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APPENDICES

Date:	11/08/96			
Subject:	Removal of (CH3)3N from N2			
Gas flow rate:	N2		183.98	cc/min
	(CH3)3N		125.59	cc/min
	Total		309.57	cc/min
Temperature:	15	C		
Inlet concentration (Cin):	43	ppm		

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	232544	39.07	0
0	-	-	243362	40.94	0
0	-	-	241021	40.53	0
0.5	11.5	5.75	206191	34.52	0.20
0.5	11.5	5.75	200265	33.50	0.22
0.5	11.5	5.75	205113	34.34	0.20
1.0	12.8	12.80	160994	26.73	0.38
1.0	12.8	12.80	171986	28.62	0.33
1.0	12.8	12.80	178554	29.75	0.31
1.5	14.0	21.00	158794	26.35	0.39
1.5	14.0	21.00	158182	26.24	0.39
1.5	14.0	21.00	155281	25.74	0.40

Date:	11/27/96		
Subject:	Removal of (CH3)3N from N2-O2 mixed gas		
Gas flow rate:	N2	207.04	cc/min
	O2	73.40	cc/min
	(CH3)3N	86.56	cc/min
	Total	367.00	cc/min
Temperature:	16	C	
Inlet concentration (Cin):	25	ppm	

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	92032	22.05	0
0	-	-	93690	22.44	0
0	-	-	86515	20.78	0
0.05	8.3	0.42	7736	2.61	0.91
0.05	8.3	0.42	6346	2.29	0.93
0.05	8.3	0.42	4150	1.78	0.95
0.10	8.5	0.85	2149	1.32	0.94
0.10	8.5	0.85	3467	1.62	0.95
0.10	8.5	0.85	1938	1.27	1.00
0.15	14.0	2.10	0	0	1.00
0.15	14.0	2.10	0	0	1.00
0.15	14.0	2.10	0	0	1.00

Date:	04/23/1998			
Subject:	Influence H2O on removal of (CH3)3N from N2			
Gas flow rate:	N2	335.80	cc/min	
	(CH3)3N	65.20	cc/min	
	Total	401.00	cc/min	
Temperature:	31	C		
Conc. of H2O:	0	ppm		
Conc. of (CH3)3N:	80	ppm		

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	2870	83.42	0
0	-	-	2812	81.85	0
0	-	-	2756	80.34	0
0.5	4.7	2.35	1876	56.58	0.29
0.5	4.7	2.35	1881	56.71	0.29
0.5	4.7	2.35	1994	59.76	0.25
1.0	5.2	5.20	1545	47.64	0.41
1.0	5.2	5.20	1505	46.56	0.42
1.0	5.2	5.20	1429	44.51	0.44
1.5	5.5	8.25	943	31.39	0.61
1.5	5.5	8.25	1012	33.25	0.59
1.5	5.5	8.25	901	30.25	0.62

Date:	04/24/98		
Subject:	Influence H2O on removal of (CH3)3N from N2		
Gas flow rate:	N2+H2O	5.22	cc/min
	(CH3)3N	66.42	cc/min
	N2	330.88	cc/min
	Total	402.52	cc/min
Temperature:	31	C	
Conc. of H2O:	17	ppm	
Conc. of (CH3)3N:	82	ppm	

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	2900	84.23	0
0	-	-	2891	83.98	0
0	-	-	2923	84.85	0
0.5	4.7	2.35	1711	52.12	0.37
0.5	4.7	2.35	1612	49.45	0.40
0.5	4.7	2.35	1648	50.42	0.39
1.0	5.2	5.20	1077	35.00	0.57
1.0	5.2	5.20	1102	35.68	0.57
1.0	5.2	5.20	1009	33.17	0.60
1.5	5.4	8.10	659	23.72	0.71
1.5	5.4	8.10	725	25.50	0.69
1.5	5.4	8.10	709	25.07	0.69

Date:	04/25/98			
Subject:	Influence H2O on removal of (CH3)3N from N2			
Gas flow rate:	N2+H2O	26.07	cc/min	
	(CH3)3N	65.99	cc/min	
	N2	309.29	cc/min	
	Total	401.35	cc/min	
Temperature:	31	C		
Conc. of H2O:	157	ppm		
Conc. of (CH3)3N:	82	ppm		

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	2842	82.66	0
0	-	-	2833	82.42	0
0	-	-	2800	81.53	0
0.5	4.7	2.35	1666	50.91	0.38
0.5	4.7	2.35	1709	52.07	0.36
0.5	4.7	2.35	1657	50.66	0.38
1.0	5.2	5.20	1107	35.81	0.56
1.0	5.2	5.20	1209	38.57	0.53
1.0	5.2	5.20	1124	36.27	0.56
1.5	5.4	8.10	796	27.42	0.67
1.5	5.4	8.10	816	27.96	0.66
1.5	5.4	8.10	802	27.58	0.66

Date:	03/05/97			
Subject:	Influence of SO2 on removal of (CH3)3N from N2-O2			
Gas flow rate:	N2	212.0	cc/min	
	O2	72.0	cc/min	
	SO2	8.2	cc/min	
	(CH3)3N	135.6	cc/min	
	Total	427.8	cc/min	
Temperature:	17	C		
Conc. of (CH3)3N :	34	ppm		
Conc. of SO2 :	192	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	Cout	Eff	Height SO2	C_{SO2}
0	-	-	59216	56007	13.55	0	4.00	177.41
0	-	-	54696	56332	13.50	0	4.00	177.41
0	-	-	57657	53327	13.05	0	4 00	177.41
0.01	7.9	0.08	0	0	0	1.0	1.72	82.84
0.01	7.9	0.08	0	0	0	1.0	1.72	82.84
0.01	7.9	0.08	0	0	0	1.0	1.72	82.84
0.02	8.0	0.16	0	0	0	1.0	1.64	79.52
0.02	8.0	0.16	0	0	0	1.0	1.64	79.52
0.02	8.0	0.16	0	0	0	1.0	1.64	79.52
0.03	8.1	0.24	0	0	0	1.0	1.64	79.52
0.03	8.1	0.24	0	0	0	1.0	1.60	77.86
0.03	8.1	0.24	0	0	0	1.0	1.64	79.52

Date:	3/16/97		
Subject:	Influence of SO2 on removal of (CH3)3N from N2-O2		
Gas flow rate:	N2	202.08	cc/min
	O2	72.73	cc/min
	SO2	16.10	cc/min
	(CH3)3N	136.15	cc/min
	Total	427.06	cc/min
Temperature:	16	C	
Conc. of (CH3)3N :	34	ppm	
Conc. of SO2 :	377	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	Cout	Eff	Height SO2	C_{SO2}
0	-	-	27463	25115	6.62	0	9.0	384.81
0	-	-	27046	22078	5.92	0	9.0	384.81
0	-	-	26263	24558	6.49	0	9.0	384.81
0.01	8.2	0.08	24315	0	0	1.0	8.8	376.52
0.01	8.2	0.08	21345	0	0	1.0	8.7	372.37
0.01	8.2	0.08	23348	0	0	1.0	8.7	372.37
0.02	8.2	0.16	20413	0	0	1.0	8.6	368.22
0.02	8.2	0.16	17952	0	0	1.0	8.6	368.22
0.02	8.2	0.16	24501	0	0	1.0	8.4	359.92
0.03	8.2	0.25	23652	0	0	1.0	7.6	326.74
0.03	8.2	0.25	21363	0	0	1.0	7.6	326.74
0.03	8.2	0.25	28145	0	0	1.0	7.6	326.74

Date:	3/18/97			
Subject:	Influence of SO2 on removal of (CH3)3N from N2-O2			
Gas flow rate:	N2	189.49	cc/min	
	O2	73.35	cc/min	
	SO2	27.84	cc/min	
	(CH3)3N	136.83	cc/min	
	Total	427.51	cc/min	
Temperature:	15	C		
Conc. of (CH3)3N :	35	ppm		
Conc. of SO2 :	651	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	Cout	Eff	Height SO2	C_{SO2}
0	-	-	14462	14433	4.70	0	15.3	646.14
0	-	-	12099	16464	4.40	0	15.2	641.99
0	-	-	14058	15275	4.50	0	15.2	641.99
0.01	8.2	0.08	13411	0	0	1.0	13.8	583.92
0.01	8.2	0.08	16053	0	0	1.0	13.8	583.92
0.01	8.2	0.08	13135	0	0	1.0	13.8	583.92
0.02	8.4	0.17	17036	0	0	1.0	13.6	575.62
0.02	8.4	0.17	18655	0	0	1.0	13.6	575.62
0.02	8.4	0.17	16115	0	0	1.0	13.6	575.62
0.03	8.6	0.26	14240	0	0	1.0	13.3	563.18
0.03	8.6	0.26	16288	0	0	1.0	13.3	563.18
0.03	8.6	0.26	17265	0	0	1.0	13.3	563.18

