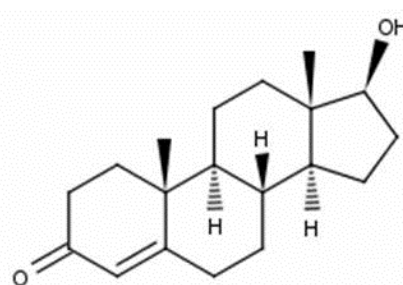
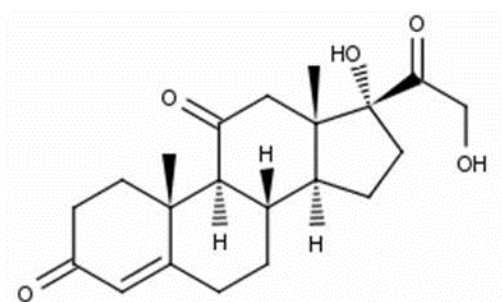


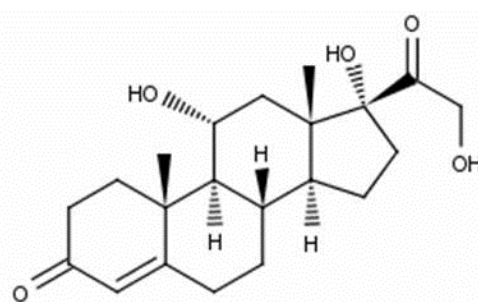
Progesterone  
MW : 314.46



Testosterone  
MW : 288.42

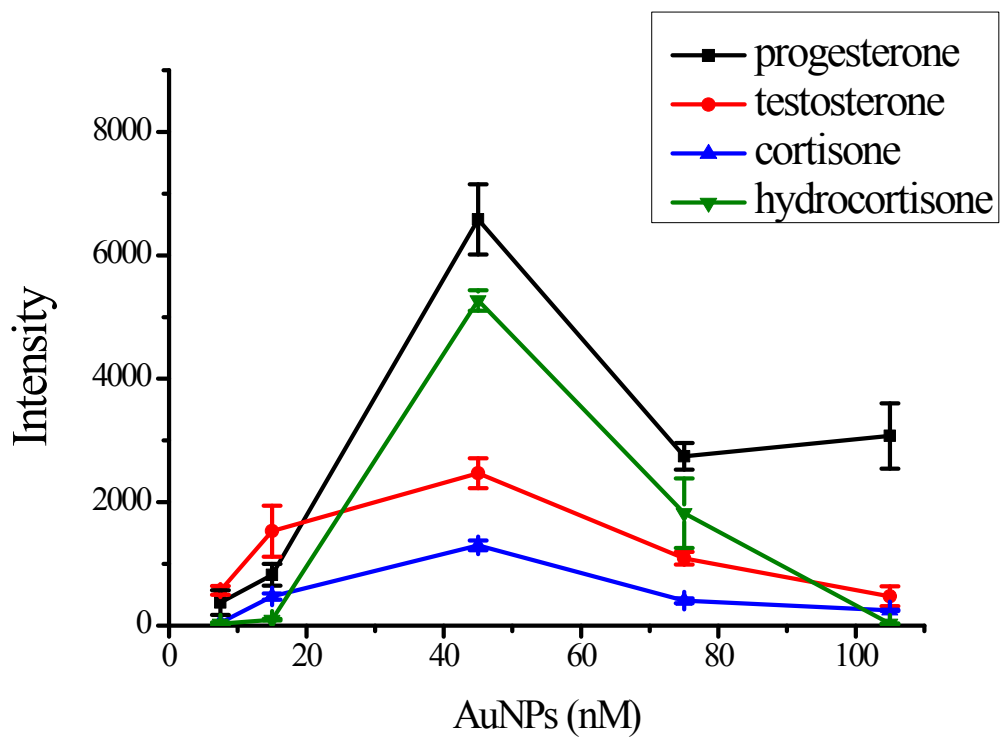


Cortisone  
MW : 360.44



Hydrocortisone  
MW : 362.44

**Fig. S1.** The chemical structures of four steroid hormones.



**Fig. S2.** The signal intensities of the four steroid hormones at various concentrations (7.5, 15, 45, 75 and 105 nM) of AuNPs and 20.62  $\mu$ J of laser fluence. (error bar, n=3)

