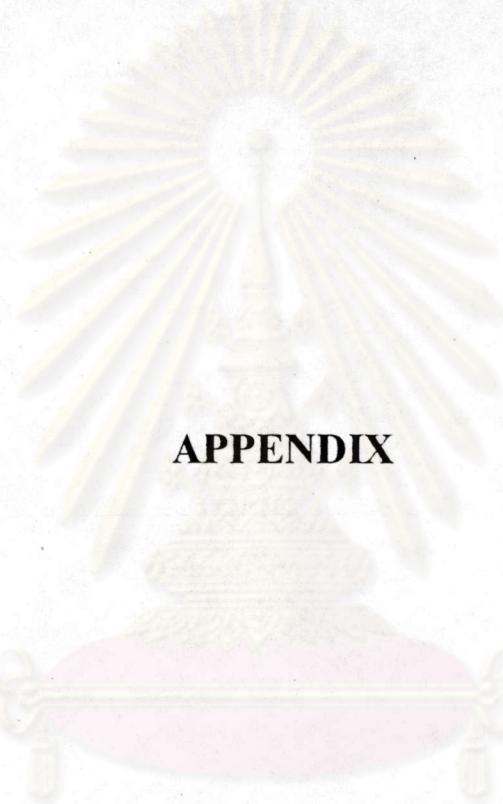


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## **APPENDIX**

ศูนย์วิทยทรัพยากร  
