

**Supplementary Materials**

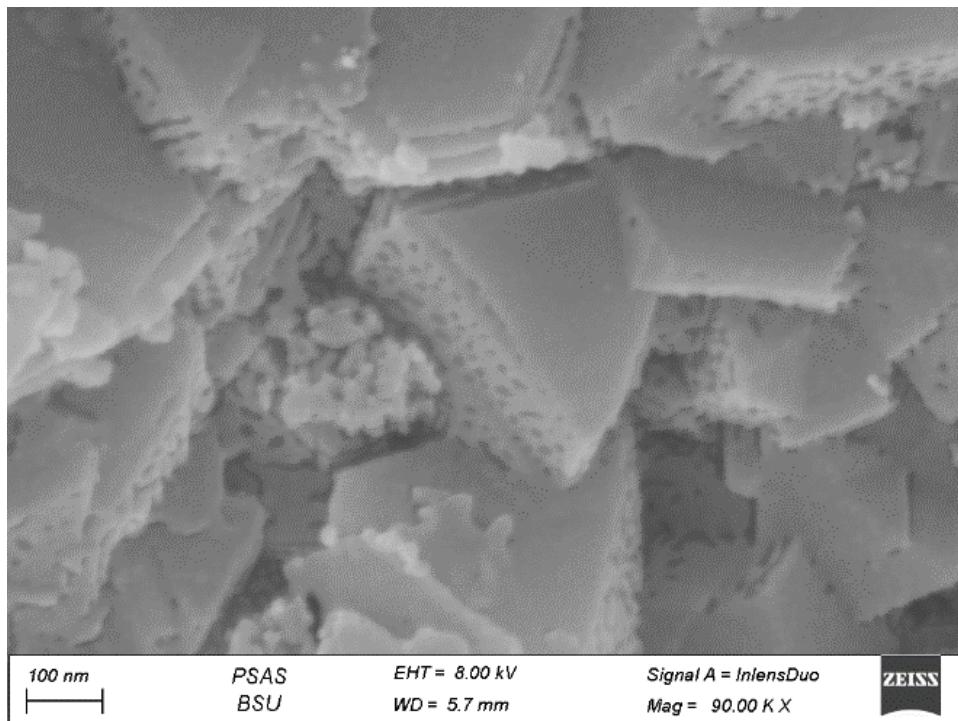


Figure S1: FESEM image for POM@CDNPs where the porous structure of the POM pyramidal shapes is shown.

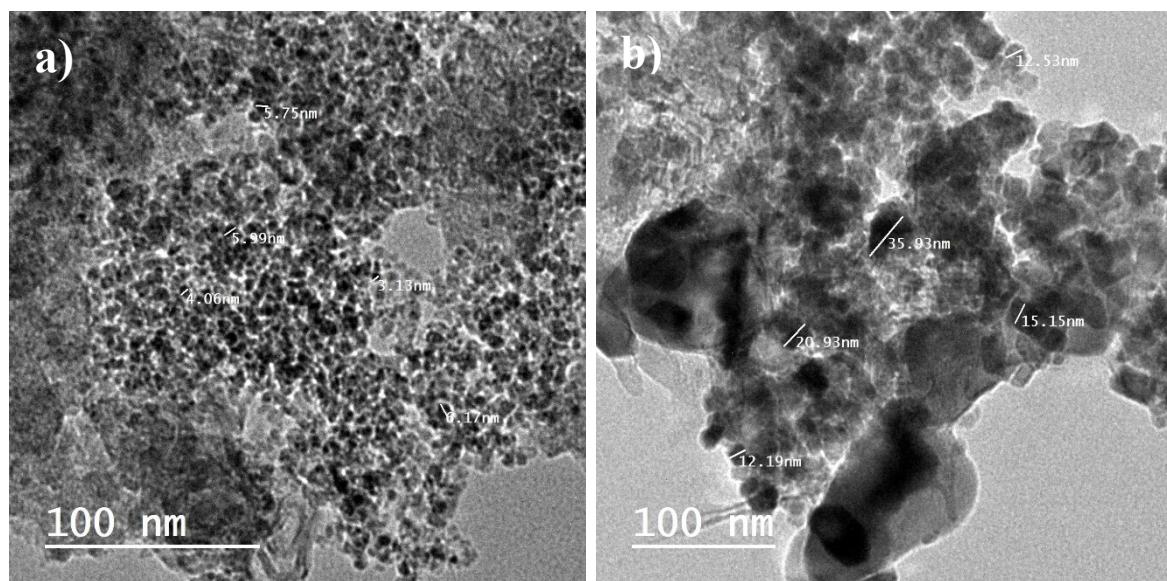


Figure S2: HRTEM images for (a) CDNPs and (b) POM@CDNPs.

