

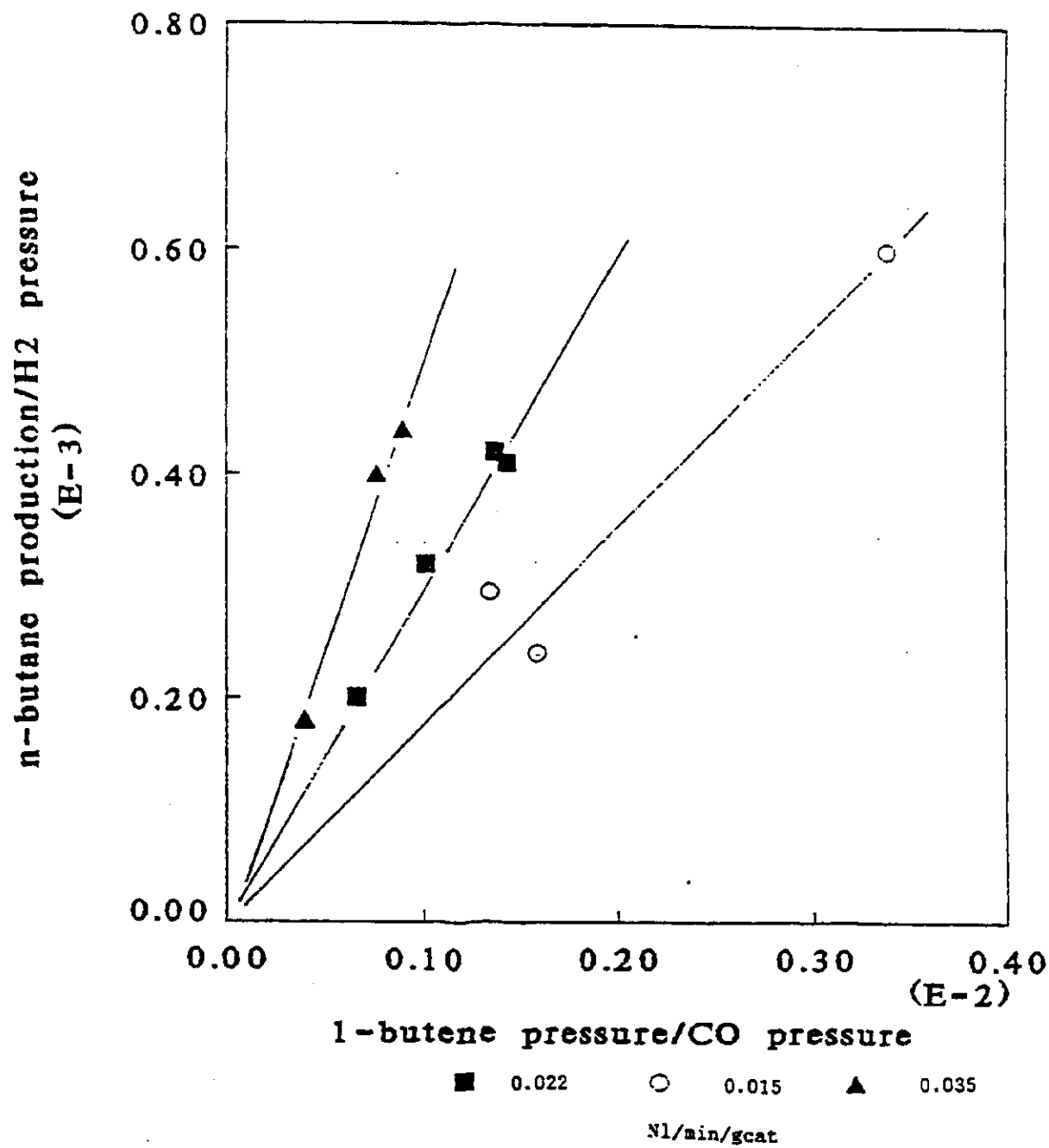


Figure 9
1-butene Hydrogenation Model with CO Inhibition
248°C

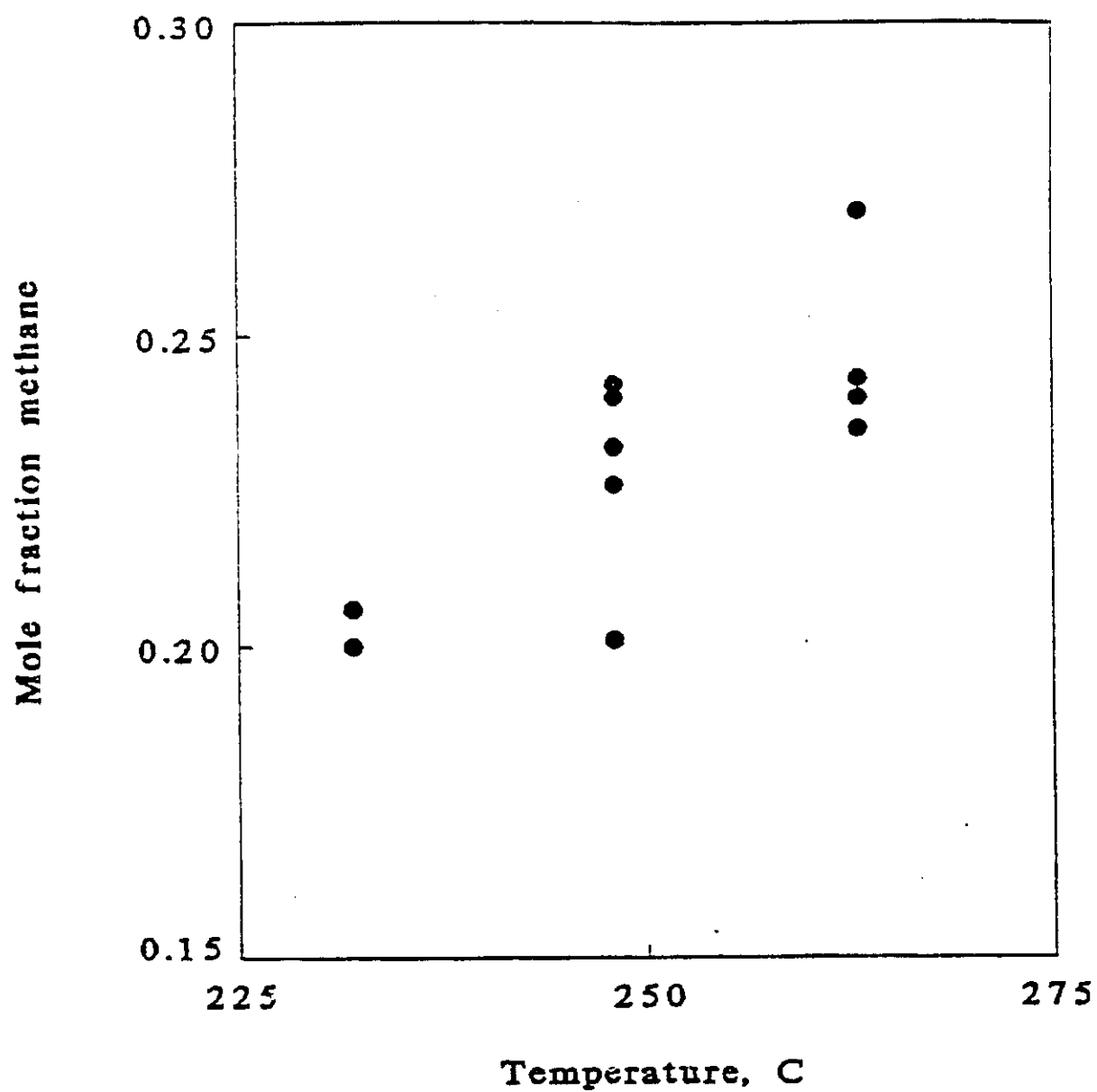


Figure 10
Temperature Dependence of Mole Fraction Methane in Products
Space Velocity 0.022 Nl/min/gcat

