Supplementary material

Positive effects of impregnation of Fe-oxide in mesoporous Al-oxides on the decontamination of dimethyl methylphosphonate

Tae Gyun Woo¹‡, Byeong Jun Cha¹‡, Young Dok Kim¹*, and Hyun Ook Seo²*

¹ Department of Chemistry, Sungkyunkwan University, Suwon, 16419, Republic of Korea

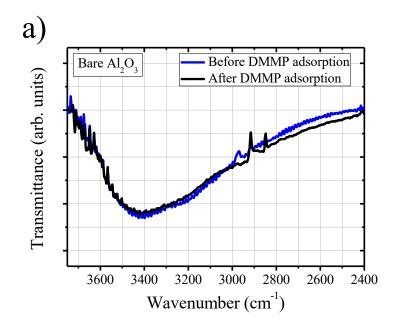
*Corresponding authors.

E-mail address: ydkim91@skku.edu (Y.D. Kim), hyun.ook.seo@smu.ac.kr (H.O. Seo)

‡Authors contributed equally to this work.

² Department of Chemical and Energy Engineering, Sangmyung University, Seoul, 03016 Republic of Korea

Figure S1



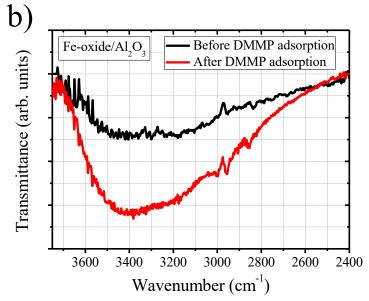


Figure S1. Background subtracted FT-IR spectra of a) bare Al₂O₃ a nd b) Fe-oxide/Al₂O₃ before and after 360 min of DMMP exposure at room temperature.

Figure S2

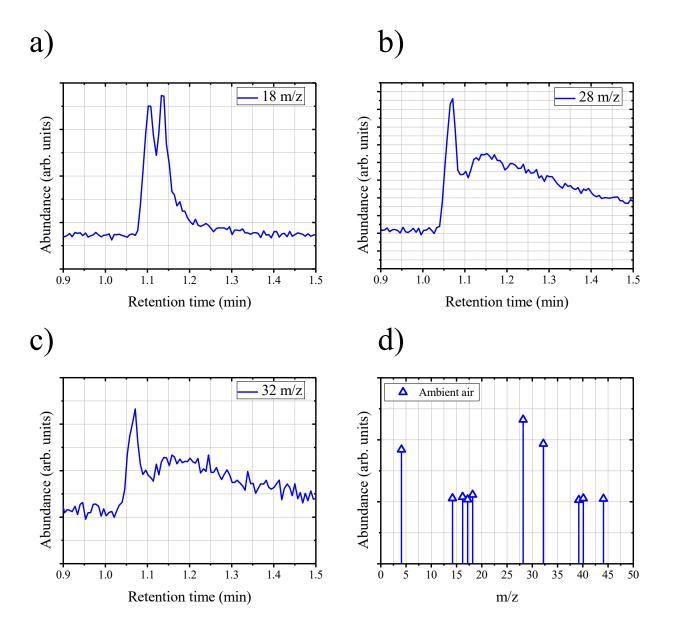


Figure S2. GC/MS signals corresponding to a) 18 m/z (H_2O), b) 28 m/z (N_2), and c) 32 m/z (O_2) in the retention time range of 1.0 to 2.0 min measured with Fe-oxide/ Al_2O_3 . d) Mass spectrum measured by injection of SPME fiber exposed to ambient air.

Figure S3

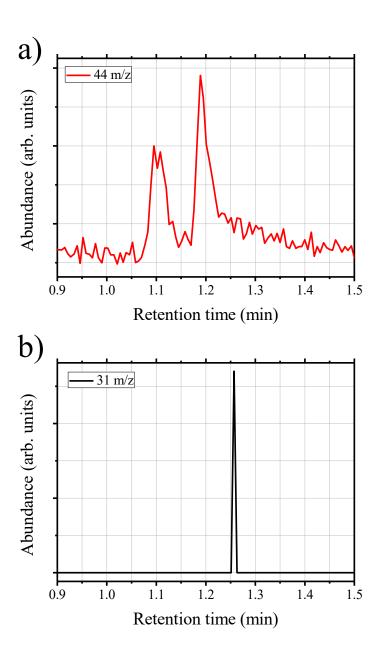


Figure S3. GC/MS signal corresponding to a) 44 m/z (CO₂) and b) 31 m/z (ethanol) in the retention time range of 1.0 to 2.0 min measu red with bare Al_2O_3 .