# Diazoalkanes and Diazirines: Useful Synthetic Reagents in Si–H Insertion and Cycloaddition Reactions

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Recent synthetic methods for the synthesis of diazoalkanes will be first disclosed.[1] The insertion reaction of diazo compounds into X–H bonds will be presented using copper and iron catalysis. A $C_2$-symmetric copper(I) diimine complex enables the asymmetric insertion reaction of 1-aryl-2,2,2-trifluoro-1-diazoethanes to give enantioenriched (1-aryl-2,2,2-trifluoroethyl)silanes with enantioselectivities *up to* 96% *ee*.[2] An efficient synthesis of 3-trifluoromethyl-3-aryl-cyclopropenes *via* the cyclopropenation reaction of alkynes with photolytically-generated carbenes from diazirines will be disclosed. This reaction is performed in continuous flow using readily available LEDs in mild reaction conditions. This new and efficient method describes the synthesis of 3-trifluoromethyl-3-aryl-cyclopropenes with yields *up to* 97%, achieved in continuous flow with 5 min residence time. The cyclopropanation reaction of alkenes with photolytically-generated halocarbenes from halodiazirines is also presented as an effective way to prepare 3-halo-3-aryl-cyclopropanes in continuous flow.[3]

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