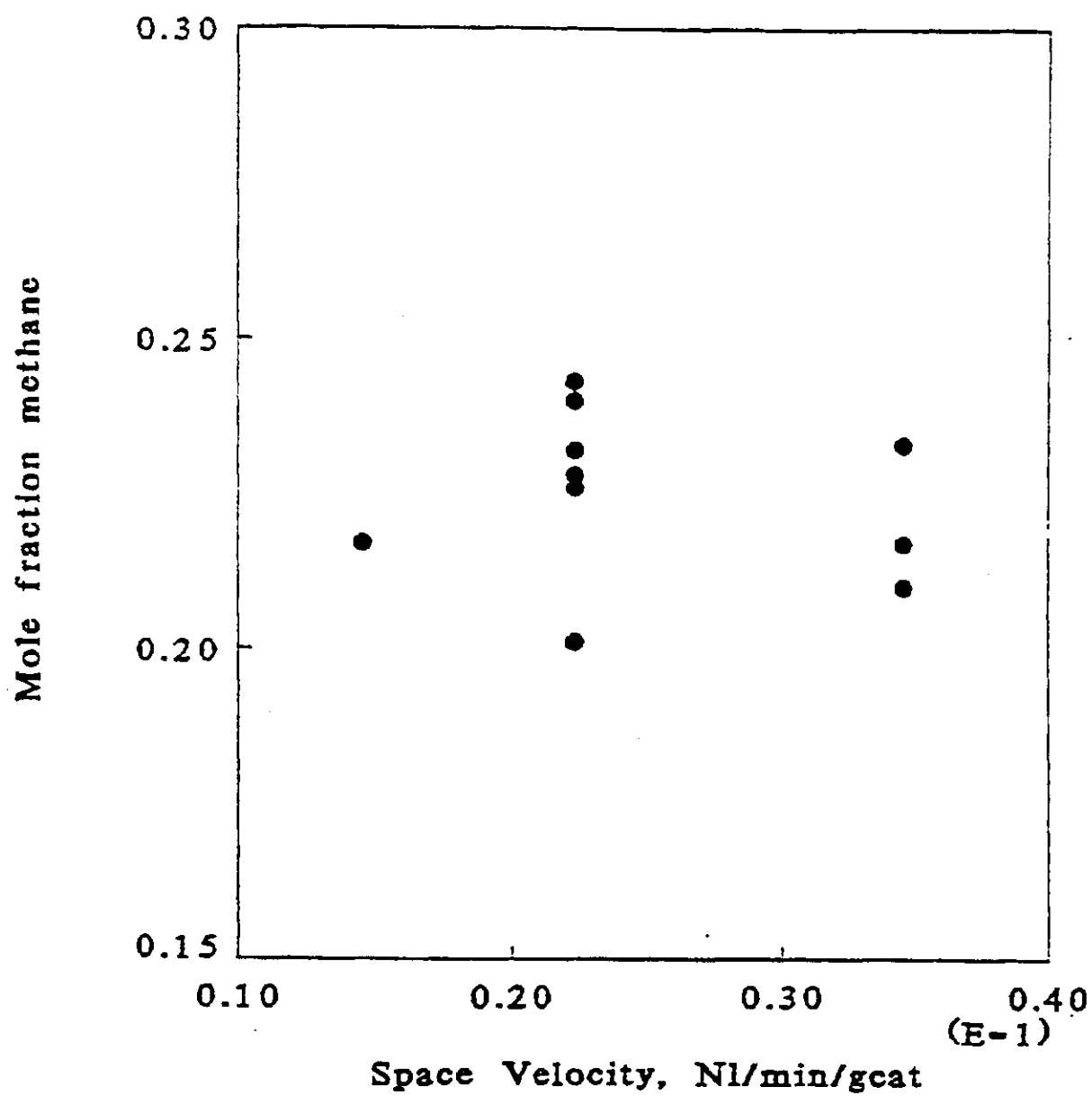


Figure 11
Space Velocity Dependence of Mole Fraction Methane in Products
Temperature 263°C

