AnalytiKEM *An American NuKEM Company*

AnalytiKEM Inc.
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Cherry Hill, NJ 08003
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January 22, 1988

ERTS/ThermalKEM, Inc.
454 South Anderson Road BTC 532
Rock Hill, SC 29730

EPA Region 5 Records Ctr.
224042

Attention: Randy Planck

Reference: Test Report No. A15308
Project: IJ Recycling #IN-500

This report covers the analysis of two (2) samples submitted to AnalytiKEM on December 29, 1987.

cc: Mr. Kenneth Theisen
USEPA

Mr. Fred Walker
Maecorp, Inc.

Ms. Melody Sullivan
Weston/SPER

NJ Certification No. NJ 04012

NY Certification No. NY 10815

SC Certification No. SC 94004

Signature Michael Shmookler

Name Michael Shmookler, Ph.D.

Title Technical Director

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AnalytiKEM

I. Definition of Terms

Term	Definition
D	Detected; result must be greater than zero.
DI	Deionized Water
J	Compound was detected at levels below the practical quantitation limit. The level reported is approximate.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
NTU	Nephelometric Turbidity Units
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
TON	Threshold Odor Number
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
ppb	Parts-per-billion; may be converted to ppm by dividing by 1,000.
ppm	Parts-per-million; may be converted to ppb by multiplying by 1,000.
ug/l	Micrograms of constituent per liter of sample; equivalent to parts-per-billion.
ug/kg	Micrograms of constituent per kilogram of sample; equivalent to parts-per-billion.
ug/kg dw	Micrograms of constituent per kilogram of sample reported on a dry weight basis.
CCC	Calibration Check Compound; used to verify the precision of a GC/MS calibration curve.
SPCC	System Performance Check Compound; used to verify the correct operation of a GC/MS instrument.
PQL	Practical Quantitation Limit; the minimum level at which compounds can be dependably quantitated.

II. Methodology

Volatiles

Nonaqueous Medium Level

- Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

- Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

Semivolatiles

Nonaqueous

- Method 3550, Sonication Extraction, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

- Method 8270, Gas Chromatography/Mass Spectrometry for Semivolatile Organics: Capillary Column Technique, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

Polychlorinated Biphenyls

Nonaqueous

- Method 3550, Sonication Extraction, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

- Method 8080, Organochlorine Pesticides and PCBs, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Third Edition, USEPA, November 1986.

II. Methodology (Cont'd)

Metals

Nonaqueous

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Third Edition, USEPA, November 1986.

Sample Preparation Methods

- Method 3050: Acid Digestion of Sediments, Sludges, and Soils.

Sample Analysis Methods

- Method 6010: Inductively Coupled Plasma Atomic Emission Spectroscopy.

General Chemistry

Cyanide, total and amenable

- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, Method 9012, November 1986.

Water

- 1980 Annual Book of ASTM Standards, Method D1744-64, 1980.

III. Analytical Results (Cont'd)

General Chemistry

Parameter	Method Blank	A15308-1 C-80	A15308-2 C-81
	Sample Designation		
Cyanide, total, ppm	<0.25	1.8	*
Water, %	<1.0	<1.0	17

* Note: Sample A15308-2 (C-81) did not have to be analyzed because it was found to be 86% volatile organics.

IV. Quality Control Data

Volatile Organics

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A15289-7

Constituent	Method Blank	Amount of Spike	Recovery MS	Recovery MSD	RPD
Chloromethane	<10	0.25	89	94	5
Bromomethane	<10	0.25	122	133	8
Vinyl Chloride	<10	0.25	101	100	1
Chloroethane	<10	0.25	98	107	9
Methylene Chloride	<10	0.25	93	103	10
1,1-Dichloroethene	<10	0.25	91	97	7
1,1-Dichloroethane	<10	0.25	91	103	13
trans-1,2-Dichloroethene	<10	0.25	96	114	17
Chloroform	<10	0.25	95	103	10
1,2-Dichloroethane	<10	0.25	95	109	14
1,1,1-Trichloroethane	<10	0.25	96	88	8
Carbon Tetrachloride	<10	0.25	90	92	2
Bromodichloromethane	<10	0.25	90	95	5
1,2-Dichloropropane	<10	0.25	95	96	1
trans-1,3-Dichloropropene	<10	0.25	94	94	0
Trichloroethene (TCE)	<10	0.25	84	91	8
Dibromochloromethane	<10	0.25	85	90	5
1,1,2-Trichloroethane	<10	0.25	86	93	8
Benzene	<10	0.25	90	96	6
cis-1,3-Dichloropropene	<10	0.25	88	92	4
2-Chloroethyl Vinyl Ether	<10	0.25	95	97	2
Bromoform	<10	0.25	85	91	7
Tetrachloroethene	<10	0.25	93	105	13
1,1,2,2-Tetrachloroethane	<10	0.25	87	99	13
Toluene	<10	0.25	95	94	0
Chlorobenzene	<10	0.25	93	97	4
Ethylbenzene	<10	0.25	96	98	2
o-Xylene	<10	0.25	103	95	8
Units	(ppm)	(ug)	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Volatile Organics

Surrogate Recovery Data

Sample Designation	1,2-Dichloroethane-d_4 (0.25 ug Added)	Surrogate Recovery Toluene-d_8 (0.25 ug Added)	4-Bromofluorobenzene (0.25 ug Added)
Method Blank 1	90	101	100
Method Blank 2	109	115	110
A15289-7 Spike	94	102	110
A15289-7 Spike Dup.	110	107	95
A15308-1	97	153	128
A15308-2	97	104	115
Units	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Semivolatile Organics

Nonaqueous Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A15247-14

Constituent	Method Blank	Amount of Spike	Recovery MS	MSD	RPD
1,4-Dichlorobenzene	<10	100	55	64	15
N-Nitrosodipropylamine	<10	100	54	61	12
1,2,4-Trichlorobenzene	<10	100	69	78	12
Acenaphthene	<10	100	79	79	0
2,4-Dinitrotoluene	<10	100	79	75	5
Pyrene	<10	100	105	107	2
Phenol	<10	200	64	62	3
2-Chlorophenol	<10	200	61	60	2
4-Chloro-3-methylphenol	<10	200	84	63	29
4-Nitrophenol	<10	200	46	44	4
Pentachlorophenol	<10	200	18	28	43
Units	(ppm)	(ug)	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Semivolatile Organics

Surrogate Recovery Data

Sample Designation	2-Fluorophenol (100 ug Added)	Phenol-d_5 (100 ug Added)	2,4,6-Tribromophenol (100 ug Added)
		Surrogate Recovery	
Method Blank	101	110	68
A15247-4 Spike	64	73	46
A15247-4 Spike Dup.	59	74	32
A15308-1	144	119	287
Units	(%)	(%)	(%)

Sample Designation	Nitrobenzene-d_5 (50 ug Added)	2-Fluorobiphenyl (50 ug Added)	Terphenyl-d_{14} (50 ug Added)
		Surrogate Recovery	
Method Blank	76	98	101
A15247-4 Spike	56	76	91
A15247-4 Spike Dup.	67	84	96
A15308-1	119	121	235
Units	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Polychlorinated Biphenyls

Matrix Spike/Matrix Spike Duplicate Recovery Data

PCB Sample Spiked A15263-1

Constituent	Method Blank	Amount of Spike	Recovery MS	Recovery MSD	RPD	Control Limits
Aroclor 1260	<2.0	8.0	147	149	1	
Units	(ppm)	(ug)	(%)	(%)	(%)	

IV. Quality Control Data (Cont'd)

Polychlorinated Biphenyls

Surrogate Recovery Data and Retention Time Shift

Sample Designation	Dibutylchlorendate (2.0 ug Added) Recovery	Retention Time Shift
Method Blank	70	0.9
A15263-1 Spike (PCB)	*	--
A15263-1 Spike Dup. (PCB)	*	--
A15308-1	132	0.1
A15308-2	64	2.4
Units	(%)	(%)

*Not recovered due to dilution.

IV. Quality Control Data (Cont'd)

Metals

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked DI Water

Constituent	Method Blank	Amount of Spike	Recovery MS
Barium	<10	500	123
Calcium	<10	1,000	98
Chromium	<10	500	112
Copper	<10	500	123
Iron	<10	500	117
Lead	<10	500	115
Magnesium	<10	1,000	88
Nickel	<10	500	114
Sodium	<10	1,000	93
Zinc	<10	500	117
Units	(ppm)	(ug)	(%)

IV. Quality Control Data (Cont'd)

General Chemistry

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A15330-1

Constituent	Method Blank	Amount of Spike	Recovery MS	Recovery MSD	RPD
Cyanide	<0.25	30	94	96	2
Water, % †	<1.0	1.0*	85	95	11
Units	(ppm)	(ug)	(%)	(%)	(%)

*(g)

† Spike was performed on sample A15290-2.

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: IN500
PROJECT NAME: IJ RECYCLING
SAMPLERS: *(Signature)*

Airbill # 3722216191
Custody Seal # 05777

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS 1 QT	INCINERATION PARAMETERS						REMARKS
C-80			X			1	X						
C-81			X			1	X						

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	**Date / Time**	**Received by: *(Signature)***	**Relinquished by: *(Signature)***	**Date / Time**	**Received by: *(Signature)***
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by: *(Signature)***	**Date / Time**	**Remarks**	
Billy E. Hiles	12/28/87 0815	Bernadette Fri	12/29/87 1030 AM	ANALYTREM 28 SPRINGDALE RD BLDG 21 CHERRY HILL NJ 08003 609 751-1122	ATTN B FINI

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files, Yellow — Laboratory File

5- 15609
5- 15609

LIBRARY SEARCH
01/12/88 5:43:00 + 6:38
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

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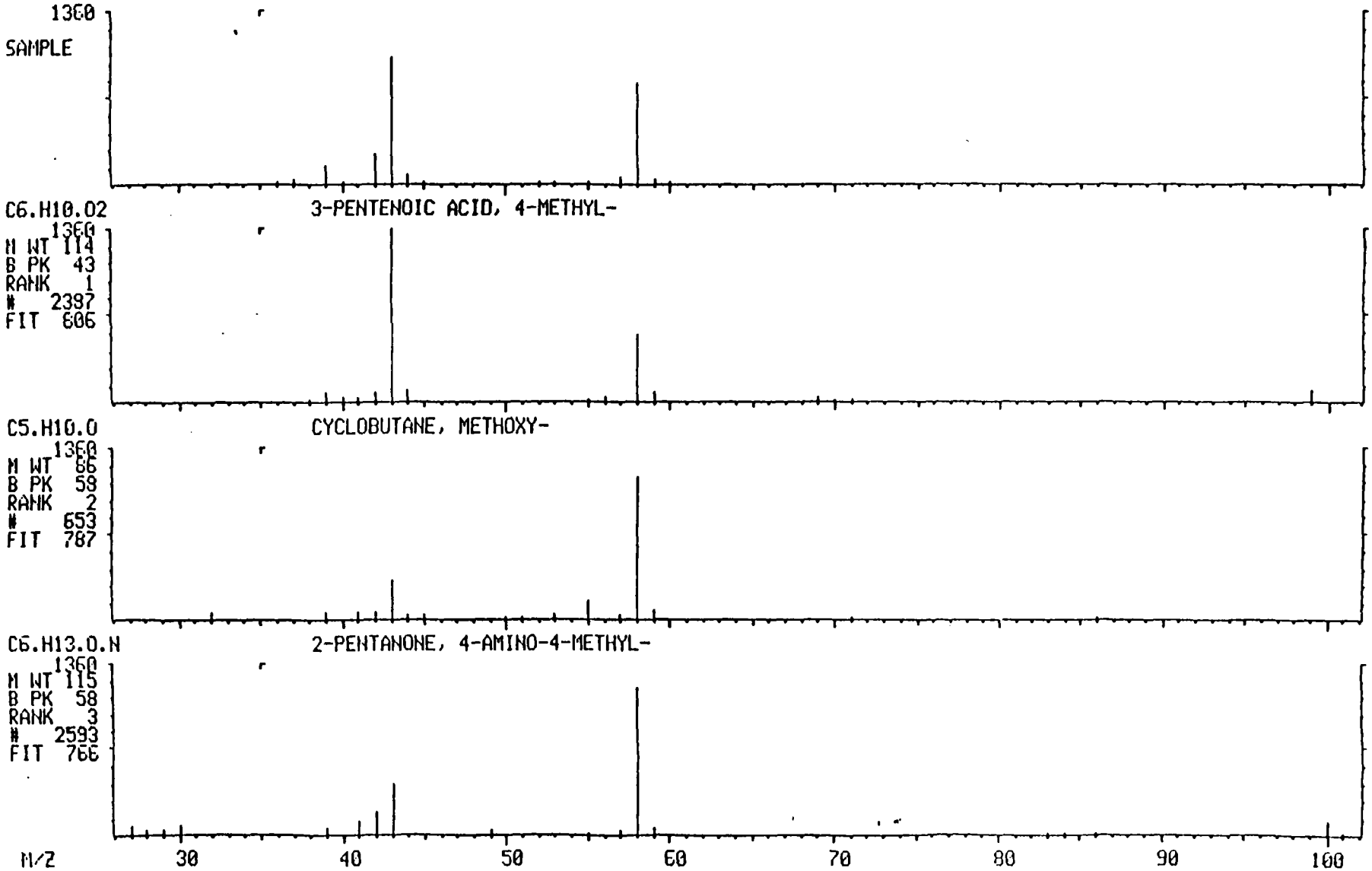
CALI: 15308V1 # 2

BASE M/Z: 43
RIC: 928767.



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01/12/88 5:43:00 + 6:38 Cali: 15308V1 # 2 RIC: 928767.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	2387	3-PENTENOIC ACID, 4-METHYL-
2	653	CYCLOBUTANE, METHOXY-
3	2593	2-PENTANONE, 4-AMINO-4-METHYL-
4	1407	2-PROPANONE, 1-(DIMETHYLAMINO)-
5	100	METHANAMINE, N,N-DIMETHYL-

Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C6.H10.O2	114	43	764	806	898
2	C5.H10.O	86	58	766	787	807
3	C6.H13.O.N	115	58	719	766	863
4	C5.H11.O.N	101	58	664	724	743
5	C3.H9.N	59	58	667	685	693

Rank	Ret. Time	B.P. Int.	US.Par. 1	US.Par. 2	C.A.S. #
1	—	—	—	—	504-85-8
2	—	—	—	—	18593-33-4
3	—	—	—	—	625-04-7
4	—	—	—	—	15364-56-4
5	—	—	—	—	75-50-3

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C3.H6.O
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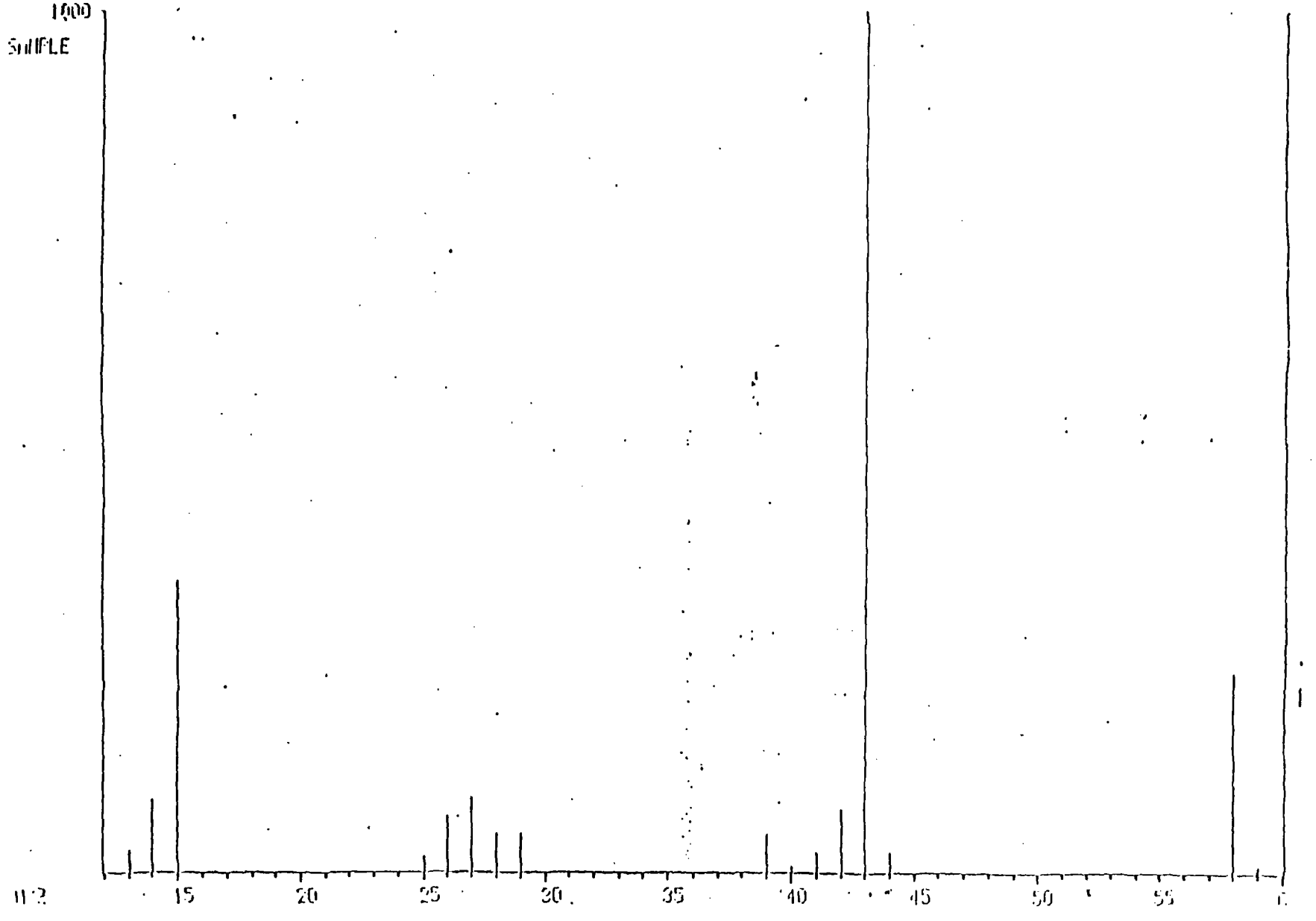
DATA: LIBRARYHB: 99 BASE M/Z: 43
M.WT.: 58



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01/12/88 5:43:00 + 9:22
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

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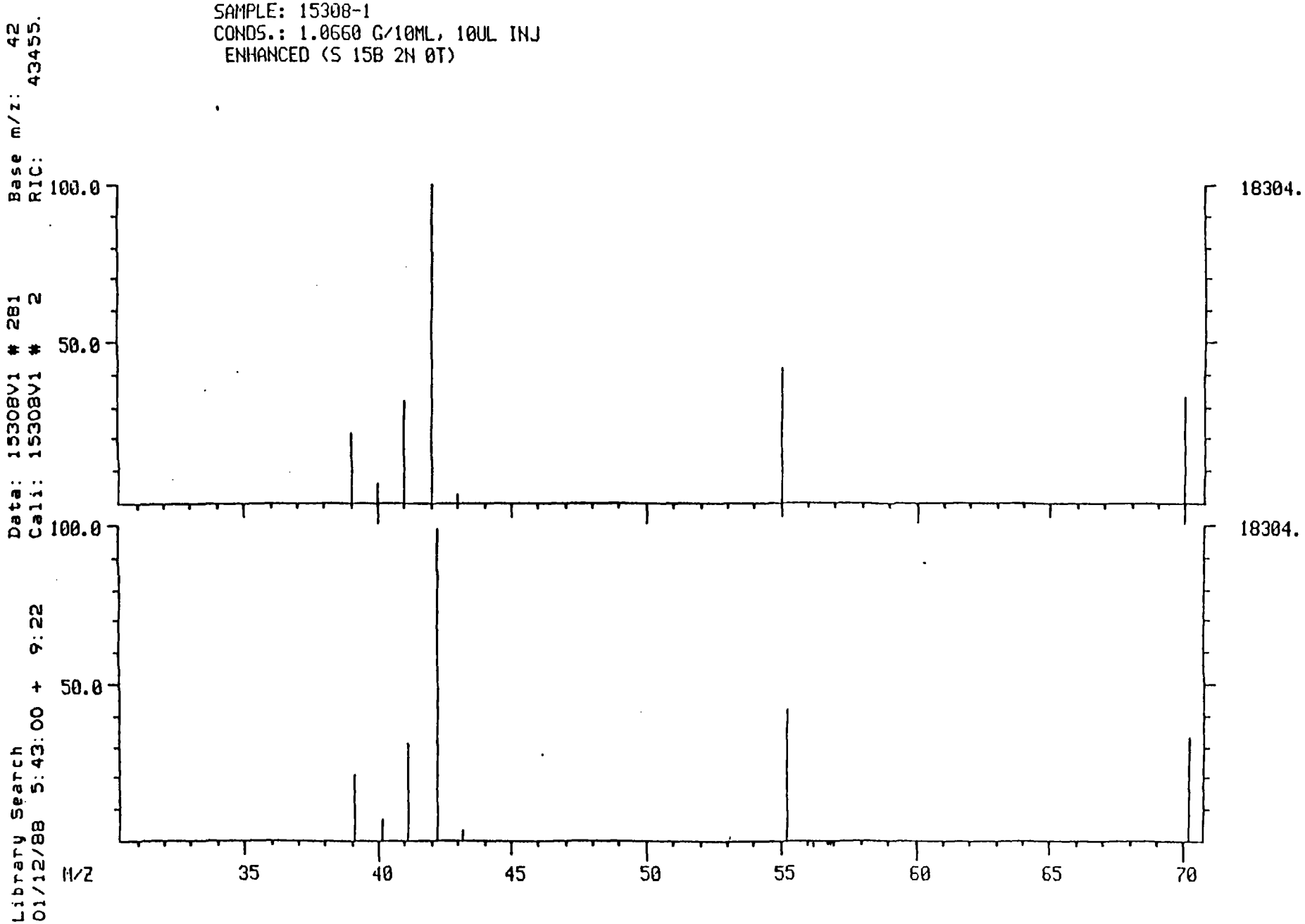
CALI: 15308V1 #2

BASE M/Z: 42/ 42
RIC: 43455./ 43199.



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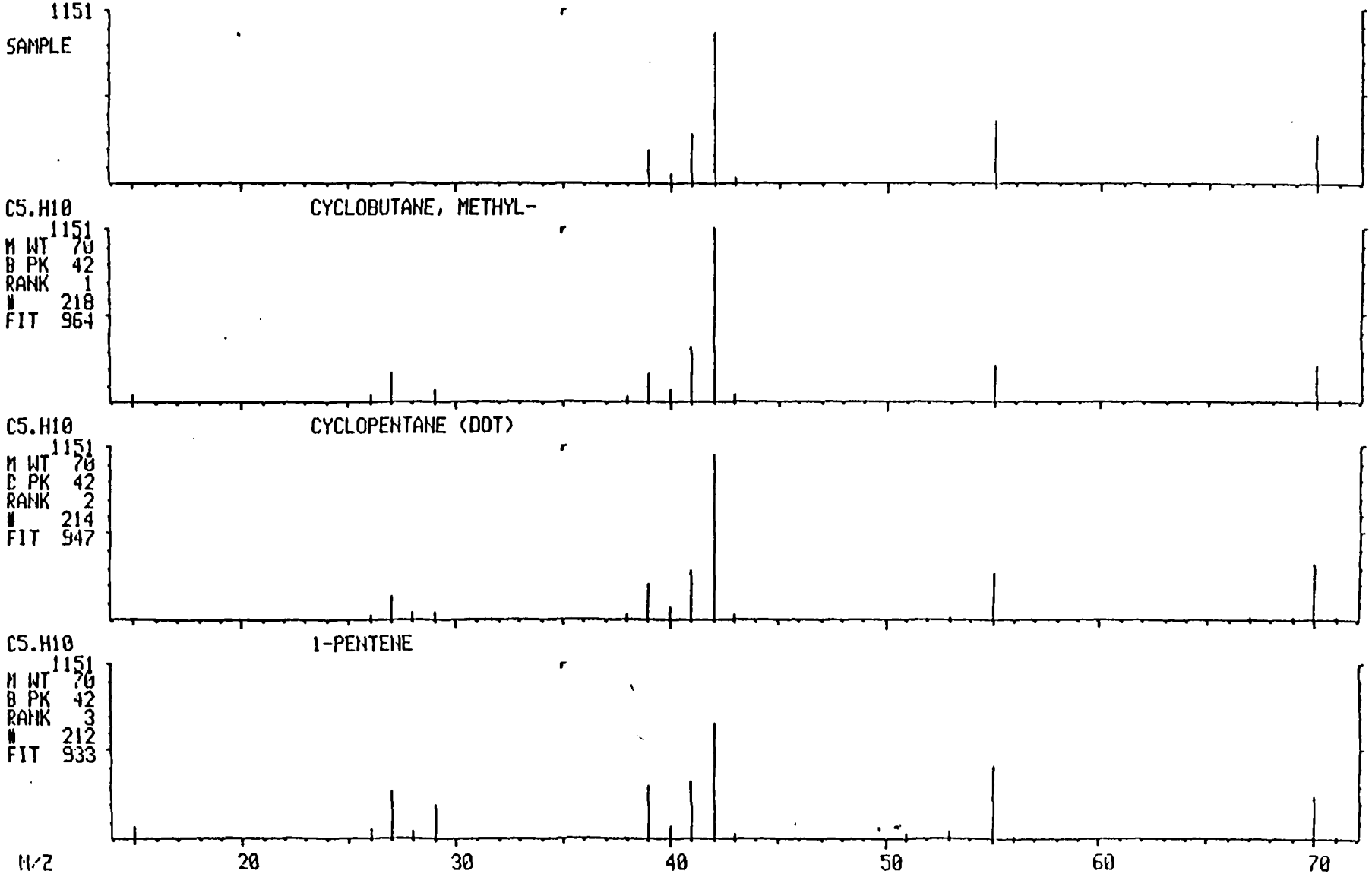
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 281
CALI: 15308V1 # 2

BASE M/Z: 42
RIC: 43455.



