TEMPERATURE DEPENDENT QUANTIZED DOUBLE LAYER CHARGING OF MONOLAYER PROTECTED GOLD CLUSTERS

Deon T. Miles and Royce W. Murray*

Kenan Laboratories of Chemistry,
University of North Carolina, Chapel Hill, NC  27599-3290

Supporting Information Figure Legends

Figure S-1. Cyclic voltammetry (——) and differential pulse voltammetry (−−−−) of 0.06 mM annealed C6 MPCs in CH2Cl2/0.05 M Bu4NClO4 at 1.6 mm diameter Pt working electrode, Pt coil counter electrode, and Ag wire quasi-reference electrode at 273 K. Scan rate of CV = 0.50 V/s, DPV conditions: 0.05 V pulse, 50 ms pulse width, 200 ms period, 0.02 V/s scan rate.

Figure S-2. Differential pulse voltammetry of 0.06 mM annealed C6 MPCs in CH2Cl/0.05 M Bu4NClO4 at 0.3 mm diameter Pt working electrode, Pt coil counter electrode, and Ag wire quasi-reference electrode at 213 K. DPV conditions: 0.05-V pulse, 50 ms pulse width, 200 ms period, 0.02 V/s scan rate.

Figure S-3. Cyclic voltammetry of 0.07 mM ethanol-soluble C6 MPCs in CH2Cl/0.05 M Bu4NClO4 at 1.6 mm diameter Pt working electrode, Pt coil counter electrode, and Ag wire quasi-reference electrode at 213 K. Potential scan rate = 0.10 V/s.

Figure S-4. Cyclic voltammetry of 0.05 M Bu4NClO4 in CH2Cl : (a) at 1.6 mm diameter Au working electrode at 293 K (-----) and 203 K (——), Pt coil counter electrode and Ag wire quasi-reference electrode; and (b) at bare Au (·····), C16S/Au (——), and HOOC(C15S/Au (-----) working electrodes (1.6 mm diameter) at room temperature, Pt coil counter electrode and Ag/Ag^+ reference electrode. Potential scan rate = 0.1 V/s.
Figure S-1

2 μA (CV)
16 μA (DPV)

+ 0.5 V 273 K
Figure S-2

Potential (V) vs AgQRE

Current (nA)

Potential (V) vs AgQRE