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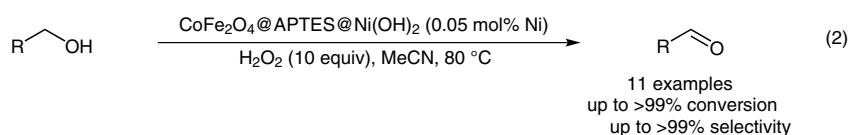
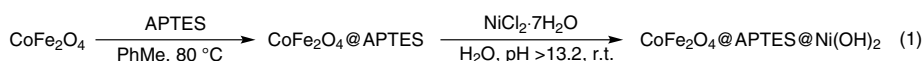
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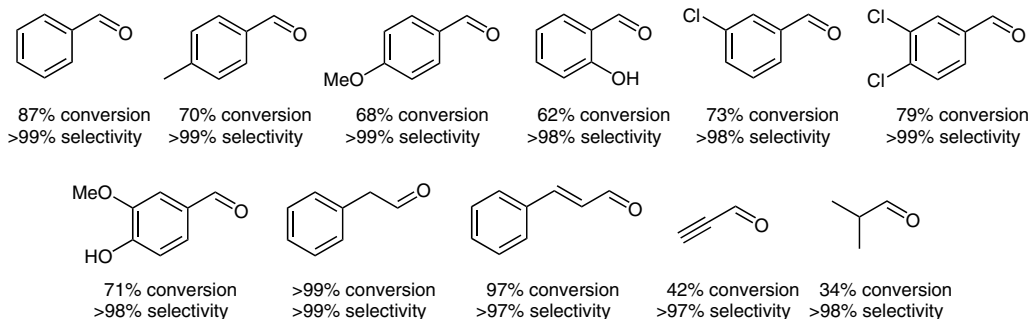


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# Oxidation of Alcohols Using $\text{CoFe}_2\text{O}_4@\text{APTES}@\text{Ni}(\text{OH})_2$



## Results:



**Significance:** Nickel hydroxide coated nanocobalt ferrite [ $\text{CoFe}_2\text{O}_4@\text{APTES}@\text{Ni}(\text{OH})_2$ ] was prepared by the reaction of  $\text{CoFe}_2\text{O}_4$  with 3-aminopropyltriethoxysilane (APTES) followed by treatment with  $\text{NiCl}_2 \cdot 7\text{H}_2\text{O}$  in aqueous alkaline (eq. 1).  $\text{CoFe}_2\text{O}_4@\text{APTES}@\text{Ni}(\text{OH})_2$  catalyzed the oxidation of alcohols with hydrogen peroxide to give the corresponding aldehydes in up to >99% conversion with up to >99% selectivity (eq. 2).

**Comment:**  $\text{CoFe}_2\text{O}_4@\text{APTES}@\text{Ni}(\text{OH})_2$  was characterized by AAS, FT-IR, UV/Vis, XRD, TEM, FESEM,  $\text{N}_2$  adsorption, and VSM analyses. The catalyst was recovered by magnetic separation and reused four times without significant loss of catalytic activity.