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(54) Title: N-HETEROCYCLIC CARBENE CATALYZED SYNTHESIS OF N-PHENYLISOXAZOLIDIN-5-ONE DERIVATIVE AND SYNTHESIS OF β -AMINO ACID ESTER DERIVATIVE

(57) Abstract: A process for preparing a N-phenylisoxazolidin-5-one derivative is provided. The process for preparing the N-phenylisoxazolidin-5-one derivative comprises reacting an α , β -unsaturated aldehyde with nitrosobenzene in the presence of a N-heterocyclic carbene (NHC) catalyst. A process for preparing an N-alkoxyphenyl protected β -amino acid ester derivative is further provided. The process for preparing the N-alkoxyphenyl protected β -amino acid ester derivative comprises reacting an α , β -unsaturated aldehyde with nitrosobenzene in the presence of a N-heterocyclic carbene (NHC) catalyst to form a N-phenylisoxazolidin-5-one derivative, and then treating the N-phenylisoxazolidin-5-one derivative with an alcohol in the presence of an acid catalyst. A process for preparing an N-alkoxyphenyl protected β -amino acid ester derivative, comprising treating a N-phenylisoxazolidin-5-one derivative with an alcohol in the presence of an acid catalyst, is also provided.

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