

Supplementary Materials: *In-situ* self-assembly of zinc/adenine hybrid nano-materials for enzyme immobilization

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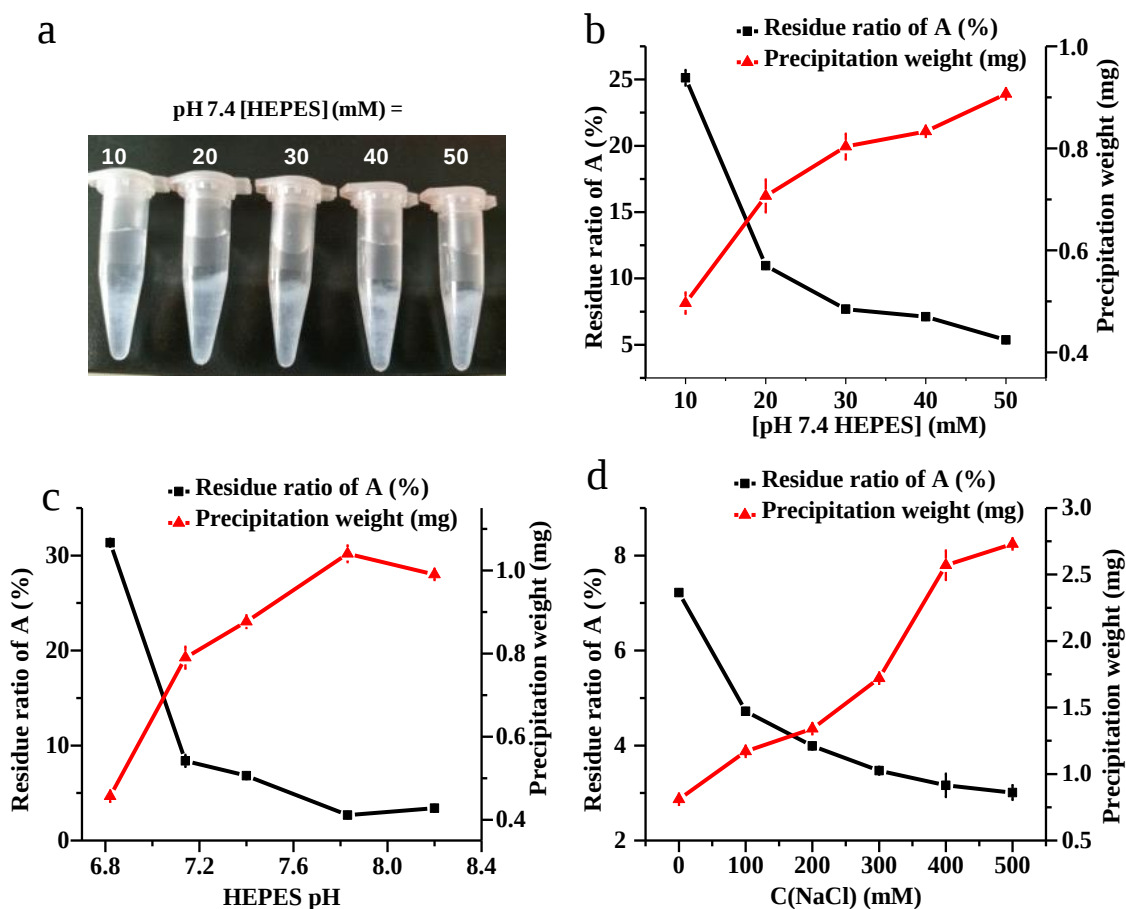


Figure S1. (a) A photograph of Zn²⁺ reacting with adenine in different concentrations of pH 7.4 HEPES buffer. The CP precipitant weight and the adenine percentage remained in the supernatant after Zn²⁺ reacted with adenine and centrifugation for the samples in different concentrations of pH 7.4 HEPES buffer (b) , in different HEPES pH (c) and in different ionic strengths (d).

Table S1. Assignments of FTIR spectra of adenine and Zn/adenine complexes.

