

## REFERENCES

- Baiker, A. Experimental methods for the characterization of catalysts. I. Gas adsorption methods, pycnometry and porosimetry. International Chemical Engineering 25(1) (1985) : 16-29.
- Baiker, A. Experimental methods for the characterization of catalysts. II. X-ray diffraction, temperature-programmed desorption and reduction, thermogravimetry and differential thermoanalysis. International Chemical Engineering 25(1) (1985) : 30-37.
- Bogdanchikova, N. E., and Tretyakov, V. V. New method of synthesis of highly dispersed silver catalysts. Preparation of Catalysis V (edited by Poncelet, G., Jacobs, P. A., Grange, P., and Delmon, B.) Amsterdam : Elsevier, 1991.
- Gardner, S. D., Hoflund, G. B., Schryer, D. R., Schryer, J., Upchurch, B. T., and Kielin, E. J. Catalytic behavior of noble metal/reducible oxide materials for low-temperature CO oxidation. 1. Comparison of catalyst performance. Langmuir 7(10) (1991) : 2135-2139.
- Gardner, S. D., Hoflund, G. B., Upchurch, B. T., Schryer, D. R., Kielin, E. J., and Schryer, J. Comparison of the performance characteristics of Pt/SnO<sub>x</sub> and Au/MnO<sub>x</sub> catalysts for low-temperature CO oxidation. Journal of Catalysis 129 (1991) : 114-120.
- Haruta, M., and Sano, H. Preparation of highly active composite oxide of silver for hydrogen and carbon monoxide oxidation. Preparation of Catalysis III - Studies in surface science and catalysis 16 (edited by Poncelet, G., Grange, P., and Jacobs, P. A.) Amsterdam : Elsevier, 1983.

- Haruta, M., Takase, T., Kobayashi, T., and Tsubota, S. Bead-and honeycomb type supported gold catalysts for the removal of carbon monoxide from air at room temperature. Catalytic Science and Technology 1 (1991) : 331-334.
- Haruta, M., Tsubota, S., Kobayashi, T., Kageyama, H., Genet, M. J. and Delmon, B. Low temperature oxidation of CO over gold supported  $\text{TiO}_2$ ,  $\alpha\text{Fe}_2\text{O}_3$ , and  $\text{Co}_3\text{O}_4$ . Journal of Catalysis 114 (1993) : 175-192.
- Haruta, M., Yamada, N., Kobayashi, T., and Iijima, S. Gold catalysts prepared by coprecipitation for low temperature oxidation of hydrogen and of carbon monoxide. Journal of Catalysis 115 (1989) : 301-309.
- Heck, R. M. and Farrauto, R. J. Catalytic Air Pollution Control : Commercial Technology New York : Van Nostrand Reinhold, 1995.
- Hoflund, G.B., Gardner, S.D., Schryer, D.R., Upchurch, B.T., and Kielin, E.J. Effect of  $\text{CO}_2$  on the performance of  $\text{Au/MnO}_x$  and  $\text{Pt/SnO}_x$  low temperature CO oxidation catalysts. Langmuir 11 (1995) : 3431-3434.
- Imamura, S., Sawada, H., Uemura, K., and Ishida, S. Oxidation of carbon monoxide catalyzed by manganese-silver composite oxides. Journal of Catalysis 109 (1988) : 198-205.
- Knell, A., Barnickel, P., Baiker, A., and Wokaun, A. CO oxidation over  $\text{Au/ZrO}_2$  catalysts : Activity, deactivation behavior, and reaction mechanism. Journal of Catalysis 137 (1992) : 306-321.
- Lin, S. D., Bollinger, M., and Vannice, M. A. Low temperature CO oxidation over  $\text{Au/TiO}_2$  and  $\text{Au/SiO}_2$  catalysts. Catalysis Letters 17 (1993) : 245-262.
- Niemantsverdriet, J. W. Spectroscopy in Catalysis. New York, 1983.
- Plischke, J. K., Benesi, A. J., and Vannice, M. A. Solid-state Ag NMR characterization of silver oxide supports. Journal Physical Chemistry 96 (9) (1992) : 3799-3806.

- Schryer, D. R., Upchurch, B. T., Van Norman, J. D., Brown, K. G., and Schryer, J. Effects of pretreatment conditions on a Pt/SnO<sub>2</sub> catalyst for the oxidation of CO in CO<sub>2</sub> lasers. Journal of Catalysis 122 (1990) :193-197.
- Sze, C., Gulari, E., and Demczyk, B. G. Surface structure-catalytic function in nanophase gold catalysts. Mat. Res. Soc. Symp. Proc. 268 (1993) : 143-148.
- Tanielyan, S. K., and Augustine, R. L. Effect of catalyst pretreatment on the oxidation of carbon monoxide over coprecipitation gold catalysts. Applied Catalysis A: General, 85 (1992) : 73-87.
- Thomas, J. M., and Thomas, W. J. Introduction to the Principles of Heterogeneous Catalysis. London : Academic Press
- Tsubota, S., Ueda, A., Sakurai, H., Kobayashi, T., and Haruta, M. Application of supported gold catalysts in environmental problem. Environmental Catalysis. (edited by Armor, J. N.) Washington : American Chemical Society, 1994.
- Weaver, J. F., and Hoflund, G. B. Surface characterization study of the thermal decomposition of AgO. Journal of Physical Chemistry 98(34) (1994) : 8519-8524.
- Yadava, B., Singh, N., Dutta, S., Ansari, B. J., Ray, N., and Bhattacharya, N. B. Studies on the thermal stability of low temperature CO conversion catalysts. Advances in Catalysis Science & Technology 1<sup>st</sup> ed. New York : John Wiley & Sons, 1985.
- Yang, B. L., Chan, S. F., Chang, W. S., and Chan Y. Z. Surface enrichment in mixed oxides of Cu, Co and Mn and its effect on CO oxidation. Journal of Catalysis 130 (1991) : 52-61.

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