Porous Metalloporphyrinic Frameworks for Oxidation of Alkylbenzenes

Significance: Preparation and characterization of the porous metalloporphyrin octacarboxylate framework 1 are described. The catalytic utility of 1 was examined for the oxidation of alkylbenzenes with tert-buty1 hydroperoxide as an oxidant to give the corresponding ketones in >99% conversion with >99% selectivity (ketones obtained as sole oxidation products from alkylbenzenes).

Comment: The framework 1 was recovered by centrifugation and reused 14 times without significant loss of catalytic activity. A homogeneous metalloporphyrin catalyst MnCl-Me8OCPP showed much lower catalytic activity in the oxidation of ethyl benzene under similar conditions.