	26	80	5	5	107	44	44
54	2	2	85	2	2	108	2	2
55	1	1	86	4	4			

Difference Spectrum (Straight Subtraction)

M3

Entry 11550 from REPLIB NIST Library



Spectrum 11550 from REPLIB Library
Name: o-Xylene
Pair Count: 53 MW: 106 Formula: C8H10
CAS No: 95-47-6 Acquired Range: 15 - 108 m/z
NIST No: 291483
Contributor: NIST Mass Spectrometry Data Center, 1998.
Synonyms: 10
Benzene, 1,2-dimethyl-
o-Dimethylbenzene
o-Methyltoluene
o-Xylol
1,2-Dimethylbenzene
1,2-Xylene
3,4-Xylene
ortho-Xylene
UN 1307
Benzene,1-2-dimethyl-
Other Databases: None
Replicates: 3
11548 in REPLIB
11549 in REPLIB
11550 in REPLIB

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
15	3	3	60	1	1	87	4	4
26	4	4	61	9	9	88	1	1
27	22	22	62	24	24	89	26	26
29	1	1	63	63	63	91	999	999
37	5	5	64	11	11	92	81	81
38	14	14	65	78	78	93	3	3
39	78	78	66	9	9	97	1	1
40	8	8	67	1	1	98	3	3
41	11	11	73	3	3	99	1	1
43	1	1	74	19	19	101	2	2
45	1	1	75	12	12	102	15	15
49	5	5	76	12	12	103	68	68

M3

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Print Date: 30 Mar 2007 07:17:21

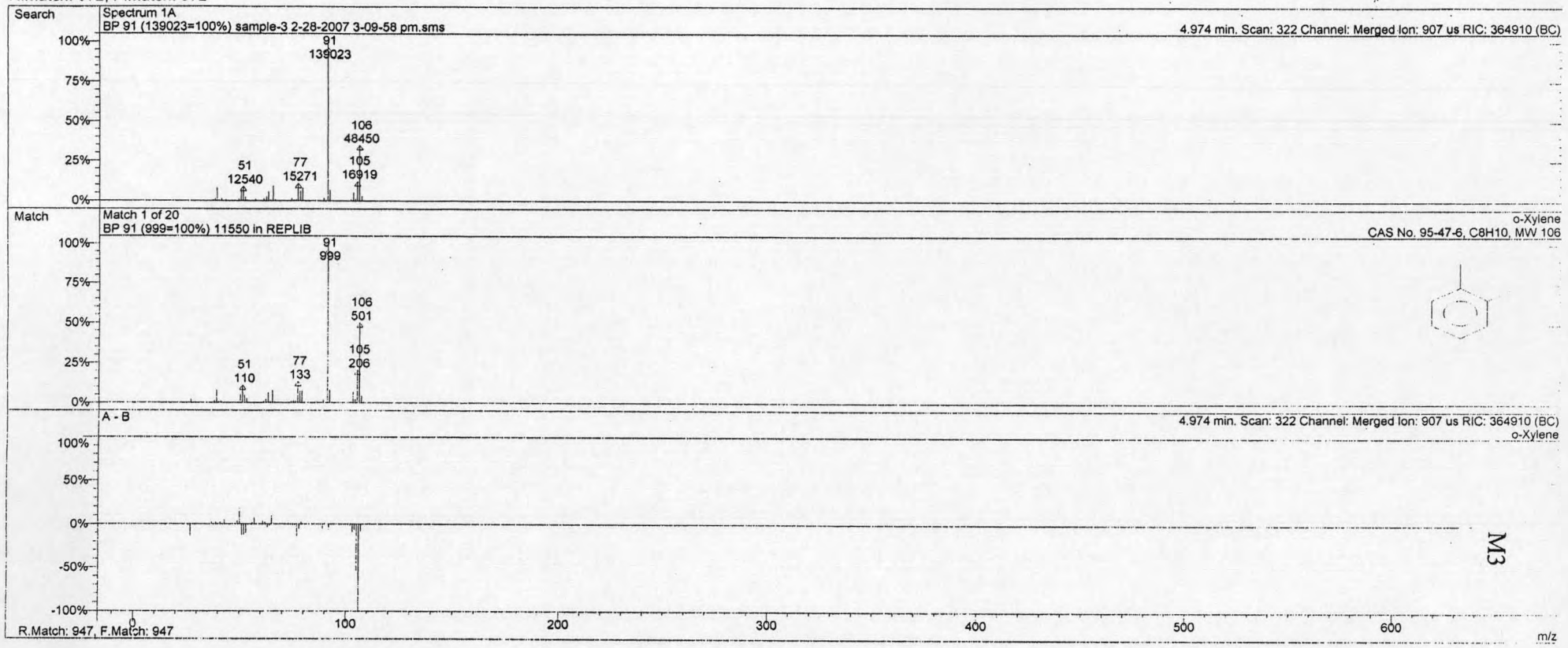
Entry 11550 from REPLIB NIST Library - Page 2

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
50	51	51	77	133	133	104	25	25
51	110	110	78	73	73	105	206	206
52	45	45	79	75	75	106	501	501
53	26	26	80	5	5	107	44	44
54	2	2	85	2	2	108	2	2
55	1	1	86	4	4			

