

APPENDIX C. Tabulated Comparison of Rate Equations
With Experimental Data

<u>Table No.</u>		<u>Page</u>
C-1	Comparison of Experimental Data With Specific and Generalized Rate Equations (UC-1870-46-1 Catalyst)	C-3
C-2	Comparison of Experimental Data With Specific and Generalized Rate Equations (G-93 Catalyst)	C-7
C-3	Comparison of Experimental Data With Specific and Generalized Rate Equations (Shell Oil 538 Catalyst)	C-10
C-4	Comparison of Experimental Data With Rate Equations Based on Adsorption/Desorption and Surface Reaction Models (UC-1870-46-1 Catalyst)	C-14
C-5	Comparison of Experimental Data With Rate Equations Based on Adsorption/Desorption and Surface Reaction Models (G-93 Catalyst)	C-18
C-6	Comparison of Experimental Data With Rate Equations Based on Adsorption/Desorption and Surface Reaction Models (Shell Oil 538 Catalyst)	C-21

Table C-1, Part 1. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERAL RATE EQUATIONS
(UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp. °F	P _{CO'} psia	P _{H₂O'} psia	r _c	A ₁ [*]	k _e	k ₁	r ₁	Deviation	k _c	r _c	Deviation
1	1015.0000	501.0000	55.6000	594.0000	0.3500	16.8243	0.0327	0.0495	0.8331	-0.5147	0.0459	0.7719	-0.6033
2	1015.0000	665.0000	55.6000	593.0000	0.6200	16.8160	0.0369	0.0571	0.9601	-0.5445	0.0515	0.8662	-0.3371
3	1015.0000	755.0000	56.0000	591.0000	0.6500	16.9097	0.0384	0.0633	1.0707	-0.6473	0.0560	0.9476	-0.6579
4	1015.0000	554.0000	85.9000	361.5000	0.3100	23.4552	0.0217	0.0430	1.1491	-1.2512	0.0455	1.0667	-1.0314
5	1015.0000	657.0000	86.9000	356.5000	0.8000	23.6266	0.0254	0.0565	1.3366	-1.2277	0.0511	1.2082	-1.0136
6	1015.0000	752.0000	86.9000	356.5000	0.6100	23.6266	0.0254	0.0631	1.4915	-1.4450	0.0559	1.3208	-0.2574
7	215.0000	561.0000	30.7000	280.3000	0.5300	14.5272	0.0365	0.0495	0.7193	-0.3572	0.0510	0.6968	-0.1776
8	515.0000	656.0000	27.5000	304.9000	0.3900	13.6124	0.0433	0.0565	0.7685	-0.3025	0.0453	0.7694	-0.4726
9	515.0000	753.0000	28.0000	301.6000	0.5000	13.7546	0.0436	0.0632	0.8691	-0.4485	0.0559	0.7695	-0.2925
10	515.0000	551.0000	40.1000	208.6000	0.4600	16.9812	0.0271	0.0488	0.8281	-0.9558	0.0508	0.4949	-0.6985
11	515.0000	652.0000	42.8000	188.0000	0.3300	17.6053	0.0301	0.0562	0.9888	-0.9558	0.0508	0.4949	-0.6985
12	515.0000	744.0000	43.0000	186.8000	0.3500	17.6489	0.0312	0.0629	1.1104	-1.0183	0.0557	0.2939	-0.7889
13	515.0000	666.0000	31.7000	273.2000	0.3000	14.8023	0.0338	0.0499	0.7385	-0.4770	0.0462	0.6832	-0.3564
14	515.0000	663.0000	32.7000	259.5000	0.5600	15.1030	0.0371	0.0570	0.8605	-0.5365	0.0514	0.7767	-0.3370
15	515.0000	750.0000	32.8000	265.1000	0.3700	15.1030	0.0371	0.0437	0.9512	-0.6400	0.0559	0.8427	-0.4529
16	215.0000	563.0000	14.3000	120.9000	0.3700	10.0977	0.0564	0.0437	0.5015	0.1202	0.0460	0.4644	0.1853
17	215.0000	654.0000	13.1000	128.9000	0.6200	9.6959	0.0639	0.0567	0.5494	0.1138	0.0512	0.4964	0.1393
18	215.0000	753.0000	13.5000	126.2000	0.6500	9.8331	0.0661	0.0632	0.6213	0.0441	0.0559	0.5501	0.1537
19	215.0000	554.0000	21.0000	76.8000	0.3100	11.7597	0.0434	0.0430	0.5761	-0.1297	0.0455	0.5368	-0.0487
20	215.0000	662.0000	21.4000	74.4000	0.3700	11.8265	0.0482	0.0569	0.6727	-0.1902	0.0514	0.6073	-0.0555
21	215.0000	560.0000	15.8000	110.9000	0.3500	10.5575	0.0521	0.0494	0.5220	0.0503	0.0458	0.4837	0.1205
22	215.0000	663.0000	20.0000	110.0000	0.5100	11.8714	0.0514	0.0570	0.6761	-0.1083	0.0514	0.4103	-0.6004
23	215.0000	748.0000	15.8000	111.1000	0.6200	10.5588	0.0587	0.0628	0.6636	-0.0703	0.0557	0.5881	-0.0514
24	115.0000	565.0000	7.0000	67.0000	0.2700	6.6751	0.0404	0.0498	0.3325	-0.2315	0.0461	0.3077	-0.1197
25	115.0000	663.0000	7.1000	66.4000	0.3100	6.7146	0.0462	0.0570	0.3824	-0.2335	0.0514	0.3452	-0.1135
26	115.0000	755.0000	7.1000	66.6000	0.3300	6.7172	0.0491	0.0633	0.4253	-0.2983	0.0560	0.3764	-0.1407
27	115.0000	553.0000	11.2000	37.5000	0.3000	7.7039	0.0389	0.0632	0.4668	-0.6275	0.0559	0.3110	-0.6966
28	115.0000	662.0000	11.1000	36.7000	0.2800	7.6395	0.0367	0.0569	0.4345	-0.5513	0.0514	0.3923	-0.6912
29	115.0000	767.0000	11.1000	36.7000	0.2300	7.6395	0.0361	0.0500	0.3817	-0.6595	0.0462	0.3530	-0.5749
30	65.0000	565.0000	6.6000	19.1000	0.1500	5.1731	0.0290	0.0498	0.2577	-0.7190	0.0461	0.2785	-0.5898
31	65.0000	653.0000	6.2000	21.8000	0.1600	5.1556	0.0310	0.0562	0.2899	-0.8122	0.0509	0.2623	-0.6194
32	65.0000	750.0000	6.1000	16.4000	0.1800	4.6361	0.0388	0.0494	0.2292	-0.2734	0.0458	0.2124	-0.1301
33	65.0000	559.0000	3.9000	36.9000	0.2000	4.5328	0.0441	0.0567	0.2569	-0.2943	0.0512	0.2321	-0.1401
34	65.0000	662.0000	3.9000	37.5000	0.2300	4.5460	0.0506	0.0638	0.2900	-0.2509	0.0564	0.2563	-0.1144
35	215.0000	548.0000	16.7000	117.6000	0.7000	9.9657	0.0702	0.0685	0.4838	0.3099	0.0451	0.4498	0.3574
36	215.0000	657.0000	16.3000	118.7000	0.7900	9.9434	0.0784	0.0565	0.5620	0.2794	0.0511	0.5080	0.3487
37	215.0000	551.0000	24.1000	74.8000	0.5400	11.0242	0.0581	0.0488	0.5376	0.1500	0.0453	0.4995	0.2195
38	215.0000	651.0000	24.1000	74.8000	0.7000	10.9929	0.0637	0.0561	0.6167	0.1191	0.0508	0.5582	0.2026
39	215.0000	759.0000	24.1000	74.8000	0.7500	10.9785	0.0683	0.0636	0.6981	0.0592	0.0562	0.6174	0.1748
40	515.0000	552.0000	39.5000	285.1000	0.7400	14.3141	0.0517	0.0488	0.6991	0.0352	0.0454	0.6494	0.1225

* A₁ = P_{CO}^{0.5} P_{H₂O^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})}

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Table C-1, Part 2. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO'} , psia	P _{H₂O'} , psia	r _e	A ₁ *	k _e	k _i	r _i	Deviation	k _c	r _c	Deviation
41	515.0000	655.0000	40.7000	286.7000	0.9300	14.5084	0.0572	0.0564	0.8180	0.0144	0.0510	0.7394	0.1787
42	515.0000	752.0000	39.1000	287.2000	0.8700	14.2581	0.0610	0.0631	0.8999	-0.0344	0.0559	0.7969	0.0440
43	515.0000	563.0000	59.5000	168.5000	0.6900	16.4353	0.0420	0.0437	0.8163	-0.1830	0.0460	0.7554	-0.0954
44	515.0000	651.0000	58.3000	174.3000	0.7800	16.2660	0.0480	0.0551	0.9125	-0.1598	0.0508	0.8260	-0.0549
45	515.0000	749.0000	58.0000	178.0000	0.8000	16.4504	0.0486	0.0529	1.0350	-0.2937	0.0557	0.9171	-0.1463
46	515.0000	563.0000	43.8000	254.3000	0.7200	14.4687	0.0494	0.0497	1.0786	0.0019	0.0460	0.8654	0.0759
47	515.0000	653.0000	43.6000	255.9000	0.8100	14.4409	0.0561	0.0564	0.8142	-0.0052	0.0510	0.7363	0.0710
48	515.0000	748.0000	44.1000	252.6000	0.8400	14.5368	0.0574	0.0624	0.9136	-0.0375	0.0557	0.8097	0.0361
49	215.0000	663.0000	19.0000	104.7000	0.6700	10.4569	0.0641	0.0497	0.5194	0.2249	0.0460	0.4809	0.2823
50	215.0000	662.0000	18.6000	106.9000	0.7500	10.3815	0.0722	0.0569	0.5905	0.2127	0.0514	0.5331	0.2492
51	215.0000	751.0000	18.9000	105.1000	0.7700	10.4409	0.0737	0.0631	0.6583	0.1451	0.0558	0.5831	0.2624
52	115.0000	653.0000	9.2000	62.5000	0.4400	7.1969	0.0611	0.0562	0.4047	0.0401	0.0509	0.3662	0.1477
53	115.0000	653.0000	13.9000	35.7000	0.3800	7.8807	0.0482	0.0562	0.4432	-0.1363	0.0509	0.4010	-0.0353
54	115.0000	750.0000	13.6000	37.3000	0.4200	7.8730	0.0533	0.0630	0.4959	-0.1304	0.0554	0.4393	-0.0459
55	65.0000	653.0000	5.2000	32.9000	0.3000	5.0569	0.0593	0.0562	0.2844	0.0320	0.0509	0.2573	0.1423
56	65.0000	747.0000	5.3000	35.4000	0.3400	5.0874	0.0664	0.0628	0.3194	0.0505	0.0557	0.2831	0.1573
57	65.0000	747.0000	7.6000	22.0000	0.2700	5.4575	0.0495	0.0628	0.3426	-0.2590	0.0557	0.3037	-0.1249
58	1015.0000	584.0000	126.0000	350.0000	0.8200	20.2213	0.0404	0.0490	0.9907	-0.2982	0.0455	0.9196	-0.1215
59	1015.0000	582.0000	91.8000	506.0000	0.6400	17.7439	0.0473	0.0498	0.8667	-0.0317	0.0454	0.8050	0.0417
60	1015.0000	654.0000	85.3000	567.0000	1.0000	17.3645	0.0576	0.0553	0.9778	0.0222	0.0509	0.8845	0.1154
61	1015.0000	750.0000	84.8000	566.7000	1.0100	17.1071	0.0590	0.0630	1.0775	-0.0568	0.0558	0.8845	0.0549
62	1015.0000	560.0000	129.4000	336.1000	0.8300	20.4031	0.0407	0.0494	1.0775	-0.2154	0.0454	0.9348	-0.1253
63	1015.0000	663.0000	127.8000	345.0000	0.9400	20.5229	0.0458	0.0570	1.0088	-0.2154	0.0454	0.9348	-0.1253
64	1015.0000	753.0000	127.5000	344.5000	0.9600	20.3202	0.0472	0.0632	1.1688	-0.2434	0.0514	1.0550	-0.1224
65	1015.0000	656.0000	98.1000	495.0000	0.9700	18.1500	0.0534	0.0632	1.2840	-0.2375	0.0559	1.1368	-0.1461
66	1015.0000	753.0000	97.9000	497.5000	0.9700	18.2494	0.0534	0.0632	1.0246	-0.0563	0.0510	0.9244	0.0450
67	1015.0000	654.0000	126.6000	350.3000	0.8200	20.2350	0.0405	0.0490	0.9914	-0.1792	0.0455	0.9203	-0.1223
68	1015.0000	655.0000	128.7000	343.5000	0.9200	20.5036	0.0449	0.0564	0.9914	-0.2090	0.0455	0.9203	-0.1223
69	1015.0000	751.0000	127.9000	353.5000	0.9300	21.1189	0.0440	0.0631	1.1560	-0.2565	0.0510	1.0454	-0.1353
70	1015.0000	557.0000	98.9000	497.5000	0.9500	18.5715	0.0458	0.0492	1.3316	-0.4314	0.0554	1.1794	-0.2542
71	1015.0000	653.0000	99.4000	494.2000	0.9500	18.5479	0.0518	0.0562	0.9140	-0.0753	0.0456	0.8474	0.0024
72	1015.0000	749.0000	99.5000	494.5000	0.9800	18.6212	0.0526	0.0629	1.0431	-0.0366	0.0509	0.9434	0.0024
73	1015.0000	561.0000	68.9000	571.5000	0.8800	17.3725	0.0507	0.0495	1.1716	-0.1955	0.0557	1.0381	-0.0593
74	1015.0000	654.0000	84.3000	571.9000	0.8800	17.3725	0.0526	0.0495	0.8602	0.0225	0.0459	0.7969	0.0344
75	1015.0000	750.0000	84.4000	571.5000	1.0000	17.1780	0.0582	0.0563	0.9673	0.0327	0.0509	0.8750	0.1250
76	515.0000	554.0000	40.8000	284.0000	0.7800	14.2354	0.0544	0.0490	1.0940	-0.0732	0.0554	0.9603	0.0492
77	515.0000	654.0000	42.3000	267.9000	0.8500	14.7618	0.0583	0.0563	0.8312	0.1053	0.0455	0.4474	0.1700
78	515.0000	747.0000	40.8000	267.9000	0.8900	14.5452	0.0612	0.0628	0.9751	-0.0334	0.0509	0.7519	0.1257
79	515.0000	556.0000	18.0000	121.3000	0.7700	10.5106	0.0737	0.0491	0.9132	-0.0261	0.0557	0.8095	0.0304
80	215.0000	653.0000	18.0000	121.1000	0.8500	10.5094	0.0809	0.0562	0.5165	0.3292	0.0454	0.4742	0.3777
									0.5910	0.3047	0.0509	0.5347	0.3709

* A₁ = P_{CO}^{0.5} P_{H₂O^{0.35} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})}

