

Small organic molecules as catalysts for asymmetric direct aldol reactions in aqueous media: A green chemistry approach for industrial applications

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Presently asymmetric organocatalysis in aqueous media is one of the most focused areas of research field in asymmetric synthesis. Asymmetric carbon-carbon bond forming reactions occupy the central area in the field of asymmetric organic synthesis where aldol reaction is the vastly studied one. A wide range of smart organic materials, including proline and its derivatives have been proved to be efficient catalysts for asymmetric aldol reactions. In recent years, more attention has been paid to develop organocatalysts for the asymmetric direct aldol reactions in water because it provides some unique properties, which include large cohesive energy density, very high surface tension, hydrophobic effect and most importantly it