M3

Entry 11550 from REPLIB NIST Library

R.Match: 972, F.Match: 972



M3

1st Spectrum from ...\data\burapau\sample-3 2-28-2007 3-09-58 pm.sms
Scan No: 322, Time: 4.974 minutes
No averaging. Background corrected.
Comment: 4.974 min. Scan: 322 Channel: Merged Ion: 907 us RIC: 364910 (BC)
Pair Count: 68 MW: 0 Formula: None
CAS No: None Acquired Range: 20 - 651 m/z

MDT: Centroid, Time: 0.00 - 48.00
Seg 1, <no description>, Time: 0.00-48.00, EI-Auto-Full
Chan 1, 20-650 m/z
Product Mass Range: 20 - 651 m/z

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
25	1	0	56	392	3	76	1295	9	99	5	0
31	2	0	57	1664	12	77	15271	110	100	2	0
37	1406	10	58	6	0	78	8829	63	102	1308	9
38	2043	15	60	286	2	79	11169	80	103	7412	53
39	11353	82	61	2143	15	80	750	5	104	1880	14
40	908	7	62	3871	28	82	14	0	105	16919	122
41	2048	15	63	7986	57	84	145	1	106	48450	348
42	241	2	64	1034	7	85	660	5	107	4307	31

Entry 11550 from REPLIB NIST Library

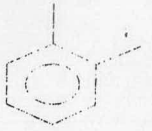
R.Match: 972, F.Match: 972

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
48	122	1	66	1448	10	87	471	3	207	96	1
49	1739	12	67	10	0	89	2403	17	250	16	0
50	10939	79	69	180	1	90	571	4	252	24	0
51	12540	90	70	237	2	91	139023	999	255	5	0
52	3318	24	71	150	1	92	9860	71	281	18	0
53	1207	9	73	640	5	93	302	2	341	95	1
54	17	0	74	2358	17	97	38	0	434	5	0
55	191	1	75	1205	9	98	310	2	588	5	0

2nd Spectrum 11550 from REPLIB Library
Name: o-Xylene
Pair Count: 53 MW: 106 Formula: C8H10
CAS No: 95-47-6 Acquired Range: 15 - 108 m/z
NIST No: 291483
Contributor: NIST Mass Spectrometry Data Center, 1998.
Synonyms: 10
Benzene, 1,2-dimethyl-
o-Dimethylbenzene
o-Methyltoluene
o-Xylol
1,2-Dimethylbenzene
1,2-Xylene
3,4-Xylene
ortho-Xylene
UN 1307
Benzene,1-2-dimethyl-
Other Databases: None
Replicates: 3
11548 in REPLIB
11549 in REPLIB
11550 in REPLIB

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
15	3	3	60	1	1	87	4	4
26	4	4	61	9	9	88	1	1
27	22	22	62	24	24	89	26	26
29	1	1	63	63	63	91	999	999
37	5	5	64	11	11	92	81	81
38	14	14	65	78	78	93	3	3
39	78	78	66	9	9	97	1	1
40	8	8	67	1	1	98	3	3
41	11	11	73	3	3	99	1	1
43	1	1	74	19	19	101	2	2
45	1	1	75	12	12	102	15	15
49	5	5	76	12	12	103	68	68
50	51	51	77	133	133	104	25	25
51	110	110	78	73	73	105	206	206
52	45	45	79	75	75	106	501	501
53	26	26	80	5	5	107	44	44
54	2	2	85	2	2	108	2	2
55	1	1	86	4	4			

M3



Print Date: 30 Mar 2007 07:17:47

Scan 322 from c:\varianws\data\burapau\sample-3 2-28-2007 3-09-58 pm.sms - Page –

Entry 11550 from REPLIB NIST Library

R.Match: 972, F.Match: 972

Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm	Ion	Int	Norm
15	-3	0	53	1181	9	75	1193	9	99	4	0
25	1	0	54	15	0	76	1283	9	100	2	0
26	-4	0	55	190	1	77	15138	110	101	-2	0
27	-22	0	56	392	3	78	8756	63	102	1293	9
29	-1	0	57	1664	12	79	11094	80	103	7344	53
31	2	0	58	6	0	80	745	5	104	1855	13
37	1401	10	60	285	2	82	14	0	105	16713	121
38	2029	15	61	2134	15	84	145	1	106	47949	347
39	11275	82	62	3847	28	85	658	5	107	4263	31
40	900	7	63	7923	57	86	541	4	108	245	2
41	2037	15	64	1023	7	87	467	3	207	96	1
42	241	2	65	12799	93	88	-1	0	250	16	0
43	1243	9	66	1439	10	89	2377	17	252	24	0
45	-1	0	67	9	0	90	571	4	255	5	0
48	122	1	69	180	1	91	138024	999	281	18	0
49	1734	13	70	237	2	92	9779	71	341	95	1
50	10888	79	71	150	1	93	299	2	434	5	0
51	12430	90	73	637	5	97	37	0	588	5	0
52	3273	24	74	2339	17	98	307	2			

M3

Appendix D

Calibration Curve of Xylene Measurement and Conditions for GC (FID) and GC (TCD)

Calibration Table

Calib. Data Modified : 3/13/2007 8:37:13 AM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 5.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 5.000 %
Abs. Non-ref. Window : 0.000 min
Use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Included
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A,