Table C-1, Part 3. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp. °F	P _{CO} , psia	P _{H₂O} , psia	F _e	A ₁ *	k _e	k ₁	r _i	Deviation	k _c	r _c	Deviation
01	215.0000	750.0000	16.0000	118.5000	0.8900	10.2933	0.0455	0.0630	0.6483	0.2533	0.0558	0.5743	0.1473
02	115.0000	550.0000	9.3000	64.5000	0.3900	7.3118	0.0533	0.0491	0.3593	0.0787	0.0456	0.1174	0.1452
03	115.0000	553.0000	9.5000	64.5000	0.4400	7.3945	0.0595	0.0509	0.4159	0.0549	0.0309	0.3763	0.1449
04	65.0000	554.0000	5.5000	36.2000	0.2800	5.2124	0.0537	0.0470	0.2554	0.0473	0.0455	0.2771	0.1573
05	65.0000	654.0000	5.5000	36.2000	0.3100	5.2324	0.0597	0.0553	0.2946	0.0495	0.0509	0.2665	0.1503
06	1015.0000	551.0000	82.4000	565.4000	0.9200	17.0654	0.0481	0.0488	0.8322	-0.0149	0.0453	0.7732	0.0571
07	1015.0000	653.0000	82.0000	567.0000	0.9300	17.1116	0.0547	0.0562	0.9623	-0.0749	0.0509	0.7707	0.0639
08	1015.0000	749.0000	82.2000	574.5000	0.9400	17.5236	0.0536	0.0493	1.1025	-0.1729	0.0557	0.9769	-0.0393
09	1015.0000	550.0000	122.4000	348.4000	0.7500	20.2038	0.0376	0.0493	0.9959	-0.3104	0.0457	0.9234	-0.2150
10	1015.0000	653.0000	121.2000	354.3000	0.9600	20.1652	0.0426	0.0562	1.1341	-0.1147	0.0509	1.0261	-0.1391
11	515.0000	554.0000	41.5000	286.5000	0.7500	14.7896	0.0507	0.0490	0.7246	0.0339	0.0455	0.6726	0.1932
12	515.0000	656.0000	41.5000	284.7000	0.8300	14.6490	0.0567	0.0555	0.8270	0.0035	0.0510	0.7477	0.0292
13	515.0000	750.0000	41.3000	285.7000	0.8600	14.6420	0.0587	0.0630	0.9222	-0.0723	0.0558	0.7170	0.0500
14	515.0000	559.0000	61.5000	172.7000	0.5900	16.7297	0.0412	0.0494	0.8259	-0.1370	0.0458	0.5456	-0.1195
15	515.0000	653.0000	60.8000	177.0000	0.7400	15.7005	0.0447	0.0562	0.9392	-0.2592	0.0509	0.8498	-0.1343
16	515.0000	749.0000	60.4000	176.5000	0.7700	16.5543	0.0465	0.0629	1.0415	-0.3594	0.0557	0.9229	-0.1345
17	215.0000	550.0000	21.2000	104.5000	0.7000	11.1347	0.0629	0.0491	0.5472	0.2183	0.0454	0.5077	0.2764
18	215.0000	650.0000	21.3000	104.5000	0.7800	11.1957	0.0697	0.0567	0.6353	0.1455	0.0513	0.5738	0.2643
19	215.0000	748.0000	21.2000	104.5000	0.9100	11.1733	0.0725	0.0628	0.7022	0.1131	0.0557	0.6423	0.2317
100	215.0000	748.0000	27.2000	104.5000	0.7600	11.9332	0.0637	0.0628	0.7492	0.0142	0.0557	0.6464	0.1262
101	1015.0000	653.0000	120.3000	326.5000	0.9500	15.8909	0.0598	0.0562	0.8937	0.0593	0.0509	0.8406	0.1349
102	1015.0000	654.0000	81.9000	540.1000	0.8900	14.4884	0.0607	0.0563	0.8158	0.0729	0.0509	0.7380	0.1414
103	115.0000	560.0000	9.6000	63.1000	0.3700	7.3930	0.0500	0.0494	0.3655	0.0121	0.0454	0.1387	0.0865
104	115.0000	662.0000	9.6000	63.0000	0.4200	7.3913	0.0564	0.0569	0.4204	-0.0010	0.0514	0.1796	0.0262
105	115.0000	751.0000	9.7000	62.7000	0.4400	7.4280	0.0592	0.0631	0.4683	-0.0544	0.0558	0.4148	0.0572
106	115.0000	558.0000	14.1000	37.2000	0.3100	8.1110	0.0382	0.0493	0.3998	-0.2997	0.0457	0.2707	-0.1368
107	115.0000	659.0000	14.1000	38.2000	0.3500	8.0241	0.0436	0.0567	0.4547	-0.2391	0.0512	0.4108	-0.1739
108	65.0000	555.0000	5.5000	35.8000	0.2500	5.2028	0.0481	0.0491	0.2553	-0.0212	0.0455	0.2364	0.0524
109	65.0000	657.0000	5.5000	35.8000	0.2900	5.2075	0.0557	0.0555	0.2943	-0.0150	0.0511	0.2661	0.0825
110	65.0000	758.0000	8.1000	22.2000	0.2300	5.6750	0.0405	0.0566	0.3212	-0.1397	0.0511	0.2903	-0.2422
111	1015.0000	554.0000	95.0000	562.3000	0.9100	18.3637	0.0496	0.0490	0.8997	0.0113	0.0455	0.8352	0.0872
112	1015.0000	653.0000	95.0000	561.5000	1.0000	18.3659	0.0544	0.0552	1.0329	-0.0129	0.0509	0.9365	0.0455
113	1015.0000	752.0000	95.4000	560.4000	1.0100	18.4138	0.0549	0.0531	1.1623	-0.1507	0.0559	1.0292	-0.0190
114	1015.0000	652.0000	137.6000	356.1000	0.8200	21.2214	0.0386	0.0498	1.0365	-0.2540	0.0454	0.9627	-0.1741
115	1015.0000	752.0000	137.6000	356.0000	0.9500	21.2217	0.0448	0.0562	1.1920	-0.2547	0.0508	1.0787	-0.1155
116	1015.0000	651.0000	137.6000	356.0000	0.9500	21.2217	0.0452	0.0631	1.3380	-0.3739	0.0554	1.1851	-0.2345
117	1015.0000	554.0000	107.5000	501.9000	0.9600	19.3757	0.0444	0.0490	0.9493	-0.1038	0.0455	0.8812	-0.0264
118	1015.0000	657.0000	107.7000	501.5000	0.9800	19.3960	0.0505	0.0555	1.0953	-0.1147	0.0511	0.9910	-0.0112
119	515.0000	555.0000	46.1000	286.3000	0.8000	15.3828	0.0520	0.0491	0.7568	0.0555	0.0455	0.7005	0.1246
120	515.0000	652.0000	46.0000	286.3000	0.9100	15.3739	0.0592	0.0562	0.8635	0.0511	0.0508	0.7815	0.1413

* A₁ = P_{CO}^{0.5} P_{H₂O^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})}

Table C-1, Part 4. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO'} , psia	P _{H₂O'} , psia	r _c	A ₁ *	k _e	k _i	r _i	Deviation	k _c	r _c	Deviation
120	515.0000	652.0000	46.0000	286.5000	0.7100	15.3739	0.0592	0.0562	0.8635	0.0511	0.0508	0.7815	0.1413
121	515.0000	550.0000	46.0000	286.5000	0.7500	15.3651	0.0618	0.0630	0.9677	-0.0197	0.0558	0.8573	0.1975
122	515.0000	551.0000	53.2000	250.2000	0.7900	16.2965	0.0485	0.0488	0.7947	-0.0350	0.0453	0.7384	0.0553
123	515.0000	653.0000	53.2000	250.5000	0.8500	16.2659	0.0523	0.0552	0.9137	-0.0750	0.0509	0.8267	0.0274
124	515.0000	553.0000	68.2000	180.5000	0.7400	17.8988	0.0413	0.0489	0.8756	-0.1137	0.0454	0.8130	-0.0387
125	515.0000	654.0000	68.2000	180.7000	0.8200	17.8540	0.0459	0.0563	1.0054	-0.2251	0.0509	0.9096	-0.1190
126	515.0000	552.0000	68.1000	180.5000	0.8400	17.8875	0.0470	0.0631	1.1290	-0.3441	0.0559	0.9998	-0.1303
127	215.0000	550.0000	19.3000	119.7000	0.7600	10.8248	0.0702	0.0487	0.5271	0.3055	0.0453	0.6898	0.3555
128	215.0000	653.0000	19.4000	119.5000	0.8500	10.8515	0.0783	0.0552	0.6103	0.2820	0.0509	0.5527	0.3504
129	215.0000	550.0000	19.3000	119.8000	0.8600	10.8255	0.0794	0.0630	0.6918	0.2372	0.0558	0.5040	0.2376
130	215.0000	657.0000	21.9000	107.0000	0.7100	11.3251	0.0627	0.0492	0.5574	0.2149	0.0454	0.5170	0.2719
131	215.0000	652.0000	22.0000	106.5000	0.8100	11.3491	0.0714	0.0562	0.6375	0.2130	0.0508	0.5749	0.2878
132	215.0000	554.0000	28.6000	73.0000	0.6900	12.1650	0.0567	0.0490	0.5960	0.1362	0.0455	0.5537	0.1382
133	215.0000	653.0000	28.5000	75.0000	0.7400	12.1786	0.0608	0.0562	0.6849	0.0764	0.0509	0.6197	0.1524
134	115.0000	551.0000	10.3000	64.1000	0.3900	7.7010	0.0506	0.0488	0.3756	0.0370	0.0453	0.7489	0.1953
135	115.0000	655.0000	10.2000	64.3000	0.4400	7.6734	0.0573	0.0564	0.4326	0.0157	0.0510	0.7913	0.1109
136	115.0000	551.0000	10.3000	64.2000	0.4800	7.7027	0.0523	0.0631	0.4857	-0.0119	0.0558	0.6302	0.1078
137	115.0000	653.0000	15.0000	40.5000	0.3400	8.4483	0.0402	0.0489	0.4133	-0.2155	0.0454	0.7837	-0.1385
138	115.0000	554.0000	14.9000	40.5000	0.4800	8.4163	0.0452	0.0563	0.4739	-0.2372	0.0509	0.6287	-0.1281
139	65.0000	552.0000	6.0000	35.7000	0.2800	5.4412	0.0515	0.0498	0.2658	0.0509	0.0454	0.2488	0.1144
140	65.0000	656.0000	5.9000	35.5000	0.3200	5.3900	0.0594	0.0565	0.3043	0.0391	0.0510	0.2751	0.1403
141	65.0000	553.0000	8.5000	35.5000	0.3500	5.3900	0.0649	0.0630	0.3395	0.0301	0.0558	0.3007	0.1607
142	65.0000	653.0000	8.6000	22.7000	0.2300	5.8704	0.0392	0.0489	0.2872	-0.2485	0.0454	0.2666	-0.1593
143	65.0000	553.0000	8.4000	22.7000	0.2500	5.8071	0.0431	0.0562	0.3256	-0.3053	0.0509	0.2955	-0.1819

* A₁ = P_{CO}^{0.25} P_{H₂O / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}).}

Table C-2, Part 1. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS (G-93 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO} , psia	P _{H₂O} , psia	r _c	A ₁ *	k _e	K ₁	r _i	Deviation	k _c	r _c	Deviation
1	985.0000	525.0000	90.2100	525.0400	0.4200	22.1771	0.0189	0.0432	0.9591	-1.2935	0.0438	0.9718	-1.3138
2	985.0000	525.0000	94.1000	506.0000	0.4400	22.8668	0.0192	0.0432	0.9889	-1.2675	0.0438	1.0020	-1.2773
3	985.0000	525.0000	117.4000	392.0000	0.5800	27.0247	0.0215	0.0432	1.1688	-1.0151	0.0438	1.0420	-1.0418
4	1000.0000	575.0000	99.5000	476.4000	0.5800	23.6268	0.0245	0.0450	1.0876	-0.8752	0.0467	1.1024	-0.9007
5	1005.0000	610.0000	115.8000	418.4000	0.9700	26.4966	0.0366	0.0479	1.2698	-0.4086	0.0486	1.2873	-0.3972
6	995.0000	555.0000	96.0000	508.0000	0.9700	23.0734	0.0420	0.0503	1.1601	-0.1350	0.0510	1.1765	-0.2129
7	995.0000	558.0000	93.1000	522.0000	1.0600	22.5638	0.0470	0.0504	1.1379	-0.0735	0.0511	1.1540	-0.0087
8	1000.0000	550.0000	86.7000	559.4000	1.0600	21.3722	0.0496	0.0505	1.0800	-0.0189	0.0513	1.0953	-0.0173
9	515.0000	650.0000	71.5000	182.8000	0.9200	22.7679	0.0404	0.0505	1.1506	-0.2505	0.0513	1.1669	-0.2683
10	515.0000	650.0000	55.5000	253.8000	1.0300	19.7235	0.0522	0.0505	0.9967	0.0323	0.0513	1.0108	0.0146
11	215.0000	655.0000	20.0000	101.7000	0.5300	11.8014	0.0534	0.0508	0.5994	0.0385	0.0515	0.6079	0.0151
12	1015.0000	660.0000	108.0000	479.0000	1.0400	24.8204	0.0419	0.0505	1.2543	-0.2951	0.0513	1.2720	-0.2271
13	1015.0000	650.0000	132.0000	335.8000	0.9900	21.6509	0.0457	0.0505	1.0941	-0.1352	0.0513	1.1096	-0.1208
14	1015.0000	650.0000	98.0000	490.3000	1.0100	18.7790	0.0538	0.0505	0.9490	0.0504	0.0513	0.9624	0.0471
15	1010.0000	655.0000	102.5000	531.7000	1.1900	19.3591	0.0615	0.0508	0.9832	0.1734	0.0515	0.9972	0.1421
16	518.0000	653.0000	61.4000	241.7000	1.0100	17.8549	0.0566	0.0507	0.9050	0.1319	0.0514	0.9179	0.0312
17	517.0000	653.0000	77.8000	173.7000	1.0000	19.6764	0.0508	0.0507	0.9974	0.0026	0.0514	1.0115	-0.0115
18	517.0000	655.0000	53.2000	218.7000	0.5100	14.5151	0.0420	0.0508	0.7377	-0.2995	0.0515	0.7477	-0.2957
19	525.0000	655.0000	68.9000	153.7000	0.6000	15.0252	0.0399	0.0508	0.7631	-0.2719	0.0515	0.7740	-0.2999
20	265.0000	652.0000	36.0000	84.1000	0.4900	13.1076	0.0374	0.0506	0.6637	-0.3565	0.0514	0.6731	-0.3737
21	270.0000	654.0000	26.3000	126.0000	0.5900	11.9985	0.0483	0.0507	0.6098	-0.0497	0.0515	0.6174	-0.0645
22	265.0000	655.0000	27.3000	122.2000	0.9800	12.7323	0.0691	0.0508	0.6467	0.2451	0.0515	0.6559	0.2547
23	270.0000	654.0000	39.8000	80.5000	0.9800	14.5160	0.0506	0.0507	0.7365	0.1510	0.0515	0.7470	0.1512
24	1015.0000	655.0000	80.4000	585.0000	0.5000	16.1530	0.0371	0.0508	0.8204	-0.1674	0.0515	0.8321	-0.1868
25	1015.0000	655.0000	94.0000	519.4000	0.5300	17.2140	0.0366	0.0508	0.8743	-0.3874	0.0515	0.8867	-0.4175
26	1015.0000	655.0000	148.0000	382.1000	1.2300	22.8860	0.0537	0.0508	1.1624	0.0509	0.0515	1.1789	0.0314
27	1015.0000	655.0000	104.0000	493.5000	1.0300	19.2690	0.0535	0.0508	0.9777	0.0509	0.0515	0.9915	0.0373
28	1015.0000	658.0000	77.0000	567.3000	0.9700	16.5217	0.0587	0.0509	0.8417	0.1323	0.0517	0.8576	0.1200
29	1015.0000	655.0000	91.0000	502.0000	0.9400	17.9610	0.0523	0.0508	0.9123	0.0295	0.0515	0.9252	0.0158
30	1015.0000	654.0000	88.0000	476.0000	0.8800	17.4155	0.0505	0.0507	0.9837	-0.0042	0.0515	0.9962	-0.0184
31	1015.0000	658.0000	93.0000	494.0000	0.8900	18.3473	0.0485	0.0509	0.9347	-0.0507	0.0517	0.9490	-0.0651
32	1015.0000	659.0000	117.0000	371.0000	0.8500	20.1390	0.0427	0.0510	1.0270	-0.1342	0.0517	1.0416	-0.2111
33	1015.0000	659.0000	102.0000	374.0000	0.8600	15.7050	0.0548	0.0510	0.8009	0.0888	0.0517	0.8122	0.0555
34	1015.0000	659.0000	79.0000	536.0000	0.9200	16.0556	0.0573	0.0510	0.8193	0.1995	0.0517	0.8309	0.0349
35	515.0000	654.0000	53.5000	239.0000	0.8500	19.4582	0.0437	0.0544	0.8840	-0.0400	0.0460	0.8959	-0.0540
36	518.0000	638.0000	49.3000	262.0000	0.9700	18.3971	0.0527	0.0509	0.9088	0.0531	0.0509	0.9215	0.0380
37	515.0000	652.0000	66.0000	184.0000	0.8200	17.2158	0.0476	0.0501	0.8629	-0.0323	0.0509	0.8751	-0.0472
38	515.0000	658.0000	64.0000	178.0000	0.9500	16.8324	0.0505	0.0509	0.8575	-0.0399	0.0517	0.8697	-0.0372
39	215.0000	656.0000	24.0000	105.0000	0.8400	11.8803	0.0707	0.0503	0.5979	0.2482	0.0510	0.6044	0.2781
40	265.0000	656.0000	24.5000	141.0000	0.6200	12.0796	0.0513	0.0503	0.6080	0.0196	0.0510	0.6166	0.0456

