Formation of ArF from LPdAr(F): Catalytic Conversion of Aryl Triflates to Aryl Fluorides


**Palladium-Catalyzed Conversion of Aryl Triflates to Aryl Fluorides**

**Significance:** The biaryl phosphine ligand t-BuBrettPhos in combination with [(cinnamyl)PdCl]₂ is shown to catalyze the fluorination of aromatic and heteroaromatic triflates using CsF as fluorine source. This reaction proceeds under relatively mild conditions and with high functional group tolerance.

**Comment:** In a few cases, regioisomeric products are observed, but the overall yields remain high. The success of the reaction crucially depends on the sterically demanding t-BuBrettPhos ligand, since it prevents the formation of dimeric [LPdAr(F)]₂, but also promotes reductive elimination of the Ar–F bond due to its large size. This method can be expected to be applicable for the preparation of biologically active aryl fluorides.

**Selected examples:**

- O
  - F
  - 110 °C, 83% yield
- BuO₂C
  - F
  - 80 °C, 85% yield
- 80 °C, 63% yield
- 80 °C, 83% yield
- 110 °C, 80% yield
- 110 °C, 83% yield
- 110 °C, 73% yield
- 130 °C, 84% yield
- 130 °C, 57% yield
- 110 °C, 84% yield
- 130 °C, 80% yield