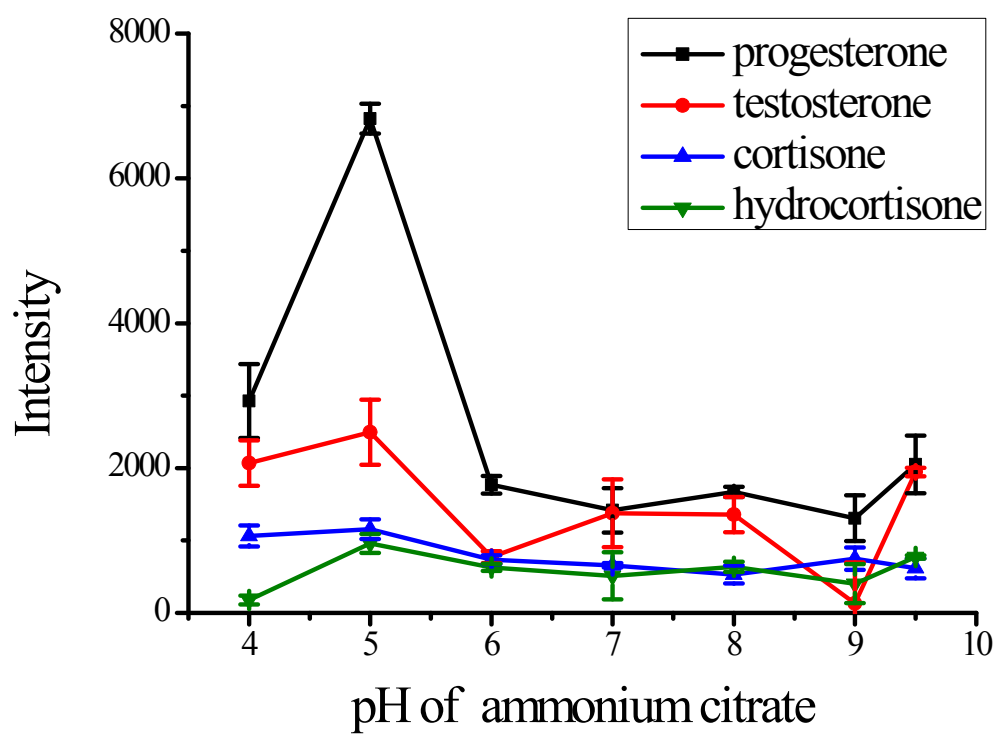


Fig. S3 The signal intensity of four steroid hormones at different pH.

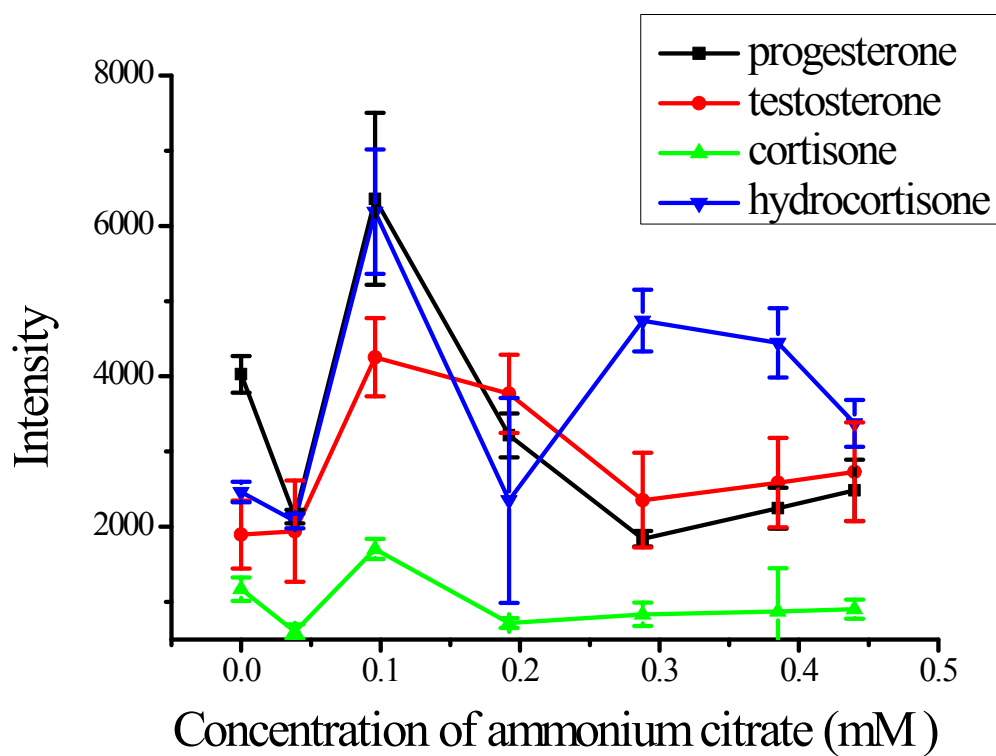


Fig. S4 The signal intensity of four steroid hormones at different buffer concentration in pH5.