APPENDIX B

Fixed Bed Reaction Data

Co.004 - Run #6

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.43		La2O3 1.00	Al2O3

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.167 g
WHSV = 15.37 1/hr
time on stream = 27.5 hrs

CO2 (g/g cat/hr) = 0.044
CO2 (% of CO) = 0.2
O/P = 1.60

CO conversion (%)	6.9
rate (g CH2/g cat/hr)	0.47
alpha	0.61
C1 (wt%)	27.8
C2 - C4 (wt%)	29.9
C5 - C12 (wt%)	40.6
C13 + (wt%)	1.8

* Calcined in Nitrogen

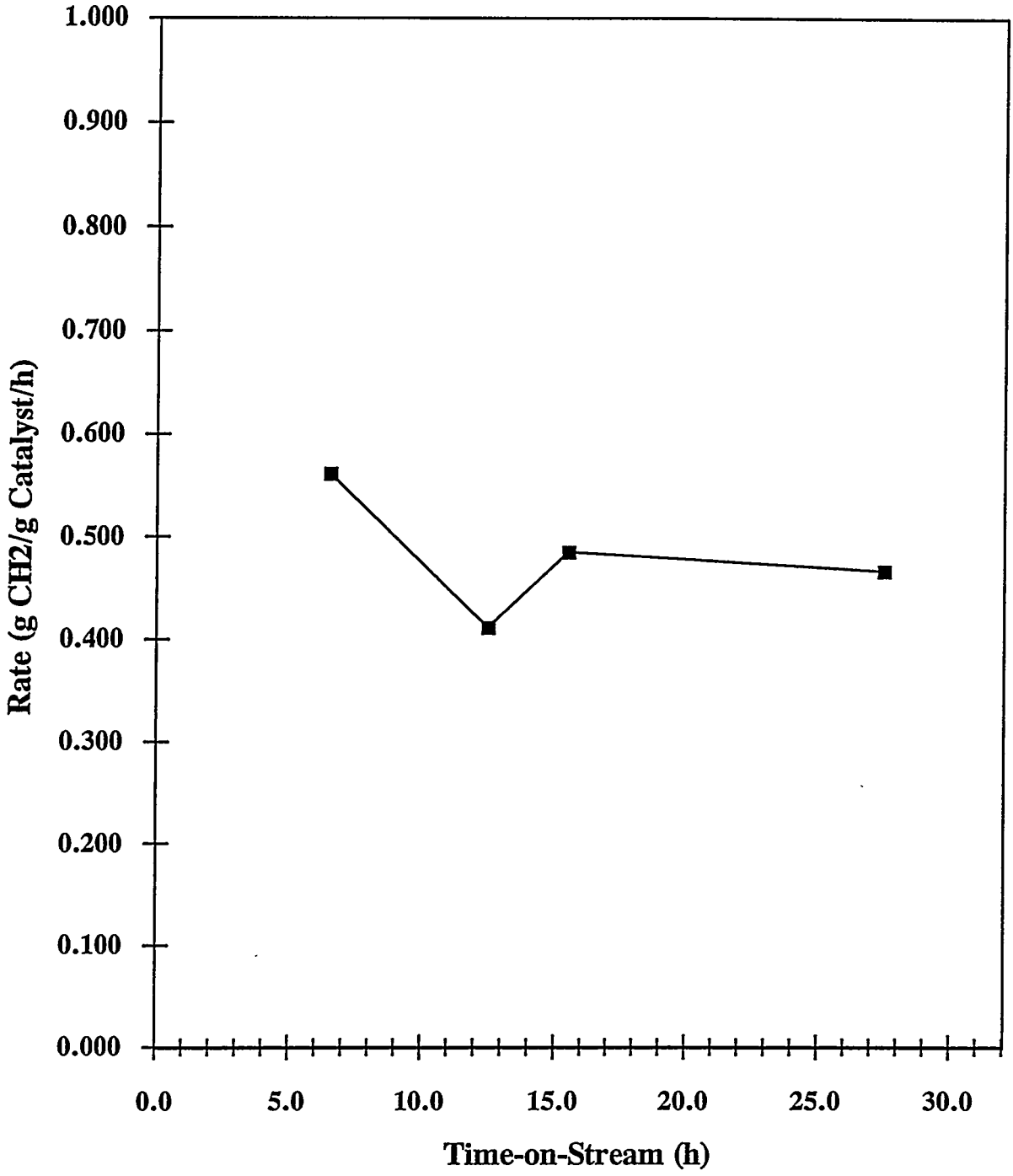
Performance of Co.004

Dates: 10/10/94 - 10/11/94 Run #6

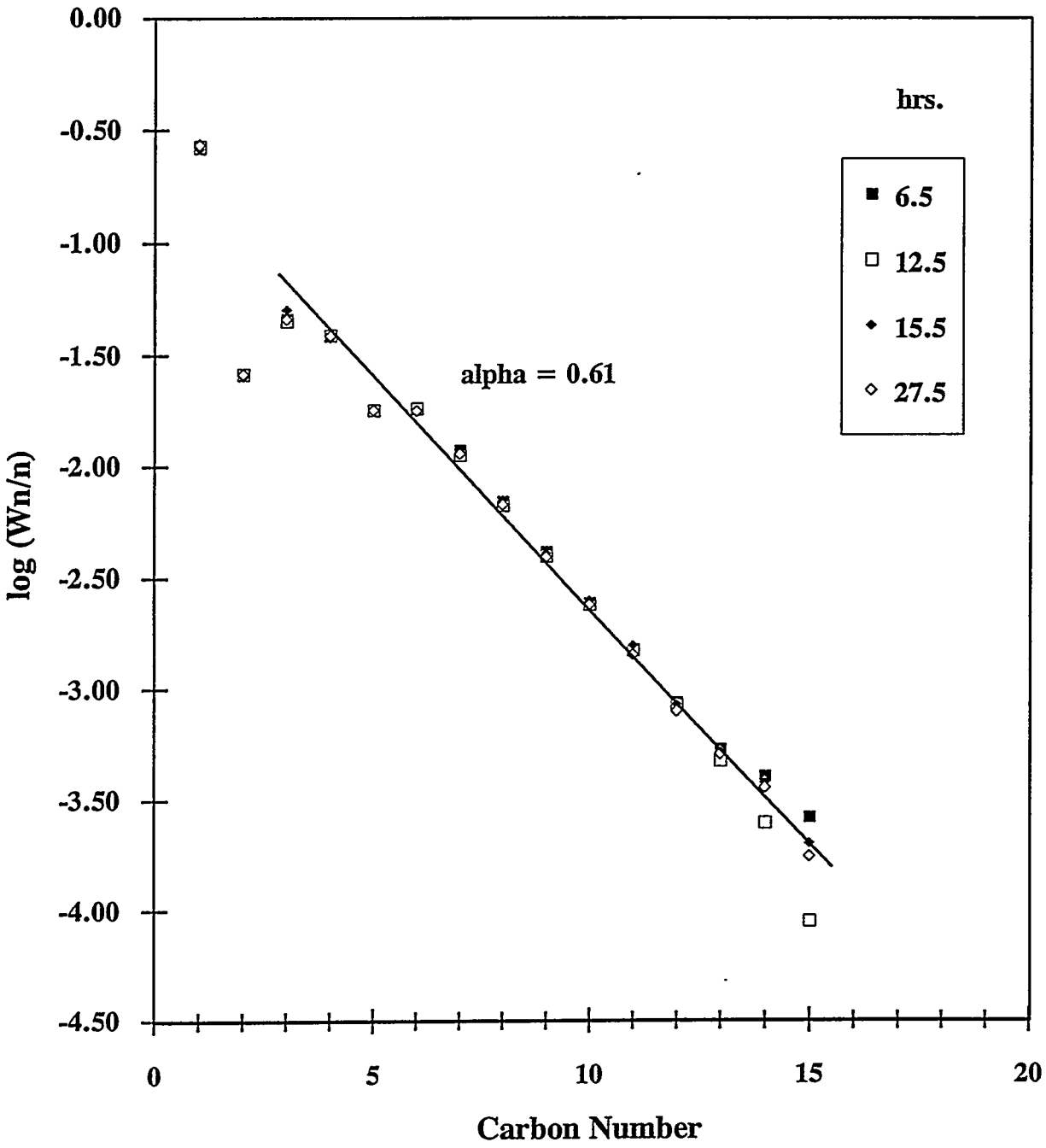
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 15.4 1/hr, H2/CO ratio in feed = 2

time on stream, hr	6.5	12.5	15.5	27.5
reaction temperature, °C	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %				
C1	25.97	28.71	26.79	27.79
C2	4.64	5.12	4.74	4.88
C3	12.26	13.28	12.38	12.61
C4	12.38	12.86	12.38	12.40
C5	11.59	10.91	11.50	11.28
C6	8.68	6.10	7.91	7.77
C7	8.29	7.87	8.18	7.97
C8	5.58	5.37	5.63	5.38
C9	3.75	3.57	3.67	3.54
C10	2.46	2.42	2.53	2.41
C11	1.67	1.65	1.74	1.58
C12	1.05	1.02	1.03	0.96
C13	0.70	0.62	0.68	0.67
C14	0.57	0.35	0.54	0.51
C15	0.40	0.14	0.30	0.27
alpha chain growth probability	0.64	0.58	0.62	0.61
C1 - C50 estimated total product distribution, weight %				
C1	25.6	29.1	26.7	27.8
C2 - C4	28.9	31.7	29.4	29.9
C5 - C12	42.8	38.2	41.8	40.6
C13 - C50	2.6	0.9	2.0	1.8
CO conversion, %	8.4	6.1	7.2	6.9
rate, g CH2/g cat/hr	0.56	0.41	0.49	0.47
CO2 formation, %	0.2	0.3	0.2	0.2

Time-on-Stream Plot for Co.004 - Run #6



Schulz-Flory Plot for Co.004 - Run #6
Time on Stream (hrs)



Co.004 - Run #7

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.43		La2O3 1.00	Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.194 g
WHSV = 13.29 1/hr
time on stream = 27.5 hrs

CO2 (g/g cat/hr) = 0.042
CO2 (% of CO) = 0.2
O/P = 3.01

CO conversion (%)	3.9
rate (g CH2/g cat/hr)	0.23
alpha	0.61
C1 (wt%)	28.8
C2 - C4 (wt%)	29.3
C5 - C12 (wt%)	40.4
C13 + (wt%)	1.5

* Catalyst is reduced, calcined and rereduced

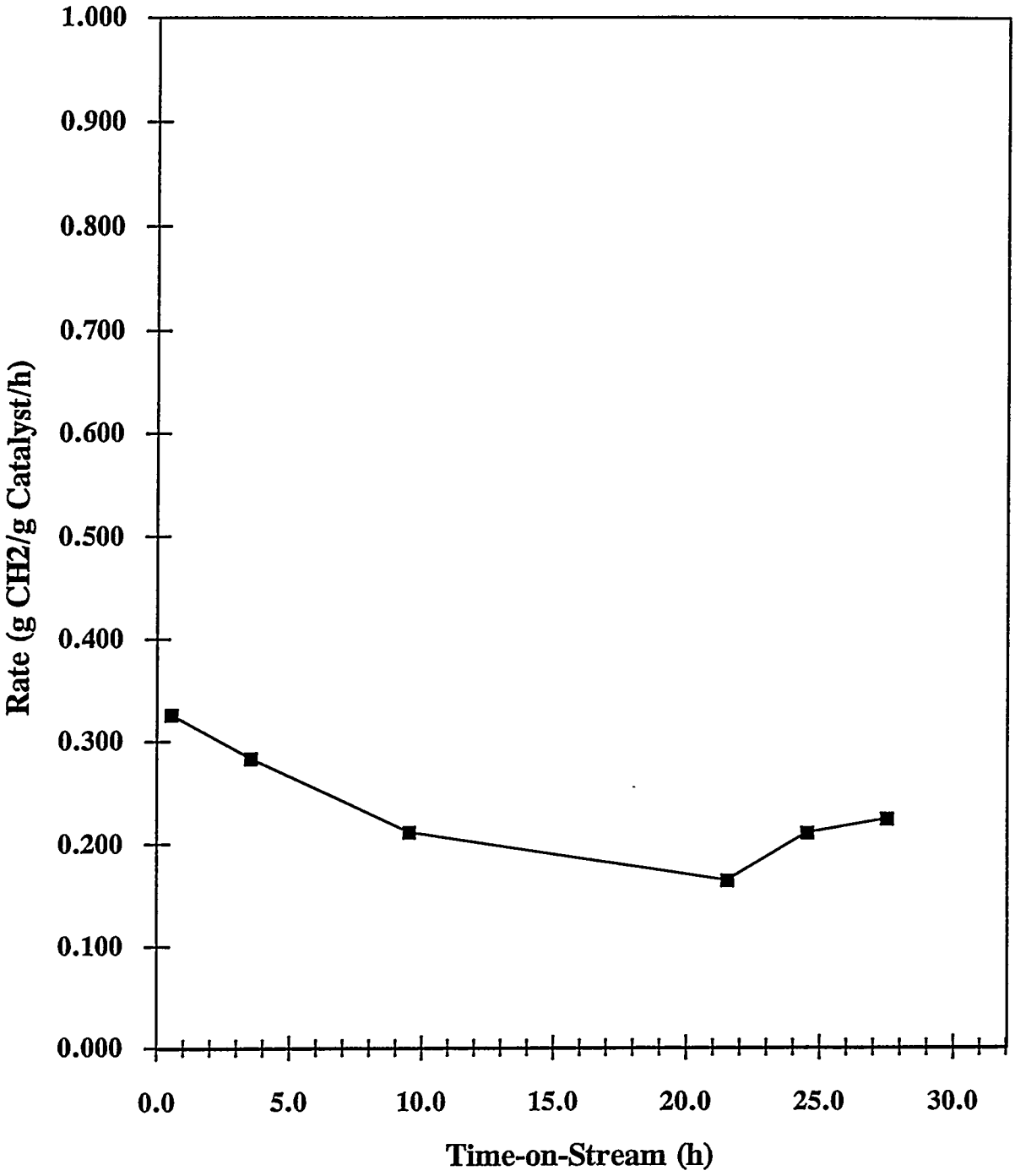
Performance of Co.004

Dates: 10/24/94 - 10/25/94 Run #7

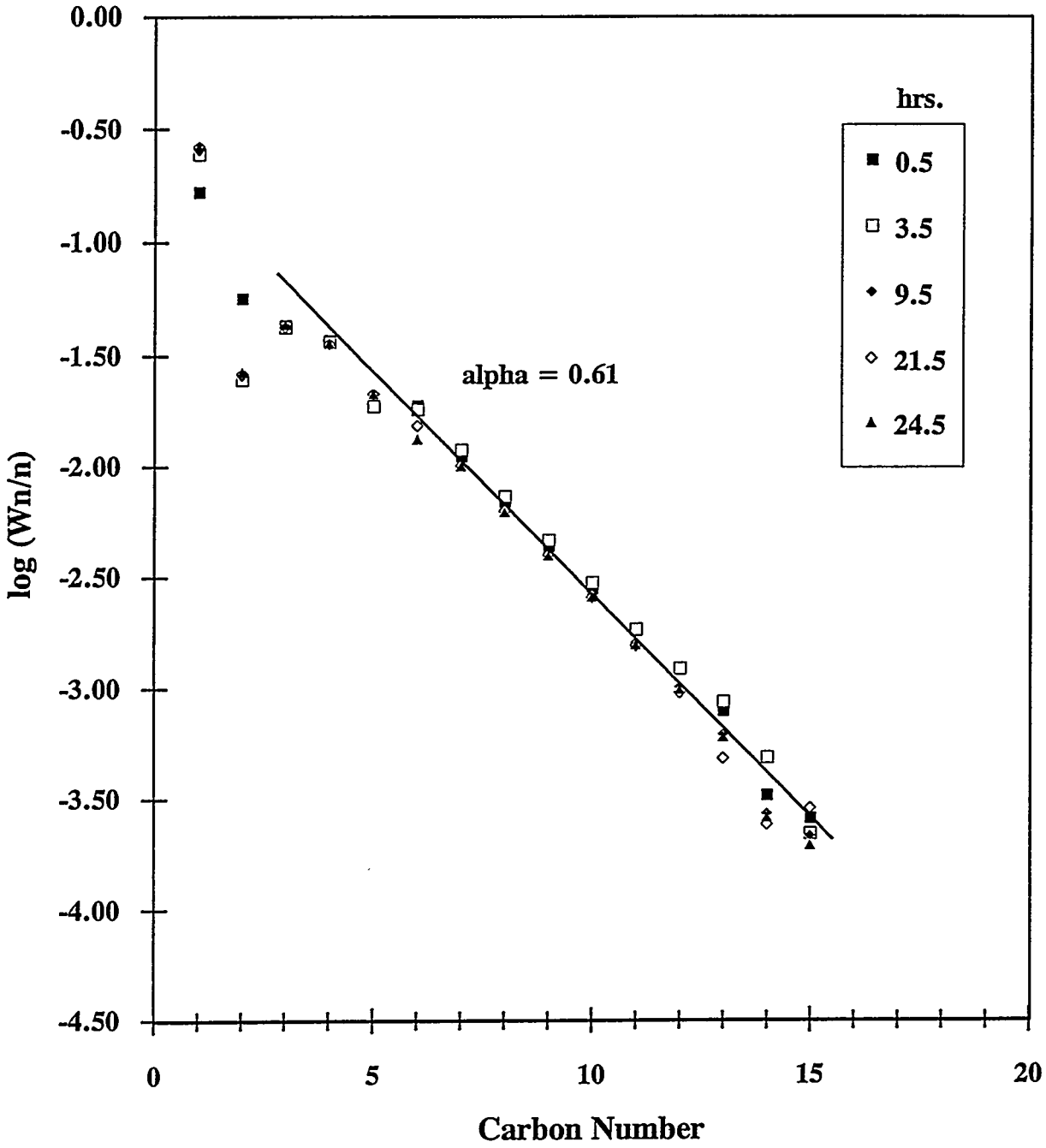
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	9.5	21.5	24.5	27.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	21.71	25.28	28.12	29.22	28.49	28.39
C2	13.50	4.64	5.17	5.33	5.22	5.16
C3	10.56	11.58	12.46	12.54	12.24	12.02
C4	10.83	11.65	12.25	12.09	11.88	11.67
C5	10.39	11.16	11.33	11.28	11.31	11.20
C6	7.57	8.62	7.60	6.99	8.20	8.30
C7	7.78	8.32	7.07	7.05	7.05	7.06
C8	5.54	5.88	5.13	5.04	5.02	5.04
C9	3.93	4.18	3.70	3.59	3.59	3.64
C10	2.82	3.01	2.66	2.58	2.60	2.65
C11	2.02	2.04	1.78	1.72	1.75	1.77
C12	1.47	1.49	1.22	1.15	1.19	1.31
C13	1.03	1.13	0.81	0.63	0.79	0.94
C14	0.46	0.69	0.38	0.34	0.37	0.62
C15	0.39	0.33	0.32	0.43	0.30	0.22
alpha chain growth probability	0.64	0.63	0.63	0.65	0.62	0.61
C1 - C50 estimated total product distribution, weight %						
C1	21.7	25.5	28.1	28.7	28.5	28.8
C2 - C4	34.8	28.1	29.8	29.5	29.3	29.3
C5 - C12	40.9	44.2	40.0	39.0	40.2	40.4
C13 - C50	2.6	2.2	2.2	2.8	2.0	1.5
CO conversion, %	5.6	4.9	3.7	2.8	3.6	3.9
rate, g CH2/g cat/hr	0.33	0.28	0.21	0.16	0.21	0.23
CO2 formation, %	0.3	0.3	0.4	0.4	0.3	0.2

Time-on-Stream Plot for Co.004 - Run #7



Schulz-Flory Plot for Co.004 - Run #7
Time on Stream (hrs)



Co.004 - Run #8

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.43		La2O3 1.00	Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.164 g
WHSV = 15.66 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.028
CO2 (% of CO) = 0.1
O/P = 2.13

CO conversion (%)	5.8
rate (g CH2/g cat/hr)	0.40
alpha	0.66
C1 (wt%)	27.2
C2 - C4 (wt%)	27.4
C5 - C12 (wt%)	41.6
C13 + (wt%)	3.8

* Catalyst calcined in helium

Performance of Co.004

Dates: 11/11/94 - 11/12/94 Run #8

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 15.7 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	24.37	25.97	26.59	27.18	27.53	27.59
C2	4.41	4.63	4.69	4.76	4.82	4.82
C3	11.68	11.88	11.81	11.86	11.91	11.89
C4	11.92	12.16	11.77	11.75	11.73	11.69
C5	11.41	11.31	11.02	10.95	11.01	10.99
C6	8.99	7.89	8.99	8.79	8.52	8.60
C7	8.37	8.16	7.84	7.78	7.70	7.68
C8	5.82	5.70	5.48	5.42	5.37	5.37
C9	4.12	3.97	3.83	3.79	3.75	3.75
C10	2.92	2.79	2.71	2.69	2.64	2.66
C11	2.10	1.96	1.89	1.81	1.82	1.72
C12	1.41	1.33	1.29	1.18	1.25	1.24
C13	0.92	0.82	0.82	0.79	0.76	0.80
C14	0.79	0.77	0.65	0.70	0.64	0.65
C15	0.76	0.67	0.61	0.58	0.56	0.57
alpha chain growth probability	0.68	0.67	0.66	0.66	0.66	0.66
C1 - C50 estimated total product distribution, weight %						
C1	23.5	25.2	25.9	26.5	26.9	26.9
C2 - C4	27.0	27.8	27.5	27.6	27.8	27.7
C5 - C12	44.6	42.7	42.7	42.1	41.7	41.7
C13 - C50	4.9	4.4	4.0	3.8	3.7	3.7
CO conversion, %	8.1	7.3	7.1	6.8	6.5	6.3
rate, g CH2/g cat/hr	0.56	0.50	0.49	0.47	0.44	0.43
CO2 formation, %	0.2	0.2	0.1	0.2	0.1	0.1

