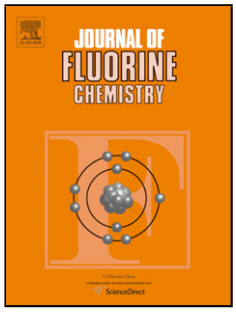

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Highly efficient synthesis of polyfluorinated 2-mercaptobenzothiazole derivatives

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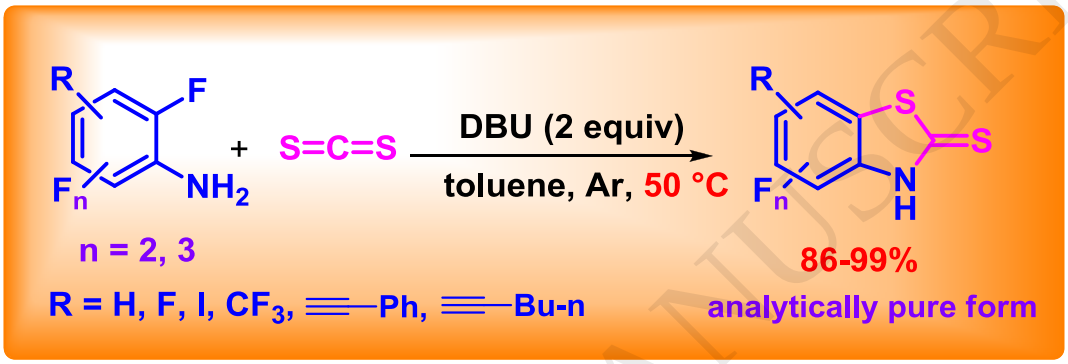
Graphical abstract



Highlights

- Directed synthesis of polyfluorinated 2-mercaptobenzothiazole derivatives
- DBU-promoted tandem reaction
- Selective substitution of *ortho*-fluorine atom
- Highly efficient synthetic procedure

Abstract: A convenient and efficient method for the synthesis of polyfluorinated 2-mercaptobenzothiazoles from the corresponding aniline derivatives and CS_2, mediated by 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU) in toluene is described. The reaction proceeded *via* nucleophilic attack at the carbon atom of carbon disulfide by the nitrogen atom of NH_2-group in arene followed by selective intramolecular fluorine atom substitution in the *ortho*-position to the amino group. This synthetic methodology could be used to prepare fluorinated 2-mercaptobenzothiazole containing alkynyl group in good to excellent yields. The reaction takes place under very mild reaction conditions (50 °C) and uses readily available starting materials.

Keywords: Polyfluorinated anilines, Polyfluorinated heterocycles, Tandem reaction, Reaction mechanism, 2-Mercaptobenzothiazoles

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