RetTime [min]	Sig	Lvl	Amount [ng/ul]	Area	Amt/Area	Ref	Grp	Name
4.767	1	1	8.25200	8.23000	1.00267			Benzene
		2	24.70700	35.64800	6.93082e-1			
		3	49.26700	74.14600	6.64459e-1			
		4	122.07500	187.65600	6.50525e-1			
6.546	1	1	8.18300	9.28282	8.81521e-1			Toluene
		2	24.50000	37.24558	6.57796e-1			
		3	48.85400	75.85652	6.44032e-1			
		4	121.05100	189.87073	6.37544e-1			
8.122	1	1	8.11700	8.68250	9.34869e-1			Ethyl Benzene
		2	24.30300	35.05334	6.93315e-1			
		3	48.46200	71.41222	6.78623e-1			
		4	120.08100	178.64345	6.72183e-1			
8.282	1	1	8.08900	9.25704	8.73821e-1			p-Xylene
		2	24.21800	37.09669	6.52835e-1			
		3	48.29200	75.37766	6.40667e-1			
		4	119.66000	188.49036	6.34834e-1			
8.414	1	1	8.08900	9.25272	8.74229e-1			m-Xylene
		2	24.21800	37.03220	6.53971e-1			
		3	48.29200	75.56528	6.39077e-1			
		4	119.66000	189.26349	6.32240e-1			
9.250	1	1	8.25200	9.54942	8.64136e-1			o-Xylene
		2	24.70700	37.99710	6.50234e-1			
		3	49.26700	77.64352	6.34528e-1			
		4	122.07500	194.44485	6.27813e-1			

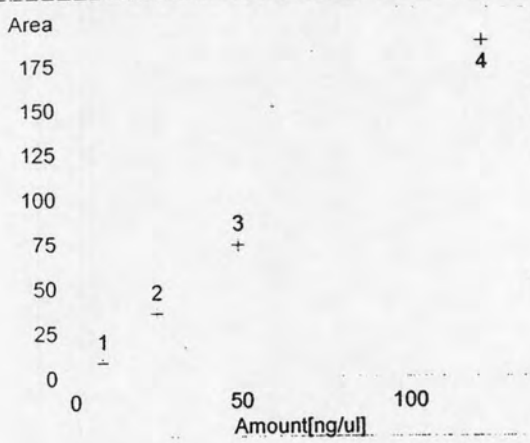
2 Warnings or Errors :

Warning : Overlapping peak time windows at 8.122 min, signal 1
Warning : Overlapping peak time windows at 8.282 min, signal 1

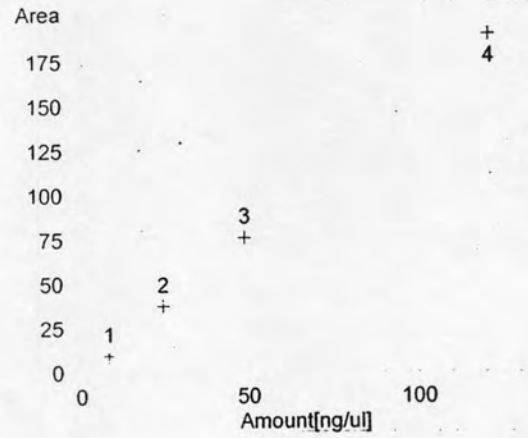
Peak Sum Table

No Entries in table

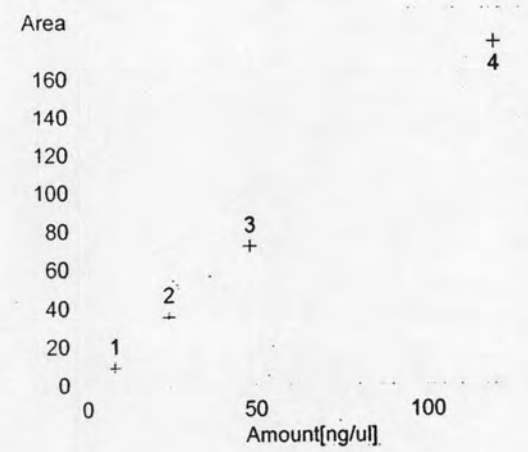
Calibration Curves



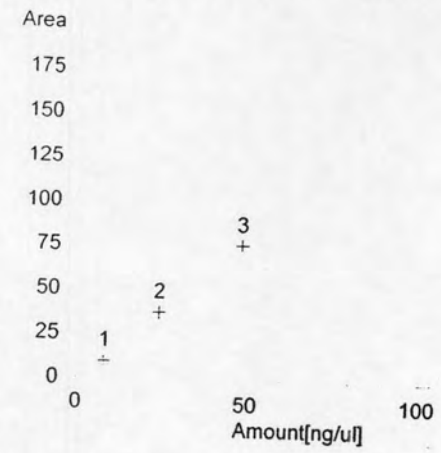
Benzene at exp. RT: 4.767
FID1 A,
Correlation: 0.99977
Residual Std. Dev.: 1.89757
Formula: y = mx + b
m: 1.55477
b: -2.39240
x: Amount[ng/ul]
y: Area



Toluene at exp. RT: 6.546
FID1 A,
Correlation: 0.99986
Residual Std. Dev.: 1.51002
Formula: y = mx + b
m: 1.58193
b: -1.64482
x: Amount[ng/ul]
y: Area



Ethyl Benzene at exp. RT: 8.122
FID1 A,
Correlation: 0.99985
Residual Std. Dev.: 1.44595
Formula: y = mx + b
m: 1.50060
b: -1.55482
x: Amount[ng/ul]
y: Area



p-Xylene at exp. RT: 8.282
FID1 A,
Correlation: 0.99986
Residual Std. Dev.: 1.48872
Formula: y = mx + b
m: 1.58840
b: -1.57377
x: Amount[ng/ul]
y: Area