อุปกรณ์ครุภัณฑ์มหาวิทยาลัย

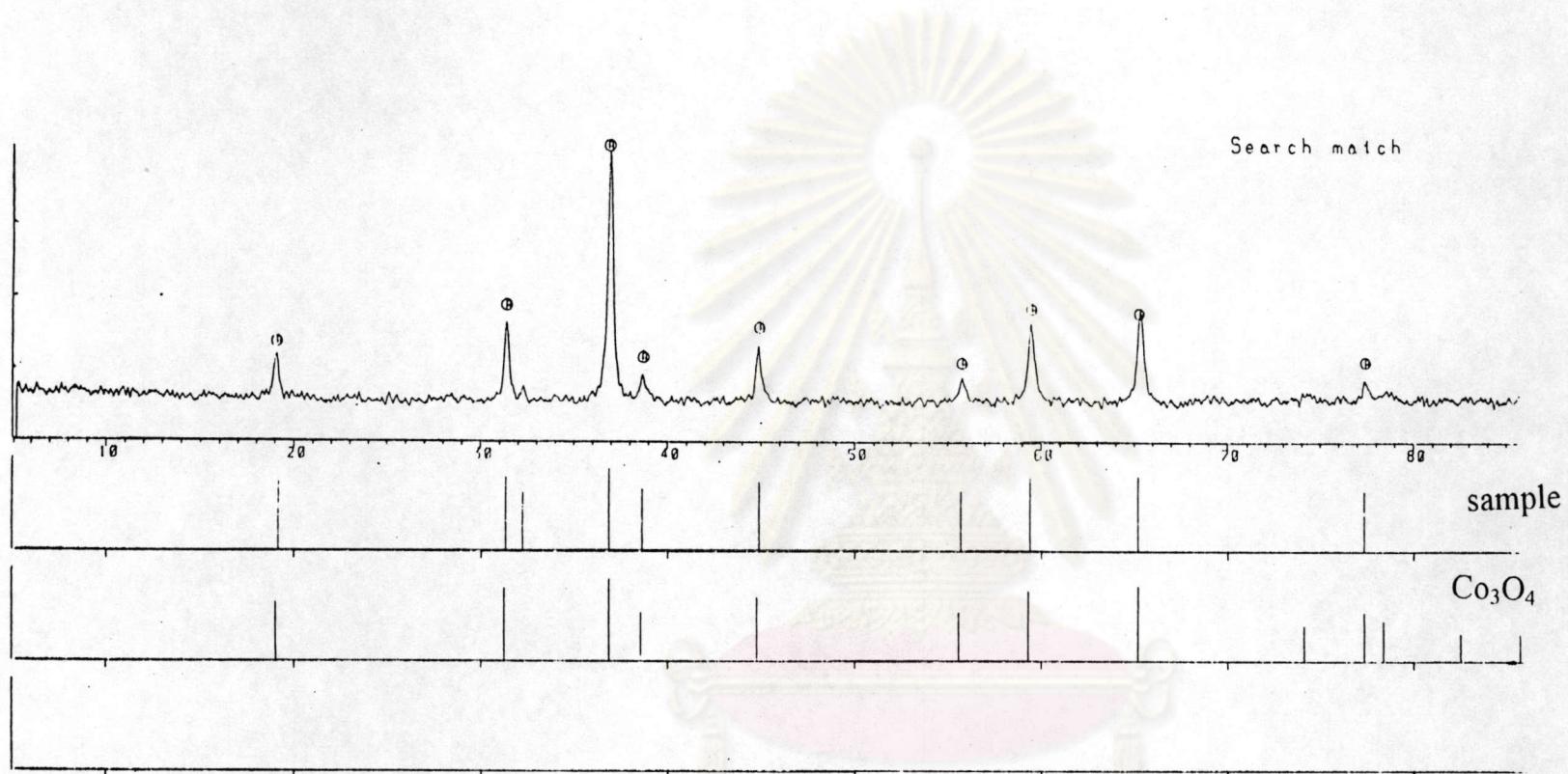
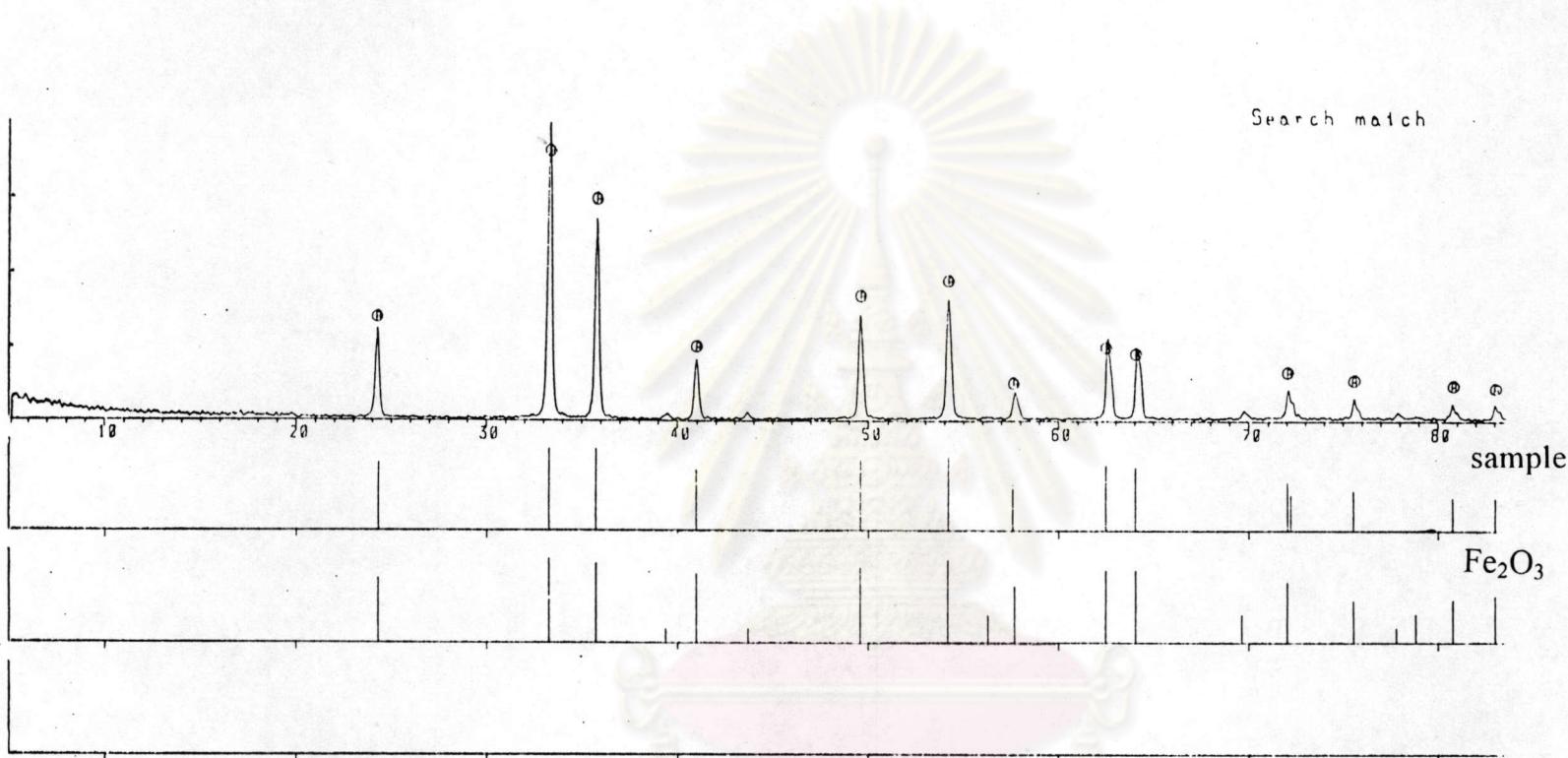
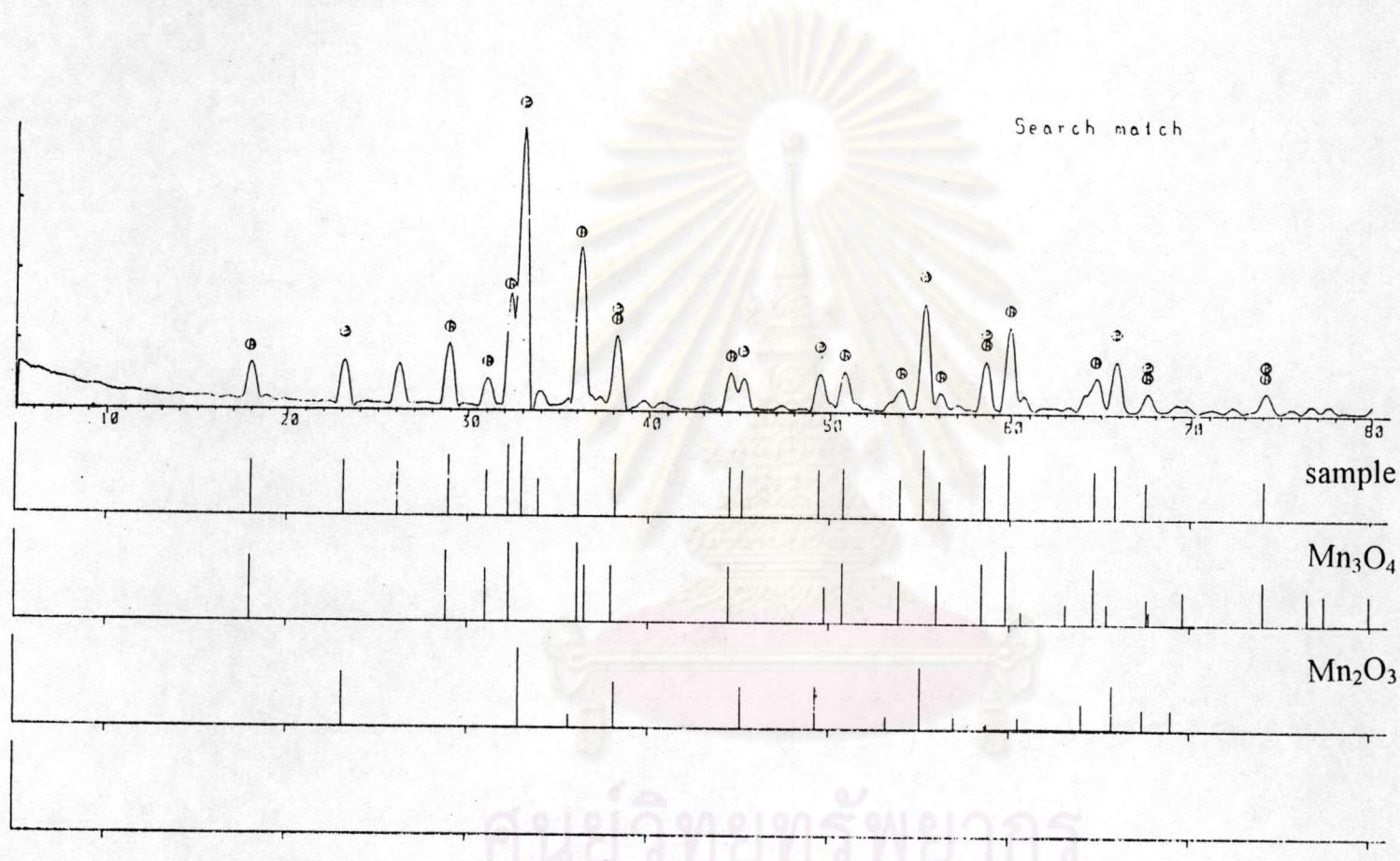


