Electronic Supplementary Material ESI for Sustainable Energy & Fuels

Metal-Organic Framework Mediated Nickel Doped Copper Ferrite for Superior Lithium Storage

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Supporting Information

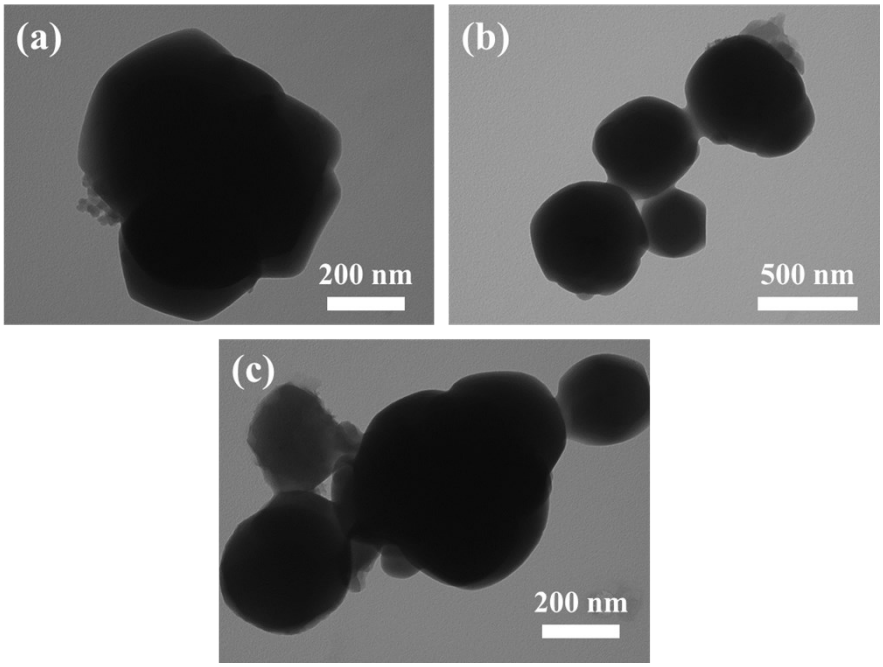

Figure S1: TEM images of $Cu_{1-x}Ni_xFe_2O_4$@ZIF after ZIF coating.

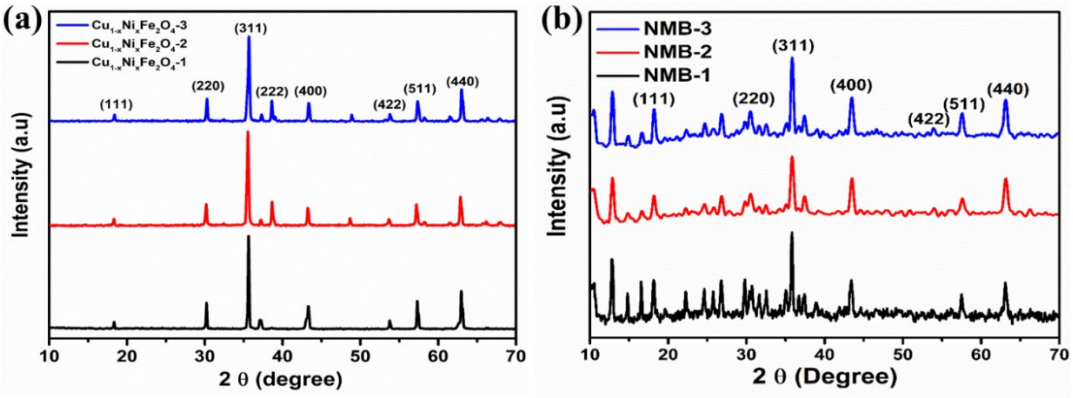

Figure S2: XRD patterns of (a) $Cu_{1-x}Ni_xFe_2O_4$ particles, (b) $Cu_{1-x}Ni_xFe_2O_4$@ZIF before post-calcination.