*A₁ = P_{CO}^{0.15} P_{H₂O}^{0.15} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₄H₆})

Table C-2, Part 2. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(G-93 Catalyst)

Run No.	P ₁ psia	Temp. °F	P _{CO'} psia	P _{H₂O'} psia	r _e	A ₁ *	k _e	k _i	r ₁	Deviation	k _c	r _c	Deviation
41	515.0000	656.0000	41.0000	279.0000	0.6000	16.3946	0.0417	0.0503	0.7265	-0.2075	0.0510	0.7347	-0.2265
42	515.0000	656.0000	47.0000	245.0000	0.5800	15.2361	0.0381	0.0503	0.7668	-0.2321	0.0510	0.7777	-0.3408
43	515.0000	659.0000	85.0000	542.0000	0.9700	18.5044	0.0524	0.0505	0.9362	0.0369	0.0512	0.9474	0.0233
44	515.0000	664.0000	117.0000	372.0000	0.9200	26.9786	0.0361	0.0507	1.3689	-0.4479	0.0515	1.3883	-0.5750
45	515.0000	664.0000	97.0000	558.0000	1.1100	22.6669	0.0490	0.0440	0.9982	0.1007	0.0466	1.0115	0.0967
46	515.0000	549.0000	74.0000	558.0000	0.7200	13.9087	0.0518	0.0441	0.6133	0.1482	0.0447	0.6215	0.1148
47	515.0000	540.0000	67.0000	560.0000	0.7800	13.1414	0.0594	0.0441	0.5941	0.2571	0.0447	0.5872	0.2472
48	515.0000	550.0000	85.0000	469.0000	0.8600	13.5860	0.0633	0.0447	0.6067	0.2365	0.0457	0.6148	0.2451
49	515.0000	662.0000	58.0000	249.0000	0.5800	20.1954	0.0287	0.0506	1.0226	-0.7592	0.0514	1.0371	-0.7341
50	265.0000	661.0000	32.0000	118.0000	0.7000	15.0523	0.0465	0.0506	0.7614	-0.0879	0.0513	0.7722	-0.1932
51	265.0000	661.0000	26.0000	141.0000	0.7000	13.7058	0.0511	0.0506	0.6933	0.0095	0.0513	0.7021	-0.0945
52	265.0000	661.0000	24.0000	151.0000	0.5100	13.1898	0.0462	0.0506	0.6672	-0.0938	0.0511	0.6767	-0.1193
53	515.0000	556.0000	71.0000	558.0000	0.7000	13.6693	0.0512	0.0450	0.6149	0.1215	0.0456	0.6232	0.1197
54	515.0000	539.0000	72.0000	566.0000	0.7300	13.6954	0.0533	0.0440	0.6031	0.1738	0.0444	0.6112	0.1629
55	515.0000	535.0000	75.0000	563.0000	0.6600	13.8040	0.0478	0.0438	0.6048	0.0836	0.0444	0.6128	0.0715
56	515.0000	667.0000	76.0000	563.0000	0.9900	14.1268	0.0630	0.0509	0.7190	0.1322	0.0515	0.7292	0.1807
57	515.0000	757.0000	65.0000	562.0000	0.6900	12.9392	0.0528	0.0453	0.7158	-0.0527	0.0561	0.7253	-0.0681
58	515.0000	742.0000	63.0000	565.0000	0.6600	12.7322	0.0518	0.0546	0.6953	-0.0534	0.0554	0.7054	-0.0848
59	515.0000	546.0000	104.0000	485.0000	0.8200	24.2933	0.0338	0.0444	1.0794	0.0215	0.0450	1.0938	-0.3139
60	515.0000	547.0000	99.0000	507.0000	0.8600	23.4428	0.0394	0.0445	1.0629	-0.2415	0.0451	1.0584	-0.2581
61	515.0000	547.0000	92.0000	501.0000	0.8800	18.6138	0.0446	0.0445	0.9369	0.0035	0.0451	0.9482	-0.0197
62	515.0000	542.0000	46.0000	280.0000	0.7800	17.7846	0.0439	0.0442	0.7862	-0.0079	0.0448	0.7967	-0.0214
63	515.0000	542.0000	70.0000	166.0000	0.7700	22.5461	0.0362	0.0442	0.9967	-0.2364	0.0448	1.0100	-0.3117
64	515.0000	653.0000	70.0000	166.0000	0.8800	22.5461	0.0390	0.0502	1.1313	-0.2355	0.0509	1.1472	-0.3037
65	515.0000	653.0000	52.0000	251.0000	0.9000	18.1095	0.0471	0.0502	0.9348	-0.0554	0.0509	0.9724	-0.0806
66	515.0000	750.0000	46.0000	280.0000	0.9500	17.7846	0.0560	0.0550	0.9780	-0.0187	0.0554	0.9923	-0.0837
67	515.0000	750.0000	69.0000	171.0000	0.8500	22.3831	0.0380	0.0550	1.2309	-0.6441	0.0554	1.2489	-0.4493
68	515.0000	746.0000	64.0000	162.0000	0.8100	17.4830	0.0463	0.0548	0.9581	-0.1824	0.0554	0.9721	-0.2101
69	515.0000	746.0000	48.0000	248.0000	0.8600	15.8374	0.0543	0.0548	0.8579	-0.0392	0.0554	0.8804	-0.0230
70	515.0000	746.0000	42.0000	281.0000	0.7100	16.9740	0.0508	0.0548	0.8206	0.0383	0.0556	0.8326	0.0451
71	515.0000	746.0000	40.0000	282.0000	0.8600	16.6096	0.0575	0.0548	0.8006	0.0369	0.0556	0.8123	0.0330
72	515.0000	746.0000	47.0000	248.0000	0.8400	15.6716	0.0536	0.0548	0.8588	-0.0226	0.0556	0.8714	-0.0173
73	515.0000	746.0000	63.0000	162.0000	0.8000	17.1204	0.0667	0.0548	0.9382	-0.1727	0.0556	0.9519	-0.1609
74	515.0000	561.0000	41.0000	278.0000	0.7600	16.6393	0.0505	0.0653	0.7626	0.1045	0.0659	0.7716	0.0325
75	515.0000	561.0000	167.0000	167.0000	0.6900	16.7721	0.0405	0.0653	0.7592	-0.1154	0.0659	0.7694	-0.1115
76	515.0000	656.0000	41.0000	279.0000	0.8600	17.7184	0.0571	0.0503	0.7408	0.1191	0.0510	0.7512	0.1957
77	515.0000	656.0000	65.0000	157.0000	0.9100	17.1506	0.0472	0.0503	0.8632	-0.0567	0.0510	0.8754	-0.0407
78	215.0000	558.0000	15.4000	118.0000	0.5600	9.8657	0.0669	0.0451	0.6449	0.3259	0.0657	0.6509	0.3144
79	215.0000	558.0000	16.8000	101.0000	0.5500	10.7303	0.0606	0.0451	0.6839	0.2555	0.0657	0.6904	0.2455
80	215.0000	558.0000	25.2000	60.0000	0.6100	10.6651	0.0572	0.0451	0.4810	0.2115	0.0657	0.4875	0.2009

*A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})

Table C-2, Part 3. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(G-93 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO'} , psia	P _{H₂O'} , psia	F _c	A ₁ *	k _e	k ₁	F _i	Deviation	k _c	F _c	Deviation
81	215.0000	656.0000	26.0000	67.0000	0.5400	11.8220	0.0541	0.0503	0.5950	0.0703	0.0510	0.6074	0.0772
82	215.0000	656.0000	19.0000	100.0000	0.5800	10.6031	0.0641	0.0503	0.5336	0.2152	0.0510	0.5412	0.2041
83	215.0000	656.0000	16.0000	112.0000	0.7300	9.8283	0.0743	0.0503	0.4947	0.3274	0.0510	0.5016	0.3174
84	215.0000	746.0000	17.0000	112.0000	0.7600	10.2861	0.0739	0.0548	0.5637	0.2593	0.0556	0.5719	0.2775
85	215.0000	746.0000	25.0000	67.0000	0.7200	11.3173	0.0636	0.0548	0.6202	0.1395	0.0554	0.4793	0.1340
86	215.0000	745.0000	17.0000	111.0000	0.7500	10.2005	0.0735	0.0548	0.5585	0.2553	0.0554	0.5667	0.2644
87	215.0000	745.0000	24.0000	73.0000	0.7300	11.1351	0.0656	0.0548	0.6097	0.1544	0.0556	0.6186	0.1524
88	215.0000	744.0000	20.0000	65.0000	0.8000	13.2962	0.0602	0.0547	0.7274	0.0904	0.0555	0.7380	0.0775
89	215.0000	744.0000	18.0000	114.0000	0.8400	11.7851	0.0713	0.0547	0.6447	0.2325	0.0555	0.6541	0.2213
90	215.0000	745.0000	8.0000	114.0000	0.8700	11.2892	0.0771	0.0547	0.6176	0.2902	0.0555	0.6266	0.2794
91	215.0000	745.0000	8.0000	117.0000	0.4200	7.5384	0.0957	0.0548	0.4127	0.0173	0.0556	0.4188	0.0029
92	215.0000	746.0000	12.0000	74.0000	0.3700	8.8503	0.0614	0.0548	0.4866	-0.3095	0.0556	0.4917	-0.3284
93	215.0000	746.0000	8.0000	110.0000	0.3700	7.0461	0.0625	0.0548	0.3861	-0.0435	0.0556	0.3914	-0.0549
94	215.0000	746.0000	10.0000	84.0000	0.3600	7.3192	0.0492	0.0548	0.4011	-0.1141	0.0556	0.4070	-0.1304
95	215.0000	661.0000	12.0000	67.0000	0.3200	7.9034	0.0405	0.0506	0.3998	-0.2494	0.0513	0.4055	-0.2471
96	215.0000	661.0000	8.0000	112.0000	0.3500	7.0562	0.0496	0.0506	0.3569	-0.0194	0.0513	0.3620	-0.0363
97	215.0000	560.0000	8.0000	114.0000	0.3100	7.0658	0.0439	0.0452	0.3134	-0.0304	0.0454	0.3217	-0.0443
98	215.0000	560.0000	12.0000	71.0000	0.3000	8.0316	0.0374	0.0452	0.3631	-0.2103	0.0454	0.3540	-0.2244
99	215.0000	538.0000	31.0000	154.0000	0.3500	11.9742	0.0292	0.0440	0.5266	-0.4504	0.0446	0.5317	-0.5264
100	215.0000	538.0000	19.0000	206.0000	0.3600	10.1159	0.0354	0.0440	0.4449	-0.2359	0.0444	0.4508	-0.2523
101	215.0000	660.0000	21.0000	278.0000	0.4000	10.5957	0.0312	0.0505	0.5355	-0.6195	0.0513	0.5430	-0.5415
102	215.0000	660.0000	31.0000	166.0000	0.3800	12.1712	0.0312	0.0505	0.6151	-0.3395	0.0513	0.6234	-0.6115
103	215.0000	745.0000	20.0000	282.0000	0.4100	10.3306	0.0397	0.0548	0.5656	-0.3795	0.0554	0.5719	-0.3397
104	215.0000	745.0000	34.0000	144.0000	0.4000	12.9647	0.0309	0.0548	0.7098	-0.7745	0.0554	0.7202	-0.8004
105	1015.0000	744.0000	39.0000	563.0000	0.4100	11.9482	0.0343	0.0547	0.6536	-1.0464	0.0555	0.6672	-1.0744
106	1015.0000	744.0000	59.0000	337.0000	0.3800	14.2188	0.0267	0.0547	0.7778	-1.0464	0.0555	0.7492	-1.0744
107	1015.0000	658.0000	39.0000	523.0000	0.3900	11.5765	0.0337	0.0504	0.5838	-0.4370	0.0511	0.5921	-0.5142
108	1015.0000	658.0000	60.0000	310.0000	0.3800	13.4465	0.0282	0.0504	0.6802	-0.7499	0.0511	0.6898	-0.8152
109	1015.0000	557.0000	61.0000	304.0000	0.4000	13.5434	0.0295	0.0450	0.6100	-0.5251	0.0456	0.6142	-0.5454
110	1015.0000	557.0000	38.0000	564.0000	0.4100	11.6528	0.0352	0.0450	0.5249	-0.2492	0.0456	0.5319	-0.2374

* A₁ = P_{CO}^{0.15} P_{H₂O}^{0.15} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})