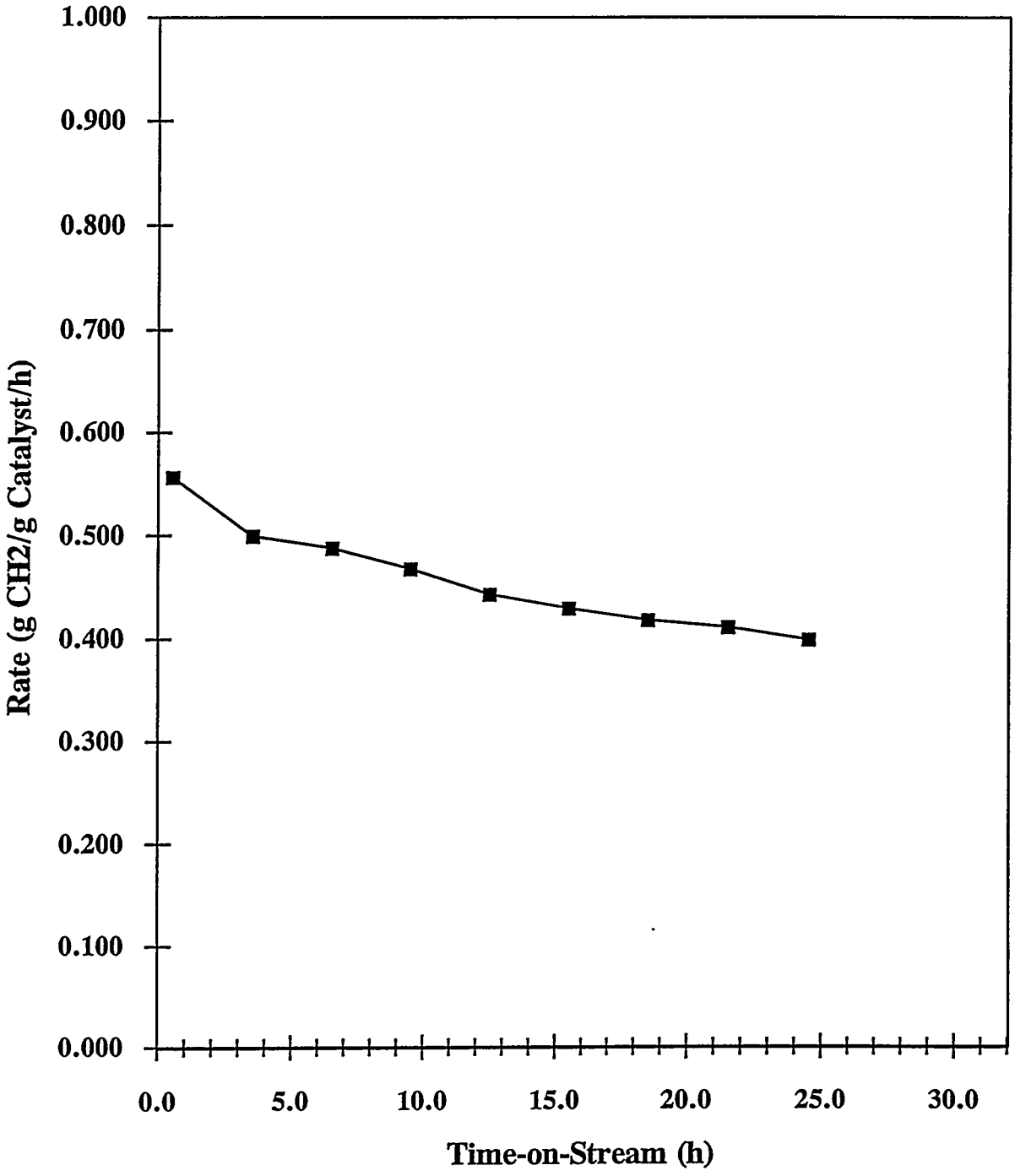
Performance of Co.004

Dates: 11/11/94 - 11/12/94 Run #8

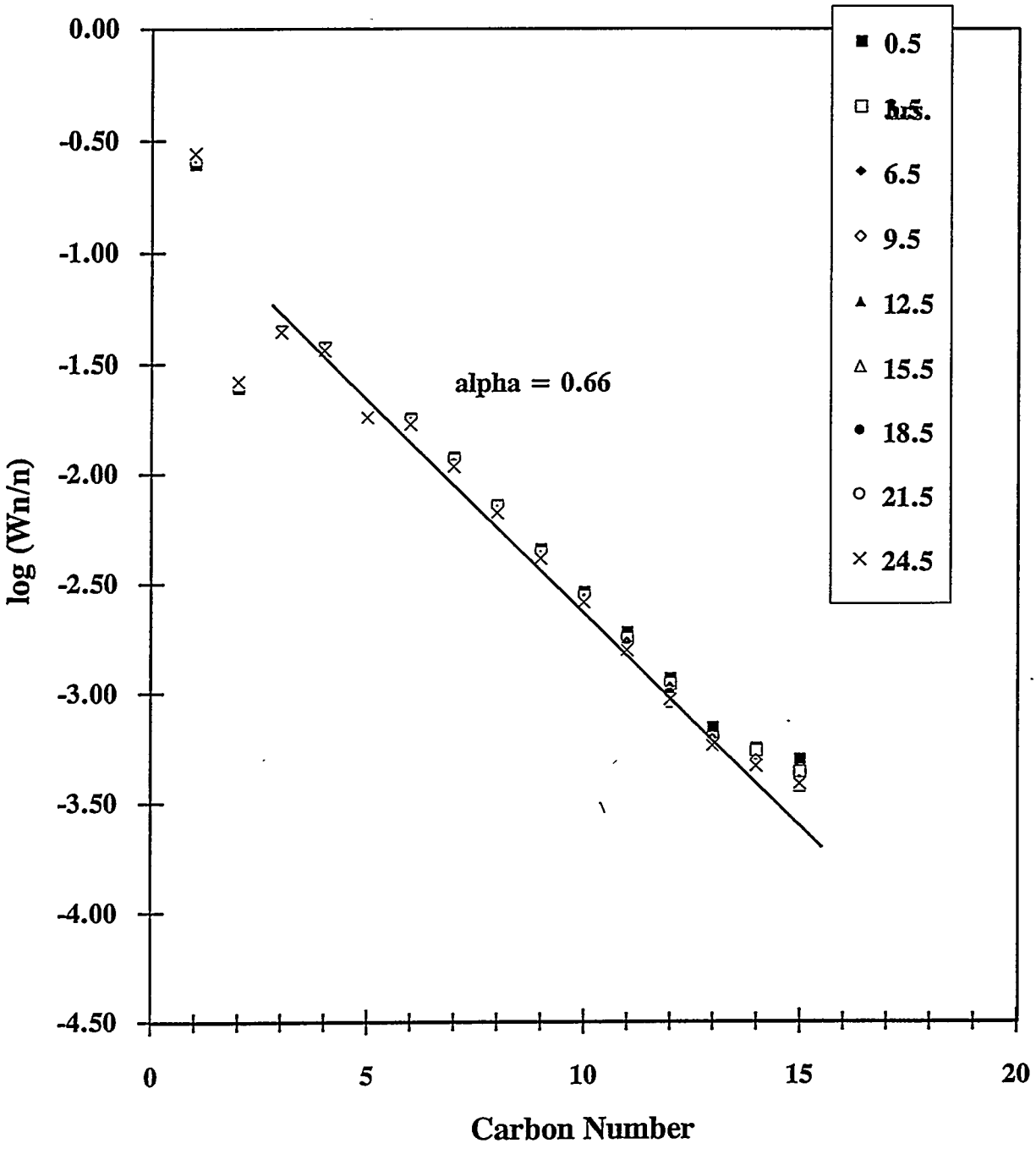
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 15.7 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	27.62	27.80	27.97
C2	4.82	4.84	4.86
C3	11.82	11.87	11.86
C4	11.63	11.58	11.49
C5	10.99	11.00	10.97
C6	8.70	8.78	8.75
C7	7.67	7.68	7.58
C8	5.39	5.33	5.33
C9	3.75	3.72	3.72
C10	2.66	2.62	2.62
C11	1.72	1.72	1.73
C12	1.21	1.09	1.12
C13	0.77	0.75	0.76
C14	0.67	0.66	0.66
C15	0.59	0.56	0.58
alpha chain growth probability	0.66	0.66	0.66
C1 - C50 estimated total product distribution, weight %			
C1	26.9	27.0	27.2
C2 - C4	27.5	27.5	27.4
C5 - C12	41.8	41.7	41.6
C13 - C50	3.8	3.7	3.8
CO conversion, %	6.1	6.0	5.8
rate, g CH2/g cat/hr	0.42	0.41	0.40
CO2 formation, %	0.1	0.2	0.1

Time-on-Stream Plot for Co.004 - Run #8



Schulz-Flory Plot for Co.004 - Run #8
Time on Stream (hrs)



Co.015 - Run #3

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.43		La2O3 1.00	Al2O3

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.200 g
WHSV = 12.84 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.031
CO2 (% of CO) = 0.2
O/P = 1.62

CO conversion (%)	6.7
rate (g CH2/g cat/hr)	0.38
alpha	0.63
C1 (wt%)	28.2
C2 - C4 (wt%)	29.2
C5 - C12 (wt%)	40.3
C13 + (wt%)	2.3

* Catalyst reduced without any calcination

Performance of Co.015

Dates: 10/05/94 - 10/06/94 Run #3

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 12.8 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	21.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	28.23	28.03	30.00	28.81	26.13	27.79
C2	5.16	5.06	5.41	5.16	4.67	4.96
C3	13.62	12.86	13.62	12.90	11.59	12.18
C4	13.25	12.67	13.31	12.82	11.54	12.13
C5	11.26	11.41	11.64	11.94	10.69	11.46
C6	6.69	8.13	7.15	8.88	7.95	8.60
C7	7.77	7.79	6.77	6.92	10.10	7.94
C8	5.08	5.13	4.45	4.63	6.38	5.35
C9	3.34	3.35	2.89	3.00	3.99	3.51
C10	2.07	2.09	1.83	1.91	2.65	2.30
C11	1.46	1.41	1.20	1.27	1.71	1.57
C12	0.87	0.78	0.73	0.68	1.10	0.86
C13	0.64	0.56	0.43	0.44	0.63	0.57
C14	0.38	0.42	0.34	0.35	0.48	0.45
C15	0.18	0.31	0.24	0.28	0.38	0.35
alpha chain growth probability	0.59	0.62	0.61	0.61	0.63	0.63
C1 - C50 estimated total product distribution, weight %						
C1	28.4	27.7	29.7	28.5	25.8	27.4
C2 - C4	32.2	30.2	32.1	30.5	27.5	28.9
C5 - C12	38.2	40.0	36.6	39.2	44.2	41.4
C13 - C50	1.2	2.1	1.6	1.8	2.5	2.3
CO conversion, %	6.5	8.0	6.7	7.0	7.6	6.6
rate, g CH2/g cat/hr	0.37	0.45	0.37	0.39	0.42	0.37
CO2 formation, %	0.3	0.2	0.2	0.1	0.1	0.1

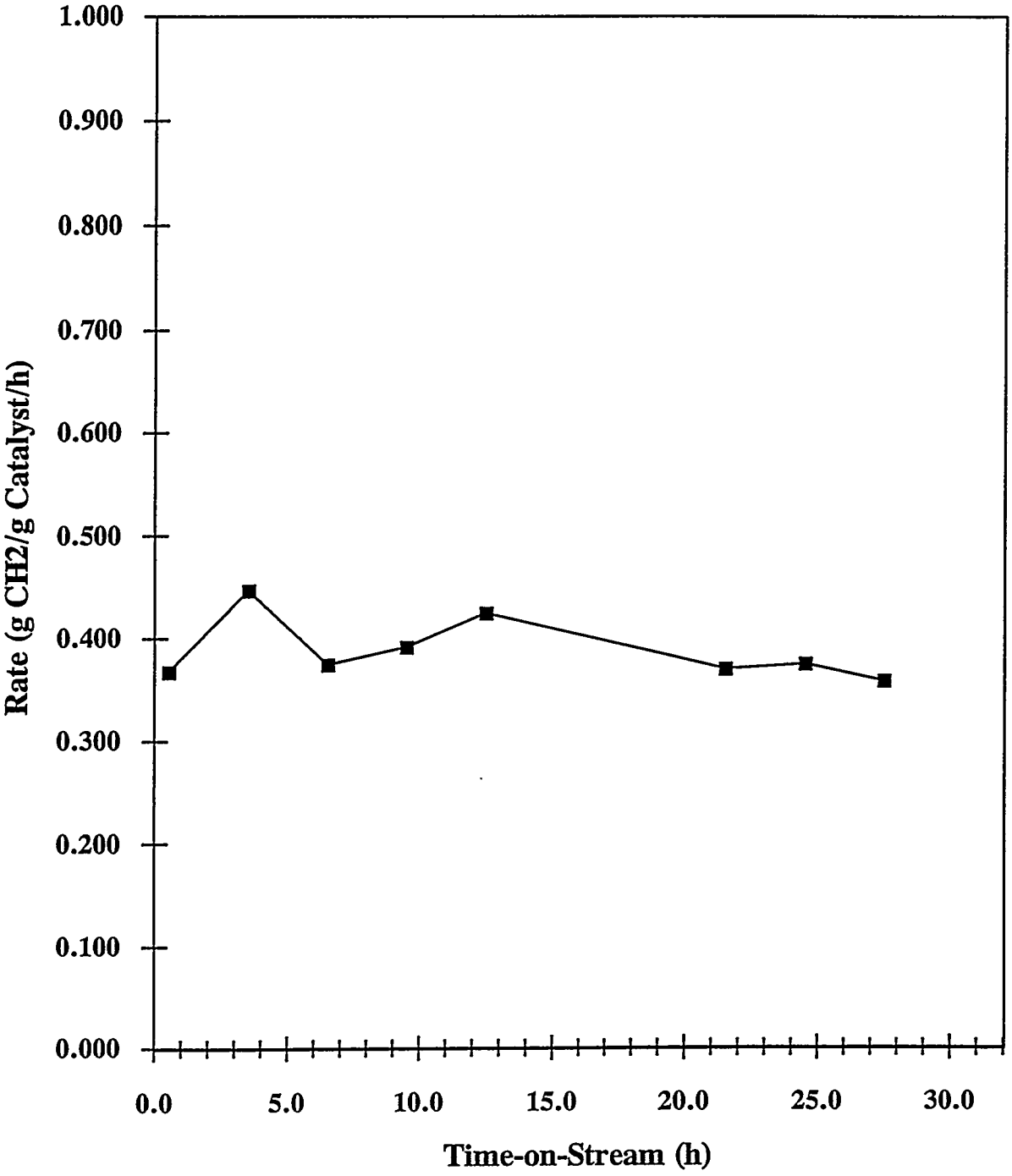
Performance of Co.015

Dates: 10/05/94 - 10/06/94 Run #3

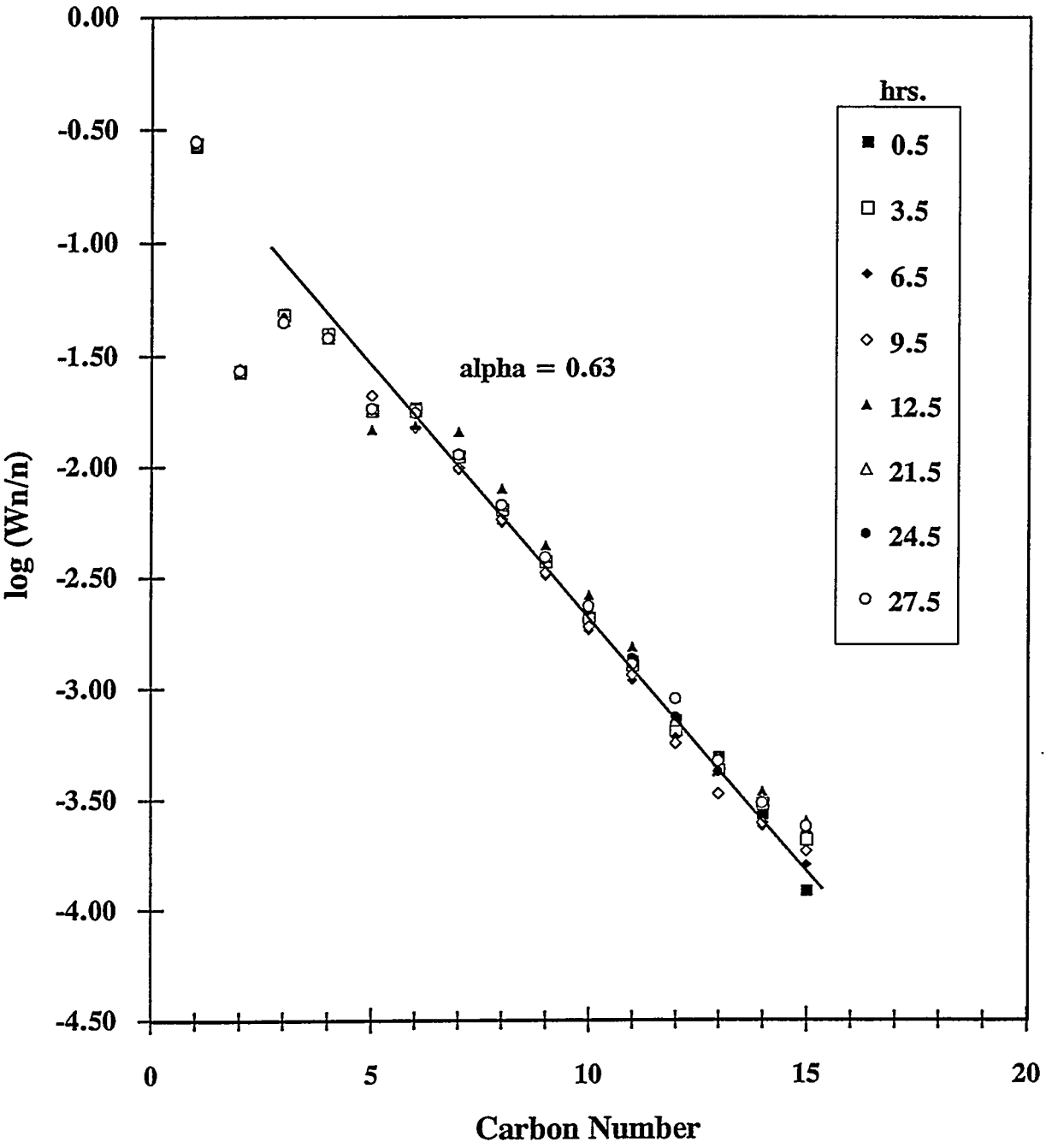
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 12.8 1/hr, H2/CO ratio in feed = 2

time on stream, hr	24.5	27.5
reaction temperature, °C	220	220
pressure, atm	1.0	1.0
flow, cc/min	90.0	90.0
C1 - C15 product distribution, weight %		
C1	28.59	27.93
C2	5.07	4.97
C3	12.34	12.11
C4	12.17	12.03
C5	11.36	11.34
C6	7.92	8.55
C7	7.81	7.93
C8	5.30	5.37
C9	3.45	3.52
C10	2.25	2.36
C11	1.52	1.41
C12	0.89	1.08
C13	0.55	0.61
C14	0.43	0.43
C15	0.35	0.36
alpha chain growth probability	0.63	0.63
C1 - C50 estimated total product distribution, weight %		
C1	28.2	27.6
C2 - C4	29.2	28.7
C5 - C12	40.3	41.3
C13 - C50	2.3	2.4
CO conversion, %	6.7	6.4
rate, g CH2/g cat/hr	0.38	0.36
CO2 formation, %	0.2	0.1

Time-on-Stream Plot for Co.015 - Run #3



Schulz-Flory Plot for Co.015 - Run #3
Time on Stream (hrs)



Co.017 - Run #3

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.50		La2O3 1.00	Al2O3

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.201 g
WHSV = 12.81 1/hr
time on stream = 9.5 hrs

CO2 (g/g cat/hr) = 0.030
CO2 (% of CO) = 0.2
O/P = 2.41

CO conversion (%)	4.9
rate (g CH2/g cat/hr)	0.27
alpha	0.67
C1 (wt%)	23.0
C2 - C4 (wt%)	26.1
C5 - C12 (wt%)	46.9
C13 + (wt%)	4.0

* Reaction data for only 10 hrs. on stream because of T serge after 10 hrs

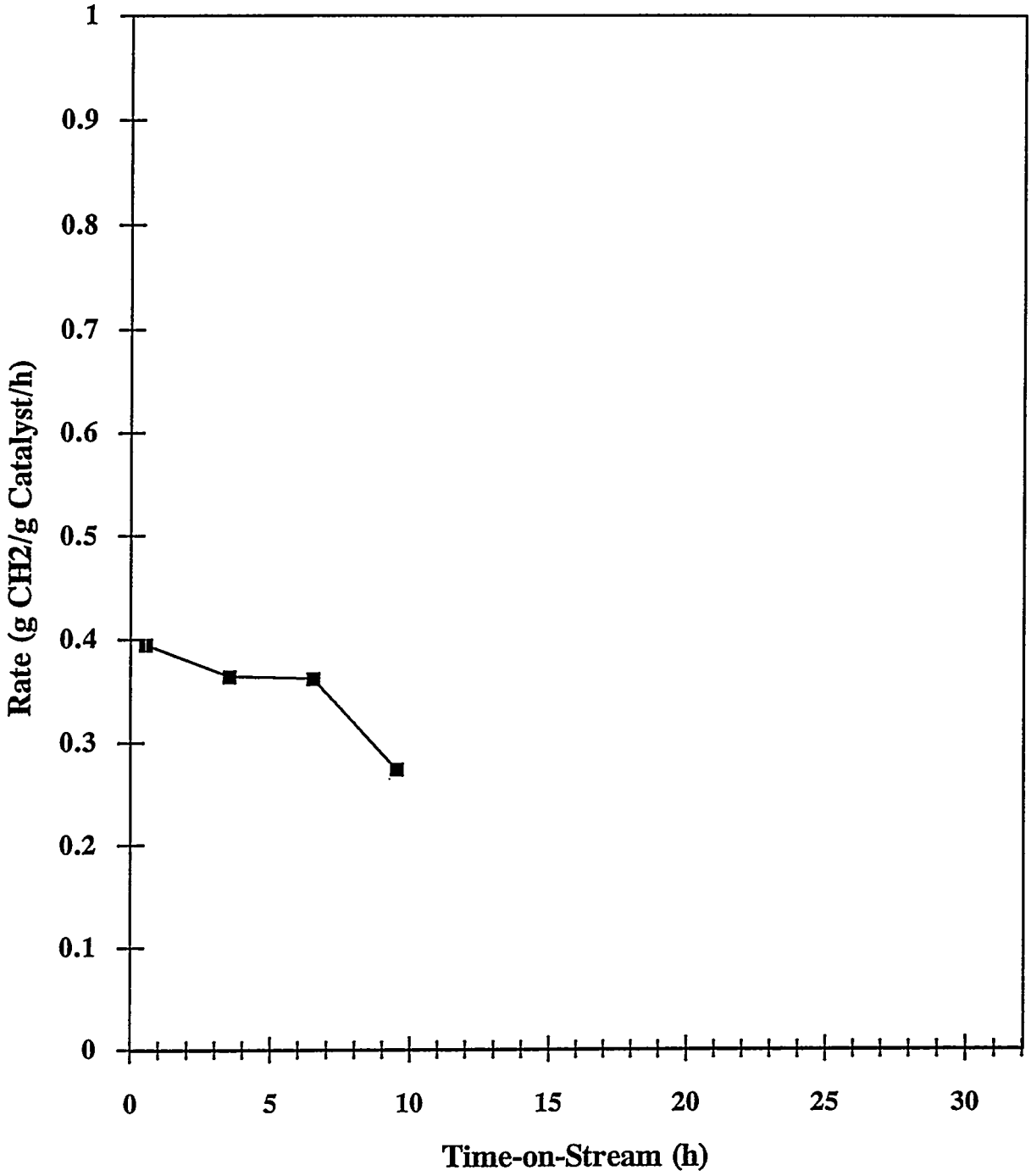
Performance of Co.017

Dates: 10/03/94 - 10/04/94 Run #3

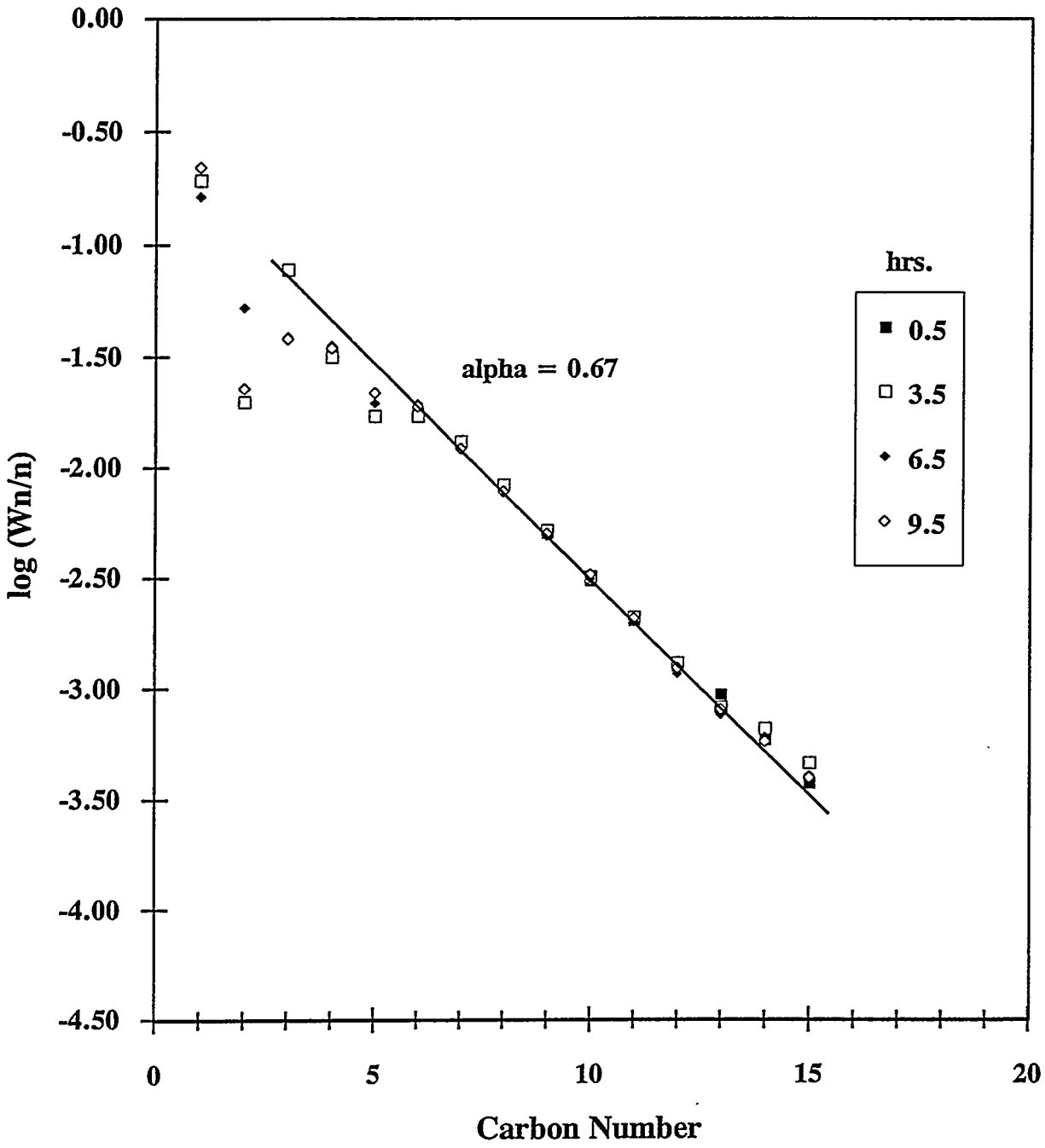
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 12.8 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5
reaction temperature, °C	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %				
C1	21.38	22.13	20.46	23.34
C2	4.07	4.14	11.99	4.39
C3	10.97	10.56	9.43	10.65
C4	11.92	11.48	10.33	11.52
C5	12.09	11.73	10.62	11.89
C6	9.71	9.57	8.85	9.38
C7	9.24	9.20	8.50	8.51
C8	6.57	6.70	6.19	6.26
C9	4.56	4.69	4.42	4.54
C10	3.10	3.21	3.14	3.29
C11	2.25	2.32	2.21	2.29
C12	1.52	1.57	1.41	1.50
C13	1.22	1.08	0.99	1.05
C14	0.83	0.93	0.85	0.81
C15	0.56	0.69	0.61	0.60
alpha chain growth probability	0.66	0.68	0.67	0.67
C1 - C50 estimated total product distribution, weight %				
C1	21.2	21.6	20.1	23.0
C2 - C4	26.7	25.6	31.1	26.1
C5 - C12	48.4	48.1	44.8	46.9
C13 - C50	3.8	4.7	4.0	4.0
CO conversion, %	7.0	6.5	6.5	4.9
rate, g CH2/g cat/hr	0.39	0.36	0.36	0.27
CO2 formation, %	0.1	0.2	0.1	0.2

