Electronic Supporting Information

Nitrogen-doped Fluorescent Graphene Nanosheets as Visible-light-driven Photocatalysts for Dye Degradation and Selective Sensing of Ascorbic Acid

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1. SEM image

The size distribution of N-wsGNS were characterized with SEM analysis as shown in **Fig. S1 (b)**.

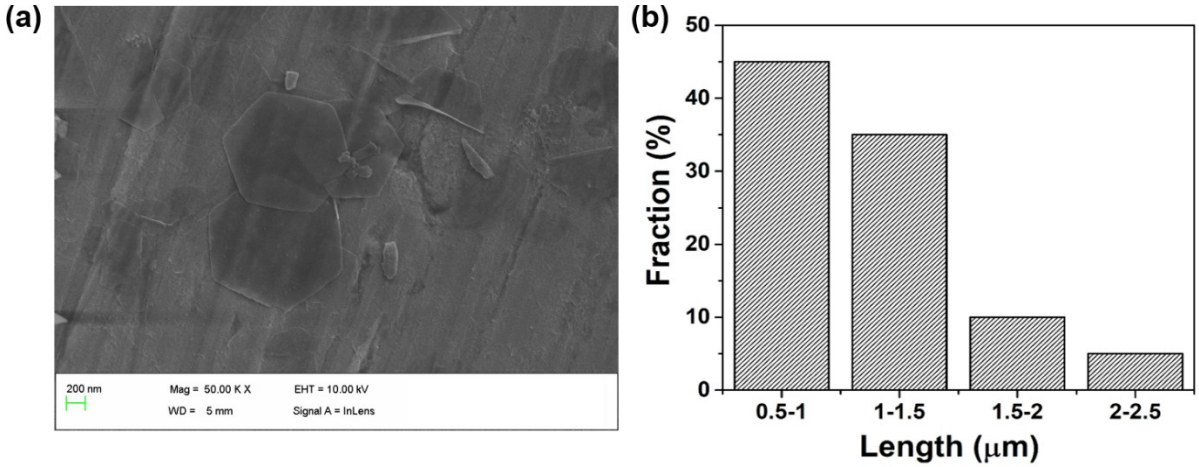

Fig. S1 (a) SEM image of N-wsGNS; **(b)** lateral size distribution histogram for N-wsGNS.

2. Optical characterization

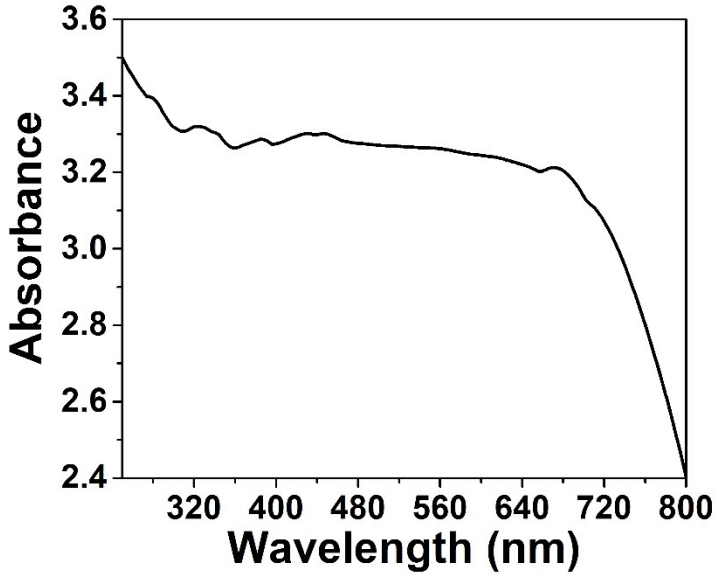

Fig. S2 Solid state UV-vis absorption spectrum of N-wsGNS.

3. Recyclability of photocatalyst

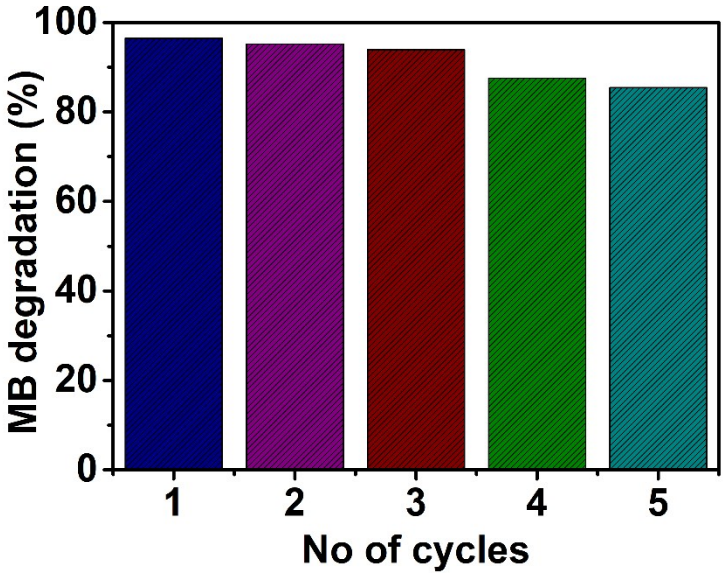

Fig. S3 Photocatalytic performance of N-wsGNS during 5 cycle of MB degradation.

4. Comparative photocatalytic performance

Table S1. Performance comparison between various N-doped nano-carbons toward photodegradation of MB.

S. No.	Material	Light source	Degradation (%)	Time (min.)	Ref.
1.	ZnO@N-doped carbon sheets	UV-light	95	60	[1]
2.	N- GQDs/ TiO_2	UV-light	85	70	[2]
3.	CQDs/HpCN	Xe arc lamp		120	[3]
4.	TiO_2NPs@N-CDs	UV-light	90	40	[4]

5.	N-CQDs-TiO_2	Visible light	86.9	420	[5]
6.	N-CQDs	Xe lamp	88	35	[6]
7.	N-CQDs	Sunlight	97	160	[7]
8.	Mg-N-CDs	Sunlight	99.1	120	[8]
9.	HA/N-CDs/Ag_3PO_4	Visible light	98	20	[9]
10.	N-wsGNS	Visible light	99	75	This work

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