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APPENDIX

This appendix shows plots of effects of

- Catalyst pretreatment
- Support
- Ratio of Ce and Zr support
- Catalyst preparation

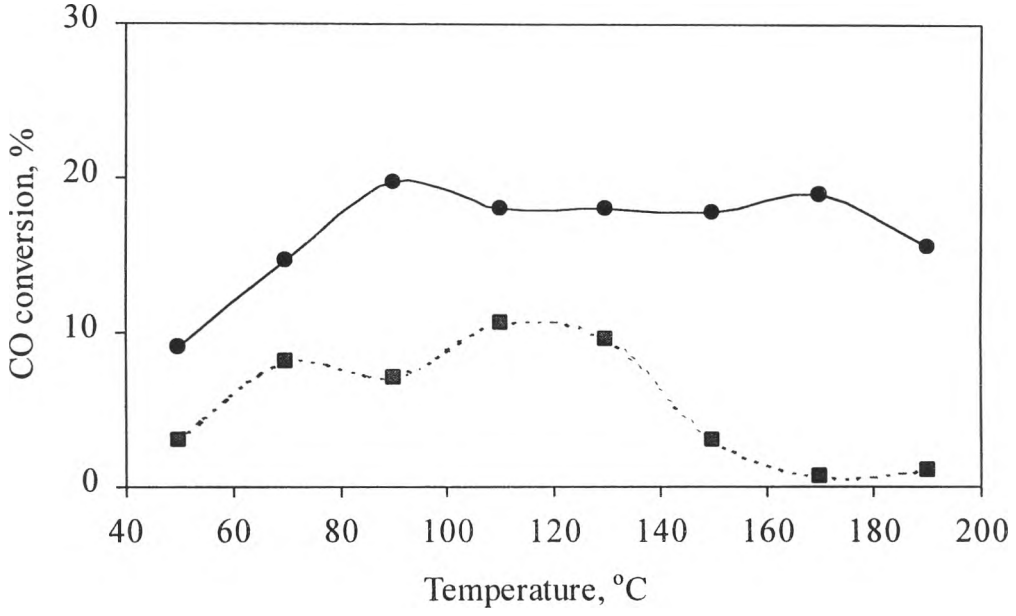

Figure A.1(a) Effect of pretreatment method on CO conversion of 1%Pd/CeO_2-ZrO_2 (50:50) co-precipitation catalyst (●) 10% H_2 pretreatment at 300°C 3 h (■) pure H_2 pretreatment at 300°C 2 h.

