Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Mesoporous Graphene-like Carbon Sheet: High-Power Supercapacitor and Outstanding Catalyst Support

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Supporting Figures and Tables

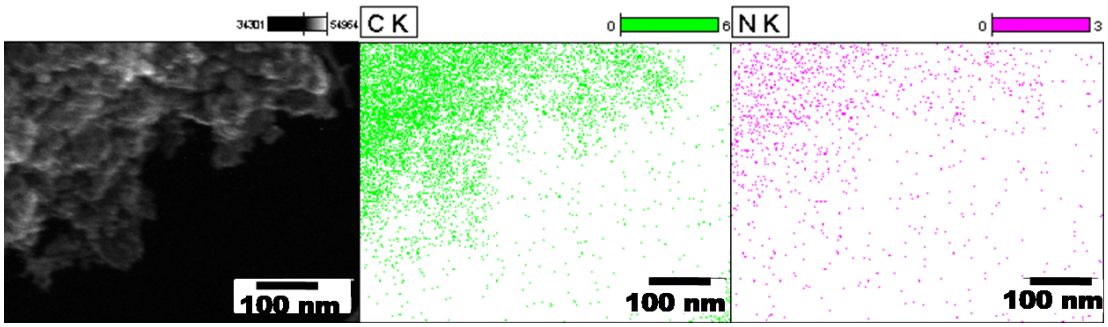

Figure S1. Elemental mapping pictures of MCS-1@800 sample (molten salt/carbon precursor = 5 by weight, activation time: 5 hours). Nitrogen atoms were evenly distributed throughout the carbon sheet material.

