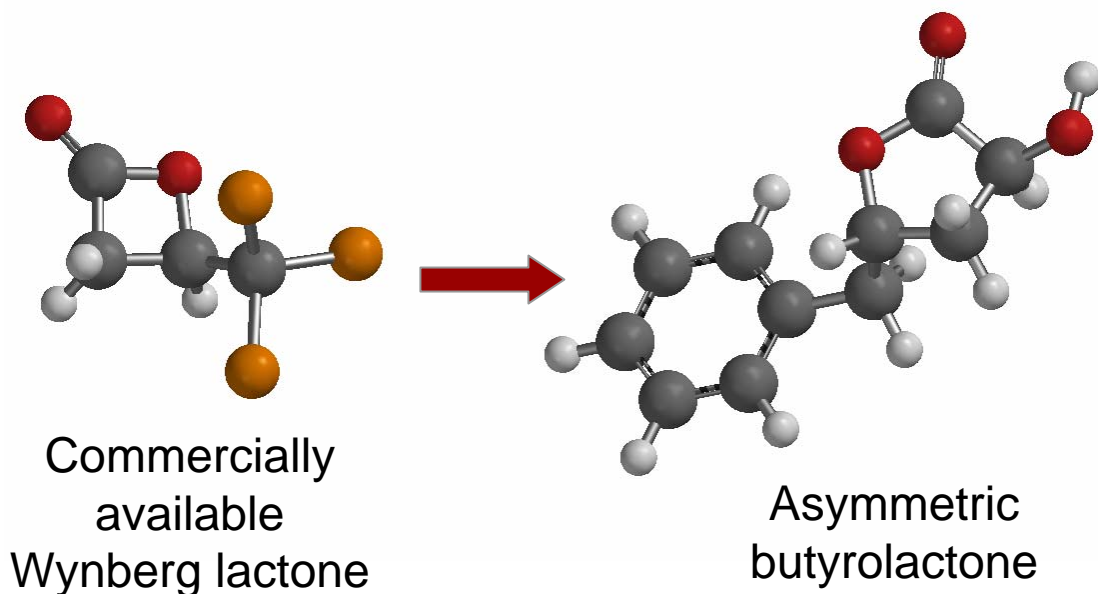


Investigations into the Reactivity of Trichlorocarinols in the Jovic Reaction

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Synthetic methods are the tools chemists use to prepare **plastics, pharmaceuticals, artificial biomolecules, electronic materials, and other commodities**. Safer, less-expensive, and more efficient methods are desirable to limit waste, reduce production time and costs, and enhance operational safety. We have devised several new methods involving trichlorocarinols as intermediates. One involves a 3-4 step conversion of commercially available Wynberg lactone to variably substituted asymmetric butyrolactone, which are common synthetic intermediates and structural components of biomolecules and pharmaceuticals. We have also developed a method for adding a link to a carbon chain (homologation) thereby providing access to thousands of structures that are not commercially available but that can expedite the preparation of organic targets. This approach offers numerous advantages over the few known procedures for the one-carbon homologation of aldehydes to acids including lower costs and broader reaction scope.



Carbonyl Homologation:

