Electronic Supplementary Information (ESI)

In Situ Synthesis of N-doped Carbon Nanotubes–BiOCl Nanocomposites and Their Synergistic Photocatalytic Performance

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Fig. S1 Plots of \( \ln(C/C_0) \) against time \( t \) of various samples: without catalyst, CN\textsubscript{x}NTs, P25, the as-prepared BiOCl and NCB samples, respectively. \((C_0 = 10 \text{ mg L}^{-1}, 200 \text{ mL}, \text{ and catalyst: } 20 \text{ mg})\).

Fig. S2 Reuse cycles of photodegradation of RhB over the N-doped carbon nanotubes–BiOCl nanocomposites loaded with 2.0 wt\% N-doped carbon nanotubes.\((C_0 = 10 \text{ mg L}^{-1}, 200 \text{ mL}, \text{ temperature: room temperature, time: } 50 \text{ min.})\) Regeneration: the used catalyst was washed with deionized water and absolute ethanol, and finally dried under vacuum at 50 °C for 8 h.

Fig. S3. Comparison of the adsorption efficiency of CN\textsubscript{x}NTs and 2-NCB.
**Fig. S1**

![Graph showing the relationship between ln(C/C_0) and time (min) for different catalysts.](image)

- **Blank**: $k = 7.73 \times 10^{-6}$
- **CNNTs**: $k = 9.5 \times 10^{-2}$
- **BOCl1**: $k = 3.05 \times 10^{-2}$
- **P25**: $k = 4.95 \times 10^{-2}$
- **2-NCB**: $k = 7.6 \times 10^{-2}$
- **1-NCB**: $k = 4.26 \times 10^{-2}$
- **4-NCB**: $k = 5.9 \times 10^{-2}$
- **6-NCB**: $k = 2.77 \times 10^{-2}$

**Fig. S2**

![Graph showing the photodegradation rate (%) vs. number of reuse cycles.](image)

**Fig. S3**

![Graph showing the change in C/C_0 over time (min) for different catalysts.](image)