

Large-scale preparation of B/N co-doped graphene-like carbon as an efficient metal-free catalyst for reduction of nitroarenes

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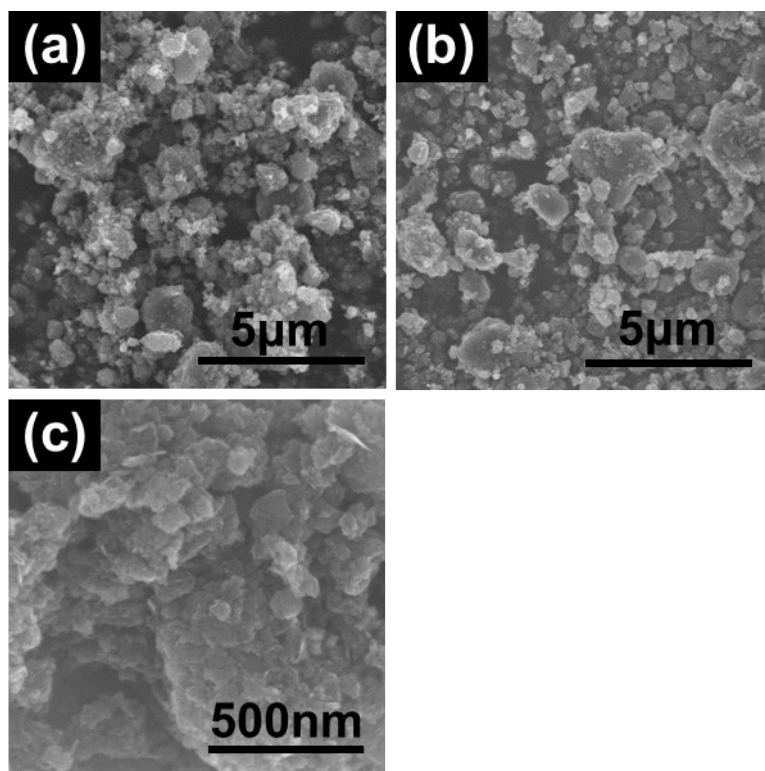


Figure S1. SEM images of (a) BNG-700 and (b) BNG-900, High magnification SEM image of (c) BNG-800.

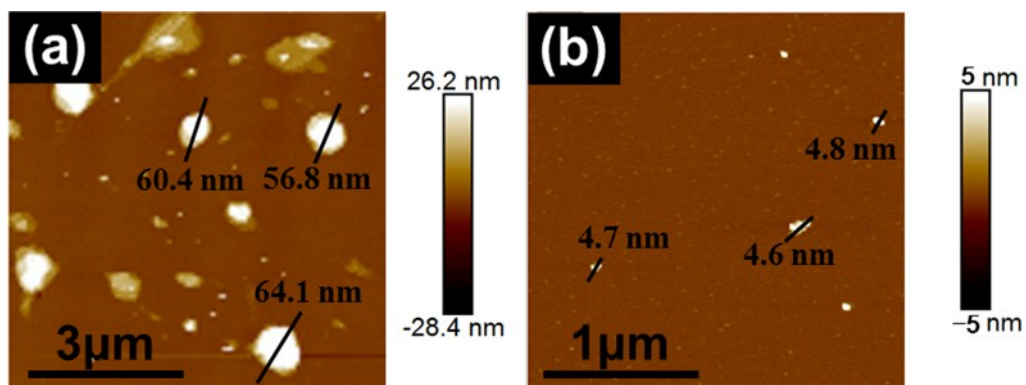


Figure S2. AFM images of (a) the pristine graphite and (b) BNG-800.

