

Supporting Information

In situ colorimetric detection of glyphosate on plant tissues using cysteamine-modified gold nanoparticles

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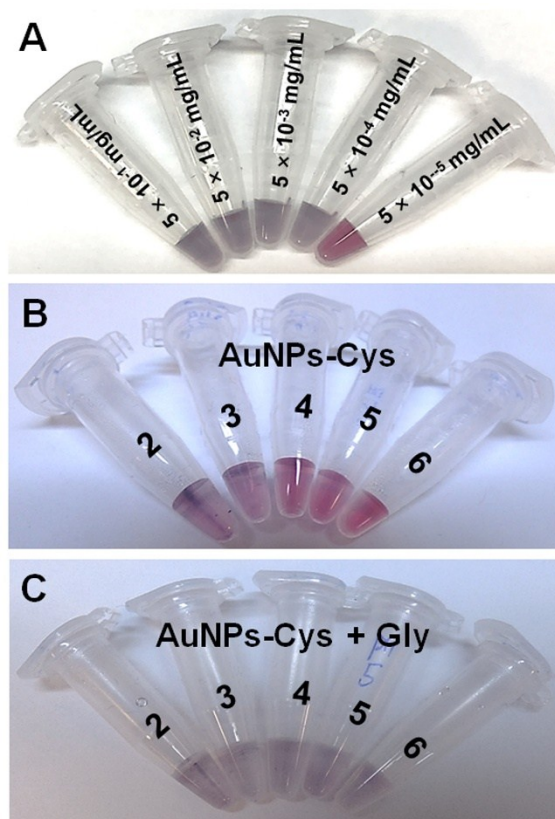


Figure S1. (A) The photograph of AuNPs modified with different concentrations of cysteamine; The photographs of AuNPs-Cys at different pH, before (B) and after (C) the addition of glyphosate.

Table S1. CIELAB and colorimetric value of each sample point on spinach leaf.

Plant tissue	Concentration (mg L ⁻¹)	<i>L</i> [*]	<i>a</i> [*]	<i>b</i> [*]	ΔE^*
Spinach leaf	0	28.060	4.051	18.015	/
	0.001	28.880	-3.711	18.884	7.853
	0.01	27.392	-3.066	18.962	7.211
	0.1	24.414	-4.498	20.009	9.506
	1	23.679	-4.101	19.671	9.401
	10	23.096	-5.739	20.391	11.231
	100	21.019	-4.7427	18.896	11.300
	1000	20.870	-12.167	20.293	17.886

Table S2. CIELAB and colorimetric value of each sample point on apple peel.

Plant tissue	Concentration (mg L ⁻¹)	<i>L</i> [*]	<i>a</i> [*]	<i>b</i> [*]	ΔE^*
Apple peel	0	50.903	37.725	31.722	/
	0.001	50.413	37.571	31.743	0.515
	0.01	50.415	36.891	32.547	1.271
	0.1	48.125	34.708	31.513	4.107
	1	41.078	33.061	30.366	10.960
	10	36.666	31.399	28.141	15.985
	100	32.472	28.494	24.100	21.978
	1000	25.200	16.740	15.159	37.0865

Table S3. CIELAB and colorimetric value of each sample point on corn leaf.

Plant tissue	Concentration (mg L ⁻¹)	<i>L</i> [*]	<i>a</i> [*]	<i>b</i> [*]	ΔE^*
Corn leaf	0	32.476	19.000	16.317	/
	0.001	35.993	20.979	19.204	4.963
	0.01	37.607	20.176	20.239	6.565
	0.1	34.342	22.787	21.875	6.981
	1	37.319	14.543	18.597	6.964
	10	37.433	11.444	18.040	9.198
	100	40.846	4.689	17.893	16.652
	1000	39.426	-0.860	18.445	21.146

Table S4. Recovery for glyphosate on corn leaf.

Matrix	Glyphosate level (mg L ⁻¹)	Recovery
Corn leaf	1000	70.46
	100	66.36
	10	41.72
	1	104.08
	0.1	99.30
	0.01	152.68
	0.001	32.60