Electronic Supplementary Material (ESI) for Analyst.

Supporting information for:

Field-deployed surface plasmon resonance (SPR) sensor for RDX quantification in environmental waters

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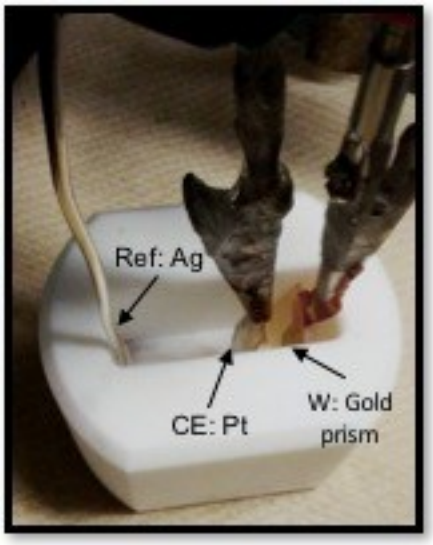

Figure S1. Photograph of the Teflon cell for electropolymerization.

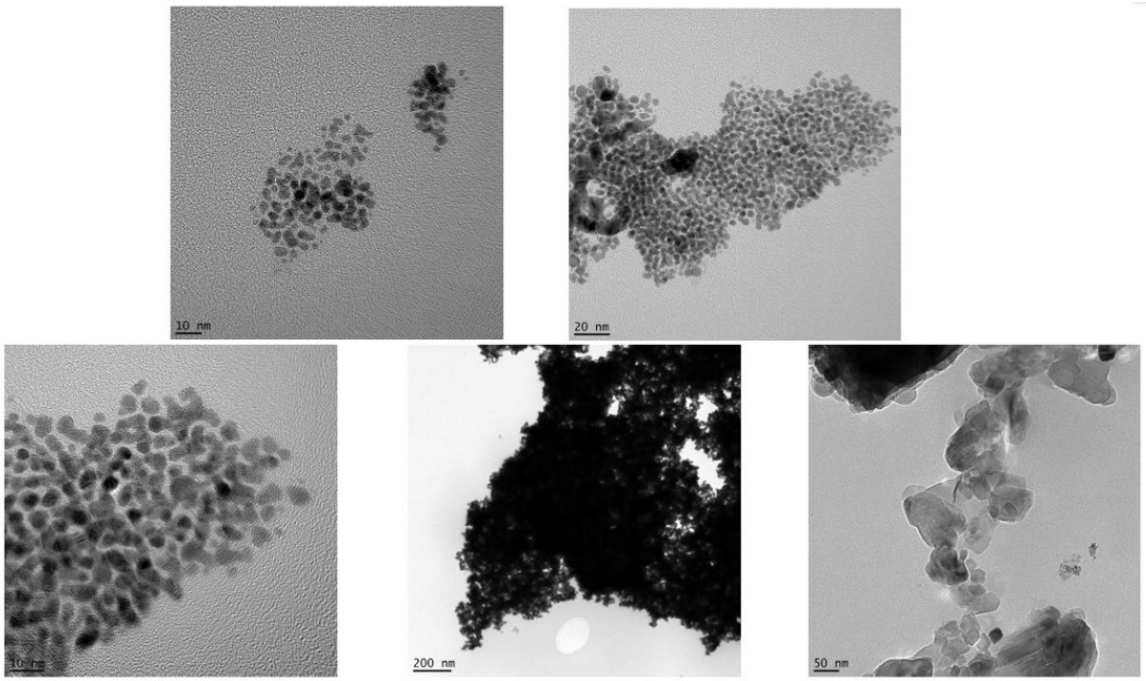

Figure S2. TEM images for the Au NP for the electropolymerization process.

