

Supporting Information

Facile synthesis with TiO₂ xerogel and enhanced Aniline Aerofloat degradation performance of direct Z-scheme heterojunction TiO₂/g-C₃N₄ composite

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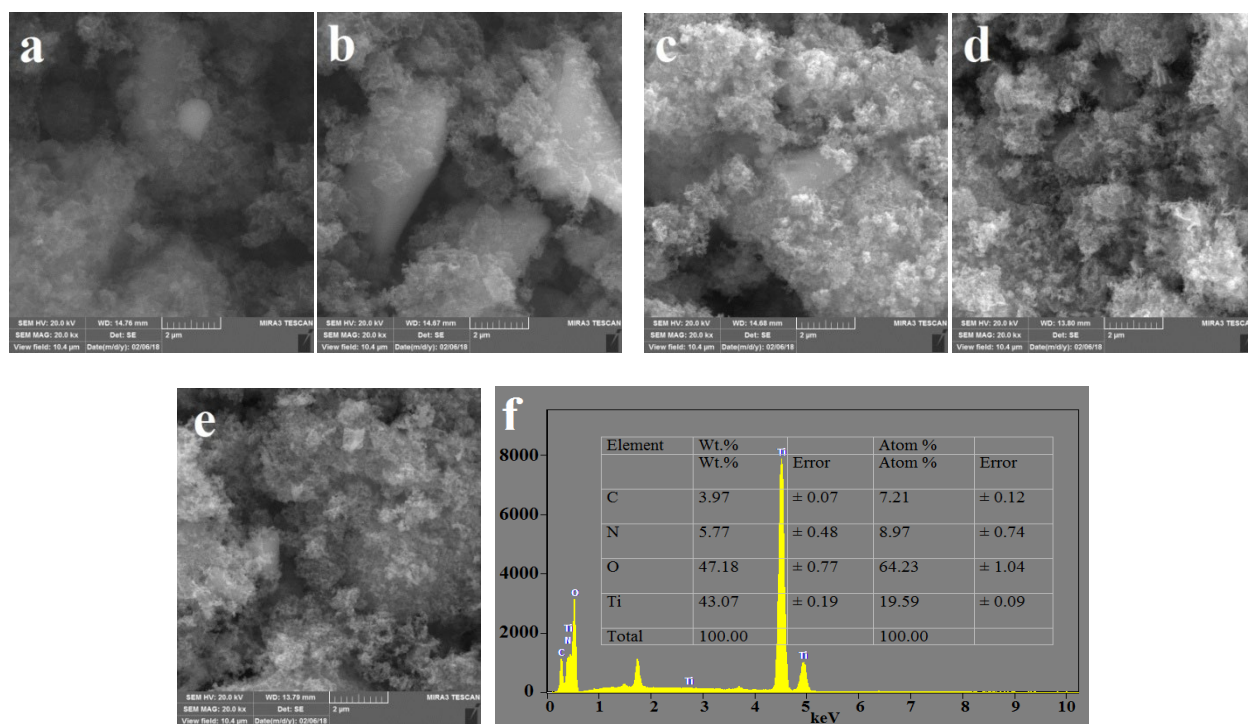


Figure S1. SEM images at 20,000 times of TCN-T_y: (a) T₄₅₀; (b) T₅₀₀; (c) T₅₅₀; (d) T₆₀₀; (e) T₆₅₀ and (f) EDS spectrum of

TCN-U₂₀.