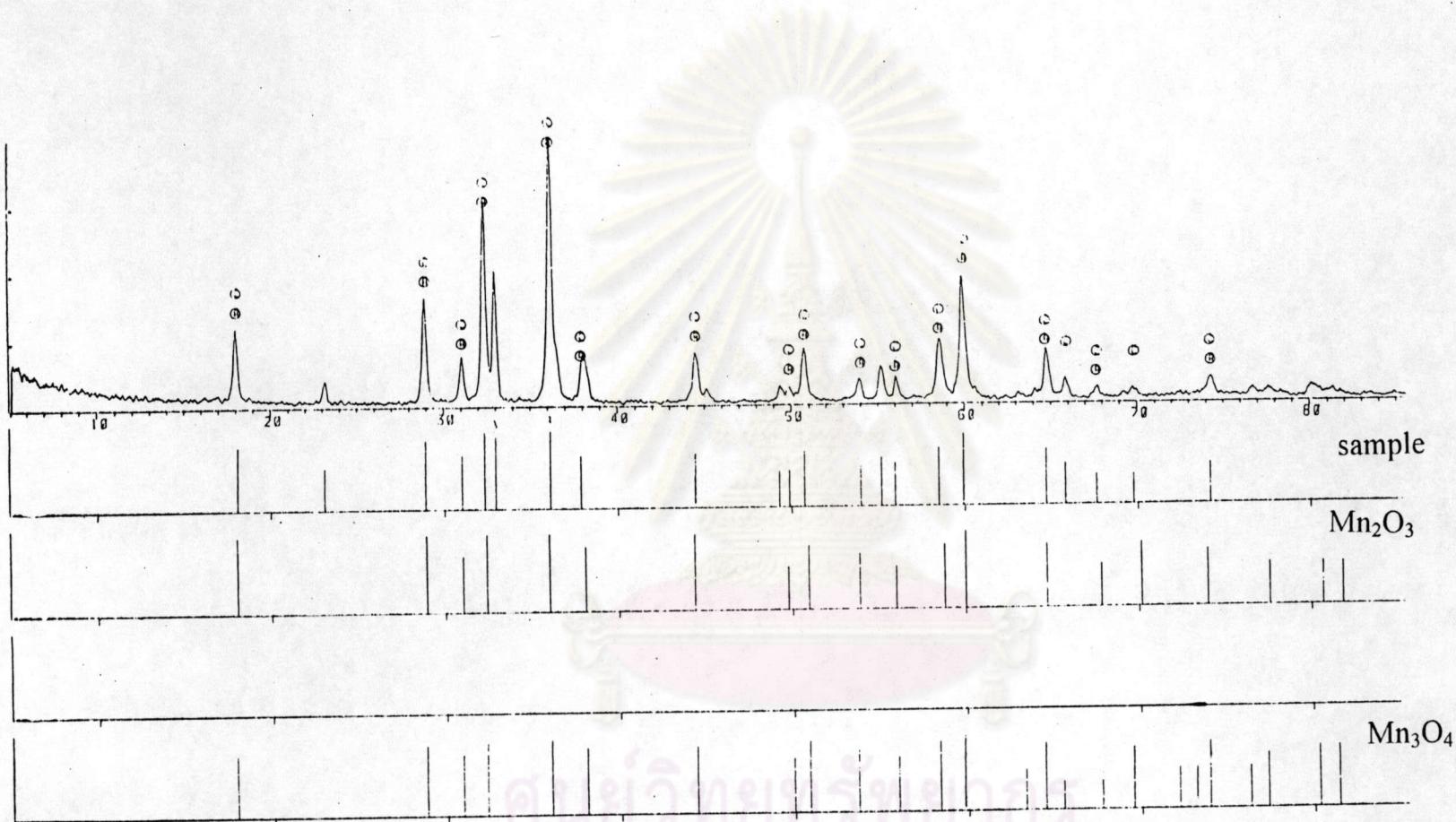
Figure A.1 XRD pattern matching between the fresh  $\text{Co}_3\text{O}_4$  and the reference ( $\text{Co}_3\text{O}_4$ )



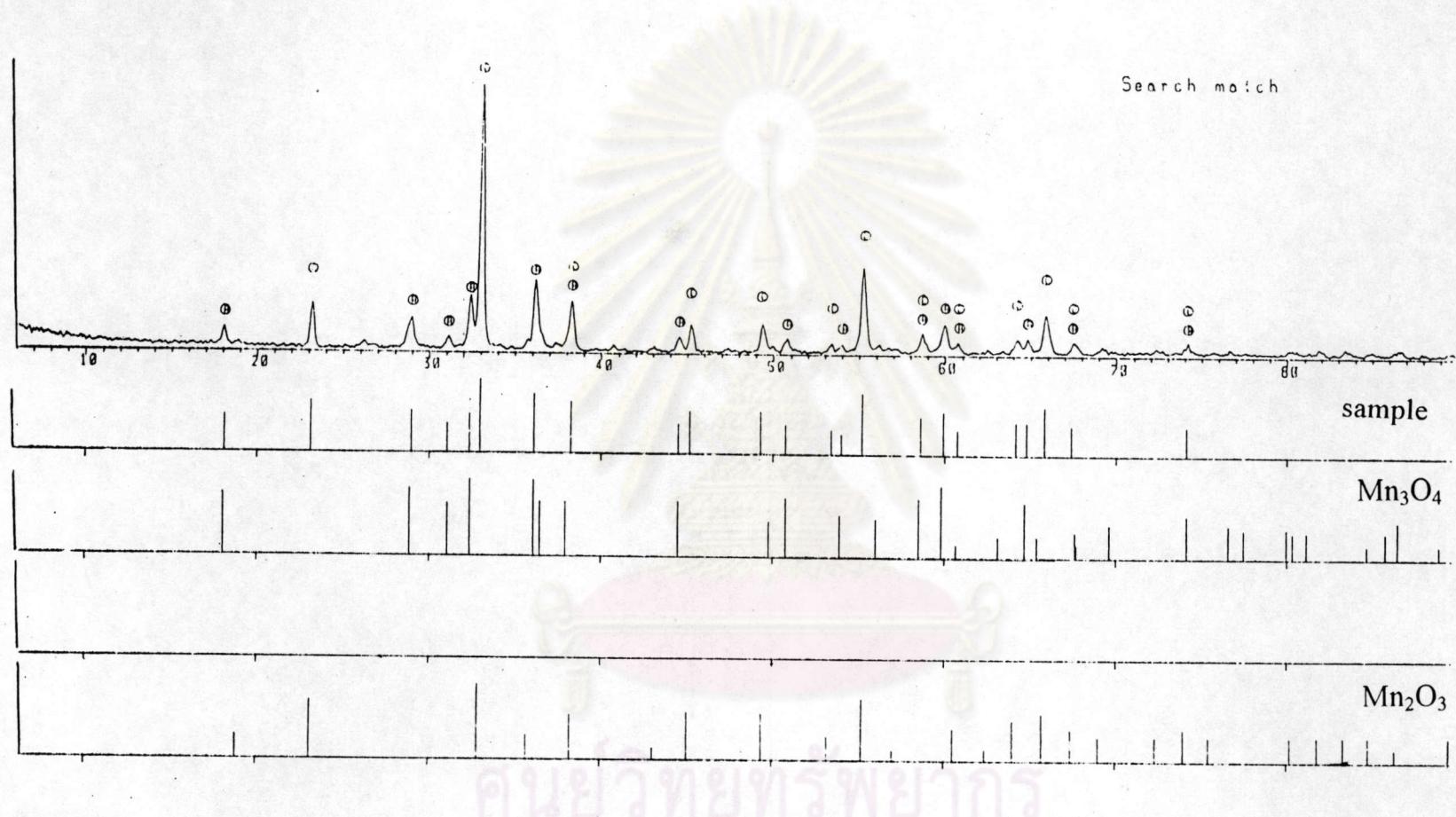
**Figure A.2** XRD pattern matching between the fresh  $\text{Fe}_2\text{O}_3$  and the reference ( $\text{Fe}_2\text{O}_3$ )



