

ABSTRACT:

The faujasite-type of zeolites (NaX and NaY) and NaA-type of zeolite were synthesized from rice husk ash (RHA) via the hydrothermal conditions. The combustion of rice husk at controlled temperature of 600 °C for an hour in open air produce more than 90% of amorphous silica in the ash which was reactive towards the synthesis of zeolites. The formation of zeolite NaY from RHA is metastable and thus, the seeding and ageing effects in the synthesis of zeolite NaY were investigated to avoid the formation of zeolite A or P as the impurities in zeolite NaY. Zeolites NaX and NaA were also successfully synthesized with high purity, absence of impurities and other phases, and high reproducibility. Thus, the amorphous forms of silica in RHA can be used as a source of silica for the synthesis of faujasite-types and NaA-type of zeolites.