Library Search Data: 15308V1 # 281 Base m/z: 42
01/12/88 5:43:00 + 9:22 Cali: 15308V1 # 2 RIC: 43455.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	218	CYCLOBUTANE, METHYL-
2	214	CYCLOPENTANE (DOT)
3	212	1-PENTENE
4	222	CYCLOPROPANE, ETHYL-
5	207	CYCLOBUTANONE

Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C5.H10	70	42	964	964	982
2	C5.H10	70	42	947	947	994
3	C5.H10	70	42	933	933	985
4	C5.H10	70	42	919	919	991
5	C4.H6.O	70	42	731	918	773

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	598-61-8
2	—	—	—	—	287-92-3
3	—	—	—	—	109-67-1
4	—	—	—	—	1191-96-4
5	—	—	—	—	1191-95-3

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 11:26
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

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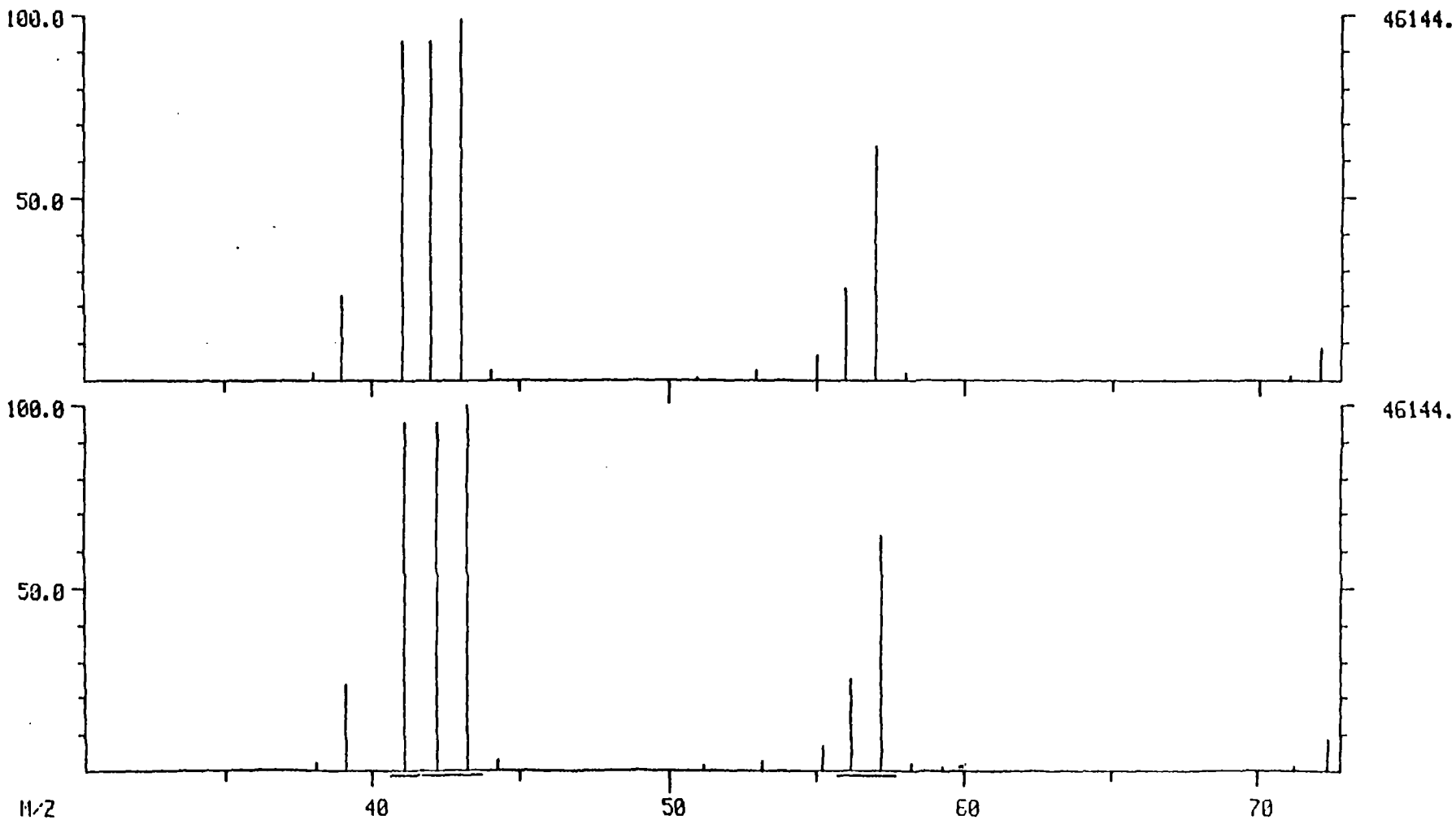
CALI: 15308V1 #2

BASE M/Z: 43/ 43
RIC: 195583./ 198911.



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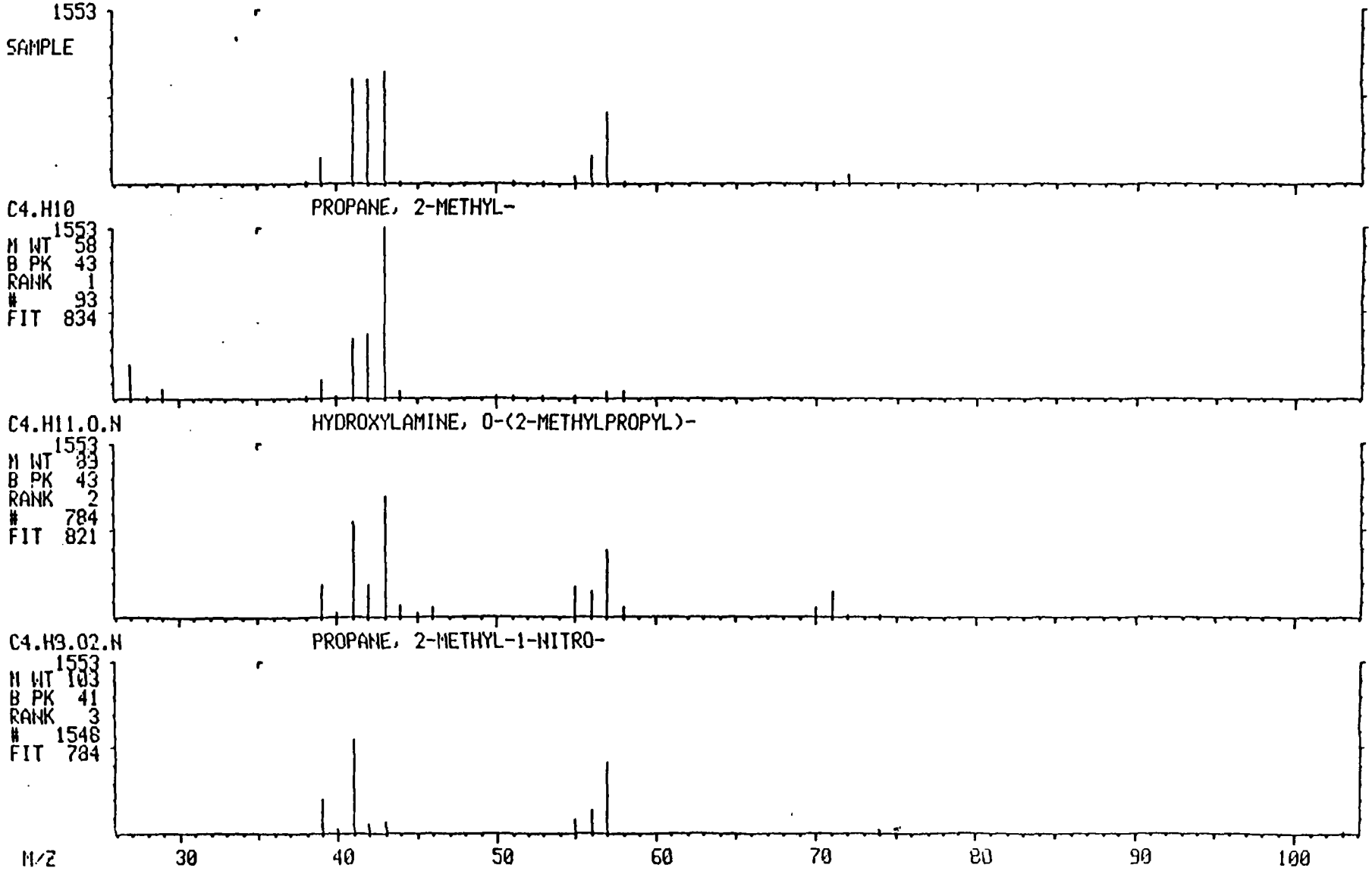
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 343
CALI: 15308V1 # 2

BASE M/Z: 43
RIC: 195583.



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Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	93	PROPANE, 2-METHYL-
2	784	HYDROXYLAMINE, O-(2-METHYLPROPYL)-
3	1548	PROPANE, 2-METHYL-1-NITRO-
4	4038	HEXANAL, 2-ETHYL-
5	12828	HEPTANE, 2-BROMO-

Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C4.H10	58	43	743	834	752
2	C4.H11.O.N	89	43	810	821	870
3	C4.H9.O2.N	103	41	734	784	756
4	C8.H16.O	128	57	749	759	786
5	C7.H15.BR	178	57	696	733	799

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	75-28-5
2	—	—	—	—	5618-62-2
3	—	—	—	—	625-74-1
4	—	—	—	—	123-05-7
5	—	—	—	—	1974-04-5

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 11:56
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

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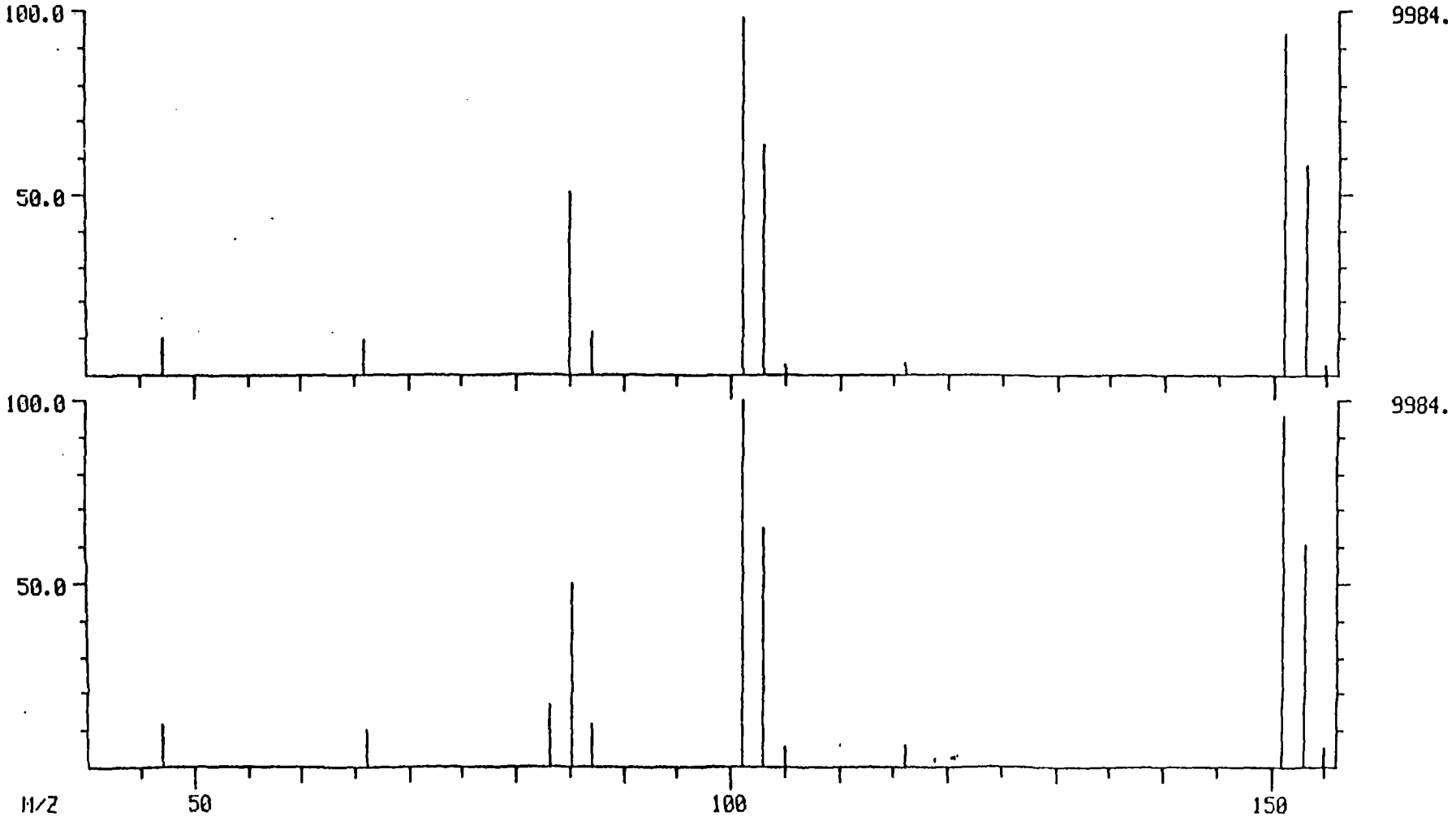
BASE M/Z: 101/ 101
RIC: 40255./ 43775.



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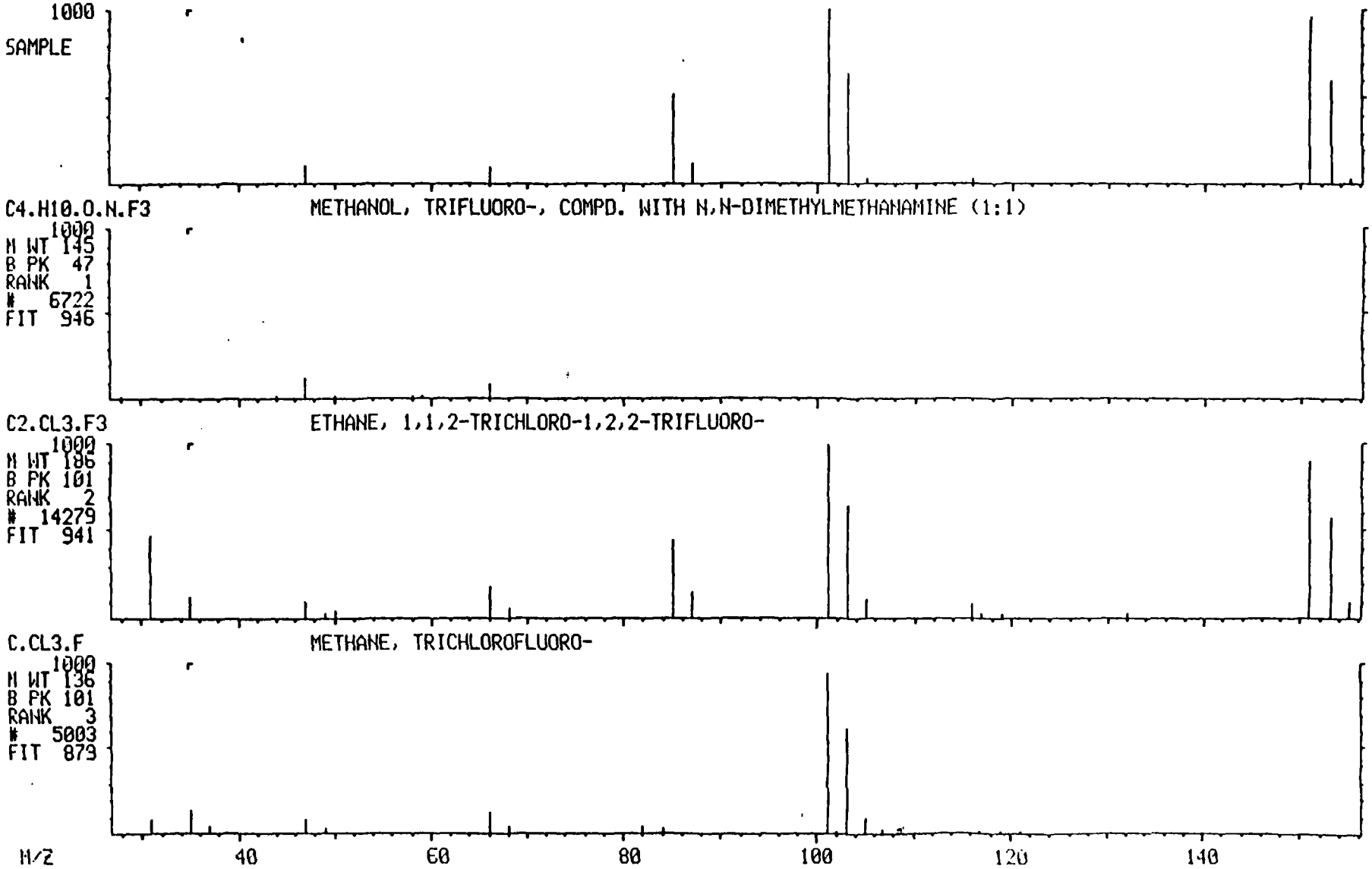
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 358
CALI: 15308V1 # 2

BASE M/Z: 101
RIC: 40255.



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01/12/88 5:43:00 + 11:56 Cali: 15308V1 # 2 RIC: 40255.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	6722	METHANOL, TRIFLUORO-, COMPD. WITH N,N-DIMETHYLMETHANAMINE (1:1)
2	14279	ETHANE, 1,1,2-TRICHLORO-1,2,2-TRIFLUORO-
3	5003	METHANE, TRICHLOROFLUORO-
4	1661	SILANE, TETRAFLUORO-
5	42200	FREON

Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C4.H10.O.N.F3	145	47	23	946	24
2	C2.CL3.F3	186	101	941	941	984
3	C.CL3.F	136	101	333	879	373
4	.F4.SI	104	85	111	778	118
5		0	85	342	696	370

Rank	Ret. Time	B.P. Int.	US. Par. 1	US. Par. 2	C.A.S. #
1	—	—	—	—	69879-45-4
2	—	—	—	—	76-13-1
3	—	—	—	—	75-69-4
4	—	—	—	—	7783-61-1
5	—	—	—	—	11126-05-9

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 12:18
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

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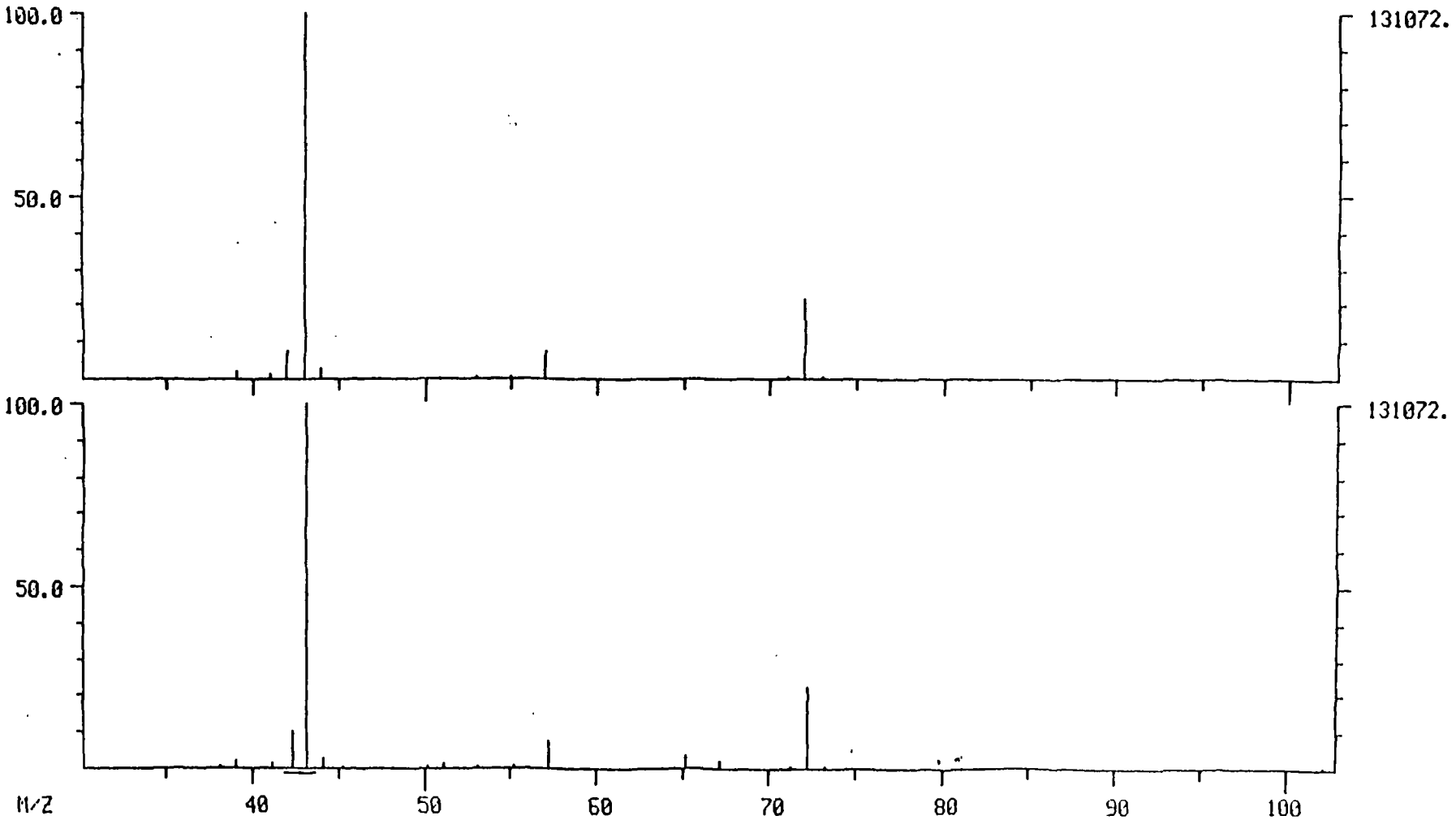
CALI: 15308V1 #2

BASE M/Z: 43/ 43
RIC: 189951./ 205823.



LIBRARY SEARCH
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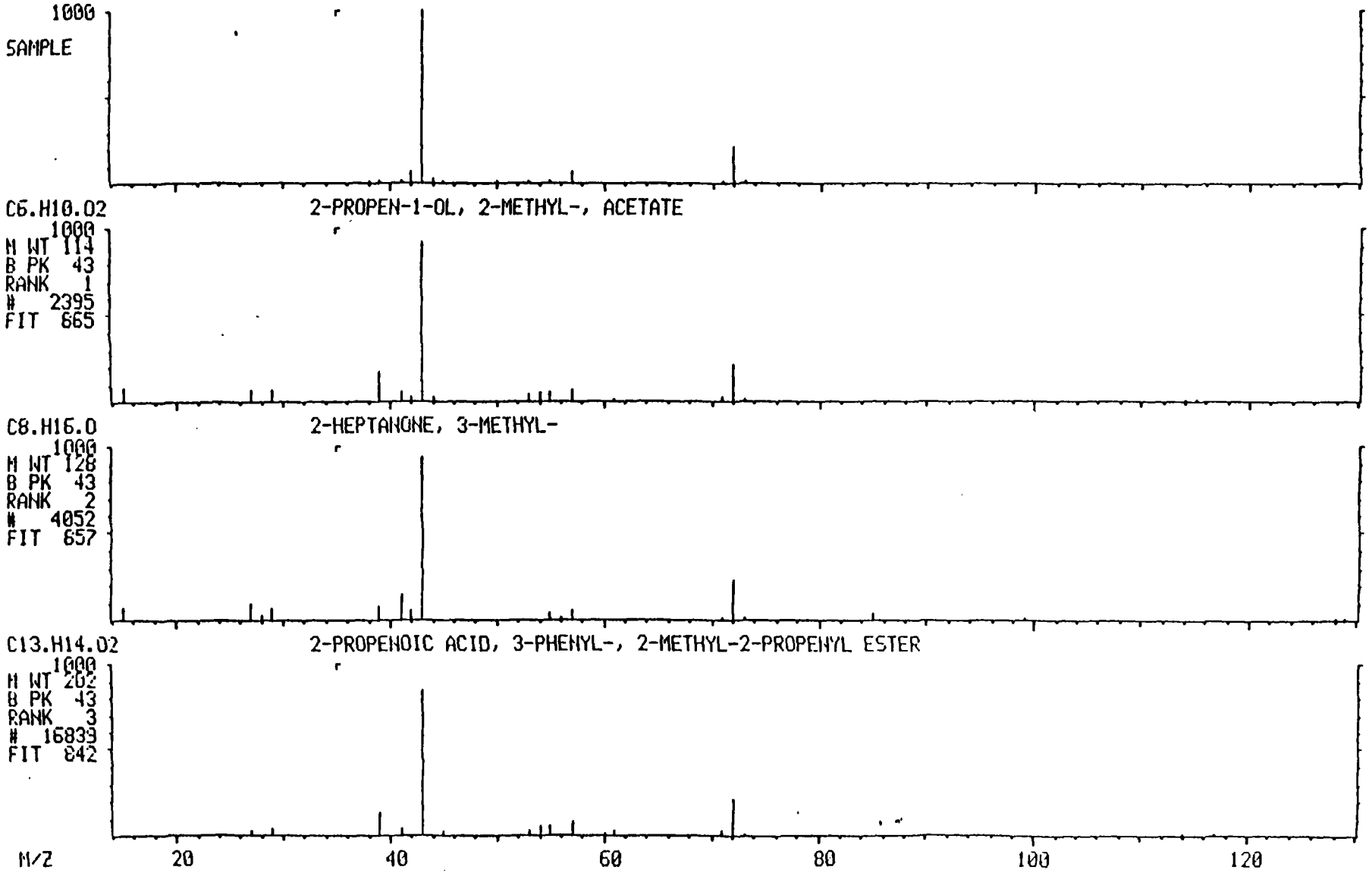
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 369
CALI: 15308V1 # 2

BASE M/Z: 43
RIC: 189951.



