Supporting Information

Ultrathin nickel hydroxide nanosheet arrays grafted biomass-derived honeycomb-like porous carbon with improved electrochemical performance as a supercapacitive material

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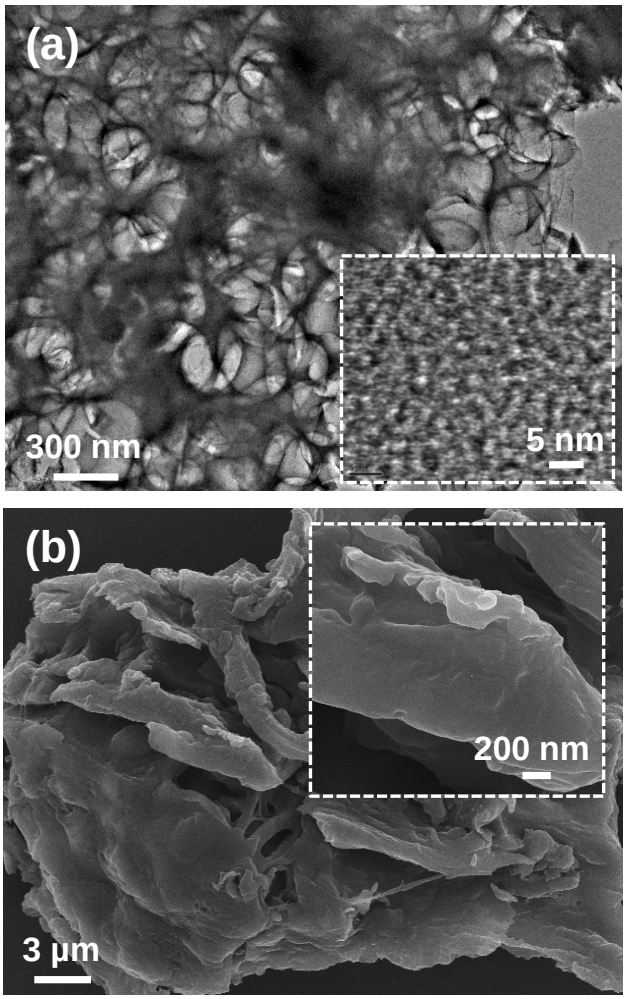

Figure S1. (a) TEM images of the HAPC and FE-SEM image of the PC prepared without activating with KOH.