Adenine	Zn/adenine complexes	Assignment
1671.8	1643.0	-NH ₂
1450.7	1470.6	-N ₃
1418.4	1401.2	-N ₉
1124.7	--	-N ₇

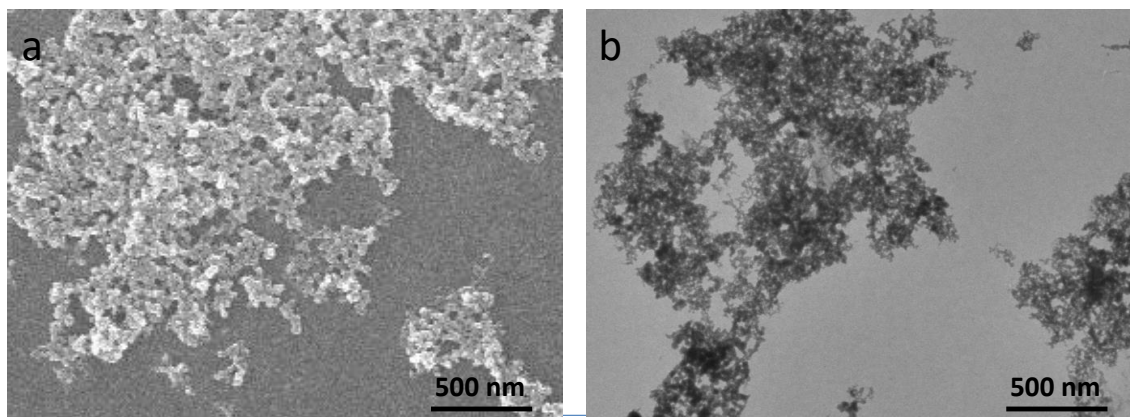


Figure S2. (a) SEM image of Zn/adenine complexes (Magnification=12000). (b) TEM image of Zn/adenine complexes.

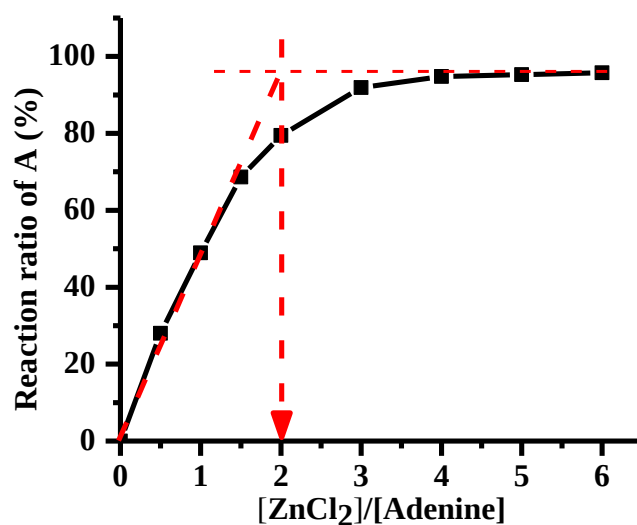


Figure S3. The obtained titration curve of the stoichiometry of experiment. Conditions (in reaction mixtures): [Adenine]=1.5 mM, [ZnCl₂]= 0, 0.75, 1.5, 2.25, 3.0, 4.5, 6.0, 7.5, and 9.0 mM.