Library Search Data: 15308V1 # 369 Base m/z: 43
01/12/88 5:43:00 + 12:18 Cali: 15308V1 # 2 RIC: 189951.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	2395	2-PROPEN-1-OL, 2-METHYL-, ACETATE
2	4052	2-HEPTANONE, 3-METHYL-
3	16839	2-PROPENOIC ACID, 3-PHENYL-, 2-METHYL-2-PROPENYL ESTER
4	1296	BUTANAL, 2-ETHYL-
5	93	PROPANE, 2-METHYL-

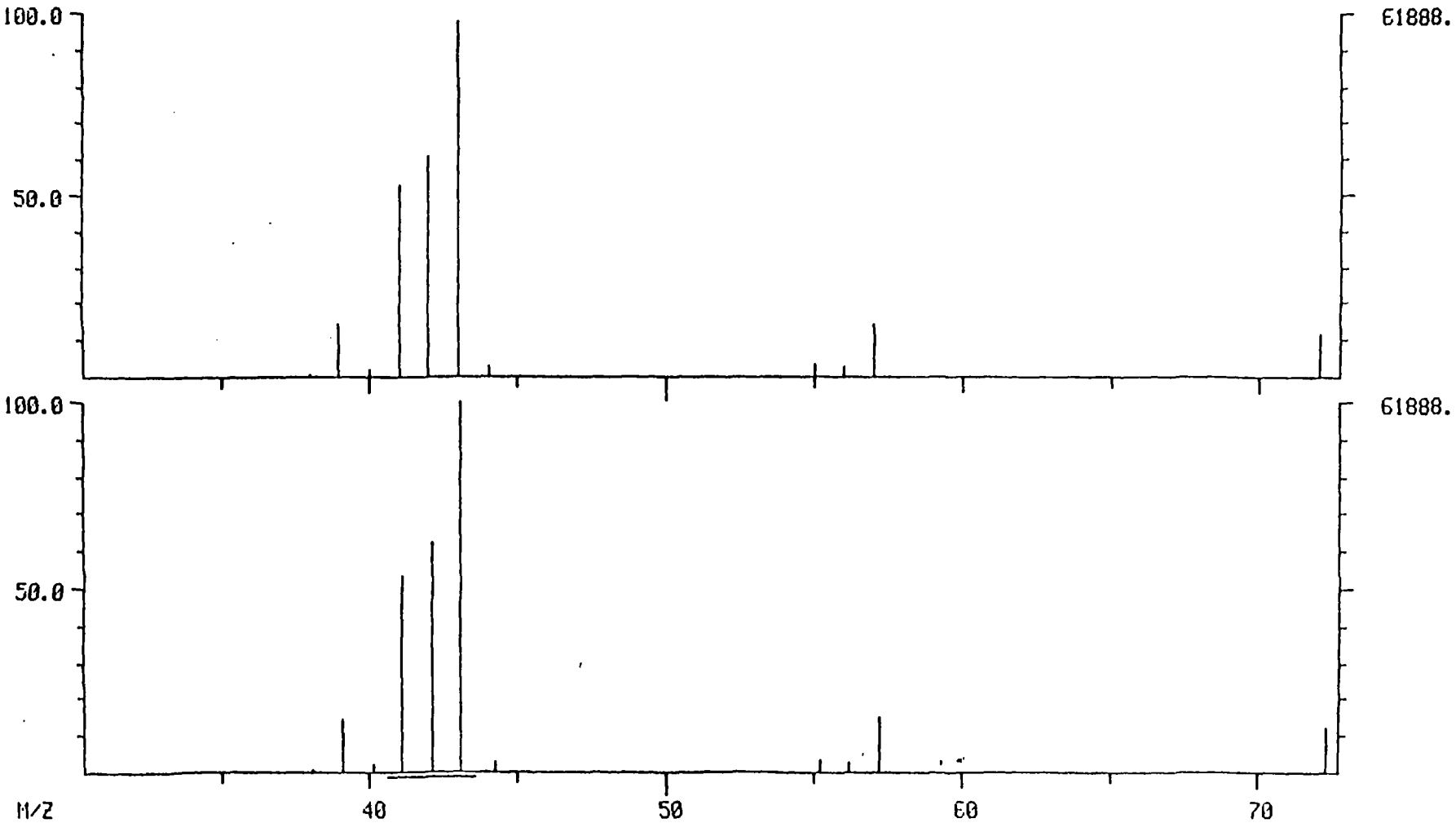
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C6.H10.O2	114	43	861	865	912
2	C8.H16.O	128	43	833	857	906
3	C13.H14.O2	202	43	790	842	860
4	C6.H12.O	100	43	791	795	831
5	C4.H10	58	43	595	780	620

Rank	Ret. Time	B.P. Int.	US. Par. 1	US. Par. 2	C.A.S. #
1	—	—	—	—	820-71-3
2	—	—	—	—	2371-19-9
3	—	—	—	—	54889-46-2
4	—	—	—	—	97-96-1
5	—	—	—	—	75-28-5

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 13:06
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #393
CALI: 15308V1 #2

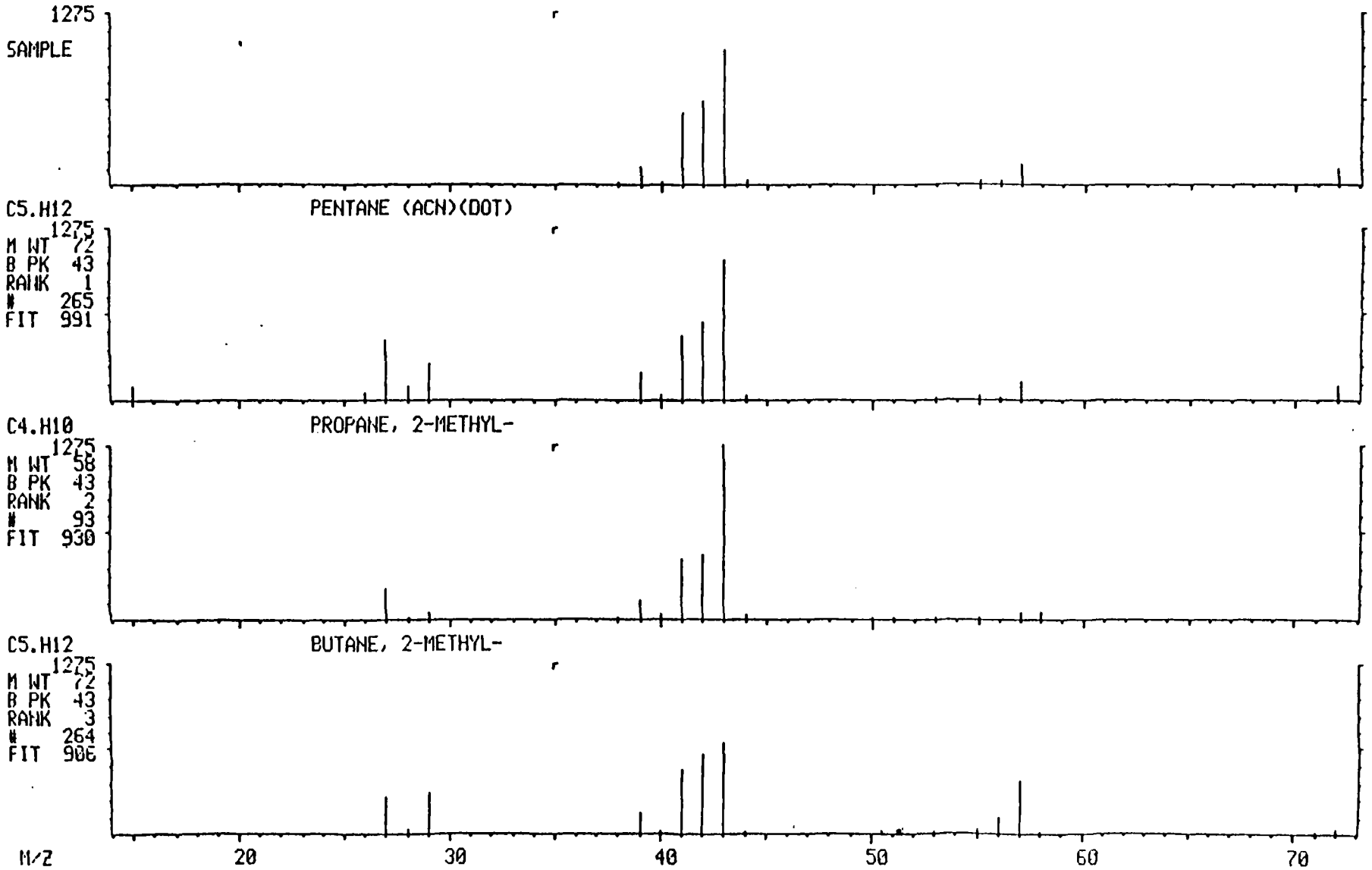
BASE M/Z: 43/ 43
RIC: 162303./ 166143.



LIBRARY SEARCH
01/12/88 5:43:00 + 13:06
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 393
CALI: 15308V1 # 2

BASE M/Z: 43
RIC: 162303.



Library Search Data: 15308V1 # 393 Base m/z: 43
01/12/88 5:43:00 + 13:06 Cali: 15308V1 # 2 RIC: 162303.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	265	PENTANE (ACN)(DOT)
2	93	PROPANE, 2-METHYL-
3	264	BUTANE, 2-METHYL-
4	253	OXIRANE, 2,2-DIMETHYL-
5	2651	1-PROPANAMINE, N,2-DIMETHYL-N-NITROSO-

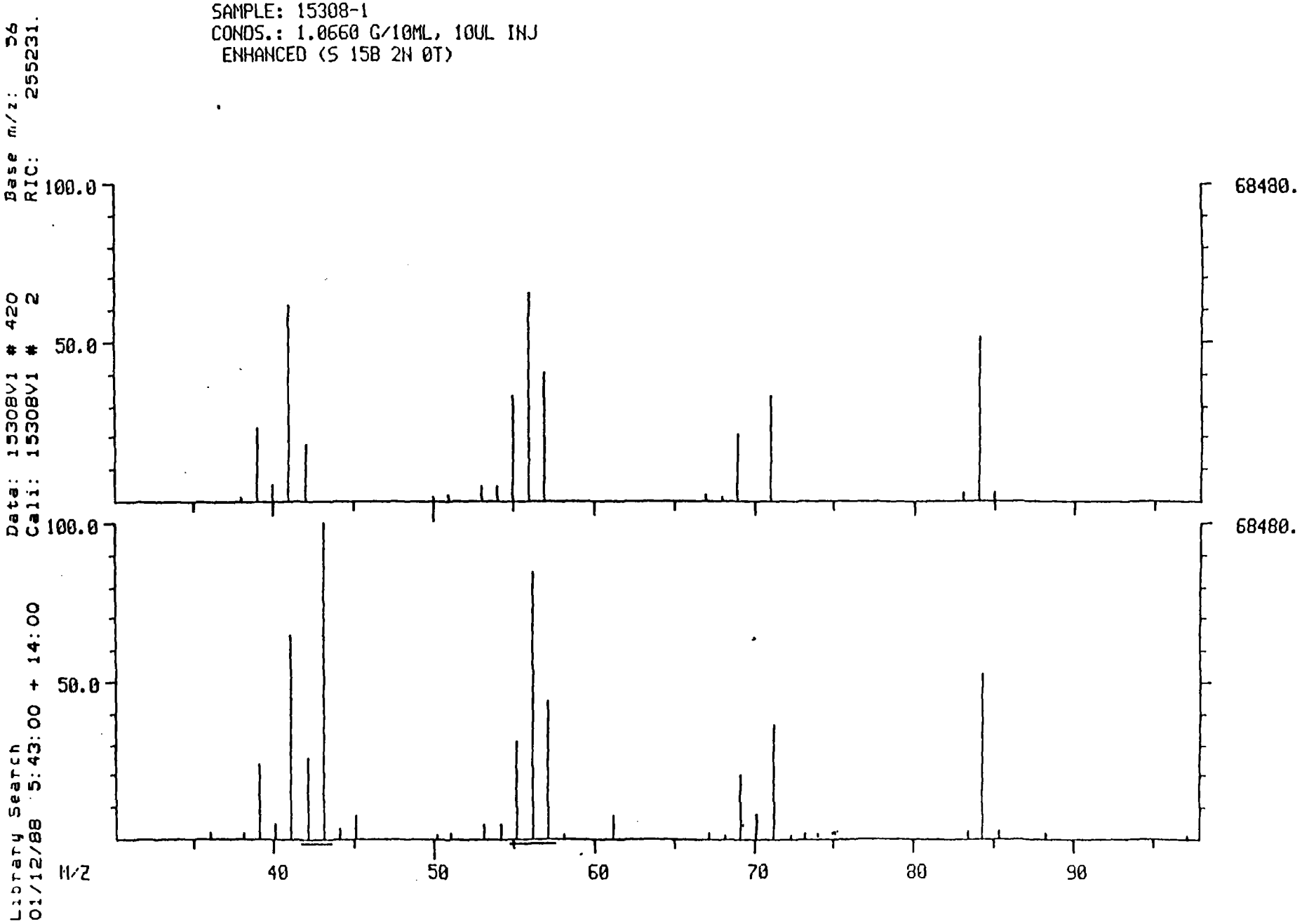
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C5.H12	72	43	988	991	994
2	C4.H10	58	43	852	930	884
3	C5.H12	72	43	903	906	922
4	C4.H8.O	72	41	889	903	895
5	C5.H12.O.N2	116	42	753	812	813

Rank	Ret. Time	B.P. Int.	US. Par. 1	US. Par. 2	C.A.S. #
1	—	—	—	—	109-66-0
2	—	—	—	—	75-28-5
3	—	—	—	—	78-78-4
4	—	—	—	—	558-30-5
5	—	—	—	—	34419-76-6

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 14:00
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #420
CALI: 15308V1 #2

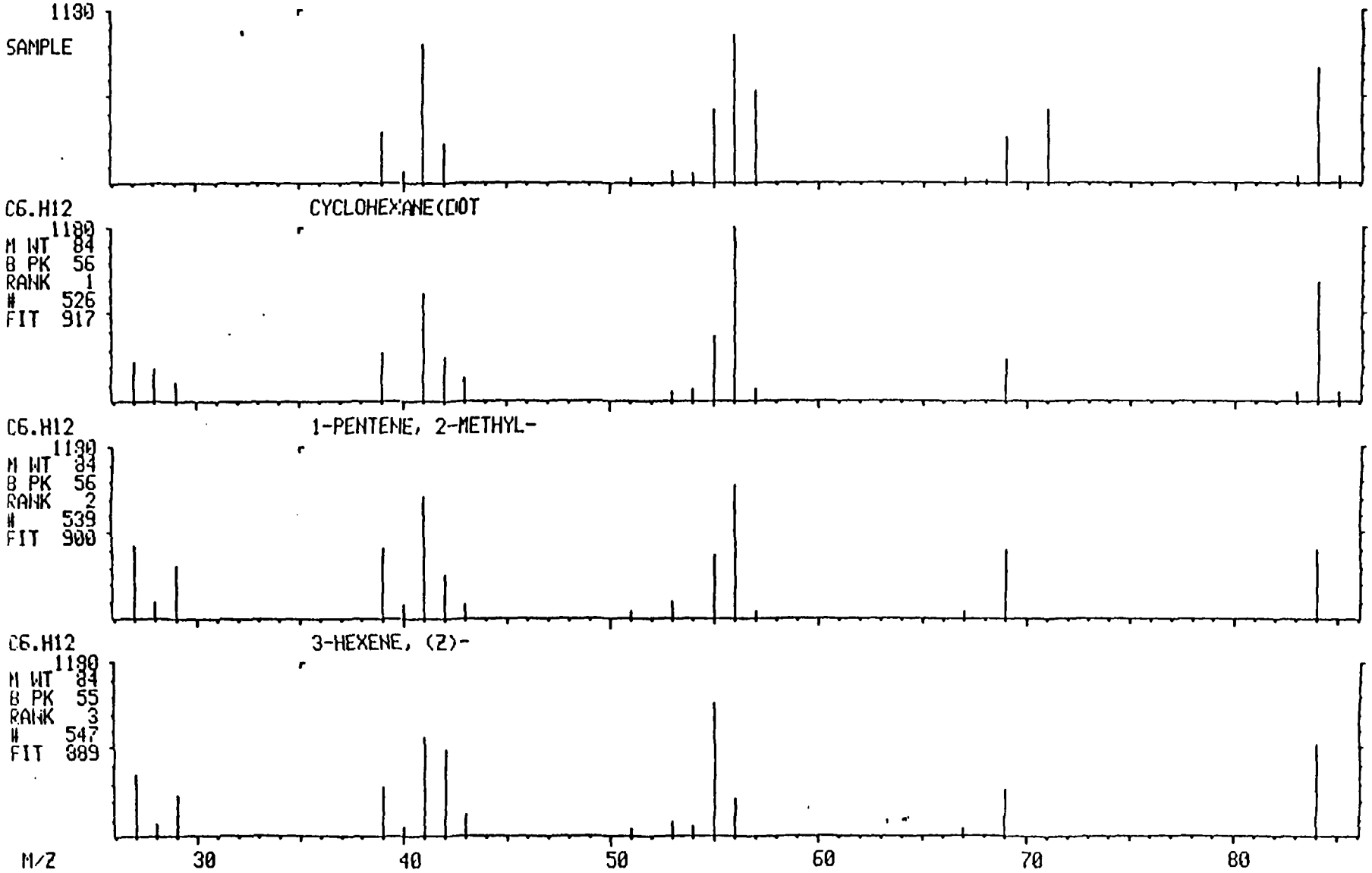
BASE M/Z: 56/ 43
RIC: 256767./ 375807.



LIBRARY SEARCH
01/12/88 5:43:00 + 14:00
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 420
CALI: 15308V1 # 2

BASE M/Z: 56
RIC: 255231.



Library Search Data: 15308V1 # 420 Base m/z: 56
01/12/88 5:43:00 + 14:00 Cali: 15308V1 # 2 RIC: 255231.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	526	CYCLOHEXANE(DOT
2	539	1-PENTENE, 2-METHYL-
3	547	3-HEXENE, (Z)-
4	549	3-HEXENE, (E)-
5	548	2-HEXENE, (Z)-

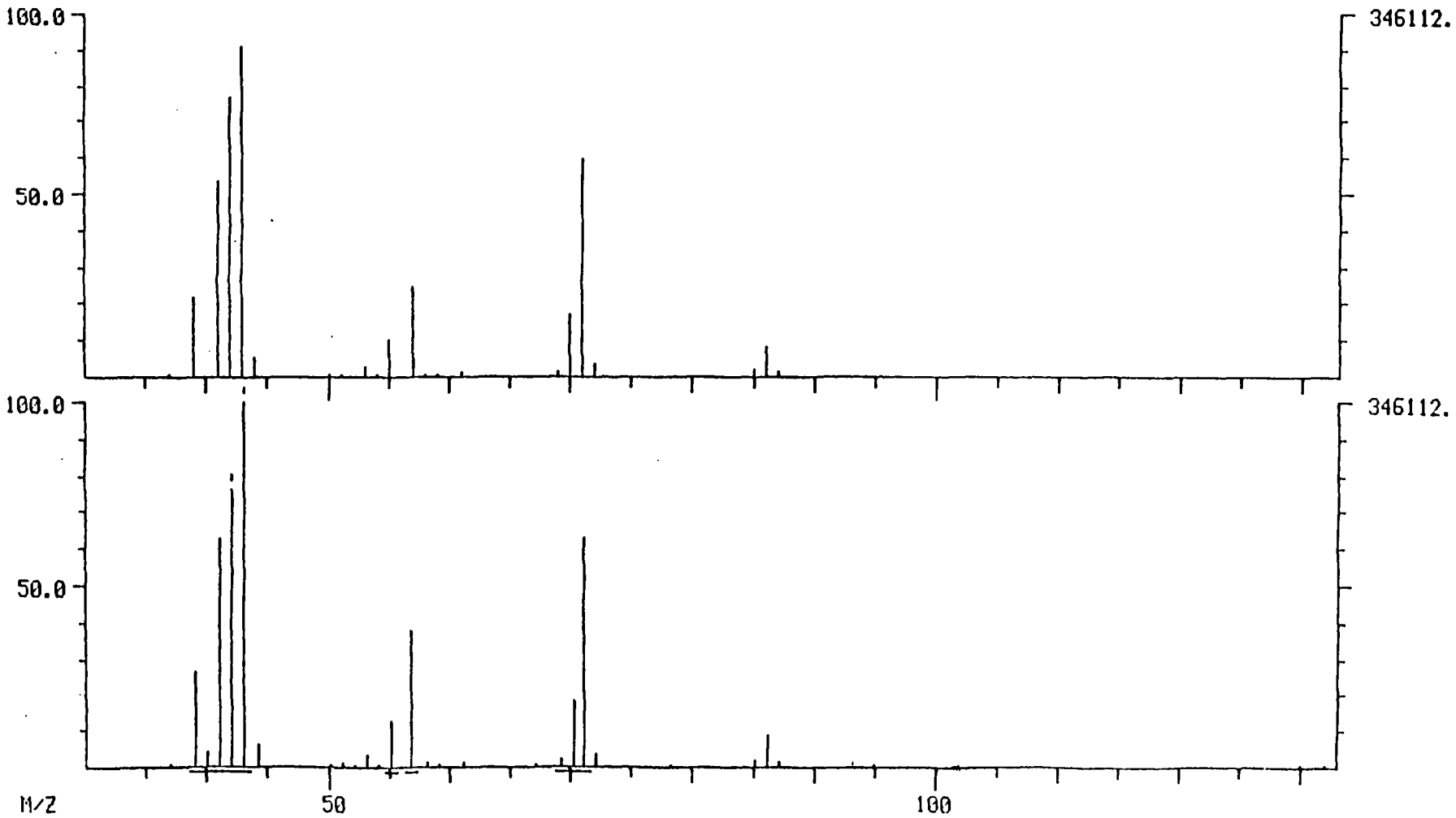
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C6.H12	84	56	793	917	815
2	C6.H12	84	56	767	900	780
3	C6.H12	84	55	672	889	690
4	C6.H12	84	55	682	889	701
5	C6.H12	84	55	658	878	675

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	110-82-7
2	—	—	—	—	763-29-1
3	—	—	—	—	7642-09-3
4	—	—	—	—	13269-52-8
5	—	—	—	—	7688-21-3

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 16:58
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #509
CALI: 15308V1 #2

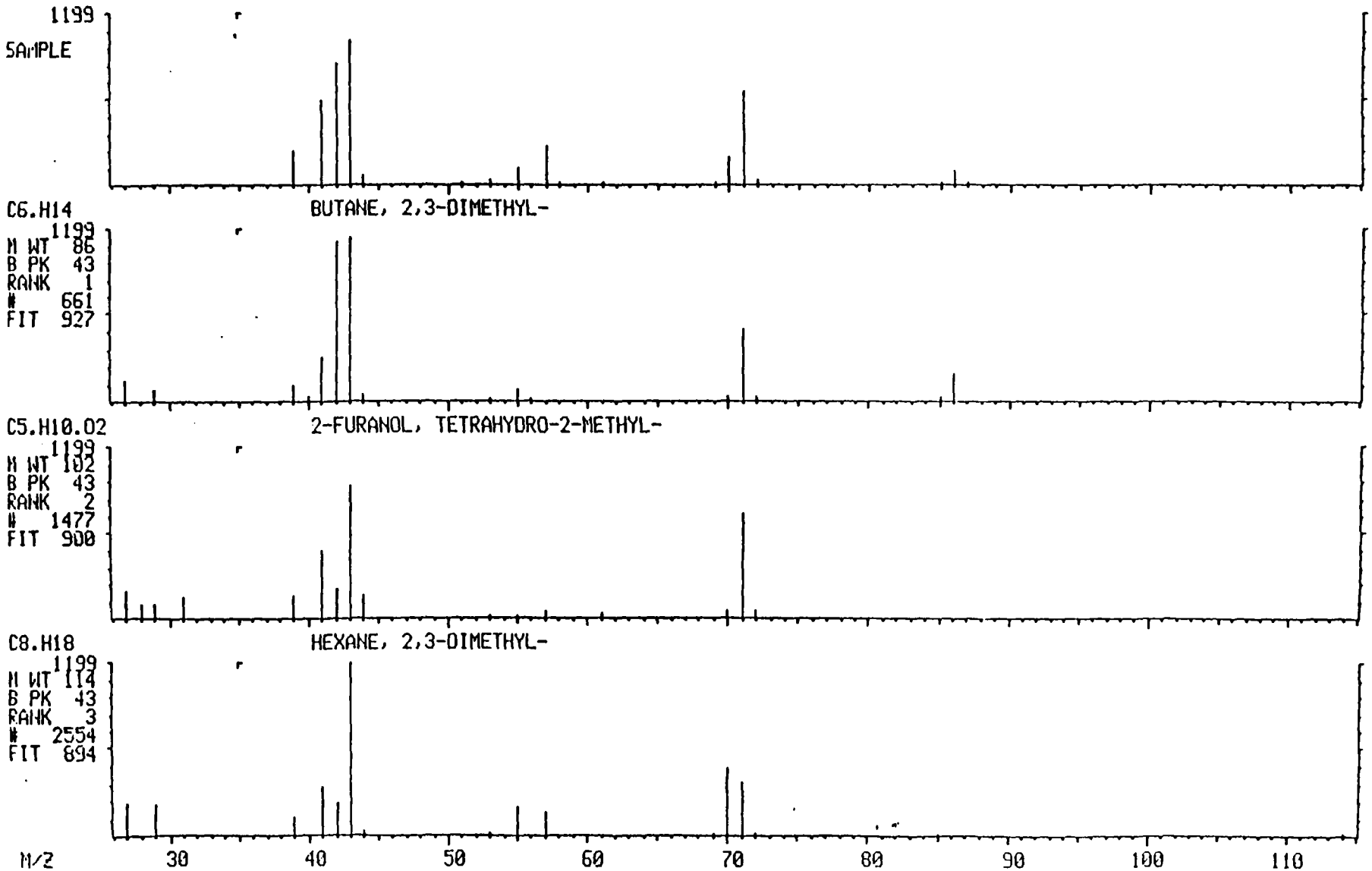
BASE M/Z: 43/ 43
RIC: 1323000./ 1519610.



LIBRARY SEARCH
01/12/88 5:43:00 + 16:58
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 509
CALI: 15308V1 # 2

BASE M/Z: 43
RIC: 1314810.



Library Search Data: 15308V1 # 509 Base m/z: 43
01/12/88 5:43:00 + 16:58 Cali: 15308V1 # 2 RIC: 1314810.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	661	BUTANE, 2,3-DIMETHYL-
2	1477	2-FURANOL, TETRAHYDRO-2-METHYL-
3	2554	HEXANE, 2,3-DIMETHYL-
4	6337	2-HEPTEN-3-OL, 4,5-DIMETHYL-
5	6102	HEPTANE, 3,3,4-TRIMETHYL-

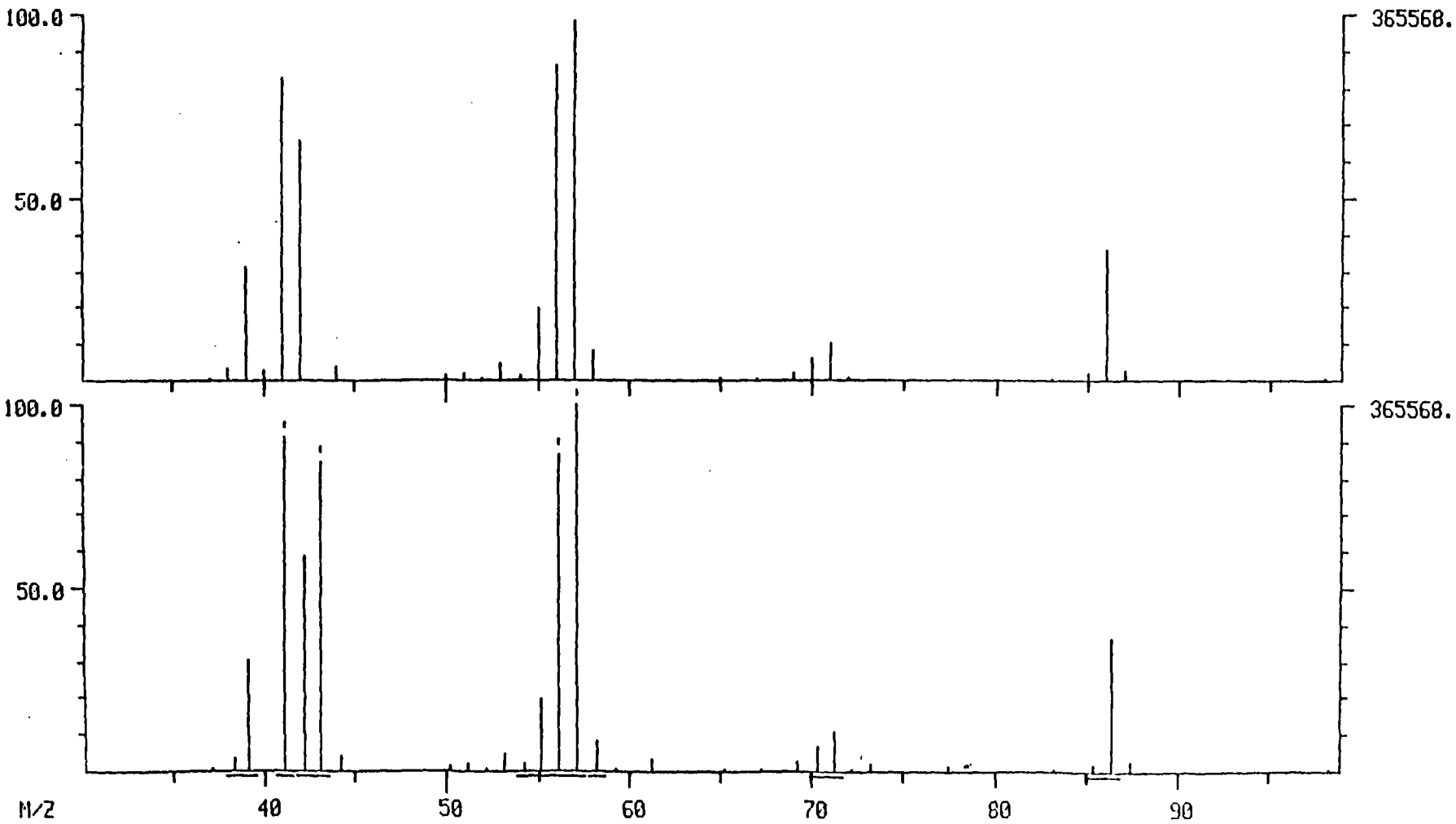
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C6.H14	86	43	844	927	854
2	C5.H10.O2	102	43	847	900	847
3	C8.H18	114	43	849	894	859
4	C9.H18.O	142	43	672	881	716
5	C10.H22	142	43	795	853	814

Rank	Ret. Time	B.P. Int.	US. Par. 1	US. Par. 2	C.A.S. #
1	—	—	—	—	79-29-8
2	—	—	—	—	7326-46-7
3	—	—	—	—	584-94-1
4	—	—	—	—	55956-37-1
5	—	—	—	—	20278-87-9

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 18:36
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #558
CALI: 15308V1 #2

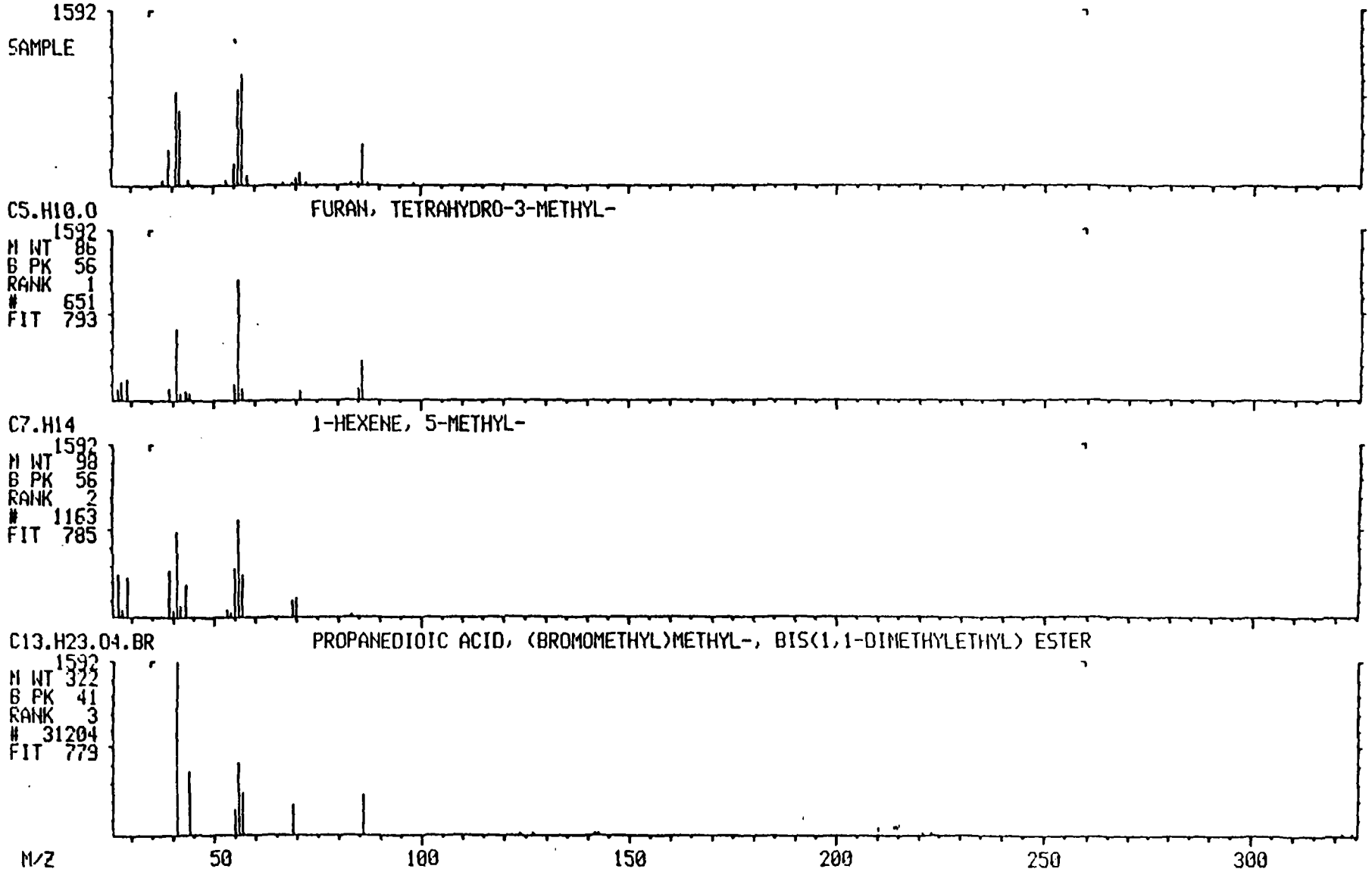
BASE M/Z: 57/ 57
RIC: 1728510./ 2074620.