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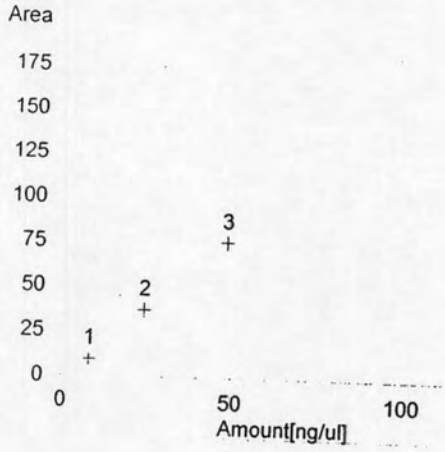
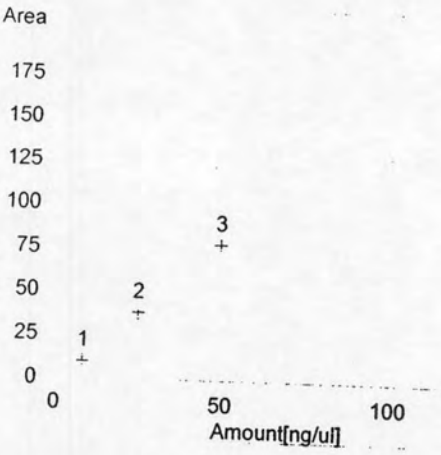


m-Xylene at exp. RT: 8.414
FID1 A,
Correlation: 0.99986
Residual Std. Dev.: 1.50111
Formula: y = mx + b
m: 1.59532
b: -1.67264
x: Amount[ng/ul]
y: Area



o-Xylene at exp. RT: 9.250
FID1 A,
Correlation: 0.99986
Residual Std. Dev.: 1.52294
Formula: y = mx + b
m: 1.60651
b: -1.71538
x: Amount[ng/ul]
y: Area

6890 GC METHOD

OVEN
- Initial temp: 45 'C (On)
- Initial time: 3.00 min
- Ramps:

#	Rate	Final temp	Final time
1	5.00	60	1.00
2	10.00	100	2.00
3	0.0(Off)		

- Post temp: 50 'C
- Post time: 0.00 min
- Run time: 13.00 min
- Maximum temp: 180 'C
- Equilibration time: 1.00 min

FRONT INLET (UNKNOWN)

BACK INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 200 'C (On)
- Pressure: 9.88 psi (On)
- Split ratio: 10:1
- Split flow: 8.0 mL/min
- Total flow: 11.6 mL/min
- Gas saver: Off
- Gas type: Helium

COLUMN 1
- Capillary Column
- Model Number: Agilent 19091X-133
- HP-Wax Bonded Polyethylene Glycol
- Max temperature: 250 'C
- Nominal length: 30.0 m
- Nominal diameter: 250.00 um
- Nominal film thickness: 0.25 um
- Mode: ramped flow
- Initial flow: 0.8 mL/min
- Initial time: 3.00 min

#	Rate	Final flow	Final time
1	1.00	1.0	3.00
2	2.00	1.5	8.00
3	0.0(Off)		

- Post flow: 0.0 mL/min
- Nominal init pressure: 9.88 psi
- Average velocity: 21 cm/sec
- Inlet: Back Inlet
- Outlet: Front Detector
- Outlet pressure: ambient

COLUMN 2
- Capillary Column
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 0.25 um
- Inlet: Front Inlet
- Outlet: Back Detector

FRONT DETECTOR (FID)
- Temperature: 250 'C (On)
- Hydrogen flow: 45.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant column+makeup flow
- Combined flow: 45.0 mL/min
- Makeup flow: On
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

BACK DETECTOR (ECD)
- Temperature: 250 'C (Off)
- Anode purge flow: Off
- Makeup flow: Off
- Makeup Gas Type: Nitrogen
- Adjust offset: 60.00
- Electrometer: Off

SIGNAL 1
- Data rate: 20 Hz
- Type: front detector
- Save Data: On
- Zero: 0.0 (Off)
- Range: 0
- Fast Peaks: Off

SIGNAL 2
- Data rate: 50 Hz
- Type: oven temperature
- Save Data: Off
- Zero: 0.0 (Off)
- Range: 0
- Fast Peaks: Off

Attenuation: 0

COLUMN COMP 1
Derive from front detector

THERMAL AUX 1
Use: Valve Box Heater
Description:
Initial temp: 50 'C (Off)
Initial time: 0.00 min

#	Rate	Final temp	Final time
1	0.0	(Off)	

VALVES
Valve 1 Gas Sampling
Description:
Loop Volume: 0.025 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Back Inlet

TIME TABLE

Time	Specifier	Parameter & Setpoint

Attenuation: 0

COLUMN COMP 2
Derive from front detector

POST RUN
Post Time: 0.00 min

GC Injector

Front Injector:
No parameters specified

Back Injector:

Sample Washes	3	
Sample Pumps	5	
Injection Volume	1.0	microliters
Syringe Size	10.0	microliters
PostInj Solvent A Washes	3	
PostInj Solvent B Washes	0	
Viscosity Delay	0	seconds
Plunger Speed	Fast	
PreInjection Dwell	0.00	minutes
PostInjection Dwell	0.00	minutes
Sampling Depth	3.5	mm

