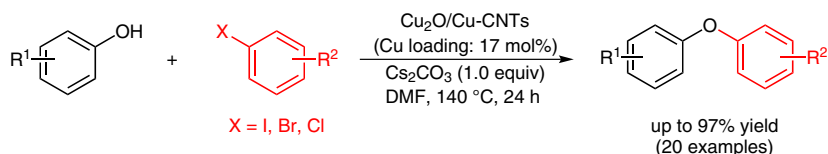


Y.-P. ZHANG,\* Y.-C. JIAO, Y.-S. YANG,\* C.-L. LI (LANZHOU UNIVERSITY OF TECHNOLOGY, P. R. OF CHINA)

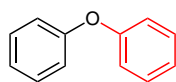
Ligand-Free Catalytic System for the Synthesis of Diarylethers over Cu<sub>2</sub>O/Cu-CNTs as Heterogeneous Reusable Catalyst

*Tetrahedron Lett.* **2013**, 54, 6494–6497.

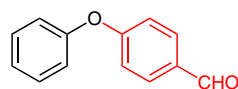
## Cu<sub>2</sub>O/Cu-CNTs Catalyzed the O-Arylation of Phenols with Aryl Halides



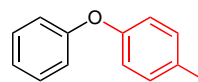
### Selected examples:



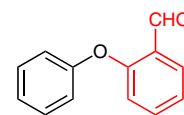
94% yield (X = I)  
96% yield (X = Br)  
32% yield (X = Cl)



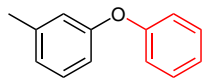
83% yield (X = Br)



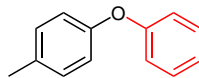
45% yield (X = Cl)



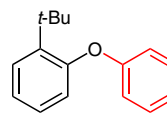
50% yield (X = Cl)



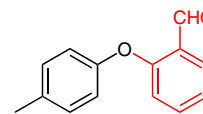
77% yield (X = I)  
65% yield (X = Br)



97% yield (X = Br)



42% yield (X = I)  
25% yield (X = Br)



55% yield (X = Cl)

**Significance:** Cu<sub>2</sub>O/Cu-Coated carbon nano-tubes (Cu<sub>2</sub>O/Cu-CNTs) catalyzed the O-arylation of phenols with aryl halides under ligand-free conditions to give the corresponding diaryl ethers in up to 97% yield (20 examples).

**Comment:** Cu<sub>2</sub>O/Cu-CNTs were recovered by filtration and reused three times without significant loss of catalytic activity. Lee and co-workers have previously reported the preparation and characterization of Cu<sub>2</sub>O/Cu-CNTs (*Scr. Mater.* **2008**, 58, 1010).