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Electronic Supplementary Information

Synergistic catalysis of N vacancies and \sim 5 nm Au nanoparticles promoted highly electrochemical determination of lead(II) at Au/N-Deficient-C₃N₄ nanocomposite

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Figure S1. SEM images of a) $g-C_3N_4$, b) N-deficient- C_3N_4 , and c) Au/N-deficient- C_3N_4 .



Figure S2. a, c, e, g) Scan rate study (from 0.01 to 0.2 V s⁻¹) at bare-GCE, $g-C_3N_4$, N-deficient- C_3N_4 , and Au/N-deficient- C_3N_4 modified GCE in the solution of 5 mM K₃Fe(CN)₆ containing 0.1 M KCl respectively. b, d, f, h) The corresponding plot of current against the square root of scan rate.



Figure S3. SWASV responses and linear equations (inset) of detection of Pb(II) with bare GCE.



Figure S4. SWASV responses and linear equations (inset) of detection of Pb(II) with Au nanoparticles.

B							
Sample	Added		Fo	und / Recovery			RSD
	(µM)	(µM) / (%)					(%)
Reservoir	0.50	0.523/104.6	0.491/98.2	0.519/103.8	0.480/96.0	0.505/101.0	3.63
water	0.80	0.816/102.0	0.780/97.5	0.781/97.6	0.802/100.3	0.797/99.6	1.89
Тар	0.50	0.493/98.6	0.513/102.6	0.501/100.2	0.518/103.6	0.495/99.0	2.19
water	0.80	0.817/102.1	0.790/98.8	0.777/97.1	0.828/103.5	0.780/97.5	2.86

Table S1 Original data of two kinds of actual samples