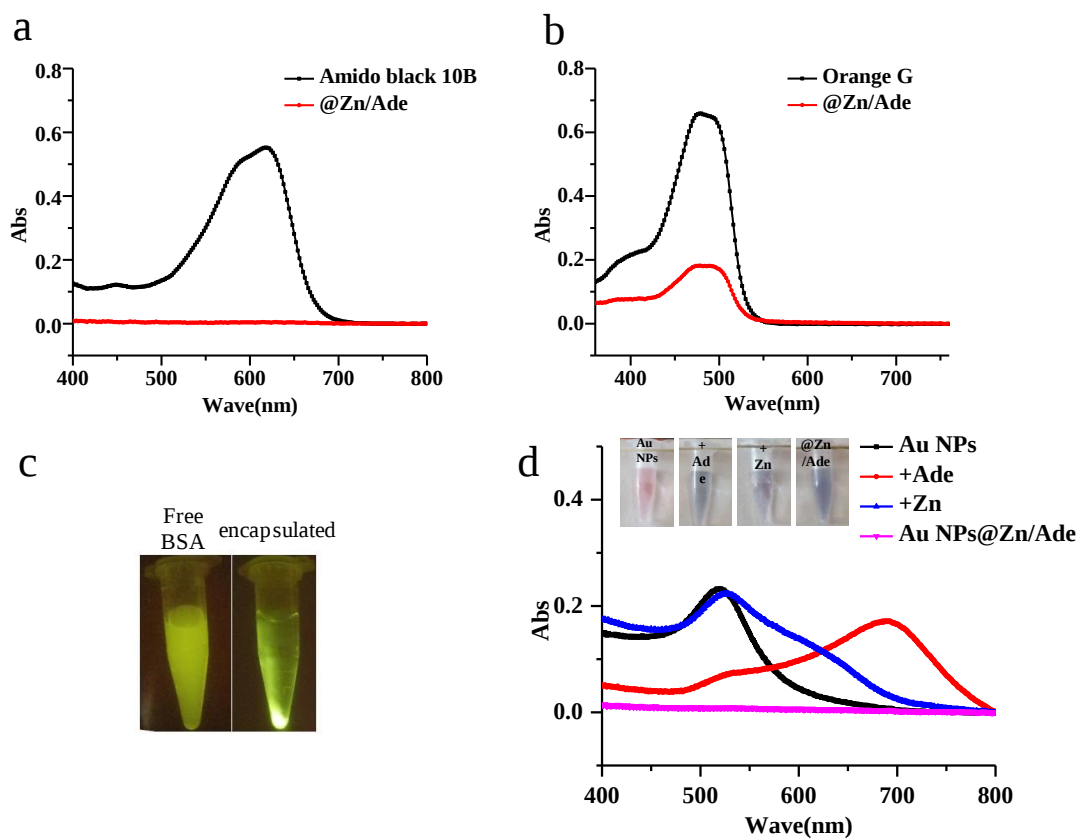


Figure S4. UV-vis spectra of of Amido black 10B (a) and Orange G (b), and the supernatant after Zn/adenine complexes encapsulation. (c) Photographs of the samples of fluorescein-labeled bovine serum albumin (FITC-BSA) encapsulated in Zn/adenine complexes and the control; (d) UV-vis spectra of the supernatant of Au NPs in HEPES buffer, Au NPs with Zn, with adenine and after Zn/adenine complexes encapsulated (Inset: photographs of the samples).

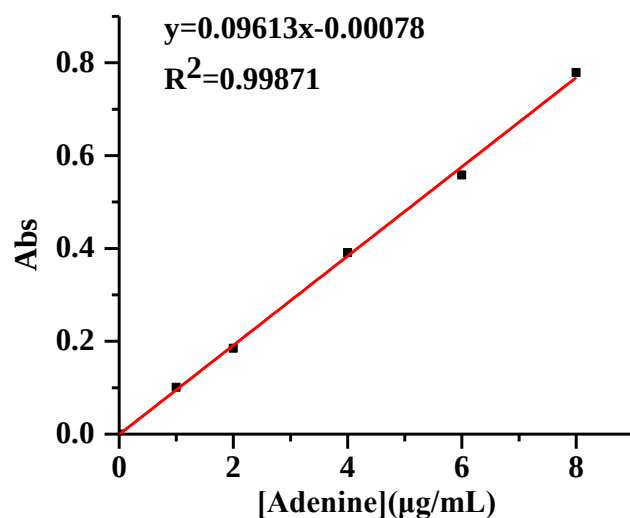


Figure S5. The standard curve of adenine. It has a good linear.