

Untrasensitive electrochemical sensing platform for miRNA-21 detection based on manganese dioxide-gold nanoparticles nanoconjugates coupling with hybridization chain reaction and horseradish peroxidase signal amplification

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Oligonucleotides	Sequences (5'-3')
Hairpin probe (HP)	HS-SH-(CH ₂) ₆ -ATT GGA TCA ACA TCA GTC TGA TAA GCT ATC CAA T
Hairpin probe (HP ₂)	HS-SH-(CH ₂) ₆ -CCG GGT TCA ACA TCA GTC TGA TAA GCT AAC CCG G-Biotin
Target sequence (microRNA-21)	UAG CUU AUC AGA CUG AUG UUG A
Signal sequence (S ₁)	CCG TTC CGA GTT GTG TCC AAT CTA CAT GGA-Biotin
Auxiliary sequence (S ₂)	AGG TTA GAT GTA CCT GGC AAG GCT CAA CAC
Single base C mismatched sequence (N ₁)	UAG CUU AU <u>A</u> AGA CUG AUG UUG A
Single base G mismatched sequence (N ₂)	UAG CUU AUC A <u>C</u> A CUG AUG UUG A
Single base A mismatched sequence (N ₃)	UAG CUU AUC <u>G</u> GA CUG AUG UUG A
Noncomplementary sequence (N ₄)	GUC AGG CGU CCU GCA ACC GGU A

Table S1 Sequence information of DNA and RNA

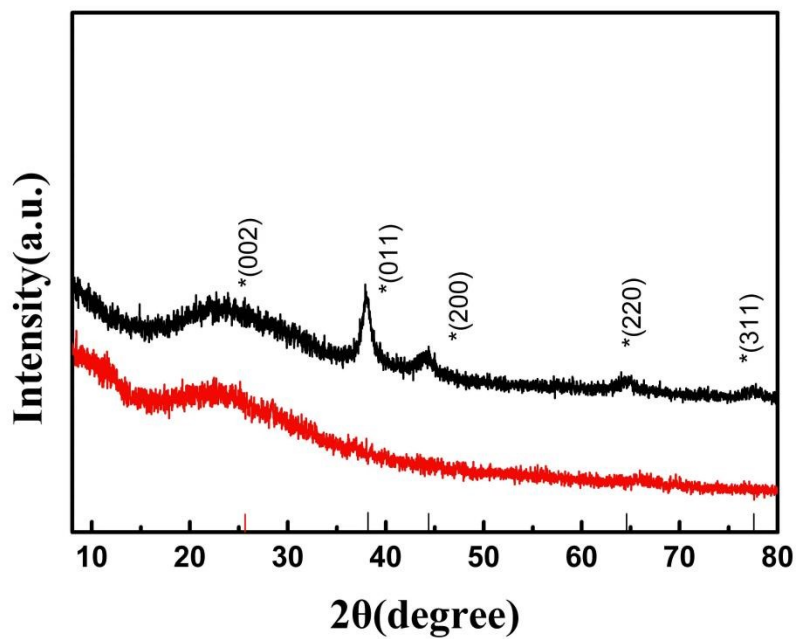


Fig.S1. XRD patterns of MnO₂ (red) and MnO₂- Au NPs nanoconjugates (black)

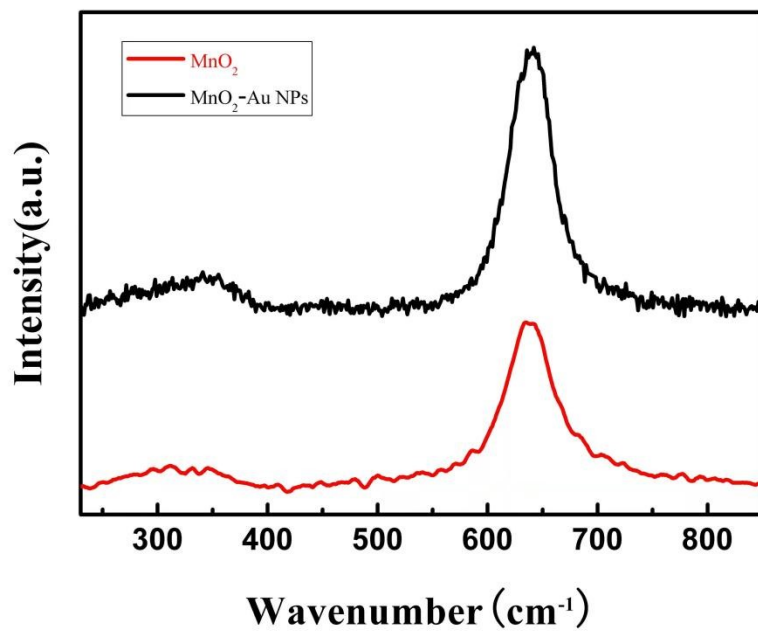


Fig S2 Raman curves of MnO₂ NS (red) and MnO₂- Au NPs nanoconjugates

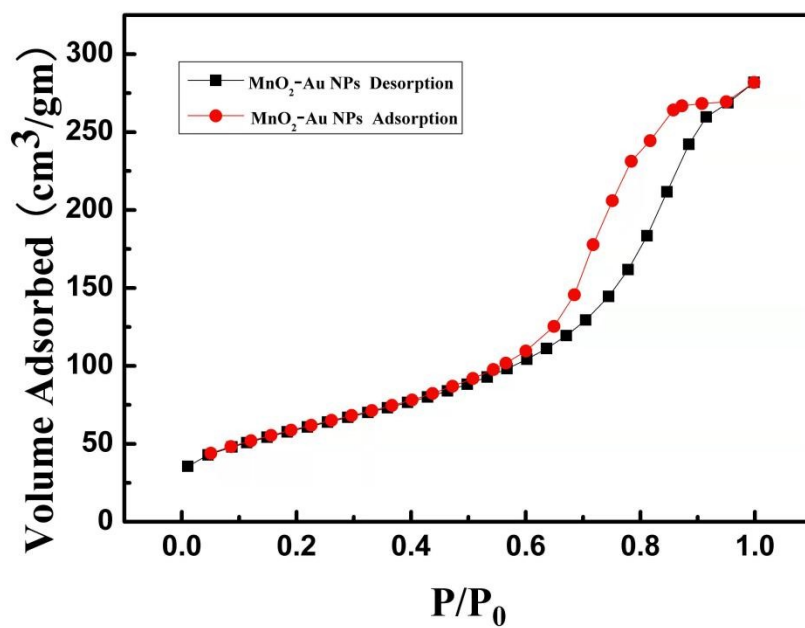


Fig S3 Desorption (black) and adsorption(red) curve of MnO₂ - Au NPs nanoconjugates