Supporting information

Caption:

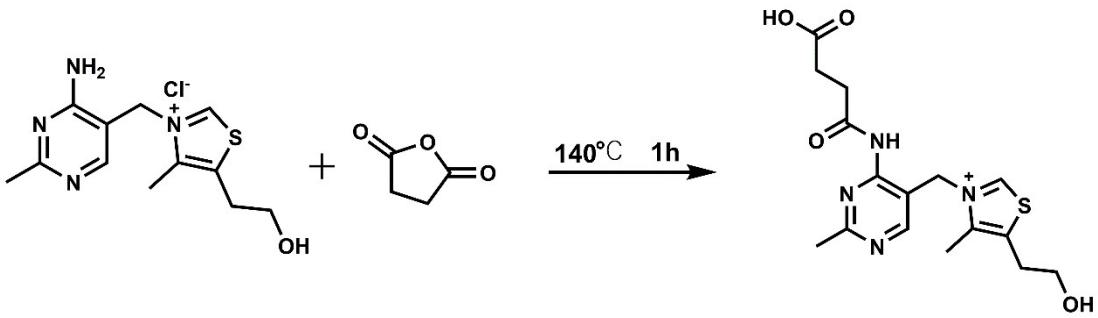


Fig. S1 The synthesis of vitamin B_1-HS

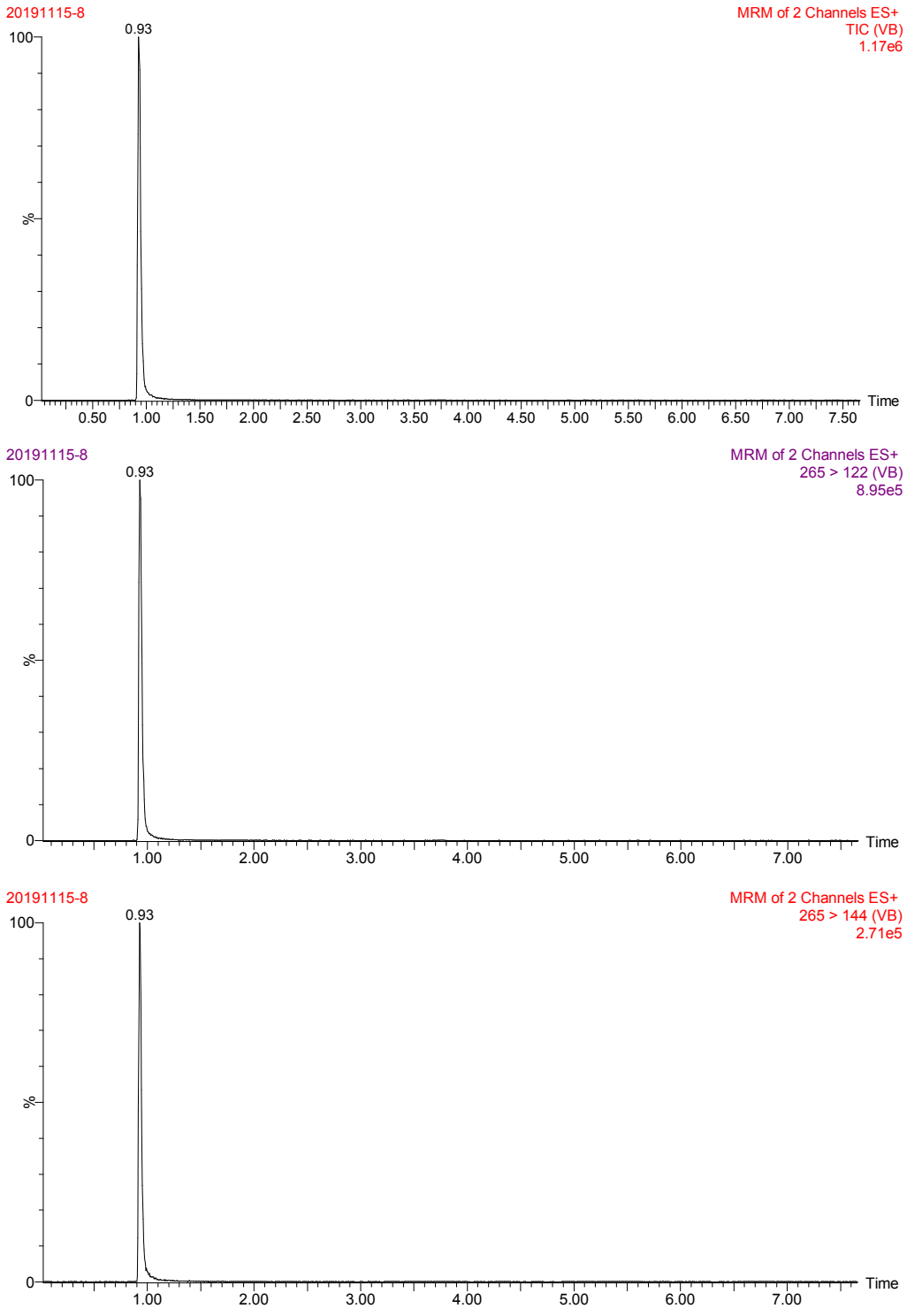


Fig. S2 Liquid chromatography tandem mass spectrometry (LC-MS/MS) of vitamin B_1

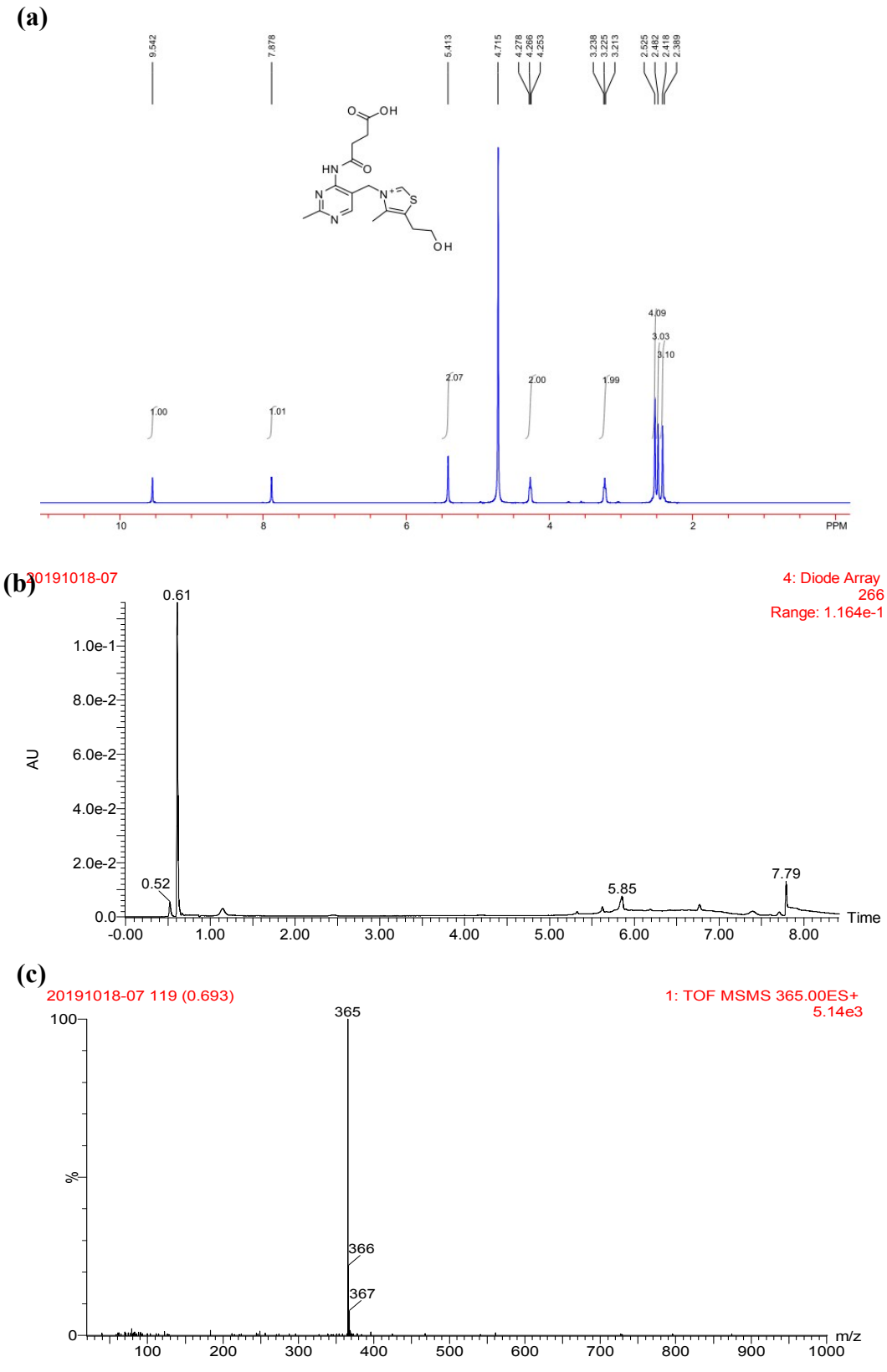


