

measurements										calculations						
setting pump water (ml/min)	setting pump anhydride (ml/min)	sample time (min)	temperature in spin-pro ¹ (°C)	temperature outlet (°C)	weight tube empty (g)	weight empty + aniline (g)	weight + sample (g)	ml 1M NaOH for titration		sample (g)	flow (g/min)	conc acetic acid end (M)	average anhydride start (M)	acetic acid from reaction (M)	anhydride end (M)	conversion
Blanks																
1	7.6	0.4	1	90	13.2	13.2	24.9	7.82		11.7	11.7	0.67				
2	7.6	0.4	1	90	13.2	13.2	24.4	7.32		11.2	11.2	0.65				
3	7.6	0.4	1	75	13.2	13.2	25.0	8.54		11.8	11.8	0.72	0.34 ±			
4	7.6	0.4	1	60	13.2	13.2	25.1	4.82 ²		6.6 ²	11.9	0.73	0.03			
5	7.6	0.4	1	45	13.2	13.2	25.2	6.9		12	12.0	0.58				
6	7.6	0.4	1	30	13.0	13.0	24.7	8.86		11.7	11.7	0.76				
Samples																
7	7.6	0.4	0.5	88.8-90.9	75.3	13.0	34.5	40.0	3.3	5.5	11.0	0.60	0.34	0.26	0.08	75%
8	7.6	0.4	0.5	88.8-90.9		13.1	33.3	39.7	4.11	6.4	12.8	0.64	0.34	0.30	0.04	88%
9	7.6	0.4	0.5	88.8-90.9	75.4	13.0	33.6	39.5	3.73	5.9	11.8	0.63	0.34	0.29	0.05	85%
10	7.6	0.4	0.5	75.9-74.3	64.4	13.0	33.3	39.7	3.66	6.4	12.8	0.57	0.34	0.23	0.11	67%
11	7.6	0.4	0.5	75.5-73.9	64.4	13.0	35.1	41.2	3.85	6.1	12.2	0.63	0.34	0.29	0.05	84%
12	7.6	0.4	0.5	75.5-73.9	64.4	13.1	35.6	41.7	3.85	6.1	12.2	0.63	0.34	0.29	0.05	84%
13	7.6	0.4	0.5	60.7-59.7	53.3	13.0	32.7	38.7	3.09	6	12.0	0.52	0.34	0.17	0.17	50%
14	7.6	0.4	0.5	60.7-59.6	53.2	13.0	32.4	41.5	5.24	9.1	18.2	0.58	0.34	0.23	0.11	68%
15	7.6	0.4	0.5	60.7-59.5	53.1	13.1	31.2	37.7	3.41	6.5	13.0	0.52	0.34	0.18	0.16	53%
16	7.6	0.4	0.5	45.4-44.9	41.2	13.0	33.2	39.3	2.76	6.1	12.2	0.45	0.34	0.11	0.23	32%
17	7.6	0.4	0.5	45.4-44.9		13.0	33.4	39.2	2.77	5.8	11.6	0.48	0.34	0.14	0.21	40%
18	7.6	0.4	0.5	45.4-44.9	41.0	13.0	35.4	40.6	2.6	5.2	10.4	0.50	0.34	0.16	0.18	46%
19	7.6	0.4	0.5	30.1-30.1	29.7	13.1	42.5	48.2	2.61	5.7	11.4	0.46	0.34	0.12	0.23	34%
20	7.6	0.4	0.5	30.1-30.1	29.6	13.0	42.5	48.1	2.56	5.6	11.2	0.46	0.34	0.11	0.23	34%
21	7.6	0.4	0.5	30.1-30.1	29.4	13.0	42.6	49.6	2.83	7	14.0	0.40	0.34	0.06	0.28	18%

¹ Temperature sensors present at two locations in reactor

² Only part of this sample was used for titration