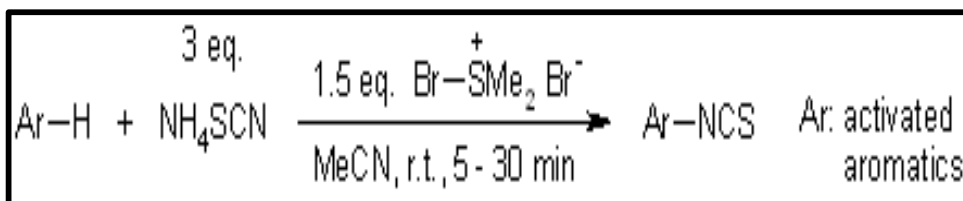
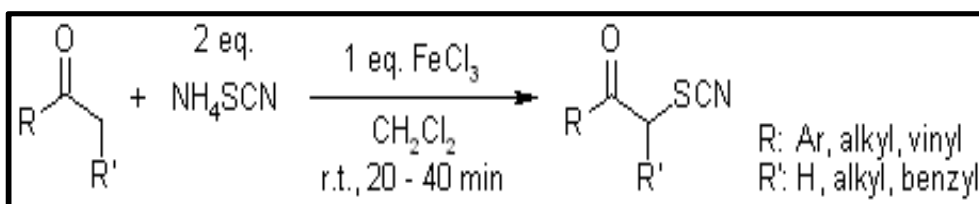


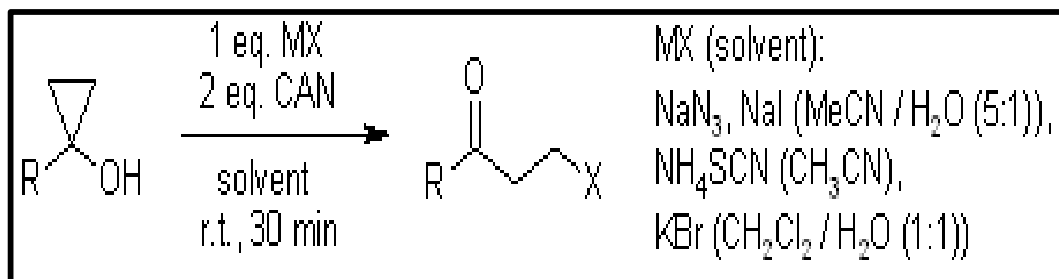
Ionic liquids [bmim][X] (X = Cl, Br, I, OAc, SCN) are highly efficient reagents for nucleophilic substitution reactions of sulfonate esters derived from primary and secondary alcohols. The newly developed protocol is very environmentally attractive because the reactions use stoichiometric amounts of ionic liquids as sole reagents without additional solvents and activating reagents. Moreover, these ionic liquids can be readily recycled.



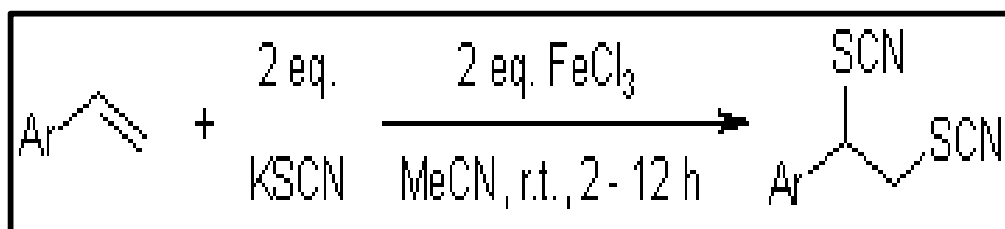
Various aromatic and heteroaromatic compounds have been efficiently thiocyanated by using a combination of bromodimethylsulfonium bromide (BDMS) and ammonium thiocyanate.



A simple and efficient FeCl₃-mediated method for the α-thiocyanation of ketones produces α-oxothiocyanates in very good yields and with high selectivity under mild conditions. The use of inexpensive and readily available iron(III) chloride makes this procedure simple, convenient and practical.



A mild oxidation of selected anions (N₃⁻, SCN⁻, I⁻, and Br⁻) by ceric ammonium nitrate (CAN) in the presence of substituted cyclopropyl alcohols provides β -functionalized ketones in short reaction times. This method provides an alternative pathway to important starting materials and intermediates in organic synthesis.



Anhydrous FeCl₃ oxidizes potassium thiocyanate to the corresponding radical and promotes subsequent addition to nucleophilic olefins to produce dithiocyanate derivatives under mild conditions with excellent yields and chemoselectivities. The use of ferric chloride makes this method simple, convenient and practical.

References:

1. Y. Ju, D. Kumar, R. S. Varma, *J. Org. Chem.*, 2006, 71, 6697-6700.
2. N. Iranpoor, H. Firouzabadi, B. Akhlaghinia, R. Azadi, *Synthesis*, 2004, 92-96.
3. Y. Liu, Y. Xu, S. H. Jung, J. Chae, *Synlett*, 2012, 2663-2666.
4. D. S. Bhalerao, K. G. Agamanchi, *Synlett*, 2007, 2952-2956.
5. J. S. Yadav, B. V. S. Reddy, U. V. S. Reddy, D. N. Chary, *Synthesis*, 2008, 1283-1287.
6. J. Jiao, L. X. Nguyen, D. R. Patterson, R. A. Flowers II, *Org. Lett.*, 2007, 9, 1323-1326.
7. J. S. Yadav, B. V. S. Reddy, M. K. Gupta, *Synthesis*, 2004, 1983-1986