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Supporting Information

Efficient Transfer Hydrogenation of Levulinic Acid (LA) to γ-Valerolactone (GVL) over Ni/NiO-MC (MC=Mesoporous Carbon)

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Figure S1 TG of Polymeric gel.

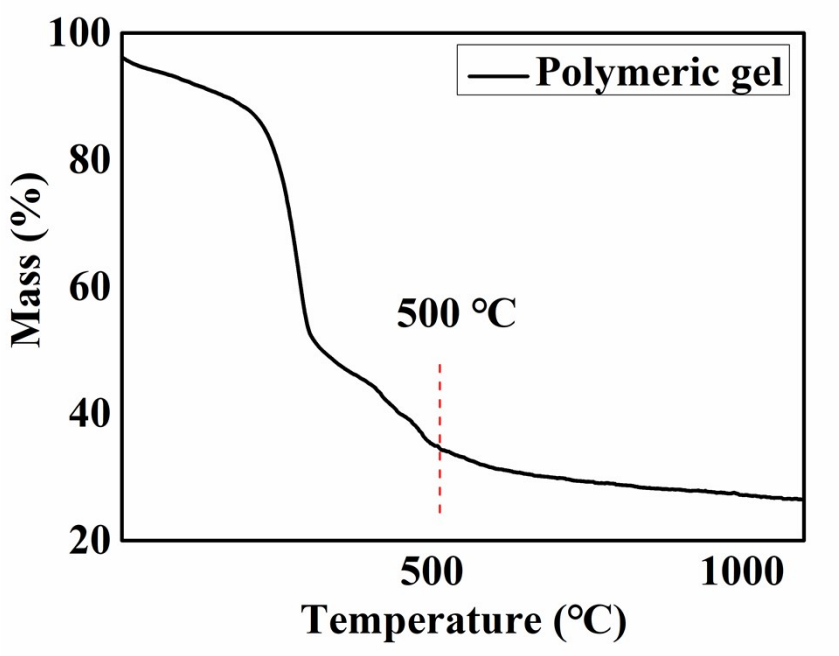

Figure S2 Raman spectrums of bare MC and NiO_x-MC.

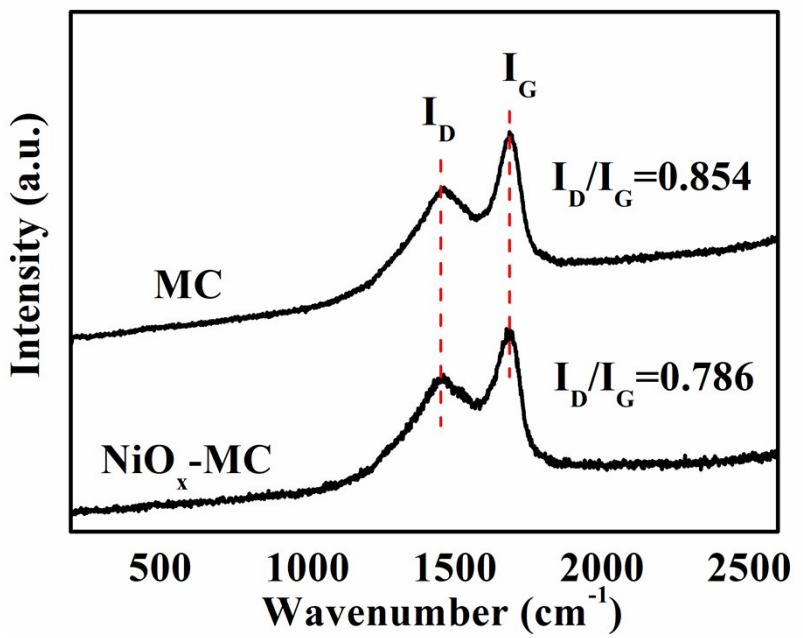

Figure S3 FT-IR spectrums of NiO_x-MC and Ni-Polymeric gel.

