

gave a loss of chlorine and lower selectivity and yield.

M. Bankmann, R. Brand, A. Freund and T. Tacke, Degussa, described the evaluation of platinum group metals catalysts prepared on new titania supports in the hydrogenation of substituted aromatic aldehydes. Depending on the choice of catalyst and substrate, the selectivity of the hydrogenation could be directed towards benzyl alcohols when using a low acidity support, benzyl ethers with a strongly acid support or hydrogenolysis.

The paper by T. Mallat, Z. Bodnar and A. Baiker of ETH, Zurich, described a bismuth-promoted platinum on alumina catalyst in the air oxidation of secondary alcohols to ketones. The bismuth-promoted catalyst was not as readily deactivated as a platinum on alumina catalyst, because bismuth suppresses by-product

formation and so modifies the chemisorption properties of platinum. Electrochemical potentials were measured to control the rate of oxygen supply from the gas phase to the catalyst surface and so avoid over-oxidation of the catalyst surface. Conversions of 97 to 99 per cent and selectivities of 95 to 100 per cent to the ketone were achieved for α -tetralol, diphenyl carbinol and 1-phenylethanol.

There were many other interesting papers and posters, too numerous to mention here. The full proceedings of the symposium are to be published by Elsevier in the "Studies in Surface Science and Catalysis" series. The next ORCS conference is from 2nd to 5th May 1994 at Phoenix, Arizona, U.S.A., and the 4th Symposium on Heterogeneous Catalysis and Fine Chemicals will be held at Poitiers in 1995.

I.L.D.

Platinum 1993

A COMPREHENSIVE REVIEW OF THE PLATINUM MARKET

The demand and supply of platinum during 1992 were quite evenly balanced with only a small surplus of 20,000 ounces. Overall, however, demand declined by 6 per cent to 3.8 million ounces although some sectors saw a rise in platinum sales.

Platinum jewellery reached a record 1.51 million ounces troy, assisted by a rise in the sale of wedding rings in the U.S.A., escalating demand in Japan for "low-priced" jewellery and an expanding interest in Swiss platinum watches.

Consumption of platinum and rhodium by the auto industry showed a significant increase over 1991 figures, although this was off-set by supplies being taken from manufacturer's strategic reserves which resulted in lower purchases in the market. Platinum demand in 1993 is expected to increase by at least 200,000 ounces, as both the European Community and the U.S.A. are applying more stringent controls to lower the level of pollutants emitted from motor vehicles. With countries in Eastern Europe, Southeast Asia and South America

gradually adopting emission standards and with the North American vehicle market gaining strength as the recession recedes, the outlook for 1993 is that there will be an increase in platinum group metal sales.

Covering many aspects of the platinum group metals, with particular emphasis on platinum, there is something of interest for most people: from mining and exploration, to applications in the chemical, electrical and glass industries, petroleum refining and biomedical products, platinum investment bars and coins. Past, present and perceived future market trends for each sector are given. All this and more is contained in Johnson Matthey's prestigious annual publication "Platinum 1993" which is in its 9th year of publication.

Readers of *Platinum Metals Review* who do not have access to "Platinum 1993" and who would like to receive this free survey should send their requests for a copy to: Mr J. S. Coombes, Johnson Matthey PLC, 78 Hatton Garden, London EC1N 8JP; Fax: 071-269-8135.