ABSTRACT

TITLE:	Natural Product Synthesis of Diarylether Cyclophanes
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ABSTRACT: Diarylether heptanoids are naturally occurring cyclophane compounds that exhibit a wide range of biological activities such as anti-cancer, anti-viral, anti-inflammatory, and antioxidant properties. The biological activities of these cyclophanes can be attributed to the strained seven-carbon tether which is largely responsible for the chirality of these macrocyclic structures. We report work towards developing synthetic strategies for a series of diarylether cyclophanes with varying degrees of conformational strain to investigate the relationship between structural integrity, barrier to racemizatoin, and biological activity. The synthesis and characterization of both seven- and eight-carbon tether cyclophanes were successful where the eight-carbon tether cyclophane is the first ever reported.