Electronic Supplementary Information (ESI)

Mn-Fe bi-metal oxides *in-situ* created on metal wire mesh as monolith catalysts for selective catalytic reduction of NO with NH_3

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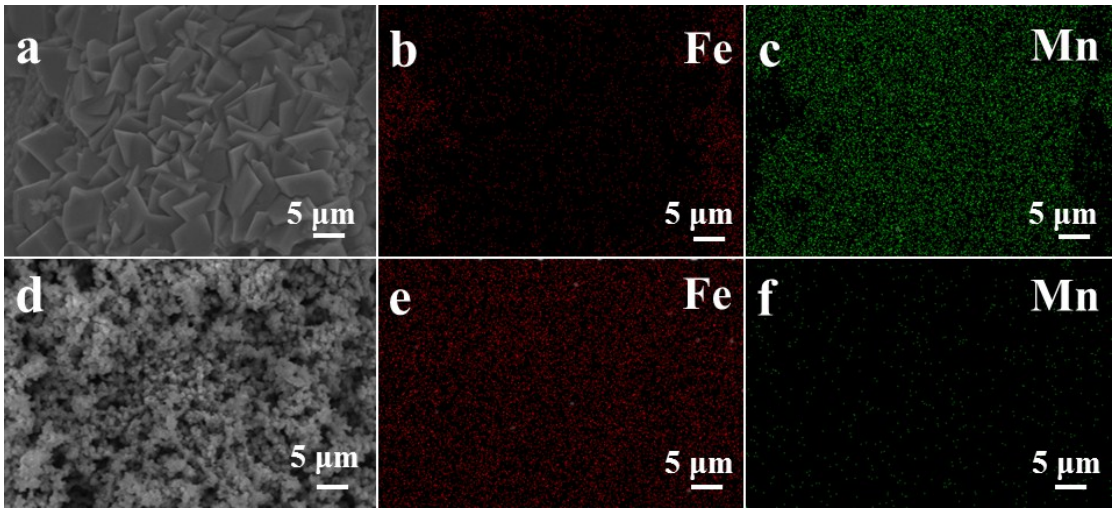

Fig. S1 (a-c)SEM images and elemental mappings results of Mn-Fe(2:1)@Fe WM monolithic catalyst; (d-f)SEM images and elemental mappings results of Mn-Fe(1:2)@Fe WM monolithic catalyst.

