Supplemental Information

Large mesoporous carbons decorated with silver, gold nanoparticles by self-assembly method: Enhanced electrocatalytic activity for H_2O_2 electroreduction and sodium nitrite electrooxidation

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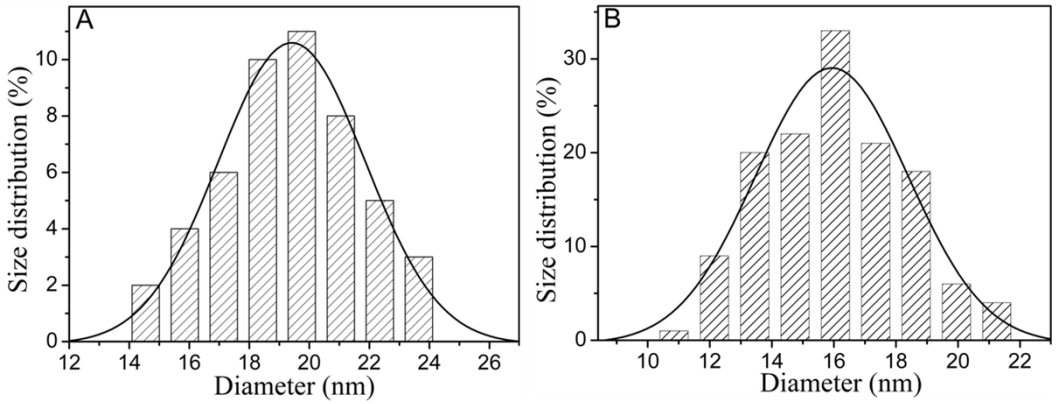

Figure S1. Histograms of particle size distribution of Ag NPs (A) and Au NPs (B).

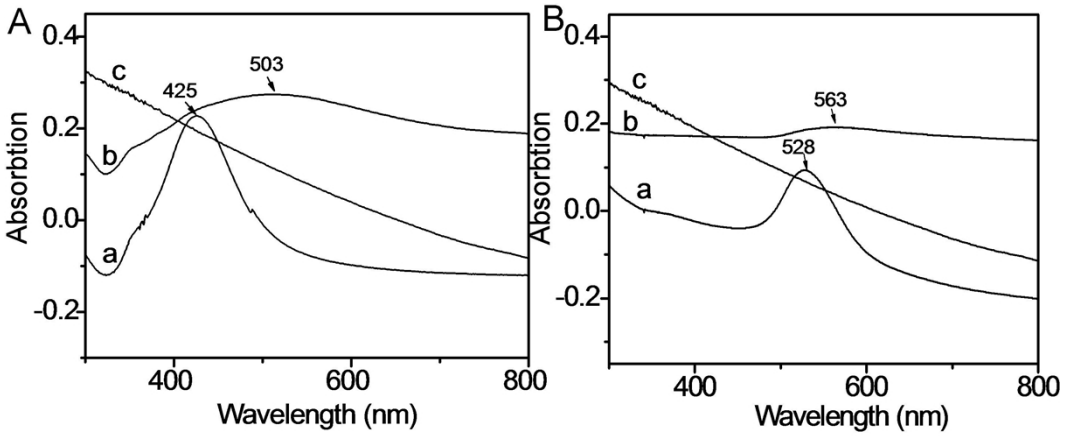

Figure S2. UV-vis spectra of (A) AgNPs (a), the as-prepared AgNPs/PDDA-LMC (b), and PDDA-LMC (c); (B) AuNPs (a), the as-prepared AuNPs/PDDA-LMC (b), and PDDA-LMC (c).