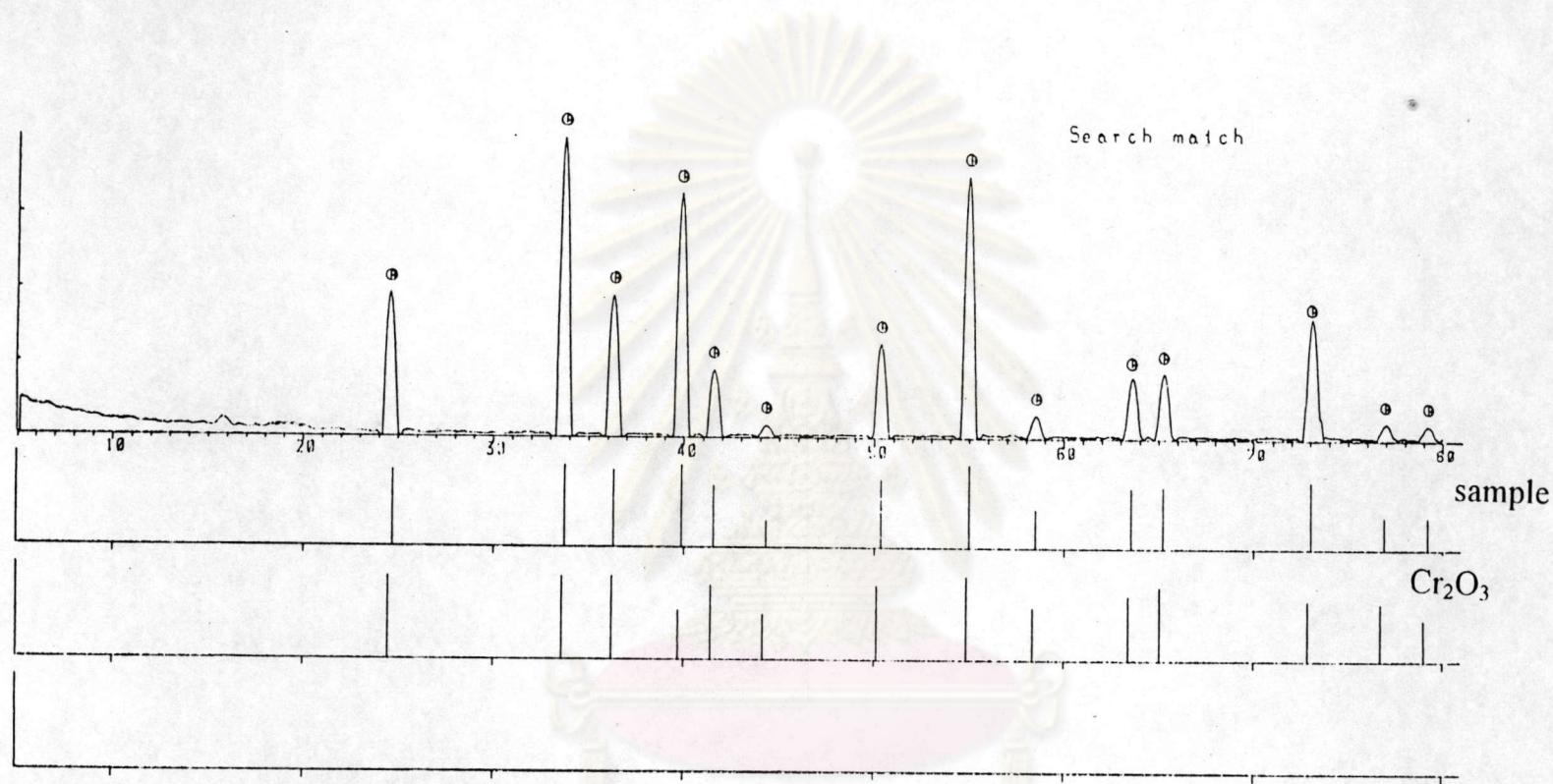
**Figure A.3** XRD pattern matching between the fresh  $\text{Mn}_3\text{O}_4$  and the references ( $\text{Mn}_3\text{O}_4$  and  $\text{Mn}_2\text{O}_3$ )



