

## **Optimization of gold nanoparticle-based real-time colorimetric assay of dipeptidyl peptidase IV activity**

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## Supporting Information

### Gold nanoparticle-based real-time colorimetric assay of dipeptidyl peptidase IV activity

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**Fig. S1.** The stability of the as-synthesized AuNP (UV-vis absorption spectra of the colorimetric assay toward 0 U/L DPP IV/CD 26 (blue curve) and 20 U/L DPP IV/CD 26 (red curve) after the Au NP was stored for 0 month, 1 month, 2 months, 3 months, respectively). Error bar represents the standard deviation (n = 3).

**Fig. S2 a)** Plot of absorbance of GPDC-AuNPs at 642/522 nm versus reaction time at various enzymatic activities of DPP-IV/CD-26 (0, 2.5, 5, 7.5, 10, 12.5, 15, 20 and 25 U/L) for 60 minutes, Inset: Plot of absorbance of GPDC-AuNPs at 642/522 nm versus reaction time for the firsts 10 minutes. **b)** Hydrodynamic size of GPDC-AuNPs measured by DLS at different incubation time (measured at 1 minute intervals) with 20 U /L of DPP-IV enzyme.

**Fig. S3** various enzymatic activities of DPP-IV/CD-26 (0, 2.5, 5, 7.5, 10, 12.5, 15, 20 and 25 U/L) with unmodified citrate capped gold nanoparticles.

**Fig.S4** UV-vis absorption spectra of the colorimetric assay toward spiked DPP IV standards (5, 10, 15, 20 and 25 U/L DPP IV /CD26) using human serum samples, **(b)** calibration plots (between the red shift of the LSPR peak and DPP IV activity/CD26). Error bar represents the standard deviation (n = 3).

