

Figure on electronic supplementary information (ESI)

**Alternately layered Au/Fe₃O₄ with porous structure
– a self-assembled nanoarchitecture for catalysis
materials**

Satoshi Kameoka ^{1*} and An-Pang Tsai ^{1, 2}

**¹ Institute of Multidisciplinary Research for Advanced Materials (IMRAM),
Tohoku University, 2-1-1 katahira, Aoba-ku, Sendai 980-8577, Japan**

**² National Institute of Materials Science (NIMS), 1-2-1 Sengen, Tsukuba 305-
0047, Japan**

*** Corresponding author; e-mail: kameoka@tagen.tohoku.ac.jp**

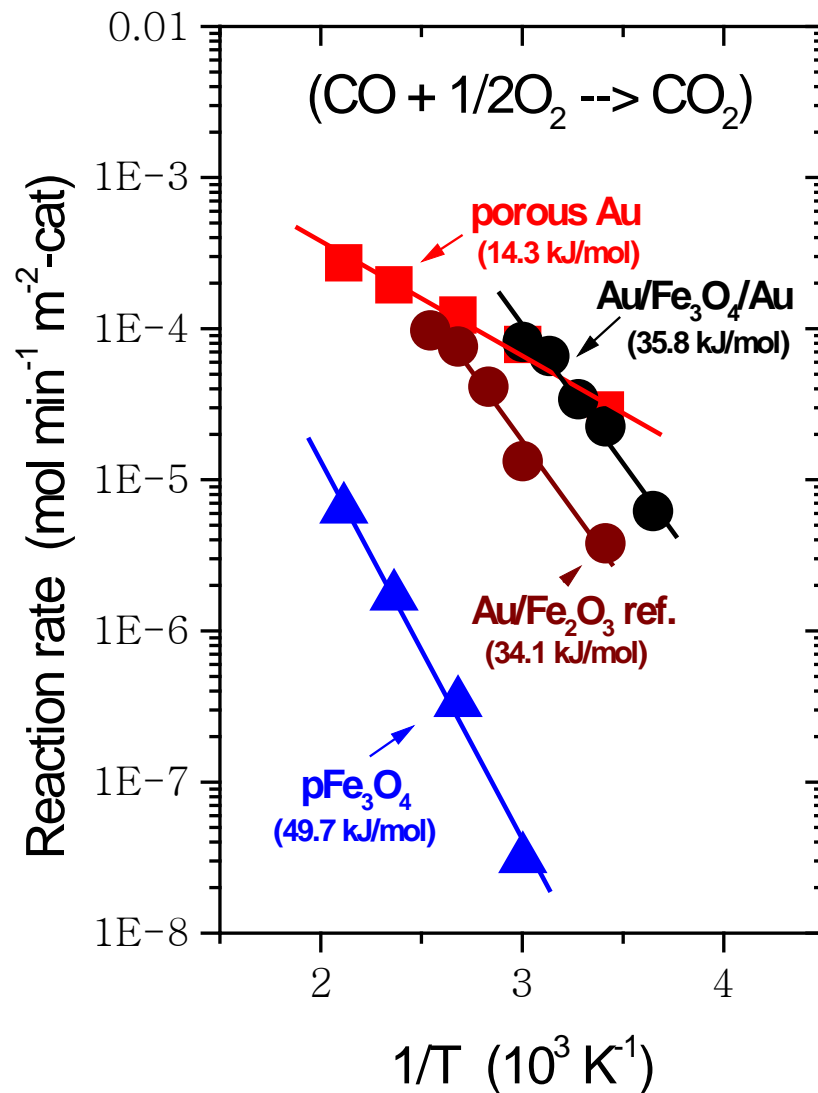
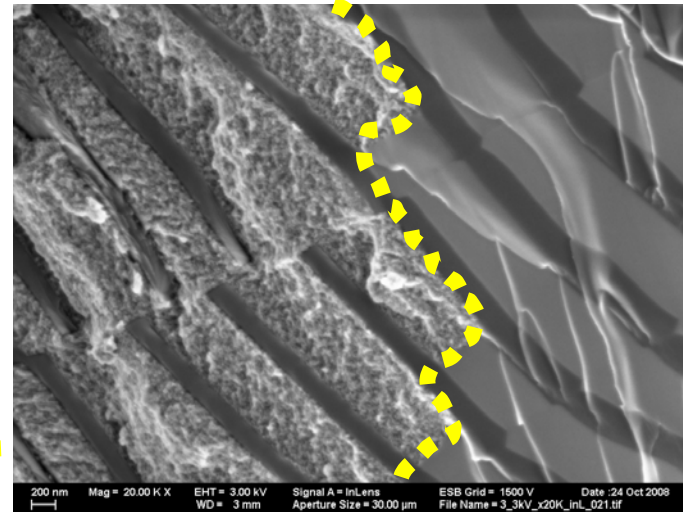
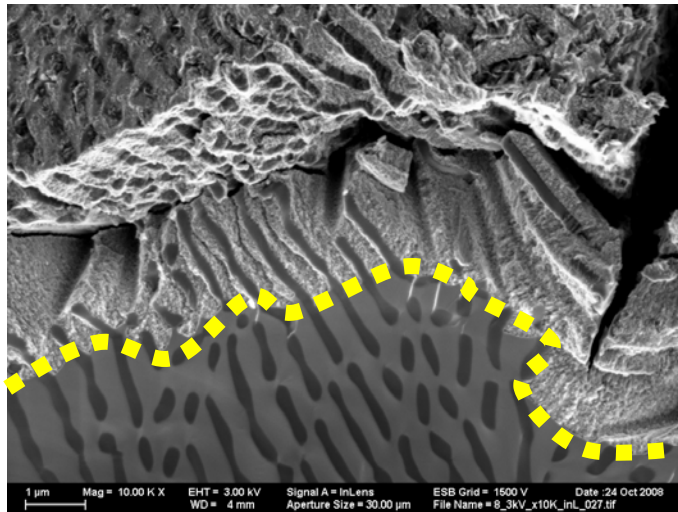