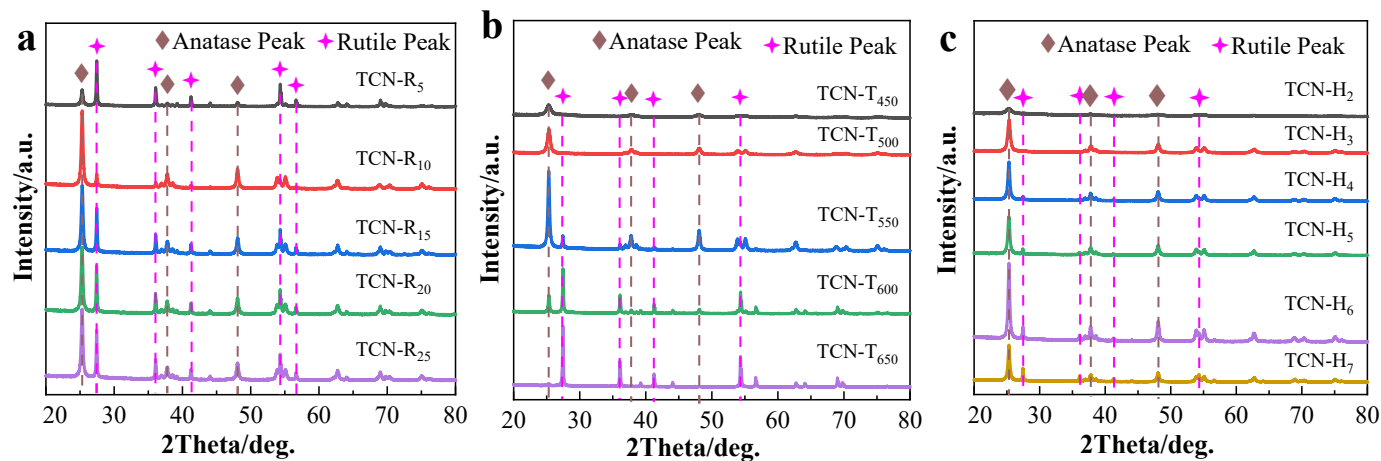


Figure S2. XRD patterns of TCN: (a) TCN-R_z, (b) TCN-T_y, and (c) TCN-H_n.

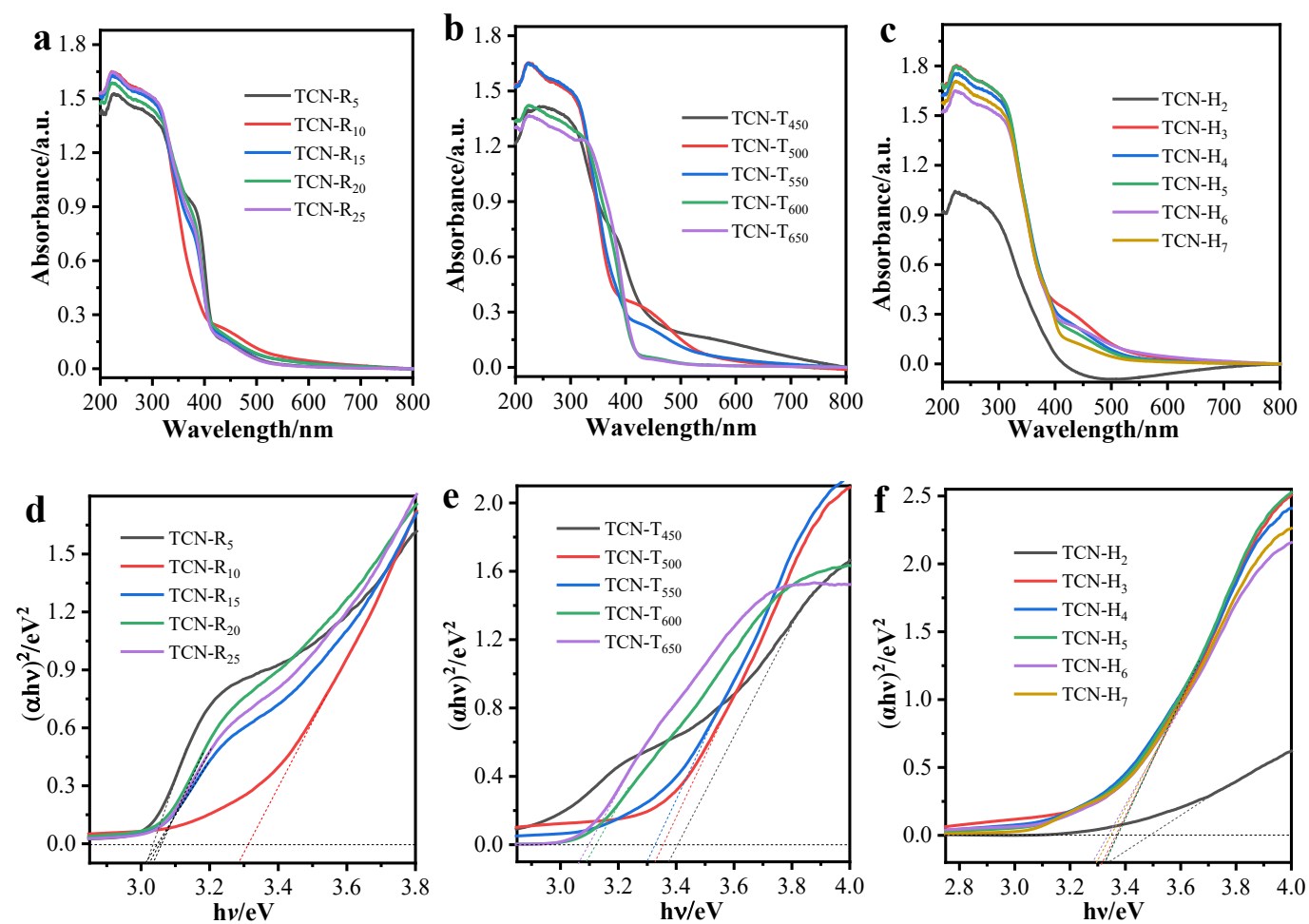


Figure S3. UV-Vis DRS spectra of (a, d) TCN-R_z, (b, e) TCN-T_y, and (c, f) TCN-H_n.

