

Supporting Information to

Electrochemical water splitting by gold: evidence for an oxide decomposition mechanism

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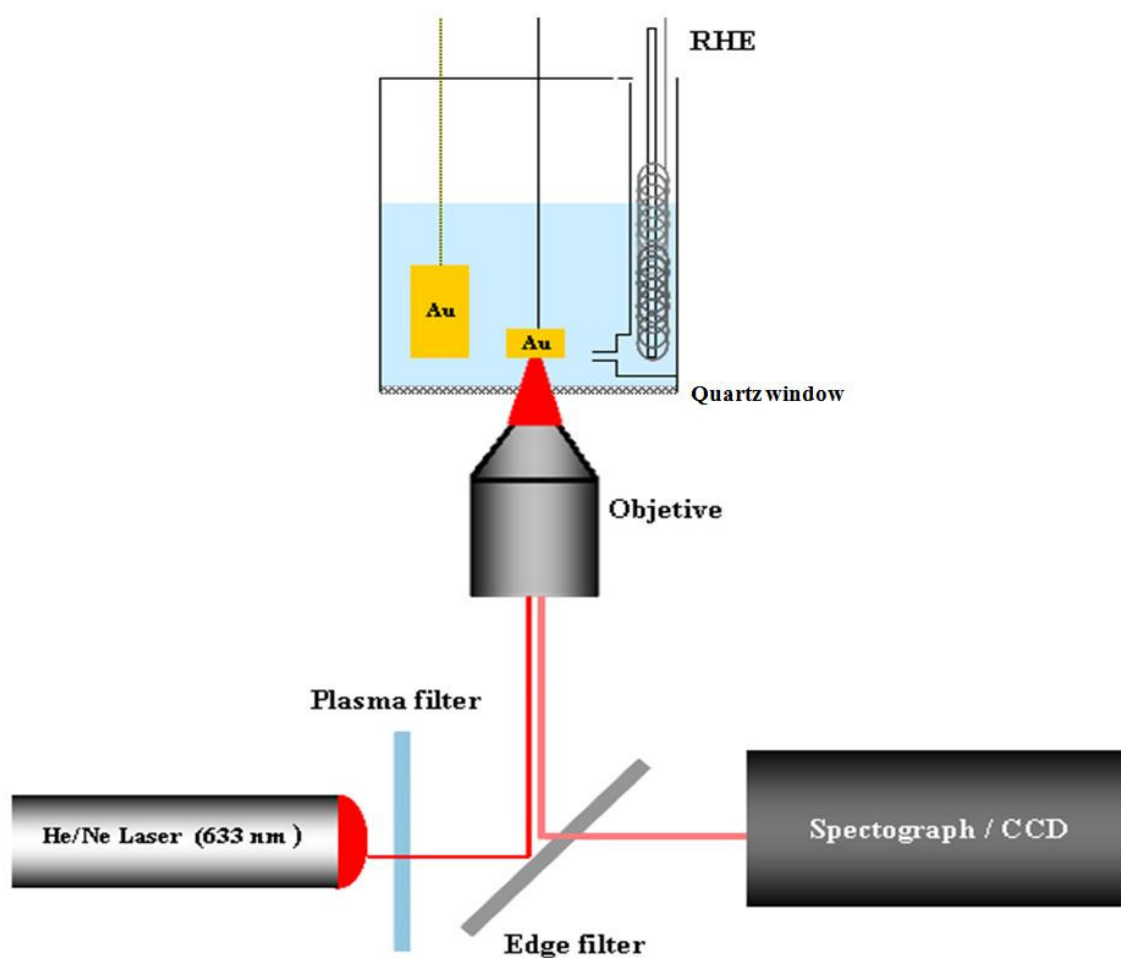
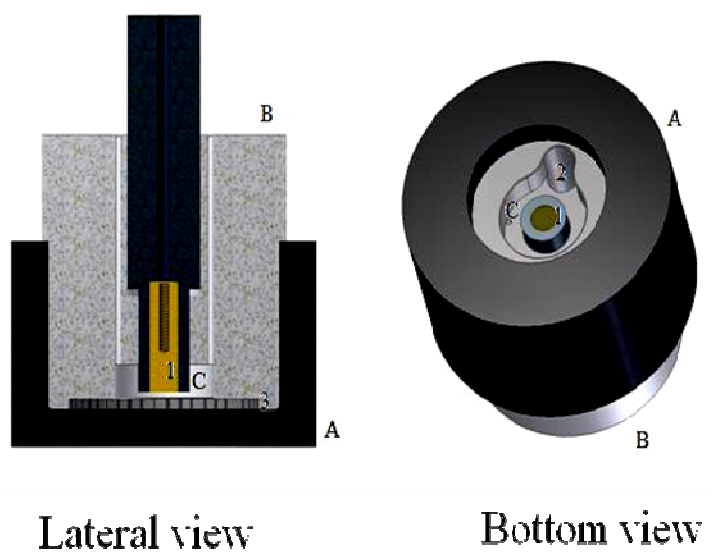


Figure S1. Schematic view of the Raman setup



- A Kel-F scrolled base
- B Kel-F cell body
- C Electrochemical compartment
- 1 Working electrode
- 2 Reference electrode compartment
- 3 Quartz window

Figure S2. Electrochemical cell used for *in situ* Surface Enhanced Raman measurements.