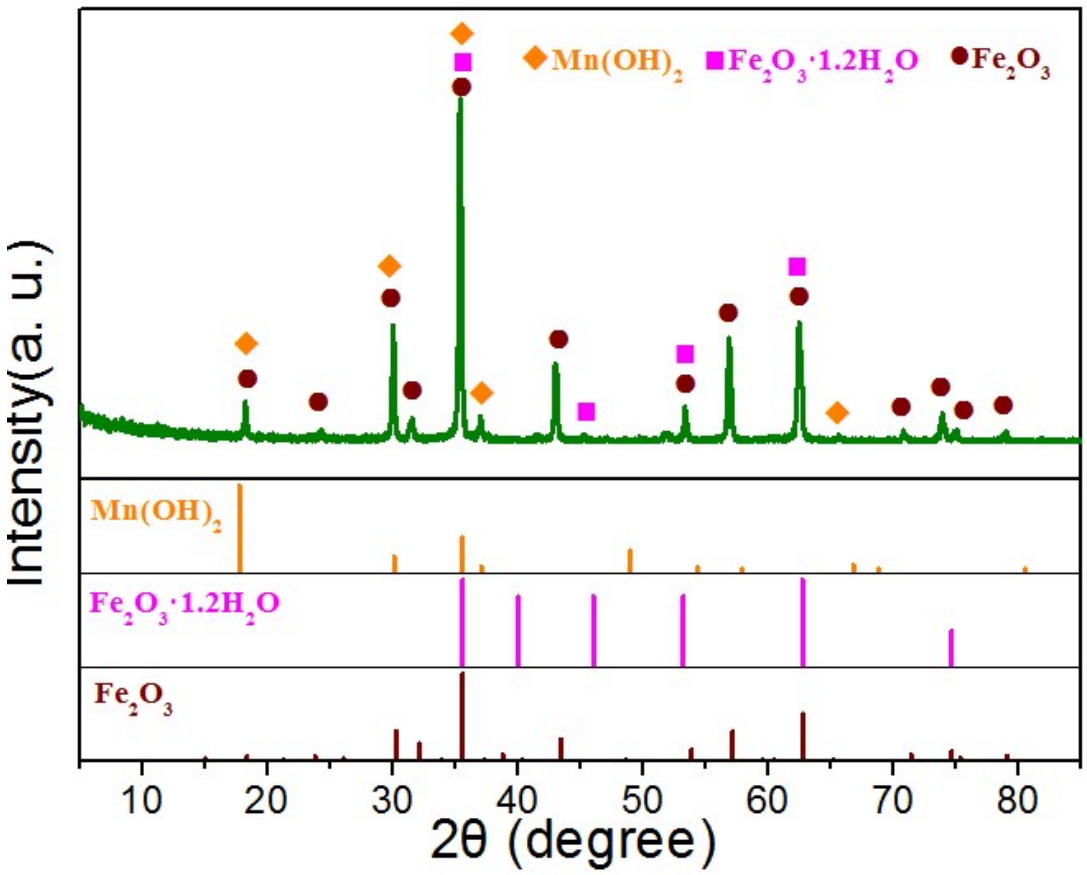

Fig. S2 XRD patterns of the precursor powders obtained from the Mn-Fe@Fe WM catalysts without calcination.

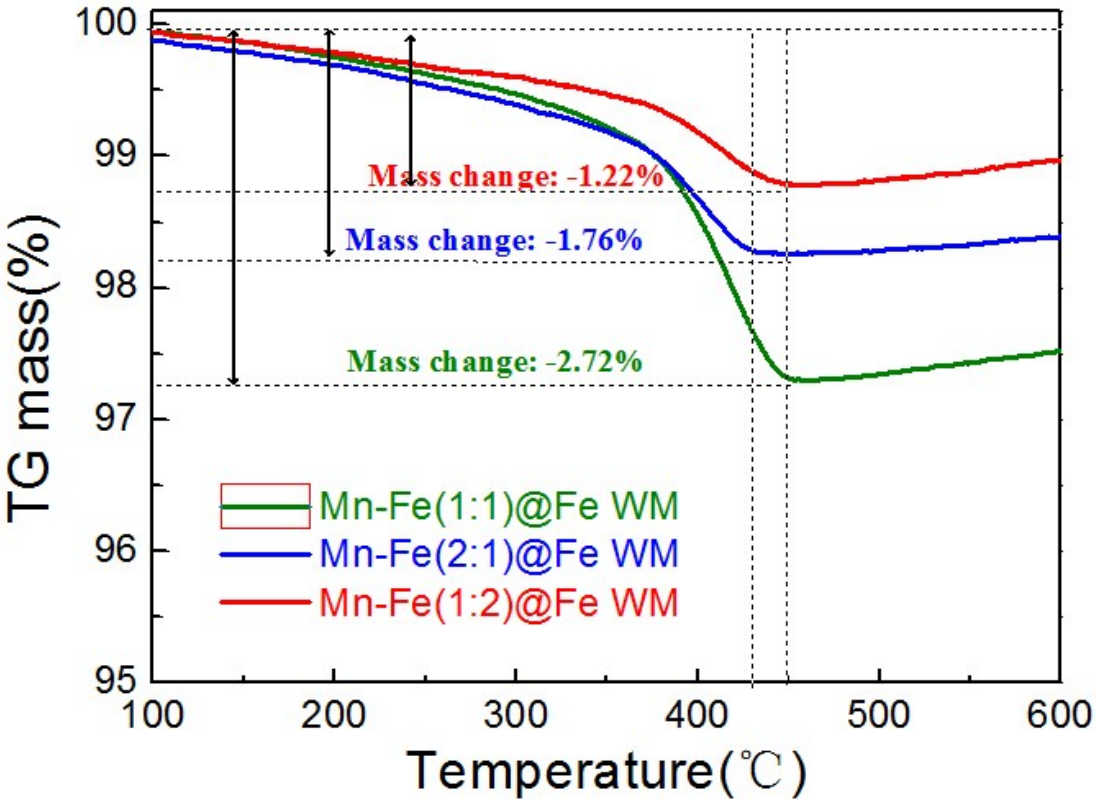

Fig. S3 TGA curves of the monolith precursors through a hydrothermal reaction.

