

Investigation of catalytic properties for bimetallic vanadates for selective NO_x reduction

김동호^{1,2}, 권동욱¹, 이관영², 하현필¹, 김종식^{1,†}

¹한국과학기술연구원; ²고려대학교

(jkim40@kist.re.kr[†])

V₂O₅ is regarded as a catalytic phase promising to reduce NO_x with NH₃, yet, also possesses a spectrum of shortcomings in sustaining NO_x reduction performance under severe environments, as specified in our previous works.¹ Here, we suggest a synthetic measures to modify the V₂O₅ structure, leading to the creation of a series of equimolar bimetallic vanadates on WO₃-promoted TiO₂, whose chemical formula is RM_{0.5}Er_{0.5}VO₄ (denoted as RM_{0.5}, RM stands for Tb, Er, or Yb).¹ In this presentation, the RM_{0.5} phases were compared with regard to their acidic/redox properties, which were then related with catalytic consequences in reducing NO_x or oxidizing NH₃ at wide temperature domains.¹

Reference

- [1] J. Kim^{1,*}, D. H. Kim¹, D. W. Kwon, K. Y. Lee, and H. P. Ha*, Appl. Surf. Sci. 518 (2020) 146238.