Supplementary Material



**Supplementary Figure 1.** Cu UPD on a polyoriented Pd bead also showing the bulk Cu deposition and stripping. Test solution 0.1 M H2SO4 + 1mM CuSO4 + 1mM NaCl, scan rate 50 mV s-1.



**Supplementary Figure 2.** Cu UPD on a polyoriented Pd bead and on Pd single crystal electrodes prepared by the ‘forced deposition’ method followed by flame annealing of Pd on Pt single crystal electrodes [1, 2]. Test solution 0.1 M H2SO4 + 1mM CuSO4 + 1mM NaCl, scan rate 50 mV s-1.

**References**.

[1] F.J. Vidal-Iglesias, A. Al Akl, D.J. Watson, G.A. Attard, A new method for the preparation of PtPd alloy single crystal surfaces, Electrochem. Commun. 8 (2006) 1147-1150.

[2] F.J. Vidal-Iglesias, A. Al-Akl, D. Watson, G.A. Attard, Electrochemical characterization of PtPd alloy single crystal surfaces prepared using Pt basal planes as templates, J. Electroanal. Chem. 611 (2007) 117-125.