Fig. S3 Characterization of vitamin B_1-HS. (a) The ^1H NMR of vitamin B_1-HS; (b) The chromatogram spectrum of vitamin B_1-HS; (c) The mass spectrum of vitamin B_1-HS.

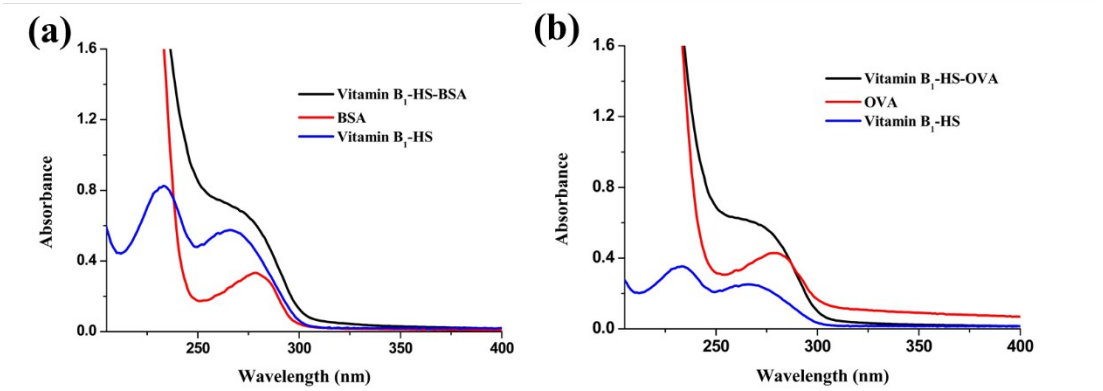