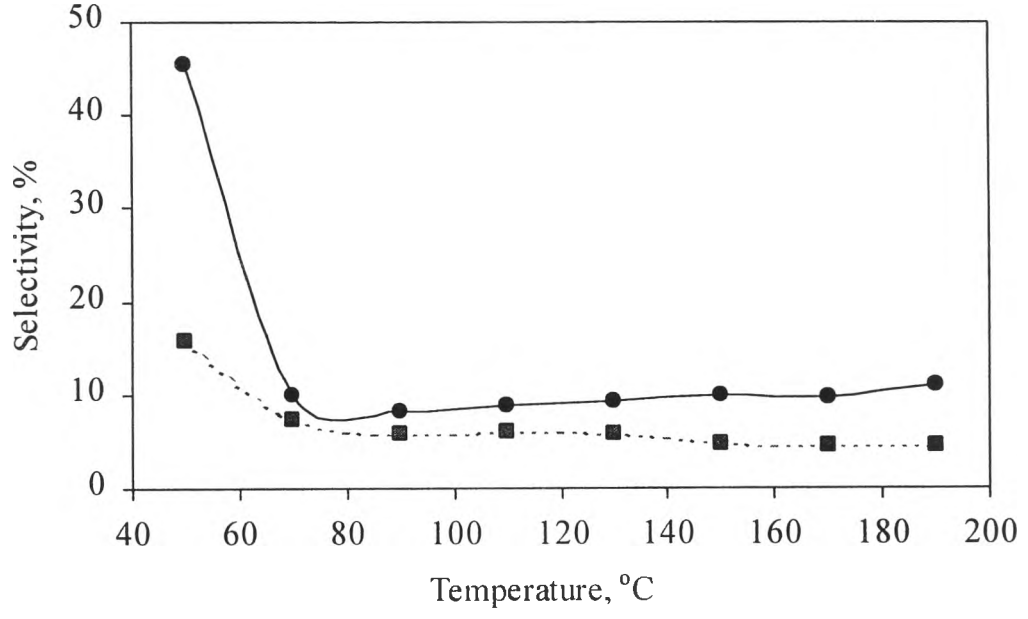

Figure A.1(b) Effect of pretreatment method on selectivity of 1%Pd/CeO_2-ZrO_2 (50:50) co-precipitation catalyst (●) 10% H_2 pretreatment at 300°C 3 h (■) pure H_2 pretreatment at 300°C 2 h.

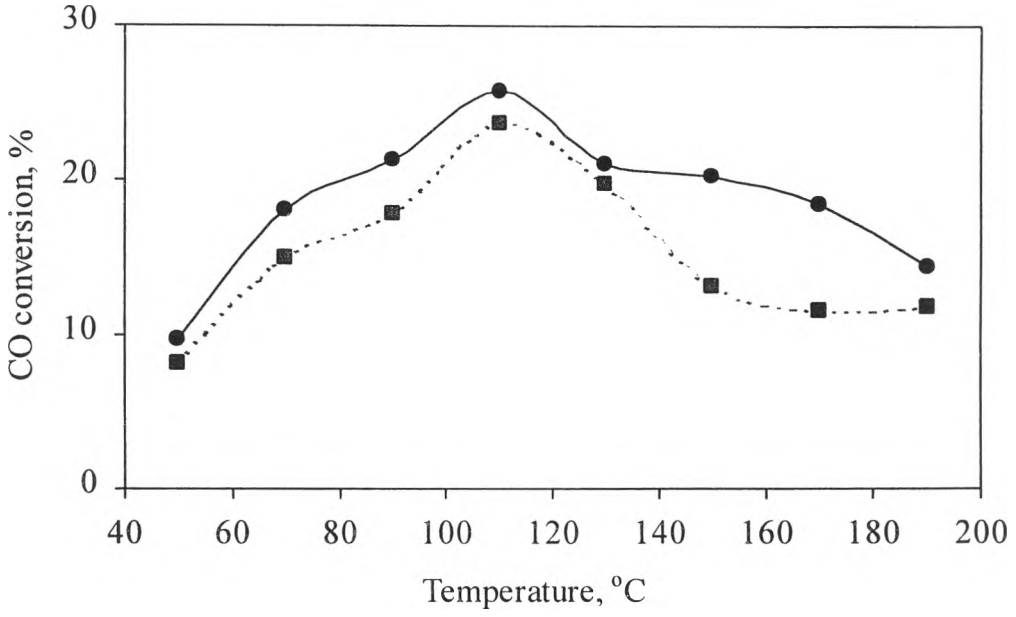

Figure A.2(a) Effect of pretreatment method on CO conversion of 1%Pd/CeO_2-ZrO_2 (75:25) co-precipitation catalyst (●) 10% H_2 pretreatment at 300°C 3 h (■) pure H_2 pretreatment at 300°C 2 h.