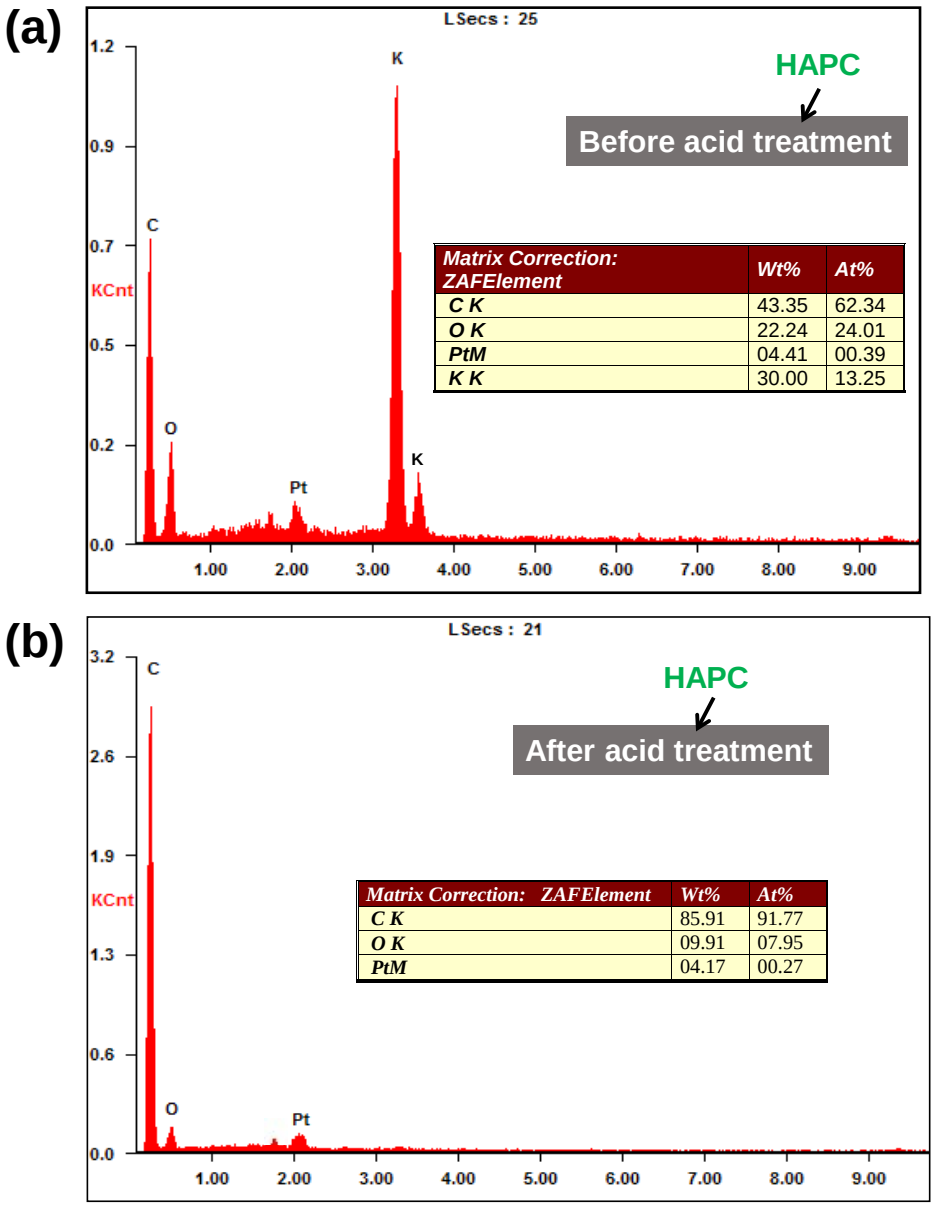

Figure S2. EDX analysis of the HAPC before and after acid treatment.

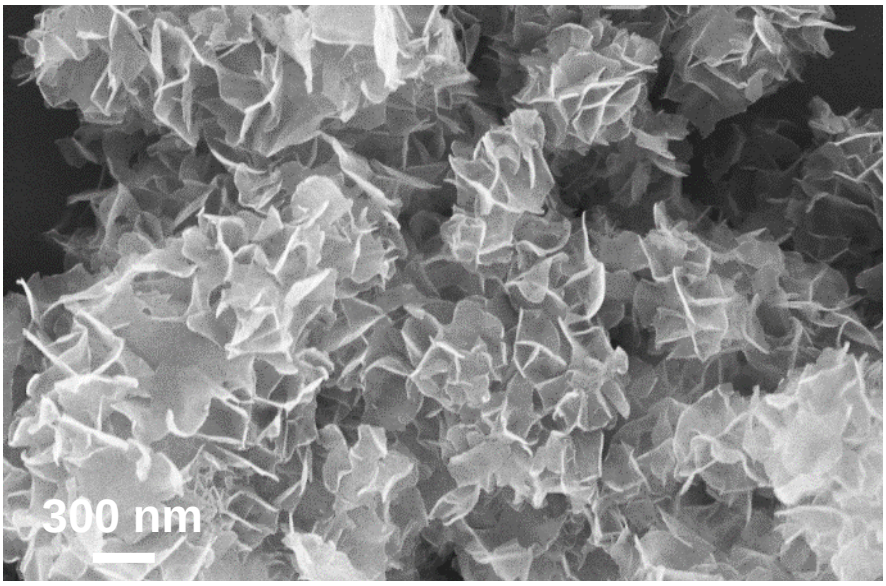

Figure S3. FE-SEM image of the prepared $Ni(OH)_2$ NSs without adding HAPC powder.