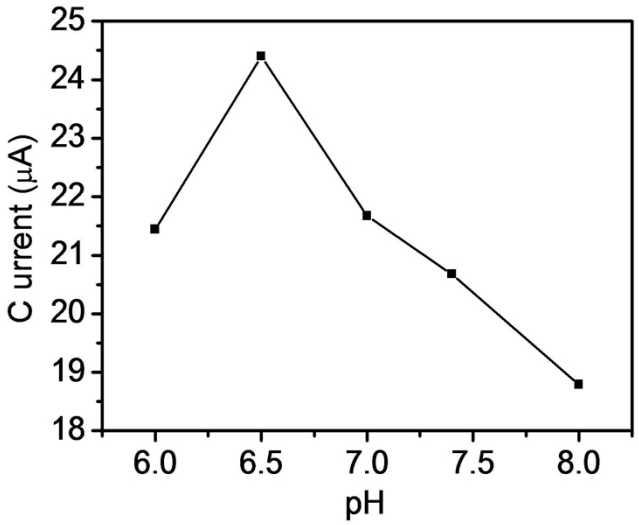

Figure S3. The amperometric responses of the AgNPs/PDDA-LMC/GCE to the addition of 1.0 mM H_2O_2 in 0.2 M PBS with different pH values from 6.0 to 8.0.

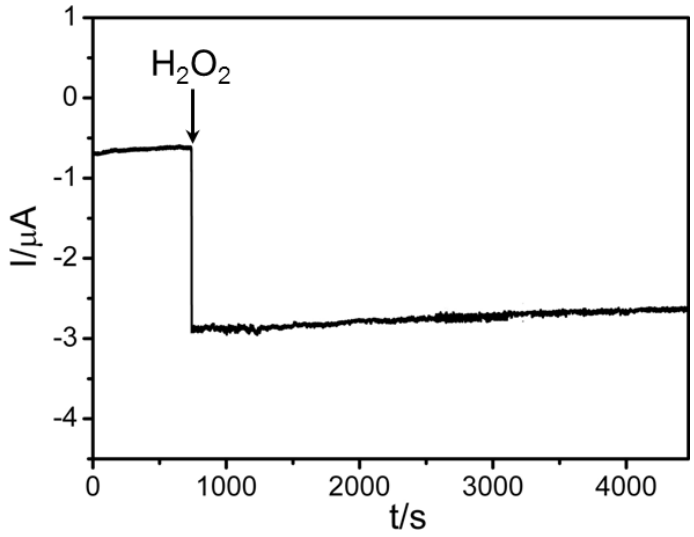

Figure S4. Operational stability of the Nafion/AgNPs/PDDA-LMC/GC electrode under continuous polarization at the potential of -0.4 V in a stirred supporting electrolyte solution containing 0.1 mM of H_2O_2.

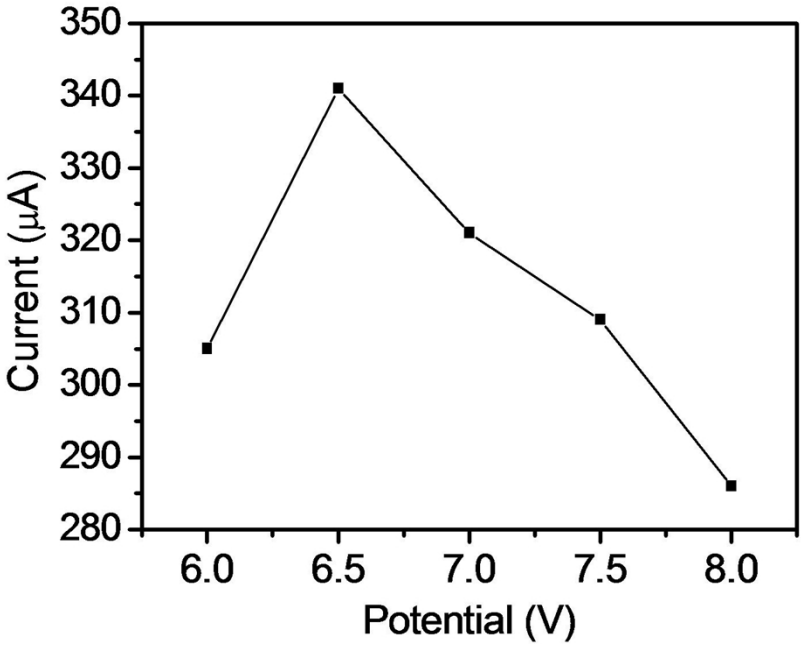

Figure S5. The amperometric responses of AuNPs/PDDA-LMC/GCE to the addition of 10 mM $NaNO_2$ in 0.2 M PBS with different pH values from 6.0 to 8.0.

