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**REVIEWS**

# Di-*tert*-butyl peroxide-mediated carbon–heteroatom bond formation reactions

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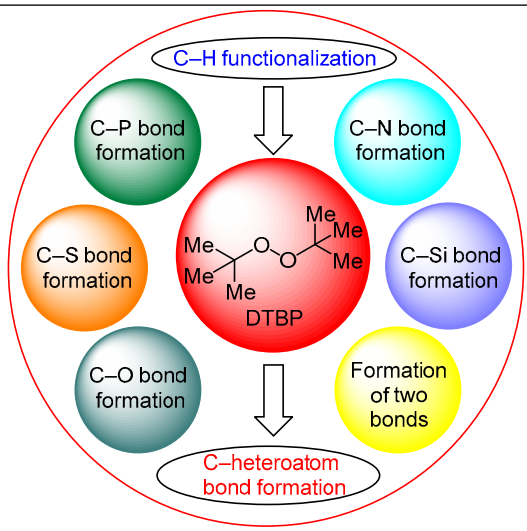


Di-*tert*-butyl peroxide is a commonly used organoperoxide in many oxidation transformations. The primary factors contributing to the increasing usefulness of di-*tert*-butyl peroxide include its affordability, eco-friendliness, exceptional efficacy, and capacity to substitute harmful or rare heavy metal oxidants. In this decennial update of noteworthy applications of di-*tert*-butyl peroxide, we comprehensively examined most of C−H functionalization and carbon−heteroatom bond formation reactions published from 2014 till the present. The review focuses on the advantages and disadvantages of using these synthetic organic transformations, as well as their scope and the underlying mechanisms involved.

**Keywords**: di-*tert*-butyl peroxide, organoperoxide, carbon−heteroatom bond formation, C−H functionalization, oxidation, radical reaction.

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* Here and further the corresponding author is marked with *.