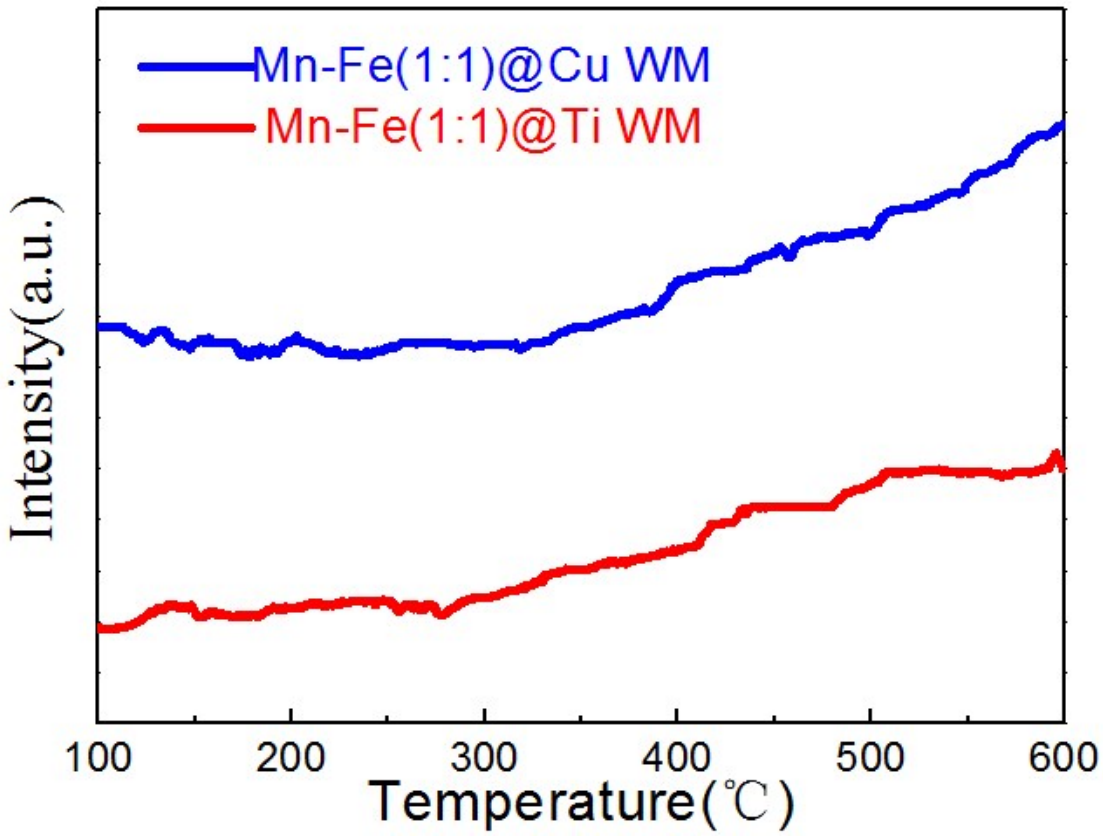

Fig. S4 NH_3-TPD profiles of Mn-Fe(1:1)@Cu WM and Mn-Fe(1:1)@Ti WM catalysts.

