CATALYSTS.

Department of Metallurgy,

Supported bimetallic particle catalysts (with particle sizes a few nanometres) are being increasingly used in cell, reactions in diffraction patterns. High precision microanalysis with enrichment of particle microanalysis and HREM results, calculations of these probe sizes 3-5 nm has indicated preferential surface complex images have been carried out using 256x256 FFTs have been performed for both possible models: experimental data. It is shown for the first time that nanometre size particles can be distinguished.

This presentation is concerned with structural design and characterization of a series of new host-guest compounds which can be used for isolation and optical resolution of material by lattice-inclusion type complexation. A commonly used method for separation of enantiomers in a racemic mixture is to add a suitable chiral reagent, e.g. R.R-tartaric acid is a widely used reagent for the resolution of optically active amines. The two different diastereoisomeric salts that may result from the reaction can differ so much in their relative solubilities that an almost quantitative separation of the enantiomers is achieved. To investigate the chiral discrimination, it is essential to examine the differences between the intermolecular interactions in the structures to the difference in solubility. The crystal structures have been determined for the salts obtained when enantiomers of the organic amines 1-amino-2-propanol, 1-amino-2-butanol and 1-(2-pyridyl) ethyamine are resolved as hydrogen tartrates and for two pairs of coordination compounds. A careful examination of the intermolecular interactions in these compounds shows that both hydrogen bonds and non-bonded interactions are important for the crystal packing. A qualitative comparison between the intermolecular interactions in equivalent diastereoisomeric salts showed that the number and the strength of the hydrogen bonds vary significantly within the series of compounds.

For the first time, a marked difference in the image contrast between the two models and defocus. The results have shown a marked difference in the number and the strength of the hydrogen bonds and non-bonded interactions in the structures to the difference in solubility. The crystal structures have been determined for the salts obtained when enantiomers of the organic amines 1-amino-2-propanol, 1-amino-2-butanol and 1-(2-pyridyl) ethyamine are resolved as hydrogen tartrates and for two pairs of coordination compounds. A careful examination of the intermolecular interactions in these compounds shows that both hydrogen bonds and non-bonded interactions are important for the crystal packing. A qualitative comparison between the intermolecular interactions in equivalent diastereoisomeric salts showed that the number and the strength of the hydrogen bonds vary significantly within the series of compounds.