Electronic Supplementary Material (ESI) for Nanoscale.

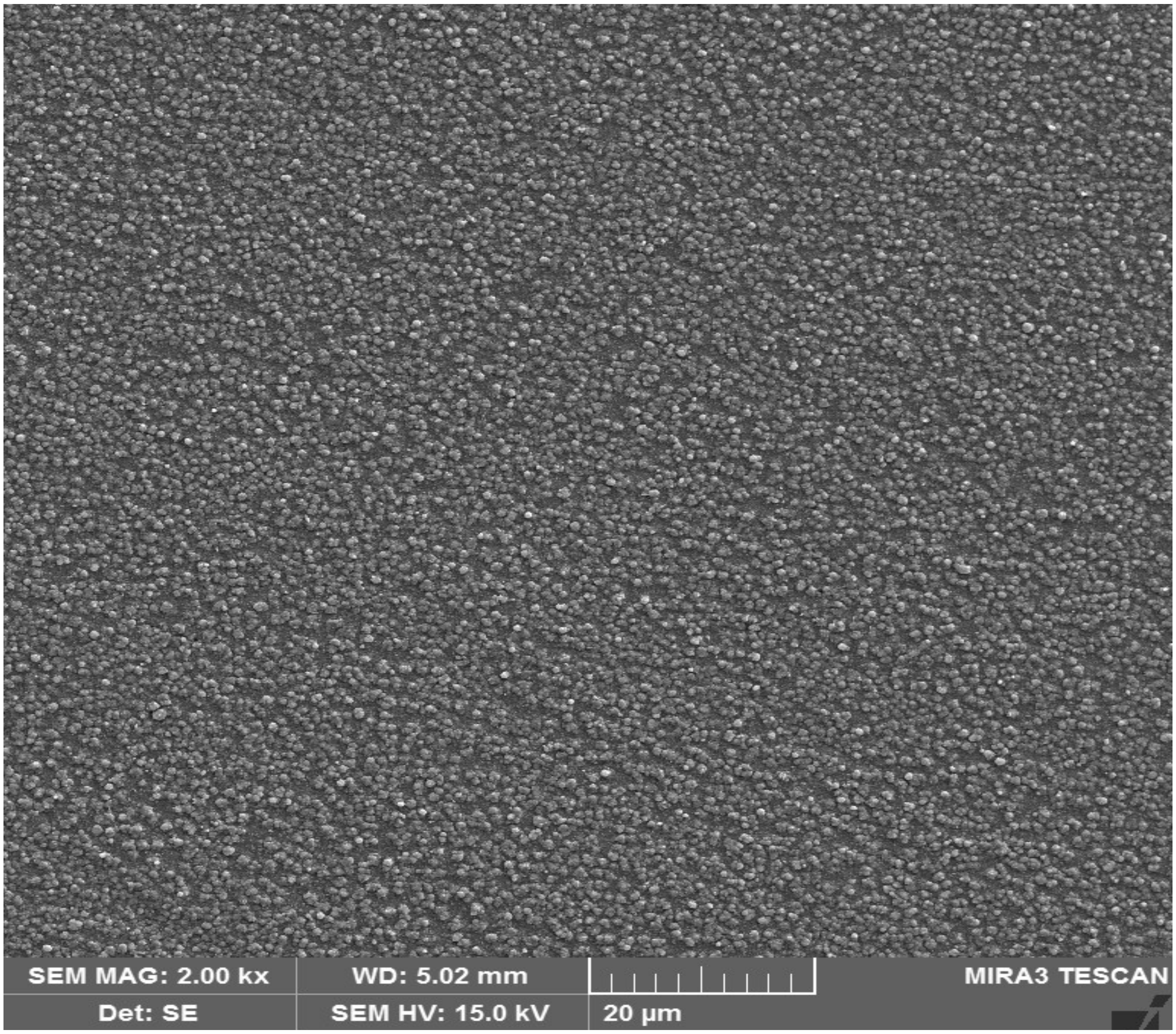

Figure S1. The low magnification FESEM image of Cu/GCE

