

Abstract

The present invention provides a ZSM-23 zeolite and a preparation process thereof. The pore
5 volume of mesopores having a pore size of 3-8 nm of the zeolite is 45-90% of the total pore
volume of the zeolite. The zeolite has a relative crystallinity of 95-120%, and the zeolite has a
relative crystallinity retention of 95-100% after a hydrothermal treatment with steam for 2
hours at 600°C. The process for preparing the zeolite comprises the following steps: (1)
preparing or selecting a silicon source for preparing the ZSM-23 zeolite, such as amorphous
10 silica; (2) performing an alkali treatment on the silicon source for preparing the ZSM-23 zeolite
such as amorphous silica mentioned in step (1); and (3) preparing the ZSM-23 zeolite by using
the alkali-treated amorphous silica as the silicon source. The ZSM-23 zeolite has a rich
mesoporous structure and good hydrothermal stability.

15 Figure 2