

## **A Fe<sub>3</sub>O<sub>4</sub>@P4VP@FeCl<sub>3</sub> core-shell heterogeneous catalyst for aerobic oxidation of alcohols and benzylic oxidation reaction**

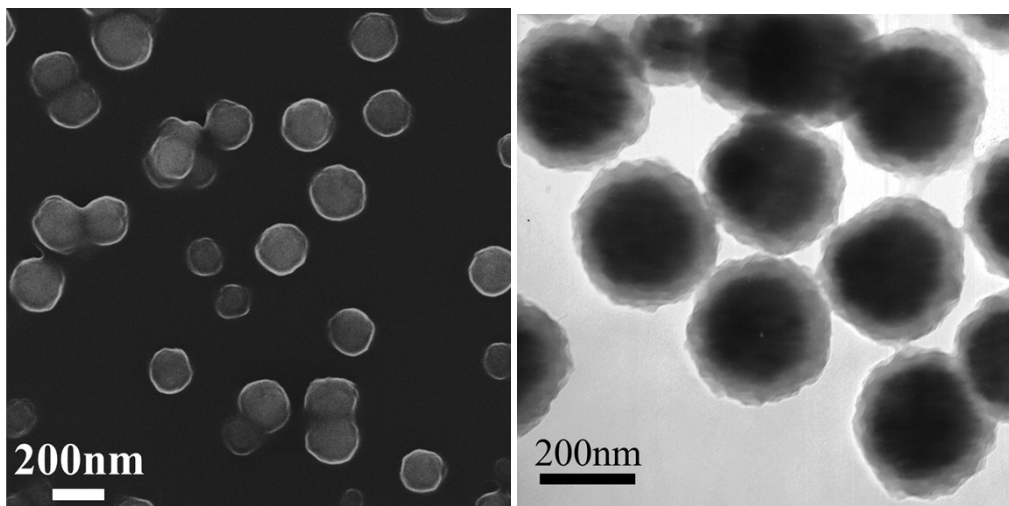
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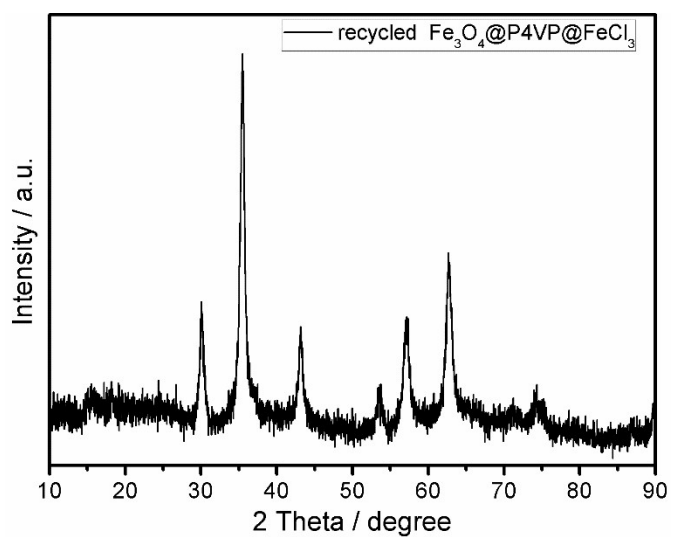
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### **Supporting Information**



