Supplementary Materials

Quantitative detection of trace mercury in environmental media using three-dimensional configuration of electrochemical sensor with anionic intercalator

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Characteristic of Au nanoclusters

Assuming that the nanoclusters were standard cylinders with a diameter of 120 nm and length of 150 nm, and covered 80% of the gold electrode surface, there were $5.0 \times 10^{10}$ Au nanoclusters on the surface of the gold electrode with a diameter of 3 mm. The total surface area would be 5.0 times larger than that of the original electrode surface, i.e. the proposed electrode offered more reaction sites for self-assembly of the DNA probes.
Figure 1S Effect of pH to the mercuric sensor
Figure 2S Optimizing of concentration and self-assembly time of capture probe (P1)
Figure 3S Effect of reaction time between the sensor and mercury ions

![Graph showing the effect of reaction time between the sensor and mercury ions.]{:width=500}

- Current (μA)
- Time (minute)
- Reaction time increases, resulting in a higher current, indicating a more efficient reaction between the sensor and mercury ions.

Note: The values for current at specific time points are shown, with error bars indicating variability.
Figure 4S Effect of the salt concentration and immersing time to AQDS intercalating