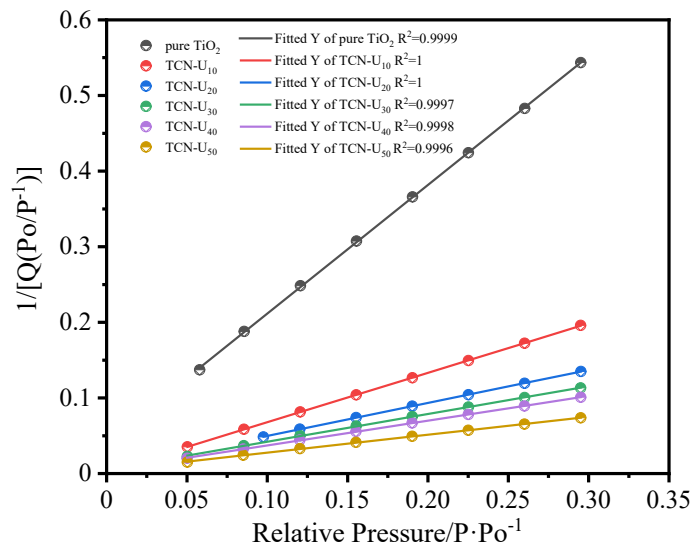


Figure S4. Fitted curve of BET of TCN-U_x

Table S1. Crystalline phase ratio and cell parameters of CNT-T_y, TCN-R_z and TCN-H_n.

| Factors | Samples | Anatase/wt% | Rutile/wt% | a=b/nm | c/nm |
|------------------------|-----------|-------------|------------|---------|---------|
| Heating Rate | 5 °C/min | 23.2 | 76.8 | 0.80742 | 1.74158 |
| TCN-R _z | 10 °C/min | 73.8 | 26.2 | 1.17464 | 2.51029 |
| | 15 °C/min | 51.4 | 48.6 | 1.22828 | 2.67937 |
| | 20 °C/min | 50.3 | 49.7 | 1.18717 | 2.96092 |
| | 25 °C/min | 51.0 | 49.0 | 0.84848 | 1.84104 |
| Temperature | 450 °C | 100 | 0 | 0.83034 | 1.67071 |
| TCN-T _y | 500 °C | 100 | 0 | 0.91318 | 1.84950 |
| | 550 °C | 73.8 | 26.2 | 1.17464 | 2.51029 |
| | 600 °C | 25.0 | 75.0 | 0.97731 | 2.02835 |
| | 650 °C | 6.0 | 94.0 | 0.97763 | 2.05398 |
| | 700 °C | 0 | 100 | 0.97763 | 2.05398 |
| Heat Preservation Hour | 2 h | 100 | 0 | 0.80751 | 7.07966 |
| | 3 h | 100 | 0 | 1.07155 | 2.70974 |
| TCN-H _n | 4 h | 81.3 | 18.7 | 1.20373 | 2.59605 |
| | 5 h | 77.7 | 22.3 | 1.07155 | 2.33062 |
| | 6 h | 73.8 | 26.2 | 1.17464 | 2.51029 |
| | 7 h | 66.0 | 34.0 | 1.15187 | 2.24708 |

Table S2. Specific surface area of TCN-T_y, TCN-R_z and TCN-H_n.

| TCN-R _z | specific surface area (m ² ·g ⁻¹) | TCN-T _y | specific surface area (m ² ·g ⁻¹) | TCN-H _n | specific surface area (m ² ·g ⁻¹) |
|--------------------|---|--------------------|---|--------------------|---|
| 5 °C/min | 9.7 | 450 °C | 101.3 | 2 h | 85.2 |
| 10 °C/min | 19.3 | 500 °C | 62.1 | 3 h | 63.1 |
| 15 °C/min | 13.2 | 550 °C | 19.3 | 4 h | 3.8 |
| 20 °C/min | 12.1 | 600 °C | 6.0 | 5 h | 23.1 |
| 25 °C/min | 14.1 | 650 °C | 3.5 | 6 h | 19.3 |
| | | | | 7 h | 20.1 |