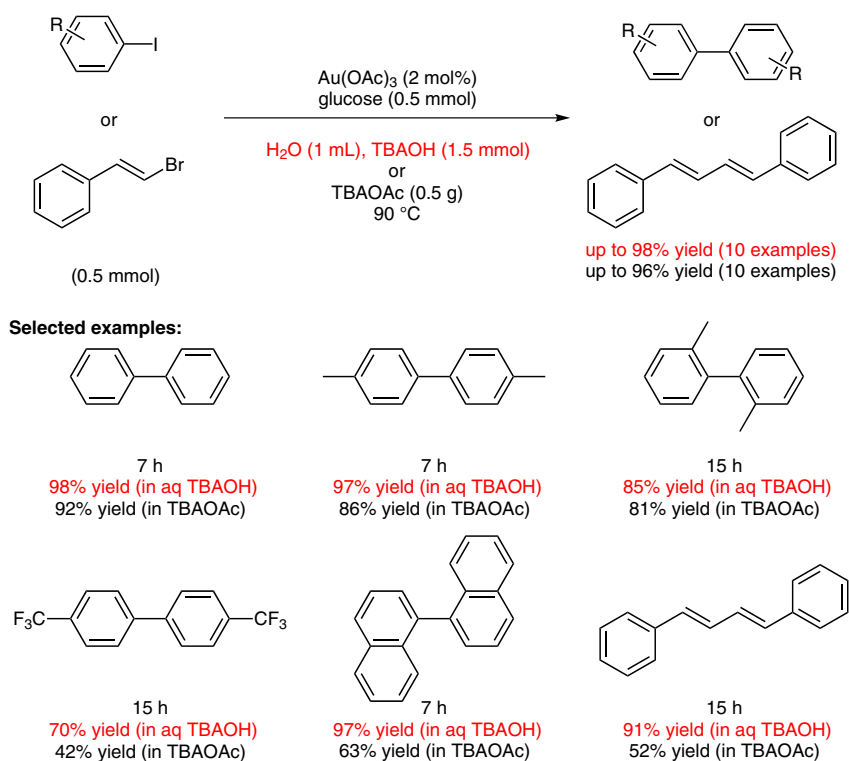


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Ullmann Homocoupling Catalysed by Gold Nanoparticles in Water and Ionic Liquid
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Ullmann Homocoupling in Water or Molten TBAOAc with Gold Nanoparticles



Significance: Gold nanoparticles, generated in situ from $\text{Au}(\text{OAc})_3$ and glucose, catalyzed the Ullmann homocoupling of aryl iodides or β -bromostyrene in aqueous tetrabutylammonium hydroxide (TBAOH) or in molten tetrabutylammonium acetate (TBAOAc) at 90°C to afford the corresponding coupling products in up to 98% yield (10 examples) or in up to 96% yield (10 examples), respectively.

Comment: The gold nanoparticles were characterized with TEM, UV/Vis, DLS, and XPS. The particle size of the nanoparticles was about 1 nm in aqueous TBAOH and 20 nm in TBAOAc, respectively. The smaller nanoparticles showed higher catalytic activity because of their larger surfaces.

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