Injection Date : 3/16/2007 2:23:26 AM Seq. Line : 116
Sample Name : 653/B Location : Vial 26
Acq. Operator : Sornsamat Inj : 1
Inj Volume : 1 µl

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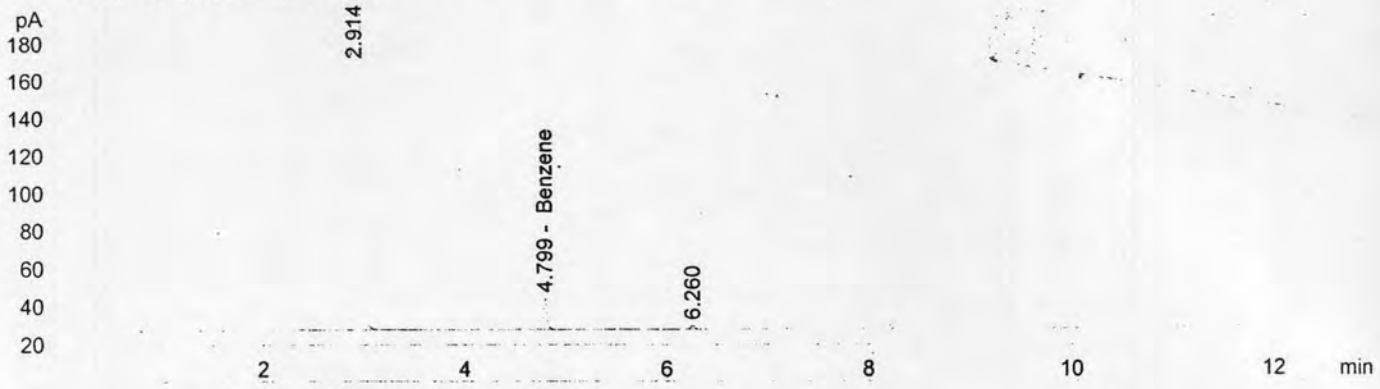
Acq. Method : C:\HPCHEM\2\METHODS\ORGANIC.M
Last changed : 11/9/2006 1:00:19 PM by Sornsamat
Analysis Method : C:\HPCHEM\2\METHODS\QC2.M
Last changed : 3/20/2007 5:11:47 PM by Sornsamat

FID1 A, (14_03_50\SIG20117.D)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/13/2007 8:37:13 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.799	PB	38.64304	6.82999e-1	26.39318		Benzene
6.546		-	-	-		Toluene
8.122		-	-	-		Ethyl Benzene
8.282		-	-	-		p-Xylene
8.414		-	-	-		m-Xylene
9.250		-	-	-		o-Xylene

Totals : 26.39318

Results obtained with enhanced integrator!
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

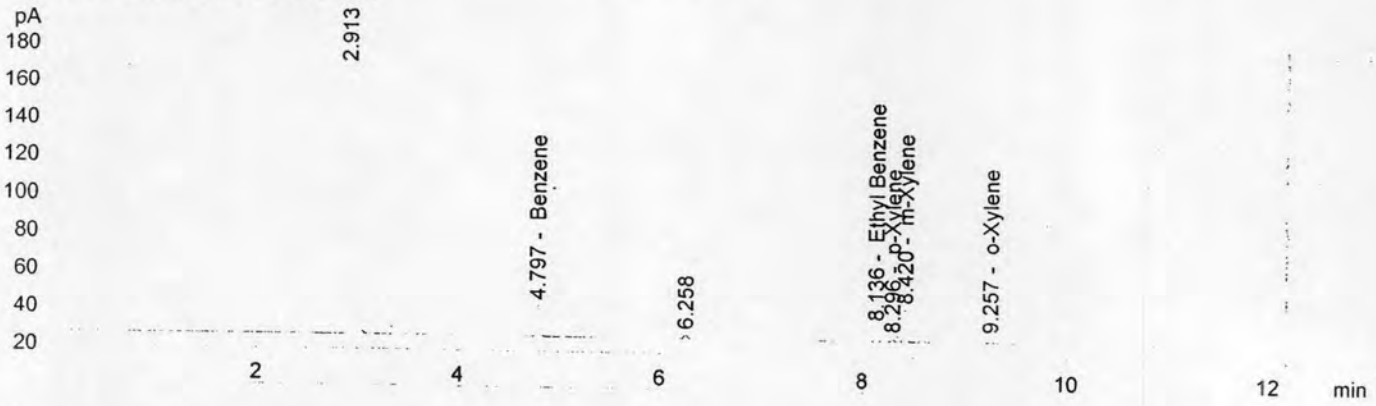
189

Injection Date : 3/16/2007 4:57:49 AM
Sample Name : 653/8
Acq. Operator : Sornsamat

Seq. Line : 124
Location : Vial 34
Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\HPCHEM\2\METHODS\ORGANIC.M
Last changed : 11/9/2006 1:00:19 PM by Sornsamat
Analysis Method : C:\HPCHEM\2\METHODS\QC2.M
Last changed : 3/20/2007 5:11:47 PM by Sornsamat

FID1 A, (14_03_50\SIG20125.D)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/13/2007 8:37:13 AM
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.797	PB	38.23207	6.83428e-1	26.12885		Benzene
6.546		-	-	-		Toluene
8.136	VP	14.14422	7.39654e-1	10.46182		Ethyl Benzene
8.296	BB	2.38865	1.04436	2.49460		p-Xylene
8.420	BB	31.22459	6.60412e-1	20.62110		m-Xylene
9.257	BB	3.60105	9.18983e-1	3.30930		o-Xylene
Totals :				63.01568		