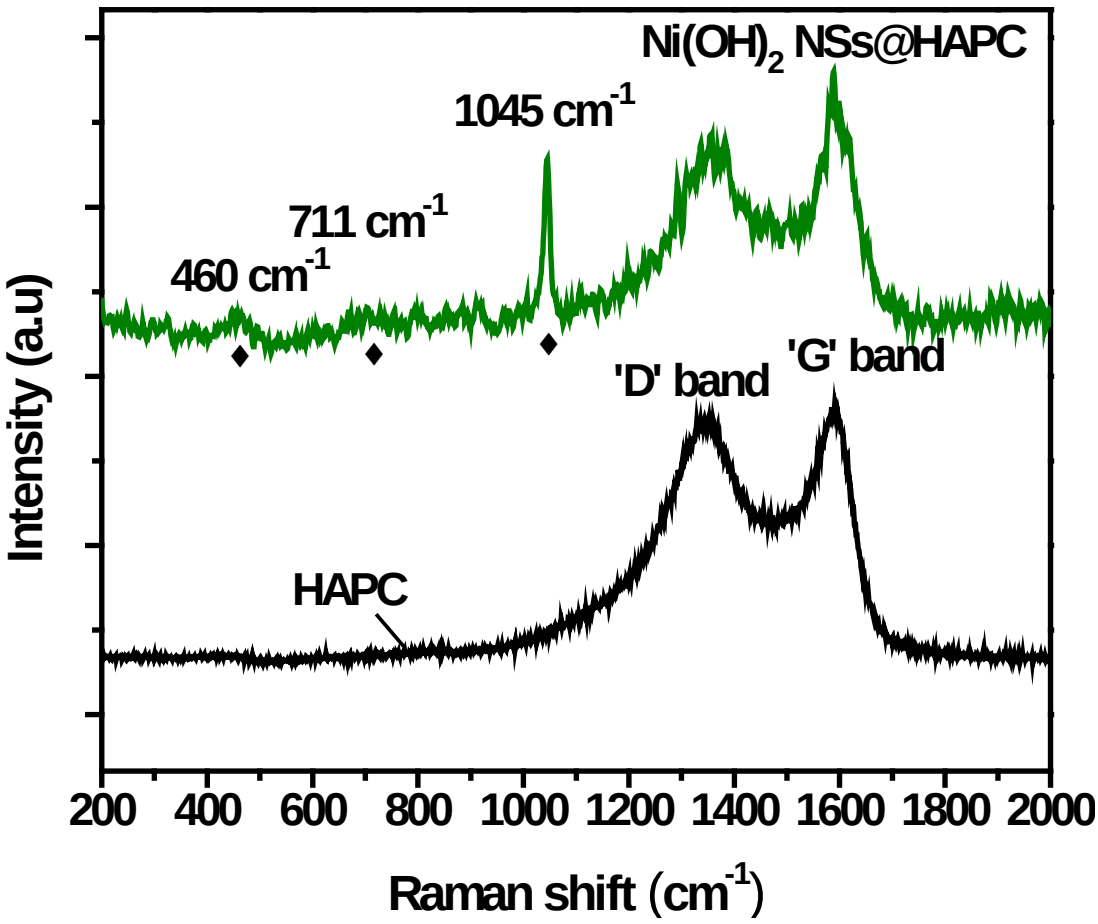

Figure S4. Raman spectra of the HAPC and $Ni(OH)_2$@HAPC composite materials.

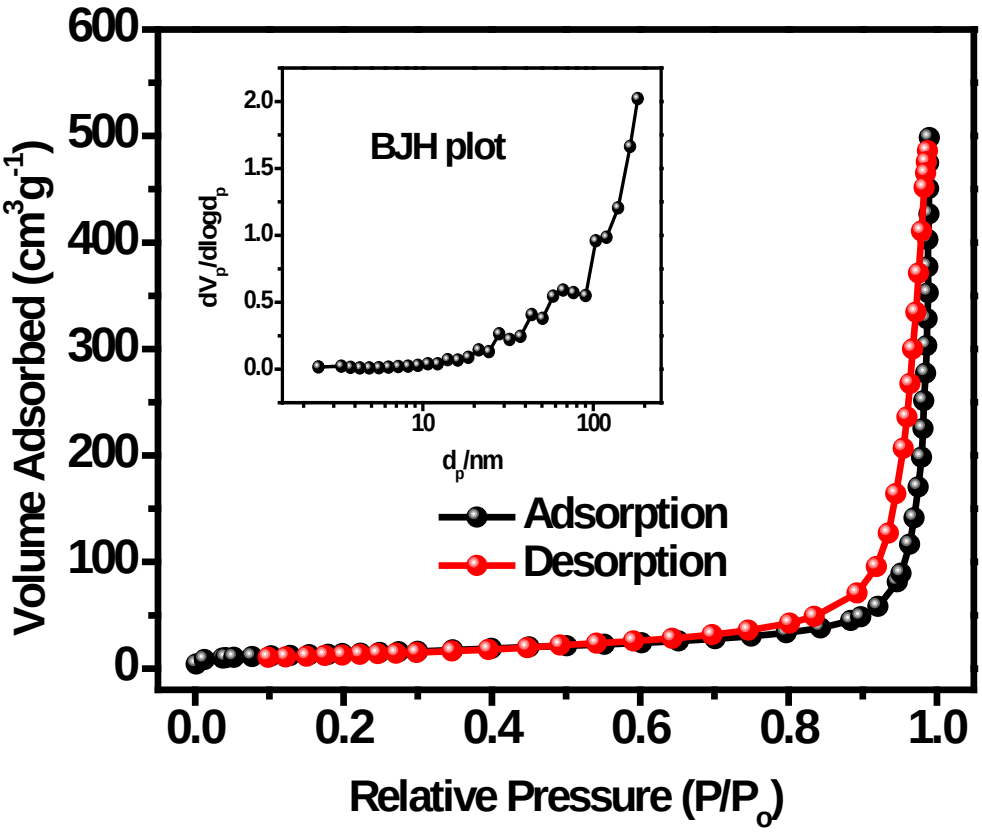

Figure S5. BET surface area of the $Ni(OH)_2$@HAPC composite.

