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Microwave Assisted Synthesis and Characterization of D- Mannose by Ditertiary Amyl Chromate in DMSO Solvent

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Abstract: *The oxidation of D-Mannose with TAC is a convenient and very simple method which has been discussed. Chromium (VI) based oxidants such as TAC have been used for variety of synthetic works in organic chemistry. The effects of solvent DMSO have been studied under microwave irradiation as a source of energy. Studies were carried out to produce interesting result for determining the properties of obtained product. The product formed by the interaction of organic substrates like D-Mannose in different molar ratio with TAC may give valuable clue their mechanism of the reaction and the structure of the compounds formed were studied. The thermal loss pattern may be helpful for the formulation of complexes and assessing the strength of bonds. In the present work, we have carried out the oxidation of D-Mannose with TAC in DMSO solvent have been carried out under microwave irradiation conditions. The obtained products have undergone analysis using various techniques such as chemical analysis, spectroscopy, and thermogravimetry. The goal of these analyses was to identify patterns or make general observations about the properties or composition of the products.*

Keywords: Di tertiary amyl alcohol (TAC), Carbohydrates (Mannose), chromium trioxide tert. amyl alcohol (TAA), FTIR, TGA-DTA

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