LIBRARY SEARCH
01/12/88 5:43:00 + 18:36
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 553
CALI: 15308V1 # 2

BASE M/Z: 57
RIC: 1693690.



Library Search Data: 15308V1 # 558 Base m/z: 57
01/12/88 5:43:00 + 18:36 Cali: 15308V1 # 2 RIC: 1693690.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	651	FURAN, TETRAHYDRO-3-METHYL-
2	1163	1-HEXENE, 5-METHYL-
3	31204	PROPANEDIOIC ACID, (BROMOMETHYL)METHYL-, BIS(1,1-DIMETHYLETHYL) EST*
4	15163	2(3H)-FURANONE, 3-(2-BROMOETHYL)DIHYDRO-
5	6630	1-HEXANOL, 3,5,5-TRIMETHYL-

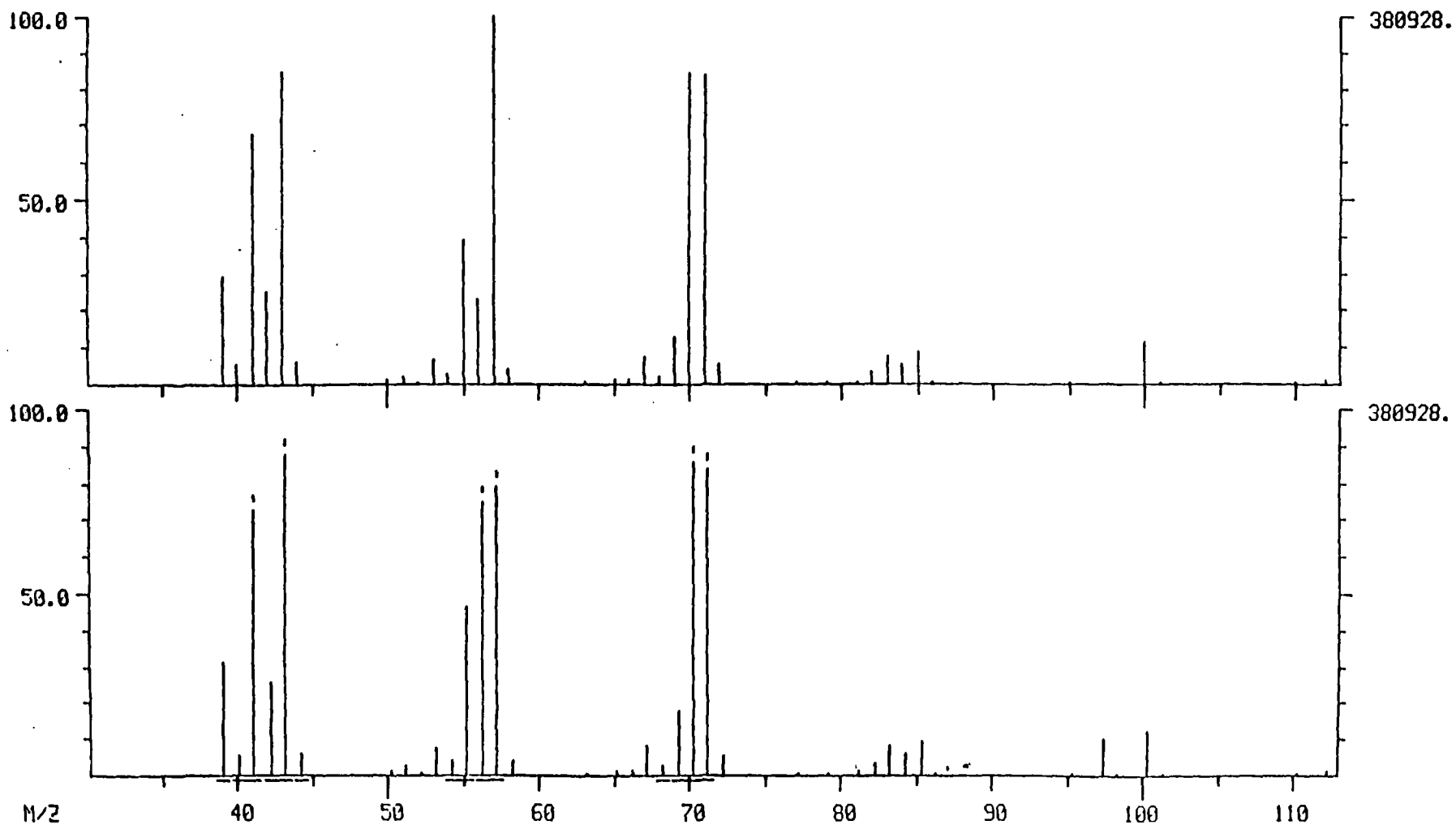
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C5.H10.O	86	56	735	793	752
2	C7.H14	98	56	622	785	682
3	C13.H23.O4.BR	322	41	573	779	606
4	C6.H9.O2.BR	192	86	398	771	425
5	C9.H20.O	144	57	526	767	588

Rank	Ret. Time	B.P. Int.	US. Par. 1	US. Par. 2	C.A.S. #
1	—	—	—	—	13423-15-9
2	—	—	—	—	3524-73-0
3	—	—	—	—	67587-04-6
4	—	—	—	—	54815-24-6
5	—	—	—	—	3452-97-9

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 21:38
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #649
CALI: 15308V1 #2

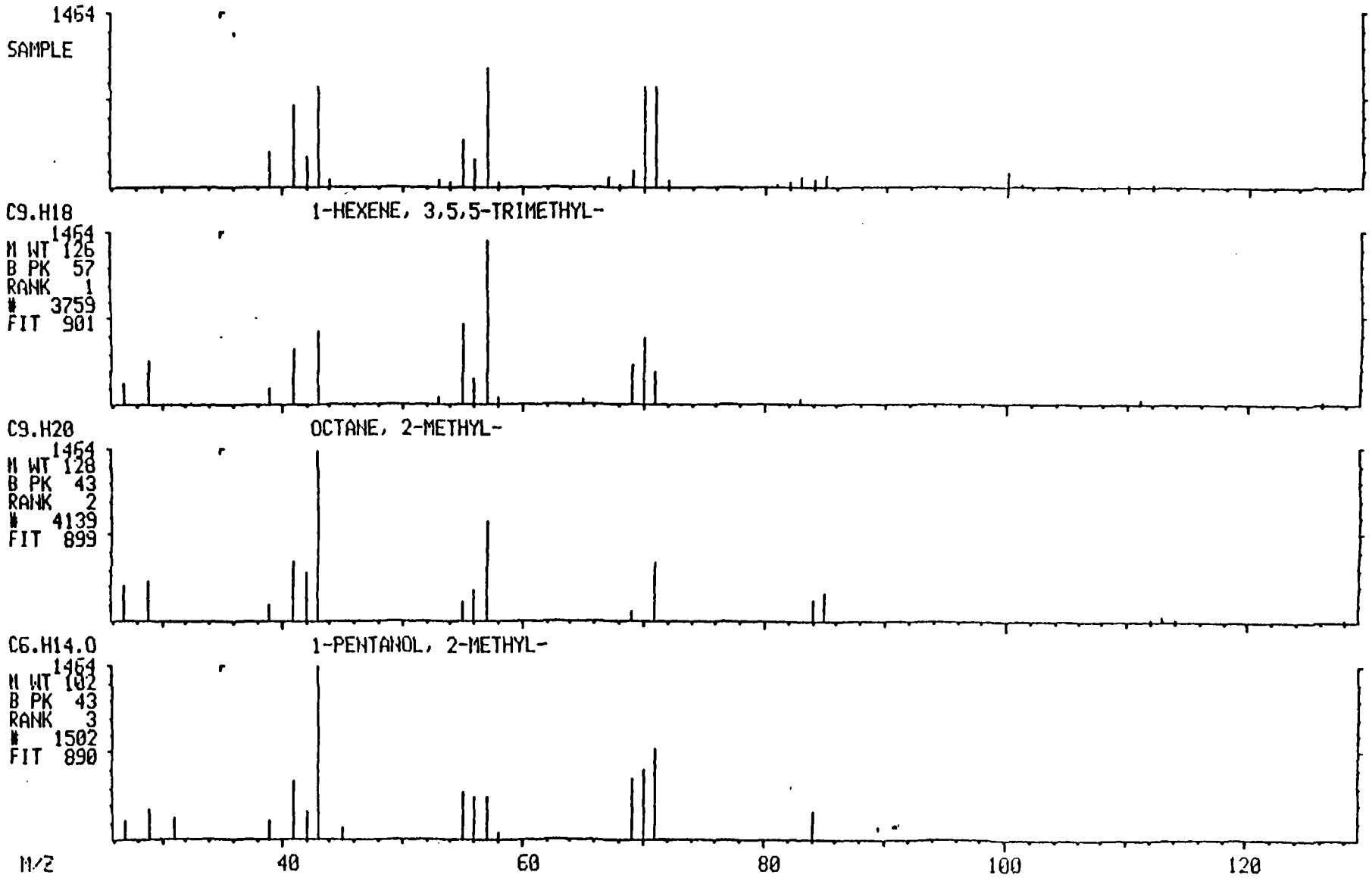
BASE M/Z: 57/ 43
RIC: 2433020./ 2711550.



LIBRARY SEARCH
01/12/88 5:43:00 + 21:38
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 649
CALI: 15308V1 # 2

BASE M/Z: 57
RIC: 2375670.



Library Search Data: 15308V1 # 649 Base m/z: 57
01/12/88 5:43:00 + 21:38 Cali: 15308V1 # 2 RIC: 2375670.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	3759	1-HEXENE, 3,5,5-TRIMETHYL-
2	4139	OCTANE, 2-METHYL-
3	1502	1-PENTANOL, 2-METHYL-
4	2562	PENTANE, 3-ETHYL-2-METHYL-
5	784	HYDROXYLAMINE, O-(2-METHYLPROPYL)-

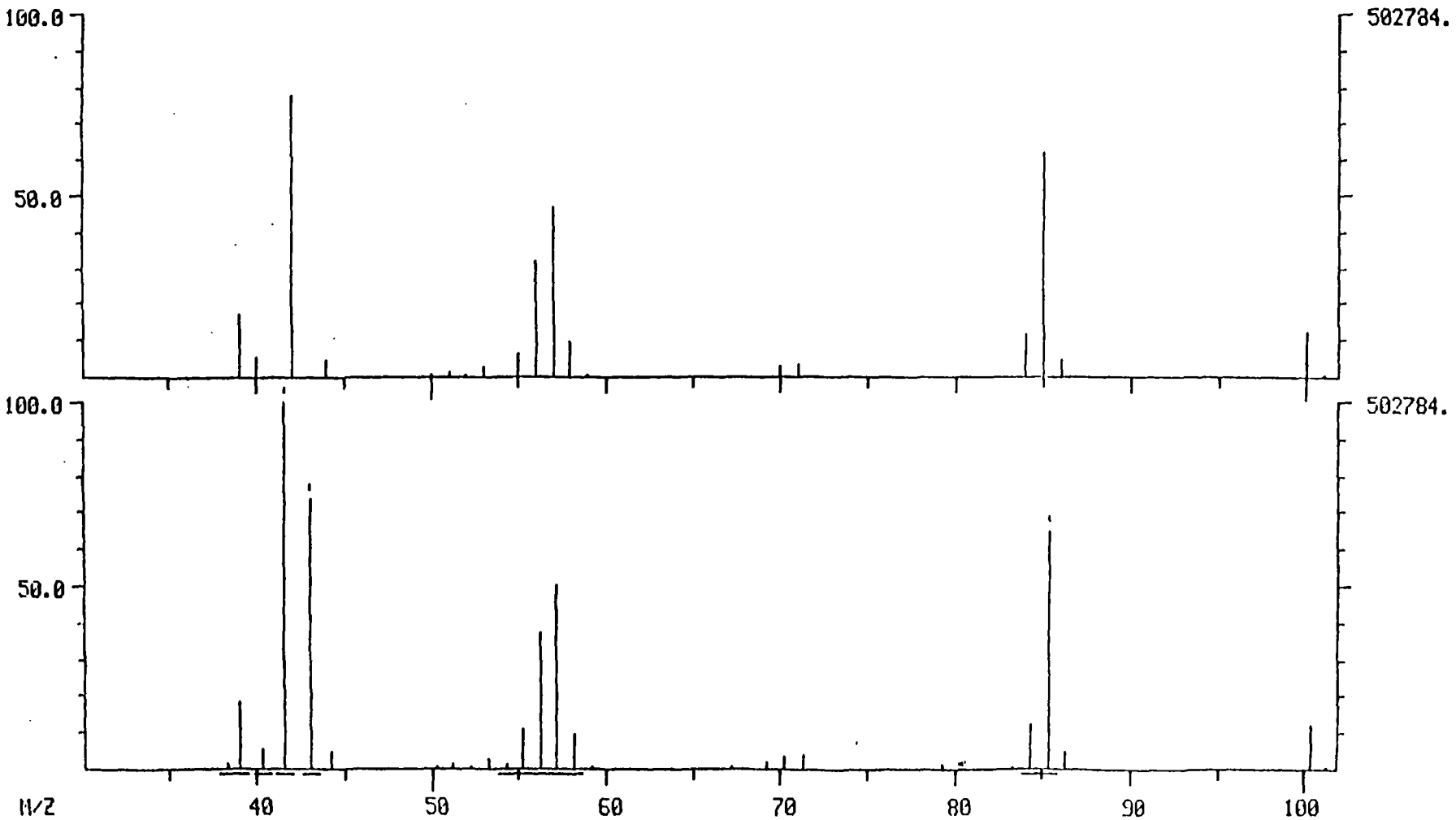
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C9.H18	126	57	764	901	785
2	C9.H20	128	43	645	899	663
3	C6.H14.O	102	43	768	890	779
4	C8.H18	114	43	783	886	789
5	C4.H11.O.N	89	43	742	880	775

Rank	Ret. Time	B.P. Int.	US.Par.1	US.Par.2	C.A.S. #
1	___	___	___	___	4316-65-8
2	___	___	___	___	3221-61-2
3	___	___	___	___	105-30-6
4	___	___	___	___	609-26-7
5	___	___	___	___	5618-62-2

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 22:06
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #663
CALI: 15308V1 #2

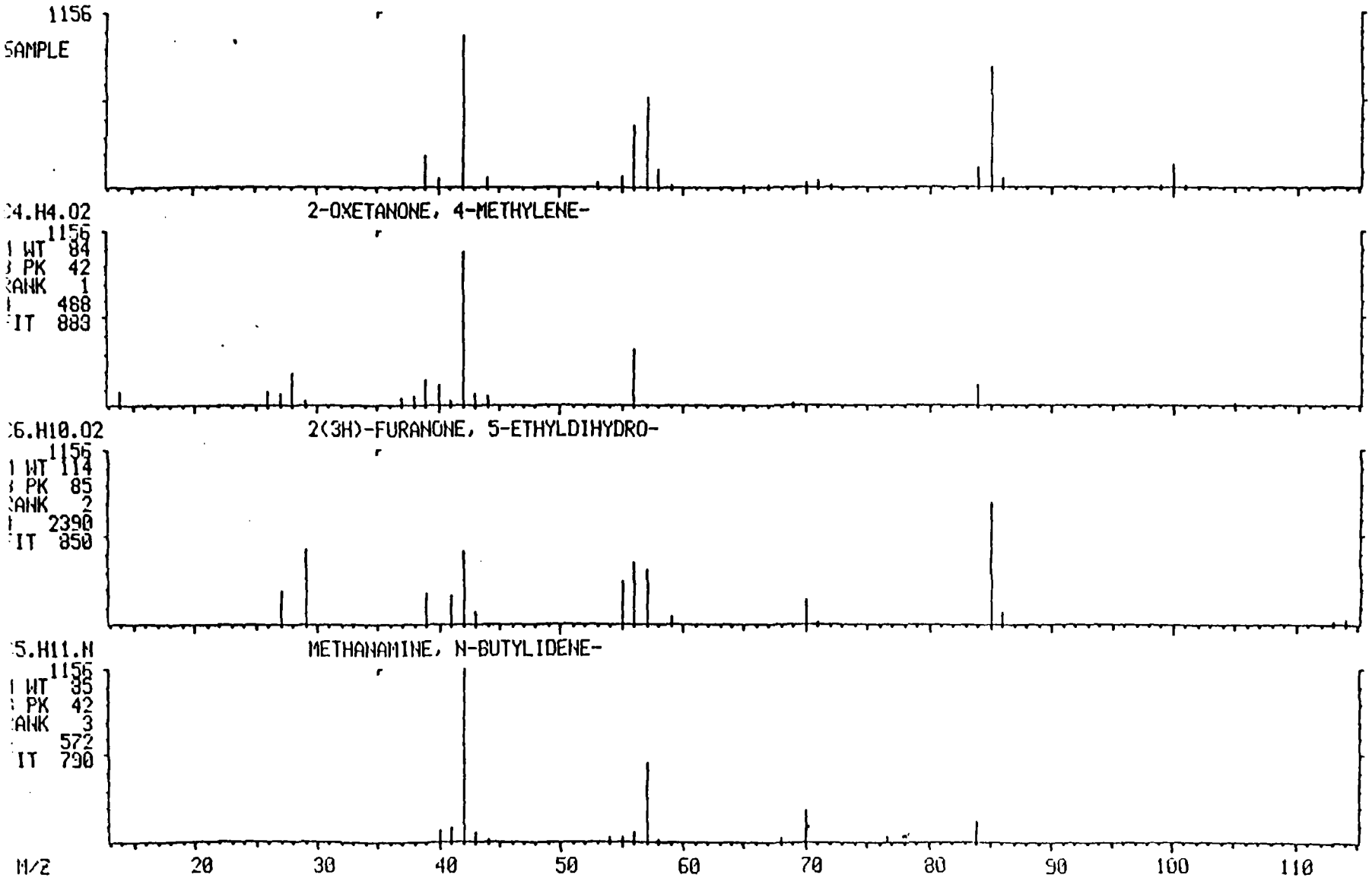
BASE M/Z: 42/ 42
RIC: 1519610./ 2142200.



LIBRARY SEARCH
01/12/88 5:43:00 + 22:06
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (5 15B 2N 0T)

DATA: 15308V1 # 663
CALI: 15308V1 # 2

BASE M/Z: 42
RIC: 1507320.



Library Search Data: 15308V1 # 663 Base m/z: 42
01/12/88 5:43:00 + 22:06 Cali: 15308V1 # 2 RIC: 1507320.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	488	2-OXETANONE, 4-METHYLENE-
2	2390	2(3H)-FURANONE, 5-ETHYLDIHYDRO-
3	572	METHANAMINE, N-BUTYLIDENE-
4	1226	METHANAMINE, N-PENTYLIDENE-
5	1224	1-BUTANAMINE, N-ETHYLIDENE-

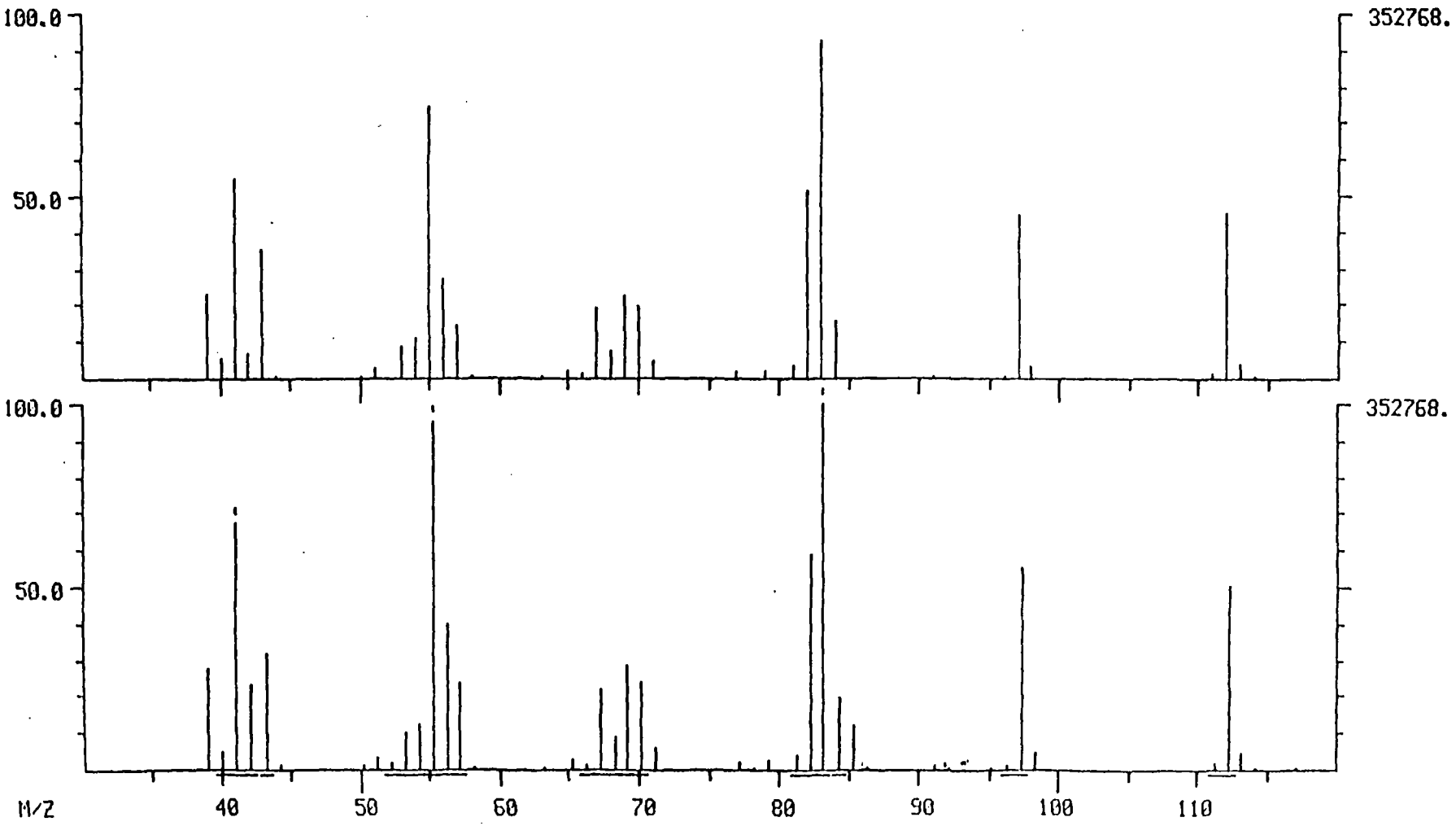
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C4.H4.O2	84	42	345	888	386
2	C6.H10.O2	114	85	691	850	755
3	C5.H11.N	85	42	439	790	477
4	C6.H13.N	99	42	443	783	492
5	C6.H13.N	99	56	490	770	550

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	674-82-8
2	—	—	—	—	695-06-7
3	—	—	—	—	6898-69-7
4	—	—	—	—	10599-75-4
5	—	—	—	—	6898-74-4

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 24:26
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #733
CALI: 15308V1 #2

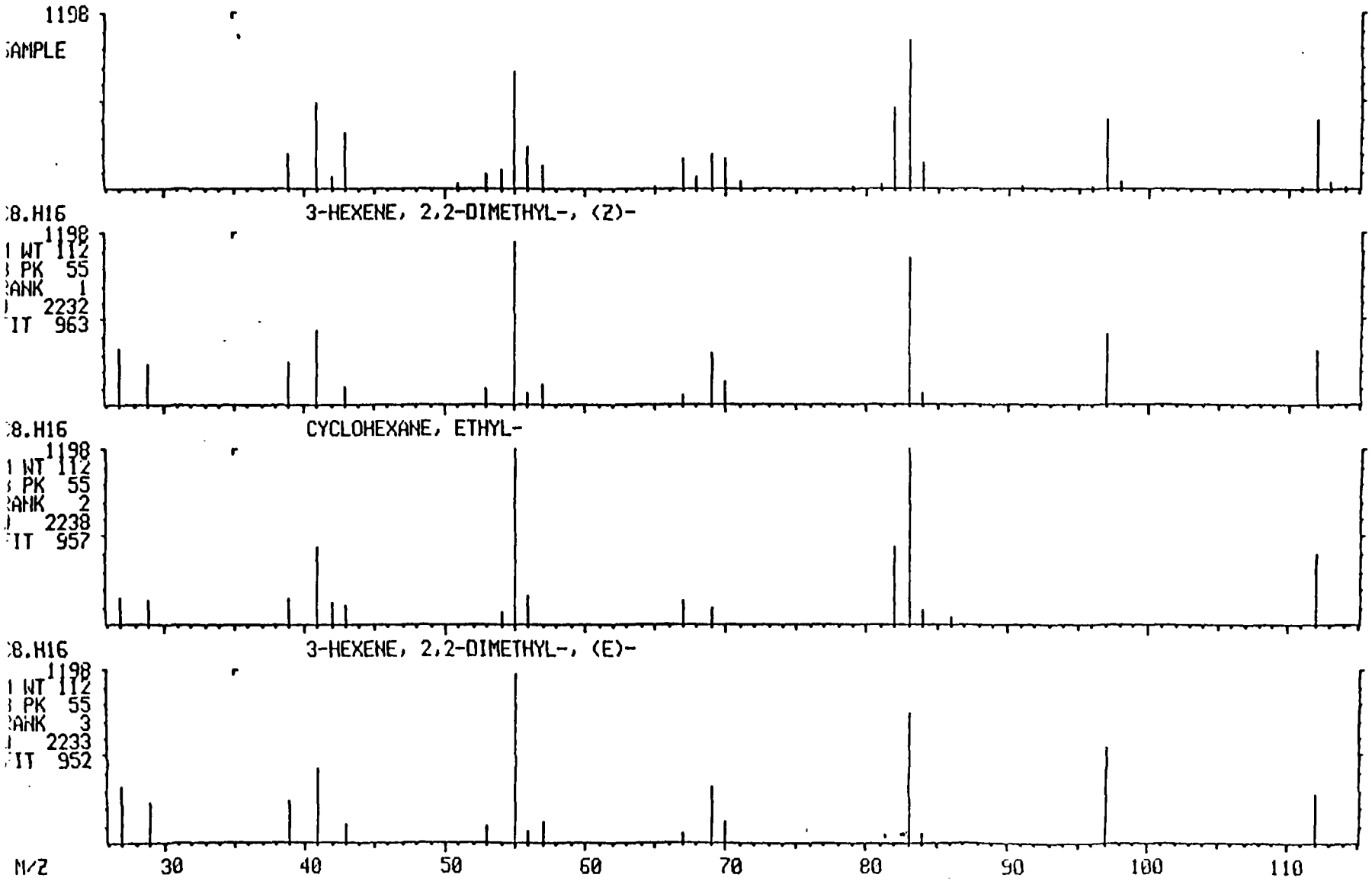
BASE M/Z: 83/ 83
RIC: 2158590./ 2682870.



