TABLES

Table S1 UA detection performance by different electrochemical methods.

Electrode	Method	Linear range (μM)	LOD (nM)	Ref.
P-EPPGE	EC	0.1–25	30	1
Co-CeO_2/GCE	EC	1–2200	120	2
rGO/PPy-PtNPs/GCE	EC	100–350	160	3
MoO_3@B/N-PC/GCE	EC	0.086–102.5	78	4
PtNPs/rGO/GCE	EC	10–200	741	5
luminol-TMB/SPE	ECL	1.5–100	440	6
Uox/PtNPs-NGQDs@GA/NH_2-VMSF/ITO	ECL	0.01–1 μM 1–50 μM	8.1	This work

P-EPPCE: pre-anodizated edge plane pyrolytic graphite electrode; EC: electrochemical method; Co-CeO_2: Co doped CeO_2; GCE: glassy carbon electrode; rGO: reduced graphene oxide; PPy: polypyrrole; B/N-PC: B/N doped porous carbon; SPE, screen printed electrode.

FIGURES

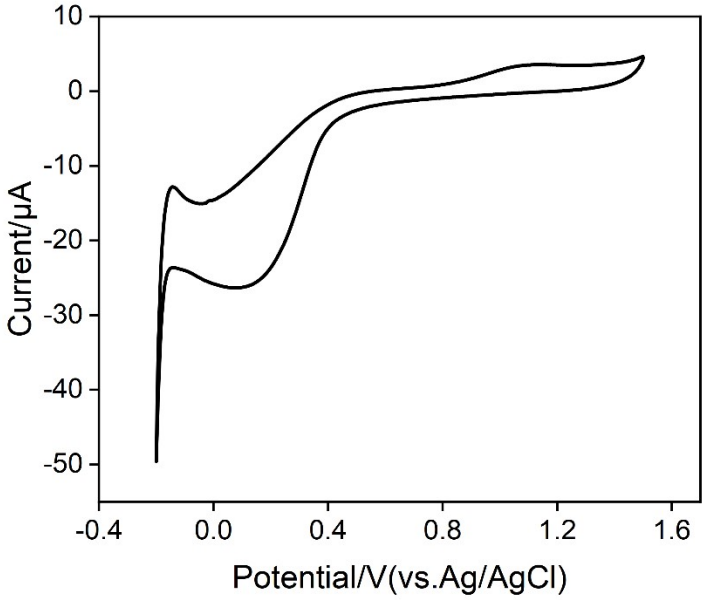

Figure S1 CV curve of the PtNPs-NGQDs@NH_2-VMSF/ITO electrode in sulfuric acid (0.5M) after 7 days of storage.

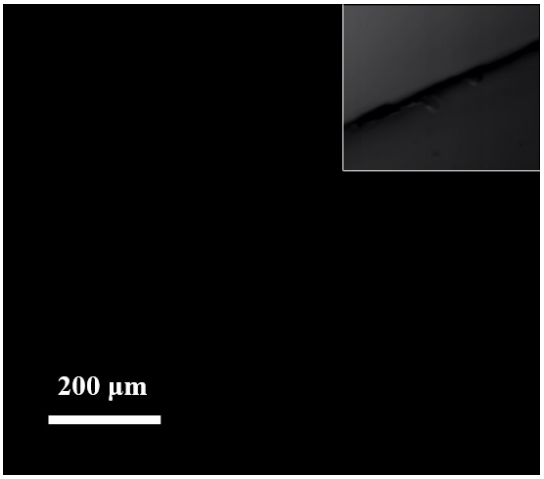

Figure S2 CLSM images of NH_2-VMSF/ITO electrode after immerse in NGQDs solution followed by rinse under bright-field (inset) and dark-field condition with excitation at 488 nm.

