# DABCO-Catalyzed Synthesis of Thiazolidine-2-thiones: System Development and Mechanistic Insights

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The unique structure of propargylamines, encompassing a nucleophilic amine adjacent to an electrophilic alkyne moiety, renders them versatile building blocks for the preparation of numerous valuable organic structures and compounds of medicinal interest.[1-7] Among the plethora of synthetic strategies employing their derivatization, significant emphasis has been placed on their reactivity with heteroallenes, such as carbon dioxide, aiming at heterocycles featuring an exocyclic carbon-heteroatom bond.[8,9]

A base-catalyzed protocol for the construction of unprecedented 1,3-thiazolidine-2-thione scaffolds from carbon disulfide and α-tertiary propargylamines is reported. The reaction proceeds efficiently under ambient temperatures in the absence of solvent. The purification of the products is achieved without column chromatography. The reaction mechanism is also investigated experimentally.

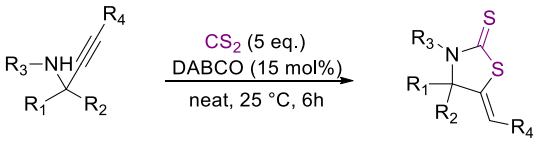


Figure: DABCO-catalyzed synthesis of thiazolidine-2-thiones from propargylamines and carbon disulfide.

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