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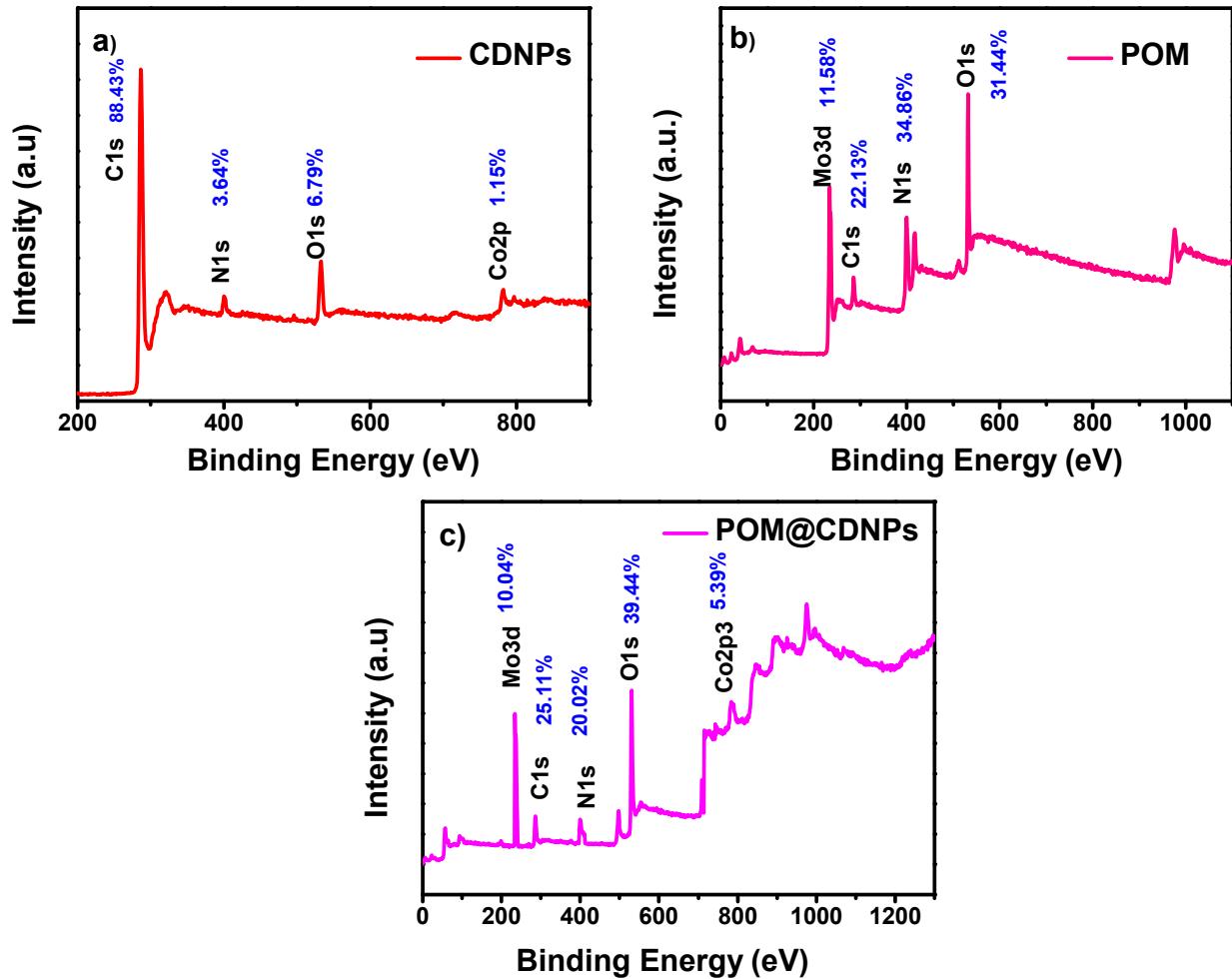


Figure S3: XPS survey spectrum of the CDNPs, POM and POM@CDNPs.