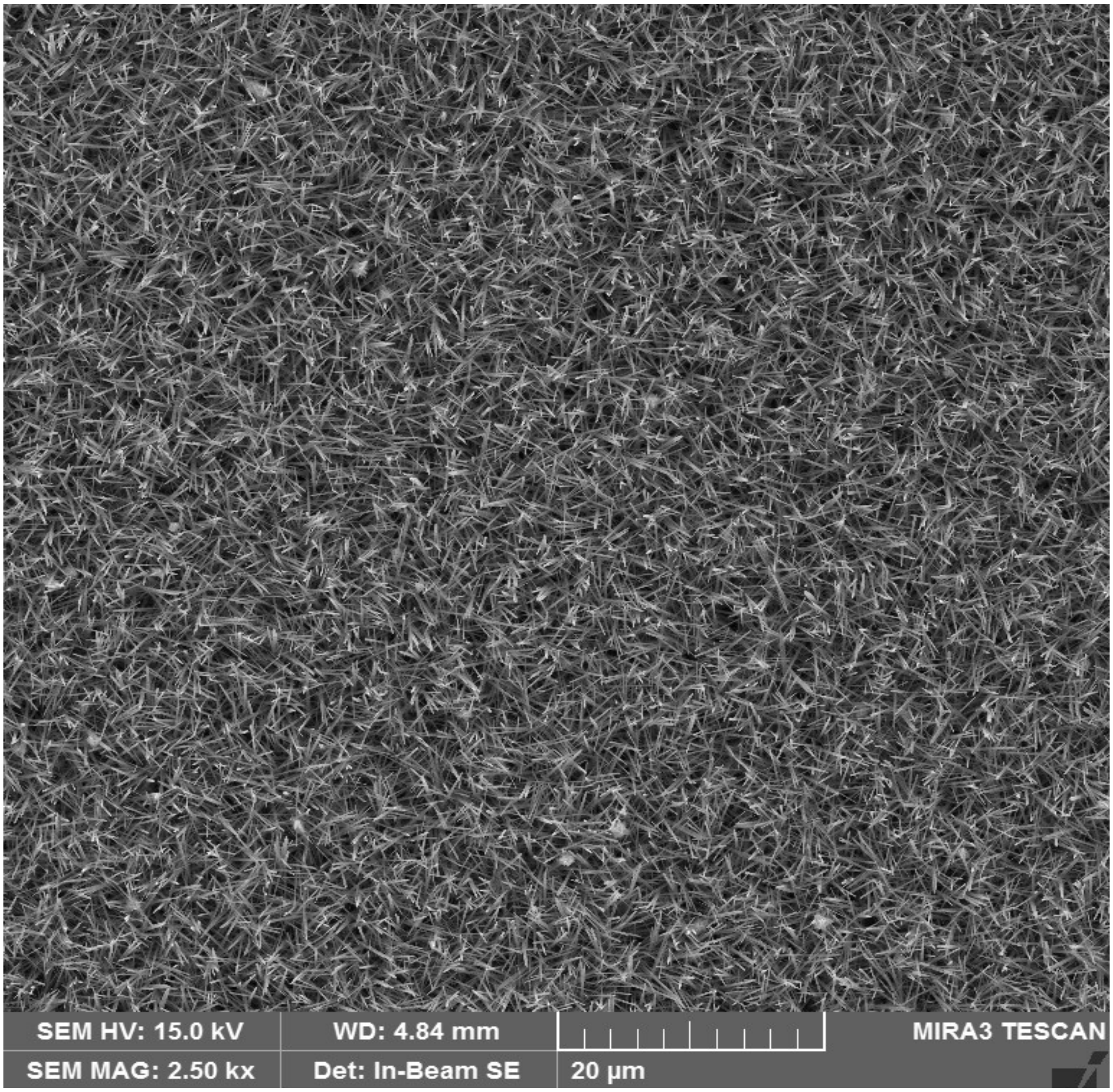

Figure S2. The low magnification FESEM image of $Cu(OH)_2$ NTs/GCE

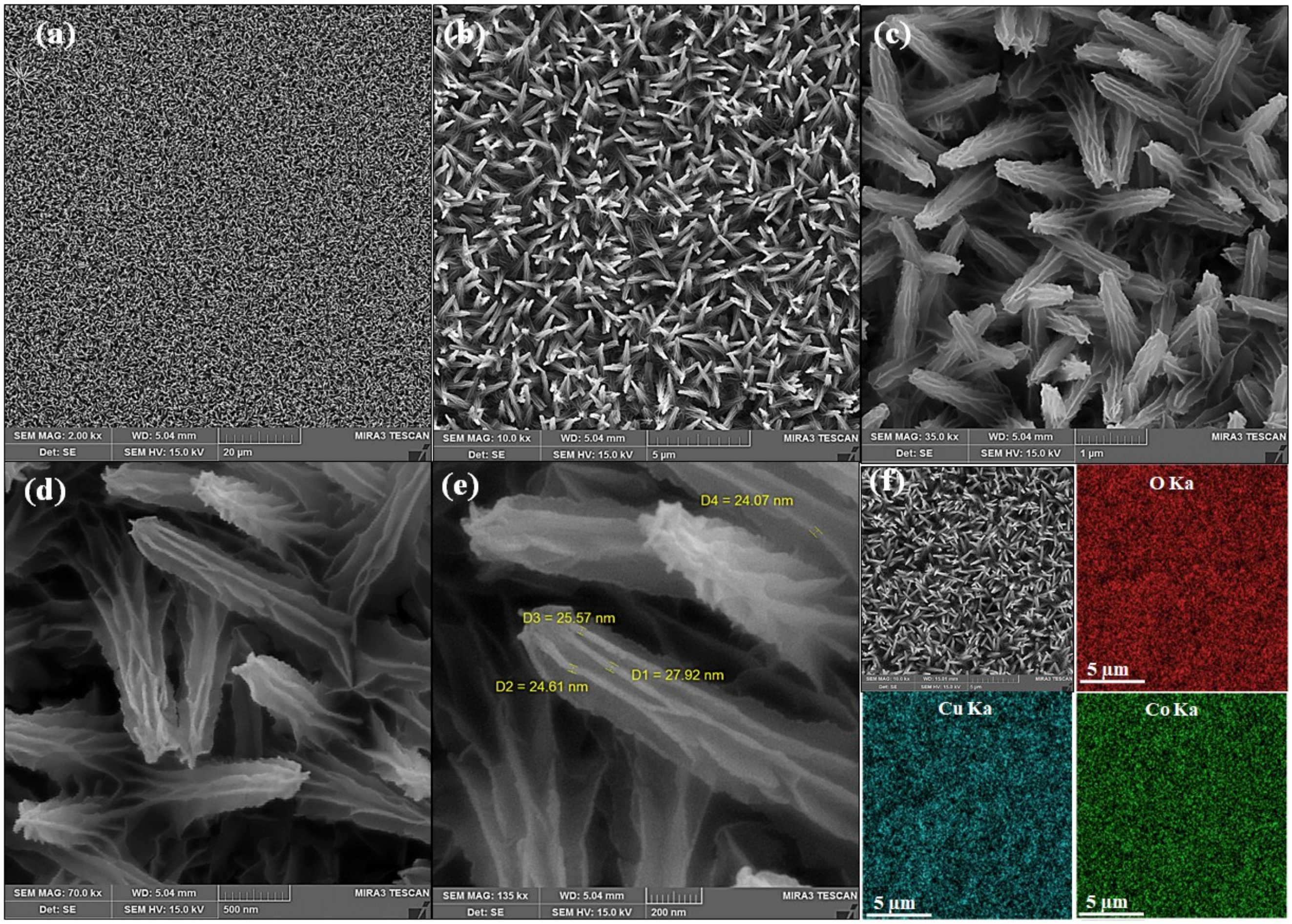

Figure S3. (a-c) FE-SEM images of the fabricated $Cu(OH)_2@Co(OH)_2$ NT-NSs/GCE at different magnifications, (f) related EDS-mapping images