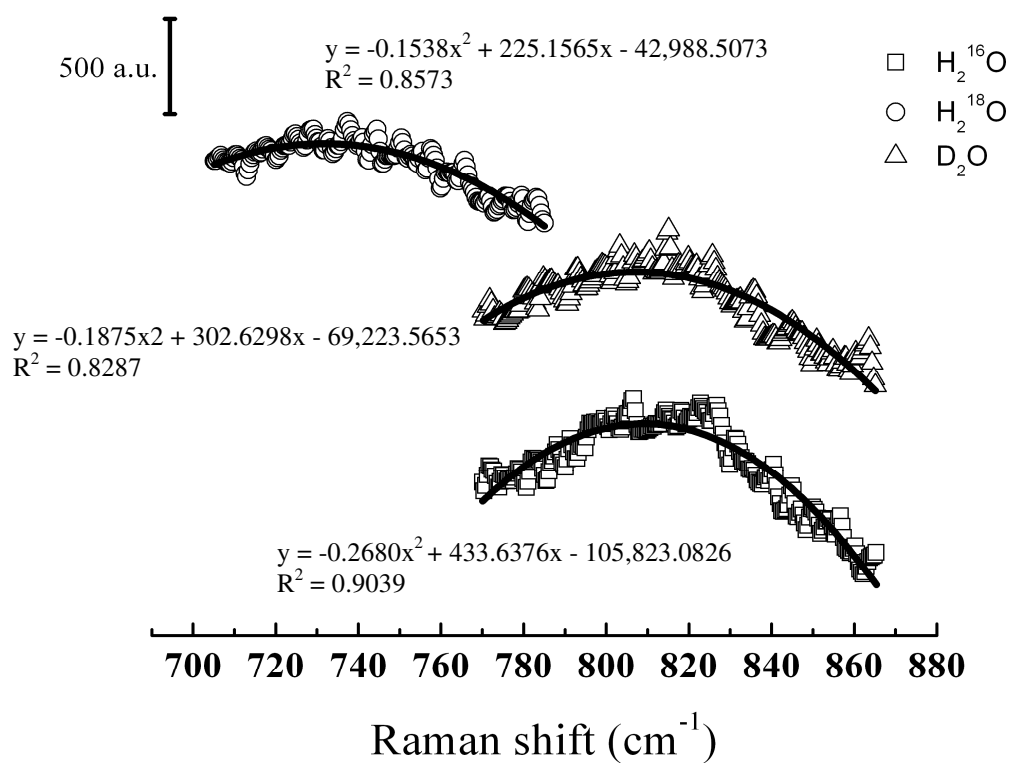


Figure S3. Raman spectrum acquired at 1.7 V vs. RHE in a pH=0 solution prepared with H_2^{16}O , H_2^{18}O and D_2O , showing the polynomial fittings (second grade polynomial) used to determine the peak position.

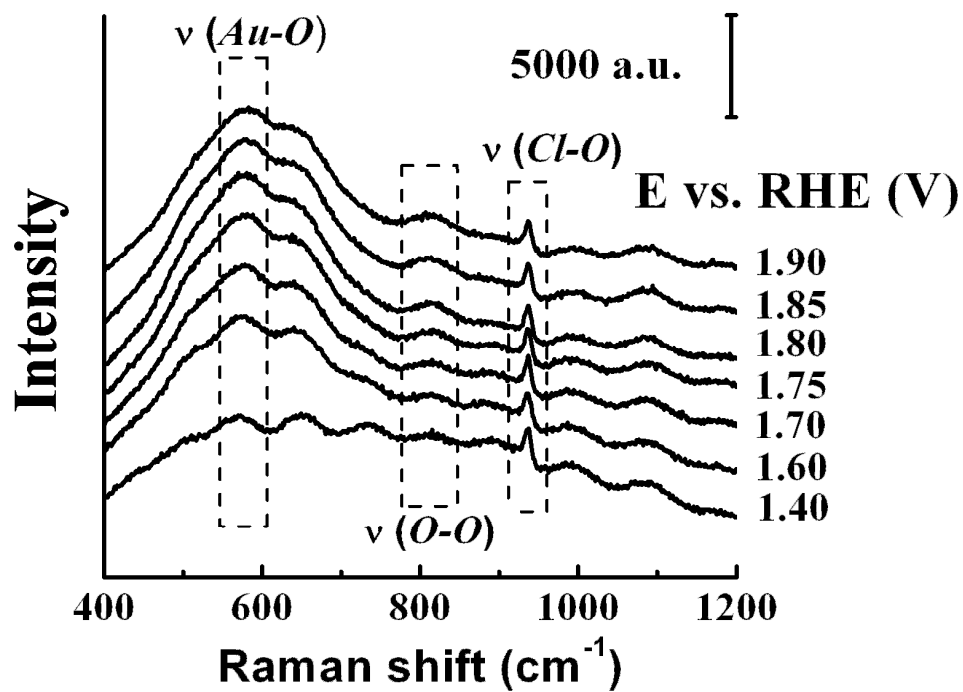


Figure S3. SERS spectra for oxygen evolution acquired at constant potential in pH=0 solution prepared in D_2O .