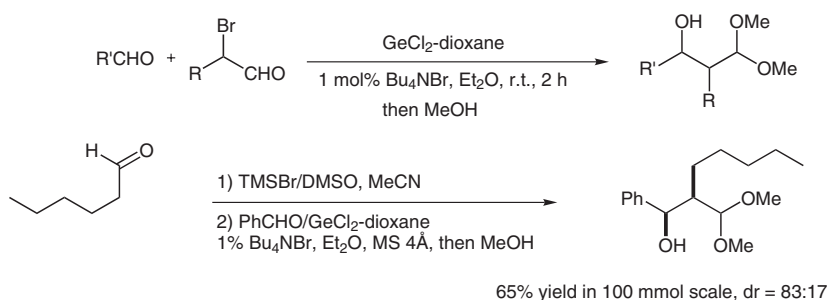


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Reductive Cross-Aldol Reaction Using Bromoaldehyde and an Aldehyde Mediated by Germanium(II): One-Pot, Large-Scale Protocol

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## Germanium(II)-Mediated Cross-Aldol Reaction between Aldehydes and Bromoaldehydes



**Significance:** This is the first example of the reaction between an aldehyde,  $\alpha$ -haloaldehyde and a reducing agent, leading to the aldol-type product. The high instability of the  $\beta$ -hydroxyaldehyde products prevents the application of usual low-valent metal like tin or chromium. The method is convenient and can be easily scaled up.

**Comment:** An aldol-like reaction between  $\alpha$ -bromoaldehyde and an aldehyde, thus avoiding self-aldol reactions, is an excellent alternative for the conventional aldol synthesis. The problem so far was the choice of the proper reducing agent to form the enolate from the haloaldehyde. Further investigation in this field will certainly allow performing the reaction diastereo- and enantioselectively.

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