In The Name of God
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Multicomponent synthesis of fluorinated β-aryl-β-mercaptoketons under mild conditions

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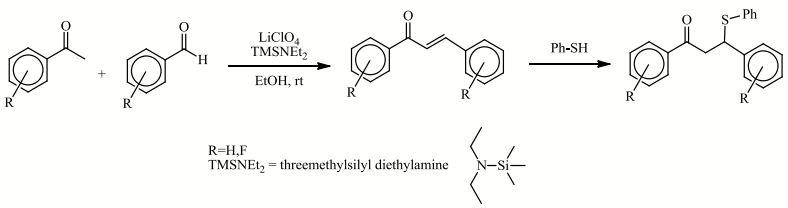
The thia-Michael addition has been used as one of the most useful methods for carbon-sulfur bond forming reactions. The thia-Michael adducts, which are the key intermediates in the synthesis of several bioactive compounds, are prepared through the addition of thiols to electron-deficient olefins such as chalcones. This reaction is usually carried out under acid or base catalysis, so many catalytic systems have been developed for the conjugate addition of thiols to α,β-unsaturated carbonyl compounds [1].

In the present work, an efficient synthesis of β-aryl-β-mercapto ketones is achieved via a tandem aldol condensation-thia-Michael addition process using an ethanolic medium and trimethylsilyl diethylamine ($TMSNEt_2$) in the presence of lithium perchlorate ($LiClO_4$). Addition of different thiols to α,β-unsaturated ketones, formed *in situ* from the condensation of fluorinated acetophenone derivatives with aldehydes, led to a rapid and high yield synthesis of the products under very mild conditions (Scheme 1).



Scheme 1.

References:

1. Abaee, M. S. *Tetrahedron Lett.***2012**, *53*, 4405–4408**.**