**Fig. S1** SEM and TEM images of recycled  $\text{Fe}_3\text{O}_4@\text{P4VP}@\text{FeCl}_3$  catalyst.



**Fig. S2** XRD of six times recycled  $\text{Fe}_3\text{O}_4@\text{P4VP}@\text{FeCl}_3$  catalyst.

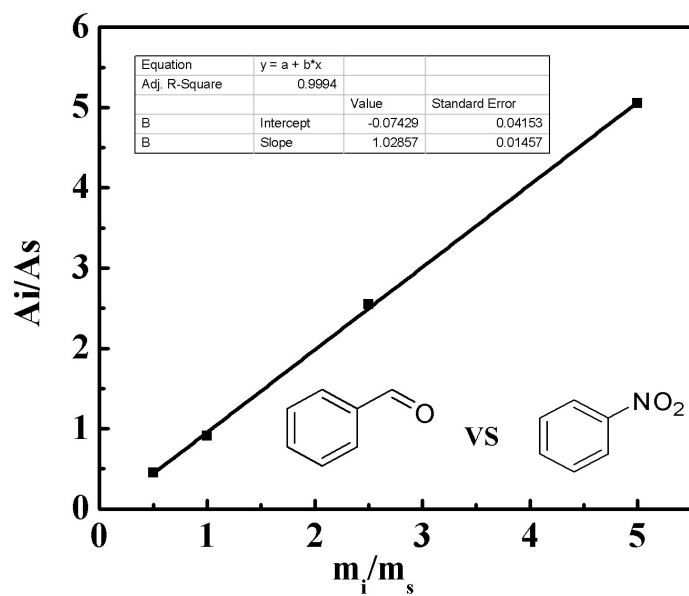
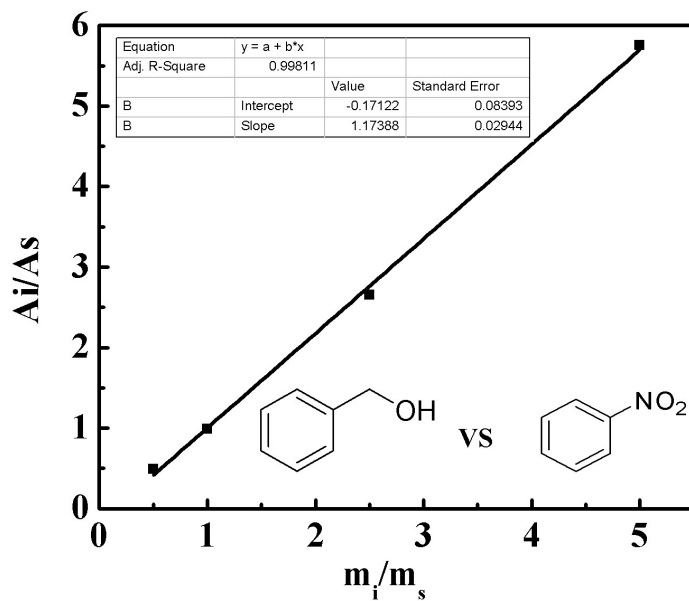


Fig. S3 Compound vs. nitrobenzene internal standard for GC calibration.

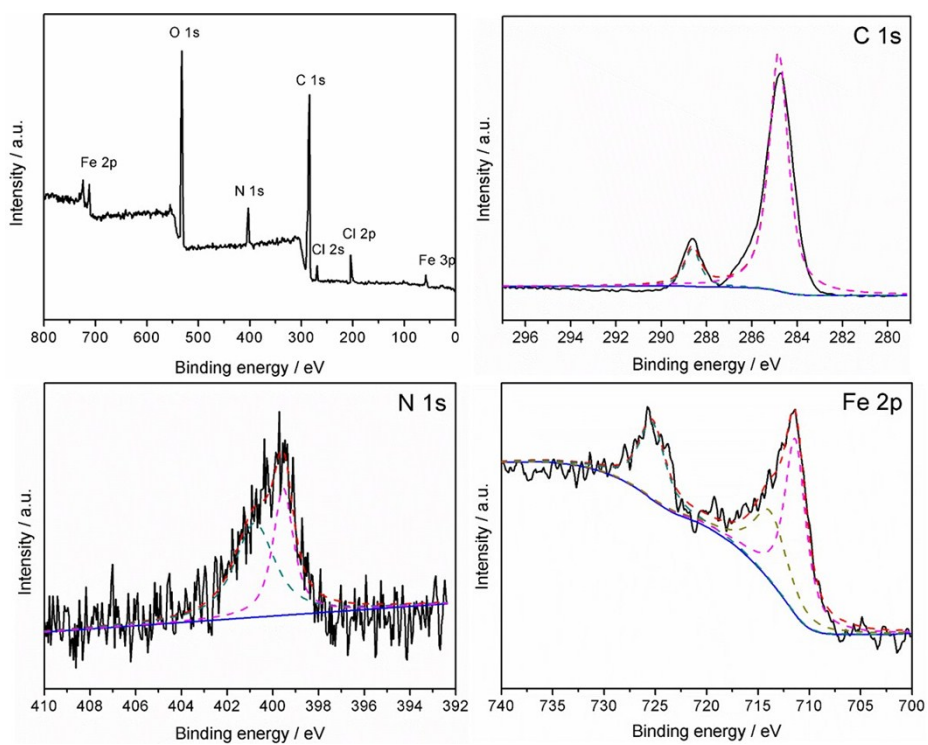


Fig S4. XPS spectrum of recycled  $\text{Fe}_3\text{O}_4@P4VP@FeCl_3$  after five runs of catalysis.