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This manuscript describes a facile synthesis of 2-deoxy-*O*-aryl glycosides, initiated from a common 2-deoxy thioglycoside precursor. 2-Deoxy-*O*-aryl glycosides are an important component in many antibiotic and drug molecules. In line with the importance of these glycosides, various methods have been developed previously to their synthesis. Most of the methods involve primarily a masking group at C-2, derived from a normal sugar, and the masking group is removed at a final stage, in order to realize the 2-deoxy constitutent of the sugar unit. The report, presented herein, approaches formation of 2-deoxy-*O*-aryl glycosides in a fundamentally different method, involving a 2-deoxy sugar itself as a precursor. Thus an activated 2-deoxy thioglycoside donor is identified to prepare the 2-deoxy-*O*-aryl glycosides. In order to lead the reactions providing the α- and β-anomers of the thioglycosides, methods have been identified that allow the formation of either of the anomers exclusively. The protocol developed herein is unique, since a common precursor is sufficient to prepare either of the anomers of 2-deoxy-*O*-aryl glycosides. Such a development is important to the synthesis of 2-deoxy glycosides in general and that of 2-deoxy-*O*-aryl glycosides particularly.