Table C-3, Part 1. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(Shell Oil 538 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO} , psia	P _{H₂O} , psia	F _e	A ₁ *	k ₀	k ₁	F ₁	Deviation	k _c	F _c	Deviation
1	1015.0000	559.0000	93.2000	586.9000	0.8800	21.8590	0.0407	0.0425	0.9299	-0.0569	0.0454	1.0003	-0.1367
2	1015.0000	606.0000	92.6000	591.6000	0.9800	21.7380	0.0451	0.0465	1.0116	-0.0373	0.0515	1.1186	-0.1414
3	1015.0000	753.0000	92.1000	587.9000	1.0100	21.7188	0.0465	0.0496	1.0775	-0.0568	0.0559	1.2150	-0.2130
4	1015.0000	557.0000	139.3000	376.1000	0.8500	29.6632	0.0287	0.0425	1.2596	-0.4919	0.0456	1.3541	-0.3330
5	1015.0000	658.0000	138.2000	381.1000	0.9500	29.4753	0.0326	0.0462	1.3610	-0.4178	0.0509	1.5011	-0.3539
6	1015.0000	752.0000	136.4000	361.1000	0.9700	29.4966	0.0329	0.0496	1.4623	-0.5075	0.0559	1.6487	-0.4397
7	1015.0000	559.0000	107.6000	521.4000	0.8700	24.2646	0.0359	0.0425	1.0323	-0.1955	0.0454	1.1104	-0.2763
8	1015.0000	658.0000	107.7000	520.8000	0.9700	24.2831	0.0394	0.0452	1.1213	-0.1560	0.0509	1.2369	-0.2751
9	1015.0000	552.0000	46.3000	297.1000	0.7700	17.7204	0.0435	0.0423	0.7489	0.0274	0.0454	0.8039	-0.1040
10	1015.0000	660.0000	46.1000	298.1000	0.8400	17.6768	0.0475	0.0454	0.8200	0.0238	0.0513	0.9058	-0.0784
11	1015.0000	752.0000	46.5000	296.3000	0.9500	17.7645	0.0484	0.0496	0.8807	-0.0241	0.0559	0.9929	-0.1566
12	1015.0000	561.0000	69.5000	187.7000	0.5900	22.4352	0.0307	0.0426	0.9563	-0.4763	0.0459	1.0292	-0.5135
13	1015.0000	659.0000	68.8000	191.1000	0.7800	22.3120	0.0350	0.0454	1.0343	-0.3261	0.0512	1.1423	-0.4445
14	1015.0000	752.0000	68.8000	191.2000	0.8000	22.3117	0.0359	0.0496	1.1069	-0.3935	0.0559	1.2482	-0.5507
15	1015.0000	562.0000	19.5000	123.9000	0.5300	11.8055	0.0534	0.0427	0.5037	0.2305	0.0459	0.6423	0.1392
16	1015.0000	658.0000	19.1000	125.5000	0.5600	11.6933	0.0564	0.0453	0.5416	0.1793	0.0511	0.5981	0.0939
17	1015.0000	750.0000	19.5000	123.4000	0.5900	11.8045	0.0505	0.0496	0.5860	0.1507	0.0560	0.6610	0.0421
18	1015.0000	560.0000	22.3000	110.3000	0.5200	12.5378	0.0495	0.0426	0.5339	0.1389	0.0454	0.6765	0.0735
19	1015.0000	657.0000	22.5000	109.7000	0.6500	12.5892	0.0516	0.0463	0.5827	0.1034	0.0511	0.6472	0.0104
20	1015.0000	750.0000	22.3000	110.3000	0.5900	12.5378	0.0550	0.0494	0.6241	0.0354	0.0562	0.7045	-0.0209
21	1015.0000	563.0000	28.9000	79.7000	0.3700	13.8552	0.0411	0.0427	0.5916	-0.0379	0.0460	0.6371	-0.1177
22	1015.0000	663.0000	28.8000	80.1000	0.5000	13.8379	0.0434	0.0423	0.6435	-0.0725	0.0514	0.7114	-0.1356
23	1015.0000	752.0000	28.8000	79.9000	0.6400	13.8361	0.0467	0.0436	0.6858	-0.0715	0.0559	0.7772	-0.2082
24	1015.0000	562.0000	10.1000	66.7000	0.3800	8.0133	0.0474	0.0424	0.3386	0.1099	0.0454	0.7635	0.0336
25	1015.0000	652.0000	10.1000	66.5000	0.4200	8.0101	0.0524	0.0451	0.3593	0.1207	0.0508	0.8072	0.0306
26	1015.0000	751.0000	10.1000	66.7000	0.4700	8.0133	0.0587	0.0435	0.3970	0.1551	0.0554	0.8475	0.0379
27	1015.0000	560.0000	15.3000	41.9000	0.3000	9.1823	0.0327	0.0423	0.3888	-0.2280	0.0455	0.8176	-0.3320
28	1015.0000	653.0000	15.1000	42.5000	0.3700	9.1644	0.0405	0.0461	0.4219	-0.1403	0.0509	0.8663	-0.2576
29	1015.0000	755.0000	15.2000	42.2000	0.4200	9.1635	0.0458	0.0437	0.4552	-0.0839	0.0560	0.9135	-0.2227
30	65.0000	561.0000	5.7000	37.5000	0.3100	5.4959	0.0564	0.0426	0.2343	0.2444	0.0459	0.5251	0.1847
31	65.0000	653.0000	5.7000	37.3000	0.3700	5.4959	0.0674	0.0461	0.2533	0.3153	0.0509	0.2794	0.2444
32	65.0000	753.0000	5.7000	37.5000	0.4100	5.4959	0.0746	0.0496	0.2726	0.3153	0.0559	0.3075	0.2501
33	1015.0000	565.0000	95.4000	494.2000	0.7900	18.1565	0.0435	0.0428	0.7768	0.0157	0.0461	0.8370	-0.0595
34	1015.0000	660.0000	83.9000	556.2000	0.8100	17.1390	0.0471	0.0428	0.7339	0.0319	0.0462	0.7911	-0.0234
35	1015.0000	756.0000	83.6000	560.5000	0.9800	17.0157	0.0517	0.0465	0.7939	0.0315	0.0514	0.8739	0.0049
36	1015.0000	560.0000	121.7000	351.5000	0.7600	19.9029	0.0382	0.0428	0.8523	-0.1214	0.0462	0.9186	-0.2087
37	1015.0000	663.0000	121.7000	351.5000	0.8400	19.9029	0.0422	0.0485	0.9255	-0.1318	0.0514	1.0271	-0.2190
38	1015.0000	756.0000	116.2000	374.0000	0.8500	19.4449	0.0447	0.0497	0.9666	-0.1239	0.0561	1.0906	-0.2692
39	1015.0000	567.0000	48.8000	250.2000	0.6600	15.6314	0.0422	0.0425	0.6637	-0.0357	0.0454	0.7195	-0.0811
40	1015.0000	560.0000	42.9000	282.1000	0.6900	14.88780	0.0464	0.0426	0.6336	0.0818	0.0454	0.6817	0.0121

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})

Table C-3, Part 2. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(Shell Oil 538 Catalyst)

Run No.	P, psia	Temp. of °F	P _{CO} , psia	P _{H₂O} , psia	r _c	A ₁ *	k _e	k _i	r _i	Deviation	k _c	r _c	Deviation
41	515.0000	663.0000	42.6000	284.3000	0.7500	14.7756	0.0509	0.0455	0.6871	0.0339	0.0514	0.7594	-0.0129
42	515.0000	558.0000	61.7000	180.1000	0.6100	16.8159	0.0363	0.0425	0.7167	-0.1717	0.0457	0.7494	-0.0200
43	515.0000	555.0000	62.2000	182.7000	0.5900	16.9630	0.0401	0.0467	0.7839	-0.1529	0.0510	0.8649	-0.0219
44	515.0000	753.0000	62.3000	177.2000	0.7100	16.0566	0.0421	0.0496	0.8362	-0.1779	0.0559	0.9490	-0.0292
45	215.0000	559.0000	17.4000	119.1000	0.5400	10.2975	0.0524	0.0425	0.8381	0.1387	0.0454	0.4710	0.1374
46	215.0000	654.0000	17.5000	118.4000	0.5500	10.3258	0.0542	0.0452	0.8758	0.1495	0.0509	0.8259	0.0509
47	215.0000	753.0000	17.5000	119.9000	0.5900	10.3329	0.0571	0.0496	0.5126	0.1312	0.0559	0.8781	0.0202
48	215.0000	554.0000	20.0000	105.0000	0.5200	10.8043	0.0481	0.0423	0.8575	0.1202	0.0455	0.6914	0.0551
49	215.0000	655.0000	20.1000	104.4000	0.5400	10.8338	0.0499	0.0452	0.5086	0.0729	0.0510	0.8524	-0.0229
50	215.0000	754.0000	19.4000	105.5000	0.5700	10.7828	0.0529	0.0496	0.5353	0.0509	0.0560	0.8078	-0.0592
51	215.0000	556.0000	25.6000	74.4000	0.4700	11.4677	0.0410	0.0424	0.4855	-0.0351	0.0456	0.8228	-0.1124
52	215.0000	653.0000	25.8000	73.2000	0.5200	11.4958	0.0452	0.0451	0.5304	-0.0200	0.0509	0.8469	-0.1269
53	215.0000	752.0000	25.9000	73.2000	0.5500	11.5449	0.0476	0.0426	0.5724	-0.0405	0.0559	0.8453	-0.1333
54	115.0000	561.0000	10.5000	55.9000	0.3200	7.5420	0.0424	0.0426	0.3215	-0.0364	0.0459	0.7460	-0.0412
55	115.0000	57.0000	9.5000	61.7000	0.3400	7.3244	0.0464	0.0425	0.3110	0.0451	0.0454	0.7343	0.0146
56	115.0000	653.0000	9.5000	61.7000	0.3900	7.3141	0.0532	0.0451	0.3394	0.1323	0.0509	0.7372	0.0431
57	115.0000	563.0000	13.4000	38.5000	0.2700	7.9735	0.0417	0.0427	0.3407	-0.2420	0.0460	0.7359	-0.0251
58	115.0000	656.0000	13.4000	37.2000	0.3300	7.9207	0.0479	0.0476	0.3653	-0.1101	0.0510	0.4043	-0.2251
59	65.0000	561.0000	5.2000	36.1000	0.3900	7.9452	0.0479	0.0476	0.3942	-0.0376	0.0559	0.4645	-0.1599
60	65.0000	657.0000	5.2000	35.5000	0.3400	5.0859	0.0572	0.0453	0.2162	0.2564	0.0459	0.2326	0.1379
61	65.0000	752.0000	5.2000	35.5000	0.4500	5.0609	0.0711	0.0496	0.2509	0.1331	0.0511	0.2595	0.2399
62	65.0000	562.0000	7.4000	35.7000	0.3500	5.4703	0.0475	0.0427	0.2334	0.1724	0.0559	0.2829	0.2142
63	65.0000	652.0000	7.4000	23.1000	0.3000	5.4670	0.0549	0.0452	0.2526	0.1573	0.0510	0.2797	0.0709
64	65.0000	752.0000	7.5000	22.5000	0.3200	5.4821	0.0584	0.0496	0.2718	0.1507	0.0559	0.3064	0.0324
65	65.0000	556.0000	6.3000	33.3000	0.2900	5.6530	0.0517	0.0424	0.2399	0.1791	0.0456	0.2577	0.1113
66	65.0000	656.0000	6.3000	33.3000	0.3200	5.6530	0.0637	0.0496	0.2614	0.1430	0.0510	0.2895	0.0393
67	65.0000	753.0000	8.0000	24.3000	0.2500	5.6530	0.0637	0.0496	0.2804	0.1430	0.0559	0.3162	0.1215
68	65.0000	554.0000	8.0000	24.3000	0.3100	6.0136	0.0632	0.0423	0.2544	0.0215	0.0454	0.2792	-0.0506
69	65.0000	654.0000	8.1000	24.1000	0.3400	6.0136	0.0517	0.0452	0.2770	0.1155	0.0509	0.3055	0.0144
70	65.0000	753.0000	8.0000	193.0000	0.4000	5.9948	0.0214	0.0496	0.2984	0.1222	0.0559	0.3365	0.0101
71	65.0000	551.0000	36.9000	143.0000	0.3500	16.3358	0.0244	0.0426	0.6963	-0.9494	0.0450	0.7404	-1.1411
72	515.0000	657.0000	36.9000	142.7000	0.4200	16.3350	0.0257	0.0453	0.7527	-0.8419	0.0511	0.8309	-1.0773
73	515.0000	758.0000	36.9000	142.7000	0.4000	16.3350	0.0244	0.0453	0.8131	-0.9350	0.0562	0.9179	-1.1954
74	215.0000	559.0000	10.1000	124.7000	0.3200	8.5001	0.0376	0.0425	0.3516	-0.1301	0.0454	0.7990	-0.2154
75	215.0000	658.0000	10.3000	122.5000	0.3400	8.5753	0.0396	0.0451	0.3973	-0.1444	0.0511	0.8386	-0.2301
76	215.0000	757.0000	10.2000	123.7000	0.3600	8.5393	0.0427	0.0497	0.4249	-0.1739	0.0561	0.8796	-0.3316
77	215.0000	558.0000	11.7000	110.5000	0.3200	9.0833	0.0352	0.0425	0.3951	-0.2155	0.0457	0.4152	-0.2374
78	215.0000	654.0000	11.6000	110.3000	0.3600	9.0451	0.0376	0.0452	0.4177	-0.2294	0.0509	0.4509	-0.3552
79	215.0000	756.0000	11.6000	110.3000	0.3500	9.0455	0.0399	0.0497	0.4494	-0.2497	0.0561	0.5074	-0.4493

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})

I N S T I T U T E O F C H E M I C A L E N G I N E E R I N G A N D A P P L I E D S C I E N C E S

Table C-3, Part 3. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(Shell Oil 538 Catalyst)

Run No.	P, psia	Temp. °F	P _{CO'} , psia	P _{H₂O'} , psia	r _e	A ₁ *	k _e	k _i	r _i	Deviation	k _c	r _c	Deviation
81	515.0000	555.0000	34.2000	177.1000	0.3300	12.5194	0.0264	0.0424	0.5306	-0.5977	0.0455	0.5700	-0.7274
82	515.0000	654.0000	33.4000	181.3000	0.3600	12.4931	0.0284	0.0457	0.5769	-0.4724	0.0509	0.6143	-0.7574
83	515.0000	753.0000	34.2000	176.5000	0.3900	12.4472	0.0312	0.0496	0.6195	-0.5844	0.0559	0.6986	-0.7312
84	215.0000	555.0000	9.5000	118.4000	0.2900	7.6455	0.0366	0.0424	0.3243	-0.1384	0.0454	0.3486	-0.2449
85	215.0000	655.0000	9.5000	118.5000	0.3100	7.6008	0.0404	0.0452	0.3513	-0.0137	0.0510	0.3876	-0.2502
86	215.0000	754.0000	9.5000	118.5000	0.3700	7.6004	0.0487	0.0496	0.3771	-0.0137	0.0560	0.4256	-0.1502
87	215.0000	555.0000	11.4000	99.5000	0.2700	8.0794	0.0334	0.0424	0.3424	-0.2842	0.0455	0.3879	-0.3526
88	215.0000	654.0000	11.0000	104.1000	0.3000	8.0003	0.0375	0.0452	0.3694	-0.2714	0.0509	0.4075	-0.3593
89	215.0000	753.0000	7.5000	105.0000	0.3100	7.9752	0.0389	0.0496	0.3957	-0.2754	0.0559	0.4442	-0.4494
90	115.0000	555.0000	7.5000	40.1000	0.1400	5.9451	0.0234	0.0425	0.2527	-0.4249	0.0457	0.2717	-0.9609
91	115.0000	653.0000	7.5000	40.1000	0.1900	5.9451	0.0301	0.0451	0.2743	-0.5213	0.0509	0.3025	-0.8205
92	115.0000	753.0000	3.0000	40.2000	0.2200	5.9529	0.0370	0.0496	0.2953	-0.3624	0.0559	0.3330	-0.5117
93	65.0000	555.0000	3.0000	35.5000	0.1500	3.8620	0.0390	0.0424	0.2953	-0.0846	0.0454	0.1752	-0.1479
94	65.0000	656.0000	2.9000	35.7000	0.1900	3.7794	0.0501	0.0452	0.1764	0.0401	0.0510	0.1929	-0.0153
95	65.0000	754.0000	2.9000	35.5000	0.2100	3.7779	0.0556	0.0496	0.1875	0.1749	0.0560	0.2115	-0.0973
96	515.0000	556.0000	41.4000	285.2000	0.6500	14.6215	0.0445	0.0424	0.6203	0.0457	0.0454	0.6444	-0.0254
97	515.0000	654.0000	41.9000	282.0000	0.7300	14.6958	0.0497	0.0452	0.6746	0.0704	0.0509	0.7445	-0.0254
98	515.0000	753.0000	41.7000	283.7000	0.7600	14.6713	0.0514	0.0496	0.7274	0.0424	0.0559	0.8204	-0.0709
99	215.0000	556.0000	17.0000	118.1000	0.5100	10.1564	0.0502	0.0424	0.4309	0.1552	0.0454	0.4611	0.0321
100	215.0000	655.0000	17.0000	118.1000	0.5300	10.1722	0.0521	0.0452	0.4701	0.1131	0.0510	0.5147	0.0214
101	215.0000	752.0000	17.1000	117.3000	0.5500	10.1665	0.0551	0.0496	0.5040	0.1700	0.0559	0.5643	-0.0147
102	215.0000	557.0000	24.5000	75.1000	0.4400	11.2241	0.0392	0.0425	0.4765	-0.0412	0.0454	0.5124	-0.1445
103	215.0000	656.0000	24.6000	75.0000	0.4900	11.2623	0.0424	0.0452	0.5209	-0.0451	0.0510	0.5748	-0.1376
104	215.0000	753.0000	24.6000	74.9000	0.5100	11.2429	0.0454	0.0496	0.5574	-0.0435	0.0559	0.6290	-0.1376
105	115.0000	557.0000	13.4000	39.5000	0.2700	7.9386	0.0340	0.0425	0.3371	-0.2445	0.0454	0.3624	-0.3322
106	115.0000	652.0000	13.3000	40.1000	0.3500	7.9306	0.0441	0.0425	0.3556	-0.0445	0.0509	0.4011	-0.1514
107	115.0000	753.0000	13.4000	40.0000	0.3900	7.9498	0.0491	0.0495	0.3939	-0.0439	0.0554	0.4440	-0.1344
108	65.0000	553.0000	23.7000	35.5000	1.2500	10.7930	0.1154	0.0496	0.5354	0.5715	0.0559	0.6014	0.5170
109	515.0000	753.0000	190.0000	279.0000	1.2500	10.7930	0.1154	0.0496	0.5354	0.5715	0.0559	0.6014	0.5170
110	1015.0000	559.0000	433.0000	548.0000	0.7600	31.2798	0.0681	0.0496	1.5514	-0.0277	0.0559	1.7409	-0.1549
111	1015.0000	658.0000	83.4000	547.2000	0.8100	17.2842	0.0470	0.0451	0.7944	-0.0139	0.0511	0.8420	-0.0344
112	1015.0000	753.0000	83.4000	549.9000	0.8300	17.2653	0.0491	0.0496	0.8565	-0.0120	0.0559	0.9459	-0.1437
113	515.0000	558.0000	41.7000	281.7000	0.6200	14.7351	0.0421	0.0425	0.6263	-0.0101	0.0457	0.6735	-0.0342
114	515.0000	655.0000	42.0000	280.0000	0.6900	14.8014	0.0466	0.0452	0.6840	-0.0347	0.0510	0.7547	-0.0334
115	515.0000	754.0000	41.9000	280.2000	0.7300	14.7343	0.0495	0.0496	0.7314	-0.0120	0.0550	0.8250	-0.1301
116	215.0000	558.0000	17.5000	116.0000	0.4900	10.3524	0.0465	0.0425	0.4387	0.0440	0.0457	0.4714	0.0171
117	215.0000	657.0000	17.5000	115.4000	0.4900	10.3029	0.0476	0.0463	0.4769	0.0254	0.0511	0.5264	-0.0743
118	215.0000	753.0000	17.5000	115.7000	0.5200	10.3292	0.0501	0.0496	0.5124	0.0147	0.0559	0.5774	-0.1111
119	115.0000	559.0000	9.5000	62.0000	0.3100	7.3859	0.0420	0.0425	0.3142	-0.0135	0.0454	0.3340	-0.0307
120	115.0000	659.0000	9.5000	61.5000	0.3500	7.3413	0.0477	0.0464	0.3403	0.0275	0.0512	0.3759	-0.0739