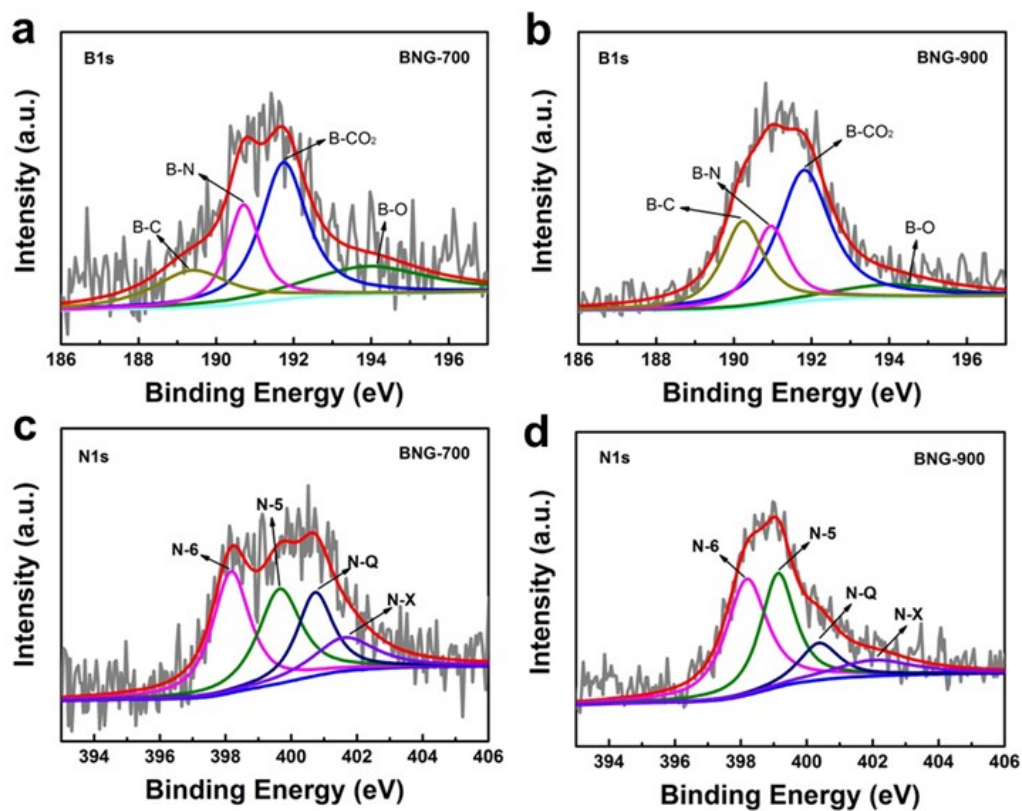


Figure S3. High resolution XPS spectra (a) B1s spectra of BNG-700, (b) B1s spectra of BNG-900, (c) N1s spectra of BNG-700 and (d) N1s spectra of BNG-900.

Table S1. Comparison of the reduction of nitroarenes in the presence of BNG-800 with other catalysts ^a

Catalysts	Reductant	Temp.	Time	Usage	Yield (%)	Activity (mmol/g h)	Reference
BNG-800	NH ₂ NH ₂ ·H ₂ O (1.5 equiv.)	70 °C	3 h	4 mg	99	41	This work
OLC	NH ₂ NH ₂ ·H ₂ O (1.5 equiv.)	70 °C	4 h	5 mg	99	24.7	1
NG-800	NaBH ₄ (10 equiv.)	R.T.	6 h	2.5 mg	97	32.3	2
RGO	NH ₂ NH ₂ ·H ₂ O (40 equiv.)	30 °C	48 h	6.3 mg	97	1.6	3
CNT-HP	NH ₂ NH ₂ ·H ₂ O (5 equiv.)	100 °C	4 h	5 mg	93.9	23.5	4
ST-HHT-PQ	NH ₂ NH ₂ ·H ₂ O (67 equiv.)	100 °C	13 h	10 mg	97.5	3.75	5
B-PGO	NH ₂ NH ₂ ·H ₂ O (11 equiv.)	90 °C	4 h	6.7mg	90.7	16.9	6

^a reaction conditions: 0.5 mmol substrate

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