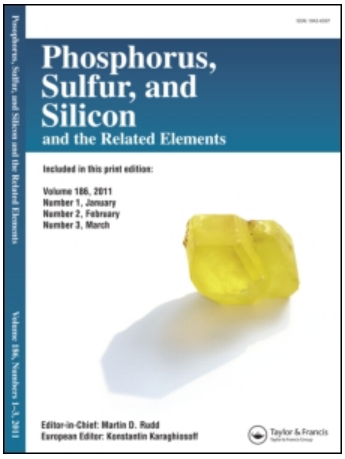


Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

N-BUTYLLITHIUM-INDUCED REACTIONS OF σ-METHYLARENESULFONATES AND σ-METHYL-ARENESULFONAMIDES

W. E. Truce[a]; B. Van Gemert[a]
[a] Department of Chemistry, Purdue University, West Lafayette, Indiana

To cite this Article Truce, W. E. and Van Gemert, B.(1979) 'N-BUTYLLITHIUM-INDUCED REACTIONS OF σ-METHYLARENESULFONATES AND σ-METHYL-ARENESULFONAMIDES', Phosphorus, Sulfur, and Silicon and the Related Elements, 6: 1, 309
To link to this Article: DOI: 10.1080/03086647908080428
URL: http://dx.doi.org/10.1080/03086647908080428

Phosphorus and Sulfur
1979, Vol. 6, p. 309

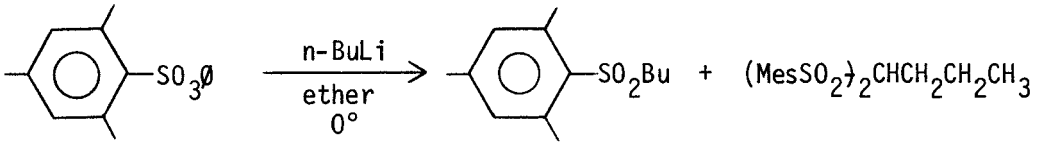
n-BUTYLLITHIUM-INDUCED REACTIONS OF o-METHYLARENESULFONATES AND o-METHYLARENESULFONAMIDES

W. E. Truce and B. Van Gemert

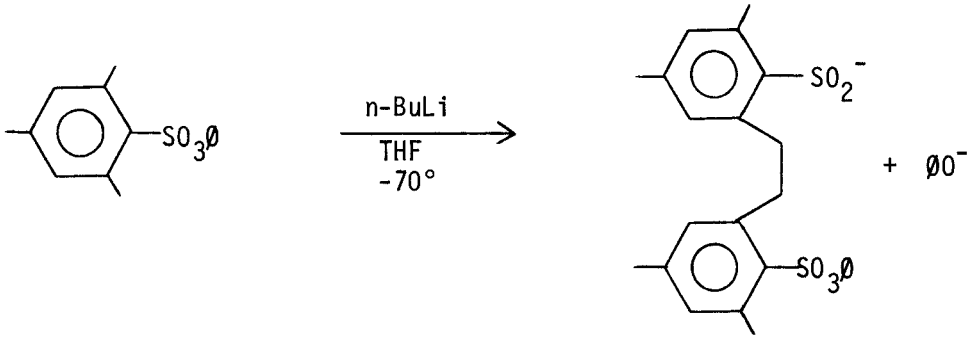
Department of Chemistry, Purdue University, West Lafayette, Indiana 47907

o-Methyldiaryl sulfones rearrange to isomeric sulfinic acids under the influence of strong base[1] (n-butyllithium in ether or potassium t-butoxide in dimethyl sulfoxide). Studies of the chemistry of arenesulfonyl systems, initially metalated at an ortho methyl substituent, have now been extended to appropriate aryl arenesulfonates and arenesulfonamides.

Treatment of phenyl mesitylenesulfonate with an equivalent of n-butyllithium in ether at 0° yielded products arising from displacement on sulfur.



At a lower temperature (-70°) in tetrahydrofuran (for solubility reasons), metalation occurs followed by a novel coupling reaction:



A like condensation occurs with N,N-disubstituted o-methylarenesulfonamides if one of the substituents on nitrogen is aryl; the reaction fails with N,N-diethylmesitylenesulfonamide.

Several reasonable mechanistic pathways can be postulated. Work has been done, which considerably limits the possibilities. These results will be discussed.

1. (a) W. E. Truce et al., J. Amer. Chem. Soc., 80, 3625 (1958);
(b) W. E. Truce, E. M. Kreider, W. W. Brand, Organic Reactions, 18, 99 (1970);
(c) V. N. Drozd, Int. J. Sulfur Chem., 8, 443 (1973).