

Electronic Supplementary Information
for
Facile One-Pot Synthesis of Self-Assembled Nitrogen-Doped Carbon
Dots/Cellulose Nanofibril Hydrogel with Enhanced Fluorescence and
Mechanical Properties

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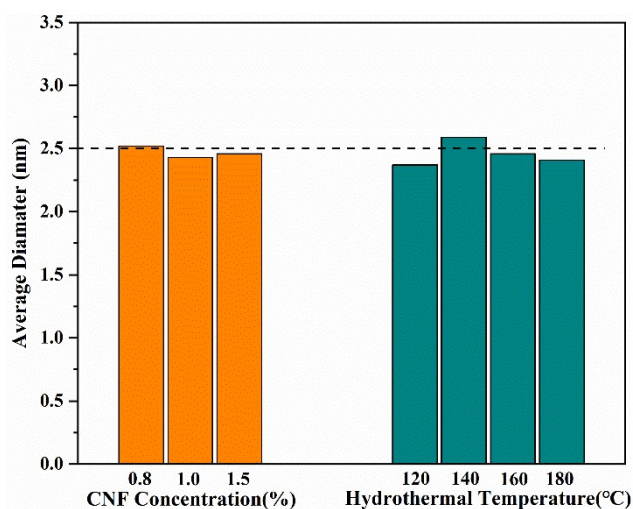


Fig. S1 Average particle size of NCDs prepared at different CNF concentrations (hydrothermal temperature of 160 °C) and hydrothermal temperatures (CNF concentration of 1.5 wt%).

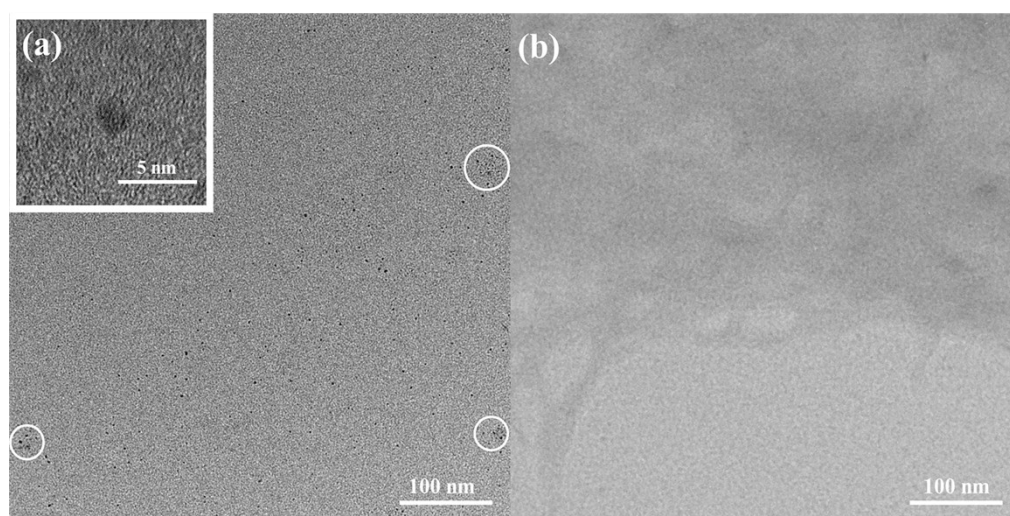


Fig. S2 TEM images of (a) CCDs and (b) CNF-gel.

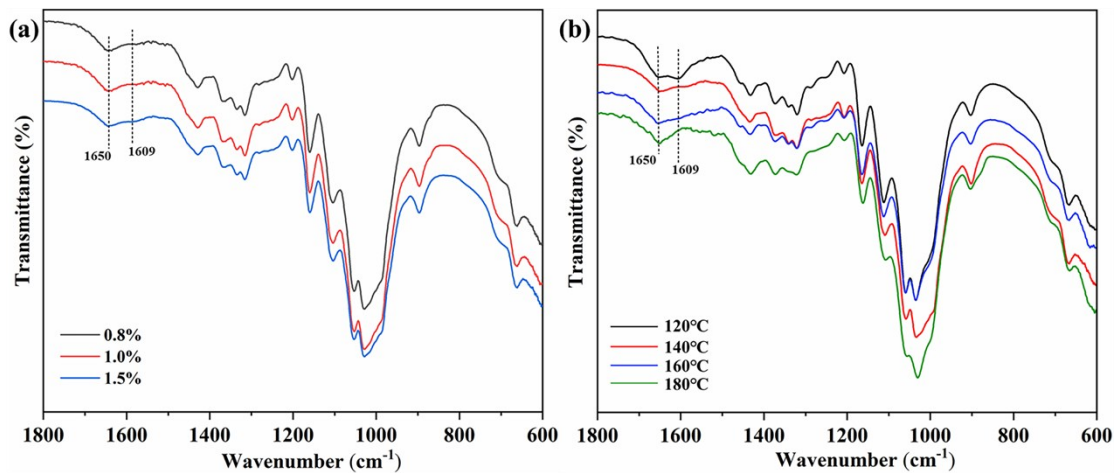


Fig. S3 FT-IR spectra of NCDs/CNF-gel prepared at different CNF concentrations (hydrothermal temperature of 160 ° C) and hydrothermal temperatures (CNF concentration of 1.5 wt%).