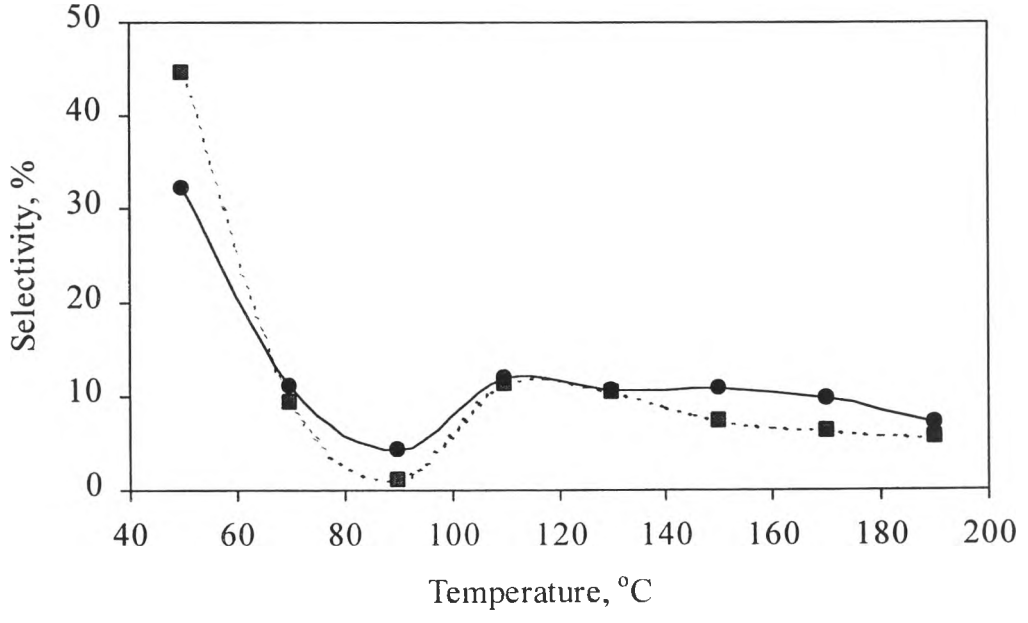

Figure A.2(b) Effect of pretreatment method on selectivity of 1%Pd/CeO_2-ZrO_2 (75:25) co-precipitation catalyst (●) 10% H_2 pretreatment at 300°C 3 h (■) pure H_2 pretreatment at 300°C 2 h.

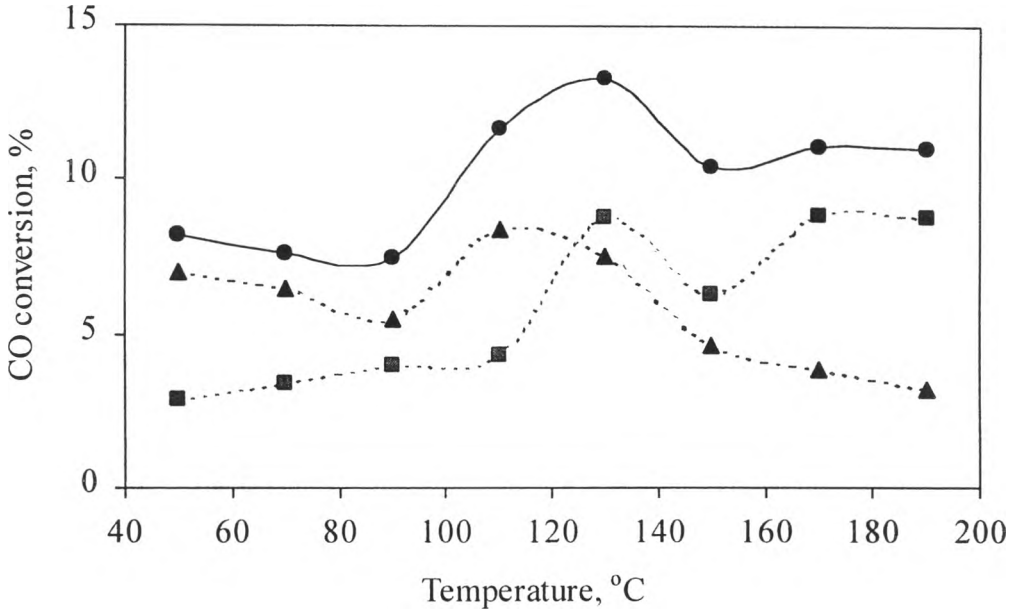

Figure A.3(a) Effect of pretreatment method on CO conversion of 1%Pd/ZrO_2 co-precipitation catalyst (●) 10% H_2 pretreatment at 300°C 3 h (■) pure H_2 pretreatment at 300°C 2 h (▲) pure O_2 pretreatment at 300°C 2 h.

