

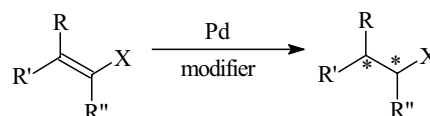
## Contents

### Articles

É. Sípos, A. Tungler, G. Fogassy

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 171

New substrates and modifiers in the enantioselective heterogeneous catalytic hydrogenation of the C=C double bond

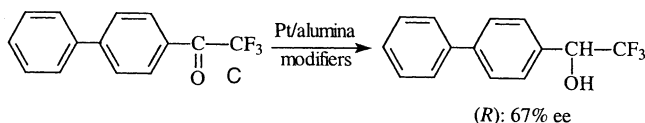


Tibor Varga, Károly Felföldi, Péter Forgó, Mihály Bartók

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 181

Heterogeneous asymmetric reactions. Part 38. Enantioselective hydrogenation of fluoroketones on Pt–alumina catalyst

We investigated the enantioselective heterogeneous hydrogenation of some fluoroketones, e.g. 4-(trifluoroacetyl)biphenyl (max. 67% ee), on modified Pt–alumina catalyst. The structure of the intermediate complex depends on whether hydrogenation is performed with or without trifluoroacetic acid.

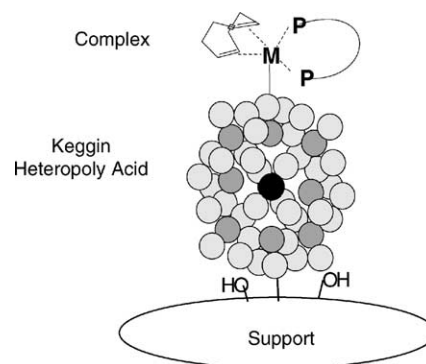


R.L. Augustine, P. Goel, N. Mahata, C. Reyes, S.K. Tanielyan

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 189

Anchored homogeneous catalysts: high turnover number applications

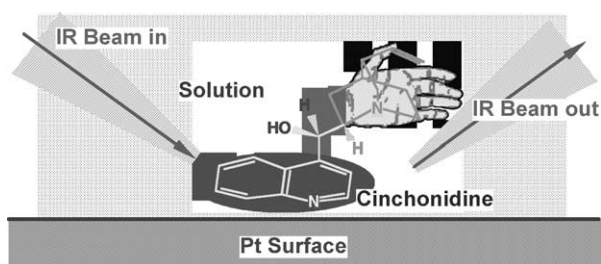
Chiral anchored homogeneous catalysts have been successfully used for the hydrogenation of dimethyl itaconate in multiple batch reactions at substrate/catalyst ratios between 1000 and 50 000 per batch and total turnover numbers up to 150 000.



Zhen Ma, Ilkeun Lee, Jun Kubota,  
Francisco Zaera

*Journal of Molecular Catalysis A: Chemical* 216  
(2004) 199

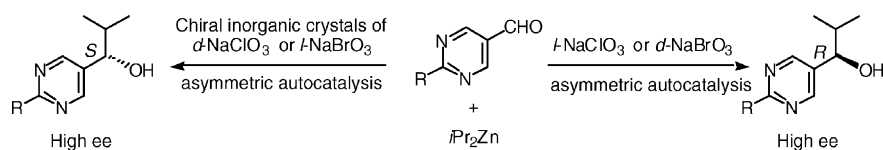
In situ characterization of the adsorption of cinchona chiral modifiers on platinum surfaces



Itaru Sato, Kousuke Kadowaki,  
Yasushi Ohgo, Kenso Soai

*Journal of Molecular Catalysis A: Chemical* 216  
(2004) 209

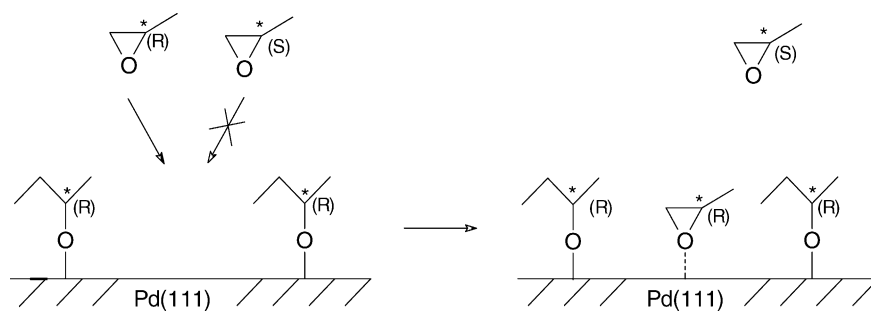
Highly enantioselective asymmetric autocatalysis induced by chiral ionic crystals of sodium chlorate and sodium bromate



