

Abstract

The present invention relates to a phosphorus-containing or phosphorus-modified ZSM-5 molecular sieve, which is characterized in that in its ^{27}Al MAS-NMR, the ratio of peak area for the resonance signal having a chemical shift of $39\pm 3\text{ppm}$ to peak area for the resonance signal having a chemical shift of $54\text{ppm}\pm 3\text{ppm}$ is ≥ 1 ; or in its surface XPS elemental analysis, the value of n_1/n_2 is ≤ 0.1 ; wherein, n_1 represents the mole number of phosphorus, n_2 represents the total mole number of silicon and aluminum; the present invention also relates to a cracking auxiliary or cracking catalyst containing said phosphorus-containing/phosphorus-modified ZSM-5 molecular sieve, and a process for preparing the same and use thereof.

Figure 1