**Fig. S1**

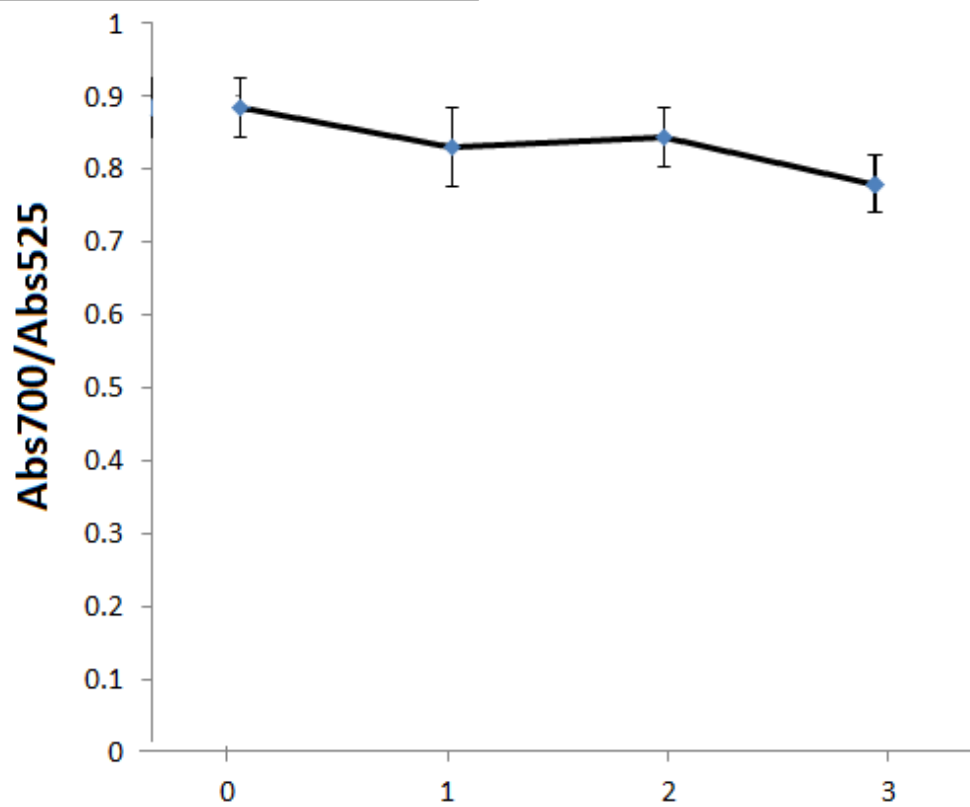
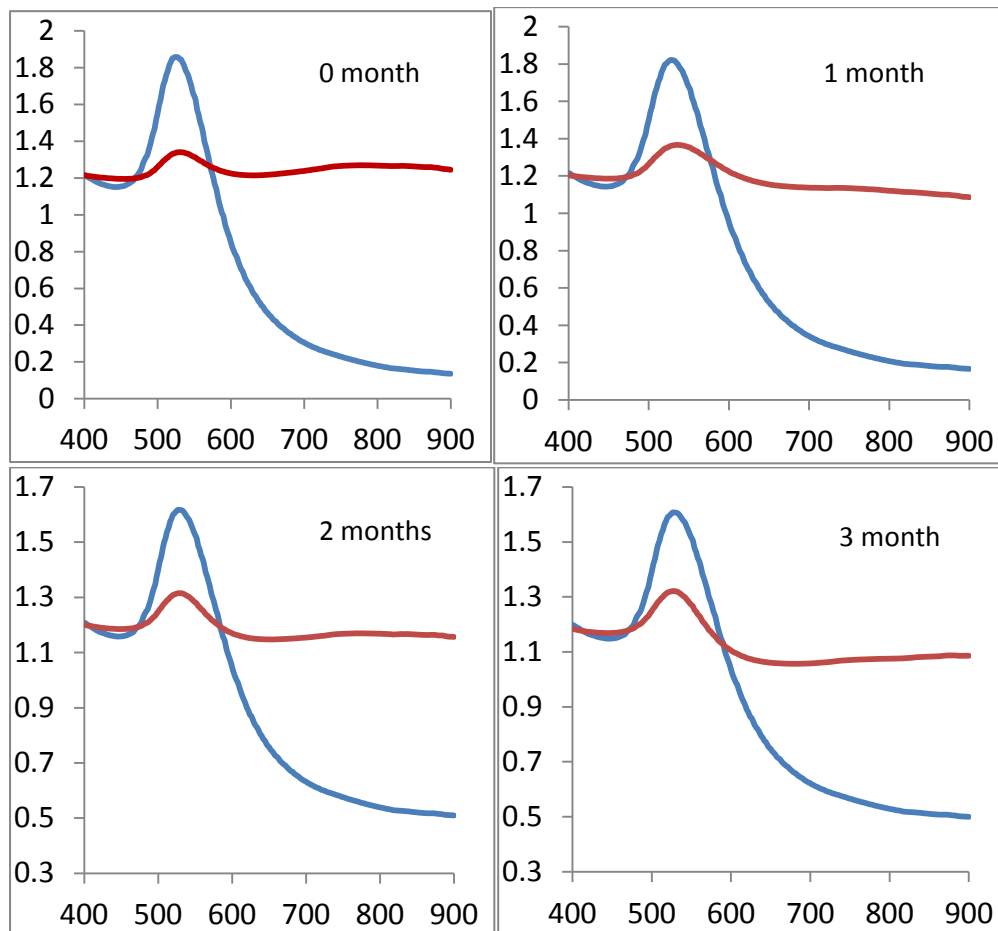
