Supporting Information: Experimental Runs

Run	Gas Inlet T	Gas Outlet T	Solvent Inlet T	Solvent Outlet T	Intercooling (IC)	IC 1 Inlet T	IC 1 Outlet T	IC 1 flow
	°C	°C	°C	°C		°C	°C	$* 10^{-3} \text{ m}^3/\text{s}$
1	40.1	47.9	41.1	43.7	IO			
2	40.1	47.8	40.9	43.3	IO			
3	39.9	48.0	40.9	43.7	IO			
4	40.0	46.5	41.0	44.9	IO			
5	39.9	45.4	41.0	45.0	IO			
6	39.9	44.8	40.8	44.1	IO			
7	40.0	44.8	40.7	44.3	IO			
8	40.0	44.4	40.7	43.8	IO			
9	39.9	44.6	40.3	38.5	IO			
10	40.0	47.4	41.7	50.9	PA	42.7	40.1	1.17
11	40.0	43.1	41.4	49.7	PA	45.0	40.1	1.17
12	39.7	45.9	41.0	47.6	PA	44.8	40.0	1.39
13	39.9	46.1	41.3	44.4	PA	41.4	38.1	1.39
14	40.5	44.1	40.9	45.1	PA	43.7	40.0	1.39
15	39.9	43.3	40.7	45.3	PA	43.9	39.9	1.39
16	75.7	45.2	41.1	45.2	PA	43.5	40.1	1.13
17	75.8	41.5	41.1	46.6	PA	45.1	40.0	1.14
18	76.6	43.2	41.0	46.2	PA	44.7	40.0	1.14
19	73.9	43.2	40.9	48.3	PA	47.1	40.0	0.55
20	83.0	40.2	40.5	49.5	PA	48.1	40.0	1.38
21	82.7	41.4	40.5	48.8	PA	47.6	40.1	1.39
22	82.6	41.9	40.6	47.6	PA	46.3	40.0	1.39
23	80.0	44.0	40.7	46.3	PA	45.7	40.0	1.39
24	80.4	42.4	40.7	46.2	PA	45.6	40.0	1.38
25	79.6	42.4	40.7	46.4	PA	45.8	39.9	1.39
26	77.9	42.5	40.6	46.6	PA	45.8	40.0	1.38
27	76.8	41.6	40.8	46.1	PA	45.4	40.0	1.39
28	75.8	41.4	40.7	45.2	PA	44.7	40.0	1.39
29	78.8	52.8	53.5	47.1	PA	45.6	42.6	1.10
30	77.8	42.5	40.7	47.0	PA	45.2	34.9	1.09
31	79.1	44.0	40.8	46.2	PA	44.1	35.0	1.07
32	78.2	43.5	40.8	46.3	PA	44.3	34.9	1.13
33	78.9	43.9	40.7	46.3	PA	44.2	35.0	1.13
34	78.5	43.5	40.8	46.7	PA	44.6	34.9	1.13
35	76.0	43.0	41.0	43.8	PA	42.3	35.0	1.14
36	79.1	43.7	41.0	45.1	PA	43.1	34.9	1.14
37	77.4	43.4	40.8	45.4	PA	43.4	35.1	1.14

38	77.9	43.6	40.8	46.1	PA	44.0	34.9	1.15
39	76.9	43.3	41.0	45.8	PA	44.1	34.9	1.14
40	74.9	43.2	40.9	43.7	PA	41.7	35.1	1.17
41	76.0	43.5	40.9	44.1	PA	42.1	35.0	1.18
42	76.5	43.8	40.9	44.8	PA	42.9	34.9	1.18
43	77.6	43.8	40.8	46.0	PA	44.1	35.0	1.16
44	77.9	45.4	40.7	46.0	PA	43.8	35.0	1.18
45	78.4	44.1	40.7	46.6	PA	44.3	35.1	1.16
46	78.2	50.4	40.7	46.6	PA	44.4	35.1	1.17
47	78.3	46.1	40.7	46.5	PA	44.3	35.1	1.17
48	77.2	43.9	40.9	45.9	PA	43.8	35.0	1.19
49	77.5	44.2	40.8	45.4	PA	43.4	35.0	1.18
50	77.4	43.9	40.7	46.3	PA	44.1	35.1	1.13
51	77.7	45.7	40.7	46.6	PA	44.5	35.0	1.11
52	78.3	43.8	40.8	46.8	PA	44.8	35.0	1.11
53	77.7	44.0	40.7	46.2	PA	44.3	35.1	1.12
54	78.8	45.4	40.8	46.7	PA	44.6	35.0	1.15
55	78.4	43.3	40.8	46.3	PA	44.2	34.9	1.15
56	78.3	44.0	40.8	46.1	PA	44.0	35.0	1.16
57	77.5	43.8	40.8	45.1	PA	43.2	35.0	1.13
58	76.4	43.8	40.7	45.1	PA	43.9	34.9	1.00