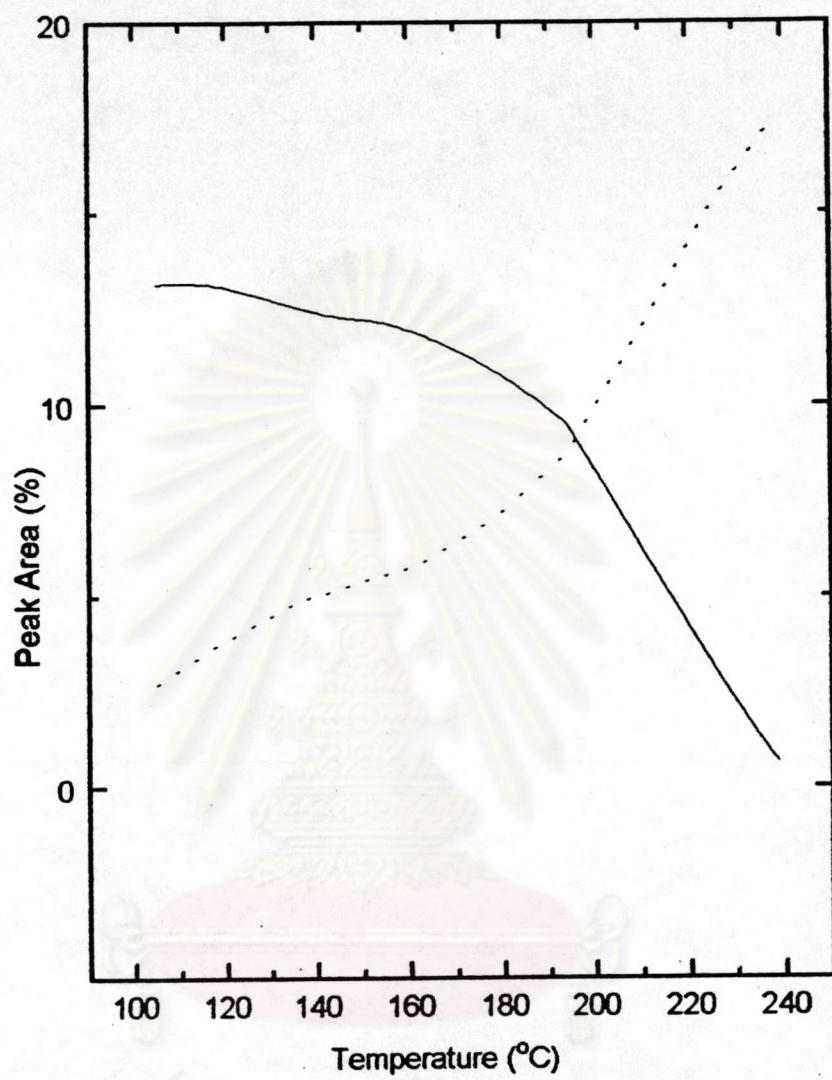
**Figure A.4** XRD pattern matching between the used  $\text{Mn}_3\text{O}_4$  in the reaction of CO with  $\text{N}_2\text{O}$  and the references ( $\text{Mn}_3\text{O}_4$  and  $\text{Mn}_2\text{O}_3$ )



**Figure A.5** XRD pattern matching between the used  $\text{Mn}_3\text{O}_4$  in the reaction of CO with O<sub>2</sub> and the references ( $\text{Mn}_3\text{O}_4$  and  $\text{Mn}_2\text{O}_3$ )



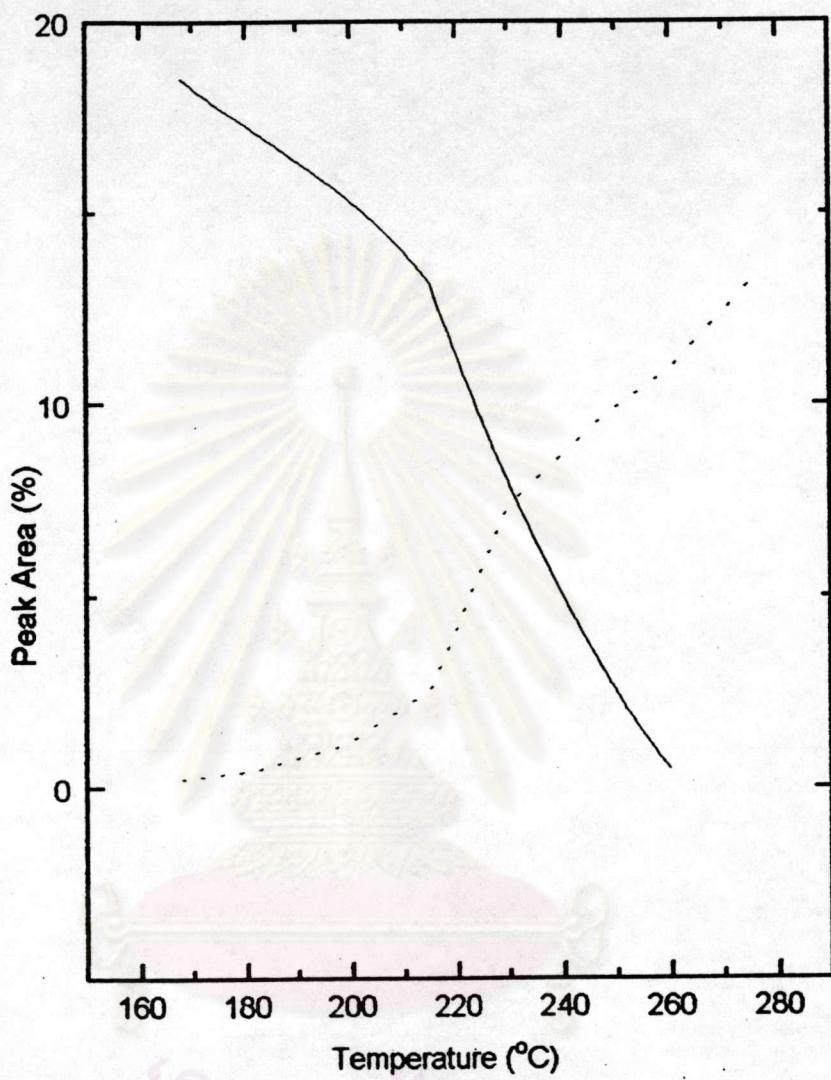
**Figure A.6** XRD pattern matching between the fresh  $\text{Cr}_2\text{O}_3$  and the reference ( $\text{Cr}_2\text{O}_3$ )



**Figure B.1** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with N<sub>2</sub>O using Co<sub>3</sub>O<sub>4</sub> as a catalyst

