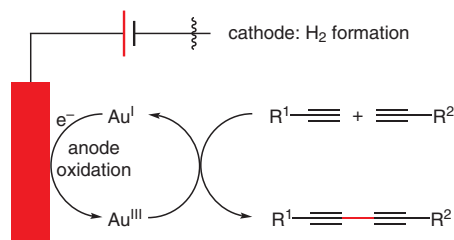


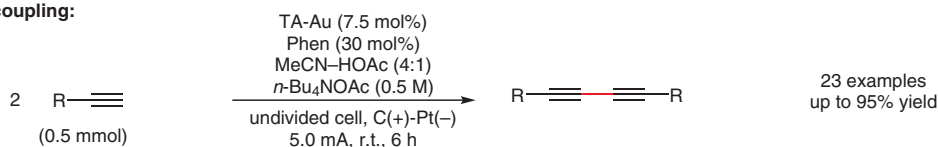
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Facilitating Gold Redox Catalysis with Electrochemistry: An Efficient Chemical-Oxidant-Free Approach  
*Angew. Chem. Int. Ed.* **2019**, *58*, 17226–17230.

## Diynes through Electrochemical Gold Redox Catalysis



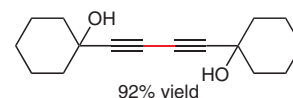
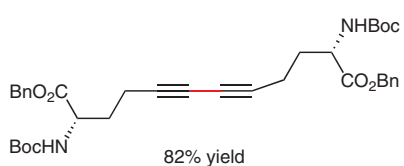
### Homo-coupling:



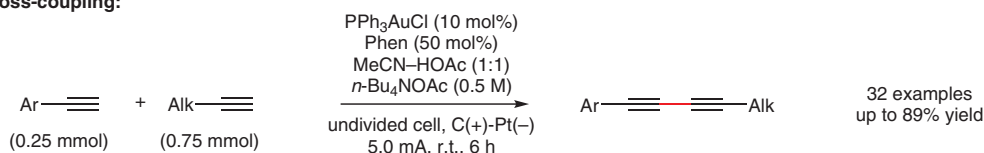
### Selected examples:



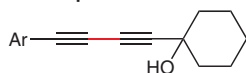
Ar = 4-F, 95% yield  
Ar = 3-F, 93% yield  
Ar = 2-F, 95% yield  
Ar = 4-Me, 92% yield  
Ar = 3-Me, 93% yield  
Ar = 4-*t*-Bu, 90% yield  
Ar = 2-pyridyl, 88% yield



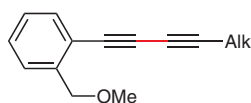
### Cross-coupling:



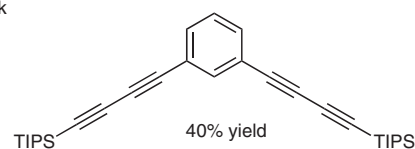
### Selected examples:



Ar = 4-F, 85% yield  
Ar = 3-F, 81% yield  
Ar = 2-F, 80% yield  
Ar = 4-Me, 82% yield  
Ar = 3-Me, 75% yield  
Ar = 4-*t*-Bu, 80% yield  
Ar = 2-pyridyl, 72% yield



Alk = *t*-Bu, 82% yield  
Alk = *n*-C<sub>8</sub>H<sub>17</sub>, 68% yield  
Alk = *n*-C<sub>10</sub>H<sub>21</sub>, 65% yield  
Alk = TIPS, 89% yield  
Alk = CO<sub>2</sub>Et, 75% yield  
Alk = C<sub>4</sub>H<sub>8</sub>CO<sub>2</sub>H, 45% yield



**Significance:** Gold-catalyzed oxidative coupling of terminal alkynes promoted by an electrochemical approach was presented. The atom economy of this reaction is particularly noteworthy.

**Comment:** New perspectives and insights regarding the synthetic utility of gold redox catalysis can be expected after this report of electrochemical anodic oxidation of Au(I) to Au(III).

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