

## Oxalic Diamides: A New Generation of Ligands for Cu-Catalyzed Arylation of Nucleophiles

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During the past two decades we have witnessed great progress in ligand-promoted copper-catalyzed arylation of nucleophiles.<sup>1</sup> However, there still remain a lot of problems in this field. The most challenging problem is that less expensive aryl chlorides are inert for almost all Cu/ligand-catalyzed coupling reactions.<sup>1</sup> Additionally, the catalytic loadings are still high in most cases. Recently, we found that some *N,N'*-diaryl, *N*-aryl-*N'*-alkyl or *N,N'*-dialkyl substituted oxalamides are very powerful ligands for copper-catalyzed arylation of nucleophiles.<sup>1</sup> These ligands not only make Cu-catalyzed coupling of (hetero)aryl chlorides with nucleophiles proceed smoothly under relatively mild conditions, but also lead to Cu-catalyzed coupling reactions with aryl bromides and iodides being conducted at low catalytic loadings and reaction temperatures.<sup>2</sup> In this lecture, we wish to describe these results.

1. For a recent review, see: Bhunia, S.; Pawar, G. G.; Kumar, S. V.; Jiang, Y.; Ma, D. *Angew. Chem. Int. Ed.* **2017**, *56*, 16136.
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