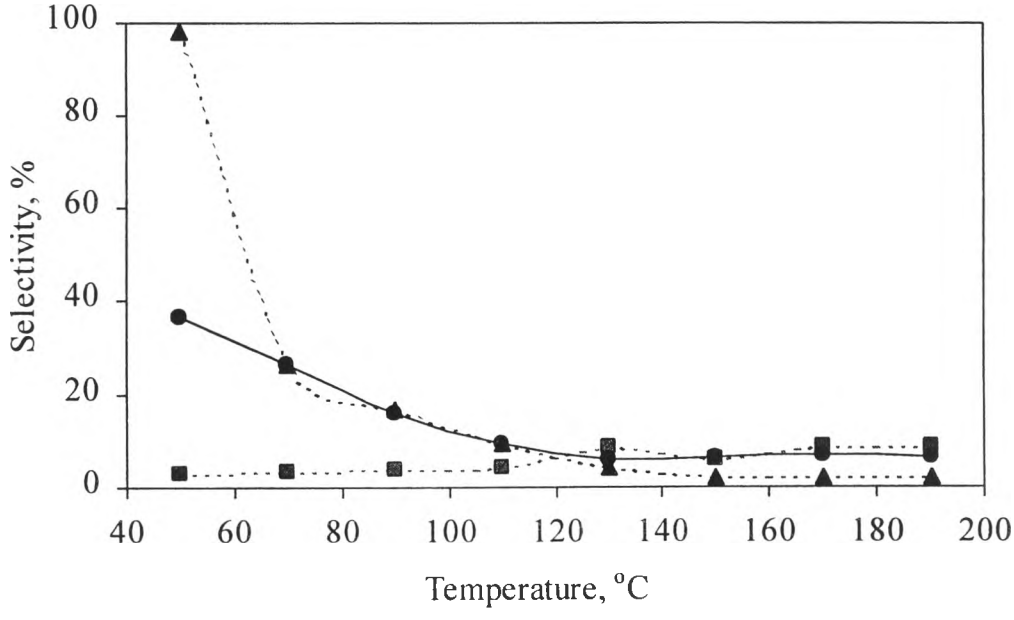

Figure A.3(b) Effect of pretreatment method on selectivity of 1%Pd/ZrO_2 co-precipitation catalyst (●) 10% H_2 pretreatment at 300°C 3 h (■) pure H_2 pretreatment at 300°C 2 h (▲) pure O_2 pretreatment at 300°C 2 h.

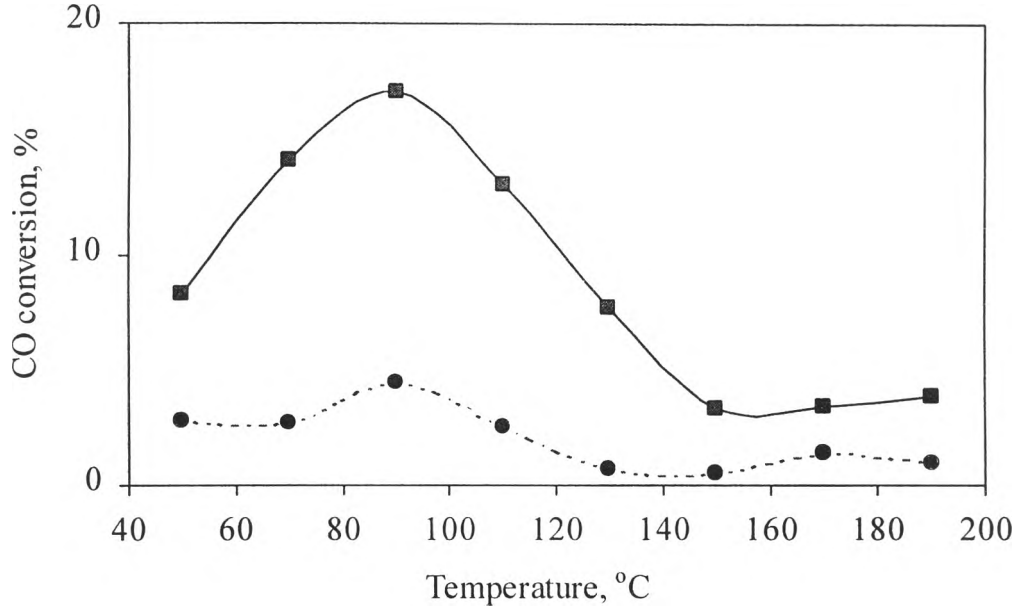

Figure A.4(a) Effect of support on CO conversion of impregnation on sol-gel catalyst, which calcined at 300°C 2h. (■) 1%Pd/CeO_2 (●) 1%Pd/ZrO_2.

