

Supplementary Information

Portable gold nanoparticle-based colorimetric sensor for rapid *on-site* detection of glyphosate herbicide in plants and soil

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Supporting Figures: 8

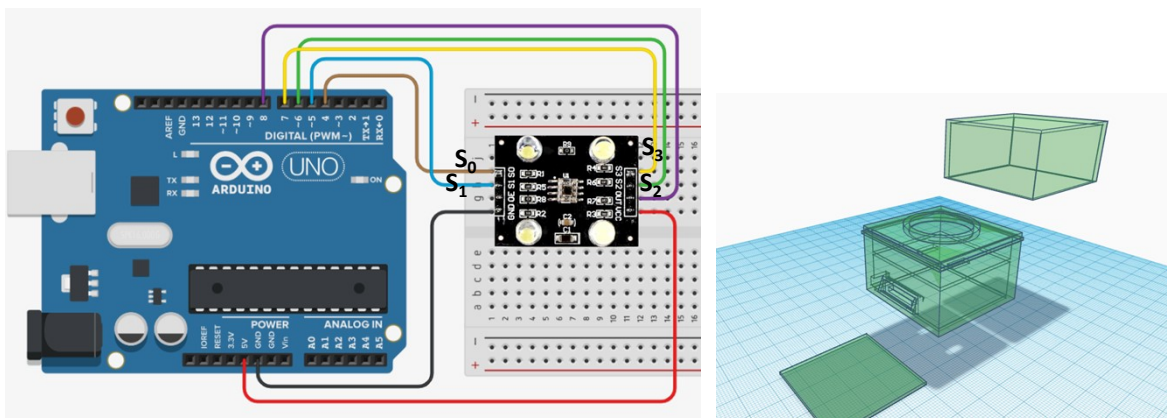


Fig. S1. Schematic diagram of the colorimetric sensor.