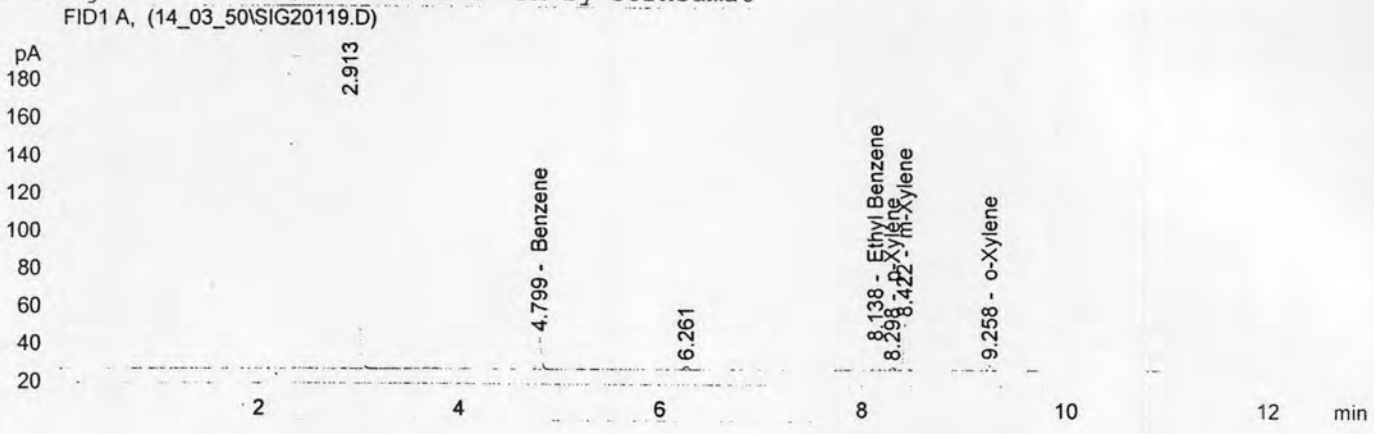
Results obtained with enhanced integrator!
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

190

```
Injection Date  : 3/16/2007 3:02:06 AM          Seq. Line : 118
Sample Name     : 653/2                         Location : Vial 28
Acq. Operator   : Sornsamat                        Inj :   1
                                                Inj Volume : 1 µl
Acq. Method     : C:\HPCHEM\2\METHODS\ORGANIC.M
Last changed    : 11/9/2006 1:00:19 PM by Sornsamat
Analysis Method : C:\HPCHEM\2\METHODS\QC2.M
Last changed    : 3/20/2007 5:11:47 PM by Sornsamat
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/13/2007 8:37:13 AM
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ng/ul]	Grp	Name
4.799	BP	38.66531	6.82977e-1	26.40750		Benzene
6.546		-	-	-		Toluene
8.138	BP	22.14761	7.13182e-1	15.79527		Ethyl Benzene
8.298	VV	3.37406	9.23215e-1	3.11499		p-Xylene
8.422	VB	45.76869	6.49742e-1	29.73784		m-Xylene
9.258	BP	4.58221	8.55492e-1	3.92004		o-Xylene
Totals :				78.97564		