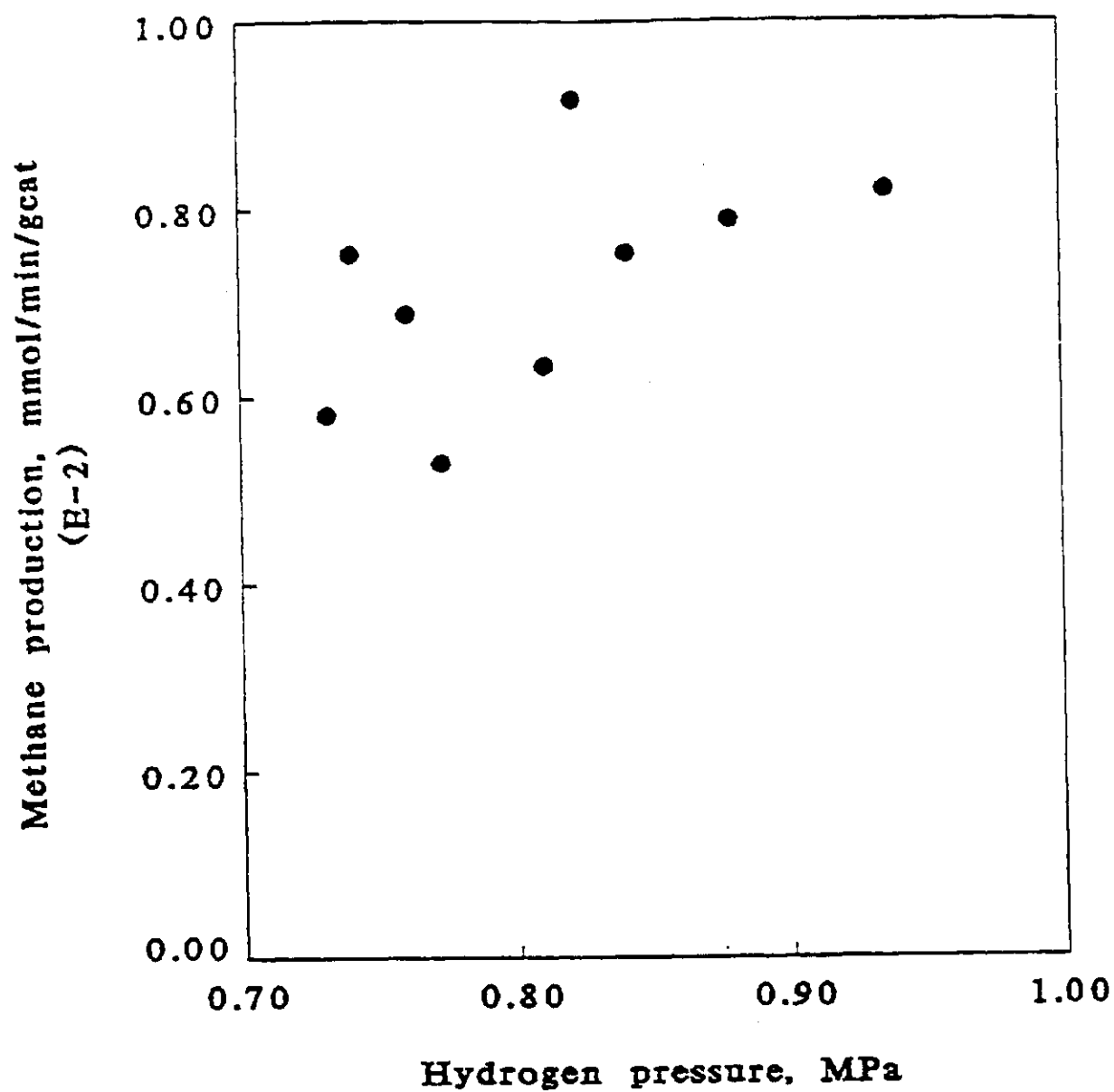


Figure 12
Hydrogen Dependence of Methane Production Rate
Temperature 263°C

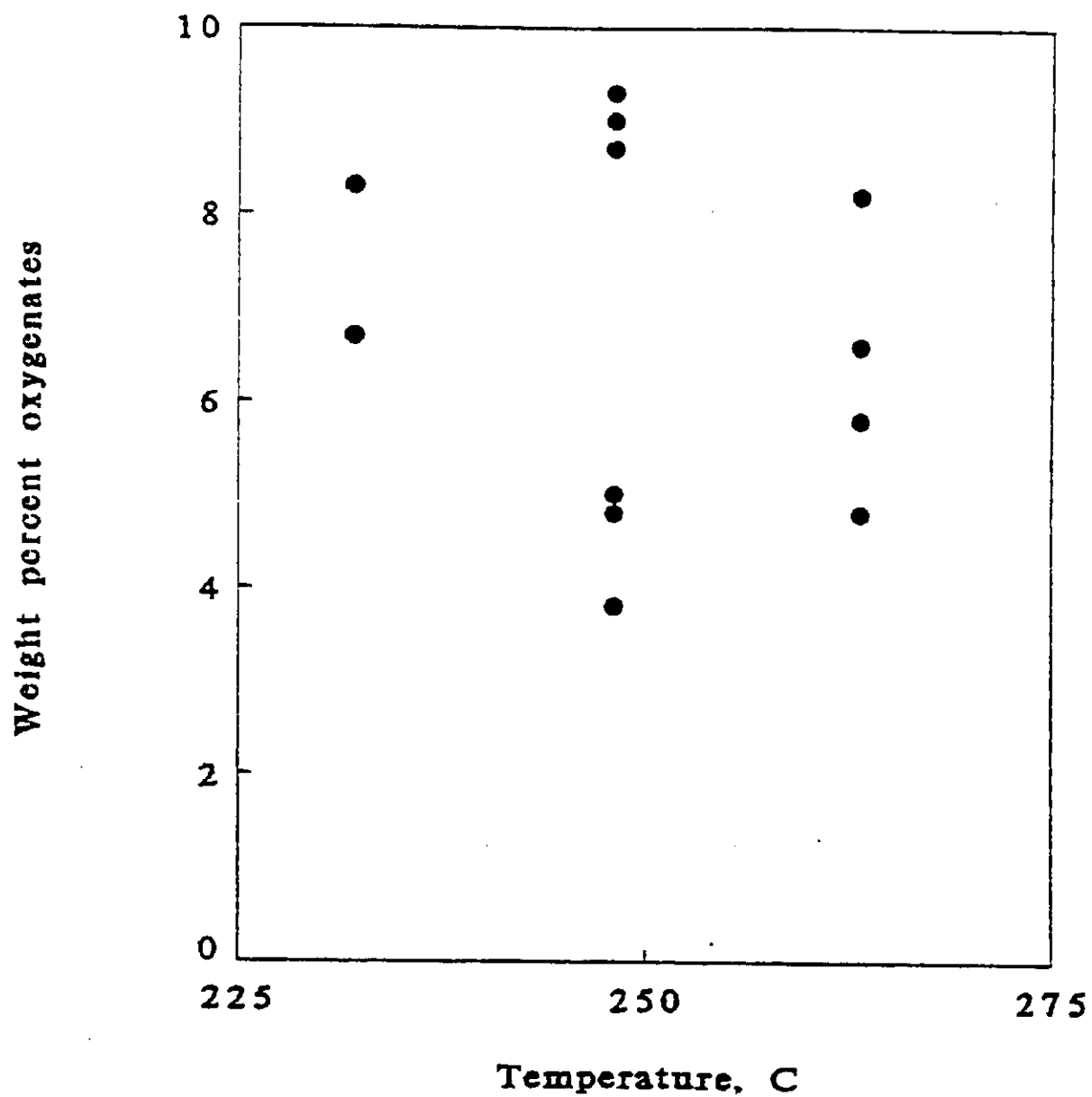


Figure 13
Temperature Dependence of Oxygenates in Products
Space Velocity 0.022 Nl/min/gcat

