

## Supplementary Information

### The Synthesis and Application of Excitation-Dependent Ultra-long Lifetime Room Temperature Phosphorescence Carbon Dots Composite

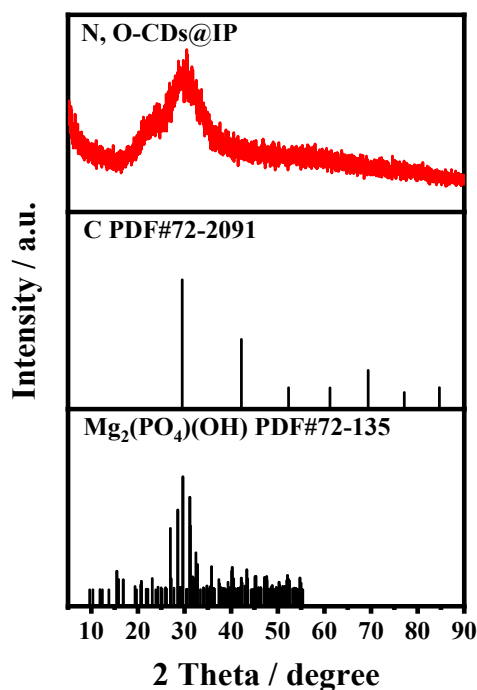
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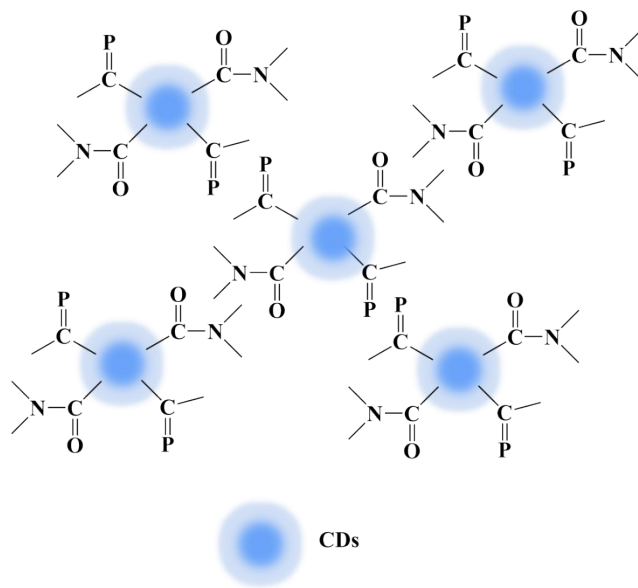
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**Figure S1.** XRD patterns of CDs@Phosphate composite and the standard diffraction pattern of C (JCPDS Card No. 72-2091) and Mg<sub>2</sub>(PO<sub>4</sub>)(OH) (JCPDS Card No. 72-135).



**Figure S2.** Schematic of the proposed structure of CDs@Phosphate composite.