59	76.9	44.3	40.6	45.7	PA	44.3	34.9	1.08
60	76.3	44.2	40.7	45.7	PA	44.2	35.0	1.07
61	76.7	44.8	40.7	45.9	PA	44.2	34.9	1.11
62	77.1	44.5	40.7	45.8	PA	44.0	34.9	1.13
63	77.2	44.7	40.7	45.8	PA	44.0	35.0	1.13
64	77.7	51.3	40.7	46.4	PA	44.6	35.1	1.13
65	77.5	45.0	40.7	45.8	PA	44.0	35.1	1.14
66	77.4	45.1	40.8	45.8	PA	44.0	34.9	1.13
67	77.8	45.0	40.7	46.6	PA	44.8	35.1	1.13
68	77.9	45.3	40.5	46.5	PA	44.7	34.9	1.13
69	77.3	45.9	40.7	46.4	PA	44.5	34.9	1.13
70	77.7	45.4	40.5	46.5	PA	44.6	35.0	1.13
71	77.6	46.1	40.6	46.0	PA	44.1	35.0	1.14
72	77.4	44.9	40.6	45.9	PA	44.1	35.0	1.13
73	78.1	44.9	40.6	45.8	PA	44.2	35.0	1.13
74	78.0	45.5	40.5	45.9	PA	44.0	35.0	1.13
75	77.8	45.5	40.6	45.5	PA	43.4	35.1	1.13
76	77.8	45.6	40.6	45.6	PA	43.7	35.0	1.13
77	78.0	45.6	40.7	45.9	PA	43.9	35.0	1.14
78	77.1	45.3	40.5	45.0	PA	43.2	35.0	1.13
79	77.9	45.6	40.6	45.6	PA	43.4	34.9	1.13
80	78.1	45.2	41.0	48.7	PA	47.6	35.1	1.14

Runs	IC 2 Inlet T	IC 2 Outlet T	IC 2 Flow	Solvent Inlet	Solvent Outlet	Gas Inlet	Gas Outlet	CO$_2$ Inlet	CO$_2$ Outlet
	°C	°C	* 10^{-3} m^3/s	kg/s	kg/s	kg/s	kg/s	dry mol%	dry mol%
1	42.3	38.7	0.64	0.80	0.82	0.82	0.78	4.31	0.61
2	43.1	40.0	0.89	1.05	1.06	1.01	0.96	4.32	0.53
3	43.3	39.9	0.91	1.01	1.06	1.01	0.97	4.30	0.53
4	44.1	40.0	0.75	0.86	0.88	0.63	0.60	4.28	0.65
5	45.9	39.9	0.77	0.91	0.94	0.63	0.60	4.28	0.38
6	46.9	39.9	1.45	1.60	1.64	1.01	0.96	4.31	0.40
7	47.1	40.1	1.45	1.60	1.64	1.01	0.96	4.34	0.31
8	46.9	40.0	1.45	1.61	1.64	1.01	0.97	4.30	0.38
9	46.4	39.8	1.09	1.62	1.64	1.01	0.96	4.31	0.43
10	42.8	39.9	1.17	0.61	0.63	0.63	0.61	4.31	0.27
11	44.9	40.1	1.16	0.93	0.95	0.63	0.60	4.31	0.18
12				1.28	1.31	1.01	0.95	4.33	0.25
13	41.4	39.3	1.39	1.05	1.07	1.01	0.97	4.30	0.65
14	43.6	40.0	1.39	1.38	1.41	1.01	0.96	4.00	0.60
15	43.8	39.9	1.39	1.37	1.41	1.01	0.97	3.99	0.36
16	43.5	40.0	1.13	0.84	0.84	0.63	0.61	4.31	0.47
17	45.0	40.0	1.14	1.07	1.07	0.63	0.60	4.30	0.19
18	44.6	40.1	1.13	0.97	0.97	0.63	0.60	4.30	0.24
19	46.9	39.9	0.58	1.04	1.05	0.63	0.60	4.29	0.24
20	48.0	40.1	1.38	1.77	1.81	1.01	0.96	4.31	0.20
21	47.5	40.0	1.39	1.58	1.64	1.01	0.97	4.31	0.25
22	46.2	40.0	1.38	1.61	1.64	1.01	0.97	4.34	0.28
23	45.6	39.9	1.39	1.49	1.51	1.01	0.99	4.29	0.24
24	45.6	40.1	1.39	1.49	1.51	1.01	0.99	4.31	0.23
25	45.7	40.1	1.39	1.48	1.51	1.01	0.99	4.31	0.22
26	45.8	40.0	1.39	1.48	1.51	1.01	0.98	4.30	0.23
27	45.4	39.9	1.39	1.48	1.51	1.01	0.98	4.33	0.21
28	44.7	40.0	1.39	1.48	1.51	1.01	0.99	4.30	0.21
29	45.5	43.5	1.13	1.49	1.52	1.01	1.05	4.32	0.88
