A facile approach for the synthesis of novel macrocycles of spiroorthocarbonates

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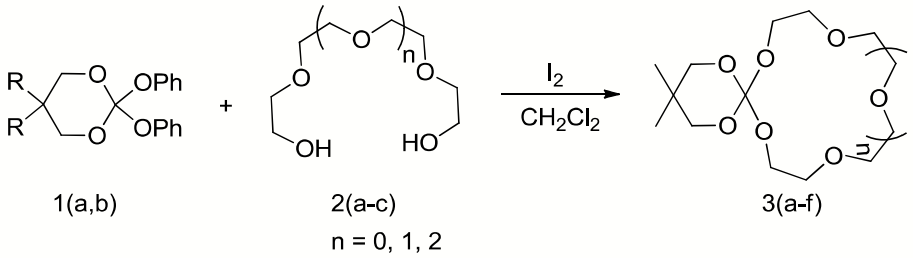
Spiroorthocarbonates (SOCs) are one of the most important categories of monomers which polymerize without any shrinkage in volume.[1] They are specially useful in the synthesis of materials such as precision materials, adhesives, and dental composites.[1-3] On the other hand, molecular iodine has been the focus of attention in organic transformations as a mild, readily available and neutral Lewis acid.[4]

In this study, some novel spiro macrocycles derived from spiroorthocarbonates were conducted to synthesize. In this protocol, 2,2-diphenoxy-1,3-dioxanes were prepared from the reaction of dichlorodiphenoxymathane with some 1,3-dioles at room temperature. Then, the treatment of compounds 1(a,b) with various glycols 2(a-c) in the presence of catalytic molar ratio of molecular iodine obtain the corresponding novel macrocylces of spiroorthocarbonates 3(a-f) in good yields. (Scheme 1)



Scheme 1

References:

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