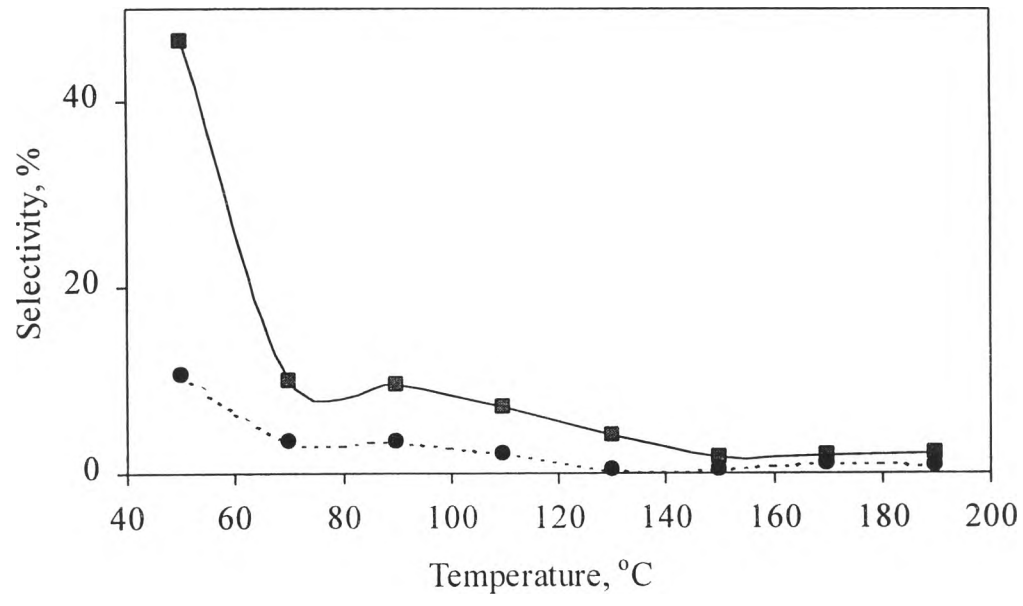

Figure A.4(b) Effect of support on selectivity of impregnation on sol-gel catalyst, which calcined at 300°C 2h. (■) 1%Pd/CeO_2 (●) 1%Pd/ZrO_2.

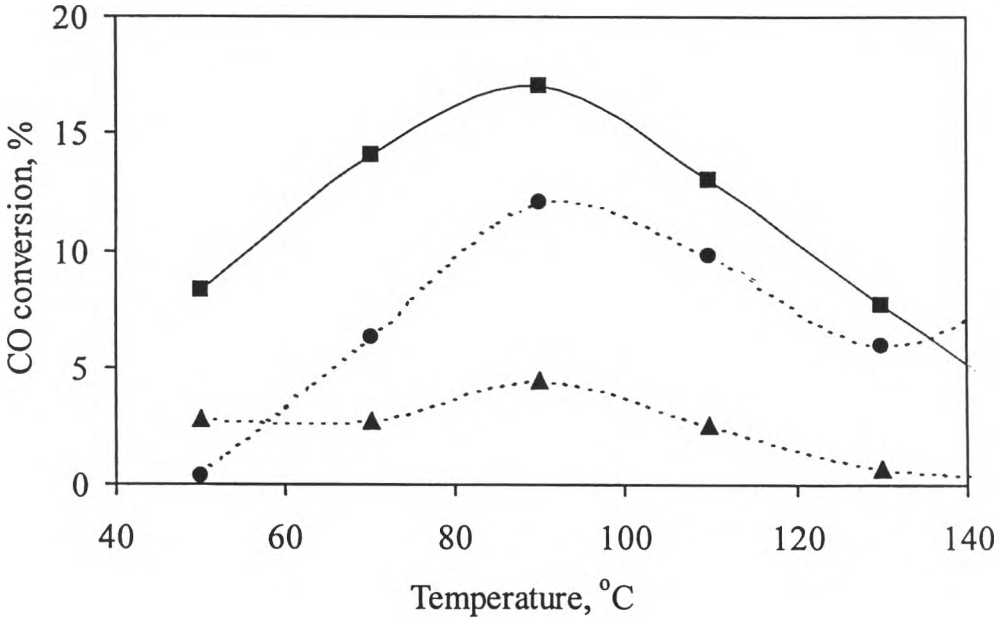

Figure A.5(a) Effect of ratio of Ce and Zr support on CO conversion of 1%Pd/CeO_2-ZrO_2 impregnation on sol-gel catalyst (■)100:0 (●) 50:50 (▲) 0:100.