* A₁ = P^{0.5} CO^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₂H₆}).

Table C-3, Part 4. COMPARISON OF EXPERIMENTAL DATA WITH SPECIFIC AND GENERALIZED RATE EQUATIONS
(Shell Oil 538 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO'} psia	P _{H₂O'} psia	r _e	A ₁ *	k _c	k _i	r _i	Deviation	k _c	r _c	Deviation
121	115.0000	753.0000	9.4000	61.7000	0.1700	7.3015	0.0507	0.0496	0.3622	0.0210	0.0559	0.6085	-0.1140
122	65.0000	557.0000	5.3000	35.2000	0.2800	5.1006	0.0549	0.0425	0.2166	0.2255	0.0456	0.2724	0.1445
123	65.0000	658.0000	5.4000	34.5000	0.3200	5.1375	0.0623	0.0453	0.2380	0.2553	0.0511	0.2628	0.1749
124	1015.0000	554.0000	86.1000	549.1000	0.7300	17.7061	0.0412	0.0423	0.7497	-0.0270	0.0455	0.4053	-0.1171
125	1015.0000	655.0000	85.7000	540.9000	0.7500	17.6272	0.0431	0.0462	0.8146	-0.0718	0.0510	0.4988	-0.1324
126	1015.0000	753.0000	85.6000	542.0000	0.9000	17.6518	0.0453	0.0496	0.8757	-0.0344	0.0559	0.9875	-0.2346
127	215.0000	557.0000	18.3000	114.3000	0.4700	10.5757	0.0444	0.0425	0.4491	0.0145	0.0454	0.4828	-0.0272
128	215.0000	654.0000	18.3000	114.2000	0.4800	10.5670	0.0454	0.0452	0.4879	-0.0155	0.0509	0.5382	-0.1213
129	115.0000	753.0000	18.3000	114.5000	0.5100	10.5771	0.0482	0.0496	0.5247	-0.0289	0.0559	0.5917	-0.1402
130	115.0000	558.0000	9.8000	51.0000	0.2900	7.4648	0.0388	0.0425	0.3391	-0.0361	0.0457	0.3412	-0.1755
131	115.0000	654.0000	9.6000	61.0000	0.3400	7.3444	0.0463	0.0452	0.3391	0.0324	0.0509	0.3741	-0.1103
132	115.0000	752.0000	9.7000	61.3000	0.3500	7.4314	0.0484	0.0496	0.3684	-0.0235	0.0559	0.4154	-0.1539
133	515.0000	651.0000	53.2000	264.9000	0.9500	19.2357	0.0494	0.0451	0.8851	0.0572	0.0508	0.9747	-0.0242
134	515.0000	651.0000	51.7000	248.2000	0.9500	16.1022	0.0534	0.0461	0.7418	0.1175	0.0508	0.8176	0.0493
135	515.0000	650.0000	50.9000	250.1000	0.8400	16.0275	0.0524	0.0450	0.7377	0.1217	0.0507	0.8170	0.0313
136	515.0000	651.0000	50.9000	249.5000	0.8400	15.9926	0.0525	0.0461	0.7367	0.1230	0.0508	0.8121	0.0313
137	515.0000	650.0000	50.3000	252.3000	0.8300	15.8922	0.0522	0.0450	0.7315	0.1187	0.0507	0.8041	0.0288
138	515.0000	651.0000	50.2000	252.8000	0.8200	15.9022	0.0516	0.0451	0.7326	0.1056	0.0508	0.8075	0.0153
139	515.0000	651.0000	50.7000	250.4000	0.8000	15.9234	0.0502	0.0451	0.7335	0.0931	0.0508	0.8046	-0.0107
140	515.0000	651.0000	50.8000	252.5000	0.7900	16.2075	0.0487	0.0451	0.7466	0.0549	0.0508	0.8270	-0.0417
141	515.0000	650.0000	51.0000	248.0000	0.7800	16.0203	0.0487	0.0450	0.7374	0.0345	0.0508	0.8126	-0.0318
142	515.0000	650.0000	51.6000	249.0000	0.7800	16.3336	0.0474	0.0450	0.7518	0.0181	0.0507	0.8285	-0.0522
143	515.0000	651.0000	51.3000	249.7000	0.7700	16.2565	0.0474	0.0461	0.7489	0.0274	0.0508	0.8255	-0.0720
144	515.0000	650.0000	51.5000	244.0000	0.7700	16.3005	0.0472	0.0450	0.7503	0.0255	0.0507	0.8248	-0.0739
145	515.0000	651.0000	51.4000	249.2000	0.7600	16.3108	0.0466	0.0451	0.7514	0.0113	0.0508	0.8282	-0.0498

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})

Table C-4, Part 1. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO} , psia	P _{O'} , psia	r _e	A ₁ *	r	Deviation	A ₂ *	r ₂	Deviation	A ₃ *	r ₃	Deviation
1	1015.0	501.0	55.600	54.000	.550	16.824	.833	-.515	11.374	.844	-.534	7.589	.721	-.111
2	1015.0	605.0	55.600	55.000	.620	16.816	.960	-.543	11.363	.920	-.484	7.679	.421	-.121
3	1015.0	753.0	56.000	591.000	.650	16.910	1.071	-.647	11.447	.988	-.519	7.750	.311	-.401
4	1015.0	554.0	85.900	561.500	.510	23.455	1.149	-1.251	17.869	1.317	-1.582	13.617	1.254	-1.079
5	1015.0	657.0	86.900	556.500	.600	23.647	1.337	-1.228	18.067	1.454	-1.424	13.804	1.452	-1.036
6	1015.0	752.0	86.800	556.800	.610	23.630	1.491	-1.445	18.051	1.554	-1.544	13.749	1.515	-1.044
7	515.0	501.0	30.700	280.300	.530	14.527	.719	-.357	11.629	.863	-.624	9.309	.473	-.067
8	515.0	656.0	27.500	304.700	.590	13.612	.768	-.302	10.729	.863	-.462	8.456	.494	-.016
9	515.0	753.0	28.000	301.800	.600	13.755	.869	-.443	10.863	.936	-.560	8.570	1.004	-.077
10	515.0	551.0	40.100	208.600	.460	16.981	.828	-.800	14.264	1.044	-1.270	11.982	1.104	-1.401
11	515.0	652.0	42.800	186.000	.530	17.605	.989	-.865	15.008	1.203	-1.270	12.725	1.367	-1.041
12	515.0	749.0	43.000	186.800	.550	17.649	1.110	-1.013	15.059	1.294	-1.354	12.949	1.501	-1.072
13	515.0	506.0	31.700	273.200	.500	14.802	.738	-.477	11.903	.887	-.774	9.572	.904	-.407
14	515.0	603.0	32.700	259.800	.560	15.109	.860	-.537	12.258	.991	-.770	9.945	1.050	-.494
15	515.0	750.0	32.800	265.100	.580	15.102	.951	-.644	12.209	1.050	-.810	9.945	1.154	-.490
16	215.0	503.0	14.300	120.900	.570	10.094	.502	-.120	9.061	.673	-.182	6.132	.754	-.341
17	215.0	654.0	13.100	128.900	.620	9.696	.549	-.114	8.665	.697	-.124	7.709	.814	-.313
18	215.0	753.0	13.500	126.200	.650	9.833	.621	-.044	8.787	.757	-.145	7.851	.921	-.417
19	215.0	554.0	21.000	74.400	.510	11.760	.576	-.130	10.949	.807	-.542	10.134	.965	-.454
20	215.0	602.0	21.400	74.400	.570	11.826	.673	-.197	11.034	.891	-.564	10.235	1.094	-.423
21	215.0	750.0	15.800	110.900	.520	10.558	.522	-.051	9.551	.704	-.287	8.641	.409	-.471
22	215.0	603.0	20.000	110.000	.610	11.871	.676	-.109	10.748	.969	-.624	9.731	1.017	-.701
23	215.0	748.0	15.800	111.100	.620	10.559	.664	-.070	9.551	.820	-.324	8.619	1.004	-.624
24	115.0	505.0	7.000	67.000	.270	6.675	.382	-.232	6.269	.467	-.729	5.884	.554	-1.055
25	115.0	603.0	7.100	66.400	.310	6.715	.382	-.234	6.309	.510	-.645	5.927	.632	-1.039
26	115.0	753.0	7.100	66.600	.330	6.717	.425	-.289	6.310	.544	-.650	5.928	.697	-1.111
27	115.0	554.0	11.200	37.500	.300	7.704	.487	-.623	7.430	.640	-1.134	7.144	.441	-1.002
28	115.0	602.0	11.100	36.700	.280	7.640	.435	-.552	7.374	.596	-1.127	7.117	.754	-1.070
29	115.0	750.0	11.100	36.700	.280	7.640	.382	-.660	7.374	.550	-1.139	7.117	.673	-1.025
30	65.0	501.0	6.600	14.100	.130	5.173	.258	-.719	5.077	.374	-1.520	4.981	.470	-2.132
31	65.0	653.0	6.200	21.800	.160	5.156	.290	-.812	5.047	.405	-1.530	4.940	.521	-2.256
32	65.0	750.0	4.100	36.400	.180	4.636	.229	-.273	4.476	.405	-.943	4.321	.405	-1.244
33	65.0	554.0	3.900	36.900	.200	4.533	.257	-.286	4.374	.353	-.763	4.221	.444	-1.240
34	65.0	762.0	3.900	37.500	.230	4.546	.290	-.261	4.385	.380	-.657	4.229	.500	-1.174
35	215.0	548.0	16.700	117.400	.700	9.966	.484	-.303	8.578	.629	-.102	7.347	.580	-.029
36	215.0	657.0	16.500	118.700	.780	9.943	.562	-.279	8.563	.689	-.117	7.374	.781	-.001
37	215.0	751.0	24.100	74.800	.640	11.024	.538	-.160	9.633	.708	-.104	8.414	.774	-.114
38	215.0	651.0	24.100	74.500	.700	10.993	.617	-.119	9.597	.769	-.094	8.370	.881	-1.254
39	215.0	750.0	24.100	74.200	.750	10.979	.698	-.069	9.583	.829	-.105	8.345	.987	-.114
40	515.0	552.0	39.500	285.100	.750	14.314	.699	-.055	10.657	.794	-.050	7.914	.735	-.007

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5},
A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-4, Part 2. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO'} , psia	P _{O'} , psia	r _c	A ₁ *	r	Deviation	A ₂ *	r ₂	Deviation	A ₃ *	r	Deviation
41	515.0	655.0	40.700	286.700	.830	14.508	.818	.014	10.785	.867	-.044	9.01A	.867	-.044
42	515.0	752.0	39.100	287.200	.870	14.25A	.900	-.034	10.611	.914	-.050	7.897	.925	-.050
43	515.0	583.0	59.500	108.800	.690	16.435	.816	-.183	12.638	.939	-.361	9.718	.914	-.361
44	515.0	651.0	58.300	174.300	.780	16.266	.912	-.170	12.455	.99A	-.279	9.517	1.004	-.279
45	515.0	749.0	58.000	178.000	.800	16.450	1.035	-.294	12.650	1.087	-.359	9.728	1.137	-.359
46	515.0	583.0	43.800	254.300	.720	14.469	.719	-.002	10.705	.79A	-.105	7.921	.745	-.105
47	515.0	652.0	43.600	255.700	.810	14.441	.814	-.005	10.679	.85A	-.059	7.89A	.834	-.059
48	515.0	748.0	44.100	252.600	.840	14.537	.914	-.088	10.772	.925	-.101	7.982	.932	-.101
49	515.0	583.0	19.000	104.700	.670	10.457	.519	.225	8.956	.573	.005	7.862	.737	.005
50	515.0	662.0	18.600	106.700	.750	10.381	.590	.213	8.982	.776	.037	7.872	.742	.037
51	515.0	751.0	18.900	105.100	.770	10.441	.65A	.145	9.043	.77A	-.011	7.871	.717	-.011
52	115.0	653.0	13.900	62.300	.640	7.197	.405	.048	6.611	.510	-.205	6.073	.640	-.205
53	115.0	750.0	13.600	35.700	.420	7.881	.443	-.165	7.329	.58A	-.49A	4.815	.714	-.49A
54	115.0	653.0	5.200	35.700	.300	5.057	.446	-.181	7.317	.629	-.287	4.801	.795	-.287
55	65.0	747.0	5.300	35.400	.340	5.087	.284	.051	4.813	.386	-.49A	4.541	.795	-.49A
56	65.0	747.0	5.300	35.400	.340	5.087	.284	.051	4.813	.386	-.49A	4.541	.795	-.49A
57	65.0	747.0	5.300	35.400	.340	5.087	.284	.051	4.813	.386	-.49A	4.541	.795	-.49A
58	1015.0	554.0	126.000	350.000	.820	20.221	.343	-.208	5.218	.448	-.650	4.609	.537	-.650
59	1015.0	552.0	91.800	306.000	.840	17.744	.867	-.032	10.777	.962	-.171	8.422	.582	-.171
60	1015.0	654.0	85.300	367.200	1.000	17.364	.978	-.022	10.777	.816	.029	6.929	.641	.029
61	1015.0	750.0	84.800	366.700	1.010	17.107	1.077	-.067	10.556	.90A	-.135	6.649	.705	-.135
62	1015.0	500.0	129.400	306.700	.930	20.403	1.009	-.215	13.205	.979	-.170	8.547	.800	-.170
63	1015.0	663.0	127.800	345.000	.940	20.523	1.169	-.243	13.320	1.077	-.145	8.645	.922	-.145
64	1015.0	753.0	127.500	344.200	.970	20.320	1.284	-.337	13.133	1.132	-.179	8.488	.99A	-.179
65	1015.0	656.0	98.100	495.000	.980	18.150	1.025	-.055	11.313	.910	.062	7.051	.765	.062
66	1015.0	753.0	97.900	497.500	.920	20.235	.991	-.179	11.442	.986	-.004	7.15A	.840	-.004
67	1015.0	554.0	126.600	350.300	.920	20.504	1.156	-.257	13.285	1.067	-.160	8.60A	.904	-.160
68	1015.0	655.0	128.700	343.500	.930	21.119	1.332	-.432	13.859	1.193	-.209	9.085	1.065	-.209
69	1015.0	751.0	98.900	497.500	.850	18.572	.914	-.075	11.679	.853	-.015	7.343	.885	-.015
70	1015.0	557.0	99.500	494.500	.960	18.548	1.043	-.087	11.651	.935	-.024	7.31A	.885	-.024
71	1015.0	653.0	99.500	494.600	.980	18.621	1.172	-.195	11.716	1.007	-.027	7.371	.885	-.027
72	1015.0	747.0	84.900	371.800	.880	17.372	.860	.022	10.767	.800	-.091	6.60A	.624	-.091
73	1015.0	561.0	64.300	371.900	1.000	17.178	.967	-.031	10.625	.853	.147	6.572	.694	.147
74	1015.0	654.0	84.400	371.500	1.010	17.210	1.084	-.073	10.653	.916	-.093	6.594	.771	-.093
75	515.0	554.0	40.800	286.000	.780	14.235	.697	.105	10.889	.773	.009	7.72A	.711	.009
76	515.0	654.0	42.300	287.900	.831	14.762	.860	.033	11.046	.887	-.031	8.25A	.872	-.031
78	515.0	747.0	40.800	287.700	.990	14.546	.913	-.025	10.816	.928	-.043	8.042	.934	-.043
79	215.0	556.0	18.000	121.300	.770	10.511	.517	.323	9.081	.671	.129	7.94A	.731	.129
80	215.0	653.0	18.000	121.100	.850	10.509	.591	.305	9.081	.728	.143	7.84A	.827	.143