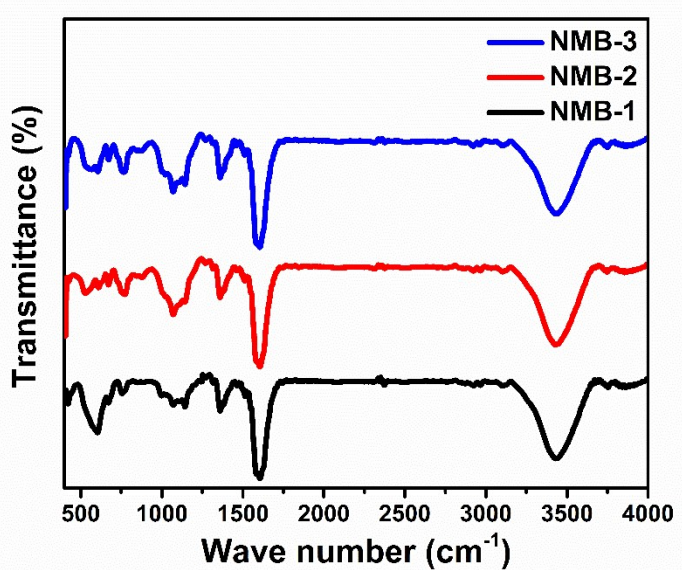

Figure S3: FTIR spectra of $Cu_{1-x}Ni_xFe_2O_4$@ZIF before post-calcination.

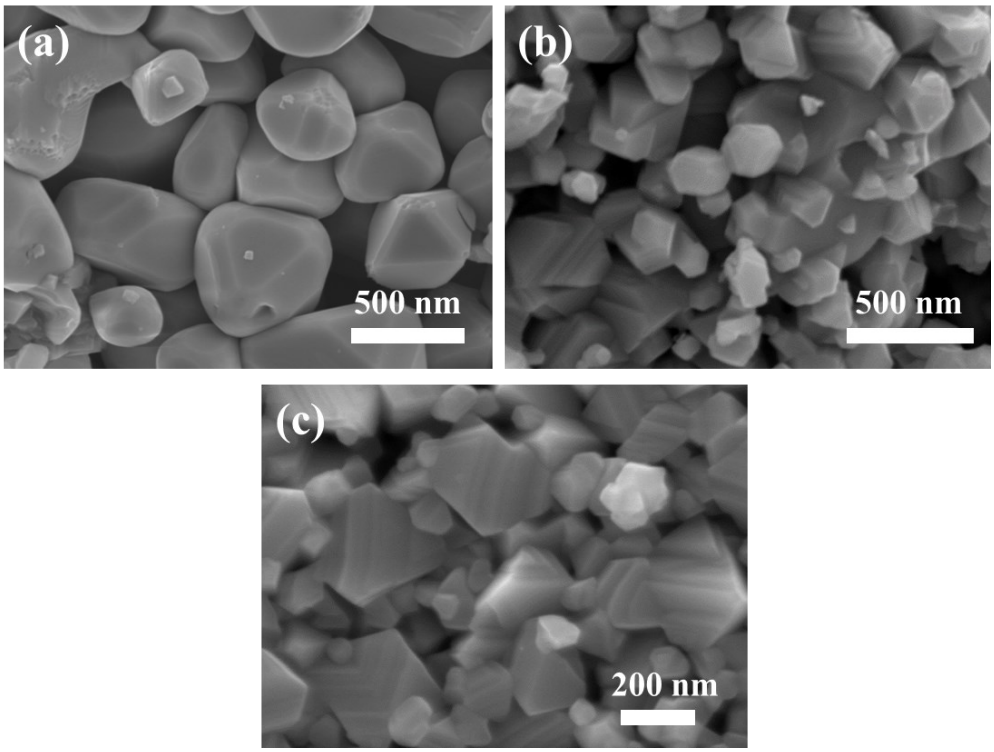

Figure S4: SEM images of as-synthesized $Cu_{1-x}Ni_xFe_2O_4$ particles after pre-calcination.

