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A Facile Synthesis of Highly Functionalized and Electron-Deficient 1,3-Dienes

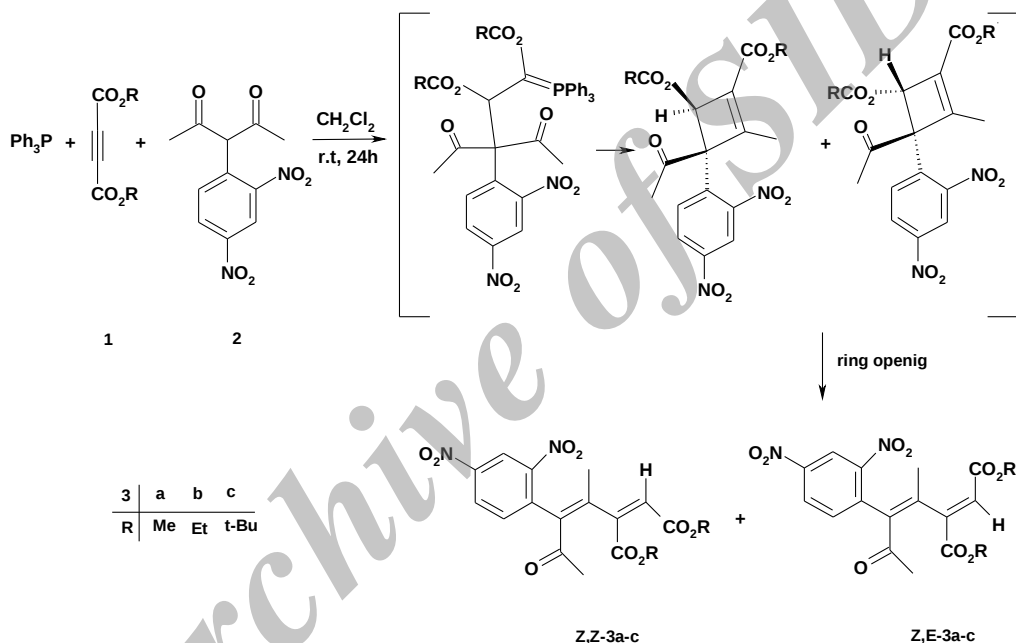
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In recent years the three-component reactions of triphenylphosphine, electron-deficient systems and XH-acids (X=C, O, N, S) that leads to phosphorus ylides have been reported. These ylides are final products of reactions or intermediates in other syntheses [1-5].

We here report the reaction of 3-(2,4-dinitrophenyl)-2,4-pentanedione **2** (acting as a CH-acid) and dialkylacetylenedicarboxylates **1** in the presence of triphenylphosphine. These compounds undergo intramolecular Wittig reaction in room temperature to produce cyclobutenes, which spontaneously undergo ring-opening reaction to produce diastereomeric 1,3-diene isomers **3** in middling yields. The structure of compounds is supported with spectral data (¹HNMR, ¹³CNMR, IR) and elemental analysis.



References

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