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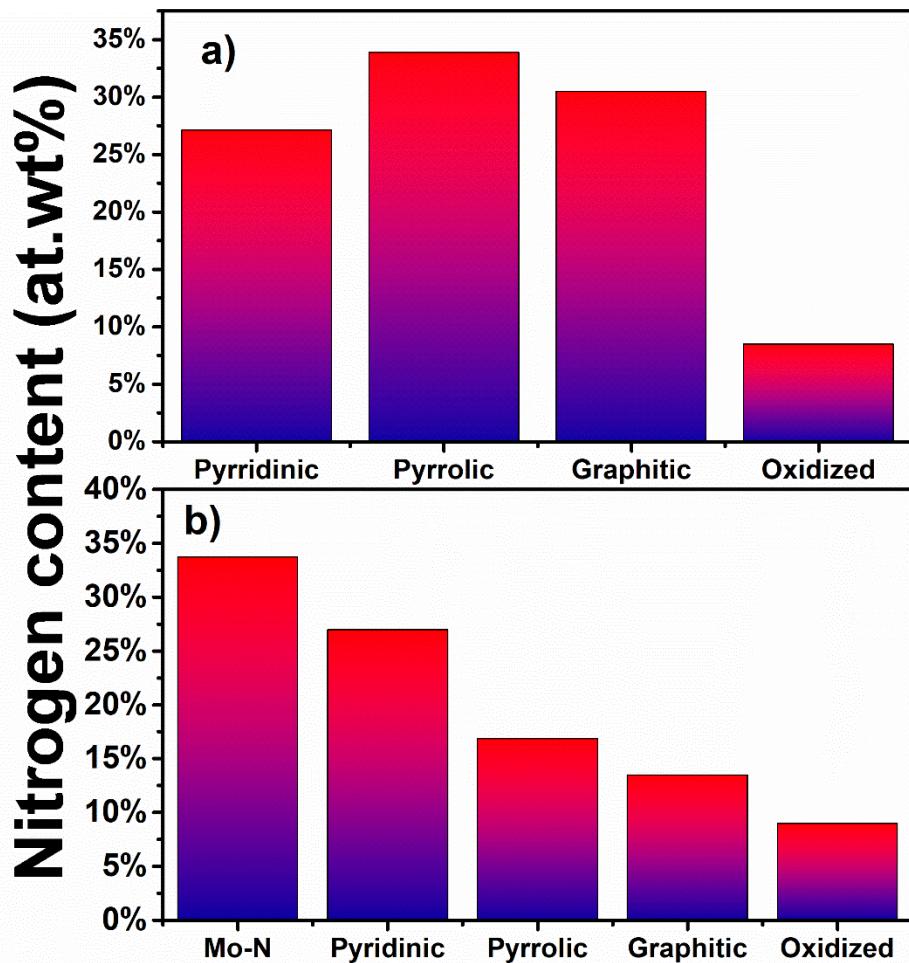


Figure S4: The contents of different types of nitrogen in the a) CDNPs and b) POM@CDNPs.

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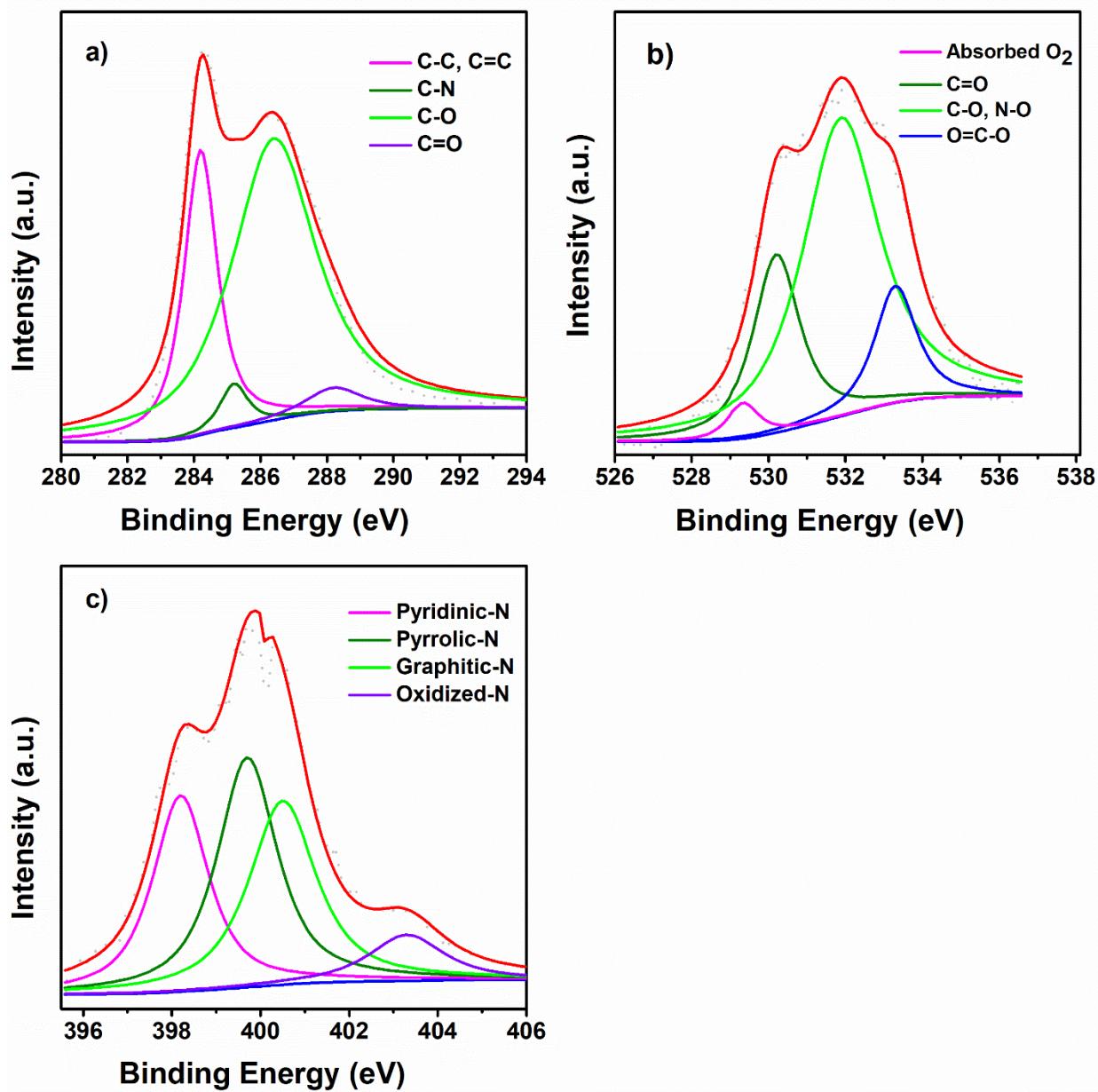