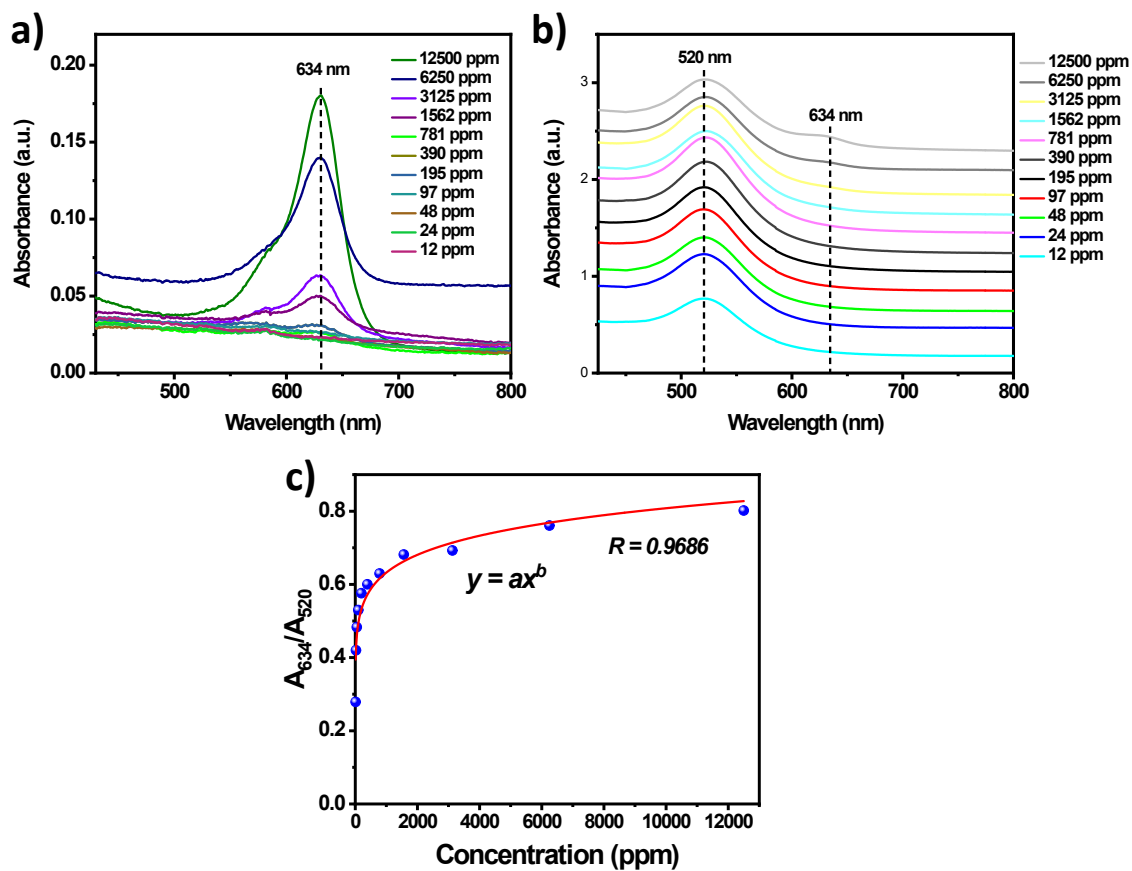


Fig. S2. a) UV-Vis spectra at different glufosinate concentrations, b) UV-Vis spectra of AuNPs+Cys with different glufosinate concentrations, c) plot of the absorbance ratio (A_{634}/A_{520}) at different glufosinate concentrations.

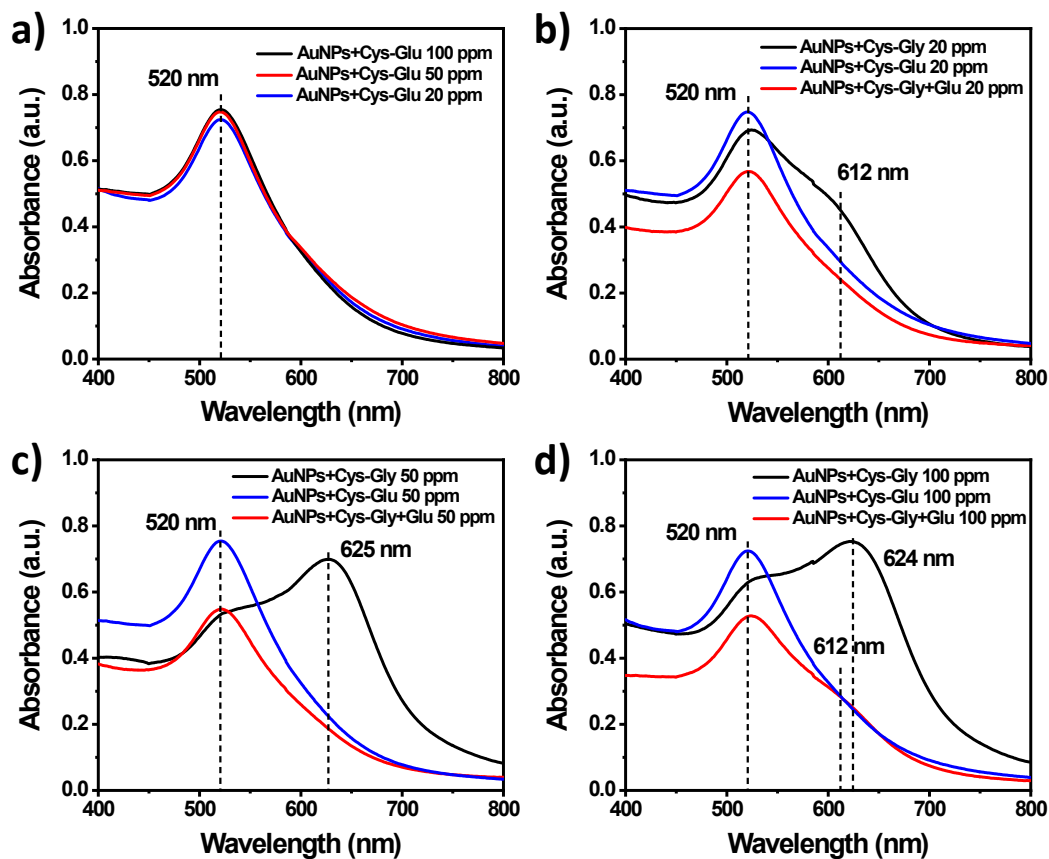


Fig. S3. a) UV-Vis spectra of AuNPs+Cys with Glu at different concentrations, b), c), and d) UV-Vis spectra of AuNPs+Cys with Gly, Glu, and Gly+Glu at 20 ppm, 50 ppm, and 100 ppm.

