Palladium-Catalyzed Three-Component Synthesis of Oxazolines and Oxazines

**Significance:** Described is the synthesis of oxazolines via a three-component process, in which readily available aryl bromides, carbon monoxide and 2-chloroethylamine undergo a palladium-catalyzed carbonylation and a subsequent cyclization to afford 2-aryloxazolines in good yield. Replacing 2-chloroethylamine with 3-chloropropylamine also works well and in this case the corresponding 2-aryloxazine derivatives are formed. Notably, both electron-donating and electron-withdrawing groups are tolerated in this process. However, the scope of the three-component process was not well investigated, especially for ortho- and meta-substituted aryl bromides.

**Comment:** Oxazolines and oxazoles are important heterocycles for organic synthesis and materials chemistry (see Book below). A number of methodologies for the construction of the oxazoline ring from aryl aldehydes, nitriles, carboxylic acids and related derivatives have been developed (e.g., S. Takahashi, H. Togo *Synthesis* 2009, 2329). In comparison with those, the present carbonylation–cyclization strategy offers a straightforward way for the synthesis of oxazolines and their analogues from easily available starting materials. A drawback of this method is the high pressure required (10 bar).


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