LIBRARY SEARCH
01/12/88 5:43:00 + 24:26
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 733
CALI: 15308V1 # 2

BASE M/Z: 83
RIC: 2117630.



Library Search Data: 15308V1 # 733 Base m/z: 83
01/12/88 5:43:00 + 24:26 Cali: 15308V1 # 2 RIC: 2117630.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	2232	3-HEXENE, 2,2-DIMETHYL-, (Z)-
2	2238	CYCLOHEXANE, ETHYL-
3	2233	3-HEXENE, 2,2-DIMETHYL-, (E)-
4	2274	CYCLOPENTANE, 1-ETHYL-1-METHYL-
5	2227	2-PENTENE, 2,3,4-TRIMETHYL-

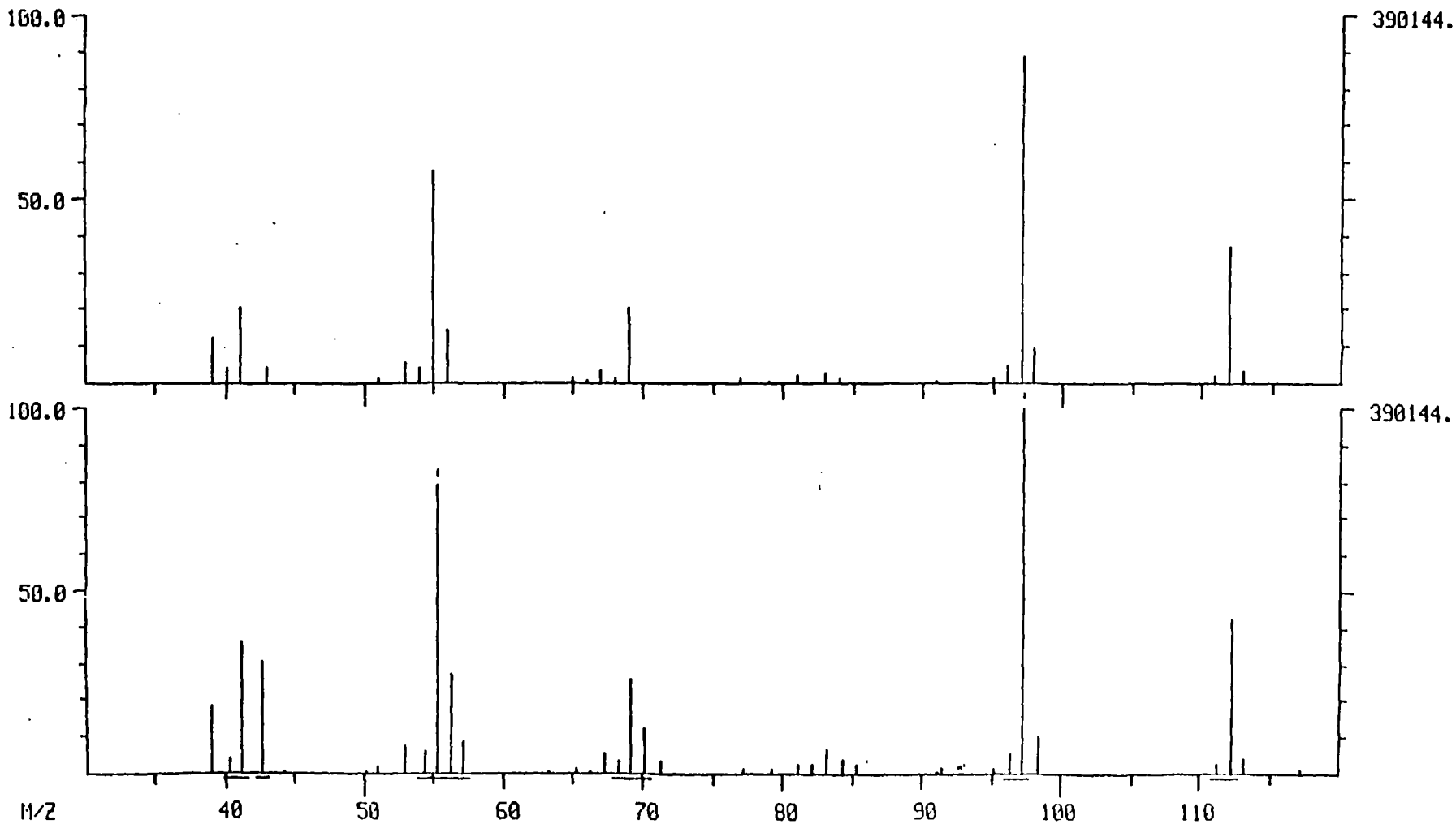
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C8.H16	112	55	782	963	782
2	C8.H16	112	55	736	957	747
3	C8.H16	112	55	774	952	774
4	C8.H16	112	83	729	935	729
5	C8.H16	112	55	547	925	547

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	690-92-6
2	—	—	—	—	1678-91-7
3	—	—	—	—	690-93-7
4	—	—	—	—	16747-50-5
5	—	—	—	—	565-77-5

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 24:48
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #744
CALI: 15308V1 #2

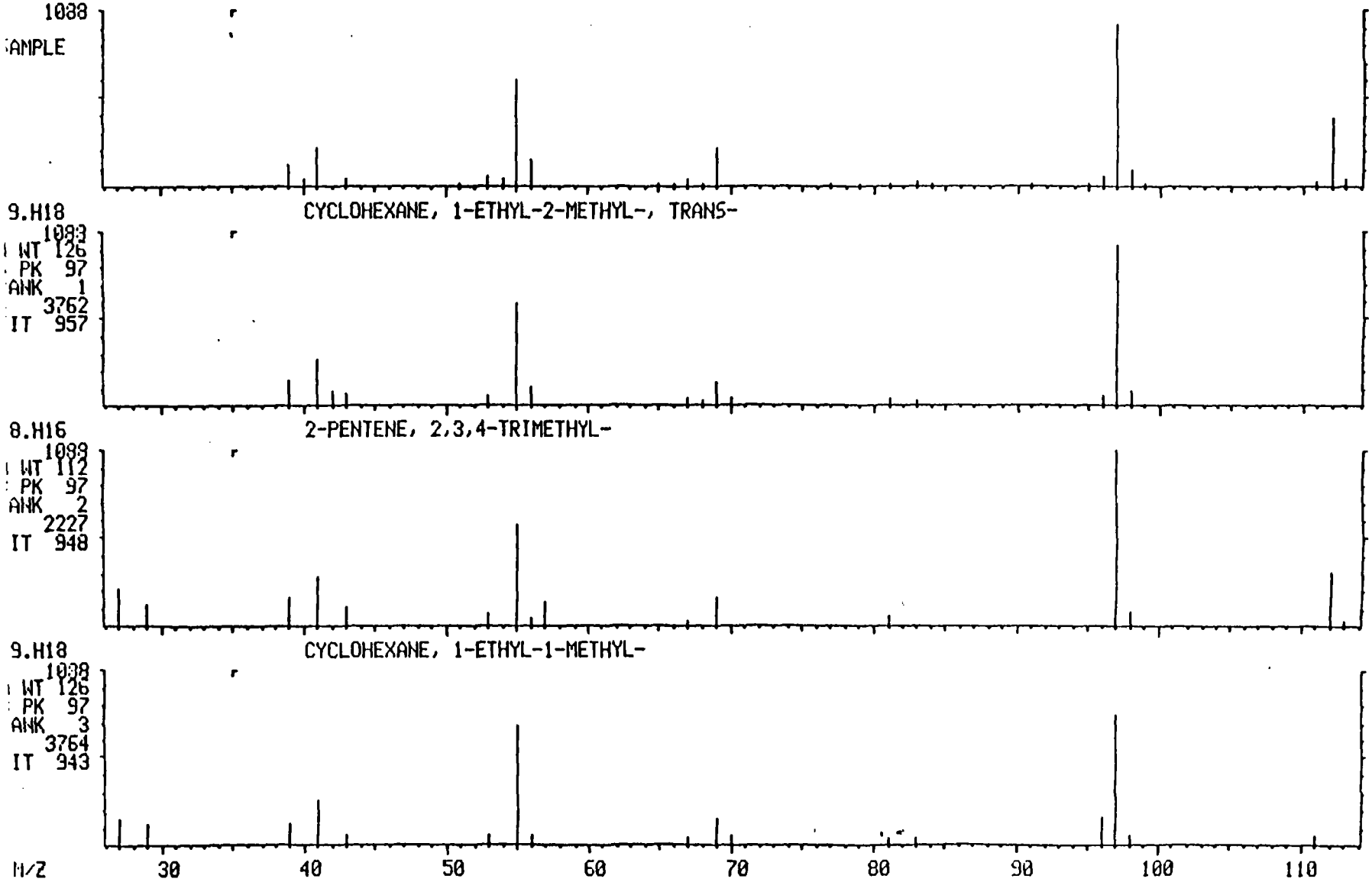
BASE M/Z: 97/ 97
RIC: 1193980./ 1808380.



LIBRARY SEARCH
01/12/88 5:43:00 + 24:48
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (5 15B 2N 0T)

DATA: 15308V1 # 744
CALI: 15308V1 # 2

BASE M/Z: 97
RIC: 1191930.



Library Search Data: 15308V1 # 744 Base m/z: 97
01/12/88 5:43:00 + 24:48 Cali: 15308V1 # 2 RIC: 1191930.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	3762	CYCLOHEXANE, 1-ETHYL-2-METHYL-, TRANS-
2	2227	2-PENTENE, 2,3,4-TRIMETHYL-
3	3764	CYCLOHEXANE, 1-ETHYL-1-METHYL-
4	2229	2-PENTENE, 3,4,4-TRIMETHYL-
5	2223	2-PENTENE, 2,4,4-TRIMETHYL-

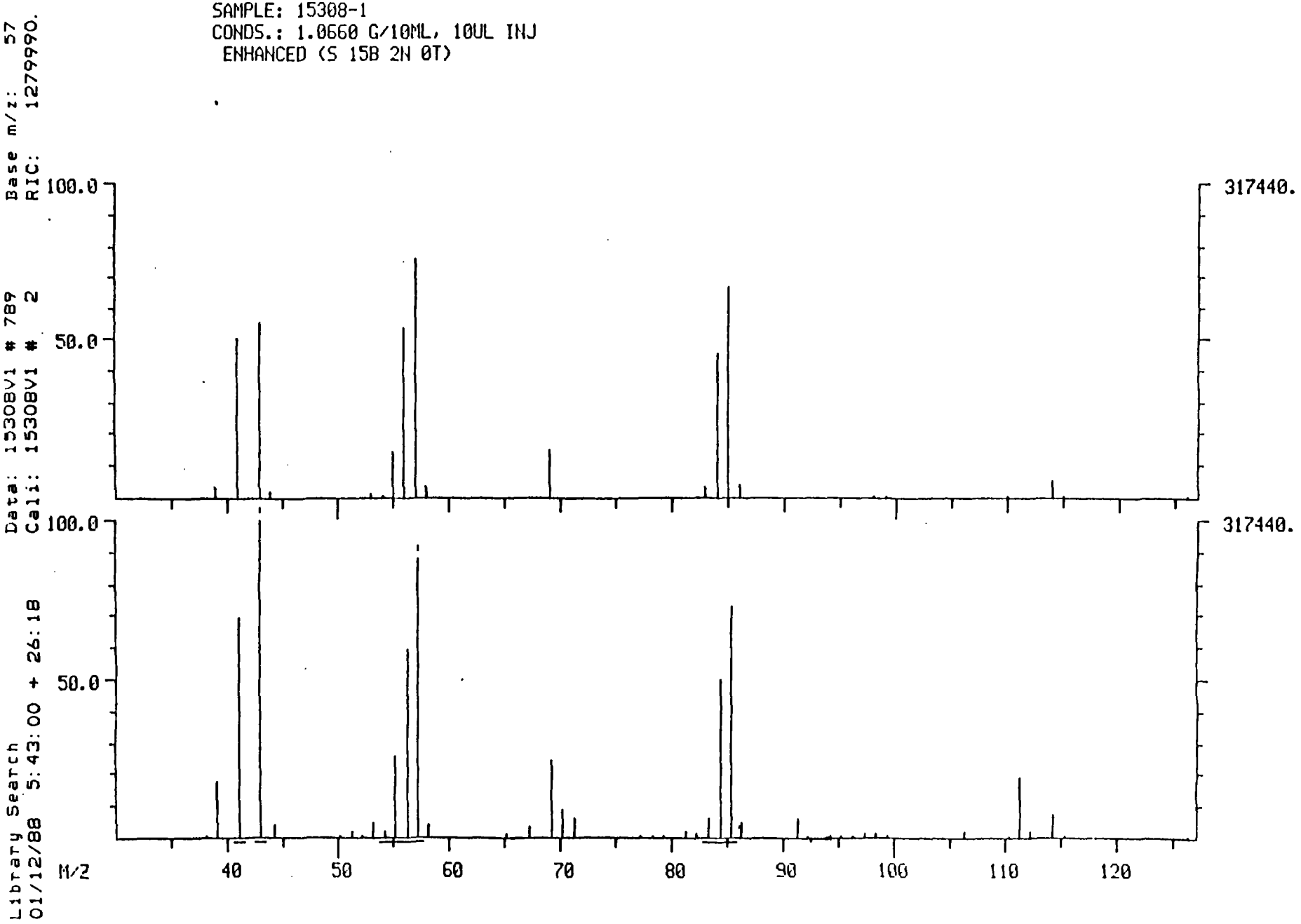
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C9.H18	126	97	723	957	748
2	C8.H16	112	97	867	948	895
3	C9.H18	126	97	718	943	734
4	C8.H16	112	97	861	942	899
5	C8.H16	112	97	848	941	881

Rank	Ret. Time	B.P. Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	4923-78-8
2	—	—	—	—	565-77-5
3	—	—	—	—	4926-90-3
4	—	—	—	—	598-96-9
5	—	—	—	—	107-40-4

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 26:18
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #789
CALI: 15308V1 #2

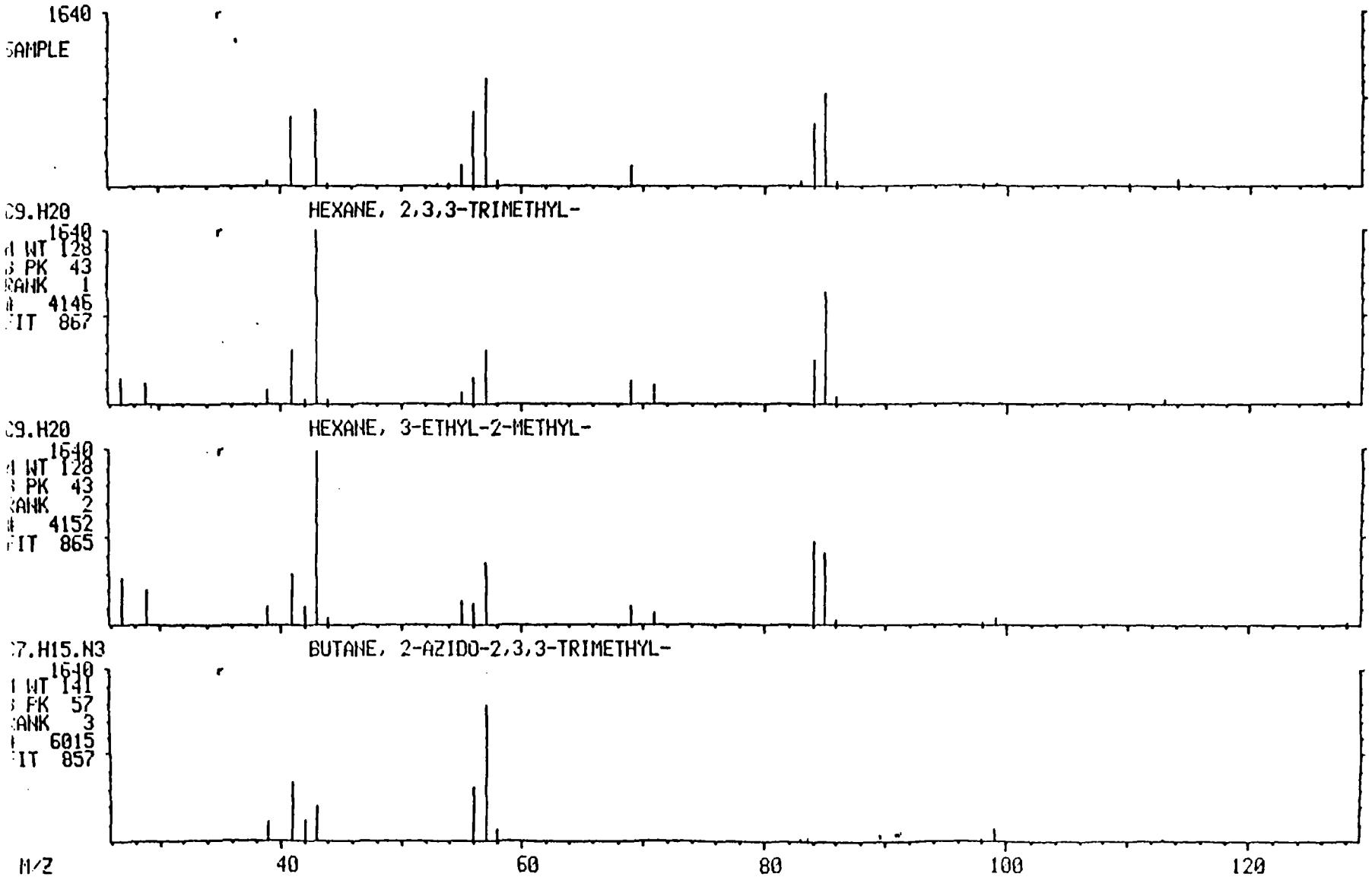
BASE M/Z: 57/ 43
RIC: 1279990./ 1925110.



LIBRARY SEARCH
01/12/88 5:43:00 + 26:18
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 789
CALI: 15308V1 # 2

BASE M/Z: 57
RIC: 1279990.



Library Search Data: 15308V1 # 789 Base m/z: 57
01/12/88 5:43:00 + 26:18 Cali: 15308V1 # 2 RIC: 1279990.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	4146	HEXANE, 2,3,3-TRIMETHYL-
2	4152	HEXANE, 3-ETHYL-2-METHYL-
3	6015	BUTANE, 2-AZIDO-2,3,3-TRIMETHYL-
4	6090	HEXANE, 2,2,3,3-TETRAMETHYL-
5	4124	PENTANE, 3-ETHYL-2,4-DIMETHYL-

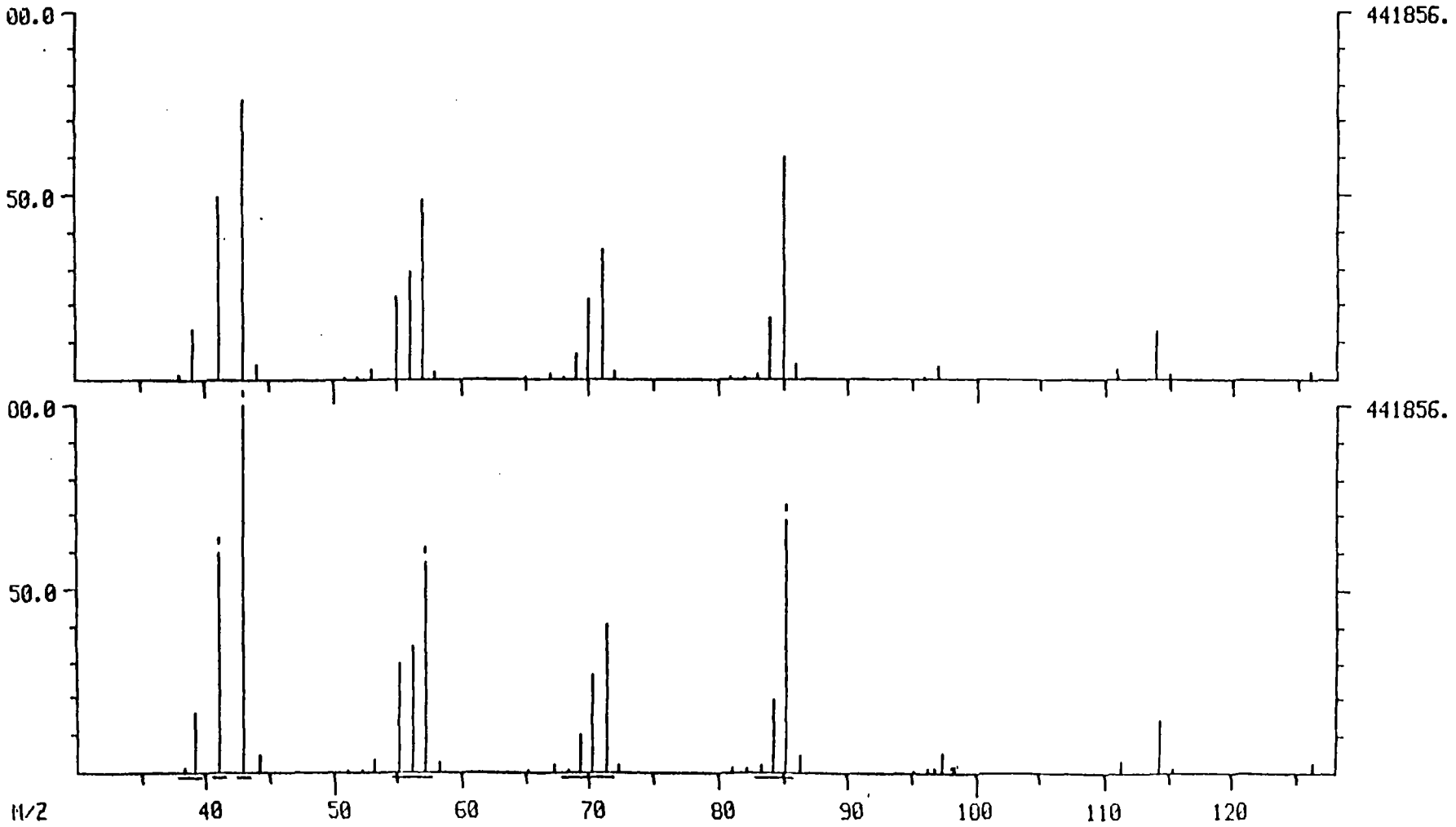
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C9.H20	128	43	817	867	871
2	C9.H20	128	43	818	865	863
3	C7.H15.N3	141	57	426	857	453
4	C10.H22	142	57	825	857	874
5	C9.H20	128	43	807	856	844

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	16747-28-7
2	—	—	—	—	16789-46-1
3	—	—	—	—	51677-41-9
4	—	—	—	—	13475-81-5
5	—	—	—	—	1068-87-7

DUAL MASS SPECTRUM
01/12/88 5:43:00 + 28:24
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 #852
CALI: 15308V1 #2

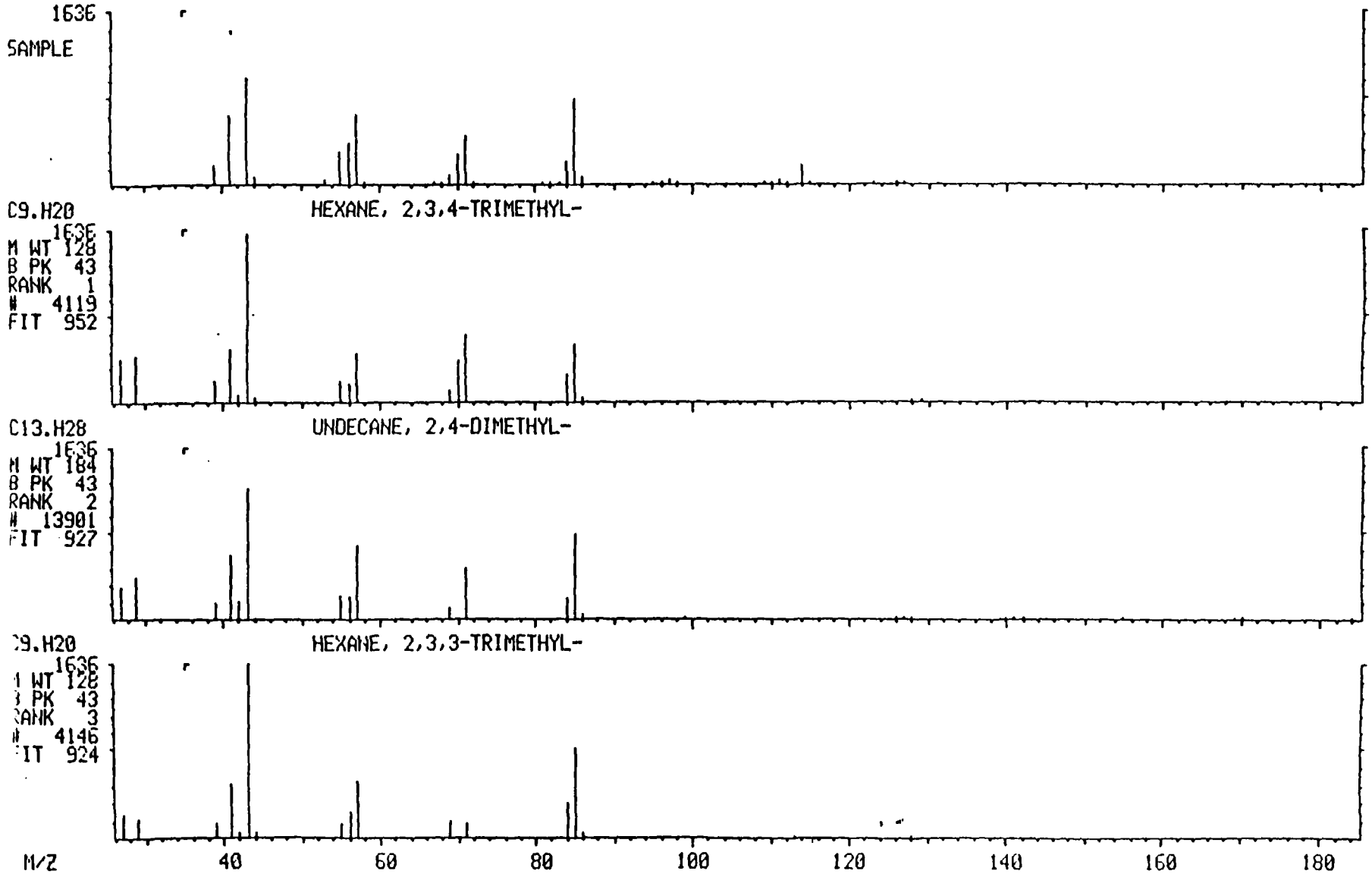
BASE M/Z: 43/ 43
RIC: 1871870./ 2314230.



