Ruthenium-Catalyzed Dynamic Kinetic Resolution of Cycloketones

**Significance:** A ruthenium-catalyzed hydrogenation of racemic, diastereomeric α'-aryl cycloketones is reported. The reaction is a dynamic kinetic resolution (DKR) and gives chiral diols with three contiguous stereocenters with high yield and enantioselectivity.

**Comment:** As the substrate consists of a mixture of four stereoisomers, exerting enantiocontrol in hydrogenation is a challenging feat. The DKR sets the α,α'-stereocenters and hydrogenates the ketone. When R1 is an ester, lactonization occurs and the lactone is hydrogenated to the diol. The α'-aryl substituent is essential in the DKR. The synthetic utility of the DKR is demonstrated in the synthesis of (+)-γ-lycorane.