LARGE CRYSTAL ZSM-5, ITS SYNTHESIS AND USE

Abstract

In a synthetic porous crystalline material having the structure of ZSM-5 and a composition involving the molar relationship:

$$X_2O_3 : (n)\,YO_2,$$

wherein X is a trivalent element; Y is a tetravalent element; and n is greater than about 12, the crystals have a major dimension of at least about 0.5 micron and surface framework YO_2/X_2O_3 ratio which is no more than 20% less than the bulk framework YO_2/X_2O_3 ratio of the crystal. The material is synthesized using an amino-acid as a directing agent.