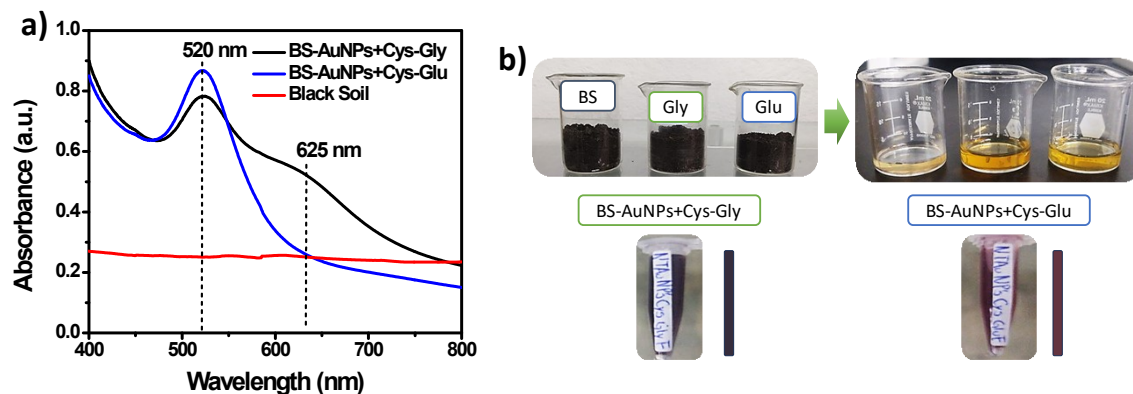


Fig. S4. a) UV-Vis spectra and b) ground test experiments of AuNPs+Cys with Gly and Glu tested in black soil conditions.