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.1},
A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-4, Part 3. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp, °F	PCO', psia	PO', psia	r_e	A_1^*	r_1	Deviation	A_2^*	r_2	Deviation	A_3^*	r_3	Deviation
01	215.0	750.0	18.000	118.600	.980	10.293	.648	.263	8.825	.759	.130	7.547	.985	-.006
02	115.0	550.0	9.300	64.900	.390	7.312	.359	.073	6.720	.496	-.272	6.177	.575	-.675
03	115.0	653.0	9.500	64.400	.440	7.394	.416	.055	6.805	.566	-.241	6.247	.567	-.700
04	65.0	554.0	5.500	36.000	.280	5.213	.255	.089	4.966	.366	-.307	4.740	.433	-.254
05	65.0	654.0	5.500	36.200	.310	5.232	.295	.051	4.990	.401	-.297	4.759	.502	-.520
06	1015.0	551.0	82.400	365.400	.820	17.055	.832	-.015	10.596	.779	.050	6.579	.504	-.754
07	1015.0	653.0	82.000	369.700	.930	17.112	.962	-.033	10.642	.854	.082	6.619	.594	-.250
08	1015.0	749.0	82.200	374.200	.940	17.524	1.103	-.173	11.010	.946	-.007	6.914	.404	-.140
09	1015.0	558.0	122.400	448.400	.760	20.204	.996	-.310	17.135	.972	-.007	6.540	.404	-.049
10	1015.0	653.0	121.200	354.300	.860	20.165	1.134	-.313	13.103	1.051	-.222	8.514	.937	-.043
11	515.0	554.0	41.500	286.600	.750	14.730	.725	.034	11.047	.814	-.044	8.109	.654	-.022
12	515.0	656.0	41.500	284.700	.830	14.669	.827	.004	10.899	.876	-.054	8.109	.654	-.033
13	515.0	750.0	41.300	285.700	.860	14.642	.922	-.072	10.899	.937	-.090	8.113	.644	-.101
14	515.0	559.0	60.400	172.700	.690	16.730	.826	-.197	12.832	.950	-.377	9.867	.920	-.334
15	515.0	653.0	60.800	177.000	.740	16.701	.826	-.353	12.797	1.027	-.410	9.407	1.034	-.317
16	515.0	749.0	60.400	178.200	.770	16.554	.939	-.263	9.685	.715	-.022	8.424	.783	-.456
17	215.0	556.0	21.200	104.600	.700	11.135	.547	.145	9.752	.847	-.008	8.634	.902	-.157
18	215.0	650.0	21.300	104.600	.780	11.197	.635	.133	9.730	.836	-.032	8.472	.944	-.221
19	215.0	748.0	21.200	104.700	.810	11.173	.702	.133	9.730	.836	-.032	8.472	.944	-.221
100	215.0	747.0	27.200	74.200	.950	15.891	.749	.014	10.531	.904	-.147	9.234	1.094	-.424
101	1015.0	653.0	120.300	426.600	.880	14.888	.894	.059	9.277	.744	.217	5.414	.571	.390
102	1015.0	654.0	81.900	340.100	.370	7.393	.816	.073	8.349	.670	.234	4.412	.504	.423
103	115.0	500.0	9.600	63.100	.630	7.391	.366	.012	6.802	.504	-.363	6.259	.544	-.584
104	115.0	602.0	9.600	63.000	.420	7.428	.420	-.001	6.801	.549	-.308	6.259	.544	-.587
105	115.0	751.0	9.700	62.900	.440	7.428	.468	-.064	6.836	.568	-.337	6.231	.734	-.674
106	115.0	558.0	14.100	39.200	.310	8.111	.400	-.290	7.536	.558	-.794	7.002	.554	-.104
107	115.0	659.0	14.100	38.200	.350	8.024	.455	-.299	7.439	.600	-.717	6.497	.732	-.104
108	65.0	552.0	5.500	35.800	.250	5.203	.255	-.021	4.955	.366	-.462	4.719	.337	-.754
109	65.0	657.0	5.500	35.800	.290	5.207	.294	-.015	4.962	.399	-.377	4.727	.501	-.724
110	65.0	658.0	8.100	22.200	.230	5.576	.321	-.397	5.441	.434	-.905	5.215	.553	-1.004
111	1015.0	554.0	95.000	362.300	.910	18.364	.900	.011	11.423	.842	.075	7.105	.560	.274
112	1015.0	653.0	95.200	361.600	1.000	18.366	1.033	-.033	11.420	.916	.084	7.102	.560	.252
113	1015.0	752.0	95.400	360.900	1.010	18.414	1.162	-.151	11.462	.987	.023	7.115	.434	.172
114	1015.0	552.0	137.600	356.100	.820	21.221	1.037	-.264	13.695	1.007	-.220	8.438	.414	.002
115	1015.0	652.0	137.600	356.000	.950	21.222	1.192	-.255	13.695	1.094	-.154	8.438	.330	.021
116	1015.0	751.0	137.600	356.000	.960	21.222	1.338	-.394	13.696	1.179	-.228	8.439	1.034	-.078
117	1015.0	554.0	107.500	301.900	.860	19.376	.949	-.104	12.175	.897	-.043	7.650	.710	-.174
118	1015.0	657.0	107.700	301.200	.980	19.396	1.096	-.119	12.149	.941	-.001	7.650	.711	.172
119	215.0	555.0	46.100	286.300	.800	15.383	.755	.055	11.416	.842	-.053	8.473	.744	.015
120	515.0	652.0	46.000	286.200	.910	15.374	.864	.051	11.412	.915	-.005	8.470	.492	.020

* $A_1 = P_{CO}^{0.5} P_{H_2O}^{0.25} / (1 + 0.002 P_{H_2O} + 0.01 P_{C_6H_6})$, $A_2 = P_{CO}^{0.5} P_{H_2O}^{0.25} / (1 + 0.002 P_{H_2O} + 0.01 P_{C_6H_6})^{1.5}$,
 $A_3 = P_{CO}^{0.5} P_{H_2O}^{0.25} / (1 + 0.002 P_{H_2O} + 0.01 P_{C_6H_6})^2$.

Table C-4, Part 4. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS
(UC-1870-46-1 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO} , psia	P _O , psia	P _{C₆H₆}	P _{H₂O}	F _e	A ₁ [*]	F ₁	Deviation	A ₂ [*]	F ₂	Deviation	A ₃ [*]	F ₃	Deviation
121	515.0	750.0	46.000	286.600	.950	.950	.968	15.365	.968	-.019	11.601	.980	-.032	9.460	.949	-.041
122	515.0	551.0	53.400	250.200	.790	.790	.795	16.296	.795	-.005	12.203	.897	-.135	9.179	.847	-.063
123	515.0	653.0	53.200	250.600	.950	.950	.914	16.247	.914	-.075	12.156	.975	-.147	9.054	.953	-.124
124	515.0	553.0	68.200	180.000	.740	.740	.876	17.899	.876	-.193	13.768	1.014	-.370	10.531	.942	-.327
125	515.0	654.0	68.000	180.700	.920	.920	1.005	17.854	1.005	-.224	13.720	1.101	-.343	10.543	1.112	-.157
126	515.0	752.0	68.100	180.500	.840	.840	1.129	17.887	1.129	-.344	13.756	1.184	-.610	10.574	1.260	-.474
127	215.0	550.0	19.300	119.700	.760	.760	.527	10.825	.527	.304	9.343	.686	.097	8.044	.744	.020
128	215.0	653.0	19.400	119.500	.850	.850	.610	10.852	.610	.242	9.367	.751	.114	8.086	.852	.003
129	215.0	750.0	19.300	119.800	.960	.960	.682	10.825	.682	.207	9.343	.803	.064	8.043	.943	-.094
130	215.0	557.0	21.900	107.000	.710	.710	.557	11.325	.557	.215	9.824	.726	-.023	8.522	.732	-.112
131	215.0	652.0	22.000	106.800	.910	.910	.637	11.349	.637	.213	9.846	.789	.024	8.542	.832	-.110
132	215.0	554.0	28.600	73.000	.690	.690	.596	12.165	.596	.135	10.731	.791	-.144	9.447	.872	-.274
133	215.0	653.0	28.500	73.000	.740	.740	.685	12.179	.685	.074	10.723	.860	-.162	9.441	.932	-.345
134	115.0	551.0	10.300	64.100	.390	.390	.376	7.701	.376	.037	7.092	.521	-.334	6.571	.604	-.544
135	115.0	655.0	10.200	64.300	.640	.640	.433	7.673	.433	.017	7.068	.568	-.291	6.511	.684	-.763
136	115.0	751.0	10.300	64.200	.680	.680	.486	7.703	.486	-.012	7.093	.610	-.272	6.571	.765	-.593
137	115.0	553.0	15.000	40.600	.340	.340	.413	8.448	.413	-.215	7.854	.574	-.701	7.301	.577	-.991
138	115.0	654.0	14.900	40.500	.380	.380	.674	8.416	.674	-.247	7.825	.624	-.453	7.274	.764	-1.020
139	65.0	552.0	6.000	35.700	.280	.280	.266	5.441	.266	.051	5.187	.382	-.363	4.945	.454	-.635
140	65.0	656.0	5.900	35.500	.320	.320	.304	5.390	.304	.049	5.139	.413	-.291	4.900	.514	-.614
141	65.0	750.0	5.900	35.500	.350	.350	.339	5.390	.339	.030	5.139	.442	-.263	4.900	.573	-.637
142	65.0	553.0	8.600	22.700	.230	.230	.287	5.870	.287	-.249	5.622	.414	-.800	5.384	.632	-1.170
143	65.0	653.0	8.400	22.700	.250	.250	.327	5.807	.327	-.305	5.564	.446	-.785	5.371	.662	-1.267

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}); A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5};
A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-5, Part 1. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (G-93 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO} , psia	P _O , psia	r _c	A ₁ *	r _i	Deviation	A ₂ *	r ₂	Deviation	A ₃ *	r ₃	Deviation
1	985.0	525.0	90.210	225.040	.420	22.177	.959	-1.244	15.449	.942	-1.242	10.819	.774	-.144
2	985.0	525.0	94.100	206.000	.440	22.867	.989	-1.249	16.121	.940	-1.227	11.345	.414	-.453
3	985.0	525.0	117.400	392.000	.580	27.025	1.169	-1.015	20.233	1.230	-1.121	15.164	1.087	-.474
4	1000.0	575.0	99.500	496.400	.580	23.627	1.088	-.075	16.737	1.074	-.052	11.956	.913	-.774
5	1005.0	610.0	115.800	418.400	.970	26.497	1.270	-.303	19.351	1.300	-.346	14.425	1.167	-.707
6	995.0	625.0	96.000	308.000	.970	23.073	1.160	-.195	16.250	1.127	-.162	11.445	.979	-.002
7	995.0	625.0	93.100	222.000	1.060	22.564	1.138	-.074	15.782	1.097	-.035	11.070	.444	.104
8	1000.0	650.0	86.700	106.000	1.060	21.372	1.080	-.019	14.683	1.023	.035	10.027	.464	.141
9	515.0	600.0	71.500	102.800	.920	22.768	1.151	-.251	19.483	1.357	-.475	16.572	1.433	-.750
10	515.0	600.0	55.500	259.800	1.030	19.723	.997	.032	16.064	1.119	-.094	13.083	1.124	-.047
11	215.0	605.0	20.000	101.700	.630	11.801	.599	.049	10.758	.753	-.195	9.807	.469	-.147
12	1015.0	600.0	108.000	474.800	1.040	24.820	1.254	-.205	17.731	1.235	-.148	12.544	1.030	-.044
13	1015.0	600.0	132.000	335.800	.990	21.551	1.094	-.105	14.365	1.001	-.011	9.531	.420	.172
14	1015.0	600.0	98.000	490.300	1.010	18.779	.949	.050	11.923	.831	.174	7.570	.521	.154
15	1010.0	605.0	102.500	511.700	1.190	19.358	.983	.174	12.215	.855	.282	7.708	.447	.434
16	518.0	663.0	61.400	241.700	1.010	17.855	.905	.104	13.573	.944	.061	10.318	.931	.114
17	517.0	603.0	77.800	173.700	1.000	14.676	.997	.003	15.424	1.077	-.077	12.071	1.044	-.064
18	517.0	605.0	53.200	218.700	.810	14.515	.737	-.209	10.462	.711	-.190	7.511	.451	-.054
19	205.0	605.0	68.900	153.700	.600	15.025	.763	-.272	10.771	.754	-.254	7.722	.544	-.114
20	205.0	602.0	36.000	84.100	.490	13.108	.664	-.355	11.131	.777	-.585	9.454	.414	-.564
21	270.0	645.0	26.300	120.000	.580	11.999	.569	-.059	10.027	.701	-.208	9.379	.724	-.047
22	265.0	605.0	27.300	122.200	.880	12.732	.647	.255	10.400	.753	.133	9.132	.402	.034
23	270.0	605.0	39.800	88.500	.880	14.516	.737	.153	12.573	.879	.001	10.430	.367	-.070
24	1015.0	605.0	80.400	385.000	.400	16.153	.820	-.357	9.775	.694	-.140	5.917	.512	.134
25	1015.0	605.0	94.000	514.400	.530	17.214	.874	-.388	10.498	.735	-.164	6.402	.554	.120
26	1015.0	605.0	148.000	382.100	1.230	22.886	1.162	.053	14.929	1.045	.151	9.738	.443	.314
27	1015.0	605.0	104.000	493.600	1.030	19.249	.978	.051	12.181	.852	.173	7.708	.547	.352
28	1015.0	605.0	77.000	507.500	.970	16.522	.842	.132	10.219	.717	.261	6.319	.549	.434
29	1015.0	605.0	91.000	502.000	.940	17.961	.912	.030	11.328	.793	.157	7.154	.514	.342
30	1015.0	605.0	88.000	496.000	.840	17.616	.884	-.004	10.923	.764	.132	6.851	.592	.127
31	1015.0	605.0	93.000	494.000	.890	18.347	.935	-.050	11.655	.818	.081	7.404	.649	.277
32	1015.0	609.0	117.000	371.500	.860	20.139	1.027	-.194	13.115	.921	-.071	8.541	.744	.134
33	1015.0	609.0	102.000	374.000	.860	15.705	.801	.069	9.339	.656	.238	5.559	.484	.434
34	1015.0	609.0	79.000	336.000	.920	16.066	.819	.110	9.847	.691	.269	6.075	.524	.423
35	515.0	565.0	53.500	239.000	.850	19.458	.884	-.040	16.005	1.016	-.195	13.145	1.001	-.177
36	518.0	638.0	49.300	282.000	.970	18.397	.909	.063	14.711	1.005	-.034	11.743	.944	-.014
37	515.0	625.0	66.000	194.000	.820	17.216	.863	-.052	13.059	.903	-.101	9.906	.444	-.030
38	215.0	608.0	64.000	178.000	.450	16.832	.858	-.009	12.775	.896	-.054	9.636	.462	.000
39	215.0	600.0	24.000	105.000	.840	11.880	.598	.249	10.341	.718	.144	9.000	.771	.042
40	265.0	625.0	24.500	141.000	.620	12.080	.608	.019	10.166	.706	-.138	9.555	.733	-.142