CO —

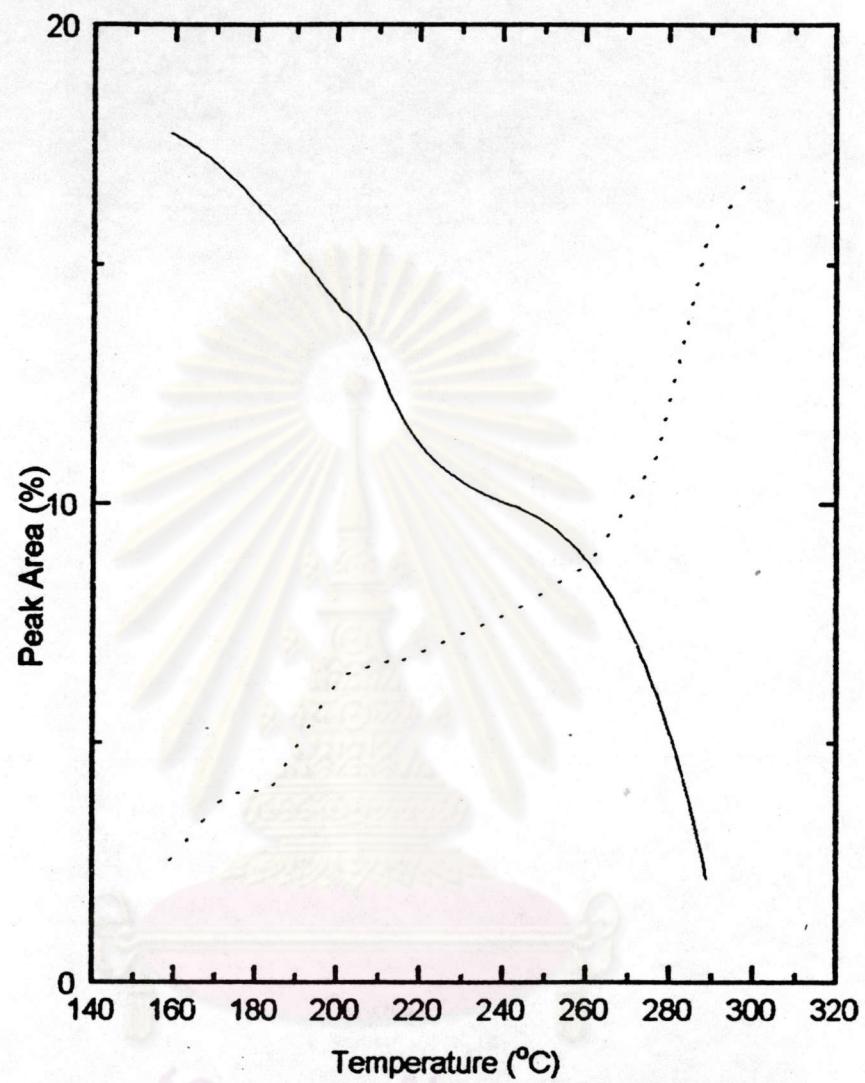
CO<sub>2</sub> .....



**Figure B.2 Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with N<sub>2</sub>O using Fe<sub>2</sub>O<sub>3</sub> as a catalyst**

CO ——

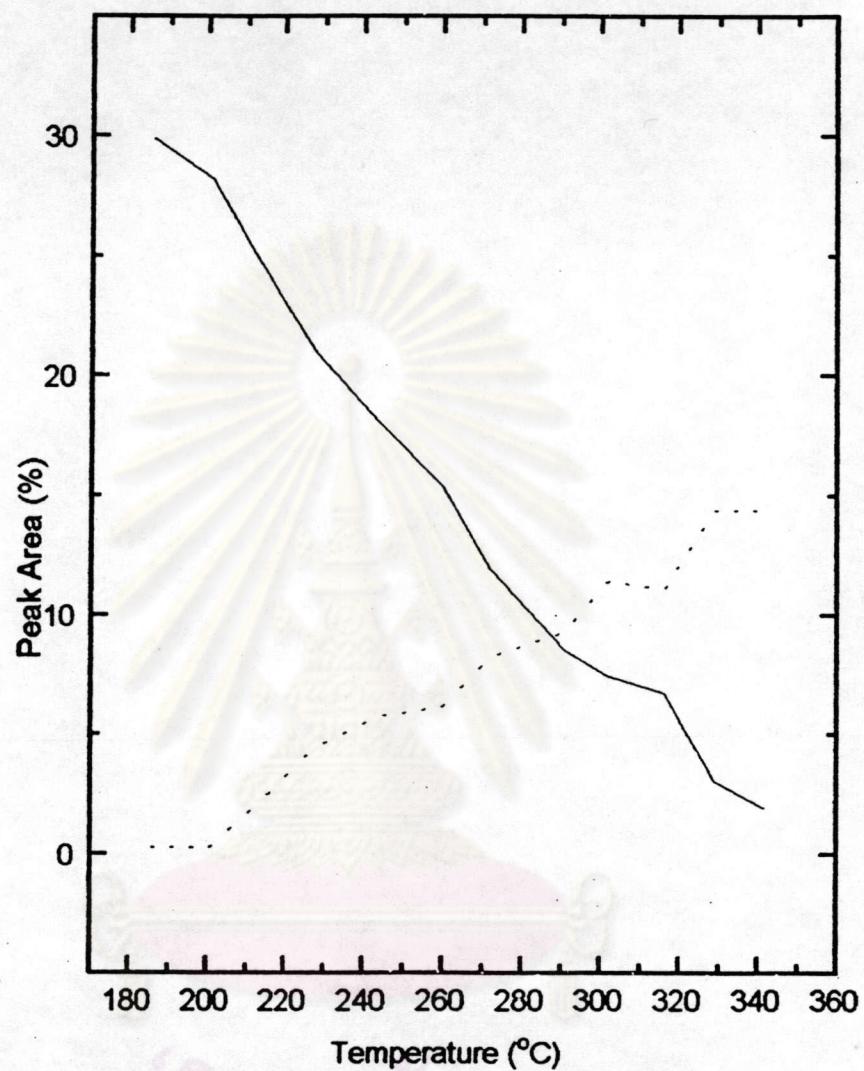
CO<sub>2</sub> .....