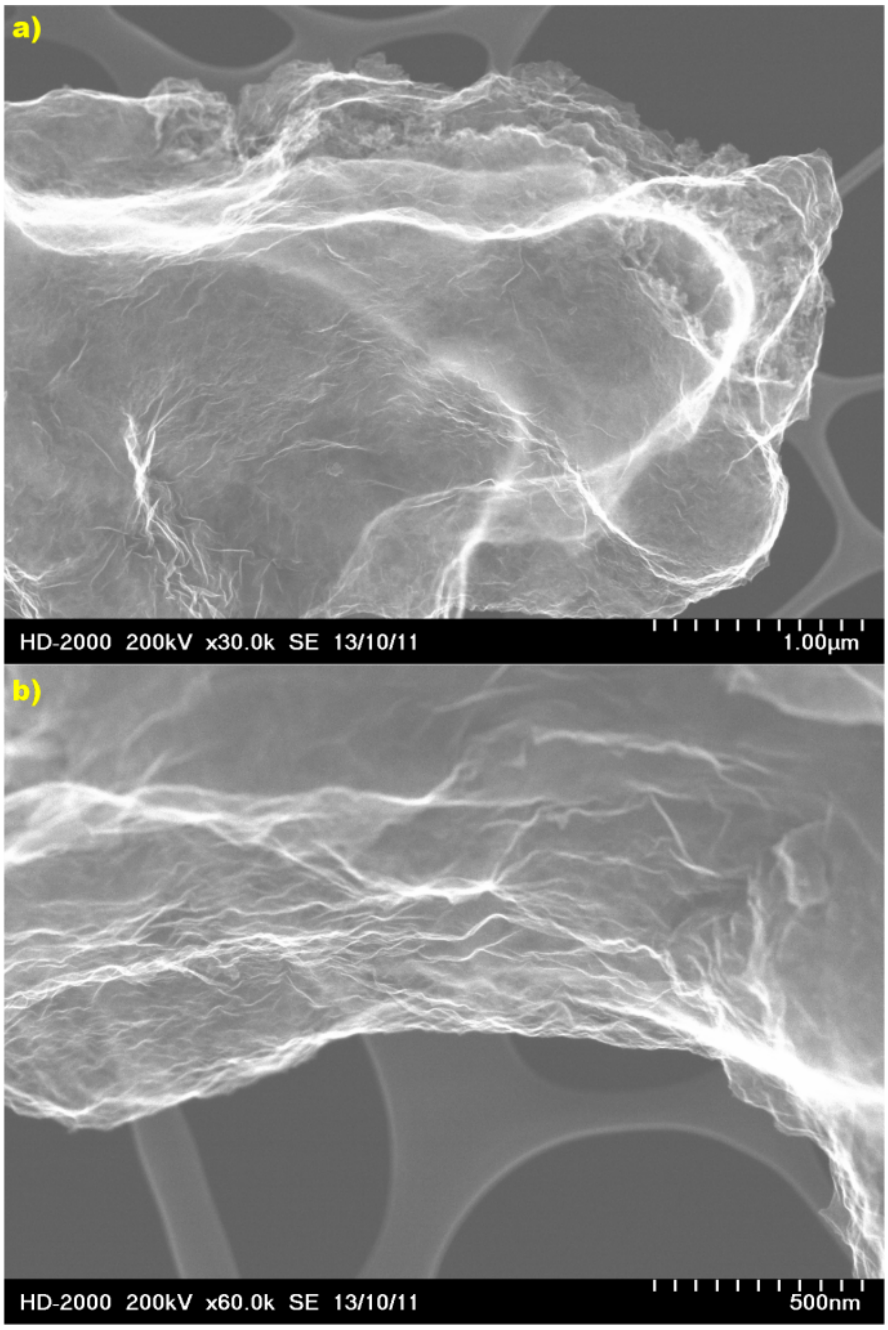

Figure S2. SEM image of MCS-1@600 sample.

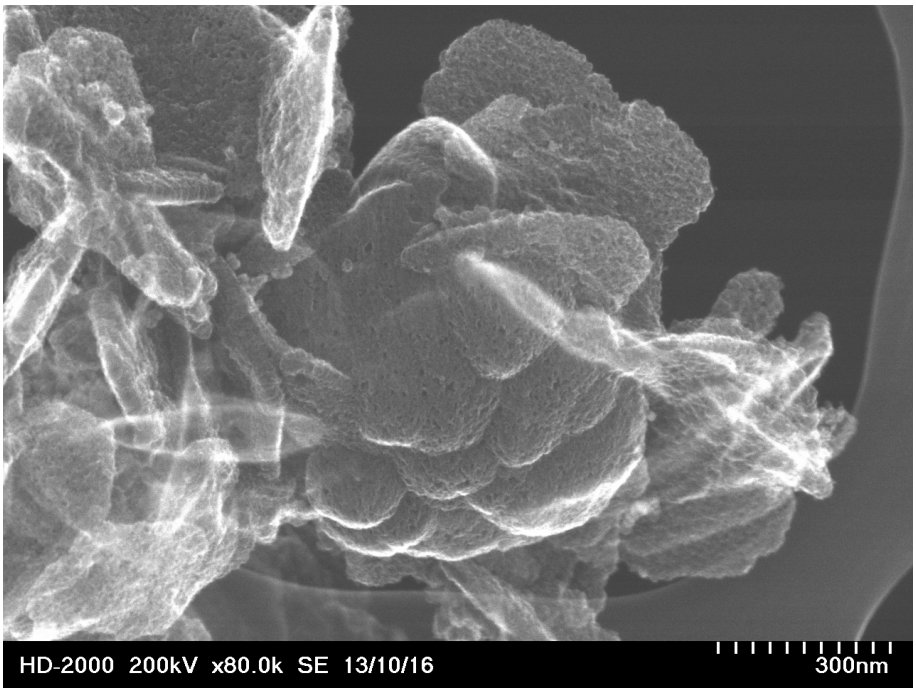

Figure S3. SEM image of MCS-2@800 sample.

