## ARTICLE INFORMATION

Journal: Physical Chemistry Chemical Physics

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Title: Ultraslow relaxation of the structure at the ionic liquid|gold electrode interface to a potential step probed by electrochemical surface plasmon resonance measurements: asymmetry of the relaxation time to the potential-step direction

## **Electronic Supplementary Information**

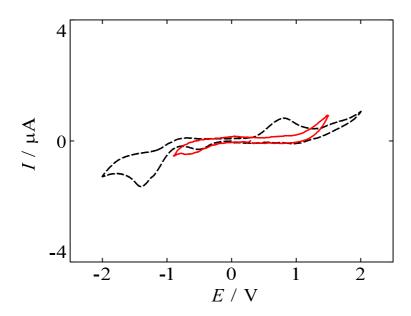


Figure S1: Cyclic voltammograms at the  $[TOMA^+][C_4C_4N^-]$  gold interface for the capacitive potential region at 50 mV/s (red solid line) and for the potential window at 20 mV/s (black dotted line).

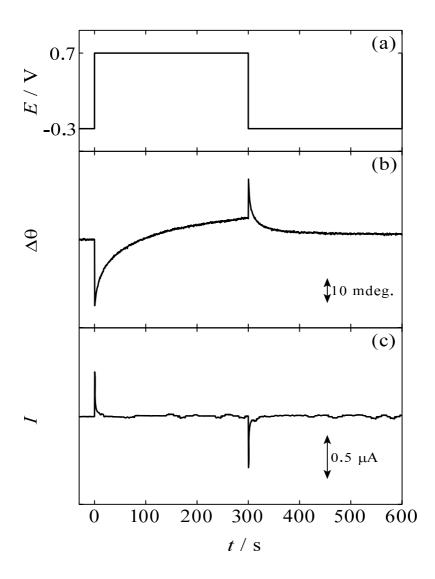


Figure S2: Time course of (a) the potential, (b) SPR angle shift and (c) the current during the potential step measurements.

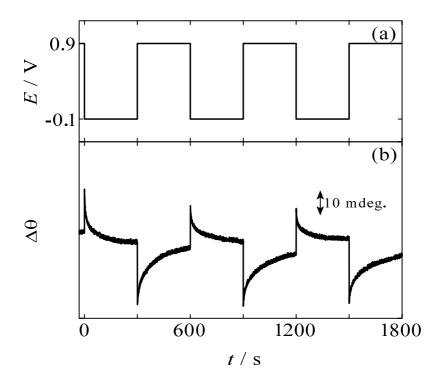


Figure S3: Time course of (a) the potential and (b) SPR angle shift during the potential step measurements between +0.9 and -0.1 V.

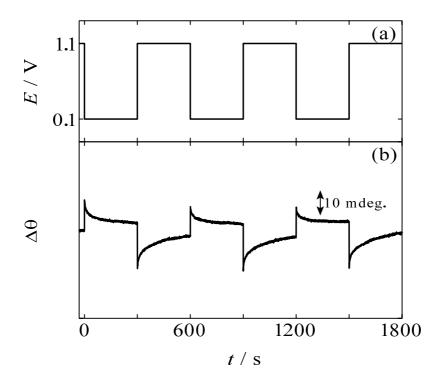


Figure S4: Time course of (a) the potential and (b) SPR angle shift during the potential step measurements between +1.1 and +1.1 V.