Table S1: Electrochemical performance of the previously reported materials with $Ni(OH)_2$@HAPC composite.

Electrode material	**Current collector**	**Synthesis method**	**Electrolyte**	**Test condition**	**Specific capacitance**	**Ref.**
NiO nanodots	Ni foam	High-temperature solution phase	6 M KOH	2 A/g	856 F/g	S1
$Ni(OH)_2$ nanostructures	Carbon paper	Reflux process	2 M KOH	1 A/g	332 F/g	S2
NiO nanotubes	Ni foam	Electro-deposition	2 M KOH	2 A/g	675 F/g	S3
Porous NiO film	Ni foil	CBD method	1 M KOH	1 A/g	309 F/g	S4
MnO_2@bio carbon	Ni foam	Hydrothermal	1 M Na_2SO_4	0.2 A/g	262.2 F/g	S5
$Ni(OH)_2$@carbon nanotubes	Ni grid	CBD method	6 M KOH	0.4 A/g	190 mAh/g	S6
$Ni(OH)_2$@activated carbon	Ni foam	-------	6 M KOH	1 A/g	530 F/g	S7
rGO@Ni nanoparticles	Carbon cloth	Hydrothermal	0.05 M PBS+KCl+ NaH_2PO_4	0.2 A/g	70 F/g	S8
NiO hollow spheres	Ni foam	CBD method	2 M KOH	1 A/g	346 F/g	S9
NiO film	Ni foam	Ammonia evaporation method	1 M KOH	2 A/g	232 F/g	S10
Nickel oxide @hydroxide	Stainless steel	Chemical precipitation method	0.5 M KOH	10 mV/s	108 F/g	S11
$Ni(OH)_2$@HAPC composite	Carbon cloth	Solvothermal method	1 M KOH	1 A/g	916.4 F/g	This work

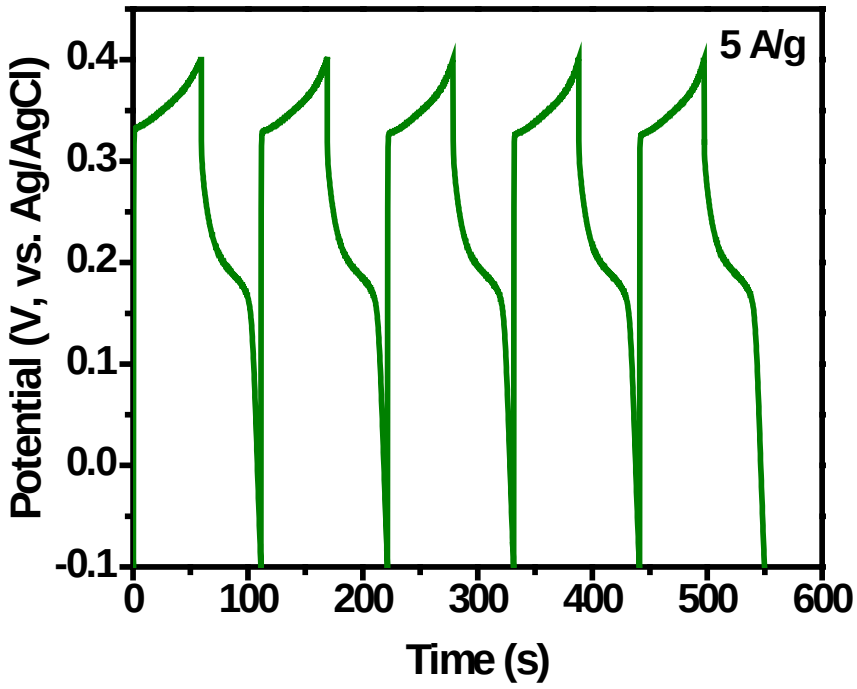

Figure S6. First five GCD cycles of the $Ni(OH)_2$@HAPC composite measured at a current density of 5 A/g.

References

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