

Supplementary Information for

Synthesis of Neutral Red Covalently Functionalized Graphene Nanocomposite and the Electrocatalytic Properties toward Uric Acid

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Table S1. Linear ranges of Uric Acid and limits of detection for various electrochemical sensors.

Modified Electrode	Linear range	Limit of detection	Ref.
Poly(N-acetyl amine)/β-cyclodextrin/GCE	$1 \times 10^{-5} \sim 2 \times 10^{-4}$ M	2.8×10^{-6} M	[1]
Nano Au/Poly(pyrrole)/GCE	$5 \times 10^{-8} \sim 2.8 \times 10^{-7}$ M	1.2×10^{-8} M	[2]
Poly(fluoresceine)/GCE	$5 \times 10^{-7} \sim 5 \times 10^{-5}$ M	3×10^{-7} M	[3]
MIP polymer/graphite electrode	$2.8 \times 10^{-5} \sim 6.4 \times 10^{-4}$ M	2.2×10^{-5} M	[4]
PAA/MWNT/screen printed carbon electrode	$0 \sim 3 \times 10^{-5}$ M	4.58×10^{-7} M	[5]
β-cyclodextrin/MWNTs/graphite electrode	$5 \times 10^{-7} \sim 5 \times 10^{-5}$ M	2×10^{-7} M	[6]
Gold nanoparticle/choline/GCE	$1.2 \times 10^{-6} \sim 1 \times 10^{-4}$ M	6×10^{-7} M	[7]
SWNT /Au electrode	$1 \times 10^{-7} \sim 2.5 \times 10^{-5}$ M	5.0×10^{-8} M	[8]
Ordered mesoporous carbon/ferrocenecarboxylic acid/GCE	$6 \times 10^{-5} \sim 3.9 \times 10^{-4}$ M	1.8×10^{-6} M	[9]
poly(orthanilic acid)/MWNT/GCE	$6 \times 10^{-6} \sim 5.5 \times 10^{-5}$ M	4.4×10^{-7} M	[10]
AuNP/MWCNT/Au electrode	$1 \times 10^{-5} \sim 8 \times 10^{-4}$ M	1×10^{-5} M	[11]
p-chloranil-carbon nanotubes paste electrode	$3 \times 10^{-6} \sim 3.1 \times 10^{-4}$ M	2.3×10^{-6} M	[12]
p-Aminophenol/MWCNTs/TiO ₂ electrode	$3 \times 10^{-6} \sim 1 \times 10^{-3}$ M	1.1×10^{-6} M	[13]
Uricase/Thionin/SWNTs /GCE	$2 \times 10^{-6} \sim 2 \times 10^{-3}$ M	5×10^{-7} M	[14]
PDDA/ZnO/MWNTs	$5 \times 10^{-6} \sim 1 \times 10^{-3}$ M	2×10^{-6} M	[15]
Uricase/ Polymaleimido styrene/polystyrene film/gold electrode	$5 \times 10^{-6} \sim 1.05 \times 10^{-4}$ M	—	[16]
Uricase/ZnO nanowires/ gold coated flexible plastic electrode	$1 \times 10^{-6} \sim 1 \times 10^{-3}$ M	—	[17]
NR Covalently Functionalized Graphene/GCE	$1.25 \times 10^{-7} \sim 1.25 \times 10^{-5}$ M	6.2×10^{-8} M	our study

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