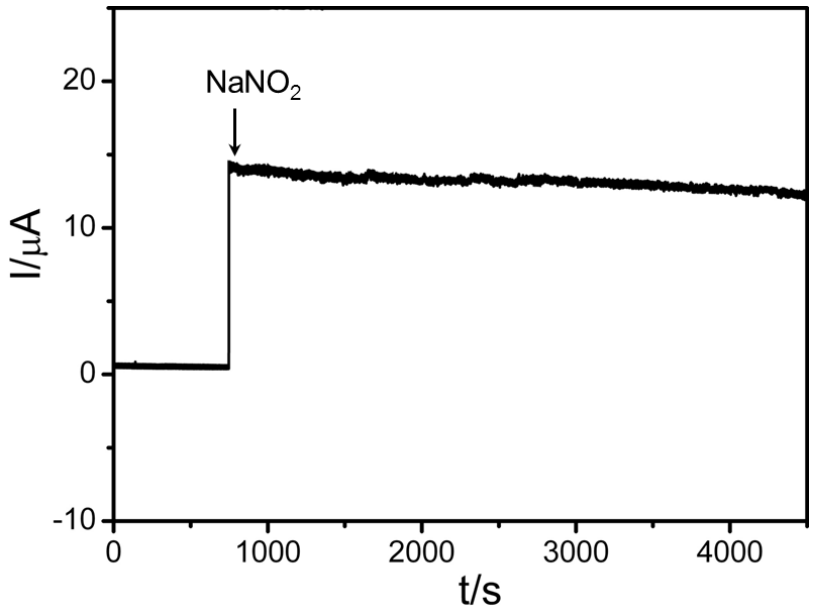

Figure S6. Operational stability of the AuNPs/PDDA-LMC/GC electrode under continuous polarization at the potential of +0.8 V in a stirred supporting electrolyte solution containing 1.0 mM of $NaNO_2$.

Table S1 A comparison of this work with literature work regarding the performance of the H_2O_2 sensor based on AgNPs/PDDA-LMC-modified electrode.

Type of electrode	Performance		Ref.
	LOD (μM)	Linear range (mM)	
Hb/SAa–MWCNTsb /GC	16.41	0.04-0.2	1
AgNPs-GN/GCE	7	0.1-10	2
LMC/GCE	44	-	3
PEDOT/AgNPs/GCE	7	-	4
AgNPs/SBA-15/GCE	12	0.049-970	5
AgNPs/PQ11/GN/GCE	28	0.1-40	6
Pt_1Pd_1/LMC/GCE	0.30	0.0005-27	7
I-|Au (poly) electrode	10	0.01-60	8
PABS/GCE	10	0.05-0.55	9
Fe_3O_4/chitosan	7.4	0.025-5.0	10
Ag-PVA^i/Pt	10	0.045-6	11
AgNPs/PDDA-LMC/GCE	6.5	0.02-9.62	This work

Table S2 A comparison of this work with literature work regarding the performance of the $NaNO_2$ assay using the AuNPs/PDDA-LMC/GCE.

Type of electrode	Performance		Ref.
	LOD (μM)	Linear range(mM)	
Pt/Cha/GCE	0.4	0.0012-0.9	12
AgNP/GCE	1.2	0.01-1	13
Pt–Fe(III) /GCE	0.47	0.001-11	14
G4-NH4c/MWNT-modified GC	2	0.005-1.5	15
SOD1d-CNT-PPye-Pt electrode	0.50	0.0005-2	16
Nano-Ptf /P3MTg /GCE	1.5	0.008-1.7	17
Hb-PM/GC electrode	20	0.11-1.88	18
SA-Fe_2O_3-IL/CILE	1300	4.0-140	19
Hb/GG-AgNPs/CPE	7.5	0.02-0.1	20
Cht-Hb-MWCNT-RTILs/CILE	100	0.4-8	21
Pt NPs/Au electrode	5	0.01-1	22
CDP-GS-MWCNTs/GCE	1.65	0.005-6.75	23
CR-GO/GCE	1	0.0089-0.167	24
Cobalt nano flowers	1.2	0.1-2.15	25
GC/poly-TBO-SWCNT	0.37	0.001-4	26
CPE/L-SCMNPs	0.62	0.00091-0.13	27
GC/CNF/hemin	318	5-250	28
AuNPs/PDDA-LMC	0.42	0.005-7.24	This work

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