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APPENDIX

Appendix A Calibration of gas products

The relationship between the peak area from GC analysis and the gas concentration was conducted for the possible gas products such as hydrogen, carbon monoxide, and carbon dioxide.

Hydrogen

Peak Area	Amount (%)
0	0
16898	18.52446
31488	28.501
45250	37.081
58323	43.555

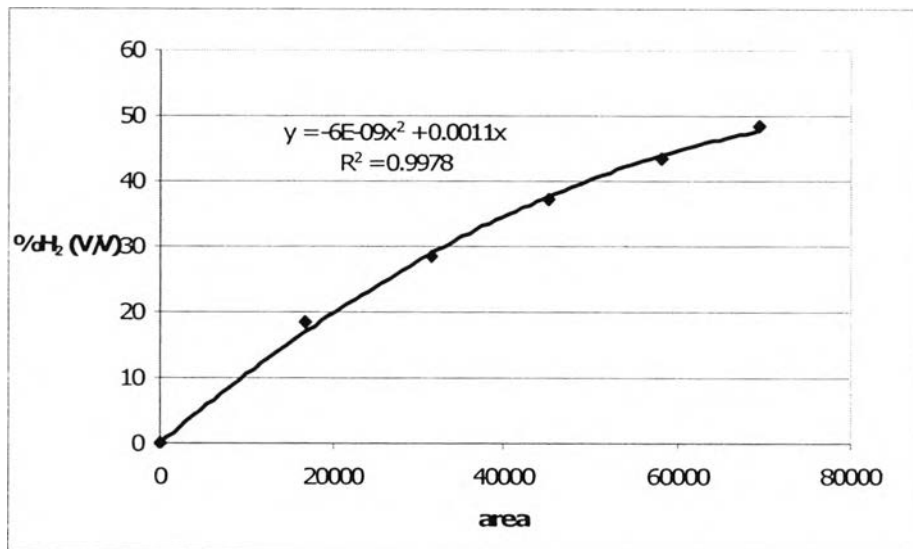


Figure A1 Calibration curve of hydrogen gas.

Where x is peak area from GC analysis

y is concentration (%)

Carbon dioxide

Peak Area	Amount (%)
0	0
335074.0	5.17
1516532.8	24.81
3219721.0	51.34
5050441.0	73.36

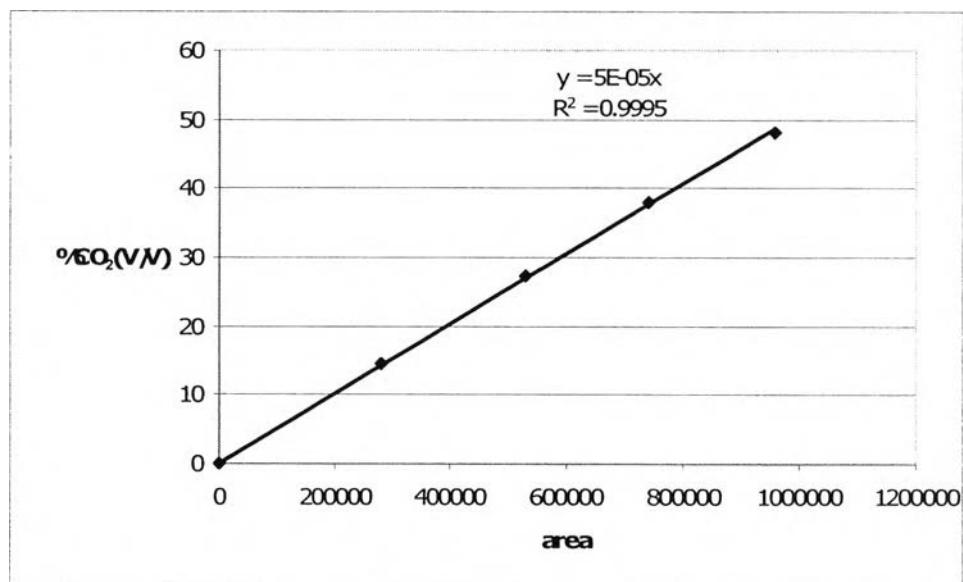


Figure A2 Calibration curve of carbondioxide gas.

