

Supporting Information

Role of graphene on the band structure and interfacial interaction of Bi₂WO₆/graphene composites with enhanced photocatalytic oxidation of NO

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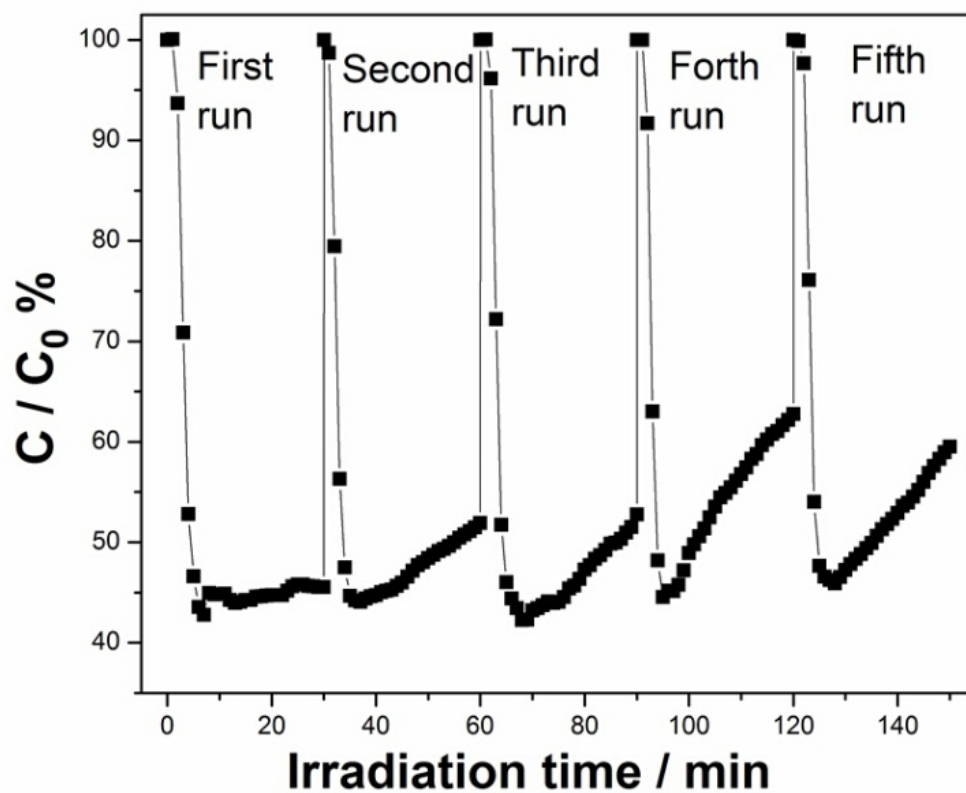


Figure S1. Cycling runs of photocatalytic activities of $\text{Bi}_2\text{WO}_6/\text{graphene}$ under UV-vis light irradiation for removal of NO in air.

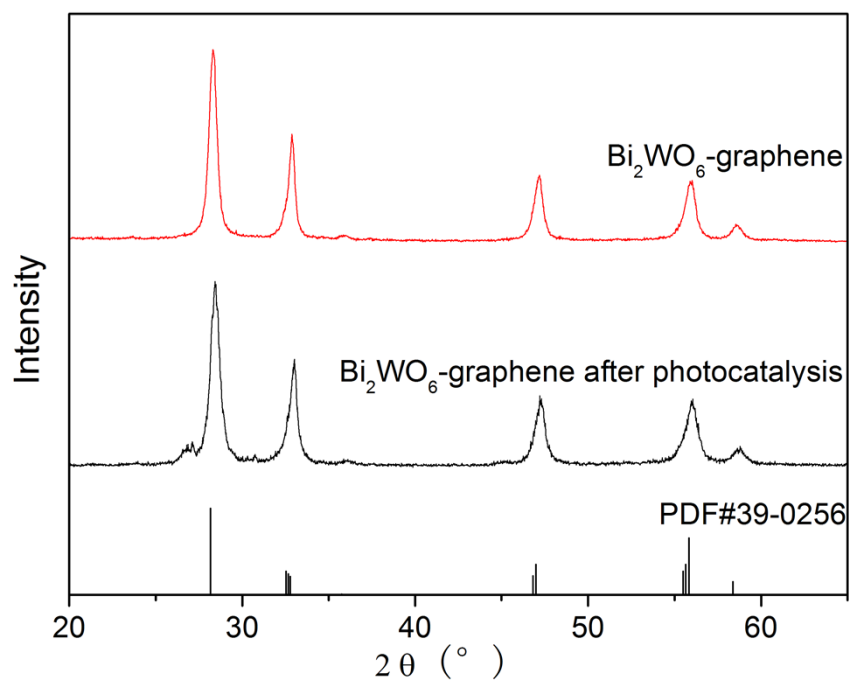


Figure S2. XRD patterns of $\text{Bi}_2\text{WO}_6/\text{graphene}$ before and after cycling photocatalytic tests

