Zeolite-catalyzed biomass conversion to fuels and chemicals

Heterogeneous catalysts have been a central element in the efficient conversion of fossil resources to fuels and chemicals, but their role in biomass utilization is more ambiguous. Zeolites constitute a promising class of heterogeneous catalysts and developments in recent years have demonstrated their potential to find broad use in the conversion of biomass. In this perspective we review and discuss the developments that have taken place in the field of biomass conversion using zeolites. Emphasis is put on the conversion of lignocellulosic material to fuels using conventional zeolites as well as conversion of sugars using Lewis acidic zeolites to produce useful chemicals.