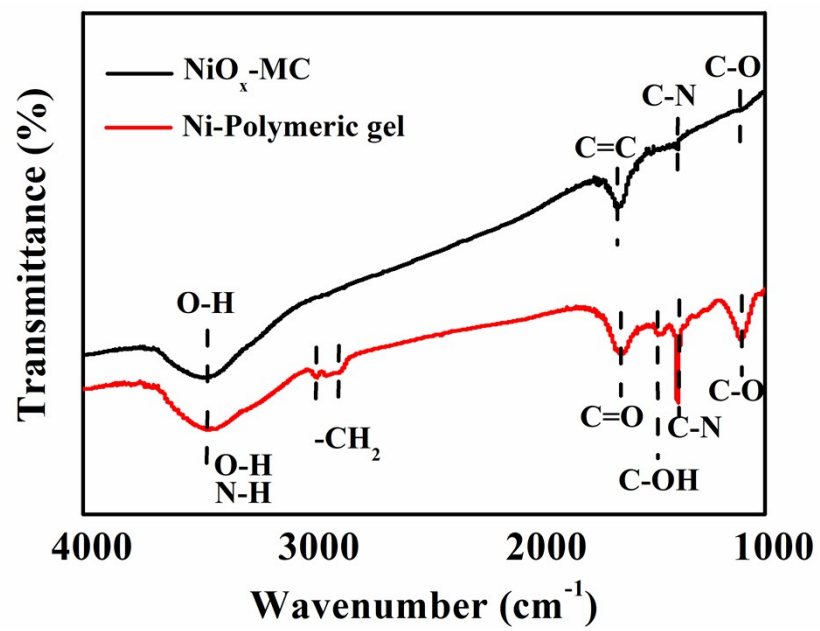

Figure S4 N_2 sorption/desorption isotherms of NiO_x-MC (pore distribution, inset).

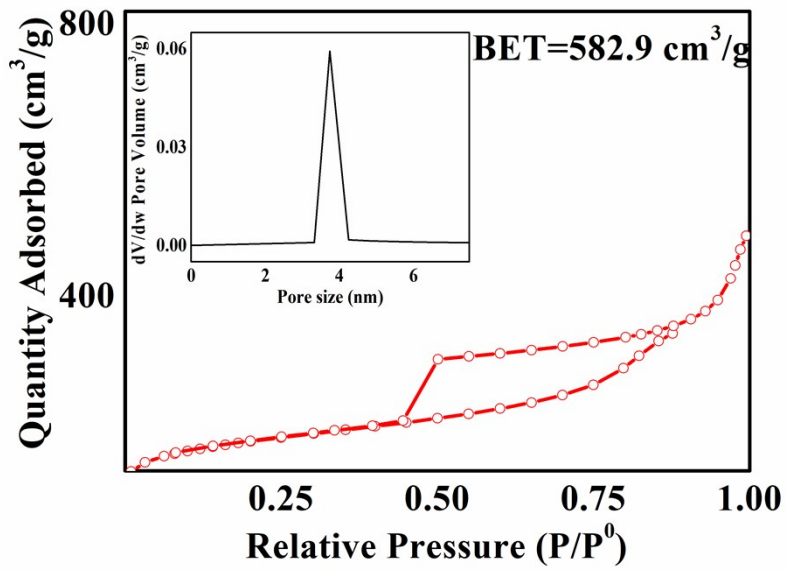

Figure S5 XRD patterns of NiO-MC, Ni-MC (a) and Ni/NiO, Ni/NiO-graphite (b).

