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Reduction of aldehydes and ketones using $NaBH_4$ catalyzed by DABCO-based ionic liquid

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Ionic liquids (ILs) are a class of non-molecular compounds that are composed solely of ions. Researches on ionic liquids have moved toward the consciously selection and design of these materials due to their increased rate, property, and performance. The design of ionic liquids focuses on the development of new cations and anions to create the essential specific physical properties for each application.[1] Reduction is one of the most momentous and essential chemical transformations in organic synthesis and industrial chemistry. Sodium borohydride as a hydride transferring agents and versatile reagent can be mention, which is used for creating easy and favorable ways for the reduction of many organic functional groups. Reduction of aldehydes and ketones is very important due to incomparable role of alcohols in the pharmaceutical and food industries.[2,3] In this project we wish to introduce a new DABCO-based ionic liquid for the promotion of the reduction of ketones and aldehydes, which can be easily separated from the reaction. Easy work up, simple prodecure of the preparation of the catalyst, high yields, short reaction times and recoverability of the catalyst are the main advantages of this method.



***Keywords*:** DABCO, Ionic liquids, DABCO-based ionic liquid, Reduction, Sodium borohydride

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