LIBRARY SEARCH
01/12/88 5:43:00 + 28:24
SAMPLE: 15308-1
CONDS.: 1.0660 G/10ML, 10UL INJ
ENHANCED (S 15B 2N 0T)

DATA: 15308V1 # 852
CALI: 15308V1 # 2

BASE M/Z: 43
RIC: 1859580.



Library Search Data: 15308V1 # 852 Base m/z: 43
01/12/88 5:43:00 + 28:24 Cali: 15308V1 # 2 RIC: 1859580.
Sample: 15308-1
Conds.: 1.0660 G/10ML, 10UL INJ
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	4119	HEXANE, 2,3,4-TRIMETHYL-
2	13901	UNDECANE, 2,4-DIMETHYL-
3	4146	HEXANE, 2,3,3-TRIMETHYL-
4	13905	DODECANE, 5-METHYL-
5	11461	OCTANE, 3-ETHYL-2,7-DIMETHYL-

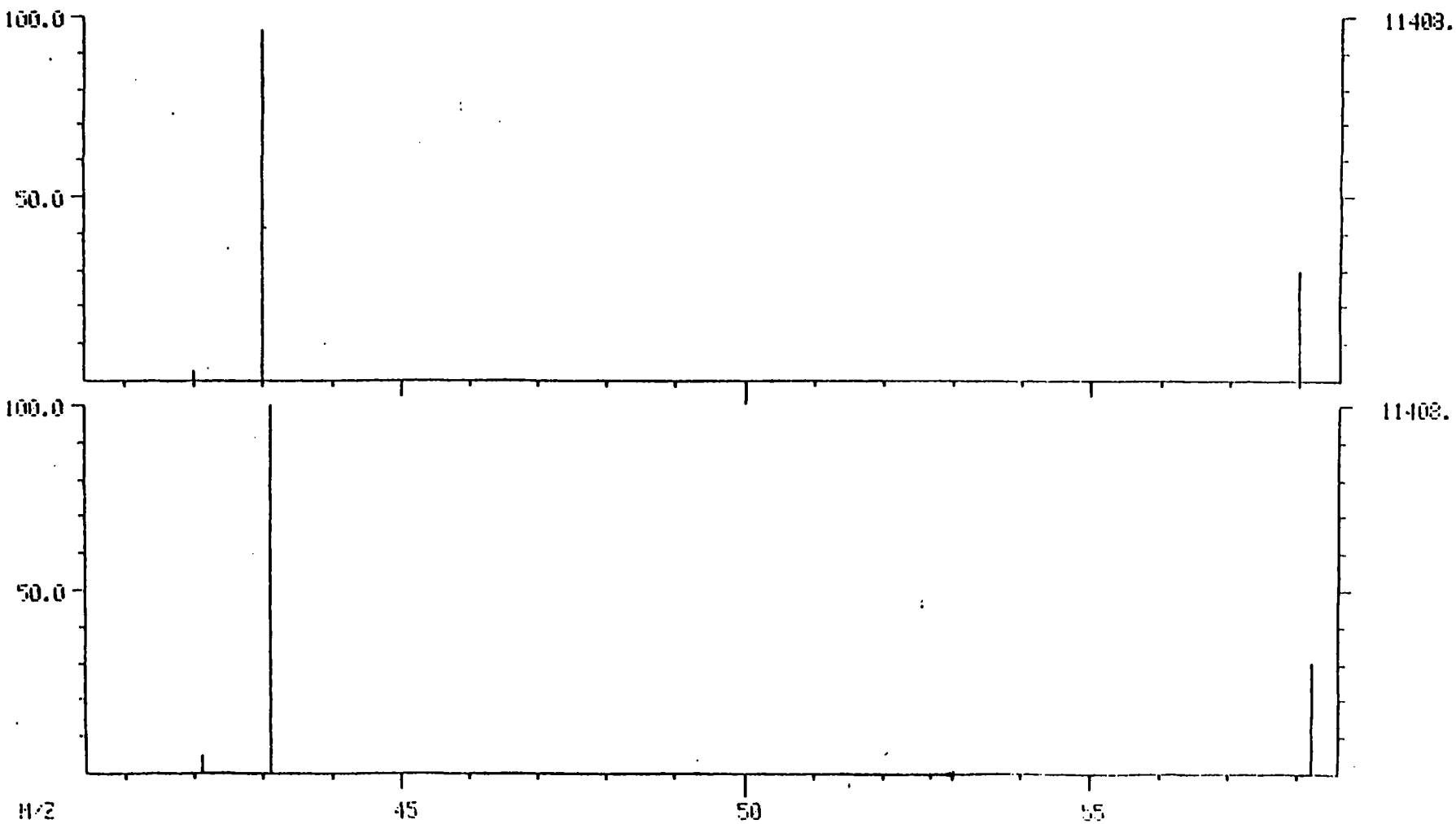
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C9.H20	128	43	828	952	838
2	C13.H28	184	43	756	927	806
3	C9.H20	128	43	751	924	767
4	C13.H28	184	43	805	923	820
5	C12.H26	170	43	777	913	778

Rank	Ret.Time	B.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	—	—	—	—	921-47-1
2	—	—	—	—	17312-80-0
3	—	—	—	—	16747-28-7
4	—	—	—	—	17453-93-9
5	—	—	—	—	62183-55-5

DUAL MASS SPECTRUM
01/12/88 6:58:00 + 6:38
SAMPLE: 15308-2
CONDS.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 15B 2N 0T)

DATA: 15308U2 #199
CALI: 15308U2 #2

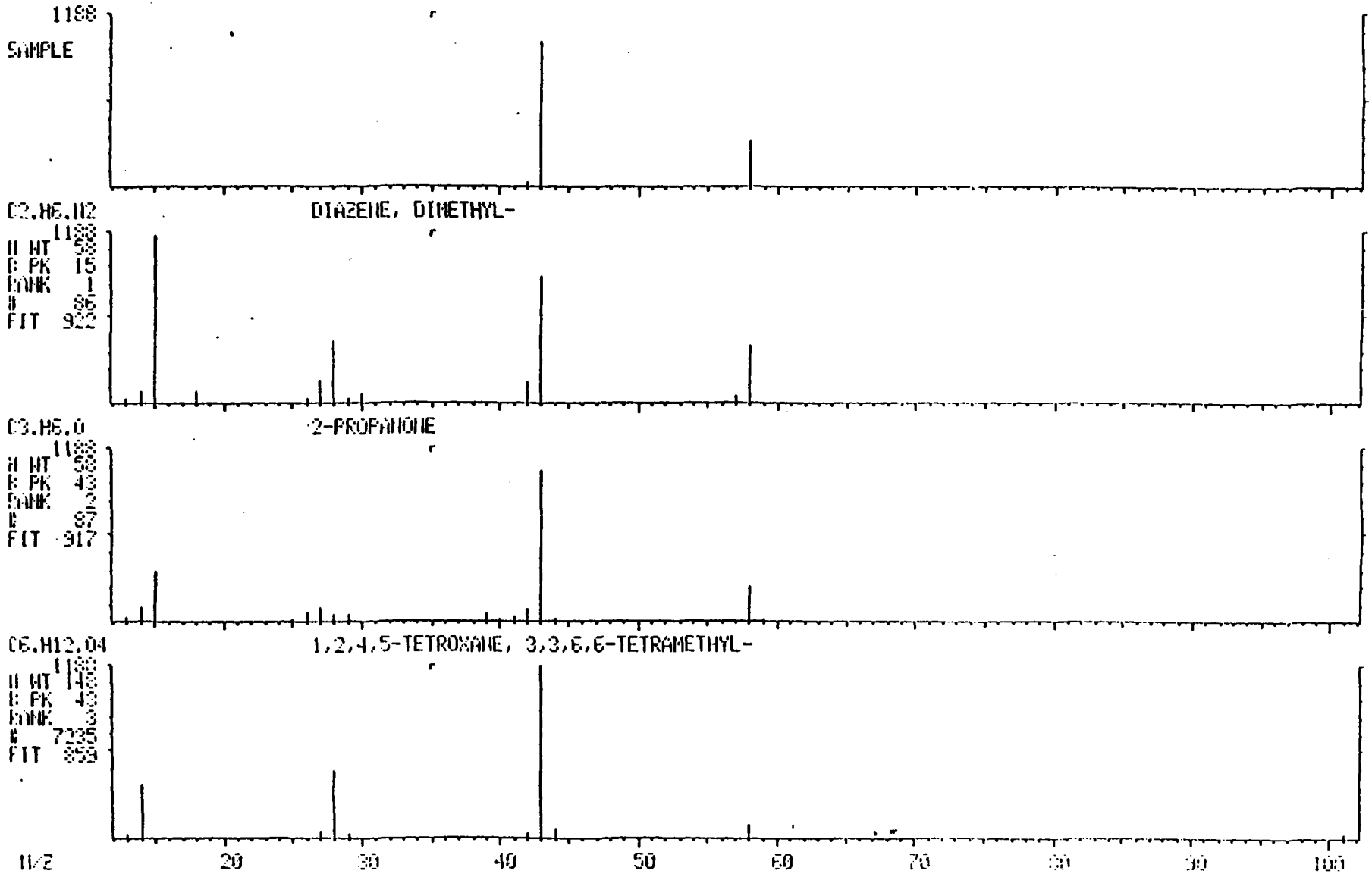
BASE M/Z: 43/ 43
RIC: 14639./ 15487.



LIBRARY SEARCH
01/12/88 6:58:00 + 6:38
SAMPLE: 15308-2
CONDS.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 15B 2N 0T)

DATA: 15308V2 # 179
CALI: 15308V2 # 2

BASE M/Z: 43
RIC: 14633.



Library Search Data: 15308V2 # 199 Base m/z: 43
01/12/88 6:58:00 + 6:38 Cali: 15308V2 # 2 RIC: 14639
Sample: 15308-2
Conds.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	86	DIAZENE, DIMETHYL-
2	87	2-PROPANONE
3	7235	1,2,4,5-TETROXANE, 3,3,6,6-TETRAMETHYL-
4	90	ETHENE, METHOXY-
5	2337	3-PENTENOIC ACID, 4-METHYL-

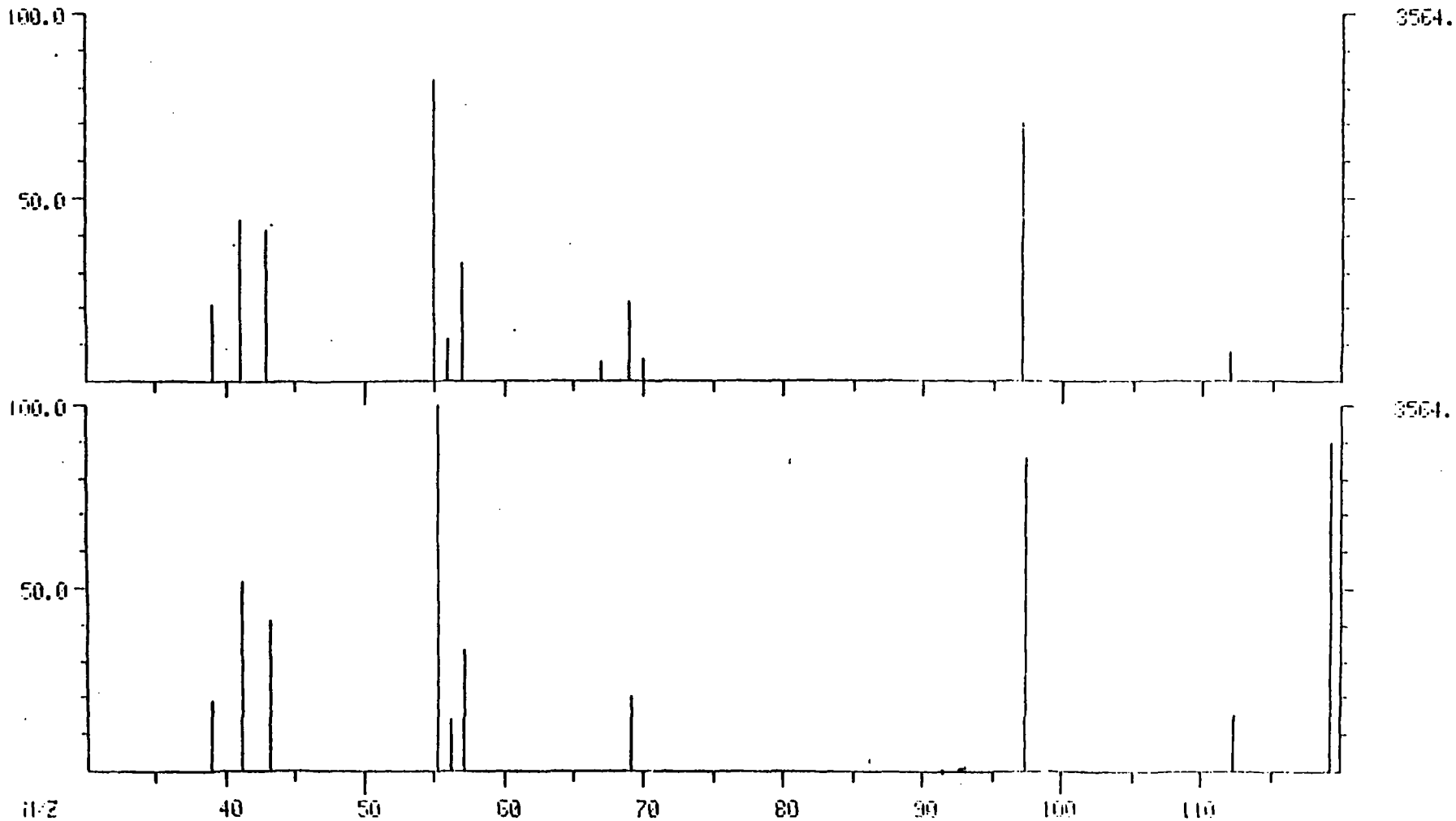
Rank	Formula	M.Wt	B.P%	Purity	Fit	RFit
1	C2.H6.N2	58	15	922	922	962
2	C3.H6.O	58	43	917	917	986
3	C6.H12.O4	142	43	859	859	940
4	C3.H6.O	58	15	822	822	875
5	C6.H10.O2	114	43	749	749	994

Rank	Ret. Time	B.P. Int.	US.Par.1	US.Par.2	C.A.S #
1	___	___	___	___	503-28-6
2	___	___	___	___	67-64-1
3	___	___	___	___	1073-91-2
4	___	___	___	___	107-25-5
5	___	___	___	___	504-85-8

DUAL MASS SPECTRUM
01/12/88 6:58:00 + 21:34
SAMPLE: 15308-2
CONDS.: 1.4E06 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 158 ON OT)

DATA: 15308U2 [illegible]
CALI: 15308U2 [illegible]

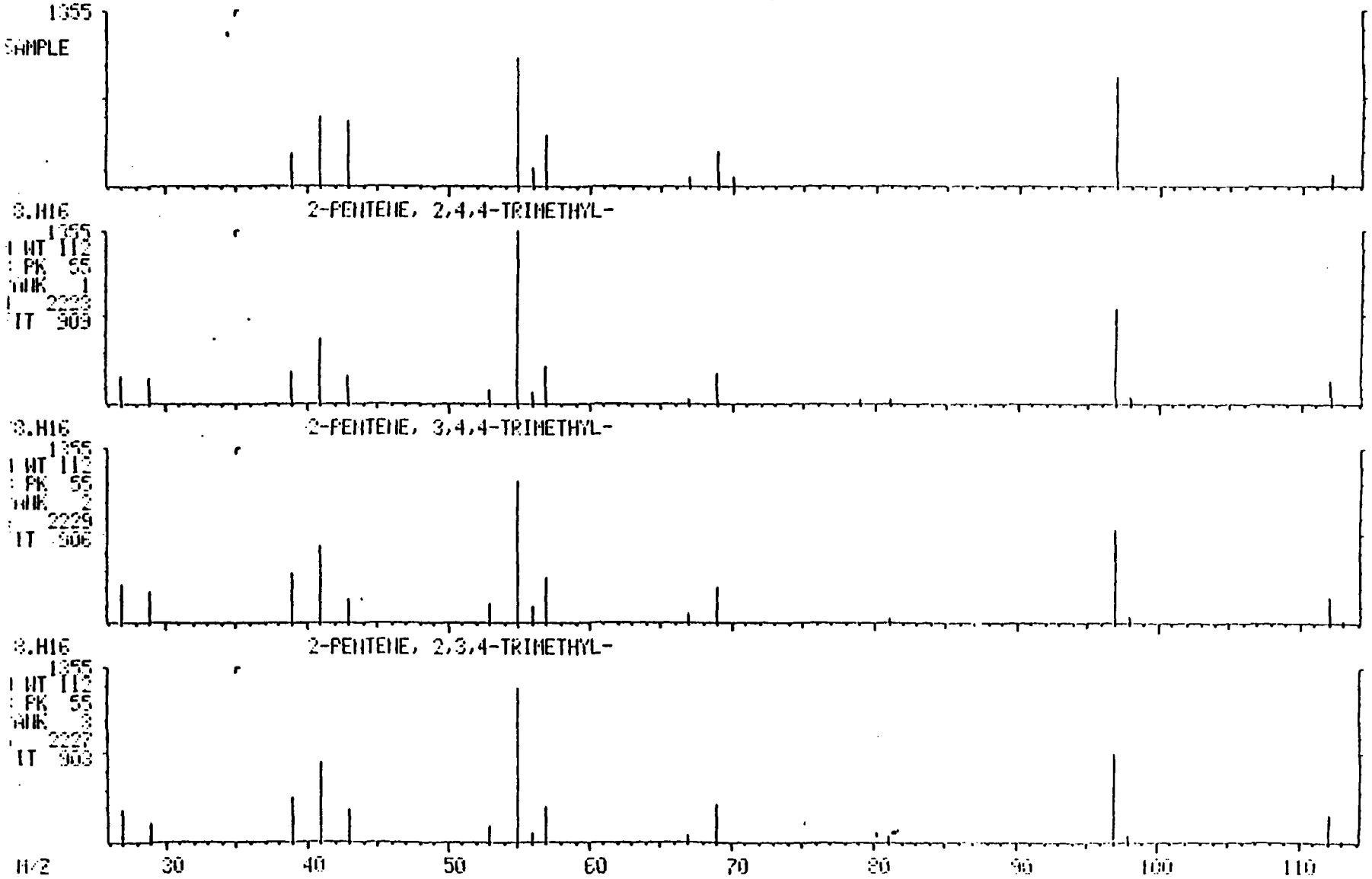
BASE M/Z: 55 55
PIC: 12239. 10767.



LIBRARY SEARCH
01/12/88 6:58:00 + 21:34
SAMPLE: 15308-2
CONDS.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 15B 2N 0T)

DATA: 1530802 # 047
CALI: 1530802 # 2

BASE M/Z: 55
PIC: 12233.



Library Search Data: 15308V2 # 647 Base m/z: 55
01/12/88 6:58:00 + 21:34 Call: 15308V2 # 2 RIC: 12239
Sample: 15308-2
Conds.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
Enhanced (S 15B 2N OT)

Rank	In.	Name
1	2223	2-PENTENE, 2,4,4-TRIMETHYL-
2	2229	2-PENTENE, 3,4,4-TRIMETHYL-
3	2227	2-PENTENE, 2,3,4-TRIMETHYL-
4	2223	CYCLOHEXANE, 1,1-DIMETHYL-
5	4066	3-PENTEN-1-OL, 2,2,4-TRIMETHYL-

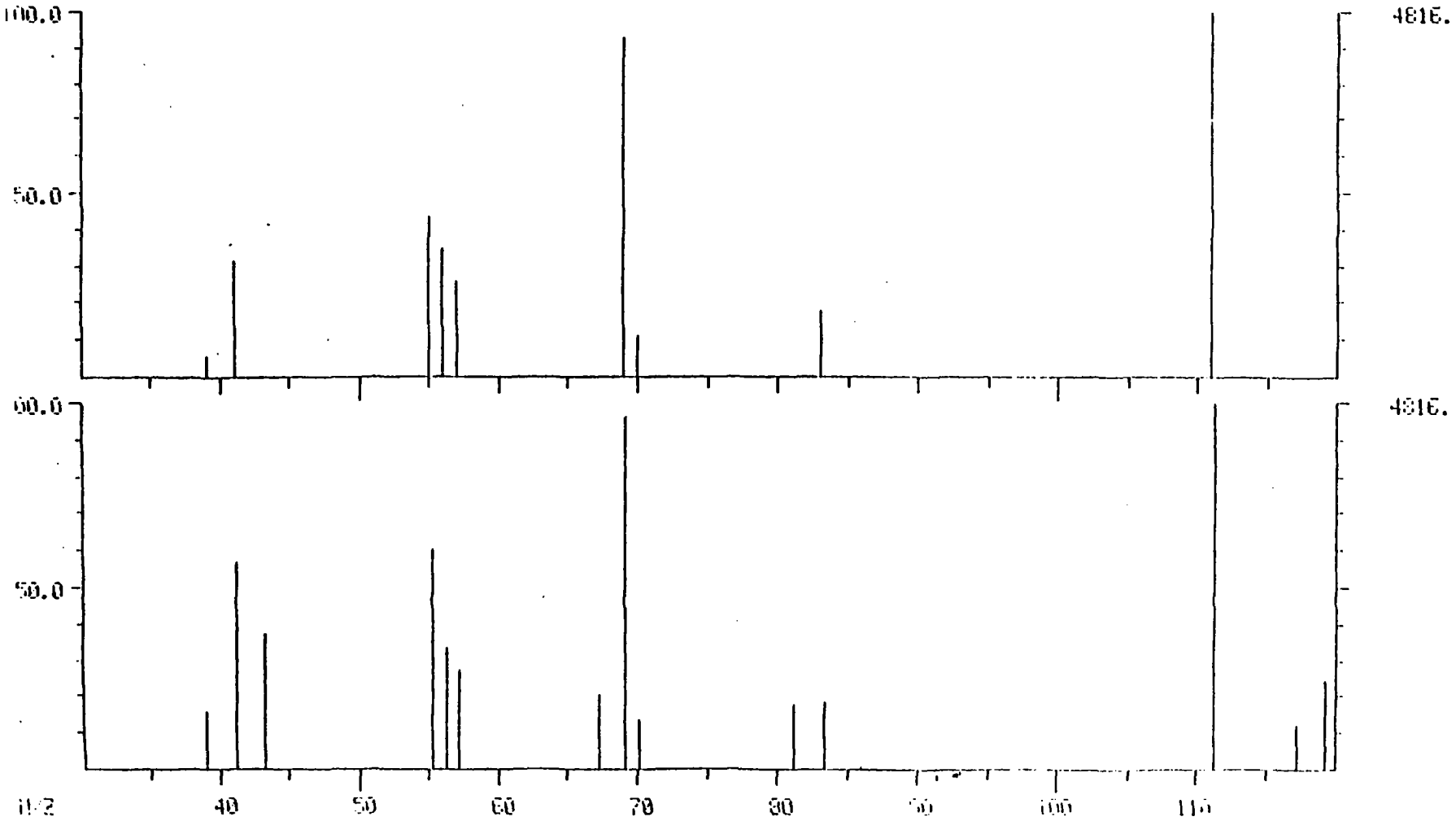
Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C8 H16	112	55	891	909	952
2	C8 H16	112	55	883	906	954
3	C8 H16	112	55	883	903	951
4	C8 H16	112	97	859	874	924
5	C8 H16 O	128	55	814	857	927

Rank	Ret. Time	B.P. Int.	US. Par. 1	US. Par. 2	C.A.S. #
1	___	___	___	___	107-40-4
2	___	___	___	___	592-96-9
3	___	___	___	___	565-77-5
4	___	___	___	___	590-66-9
5	___	___	___	___	5842-53-5

DUAL MASS SPECTRUM
01/12/88 6:58:00 + 26:12
SAMPLE: 15308-2
CONDS.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 150 2N OT)

DATA: 15308U2 [illegible]
CALI: 15308U2 [illegible]

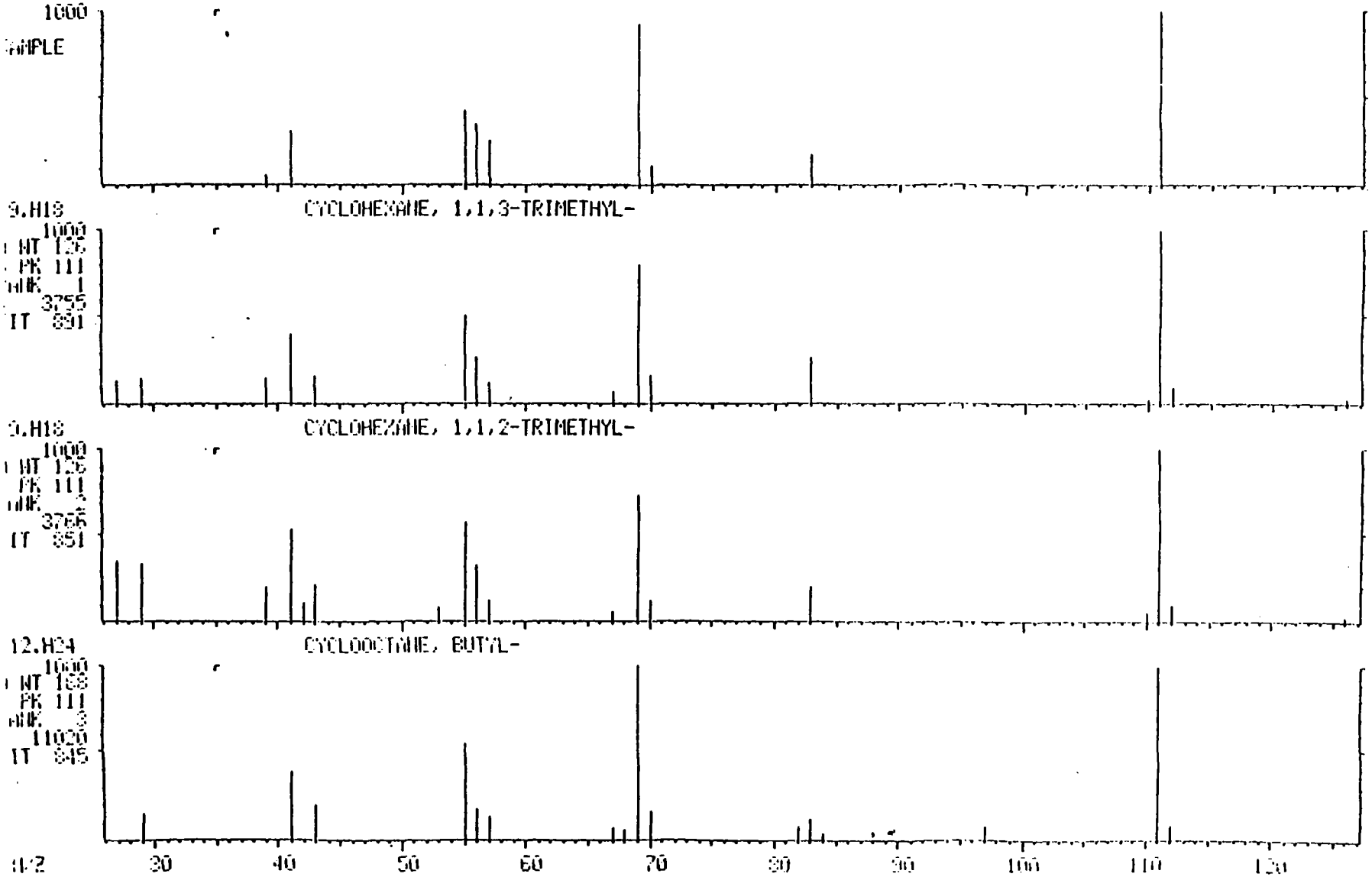
BASE M/Z: 111/ 111
RIC: [illegible] 25535.