Date:	04/10/97			
Subject:	Influence of SO2 on removal of (CH3)3N from N2			
Gas flow rate:	N2		290.32	cc/min
	SO2		4.78	cc/min
	(CH3)3N		135.17	cc/min
	Total		430.27	cc/min
Temperature:	17	C		
Conc. of (CH3)3N :	34	ppm		
Conc. of SO2 :	111	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	Cout	Eff	Height SO2	C_{SO2}
0	-	-	53321	52630	12.96	0	2.5	119.17
0	-	-	50657	50115	12.38	0	2.5	119.17
0	-	-	54977	52716	12.98	0	2.5	119.17
0.5	4.5	2.25	52032	33981	8.66	0.74	2.5	119.17
0.5	4.5	2.25	51409	34861	8.87	0.74	2.5	119.17
0.5	4.5	2.25	50243	34487	8.78	0.74	2.5	119.17
1.0	4.3	4.30	55074	31660	8.13	0.76	2.5	119.17
1.0	4.3	4.30	55270	31988	8.20	0.76	2.5	119.17
1.0	4.3	4.30	55148	32202	8.25	0.76	2.5	119.17
1.5	4.3	6.45	51974	26191	6.87	0.80	2.5	119.17
1.5	4.3	6.45	54090	26767	7.00	0.79	2.5	119.17
1.5	4.3	6.45	56350	25132	6.62	0.80	2.5	119.17

Date:	4/14/97		
Subject:	Influence of SO2 on removal of (CH3)3N from N2		
Gas flow rate:	N2	282.83	cc/min
	SO2	8.40	cc/min
	(CH3)3N	135.15	cc/min
	Total	426.38	cc/min
Temperature:	17	C	
Conc. of (CH3)3N :	34	ppm	
Conc. of SO2 :	197	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	Cout	Eff	Height SO2	C_{SO2}
0	-	-	45673	46917	11.65	0	4.3	193.25
0	-	-	43973	46560	11.56	0	4.2	189.14
0	-	-	46447	46604	11.57	0	4.3	193.25
0.5	4.8	2.4	45304	25627	6.74	0.80	4.2	189.14
0.5	4.8	2.4	44006	25124	6.62	0.81	4.3	193.25
0.5	4.8	2.4	42784	25414	6.69	0.80	4.2	189.14
1.0	4.9	4.9	46435	19504	5.32	0.84	4.3	193.25
1.0	4.9	4.9	45301	19321	5.28	0.85	4.2	189.14
1.0	4.9	4.9	46738	18401	5.07	0.85	4.1	185.02
1.5	5.0	7.5	45271	10099	3.15	0.91	4.3	193.25
1.5	5.0	7.5	44386	11734	3.53	0.90	4.2	189.14
1.5	5.0	7.5	45137	10954	3.35	0.90	4.3	193.25

Date:	4/18/97		
Subject:	Influence of SO2 on removal of (CH3)3N from N2		
Gas flow rate:	N2	273.97	cc/min
	SO2	14.60	cc/min
	(CH3)3N	133.93	cc/min
	Total	422.50	cc/min
Temperature:	19	C	
Conc. of (CH3)3N :	34	ppm	
Conc. of SO2 :	346	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	Cout	Eff	Height SO2	C_{SO2}
0	-	-	neglig.	0	0	0	7.9	341.42
0	-	-	neglig.	0	0	0	8.0	345.54
0	-	-	neglig.	0	0	0	7.9	341.42
0.5	4.8	2.4	neglig.	0	0	1.0	7.9	341.42
0.5	4.8	2.4	neglig.	0	0	1.0	7.8	337.30
0.5	4.8	2.4	neglig.	0	0	1.0	7.8	337.30
1.0	4.9	4.9	neglig.	0	0	1.0	7.8	337.30
1.0	4.9	4.9	neglig.	0	0	1.0	7.8	337.30
1.0	4.9	4.9	neglig.	0	0	1.0	7.7	333.19
1.5	5.0	7.5	neglig.	0	0	1.0	7.7	333.19
1.5	5.0	7.5	neglig.	0	0	1.0	7.9	341.42
1.5	5.0	7.5	neglig.	0	0	1.0	7.9	341.42

Date:	11/12/97			
Subject:	Removal of CH3CHO from N2			
Gas flow rate:	N2		410.7	cc/min
	CH3CHO		17.40	cc/min
	Total		428.10	cc/min
Temperature:	25	C		
Inlet concentration (Cin):	20	ppm		

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	788	20.71	0
0	-	-	785	20.63	0
0	-	-	790	20.76	0
0.5	8.4	4.20	620	16.37	0.18
0.5	8.4	4.20	628	16.58	0.17
0.5	8.4	4.20	607	16.04	0.20
1.0	9.7	9.70	491	13.04	0.35
1.0	9.7	9.70	497	13.20	0.34
1.0	9.7	9.70	485	12.89	0.36
1.5	10.6	15.90	291	7.88	0.61
1.5	10.6	15.90	274	7.44	0.63
1.5	10.6	15.90	269	7.32	0.63

Date:	12/18/97		
Subject:	Influence O2 on removal of CH3CHO from N2		
Gas flow rate:	N2	390.10	cc/min
	O2 [5%]	20.53	cc/min
	CH3CHO	17.40	cc/min
	Total	428.03	cc/min
Temperature:	25	C	
Conc. of CH3CHO:	20	ppm	

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	798	20.96	0
0	-	-	781	20.52	0
0	-	-	816	21.43	0
0.5	8.2	4.10	314	8.48	0.58
0.5	8.2	4.10	314	8.48	0.58
0.5	8.2	4.10	320	8.63	0.57
1.0	9.3	9.30	174	4.86	0.76
1.0	9.3	9.30	195	5.41	0.73
1.0	9.3	9.30	182	5.07	0.75
1.5	10.3	15.45	83	2.52	0.87
1.5	10.3	15.45	70	2.18	0.89
1.5	10.3	15.45	77	2.36	0.88

Date:	12/19/97		
Subject:	Influence O2 on removal of CH3CHO from N2		
Gas flow rate:	N2	328.60	cc/min
	O2 [20%]	82.13	cc/min
	CH3CHO	17.40	cc/min
	Total	428.13	cc/min
Temperature:	25	C	
Conc. of CH3CHO:	20	ppm	

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	798	20.96	0
0	-	-	781	20.52	0
0	-	-	816	21.43	0
0.5	8.2	4.10	214	5.90	0.71
0.5	8.2	4.10	226	6.21	0.69
0.5	8.2	4.10	229	6.28	0.69
1.0	9.3	9.30	110	3.21	0.84
1.0	9.3	9.30	126	3.63	0.82
1.0	9.3	9.30	116	3.37	0.83
1.5	10.3	15.45	30	1.15	0.94
1.5	10.3	15.45	22	0.94	0.95
1.5	10.3	15.45	41	1.43	0.93

Date:	01/12/98			
Subject:	Influence H2O on removal of CH3CHO from N2			
Gas flow rate:	N2+H2O	410.64	cc/min	
	CH3CHO	17.40	cc/min	
	Total	428.04	cc/min	
Temperature:	25	C		
Conc. of H2O:	109	ppm		
Conc. of CH3CHO:	20	ppm		

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	801	21.04	0
0	-	-	815	21.40	0
0	-	-	794	20.86	0
0.5	8.5	4.25	143	4.06	0.80
0.5	8.5	4.25	145	4.12	0.79
0.5	8.5	4.25	151	4.27	0.79
1.0	9.6	9.60	119	3.45	0.83
1.0	9.6	9.60	112	3.26	0.84
1.0	9.6	9.60	119	3.45	0.83
1.5	10.7	16.05	87	2.62	0.87
1.5	10.7	16.05	80	2.44	0.88
1.5	10.7	16.05	84	2.54	0.87

