

Supplementary information:

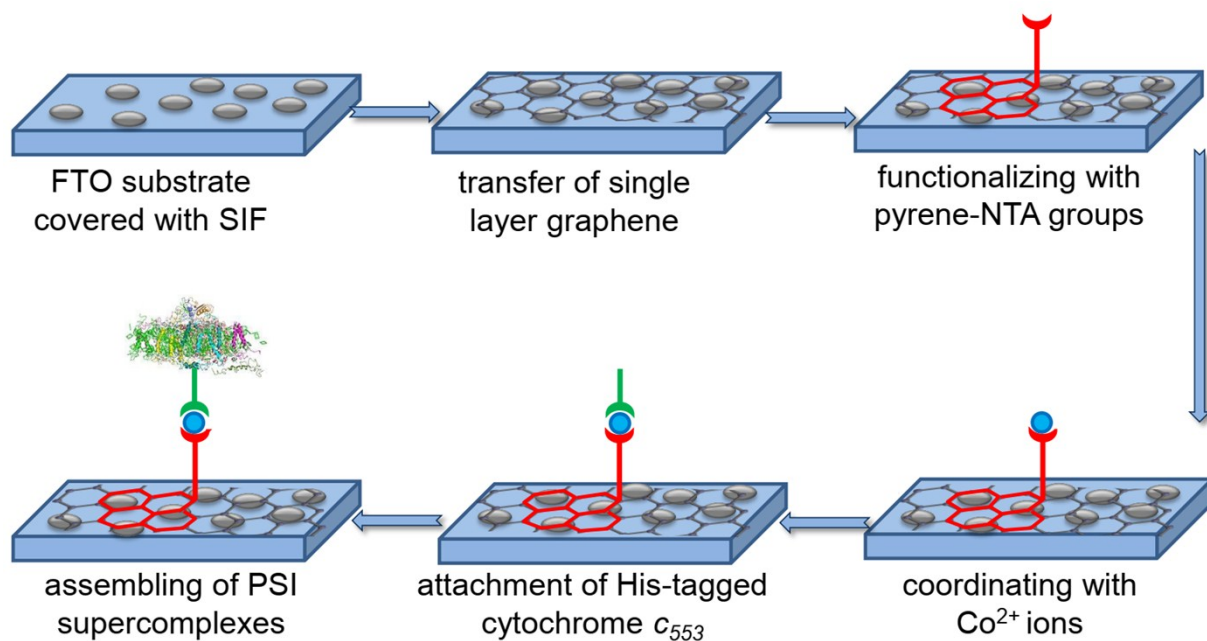


Figure S1. Procedure of sample preparation.

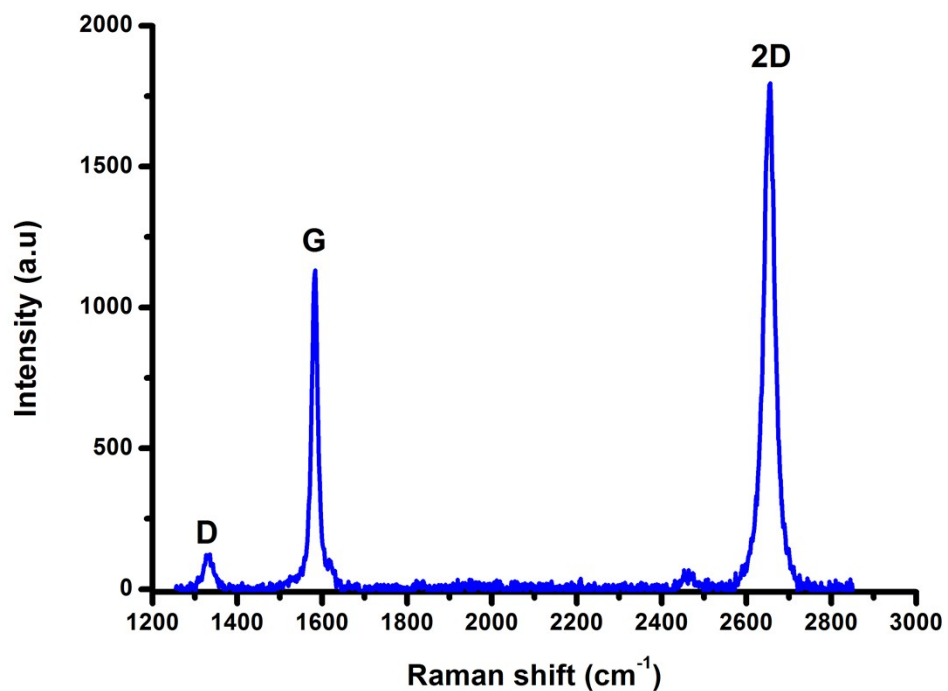


Figure S2. Raman scattering spectrum of SLG on electrode surface. The D, G and 2D bands represent the main spectroscopic features of high-quality graphene.

