

## Accepted Manuscript

Title: Incorporation of CoO nanoparticles in 3D marigold flower-like hierarchical architecture  $\text{MnCo}_2\text{O}_4$  for highly boosting solar light photo-oxidation and reduction ability

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# Incorporation of CoO nanoparticles in 3D marigold flower-like hierarchical architecture $\text{MnCo}_2\text{O}_4$ for highly boosting solar light photo-oxidation and reduction ability

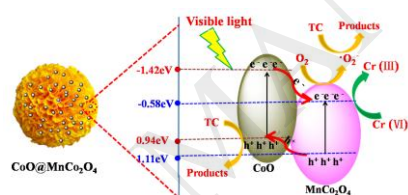
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## Graphical Abstract



## Highlights

- The 3D marigold flower-like hierarchical  $\text{CoO}@\text{MnCo}_2\text{O}_4$  photocatalyst was constructed by a facile synthesis strategy.
- The hybrid shows remarkable performance for PCO of tetracycline (TC) and excellent PCR of hexavalent chromium ( $\text{Cr(VI)}$ ) under visible light irradiation owing to the  $e^-$  and  $h^+$  can play their own roles.
- The photoactivity catalyst can be used for treatment a mixture containing of TC/ $\text{Cr(VI)}$  and exhibited promoted each other's removal efficiency in photocatalytic reaction system.

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