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

Supporting Information:

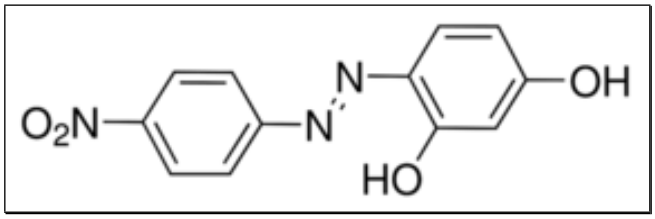

Fig. S1. Unit structure of 4-(4-Nitrophenylazo)resorcinol.

Table S1. BET test results for the **Carbon-1:3-L** sample.

常州大学测试中心
Quantachrome?ASiQwin?? 1994-2011, Quantachrome Instruments v2.0

Analysis

Operator:	zong	**Date:**	2014/04/21
Sample ID:	Mg-L 陈祥迎	**Filename:**	n2_micro_000_634_st1.qps
Sample Desc:		**Comment:**	N2- micro/mesopore analysis-general_9-
Sample Weight:	0.0224 g	**Instrument:**	Autosorb iQ Station 1
Outgas Time:	10.0 hrs	**Outgas Temp.:**	150 癈
Analysis gas:	Nitrogen	**Non-ideality:**	6.58e-05 1/mmHg
Analysis Time:	33:09 hr:min	**Bath temp.:**	77.35 K
Analysis Mode:	Standard		
VoidVol. Mode:	He Measure	**Cold Zone V:**	7.4956 cc

Report

Operator:	zong	**Date:**	2014/04/23
CellType:	9mm w/o rod		
VoidVol Remeasure:	off		
Warm Zone V:	14.9917 cc		

Volume/Area summary

Surface Area Data

MultiPoint BET.....	1.427e+03 m?g
BJH method cumulative adsorption surface area	5.680e+02 m?g
BJH method cumulative desorption surface area	7.462e+02 m?g
t-method external surface area.....	9.168e+02 m?g
t-method micropore surface area.....	5.104e+02 m?g

Pore Volume Data

Total pore volume for pores with Diameter less than 358.67 nm at P/Po = 0.994663.....	5.911e+00 cc/g
BJH method cumulative adsorption pore volume	5.472e+00 cc/g
BJH method cumulative desorption pore volume	5.523e+00 cc/g
t-method micropore volume.....	2.232e-01 cc/g

Pore Size Data

Average pore Diameter	1.657e+01 nm
BJH method adsorption pore Diameter (Mode Dv(d))	3.706e+00 nm
BJH method desorption pore Diameter (Mode Dv(d))	3.925e+00 nm

MBET summary

Slope =	2.430
Intercept =	9.780e-03
Correlation coefficient, r =	0.999924
C constant=	249.505
Surface Area =	1427.157 m?g

V-t method summary

Thickness method: Carbon-black

Slope =	59.271
Intercept =	144.330
Correlation coefficient, r =	0.999770
Micropore volume =	0.223 cc/g
Micropore area =	510.361 m?g
External surface area =	916.796 m?g

HK summary

Mode : 0.563 nm

Table S2. BET test results for the **Carbon-1:3-S** sample.

常州大学测试中心
Quantachrome?ASiQwin?? 1994-2011, Quantachrome Instruments v2.0

Analysis

Operator:	zong	**Date:**	2014/04/21
Sample ID:	Mg-S 陈祥迎	**Filename:**	n2_micro_000_635_st2.qps
Sample Desc:		**Comment:**	N2- micro/mesopore analysis-general_9-4
Sample Weight:	0.0238 g	**Instrument:**	Autosorb iQ Station 2
Outgas Time:	10.0 hrs	**Outgas Temp.:**	150 癈
Analysis gas:	Nitrogen	**Non-ideality:**	6.58e-05 1/mmHg
Analysis Time:	29:25 hr:min	**Bath temp.:**	77.35 K
Analysis Mode:	Standard		
VoidVol. Mode:	He Measure	**Cold Zone V:**	7.23658 cc

Report

Operator:	zong	**Date:**	2014/04/23
CellType:	9mm w/o rod		
VoidVol Remeasure:	off		
Warm Zone V:	16.5399 cc		

Volume/Area summary

Surface Area Data

MultiPoint BET.....	1.037e+03 m?g
Langmuir surface area.....	8.551e+02 m?g
BJH method cumulative adsorption surface area	4.915e+02 m?g
BJH method cumulative desorption surface area	6.421e+02 m?g
t-method external surface area.....	7.678e+02 m?g
t-method micropore surface area.....	2.688e+02 m?g

Pore Volume Data

Total pore volume for pores with Diameter less than 340.47 nm at P/Po = 0.994377.....	4.763e+00 cc/g
BJH method cumulative adsorption pore volume	4.470e+00 cc/g
BJH method cumulative desorption pore volume	4.522e+00 cc/g
t-method micropore volume.....	1.200e-01 cc/g

