Palladium-Catalyzed Asymmetric Synthesis of α,α-Disubstituted Allylic N-Arylamines

**Significance:** The synthesis of α,α-disubstituted allylic amines is quite challenging. The authors report a palladium-catalyzed regio- and enantioselective allylic amination of vinyl cyclic carbonates with nonactivated aromatic amines to give the corresponding α,α-disubstituted allylic N-arylamines in good to excellent yields and high enantioselectivities.

**Comment:** The method is very simple and uses readily available starting materials. The amine products can serve as chiral building blocks for natural products and biologically active molecules.

**Selected examples:**

- 76% yield, 95% ee
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- 80% yield, 88% ee
- 51% yield, 91% ee
- 59% yield, 97% ee
- 86% yield, 90% ee
- 84% yield, 89% ee
- 55% yield, 91% ee
- 58% yield, 93% ee
- 61% yield, 95% ee

**Proposed reaction pathway:**

The reaction involves the following steps:

1. Palladium complex formation with the vinyl cyclic carbonate and ligand.
2. Allylic amination with nonactivated aromatic amine.
3. Formation of the α,α-disubstituted allylic N-arylamines.

The reaction mechanism involves the transfer of a hydrogen atom from the amine to the palladium complex, resulting in the formation of the desired product.