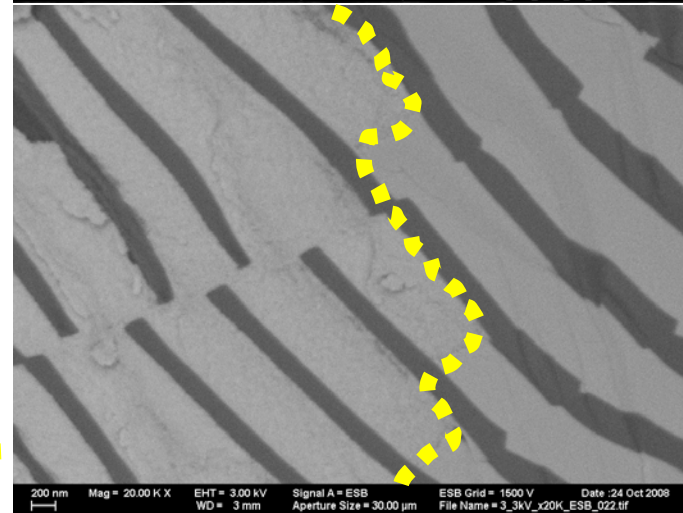
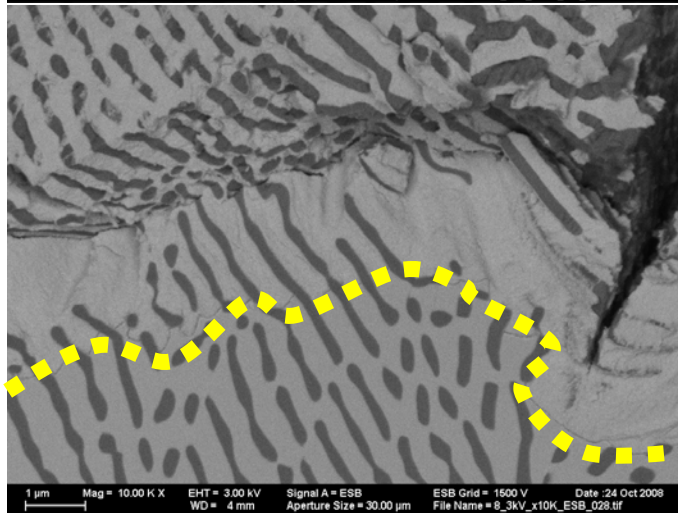
Figure S1

Arrhenius plots for the reaction rate of CO oxidation over porous Au (Al-Au), nanoporous Au/Fe₃O₄/Au (Al-Au-Fe), Fe₃O₄ particles (Al-Fe) and reference Au/Fe₂O₃ catalysts using the data in Fig. 3(A).

(a)



(b)



Low magnification

High magnification

Figure S2

High-resolution secondary electron images (a) and back scattering images (b) of the leached Al-Au-Fe alloy showing the interface between the non-leached and the leached regions at low magnification and high magnification. Note that dotted line indicates the boundary of leaching-non leaching region. The Al_2Fe regions have the pinning effect upon leaching. The dotted line indicates the boundary of leaching-non leaching region of the Al-Au-Fe alloy.