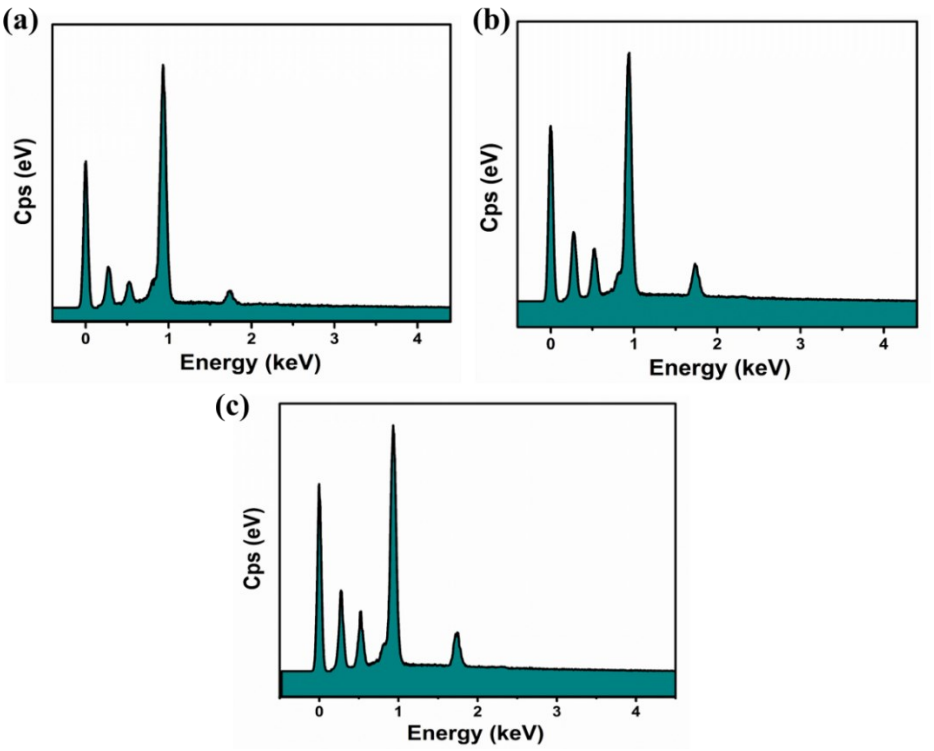

Figure S5: EDX analysis of $Cu_{1-x}Ni_xFe_2O_4$@C after post-calcination.

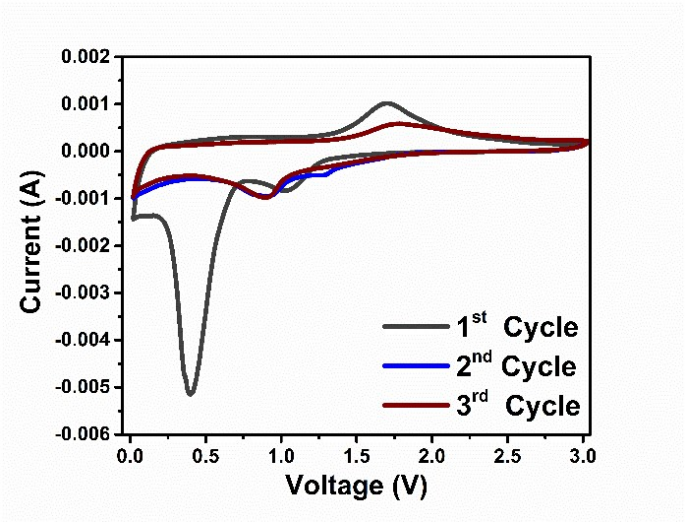

Figure S6: Cyclic voltammetry (CV) of $Cu_{1-x}Ni_xFe_2O_4$@C.

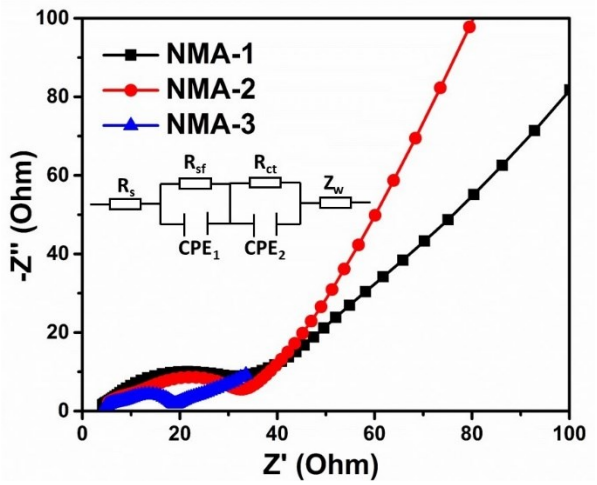

Figure S7: EIS spectra of $Cu_{1-x}Ni_xFe_2O_4$@C after 50 cycles.

Table R1. Comparison of various anode materials in terms of their electrochemical performances.

Anode	Cycling Stability					Ref
	Initial Discharge capacity [mAh g^{-1}]	Capacity after n^{th} cycles	No of Cycles	Current rate [mA g^{-1}]	Columbic efficiency	
$CuFe_2O_4$@rGO	1078	587	100	100	~66%	1
$CoFe_2O_4$/graphene	1683	501	25	183	53%	2
$CuFe_2O_4$-graphene	1605	687	50	100	66%	3
$CuFe_2O_4$/rGO	1200	845	25	100	73%	4
$NiFe_2O_4$/rGO	1363	1225	100	100	79%	5
$NiFe_2O_4$/graphene	1350	812	50	100	67%	6
$NiFe_2O_4$@SiO_2	1460	690	100	100	71%	7
$CoFe_2O_4$/C	~1700	600	200	185	~70%	8
$NiFe_2O_4$/graphene	1575	407	50	100	72%	9
$NiFe_2O_4$/MWCNT	1305	871	25	100	79%	10
$Cu_{1-x}Ni_xFe_2O_4$@C	1428	722	500	500	70%	Our Work

References:

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