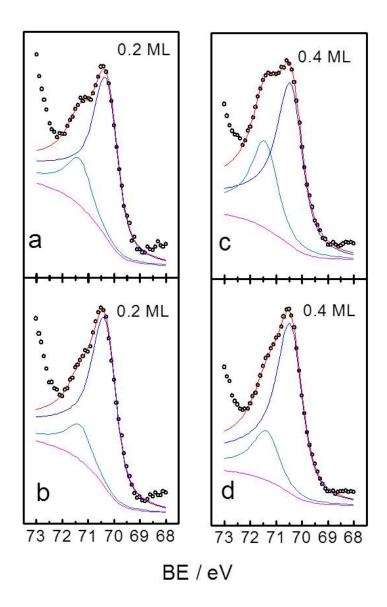
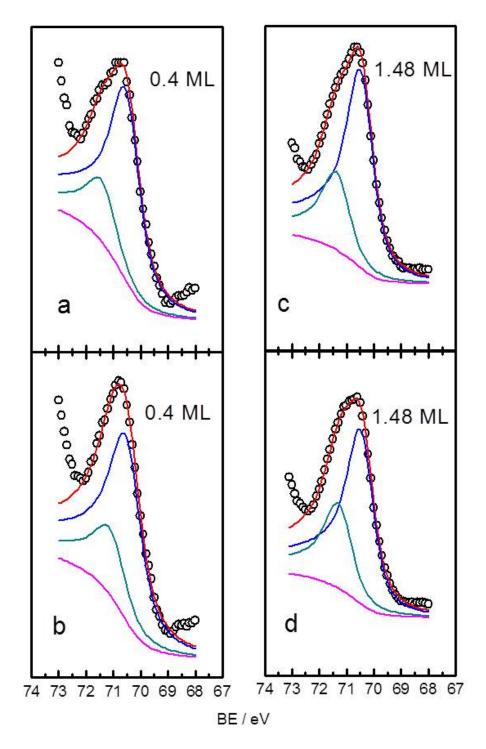


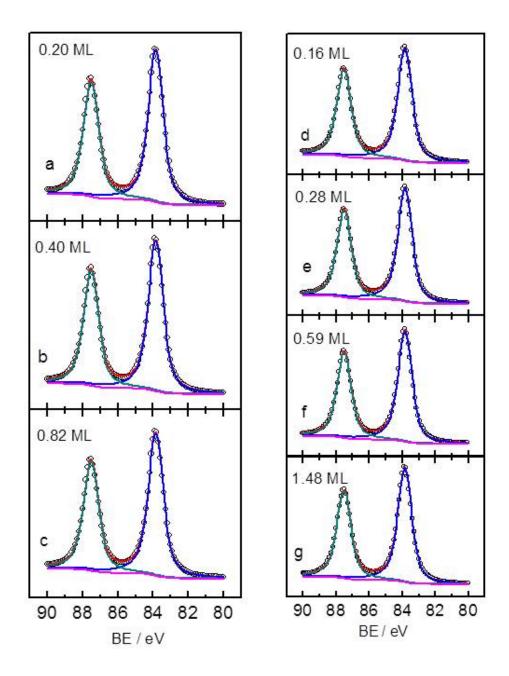
**Fig. S1.** STM images of clean Au(332) (a-d) and Au(887) (e-h) recorded under similar conditions  $(V_{bias} \text{ and } I_t)$  as in Figure 1.



**Fig. S2.** Results from fitting of Pt  $4f_{7/2}$  core photoemission line Pt/Au(332) samples. (a,c) as prepared and (b,d) annealed samples. Pt coverage as indicated.



**Fig. S3.** Results from fitting of Pt  $4f_{7/2}$  core photoemission line for Pt/Au(788) samples. (a,c) as prepared and (b,d) annealed samples. Pt coverage as indicated.



**Fig. S4.** Results from fitting of Au 4f core photoemission line for the as prepared samples. (a-c)Pt/Au(332) and (d-g)Pt/Au(788). Pt coverage as indicated.