Date:	01/18/98			
Subject:	Influence H2O on removal of CH3CHO from N2			
Gas flow rate:	N2+H2O	410.64	cc/min	
	CH3CHO	17.40	cc/min	
	Total	428.04	cc/min	
Temperature:	25	C		
Conc. of H2O:	183	ppm		
Conc. of CH3CHO:	20	ppm		

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	801	21.04	0
0	-	-	815	21.40	0
0	-	-	794	20.86	0
0.5	8.5	4.25	248	6.77	0.66
0.5	8.5	4.25	243	6.64	0.67
0.5	8.5	4.25	250	6.83	0.66
1.0	9.6	9.60	190	5.28	0.74
1.0	9.6	9.60	182	5.07	0.75
1.0	9.6	9.60	191	5.30	0.74
1.5	10.7	16.05	42	1.46	0.93
1.5	10.7	16.05	48	1.61	0.92
1.5	10.7	16.05	48	1.61	0.92

Date:	12/15/1997	
Subject:	Influence of flow rate on removal of CH3CHO from N2	
Discharge current :	1.0	mA
Voltage :	9.4	kV
Temperature:	25	C
Inlet concentration (Cin):	20	ppm

Flow rate						
CH3CHO	**N2**	**Total**	**GCin**	**GCout**	**Cout**	**Eff**
17.4	410.7	428.1	788	481	12.78	0.36
17.4	410.7	428.1	785	485	12.89	0.36
17.4	410.7	428.1	790	470	12.50	0.37
20.8	492.8	513.6	788	565	14.95	0.25
20.8	492.8	513.6	785	574	15.18	0.24
20.8	492.8	513.6	790	549	14.54	0.27
24.3	575.7	600.0	788	669	17.64	0.12
24.3	575.7	600.0	785	680	17.92	0.10
24.3	575.7	600.0	790	651	17.17	0.14

Date:	09/09/97			
Subject:	Removal of NO2 from N2-O2 mixed gas			
Gas flow rate:	N2		48.71	cc/min
	O2 [20%]		81.30	cc/min
	NO2		270.27	cc/min
	Total		400.28	cc/min
Temperature:	28	C		
Conc. of NO2:	668	ppm		

I(mA)	V(kV)	P(W)	Height NO2	C_{NO2}	Eff
0	-	-	20.50	668.82	0
0	-	-	20.50	668.92	0
0	-	-	20.60	668.92	0
0.25	8.5	2.13	16.80	556.54	0.17
0.25	8.5	2.13	17.10	566.14	0.15
0.25	8.5	2.13	16.90	559.74	0.16
0.50	9.7	4.85	15.50	514.94	0.23
0.50	9.7	4.85	15.50	514.94	0.23
0.50	9.7	4.85	15.50	514.94	0.23
0.75	10.5	7.88	14.50	482.94	0.28
0.75	10.5	7.88	14.60	486.14	0.27
0.75	10.5	7.88	14.70	489.34	0.27
1.00	11.0	11.00	13.80	460.54	0.31
1.00	11.0	11.00	13.90	463.74	0.31
1.00	11.0	11.00	13.80	460.54	0.31
1.25	11.3	14.13	13.10	438.14	0.34
1.25	11.3	14.13	13.10	438.14	0.34
1.25	11.3	14.13	12.90	431.74	0.35
1.50	11.4	17.10	11.80	396.54	0.41
1.50	11.4	17.10	11.80	396.54	0.41
1.50	11.4	17.10	11.80	396.54	0.41

Date:	09/09/97		
Subject:	Removal of NO2 from N2-O2 mixed gas		
Gas flow rate:	N2	19.5	cc/min
	O2 [20%]	81.0	cc/min
	NO2	299.5	cc/min
	Total	400.0	cc/min
Temperature:	28	C	
Conc. of NO2:	747	ppm	

I(mA)	V(kV)	P(W)	Height NO2	C_{NO2}	Eff
0	-	-	23.75	778.94	0
0	-	-	23.75	778.94	0
0	-	-	23.50	770.94	0
0.25	8.5	2.13	20.00	658.94	0.12
0.25	8.5	2.13	20.00	658.94	0.12
0.25	8.5	2.13	19.75	650.94	0.13
0.50	9.1	4.55	17.50	578.94	0.23
0.50	9.1	4.55	17.50	578.94	0.23
0.50	9.1	4.55	17.75	586.94	0.21
0.75	10.3	7.73	15.50	514.94	0.31
0.75	10.3	7.73	15.75	522.94	0.30
0.75	10.3	7.73	15.50	514.94	0.31
1.00	11.1	11.10	13.10	438.14	0.41
1.00	11.1	11.10	13.10	438.14	0.41
1.00	11.1	11.10	13.00	434.94	0.42
1.25	11.5	14.38	12.00	402.94	0.46
1.25	11.5	14.38	12.00	402.94	0.46
1.25	11.5	14.38	12.20	409.34	0.45
1.50	11.9	17.85	10.70	361.34	0.52
1.50	11.9	17.85	10.70	361.34	0.52
1.50	11.9	17.85	10.60	358.14	0.52

Date:	04/17/97			
Subject:	Influence of NO2 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2	106.4	cc/min	
	O2 [20%]	80.2	cc/min	
	NO2	193.6	cc/min	
	CH3CHO	20.7	cc/min	
	Total	400.8	cc/min	
Temperature:	18	C		
Conc. of CH3CHO:	16	ppm		
Conc. of NO2:	482	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	58383	52693	14.23	0
0	-	-	58132	52238	14.07	0
0	-	-	58633	52466	14.15	0
0.25	9.8	2.45	58936	30251	6.38	0.59
0.25	9.8	2.45	58272	30315	6.40	0.59
0.25	9.8	2.45	58301	30131	6.34	0.60
0.50	11.3	5.65	58209	44698	11.43	0.27
0.50	11.3	5.65	58909	44701	11.44	0.27
0.50	11.3	5.65	58401	44061	11.21	0.29
0.75	12.4	9.30	58619	49214	13.01	0.17
0.75	12.4	9.30	57744	48113	12.63	0.20
0.75	12.4	9.30	59506	49028	12.95	0.17
1.00	13.3	13.30	56080	47492	12.41	0.21
1.00	13.3	13.30	59352	49020	12.95	0.18
1.00	13.3	13.30	58905	49385	13.07	0.17
1.25	14.1	17.63	56013	52544	14.18	0.10
1.25	14.1	17.63	55838	49422	13.09	0.17
1.25	14.1	17.63	56845	52190	14.05	0.10
1.50	14.3	21.45	59102	59427	16.59	-0.06
1.50	14.3	21.45	61199	60587	16.99	-0.08
1.50	14.3	21.45	58692	58083	16.12	-0.03

Date:	04/23/97		
Subject:	Influence of NO2 on removal of CH3CHO from N2-O2 mixed gas		
Gas flow rate:	N2	62.1	cc/min
	O2 [20%]	80.2	cc/min
	NO2	238.1	cc/min
	CH3CHO	20.7	cc/min
	Total	401.1	cc/min
Temperature:	17	C	
Conc. of CH3CHO:	16	ppm	
Conc. of NO2:	592	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	56166	54552	14.88	0
0	-	-	56476	55555	15.23	0
0	-	-	56391	55925	15.36	0
0.25	9.8	2.45	56119	53558	14.53	0.07
0.25	9.8	2.45	55345	53764	14.60	0.07
0.25	9.8	2.45	55135	53398	14.48	0.08
0.50	11.1	5.55	58980	53561	14.53	0.07
0.50	11.1	5.55	58890	53828	14.63	0.07
0.50	11.1	5.55	59092	52474	14.15	0.10
0.75	12.0	9.00	59141	51389	13.77	0.12
0.75	12.0	9.00	58979	51307	13.75	0.12
0.75	12.0	9.00	60001	51398	13.78	0.12
1.00	12.6	12.60	60141	55318	15.15	0.03
1.00	12.6	12.60	58008	56305	15.49	0.01
1.00	12.6	12.60	59840	55958	15.37	0.02
1.25	13.0	16.25	58530	56750	15.65	0.00
1.25	13.0	16.25	58686	56718	15.64	0.00
1.25	13.0	16.25	58889	56598	15.60	0.01
1.50	13.2	19.80	58431	60504	16.96	-0.08
1.50	13.2	19.80	58834	59484	16.61	-0.06
1.50	13.2	19.80	58868	60987	17.13	-0.09