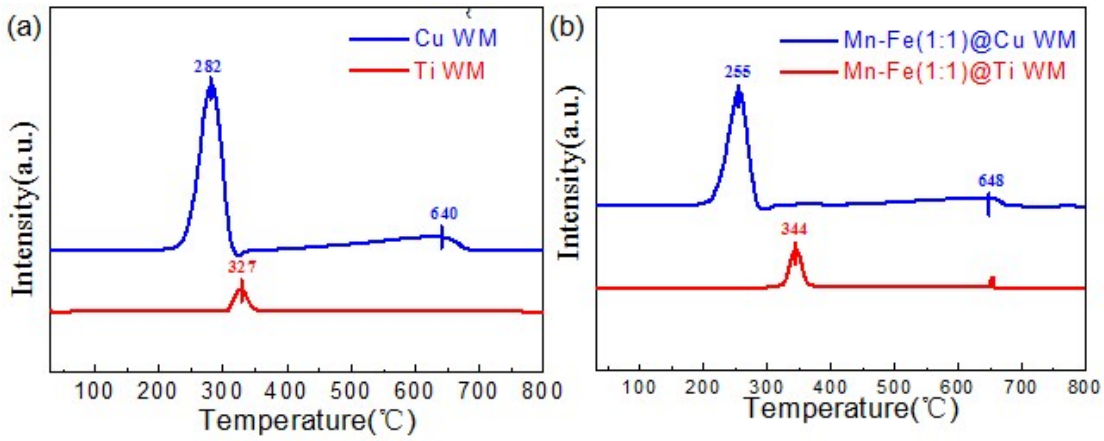

Fig. S5 H_2-TPR profiles of: (a) Cu WM and Ti WM; (b) Mn-Fe(1:1)@Cu WM and Mn-Fe(1:1)@Ti WM catalysts.