Time-on-Stream Plot for Co.017 - Run #3



Schulz-Flory Plot for Co.017 - Run #3
Time on Stream (hrs)



Co.044 - Run #1

Co wt%	NM wt %	Promotor wt%		Support
20			Zr 15.00	SiO2

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.198 g
WHSV = 13.01 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.020
CO2 (% of CO) = 0.1
O/P = 5.16

CO conversion (%)	3.1
rate (g CH2/g cat/hr)	0.18
alpha	0.73
C1 (wt%)	22.7
C2 - C4 (wt%)	23.6
C5 - C12 (wt%)	44.3
C13 + (wt%)	9.5

Performance of Co.044

Dates: 11/30/94 - 12/01/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.0 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	20.65	23.18	21.94	22.79	23.46	24.04
C2	4.60	5.06	4.74	4.85	4.94	5.04
C3	11.14	11.28	10.10	10.00	10.04	10.12
C4	11.79	11.90	10.47	10.50	10.40	10.43
C5	12.03	12.34	11.05	11.04	10.97	10.98
C6	8.55	10.26	9.92	9.85	9.49	8.58
C7	8.59	0.03	8.22	8.02	7.90	7.95
C8	6.37	6.71	6.16	6.02	6.02	6.05
C9	4.82	5.08	4.61	4.54	4.54	4.57
C10	3.62	3.84	3.60	3.53	3.57	3.54
C11	2.66	2.82	2.56	2.56	2.58	2.57
C12	1.84	2.11	1.89	2.05	1.95	1.88
C13	1.29	1.76	1.60	1.48	1.51	1.55
C14	1.10	1.75	1.56	1.43	1.35	1.40
C15	0.95	1.88	1.59	1.32	1.26	1.30
alpha chain growth probability	0.69	0.74	0.73	0.72	0.71	0.72
C1 - C50 estimated total product distribution, weight %						
C1	19.8	20.7	20.0	21.3	22.0	22.5
C2 - C4	26.5	25.2	23.1	23.7	23.8	23.9
C5 - C12	47.4	41.7	46.4	46.2	46.0	44.9
C13 - C50	6.3	12.3	10.5	8.8	8.3	8.7
CO conversion, %	4.7	4.1	4.0	3.7	3.6	3.4
rate, g CH2/g cat/hr	0.27	0.23	0.23	0.21	0.20	0.19
CO2 formation, %	0.2	0.2	0.1	0.1	0.1	0.1

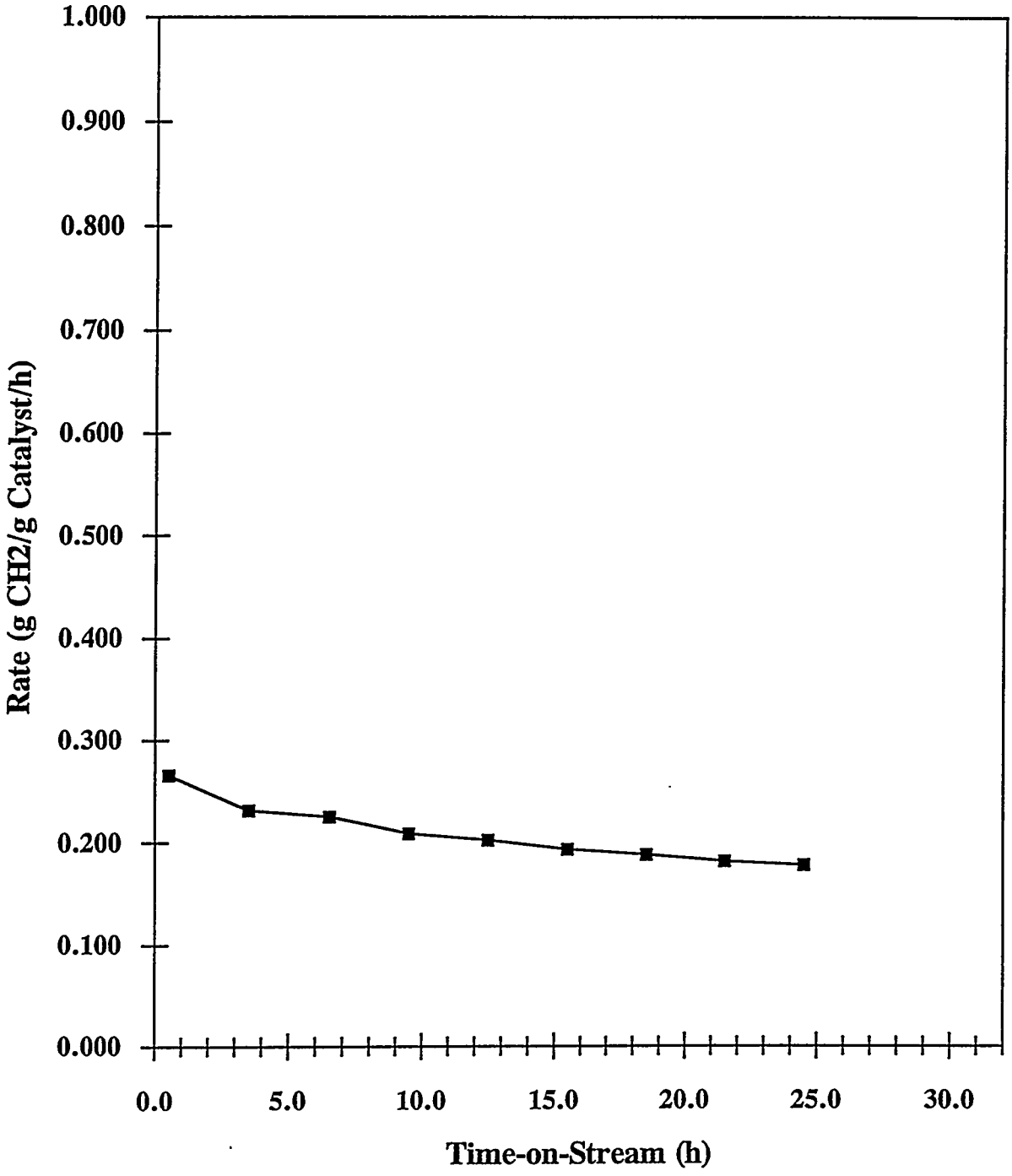
Performance of Co.044

Dates: 11/30/94 - 12/01/94 Run #1

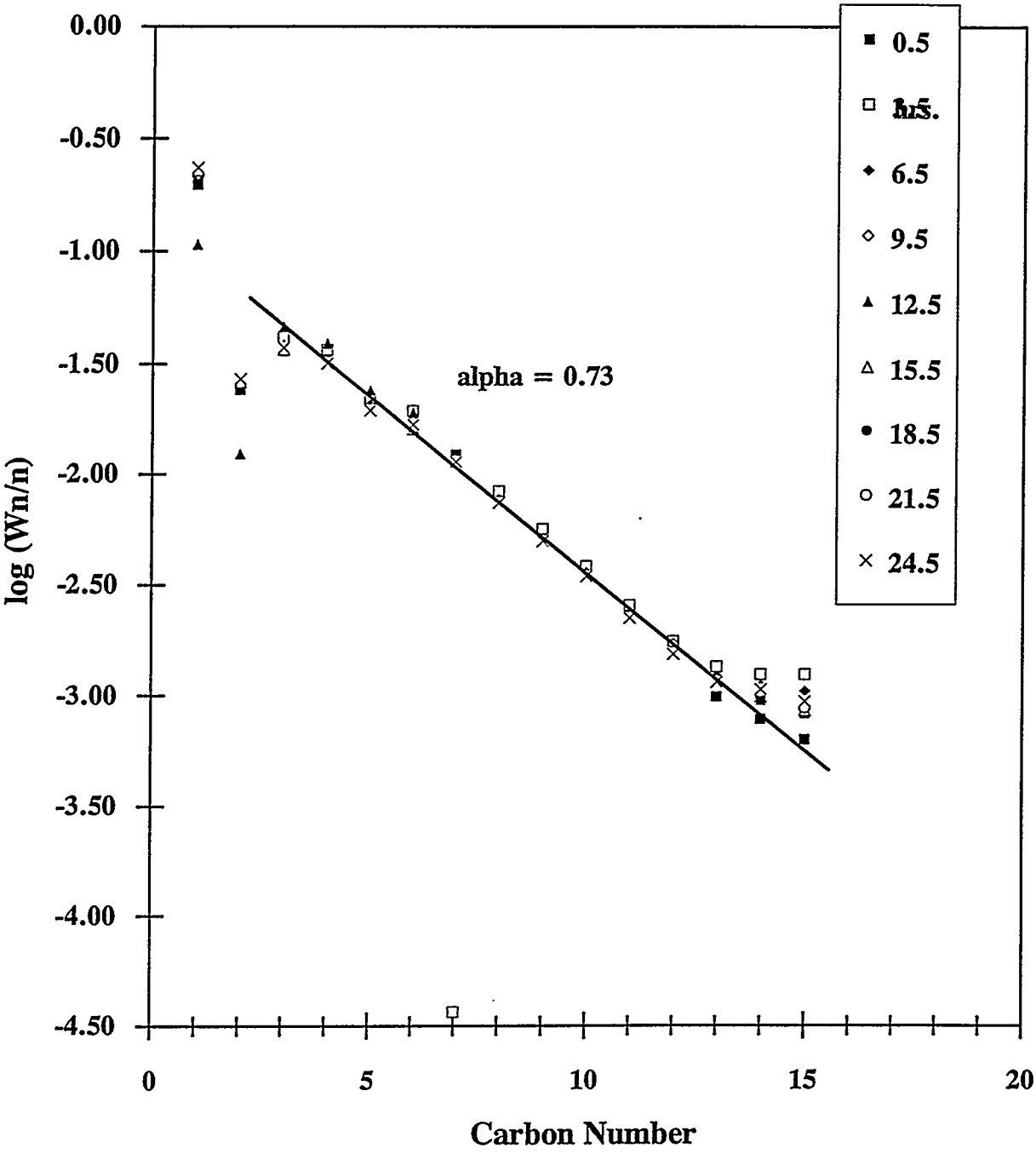
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.0 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	24.24	24.37	24.51
C2	5.10	5.14	5.18
C3	10.18	10.16	10.15
C4	10.34	10.33	10.17
C5	10.82	10.85	10.81
C6	8.41	8.34	8.56
C7	8.04	8.01	7.96
C8	6.08	6.04	5.95
C9	4.55	4.56	4.49
C10	3.56	3.53	3.47
C11	2.54	2.51	2.47
C12	1.89	1.89	1.85
C13	1.48	1.50	1.50
C14	1.38	1.46	1.50
C15	1.38	1.33	1.42
alpha chain growth probability	0.72	0.72	0.73
C1 - C50 estimated total product distribution, weight %			
C1	22.5	22.7	22.7
C2 - C4	23.8	23.9	23.6
C5 - C12	44.5	44.5	44.3
C13 - C50	9.2	8.9	9.5
CO conversion, %	3.3	3.2	3.1
rate, g CH2/g cat/hr	0.19	0.18	0.18
CO2 formation, %	0.1	0.1	0.1

Time-on-Stream Plot for Co.044 - Run #1



Schulz-Flory Plot for Co.044 - Run #1
Time on Stream (hrs)



Co.045 - Run #1

Co wt%	NM wt %	Promotor wt%		Support
20			Zr 4.00	SiO2

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.185 g
WHSV = 13.91 1/hr
time on stream = 21.5 hrs

CO2 (g/g cat/hr) = 0.022
CO2 (% of CO) = 0.1
O/P = 6.89

CO conversion (%)	2.6
rate (g CH2/g cat/hr)	0.16
alpha	0.73
C1 (wt%)	22.2
C2 - C4 (wt%)	22.8
C5 - C12 (wt%)	44.8
C13 + (wt%)	10.2

Performance of Co.045

Dates: 12/03/94 - 12/04/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.9 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.0	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	19.46	21.01	22.19	22.81	24.13	23.54
C2	4.40	4.68	4.85	4.98	5.25	5.13
C3	9.90	9.46	9.50	9.53	13.96	9.55
C4	10.80	9.91	9.80	9.87	2.79	9.80
C5	11.69	10.86	10.73	10.58	10.97	10.64
C6	9.90	9.36	8.60	8.75	9.24	8.89
C7	8.91	8.59	8.77	8.46	8.42	8.10
C8	6.77	6.52	6.44	6.44	6.48	6.25
C9	5.23	5.00	5.04	4.95	4.95	4.82
C10	3.99	3.85	3.92	3.86	3.91	3.80
C11	2.91	2.82	2.80	2.80	2.85	2.75
C12	2.21	2.23	2.19	2.14	2.14	2.04
C13	1.51	1.81	1.84	1.67	1.71	1.64
C14	1.28	1.82	1.68	1.60	1.60	1.58
C15	1.04	2.07	1.64	1.58	1.58	1.48
alpha chain growth probability	0.70	0.75	0.74	0.74	0.74	0.73
C1 - C50 estimated total product distribution, weight %						
C1	18.7	18.5	20.3	20.9	22.2	21.8
C2 - C4	24.2	21.2	22.1	22.4	20.2	22.6
C5 - C12	50.1	46.5	46.5	46.0	46.9	45.6
C13 - C50	7.0	13.9	11.1	10.7	10.7	10.0
CO conversion, %	3.8	3.6	3.2	3.0	2.7	2.7
rate, g CH2/g cat/hr	0.23	0.22	0.19	0.18	0.17	0.17
CO2 formation, %	0.1	0.1	0.1	0.1	0.1	0.1

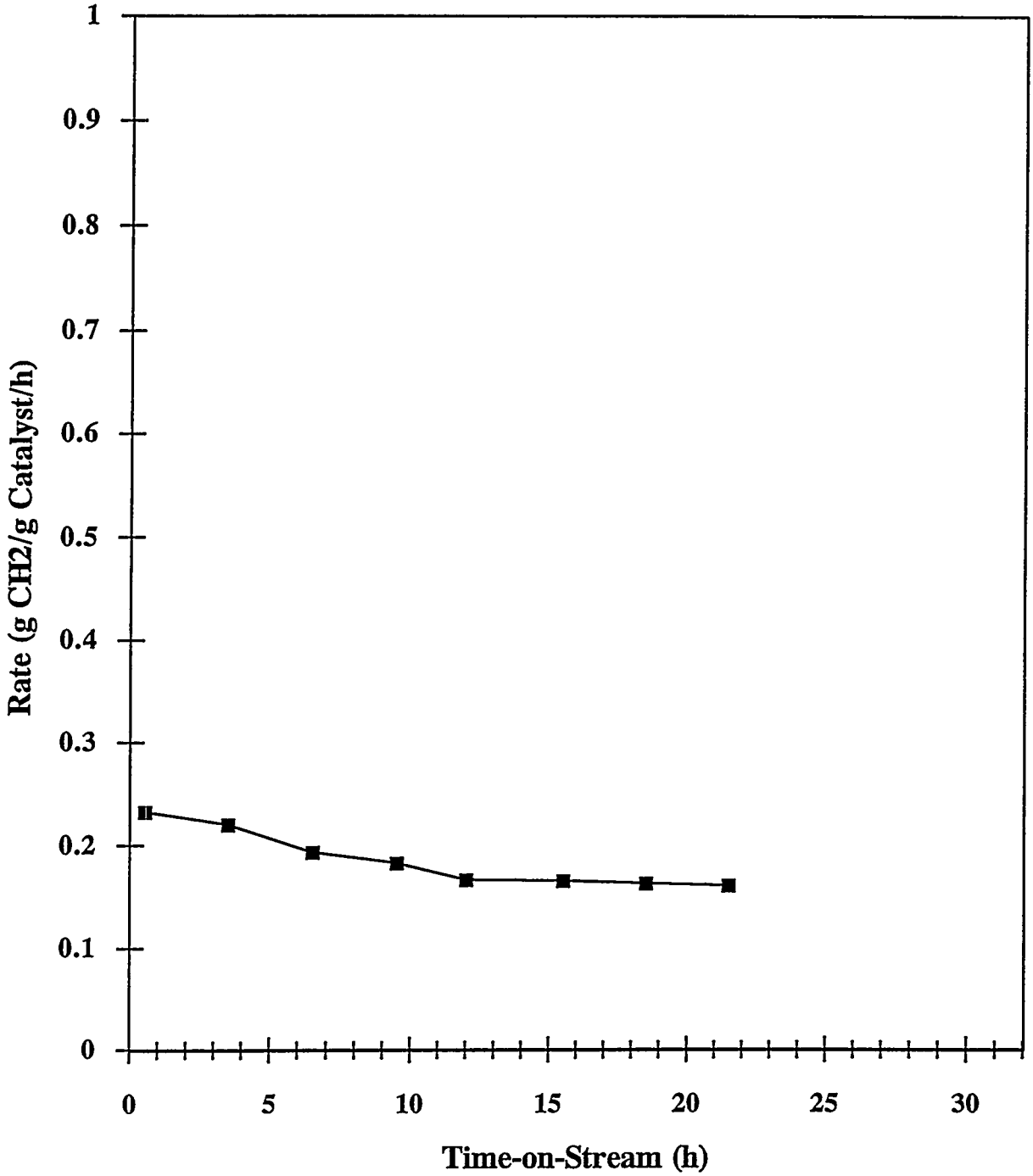
Performance of Co.045

Dates: 12/03/94 - 12/04/94 Run #1

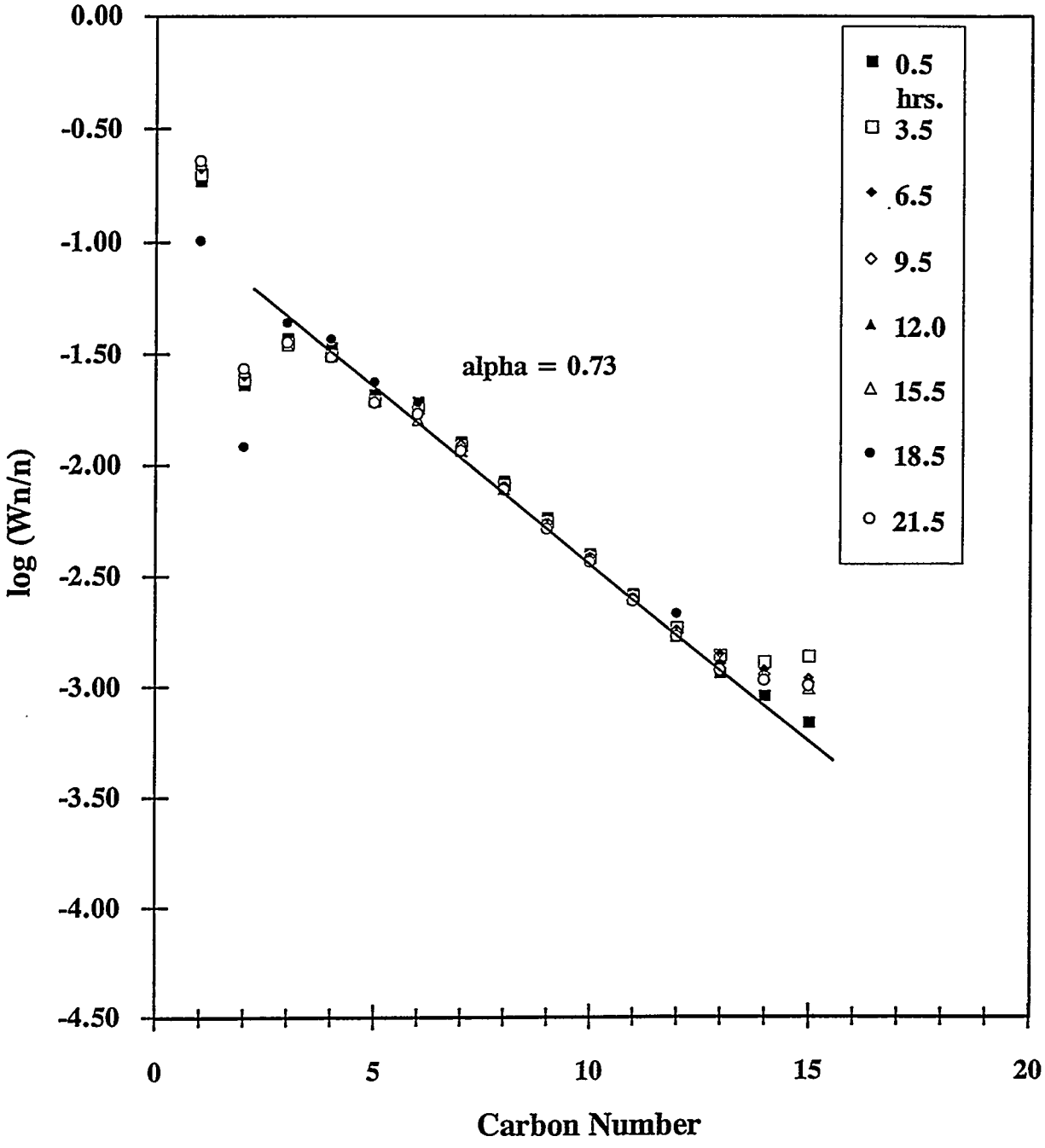
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.9 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5
reaction temperature, °C	220	220
pressure, atm	1.0	1.0
flow, cc/min	90.0	90.0
C1 - C15 product distribution, weight %		
C1	23.70	24.15
C2	5.16	5.26
C3	9.61	9.73
C4	9.73	9.81
C5	10.52	10.40
C6	8.74	8.78
C7	7.98	8.08
C8	6.14	6.18
C9	4.69	4.64
C10	3.72	3.66
C11	2.79	2.70
C12	2.57	2.03
C13	1.65	1.56
C14	1.51	1.50
C15	1.50	1.52
alpha chain growth probability	0.72	0.73
C1 - C50 estimated total product distribution, weight %		
C1	22.0	22.2
C2 - C4	22.7	22.8
C5 - C12	45.4	44.8
C13 - C50	9.9	10.2
CO conversion, %	2.7	2.6
rate, g CH2/g cat/hr	0.16	0.16
CO2 formation, %	0.1	0.1

Time-on-Stream Plot for Co.045 - Run #1



Schulz-Flory Plot for Co.045 - Run #1
Time on Stream (hrs)



Co.053 - Run #4

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.50			Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.160 g
WHSV = 16.07 1/hr
time on stream = 18.5 hrs

CO2 (g/g cat/hr) = 0.030
CO2 (% of CO) = 0.1
O/P = 1.41

CO conversion (%)	6.1
rate (g CH2/g cat/hr)	0.43
alpha	0.65
C1 (wt%)	28.3
C2 - C4 (wt%)	29.0
C5 - C12 (wt%)	39.6
C13 + (wt%)	3.1

* Catalyst reduced without calcination

Performance of Co.053

Dates: 10/12/94 - 10/13/94 Run #4

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 16.1 1/hr, H2/CO ratio in feed = 2

time on stream, hr	3.5	9.5	12.5	15.5	18.5	24.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	29.00	29.18	27.03	28.75	28.98	29.41
C2	5.16	5.17	12.96	5.08	5.11	5.21
C3	12.81	12.69	11.64	12.44	12.50	12.74
C4	12.41	12.29	11.24	12.13	12.14	12.27
C5	11.08	10.94	10.05	11.07	11.00	10.98
C6	7.66	7.24	6.80	7.85	7.85	7.27
C7	7.57	7.60	6.80	7.63	7.65	7.54
C8	4.95	5.08	4.62	5.08	5.09	5.01
C9	3.28	3.37	3.10	3.42	3.36	3.42
C10	2.13	2.28	2.06	2.25	2.25	2.26
C11	1.41	1.51	1.34	1.48	1.55	1.51
C12	0.90	1.01	0.84	1.09	0.85	0.98
C13	0.71	0.67	0.61	0.68	0.65	0.64
C14	0.58	0.56	0.52	0.58	0.56	0.52
C15	0.34	0.41	0.40	0.47	0.47	0.24
alpha chain growth probability	0.63	0.64	0.64	0.65	0.65	0.61
C1 - C50 estimated total product distribution, weight %						
C1	28.7	28.7	26.5	28.1	28.3	29.4
C2 - C4	30.1	29.7	35.1	29.0	29.0	30.3
C5 - C12	39.0	38.9	35.7	39.8	39.6	38.7
C13 - C50	2.2	2.7	2.6	3.1	3.1	1.6
CO conversion, %	6.8	6.2	6.8	6.1	6.1	5.2
rate, g CH2/g cat/hr	0.48	0.43	0.48	0.43	0.43	0.37
CO2 formation, %	0.2	0.2	0.2	0.1	0.1	0.2