Date:	04/24/97			
Subject:	Influence of NO2 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2	38.5	cc/min	
	O2 [20%]	80.2	cc/min	
	NO2	262.0	cc/min	
	CH3CHO	20.7	cc/min	
	Total	401.4	cc/min	
Temperature:	17	C		
Conc. of CH3CHO:	16	ppm		
Conc. of NO2:	651	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	58749	58006	16.09	0
0	-	-	58541	58186	16.15	0
0	-	-	57984	57465	15.90	0
0.25	9.7	2.43	59971	56166	15.45	0.01
0.25	9.7	2.43	57754	55965	15.37	0.02
0.25	9.7	2.43	58255	55373	15.17	0.03
0.50	10.6	5.30	58576	51917	13.96	0.11
0.50	10.6	5.30	58742	52130	14.03	0.10
0.50	10.6	5.30	59075	52237	14.07	0.10
0.75	11.2	8.40	58798	52947	14.32	0.09
0.75	11.2	8.40	58524	53263	14.43	0.08
0.75	11.2	8.40	58453	52990	14.33	0.09
1.00	12.0	12.00	58432	49824	13.23	0.16
1.00	12.0	12.00	58107	49444	13.09	0.16
1.00	12.0	12.00	58267	50458	13.45	0.14
1.25	12.5	15.63	58807	50470	13.45	0.14
1.25	12.5	15.63	58437	50574	13.49	0.14
1.25	12.5	15.63	58672	50379	13.42	0.14
1.50	13.0	19.50	58132	57880	16.04	-0.02
1.50	13.0	19.50	58234	57512	15.92	-0.02
1.50	13.0	19.50	58453	57630	15.96	-0.02

Date:	04/16/97			
Subject:	Influence of NO2 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2	20.0	cc/min	
	O2 [20%]	80.2	cc/min	
	NO2	280.0	cc/min	
	CH3CHO	20.8	cc/min	
	Total	401.0	cc/min	
Temperature:	17	C		
Conc. of CH3CHO:	16	ppm		
Conc. of NO2:	697	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	63786	59386	16.57	0
0	-	-	62862	60817	17.07	0
0	-	-	62845	61853	17.43	0
0.25	9.8	2.45	62501	57920	16.06	0.06
0.25	9.8	2.45	65159	58713	16.34	0.04
0.25	9.8	2.45	65339	59025	16.44	0.03
0.50	10.9	5.45	63970	56111	15.43	0.09
0.50	10.9	5.45	63940	56524	15.57	0.09
0.50	10.9	5.45	63165	54581	14.89	0.13
0.75	11.8	8.85	62264	52613	14.20	0.17
0.75	11.8	8.85	62431	52188	14.05	0.17
0.75	11.8	8.85	65220	53555	14.53	0.15
1.00	12.3	12.30	62134	50428	13.44	0.21
1.00	12.3	12.30	62619	50622	13.51	0.21
1.00	12.3	12.30	62234	49299	13.04	0.23
1.25	12.8	16.00	60030	44965	11.53	0.32
1.25	12.8	16.00	62453	45008	11.54	0.32
1.25	12.8	16.00	60893	43920	11.16	0.34
1.50	13.0	19.50	68065	48683	12.83	0.25
1.50	13.0	19.50	62196	45090	11.57	0.32
1.50	13.0	19.50	63617	46444	12.04	0.29

Date:	05/07/97		
Subject:	Influence of NO2 on removal of CH3CHO from N2-O2 mixed gas		
Gas flow rate:	N2	31.5	cc/min
	O2 [20%]	80.0	cc/min
	NO2	267.8	cc/min
	CH3CHO	20.7	cc/min
	Total	400.0	cc/min
Temperature:	26	C	
Conc. of CH3CHO:	16	ppm	
Conc. of NO2:	668	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff	Height NO2	C_{NO2}
0	-	-	58626	56186	15.45	0	8.00	679.52
0	-	-	59208	56692	15.63	0	8.05	682.46
0	-	-	57352	56096	15.42	0	8.05	682.46
0.25	9.3	2.33	57930	51298	13.74	0.13	7.50	650.09
0.25	9.3	2.33	58988	50906	13.61	0.13	7.50	650.09
0.25	9.3	2.33	55205	51396	13.78	0.12	7.45	647.15
0.50	10.7	5.35	56380	45520	11.72	0.25	7.30	638.32
0.50	10.7	5.35	57932	45356	11.66	0.26	7.30	638.32
0.50	10.7	5.35	57575	45802	11.82	0.25	7.35	641.26
0.75	11.2	8.40	55104	50449	13.45	0.15	7.00	620.67
0.75	11.2	8.40	56567	50159	13.34	0.15	7.00	620.67
0.75	11.2	8.40	55566	49483	13.11	0.17	7.00	620.67
1.00	12.0	12.00	59007	51458	13.80	0.12	6.60	597.12
1.00	12.0	12.00	56699	51635	13.86	0.12	6.60	597.12
1.00	12.0	12.00	57451	51564	13.84	0.12	6.60	597.12
1.25	12.4	15.50	57212	53392	14.47	0.08	6.30	579.47
1.25	12.4	15.50	58629	53715	14.59	0.07	6.36	583.00
1.25	12.4	15.50	55454	54603	14.90	0.05	6.25	576.52
1.50	12.9	19.35	55669	60418	16.93	-0.08	6.00	561.81
1.50	12.9	19.35	54718	61759	17.40	-0.11	6.00	561.81
1.50	12.9	19.35	55316	61713	17.39	-0.11	5.95	558.87

Date:	05/12/97			
Subject:	Influence of NO2 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	O2 [20%]	80.4	cc/min	
	NO2	301.5	cc/min	
	CH3CHO	21.0	cc/min	
	Total	402.9	cc/min	
Temperature:	23	C		
Conc. of CH3CHO:	16	ppm		
Conc. of NO2:	747	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff	Height NO2	C_{NO2}
0	-	-	61779	60393	16.92	0	9.10	744.26
0	-	-	61258	60203	16.86	0	9.20	750.15
0	-	-	60503	59470	16.60	0	9.20	750.15
0.25	9.7	2.43	62377	57300	15.84	0.01	6.30	579.47
0.25	9.7	2.43	59272	56891	15.70	0.02	6.25	576.52
0.25	9.7	2.43	60876	57579	15.94	0.00	6.25	576.52
0.50	10.5	5.25	59678	54630	14.91	0.07	5.35	523.55
0.50	10.5	5.25	58107	54924	15.01	0.06	5.30	520.61
0.50	10.5	5.25	61272	55191	15.10	0.06	5.40	526.50
0.75	11.1	8.33	62016	53809	14.62	0.09	4.35	464.70
0.75	11.1	8.33	59354	53350	14.46	0.10	4.40	467.64
0.75	11.1	8.33	56007	53008	14.34	0.10	4.40	467.64
1.00	12.0	12.00	60431	51135	13.69	0.14	3.50	414.67
1.00	12.0	12.00	59206	51038	13.65	0.15	3.45	411.73
1.00	12.0	12.00	59416	52231	14.07	0.12	3.45	411.73
1.25	12.4	15.50	57193	51134	13.69	0.14	3.10	391.13
1.25	12.4	15.50	57154	51416	13.78	0.14	3.10	391.13
1.25	12.4	15.50	59381	52247	14.07	0.12	3.10	391.13
1.50	12.8	19.20	59873	49413	13.08	0.18	2.90	379.36
1.50	12.8	19.20	56698	46748	12.15	0.24	2.90	379.36
1.50	12.8	19.20	57035	48174	12.65	0.21	2.90	379.36

Date:	06/17/97		
Subject:	To observe formation of by-product		
Gas flow rate:	N2	320.86	cc/min
	O2	79.79	cc/min
	Total	400.65	cc/min
Temperature:	25	C	

