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APPENDIX
EXPERIMENTAL DATA

1. Carbon Monoxide Oxidation

1.1 0.12% Au/NiO

Table A.1 Carbon monoxide conversion as a function of time on 0.12% Au/NiO at different oxidation temperatures, using 1%CO in air with $SV = 2.1 \times 10^4 \text{ ml/h g}_{\text{cat}}$.

Time (min)	CO Conversion (%)					
	100°C	175°C	180°C	200°C	250°C	300°C
30	5.40	33.28	32.71	92.36	100	100
60	1.73	21.43	29.89	88.63	100	100
90	0.20	18.02	28.61	87.74	100	100
120	0	16.76	27.95	85.99	100	100
150	0	14.52	26.92	85.52	100	100
180	0	13.15	26.10	84.94	100	100
210	0	13.36	24.81	83.30	100	100
240	0	12.68	24.41	83.16	100	100
270	0	12.79	23.70	82.38	100	100
300	0	12.21	23.46	82.52	100	100
330	0	11.69	23.20	82.03	100	100
360	0	11.99	22.98	81.80	100	100
390	0	11.48	22.9	80.67	100	100
420	0	11.01	22.90	80.60	100	100

1.2 0.12% Au/Y₂O₃

Table A.2 Carbon monoxide conversion as a function of time on 0.12% Au/Y₂O₃ at different oxidation temperatures, using 1%CO in air in SV = 2.1×10⁴ ml/h g_{cat}.

Time (min)	CO Conversion (%)					
	200°C	250°C	275°C	300°C	325°C	350°C
30	9.17	31.22	58.53	91.83	100	100
60	7.78	25.54	51.62	88.86	100	100
90	6.41	23.77	48.92	86.92	99.99	100
120	5.30	21.63	46.67	85.49	99.99	100
150	4.44	20.40	44.87	84.06	99.99	100
180	3.68	19.20	43.70	82.89	99.98	100
210	3.60	17.98	42.04	82.17	99.98	100
240	3.12	16.88	41.15	81.60	99.98	100
270	2.84	16.11	40.20	80.45	99.98	100
300	2.38	16.30	38.87	80.34	99.98	100
330	2.37	14.25	37.01	79.33	99.98	100
360	2.47	12.39	34.50	78.89	99.98	100
390	2.30	10.93	32.29	78.49	99.98	100
420	2.50	10.00	30.45	78.00	99.98	100

2. Methanol Oxidation

2.1 0.12% Au/NiO

Table A.3 Methanol conversion as a function of time on 0.12% Au/NiO at different oxidation temperatures, using 0.5% CH₃OH in air in SV = 2.1×10⁴ ml/h g_{cat}.

Time (min)	CH ₃ OH Conversion (%)					
	100°C	175°C	200°C	225°C	250°C	300°C
30	16.48	28.50	49.52	56.10	78.75	100
60	10.00	24.03	46.79	73.00	91.13	100
90	8.20	19.14	45.87	76.58	95.28	100
120	6.88	19.89	44.26	78.20	97.22	100
150	6.24	19.59	43.66	79.60	97.92	100
180	5.32	18.04	43.59	79.54	98.51	100
210	2.78	17.62	43.16	79.48	98.81	100
240	1.93	16.91	43.12	79.04	99.04	100
270	1.34	13.74	42.89	80.22	99.34	100
300	0.42	13.36	42.60	79.12	99.42	100
330	0.45	12.26	42.39	78.88	99.49	100
360	0.36	14.19	42.37	78.32	99.47	100
390	0.27	14.09	42.30	78.04	99.51	100
420	0.17	14.01	42.24	77.54	99.51	100

2.2 0.12% Au/Y₂O₃

Table A.4 Methanol conversion as a function of time on 0.12% Au/Y₂O₃ at different oxidation temperatures, using 0.5% CH₃OH in air in SV = 2.1×10⁴ ml/h g_{cat}.

Time (min)	CH ₃ OH Conversion (%)					
	125°C	175°C	200°C	225°C	250°C	275°C
30	9.87	34.34	45.34	56.10	78.75	100
60	4.65	13.48	36.14	73.00	91.13	100
90	4.31	9.59	33.31	76.58	95.28	100
120	2.79	7.38	32.28	78.20	97.22	100
150	2.47	9.54	31.22	79.60	97.92	100
180	1.48	6.51	31.01	79.54	98.51	100
210	2.66	6.17	30.37	79.48	98.81	100
240	2.91	5.00	30.72	79.04	99.04	100
270	3.43	5.27	30.94	80.22	99.34	100
300	2.94	6.02	30.70	79.12	99.42	100
330	3.19	3.74	31.29	78.88	99.49	100
360	1.52	6.96	31.60	78.32	99.47	100
390	0.84	4.48	31.60	78.04	99.51	100
420	0.74	7.13	31.97	77.54	99.53	100

CURRICULUM VITAE

Name: Norsit Sitthiwechvijit

Date of Birth: December 2, 1977

Nationality: Thai

University Education:

1995-1999 Bachelor Degree of Science in Industrial Chemistry.
King Mongkut's Institute of Technology Ladkrabang,
Bangkok, Thailand