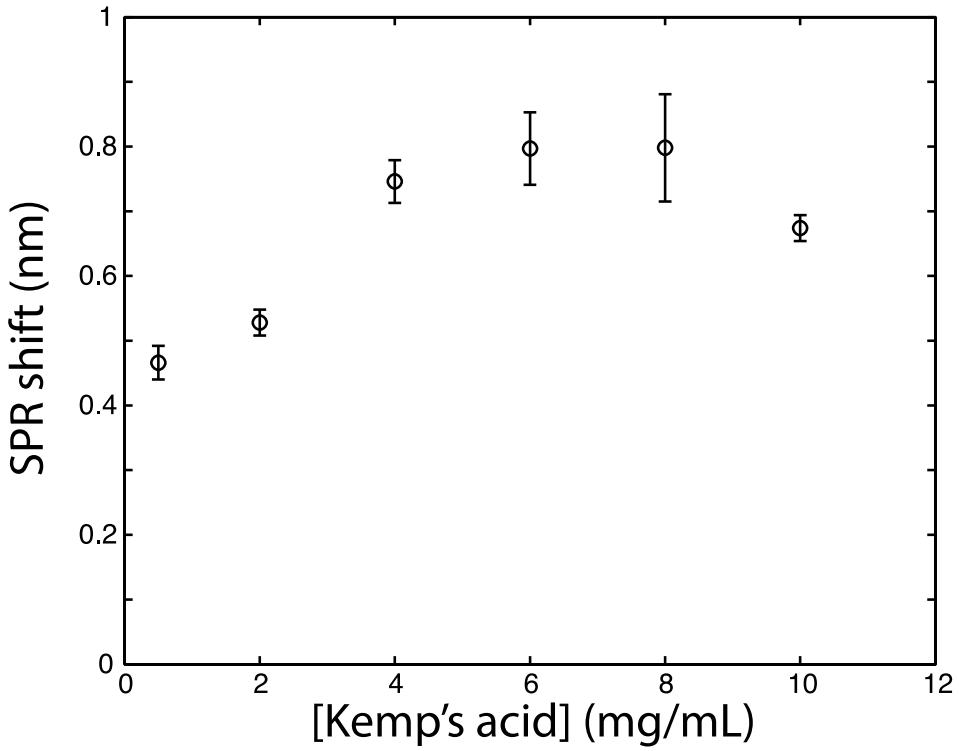

Figure S3. SPR response for 1 pM RDX measured with SPR sensors modified with MIP prepared at different concentration of the template molecule (Kemp's acid). The optimal concentration was in the range of 4 to 8 mg/mL. The error bars represent one standard deviation on a triplicate measurement (n = 3).

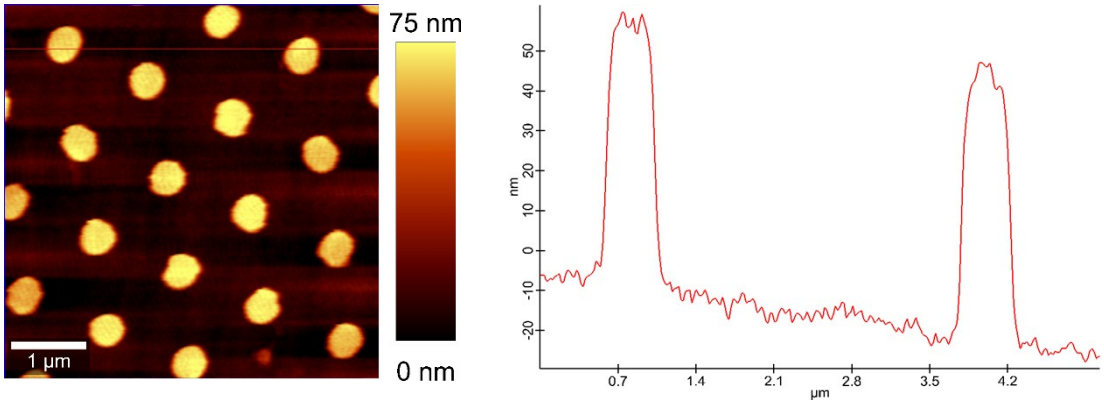

Figure S4. Left) AFM image and Right) cross section height of the bare gold-coated nanodisk array.