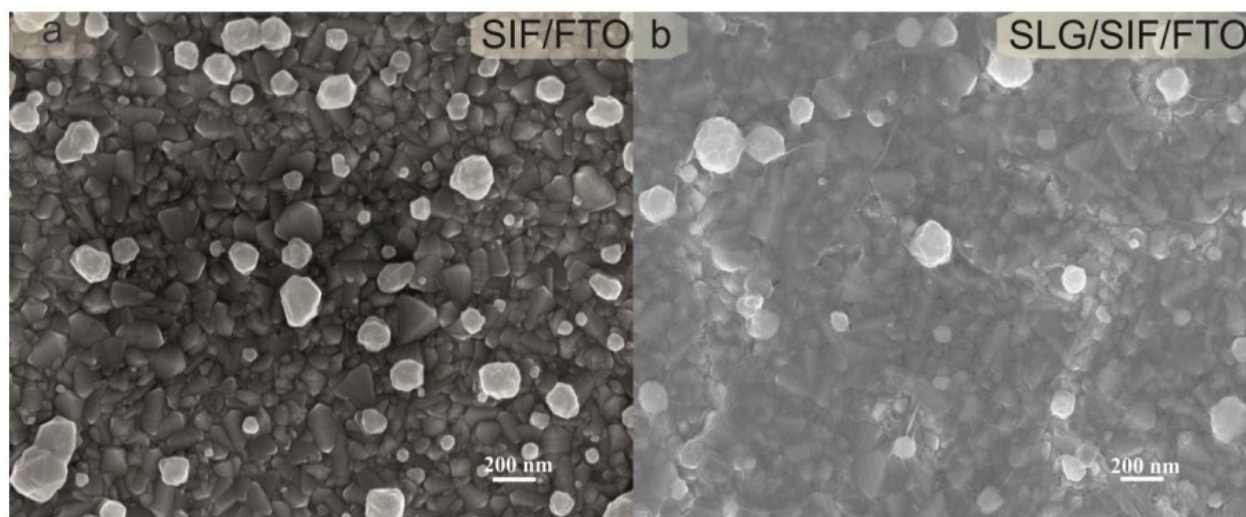


Figure S3. SEM imaging. Scanning Electron Microscopy images of silver islands grown up on FTO substrate is presented in (a), while similar structure covered with SLG is shown in (b).

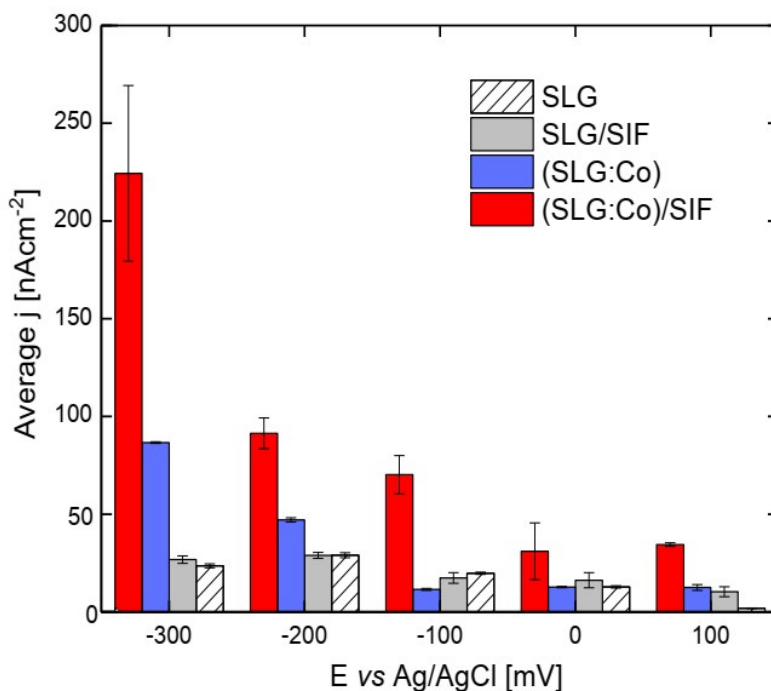


Figure S4. Photochronoamperometric data for PSI-less samples. Figure presents average photocurrent densities obtained for reference electrodes containing Co ions with or without the silver island film (SIF) layer. At least two measurements were carried out for each structure.