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## APPENDICES

### Appendix A The Glycerol Conversion, Diglycerol Selectivity and Diglycerol Yield of the studied catalysts

**Table A1** The glycerol conversion, diglycerol selectivity and diglycerol yield of SBA-15

Time (h)	SBA-15		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	0.31	100	0.31
2	0.59	100	0.59
3	0.88	100	0.88
4	1.20	100	1.20
5	1.50	100	1.50
6	1.82	100	1.82
7	2.23	100	2.23
8	2.51	100	2.51

**Table A2** The glycerol conversion, diglycerol selectivity and diglycerol yield of CaO/SBA-15

Time (h)	CaO/SBA-15		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	0.71	100	0.71
2	1.39	100	1.39
3	2.82	100	2.82
4	3.68	100	3.68
5	5.51	100	5.51
6	6.91	100	6.91
7	9.12	98.67	9.00
8	12.89	97.88	12.61

**Table A3** The glycerol conversion, diglycerol selectivity and diglycerol yield of BaO/SBA-15

Time (h)	BaO/SBA-15		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	1.79	100	1.79
2	2.23	100	2.23
3	3.64	100	3.64
4	5.20	100	5.20
5	6.91	98.95	6.83
6	9.36	96.03	9.00
7	10.87	94.92	10.32
8	13.46	93.76	12.62

**Table A4** The glycerol conversion, diglycerol selectivity and diglycerol yield of CaO/ Al<sub>2</sub>O<sub>3</sub>

Time (h)	CaO/Al <sub>2</sub> O <sub>3</sub>		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	1.18	100	1.18
2	2.40	100	2.40
3	4.11	100	4.11
4	5.73	100	5.73
5	8.02	96.28	7.72
6	9.71	95.22	9.25
7	11.09	94.25	10.45
8	12.73	93.14	11.86

**Table A5** The glycerol conversion, diglycerol selectivity and diglycerol yield of BaO/ Al<sub>2</sub>O<sub>3</sub>

Time (h)	BaO/Al <sub>2</sub> O <sub>3</sub>		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	1.04	100	1.04
2	2.29	100	2.29
3	4.17	100	4.17
4	6.69	96.31	6.45
5	8.54	95.21	8.13
6	10.62	94.06	9.99
7	11.86	93.47	11.09
8	13.32	93.02	12.39

**Table A6** The glycerol conversion, diglycerol selectivity and diglycerol yield of SILD CaO/ Al<sub>2</sub>O<sub>3</sub>

Time (h)	SILD CaO/Al <sub>2</sub> O <sub>3</sub>		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	0.81	100	0.81
2	2.10	100	2.10
3	4.10	100	4.10
4	6.00	100	6.00
5	7.63	96.26	7.35
6	10.01	94.36	9.45
7	12.02	93.22	11.21
8	13.98	92.12	12.88

**Table A7** The glycerol conversion, diglycerol selectivity and diglycerol yield of SILD BaO/ Al<sub>2</sub>O<sub>3</sub>

Time (h)	SILD BaO/Al <sub>2</sub> O <sub>3</sub>		
	% Glycerol Conversion	% Diglycerol Selectivity	% Diglycerol Yield
1	2.00	100	2.00
2	3.38	100	3.38
3	4.92	100	4.92
4	6.97	98.38	6.85
5	10.39	97.90	10.16
6	11.89	93.83	11.16
7	13.19	91.74	12.11
8	14.15	88.08	12.47

## CURRICULUM VITAE

**Name:** Mr. Suragarn Klomkao

**Date of Birth:** June 4, 1987

**Nationality:** Thai

**University Education:**

2006-2010 Bachelor Degree of Engineering, Faculty of Engineering,  
Department of Chemical Engineering, Thammasat University, Bangkok, Thailand

**Working Experience:**

2008 Position: Internship Student  
Company name: Henkel Thailand Co., Ltd.

**Proceedings:**

Klomkao, S., and Kitiyanan, B. (2012, April 24) Etherification of Glycerol Catalyzed by BaO and CaO on Mesoporous Support. Proceedings of 18<sup>th</sup> PPC Symposium on Petroleum, Petrochemicals, and Polymers, Bangkok, Thailand.

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Klomkao, S., and Kitiyanan, B. (2012, April 24) Etherification of Glycerol Catalyzed by BaO and CaO on Mesoporous Support. Poster presented at the 18<sup>th</sup> PPC Symposium on Petroleum, Petrochemicals, and Polymers, Bangkok, Thailand.