```
 Results obtained with enhanced integrator!
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found
```

*** End of Report ***

CO2

191

6890 GC METHOD

OVEN
Initial temp: 45 'C (On)
Initial time: 3.00 min
Ramps:

#	Rate	Final temp	Final time
1	20.00	120	0.00
2	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 6.75 min

FRONT INLET (UNKNOWN)
Maximum temp: 320 'C
Equilibration time: 1.00 min

BACK INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 120 'C (On)
Pressure: 9.39 psi (On)
Split ratio: 5:1
Split flow: 7.4 mL/min
Total flow: 11.3 mL/min
Gas saver: Off
Gas type: Helium

COLUMN 1
Capillary Column
Model Number: Agilent 19091P-MS4
HP-PLOT MoleSieve 5A
Max temperature: 350 'C
Nominal length: 30.0 m
Nominal diameter: 320.00 um
Nominal film thickness: 12.00 um
Mode: constant pressure
Pressure: 9.39 psi
Nominal initial flow: 1.5 mL/min
Average velocity: 28 cm/sec
Inlet: Back Inlet
Outlet: Back Detector
Outlet pressure: ambient

COLUMN 2
(not installed)

FRONT DETECTOR (FID)
Temperature: 250 'C (Off)
Hydrogen flow: 40.0 mL/min (Off)
Air flow: 450.0 mL/min (Off)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (On)
Makeup Gas Type: Nitrogen
Flame: Off
Electrometer: Off
Lit offset: 2.0

BACK DETECTOR (TCD)
Temperature: 250 'C (On)
Reference flow: On
Makeup flow: On
Makeup Gas Type: Nitrogen
Filament: On
Negative polarity: Off

SIGNAL 1
Data rate: 20 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

SIGNAL 2
Data rate: 20 Hz
Type: oven temperature
Save Data: Off
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

THERMAL AUX 1
Use: Valve Box Heater
Description:

Initial temp: 50 'C (Off)
Initial time: 0.00 min

#	Rate	Final temp	Final time
1	0.0	(Off)	

VALVES
Valve 1 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Back Inlet

POST RUN
Post Time: 0.00 min

TIME TABLE

Time	Specifier	Parameter & Setpoint

Appendix E

DNA Submission Information

DNA Submission

M1

==========> bankit909331

Preliminary GenBank Entry

Submission 1 of a total of 1 submission(s).

THIS IS PART OF A SET

--To be released on 6/1/2008--

LOCUS bankit909331 422 bp DNA linear PLN 04-MAY-2007

DEFINITION *Aspergillus flavus* that was selected from biofilter media.

ACCESSION 909331

VERSION

KEYWORDS .

SOURCE *Aspergillus flavus*

ORGANISM *Aspergillus flavus*

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;

Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus.

REFERENCE 1 (bases 1 to 422)

AUTHORS Prachuabmorn,A.

TITLE Biofiltration of Xylene Vapor

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 422)

AUTHORS Prachuabmorn,A.

TITLE Direct Submission

JOURNAL Submitted (04-MAY-2007) Environmental Health Department,Faculty of Public Health, BUrapha University, Longhard Bangsaen, Muang, Chonburi 20131, Thailand

COMMENT Bankit Comment: THIS IS PART OF A SET.

FEATURES Location/Qualifiers

source 1..422

/organism="*Aspergillus flavus*"

/mol_type="genomic DNA"

/db_xref="taxon:5059"

/note="PCR_primers=fwd_name: ITS_1 (5' TCC GTA GGT GAA CCT GCG G), rev_name: ITS_4 (5' TCC TCC GCT TAT TGA TAT GC)"

BASE COUNT 84 a 122 c 116 g 100 t

ORIGIN

1 tccgtaggtg aacctgcgga aggatcatta ccgagtgtag ggttcctagc gagcccaacc

61 tcccacccgt gtttactgta ccttagttgc ttcggcgggc ccgccattca tggccgccgg
121 gggctctcag ccccgggccc gcgcccgccg gagacaccac gaactctgtc tgatctagtg
181 aagtctgagt tgattgtatc gcaatcagtt aaaactttca acaatggatc tcttggttcc
241 ggcatcgatg aagaacgcag cgaaatgcga taactagtgt gaattgcaga attccgtgaa
301 tcatcgagtc tttgaacgca cattgcgccc cctggtattc cgggggggcat gcctgtcgag
361 cgtcatgctg cccatcaagc acggcttgtg tgttgggtcg tcgtccccca tcatcccagg
421 gg//

M2

==========> bankit910976

--To be released immediately after processing--

Preliminary GenBank Entry

Submission 1 of a total of 1 submission(s).

--To be released immediately--

LOCUS bankit910976 522 bp DNA linear PLN 04-MAY-2007

DEFINITION *Aspergillus terreus* that was selected from biofilter media~~(coconut husk and manure).

ACCESSION 910976

VERSION

KEYWORDS .

SOURCE *Aspergillus terreus*

ORGANISM *Aspergillus terreus*

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes; Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus.

REFERENCE 1 (bases 1 to 522)

AUTHORS Prachuabmorn,A.

TITLE Biofiltration of Xylene Vapor

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 522)

AUTHORS Prachuabmorn,A.

TITLE Direct Submission

JOURNAL Submitted (04-MAY-2007) Environmental Health Department,Faculty of Public Health, Burapha University, Longhard Bangsaen, Muang, Chonburi 20131, Thailand

FEATURES Location/Qualifiers

source 1..522

/organism="*Aspergillus terreus*"

/mol_type="genomic DNA"

/db_xref="taxon:33178"

/note="PCR_primers=fwd_name: ITS_1 (5' TCC GTA GGT GAA CCT

GCG G), rev_name: ITS_4 (5' TCC TCC GCT TAT TGA TAT GC)"

BASE COUNT 87 a 164 c 143 g 128 t

ORIGIN

1 tccgtaggtg aacctgcgga aggatcatta ccgagtgcgg gtcctcgtgg cccaacctcc

61 cacccgtgac tattgtacct tgttgcttcg gcgggcccgc cagccctgct ggccgccggg

121 gggcgtctcg ccccgggcc cgtgcccgcc ggagacccca acatgaaccc tgttctgaaa

