

## Electronic Supporting Information

# Superradiative Plasmonic Nanoantenna Biosensors Enable Sensitive Immunoassay Using the Naked Eye

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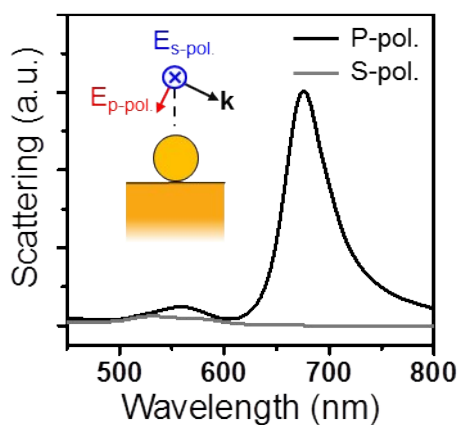


Fig. S1 Simulated scattering spectra of NPOM system under p-(black) and s-(gray) polarized light excitation.

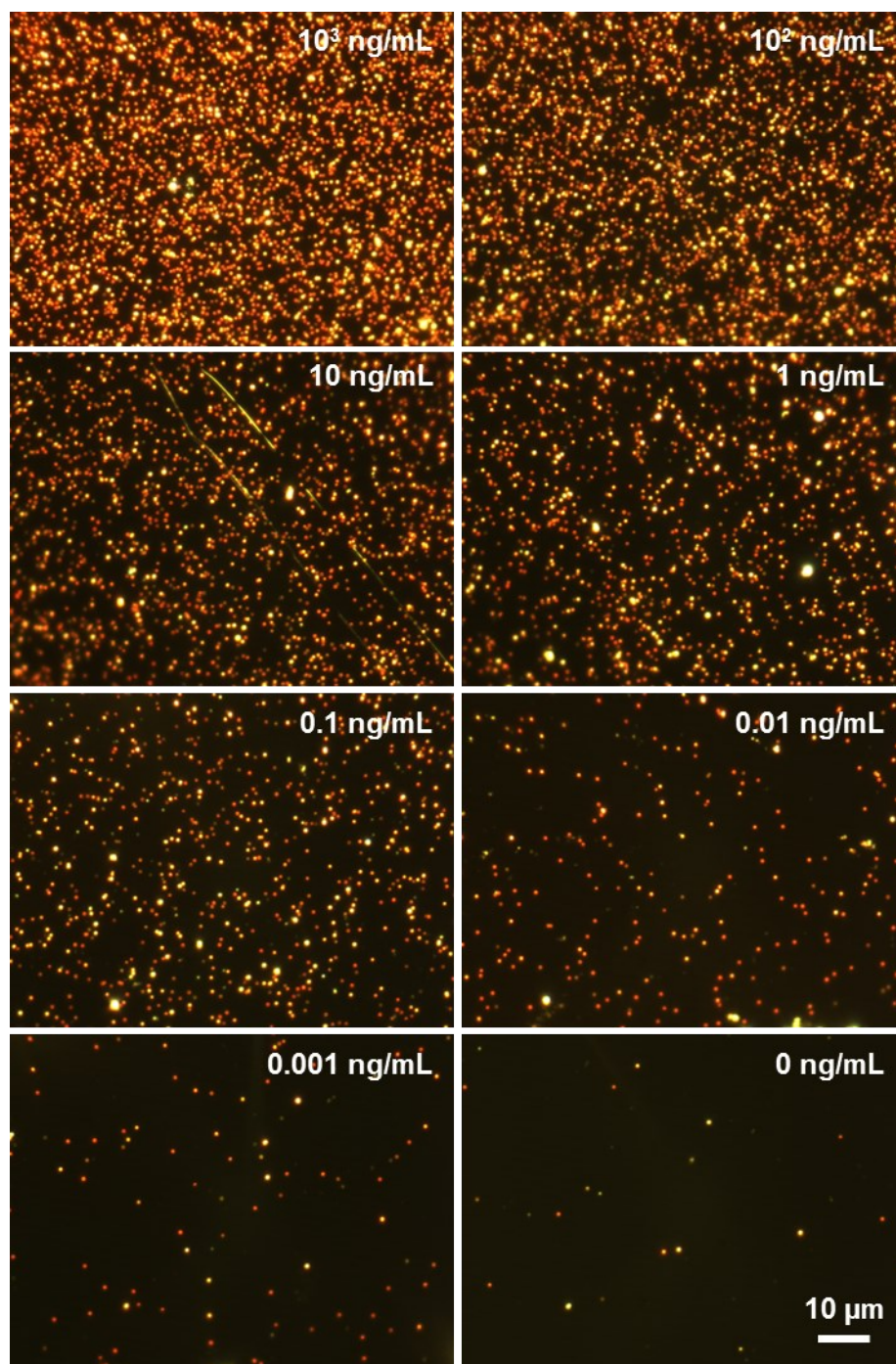


Fig. S2 Dark-field images for each concentration taken from the CCD camera.

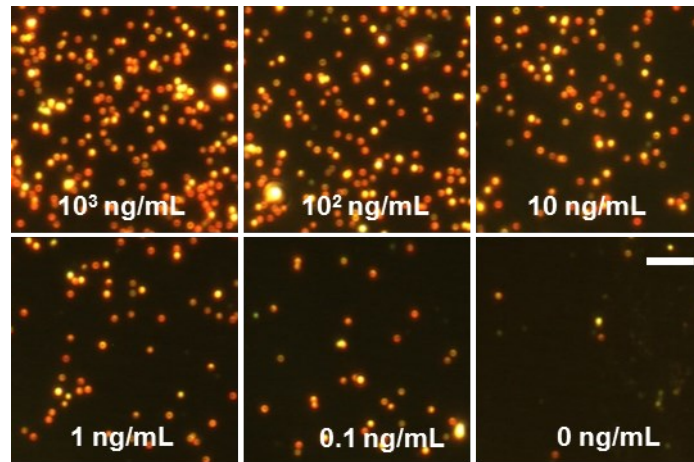


Fig. S3 Dark-field images of SERS-based immunoassay with different concentrations of human IgG. Scale bar is 5  $\mu\text{m}$ .

Table S1 The lowest detection limitations of IgG using various detection methods in previous works based on immunoassay.

Method	Lowest detection limitation	Reference
SERS	5.33 aM	1,2
Fluorescence	0.30 fM	3,4
Surface plasmon resonance	0.27 pM	5,6
Electrochemistry	0.67 aM	7,8
Dark-field microscope	9.74 pM	9

Table S2 Comparison of relative standard deviations of SERS peak intensity at 1587 cm<sup>-1</sup> and particle density of DFM methods (Fig. 3d).

Concentration (ng/mL)	SERS	DFM
10 <sup>3</sup>	0.34	0.04
10 <sup>2</sup>	0.26	0.05
10 <sup>1</sup>	0.35	0.05
10 <sup>0</sup>	0.40	0.03
10 <sup>-1</sup>	0.28	0.01
10 <sup>-2</sup>	/	0.07
10 <sup>-3</sup>	/	0.02

## References

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