The EDS-mapping images in Figure S3 (f) demonstrate the uniform distribution of Co, Cu and O elements over the whole surface of the modified electrode, confirming homogeneous insertion of cobalt in the hydroxide $Co(OH)_2$ nanosheets without dissociation.

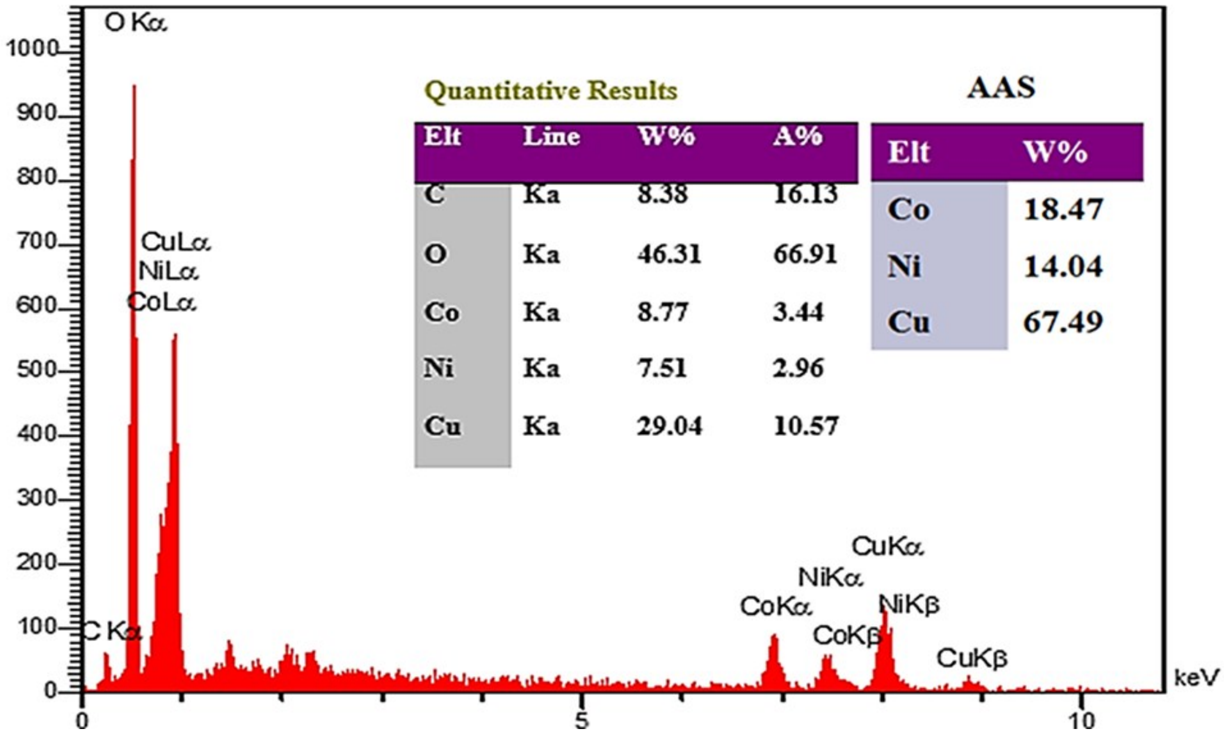

Figure S4. The EDX spectrum of $Cu(OH)_2$@CoNi-LDH NT-NSs/GCE and the AAS results