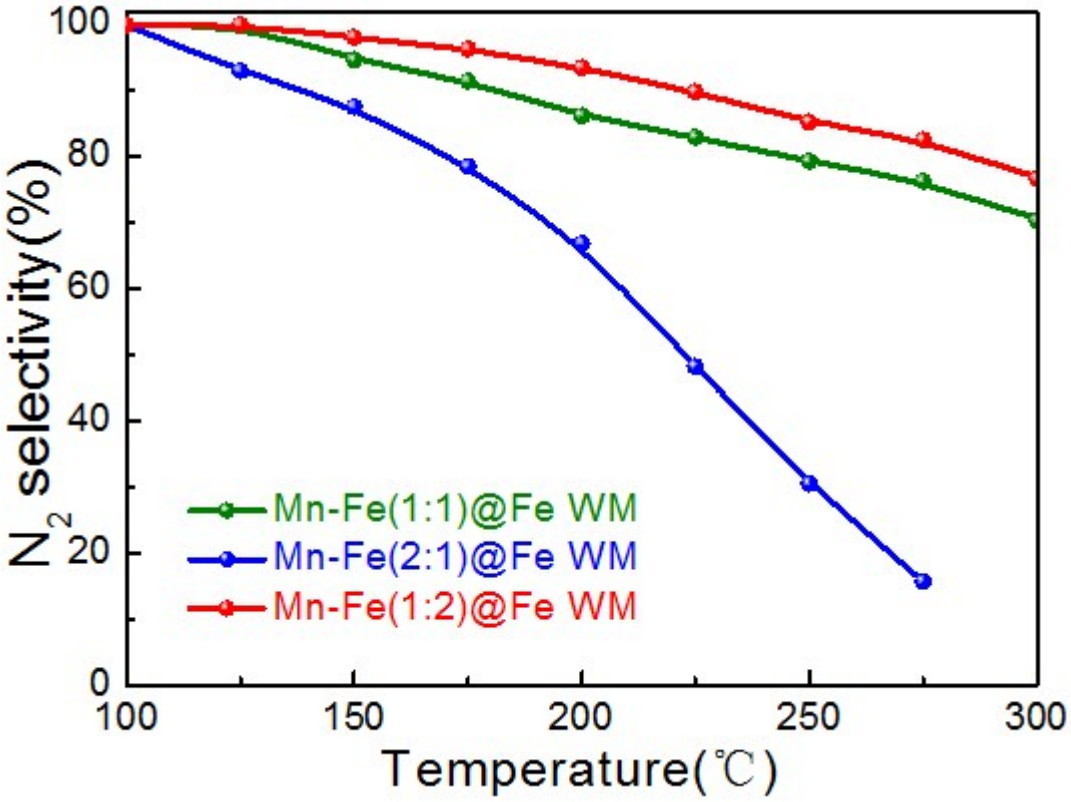

Fig. S6 Plots of N_2 selectivity *versus* temperature for the Mn-Fe@Fe WM catalysts. Reaction conditions: $[NH_3] = [NO] = 500$ ppm, $[O_2] = 3$ vol. %, N_2 as balance gas, GHSV= 20000 h^{-1}.

All the data points were collected in a steady state for 15 min at the corresponding temperature. In this case, N_2O adsorption on the surface of the catalyst has already reached saturation.

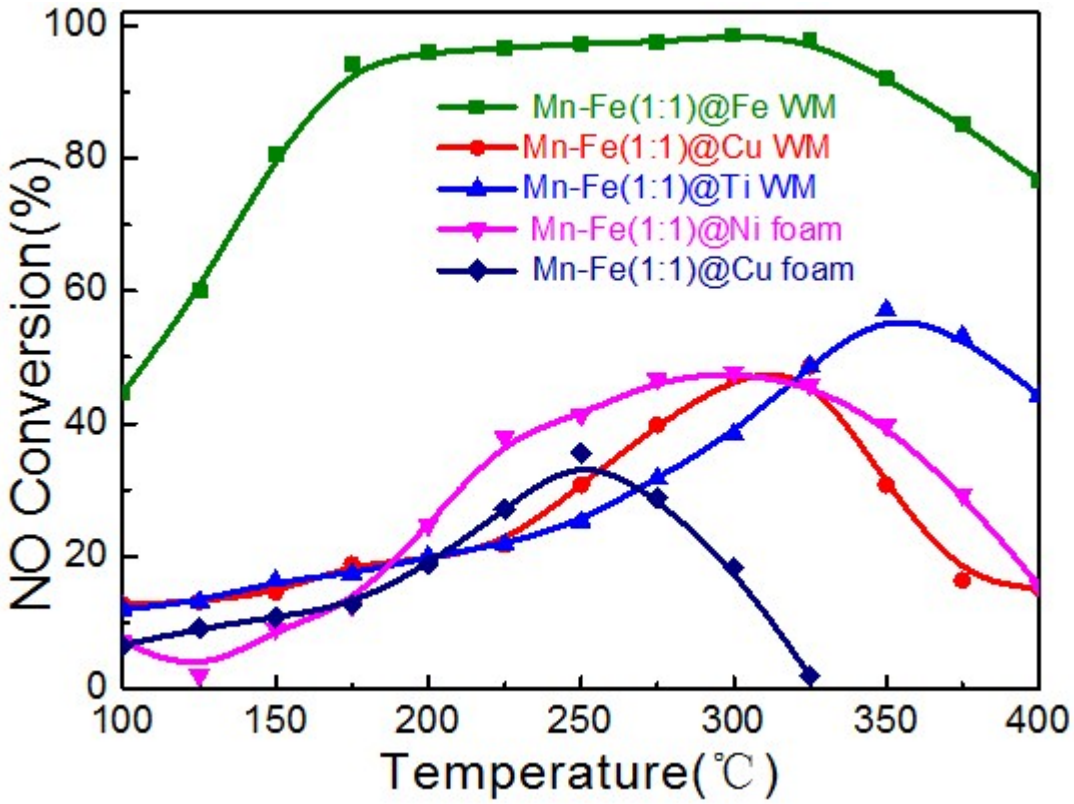

Fig. S7 Plots of NO conversion *versus* reaction temperature over Mn-Fe(1:1)@Fe WM, Mn-Fe(1:1)@Cu WM, Mn-Fe(1:1)@ Ti WM, Mn-Fe(1:1)@Ni form and Mn-Fe(1:1)@Cu form catalysts.