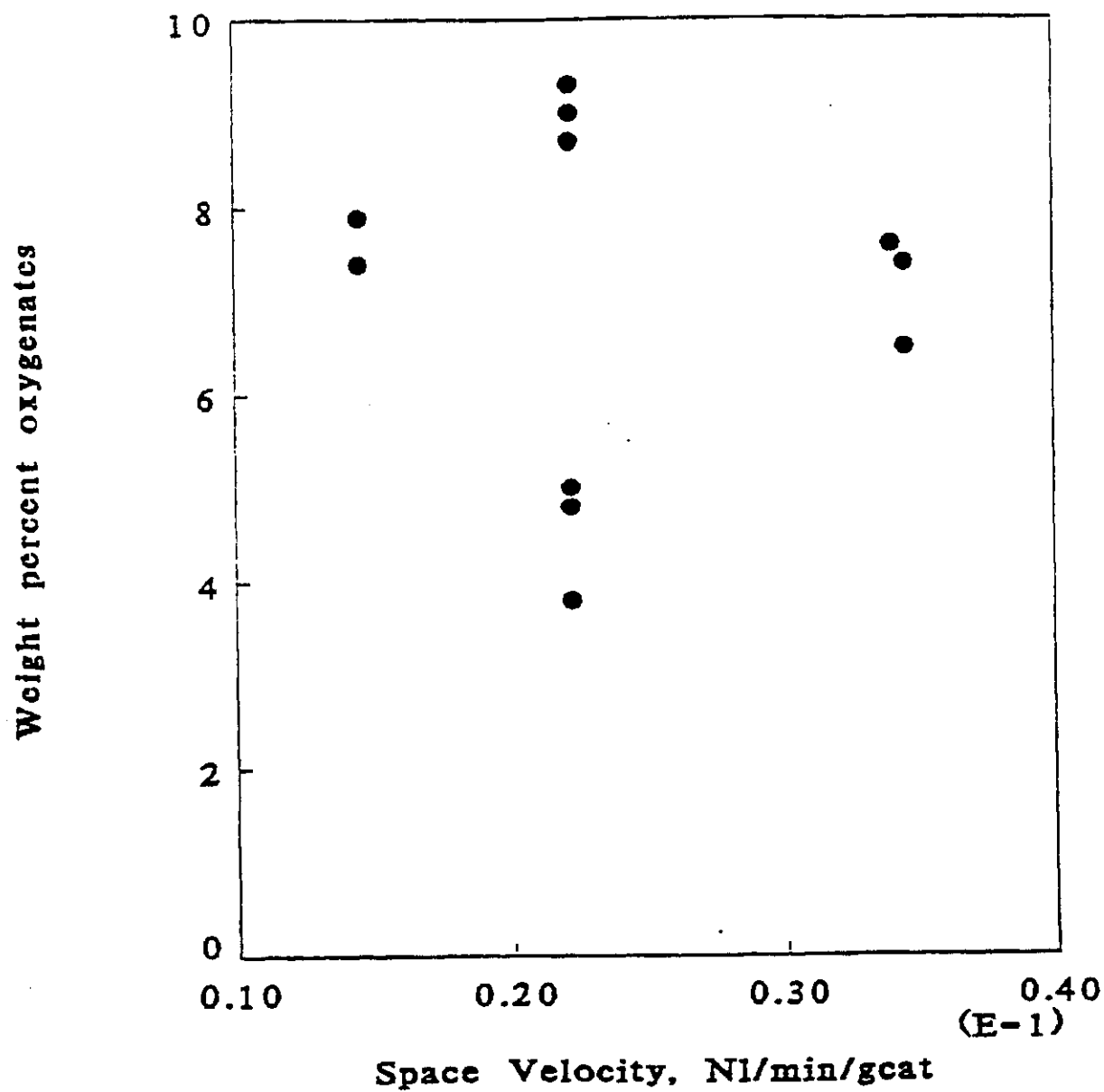


Figure 14
Space Velocity Dependence of Oxygenates in Products
Temperature 248°C

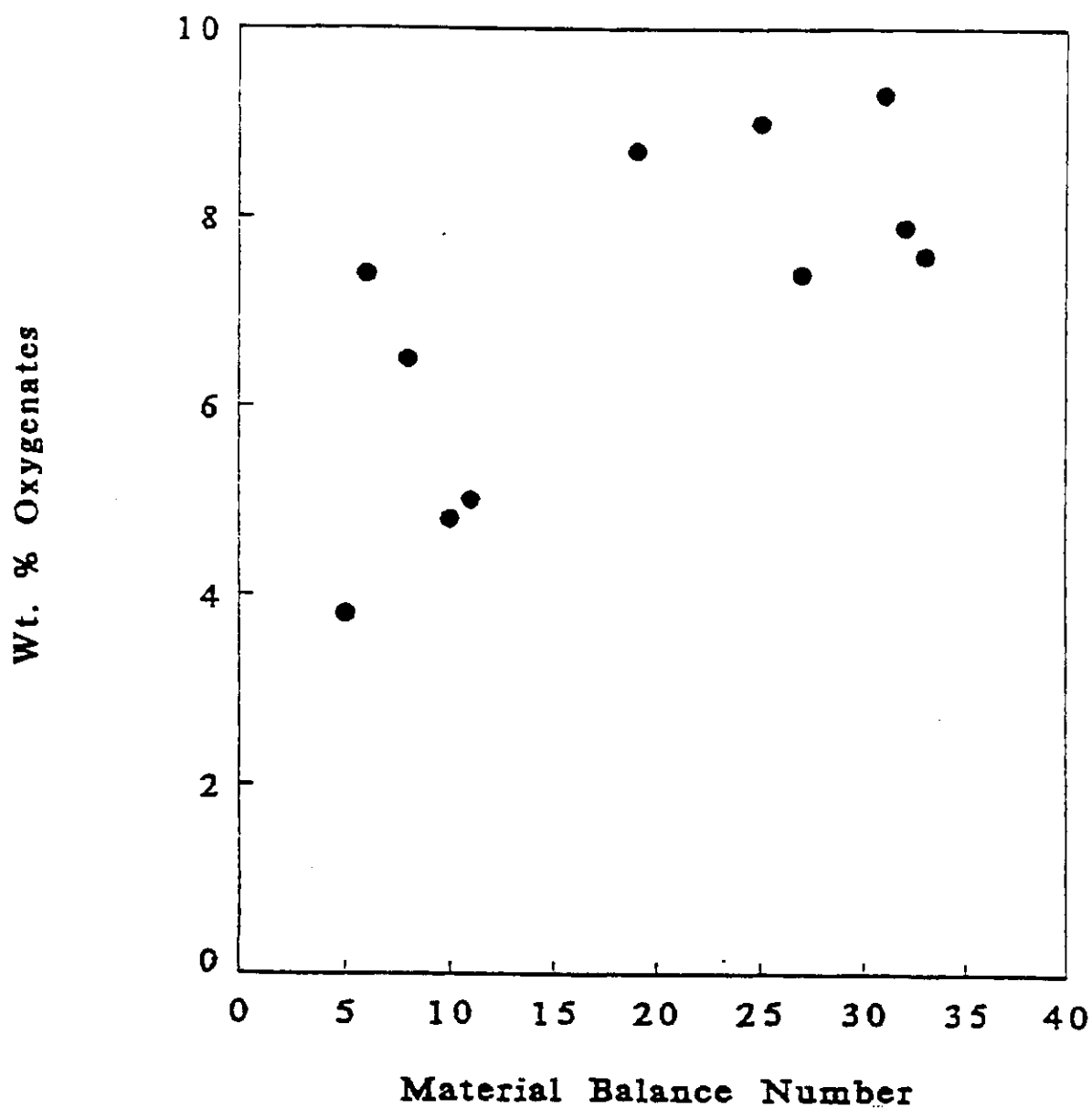


Figure 15
Time-on-Stream Dependence of Oxygenates in Products
Temperature 248°C

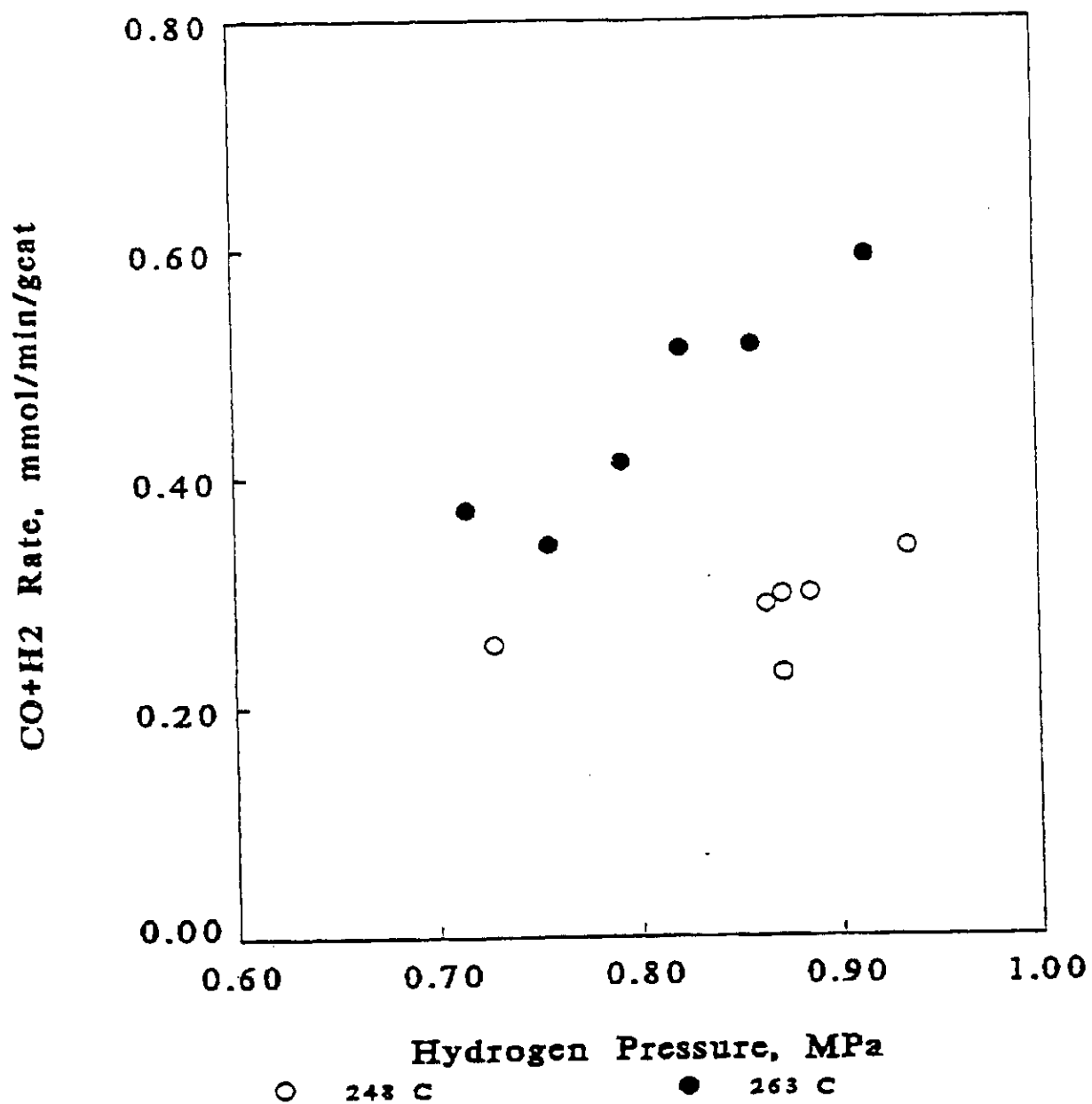


Figure 16
Hydrogen Dependence of CO + H₂ Consumption Rate
Temperatures 248 and 263°C

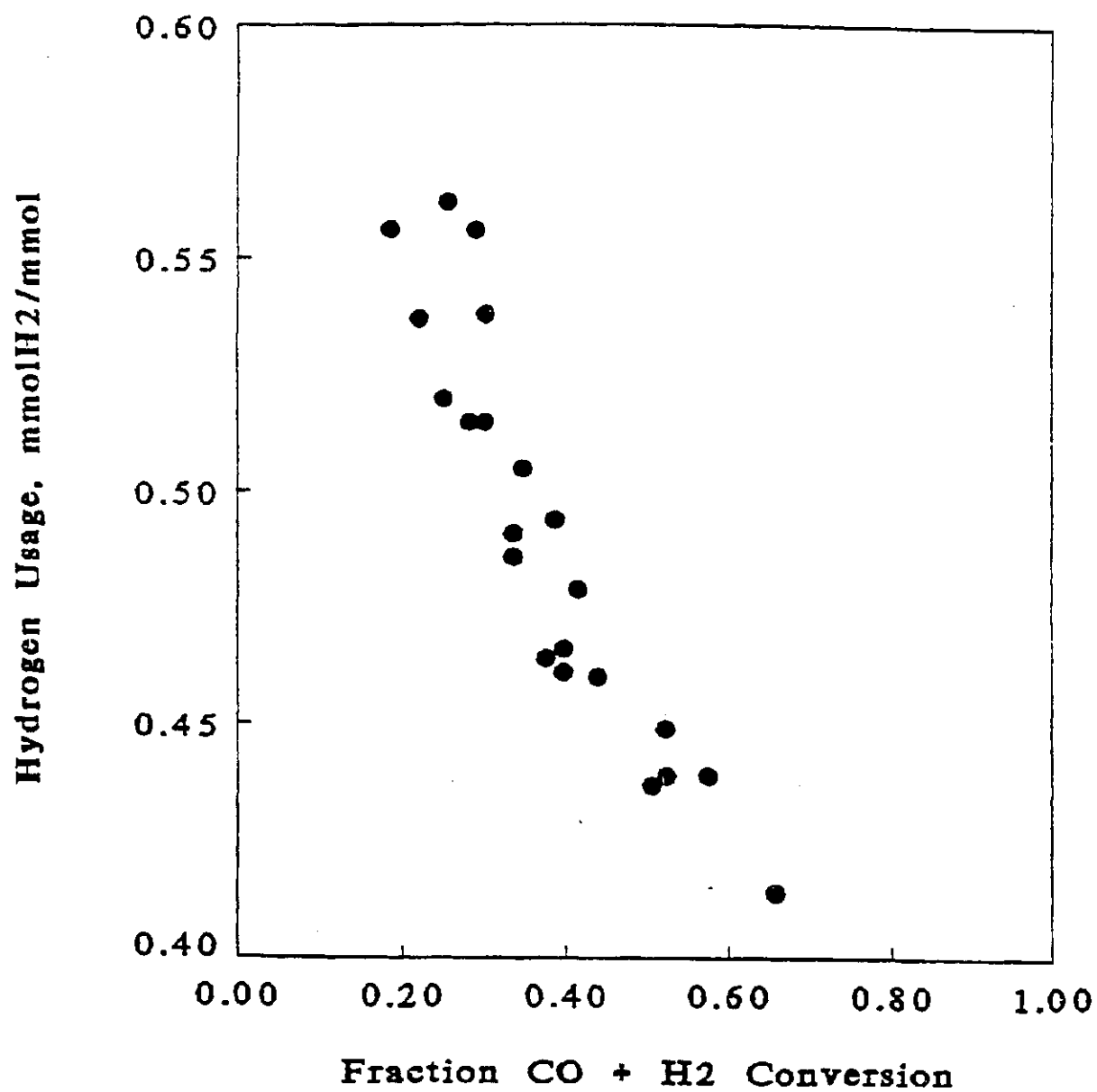


Figure 17
CO + H₂ Conversion Dependence of Relative Hydrogen Usage

APPENDIX A

TY RSLTS.RC3.5

TIME (MIN): 360.0

DATE:

SAMPLE#:

TEMP(C)= 248.0 PRESS(ATM ABS)=: 26.86267 L/H IN= .554 FEED RATIO= .730

FT MOLES OUT/MIN= .2843E-03 OCTACOSANE MOLES OUT/MIN= .0000E+00

AVE.MOLWT= 87.77 USAGE RATIO= 1.109 RATE CO+H2 (MILLIMOLES/MIN) = 7.443

XH2= 37.53 XCO= 24.70 XCO+H2= 30.11

PERCENT OXYGENATES= 3.844 PERCENT METHANE= 3.740

PERCENT OLEFINS= 51.374

BALANCES

C= 94.59 H= 93.24 O= 98.93 TOTWT= 96.88

PRESSURES(ATM ABS)

H2= 8.79595 CO= 14.52441 H2O= 1.78640 CO2= 1.37213

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	AOLE	BOLE	ISOM	ACID	NALC	CRBO	ARGH	TOT
1	20.51	.00	.00	.00	.00	2.10	.00	.000	22.61
2	2.35	8.35	.00	.00	.03	2.56	.04	.000	13.43
3	2.11	9.52	.00	.00	.01	.76	.23	.000	12.63
4	1.63	6.24	.00	.08	.00	.39	.11	.000	8.45
5	1.11	4.02	.00	.76	.00	.26	.09	.000	6.15
6	.94	2.89	.00	.45	.00	.12	.00	.000	4.30
7	.65	1.99	.00	.40	.00	.05	.00	.000	3.09
8	.54	1.35	.00	.37	.00	.03	.00	.000	2.28
9	.57	1.24	.00	.24	.00	.02	.00	.000	2.07
10	.61	1.22	.00	.34	.00	.01	.00	.000	2.18
11	.75	1.42	.00	.49	.00	.00	.00	.000	2.67
12	.90	1.50	.00	.45	.00	.00	.00	.000	2.85
13	.96	1.43	.00	.50	.00	.00	.00	.000	2.89
14	.95	1.26	.00	.47	.00	.00	.00	.000	2.69
15	.89	1.10	.00	.31	.00	.00	.00	.000	2.30
16	.78	.91	.00	.32	.00	.00	.00	.000	2.01
17	.67	.71	.00	.23	.00	.00	.00	.000	1.60
18	.57	.56	.00	.18	.00	.00	.00	.000	1.31
19	.43	.44	.00	.11	.00	.00	.00	.000	.98
20	.36	.35	.00	.10	.00	.00	.00	.000	.82
21	.30	.29	.00	.07	.00	.00	.00	.000	.66
22	.25	.23	.00	.02	.00	.00	.00	.000	.49
23	.20	.19	.00	.04	.00	.00	.00	.000	.43
24	.16	.15	.00	.03	.00	.00	.00	.000	.34
25	.14	.13	.00	.02	.00	.00	.00	.000	.29
26	.14	.11	.00	.00	.00	.00	.00	.000	.25
27	.12	.10	.00	.00	.00	.00	.00	.000	.22
28	.00	.00	.00	.00	.00	.00	.00	.000	.00
29	.00	.00	.00	.00	.00	.00	.00	.000	.00
30	.00	.00	.00	.00	.00	.00	.00	.000	.00

MOLES H2/MIN .6515E-02

MOLES CO/MIN .1076E-01

MOLES CO2/MIN .1016E-02

MOLES H2O/MIN .1323E-02

TY RSLTS.RC3.6

RUNE (MIN): 300.0

DATE:

SAMPLE#:

TEMP(C)= 248.0

PRESS(ATM ABS)= 26.86794

L/M IN= .860

FEED RATIO= .700

FT MOLES OUT/MIN= .5052E-03

OCTACOSANE MOLES OUT/MIN= .1518E-04

AVE.MOLWT= 74.75

USAGE RATIO= 1.061

RATE CO+H2 (MILLIMOLES/MIN) = 10.830

XH2= 35.28

XCO= 23.29

XCO+H2= 28.23

PERCENT OXYGENATES= 7.379

PERCENT METHANE= 4.131

PERCENT OLEFINS= 47.105

BALANCES

C= 95.08 H= 95.75 O= 97.78 TOTWT= 96.58

PRESSURES(ATM ABS)

H2= 8.30248 CO= 14.90560 H2O= 1.37779 CO2= 1.33408

MOLE BASIS PERCENT OF FT PRODUCTS

D#	PARA	ACLE	BOLE	ISOM	ACID	NALC	CRBO	AROM	TOT
1	19.30	.00	.00	.00	.00	2.37	.00	.000	21.67
2	3.60	9.32	.00	.00	.24	3.49	.46	.000	17.11
3	2.57	10.31	.00	.00	.11	1.21	.54	.000	14.74
4	1.68	6.38	.00	.70	.04	1.04	.24	.000	10.09
5	1.08	4.12	.00	.84	.00	.40	.19	.000	6.64
6	.88	3.21	.00	.58	.00	.09	.01	.000	4.77
7	.58	2.36	.00	.56	.00	.03	.01	.000	3.64
8	.53	1.66	.00	.96	.00	.01	.00	.000	3.16
9	.43	1.31	.00	.45	.00	.00	.00	.000	2.19
10	.50	1.02	.00	.42	.00	.00	.00	.000	1.95
11	.48	1.03	.00	.41	.00	.00	.00	.000	1.95
12	.48	.93	.00	.36	.00	.00	.00	.000	1.76
13	.49	.79	.00	.20	.00	.00	.00	.000	1.48
14	.49	.68	.00	.23	.00	.00	.00	.000	1.41
15	.49	.56	.00	.31	.00	.00	.00	.000	1.35
16	.48	.44	.00	.15	.00	.00	.00	.000	1.07
17	.44	.34	.00	.22	.00	.00	.00	.000	1.00
18	.39	.26	.00	.17	.00	.00	.00	.000	.82
19	.34	.19	.00	.12	.00	.00	.00	.000	.65
20	.29	.15	.00	.08	.00	.00	.00	.000	.52
21	.26	.11	.00	.07	.00	.00	.00	.000	.44
22	.23	.08	.00	.04	.00	.00	.00	.000	.35
23	.20	.06	.00	.03	.00	.00	.00	.000	.30
24	.18	.05	.00	.02	.00	.00	.00	.000	.25
25	.16	.04	.00	.02	.00	.00	.00	.000	.21
26	.14	.03	.00	.01	.00	.00	.00	.000	.19
27	.12	.03	.00	.02	.00	.00	.00	.000	.17
28	2.96	.00	.00	.05	.90	.00	.00	.000	.00
29	.10	.02	.00	.01	.00	.00	.00	.000	.13
30	.00	.00	.00	.00	.00	.00	.00	.000	.00

MOLES H2/MIN .1022E-01

MOLES CO/MIN .1731E-01

MOLES CO2/MIN .1550E-02

MOLES H2O/MIN .1600E-02

TY PSLTS.RC3.7
 ROME (MIN): 360.0 DATE: SAMPLE:
 TEMP(C)= 248.0 PRESS(ATM ABS)=: 26.97320 L/M IN= .361 FEED RATIO= .730
 FT MOLES OUT/MIN= .2687E-03 OCTACOSANE MOLES OUT/MIN= .0000E+00
 AVE.MOLWT= ***** USAGE RATIO= 1.066 RATE CO+H2 (MILIMOL/ MIN) = 5.595

XH2= 42.48 XCO= 29.08 XCO+H2= 34.74

PERCENT OXYGENATES= 3.149 PERCENT METHANE= 2.523
 PERCENT OLEFINS= 47.820

BALANCES

C= 102.27 H= 100.30 O= 97.50 TOTWT= 99.58

PRESSURES(ATM ABS)

