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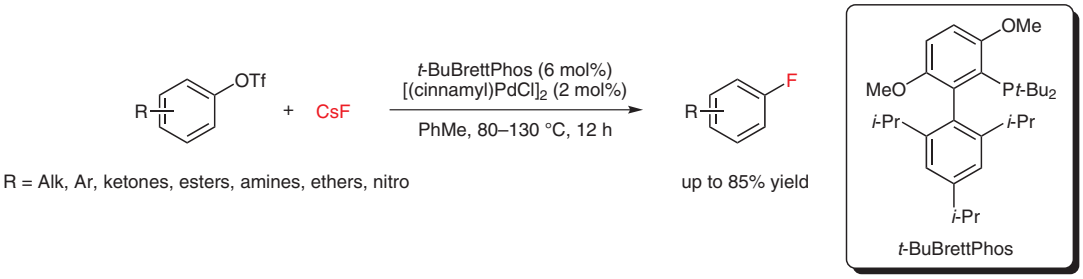
Formation of ArF from LPdAr(F): Catalytic Conversion of Aryl Triflates to Aryl Fluorides
Science **2009**, *325*, 1661-1664.

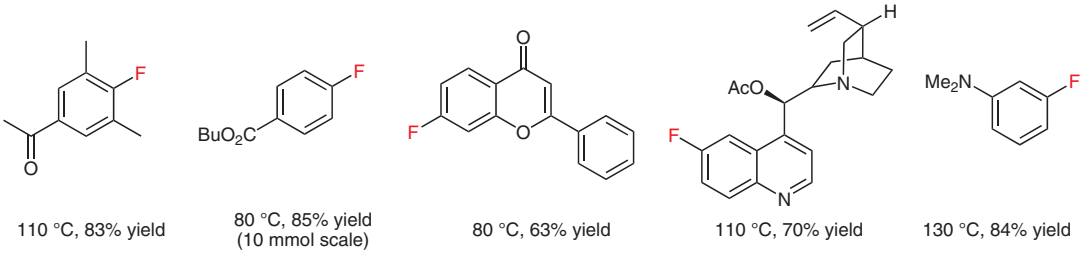
Palladium-Catalyzed Conversion of Aryl Triflates to Aryl Fluorides

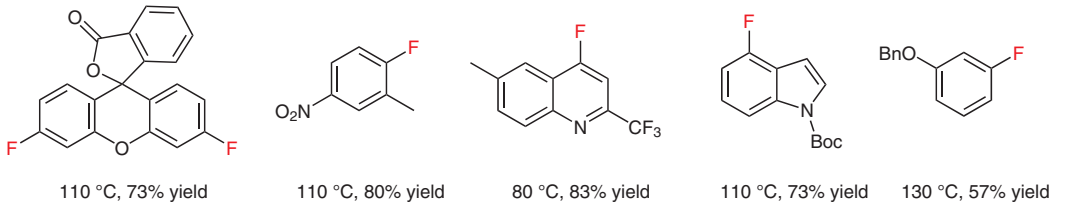


R = Alk, Ar, ketones, esters, amines, ethers, nitro

up to 85% yield

Selected examples:





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.

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Synfacts 2010, 1, 0085-0085 Published online: 21.12.2009
DOI: 10.1055/s-0029-1218434; **Reg-No.:** P15809SF