Performance of Co.053

Dates: 10/12/94 - 10/13/94 Run #4

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 16.1 1/hr, H2/CO ratio in feed = 2

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time on stream, hr
reaction temperature, °C
pressure, atm
flow, cc/min

C1 - C15 product distribution, weight %

C1

C2
C3
C4

C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15

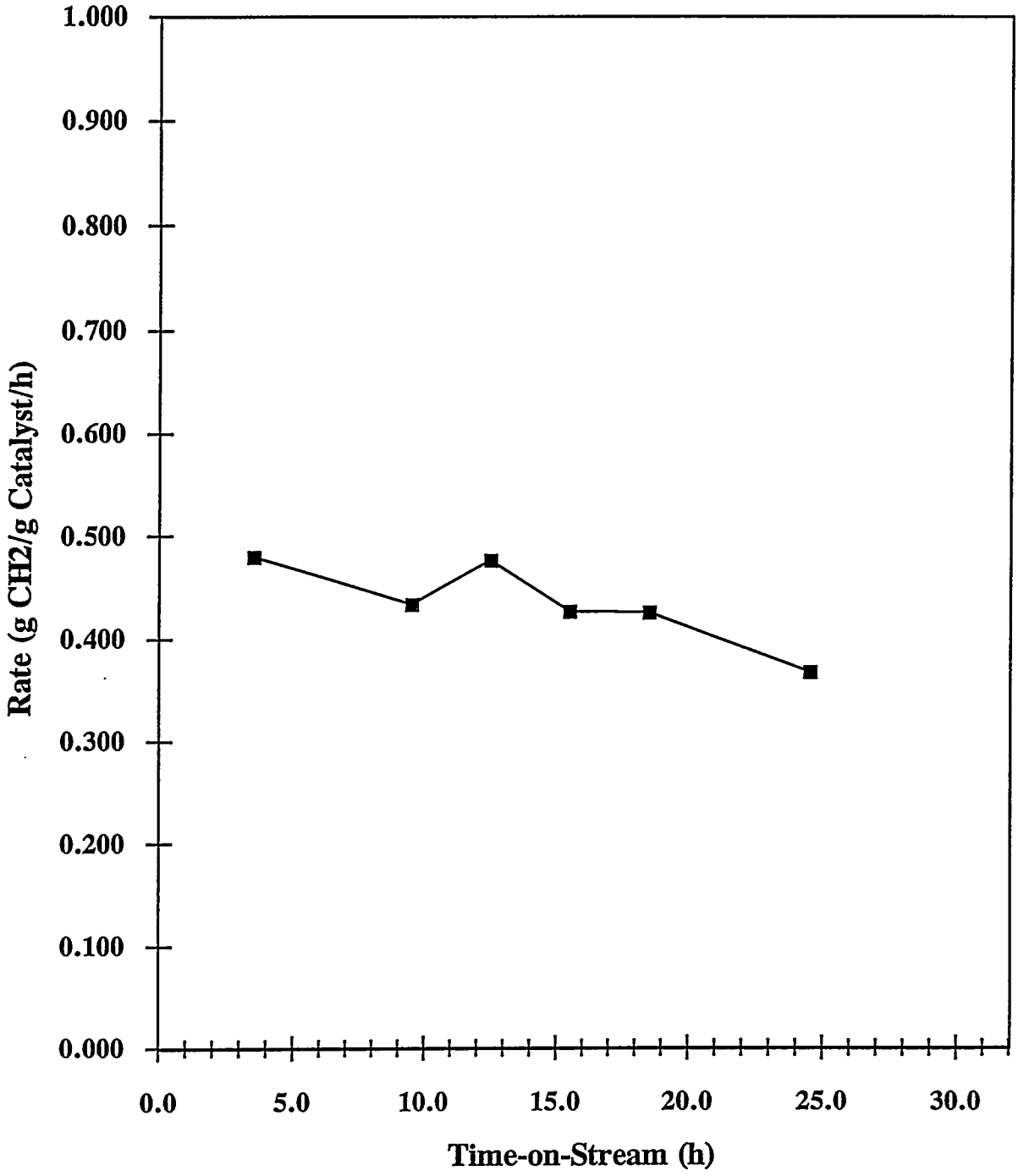
alpha chain growth probability

C1 - C50 estimated total product distribution, weight %

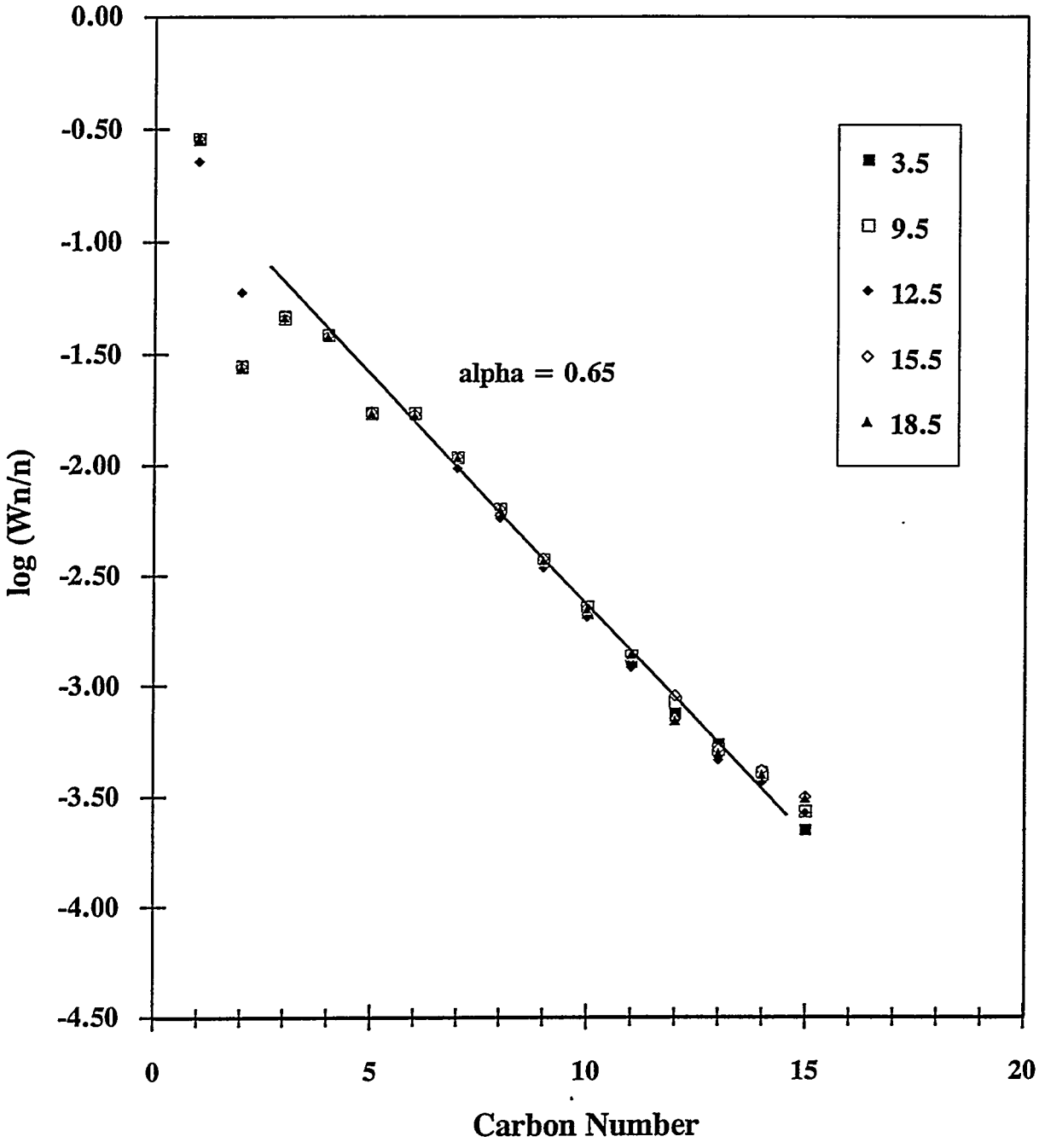
C1
C2 - C4
C5 - C12
C13 - C50

CO conversion, %
rate, g CH2/g cat/hr
CO2 formation, %

Time-on-Stream Plot for Co.053 - Run #4



Schulz-Flory Plot for Co.053 - Run #4
Time on Stream (hrs) hrs.



Co.053 - Run #5

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.50			Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.175 g
WHSV = 14.69 1/hr
time on stream = 27.5 hrs

CO2 (g/g cat/hr) = 0.034
CO2 (% of CO) = 0.2
O/P = 1.49

CO conversion (%)	5.6
rate (g CH2/g cat/hr)	0.36
alpha	0.64
C1 (wt%)	27.9
C2 - C4 (wt%)	29.5
C5 - C12 (wt%)	40.0
C13 + (wt%)	2.6

* Catalyst is reduced , calcined and rereduced

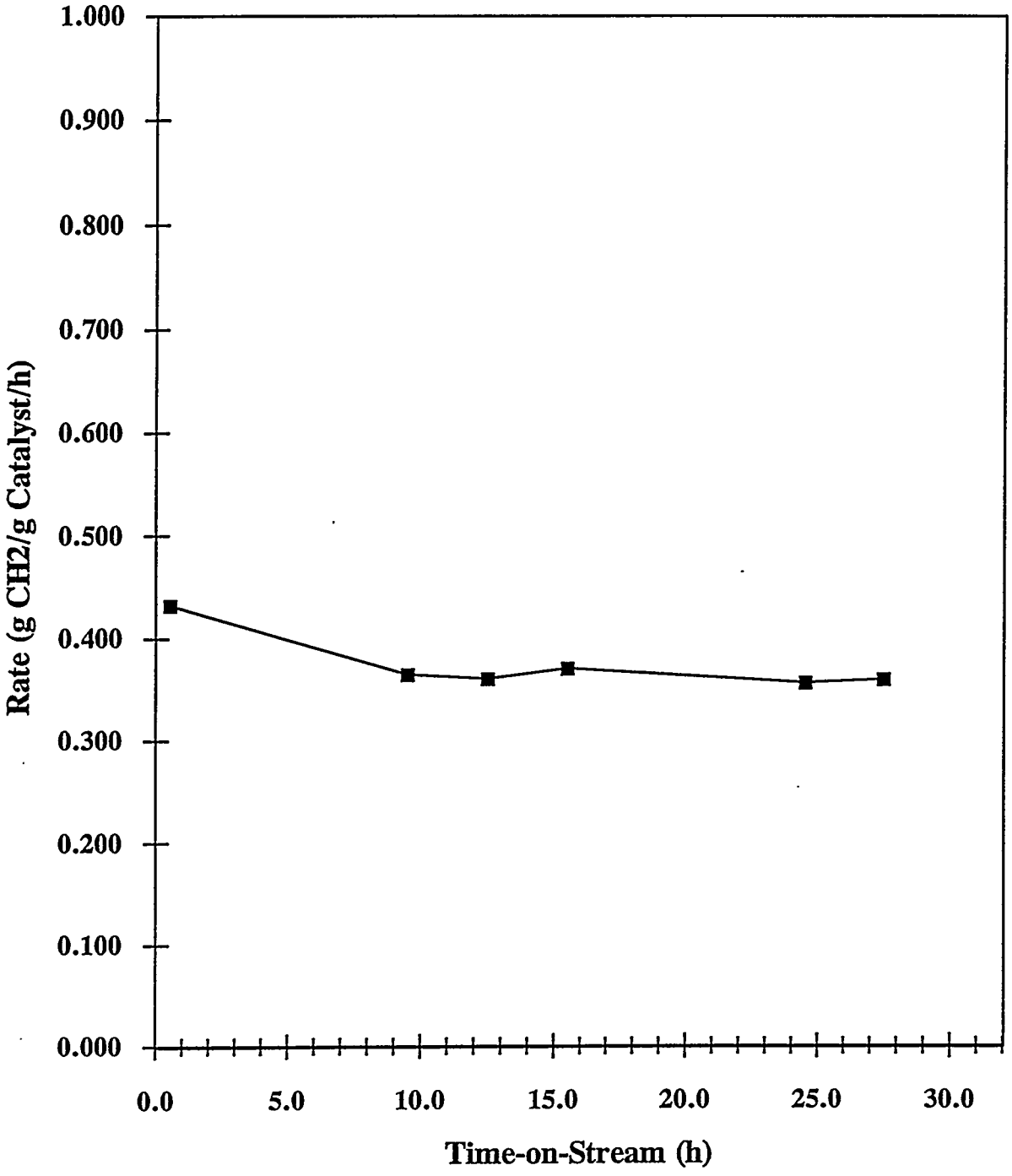
Performance of Co.053

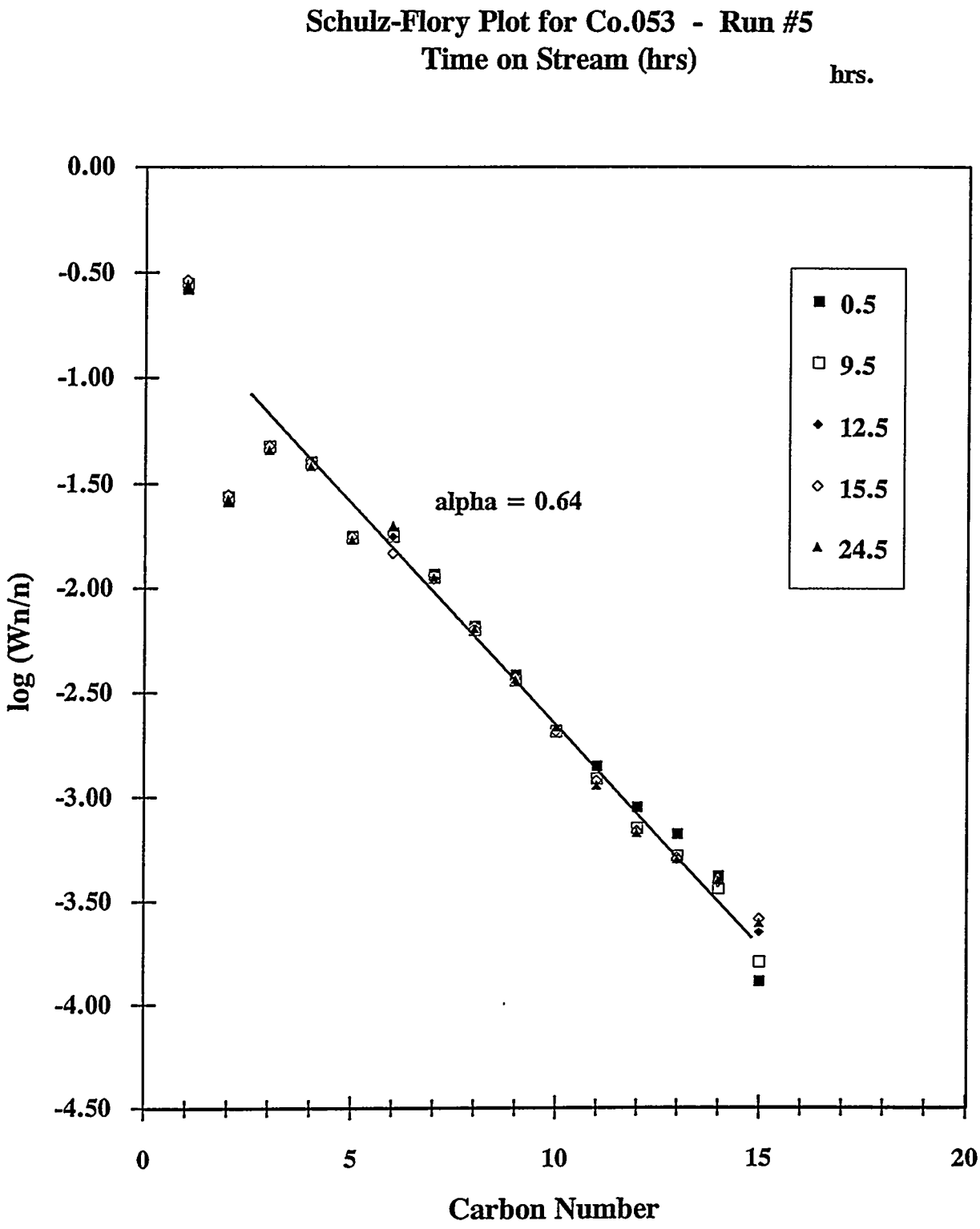
Dates: 10/17/94 - 10/18/94 Run #5

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.7 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	9.5	12.5	15.5	24.5	27.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	26.42	28.47	28.57	28.76	28.17	28.48
C2	4.77	5.07	5.07	5.07	4.96	5.01
C3	12.73	13.04	12.99	12.91	12.66	12.70
C4	12.71	12.70	12.65	12.52	12.36	12.34
C5	11.66	11.30	11.26	11.22	11.38	11.24
C6	8.43	7.52	7.41	7.54	8.21	8.05
C7	8.17	7.88	7.84	7.75	7.93	7.83
C8	5.27	5.06	5.17	5.09	5.16	5.06
C9	3.47	3.26	3.20	3.33	3.32	3.33
C10	2.10	2.06	2.09	2.06	2.17	2.19
C11	1.55	1.35	1.34	1.33	1.26	1.30
C12	1.08	0.85	0.84	0.82	0.82	0.87
C13	0.87	0.68	0.68	0.66	0.66	0.64
C14	0.59	0.51	0.55	0.55	0.56	0.56
C15	0.19	0.24	0.34	0.39	0.37	0.40
alpha chain growth probability	0.59	0.61	0.62	0.63	0.63	0.64
C1 - C50 estimated total product distribution, weight %						
C1	26.7	28.4	28.2	28.2	27.7	27.9
C2 - C4	30.5	30.8	30.3	29.9	29.5	29.5
C5 - C12	41.4	39.2	39.2	39.3	40.4	40.0
C13 - C50	1.3	1.6	2.2	2.6	2.5	2.6
CO conversion, %	6.7	5.7	5.6	5.8	5.5	5.6
rate, g CH2/g cat/hr	0.43	0.37	0.36	0.37	0.36	0.36
CO2 formation, %	0.2	0.2	0.2	0.2	0.1	0.2

Time-on-Stream Plot for Co.053 - Run #5




Schulz-Flory Plot for Co.053 - Run #5
Time on Stream (hrs)
hrs.
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
log (Wn/n)
alpha = 0.64
0.5
9.5
12.5
15.5
24.5
0
5
10
15
20
Carbon Number

Co.053 - Run #6

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.50			Al2O3

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.191 g
WHSV = 13.50 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.030
CO2 (% of CO) = 0.1
O/P = 1.25

CO conversion (%)	8.2
rate (g CH2/g cat/hr)	0.49
alpha	0.64
C1 (wt%)	28.9
C2 - C4 (wt%)	28.1
C5 - C12 (wt%)	40.0
C13 + (wt%)	3.0

Performance of Co.053

Dates: 11/03/94 - 11/04/94 Run #6

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.5 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	31.34	31.17	32.00	31.40	31.63	31.31
C2	5.30	5.20	5.28	5.17	5.17	5.13
C3	12.76	12.61	12.70	12.58	12.55	12.57
C4	12.68	12.66	12.60	12.43	12.31	12.39
C5	11.34	11.24	11.14	11.19	11.07	11.15
C6	8.30	8.31	7.63	8.60	8.37	8.55
C7	6.38	6.40	6.49	6.51	6.51	6.51
C8	4.14	4.17	4.26	4.28	4.34	4.41
C9	2.70	2.69	2.77	2.82	2.86	2.86
C10	1.70	1.72	1.79	1.75	1.80	1.80
C11	1.20	1.23	1.22	1.20	1.23	1.27
C12	0.74	0.72	0.76	0.78	0.81	0.77
C13	0.62	0.60	0.51	0.51	0.52	0.48
C14	0.45	1.16	0.43	0.42	0.44	0.42
C15	0.35	0.11	0.42	0.37	0.38	0.37
alpha chain growth probability	0.63	0.56	0.64	0.63	0.63	0.63
C1 - C50 estimated total product distribution, weight %						
C1	30.8	31.8	31.2	30.7	31.0	30.7
C2 - C4	30.2	31.0	29.8	29.6	29.4	29.5
C5 - C12	36.7	36.4	36.3	37.3	37.1	37.4
C13 - C50	2.3	0.7	2.8	2.4	2.5	2.4
CO conversion, %	10.4	9.1	9.2	8.7	8.8	8.4
rate, g CH2/g cat/hr	0.62	0.54	0.54	0.51	0.52	0.49
CO2 formation, %	0.3	0.2	0.2	0.2	0.1	0.2

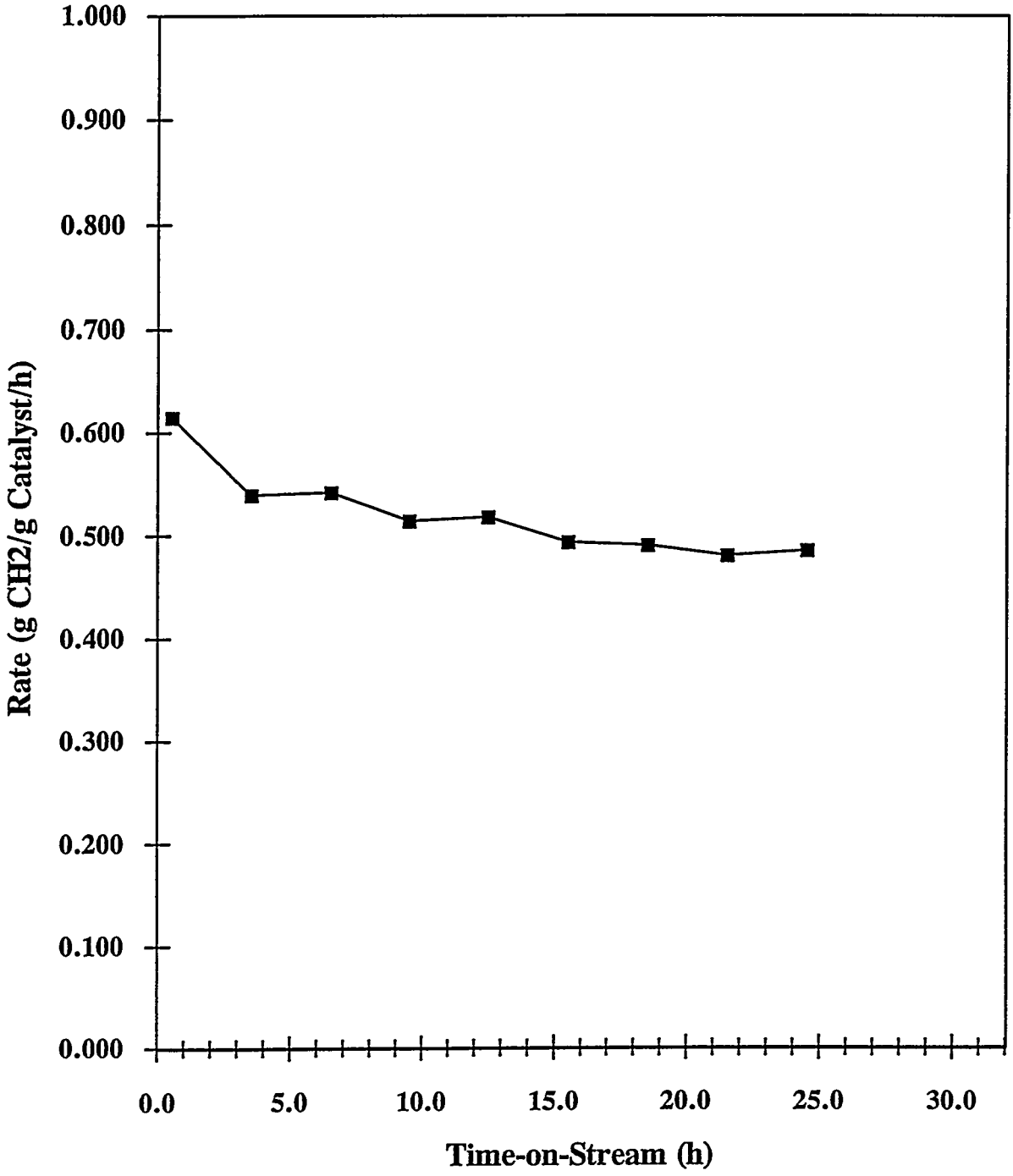
Performance of Co.053

Dates: 11/03/94 - 11/04/94 Run #6

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.5 1/hr, H2/CO ratio in feed = 2

