

## Documents

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**Baker's yeast-based organocatalysis: Applications in organic synthesis**  
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### Abstract

Background: Catalyst speeds up any chemical reaction without changing the point of the equilibrium. Catalysis process plays a key role in organic synthesis to produce new organic compounds. Similarly, organocatalysis is a type of chemical catalysis in which the rate of a reaction is accelerated by organic catalysts. Methods: Organocatalysts have gained significant utility in organic reactions due to their less of sensitivity towards moisture, readily available, economic, large chiral pool and low toxicity as compared to metal catalysts. Organocatalysts work via both formations of covalent bonds such as enamine and iminium catalysis as well as through non-covalent interactions such as in hydrogen bonding. For example, Baker's yeast based organocatalysis is widely used in various organic transformations. Results: Baker's yeast is a fermentation product and used mainly in the preparation of bread dough. It is produced by aerobic fermentation of yeast strain *Saccharomyces cerevisiae*. Baker's yeast consists of enzymes which can reduce a carbonyl group into a hydroxyl group with high yield and thereby making it suitable for biotransformations in organic synthesis. Conclusion: Baker's yeast is widely used as a biocatalyst in various organic reactions such as oxidation, reduction, condensation, hydrolysis, cyclization, etc. because it is readily available, inexpensive and easy to handle. © 2019 Bentham Science Publishers.

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