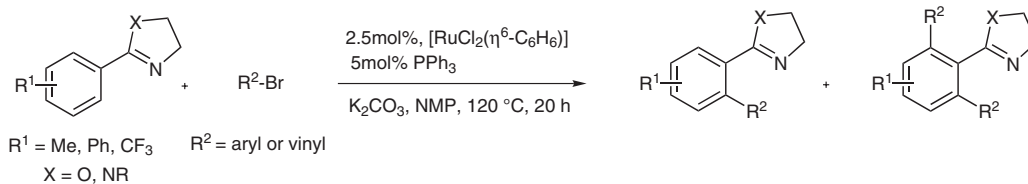


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Ortho-Selective Direct Cross-Coupling Reaction of 2-Aryloxazolines and 2-Arylimidazolines with Aryl and Alkenyl Halides Catalyzed by Ruthenium Complexes

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Ru-Catalyzed ortho-Selective Direct Cross-Coupling Reaction of 2-Aryloxazolines and 2-Arylimidazolines



Significance: A ruthenium(II)-phosphine complex has been shown to catalyze direct coupling of 2-aryloxazolines and 2-arylimidazolines with aryl and alkenyl halides to give regioselectively 2- and 2,6-substituted products in moderate to excellent yields. Coupling of 3-substituted phenyloxazolines and *N*-acylarylimidazolines with aryl or vinyl halides give 2-substituted derivatives as the only products. The known conversion of oxazoliny and imidazoliny groups to other functionalities offers a further advantage of this methodology.

Comment: This report is a further example of the emerging C–H activation methods as new synthetic procedures which override the necessity for prior functionalization to effect C–C bond formation (R. B. Bedford, S. J. Coles, M. B. Hursthouse, M. E. Limmert *Angew. Chem. Int. Ed.* **2003**, *42*, 112-114). Effective coordination of the heteroatom group is a significant component for the success of this reaction and requires further exploration. Efficiency and ready availability of starting materials are underscored by these procedures. The demonstrated chemistry may become complementary or may supercede the strong-base-mediated directed *ortho*-metalation regimens to achieve the synthesis of similar molecules.

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