H2= 3.49433 CO= 14.34598 H2O= 1.55723 CO2= 1.89182

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	AOLE	EOLE	ISOM	ACID	NALC	CREO	AROM	TOT
1	17.16	.00	.00	.00	.00	1.81	.00	.000	18.97
2	2.23	6.91	.00	.00	.00	2.25	.01	.000	11.40
3	1.74	8.19	.00	.00	.00	.71	.25	.000	10.89
4	1.34	5.37	.00	.24	.00	.34	.05	.000	7.34
5	.39	3.45	.00	.52	.00	.32	.02	.000	5.19
6	.64	2.33	.00	.39	.00	.24	.00	.000	3.60
7	.45	1.48	.00	.31	.00	.14	.00	.000	2.38
8	.38	.92	.00	.32	.00	.08	.00	.000	1.70
9	.57	1.09	.00	.45	.00	.05	.00	.000	2.16
10	.83	1.54	.00	.47	.00	.03	.00	.000	2.85
11	1.05	1.90	.00	.69	.00	.01	.00	.000	3.66
12	1.21	2.02	.00	.66	.00	.00	.00	.000	3.89
13	1.35	1.93	.00	.64	.00	.00	.00	.000	3.92
14	1.36	1.72	.00	.57	.00	.00	.00	.000	3.65
15	1.30	1.49	.00	.43	.00	.00	.00	.000	3.22
16	1.19	1.22	.00	.44	.00	.00	.00	.000	2.85
17	1.09	.99	.00	.39	.00	.00	.00	.000	2.47
18	.87	.80	.00	.29	.00	.00	.00	.000	1.97
19	.75	.66	.00	.18	.00	.00	.00	.000	1.58
20	.65	.55	.00	.11	.00	.00	.00	.000	1.31
21	.55	.46	.00	.14	.00	.00	.00	.000	1.14
22	.47	.38	.00	.18	.00	.00	.00	.000	1.03
23	.39	.32	.00	.07	.00	.00	.00	.000	.78
24	.33	.27	.00	.06	.00	.00	.00	.000	.66
25	.28	.23	.00	.02	.00	.00	.00	.000	.52
26	.26	.19	.00	.00	.00	.00	.00	.000	.44
27	.22	.16	.00	.03	.00	.00	.00	.000	.41
28	.00	.00	.00	.00	.00	.00	.00	.000	.00
29	.00	.00	.00	.00	.00	.00	.00	.000	.00
30	.00	.00	.00	.00	.00	.00	.00	.000	.00

MOLES H2/MIN .3909E-02
 MOLES CO/MIN .6602E-02
 MOLES CO2/MIN .8706E-03
 MOLES H2O/MIN .7166E-03

TY RSLTS.RC3.8
 RTIME (MIN): 360.0 DATE: SAMPLE#:
 TEMP(C)= 248.0 PRESS(ATM ABS)=: 26.95794 L/M IN= .862 FEED RATIO= .730
 FT MOLES OUT/MIN= .3262E-03 OCTACOSANE MOLES OUT/MIN= .4552E-04
 AVE.MOLWT= 79.63 USAGE RATIO= 1.209 RATE CO+H2 (MILLIMOLES/MIN) = 8.443

XH2= 28.46 XCO= 17.20 XCO+H2= 21.95

PERCENT OXYGENATES= 6.523 PERCENT METHANE= 4.102
 PERCENT OLEFINS= 52.076

BALANCES
 C= 95.03 H= 102.43 O= 99.09 TOTWT= 97.60
 PRESSURES(ATM ABS)
 H2= 9.43826 CO= 14.96482 H2O= 1.40857 CO2= .75405

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	AOLE	BOLE	ISOM	ACID	NALC	CRBO	AROM	TOT
1	20.42	.00	.00	.00	.00	2.85	.00	.000	23.27
2	2.17	8.40	.00	.00	.42	3.64	.20	.000	14.83
3	2.17	9.37	.00	.00	.07	1.21	.09	.000	12.91
4	1.67	6.19	.00	.25	.05	.63	.04	.000	8.83
5	1.10	4.08	.00	.51	.00	.50	.04	.000	6.23
6	.92	3.24	.00	.49	.00	.23	.03	.000	4.91
7	.89	2.81	.00	.42	.00	.11	.03	.000	4.27
8	.78	2.23	.00	.59	.00	.00	.00	.000	3.60
9	.65	1.67	.00	.13	.00	.00	.00	.000	2.45
10	.60	1.40	.00	.35	.00	.00	.00	.000	2.35
11	.61	1.37	.00	.17	.00	.00	.00	.000	2.15
12	.68	1.22	.00	.14	.00	.00	.00	.000	2.04
13	.68	1.03	.00	.16	.00	.00	.00	.000	1.87
14	.66	.97	.00	.19	.00	.00	.00	.000	1.71
15	.62	.71	.00	.14	.00	.00	.00	.000	1.47
16	.57	.58	.00	.16	.00	.00	.00	.000	1.31
17	.52	.47	.00	.12	.00	.00	.00	.000	1.11
18	.48	.39	.00	.12	.00	.00	.00	.000	.99
19	.41	.31	.00	.09	.00	.00	.00	.000	.81
20	.35	.25	.00	.09	.00	.00	.00	.000	.68
21	.28	.19	.00	.06	.00	.00	.00	.000	.53
22	.22	.15	.00	.05	.00	.00	.00	.000	.42
23	.17	.12	.00	.04	.00	.00	.00	.000	.32
24	.14	.09	.00	.03	.00	.00	.00	.000	.26
25	.11	.08	.00	.01	.00	.00	.00	.000	.20
26	.10	.06	.00	.01	.00	.00	.00	.000	.17
27	.08	.05	.00	.00	.00	.00	.00	.000	.13
28	13.84	.00	.00	.11	.00	.00	.00	.000	.00
29	.05	.03	.00	.00	.00	.00	.00	.000	.09
30	.06	.04	.00	.00	.00	.00	.00	.000	.10

MOLES H2/MIN .1161E-01
 MOLES CO/MIN .1841E-01
 MOLES CO2/MIN .9275E-03
 MOLES H2O/MIN .1733E-02

TY RSLTS.PC3.9

RUNE (MIN): 300.0

DATE:

SAMPLE#:

TEMP(C)= 248.0

PRESS(ATM ABS)=: 29.86055

L/M IN= .556

FEED RATIO= .730

FT MOLES OUT/MIN= .3260E-03

OCTACOSANE MOLES OUT/MIN= .0000E+00

AVE.MOLWT= 98.40

USAGE RATIO= 1.107

RATE CO+H2 (MILLIMOLES/MIN) = 7.548

XH2= 37.88

XCO= 24.99

XCO+H2= 30.43

PERCENT OXYGENATES= 4.587

PERCENT METHANE= 2.620

PERCENT OLEFINS= 50.277

BALANCES

C= 97.71 H= 96.78 O= 98.03 TOTWT= 97.84

PRESSURES(ATM ABS)

H2= 9.78964 CO= 16.19398 H2O= 1.84753 CO2= 1.53849

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	ACLE	BOLE	ISOM	ACID	NALC	CRBO	AROM	TOT
1	16.11	.00	.00	.00	.00	2.95	.00	.000	19.07
2	2.18	7.11	.00	.00	.00	2.93	.48	.000	12.70
3	1.99	8.11	.00	.00	.00	.87	.60	.000	11.57
4	1.56	5.52	.00	.30	.00	.56	.26	.000	8.20
5	1.03	3.59	.00	.55	.00	.25	.05	.000	5.45
6	.72	2.42	.00	.30	.00	.11	.00	.000	3.54
7	.59	1.71	.00	.30	.00	.06	.00	.000	2.66
8	.63	1.52	.00	.69	.00	.03	.00	.000	2.98
9	.83	1.85	.00	.23	.00	.02	.00	.000	2.93
10	.93	2.10	.00	.41	.00	.01	.00	.000	3.45
11	1.01	2.19	.00	.53	.00	.01	.00	.000	3.74
12	.94	2.04	.00	.58	.00	.00	.00	.000	3.56
13	1.10	1.78	.00	.49	.00	.00	.00	.000	3.36
14	1.06	1.51	.00	.62	.00	.00	.00	.000	3.19
15	1.01	1.22	.00	.44	.00	.00	.00	.000	2.66
16	.94	1.01	.00	.27	.00	.00	.00	.000	2.22
17	.86	.81	.00	.23	.00	.00	.00	.000	1.90
18	.75	.65	.00	.06	.00	.00	.00	.000	1.45
19	.65	.52	.00	.15	.00	.00	.00	.000	1.32
20	.54	.40	.00	.10	.00	.00	.00	.000	1.05
21	.44	.31	.00	.04	.00	.00	.00	.000	.79
22	.35	.24	.00	.03	.00	.00	.00	.000	.63
23	.27	.19	.00	.02	.00	.00	.00	.000	.48
24	.21	.15	.00	.01	.00	.00	.00	.000	.38
25	.17	.11	.00	.00	.00	.00	.00	.000	.28
26	.15	.09	.00	.00	.00	.00	.00	.000	.24
27	.12	.08	.00	.00	.00	.00	.00	.000	.20
28	.00	.00	.00	.00	.00	.00	.00	.000	.00
29	.00	.00	.00	.00	.00	.00	.00	.000	.00
30	.00	.00	.00	.00	.00	.00	.00	.000	.00