181 gcttgcagtc tgagtgtgat tctttgcaat cagttaaaac tttcaacaat ggatctcttg

241 gttccggcat cgatgaagaa cgcagcgaaa tgcgataact aatgtgaatt gcagaattca

301 gtgaatcatc gagtctttga acgcacattg cgccccctgg tattccgggg ggcatgcctg

361 tccgagcgtc attgctgccc tcaagcccgg cttgtgtgtt gggtcctcgt cccccggctc

421 cgggggacgg gcccgaaagg cagcggcggc accgcgtccg tctttttttta ttgaaaatgg

481 ggtttgtctt ccgctccgcc tccccccccc cttttttttt cc//

M3

==========> bankit911022

Preliminary GenBank Entry

Submission 1 of a total of 1 submission(s).

Penicillium glabrum that was selected from biofilter media (coconut husk and manure) of xylene biofiltration.

--To be released immediately--

LOCUS bankit911022 560 bp DNA linear PLN 04-MAY-2007

DEFINITION *Penicillium glabrum.*

ACCESSION 911022

VERSION

KEYWORDS .

SOURCE *Penicillium glabrum*

ORGANISM *Penicillium glabrum*

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;

Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Penicillium.

REFERENCE 1 (bases 1 to 560)

AUTHORS Prachuabmorn,A.

TITLE Biofiltration of Xylene Vapor

JOURNAL Unpublished

REFERENCE 2 (bases 1 to 560)

AUTHORS Prachuabmorn,A.

TITLE Direct Submission

JOURNAL Submitted (04-MAY-2007) Environmental Health Department,Faculty of Public Health, Burapha University, Longhard Bangsaen, Muang, Chonburi 20131, Thailand

COMMENT Bankit Comment: Penicillium glabrum that was selected from biofilter media (coconut husk and manure) of xylene biofiltration.

FEATURES Location/Qualifiers

source 1..560

/organism="*Penicillium glabrum*"

/mol_type="genomic DNA"

/db_xref="taxon:69773"

/note="PCR_primers=fwd_name: ITS_1 (5' TCC GTA GGT GAA CCT GCG G), rev_name: ITS_4 (5' TCC TCC GCT TAT TGA TAT GC)"

BASE COUNT 111 a 164 c 158 g 127 t

ORIGIN

1 tccgtaggtg aacctgcgga aggatcatta ctgagtgagg gccctctggg tccaacctcc

61 cacccgtgtt tattgtacct tgttgcttcg gtgcgcccgc ctcacggccg ccgggggggct

121 tctgcccccg ggtccgcgcg caccggagac actattgaac tctgtctgaa gattgcagtc

181 tgagcataaa ctaaataagt taaaactttc aacaacggat ctcttggttc cggcatcgat

241 gaagaacgca gcgaaatgcg ataactaatg tgaattgcag aattcagtga atcatcgagt

301 ctttgaacgc acattgcgcc ccctggtatt ccgggggggca tgcctgtccg agcgtcattg

361 ctgccctcaa gcacggcttg tgtgttgggc tccgtccccc cggggacggg tccgaaaggc

421 agcggcggca ccgagtccgg tcctcgagcg tatggggctt tgtcacccgc tctgtaggcc

481 cggccggcgc cagccgacaa ccaatcatcc ttttttcagg ttgacctcgg atcaggtagg

541 gatacccgct gaacttaagc//

M4

==========> bankit909433

Preliminary GenBank Entry

Submission 1 of a total of 1 submission(s).

--To be released immediately--

LOCUS bankit909433 585 bp DNA linear PLN 05-MAY-2007

DEFINITION *Aspergillus niger* that was selected from biofilter media (coconut husk and manure) of Xylene biofiltration.

ACCESSION 909433

VERSION

KEYWORDS .

SOURCE *Aspergillus niger*

ORGANISM *Aspergillus niger*

Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes; Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus.

REFERENCE 1 (bases 1 to 585)

AUTHORS Prachuabmorn,A.

TITLE Biofiltration of Xylene Vapor

JOURNAL Unpublished

TITLE Direct Submission

JOURNAL Submitted (05-MAY-2007) Environmental Health Department,Faculty of Public Health, Burapha University, Longhard Bangsaen, Muang,
Chonburi 20131, Thailand

FEATURES Location/Qualifiers

source 1..585
/organism="*Aspergillus niger*"
/mol_type="genomic DNA"
/db_xref="taxon:5061"
/note="PCR_primers=fwd_name: ITS_1 (5' TCC GTA GGT GAA CCT GCG G), rev_name: ITS_4 (5' TCC TCC GCT TAT TGA TAT GC)"

BASE COUNT 107 a 175 c 170 g 133 t

ORIGIN

1 tccgtaggtg aacctgcgga aggatcatta ccgagtgcgg gtcctttggg cccaacctcc
61 catccgtgtc tattgtaccc tgttgcttcg gcgggcccgc cgcttgtcgg ccgccggggg
121 ggcgcctctg ccccccgggc ccgtgcccgc cggagacccc aacacgaaca ctgtctgaaa
181 gcgtgcagtc tgagttgatt gaatgcaatc agttaaaact ttcaacaatg gatctcttgg
241 ttccggcatc gatgaagaac gcagcgaaat gcgataacta atgtgaattg cagaattcag
301 tgaatcatcg agtctttgaa cgcacattgc gccccctggt attccggggg gcatgcctgt
361 ccgagcgtca ttgctgccct caagcccggc ttgtgtgttg ggtcgccgtc cccctctccg
421 gggggacggg cccgaaaggc agcggcggca ccgcgtccga tcctcgagcg tatggggctt
481 tgtcacatgc tctgtaggat tggccggcgc ctgccgacgt tttccaacca ttctttccag
541 gttgacctcg gatcaggtag ggatacccgc tgaacttaag catat //

BIOGRAPHY

Miss Aimorn Prachuabmorn graduated from the Faculty of Associated Medical Science, Khonkaen University in 1991. She worked as a medical technologist in 1991-1993 at Khonkaen University. She studied in master degree on Environmental Science from Kasetsart University in 1998. She started working as a lecturer in Environmental Health Department, Faculty of Public Health, Burapha University, Chonburi Province in 1998. She lectures in environmental health , air pollution control and food safety and consumer protection. She was an assistant dean for planning, assistant dean for administration, head of secretary office and committee member of the Faculty of Public Health. She started her doctoral degree study in Inter-Department of Environmental Management, Chulalongkorn University, Bangkok, Thailand in May 2002. The Graduate School accepted her doctoral thesis in May 2007.