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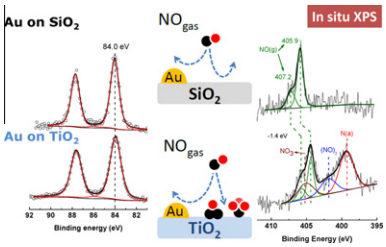
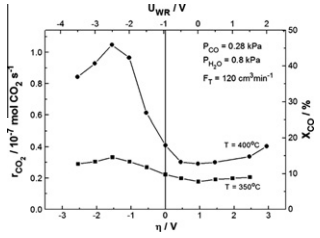
# Contents

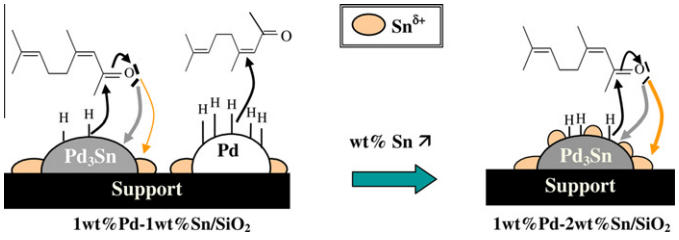




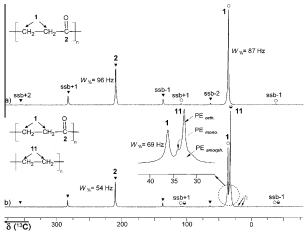




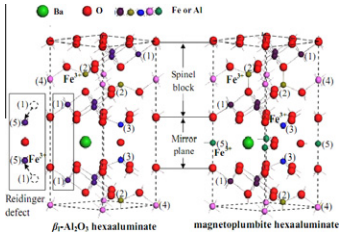




Schematic representation of the adsorption modes of citral molecule on Pd–Sn/$SiO_2$ bimetallic catalysts depending on the Sn content.



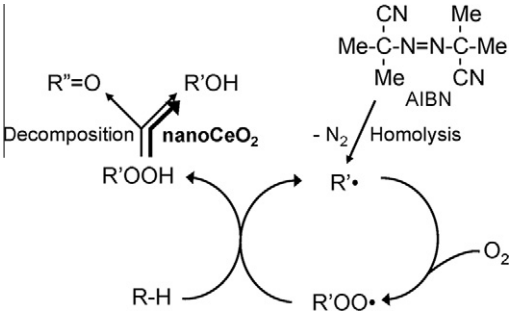
Nickel(II) catalysed co-polymerisation of CO and ethene leads to alternating polyketone or polyketone/polyethene dependent on the co-catalyst used.





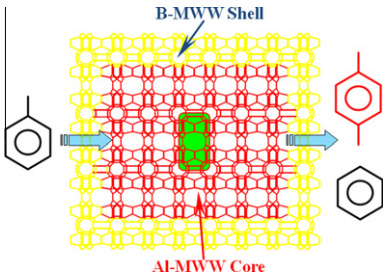

The stabilization of $Fe^{3+}$ ions in iron-substituted $\beta_l$-$Al_2O_3$ and magnetoplumbite type barium hexaaluminates is discussed in relation to their activity in the decomposition of $N_2O$.



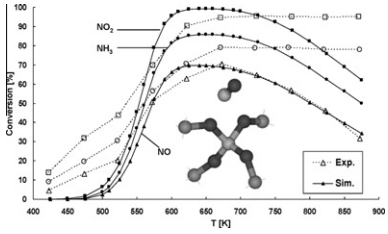



Decane can be selectively oxidised under mild reaction conditions.



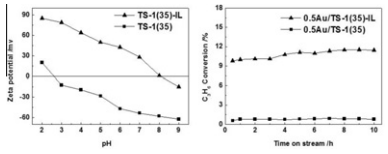



Core/shell-structured MWW-type zeolites prepared by isomorphic overgrowth of borosilicate on premade MCM-22 crystallites are highly shape-selective materials for the disproportionation of toluene as a result of suppressing the isomerization of *para*-xylene on the external surface of crystallites.




The fast selective catalytic reduction of $NO_x$ with ammonia on H-ZSM5 was investigated using microkinetic modeling based on DFT results. The $NO_x$ conversion proceeds via the formation of nitrosyl on the zeolite framework.






Biosynthesized gold nanoparticles (GNPs) were immobilized onto TS-1 through 1-butyl-3-methylimidazolium tetrafluoroborate ([BMIM][$BF_4$]). $[BMIM]^+$ specially adsorbed onto the support to increase its isoelectric point, leading to the enhanced immobilization and high activity and stability for propylene epoxidation with $H_2/O_2$ mixture, probably attributing to enhanced interaction between the GNPs and TS-1 and the role of residual biomolecules in protecting the GNPs thereof.