**Convenient Parallel Synthesis Of Alkyl- and Aryl-*S*-*tert*-Butyl Thiothers.**

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While preparing novel cysteine derivatives as oxidation catalysts, we needed S-tert-butylcysteine. We also examined acid-promoted tert-butylation of thiols using tert-butanol as reagent and solvent. While cysteine and aminoethanethiol work well using tBuOH in 4M HCl, other thiols fail in the aqueous environment and aerobic conditions. We examined a variety of aliphatic and aromatic thiols in tBuOH with H2SO4 catalysis and found that argon sparging and the use of 1 eq of acid led to good yields in a parallel format.