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5},

A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-5, Part 2. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (G-93 Catalyst)

Run No.	P _i psia	Temp. of F	P _{CO'} psia	P _{O'} psia	r _e	A ₁ *	r ₁	Deviation	A ₂ *	r ₂	Deviation	A ₃ *	r ₃	Deviation
41	515.0	656.0	41.000	279.000	.600	14.395	.724	-.207	10.676	.741	-.235	7.919	.574	-.130
42	515.0	656.0	47.000	246.000	.580	15.236	.767	-.322	11.414	.792	-.364	9.550	.732	-.253
43	1015.0	659.0	85.000	342.000	.970	18.504	.934	.037	11.935	.831	.144	7.537	.562	-.314
44	1015.0	664.0	117.000	342.000	.920	26.979	1.369	-.484	20.199	1.412	-.535	15.173	1.304	-.521
45	1015.0	539.0	97.000	354.000	1.110	22.667	.998	.101	15.612	.964	.131	10.753	.748	-.294
46	1015.0	540.0	76.000	358.000	.720	13.909	.613	-.149	8.022	.496	.311	4.627	.340	-.224
47	1015.0	540.0	87.000	360.000	.780	13.141	.579	.257	7.550	.467	.602	4.377	.314	-.527
48	1015.0	550.0	85.000	369.000	.860	13.586	.607	.295	7.645	.478	.644	4.102	.323	-.427
49	515.0	602.0	58.000	249.000	.580	20.195	1.023	-.763	16.500	1.151	-.985	13.682	1.153	-1.005
50	265.0	661.0	32.000	114.000	.700	15.052	.761	-.099	13.583	.947	-.353	12.258	1.056	-.504
51	265.0	661.0	26.000	141.000	.700	13.706	.693	.010	12.105	.844	-.204	10.691	.821	-.414
52	265.0	661.0	24.000	151.000	.610	13.190	.667	-.094	11.559	.806	-.321	10.170	.873	-.431
53	1015.0	556.0	71.000	358.000	.700	13.669	.615	.122	7.897	.497	.290	4.543	.344	-.510
54	1015.0	539.0	72.000	366.000	.730	13.695	.603	.174	7.879	.447	.244	4.517	.334	-.444
55	1015.0	539.0	75.000	363.000	.650	14.804	.605	.094	7.895	.445	.254	4.517	.329	-.501
56	1015.0	607.0	76.000	363.000	.840	14.127	.719	.132	8.148	.571	.358	4.700	.404	-.592
57	1015.0	757.0	65.000	362.000	.880	12.938	.716	-.053	7.425	.560	.174	4.254	.404	-.400
58	1015.0	742.0	63.000	364.000	.620	12.732	.695	-.053	7.305	.545	.175	4.191	.395	-.502
59	1015.0	546.0	104.000	485.000	.820	24.293	1.079	-.315	17.308	1.077	-.314	12.332	.813	-.114
60	1015.0	547.0	99.000	507.000	.840	23.443	1.043	-.242	16.519	1.029	-.225	11.640	.863	-.024
61	1015.0	547.0	92.000	501.000	.840	18.814	.837	.004	12.114	.755	-.101	7.800	.574	-.311
62	515.0	542.0	46.000	280.000	.780	17.785	.766	-.004	14.239	.882	-.131	11.400	.834	-.074
63	515.0	542.0	70.000	186.000	.770	22.546	.997	-.294	19.535	1.210	-.572	14.927	1.264	-.514
64	515.0	653.0	70.000	186.000	.980	22.546	1.131	-.294	19.535	1.352	-.537	14.927	1.445	-.541
65	515.0	653.0	52.000	251.000	.900	19.110	.959	-.065	15.592	1.079	-.199	12.727	1.084	-.204
66	515.0	750.0	46.000	280.000	.960	17.795	.978	-.019	14.239	1.068	-.112	11.400	1.043	-.124
67	515.0	750.0	64.000	171.000	.850	22.383	1.231	-.448	19.322	1.449	-.705	14.579	1.594	-.454
68	515.0	746.0	64.000	182.000	.860	17.483	.958	-.193	13.652	1.021	-.260	10.540	1.004	-.244
69	515.0	746.0	48.000	245.000	.860	15.837	.868	-.009	12.020	.899	-.045	9.127	.853	-.004
70	515.0	746.0	42.000	281.000	.310	14.974	.821	.098	11.249	.841	.074	8.450	.794	-.122
71	515.0	746.0	60.000	282.000	.840	14.610	.801	.047	10.969	.820	.024	8.215	.774	-.074
72	515.0	746.0	47.000	248.000	.840	15.672	.859	-.022	11.894	.889	-.059	9.027	.854	-.017
73	515.0	746.0	63.000	162.000	.800	17.120	.938	-.173	13.312	.995	-.244	10.351	.974	-.224
74	515.0	561.0	41.000	278.000	.740	14.639	.663	.105	10.954	.593	.064	8.197	.523	-.152
75	515.0	561.0	61.000	167.000	.680	16.772	.759	-.114	12.963	.820	-.204	10.019	.754	-.215
76	515.0	656.0	41.000	279.000	.840	14.718	.741	.119	11.038	.766	.088	8.278	.704	-.154
77	515.0	656.0	65.000	157.000	.910	17.151	.863	-.065	13.295	.923	-.135	10.307	.841	-.070
78	215.0	558.0	15.400	116.000	.660	9.866	.445	.325	8.616	.543	.177	7.325	.441	-.141
79	215.0	558.0	18.800	101.000	.650	10.730	.484	.255	9.481	.598	.090	8.174	.531	-.024
80	215.0	558.0	25.200	60.000	.610	10.665	.481	.212	9.318	.588	.037	8.141	.514	-.004

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}); A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5};

A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-5, Part 3. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (G-93 Catalyst)

Run No.	P, psia	Temp, °F	P _{CO} , psia	P _O , psia	r _e	A ₁ *	r	Deviation	A ₂ *	r ₂	Deviation	A ₃ *	r ₃	Deviation
81	215.0	656.0	26.000	67.000	.640	11.822	.595	.070	10.642	.739	-.154	9.500	.821	-.242
82	215.0	656.0	14.000	100.000	.680	10.603	.534	.215	9.300	.665	-.051	8.156	.599	-.027
83	215.0	656.0	16.000	112.000	.730	9.828	.495	.322	8.541	.593	.188	7.429	.534	-.124
84	215.0	746.0	17.000	112.000	.760	10.286	.564	.259	9.009	.674	.114	7.888	.744	.014
85	215.0	746.0	25.000	67.000	.720	11.317	.620	.139	10.065	.753	-.045	9.954	.847	-.174
86	215.0	745.0	17.000	111.000	.750	10.200	.558	.235	8.905	.665	.117	7.775	.735	-.029
87	215.0	745.0	24.000	73.000	.730	11.135	.610	.165	9.819	.734	-.005	8.650	.814	-.121
88	215.0	744.0	28.000	65.000	.800	13.296	.727	.091	12.508	.934	.167	11.747	1.111	-.184
89	215.0	744.0	20.000	100.000	.840	11.785	.645	.233	10.758	.803	.044	9.821	.927	-.104
90	215.0	744.0	18.000	114.000	.870	11.289	.618	.230	10.187	.761	.124	9.199	.854	-.001
91	215.0	745.0	8.000	117.000	.620	7.538	.413	.017	6.786	.507	-.207	6.109	.577	-.374
92	215.0	745.0	12.000	74.000	.370	8.850	.485	-.319	8.260	.617	-.569	7.700	.724	-.259
93	215.0	746.0	8.000	110.000	.370	7.046	.386	-.044	6.180	.482	-.249	5.420	.514	-.384
94	215.0	746.0	10.000	64.000	.360	7.319	.401	-.114	6.400	.479	-.329	5.334	.529	-.170
95	215.0	661.0	12.000	67.000	.320	7.903	.400	-.249	7.058	.492	-.538	6.307	.543	-.097
96	215.0	661.0	8.000	112.000	.350	7.056	.357	-.029	6.179	.431	-.231	5.411	.454	-.132
97	215.0	500.0	8.000	114.000	.310	7.066	.319	-.030	6.178	.390	-.259	5.402	.408	-.217
98	215.0	500.0	14.000	71.000	.350	8.032	.363	-.210	7.178	.454	-.512	6.615	.547	-.114
99	215.0	538.0	31.000	11.974	.350	11.974	.527	-.505	9.356	.577	-.549	7.310	.537	-.324
100	215.0	600.0	19.000	154.000	.360	10.116	.445	-.235	7.599	.469	-.302	5.709	.514	-.150
101	215.0	600.0	21.000	286.000	.400	10.596	.535	-.339	7.973	.555	-.389	6.000	.514	-.291
102	215.0	600.0	31.000	166.000	.380	12.171	.615	-.619	9.498	.562	-.741	7.412	.534	-.473
103	215.0	745.0	20.000	282.000	.410	10.231	.566	-.340	7.756	.580	-.417	5.429	.551	-.342
104	215.0	745.0	34.000	144.000	.400	12.965	.710	-.775	10.387	.776	-.940	8.121	.784	-.356
105	1015.0	744.0	39.000	563.000	.410	11.948	.654	-.594	7.488	.559	-.364	6.699	.443	-.090
106	1015.0	744.0	59.000	339.000	.380	14.219	.778	-1.047	9.339	.597	-.836	6.134	.479	-.224
107	1015.0	658.0	39.000	553.000	.390	11.576	.584	-.497	7.157	.498	-.274	6.425	.381	-.024
108	1015.0	658.0	60.000	310.000	.380	13.486	.680	-.799	8.687	.604	-.590	5.526	.440	-.256
109	1015.0	557.0	61.000	304.000	.400	13.243	.610	-.525	8.728	.550	-.374	5.624	.440	-.034
110	1015.0	557.0	38.000	564.000	.410	11.653	.525	-.280	7.258	.457	-.115	6.520	.360	.170

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5},
A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-6, Part 1. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (Shell Oil 538 Catalyst)

Run No.	P, psia	Temp, °F	PCO' psia	PO' psia	r _c	A ₁ *	r ₁	Deviation	A ₂ *	r ₂	Deviation	A ₃ *	r ₃	Deviation
1	1015.0	559.0	43.200	586.700	.880	21.859	.930	-.057	14.825	.846	-.039	10.056	.570	.194
2	1015.0	608.0	92.600	591.800	.980	21.738	1.012	-.032	14.712	.923	.058	9.957	.421	.367
3	1015.0	753.0	42.100	587.900	1.010	21.719	1.077	-.067	14.724	.949	.021	9.982	.701	.302
4	1015.0	557.0	139.300	376.100	.950	29.663	1.260	-.482	22.403	1.277	-.502	16.929	.442	-.045
5	1015.0	634.0	138.200	381.100	.960	29.475	1.361	-.419	22.204	1.382	-.440	16.726	1.027	-.070
6	1015.0	756.0	138.400	381.100	.970	29.497	1.462	-.503	22.220	1.491	-.517	16.739	1.175	-.211
7	1015.0	559.0	107.600	521.400	.970	24.265	1.032	-.197	16.977	.969	-.114	11.878	.525	.281
8	1015.0	634.0	107.700	520.800	.970	24.283	1.121	-.155	16.995	1.059	-.091	11.894	.731	.247
9	1015.0	556.0	46.300	297.100	.770	17.720	.749	.027	14.035	.796	-.037	11.116	.574	.243
10	1015.0	600.0	46.100	298.100	.840	17.675	.820	.024	13.990	.975	-.062	11.073	.584	.183
11	1015.0	752.0	46.500	296.300	.460	17.764	.881	-.024	14.077	.945	-.098	11.156	.793	.091
12	1015.0	581.0	69.500	187.700	.680	22.435	.956	-.405	19.130	1.044	-.509	16.312	.462	-.244
13	1015.0	659.0	68.800	191.100	.780	22.312	1.034	-.325	18.978	1.146	-.521	16.162	.993	-.241
14	1015.0	753.0	68.800	191.200	.900	22.312	1.107	-.384	18.975	1.274	-.597	16.160	1.134	-.412
15	1015.0	562.0	19.500	123.800	.630	11.807	.504	.200	10.570	.605	-.033	9.463	.501	.202
16	1015.0	628.0	19.100	125.600	.660	11.693	.542	.179	10.454	.653	-.011	9.366	.577	.122
17	1015.0	754.0	19.500	123.400	.690	11.905	.586	.151	10.572	.710	-.030	9.448	.564	.035
18	1015.0	580.0	22.300	110.300	.520	12.538	.534	.139	11.349	.648	-.044	10.272	.552	.124
19	1015.0	657.0	22.500	109.700	.650	12.589	.583	.104	11.400	.711	-.095	10.324	.537	.020
20	1015.0	758.0	22.300	110.300	.690	12.538	.624	.095	11.349	.745	-.108	10.272	.724	-.052
21	1015.0	563.0	28.900	79.700	.570	13.854	.592	-.034	12.867	.737	-.294	11.969	.534	.012
22	1015.0	663.0	28.800	80.100	.500	13.838	.643	-.072	12.847	.806	-.347	11.927	.742	-.237
23	1015.0	756.0	28.800	79.900	.640	13.834	.686	-.072	12.845	.862	-.347	11.928	.437	-.304
24	1015.0	552.0	10.100	66.700	.380	8.013	.339	.109	7.527	.427	-.127	7.070	.359	.032
25	1015.0	626.0	10.100	66.800	.420	8.010	.369	.121	7.525	.468	-.114	7.070	.441	-.031
26	1015.0	751.0	10.100	66.700	.470	8.013	.397	.155	7.527	.505	-.074	7.070	.494	-.054
27	1015.0	554.0	15.300	41.700	.300	9.182	.389	-.295	8.820	.501	-.670	8.472	.642	-.474
28	1015.0	653.0	15.100	42.500	.370	9.144	.422	-.164	8.779	.566	-.474	8.424	.517	-.197
29	1015.0	755.0	15.200	42.200	.420	9.163	.455	-.084	8.800	.592	-.409	8.450	.591	-.417
30	65.0	581.0	5.700	37.500	.710	5.496	.234	.244	5.301	.303	.022	5.112	.270	.121
31	65.0	653.0	5.700	37.300	.370	5.491	.253	.315	5.297	.329	.110	5.109	.313	.124
32	65.0	753.0	5.700	37.500	.410	5.496	.273	.335	5.301	.356	.137	5.112	.354	.051
33	1015.0	565.0	95.400	494.200	.790	18.156	.777	.017	11.400	.655	.171	7.158	.341	.212
34	1015.0	566.0	83.400	556.200	.810	17.139	.734	.094	10.639	.612	.245	6.604	.352	.254
35	1015.0	662.0	83.000	560.500	.880	17.017	.791	.101	10.543	.661	.240	6.522	.404	.539
36	1015.0	566.0	121.700	351.500	.760	19.903	.852	-.121	12.847	.739	.020	9.293	.442	.414
37	1015.0	663.0	121.700	351.500	.840	19.903	.926	-.102	12.847	.804	.041	8.293	.514	.384
38	1015.0	756.0	116.200	379.800	.860	19.445	.967	-.124	12.433	.837	.027	7.950	.561	.144
39	1015.0	557.0	48.800	250.200	.660	15.631	.664	-.005	11.725	.669	-.012	8.735	.462	.301
40	1015.0	560.0	42.900	282.100	.690	14.878	.634	.042	11.076	.633	-.087	8.244	.431	.153