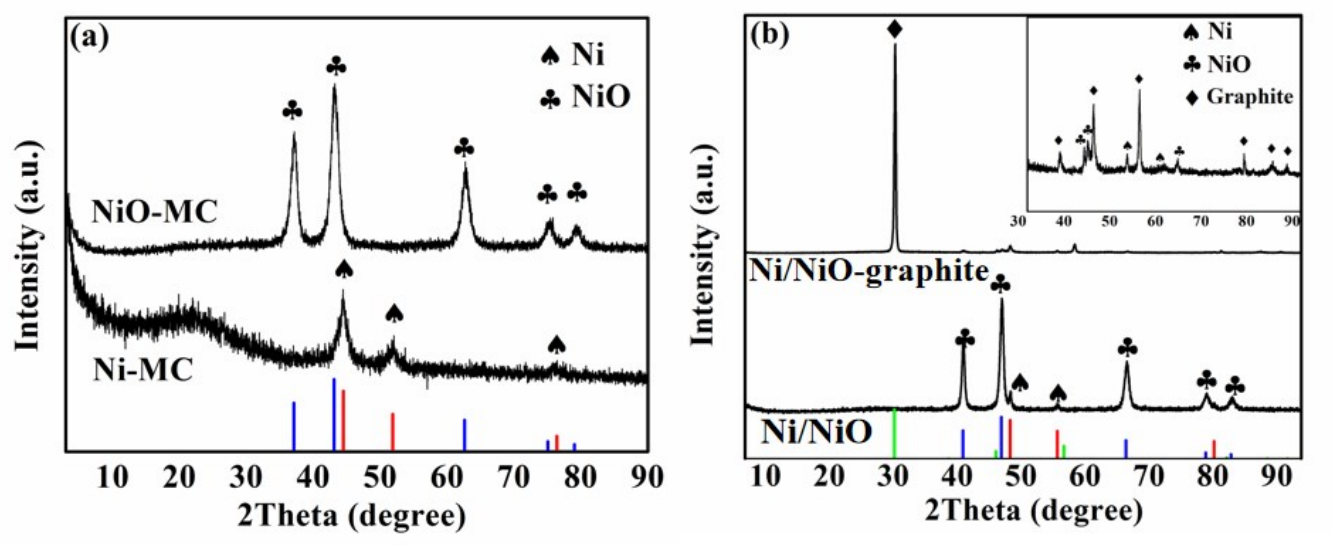

Figure S6 Pyridine-FT-IR spectrum of Ni-MC.

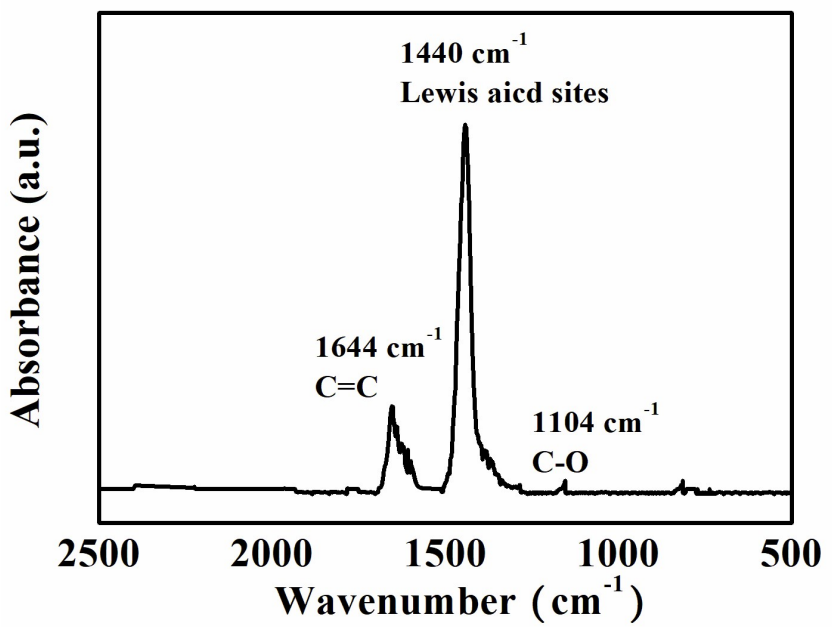

Table S1 Transfer hydrogenation of LA to produce GVL over Ni-based catalysts.

Entry	Catalyst	Hydrogen source	Temperature (°C)	Time (h)	Pressure (bar)	Ni loading (wt %)	TOF (h^{-1})	Refs
1	Ni/NiO-MC	isopropanol	200	18	1	1.1	10.80	This work
2 [a]	Ni/SBA-15	formic acid	250	1	1	30.0	18.64	43
3 [a]	Ni_3Fe-NP@C	isopropanol	180	2	20	14.9	12.94	36
4 [a]	Ni_3P-$CePO_4$	isopropanol	180	2	10	63.5	12.51	46
5 [a]	Ni/MMT	isopropanol	200	1	1	50.0	11.19	68
6 [a]	Ni/SiO_2-Al_2O_3	isopropanol	200	0.25	-	65.0	1.70	82
7 [a]	Ni/NiO-FC	formic acid	170	3	85	-	0.34	41
8 [a]	Ni-SiO_2	formic acid	250	1	1	28.5	0.31	42

$$\text{TOF } (h^{-1}) = \frac{n_{LA}(\text{mmol}) \times \text{Yield}_{GVL}(\%)}{n_{Ni}(\text{mmol}) \times \text{time (h)}}$$

a: TOF was calculated based on the data provided in literature.