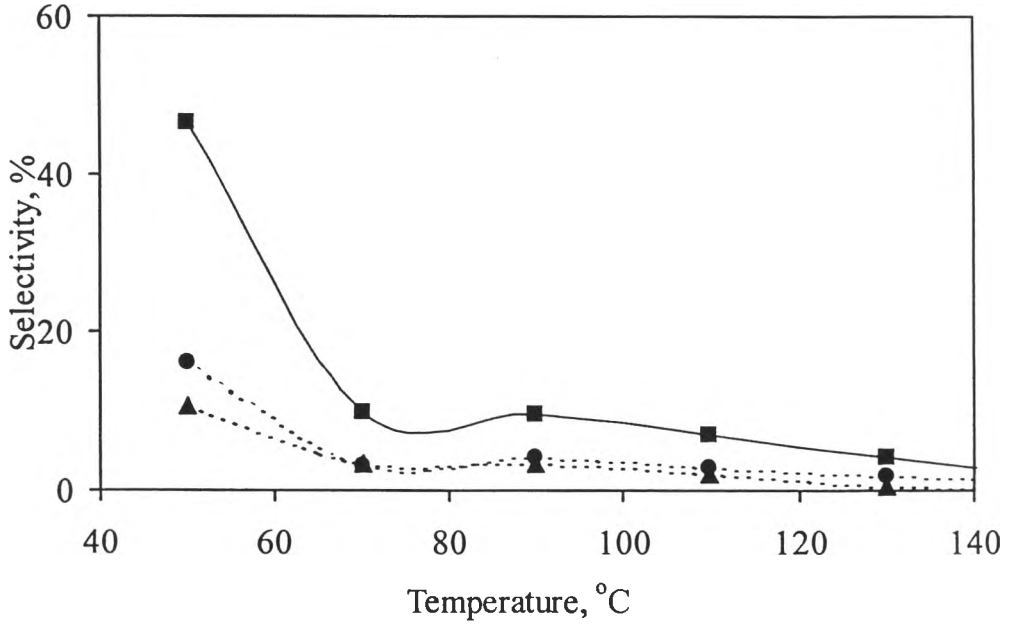

Figure A.5(b) Effect of ratio of Ce and Zr support on selectivity of 1%Pd/CeO_2-ZrO_2 impregnation on sol-gel catalyst (■)100:0 (●) 50:50 (▲) 0:100.

