

Showcasing research from Professor Shuo Guo's laboratory, College of Chemistry and Chemical Engineering, Inner Mongolia University, Hohhot, China.

A general photocatalytic hydrodefluorination and defluoroalkylation of electronically-variable $ArCF_3$ by changing commercially-available arenethiolates

The selection of electronically-different thiolate-based photosensitizers could be employed to achieve a precise and specific C-F bond defluorination of a broad range of trifluoromethylarenes. 88 a, a-difluoromethyl compounds were synthesized with up to 98% yield and high selectivity. In particular, the condition is mild enough to tolerate various bioactive and natural compounds. The mechanistic studies uncovered photo-induced Electron Donor-Acceptor (EDA) complexation followed by the silane-assisted C-F bond activation.