MOLES H2/MIN .6502E-02

MOLES CO/MIN .1076E-01

MOLES CO2/MIN .1022E-02

MOLES H2O/MIN .1227E-02

TY RSLTS.RC3.10
 RONE (MIN): 420.0 DATE: SAMPLE#:
 TEMP(C)= 248.0 PRESS(ATM ABS)=: 21.69040 L/M IN= .562 FEED RATIO= .760
 FT MOLES OUT/MIN= .3348E-03 OCTACOSANE MOLES OUT/MIN= .0000E+00
 AVE.MOLWT= 91.29 USAGE RATIO= 1.393 RATE CO+H2 (MILLIMOLES/MIN) = 6.402

XH2= 34.41 XCO= 18.78 XCO+H2= 25.53

PERCENT OXYGENATES= 4.846 PERCENT METHANE= 3.430
 PERCENT CH4= 48.574

AN
 C= 96.81 G= 101.09 TOTWT= 101.31
 PRESSURE
 H2= 7.35277 CO= 11.98060 H2O= 1.11864 CO2= .29175

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	AOLE	BOLE	ISOM	ACID	NALC	CRBO	AROM	TOT
1	19.57	.00	.00	.00	.00	1.89	.00	.000	21.46
2	2.18	7.87	.00	.00	.01	3.10	.42	.000	13.58
3	1.81	9.04	.00	.00	.00	.87	.39	.000	12.12
4	1.22	6.04	.00	.19	.00	.64	.19	.000	8.50
5	.96	3.99	.00	.55	.00	.35	.07	.000	5.92
6	.68	2.74	.00	.39	.00	.20	.00	.000	4.01
7	.58	2.04	.00	.30	.00	.11	.00	.000	3.03
8	.55	1.57	.00	.57	.00	.05	.00	.000	2.85
9	.60	1.59	.00	.33	.00	.03	.00	.000	2.52
10	.55	1.53	.00	.42	.00	.01	.00	.000	2.72
11	.57	1.57	.00	.52	.00	.01	.00	.000	2.77
12	.71	1.46	.00	.49	.00	.00	.00	.000	2.56
13	.77	1.29	.00	.45	.00	.00	.00	.000	2.51
14	.79	1.13	.00	.60	.00	.00	.00	.000	2.51
15	.78	.96	.00	.46	.00	.00	.00	.000	2.19
16	.76	.79	.00	.35	.00	.00	.00	.000	1.90
17	.73	.65	.00	.30	.00	.00	.00	.000	1.62
18	.68	.54	.00	.29	.00	.00	.00	.000	1.51
19	.61	.43	.00	.20	.00	.00	.00	.000	1.25
20	.53	.35	.00	.15	.00	.00	.00	.000	1.03
21	.45	.28	.00	.12	.00	.00	.00	.000	.85
22	.35	.22	.00	.10	.00	.00	.00	.000	.68
23	.29	.17	.00	.06	.00	.00	.00	.000	.51
24	.22	.13	.00	.04	.00	.00	.00	.000	.40
25	.18	.11	.00	.03	.00	.00	.00	.000	.31
26	.15	.09	.00	.01	.00	.00	.00	.000	.25
27	.13	.07	.00	.02	.00	.00	.00	.000	.22
28	.00	.00	.00	.00	.00	.00	.00	.000	.00
29	.00	.00	.00	.00	.00	.00	.00	.000	.00
30	.00	.00	.00	.00	.00	.00	.00	.000	.00

MOLES H2/MIN .7101E-02
 MOLES CO/MIN .1157E-01
 MOLES CO2/MIN .8612E-03
 MOLES H2O/MIN .1080E-02

7 RSLTS.P03.11

RUNE (MIN): 360.0

DATE:

SAMPLE#:

TEMP(C)= 248.0 PRESS(ATM ABS)= 26.86794 L/M IN= .559 FEED RATIO= .760

FT MOLES OUT/MIN= .3204E-03 OCTACOSANE MOLES OUT/MIN= .0000E-00

AVE.MOLWT= 91.28 USAGE RATIO= 1.360 RATE CO+H2 (MILLIMOLES/MIN) = 7.237

KH2= 38.72 XCO= 21.64 XCO+H2= 29.02

PERCENT OXYGENATES= 4.999

PERCENT METHANE= 3.219

PERCENT OLEFINS= 52.905

BALANCES

C= 102.59 H= 96.76 O= 101.70 TOTWT= 101.85

PRESSURES(ATM ABS)

H2= 9.72183 CO= 14.57526 H2O= 1.50497 CO2= 1.36316

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	ACLE	BOLE	ISOM	ACID	NALC	CRBO	AROM	TOT
1	18.37	.00	.00	.00	.00	1.77	.00	.000	20.14
2	2.22	7.31	.00	.00	.01	2.92	.35	.000	12.80
3	1.87	8.63	.00	.00	.00	.89	.35	.000	11.73
4	1.46	5.56	.00	.29	.00	.62	.18	.000	8.22
5	.97	3.76	.00	.37	.00	.45	.13	.000	5.36
6	.74	2.77	.00	.37	.00	.27	.07	.000	4.22
7	.66	2.27	.00	.51	.00	.11	.02	.000	3.59
8	.78	2.37	.00	.48	.00	.05	.00	.000	3.68
9	.91	2.58	.00	.43	.00	.03	.00	.000	3.95
10	.94	2.49	.00	.35	.00	.01	.00	.000	3.81
11	.90	2.20	.00	.37	.00	.00	.00	.000	3.47
12	.80	1.86	.00	.23	.00	.00	.00	.000	2.99
13	.86	1.51	.00	.24	.00	.00	.00	.000	2.61
14	.82	1.20	.00	.20	.00	.00	.00	.000	2.22
15	.78	.97	.00	.14	.00	.00	.00	.000	1.89
16	.72	.77	.00	.16	.00	.00	.00	.000	1.65
17	.68	.61	.00	.07	.00	.00	.00	.000	1.36
18	.62	.49	.00	.12	.00	.00	.00	.000	1.23
19	.55	.38	.00	.06	.00	.00	.00	.000	1.00
20	.48	.30	.00	.05	.00	.00	.00	.000	.83
21	.40	.24	.00	.04	.00	.00	.00	.000	.68
22	.33	.18	.00	.03	.00	.00	.00	.000	.55
23	.27	.15	.00	.02	.00	.00	.00	.000	.44
24	.23	.12	.00	.02	.00	.00	.00	.000	.37
25	.18	.10	.00	.00	.00	.00	.00	.000	.28
26	.16	.08	.00	.00	.00	.01	.00	.000	.25
27	.13	.06	.00	.00	.00	.00	.00	.000	.19
28	.00	.00	.00	.00	.00	.00	.00	.000	.00
29	.00	.00	.00	.00	.00	.00	.00	.000	.00
30	.00	.00	.00	.00	.00	.00	.00	.000	.00

MOLES H2/MIN .6599E-02

MOLES CO/MIN .1110E-01

MOLES CO2/MIN .1031E-02

MOLES H2O/MIN .1214E-02

TY RSLTS.RC3.12
 RUME (MIN): 360.0 DATE: SAMPLE#:
 TEMP(C)= 232.0 PRESS(ATM ABS)=: 25.97056 L/M IN= .560 FEED RATIO= .730
 FT MOLES OUT/MIN= .1479E-03 OCTACOSANE MOLES OUT/MIN= .1533E-04
 AVE.MOLWT= 87.8° USAGE RATIO= 1.305 RATE CO+H2 (MILLIMOLES/MIN) = 4.610