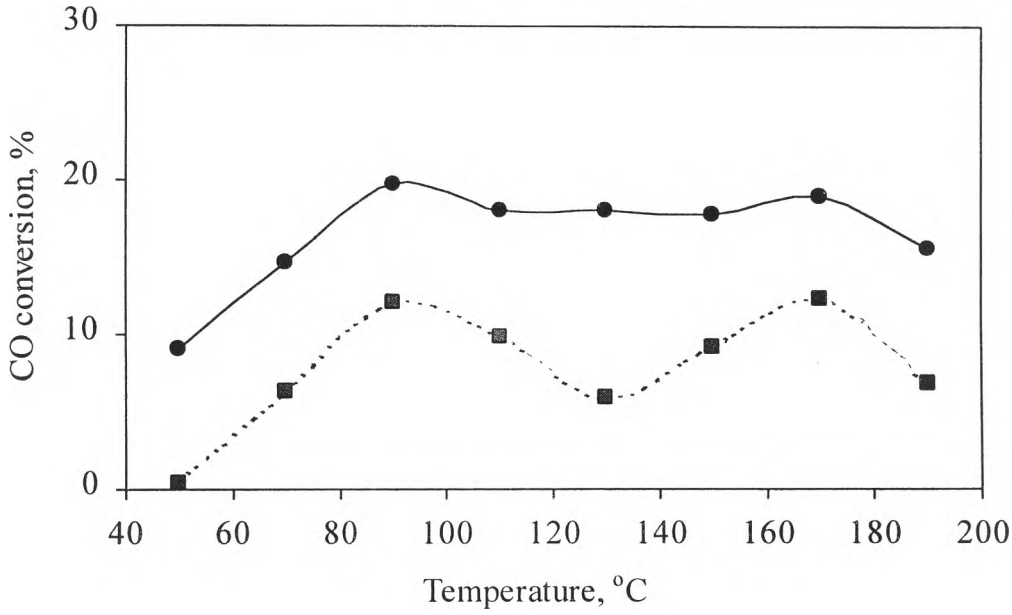

Figure A.6(a) Effect of catalyst preparation on CO conversion of 1%Pd/CeO_2-ZrO_2(50:50)catalyst (●) co-precipitation method (■) impregnation on sol-gel method.

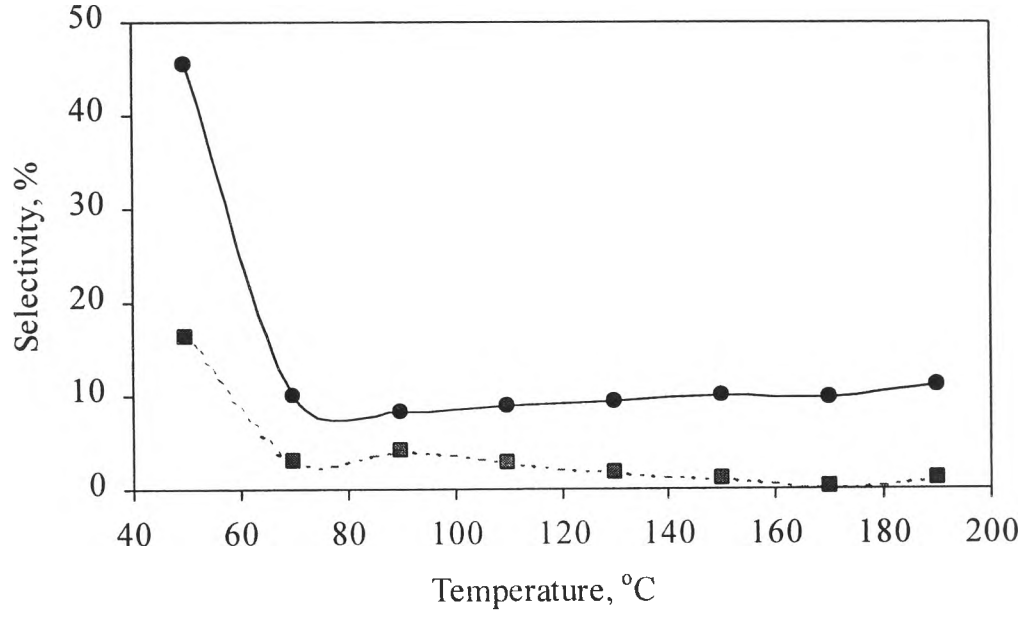

Figure A.6(b) Effect of catalyst preparation on selectivity of 1%Pd/CeO_2-ZrO_2 (50:50) catalyst (●) co-precipitation method (■) impregnation on sol-gel method.