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}
0	-	-	0	0	0
0	-	-	0	0	0
0	-	-	0	0	0
0.05	6.7	0.3	0	3858	1.57
0.05	6.7	0.3	0	4004	1.62
0.05	6.7	0.3	0	4280	1.72
0.10	8.2	0.8	0	9119	3.45
0.10	8.2	0.8	0	8176	3.11
0.10	8.2	0.8	0	9494	3.59
0.15	8.8	1.3	0	13498	5.02
0.15	8.8	1.3	0	13799	5.12
0.15	8.8	1.3	0	12236	4.57
0.20	9.1	1.8	0	15233	5.64
0.20	9.1	1.8	0	15120	5.60
0.20	9.1	1.8	0	15234	5.64

Date:	06/10/97			
Subject:	Removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2	299.00	cc/min	
	O2 [20%]	80.86	cc/min	
	CH3CHO	20.61	cc/min	
	Total	400.47	cc/min	
Temperature:	24	C		
Conc. of CH3CHO:	16	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	40606	40123	14.54	0
0	-	-	40334	40177	14.56	0
0	-	-	40335	40639	14.72	0
0.05	8.0	0.40	40443	32120	11.68	0.20
0.05	8.0	0.40	40529	32795	11.92	0.18
0.05	8.0	0.40	40999	32474	11.80	0.19
0.10	8.5	0.85	40286	29629	10.79	0.26
0.10	8.5	0.85	40982	29852	10.87	0.26
0.10	8.5	0.85	40207	30237	11.00	0.25
0.15	9.0	1.35	40234	27272	9.94	0.32
0.15	9.0	1.35	39904	26312	9.60	0.34
0.15	9.0	1.35	40402	26754	9.76	0.33
0.20	9.3	1.86	40246	28069	10.23	0.30
0.20	9.3	1.86	39735	28571	10.41	0.29
0.20	9.3	1.86	40542	28209	10.28	0.30

Date:	06/09/97			
Subject:	Influence of SO2 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2	295.57	cc/min	
	O2 [20%]	80.20	cc/min	
	SO2	4.44	cc/min	
	CH3CHO	20.83	cc/min	
	Total	401.04	cc/min	
Temperature:	22	C		
Conc. of CH3CHO:	16	ppm		
Conc. of SO2:	111	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	$C_{(CH3)3N}$	$Eff_{(CH3)3N}$	Height SO2	C_{SO2}	Eff_{SO2}
0	-	-	38718	38683	14.02	0	23.26	111.94	0
0	-	-	38658	38896	14.10	0	22.92	110.25	0
0	-	-	38741	39010	14.14	0	23.03	110.81	0
0.05	7.9	0.40	38105	34473	12.52	0.11	21.88	105.16	0.05
0.05	7.9	0.40	38666	34501	12.53	0.11	22.11	106.29	0.04
0.05	7.9	0.40	39031	34698	12.60	0.11	22.11	106.29	0.04
0.10	8.6	0.86	38414	30405	11.06	0.21	20.73	99.51	0.10
0.10	8.6	0.86	38600	30551	11.12	0.21	20.73	99.51	0.10
0.10	8.6	0.86	38809	30747	11.19	0.21	20.50	98.38	0.11
0.15	9.2	1.38	38110	27661	10.08	0.28	19.58	93.86	0.15
0.15	9.2	1.38	38283	27144	9.90	0.30	19.69	94.43	0.15
0.15	9.2	1.38	38476	27933	10.18	0.28	19.58	93.86	0.15
0.20	9.8	1.96	39227	29740	10.83	0.23	17.27	82.56	0.25
0.20	9.8	1.96	38034	30502	11.10	0.21	17.27	82.56	0.25
0.20	9.8	1.96	38356	30055	10.94	0.22	17.16	81.99	0.26

Date:	06/11/97		
Subject:	Influence of SO2 on removal of CH3CHO from N2-O2 mixed gas		
Gas flow rate:	N2	283.03	cc/min
	O2 [20%]	80.54	cc/min
	SO2	17.94	cc/min
	CH3CHO	20.55	cc/min
	Total	402.06	cc/min
Temperature:	22	C	
Conc. of CH3CHO:	16	ppm	
Conc. of SO2:	446	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	$C_{(CH3)3N}$	$Eff_{(CH3)3N}$	Height SO2	C_{SO2}	Eff_{SO2}
0	-	-	40771	40284	14.60	0	13.50	444.45	0
0	-	-	40144	40123	14.54	0	13.50	444.45	0
0	-	-	39497	39874	14.45	0	13.50	444.45	0
0.05	7.8	0.39	40589	36008	13.07	0.10	13.10	440.58	0.01
0.05	7.8	0.39	39606	35901	13.03	0.10	13.10	440.58	0.01
0.05	7.8	0.39	40831	36266	13.16	0.09	13.10	440.58	0.01
0.10	8.5	0.85	40562	33625	12.22	0.16	12.20	431.86	0.03
0.10	8.5	0.85	39704	33380	12.13	0.17	12.10	430.89	0.03
0.10	8.5	0.85	40493	34292	12.45	0.14	12.20	431.86	0.03
0.15	9.1	1.37	40693	30806	11.21	0.23	11.00	420.23	0.06
0.15	9.1	1.37	40694	30673	11.16	0.23	10.90	419.27	0.06
0.15	9.1	1.37	40310	30207	10.99	0.24	11.10	421.20	0.06
0.20	9.6	1.92	40249	31950	11.62	0.20	10.00	410.55	0.08
0.20	9.6	1.92	39119	31977	11.63	0.20	10.10	411.52	0.08
0.20	9.6	1.92	39140	32517	11.82	0.19	10.10	411.52	0.08

Date:	06/13/97			
Subject:	Influence of NH3 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2		285.71	cc/min
	O2 [20%]		80.00	cc/min
	CO2		13.73	cc/min
	CH3CHO		20.48	cc/min
	Total		399.92	cc/min
Temperature:	26	C		
Conc. of CH3CHO:	16	ppm		
Conc. of CO2:	3	%		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	43579	43342	15.69	0
0	-	-	42802	43861	15.88	0
0	-	-	44069	43078	15.60	0
0.05	7.9	0.40	42727	37770	13.70	0.13
0.05	7.9	0.40	43659	37078	13.45	0.14
0.05	7.9	0.40	42432	37900	13.74	0.13
0.10	8.5	0.85	43210	31108	11.32	0.28
0.10	8.5	0.85	43168	31867	11.59	0.26
0.10	8.5	0.85	43701	30911	11.24	0.28
0.15	8.9	1.34	44127	31901	11.60	0.26
0.15	8.9	1.34	43872	31718	11.53	0.27
0.15	8.9	1.34	42210	32204	11.71	0.26
0.20	9.3	1.86	42911	30146	10.97	0.30
0.20	9.3	1.86	43586	30163	10.98	0.30
0.20	9.3	1.86	42545	31350	11.40	0.27

Date:	06/12/97			
Subject:	Influence of CO2 on removal of CH3CHO from N2-O2 mixed gas			
Gas flow rate:	N2	262.69	cc/min	
	O2 [20%]	78.96	cc/min	
	CO2	33.56	cc/min	
	CH3CHO	20.02	cc/min	
	Total	395.23	cc/min	
Temperature:	23	C		
Conc. of CH3CHO:	15	ppm		
Conc. of CO2:	8	%		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff
0	-	-	39935	39512	14.32	0
0	-	-	40608	39806	14.43	0
0	-	-	41751	40393	14.64	0
0.05	7.9	0.40	41579	33273	12.09	0.16
0.05	7.9	0.40	40160	32781	11.91	0.18
0.05	7.9	0.40	40581	32948	11.97	0.17
0.10	8.5	0.85	39906	29361	10.69	0.26
0.10	8.5	0.85	40797	29118	10.60	0.27
0.10	8.5	0.85	40096	28761	10.48	0.28
0.15	8.9	1.34	41309	31866	11.59	0.20
0.15	8.9	1.34	39773	32198	11.71	0.19
0.15	8.9	1.34	41135	31521	11.46	0.21
0.20	9.3	1.86	39995	31125	11.32	0.22
0.20	9.3	1.86	40650	31577	11.48	0.21
0.20	9.3	1.86	39811	32507	11.82	0.18

Date:	07/09/96			
Subject:	Removal of NH3 from N2			
Gas flow rate:	He/N2		801.57	cc/min
	NH3		195.43	cc/min
	Total		997.00	cc/min
Temperature:	28	C		
Conc. of NH3:	49	ppm		