Pore Size Data

Average pore Diameter	1.838e+01 nm
BJH method adsorption pore Diameter (Mode Dv(d))	3.502e+00 nm
BJH method desorption pore Diameter (Mode Dv(d))	2.974e+00 nm

MBET summary

Slope =	3.342
Intercept =	1.756e-02
Correlation coefficient, r =	0.999988
C constant=	191.292
Surface Area =	1036.591 m?g

V-t method summary

Thickness method: Carbon-black

Slope =	49.638
Intercept =	77.574
Correlation coefficient, r =	0.999945
Micropore volume =	0.120 cc/g
Micropore area =	268.800 m?g
External surface area =	767.792 m?g

HK summary

Mode : 0.568 nm

Quantachrome?ASiQwin? Automated Gas Sorption Data Acquisition and Reduction ? 1994-2011, Quantachrome Instruments version 2.0 Report id:{381412346:20140423 091843781} Page 1 of 10

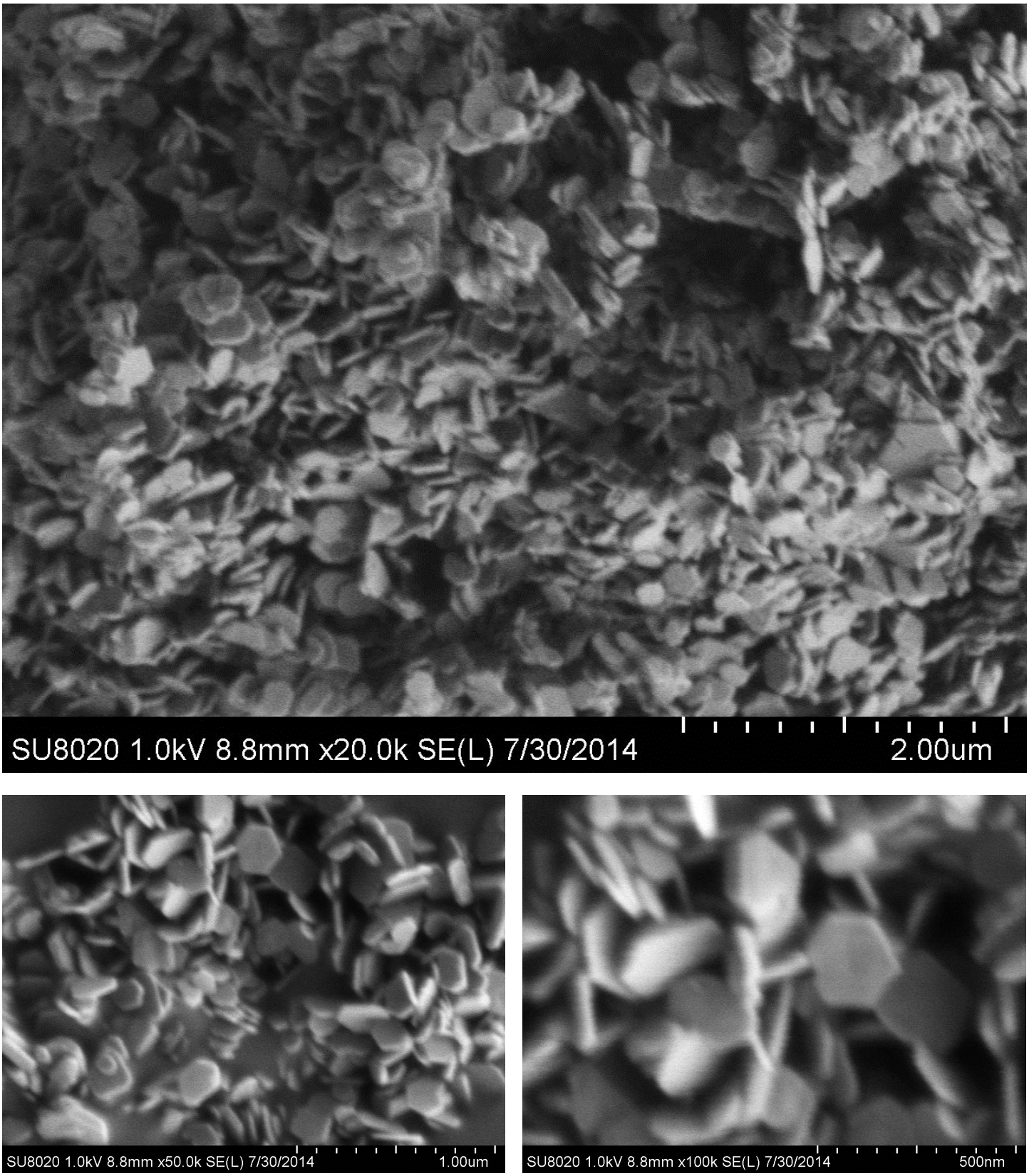

Fig. S2. SEM images of the commercial $Mg(OH)_2$ powder.