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5},
A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-6, Part 2. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (Shell Oil 538 Catalyst)

Run No.	P, psia	Temp, °F	PCO', psia	PO', psia	Fe	A1*	F1	Deviation	A2*	F2	Deviation	A3*	F3	Deviation
41	515.0	663.0	42.400	254.300	.750	14.776	.687	.094	10.984	.689	.081	9.155	.504	.322
42	515.0	558.0	61.700	189.100	.610	16.816	.715	-.172	12.855	.731	-.202	9.927	.517	.154
43	515.0	622.0	62.200	192.900	.680	16.963	.784	-.153	12.973	.904	-.189	9.921	.610	.104
44	515.0	753.0	62.300	177.200	.710	16.857	.836	-.179	12.897	.464	-.220	9.927	.634	.024
45	215.0	554.0	17.400	119.100	.340	10.297	.438	.189	8.902	.508	.059	7.635	.402	.264
46	215.0	654.0	17.500	118.900	.560	10.326	.477	.143	8.927	.556	.009	7.719	.374	.153
47	215.0	753.0	17.500	118.800	.590	10.333	.513	.131	8.939	.600	-.017	7.731	.543	-.074
48	215.0	554.0	20.000	105.000	.520	10.804	.457	.120	9.386	.533	-.025	8.154	.324	.141
49	215.0	655.0	20.100	104.400	.540	10.834	.501	.073	9.420	.587	-.087	8.130	.504	.057
50	215.0	754.0	19.900	105.600	.570	10.783	.535	.073	9.363	.529	-.104	8.131	.504	.057
51	215.0	556.0	25.600	74.400	.470	11.468	.486	-.035	10.074	.573	-.220	8.850	.572	-.004
52	215.0	653.0	25.800	73.200	.520	11.496	.530	-.024	10.112	.629	-.210	8.850	.572	-.004
53	215.0	752.0	25.900	73.200	.550	11.545	.572	-.041	10.167	.682	-.241	8.854	.564	-.064
54	115.0	591.0	10.500	55.700	.320	7.542	.321	-.005	6.954	.394	-.244	8.954	.524	-.050
55	115.0	557.0	9.500	61.700	.340	7.324	.311	.045	6.744	.384	-.130	8.420	.324	.041
56	115.0	653.0	9.500	61.900	.390	7.334	.338	.132	6.755	.420	-.077	8.422	.382	.022
57	115.0	563.0	13.700	39.600	.270	7.379	.341	-.262	7.421	.425	-.575	6.971	.164	-.354
58	115.0	650.0	13.400	39.200	.330	7.921	.366	-.110	7.366	.459	-.392	6.869	.422	-.274
59	115.0	753.0	13.400	39.900	.380	7.946	.394	-.037	7.385	.496	-.305	6.943	.482	-.252
60	65.0	591.0	5.200	36.100	.290	5.071	.216	.255	4.830	.276	.047	4.601	.264	.151
61	65.0	657.0	5.200	35.800	.340	5.059	.234	.311	4.818	.301	.114	4.588	.283	.157
62	65.0	752.0	5.200	35.700	.360	5.061	.251	.303	4.822	.324	.101	4.535	.322	.104
63	65.0	562.0	7.400	23.100	.260	5.470	.233	.260	5.239	.300	.154	5.018	.252	.022
64	65.0	655.0	7.500	22.600	.300	5.467	.253	.153	5.237	.324	-.048	5.014	.304	.024
65	65.0	752.0	7.500	22.600	.320	5.482	.272	.151	5.253	.353	-.102	5.033	.354	.104
66	65.0	556.0	6.300	33.300	.290	5.653	.240	.173	5.474	.312	-.074	5.300	.274	.064
67	65.0	656.0	6.300	33.300	.320	5.653	.261	.193	5.474	.341	-.067	5.300	.324	.024
68	65.0	753.0	6.300	33.300	.360	5.653	.280	.221	5.474	.368	-.291	5.300	.372	.034
69	65.0	553.0	8.600	24.600	.310	6.014	.254	.022	5.870	.333	-.291	5.724	.294	.144
70	65.0	654.0	8.100	24.100	.340	6.014	.277	.105	5.857	.365	-.174	5.719	.351	.133
71	65.0	753.0	8.100	24.100	.340	6.016	.298	.122	5.876	.395	-.161	5.719	.403	.194
72	515.0	561.0	36.900	193.000	.350	16.336	.696	-.989	13.876	.744	-1.264	11.788	.623	-.194
73	515.0	657.0	36.600	195.400	.400	16.263	.753	-.882	13.790	.811	-1.152	11.693	.623	-.194
74	515.0	758.0	36.900	192.900	.420	16.336	.813	-.935	13.877	.935	-1.227	11.788	.623	-.194
75	215.0	559.0	10.100	124.700	.320	8.500	.362	.138	7.605	.434	-.357	6.803	.434	.044
76	215.0	658.0	10.300	122.600	.340	8.576	.397	-.159	7.685	.480	-.412	6.803	.424	.052
77	215.0	757.0	10.200	123.900	.360	8.539	.425	-.194	7.645	.515	-.430	6.813	.483	.052
78	215.0	558.0	11.700	110.600	.320	9.083	.386	-.205	8.220	.469	-.465	7.438	.491	-.222
79	215.0	654.0	11.600	110.900	.340	9.046	.418	-.223	8.184	.509	-.465	7.404	.455	-.234
80	215.0	756.0	11.600	110.800	.360	9.046	.450	-.243	8.184	.551	-.530	7.405	.522	-.451

* A1 = P_{CO}^{0.5} P_{H2O}^{0.25} / (1 + 0.002 P_{H2O} + 0.01 P_{C6H6}), A2 = P_{CO}^{0.5} P_{H2O}^{0.25} / (1 + 0.002 P_{H2O} + 0.01 P_{C6H6})^{1.5}, A3 = P_{CO}^{0.5} P_{H2O}^{0.25} / (1 + 0.002 P_{H2O} + 0.01 P_{C6H6})².

Table C-6, Part 3. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (Shell Oil 538 Catalyst)

Run No.	P, psia	Temp. °F	P _{CO} , psia	P _O , psia	F _c	A ₁ *	r	Deviation	A ₂ *	F ₁	Deviation	A ₃ *	F ₁	Deviation
81	515.0	555.0	36.200	17.100	.330	12.518	.531	-.609	9.589	.545	-.552	7.366	.746	-.156
82	515.0	654.0	33.400	181.400	.360	12.443	.577	-.602	9.560	.545	-.552	7.314	.746	-.244
83	515.0	753.0	36.200	176.500	.390	12.447	.619	-.549	9.559	.642	-.644	7.315	.514	-.314
84	215.0	555.0	9.600	118.400	.280	7.646	.324	-.159	6.613	.376	-.346	5.719	.300	-.070
85	215.0	655.0	9.500	118.600	.310	7.601	.351	-.133	6.571	.409	-.321	5.690	.343	-.127
86	215.0	754.0	9.500	118.500	.370	7.600	.377	-.020	6.571	.442	-.197	5.690	.400	-.083
87	215.0	555.0	11.400	99.600	.270	8.079	.342	-.269	7.032	.400	-.491	6.120	.321	-.185
88	215.0	654.0	11.000	104.100	.300	8.000	.369	-.231	6.952	.433	-.447	6.042	.371	-.237
89	215.0	753.0	10.900	105.000	.310	7.976	.396	-.274	6.929	.465	-.501	6.020	.423	-.364
90	115.0	558.0	7.500	40.100	.140	5.945	.253	-.805	5.522	.315	-1.249	5.129	.315	-.224
91	115.0	653.0	7.500	40.100	.180	5.945	.274	-.524	5.522	.343	-.904	5.129	.315	-.167
92	115.0	753.0	7.500	40.200	.220	5.933	.295	-.342	5.531	.371	-.684	5.129	.361	-.241
93	65.0	556.0	3.000	35.600	.150	3.842	.163	-.047	3.661	.208	-.389	3.489	.184	-.214
94	65.0	656.0	2.900	35.700	.190	3.779	.175	-.080	3.601	.225	-.182	3.471	.211	-.114
95	65.0	754.0	2.900	35.800	.210	3.778	.188	-.107	3.598	.242	-.151	3.476	.244	-.144
96	515.0	556.0	41.400	285.600	.650	14.622	.620	.045	10.873	.619	.048	8.045	.424	.144
97	515.0	654.0	41.900	282.900	.730	14.696	.674	.070	10.939	.681	.067	8.142	.500	.314
98	515.0	753.0	41.700	283.700	.760	14.671	.728	.042	10.914	.733	.035	8.122	.571	.247
99	215.0	556.0	17.000	118.000	.510	10.156	.431	-.153	8.780	.500	.020	7.591	.394	.220
100	215.0	655.0	17.000	118.100	.530	10.172	.470	.113	8.800	.548	-.034	7.611	.444	.114
101	215.0	752.0	17.100	117.300	.560	10.167	.504	-.100	8.787	.590	-.057	7.595	.537	.094
102	215.0	557.0	26.500	75.100	.440	11.324	.477	-.093	9.851	.561	-.275	8.546	.654	-.031
103	215.0	656.0	26.600	75.000	.480	11.262	.521	-.045	9.893	.617	-.285	8.546	.654	-.031
104	215.0	753.0	26.600	74.900	.510	11.243	.558	-.074	9.869	.643	-.300	8.643	.604	-.114
105	115.0	557.0	13.400	39.500	.270	7.939	.337	-.244	7.384	.421	-.554	6.847	.360	-.335
106	115.0	652.0	13.300	40.100	.350	7.931	.366	-.045	7.372	.454	-.309	6.853	.420	-.199
107	115.0	751.0	13.400	40.000	.390	7.950	.394	-.010	7.389	.495	-.270	6.945	.481	-.234
108	65.0	753.0	23.700	35.500	1.250	10.793	.535	-.372	10.286	.691	.447	9.403	.647	.543
109	515.0	753.0	190.000	279.000	1.510	31.280	1.552	-.029	23.308	1.565	-.037	17.348	1.220	.192
110	1015.0	554.0	833.000	546.000	.760	54.505	2.319	-2.051	14.052	1.944	-1.558	21.275	1.120	-.377
111	1015.0	656.0	834.400	547.600	.810	17.244	.799	.014	10.775	.673	.169	6.732	.614	.644
112	1015.0	753.0	831.100	549.700	.830	17.265	.857	-.032	10.799	.725	.124	6.753	.675	.424
113	515.0	558.0	41.700	281.700	.620	14.735	.626	-.010	10.997	.627	-.012	8.207	.471	.304
114	515.0	655.0	42.000	280.000	.690	14.802	.684	-.003	11.060	.689	.001	8.245	.504	.263
115	515.0	754.0	41.900	280.200	.730	14.734	.731	-.002	10.990	.739	-.012	8.138	.577	.210
116	215.0	558.0	17.500	116.000	.480	10.322	.439	.045	8.951	.510	-.063	7.741	.404	.150
117	215.0	657.0	17.500	115.400	.490	10.303	.477	.027	8.931	.557	-.137	7.742	.474	.025
118	215.0	753.0	17.500	115.700	.520	10.328	.512	.015	8.961	.602	-.157	7.775	.545	-.051
119	115.0	559.0	9.500	62.000	.310	7.346	.314	-.014	6.825	.390	-.257	6.307	.332	-.072
120	115.0	659.0	9.500	61.800	.350	7.341	.340	.029	6.767	.423	-.203	6.242	.344	-.103

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.5},
A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².

Table C-6, Part 4. COMPARISON OF EXPERIMENTAL DATA WITH RATE EQUATIONS BASED ON ADSORPTION/DESORPTION AND SURFACE REACTION MODELS (Shell Oil 538 Catalyst)

Run No.	P ₁ psia	Temp, °F	P _{CO} psia	P _O psia	r _e	A ₁ *	r	Deviation	A ₂ *	r ₁	Deviation	A ₃ *	r ₁	Deviation
121	115.0	753.0	9.400	61.900	.370	7.302	.362	.021	6.728	.452	-.221	4.139	.434	-.177
122	65.0	557.0	5.300	35.200	.280	5.101	.217	.224	4.865	.277	.010	4.670	.243	.131
123	65.0	658.0	5.400	34.800	.320	5.138	.238	.255	4.902	.304	.043	4.574	.243	.097
124	1015.0	554.0	86.100	39.100	.730	17.706	.750	-.027	11.142	.633	.132	7.012	.754	.494
125	1015.0	655.0	85.700	34.000	.760	17.627	.815	-.072	11.076	.690	.092	4.960	.424	.437
126	1015.0	753.0	85.600	34.200	.800	17.652	.876	-.055	11.100	.745	.064	4.900	.491	.397
127	215.0	557.0	18.300	114.300	.470	10.576	.449	.045	9.195	.524	-.115	7.904	.620	.107
128	215.0	654.0	18.300	114.200	.480	10.567	.484	.017	9.185	.572	-.191	7.985	.440	.107
129	215.0	753.0	18.300	114.300	.510	10.577	.525	-.023	9.196	.614	-.211	7.935	.552	-.022
130	115.0	558.0	9.800	61.000	.290	7.665	.317	-.094	6.895	.391	-.354	6.350	.332	-.155
131	115.0	654.0	9.600	61.000	.340	7.344	.339	.003	6.764	.421	-.238	4.220	.383	-.125
132	115.0	752.0	9.700	61.300	.360	7.432	.364	-.023	6.863	.441	-.270	4.378	.442	-.134
133	515.0	651.0	53.200	264.800	.950	19.236	.886	.067	15.553	.966	-.017	12.576	.749	.191
134	515.0	651.0	51.700	248.200	.860	16.102	.742	.137	12.095	.751	.127	9.005	.554	.154
135	515.0	650.0	50.900	250.100	.840	16.027	.738	.122	12.046	.747	.110	9.056	.552	.162
136	515.0	651.0	50.900	249.500	.840	15.993	.737	.123	12.011	.744	.112	9.020	.552	.163
137	515.0	650.0	50.300	252.300	.830	15.892	.732	.119	11.915	.739	.109	8.975	.564	.143
138	515.0	651.0	50.200	252.800	.820	15.802	.733	.107	11.931	.741	.097	8.951	.567	.134
139	515.0	651.0	50.700	250.400	.800	15.923	.734	.093	11.939	.741	.097	8.952	.567	.134
140	515.0	651.0	50.800	252.300	.790	16.207	.747	.055	12.241	.740	.038	9.244	.567	.144
141	515.0	650.0	51.000	248.000	.780	16.020	.737	.055	12.045	.747	.042	9.054	.554	.191
142	515.0	650.0	51.600	249.000	.780	16.334	.752	.035	12.358	.747	.017	9.350	.571	.158
143	515.0	651.0	51.300	249.700	.770	16.257	.749	.027	12.284	.763	.009	9.282	.564	.154
144	515.0	650.0	51.500	244.000	.770	16.301	.750	.025	12.357	.767	.004	9.348	.572	.157
145	515.0	651.0	51.400	249.200	.760	16.311	.751	.011	12.342	.766	-.004	9.340	.571	.160

* A₁ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆}), A₂ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})^{1.1},
 A₃ = P_{CO}^{0.5} P_{H₂O}^{0.25} / (1 + 0.002 P_{H₂O} + 0.01 P_{C₆H₆})².