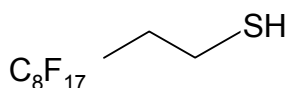


1H,1H,2H,2H-Perfluorodecane-1-thiol


Chemical Formula:	C ₁₀ H ₅ F ₁₇ S
Formula Weight:	480.18
Description:	Nucleophilic Scavenger
CAS Number:	34143-74-3
Appearance:	Clear liquid
Properties:	Density: 1.64 Boiling Point: 82°C/12mm
Soluble in:	Dichloromethane, chloroform, THF, ether, toluene and most other typical organic solvents
Stability:	Solidifies near room temperature

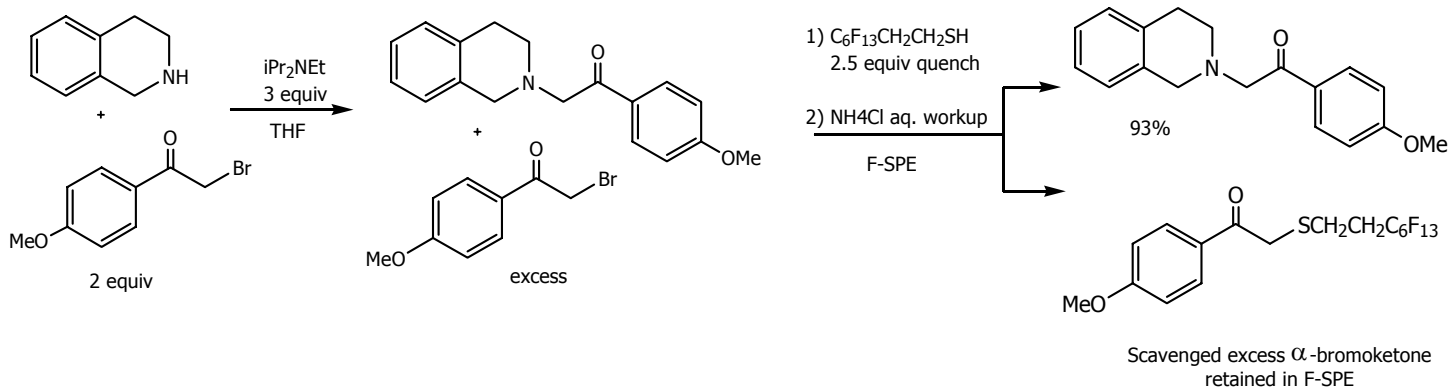
DESCRIPTION AND USES:¹

- Thiols are good nucleophiles that have been used as covalent scavengers to rid product mixtures of excess halides and other electrophiles.
- F-Thiol is the solution phase equivalent of polymer-bound thiol scavengers. It has the advantage of reacting faster than its polymer counterpart.¹
- F-Thiol-quenched derivatives can be easily separated from the organic product by performing a quick fluorous solid phase extraction over FluoroFlash[®] silica gel.^{2,3}

TYPICAL SCAVENGING PROCEDURE:¹

To a 5 mL vial charged with a solution of 1,2,3,4-tetrahydroisoquinoline (14 mg, 0.1 mmol) in 0.3 mL of THF was added 2-bromo-4'-methoxyacetophenone (46 mg, 0.2 mmol) followed by diisopropylethylamine (55 mL, 0.3 mmol). After stirring at 25°C for 30 min, F-Thiol (95 mg, 0.25 mmol) was added and the mixture was stirred for an additional 30 min. Aqueous NH₄Cl (0.8 mL) was added. The aqueous layer was pipetted out and the organic phase was loaded onto a 5g FluoroFlash[®] cartridge that had been pre-conditioned with MeOH:H₂O (80:20). The cartridge was washed with 5 mL of MeOH:H₂O (80:20). The desired product was isolated by concentration of the first extract to provide 26 mg (93%) of the alkylated amine.^{3,4}

Note: The acidic workup to rid the reaction mixture of excess base can be avoided by using acidic ion-exchange resin on top of the F-SPE cartridge.⁴



RELATED REAGENTS:

F013023, the C₆F₁₃ analog, has appropriate fluorine content to be retained on the FluoroFlash® cartridge for easy separation. The other F-Thiol reagents are useful in fluorous mixture synthesis as tags rather than scavengers.

Additional F-Thiol
Homologs Available:

Rf	Catalog No.
C ₃ F ₇	F007023
C ₄ F ₉	F009023
C ₆ F ₁₃	F013023
C ₁₀ F ₂₁	F021023

REFERENCES:

- 1) Zhang, W.; Curran, D. P.; Chen, H.-T. *Tetrahedron*, **2002**, 3871.
- 2) Curran, D. P. *Synlett* **2001**,1488.
- 3) Please refer to FTI Application Note "Fluorous Solid Phase Extraction"
- 4) Lindsley, C. W.; Zhao, Z.; Leister, W. H.; Strauss, K. A. *Tetrahedron Letters* **2002**, 43, 6319.

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