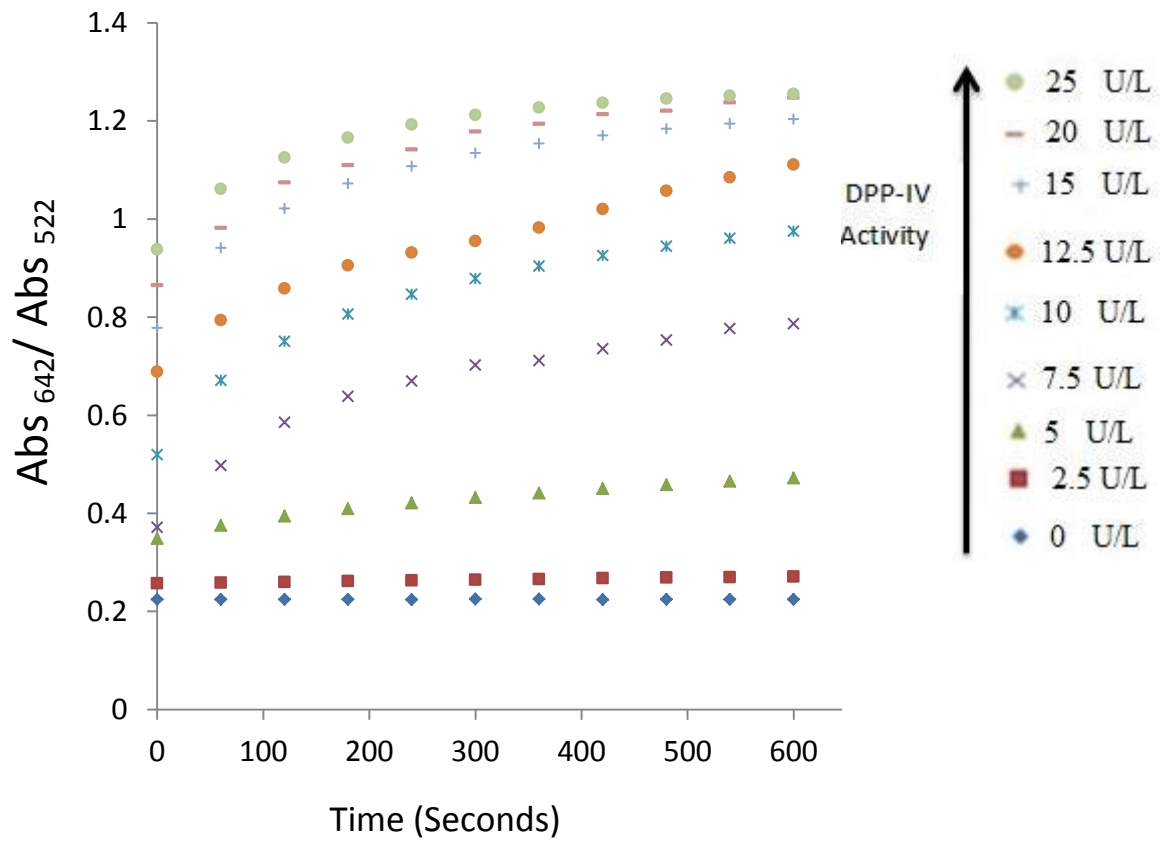
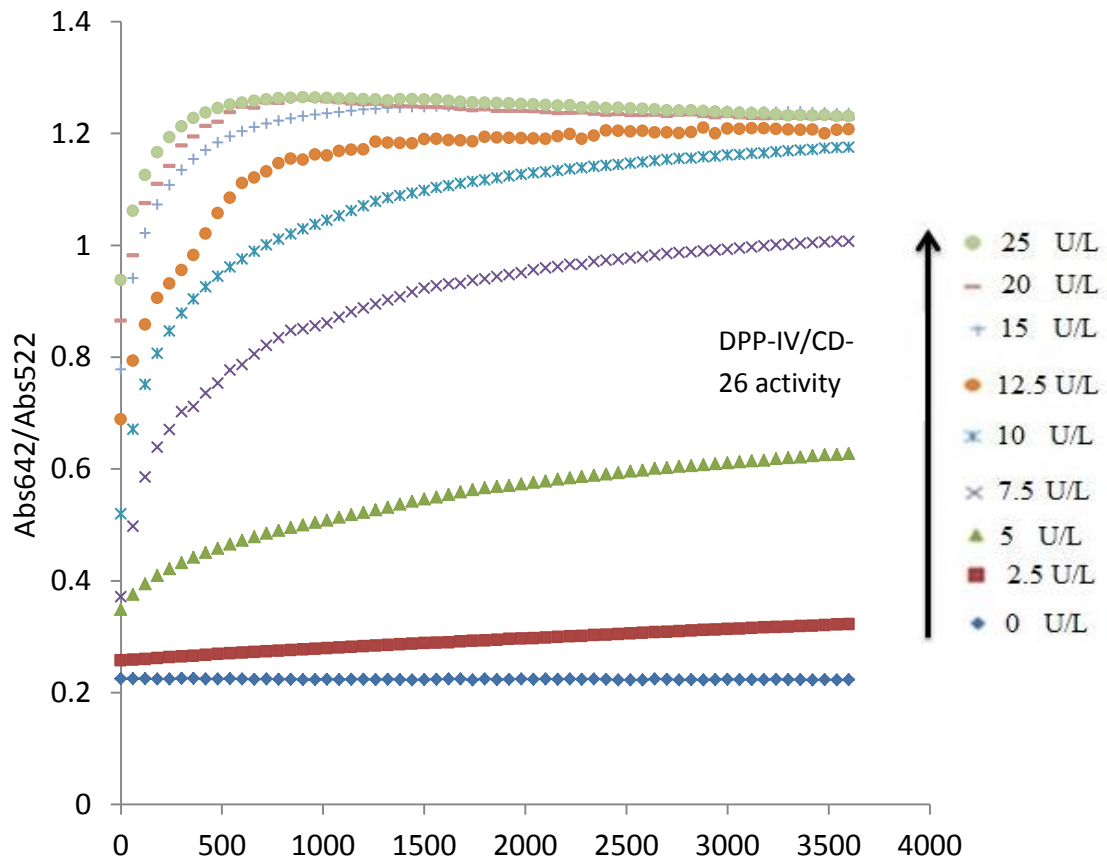


