Supplementary Section.

Electrochemical Polarization as a Sustainable Method for the Formation of Bronze Patina Layers on a Quaternary Copper Alloy: Insight into Patina Morphology and Corrosion Behaviour

Rafael González-Parra *, Alba Covelo, Arturo Barba and Miguel Hernández

Facultad de Ingeniería, Universidad Nacional Autónoma de México (UNAM), Mexico City 04510, Mexico
* Correspondence: rafael.parra@comunidad.unam.mx

The time series acquired for the artificial patinated samples are shown in Figure S1. The sample patinated at 200 mV (Figure S1a) exhibits a cathodic potential trend while the current shows an anodic trend both displaying transitories with low amplitude and high repetitiveness. The time series for the patina formed at 400 mV (Figure S1b) show a mixed anodic-cathodic trend for current, while the potential results show transitories of higher amplitude and repetitiveness. This potential time series exhibit the highest amplitude perturbations. Also, the patina corrosion layer formed at 600 mV (Figure S1c) shows similar behaviour to the time series displayed in Figure S1b]; however, the amplitude of the transitories is higher. Although the current measurement also shows transient amplitude, this value decreases in time. It is observed that this parameter diminishes as the potential used for patination becomes more anodic. This behaviour is related to the protection provided by the patina layer as determined by EIS analysis.

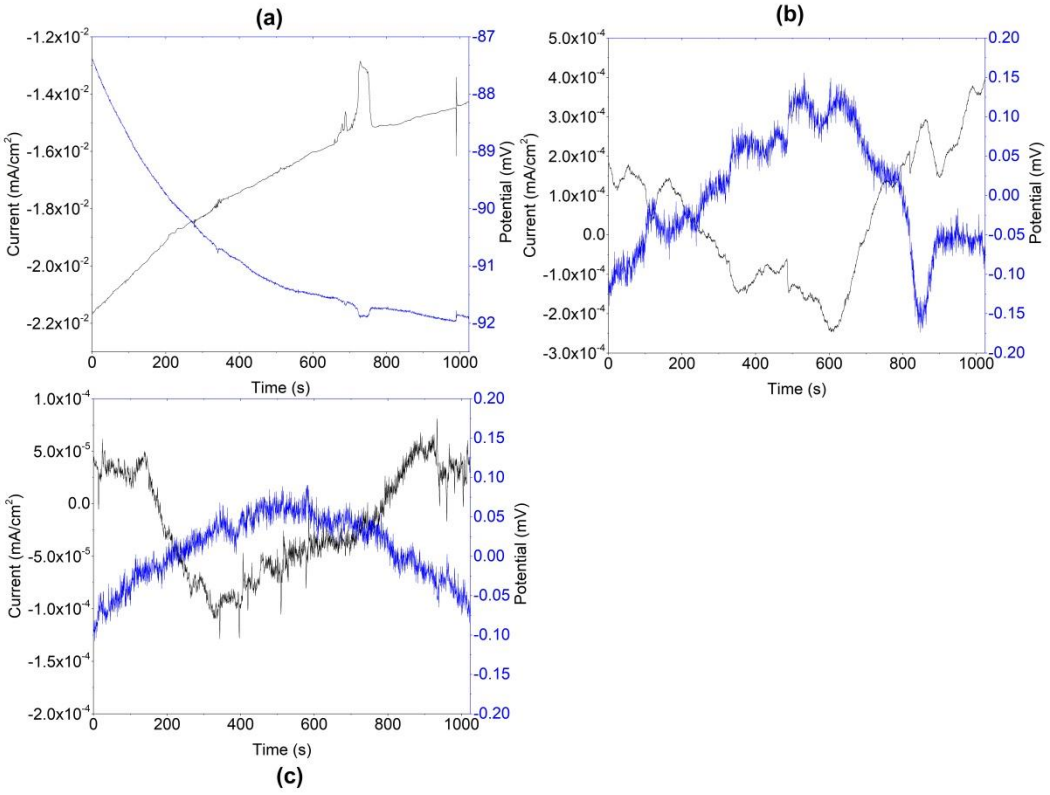

Figure S1. Time series for the bronze samples patinated at (a) 200, (b) 400 and (c) 600 mV.