Dario Stacchiola, Luke Burkholder,  
Wilfred T. Tysse

*Journal of Molecular Catalysis A: Chemical* 216  
(2004) 215

Probing enantioselective chemisorption in ultra-high vacuum

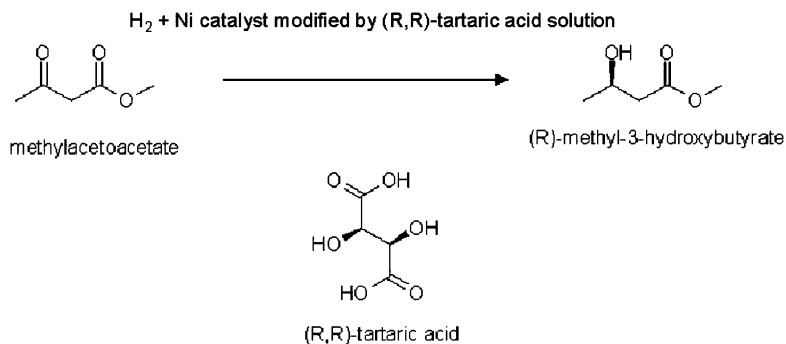


T.E. Jones, C.J. Baddeley

*Journal of Molecular Catalysis A: Chemical* 216  
(2004) 223

An investigation of the adsorption of (*R,R*)-tartaric acid on oxidised Ni{1 1 1} surfaces

This paper is a model study of the enantioselective catalytic reaction shown below. We investigate how the presence of surface oxygen species affects the adsorption of (*R,R*)-tartaric acid on Ni{1 1 1} surfaces.

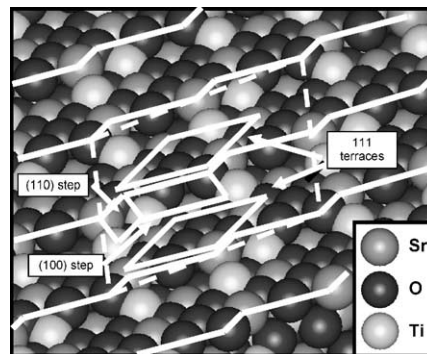


**Aravind Asthagiri, David S. Sholl**

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 233

Pt thin films on stepped SrTiO<sub>3</sub> surfaces: SrTiO<sub>3</sub>(6 2 0) and SrTiO<sub>3</sub>(6 2 2)

Density functional theory calculations have been used to assess the site preferences for Pt adsorption on two stepped SrTiO<sub>3</sub> surfaces, SrTiO<sub>3</sub>(6 2 0) and SrTiO<sub>3</sub>(6 2 2).

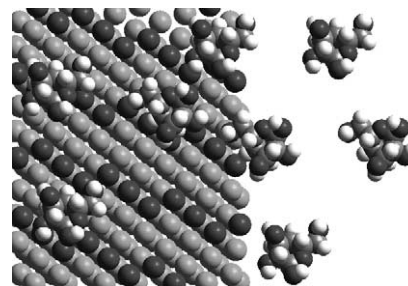


**O.A. Hazzazi, G.A. Attard, P.B. Wells**

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 247

Molecular recognition in adsorption and electro-oxidation at chiral platinum surfaces

D-glucose electrooxidation gives rise to an enantioselective response using chiral kinked Pt {6 4 3} electrodes. However, for more strongly adsorbed chiral molecules no enantioselective adsorption could be observed.

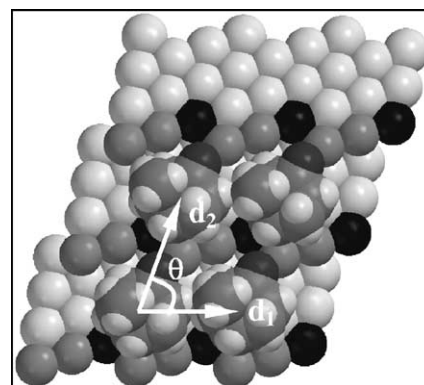


**Xueying Zhao, Scott S. Perry**

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 257

Ordered adsorption of ketones on Cu(6 4 3) revealed by scanning tunneling microscopy

Scanning tunneling microscopy studies have revealed the room temperature adsorption of one R-3-methyl-cyclohexanone molecule per kink site on the chiral Cu(6 4 3) surface.

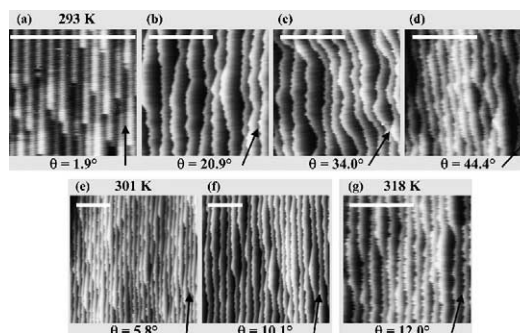


**Margret Giesen, Sabine Dieluweit**

*Journal of Molecular Catalysis A: Chemical* 216 (2004) 263

Step dynamics and step-step interactions on the chiral Cu(5 8 90) surface

The paper deals with the mobility of steps, step-step and kink-kink interactions and their possible influence on the structure of chiral high-Miller-index surfaces known from enantioselective reactions.



STM images of the local step structure of a Cu(5,8,90) surface.

---

**Robert T. Downs, Robert M. Hazen**

*Journal of Molecular Catalysis A: Chemical* 216  
(2004) 273

Chiral indices of crystalline surfaces as a measure  
of enantioselective potential

Some chiral surfaces deviate more from an achiral configuration and possess greater enantioselective potential than others. We describe a procedure to calculate chiral indices of two-dimensional periodic atomic surfaces.