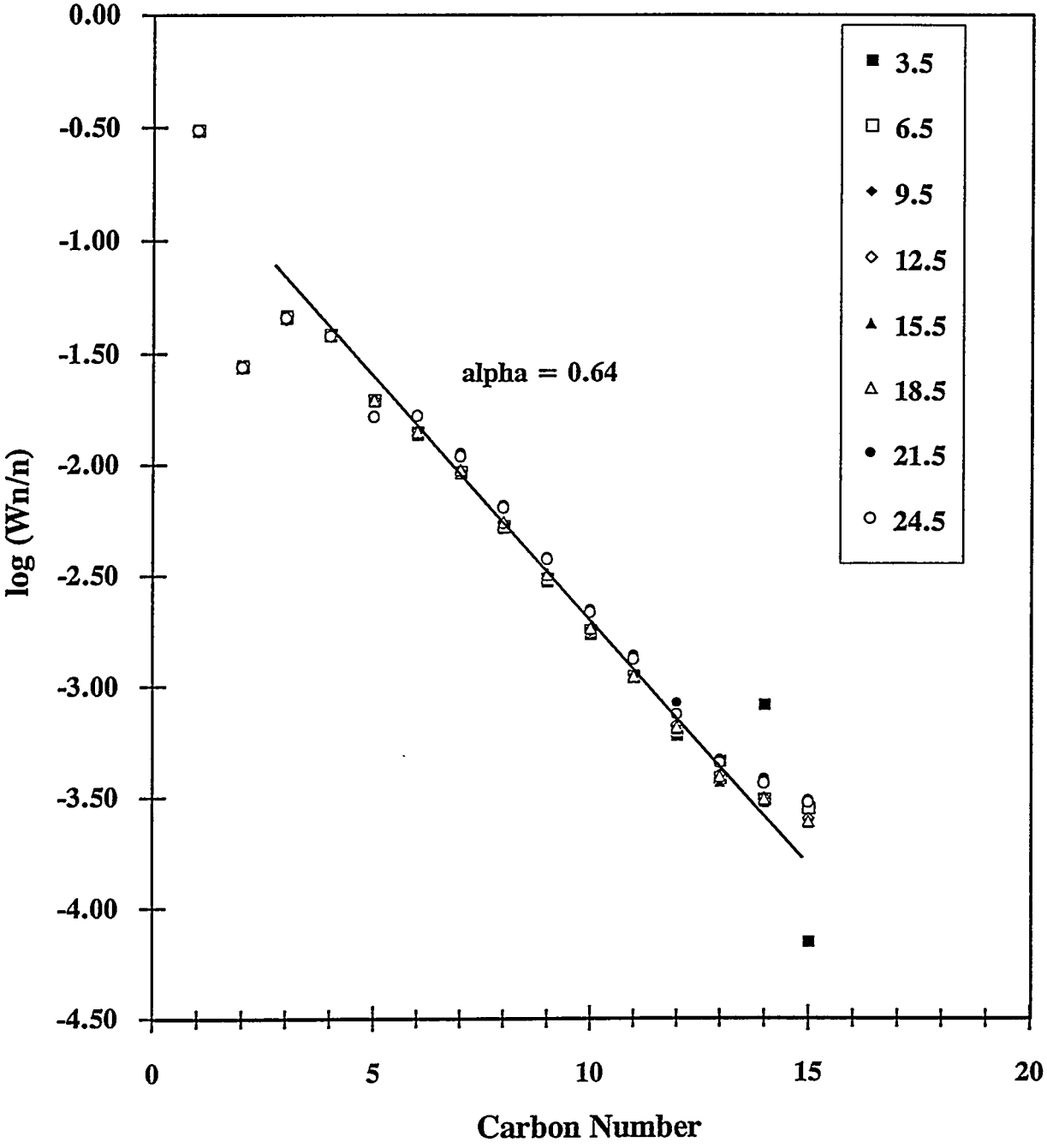
time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	31.24	30.77	29.63
C2	5.11	5.05	4.86
C3	12.52	12.51	12.09
C4	12.30	10.77	11.84
C5	11.17	11.22	10.90
C6	8.55	6.67	8.49
C7	6.63	7.90	7.62
C8	4.41	5.26	5.11
C9	2.90	3.45	3.37
C10	1.83	2.24	2.16
C11	1.22	1.52	1.46
C12	0.79	1.02	0.90
C13	0.51	0.61	0.59
C14	0.44	0.54	0.51
C15	0.37	0.46	0.45
alpha chain growth probability	0.63	0.65	0.64
C1 - C50 estimated total product distribution, weight %			
C1	30.6	30.1	28.9
C2 - C4	29.3	27.7	28.1
C5 - C12	37.6	39.2	40.0
C13 - C50	2.4	3.0	3.0
CO conversion, %	8.3	8.1	8.2
rate, g CH2/g cat/hr	0.49	0.48	0.49
CO2 formation, %	0.2	0.1	0.1

Time-on-Stream Plot for Co.053 - Run #6



Schulz-Flory Plot for Co.053 - Run #6
Time on Stream (hrs)

hrs.



Co.055 - Run #4

Co wt%	NM wt %	Promotor wt%		Support
20	Re 1.00		La2O3 1.00	Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.174 g
WHSV = 14.80 1/hr
time on stream = 21.5 hrs

CO2 (g/g cat/hr) = 0.047
CO2 (% of CO) = 0.2
O/P = 1.94

CO conversion (%)	5.9
rate (g CH2/g cat/hr)	0.38
alpha	0.60
C1 (wt%)	28.3
C2 - C4 (wt%)	29.2
C5 - C12 (wt%)	41.0
C13 + (wt%)	1.4

* Catalyst calcined without calcination

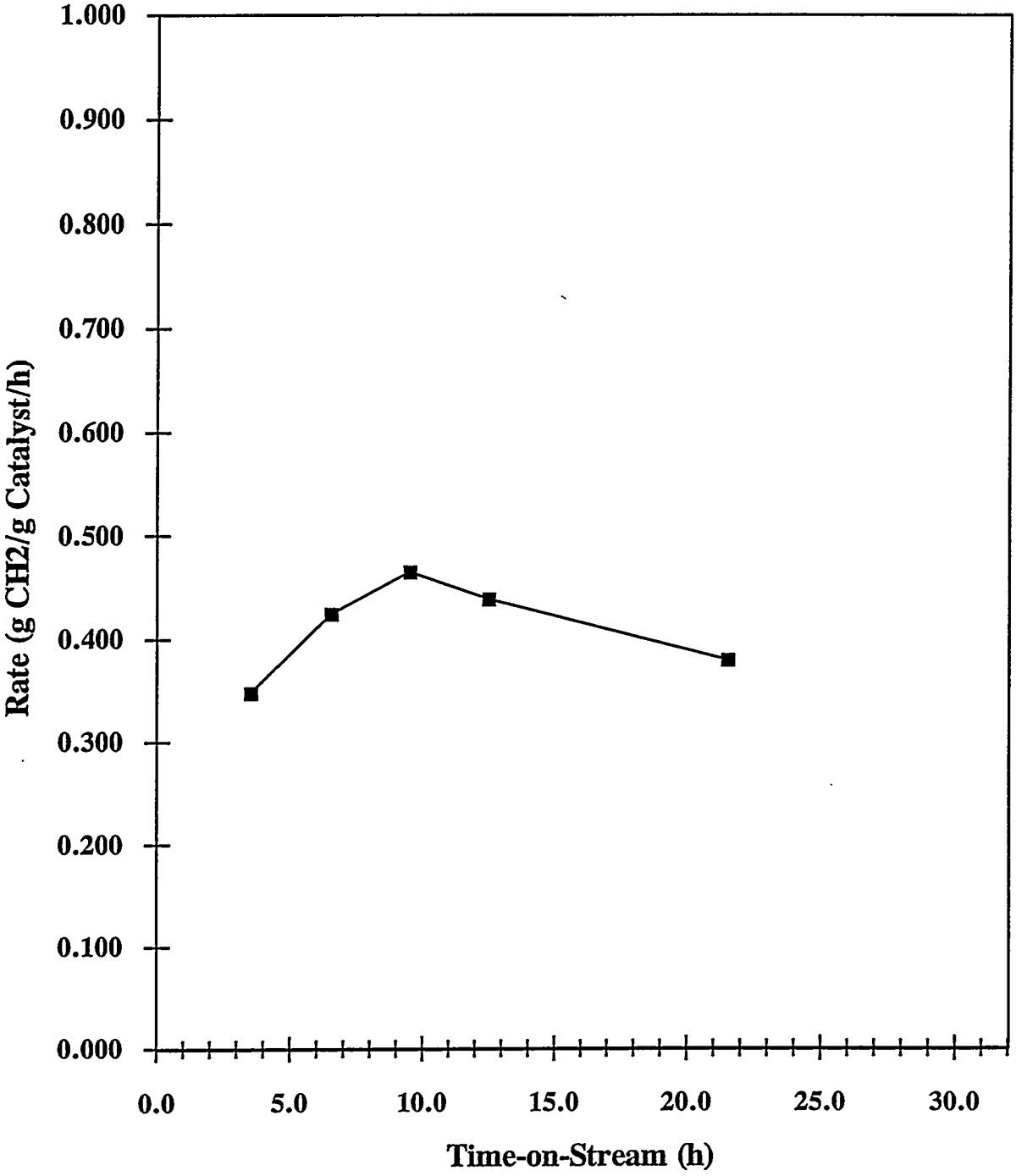
Performance of Co.055

Dates: 10/20/94 - 10/21/94 Run #4

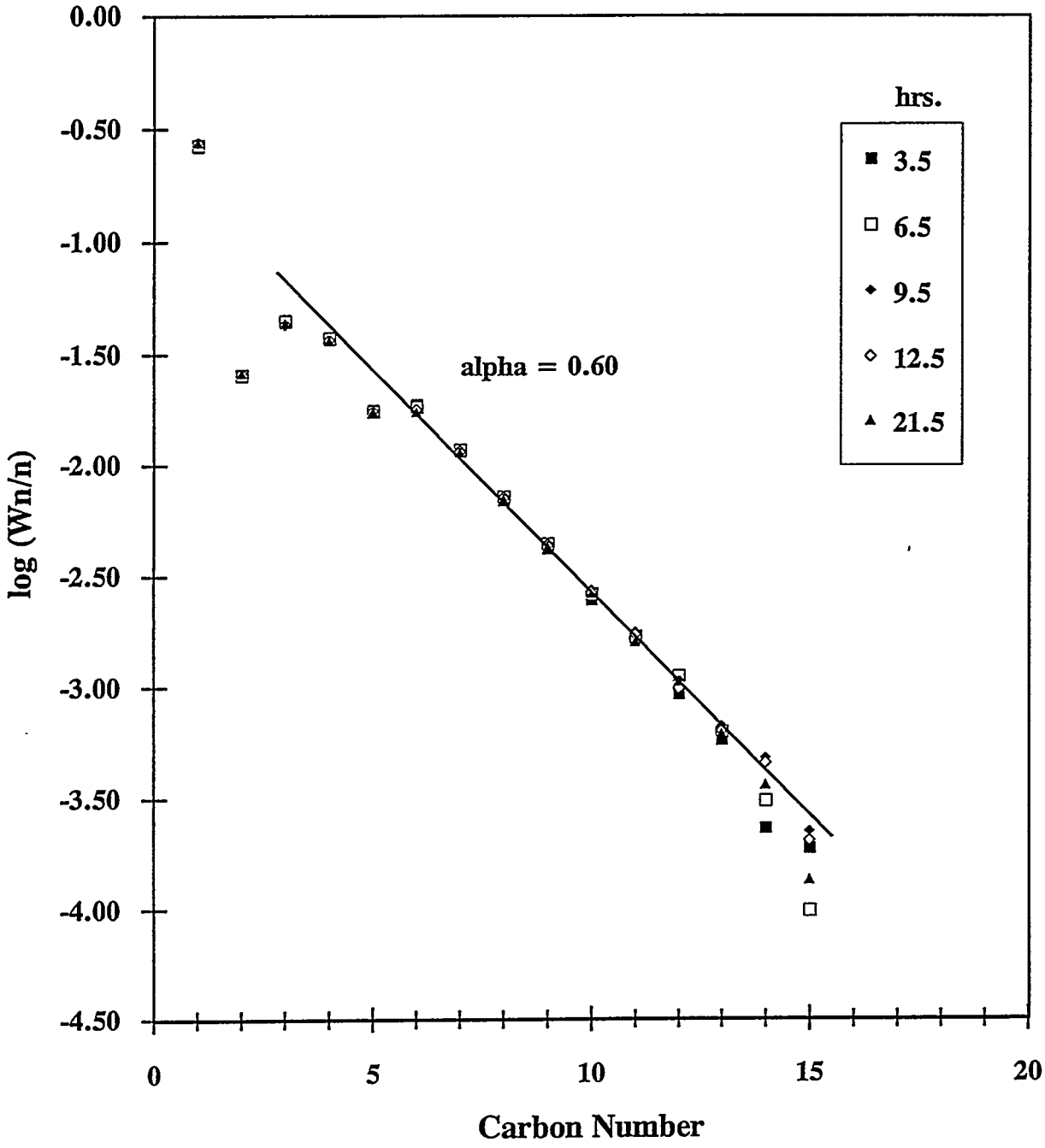
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.8 1/hr, H2/CO ratio in feed = 2

time on stream, hr	3.5	6.5	9.5	12.5	21.5
reaction temperature, °C	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %					
C1	28.31	27.51	27.23	28.09	27.97
C2	4.94	4.80	4.71	4.85	4.84
C3	12.93	12.41	12.04	12.29	12.22
C4	12.51	12.12	11.80	11.91	11.79
C5	10.77	10.90	10.92	10.80	10.92
C6	6.35	7.10	7.47	7.02	7.45
C7	8.07	8.19	8.19	8.03	8.02
C8	5.56	5.75	5.77	5.64	5.64
C9	3.78	3.97	4.01	3.89	3.90
C10	2.48	2.64	2.74	2.66	2.65
C11	1.82	1.86	1.94	1.89	1.77
C12	1.12	1.35	1.29	1.18	1.28
C13	0.76	0.82	0.87	0.83	0.82
C14	0.33	0.43	0.68	0.64	0.51
C15	0.28	0.15	0.34	0.31	0.20
alpha chain growth probability	0.62	0.58	0.63	0.62	0.60
C1 - C50 estimated total product distribution, weight %					
C1	28.3	28.1	27.3	28.2	28.3
C2 - C4	30.4	30.0	28.6	29.1	29.2
C5 - C12	39.4	40.9	41.8	40.6	41.0
C13 - C50	1.9	1.0	2.3	2.0	1.4
CO conversion, %	5.4	6.6	7.2	6.8	5.9
rate, g CH2/g cat/hr	0.35	0.42	0.47	0.44	0.38
CO2 formation, %	0.3	0.2	0.2	0.2	0.2

Time-on-Stream Plot for Co.055 - Run #4



Schulz-Flory Plot for Co.055 - Run #4
Time on Stream (hrs)



Co.055 - Run #5

Co wt%	NM wt %	Promotor wt%		Support
20	Re 1.00		La2O3 1.00	Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.180 g
WHSV = 14.28 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.030
CO2 (% of CO) = 0.1
O/P = 1.83

CO conversion (%)	6.6
rate (g CH2/g cat/hr)	0.41
alpha	0.59
C1 (wt%)	29.6
C2 - C4 (wt%)	28.1
C5 - C12 (wt%)	41.1
C13 + (wt%)	1.2

* Catalyst is directly reduced without calcination

Performance of Co.055

Dates: 11/07/94 - 11/08/94 Run #5

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	27.20	28.68	28.15	28.62	28.72	28.88
C2	4.67	4.80	4.68	4.73	4.74	4.76
C3	11.75	11.75	11.42	11.44	11.45	11.48
C4	11.87	11.74	11.31	11.31	11.27	11.39
C5	11.18	10.77	10.56	10.50	10.52	10.53
C6	8.68	8.44	8.71	8.57	8.57	8.56
C7	8.28	7.91	7.76	7.71	7.66	7.61
C8	5.73	5.51	5.50	5.39	5.37	5.36
C9	3.94	3.78	3.82	3.80	3.80	3.81
C10	2.55	2.47	2.64	2.67	2.66	2.69
C11	2.12	1.84	1.86	1.83	1.85	1.86
C12	0.96	1.13	1.19	1.21	1.20	1.24
C13	0.69	0.71	0.84	0.78	0.77	0.73
C14	0.29	0.36	0.85	0.73	0.74	0.57
C15	0.10	0.12	0.70	0.70	0.65	0.54
alpha chain growth probability	0.56	0.57	0.67	0.67	0.67	0.66
C1 - C50 estimated total product distribution, weight %						
C1	27.9	29.3	27.1	27.6	27.8	28.2
C2 - C4	29.0	28.9	26.4	26.5	26.6	27.0
C5 - C12	42.5	41.0	41.8	41.4	41.3	41.2
C13 - C50	0.7	0.8	4.6	4.6	4.3	3.5
CO conversion, %	9.3	8.7	8.5	8.2	7.8	7.5
rate, g CH2/g cat/hr	0.58	0.54	0.53	0.51	0.49	0.47
CO2 formation, %	0.2	0.2	0.2	0.2	0.2	0.2

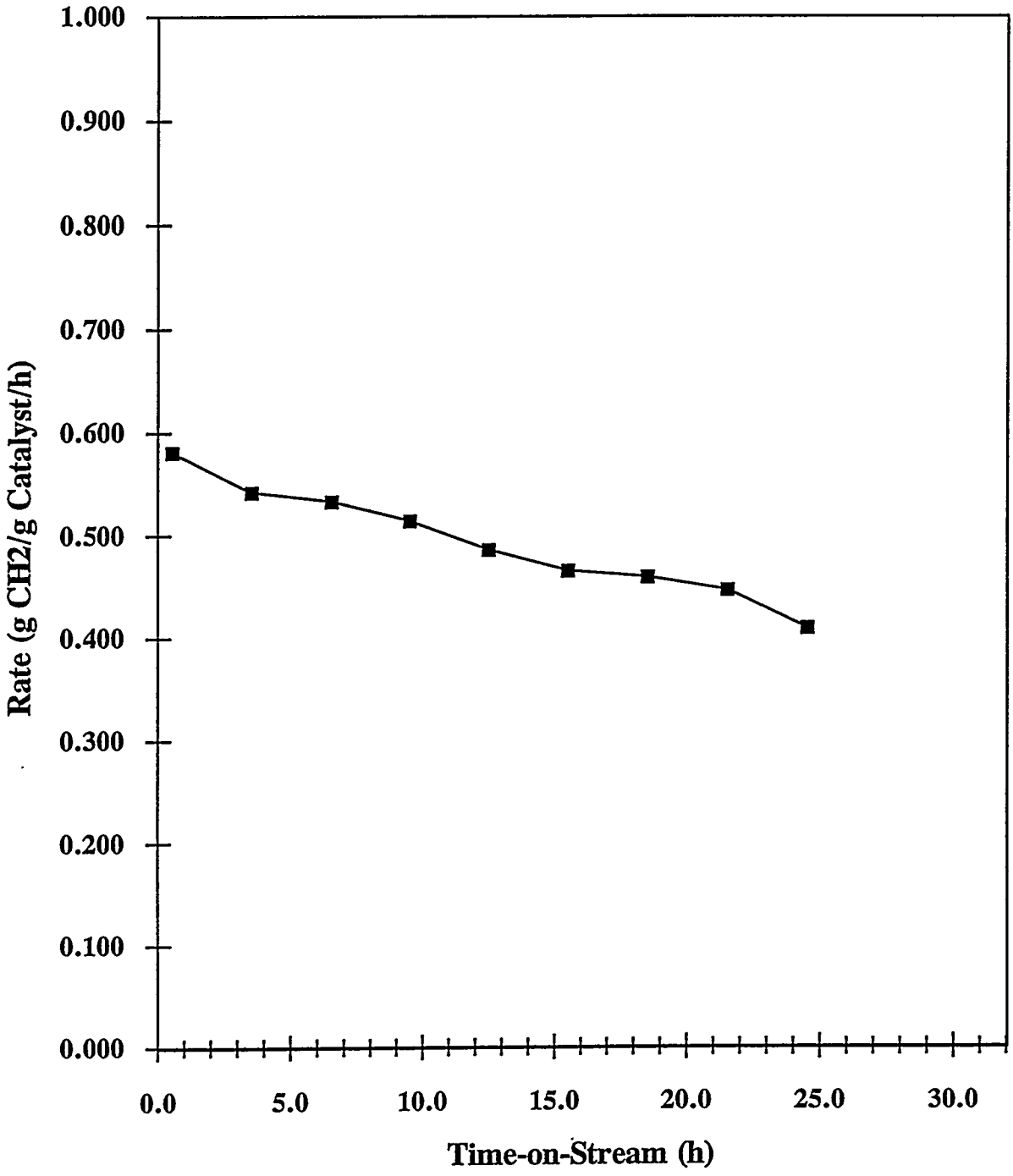
Performance of Co.055

Dates: 11/07/94 - 11/08/94 Run #5

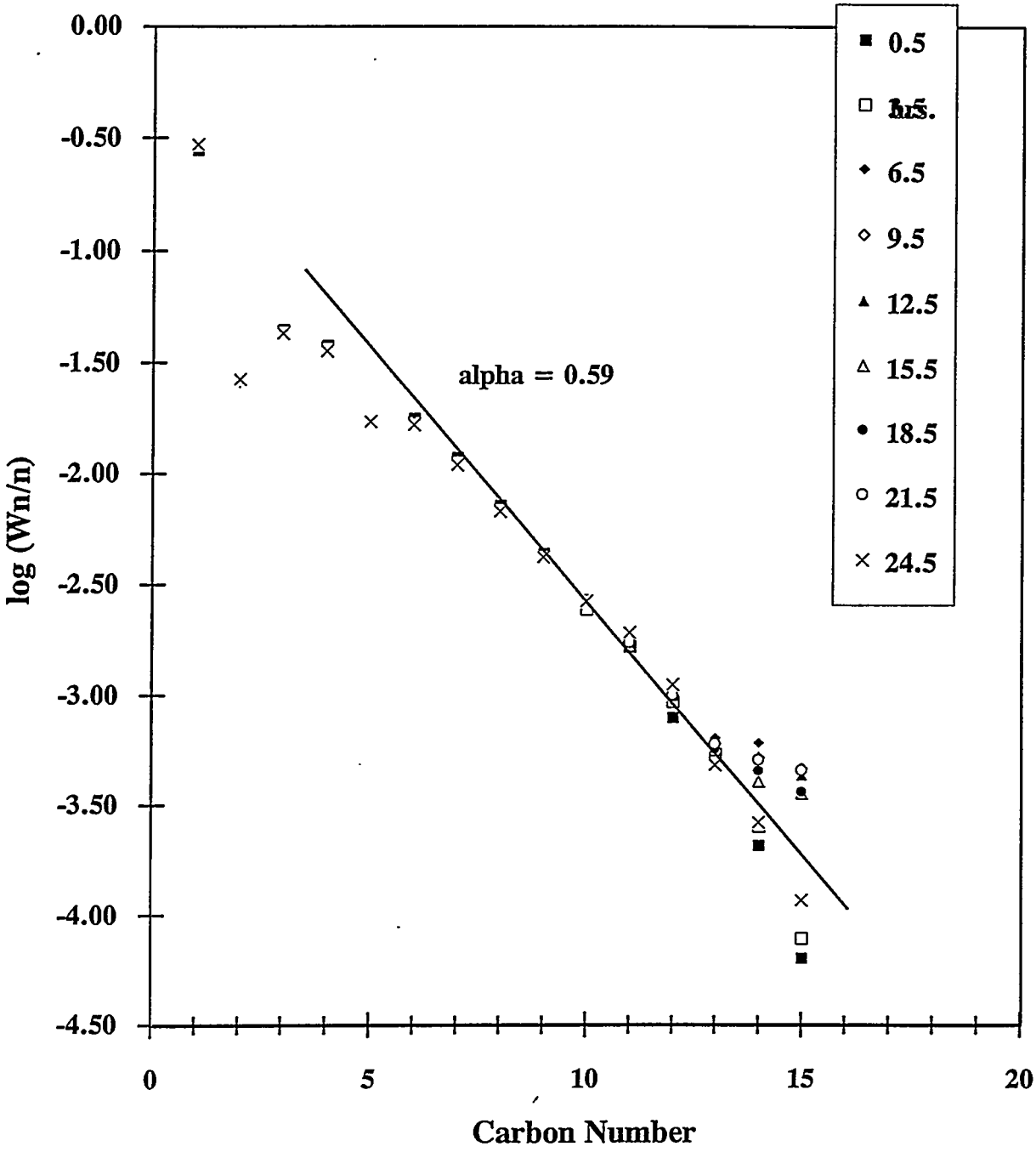
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	29.21	28.78	29.10
C2	4.81	4.75	4.80
C3	11.56	11.46	11.55
C4	11.09	11.15	11.20
C5	10.47	10.53	10.59
C6	8.44	8.56	8.60
C7	7.59	7.63	7.67
C8	5.34	5.36	5.39
C9	3.76	3.78	3.79
C10	2.66	2.70	2.66
C11	1.90	1.92	2.12
C12	1.24	1.21	1.35
C13	0.74	0.78	0.63
C14	0.64	0.71	0.37
C15	0.55	0.69	0.18
alpha chain growth probability	0.66	0.67	0.59
C1 - C50 estimated total product distribution, weight %			
C1	28.6	27.8	29.6
C2 - C4	26.9	26.4	28.1
C5 - C12	41.0	41.3	41.1
C13 - C50	3.6	4.5	1.2
CO conversion, %	7.4	7.2	6.6
rate, g CH2/g cat/hr	0.46	0.45	0.41
CO2 formation, %	0.2	0.1	0.1

