Method and Reagent for Decarboxylative Functionalization of Carboxylic Acids

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A method and associated reagent for direct decarboxylative functionalization of aliphatic compounds via photo-induced hydrogen atom transfer has been developed. This method provides a new route for late-stage modification of natural products, biological compounds, and drugs through introduction of a xanthyl group that is further elaborated into a variety of derivatives. High reaction yields are obtained for primary, secondary, and tertiary carboxylic acids. This reagent/method also enables facile decarboxylation of previously challenging substrates while tolerating the presence of other functional groups. This synthetic approach represents a general platform for a range of decarboxylative transformations via the synthetic versatility of xanthate intermediates.

Related Publications:

- Direct Decarboxylative Functionalization of Carboxylic Acids via O–H Hydrogen Atom Transfer
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