

Thesis Title	1-Alkoxy-2-(phenylsulfonyl)cyclopropanes as Furan Annulating Agents
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ABSTRACT

The lithio derivative derived from 1,1-diphenoxy-2-(phenylsulfonyl)cyclopropane (**1**) reacted smoothly with acyl chlorides and acyl imidazoles to give good yields of the corresponding dihydrofurans **2**, which could be converted into substituted furans **3** by treatment with a catalytic amount of *p*-toluenesulfonic acid (Scheme I). Similarly, the lithio derivative derived from 1-[(2-methoxyethoxy)methoxy]-2-(phenylsulfonyl)cyclopropane (**4**) reacted with acyl imidazoles to give dihydrofurans **6**, which could also be obtained by desannylation reaction of 1-[(2-methoxyethoxy)methoxy]-2-phenylsulfonyl-2-(tributylstannyl)cyclopropane (**5**) with acyl chlorides. Dihydrofurans **6** could be rearranged to 3-acylfurans **7** by reacting with $\text{BF}_3 \cdot \text{OEt}_2$ in dichloromethane (Scheme II). Our results demonstrated that vicinally donor-acceptor substituted cyclopropanes **1,4** and **5** can serve as potential three-carbon furan annulating agents.