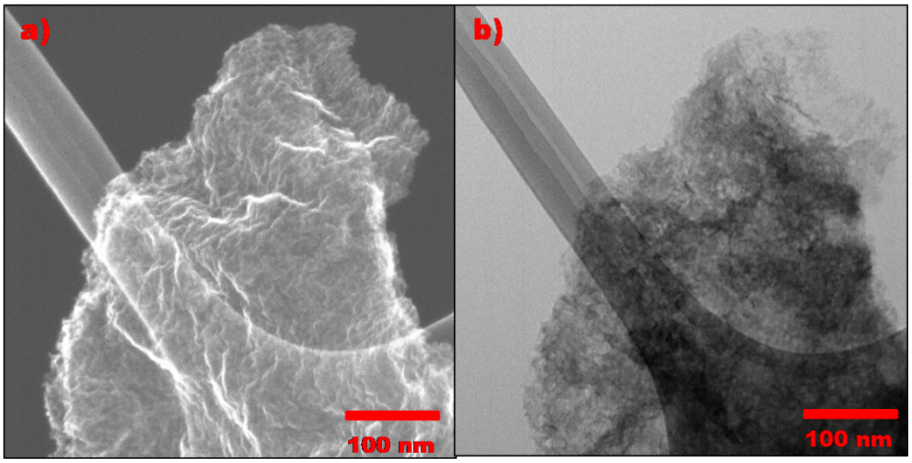

Figure S4. SEM and TEM images of MCS-3@800 sample.

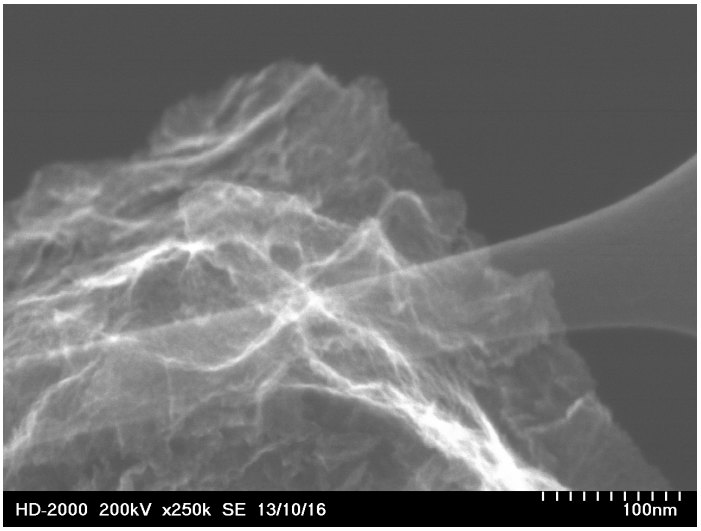

Figure S5. SEM image of MCS-1@800 sample produced by recovered salts.