**Figure B.3** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with N<sub>2</sub>O using Mn<sub>3</sub>O<sub>4</sub> as a catalyst

CO ——

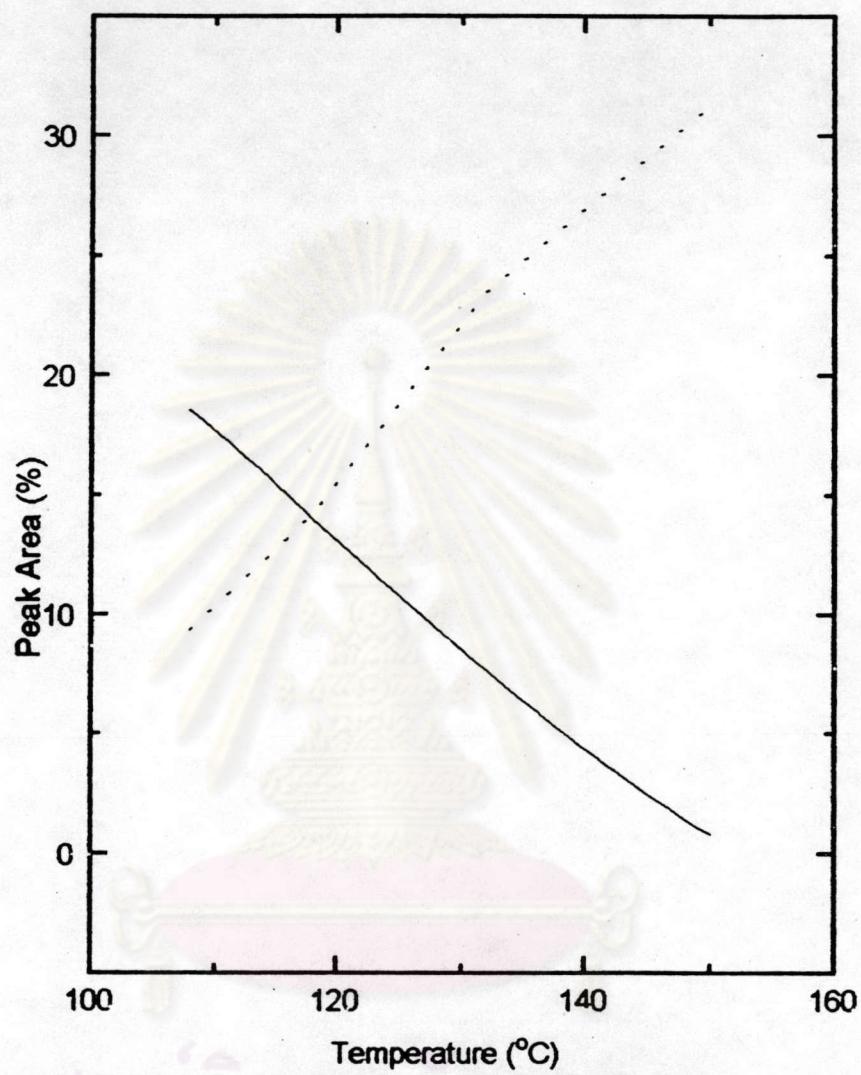
CO<sub>2</sub> .....



**Figure B.4** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with N<sub>2</sub>O using Cr<sub>2</sub>O<sub>3</sub> as a catalyst

CO —

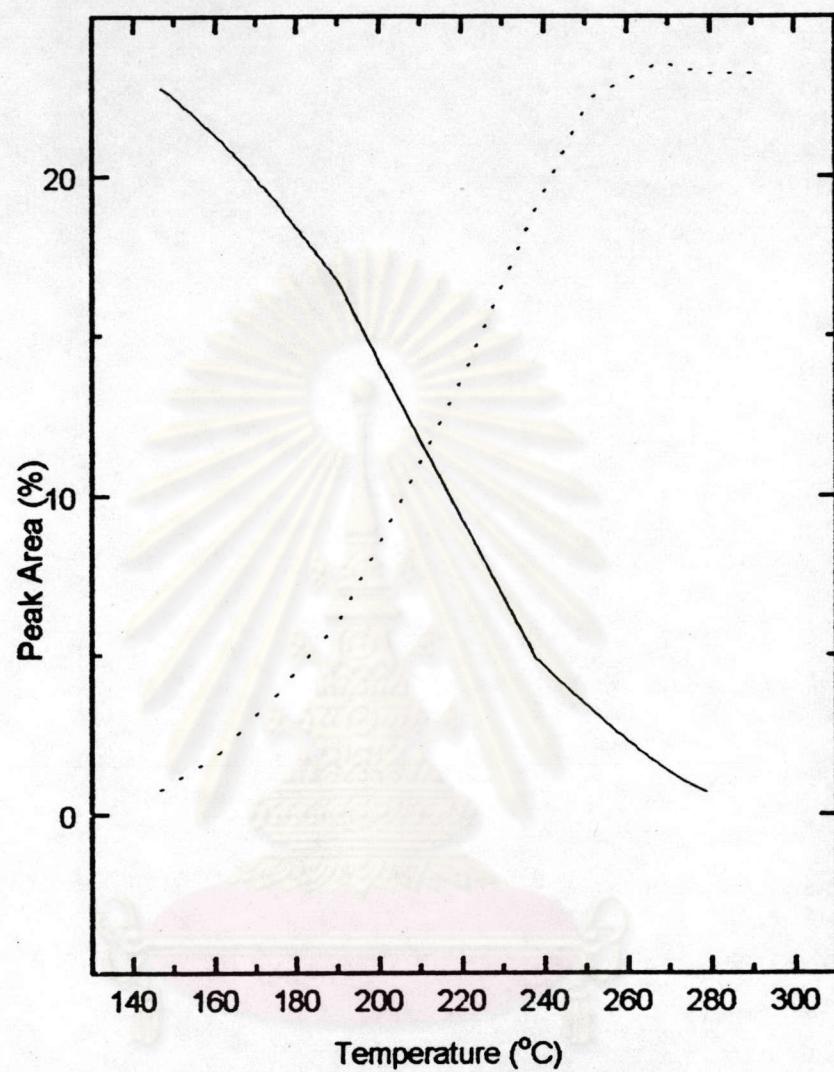
CO<sub>2</sub> .....