Fig.S2

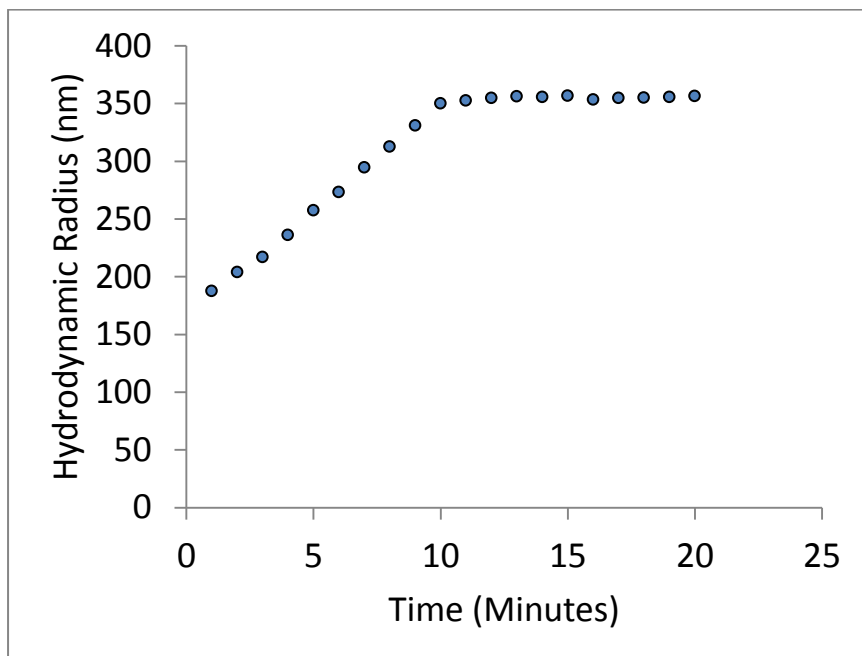
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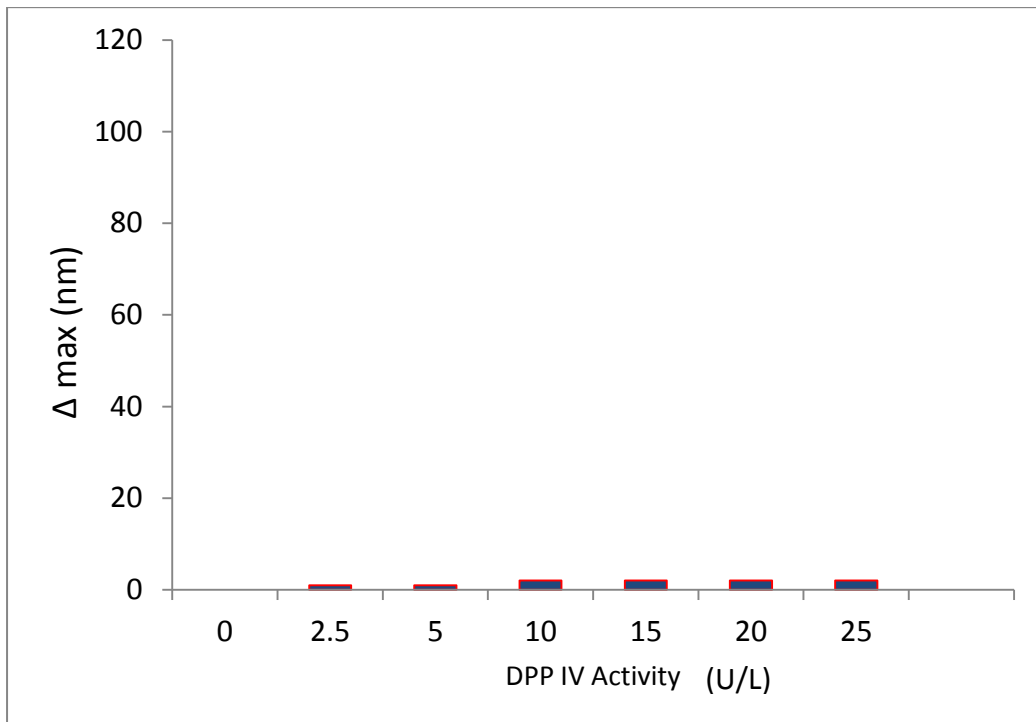


b)

Time (Seconds)



**Fig.S3**



**Fig. S4**