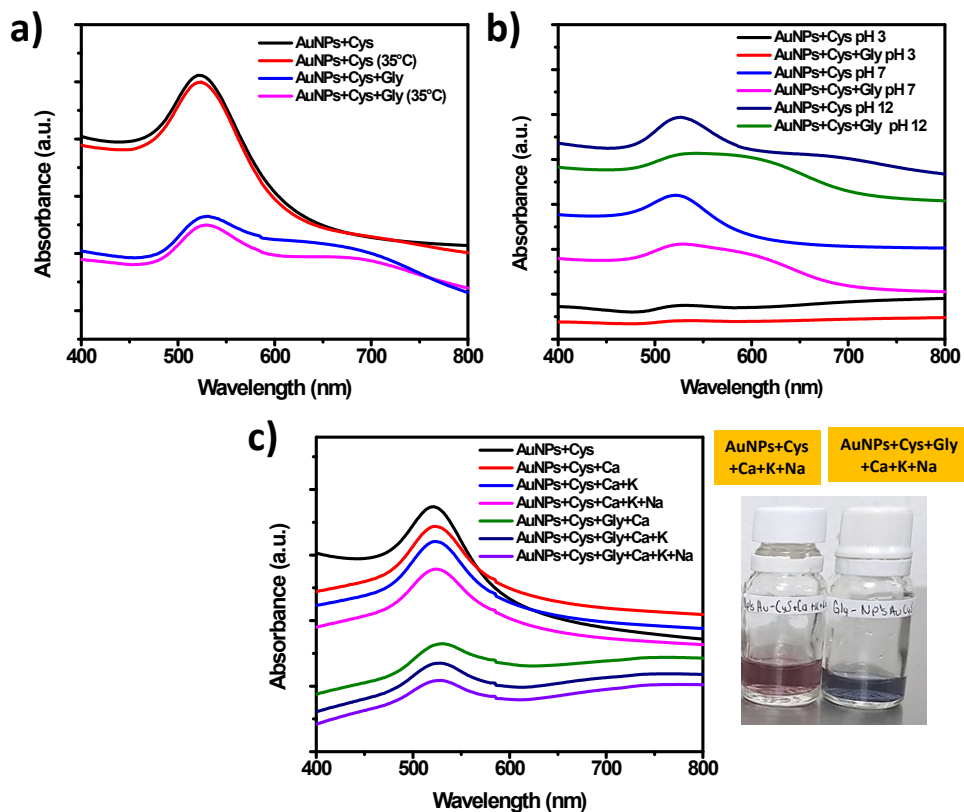


Fig. S5. UV-Vis spectra obtained during the assessment of the sensor's performance under varying conditions of: a) temperature, b) pH, and c) ions selectivity.

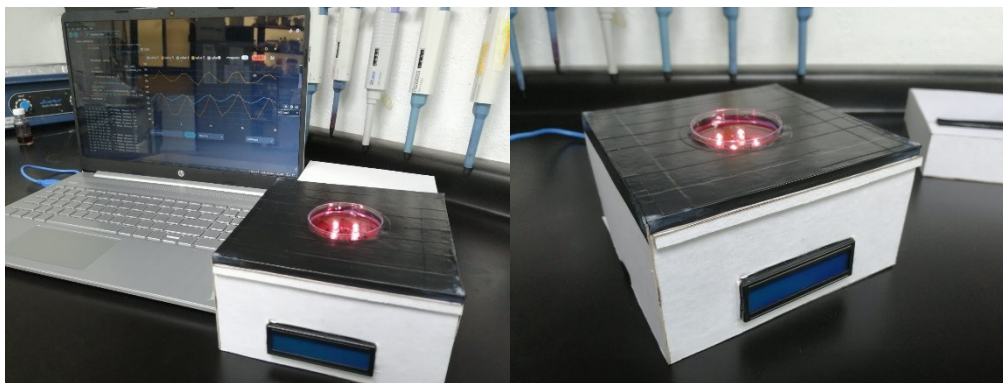


Fig. S6. Connection of colorimetric sensor to PC.

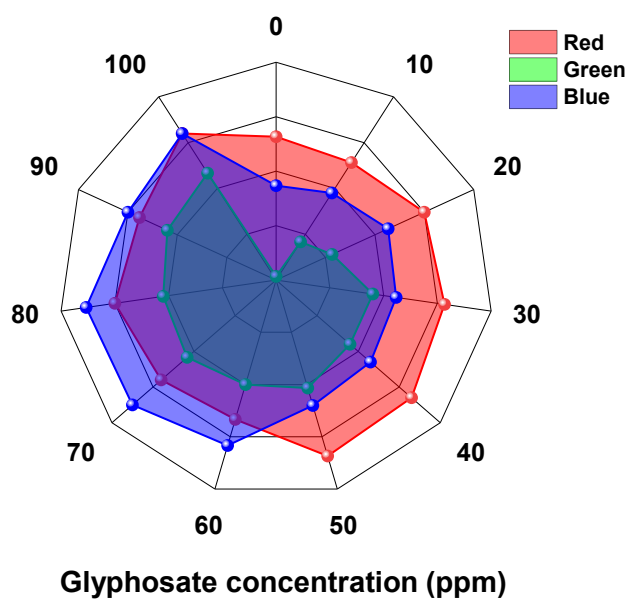


Fig. S7. Radar graph showing RGB values in samples varying glyphosate concentration.

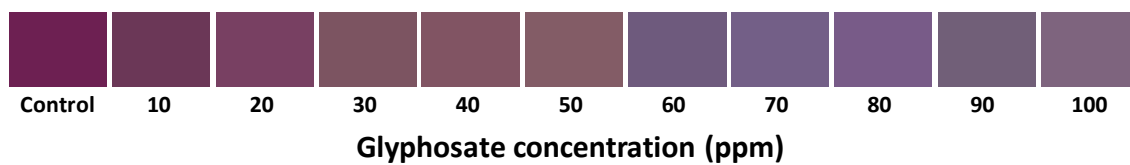


Fig. S8. Color map obtained from the values acquired by the colorimetric sensor.