Supplementary Information

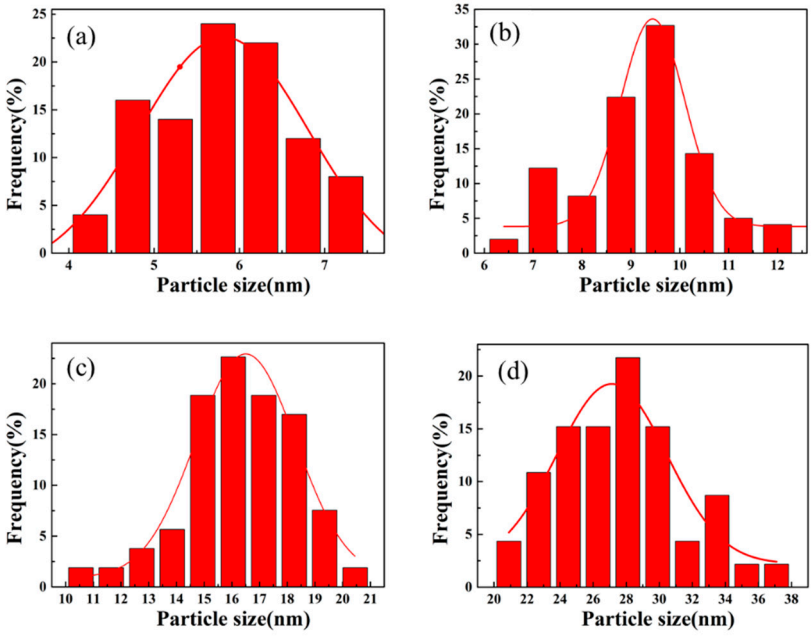

Figure S1 Size distributions of (a) Pt-0 HCl, (b) Pt-3.7 HCl, (c) Pt-9.25 HCl and (d) Pt-2 PVP.

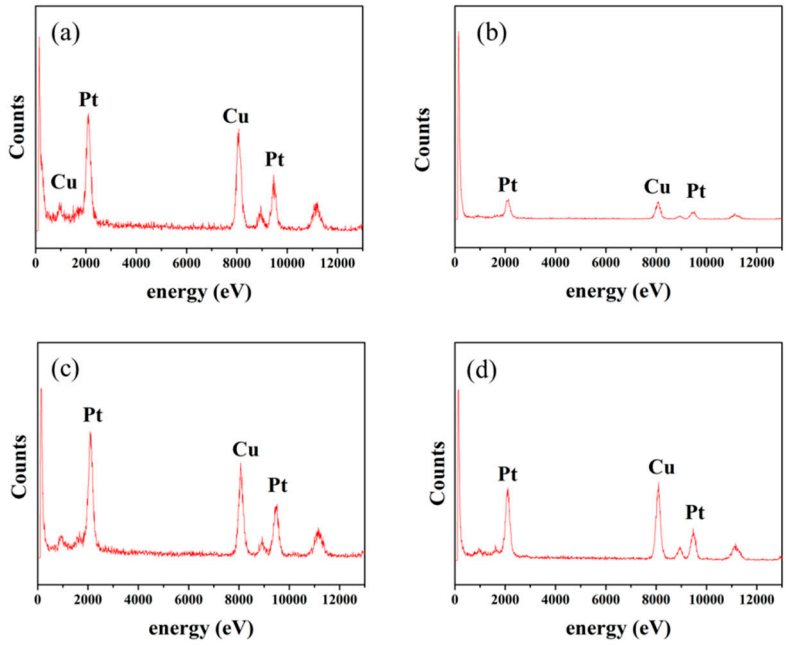

Figure S2 EDS elemental analysis of
(a) Pt-0 HCl, (b) Pt-3.7 HCl, (c) Pt-9.25 HCl and (d) Pt-2 PVP.

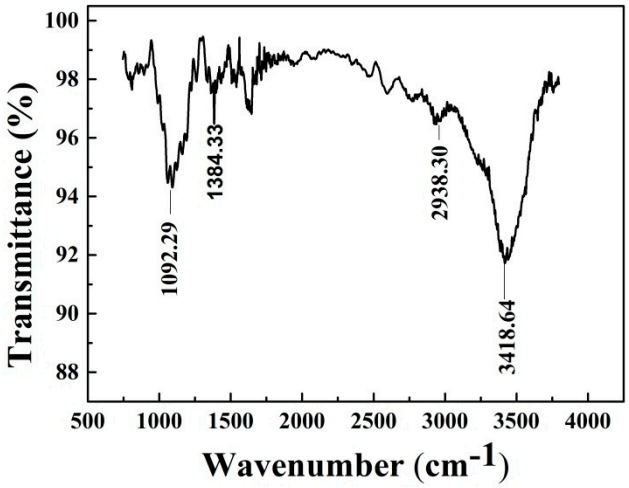

Fig. S3 FTIR spectra of Pt NPs.

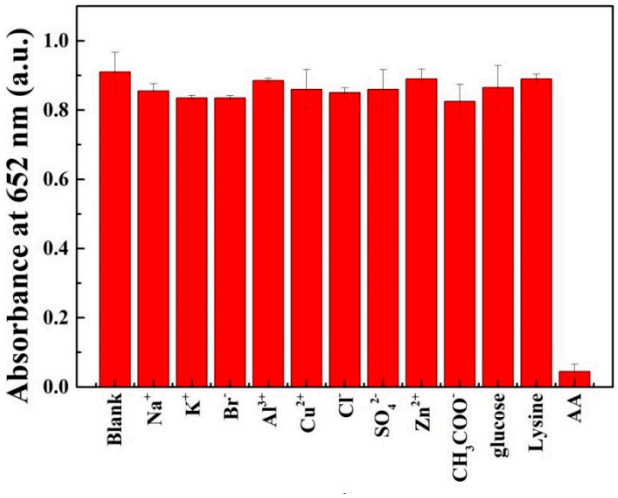

Figure S4 Interference of different interfering substances in the AA detection，all interfering substances were at a concentration of 25 μM.

Table S1 Comparative table of steady-state kinetic parameter for Pt NPs and other materials

Catalyst	Substrate	Km (mM)	Ref.
Hg2+/citrate-AgNPs	TMB	0.23	[1]
CS-SeNPs		0.852	[2]
$NiCo_2O_4$ MS		0.127	[3]
Lysozyme-Pt NPs		0.63	[4]
Ni/Pd hollow NPs		0.11	[5]
Cu-Ag/rGO		0.634	[6]
Fe_3O_4@C		0.38	[7]
Pt NPs		0.102	This work

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