Time-on-Stream Plot for Co.055 - Run #5



Schulz-Flory Plot for Co.055 - Run #5
Time on Stream (hrs)



Co.055 - Run #6

Co wt%	NM wt %	Promotor wt%		Support
20	Re 1.00		La2O3 1.00	Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.180 g
WHSV = 14.31 1/hr
time on stream = 27.5 hrs

CO2 (g/g cat/hr) = 0.023
CO2 (% of CO) = 0.1
O/P = 1.21

CO conversion (%)	7.5
rate (g CH2/g cat/hr)	0.47
alpha	0.63
C1 (wt%)	30.9
C2 - C4 (wt%)	29.1
C5 - C12 (wt%)	37.6
C13 + (wt%)	2.4

* Catalyst is reduced, calcined and rereduced before loading

Performance of Co.055

Dates: 11/14/94 - 11/15/94 Run #6

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	27.5
reaction temperature, °C	220
pressure, atm	1.0
flow, cc/min	90.0

C1 - C15 product distribution, weight %

C1	31.53
C2	4.98
C3	12.71
C4	12.09
C5	10.66
C6	7.91
C7	7.28
C8	4.68
C9	3.05
C10	1.94
C11	1.25
C12	0.67
C13	0.45
C14	0.40
C15	0.37
alpha chain growth probability	0.63

C1 - C50 estimated total product distribution, weight %

C1	30.9
C2 - C4	29.1
C5 - C12	37.6
C13 - C50	2.4

CO conversion, %	7.5
rate, g CH2/g cat/hr	0.47
CO2 formation, %	0.1

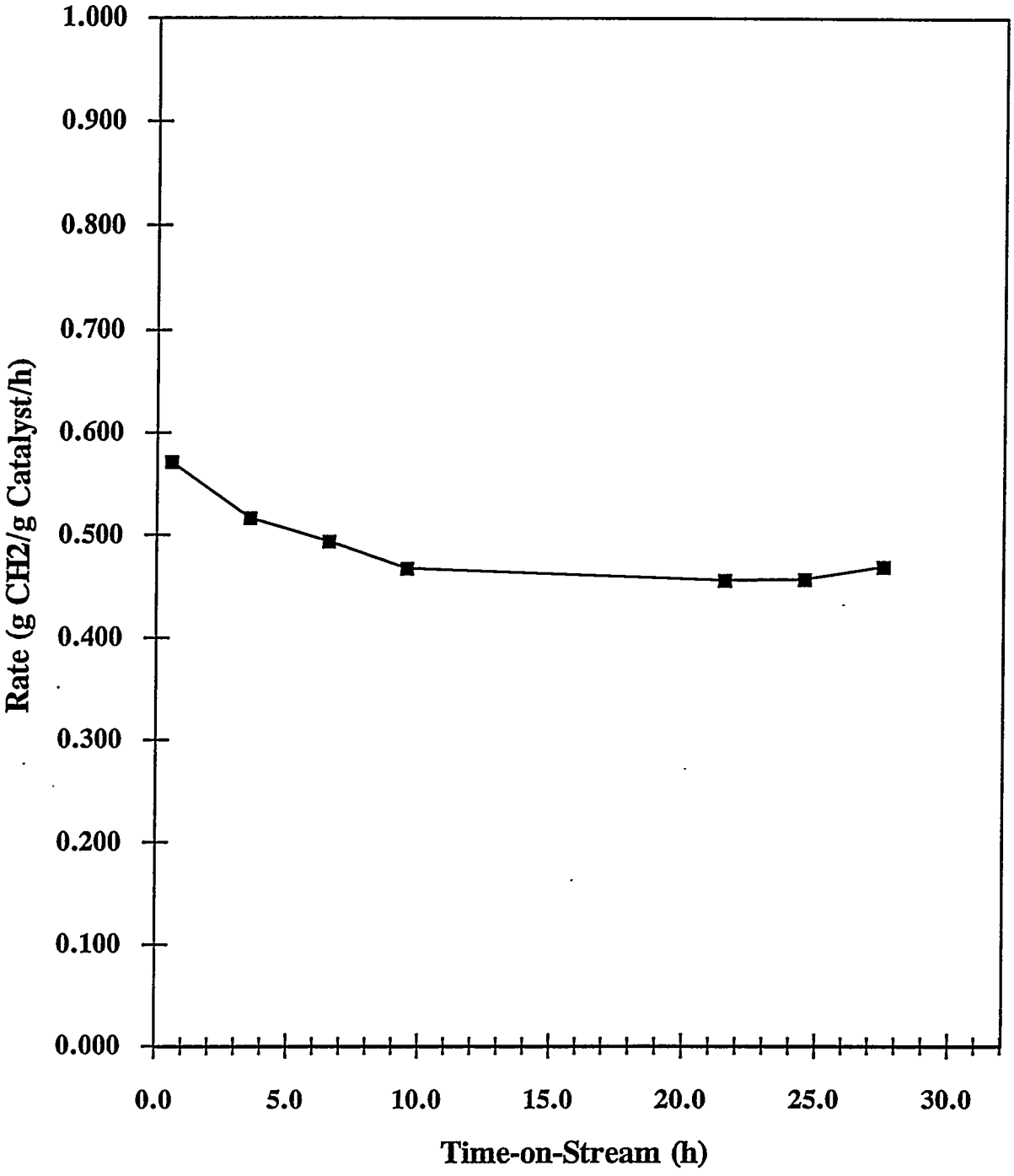
Performance of Co.055

Dates: 11/14/94 - 11/15/94 Run #6

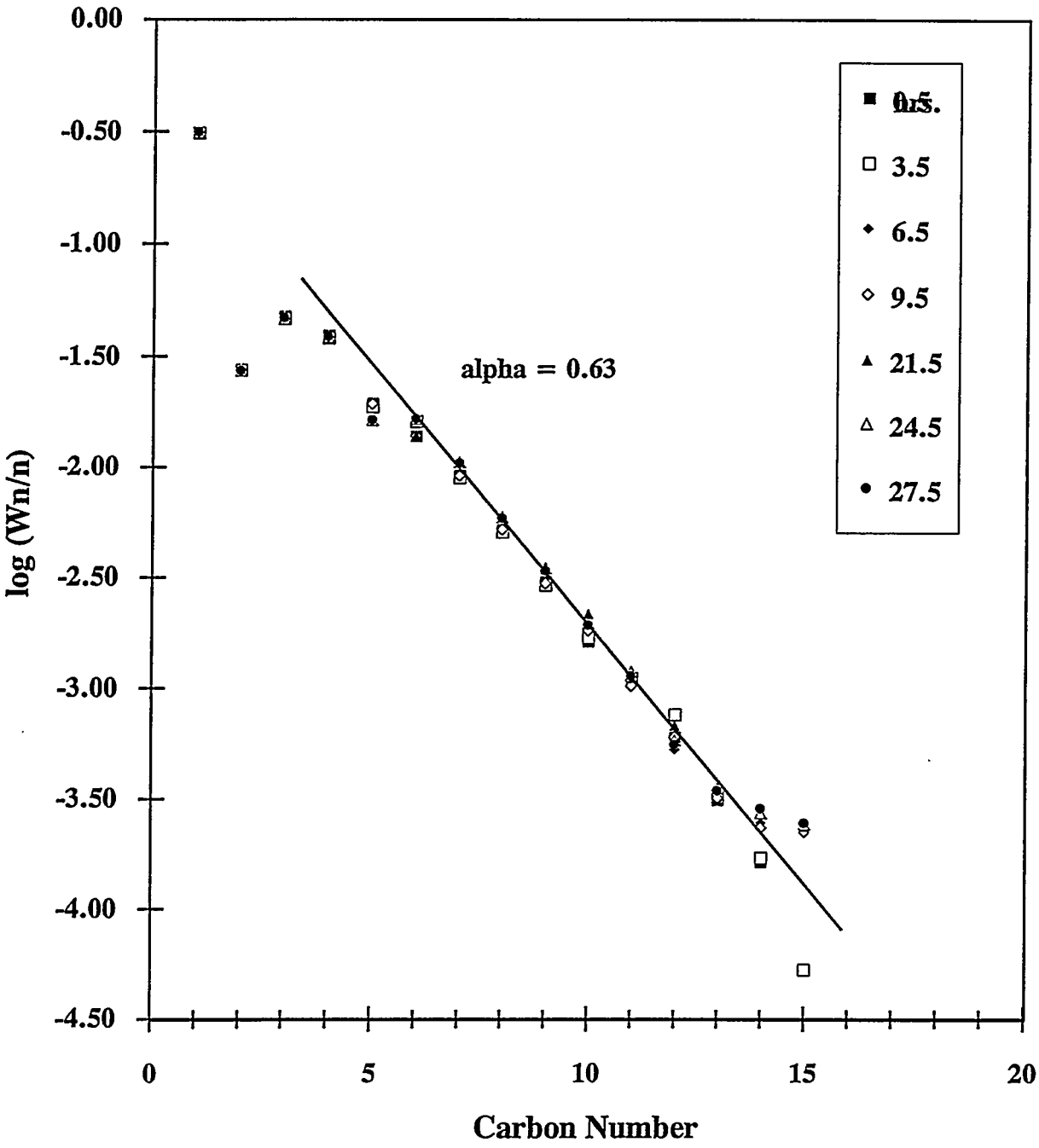
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	21.5	24.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	31.93	32.27	31.84	31.85	30.96	31.10
C2	5.23	5.21	5.13	5.11	4.93	4.94
C3	13.13	13.04	12.98	12.95	12.59	12.66
C4	12.73	12.68	12.60	12.59	12.01	12.10
C5	11.25	11.12	11.12	11.08	10.84	10.77
C6	8.12	8.08	8.46	8.38	7.88	7.98
C7	6.40	6.28	6.34	6.38	7.44	7.37
C8	4.18	4.09	4.14	4.18	4.76	4.74
C9	2.74	2.64	2.64	2.68	3.14	3.14
C10	1.64	1.71	1.84	1.84	2.18	1.97
C11	1.20	1.23	1.16	1.14	1.23	1.31
C12	0.73	0.92	0.64	0.73	0.82	0.71
C13	0.41	0.42	0.41	0.42	0.47	0.46
C14	0.23	0.24	0.35	0.33	0.38	0.39
C15	0.08	0.08	0.35	0.34	0.36	0.37
alpha chain growth probability	0.55	0.55	0.63	0.63	0.63	0.63
C1 - C50 estimated total product distribution, weight %						
C1	32.3	32.7	31.1	31.2	30.4	30.5
C2 - C4	31.4	31.3	30.0	30.0	29.0	29.1
C5 - C12	35.7	35.4	36.5	36.5	38.3	38.0
C13 - C50	0.6	0.6	2.3	2.2	2.3	2.4
CO conversion, %	9.1	8.3	7.9	7.5	7.3	7.3
rate, g CH2/g cat/hr	0.57	0.52	0.49	0.47	0.46	0.46
CO2 formation, %	0.2	0.2	0.2	0.2	0.2	0.1

Time-on-Stream Plot for Co.055 - Run #6



Schulz-Flory Plot for Co.055 - Run #6
Time on Stream (hrs)



Co.055 - Run #7

Co wt%	NM wt %	Promotor wt%		Support
20	Re 1.00		La2O3 1.00	Al2O3

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.180 g
WHSV = 14.29 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.031
CO2 (% of CO) = 0.1
O/P = 1.11

CO conversion (%)	7.5
rate (g CH2/g cat/hr)	0.47
alpha	0.60
C1 (wt%)	33.5
C2 - C4 (wt%)	31.1
C5 - C12 (wt%)	34.0
C13 + (wt%)	1.4

* Catalyst calcined in Nitrogen

Performance of Co.055

Dates: 11/16/94 - 11/17/94 Run #7

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	33.97	34.37	33.97	33.64	34.01	34.40
C2	5.47	5.48	5.37	5.30	5.34	5.37
C3	13.37	13.57	13.30	13.21	13.34	13.38
C4	12.84	13.11	12.71	12.67	12.59	12.67
C5	11.07	11.19	10.93	10.84	10.89	10.87
C6	7.71	7.91	7.92	7.88	7.86	7.78
C7	6.01	6.00	5.93	6.24	5.98	5.92
C8	3.78	3.76	3.72	3.97	3.75	3.74
C9	2.36	2.34	2.32	2.44	2.30	2.32
C10	1.37	0.02	1.60	1.66	1.72	1.38
C11	0.98	0.96	0.90	0.92	1.00	0.92
C12	0.48	0.47	0.57	0.46	0.46	0.46
C13	0.32	0.30	0.30	0.30	0.30	0.31
C14	0.18	0.26	0.25	0.24	0.21	0.24
C15	0.08	0.25	0.23	0.23	0.26	0.24
alpha chain growth probability	0.55	0.61	0.60	0.61	0.61	0.60
C1 - C50 estimated total product distribution, weight %						
C1	34.1	33.8	33.5	33.1	33.4	33.9
C2 - C4	31.8	31.6	30.9	30.7	30.7	30.9
C5 - C12	33.5	32.9	34.0	34.6	34.2	33.6
C13 - C50	0.6	1.6	1.5	1.5	1.7	1.6
CO conversion, %	9.8	8.8	8.5	8.3	8.0	7.9
rate, g CH2/g cat/hr	0.61	0.55	0.53	0.52	0.50	0.49
CO2 formation, %	0.2	0.2	0.2	0.2	0.1	0.1

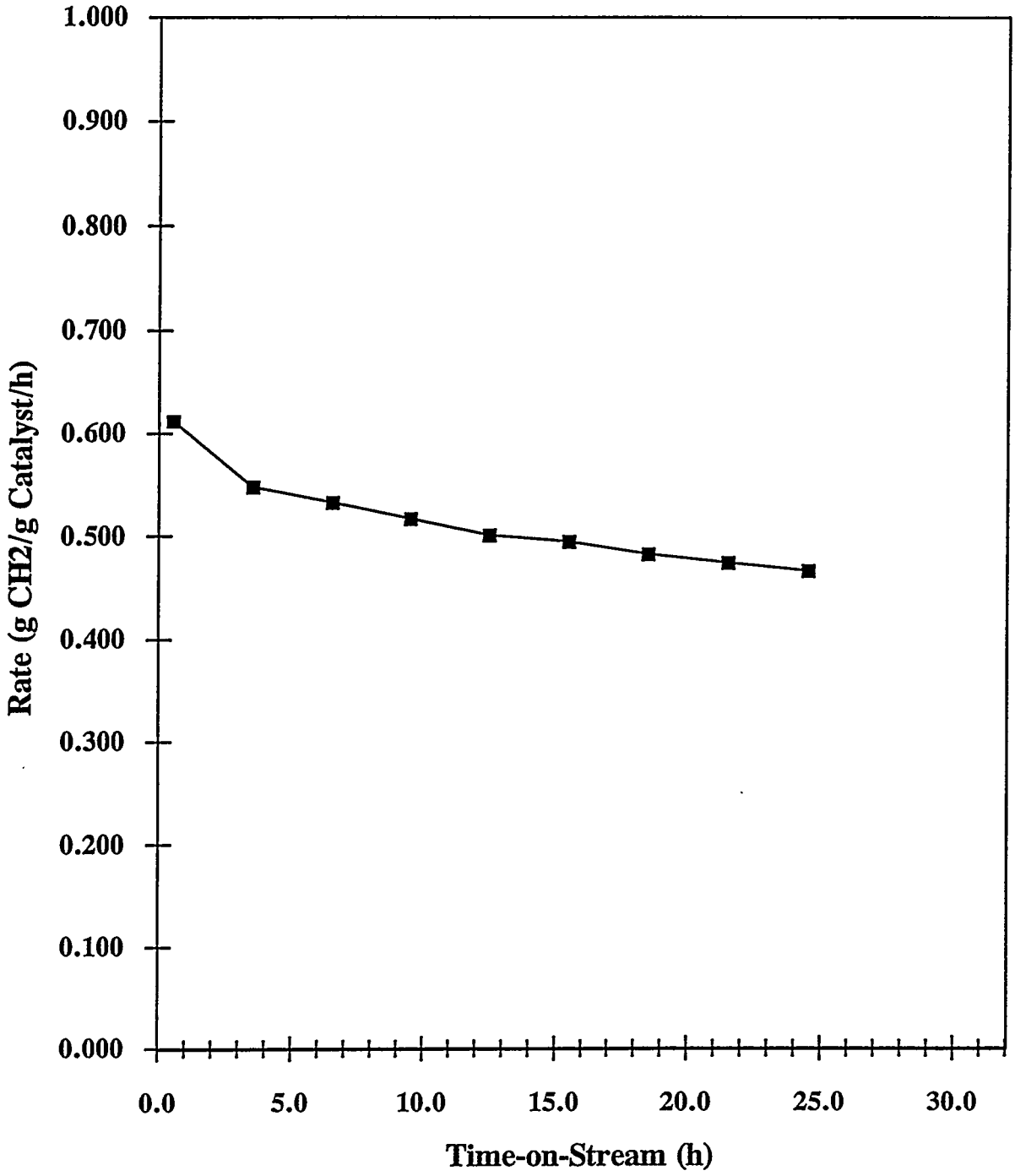
Performance of Co.055

Dates: 11/16/94 - 11/17/94 Run #7

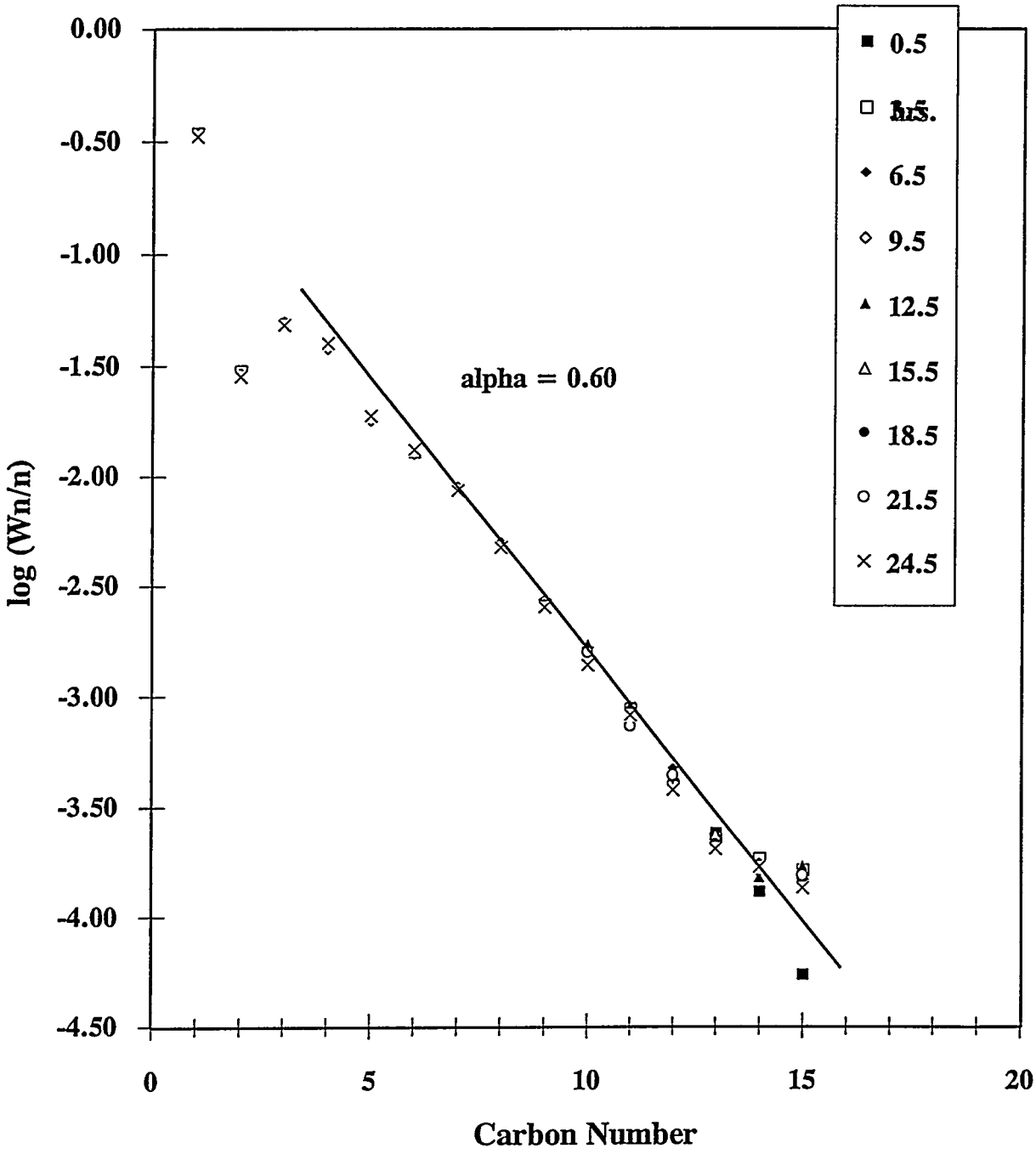
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.3 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	34.16	33.77	33.94
C2	5.34	5.29	5.30
C3	13.44	13.44	13.50
C4	12.71	12.72	12.73
C5	10.98	11.05	11.02
C6	7.81	7.96	7.95
C7	5.99	6.04	6.03
C8	3.76	3.75	3.79
C9	2.29	2.32	2.29
C10	1.37	1.58	1.39
C11	0.91	0.81	0.91
C12	0.52	0.53	0.46
C13	0.28	0.27	0.27
C14	0.23	0.23	0.23
C15	0.21	0.23	0.20
alpha chain growth probability	0.60	0.60	0.60
C1 - C50 estimated total product distribution, weight %			
C1	33.7	33.2	33.5
C2 - C4	31.1	31.0	31.1
C5 - C12	33.8	34.3	34.0
C13 - C50	1.4	1.5	1.4
CO conversion, %	7.7	7.6	7.5
rate, g CH2/g cat/hr	0.48	0.47	0.47
CO2 formation, %	0.2	0.2	0.1

Time-on-Stream Plot for Co.055 - Run #7



Schulz-Flory Plot for Co.055 - Run #7
Time on Stream (hrs)



Co.056 - Run #1

Co wt%	NM wt %	Promotor wt%		Support
20		La 8.50		SiO2

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.200 g
WHSV = 12.88 1/hr
time on stream = 27.5 hrs

CO2 (g/g cat/hr) = 0.029
CO2 (% of CO) = 0.1
O/P = 8.22

CO conversion (%)	2.4
rate (g CH2/g cat/hr)	0.14
alpha	0.69
C1 (wt%)	23.9
C2 - C4 (wt%)	27.2
C5 - C12 (wt%)	43.3
C13 + (wt%)	5.6

Performance of Co.056

Dates: 10/07/94 - 10/08/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 12.9 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	12.5	15.5	18.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	18.31	22.20	21.64	23.61	24.59	23.75
C2	4.51	5.60	5.39	5.83	6.05	5.86
C3	9.98	11.03	10.33	10.88	11.22	10.80
C4	10.91	11.28	10.63	10.92	11.16	10.77
C5	11.98	11.41	11.38	11.19	10.57	11.27
C6	10.24	6.59	9.02	7.99	7.99	8.79
C7	8.97	8.50	8.43	8.08	7.85	8.00
C8	6.81	6.51	6.41	6.11	5.88	5.98
C9	5.16	4.93	4.81	4.43	4.36	4.39
C10	3.94	3.79	3.78	3.56	3.33	3.31
C11	2.83	2.71	2.57	2.38	2.24	2.27
C12	2.05	1.92	1.98	1.72	1.69	1.70
C13	1.66	1.54	1.39	1.33	1.24	1.19
C14	1.40	1.24	1.20	1.07	0.98	1.02
C15	1.25	0.75	1.04	0.91	0.84	0.89
alpha chain growth probability	0.72	0.69	0.71	0.70	0.69	0.70
C1 - C50 estimated total product distribution, weight %						
C1	17.3	21.9	20.7	22.7	23.8	22.8
C2 - C4	24.0	27.5	25.2	26.6	27.5	26.4
C5 - C12	50.3	45.5	47.1	44.6	43.2	44.9
C13 - C50	8.4	5.1	7.0	6.0	5.6	5.9
CO conversion, %	4.7	2.4	3.1	2.7	2.6	2.6
rate, g CH2/g cat/hr	0.26	0.13	0.17	0.15	0.15	0.15
CO2 formation, %	0.2	0.3	0.2	0.2	0.2	0.2