LIBRARY SEARCH
01/12/88 6:58:00 + 26:12
SAMPLE: 15308-2
CONDS.: 1.4E06 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 15B 2N 0T)

DATA: 1530802 # 706
CALI: 1530802 # 2

BASE M/Z: 111
RIC: 17375.



Library Search Data 15308V2 # 786 Base m/z 111
04/12/88 6 58 00 - 26 12 Calib 15308V2 # 2 RID 17375
Sample: 15308-2
Conds.: 1 4606 G/10ML, 50UL, 1:1000 DILUTION
Enhanced (S 153 EN OT)

Rank	In.	Name
1	3755	CYCLOHEXANE, 1,1,3-TRIMETHYL-
2	3766	CYCLOHEXANE, 1,1,2-TRIMETHYL-
3	11020	CYCLOOCTANE, BUTYL-
4	1153	CYCLOPENTANE, 1,1-DIMETHYL-
5	3771	CYCLOPENTANE, 1,1,3,4-TETRAMETHYL-, TRANS-

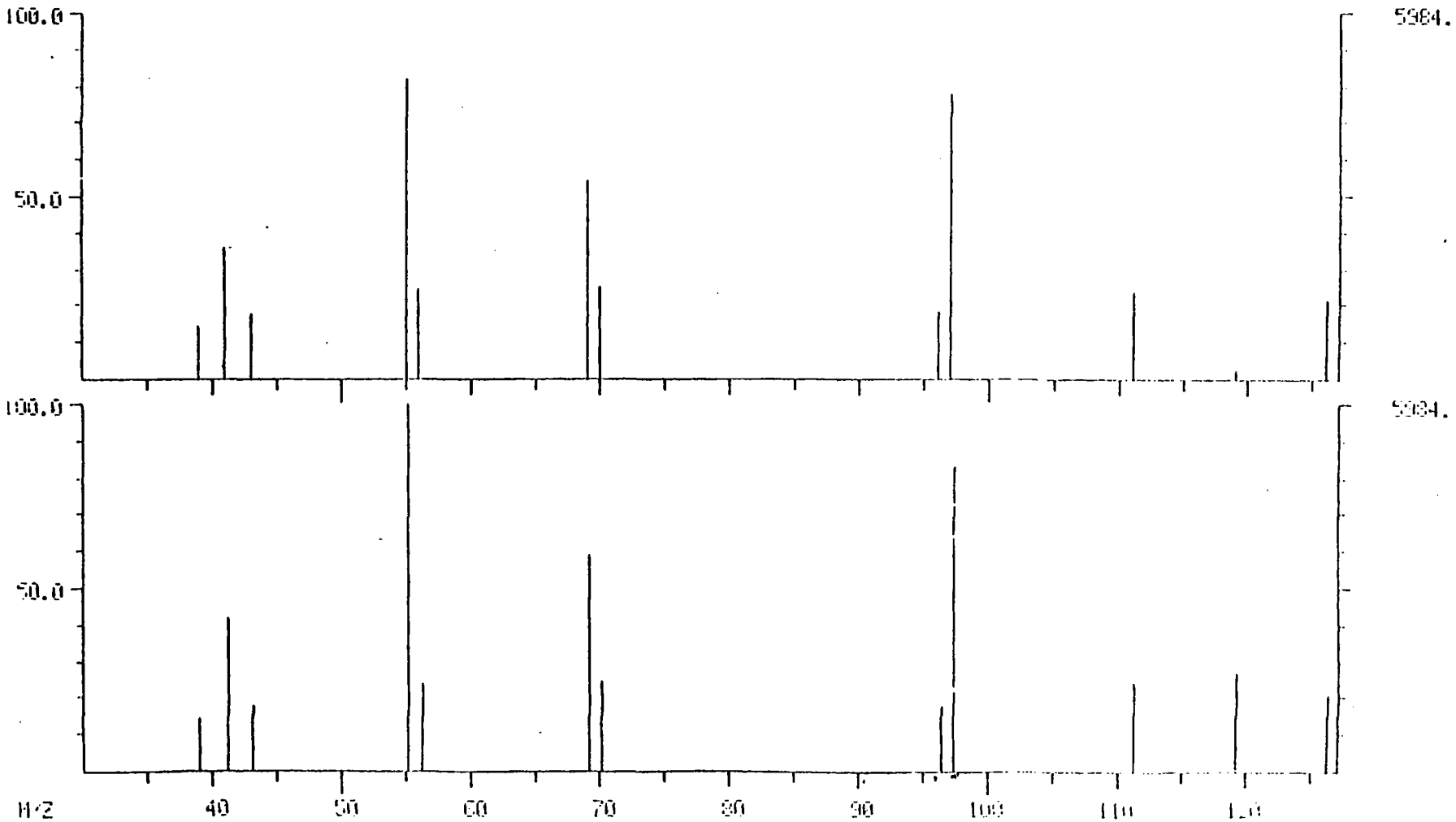
Rank	Formula	M.Wt	B.Pt	Purity	Fit	RFit
1	C9 H18	126	111	891	891	984
2	C9 H18	126	111	851	851	978
3	C12 H24	168	111	838	845	976
4	C7 H14	98	56	437	828	531
5	C9 H18	126	111	751	823	882

Rank	Ret Time	B.P. Int.	US Par. 1	US Par 2	C.A.S. #
1	—	—	—	—	3073-66-3
2	—	—	—	—	7094-26-0
3	—	—	—	—	16538-93-5
4	—	—	—	—	1638-26-2
5	—	—	—	—	20309-77-7

DUAL MASS SPECTRUM
01/12/88 6:58:00 + 27:42
SAMPLE: 15308-2
CONDS.: 1.4006 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 158 2H 0T)

DATA: 15308D2 B031
CALI: 15308C B2

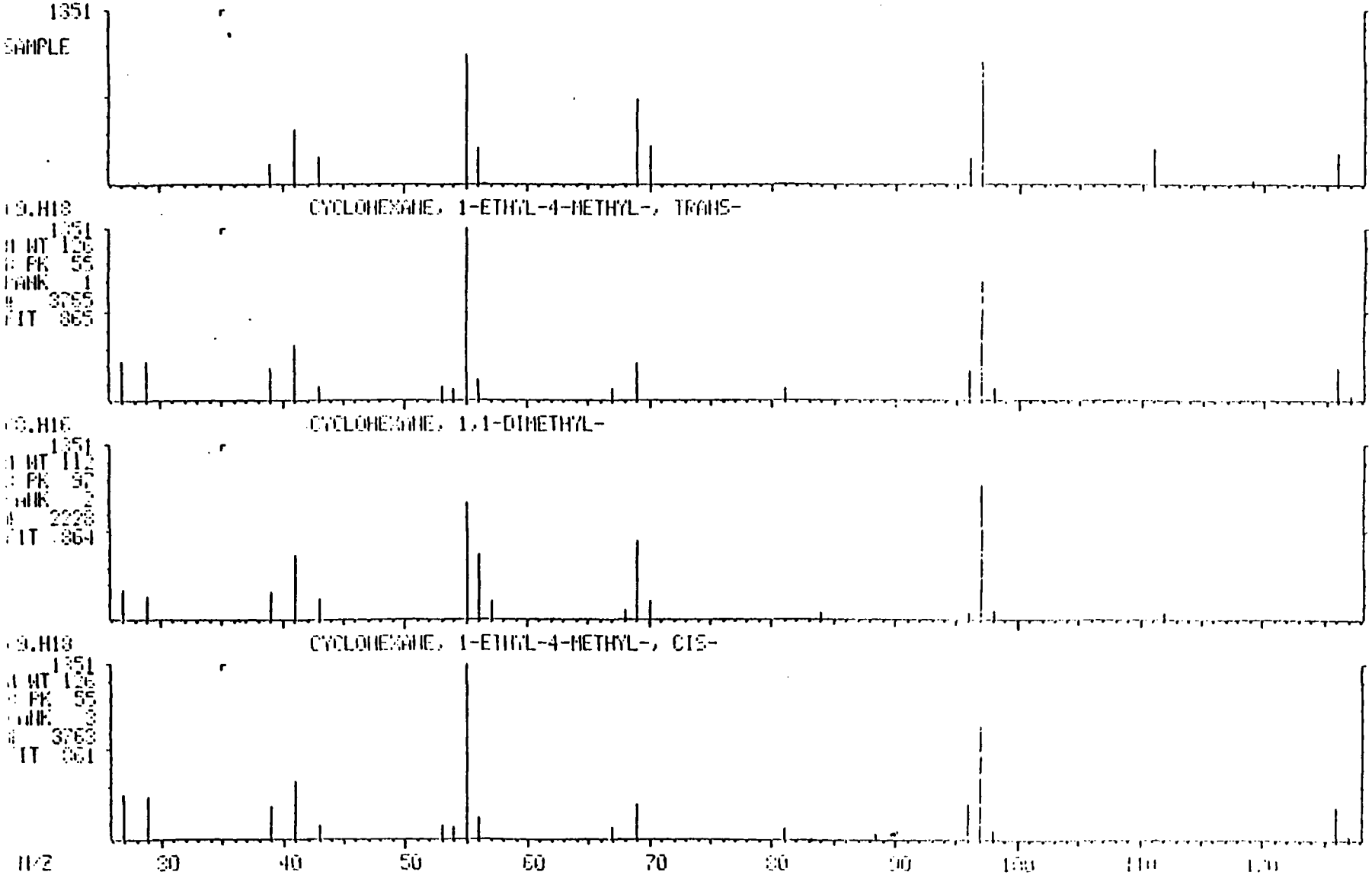
BASE M/Z: 55 55
RIC: 25743. 27103.



LIBRARY SEARCH
01/12/88 6:58:00 + 27:42
SAMPLE: 15308-2
CONDS.: 1.4806 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 150 2N 01)

DATA: 1530802 N 3:1
CALI: 1530802 N 2

PAGE N 2: 55
RTC: 23743.



Library Search Data 15308V2 # 301 Base Pk 55
09/12/88 6 58 00 + 27.42 Cal: 15308V2 # 2 RIC 23740
Sample: 15308-2
Conds.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
Enhanced (B 158 2N 07)

Rank	Id	Name
1	3765	CYCLOHEXANE, 1-ETHYL-4-METHYL-, TRANS-
2	2223	CYCLOHEXANE, 1,1-DIMETHYL-
3	3763	CYCLOHEXANE, 1-ETHYL-4-METHYL-, CIS-
4	3764	CYCLOHEXANE, 1-ETHYL-1-METHYL-
5	3750	CYCLOHEXANE, 1,3,5-TRIMETHYL-

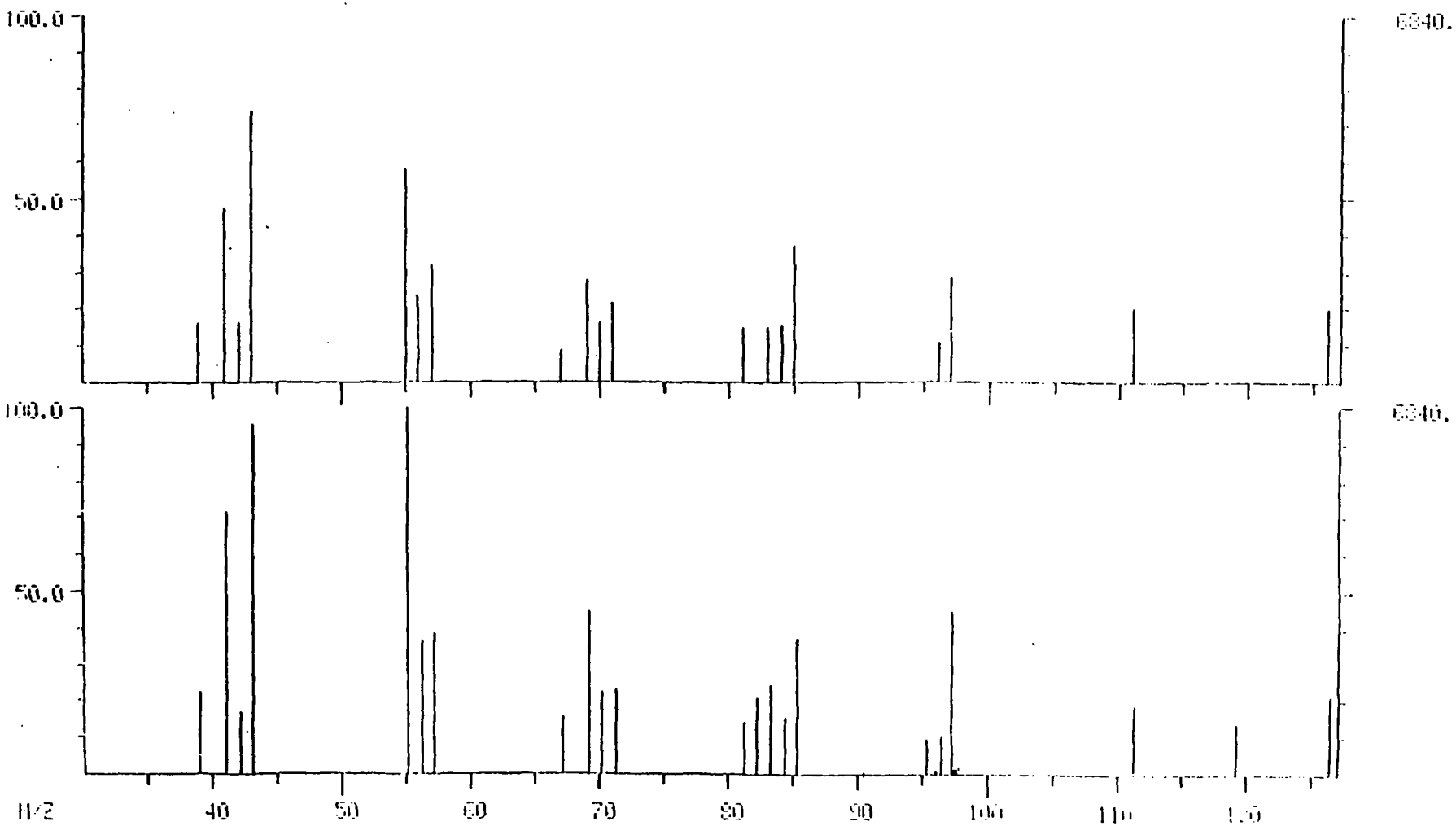
Rank	Formula	M.Wt.	S.Pk	Purity	Fit	RFit
1	C9 H18	126	55	726	855	815
2	C8 H16	112	97	693	864	779
3	C9 H18	126	55	723	861	812
4	C9 H18	126	55	761	848	841
5	C9 H18	126	69	567	848	819

Rank	Ret. Time	B.P. Int	U3.Par.1	U3.Par.2	C.A.S. #
1	___	___	___	___	6236-88-0
2	___	___	___	___	590-66-9
3	___	___	___	___	4926-72-7
4	___	___	___	___	4926-90-3
5	___	___	___	___	1839-63-0

DUAL MASS SPECTRUM
01/12/88 6:58:00 + 28:26
SAMPLE: 15303-2
CONDS.: 1.4E06 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 150 2H 01)

DATA: [illegible]
CALI: [illegible]

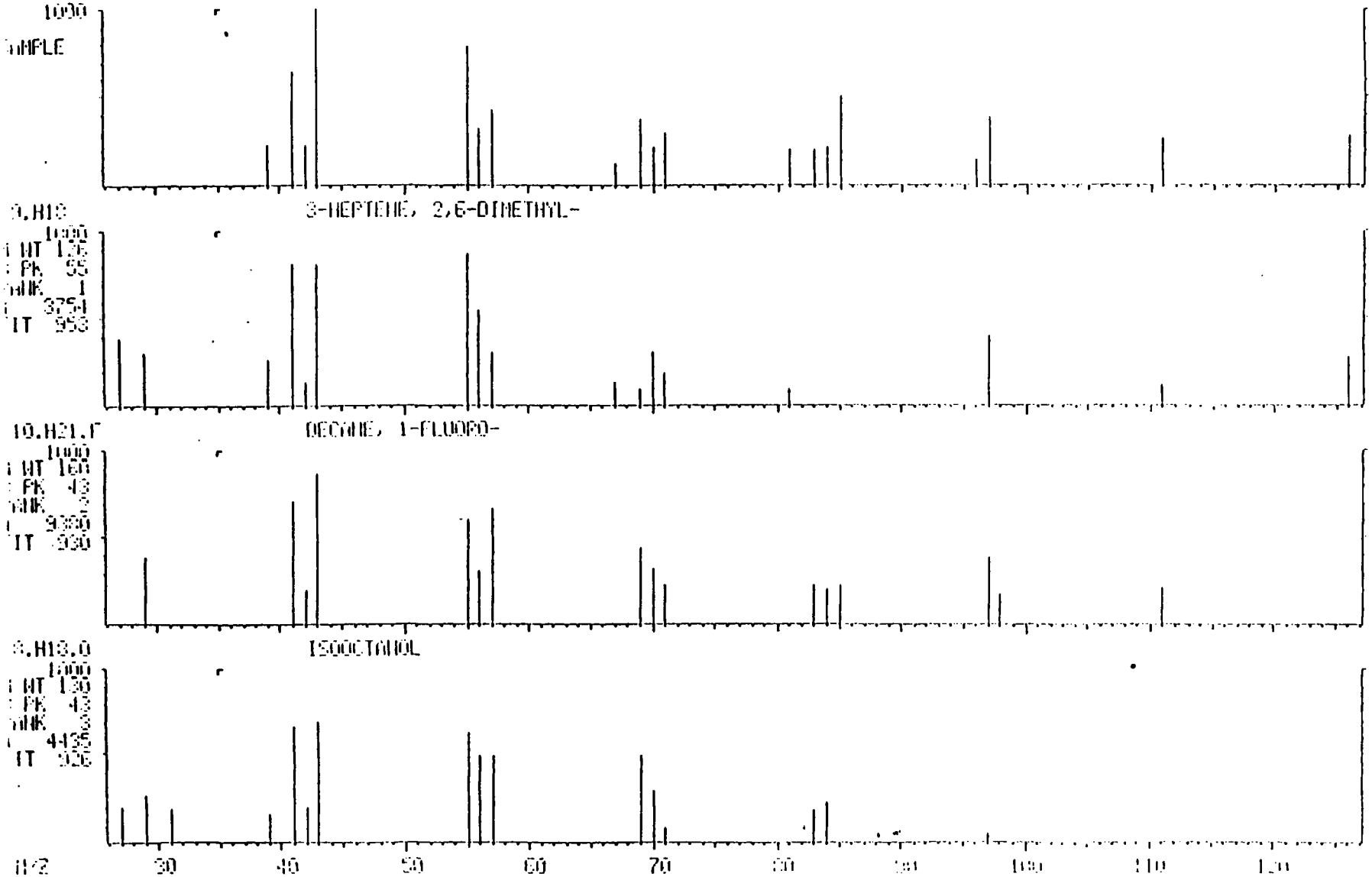
BASE M/Z: [illegible]
PIT: [illegible]



LIBRARY SEARCH
01/12/88 6:58:00 + 20:26
SAMPLE: 15300-2
CONDS.: 1.4000 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 150 20 HT)

DATA: 1530002 H 0-3
CALI: 1530002 H 2

BASE H #: 43
PIC: 34574.



Library Search Data 1503BV2 # 350 Base m/z 43
01/18/88 6:58:00 + 28.2s Cali: 1503BV2 # 2 RIC: 34359
Sample: 1503B-2
Comds: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
Enhanced (S 153 EN 07)

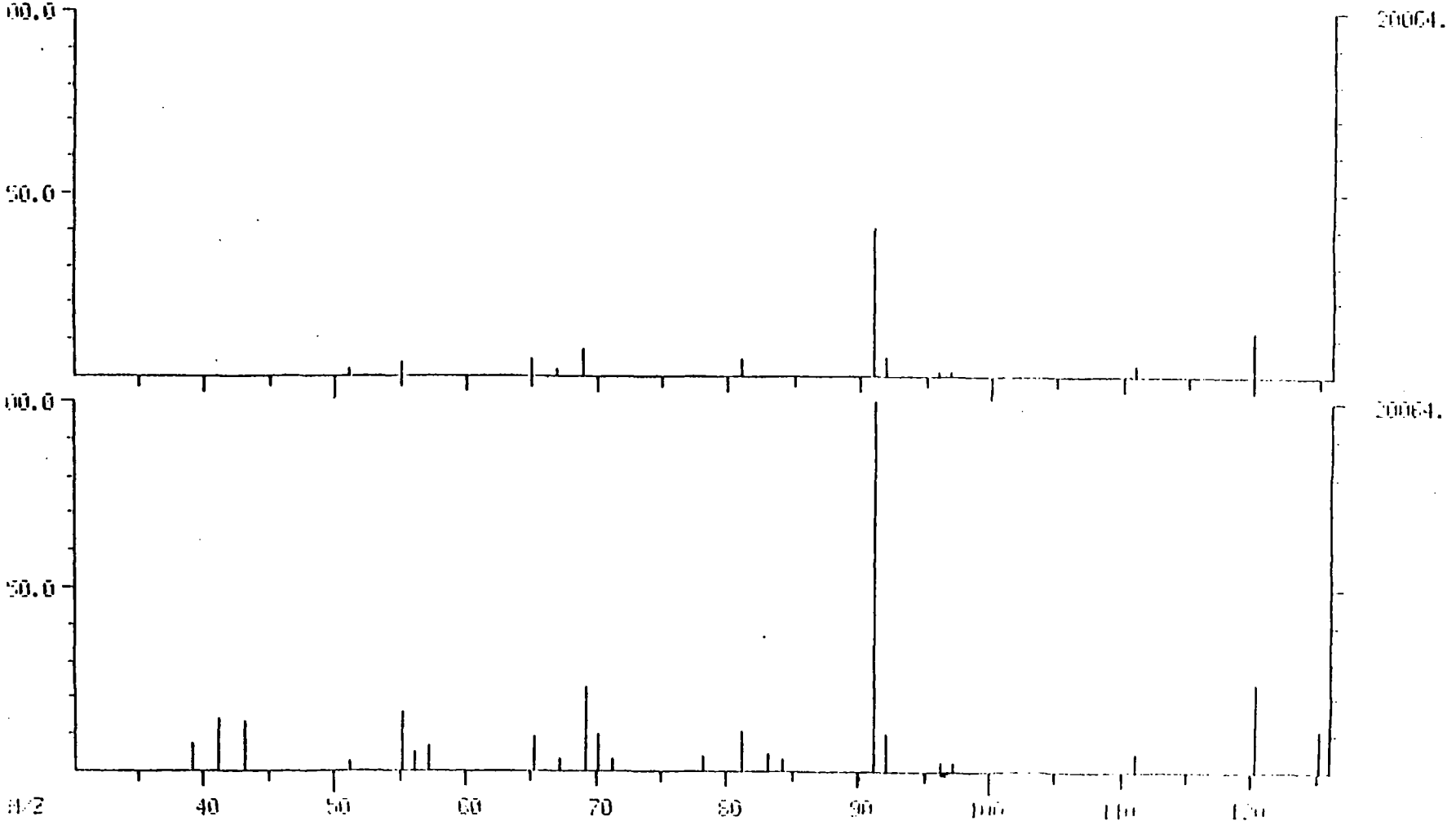
Rank	In	Name
1	3754	2-HEPTENE, 2,6-DIMETHYL-
2	5080	DECANE, 1-FLUORO-
3	4435	ISOOCTANOL
4	3717	CYCLOHEXANE, 1,2,3-TRIMETHYL-
5	1502	1-PENTANOL, 2-METHYL-

Rank	Formula	M.Wt	S.Pk	Purity	Fit	RFit
1	C9.H18	126	55	762	950	762
2	C10.H21.F	160	43	762	930	800
3	C8.H18.O	130	43	627	926	627
4	C9.H18	126	41	645	922	659
5	C6.H14.O	102	43	510	914	521

Rank	Ret.Time	S.P.Int.	US.Par.1	US.Par.2	C.A.S. #
1	___	___	___	___	2738-18-3
2	___	___	___	___	334-56-5
3	___	___	___	___	26952-21-6
4	___	___	___	___	1678-97-3
5	___	___	___	___	105-30-6

DUAL MASS SPECTRUM
01/12/88 6:58:00 + 33:02
SAMPLE: 15300-2
CONDS.: 1.4606 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 150 :H 0T)

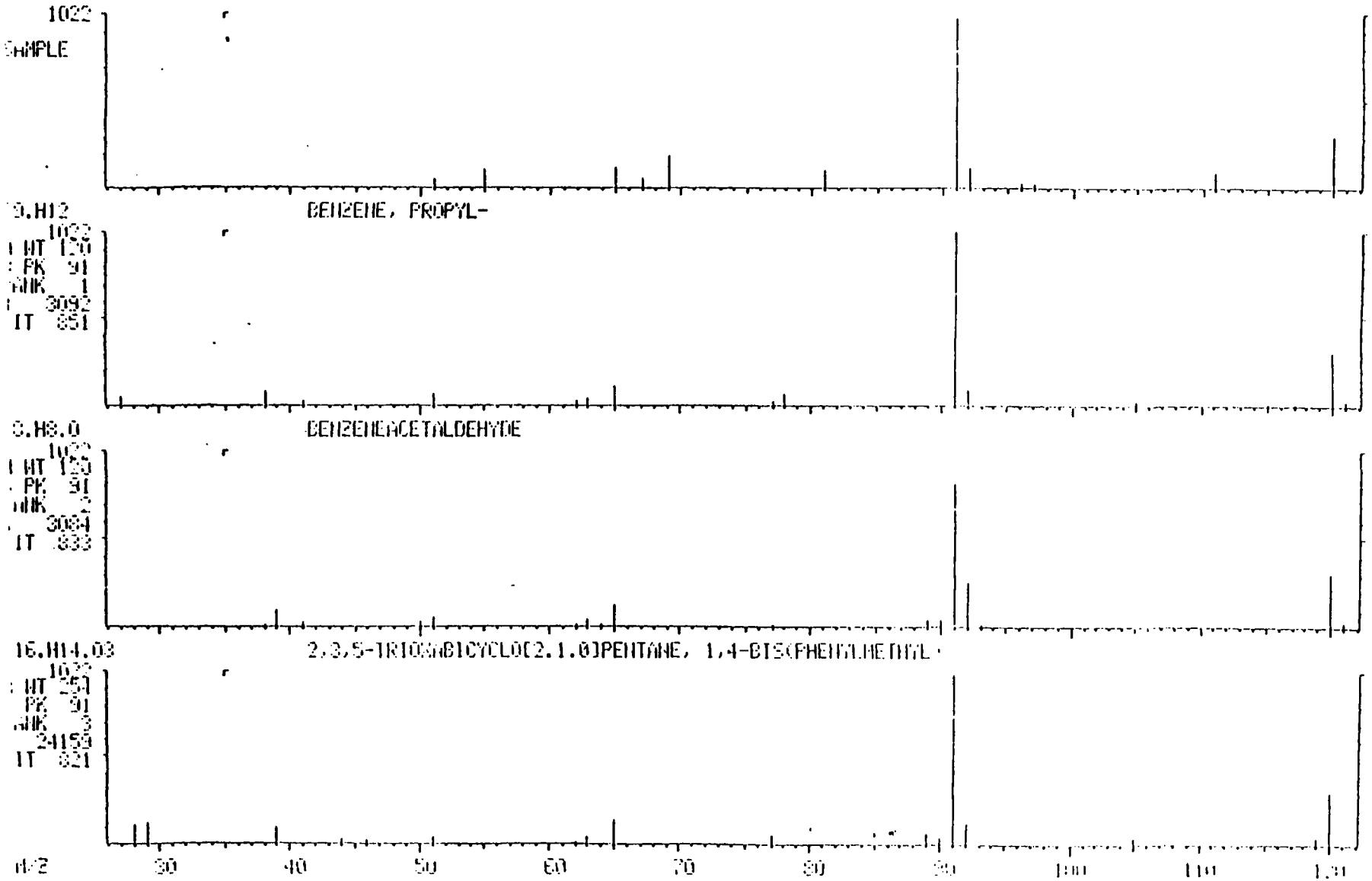
DATA: 1530302 #001
CALI: 1530302 #2



LIBRARY SEARCH
01/12/88 6:58:00 + 33:02
SAMPLE: 15303-2
CONDS.: 1.4E06 G/10ML, 50UL, 1:1000 DILUTION
ENHANCED (S 15B 2N 0T)

DATA: 1530302 # 301
CALI: 1530302 # 2

PAGE # 2: 01
FIL: 17013.



