Pd-CATALYZED TRIFLUOROMETHYLTHIOLATION OF ACRYLAMIDES AND AROMATIC AMIDES BY C-H BOND ACTIVATION

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The organofluorine research has known a very rapid development in the past years. Indeed, the incorporation of a fluorine atom or a fluorinated group on a molecule will modulate the physical and biological activity. Besides, the transition metal catalyzed C-H bond activation is today a great synthetic tool in organic chemistry. The combination of the organofluorine chemistry and transition metal catalyzed C-H bond functionalization constitutes an excellent approach to afford original fluorinated compounds. In this context, a palladium-catalyzed trifluoromethylthiolation of unsaturated derivatives by C-H bond activation was developed. Using amines as the directing group and in the presence of an electrophilic SCF$_3$ source functionalized acrylamides or aromatic amide derivatives were trifluoromethylthiolated offering a straightforward synthetic pathway to build up the challenging C(sp$^2$)-SCF$_3$ bond. Mechanism of the transformation and post-functionalization reactions were also studied.