I(mA)	V(kV)	P(W)	Height NH3	C_{NH3}	Eff
0	-	-	8.7	50.0	50.0
0	-	-	8.8	51.0	51.0
0	-	-	8.7	50.0	50.0
0.5	7.8	3.90	7.0	43.0	43.0
0.5	7.8	3.90	7.0	42.0	42.0
0.5	7.8	3.90	6.8	42.5	42.5
1.00	8.1	8.10	5.8	45.00	45.00
1.00	8.1	8.10	5.8	46.00	46.00
1.00	8.1	8.10	5.8	44.00	44.00
1.50	8.6	12.90	4.2	42.00	42.00
1.50	8.6	12.90	4.2	41.50	41.50
1.50	8.6	12.90	4.3	41.80	41.80

Date:	07/02/97		
Subject:	Removal of NH3 from N2-O2 mixed gas		
Gas flow rate:	N2	165.75	cc/min
	O2 [20%]	80.20	cc/min
	NH3	151.39	cc/min
	Total	397.34	cc/min
Temperature:	27	C	
Conc. of NH3:	96	ppm	

I(mA)	V(kV)	P(W)	Height NH3	C_{NH3}	Eff
0	-	-	8.7	91.58	0
0	-	-	8.8	92.58	0
0	-	-	8.7	91.58	0
0.05	7.8	0.39	7.0	74.57	0.19
0.05	7.8	0.39	7.0	74.57	0.19
0.05	7.8	0.39	6.8	72.56	0.21
0.10	8.1	0.81	5.8	62.56	0.32
0.10	8.1	0.81	5.8	62.56	0.32
0.10	8.1	0.81	5.8	62.56	0.32
0.15	8.6	1.29	4.2	46.54	0.49
0.15	8.6	1.29	4.2	46.54	0.49
0.15	8.6	1.29	4.3	47.54	0.48
0.20	8.9	1.78	2.7	31.53	0.66
0.20	8.9	1.78	2.7	31.53	0.66
0.20	8.9	1.78	2.9	33.03	0.64
0.25	9.1	2.28	1.8	22.52	0.75
0.25	9.1	2.28	2.0	24.02	0.74
0.25	9.1	2.28	2.0	24.52	0.73
0.30	9.5	2.85	1.4	18.12	0.80
0.30	9.5	2.85	1.2	16.52	0.82
0.30	9.5	2.85	1.2	16.52	0.82
0.35	9.8	3.43	0.7	11.51	0.87
0.35	9.8	3.43	0.7	11.51	0.87
0.35	9.8	3.43	0.6	10.51	0.89
0.40	10.1	4.04	0	0	1.00
0.40	10.1	4.04	0	0	1.00
0.40	10.1	4.04	0	0	1.00

Date:	08/03/97		
Subject:	Influence of CO2 on removal of NH3 from N2-O2 mixed gas		
Gas flow rate:	N2	64.00	cc/min
	O2 [20%]	80.00	cc/min
	CO2	31.19	cc/min
	NH3	225.60	cc/min
	Total	400.79	cc/min
Temperature:	29	C	
Conc. of NH3:	141	ppm	
Conc. of CO2:	8	%	

I(mA)	V(kV)	P(W)	Height NH3	C_{NH3}	Eff
0	-	-	9.9	142.32	0
0	-	-	10.1	145.15	0
0	-	-	10.1	145.15	0
0.05	7.3	0.37	9.1	131.03	0.09
0.05	7.3	0.37	9.1	131.03	0.09
0.05	7.3	0.37	9.2	132.45	0.08
0.10	7.9	0.79	7.0	101.40	0.30
0.10	7.9	0.79	7.0	101.40	0.30
0.10	7.9	0.79	6.9	99.99	0.31
0.15	8.2	1.23	5.6	80.94	0.44
0.15	8.2	1.23	5.6	81.65	0.43
0.15	8.2	1.23	5.6	81.65	0.43
0.20	8.7	1.74	3.8	56.25	0.61
0.20	8.7	1.74	3.7	54.84	0.62
0.20	8.7	1.74	3.8	56.25	0.61
0.25	8.9	2.23	2.6	39.32	0.73
0.25	8.9	2.23	2.7	40.02	0.72
0.25	8.9	2.23	2.6	39.32	0.73
0.30	9.3	2.79	2.0	30.85	0.79
0.30	9.3	2.79	2.0	30.85	0.79
0.30	9.3	2.79	2.0	30.85	0.79
0.40	9.9	3.96	0.9	15.33	0.89
0.40	9.9	3.96	0.9	15.33	0.89
0.40	9.9	3.96	0.9	15.33	0.89

Date:	08/03/97		
Subject:	Removal of NH3 from N2-O2 mixed gas		
Gas flow rate:	N2	91.35	cc/min
	O2 [20%]	80.00	cc/min
	NH3	230.33	cc/min
	Total	401.68	cc/min
Temperature:	28	C	
Conc. of NH3:	144	ppm	

I(mA)	V(kV)	P(W)	Height NH3	C_{NH3}	Eff
0	-	-	11.6	148.47	0
0	-	-	11.6	148.47	0
0	-	-	11.7	149.10	0
0.05	7.0	0.35	10.4	132.81	0.11
0.05	7.0	0.35	10.4	133.43	0.10
0.05	7.0	0.35	10.4	133.43	0.10
0.10	7.6	0.76	7.6	98.34	0.34
0.10	7.6	0.76	7.6	98.34	0.34
0.10	7.6	0.76	7.7	99.60	0.33
0.15	7.9	1.19	5.9	77.04	0.48
0.15	7.9	1.19	5.9	77.04	0.48
0.15	7.9	1.19	6.0	78.29	0.47
0.20	8.2	1.64	4.2	55.74	0.63
0.20	8.2	1.64	4.1	54.48	0.63
0.20	8.2	1.64	4.2	55.74	0.63
0.25	8.6	2.15	3.1	41.95	0.72
0.25	8.6	2.15	3.1	41.95	0.72
0.25	8.6	2.15	3.2	43.21	0.71
0.30	8.9	2.67	2.3	31.93	0.79
0.30	8.9	2.67	2.4	32.55	0.78
0.30	8.9	2.67	2.3	31.93	0.79
0.40	9.5	3.80	1.2	17.52	0.88
0.40	9.5	3.80	1.2	17.52	0.88
0.40	9.5	3.80	1.2	17.52	0.88

Date:	08/15/97			
Subject:	Influence of H2O on removal of NH3 from N2-O2 mixed gas			
Gas flow rate:	N2+H2O	90.91	cc/min	
	O2 [20%]	80.07	cc/min	
	NH3	228.75	cc/min	
	Total	399.73	cc/min	
Temperature:	28	C		
Conc. of NH3:	144	ppm		
Conc. of H2O:	3288	ppm		

I(mA)	V(kV)	P(W)	Height NH3	C_{NH3}	Eff
0	-	-	8.3	144.43	0
0	-	-	8.3	144.43	0
0	-	-	8.3	144.43	0
0.05	7.2	0.36	7.3	127.13	0.12
0.05	7.2	0.36	7.3	127.13	0.12
0.05	7.2	0.36	7.4	128.86	0.11
0.10	7.8	0.78	5.1	89.06	0.38
0.10	7.8	0.78	5.1	89.06	0.38
0.10	7.8	0.78	5.2	90.79	0.37
0.15	8.2	1.23	4.3	75.22	0.48
0.15	8.2	1.23	4.3	75.22	0.48
0.15	8.2	1.23	4.3	75.22	0.48
0.20	8.6	1.72	3.5	61.38	0.58
0.20	8.6	1.72	3.5	61.38	0.58
0.20	8.6	1.72	3.6	63.11	0.56
0.25	8.9	2.23	3.1	54.46	0.62
0.25	8.9	2.23	3.1	54.46	0.62
0.25	8.9	2.23	3.1	54.46	0.62
0.30	9.1	2.73	2.1	37.16	0.74
0.30	9.1	2.73	2.1	37.16	0.74
0.30	9.1	2.73	2.1	37.16	0.74
0.40	9.8	3.92	1.2	21.59	0.85
0.40	9.8	3.92	1.2	21.59	0.85
0.40	9.8	3.92	1.2	21.59	0.85