Where x is peak area from GC analysis

y is concentration (%)

Carbon monoxide

Peak Area	Amount (%)
0	0
54453	0.55
90348	0.95
116488	1.33
172781	2.36

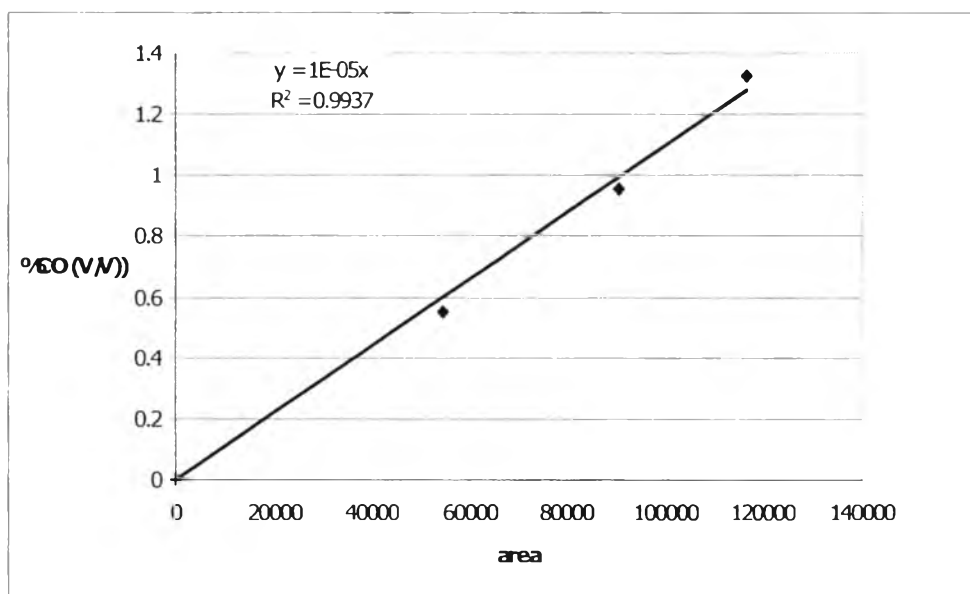


Figure A3 Calibration curve of carbon monoxide gas.

Where x is peak area from GC analysis

y is concentration (%)

Methane

Peak Area	Amount (%)
0	0
229543	2.80
363327	5.66
730236	10.33
1040107	14.38

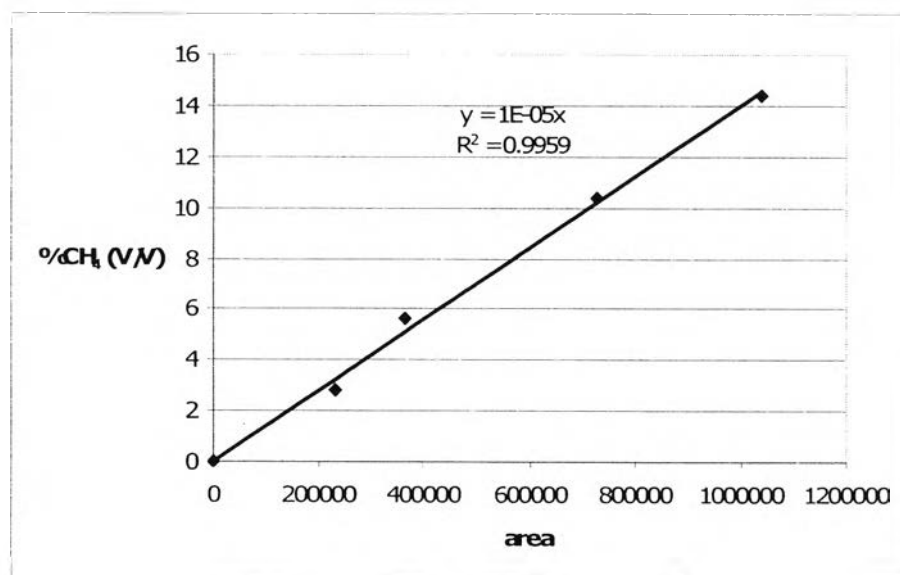


Figure A4 Calibration curve of methane gas.

Where x is peak area from GC analysis

y is concentration (%)

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Presentation

1. Shuenka, W., Luengnaruemitchai, A., and Gulari, E. (2009, April 7-9) Characterization and catalytic activity of Au/Fe₂O₃-CeO₂ for Hydrogen Production by the steam reforming of methanol at SDSE2008 Conference, Millennium Hilton Bangkok, Thailand.
2. Shuenka, W., Luengnaruemitchai, A., and Gulari, E. (2009, April 22) Hydrogen Production from the Steam Reforming of Methanol over Au/Fe₂O₃-CeO₂. Poster presented at the 15th PPC Symposium on Petroleum, Petrochemicals, and Polymers, Bangkok, Thailand.