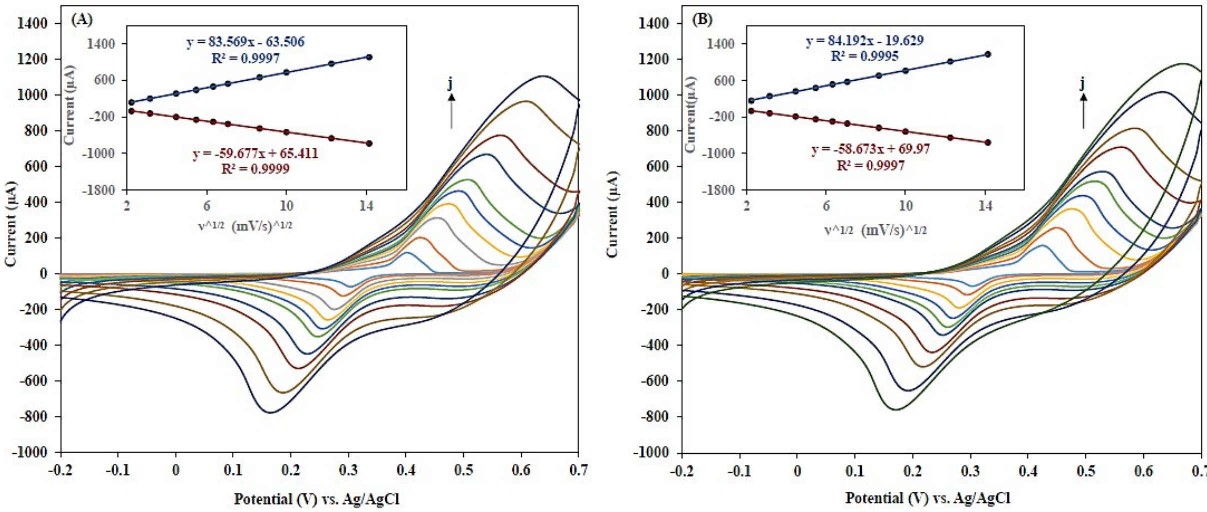

Figure S5. The CV responses of $Cu(OH)_2$@CoNi-LDH NT-NSs/GCE in the (A) absence and (B) presence of 0.4 mM glucose in potential window of -0.6 V to 0.8 V at different scan rates. (a to j): 5 to 150 mV/s

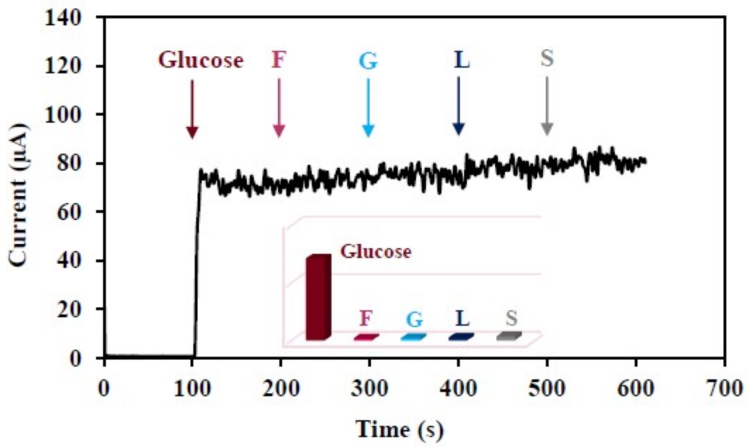

Figure S6. The amperometric responses of $Cu(OH)_2$@CoNi-LDH NT-NSs/GCE to addition of 1 mM glucose in the presence of fructose, galactose, lactose and sucrose with 0.05 mM concentration

