

PR-3. A PASE-BASED APPROACH TOWARDS SYNTHESIS OF EPOXY KETONES

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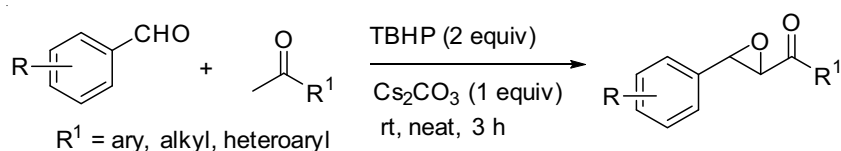
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A PASE (pot, atom, step, economic)-based approach was reported towards the synthesis of α,β -epoxy ketones from one pot reaction between aldehydes and ketones. Epoxidation of electron deficient alkene particularly α,β -unsaturated carbonyl compound is one of the very important reaction in organic synthesis. In most of these methods the authors have used chalcone precursors for the synthesis of α,β -epoxy ketones [1]. However, although existing methods are quite useful, the construction of the epoxide moiety through one pot two component coupling from readily available and simple starting materials employing metal-free catalysts with environmentally benign oxidants under solvent-free conditions is highly desirable. So the developing new methodologies with special emphasis to green chemistry [2] herein we are pleased to report an efficient method for the synthesis of α,β -epoxy ketones from one pot reaction between aldehydes and ketones in presence of cesium carbonate (Cs_2CO_3) and *tert*-butyl hydrogen peroxide (TBHP) under neat conditions. The main advantage of our methodology is that no need to presynthesize the chalcone precursors for this reaction.



References

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2. Bronsted acidic ionic liquid-catalyzed tandem reaction: an efficient approach towards regioselective synthesis of pyrano[3,2-*c*]coumarins under solvent-free conditions bearing lower E-factors / S. Mahato [et al.] // *Green Chem.* Royal Society of Chemistry, 2017. Vol. 19, № 14. P. 3282–3295.

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