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## Supplementary Materials

# Fabrication of Novel g-$C_3N_4$@Bi/$Bi_2O_2CO_3$ Z-Scheme Heterojunction with Meliorated Light Absorption and Efficient Charge Separation for Superior Photocatalytic Performance

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**Figures**

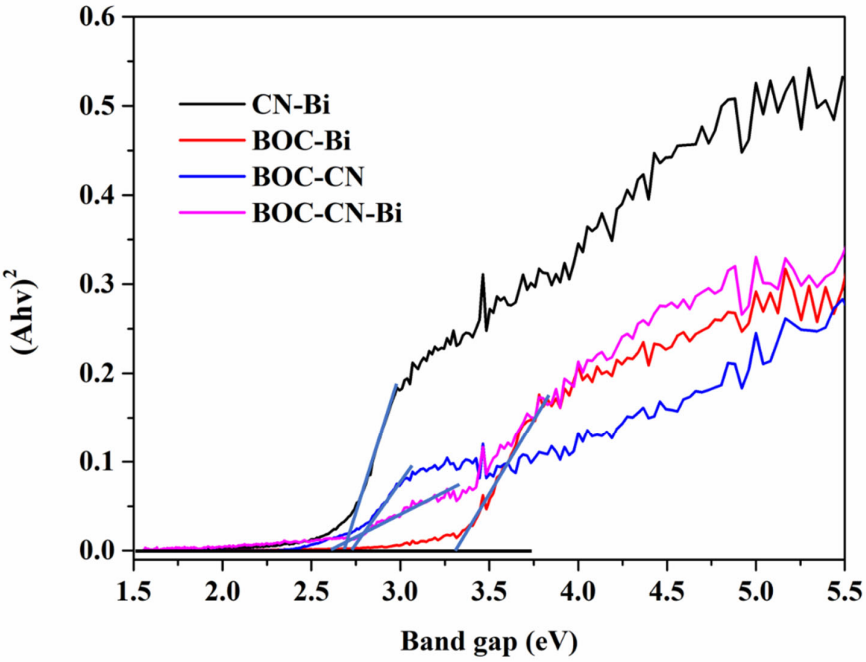


**Figure S1**. The band gaps of BOC-Bi, CN-Bi, BOC-CN, and BOC-CN-Bi.

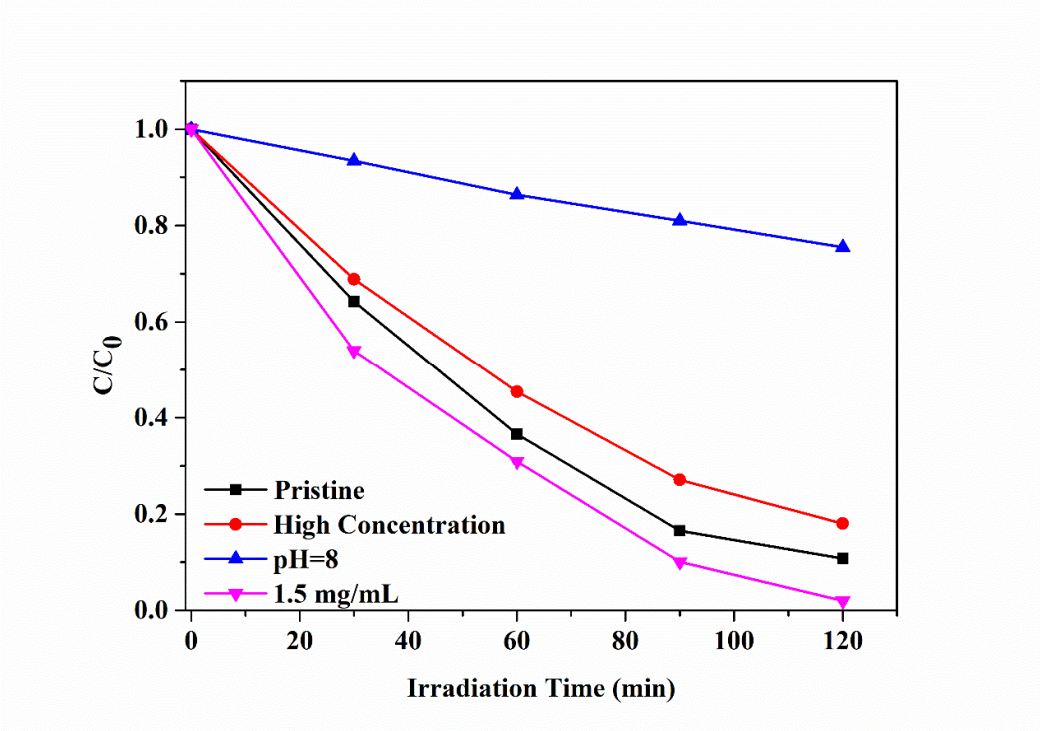


**Figure S2**. The photodegradation different organic pollutant of BOC-CN-Bi under different conditions.

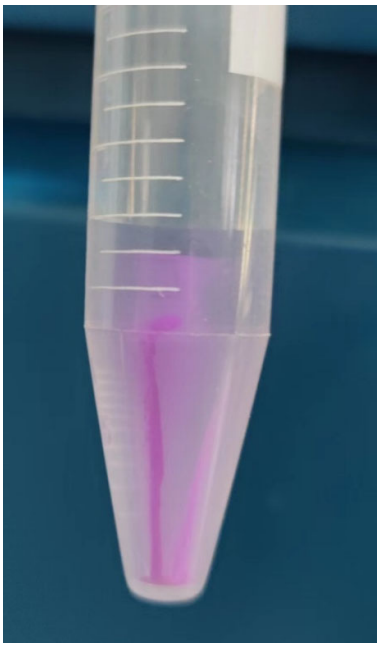