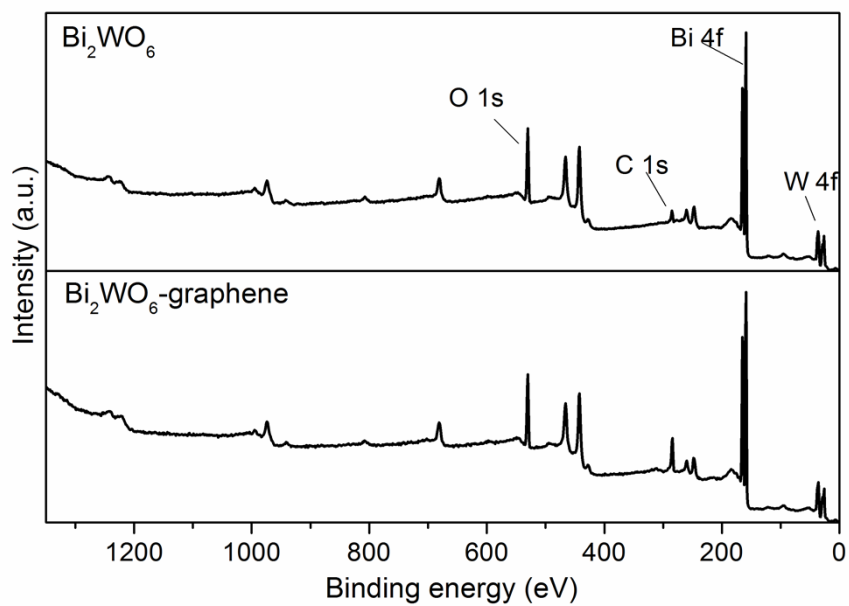


Figure S3. XPS spectra of Bi_2WO_6 and $\text{Bi}_2\text{WO}_6/\text{graphene}$

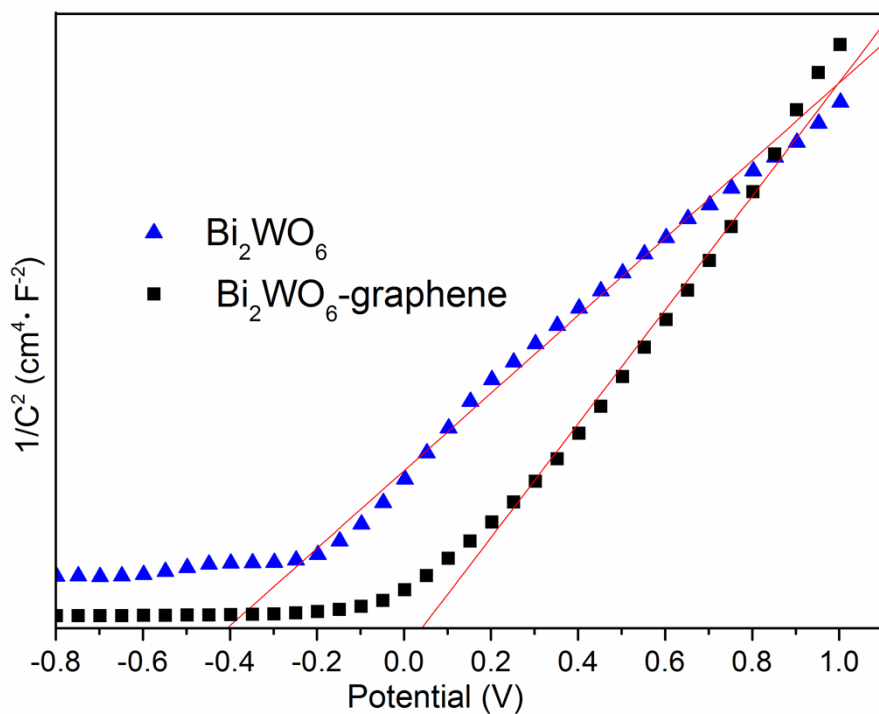


Figure S4. Mott-Schottky (MS) plots of Bi_2WO_6 and $\text{Bi}_2\text{WO}_6/\text{graphene}$