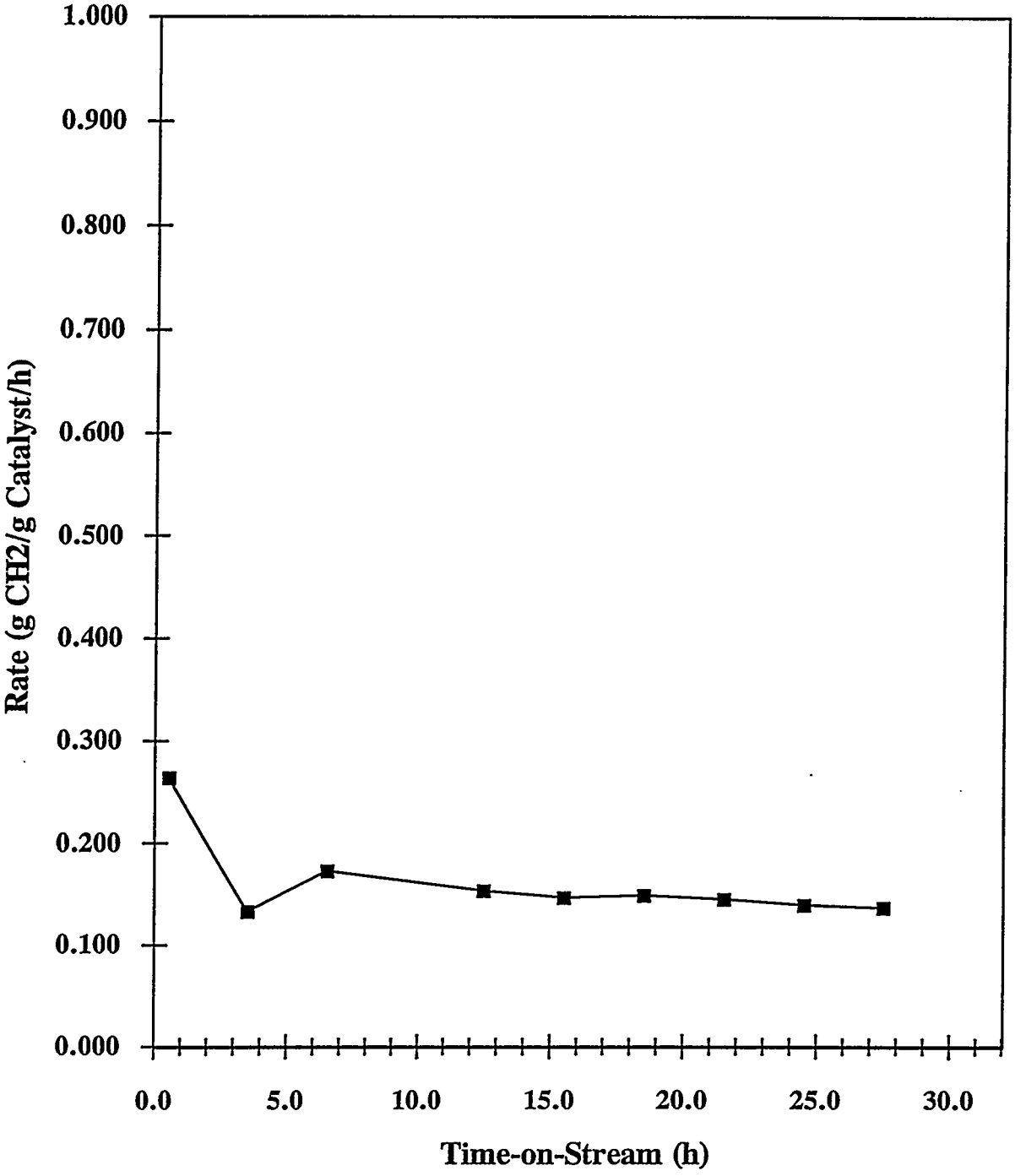
Performance of Co.056

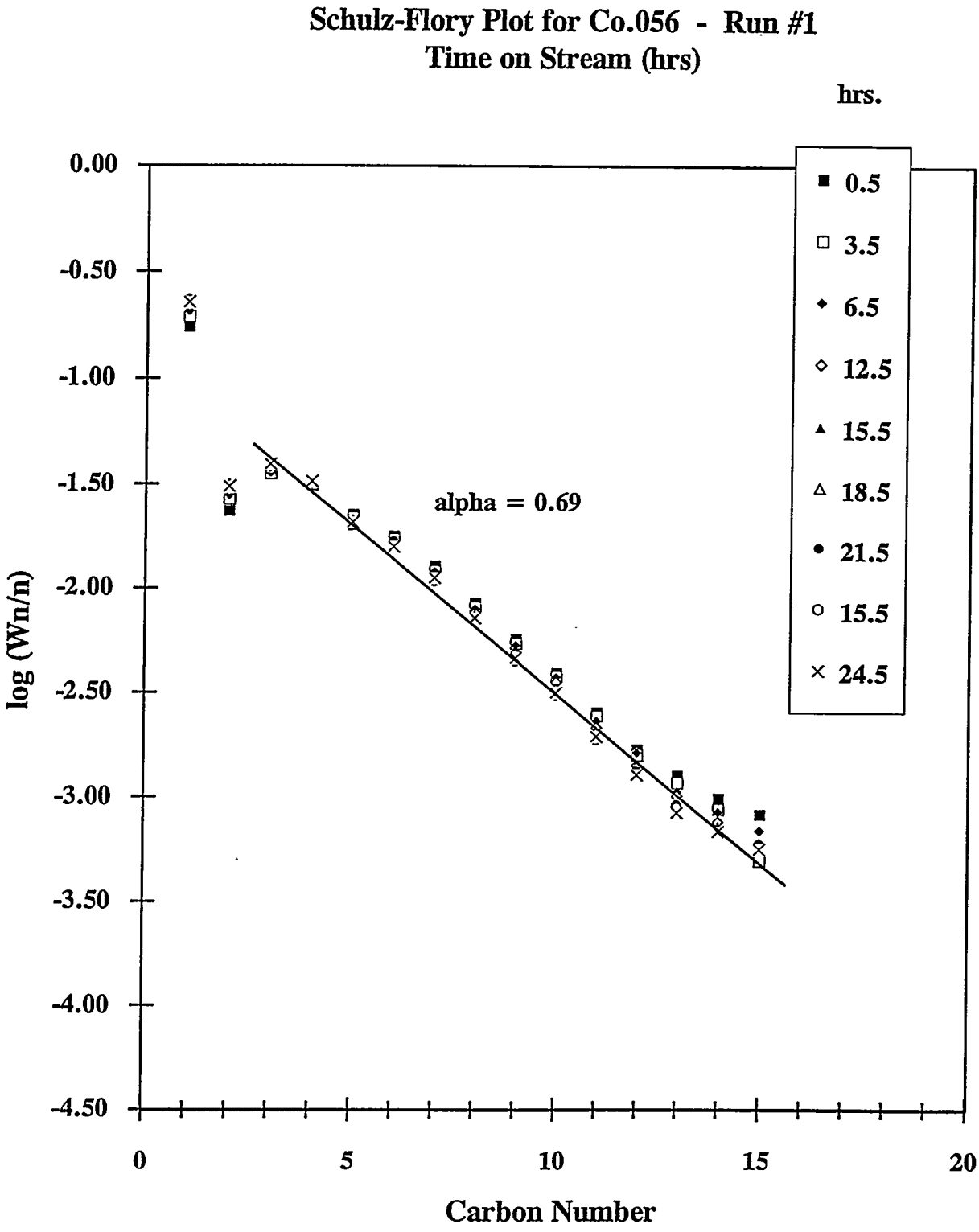
Dates: 10/07/94 - 10/08/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 12.9 1/hr, H2/CO ratio in feed = 2

time on stream, hr	21.5	24.5	27.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	23.95	25.31	24.84
C2	5.94	6.25	6.15
C3	10.90	11.44	11.16
C4	10.83	11.26	11.00
C5	11.30	10.82	11.24
C6	9.03	8.00	7.95
C7	7.87	7.60	7.88
C8	5.86	5.60	5.79
C9	4.24	4.05	4.18
C10	3.22	3.10	3.18
C11	2.15	2.08	2.16
C12	1.61	1.53	1.55
C13	1.21	1.16	1.11
C14	0.99	0.95	0.97
C15	0.90	0.85	0.85
alpha chain growth probability	0.70	0.69	0.69
C1 - C50 estimated total product distribution, weight %			
C1	23.0	24.3	23.9
C2 - C4	26.5	27.8	27.2
C5 - C12	44.6	42.2	43.3
C13 - C50	6.0	5.6	5.6
CO conversion, %	2.6	2.5	2.4
rate, g CH2/g cat/hr	0.15	0.14	0.14
CO2 formation, %	0.2	0.2	0.1

Time-on-Stream Plot for Co.056 - Run #1




Schulz-Flory Plot for Co.056 - Run #1
Time on Stream (hrs)
hrs.
0.5
3.5
6.5
12.5
15.5
18.5
21.5
15.5
24.5
alpha = 0.69
log (Wn/n)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
0
5
10
15
20
Carbon Number

Co.056 - Run #2

Co wt%	NM wt %	Promotor wt%		Support
20		La 8.50		SiO2

SUMMARY REACTION DATA*

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.184 g
WHSV = 13.94 1/hr
time on stream = 21.5 hrs

CO2 (g/g cat/hr) = 0.033
CO2 (% of CO) = 0.2
O/P = 9.44

CO conversion (%)	2.2
rate (g CH2/g cat/hr)	0.14
alpha	0.68
C1 (wt%)	23.4
C2 - C4 (wt%)	27.3
C5 - C12 (wt%)	44.7
C13 + (wt%)	4.7

* Catalyst is directly reduced without calcination

Performance of Co.056

Dates: 11/09/94 - 11/10/94 Run #2

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.9 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	18.82	20.53	21.03	21.86	23.29	22.98
C2	4.76	5.20	5.29	5.48	5.85	5.76
C3	10.26	10.24	10.12	10.30	10.86	10.66
C4	11.10	10.36	10.37	10.42	11.00	10.69
C5	12.24	11.51	11.08	11.12	11.62	11.18
C6	10.01	8.14	9.33	9.25	8.71	8.30
C7	9.48	8.85	8.43	8.39	6.64	8.18
C8	7.26	6.78	6.42	6.36	1.80	6.16
C9	5.48	5.10	4.82	4.81	4.70	4.55
C10	3.85	3.59	3.74	3.68	4.84	3.75
C11	2.97	3.24	2.58	2.51	3.45	2.39
C12	1.95	2.14	1.94	1.97	2.59	1.70
C13	1.15	1.84	1.74	1.38	1.87	1.28
C14	0.50	1.63	1.65	1.28	1.55	1.21
C15	0.17	0.86	1.46	1.20	1.21	1.21
alpha chain growth probability	0.59	0.70	0.73	0.72	0.71	0.72
C1 - C50 estimated total product distribution, weight %						
C1	19.6	20.3	19.5	20.6	22.4	21.5
C2 - C4	27.2	25.5	23.9	24.7	26.6	25.4
C5 - C12	52.0	48.2	46.8	46.7	42.7	45.1
C13 - C50	1.2	5.9	9.8	8.0	8.3	8.1
CO conversion, %	3.3	2.9	2.9	2.6	2.4	2.5
rate, g CH2/g cat/hr	0.20	0.18	0.17	0.16	0.14	0.15
CO2 formation, %	0.2	0.1	0.1	0.1	0.1	0.1

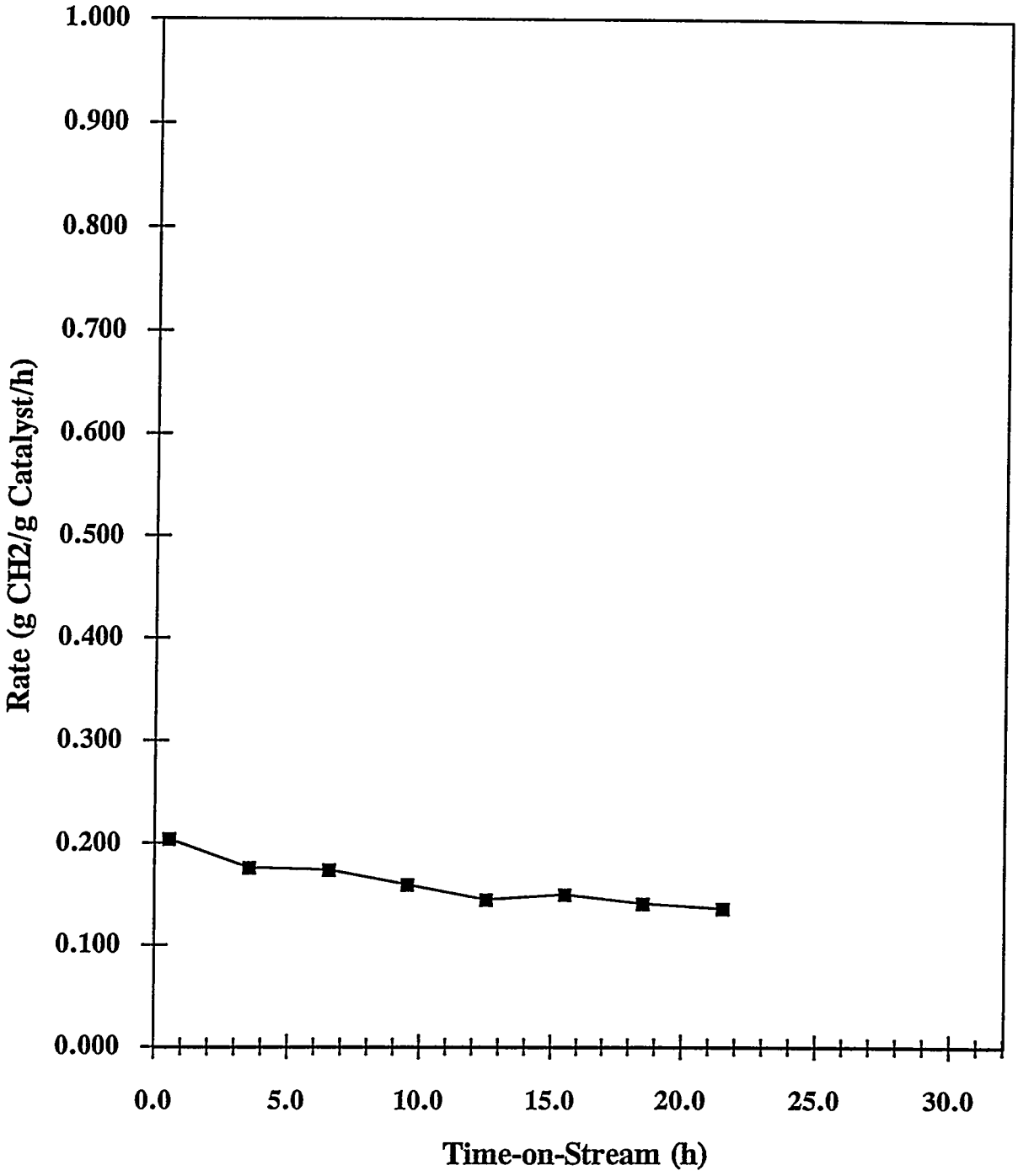
Performance of Co.056

Dates: 11/09/94 - 11/10/94 Run #2

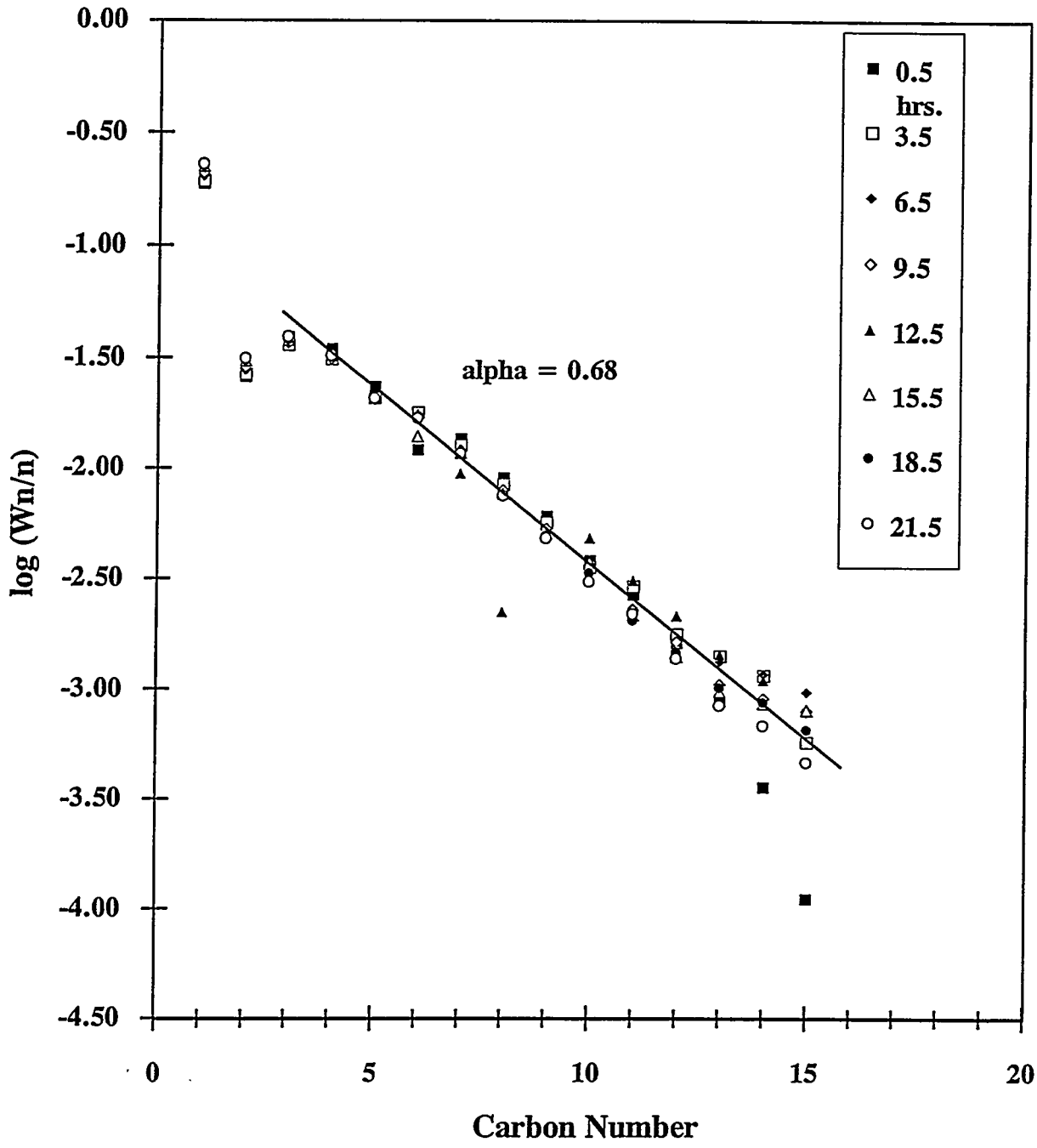
flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.9 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5
reaction temperature, °C	220	220
pressure, atm	1.0	1.0
flow, cc/min	90.0	90.0
C1 - C15 product distribution, weight %		
C1	23.48	23.87
C2	5.90	6.00
C3	10.88	10.97
C4	10.70	10.89
C5	11.26	11.37
C6	8.15	8.49
C7	8.19	8.15
C8	6.04	6.00
C9	4.47	4.34
C10	3.37	3.08
C11	2.26	2.42
C12	1.77	1.66
C13	1.33	1.10
C14	1.22	0.96
C15	0.98	0.70
alpha chain growth probability	0.70	0.68
C1 - C50 estimated total product distribution, weight %		
C1	22.5	23.4
C2 - C4	26.3	27.3
C5 - C12	44.7	44.7
C13 - C50	6.5	4.7
CO conversion, %	2.3	2.2
rate, g CH2/g cat/hr	0.14	0.14
CO2 formation, %	0.1	0.2

Time-on-Stream Plot for Co.056 - Run #2



Schulz-Flory Plot for Co.056 - Run #2
Time on Stream (hrs)



Co.057 - Run #1

Co wt%	NM wt %	Promotor wt%		Support
20	Re 1.00		La2O3 1.00	SiO2

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.183 g
WHSV = 14.03 1/hr
time on stream = 18.5 hrs

CO2 (g/g cat/hr) = 0.029
CO2 (% of CO) = 0.1
O/P = 4.65

CO conversion (%)	2.8
rate (g CH2/g cat/hr)	0.17
alpha	0.73
C1 (wt%)	23.4
C2 - C4 (wt%)	23.2
C5 - C12 (wt%)	42.5
C13 + (wt%)	10.9

Performance of Co.057

Dates: 11/27/94 - 11/28/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.0 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	22.84	24.29	25.01	25.25	25.82	25.87
C2	4.79	4.98	5.08	5.14	5.25	5.31
C3	10.28	10.02	9.94	9.91	10.02	10.07
C4	11.06	10.48	10.34	10.26	10.33	10.33
C5	11.78	11.00	10.81	10.76	10.83	10.79
C6	9.90	9.31	9.39	9.47	8.49	8.67
C7	8.33	7.83	7.72	7.73	7.75	7.72
C8	6.34	5.87	5.78	5.71	5.71	5.69
C9	4.80	4.42	4.38	4.29	4.31	4.26
C10	3.61	3.39	3.31	3.27	3.35	3.19
C11	2.47	2.39	2.30	2.34	2.26	2.21
C12	1.70	1.75	1.76	1.72	1.71	1.66
C13	1.10	1.41	1.40	1.34	1.33	1.32
C14	0.74	1.49	1.43	1.38	1.33	1.37
C15	0.26	1.37	1.36	1.43	1.49	1.54
alpha chain growth probability	0.62	0.72	0.72	0.73	0.73	0.73
C1 - C50 estimated total product distribution, weight %						
C1	23.4	22.5	23.1	23.2	23.5	23.5
C2 - C4	26.7	23.6	23.5	23.2	23.3	23.3
C5 - C12	48.1	44.8	44.4	44.1	43.2	43.0
C13 - C50	1.8	9.1	9.0	9.5	9.9	10.2
CO conversion, %	3.5	3.4	3.2	3.0	2.9	2.8
rate, g CH2/g cat/hr	0.21	0.21	0.20	0.19	0.18	0.17
CO2 formation, %	0.2	0.2	0.2	0.2	0.2	0.2