Fig. S4 The UV-Vis spectroscopy of hapten, proteins and conjugates. (a) Confirmation of immunogen vitamin B_1-HS-BSA; (b) Confirmation of coating antigen vitamin B_1-HS-OVA.

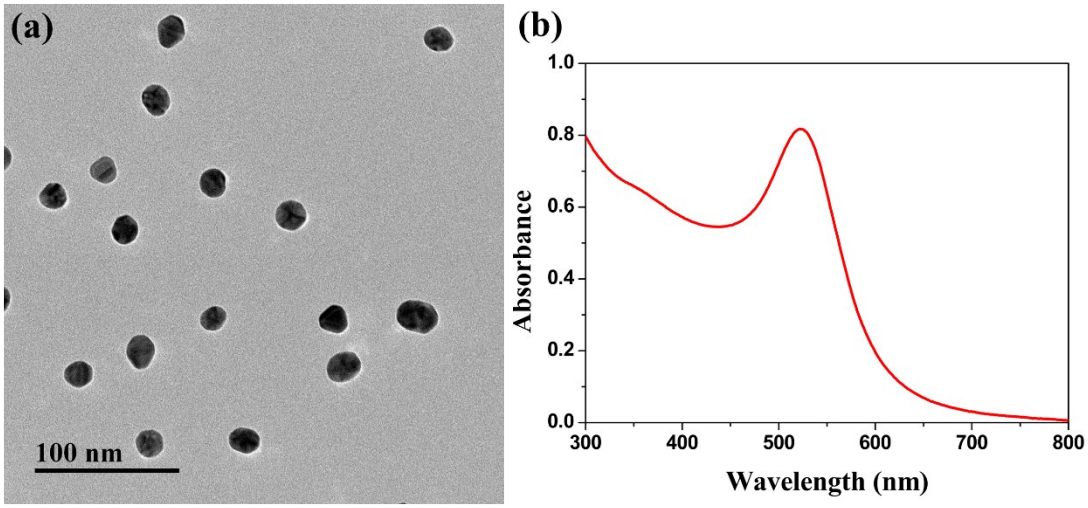


Fig. S5 Characterization of the colloidal gold. (a) TEM images; (b) UV–Vis spectrum.