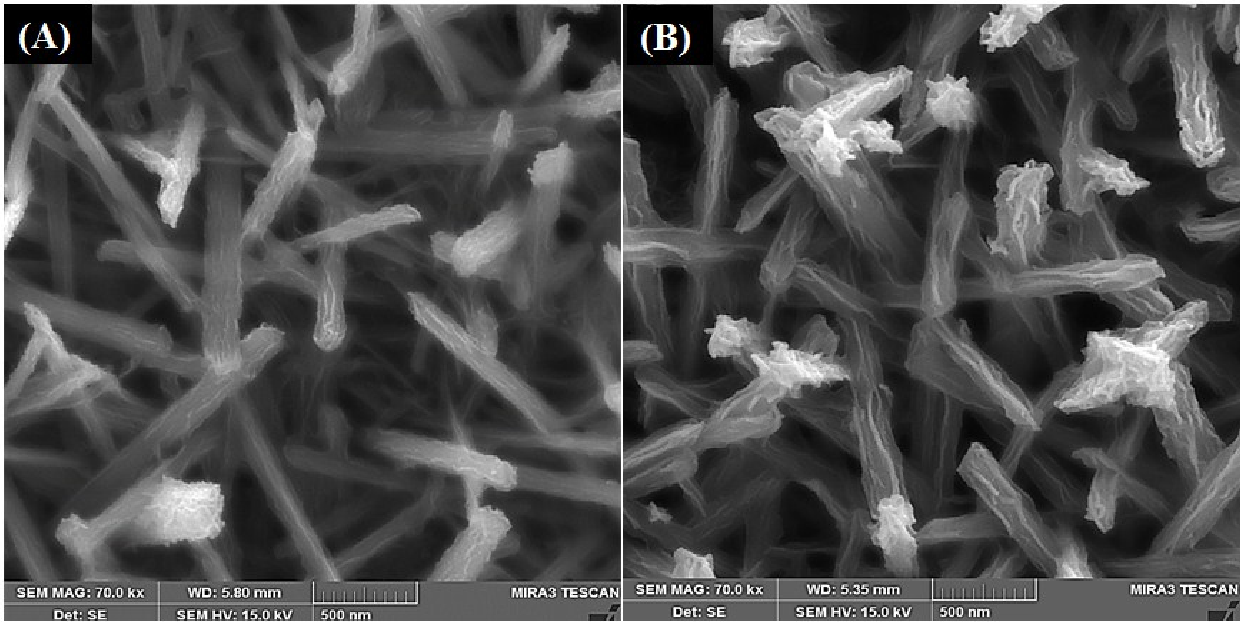

Figure S7. FESEM images of $Cu(OH)_2$@CoNi-LDH NT-NSs/GSPE at (A) 60 s and (B) 75 s LDH deposition time

