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Cyclic Addition of Acetylene Dicarboxylic Acid to Some New Aldonitrones Containing 1,3,4 Thiadizol Ring

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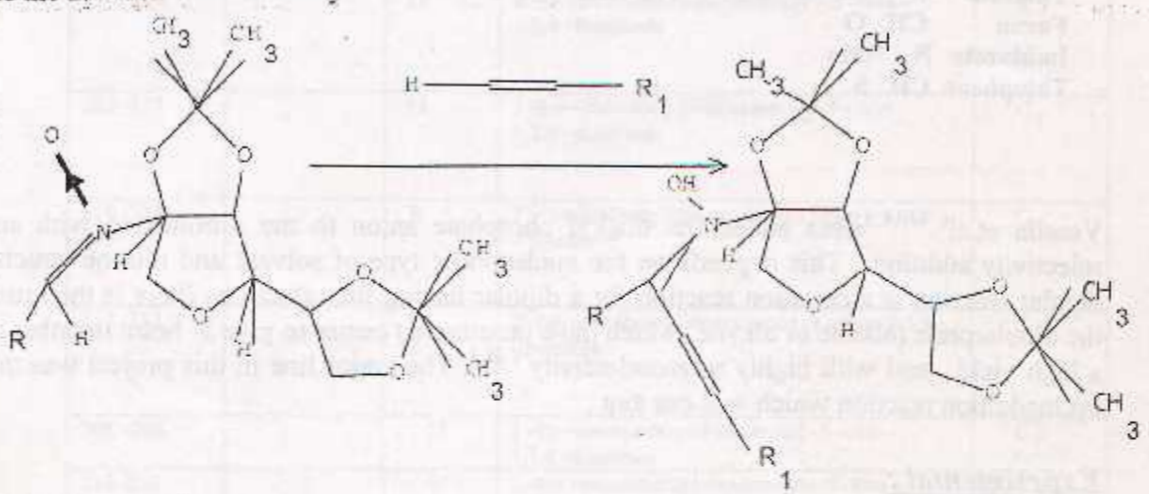
Abstract :

Nine new aldonitrons containing 1,3,4 – thiadizole ring were prepared and characterized by using different spectroscopic methods . Then a cyclic addition reaction with acetylene dicarboxylic acid for nine nitrones was carried out .Only one reaction was succeeded to give the 1,3 –dipolar cyclic addition producing 3- (4 – chloro phenyl (5 – thio – 1,3,4 – thiodizoyl)- 4,5 – dicarboxyl – isoxazoline .

Introduction :

Nitrones[1] means (Nitrogen – Ketone) which involve C=N→O group are classified into two types aldo and ketonitrones with alkyl , aryl subsituent on C_α instead of hydrogen atoms . Also nitrones have a polar[2,3] behavior that the nitrogen atom has (+ve) charge and the oxygen has contain (- ve) charge and this induces π - delocalization in the nitrones that give the structure of the dipole and it will give a geomrtrical isomers due to the presence of a double bond . This fact was proved by Semper et.al[4,5]. Many reactions for this type of nitrone could be involved. An important one is the cyclic addition to symmetrical and unsymmrtrical alkene or alkyne[6,8]. Nucleophilic addition is one of the interesting reaction .

Carreia et.al[9,10] used the sugar derivative (mannose – derived auxiliaryl) to prove the anti addition for the addition of zinc alkanyl .



Tf:trifluoromethanesulfonate

Also Grignard reagent and alkali base (KOH) and sulpha base (KSH) were added to cyclic α-methoxy nitrones[11] as follows :