

## Electronic Supplementary Information

### Intramolecular $\pi$ -conjugated channel expansion achieved by doping cross-linked dopants into carbon nitride framework towards propelling photocatalytic hydrogen evolution and mechanism insight

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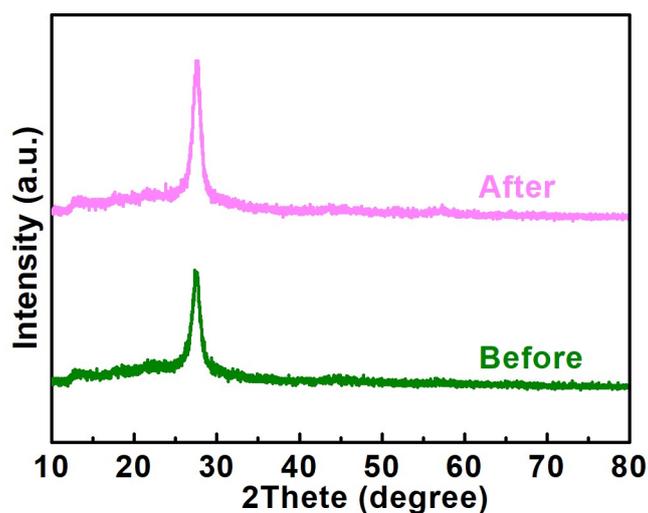
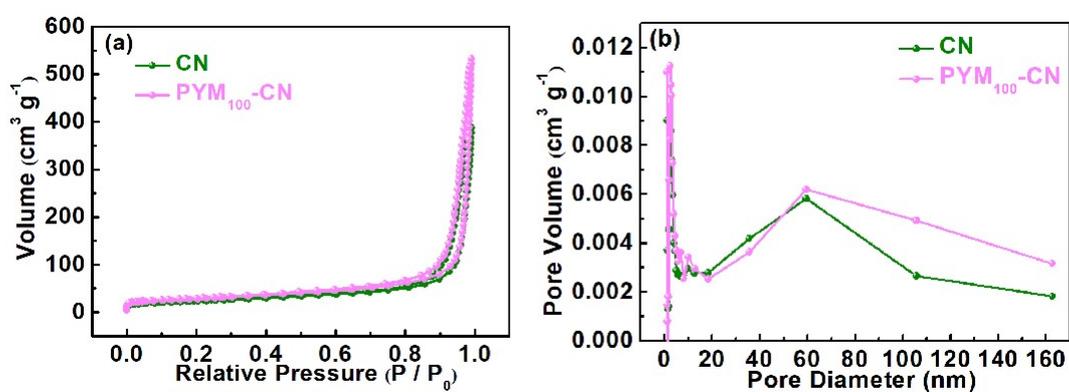


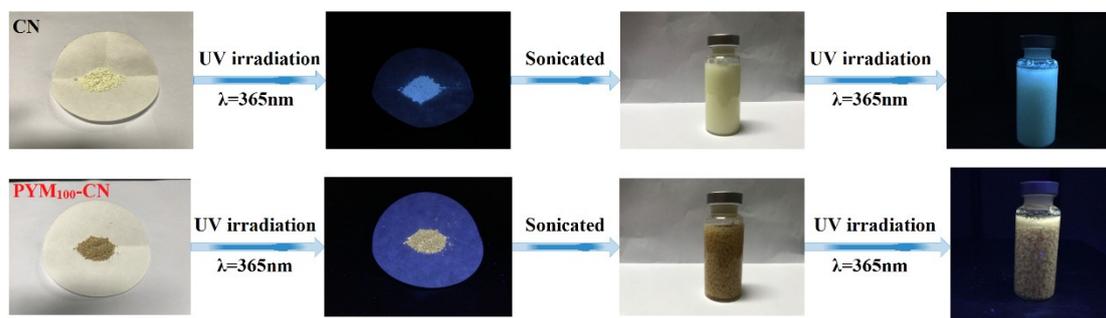
Figure S1. XRD patterns of PYM<sub>100</sub>-CN before and after cycle reactions

**Table S1.** Atomic ratios and band gap values of CN and PYM-CN samples

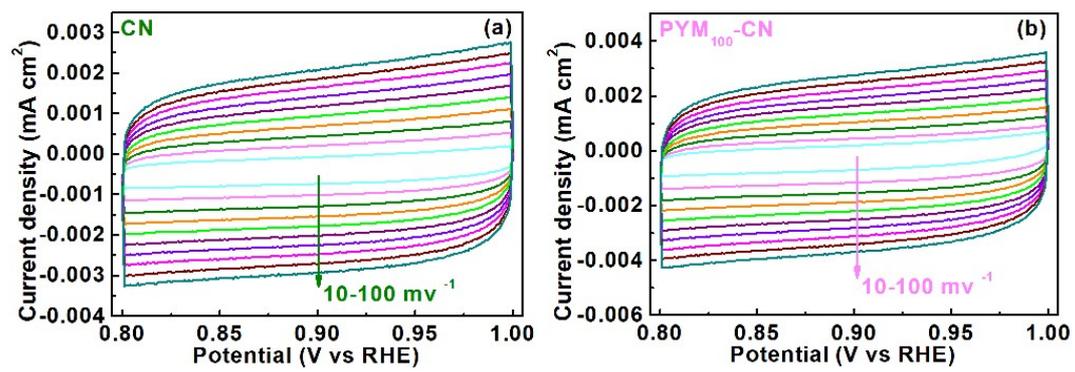
Sample	C/N	$E_g$
CN	0.588	2.92
PYM <sub>25</sub> -CN	0.589	2.84
PYM <sub>50</sub> -CN	0.592	2.80
PYM <sub>100</sub> -CN	0.593	2.72
PYM <sub>150</sub> -CN	0.594	2.69
PYM <sub>250</sub> -CN	0.598	2.66



**Figure S2.** N<sub>2</sub> adsorption-desorption isotherms (a) and pore size distribution (b) of CN and PYM<sub>100</sub>-CN samples



**Figure S3.** Photographs of CN and PYM<sub>100</sub>-CN samples in powders and their suspended under the ultraviolet light irradiation



**Figure S4.** Cyclic voltammetry curves of CN (a) and PYM<sub>100</sub>-CN (b) at different scanning rates