Electronic Supplementary Material (ESI) for Analyst.

Electronic Supplementary Information

A reusable, reagent-less free chlorine sensor using gold thin film electrode

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KEYWORDS: Electrochemical sensing, gold thin film, electroanalysis, amperometric detection, free chlorine

pH dependence of the free chlorine sensor

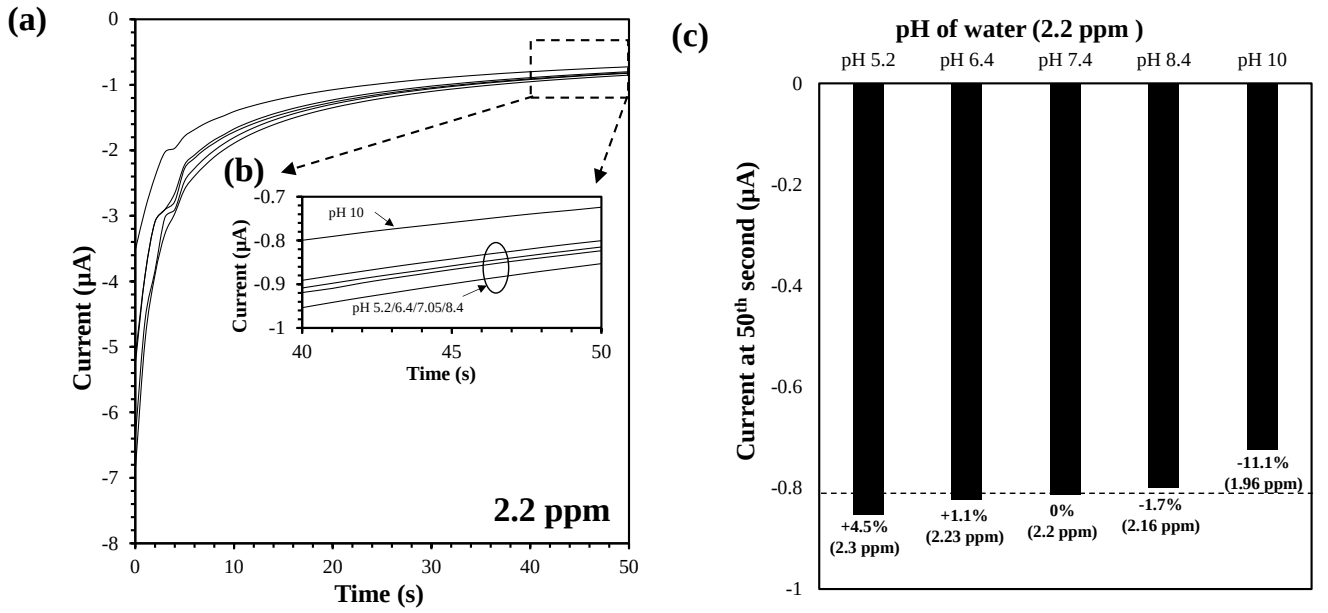

Fig. S1: (a) Chronoamperometric response with water of fixed concentration of 2.2 ppm free chlorine in different adjusted pH level. (b) Detailed view of the chronoamperometric response between 40 to 50 s. (c) Bar chart of the current response at 50th second from chronoamperometric response to water containing 2.2 ppm free chlorine in different adjusted pH level, which allows to measure pH dependence of the free chlorine sensor at medium concentration (2.2 ppm).