**Figure B.5** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with O<sub>2</sub> using Co<sub>3</sub>O<sub>4</sub> as a catalyst

CO —

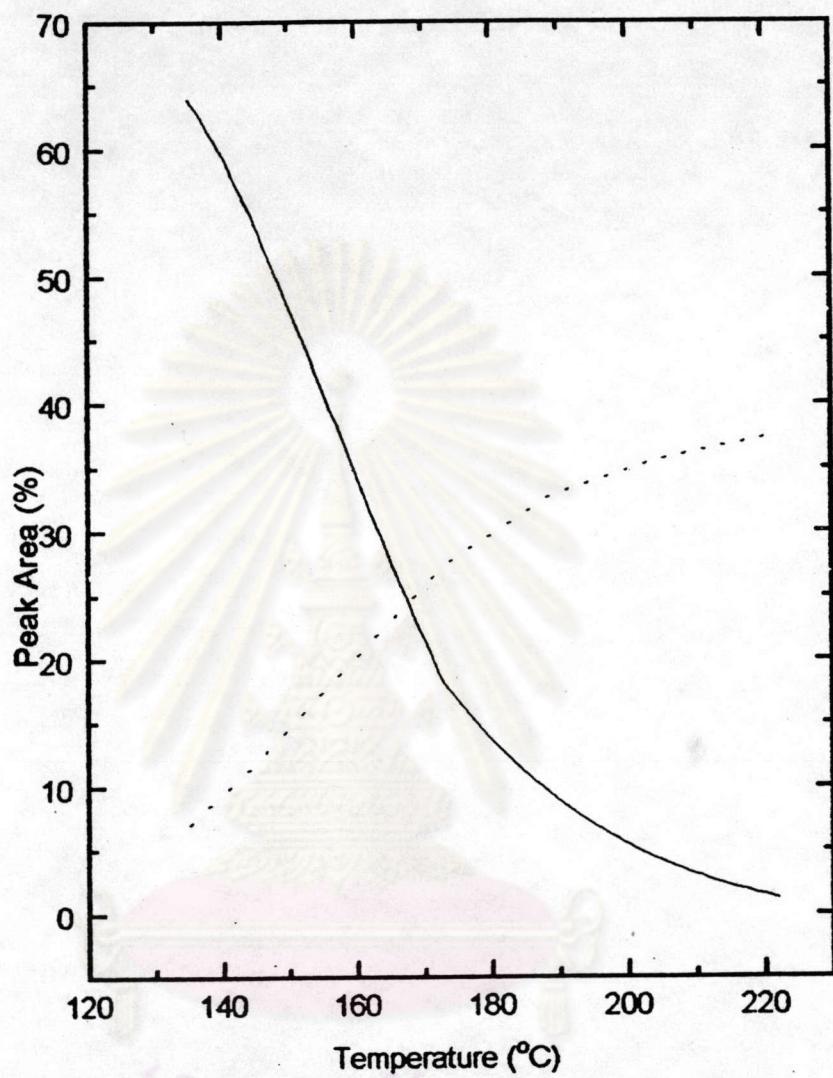
CO<sub>2</sub> .....



**Figure B.6** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with O<sub>2</sub> using Fe<sub>2</sub>O<sub>3</sub> as a catalyst

CO —

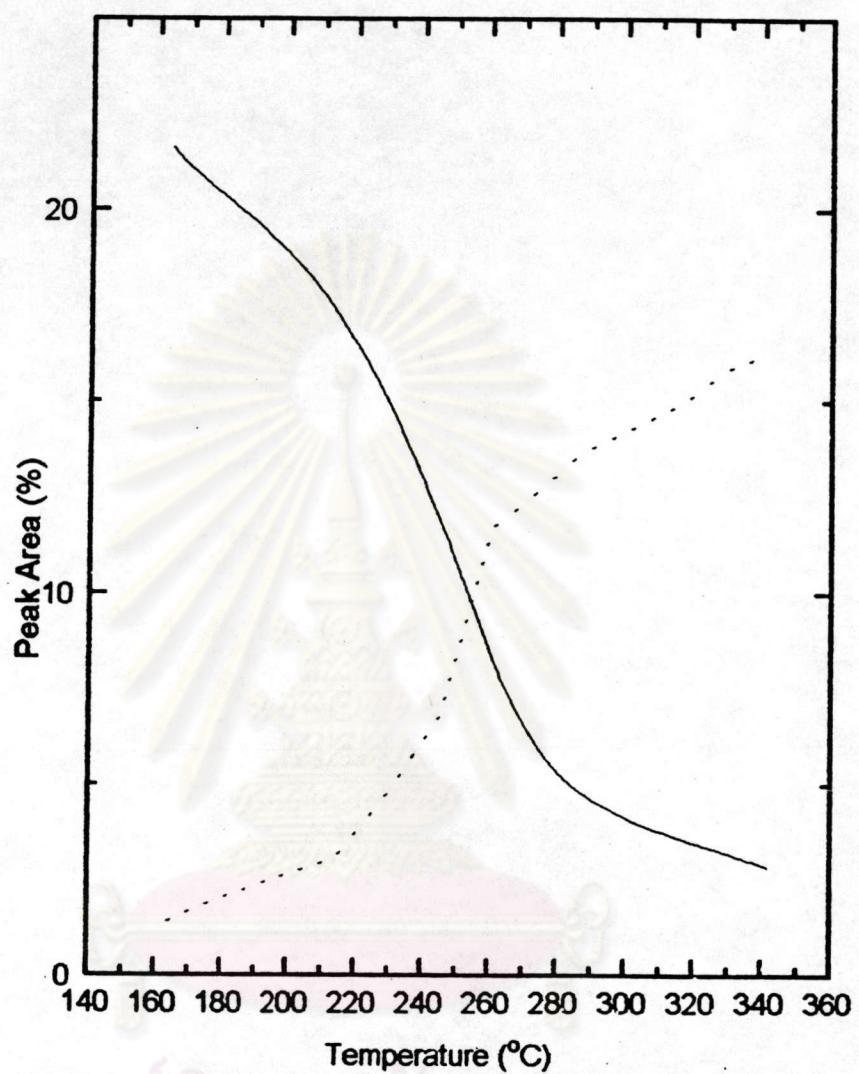
CO<sub>2</sub> .....



**Figure B.7** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with O<sub>2</sub> using Mn<sub>3</sub>O<sub>4</sub> as a catalyst

CO ——

CO<sub>2</sub> .....



**Figure B.8** Percent peak area of CO and CO<sub>2</sub> with temperature in the reaction of CO with O<sub>2</sub> using Cr<sub>2</sub>O<sub>3</sub> as a catalyst

CO ——

CO<sub>2</sub> .....

**VITA**

Montida Raoarun was born on February, 5, 1969 in Nakhon Prathom, Thailand. She received her Bachelor Degree of Science in Chemistry, Kasetsart University in 1990. She continued her Master's study at Chulalongkorn University in 1991 and finished in 1995.



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