Date:	08/14/97			
Subject:	Influence of H2O on removal of NH3 from N2-O2 mixed gas			
Gas flow rate:	N2+H2O	93.45	cc/min	
	O2 [20%]	80.21	cc/min	
	NH3	227.30	cc/min	
	Total	400.96	cc/min	
Temperature:	29	C		
Conc. of NH3:	142	ppm		
Conc. of H2O:	6418	ppm		

I(mA)	V(kV)	P(W)	Height NH3	C_{NH3}	Eff
0	-	-	9.3	142.06	0
0	-	-	9.3	142.06	0
0	-	-	9.3	142.06	0
0.05	7.2	0.36	7.4	113.19	0.20
0.05	7.2	0.36	7.4	113.19	0.20
0.05	7.2	0.36	7.4	113.19	0.20
0.10	7.8	0.78	6.4	97.99	0.31
0.10	7.8	0.78	6.4	97.99	0.31
0.10	7.8	0.78	6.4	97.99	0.31
0.15	8.2	1.23	5.1	78.23	0.45
0.15	8.2	1.23	5.1	78.23	0.45
0.15	8.2	1.23	5.0	76.71	0.46
0.20	8.6	1.72	4.1	63.04	0.56
0.20	8.6	1.72	4.1	63.04	0.56
0.20	8.6	1.72	4.1	63.04	0.56
0.25	8.9	2.23	3.6	55.44	0.61
0.25	8.9	2.23	3.6	55.44	0.61
0.25	8.9	2.23	3.8	58.48	0.59
0.30	9.2	2.76	3.1	47.84	0.66
0.30	9.2	2.76	3.1	47.84	0.66
0.30	9.2	2.76	3.1	47.84	0.66
0.40	9.9	3.96	2.4	37.20	0.74
0.40	9.9	3.96	2.4	37.20	0.74
0.40	9.9	3.96	2.4	37.20	0.74

Date: 07/02/97

Subject: Influence of (CH3)3N on removal of CH3CHO from N2-O2 mixed gas

Gas flow rate:

N2	137.69	cc/min
O2 [20%]	79.37	cc/min
(CH3)3N	159.78	cc/min
CH3CHO	19.97	cc/min
Total	396.81	cc/min

Temperature: 27 C

Conc. of CH3CHO: 15 ppm

Conc. of (CH3)3N: 43 ppm

			CH3CHO				(CH3)3N				GC by-products		
I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff_{CH3CHO}	GCin	GCout	$C_{(CH3)3N}$	$Eff_{(CH3)3N}$	CH3CHO	(CH3)2CO	CH3NO2
0	-	-	39438	35543	12.90	0	206601	147093	40.8	0	0	0	0
0	-	-	39379	35942	13.04	0	201384	156696	43.2	0	0	0	0
0	-	-	39087	35569	12.91	0	184409	149297	41.4	0	0	0	0
0.05	7.5	0.38	39777	34378	12.48	0.04	205025	0	0	1.0	0	5533	4111
0.05	7.5	0.38	39210	34654	12.58	0.03	201558	0	0	1.0	0	5373	4904
0.05	7.5	0.38	39173	35305	12.82	0.01	203133	0	0	1.0	0	4542	4919
0.10	7.9	0.79	39470	33937	12.33	0.05	208353	0	0	1.0	0	3458	11979
0.10	7.9	0.79	39512	34241	12.44	0.04	207933	0	0	1.0	0	3655	13014
0.10	7.9	0.79	39217	33594	12.20	0.06	205412	0	0	1.0	0	5948	11494
0.25	9.1	2.28	39132	26891	9.81	0.24	201321	0	0	1.0	4289	3274	22218
0.25	9.1	2.28	39542	26585	9.70	0.25	205462	0	0	1.0	4223	3568	20640
0.25	9.1	2.28	39654	25985	9.48	0.27	206748	0	0	1.0	4351	3023	19114
0.50	10.8	5.40	39675	20375	7.48	0.42	196227	0	0	1.0	8453	4123	30223
0.50	10.8	5.40	39712	20040	7.36	0.43	204567	0	0	1.0	8434	3926	32019
0.50	10.8	5.40	39746	19942	7.32	0.43	202168	0	0	1.0	8083	4526	30613
0.75	11.7	8.78	40152	17296	6.38	0.51	195275	0	0	1.0	8459	3839	30808
0.75	11.7	8.78	40250	17390	6.41	0.51	207245	0	0	1.0	8821	3642	34170
0.75	11.7	8.78	40109	17522	6.46	0.50	203147	0	0	1.0	7720	4831	25652
1.00	12.5	12.50	40373	17655	6.50	0.50	203584	0	0	1.0	8226	4531	30471
1.00	12.5	12.50	40523	17770	6.55	0.49	201432	0	0	1.0	7705	5403	27036
1.00	12.5	12.50	40152	17555	6.47	0.50	200532	0	0	1.0	7580	4123	21051
1.25	13.2	16.50	40576	18566	6.83	0.47	200643	0	0	1.0	7508	5456	21741
1.25	13.2	16.50	40321	18105	6.66	0.49	201598	0	0	1.0	7369	4852	17728
1.25	13.2	16.50	40123	18077	6.65	0.49	203492	0	0	1.0	7224	6170	24835

Date:	07/09/97		
Subject:	Influence of CH3CHO on removal of NH3 from N2-O2 mixed gas		
Gas flow rate:	N2	299.25	cc/min
	O2 [20%]	79.79	cc/min
	NH3	0	cc/min
	CH3CHO	20.13	cc/min
	Total	399.17	cc/min
Temperature:	26	C	
Conc. of CH3CHO:	15	ppm	
Conc. of NH3:	0	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff_{CH3CHO}
0	-	-	40825	41027	14.86	0
0	-	-	41453	41014	14.86	0
0	-	-	41234	40883	14.81	0
0.10	7.8	0.78	41625	25326	9.25	0.38
0.10	7.8	0.78	41167	25362	9.26	0.38
0.10	7.8	0.78	41235	25960	9.47	0.36
0.20	8.4	1.68	41324	19499	7.16	0.52
0.20	8.4	1.68	41712	19508	7.17	0.52
0.20	8.4	1.68	41592	19946	7.32	0.51
0.30	9.2	2.76	41723	23068	8.44	0.43
0.30	9.2	2.76	41894	23252	8.51	0.43
0.30	9.2	2.76	41672	23143	8.47	0.43
0.40	9.6	3.84	41347	24476	8.94	0.40
0.40	9.6	3.84	41452	24672	9.01	0.39
0.40	9.6	3.84	41167	24502	8.95	0.40

Date:	07/09/97		
Subject:	Influence of CH3CHO on removal of NH3 from N2-O2 mixed gas		
Gas flow rate:	N2	145.52	cc/min
	O2 [20%]	79.60	cc/min
	NH3	152.50	cc/min
	CH3CHO	20.17	cc/min
	Total	397.78	cc/min
Temperature:	28	C	
Conc. of CH3CHO:	15	ppm	
Conc. of NH3:	96	ppm	

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff_{CH3CHO}
0	-	-	46445	46122	16.68	0
0	-	-	46403	46182	16.71	0
0	-	-	46496	45885	16.60	0
0.1	7.6	0.76	46776	26874	9.80	0.41
0.1	7.6	0.76	46543	27086	9.88	0.41
0.1	7.6	0.76	46502	27026	9.86	0.41
0.20	8.2	1.64	46670	22443	8.22	0.51
0.20	8.2	1.64	46652	22745	8.32	0.50
0.20	8.2	1.64	46731	22482	8.23	0.51
0.30	8.9	2.67	46355	19178	7.05	0.58
0.30	8.9	2.67	46671	19220	7.06	0.58
0.30	8.9	2.67	46542	19255	7.08	0.58
0.40	9.5	3.80	46410	21509	7.88	0.53
0.40	9.5	3.80	46328	21167	7.76	0.53
0.40	9.5	3.80	46673	21216	7.78	0.53

Date:	07/21/97			
Subject:	Influence of CH3CHO on removal of NH3 from N2-O2 mixed gas			
Gas flow rate:	N2		67.31	cc/min
	O2 [20%]		79.58	cc/min
	NH3		229.31	cc/min
	CH3CHO		20.81	cc/min
	Total		397.00	cc/min
Temperature:	27	C		
Conc. of CH3CHO:	16	ppm		
Conc. of NH3:	145	ppm		