**Figure S3**. The color of the solution for BOC-CN-Bi after the dark at pH = 4.

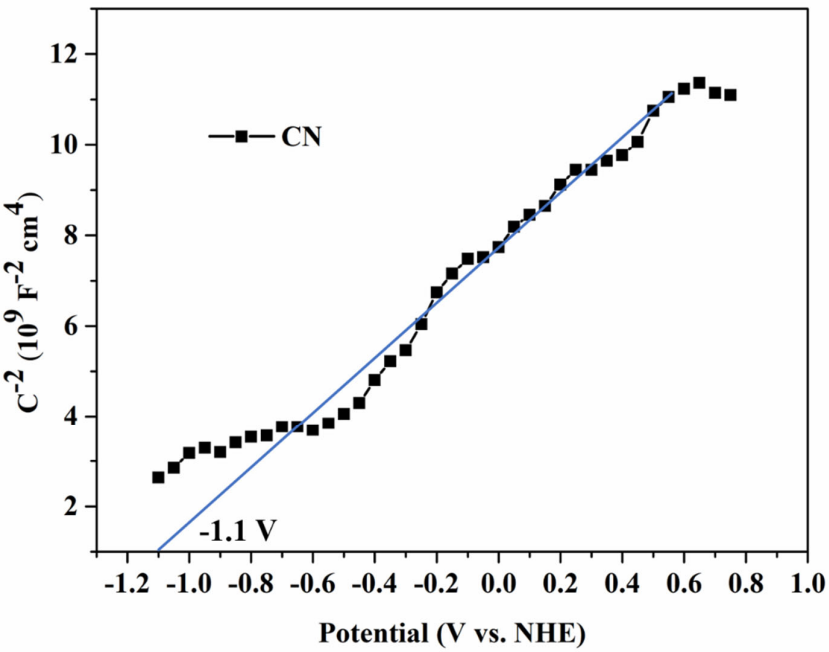


**Figure S4**. Mott-Schottky plots of CN.

**Table S1.** Element content of BOC-CN-Bi composites by EDS.

| Element | Weight percentage | Wt % Sigma | Atomic percent |
|---|---|---|---|
| C | 16.11 | 0.58 | 46.86 |
| N | 1.41 | 0.72 | 3.53 |
| O | 17.76 | 0.42 | 38.79 |
| Bi | 64.72 | 0.78 | 10.82 |

**Table S2.** The Value of RhB adsorption for all samples.

| | BOC | CN | BOC-Bi | CN-Bi | BOC-CN | BOC-CN-Bi |
|---|---|---|---|---|---|---|
| Value of RhB adsorption | 0.213 | 0.181 | 0.225 | 0.193 | 0.211 | 0.256 |