

Electronic Supplementary Information

**Revealing the Influencing Mechanism of CO₂ on SCR of
NO_x with NH₃ over FeW Mixed Oxides Catalyst:
interactions of carbonate-Fe₂O₃-FeWO₄**

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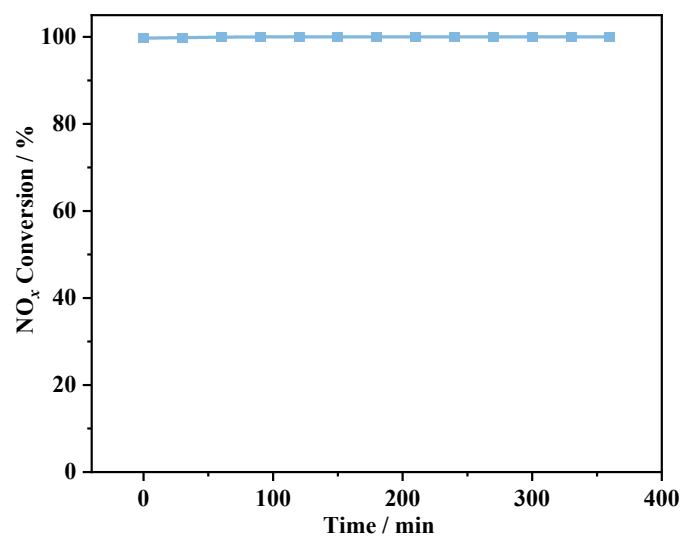


Fig. S1. The long-term effect of 10 vol.% CO₂ on NO_x conversion over FeW oxides catalyst at 400 °C

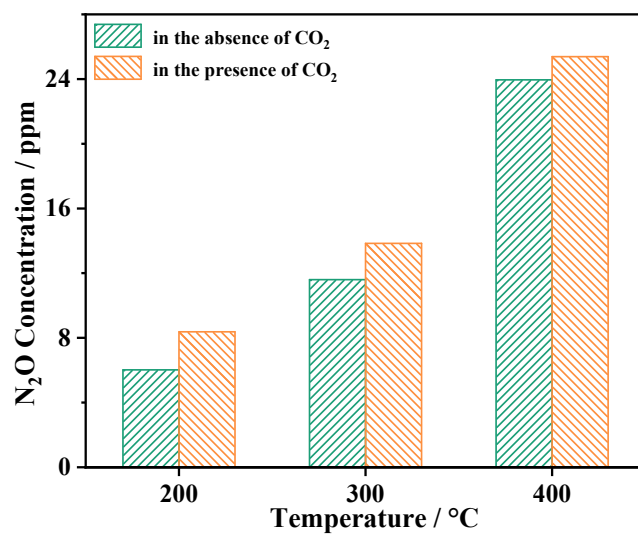


Fig. S2. N₂O yield of FeW oxides catalyst in the presence and absence of CO₂

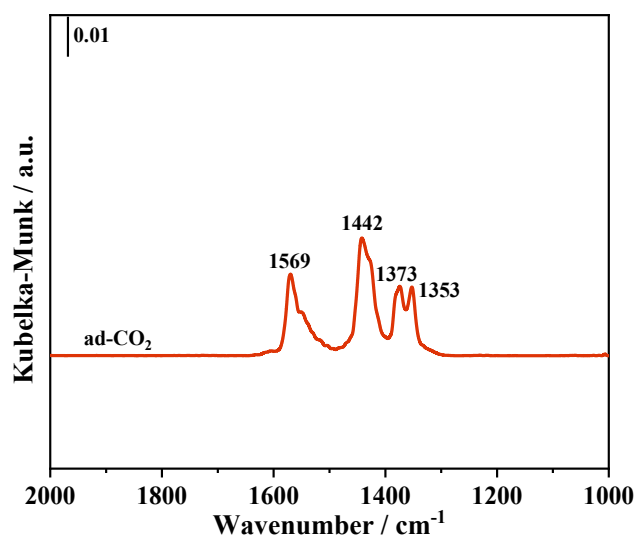


Fig. S3. DRIFT spectrum of CO₂ adsorption at 200 °C on Fe₂O₃ catalyst

1569 cm⁻¹: bidentate carbonate species

1442 cm⁻¹: bicarbonate species

1373, 1353 cm⁻¹: monodentate carbonate species

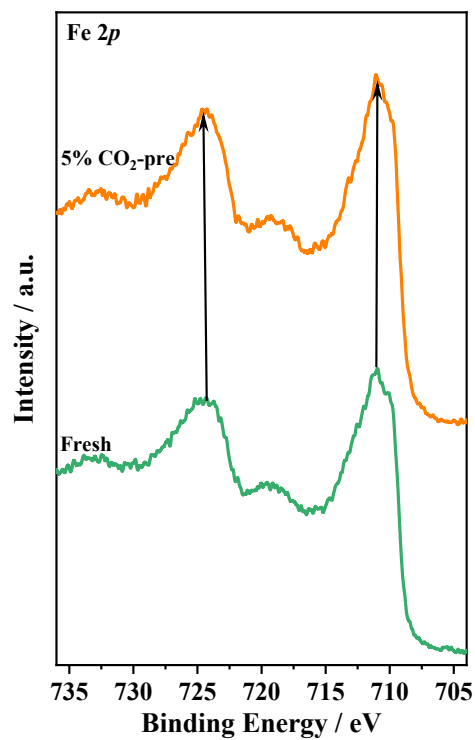


Fig. S4. XPS spectra of the fresh and CO₂ treatment Fe₂O₃ oxides samples over the spectral regions of Fe 2*p*

It shows that the binding energy of Fe 2*p* is shifted towards higher binding energy when the injection of CO₂. Combined with the results of CO₂ adsorption experiment, it is reasonable to elucidate that the formed CO₃²⁻ species on Fe₂O₃ catalyst can induce the electron cloud densities of Fe³⁺ sites decrease.