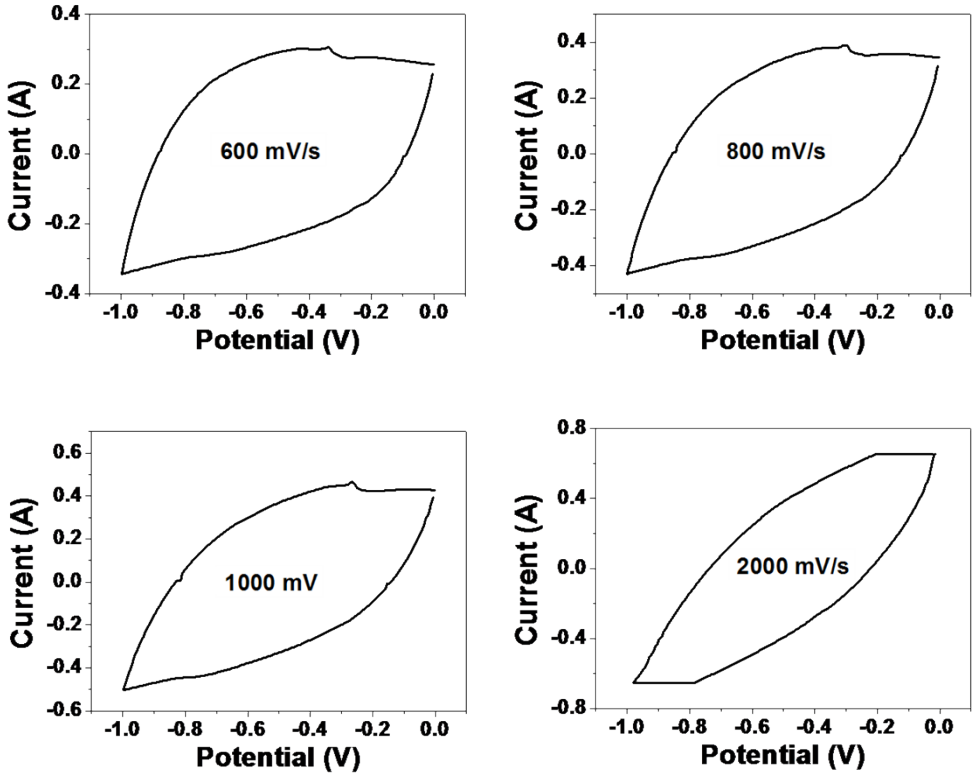

Figure S6. CV curves of activated carbon at different scan rates.

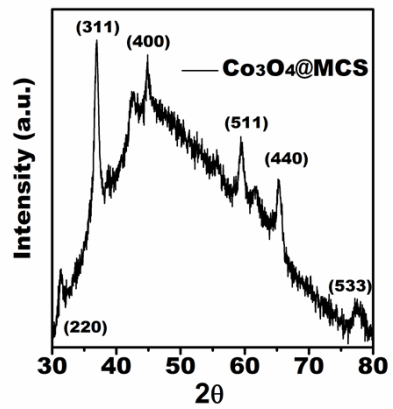

Figure S7. XRD patterns of Co_3O_4@MCS-1 sample.

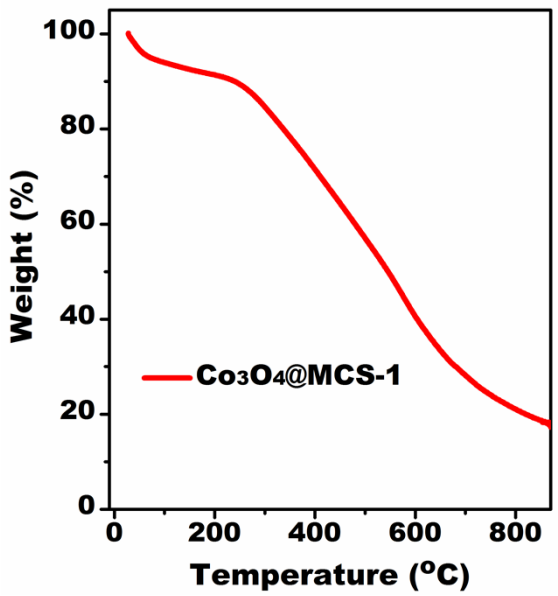

Figure S8. TGA analysis of Co_3O_4@MCS-1 sample in air.

Table S1. Summary of BET surface areas for carbon samples from different reaction conditions.

Carbon Precursor	Molten Salts	Temperature	S_{BET} (m^2/g)
PMDA+BDI	KCl-$ZnCl_2$	425	293
PMDA+BDI	KCl-LiCl	425	87
PMDA+BDI	KCl-$ZnCl_2$	800	2174
PMDA+BDI	KCl-LiCl	800	No Product

[a] PMDA: pyromellitic dianhydride; BDI: benzidine; carbon precursor/molten salts = 1/9 by weight.

Supplement Note 1

In the synthesis of polyimide, it was observed that an MCS-1@180 sample prepared with ionic liquids as solvent (S_{BET}: 118 m^2/g) possessed higher BET surface area than the corresponding sample (S_{BET}: 37 m^2/g) from neutral organic solvent (*m*-cresol). The organic molten salts, ionic liquids, could promote the formation of porosity in polyimide