Journal of Catalysis 264 (2009) iii–v

Contents lists available at ScienceDirect

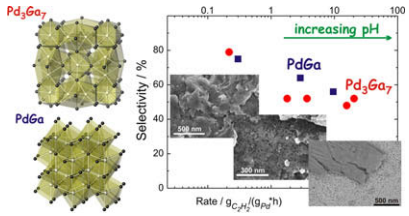
Journal of Catalysis

journal homepage: www.elsevier.com/locate/jcat

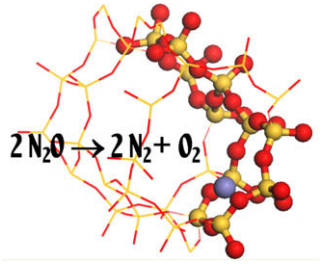
Journal of Catalysis Vol. 264, Issue 2, 2009

Contents

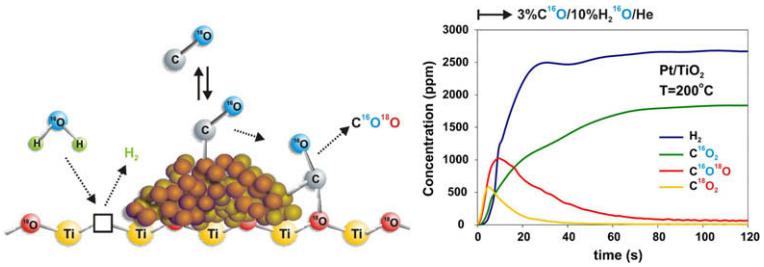
REGULAR ARTICLES



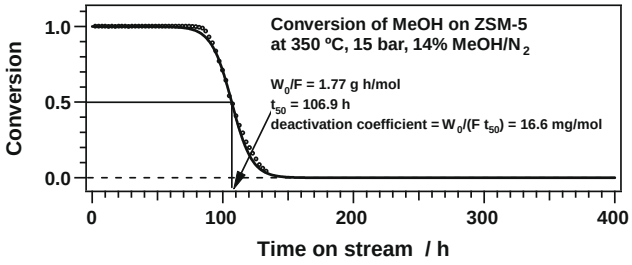
Chemical etching enhances activity while retaining high selectivity of acetylene hydrogenation catalysts, intermetallic compounds PdGa and Pd_3Ga_7.



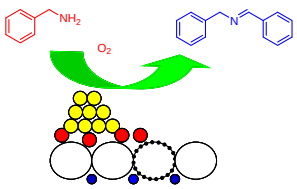
Kinetic results of N_2O decomposition reaction on Fe–MFI zeolites combined with the IR spectroscopy of the surface sites titration with N_2O, NO, and NO_2 show that low coordinated and isolated Fe^{2+} sites are the most active in N_2O decomposition. The cooperation between Fe^{2+} and Brønsted sites is also demonstrated for Fe–ZSM-5.



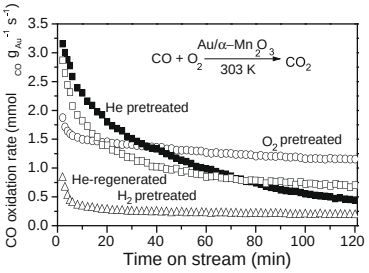
The *red-ox* mechanism of the water–gas shift reaction on a 0.5 wt% Pt/TiO_2 catalyst is strongly supported by steady-state isotopic transient kinetic analysis (SSITKA)–DRIFTS–Mass spectroscopy *operando* and ^{18}O transient isotopic exchange followed by WGS experiments.



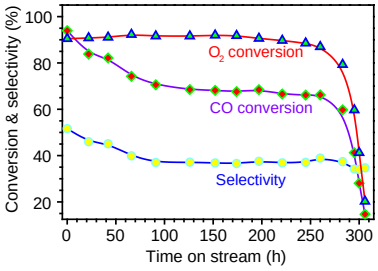
The lifetime to 50% conversion is entirely determined by the deactivation properties; differences in the slope of the decay reflect different catalytic activity.



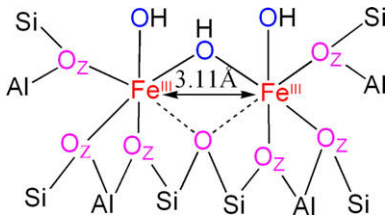
Gold nanoparticles supported on carbon are highly active for the selective oxidation of benzylamines to N-benzylimines.



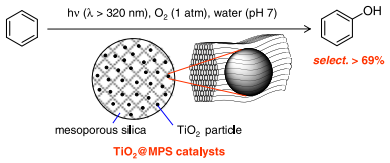
The low temperature CO oxidation over a Au/α-Mn_2O_3 catalyst depends critically on the pretreatment gas conditions and is explained by the pretreatment-dependent metal–support synergy of the Au–MnO_x system.



The catalyst loses its activity at various rates in the different periods of the CO PROX process, implying that the origins of deactivation are different.



Binuclear μ-hydroxo-bridged iron clusters consisting of a [Fe^{III}–(μ-OH)–Fe^{III}] core anchored on the framework-bridged oxygen sites in cavities of HY zeolite show enhanced activity towards phenol hydroxylation.



TiO_2 particles embedded in mesoporous silica show photocatalytic activity driven by substrate polarity. This TiO_2@MPS system catalyzes the selective oxidation of benzene to phenol with high selectivity.