30	45.0	34.9	1.13	1.34	1.39	1.01	0.98	4.32	0.29
31	44.1	35.0	1.14	1.23	1.26	1.01	1.00	4.31	0.45
32	44.2	35.1	1.13	1.25	1.26	1.01	0.98	4.27	0.42
33	44.1	34.9	1.13	1.24	1.26	1.01	0.98	4.31	0.44
34	44.4	34.9	1.13	1.24	1.26	1.01	0.98	4.31	0.44
35	42.2	35.1	1.13	1.24	1.26	1.01	0.99	4.31	0.45
36	43.1	35.0	1.14	1.25	1.26	1.01	0.98	4.30	0.45
37	43.3	35.0	1.13	1.25	1.26	1.01	0.97	4.31	0.46
38	43.9	34.9	1.13	1.25	1.26	1.01	0.97	4.31	0.45
39	43.9	34.9	1.14	1.20	1.26	1.01	0.97	4.26	0.42

40	41.8	35.1	1.13	1.24	1.26	1.01	0.99	4.33	0.46
41	42.1	34.9	1.13	1.25	1.26	1.01	0.98	4.30	0.45
42	42.8	35.0	1.13	1.25	1.26	1.01	0.98	4.34	0.44
43	44.0	34.9	1.12	1.22	1.26	1.01	0.97	4.35	0.45
44	43.9	34.9	1.13	1.22	1.26	1.01	0.97	4.32	0.49
45	44.1	35.0	1.13	1.22	1.26	1.01	0.97	4.30	0.51
46	44.3	35.0	1.13	1.22	1.26	1.01	0.97	4.31	0.43
47	44.2	34.9	1.13	1.22	1.26	1.01	0.97	4.33	0.48
48	43.6	35.1	1.14	1.21	1.26	1.01	0.99	4.31	0.50
49	43.2	35.0	1.13	1.23	1.26	1.01	0.97	4.30	0.49
50	44.1	35.0	1.13	1.23	1.26	1.01	0.97	4.29	0.44
51	44.3	35.0	1.13	1.23	1.26	1.01	0.97	4.32	0.45
52	44.5	35.0	1.13	1.23	1.26	1.01	0.96	4.32	0.45
53	44.1	35.0	1.13	1.22	1.26	1.01	0.97	4.33	0.46
54	44.5	35.1	1.14	1.22	1.26	1.01	0.97	4.31	0.48
55	44.0	34.9	1.13	1.21	1.26	1.01	0.98	4.31	0.48
56	43.9	35.0	1.13	1.22	1.26	1.01	0.98	4.32	0.49
57	43.1	35.0	1.13	1.24	1.26	1.01	0.99	4.32	0.47
58	43.6	35.0	1.14	1.23	1.26	1.01	0.99	4.31	0.46
59	44.1	35.1	1.13	1.22	1.26	1.01	0.98	4.33	0.42
60	43.8	35.0	1.13	1.21	1.26	1.01	0.98	4.34	0.44
61	44.1	35.1	1.13	1.21	1.26	1.01	0.97	4.33	0.42
62	43.8	35.1	1.13	1.22	1.26	1.01	0.97	4.33	0.41
63	43.9	35.0	1.13	1.23	1.26	1.01	0.97	4.32	0.42
64	44.4	35.0	1.13	1.22	1.26	1.01	0.97	4.31	0.43
65	43.8	35.0	1.13	1.23	1.26	1.01	0.97	4.30	0.44
66	43.7	35.0	1.13	1.23	1.26	1.01	0.97	4.31	0.43
67	44.6	35.2	1.13	1.22	1.26	1.01	0.97	4.30	0.42
68	44.4	34.8	1.14	1.22	1.26	1.01	0.97	4.32	0.46
69	44.2	34.9	1.13	1.22	1.26	1.01	0.97	4.33	0.45
70	44.4	35.0	1.13	1.22	1.26	1.01	0.96	4.34	0.46
71	43.8	34.9	1.13	1.22	1.26	1.01	0.97	4.32	0.49
72	43.7	35.0	1.13	1.23	1.26	1.01	0.97	4.30	0.47
73	43.8	35.0	1.13	1.22	1.26	1.01	0.99	4.33	0.46
74	43.9	35.0	1.13	1.22	1.26	1.01	0.98	4.31	0.47
75	43.3	35.0	1.14	1.23	1.26	1.01	0.99	4.32	0.48
76	43.4	35.0	1.14	1.23	1.26	1.01	0.99	4.33	0.47
77	43.8	35.1	1.13	1.23	1.26	1.01	0.98	4.31	0.48
78	43.0	34.9	1.14	1.24	1.26	1.01	0.98	4.32	0.48
79	43.2	35.0	1.13	1.23	1.26	1.01	0.98	4.32	0.48
80	47.4	35.2	1.13	1.21	1.26	1.01	0.95	4.19	0.39