Figure S5: High-resolution (a) C 1s, (b) O 1s, and (c) N 1s, spectra of CDNPs.

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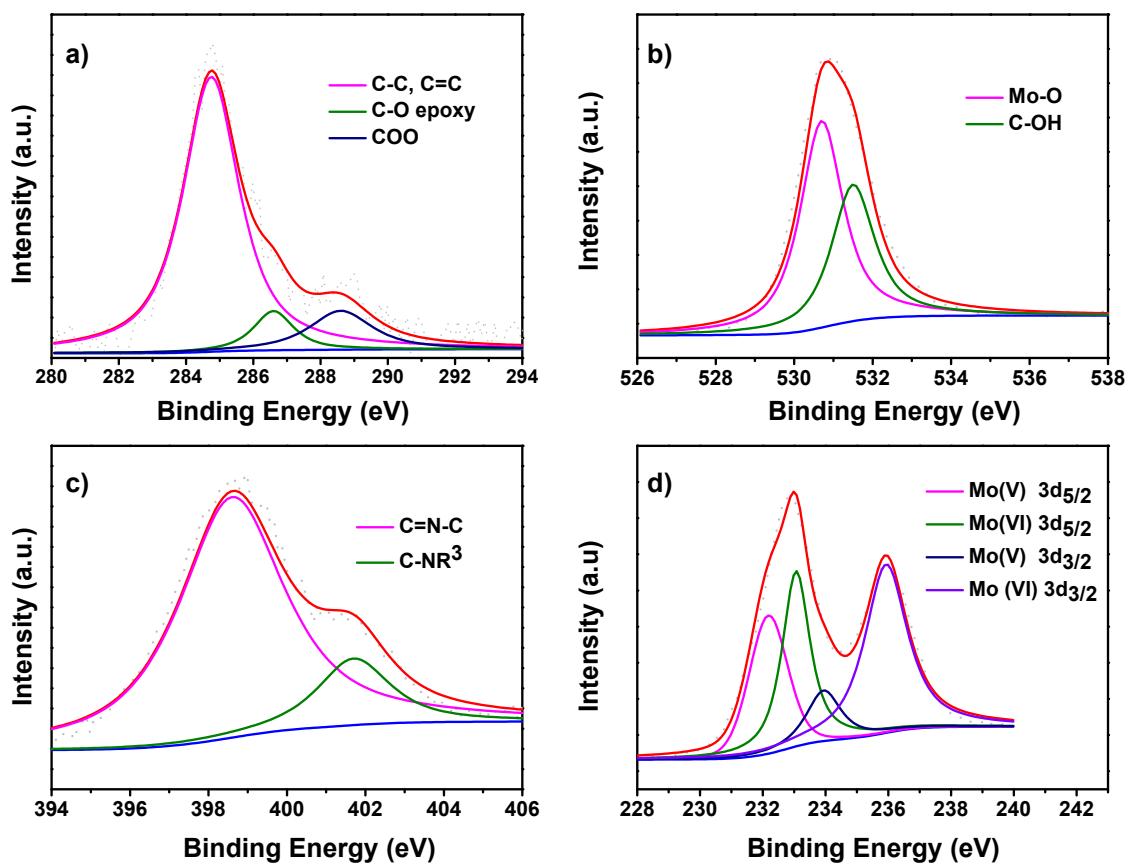


Figure S6: High-resolution (a) C 1s, (b) O 1s, (c) N 1s, and Mo 3d spectra of POM.