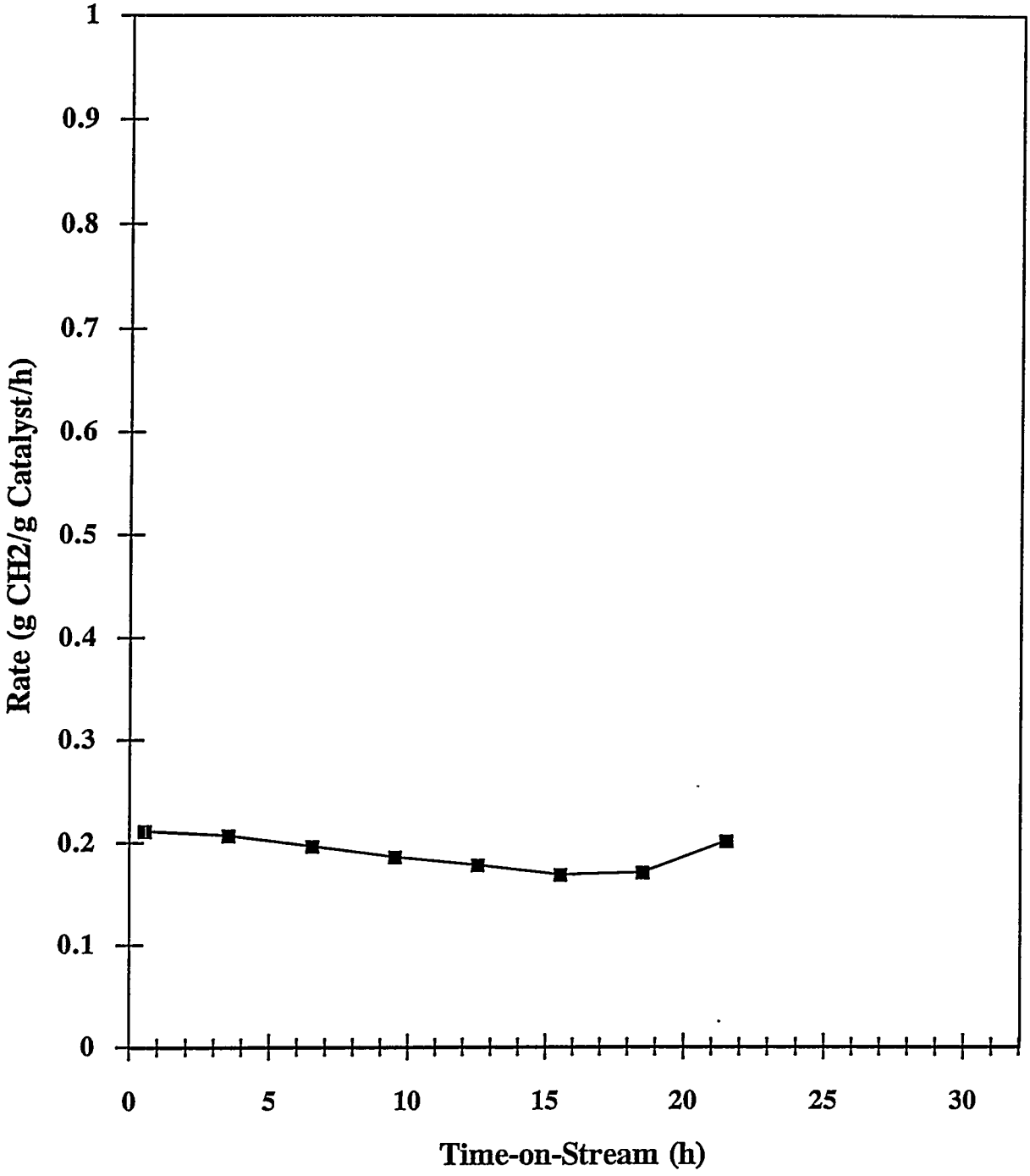
Performance of Co.057

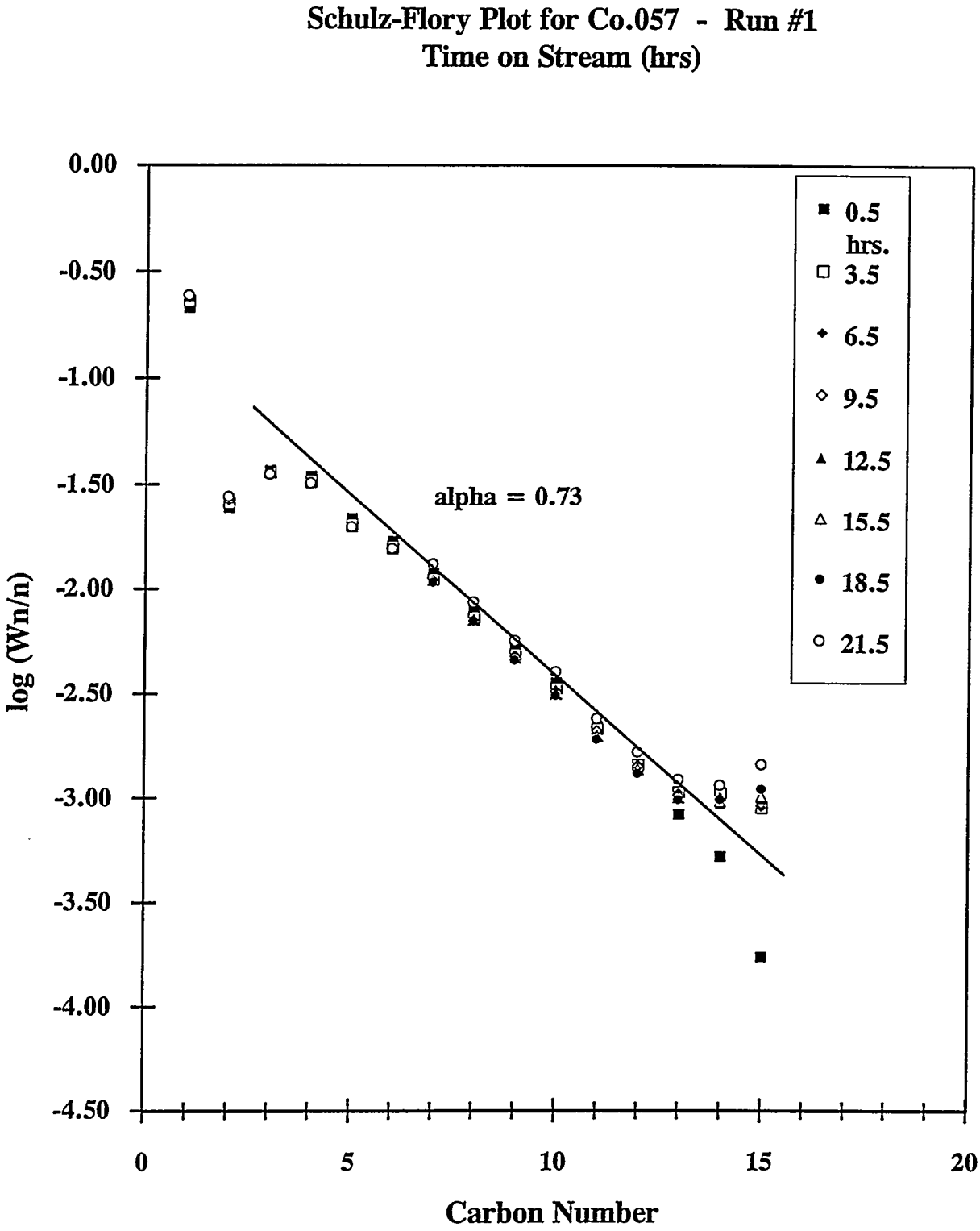
Dates: 11/27/94 - 11/28/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.0 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5
reaction temperature, °C	220	220
pressure, atm	1.0	1.0
flow, cc/min	90.0	90.0
C1 - C15 product distribution, weight %		
C1	26.13	22.25
C2	5.41	4.62
C3	10.22	8.64
C4	10.28	8.73
C5	10.85	13.01
C6	8.54	7.37
C7	7.59	9.25
C8	5.66	6.91
C9	4.15	5.10
C10	3.12	4.03
C11	2.13	2.67
C12	1.59	2.01
C13	1.29	1.61
C14	1.39	1.62
C15	1.66	2.19
alpha chain growth probability	0.73	0.75
C1 - C50 estimated total product distribution, weight %		
C1	23.4	19.2
C2 - C4	23.2	19.0
C5 - C12	42.5	47.3
C13 - C50	10.9	14.5
CO conversion, %	2.8	3.3
rate, g CH2/g cat/hr	0.17	0.20
CO2 formation, %	0.1	0.2

Time-on-Stream Plot for Co.057 - Run #1




Schulz-Flory Plot for Co.057 - Run #1
Time on Stream (hrs)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
log (Wn/n)
0
5
10
15
20
Carbon Number
alpha = 0.73
0.5 hrs.
3.5
6.5
9.5
12.5
15.5
18.5
21.5

Co.060 - Run #1

Co wt%	NM wt %	Promotor wt%		Support
30				Al2O3

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.176 g
WHSV = 14.59 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.023
CO2 (% of CO) = 0.1
O/P = 3.82

CO conversion (%)	3.8
rate (g CH2/g cat/hr)	0.24
alpha	0.69
C1 (wt%)	25.0
C2 - C4 (wt%)	26.2
C5 - C12 (wt%)	43.0
C13 + (wt%)	5.8

Performance of Co.060

Dates: 11/21/94 - 11/22/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.6 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	22.80	23.87	24.74	25.26	24.94	25.45
C2	4.44	4.55	4.65	4.73	4.66	4.72
C3	11.31	11.25	11.36	11.38	11.12	11.22
C4	11.70	11.48	11.49	11.34	11.20	11.25
C5	11.56	11.38	11.29	11.42	11.15	11.17
C6	9.19	9.02	8.77	9.22	8.98	9.00
C7	7.89	7.78	7.66	7.24	7.55	7.45
C8	5.83	5.71	5.57	5.33	5.55	5.44
C9	4.40	4.25	4.13	4.02	4.16	4.03
C10	3.38	3.18	3.11	3.03	3.12	3.04
C11	2.51	2.33	2.23	2.21	2.53	2.22
C12	1.92	1.80	1.64	1.62	1.63	1.70
C13	1.33	1.33	1.28	1.21	1.31	1.21
C14	0.98	1.11	1.14	1.05	1.15	1.12
C15	0.76	0.96	0.94	0.94	0.97	0.97
alpha chain growth probability	0.68	0.69	0.69	0.69	0.70	0.70
C1 - C50 estimated total product distribution, weight %						
C1	22.3	22.9	23.7	24.1	23.9	24.3
C2 - C4	26.9	26.1	26.3	26.2	25.8	26.0
C5 - C12	45.8	44.7	43.8	43.5	43.9	43.3
C13 - C50	5.1	6.3	6.2	6.2	6.4	6.4
CO conversion, %	4.5	4.4	4.3	4.1	4.1	4.0
rate, g CH2/g cat/hr	0.29	0.28	0.27	0.26	0.26	0.26
CO2 formation, %	0.1	0.1	0.1	0.1	0.1	0.1

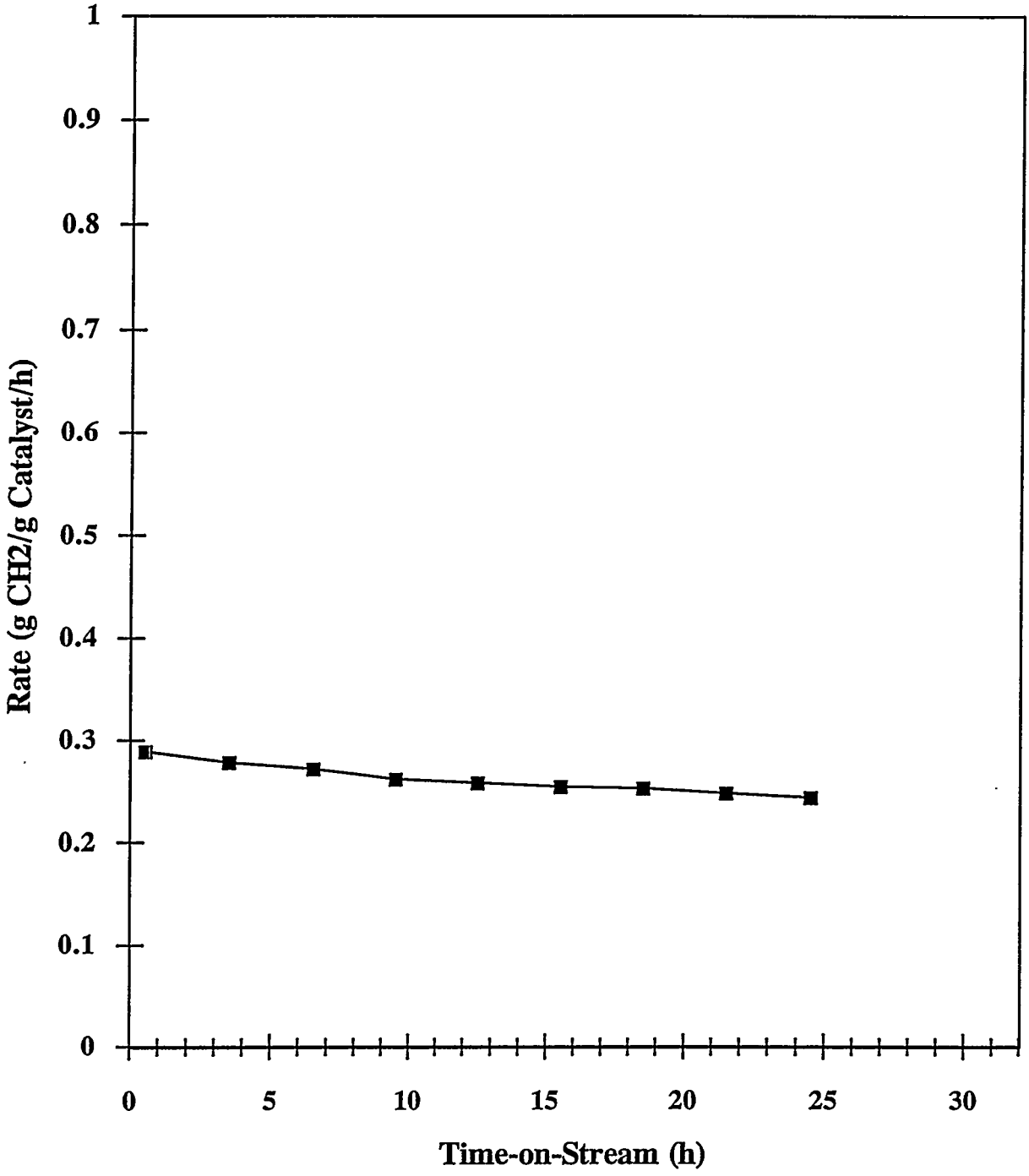
Performance of Co.060

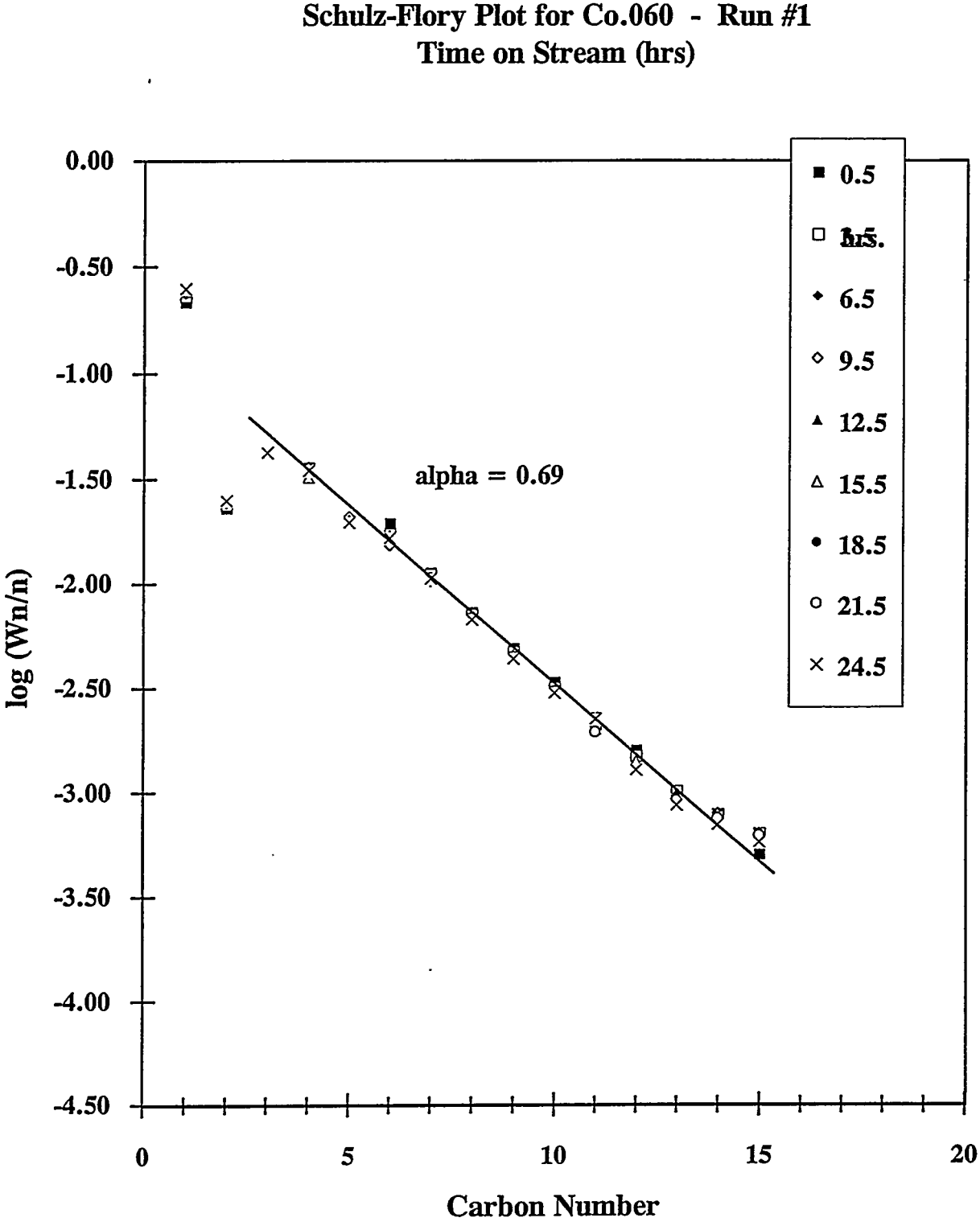
Dates: 11/21/94 - 11/22/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 14.6 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	25.75	25.84	26.03
C2	4.76	4.77	4.80
C3	11.26	11.23	11.26
C4	11.20	11.19	11.16
C5	11.09	11.12	11.06
C6	8.89	8.91	8.93
C7	7.47	7.50	7.40
C8	5.45	5.49	5.40
C9	4.05	4.02	3.94
C10	3.06	3.06	3.01
C11	2.20	2.15	2.47
C12	1.55	1.53	1.54
C13	1.22	1.20	1.13
C14	1.08	1.05	0.99
C15	0.96	0.94	0.87
alpha chain growth probability	0.70	0.69	0.69
C1 - C50 estimated total product distribution, weight %			
C1	24.5	24.6	25.0
C2 - C4	25.9	25.9	26.2
C5 - C12	43.2	43.2	43.0
C13 - C50	6.3	6.2	5.8
CO conversion, %	4.0	3.9	3.8
rate, g CH2/g cat/hr	0.25	0.25	0.24
CO2 formation, %	0.1	0.1	0.1

Time-on-Stream Plot for Co.060 - Run #1




Schulz-Flory Plot for Co.060 - Run #1
Time on Stream (hrs)
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
-4.50
log (Wn/n)
0
5
10
15
20
Carbon Number
alpha = 0.69
0.5
1.5
6.5
9.5
12.5
15.5
18.5
21.5
24.5

Cal.10 - Run #1

Co wt%	NM wt %	Promotor wt%		Support
20	Ru 0.50	K 0.30		Al2O3

SUMMARY REACTION DATA

Reaction Conditions:

P = 1.0 atm
T = 220 °C
H2/CO = 2
weight of catalyst = 0.198 g
WHSV = 12.99 1/hr
time on stream = 24.5 hrs

CO2 (g/g cat/hr) = 0.045
CO2 (% of CO) = 0.2
O/P = 1.75

CO conversion (%)	3.5
rate (g CH2/g cat/hr)	0.20
alpha	0.74
C1 (wt%)	23.5
C2 - C4 (wt%)	19.9
C5 - C12 (wt%)	46.0
C13 + (wt%)	10.6

Performance of Cal.10

Dates: 11/18/94 - 11/19/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.0 1/hr, H2/CO ratio in feed = 2

time on stream, hr	0.5	3.5	6.5	9.5	12.5	15.5
reaction temperature, °C	220	220	220	220	220	220
pressure, atm	1.0	1.0	1.0	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0	90.0	90.0	90.0
C1 - C15 product distribution, weight %						
C1	22.57	24.99	25.69	25.46	24.87	24.25
C2	4.04	4.30	4.35	4.33	4.26	4.20
C3	8.21	8.19	8.20	8.21	8.19	8.10
C4	9.30	8.92	8.67	8.75	8.78	8.62
C5	10.14	9.26	9.01	9.10	9.14	9.11
C6	9.01	7.65	8.23	8.20	8.37	8.31
C7	9.16	8.23	7.89	8.01	8.12	8.20
C8	7.48	6.66	6.34	6.51	6.62	6.73
C9	6.04	5.22	5.14	5.25	5.34	5.52
C10	4.98	4.78	4.27	4.36	4.48	4.59
C11	3.85	3.55	3.32	3.51	3.58	3.73
C12	2.78	2.86	2.81	2.85	2.76	2.92
C13	1.61	2.51	2.26	2.13	2.11	2.25
C14	0.63	2.25	2.01	1.77	1.78	1.87
C15	0.21	0.63	1.83	1.57	1.60	1.61
alpha chain growth probability	0.61	0.68	0.75	0.74	0.74	0.74
C1 - C50 estimated total product distribution, weight %						
C1	24.0	26.0	23.5	23.8	23.2	22.7
C2 - C4	22.9	22.2	19.4	19.9	19.8	19.6
C5 - C12	51.6	47.3	44.4	45.3	45.8	46.3
C13 - C50	1.5	4.5	12.7	11.0	11.1	11.3
CO conversion, %	3.6	3.8	4.3	3.9	3.8	3.7
rate, g CH2/g cat/hr	0.21	0.21	0.24	0.22	0.22	0.21
CO2 formation, %	0.3	0.5	0.3	0.2	0.2	0.2

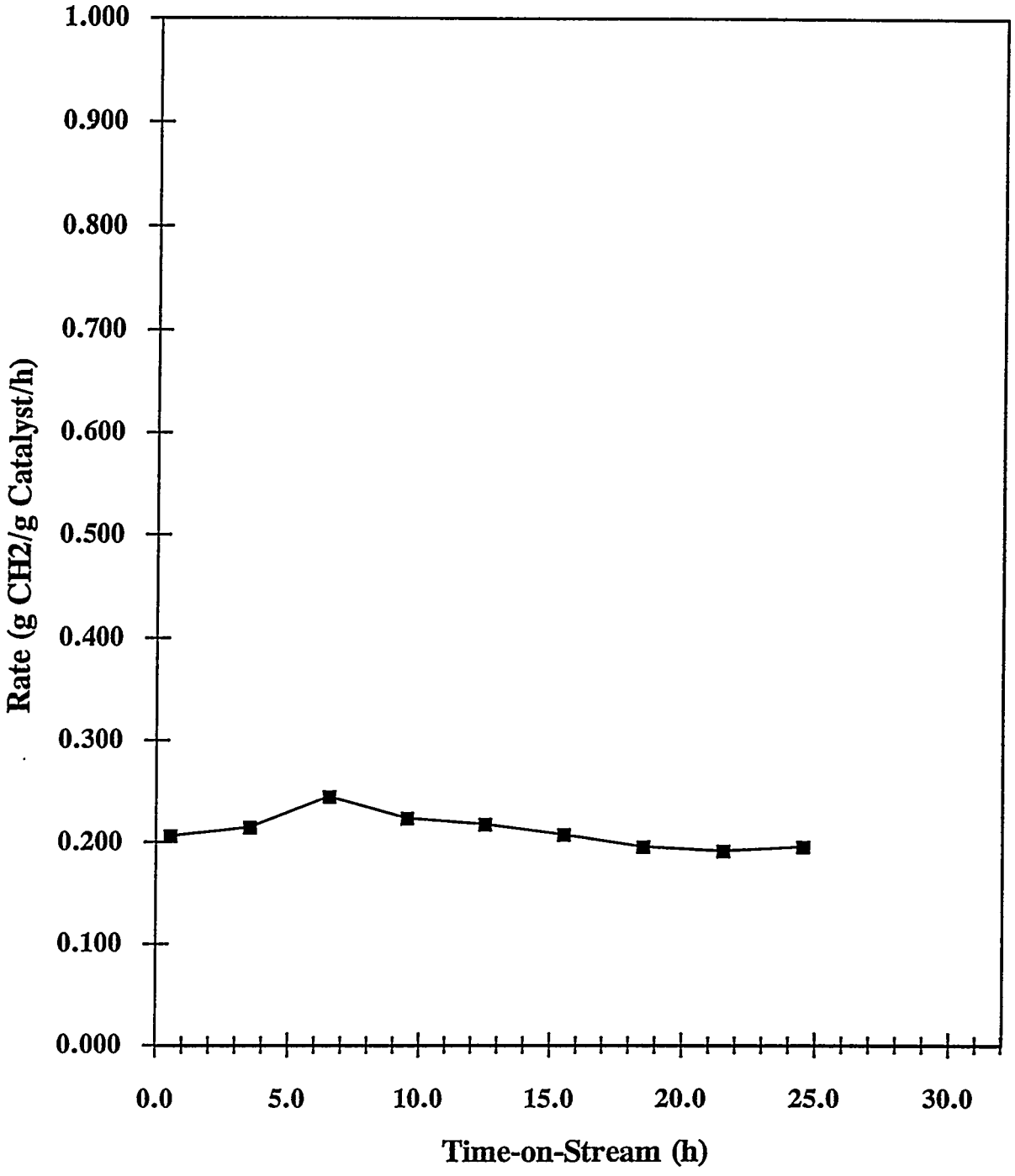
Performance of Cal.10

Dates: 11/18/94 - 11/19/94 Run #1

flow rate = 90.0 cc/min, loading= 0.2 g, WHSV = 13.0 1/hr, H2/CO ratio in feed = 2

time on stream, hr	18.5	21.5	24.5
reaction temperature, °C	220	220	220
pressure, atm	1.0	1.0	1.0
flow, cc/min	90.0	90.0	90.0
C1 - C15 product distribution, weight %			
C1	23.56	23.37	24.84
C2	4.14	4.13	4.29
C3	8.03	8.02	8.24
C4	8.58	8.55	8.57
C5	9.12	9.14	9.10
C6	8.33	8.47	8.33
C7	8.28	8.33	8.10
C8	6.81	6.79	6.61
C9	5.61	5.68	5.39
C10	4.71	4.47	4.53
C11	3.75	4.01	3.60
C12	3.05	2.94	2.85
C13	2.45	2.39	2.22
C14	2.03	2.01	1.81
C15	1.55	1.68	1.51
alpha chain growth probability	0.74	0.75	0.74
C1 - C50 estimated total product distribution, weight %			
C1	22.3	21.9	23.5
C2 - C4	19.7	19.4	19.9
C5 - C12	47.0	46.8	46.0
C13 - C50	11.0	11.9	10.6
CO conversion, %	3.4	3.4	3.5
rate, g CH2/g cat/hr	0.20	0.19	0.20
CO2 formation, %	0.2	0.2	0.2

Time-on-Stream Plot for Cal.10 - Run #1



Schulz-Flory Plot for Cal.10 - Run #1
Time on Stream (hrs)