



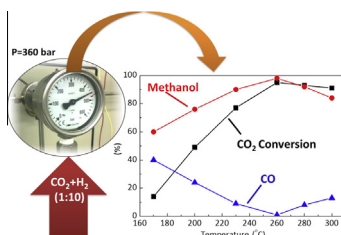
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PRIORITY COMMUNICATION

Towards full one-pass conversion of carbon dioxide to methanol and methanol-derived products

pp 66–70

Atul Bansode, Atsushi Urakawa*

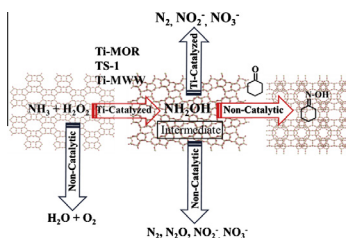


REGULAR ARTICLES

Distinctions of hydroxylamine formation and decomposition in cyclohexanone ammoximation over microporous titanosilicates

pp 1–10

Le Xu, Jianghong Ding, Yulin Yang, Peng Wu*

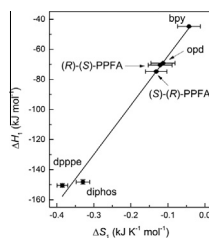


Liquid-phase ammoximation on titanosilicates involves the formation of hydroxylamine intermediate from catalytic oxidation of ammonia by hydrogen peroxide and subsequent oximation with ketone to oxime. TS-1, Ti-MOR, and Ti-MWW differ greatly in their effects on the formation and decomposition of hydroxylamine. A controlled ion exchange with neutral alkali salts can improve the formation of hydroxylamine and thus the ammoximation of cyclohexanone to oxime.

Elucidating the roles of enthalpy, entropy, and donor atom in the chelate effect for binding different bidentate ligands on the same metal center

pp 11–20

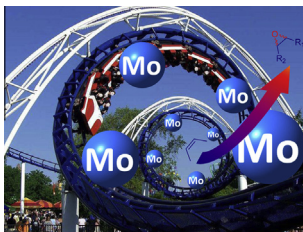
Eric G. Moschetta, Kristina M. Gans, Robert M. Rioux*



Highly enantioselective olefin epoxidation controlled by helical confined environments

pp 21–32

Cristina I. Fernandes, Marta S. Saraiva, Teresa G. Nunes, Pedro D. Vaz*, Carla D. Nunes*

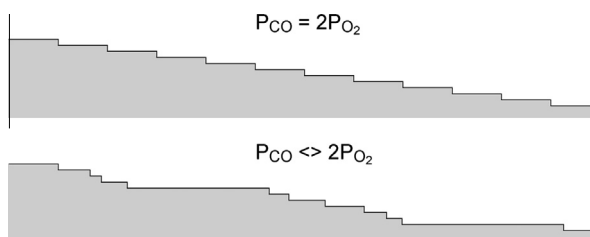


Enhanced stereoselectivity: Mesoporous materials with helical channels show enhanced stereoselectivity in asymmetric olefin epoxidation reactions. The materials with Mo active sites have superior performance compared to homogeneous counterparts. The *ee*'s were found to range between 32% (styrene) and 100% (*R*-(+)-limonene and *trans*-hex-2-en-1-ol). This reveals an important matrix-assisted effect arising from the rigid confined environment provided by the chiral host materials.

Generation of surface steps on Pt(977) induced by the catalytic oxidation of CO

pp 33–37

O. Balmes, G. Prevot, X. Torrelles, E. Lundgren, S. Ferrer*

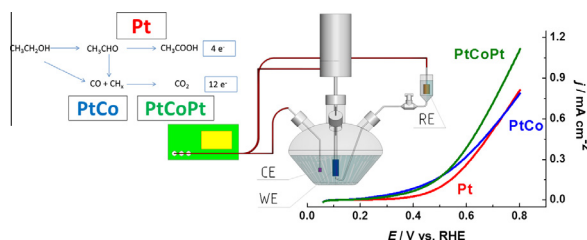


The density of monatomic steps is highest when the reactants have the stoichiometric proportions.

The activity of ALD-prepared PtCo catalysts for ethanol oxidation in alkaline media

pp 38–48

A. Santasalo-Aarnio*, E. Sairanen, R.M. Arán-Ais, M.C. Figueiredo, J. Hua, J.M. Feliu, J. Lehtonen, R. Karinen, T. Kallio

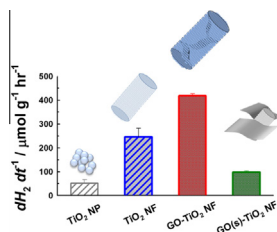


Structured PtCo nanoparticle catalysts were prepared with ALD method and their activity for ethanol oxidation was studied with electrochemical methods. PtCoPt-cycled catalyst showed significant activity and durability at elevated temperatures.

Graphene oxide embedded into TiO₂ nanofiber: Effective hybrid photocatalyst for solar conversion

pp 49–57

Hyoung-il Kim, Soonhyun Kim, Jin-Kyu Kang, Wonyong Choi*



TiO₂ nanofibers (NFs) embedded with graphene oxide (GO) sheets were successfully synthesized, characterized, and evaluated for their photo(electro)catalytic properties. The GO sheets embedded in TiO₂ NF improve the interparticle connection and facilitate the charge pair separation by serving as an *in-built* electron collector and conduit.

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