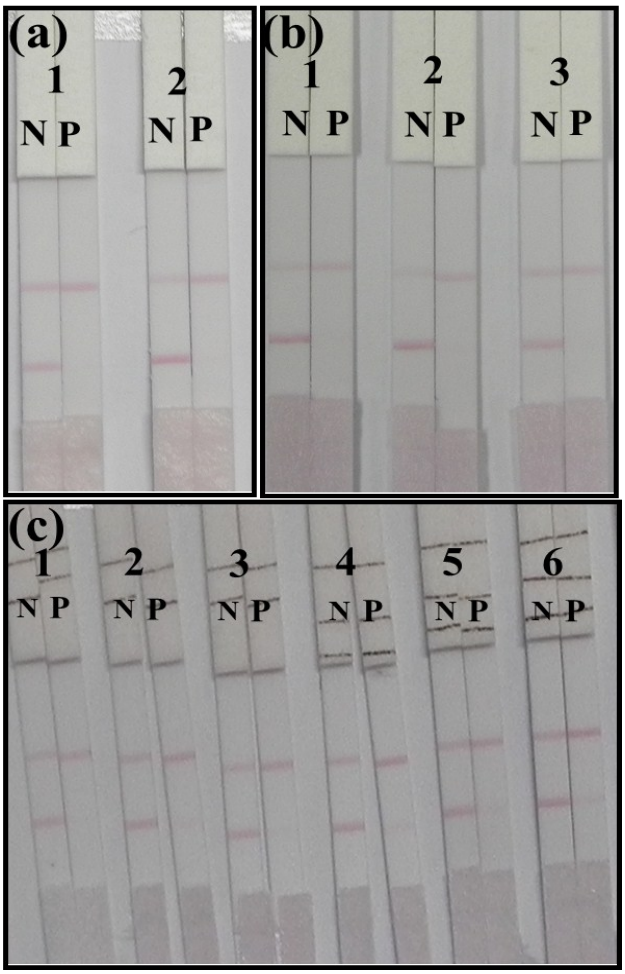
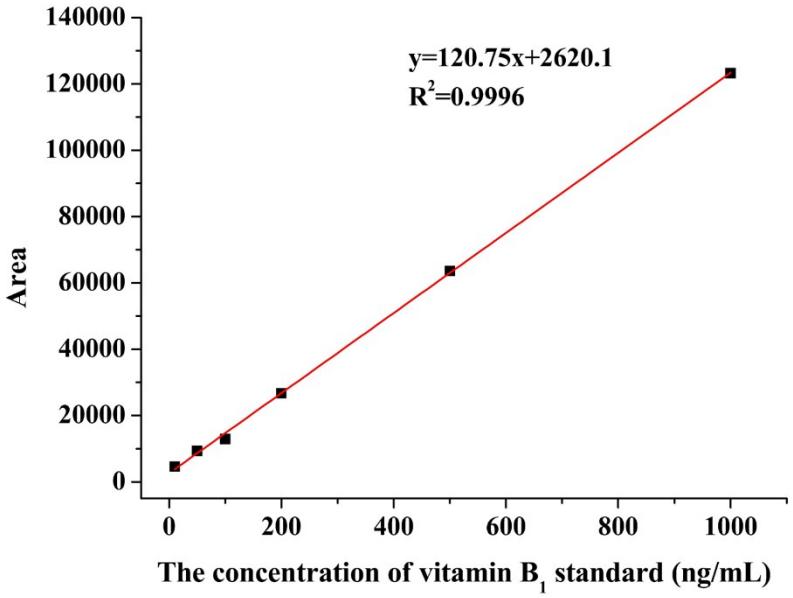


Fig. S6 The optimization of ICT strip. (a) Optimization of two coating antigen: 1, 2 represent the concentration of coating antigen at 0.05 mg/mL and 0.1 mg/mL, respectively; (b) Optimization of pH values: 1, 2, and 3 represent the pH value at 7.4, 8.0 and 9.0, respectively; (c) Optimization the concentration of mAb: 1, 2, 3, 4, 5, and 6 represent the concentration of mAb at 4, 8, 10, 12, and 16 μg/mL, respectively. N: 0 ng/mL; P: 250 ng/mL.



142

143 **Fig. S7** The calibration curve for the LC-MS/MS of vitamin B_1.

144

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146