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Continuous flow enatioselective synthesis of α-amino acid derivatives through asymmetric photoredox catalysis

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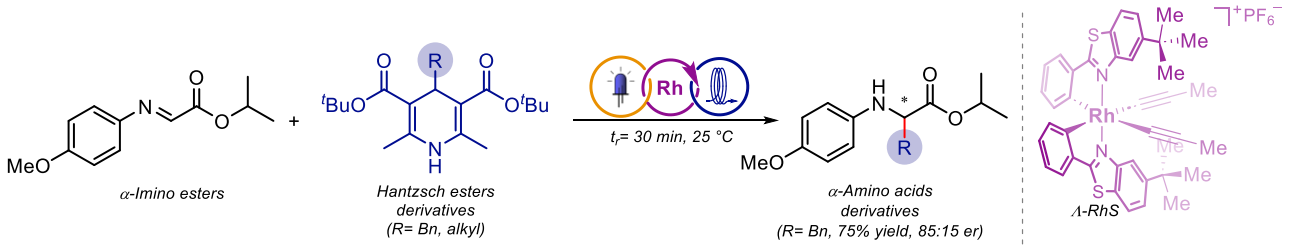
ABSTRACT

Enantiomerically enriched *α*-amino acids and their derivatives are important building blocks, widely used in the pharmaceutical industry, drug research, and materials science.[1] Thus, straightforward and versatile methods for their synthesis are highly desirable. Herein, we reported a photochemical enantioselective addition of alkyl radicals to *α*-imino esters mediated by a chiral-at-metal Rhodium catalyst[2,3] under continuous flow conditions. Our approach enabled fast and direct access to enantioenriched derivatives of both natural and unnatural *α*-amino acids, achieving yields of up to 75% and enantiomeric ratios of up to 85:15.



Scheme. Enantioselective photoredox catalysis in a continuous flow system for the synthesis of α-amino acid derivatives.

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