XH2= 24.75 XCO= 13.85 XCO+H2= 18.45

PERCENT OXYGENATES= 8.301 PERCENT METHANE= 3.095
 PERCENT OLEFINS= 49.929

BALANCES

C= 95.06 H= 97.72 O= 98.35 TOTWT= 96.98
 PRESSURES(ATM ABS)
 H2= 9.73987 CO= 15.27528 H2O= 1.17139 CO2= .48357

MOLE BASIS PERCENT OF FT PRODUCTS

CR	PARA	AOLE	BOLE	ISOM	ACID	NALC	CRBO	AROM	TOT
1	17.00	.00	.00	.00	.00	3.57	.00	.000	20.57
2	1.33	7.24	.00	.00	.31	4.46	.60	.000	14.44
3	2.15	7.83	.00	.00	.09	1.40	.45	.000	11.91
4	1.64	5.16	.00	.28	.05	1.06	.30	.000	9.50
5	1.07	3.47	.00	.50	.00	.63	.14	.000	5.91
6	.90	2.89	.00	.36	.00	.30	.05	.000	4.51
7	.86	2.79	.00	.29	.00	.17	.04	.000	4.16
8	.78	2.42	.00	.73	.00	.06	.00	.000	4.02
9	.79	2.15	.00	.14	.00	.03	.00	.000	3.12
10	.75	1.99	.00	.46	.00	.01	.00	.000	3.25
11	.73	1.25	.00	.24	.00	.00	.00	.000	2.84
12	.80	1.58	.00	.29	.00	.00	.00	.000	2.67
13	.76	1.30	.00	.27	.00	.00	.00	.000	2.33
14	.73	1.03	.00	.17	.00	.00	.00	.000	1.93
15	.68	.84	.00	.20	.00	.00	.00	.000	1.72
16	.64	.67	.00	.16	.00	.00	.00	.000	1.47
17	.60	.53	.00	.17	.00	.00	.00	.000	1.30
18	.56	.43	.00	.15	.00	.00	.00	.000	1.14
19	.50	.34	.00	.13	.00	.00	.00	.000	.97
20	.43	.26	.00	.09	.00	.00	.00	.000	.73
21	.35	.20	.00	.06	.00	.00	.00	.000	.62
22	.28	.15	.00	.04	.00	.00	.00	.000	.47
23	.22	.12	.00	.05	.00	.00	.00	.000	.39
24	.18	.12	.00	.01	.00	.00	.00	.000	.31
25	.13	.07	.00	.01	.00	.00	.00	.000	.21
26	.12	.05	.00	.01	.00	.00	.00	.000	.18
27	.10	.05	.00	.01	.00	.00	.00	.000	.16
28	10.36	.00	.00	.00	.00	.00	.00	.000	.00
29	.07	.03	.00	.00	.00	.00	.00	.000	.11
30	.07	.03	.00	.00	.00	.00	.00	.000	.10

MOLES H2/MIN .7933E-02
 MOLES CO/MIN .1244E-01
 MOLES CO2/MIN .3939E-03
 MOLES H2O/MIN .9541E-03

RSLTS.RC3.13

ME (MIN): 360.0

DATE:

SAMPLE:

MP(C)= 232.0

PRESS(ATM ABS)=: 25.36925

L/M IN= .557

FEED RATIO= .760

MOLES OUT/MIN= .1673E-03

OCTACOSANE MOLES OUT/MIN= .1715E-01

E.MOLWT= 84.18

USAGE RATIO= 1.705

RATE CO+H2 (MILLIMOLES/MIN) = 4.572

2= 25.86

XCO= 11.97

XCO+H2= 18.40

RCENT OXYGENATES= 6.713

PERCENT METHANE= 3.637

RCENT OLEFINS= 50.328

LANCES

97.90 H= 95.57 O= 100.21 TOTWT= 99.04

ESSURES(ATM ABS)

= 9.59363 CO= 15.35775 H2O= 1.06530 CO2= .52000

MOLE BASIS PERCENT OF FT PRODUCTS

PARA	ACLE	BOLE	ISOM	ACID	NALC	CREO	AROM	TOT
19.37	.00	.00	.00	.00	1.28	.00	.000	20.65
2.11	8.25	.00	.00	.28	3.01	.69	.000	14.34
2.42	8.94	.00	.00	.08	1.06	.40	.000	12.90
1.87	5.39	.00	.33	.01	.94	.21	.000	9.25
1.22	3.92	.00	.54	.00	.59	.09	.000	6.36
.92	2.91	.00	.23	.00	.39	.08	.000	4.53
.81	2.42	.00	.42	.00	.20	.07	.000	3.93
.84	2.47	.00	.51	.00	.09	.00	.000	4.00
.79	2.19	.00	.17	.00	.04	.00	.000	3.19
.71	1.77	.00	.45	.00	.02	.00	.000	2.98
.67	1.62	.00	.23	.00	.00	.00	.000	2.53
.71	1.39	.00	.25	.00	.00	.00	.000	2.34
.68	1.15	.00	.19	.00	.00	.00	.000	2.02
.64	.93	.00	.14	.00	.00	.00	.000	1.71
.61	.77	.00	.19	.00	.00	.00	.000	1.56
.57	.61	.00	.14	.00	.00	.00	.000	1.32
.54	.42	.00	.15	.00	.00	.00	.000	1.18
.51	.40	.00	.15	.00	.00	.00	.000	1.06
.47	.32	.00	.10	.00	.00	.00	.000	.82
.42	.26	.00	.08	.00	.00	.00	.000	.76
.34	.19	.00	.06	.00	.00	.00	.000	.60
.28	.15	.00	.05	.00	.00	.00	.000	.47
.22	.11	.00	.05	.00	.00	.00	.000	.38
.18	.09	.00	.03	.00	.00	.00	.000	.30
.14	.07	.00	.02	.00	.00	.00	.000	.23
.12	.06	.00	.01	.00	.00	.00	.000	.19
.10	.05	.00	.01	.00	.00	.00	.000	.16
10.23	.00	.00	.04	.00	.00	.00	.000	.00
.07	.03	.00	.00	.00	.00	.00	.000	.10
.07	.00	.00	.00	.00	.00	.00	.000	.07

LES H2/MIN .7849E-02

LES CO/MIN .1243E-01

LES CO2/MIN .4208E-03

LES H2O/MIN .3621E-03

TY RSLTS.RC3.14
 RENE (MIN): 300.0 DATE: SAMPLE#:
 TEMP(C)= 253.0 PRESS(ATM ABS)=: 26.96005 L/M IN= .559 FEED RATIO= .750
 FT MOLES OUT/MIN= .5815E-03 OCTACOSANE MOLES OUT/MIN= .3400E-04
 AVE.MOLWT= 63.75 USAGE RATIO= .999 RATE CO+H2 (MILLIMOLES/MIN) = 10.318

XH2= 47.87 XCO= 36.43 XCO+H2= 41.37

PERCENT OXYGENATES= 8.229 PERCENT METHANE= 6.299
 PERCENT OLEFINS= 52.532

BALANCES

C= 95.53 H= 103.15 O= 103.92 TOTWT= 100.51
 PRESSURES(ATM ABS)
 H2= 7.97745 CO= 12.30122 H2O= 2.36467 CO2= 2.84189

MOLE BASIS PERCENT OF FT PRODUCTS

C#	PARA	AOLE	BOLE	ISOM	ACID	NALC	CR30	AROM	TOT
1	25.10	.00	.00	.00	.00	1.86	.00	.000	26.95
2	3.98	8.99	.00	.00	.16	3.09	.23	.000	16.46
3	2.19	12.21	.00	.00	.05	.87	.36	.000	15.69
4	1.65	7.63	.00	.48	.02	.61	.22	.000	10.65
5	1.04	4.67	.00	.89	.00	.58	.13	.000	7.32
6	.71	2.98	.00	.51	.00	.39	.09	.000	4.72
7	.45	1.65	.00	.22	.00	.23	.04	.000	2.59
8	.44	1.33	.00	.10	.00	.09	.00	.000	1.97
9	.53	1.51	.00	.10	.00	.04	.00	.000	2.19
10	.51	1.35	.00	.14	.00	.02	.00	.000	2.02
11	.44	1.02	.00	.14	.00	.00	.00	.000	1.60
12	.39	.74	.00	.11	.00	.00	.00	.000	1.24
13	.34	.54	.00	.12	.00	.00	.00	.000	1.00
14	.31	.45	.00	.07	.00	.00	.00	.000	.93
15	.28	.32	.00	.13	.00	.00	.00	.000	.72
16	.30	.26	.00	.06	.00	.00	.00	.000	.52
17	.29	.21	.00	.08	.00	.00	.00	.000	.58
18	.27	.18	.00	.03	.00	.00	.00	.000	.43
19	.26	.15	.00	.06	.00	.00	.00	.000	.46
20	.23	.12	.00	.04	.00	.00	.00	.000	.39
21	.20	.09	.00	.02	.00	.00	.00	.000	.32
22	.17	.07	.00	.02	.00	.00	.00	.000	.26
23	.14	.06	.00	.03	.00	.00	.00	.000	.23
24	.12	.05	.00	.01	.00	.00	.00	.000	.18
25	.10	.04	.00	.02	.00	.00	.00	.000	.16
26	.08	.03	.00	.01	.00	.00	.00	.000	.12
27	.07	.03	.00	.01	.00	.00	.00	.000	.11
28	5.84	.00	.00	.01	.00	.00	.00	.000	.00
29	.05	.02	.00	.00	.00	.00	.00	.000	.07
30	.05	.02	.00	.00	.00	.00	.00	.000	.07

MOLES H2/MIN .5814E-02
 MOLES CO/MIN .9008E-02
 MOLES CO2/MIN .2000E-02
 MOLES H2O/MIN .1664E-02