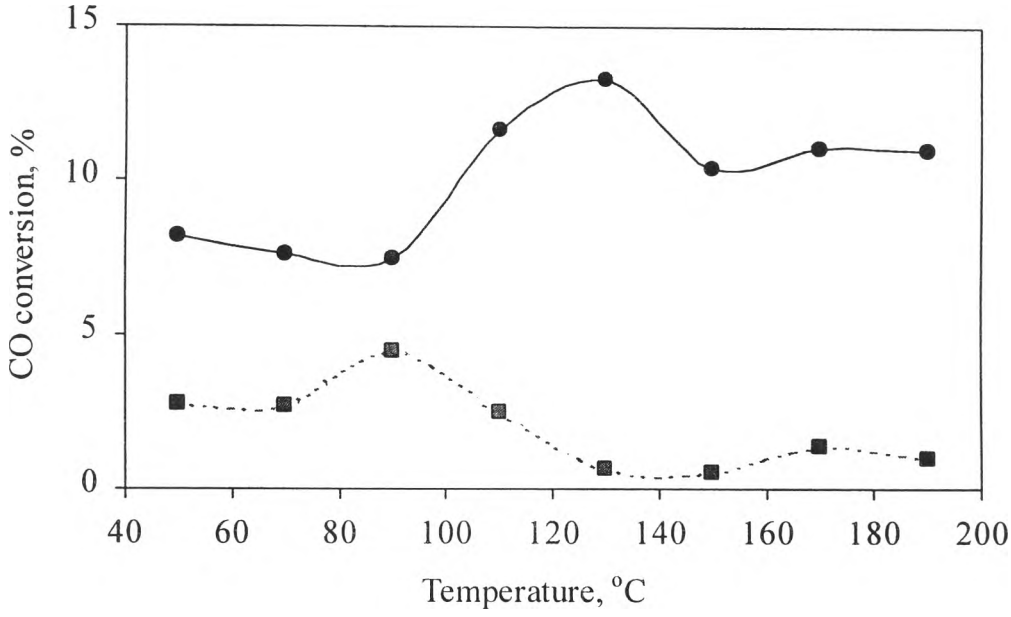

Figure A.7(a) Effect of catalyst preparation on CO conversion of 1%Pd/ZrO_2 catalyst (●) co-precipitation method (■) impregnation on sol-gel method.

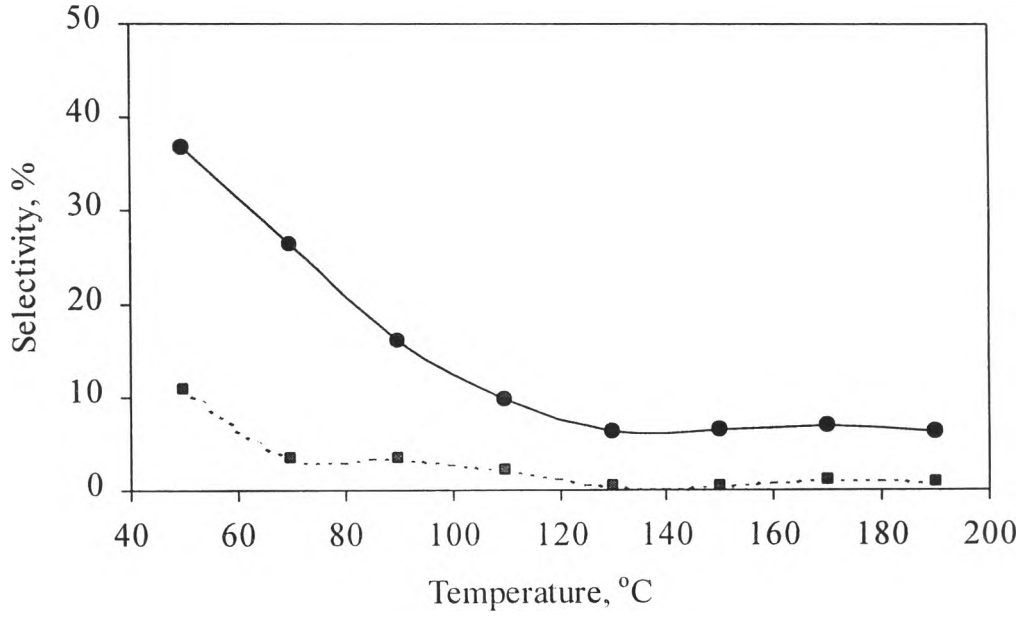

Figure A.7(b) Effect of catalyst preparation on selectivity of 1%Pd/ZrO_2 catalyst (●) co-precipitation method (■) impregnation on sol-gel method.

CURRICULUM VITAE

Name: Ms. Kaewjai Khumvilaisak

Date of Birth: October 12, 1978

Nationality: Thai

University Education:

1995-1999 Bachelor Degree of Science in Chemical Engineering, Chulalongkorn University, Bangkok, Thailand