

عنوان مقاله:

Influence of zeolite content and temperature on the catalytic properties of novel biporous catalysts

محل انتشار:

دومین کنفرانس ملی زئولیت ایران (سال: 1394)

تعداد صفحات اصل مقاله: 2

نویسندگان:

N Parsafard - *Department of chemistry, Shahid Beheshti University, Tehran, 1983963113, Iran*

M.H Peyrovi - *Department of chemistry, Shahid Beheshti University, Tehran, 1983963113, Iran*

خلاصه مقاله:

Pt loaded on a series of ZSM-5/HMS composites with different H-zeolite amounts has been prepared and used as a solid acid catalyst for n-heptane isomerization that compared as a function of H-zeolite content. The structure characterization, acid distribution and morphology of the Pt catalysts supported on these composite materials were characterized by XRD, NH₃-TPD, SEM, FTIR, nitrogen sorption and TGA techniques. Compared with HMS and HZSM-5, these new composite materials have higher ability for n-heptane isomerization reaction. The results show that these micro/mesoporous catalysts exhibit both properties of mesoporous HMS and microporous HZSM-5. TPD measurements showed that the acidity of HZSM-5/HMS materials enhanced with the increasing zeolite content. Results showed that the ratio of Brønsted/Lewis acidic sites increased with the increasing zeolite content. The catalytic evaluation revealed that Pt/ZSM5-HMS catalysts had a high activity for conversion of n-heptane. The distribution of products was described based on the nature of the acidic sites. These new composite catalysts prove a higher thermal stability, which result in their thicker pore-wall, and appropriate acidity.

کلمات کلیدی:

ZSM-5/HMS composites; Catalytic isomerization; Acid distribution; Morphology; Thermal stability

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/397177>

