

Supporting Information

Ash and alkali poisoning mechanisms for commercial vanadium-titanic-based catalysts

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1. Effect of H₂O vapor and SO₂ coexistence on SCR and M-SCR catalysts

Moreover, the effect of H₂O vapor and SO₂ coexistence on the SCR and M-SCR catalysts were performed, and the results were shown in Figure S1. As shown in Figure S1, the introduction of H₂O vapor and SO₂ simultaneously makes NO conversion a decreased by about 9% and 10% over SCR and SCR-ash catalysts, respectively. And M-SCR and M-SCR-ash catalysts decreased by about 11% and 12%, respectively. However, when cut off the H₂O vapor and SO₂, the NO conversion of catalysts significantly rebounded. This phenomenon was the same as single effect of H₂O vapor and the effect was reversible. In addition, the effect of H₂O vapor and SO₂ coexistence on the catalysts became slight compared with single effect of H₂O vapor, indicating the promotion effect of SO₂ also occurred in this system.

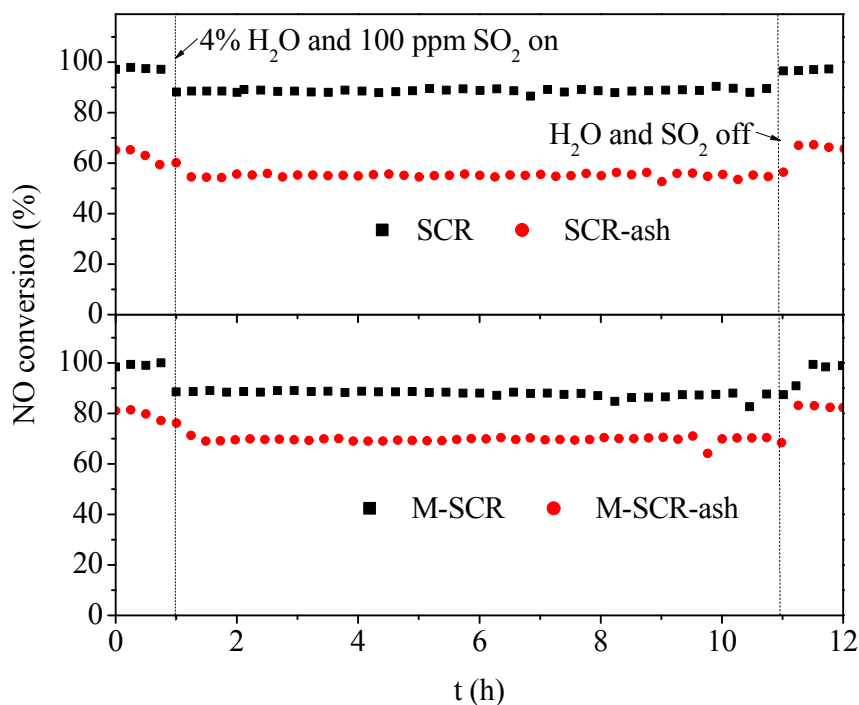


Figure S1. Effect of H₂O vapor and SO₂ coexistence on the SCR and M-SCR catalysts