I(mA)	V(kV)	P(W)	GCin	GCout	C_{CH3CHO}	Eff_{CH3CHO}
0	-	-	46569	46578	16.85	0
0	-	-	47127	46542	16.84	0
0	-	-	46572	46534	16.83	0
0.05	7.1	0.36	47023	33089	12.02	0.29
0.05	7.1	0.36	46892	32657	11.87	0.30
0.05	7.1	0.36	47521	33364	12.12	0.28
0.10	7.7	0.77	47132	26108	9.53	0.43
0.10	7.7	0.77	46672	26494	9.67	0.43
0.10	7.7	0.77	46524	26623	9.71	0.42
0.15	8.0	1.20	47446	17126	6.31	0.63
0.15	8.0	1.20	47234	17493	6.45	0.62
0.15	8.0	1.20	47342	17981	6.62	0.61
0.20	8.3	1.66	47476	16688	6.16	0.63
0.20	8.3	1.66	47432	16254	6.00	0.64
0.20	8.3	1.66	47316	17100	6.31	0.63
0.25	8.7	2.18	47404	17584	6.48	0.62
0.25	8.7	2.18	47501	17657	6.50	0.61
0.25	8.7	2.18	47321	17299	6.38	0.62
0.30	8.9	2.67	47456	17552	6.47	0.62
0.30	8.9	2.67	47236	18378	6.76	0.60
0.30	8.9	2.67	47543	17926	6.60	0.61
0.40	9.7	3.88	47124	20268	7.44	0.56
0.40	9.7	3.88	46972	20869	7.65	0.55
0.40	9.7	3.88	46894	20916	7.67	0.54

Date: 01/30/97

Subject: Formation of ozone from N2-O2 mixed gas

Gas flow rate: O2 [22%] 75.02 cc/min

N2 265.98 cc/min

Total 341.00 cc/min

Temperature: 27 C

Discharge (mA)	ABS Time (sec)	Absorbance 353 nm	Absorbance 288 nm	Conc.of I-3 (mol/m3) 353 nm	Conc.of I-3 (mol/m3) 288 nm	Amount of Ozone (mol) 353 nm	Amount of Ozone (mol) 288 nm	Amount of Total (mol)	Conc. of Ozone (ppm) 353 nm	Conc. of Ozone (ppm) 288 nm	Conc. of Ozone in system (ppm) 353 nm	Conc. of Ozone in system (ppm) 288 nm
0	-	0	0	0	0	0	0	0	0	0	0	0
0	-	0	0	0	0	0	0	0	0	0	0	0
0	-	0	0	0	0	0	0	0	0	0	0	0
0.05	60.30	0.65800	0.99200	0.02692	0.02683	1.346E-06	1.341E-06	0.01465	91.86530	91.53171	68.27889	68.03095
0.05	73.20	0.73300	1.10300	0.02999	0.02983	1.500E-06	1.491E-06	0.01779	84.30160	83.83814	62.65717	62.31270
0.05	70.59	0.69300	1.04400	0.02836	0.02823	1.418E-06	1.412E-06	0.01715	82.64812	82.28762	61.42822	61.16028
0.10	54.03	0.83070	1.24870	0.03399	0.03377	1.699E-06	1.688E-06	0.01313	129.43512	128.58797	96.20266	95.57302
0.10	53.06	1.13300	1.69660	0.04636	0.04588	2.318E-06	2.294E-06	0.01289	179.76518	177.90552	133.61048	132.22828
0.10	53.92	1.20440	1.63900	0.04928	0.04432	2.464E-06	2.216E-06	0.01310	188.04585	169.12440	139.76509	125.70172
0.15	60.36	1.56100	2.32300	0.06387	0.06282	3.194E-06	3.141E-06	0.01467	217.71912	214.12983	161.81975	159.15201
0.15	38.04	1.07100	1.60400	0.04382	0.04337	2.191E-06	2.169E-06	0.00924	237.02375	234.60705	176.16791	174.37170
0.15	42.95	1.07100	1.60100	0.04382	0.04329	2.191E-06	2.165E-06	0.01044	209.92744	207.39838	156.02858	154.14886

Date:	01/30/97		
Subject:	To observe effect of ozone reaction		
Gas flow rate:	N2	256.02	cc/min
	O2	72.75	cc/min
	(CH3)3N	113.57	cc/min
	Total	442.34	cc/min
Temperature:	12	C	
Inlet concentration (Cin):	27	ppm	

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	42577	27.29	0
0	-	-	42831	27.45	0
0	-	-	44922	28.77	0
0	-	-	44450	28.47	0
0.05	8.3	0.415	5848	4.18	0.85
0.05	8.3	0.415	6294	4.46	0.84
0.05	8.3	0.415	6040	4.30	0.84
0.05	8.3	0.415	5878	4.20	0.85
0.10	9.0	0.900	2138	1.84	0.93
0.10	9.0	0.900	2809	2.27	0.92
0.10	9.0	0.900	2870	2.30	0.92
0.15	11.2	1.680	0	0.00	1.00
0.15	11.2	1.680	0	0.00	1.00
0.15	11.2	1.680	0	0.00	1.00
0.15	11.2	1.680	0	0.00	1.00

Date:	09/15/97		
Subject:	Removal of Trimethylamine [(CH3)3N] and SO2 from N2-O2 mixed gas using two reactors system		
Gas flow rate:	SO2	175.70	cc/min
	O2	81.00	cc/min
	(CH3)3N	174.93	cc/min
	Total	431.63	cc/min
Temperature:	25	C	
Conc. of (CH3)3N :	44	ppm	
Conc. of SO2 :	81	ppm	

Reactor 1

I(mA)	V(kV)	P(W)	GC	Cout	Eff
0	-	-	142257	39.64	0
0	-	-	145572	40.46	0
0	-	-	142686	39.75	0
0.01	7.1	0.07	0	0	1.00
0.01	7.7	0.08	0	0	1.00
0.01	7.1	0.07	0	0	1.00
0.02	7.4	0.15	0	0	1.00
0.02	7.4	0.15	0	0	1.00
0.02	7.4	0.15	0	0	1.00
0.03	7.7	0.23	0	0	1.00
0.03	7.7	0.23	0	0	1.00
0.03	7.7	0.23	0	0	1.00

Reactor 2

I(mA)	V(kV)	P(W)	Height SO2	C_{SO2}	Eff
0	0	0	11.5	83.15	0
0	0	0	11.6	83.90	0
0	0	0	11.6	83.90	0
0.05	8.3	0.42	8.1	57.65	0.31
0.05	8.3	0.42	8.3	59.15	0.29
0.05	8.3	0.42	8.1	57.65	0.31
0.25	9.8	2.45	5.0	34.40	0.59
0.25	9.8	2.45	4.8	32.90	0.61
0.25	9.8	2.45	4.8	32.90	0.61
0.50	11.5	5.75	3.1	20.15	0.76
0.50	11.5	5.75	3.2	20.90	0.75
0.50	11.5	5.75	3.1	20.15	0.76
0.75	12.5	9.38	1.2	5.90	0.93
0.75	12.5	9.38	1.2	5.90	0.93
0.75	12.5	9.38	1.2	5.90	0.93
1.00	13.2	13.20	0.9	3.65	0.96
1.00	13.2	13.20	0.9	3.65	0.96
1.00	13.2	13.20	0.9	3.65	0.96

VITA

Mr. Paisarn Khongphasarnakaln was born in Udornthani, Thailand, on January 31, 1975, the second son of Somsak and Suwanna Khongphasarnkaln. After completing his high-school study at Triam Udom Suksa High School in Bangkok, in March, 1992. He entered Chulalongkorn University, Bangkok, in June, 1992. After earning the degree of Bachelor of Engineering in Chemical Engineering in March, 1996, he gained admission to the Graduate School of Chulalongkorn University in June, 1996. He received 2-year financial support from the National Science and Technology Development Agency, which covered research materials and monthly expenses. He received a one-year scholarship from October, 1996 to September, 1997 to carry out research work in Prof. Morio Okazaki's and subsequently Prof. Hajime Tamon's Laboratory, Department of Chemical Engineering, Kyoto University, Japan under an Exchange Program sponsored by The Association of International Education Japan. In October, 1998 he was awarded the degree of Master of Engineering in Chemical Engineering.