

Almost two decades ago, a graduate student reacted (E)-1-vinyl-1-methoxy-2-(2,4,6-triisopropylbenzenesulfonyl)-4,4-dimethyl-5-cyclohexene with $\text{Li}(\text{CH}_2\text{CH}_3)_3\text{BD}$ in an attempt to replace the sulfonate ester with deuterium. Surprisingly, a cyclopropane ring was produced. After stereochemical evidence disproved an $\text{S}_{\text{N}}2$ mechanism, other mechanistic pathways needed to be considered. This research aimed to determine if this reaction proceeds by a hydroboration mechanism. The same starting material was used and reacted with diborane/THF complex or 9-BBN. Diborane/THF conditions were not selective enough, and reduced both double bonds and did not produce the cyclopropane ring. When starting material was treated with 9-BBN no reaction occurred, likely due to steric hindrance. A dialkylborane will be used next to try to mitigate the aforementioned over-reactivity and steric hindrance problems.