Library, Search Data 1503BV2 # 991 Base Pk 91
01/12/88 @ 08:00 - 08:02 Calib 1503BV2 # 2 RIC 17919
Sample: 1503B-2
Conds: 1.4806 G/10ML, 50UL, 1:1000 DILUTION
Enhanced (B 153 2N OT)

Rank	In.	Name
1	0092	BENZENE, PROPYL-
2	0084	BENZENEACETALDEHYDE
3	24159	2,3,5-TRIOXABICYCLO[2.1.0]PENTANE, 1,4-BIS(PHENYLMETHYL)-
4	4920	BICYCLO[3.1.0]NONA-5,8-DIEN-4-ONE
5	0089	TRICYCLO[4.2.0.02,4]OCT-7-EN-5-ONE

Rank	Formula	M.Wt	B.Pk	Purity	Fit	RFit
1	C9 H12	120	91	647	851	759
2	C8 H8 O	120	91	624	803	745
3	C15 H14 O3	254	91	624	821	760
4	C9 H10 O	134	91	620	784	720
5	C8 H8 O	120	91	602	762	705

Rank	Ret Time	B.P. Int.	US.Par.1	US.Par.2	C.A.S. #
1	___	___	___	___	103-65-1
2	___	___	___	___	122-78-1
3	___	___	___	___	56247-43-4
4	___	___	___	___	56666-74-1
5	___	___	___	___	56666-78-5

AnalytiKEM
(609) 751-1122
Telex: (609) 751-0824

To: Ken Theisen/Loretta Kroetsch (USEPA)

Project: IJ Recycling/USEPA # IN500

Sample Identification: AnalytiKEM # A15308-1 USEPA # C-80

Sample Description: Color _____ State _____

Analytical Parameters	Value
Polychlorinated Biphenyls, ppm	< 3.3
Water, %	< 1.0
Cyanide, total, ppm	1.8
Metals, total, ppm	

Sb		Cr	20	Mg	53	Se	
As		Cu	13	Mn		Si	
Ba	2.3	Fe	310	Na	680	Ag	
Be		Hg		Ni	60	Ti	
Ca	160	K		Pb	18	Zn	240
Cd							

Volatile Organics Constituent	Value, %	Constituent	Value, %
Chloromethane		trans-1,3-Dichloropropene	
Bromomethane		Trichloroethene	0.010
Vinyl Chloride		Dibromochloromethane	
Chloroethane		1,1,2-Trichloroethane	
Methylene Chloride	0.085	Benzene	0.012
1,1-Dichloroethene	0.0042	cis-1,3-Dichloropropene	
1,1-Dichloroethane		2-Chloroethyl Vinyl Ether	0.0018
trans-1,2-Dichloroethene		Bromoform	
Chloroform	0.0027	Tetrachloroethene	0.014
1,2-Dichloroethane	0.0019	1,1,2,2-Tetrachloroethane	
1,1,1-Trichloroethane	1.2	Toluene	0.81
Carbon Tetrachloride		Chlorobenzene	
Bromodichloromethane		Ethylbenzene	0.75
1,2-Dichloropropane		Xylenes, total	2.2

TARGETTED SEMIVOLATILES

DIMETHYL PHTHTALATE 0.017 %

DIBUTYL PHTHTALATE 0.022 %

AnalytiKEM
(609) 751-1122
Telex: (609) 751-0824

To: Ken Theisen/Loretta Kroetsch (USEPA)

Project: IJ Recycling/USEPA # IN500

Sample Identification : AnalytiKEM # A15308-1 USEPA # C-80

EPA/NIH/NBS Nontargetted Library Search

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (percent)
67-64-1	2-Propanone (Acetone)	VOA	199	0.36
	Cyclopentane Isomer	VOA	281	0.013
76-13-1	1,1,2-Trichloro-1,2,2 Trifluoro-ethane	VOA	358	0.013
109-66-0	Pentane	VOA	393	0.046
110-82-7	Cyclohexane	VOA	420	0.15
	Unknown Hydrocarbon	VOA	852	0.025
	Unknown Compounds	VOA		0.22
108-88-3	Methylbenzene	BNA	276	3.3
	Unknown Sub. Cyclohexane	BNA	291	0.43
	Unknown Alkanes	BNA		0.76
	Unknown Aromatics	BNA	610 + 414	2.3
1300-20-7	Dimethylbenzene (Total)	BNA	420 + 461	4.9
	Trimethylbenzene Isomer	BNA	572	0.23
	Unknown Compounds	BNA		5.1

Note: Estimated concentration is calculated against the nearest eluting internal

AnalytiKEM
(609) 751-1122
Telex: (609) 751-0824

1

n Theisen/Loretta Kroetsch (USEPA)

. IJ Recycling/USEPA # IN500

Identification: AnalytiKEM # A15305-2 USEPA # C-81

Description: Color _____ State _____

cal Parameters	Value
orinated Biphenyls, ppm	< 3.3
.	17 %
, total, ppm	—
total, ppm	Metals not quantitated because sample found to be 86% Volatile Organics.

	Cr		Mg		Se		
	Cu		Mn		Si		
	Fe		Na		Ag		
	Hg		Ni		Ti		
	K		Pb		Zn		

le Organics	Value, %		Value, %
tuent		Constituent	
nethane		trans-1,3-Dichloropropene	
ethane		Trichloroethene	2.6
Chloride		Dibromochloromethane	
hane		1,1,2-Trichloroethane	
e Chloride	11	Benzene	
hloroethene		cis-1,3-Dichloropropene	
chloroethane		2-Chloroethyl Vinyl Ether	
1,2-Dichloroethene		Bromoform	
form		Tetrachloroethene	15
chloroethane		1,1,2,2-Tetrachloroethane	
Trichloroethane	4.6	Toluene	19
Tetrachloride		Chlorobenzene	
ichloromethane		Ethylbenzene	5.6
chloropropane		Xylenes, total	27

Metals not quantitated - See above.

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 1N500
PROJECT NAME: IJ RECYCLING
SAMPLERS: (Signature) Rick Vestrick

AIRBILL 3369909560
CUSTODY SEAL 05780

STA. NO.	DATE 1987	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS 1QT	DISPOSAL ANALYSIS							REMARKS
C-57	12/11		X		PEROXIDE - SBS	1	X							
C-58	12/11		X		PEROXIDE - S	1	X							
C-59	12/11		X		F. ORGANIC	1	X							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Rick Vestrick	12/11/87	Melody Sullivan	Melody Sullivan	12/11/87 1620	Bernadette Jim 12/12
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bernadette Jim	12/14/87 1800				
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Remarks: ANALYTICAL
20 SOUTHPARK ROAD
PORTAGE HILL, NJ 08003
ATTN: R. FINN

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

APTUS WASTE ANALYSIS FORM

Aptus Laboratory No. 6883

GENERATOR INFORMATION

Generator Please Complete

1.1 Generator U.S. EPA
1.2 Address
1.3 Phone
1.4 Contact Person Roy F. Weston, Jamie Garvey
1.5 Generator Sample I.D. A-36
1.6 Generator EPA ID # 101644-001
1.7 Sample Volume 1 Liter
1.8 Sample Matrix Liquid

ANALYSIS: Generator Please Circle Analysis(es) Item Number(s) To Be Performed

2.1 Ash 4.4%
2.2 Bielstien
2.3 Btu 14740 Btu/lb
2.4 Total Metals
- a. Arsenic <0.22 mg/l
- b. Barium 150 mg/l
- c. Cadmium 9.79 mg/l
- d. Chromium 137 mg/l
- e. Mercury <0.10 mg/l
- f. Selenium <0.10 mg/l
- g. Silver <0.01 mg/l
- h. Lead 235 mg/l
- i. Other

2.5 Flash Point 105°F
2.6 Halogen (total organic) 1.1%
2.7 Metals (total) please specify Eight EP Tox - see above total metals

2.8 Moisture 12%
2.9 PCB (1 ppm LOD) 894 µg/g
2.10 PCB (<1 ppm LOD)
2.11 pH
2.12 Specific Gravity
2.13 Sulfur (total organic)
2.14 Visosity
2.15 Other

3.1 Comments two layers - samples were run by mixing the layers

Date	Title	Name	Signature
4/25/88	Laboratory Manager	John Buckland	John Buckland

(2)

APTUS WASTE ANALYSIS FORM

Aptus Laboratory No. 6884

GENERATOR INFORMATION

Generator Please Complete

1.1 Generator U.S. EPA
1.2 Address
1.3 Phone
1.4 Contact Person Roy F. Weston, Jamie Garvey
1.5 Generator Sample I.D. (A-37)
1.6 Generator EPA ID # 101644-002
1.7 Sample Volume 1 Liter
1.8 Sample Matrix Liquid (oil and water)

ANALYSIS: Generator Please Circle Analysis(es) Item Number(s) To Be Performed

2.1 Ash 0.8%
2.2 Bielstien
2.3 Btu 10750 Btu/lb
2.4 Total Metals
- a. Arsenic <0.22 mg/l
- b. Barium 4.9 mg/l
- c. Cadmium 0.28 mg/l
- d. Chromium 21.5 mg/l
- e. Mercury <0.10 mg/l
- f. Selenium <0.10 mg/l
- g. Silver <0.01 mg/l
- h. Lead 14.8 mg/l
- i. Other

2.5 Flash Point 110°F
2.6 Halogen (total organic) 0.4%
2.7 Metals (total) please specify Eight EP Tox - See Above Total Metals

2.8 Moisture 24%
2.9 PCB (1 ppm LOD) 170 µg/g
2.10 PCB (<1 ppm LOD)
2.11 pH
2.12 Specific Gravity
2.13 Sulfur (total organic)
2.14 Visosity
2.15 Other

3.1 Comments two layers - samples run by mixing both layers.

Date	Title	Name	Signature
4/25/88	Laboratory Manager	John Buckland	John Buckland

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A1

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

1,1,1 trichloroethane	14.3 %	Heat Content	13600	Btu's/lb
toluene	15.4 %	Viscosity		cp
xylenes	38.6 %	Solids		% volume
ethyl benzene	7.9 %	Sulfur		% wt.
perchloroethylene	9.0 %	Nitrogen		% wt.
C_6 - C_{10} Aliphatics	12.6 %	Halogens	~25.2	% wt. as Cl
naphthalene	2.2 %	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	/	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 100288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A3

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

MEK	10.0 %	Heat Content	14800	Btu's/lb
1,1,1 trichloroethane	33.7 %	Viscosity		cp
toluene	19.4 %	Solids		% volume
ethyl benzene	1.3 %	Sulfur		% wt.
xylenes	14.4 %	Nitrogen		% wt.
C6 - C10 Aliphatics	21.2 %	Halogens	12.7	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A4

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

C7-C18 Aliphatics	100.0 %	Heat Content	19200	Btu's/lb
	%	Viscosity		cp
	%	Solids		% volume
	%	Sulfur		% wt.
	%	Nitrogen		% wt.
	%	Halogens	0.4	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm	
	%	Zn	ppm	Ti	ppm	
	%	Cr	ppm	Fe	ppm	
	%		ppm		ppm	
	%		ppm		ppm	
benzene	%		ppm		ppm	

Site Manager Comments

Signature

Technical Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

Rev 030289

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A5

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

MEK	1.6 %	Heat Content	8200	Btu's/lb
1,1,1 trichloroethane	3.0 %	Viscosity		cp
toluene	29.3 %	Solids		% volume
ethyl benzene	3.2 %	Sulfur		% wt.
xylenes	21.1 %	Nitrogen		% wt.
C_6 - C_{10} Aliphatics	41.8 %	Halogens	1.7	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)	67	% volume
	%	Ash	2	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

Rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A19

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

methylene chloride	0.7 %	Heat Content	6700	Btu's/lb
MEK	1.2 %	Viscosity		cp
1,1,1 trichloroethane	1.6 %	Solids		% volume
diisobutylene	9.9 %	Sulfur		% wt.
toluene	32.1 %	Nitrogen		% wt.
ethyl benzene	3.1 %	Halogens	2.1	% wt. as Cl
xylene	19.8 %	Aqueous Extraction		pH
C_9 Alkyl Benzenes	3.5 %	Water (separated phase)	40	% volume
C_6 - C_{10} Aliphatics	28.1 %	Ash	11	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 020311

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A20

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

diisobutylene	17.7 %	Heat Content	18000	Btu's/lb
toluene	25.2 %	Viscosity		cp
mesityl oxide	3.6 %	Solids		% volume
ethyl benzene	2.8 %	Sulfur		% wt.
xylenes	17.9 %	Nitrogen		% wt.
triisobutylene	2.3 %	Halogens	3.0	% wt. as Cl
C_9 Alkyl Benzenes	3.6 %	Aqueous Extraction		pH
C_6 - C_{10} Aliphatics	26.9 %	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

%	Pb	ppm	Ba	ppm
%	Zn	ppm	Ti	ppm
%	Cr	ppm	Fe	ppm
%		ppm		ppm
%		ppm		ppm
benzene %		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

rev 080288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A24

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

toluene	13.8 %	Heat Content	3700	Btu's/lb
ethyl benzene	4.6 %	Viscosity		cp
xylenes	24.4 %	Solids		% volume
C_7-C_{18} Aliphatics	57.2 %	Sulfur		% wt.
	%	Nitrogen		% wt.
	%	Halogens	1.7	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)	67	% volume
	%	Ash	30	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

[_] Accepted for use as a fuel [_] Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A31

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

MEK	1.5 %	Heat Content	17800	Btu's/lb
methylene chloride	0.7 %	Viscosity		cp
diisobutylene	35.8 %	Solids		% volume
toluene	22.8 %	Sulfur		% wt.
mesityl oxide	4.0 %	Nitrogen		% wt.
ethyl benzene	1.4 %	Halogens	4.2	% wt. as Cl
xylenes	10.9 %	Aqueous Extraction		pH
C5 - C18 Aliphatics	22.9 %	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 020238

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A32

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary QUALIFICATION ANALYSIS FOR IT Recycling Cleanup

Organics

toluene	24.1 %	Heat Content	16800	Btu's/lb
perchloroethylene	8.2 %	Viscosity		cp
ethyl benzene	4.2 %	Solids		% volume
xylene	25.1 %	Sulfur		% wt.
C_9 Alkyl Benzenes	8.4 %	Nitrogen		% wt.
C-7 - C_{14} Aliphatics	30.0 %	Halogens	6.7	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Data submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 050188

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A 33

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

MEK	3.2 %	Heat Content	17200	Btu's/lb
ethyl acetate	0.9 %	Viscosity		cp
1,1,1 trichloroethane	0.9 %	Solids		% volume
diisobutylene	27.5 %	Sulfur		% wt.
toluene	24.5 %	Nitrogen		% wt.
mesityl oxide	3.7 %	Halogens	4.7	% wt. as Cl
ethyl benzene	1.6 %	Aqueous Extraction		pH
xylenes	11.3 %	Water (separated phase)		% volume
triisobutylene	1.7 %	Ash	<1	% wt.
perchloroethylene	2.3 %	Specific Gravity		gr/ml
C5-C12 Aliphatics	22.4 %	PCBs		ppm

Metals

	%				
	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

Form 120238

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A34

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

diisobutylene	3.3 %	Heat Content	13800	Btu's/lb
toluene	14.4 %	Viscosity		cp
ethyl benzene	2.9 %	Solids		% volume
xylenes	16.9 %	Sulfur		% wt.
triisobutylene	4.7 %	Nitrogen		% wt.
C6-C18 Aliphatics	57.8 %	Halogens	2.7	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)	10	% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code A39

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

1.1.1 trichloroethane	1.5 %	Heat Content	2200	Btu's/lb
toluene	27.6 %	Viscosity		cp
ethyl benzene	3.2 %	Solids		% volume
xylenes	19.8 %	Sulfur		% wt.
C6-C18 Aliphatics	47.9 %	Nitrogen		% wt.
	%	Halogens	1.3	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)	70	% volume
	%	Ash	4	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

rev 122288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B41

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

MEK	6.3 %	Heat Content	15200	Btu's/lb
1,1,1 trichloroethane	0.6 %	Viscosity		cp
toluene	38.2 %	Solids		% volume
ethyl benzene	2.3 %	Sulfur		% wt.
xylenes	17.1 %	Nitrogen		% wt.
C_6 - C_{18} Aliphatics	45.5 %	Halogens	0.7	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	2	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

|_| Accepted for use as a fuel |_| Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B46

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

toluene	20.7 %	Heat Content	17200	Btu's/lb
perchloroethylene	6.7 %	Viscosity		cp
ethyl benzene	7.1 %	Solids		% volume
xylenes	39.3 %	Sulfur		% wt.
C_9 Alkyl Benzenes	3.2 %	Nitrogen		% wt.
C_2 - C_{10} Aliphatics	23.0 %	Halogens	4.3	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	3	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

|_| Accepted for use as a fuel |_| Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B47

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

acetone	4.3 %	Heat Content	14100	Btu's/lb
methylene chloride	14.0 %	Viscosity		cp
1,1,1 trichloroethane	4.0 %	Solids		% volume
toluene	27.3 %	Sulfur		% wt.
perchloroethylene	5.3 %	Nitrogen		% wt.
ethyl benzene	1.7 %	Halogens	9.1	% wt. as Cl
xylenes	11.2 %	Aqueous Extraction		pH
C_1 - C_{10} Aliphatics	32.2 %	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Data submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B48

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

methylene chloride	1.1 %	Heat Content	15600	Btu's/lb
1,1,1 trichloroethane	3.7 %	Viscosity		cp
toluene	34.2 %	Solids		% volume
perchloroethylene	8.6 %	Sulfur		% wt.
ethyl benzene	3.2 %	Nitrogen		% wt.
xylenes	18.2 %	Halogens	17.4	% wt. as Cl
C_9 Alkyl Benzenes	4.6 %	Aqueous Extraction		pH
C_6-C_{10} Aliphatics	26.4 %	Water (separated phase)		% volume
	%	Ash	1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code 849

Address _____ Date 6-30-88

_____ Volume _____

Contact/Phone Ken Theissen EPA Waste Code(s) _____

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

acetone	10.0 %	Heat Content	12900	Btu's/lb
methylene chloride	1.6 %	Viscosity		cp
MEK	27.4 %	Solids		% volume
1.1.1 trichloroethane	1.2 %	Sulfur		% wt.
trichloroethylene	2.8 %	Nitrogen		% wt.
toluene	16.8 %	Halogens	8.2	% wt. as Cl
perchloroethylene	4.1 %	Aqueous Extraction		pH
ethyl benzene	3.5 %	Water (separated phase)		% volume
xylenes	19.8 %	Ash	1	% wt.
C_9 Alkyl Benzenes	1.8 %	Specific Gravity		gr/ml
C_6 - C_{14} Aliphatics	11.0 %	PCBs		ppm

Metals

	%				
	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments _____

_____ Signature _____

Technical Director Signature _____
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By _____ Date _____

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code 651

Address _____ Date 6-30-88

_____ Volume _____

Contact/Phone Ken Theissen EPA Waste Code(s) _____

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics				
methylene chloride	5.1 %	Heat Content	13600	Btu's/lb
MEK	10.2 %	Viscosity		cp
1,1,1 trichloroethane	2.4 %	Solids		% volume
MIBK	3.0 %	Sulfur		% wt.
toluene	23.1 %	Nitrogen		% wt.
perchloroethylene	4.5 %	Halogens	14.8	% wt. as Cl
ethyl benzene	3.6 %	Aqueous Extraction		pH
xylenes	19.2 %	Water (separated phase)		% volume
C_7-C_{10} Aliphatics	28.9 %	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

		Metals			
	%				
	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments _____

_____ Signature _____

Technical Director Signature _____
Date submitted to General Portland Inc. for approval as a qualified source.

|_| Accepted for use as a fuel |_| Rejected for use as fuel

By _____ Date _____

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B54A

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

methylene chloride	1.2 %	Heat Content	15100	Btu's/lb
1,1,1 trichloroethane	1.4 %	Viscosity		cp
MIBK	4.8 %	Solids		% volume
toluene	14.2 %	Sulfur		% wt.
perchloroethylene	4.3 %	Nitrogen		% wt.
ethyl benzene	2.8 %	Halogens	4.3	% wt. as Cl
xylenes	20.1 %	Aqueous Extraction		pH
styrene	19.1 %	Water (separated phase)		% volume
C_9 Alkyl Benzenes	2.9 %	Ash	1	% wt.
C_6 - C_{18} Aliphatics	29.2 %	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B54C

Address _____ Date 6-30-88

_____ Volume _____

Contact/Phone Ken Theisen EPA Waste Code(s) _____

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

isopropanol	5.8 %	Heat Content	12400	Btu's/lb
methylene chloride	2.1 %	Viscosity		cp
1,1,1 trichloroethane	2.9 %	Solids		% volume
MIBK	4.6 %	Sulfur		% wt.
toluene	19.6 %	Nitrogen		% wt.
perchloroethylene	2.0 %	Halogens	4.9	% wt. as Cl
ethyl benzene	1.8 %	Aqueous Extraction		pH
xylenes	6.4 %	Water (separated phase)		% volume
butyl cellosolve	10.5 %	Ash	1	% wt.
dimethyl phthalate	2.1 %	Specific Gravity		gr/ml
diethyl phthalate	6.1 %	PCBs		ppm
C_5 - C_{14} Aliphatics	36.1 %			

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments _____

_____ Signature _____

Technical Director Signature _____
Date submitted to General Portland Inc. for approval as a qualified source.

[ ] Accepted for use as a fuel [ ] Rejected for use as fuel

By _____ Date _____

Rev 020233

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B55

Address _____ Date 6-30-88

_____ Volume _____

Contact/Phone Ken Theissen EPA Waste Code(s) _____

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

acetone	2.8 %	Heat Content	14500	Btu's/lb
isopropanol	4.4 %	Viscosity		cp
MEK	52.2 %	Solids		% volume
1,1,1 trichloroethane	0.2 %	Sulfur		% wt.
propyl acetate	0.7 %	Nitrogen		% wt.
toluene	16.3 %	Halogens	2.4	% wt. as Cl
perchloroethylene	1.5 %	Aqueous Extraction		pH
butyl acetate	1.5 %	Water (separated phase)		% volume
ethyl benzene	0.7 %	Ash	<1	% wt.
xylenes	6.0 %	Specific Gravity		gr/ml
C_9 Alkyl Benzenes	7.2 %	PCBs		ppm
C_7 - C_{13} Aliphatics	6.5 %			

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments _____

_____ Signature _____

Technical Director Signature _____
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By _____ Date _____

rev 120288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B56

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

toluene	33.6 %	Heat Content	1200	Btu's/lb
ethyl benzene	4.2 %	Viscosity		cp
xylenes	22.0 %	Solids		% volume
C_6-C_{18} Aliphatics	40.2 %	Sulfur		% wt.
	%	Nitrogen		% wt.
	%	Halogens	<1	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)	90	% volume
	%	Ash	3	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

|_| Accepted for use as a fuel |_| Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B57

Address _____ Date 6-30-88

_____ Volume _____

Contact/Phone Ken Theissen EPA Waste Code(s) _____

Source IT Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IT Recycling Cleanup

Organics

1,1,1 trichloroethane	2.9 %	Heat Content	3400	Btu's/lb
toluene	30.0 %	Viscosity		cp
ethyl benzene	3.7 %	Solids		% volume
xylenes	17.5 %	Sulfur		% wt.
C_9 Alkyl Benzenes	4.9 %	Nitrogen		% wt.
C_6 - C_{10} Aliphatics	41.0 %	Halogens	<1	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)	75	% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments _____

_____ Signature _____

Technical Director Signature _____
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By _____ Date _____

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code B61

Address Date 6-30-88

Volume

Contact/Phone Ken Theissen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

C_{11} - C_{18} Aliphatics	100.0 %	Heat Content	19200	Btu's/lb
	%	Viscosity		cp
	%	Solids		% volume
	%	Sulfur		% wt.
	%	Nitrogen		% wt.
	%	Halogens	<1	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba		ppm
	%	Zn	ppm	Ti		ppm
	%	Cr	ppm	Fe		ppm
	%		ppm			ppm
	%		ppm			ppm
benzene	%		ppm			ppm

Site Manager Comments

Signature

Technical Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

|_| Accepted for use as a fuel |_| Rejected for use as fuel

By Date

rev 020288

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator US EPA Customer Code C64

Address Date 6-30-88

Volume

Contact/Phone Ken Theisen EPA Waste Code(s)

Source IJ Recycling Cleanup

Preliminary ~~QUALIFICATION~~ ANALYSIS FOR IJ Recycling Cleanup

Organics

Toluene	19.2 %	Heat Content	18900	Btu's/lb
ethyl benzene	3.5 %	Viscosity		cp
xylenes	11.1 %	Solids		% volume
Benzene	0.9 %	Sulfur		% wt.
C_9 Alkyl Benzenes	3.9 %	Nitrogen		% wt.
C_{11} - C_{14} Aliphatics	61.8 %	Halogens	<1	% wt. as Cl
	%	Aqueous Extraction		pH
	%	Water (separated phase)		% volume
	%	Ash	<1	% wt.
	%	Specific Gravity		gr/ml
	%	PCBs		ppm

Metals

	%	Pb	ppm	Ba	ppm
	%	Zn	ppm	Ti	ppm
	%	Cr	ppm	Fe	ppm
	%		ppm		ppm
	%		ppm		ppm
benzene	%		ppm		ppm

Site Manager Comments

Signature

Technical Director Signature
Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as a fuel ☐ Rejected for use as fuel

By Date

rev 020288