Table S1 The summary of element analysis results of the NCDs and NCDs/CNF-gel prepared in different CNF concentrations(C) and hydrothermal temperatures(T).

| Samples | T (°C) | C (wt%) | C (%) | H (%) | N (%) | O ^a (%) | N/C ^a (%) |
|--------------|--------|---------|-------|-------|-------|--------------------|----------------------|
| NCDs | 120 | 1.5 | 38.15 | 3.36 | 22.73 | 35.76 | 59.58 |
| | 140 | | 39.02 | 3.27 | 23.26 | 34.45 | 59.61 |
| | 160 | | 38.09 | 3.21 | 22.75 | 35.95 | 59.73 |
| | 180 | | 38.26 | 3.13 | 22.39 | 36.22 | 58.52 |
| | 160 | 0.8 | 37.94 | 3.15 | 22.45 | 36.46 | 59.17 |
| | | 1.0 | 38.16 | 3.22 | 22.67 | 35.95 | 59.41 |
| | | 1.5 | 38.09 | 3.21 | 22.75 | 35.95 | 59.73 |
| | 120 | 1.5 | 45.52 | 6.32 | 8.76 | 39.4 | 19.24 |
| | 140 | | 45.93 | 6.27 | 9.28 | 38.52 | 20.20 |
| NCDs/CNF-gel | 160 | | 46.78 | 5.63 | 10.87 | 36.72 | 23.24 |
| | 180 | | 47.95 | 5.42 | 12.09 | 34.54 | 25.21 |
| | 160 | 0.8 | 44.92 | 5.56 | 12.12 | 36.6 | 23.27 |
| | | 1.0 | 45.55 | 5.94 | 11.63 | 37.02 | 23.33 |
| | | 1.5 | 46.78 | 5.63 | 10.87 | 36.72 | 23.24 |

^a Calculated value.

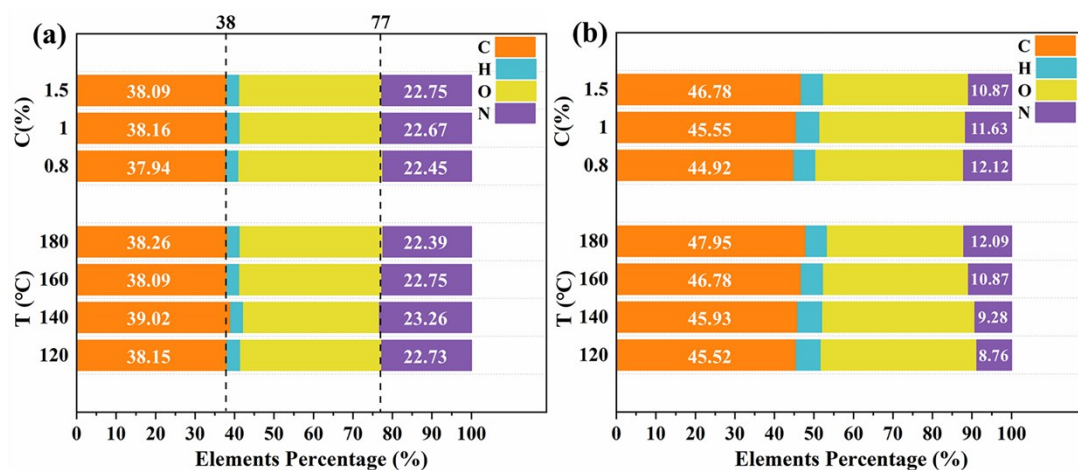


Fig. S4 Elemental composition of (a) NCDs and (b) NCDs/CNF-gels prepared at different CNF concentrations (C) and hydrothermal temperatures (T).

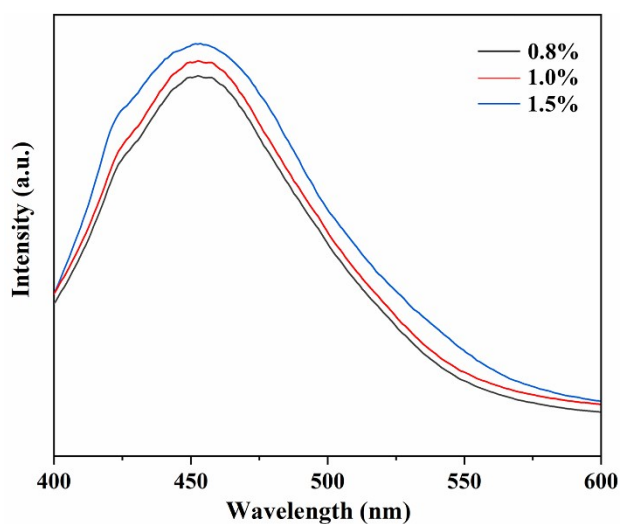


Fig. S5 PL spectra of NCDs/CNF-gels prepared at different CNF concentrations.