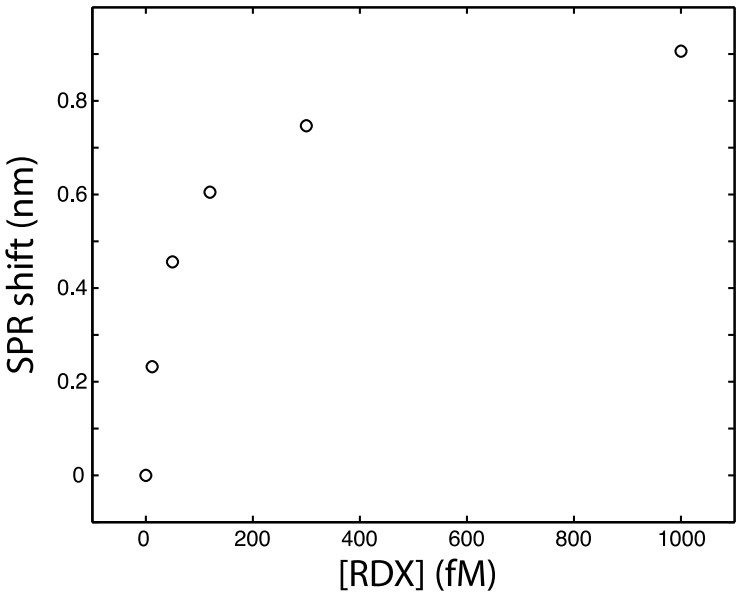

Figure S5. SPR response for RDX in the fM range, showing the Langmuir isotherm-like response at this concentration range.

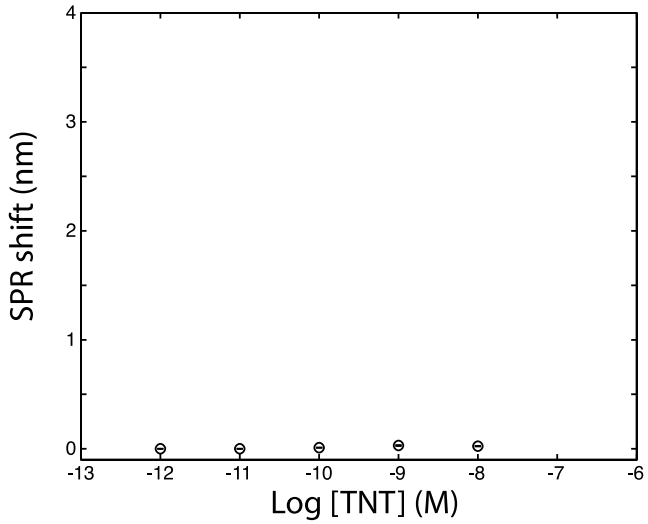

Figure S6. SPR response for TNT concentration from 1 pM to 10 nM using the RDX sensor, showing the absence of response for TNT. The error bars represent one standard deviation on a triplicate measurement (n = 3), note that error bars are smaller than the size of the data points.

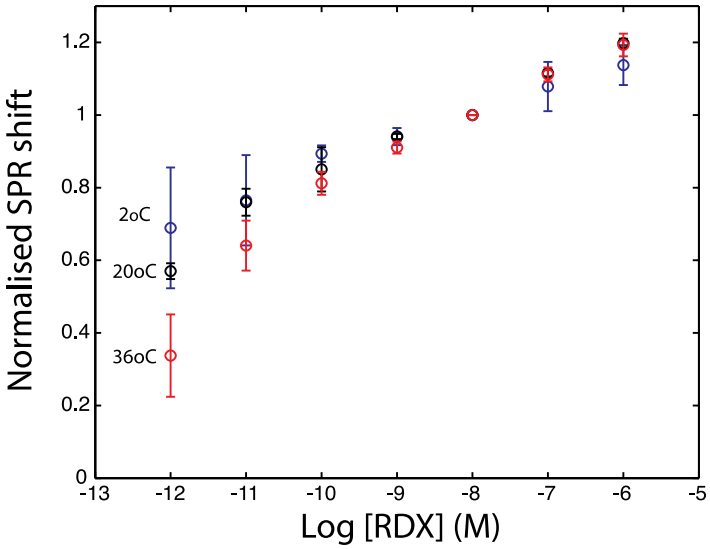

Figure S7. Normalised calibration curves for RDX at different temperatures. The sensitivity was higher for higher temperatures, but using the normalisation at 10 nM allowed minimal drift at the environmentally relevant concentration range.

Figure S8. Photographs of the SPR instrument deployed in winter (Top) and summer (Bottom) conditions.