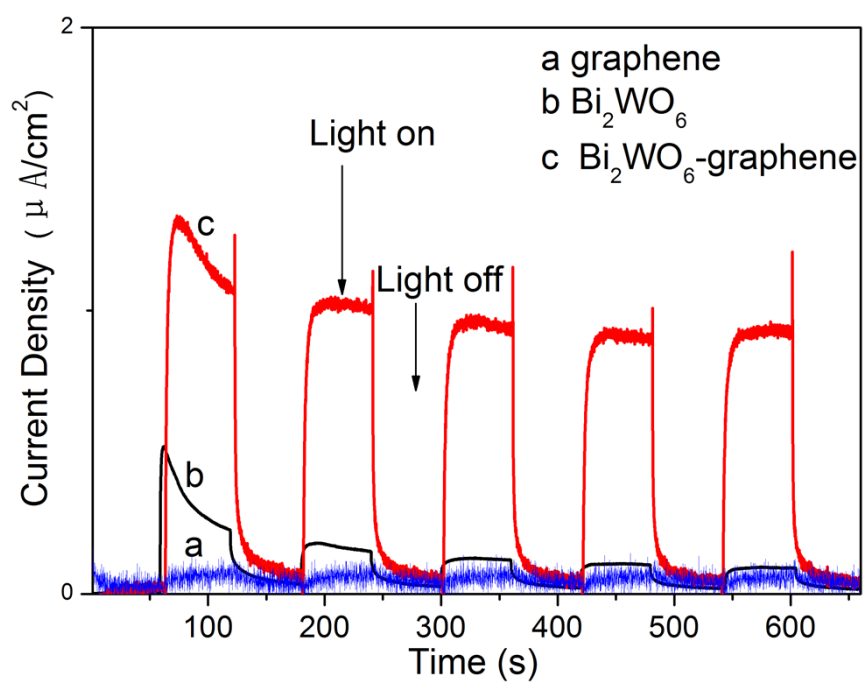


Figure S5. Photocurrent density of Bi_2WO_6 , graphene and Bi_2WO_6 /graphene under ultraviolet-visible light irradiation (with wavelength from 378 to 550nm)

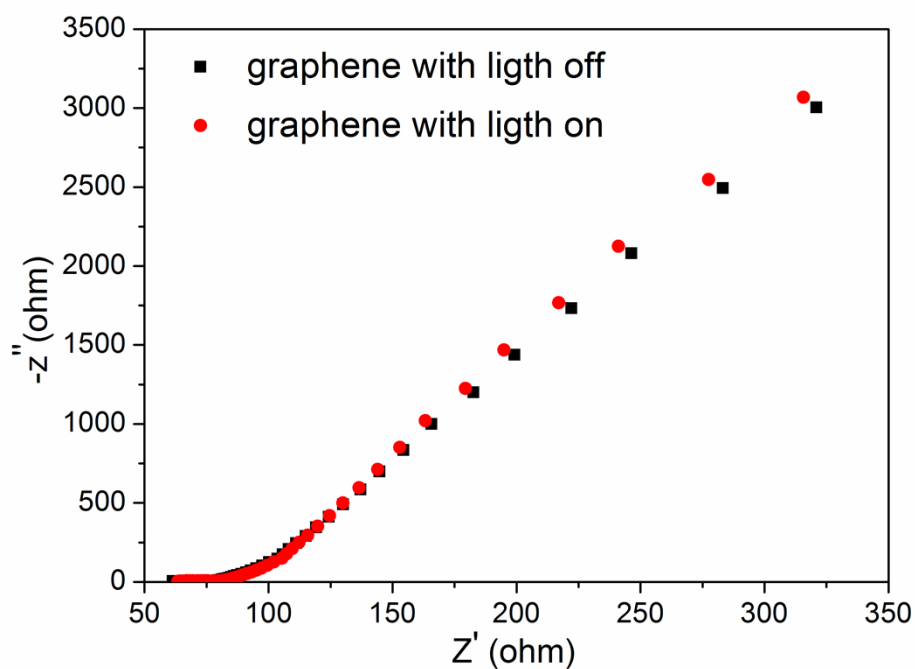


Figure S6. EIS spectra of graphene in the darkness and under light irradiation.

Table S1 The value of fitting circuit

| | Bi ₂ WO ₆ | Bi ₂ WO ₆ /graphene |
|---------------------------|---------------------------------|---|
| Conduction band (NHE. eV) | -0.04 | 0.30 |

Table S2 The potential of conduction-band bottom of Bi₂WO₆ and Bi₂WO₆/graphene through MS plots

| | Bi ₂ WO ₆ with light off | Bi ₂ WO ₆ with light on | Bi ₂ WO ₆ /graphene with light off | Bi ₂ WO ₆ /graphene with light on |
|--------|---|--|---|--|
| R1 | 28.87 | 28.38 | 24.64 | 23.54 |
| R2 | 6.121 | 6.436 | 9.647 | 10.42 |
| C1 | 2.1035E-07 | 1.8639E-07 | 6.4404E-08 | 5.5267E-08 |
| R3 | 15191 | 19010 | 29.75 | 28.4 |
| CPE1-T | 0.00011019 | 5.6055E-05 | 5.0356E-05 | 4.6673E-05 |
| CPE1-P | 0.83322 | 0.87774 | 0.84197 | 0.85596 |
| R4 | 2.9837E17 | 1.1901E06 | 2.2209E05 | 1.2516E05 |
| CPE2-T | 1.265E-05 | 1.4287E-05 | 0.00023664 | 0.00024107 |
| CPE2-P | 0.99607 | 1.003 | 0.97036 | 0.96343 |

R1: the resistance of the solution;

R2: the resistance of the counter electrode; C1: the capacitance of the counter electrode

R3: the resistance of work electrode(BWO or BWO-G); CPE1-T/CPE1-P: the deviation of constant phase angle (the value is close to 1 representing a trend to fabricate a double-layer electric)

R4: the resistance of the reaction