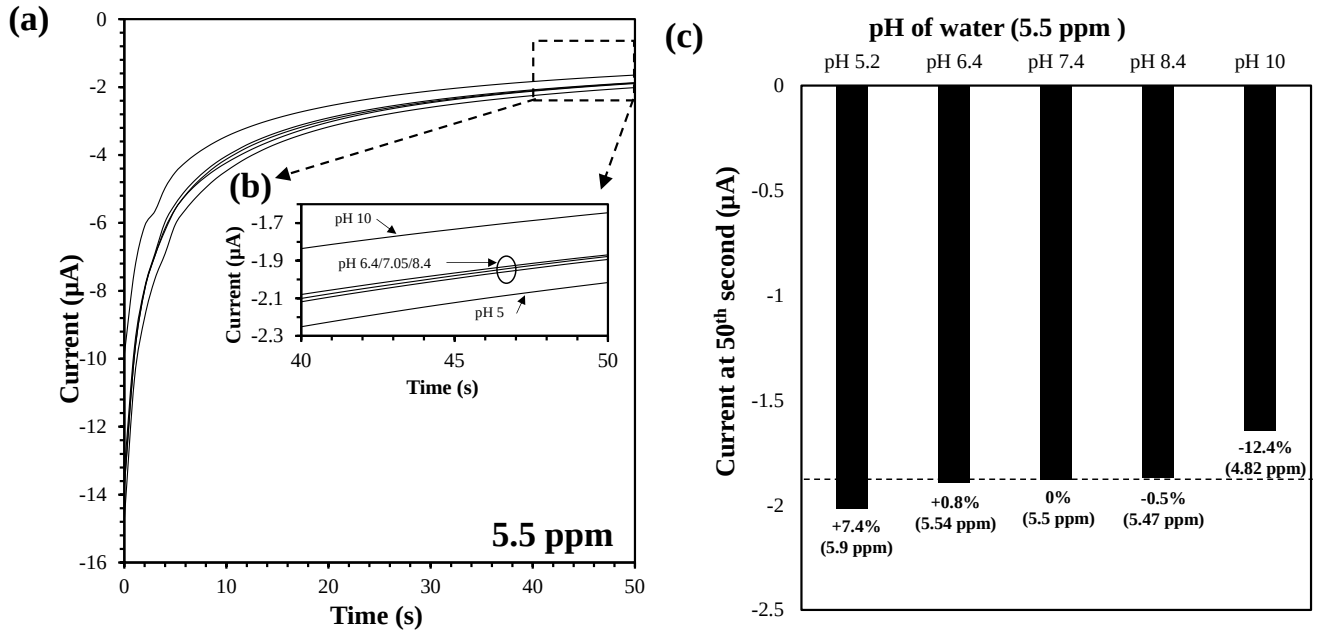

Fig. S2: (a) Chronoamperometric response with water of fixed concentration of 5.5 ppm free chlorine in different adjusted pH level. (b) Detailed view of the chronoamperometric response between 40 to 50 s. (c) Bar chart of the current response at 50th second from chronoamperometric response to water containing 5.5 ppm free chlorine in different adjusted pH level, which allows to measure pH dependence of the free chlorine sensor at high concentration (5.5 ppm).

Temperature dependence of the free chlorine sensor

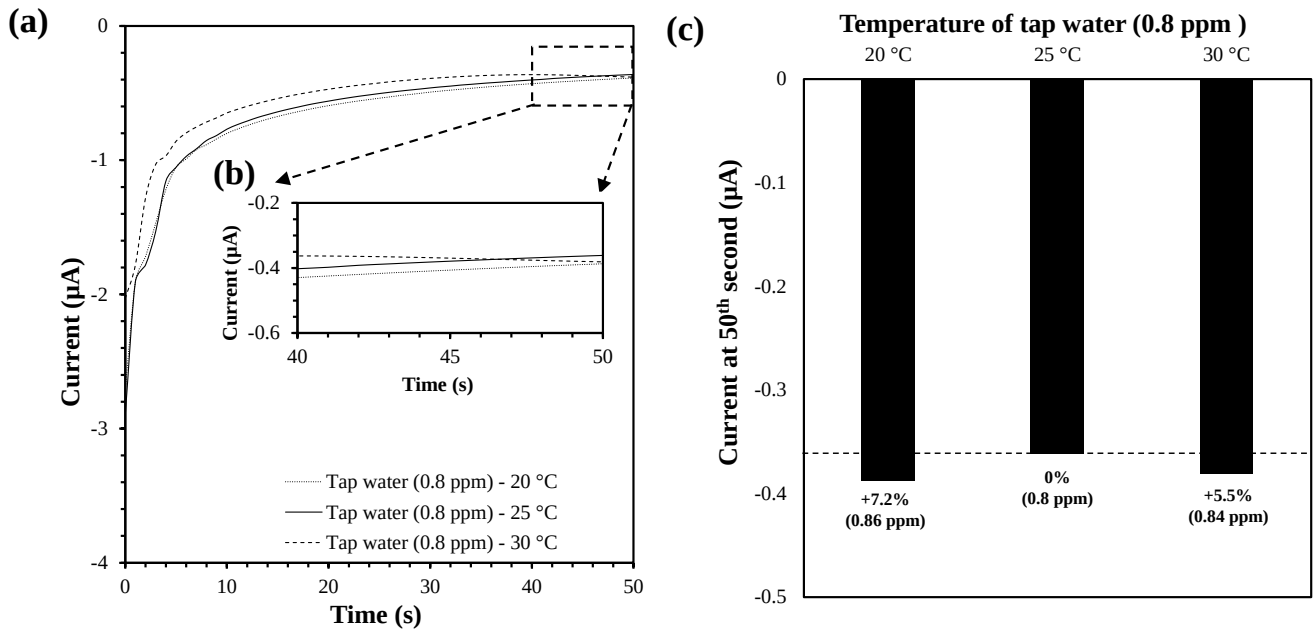

Fig. S3: (a) Chronoamperometric response with tap water of fixed concentration of 0.8 ppm free chlorine in different temperature. (b) Detailed view of the chronoamperometric response between 40 to 50 s. (c) Bar chart of the current response at 50th second from chronoamperometric response to water containing 0.8 ppm free chlorine in different temperature, which allows to measure temperature dependence of the free chlorine sensor.