ABSTRACT

The present invention discloses an MWW-type molecular sieve catalyst, a preparation method therefor and a use thereof. The catalyst may be a binder-free molecular sieve catalyst. The aluminum at a total of 5 T sites of T1, T3, T4, T5 and T8 located in the intralayer ten-membered ring pore channel accounts for ≤45% of the aluminum at a total of 8 T sites of T1, T2, T3, T4, T5, T6, T7 and T8, and the aluminum at the T2 site accounts for ≥23% of the aluminum at a total of 8 T sites of T1, T2, T3, T4, T5, T6, T7 and T8. When used in the reaction for preparing an alkyl aromatic hydrocarbon by the alkylation of an aromatic hydrocarbon and an olefin, the catalyst can effectively suppress side reactions, has high activity and selectivity, and is simultaneously applicable to feed conditions with a lower molar ratio of an aromatic hydrocarbon to an olefin.

FIG. 1