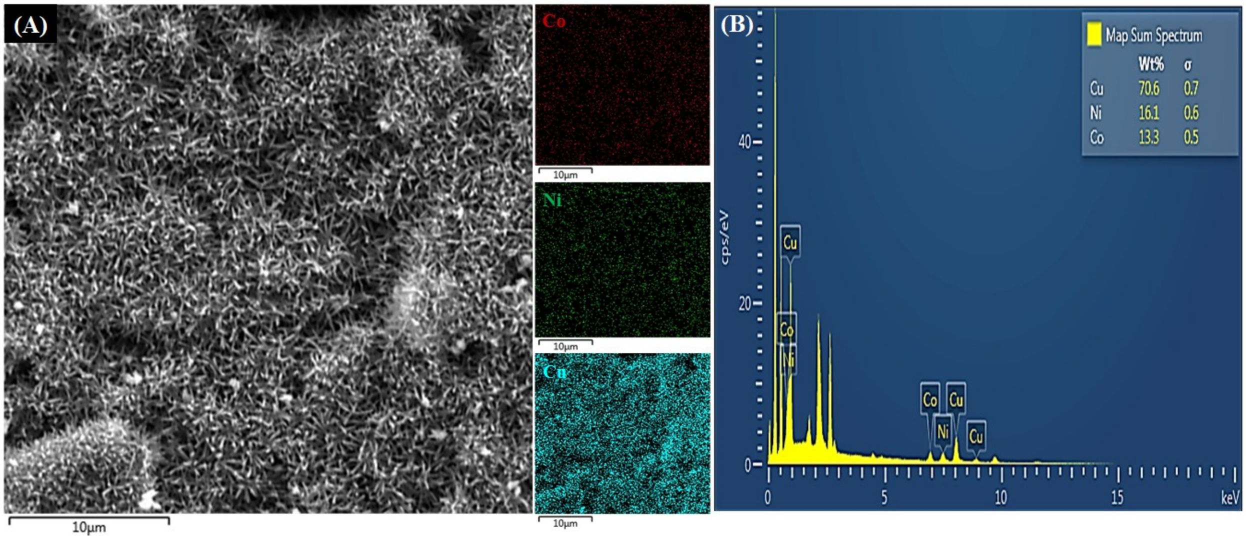

Figure S8. (A) FESEM images of $Cu(OH)_2$@CoNi-LDH NT-NSs/GSPE and related EDX-mapping images. (B) The EDX spectra of $Cu(OH)_2$@CoNi-LDH NT-NSs/GSPE

Table S1. comparison of the performance of our fabricated electrode with previously reported nonenzymatic glucose sensors based on non-precious transition metals (such as Co, Ni and Cu) and their oxide or hydroxide compounds

Electrode Materials	**Potential (V)**	**Response Time (s)**	**Sensitivity (μA/mM.cm²)**	**Linear Range (mM)**	**Detection Limit (μM)**	**Ref.**
$Cu(OH)_2$@CoNi-LDH/GCE	+0.45	1.8	1895 1322	0.002-3.2 3.2-7.7	0.6	This work
CoOOH nanosheet arrays	+0.5	<4	967	up to 0.5	10.9	1
Co_3O_4 nanoparticles	+0.59	<6	520.7	Up to 1	0.13	2
Nanoporous Co_3O_4 nanowire	+0.6	-	300.8	Up to 0.57	5	3
Co LDH/CC	+0.5	8	1280 540	0.001–0.10 0.10–0.80	0.5	4
RGO-$NiCo_2O_4$ nanorods	+0.55	-	960.37 216.7	0.001-6.3 6.3-25	0.35	5
$NiCo_2S_4$/Ni/CFP	+0.45	5	283	0.005-6	0.05	6
$NiCo_2S_4$/GCE	+0.55	-	858.5 332.84	0.005-0.1 0.5-2	2	7
Ni-Co NSs/RGO/GCE	+0.5	2	1773.61	0.01-2.65	3.79	8
Co_3O_4 UNS-$Ni(OH)_2$/GCE	+0.35	5	1089	0.005-0.04	1.08	9
Ni/Al-LDH/Ti foam	+0.7	4	24.45	0.005-10.0	5	10
$CuNiCoO_4$ NWs@CC	+0.55	-	1782	0.02-1.4	6.5	11
rGO-chitosn-Cu/Co	+0.45	-	1920	0.015-6.95	10	12
Roselike a-$Ni(OH)_2$	+0.4	3	418.8	0.00087-10.53	0.08	13
$Ni(OH)_2$ hollow spheres	+0.45		223.39	0.8749–7.781	0.1	14
NiCo LDH/CC	+0.5	5	5120	0.001–1.50	0.12	4
Cu–NiO/GCE	+0.4	<5	171	0.0005-5	0.5	15
CuNiO-GR/GCE	+0.6	-	225.75	0.05-6.9	16	16
CuO_x-CoO_x/rGO/GCE	+0.5	3	507	0.005-0.57	0.5	17
Cu-Co-Ni/rGO	+0.55	<2	104.68	0.01-4.3	3.05	18
MSN/Ni–Co/GCE	+0.5	5	536.62	0.001–5.0	0.39	19
$Cu(OH)_2$ nanotube arrays	+0.4	<5	418	Up to 3.0	0.5	20

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