SYNOPSIS

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of the dissertation entitled

APPLICATIONS OF TRICHLOROISOCYANURIC ACID IN ORGANIC SYNTHESIS.

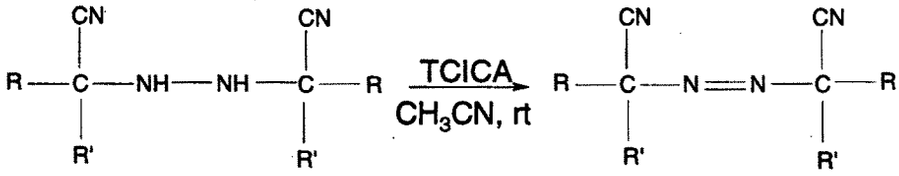
The dissertation entitled, "APPLICATIONS OF TRICHLORO-ISOCYANURIC ACID IN ORGANIC SYNTHESIS" is divided into two chapters. Chapter I describes a brief review on trichloroisocyanuric acid and chapter II includes a novel protocol for the synthesis of azobisnitriles, which are commercially used as free radical initiators in radical polymerization reactions.

A brief review on trichloroisocyanuric acid (Chapter I) includes the introduction and uses of trichloroisocyanuric acid as oxidizing agent, in chlorination reactions, in dehydrohalogenation reactions, in oxidation-chlorination reactions as well as in some miscellaneous reactions. Some industrial applications of trichloroisocyanuric acid have also been discussed in brief.

Chapter II of the dissertation deals with the synthesis of azobisnitriles. Part A of Chapter II embodies a brief account of azoinitiators as regards their nomenclature, methods of synthesis, properties and their industrial applications. The part B of Chapter II is devoted to a novel methodology developed by us for the synthesis of azobisnitriles using trichloroisocyanuric acid (Scheme).

All the synthesised azobisnitriles have been characterised by spectral techniques. (IR, PMR, ^{13}C NMR). The work embodied in Chapter II has been published in "Journal of Chemical Research, "9, 645, 2004.

SCHEME



R = $-CH_3$, R' = $-CH_3$, $-C_2H_5$, n-C_3H_7

and R = R' = $-(CH_2)_4-$ and $-(CH_2)_5-$

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