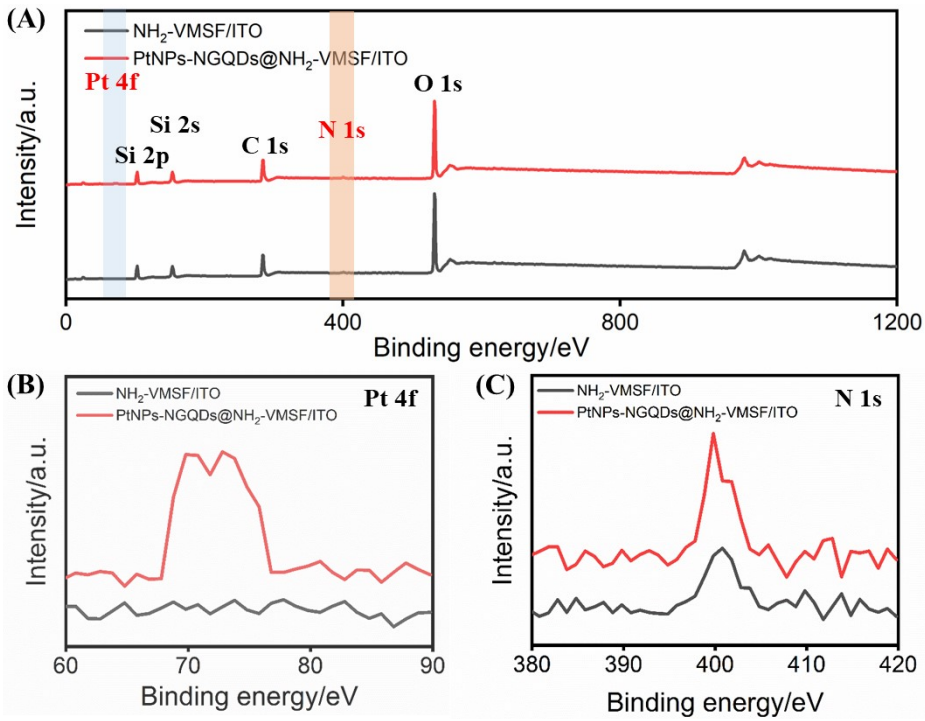

Figure S3 (A) XPS survey spectra of NH_2-VMSF/ITO and PtNPs-NGQDs@NH_2-VMSF/ITO. (B-C) High-resolution Pt4f (B) and N1s (C) spectra of PtNPs-NGQDs@NH_2-VMSF/ITO.

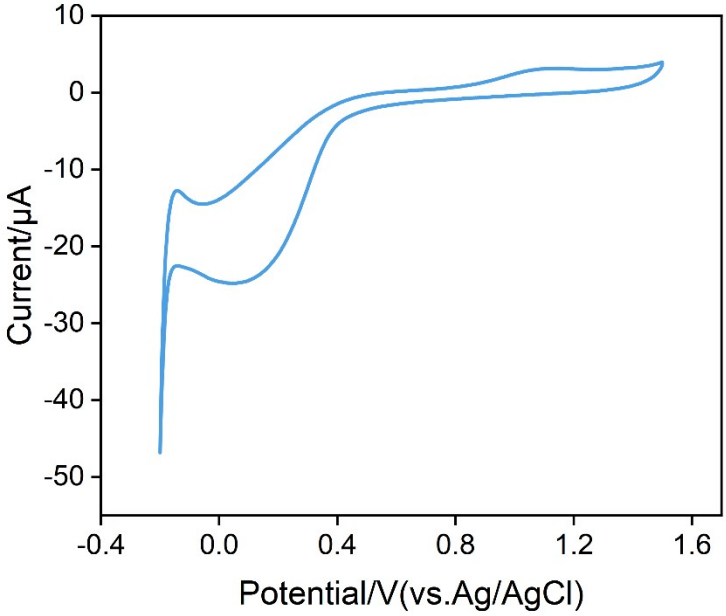

Figure S4 CV curve of the PtNPs-NGQDs@NH_2-VMSF/ITO electrode in sulfuric acid (0.5M) after 7 days of storage

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