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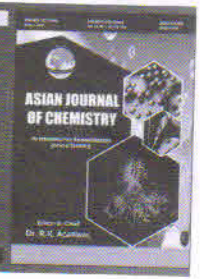

Facile One Pot Synthesis of 4,5-Disubstituted 1,2,3-Thiadiazoles using Acid Halides *via* Diazo Intermediate Formation

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In this work, a competent straightforward one-pot synthesis of 4,5-disubstituted 1,2,3-thiadiazoles was carried out using acid halides. The reaction proceeds through the conversion of acid halides into diazo carbonyl compounds, which further involve in the nucleophilic addition with CS_2 and alkylation on sulphur by alkyl halides results in substituted thiadiazoles. This process is highly regioselective and operationally simple for generating various substituted thiadiazole molecules. This protocol offers several advantages for accessing the medicinally significant thiadiazole moieties with promising yields under mild reaction conditions, furthermore it involves a simple purification and also the removal of toxic reagents.

Keywords: Acid halides, α-Diazo carbonyl compounds, Carbon disulphide, One pot reaction, Disubstituted 1,2,3-thiadiazoles.