

**Carbon dioxide promoted single step phenol production over gold nanoparticle immobilized mesoporous carbon nitride**

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A single step process for phenol production from benzene by using molecular oxygen over Au-Nps immobilized on mesoporous carbon nitride. The existence of “N” functionalities over the carbon nitride not only play important role as binder/support but also activates aromatic C-H bonds via stacking interactions. This catalytic system is operative at low pressure moreover it doesn't require base or any other reactant; moreover the selectivity for phenol is more than 98%.