Runs	CO$_2$ Production	PZ Molality	Lean Loading	Rich Loading	Removal
	kg/s	m	m/equiv	m/equiv	%
1	0.042	4.2	0.197	0.407	86.0
2	0.051	4.1	0.195	0.402	87.8
3	0.051	4.0	0.186	0.402	87.6
4	0.032	4.2	0.233	0.399	84.8
5	0.034	4.3	0.241	0.396	91.1
6	0.055	4.2	0.241	0.384	90.7
7	0.057	4.4	0.234	0.384	92.7
8	0.056	4.4	0.239	0.384	91.3
9	0.055	4.2	0.242	0.386	89.9
10	0.036	5.4	0.198	0.409	93.8
11	0.040	5.6	0.228	0.388	95.8
12	0.052	4.9	0.215	0.379	94.2
13	0.047	4.6	0.215	0.405	85.0
14	0.050	4.9	0.254	0.393	84.9
15	0.048	4.8	0.250	0.385	91.1
16	0.029	4.8	0.251	0.399	89.2
17	0.036	4.9	0.248	0.378	95.5
18	0.035	4.9	0.246	0.388	94.3
19	0.036	5.0	0.246	0.375	94.3
20	0.058	5.0	0.249	0.364	95.3
21	0.054	5.1	0.246	0.372	94.3
22	0.055	5.0	0.248	0.376	93.5
23	0.056	4.9	0.239	0.381	94.3
24	0.054	5.0	0.238	0.379	94.8
25	0.054	5.0	0.238	0.381	94.8
26	0.055	5.1	0.233	0.381	94.7
27	0.053	5.0	0.239	0.374	95.1
28	0.050	4.9	0.246	0.377	95.0
29	0.049	3.5	0.231	0.383	79.7
30	0.056	5.4	0.250	0.391	93.2
31	0.056	5.4	0.237	0.401	89.6
32	0.055	5.3	0.245	0.400	90.1
33	0.054	5.2	0.242	0.400	89.8
34	0.056	5.2	0.240	0.401	89.7
35	0.051	5.0	0.251	0.403	89.5
36	0.052	5.1	0.243	0.402	89.5
37	0.054	5.1	0.247	0.402	89.2
38	0.055	5.2	0.241	0.402	89.6
39	0.054	5.2	0.248	0.401	90.1
40	0.052	5.0	0.251	0.404	89.5

41	0.052	5.0	0.244	0.403	89.6
42	0.053	5.1	0.244	0.402	89.7
43	0.054	5.1	0.249	0.401	89.6
44	0.053	5.0	0.242	0.403	88.6
45	0.055	5.1	0.243	0.402	88.1
46	0.054	5.1	0.244	0.399	90.0
47	0.054	5.0	0.240	0.402	88.9
48	0.054	5.0	0.243	0.404	88.5
49	0.054	4.9	0.246	0.404	88.5
50	0.054	5.1	0.244	0.401	89.7
51	0.054	5.1	0.242	0.401	89.6
52	0.055	5.1	0.242	0.400	89.6
53	0.054	5.1	0.239	0.401	89.3
54	0.055	5.0	0.241	0.403	88.8
55	0.057	5.0	0.242	0.403	88.8
56	0.056	5.0	0.248	0.403	88.5
57	0.055	4.9	0.245	0.401	89.2
58	0.055	5.2	0.237	0.402	89.4
59	0.056	5.1	0.235	0.401	90.3
60	0.057	5.1	0.235	0.406	89.8
61	0.058	5.0	0.236	0.406	90.3
62	0.059	5.0	0.235	0.406	90.5
63	0.059	5.0	0.232	0.407	90.3
64	0.059	5.0	0.230	0.408	90.0
65	0.059	4.9	0.235	0.409	89.8
66	0.058	4.9	0.231	0.408	90.0
67	0.058	4.8	0.245	0.407	90.2
68	0.059	4.8	0.232	0.408	89.4
69	0.059	4.8	0.232	0.409	89.6
70	0.059	4.8	0.232	0.408	89.4
71	0.059	4.8	0.232	0.410	88.5
72	0.058	4.7	0.234	0.409	89.2
73	0.060	4.7	0.235	0.408	89.3
74	0.058	4.7	0.231	0.409	89.2
75	0.058	4.7	0.232	0.409	88.9
76	0.057	4.7	0.234	0.407	89.1
77	0.057	4.7	0.234	0.409	88.8
78	0.057	4.6	0.242	0.409	88.9
79	0.057	4.7	0.232	0.409	88.8
80	0.055	4.6	0.237	0.403	90.6