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Brønsted acid catalyzed enantioselective inter and intramolecular α-amidoalkylation reactions in the synthesis of isoquinoline derivatives

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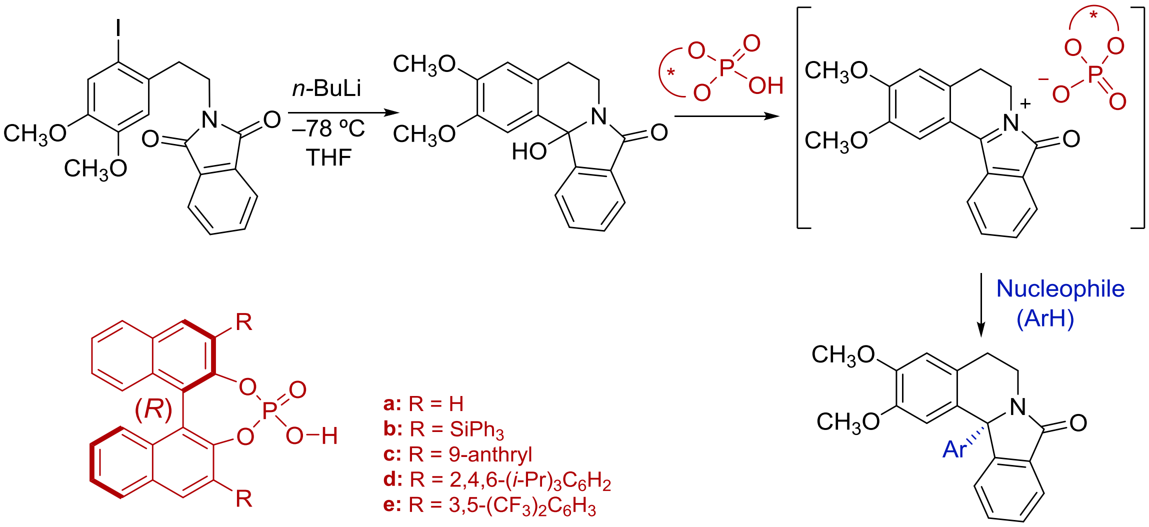
The α-amidoalkylation reaction of aromatic systems using *N*-acyliminium ions as electrophiles is one of the most attractive methods for C-C bond formation in heterocyclic chemistry and has found widespread application in natural products synthesis.[1] A significant progress in the application of enantioselective versions of α-amidoalkylation reactions has been marked by the development of chiral Brønsted acids (mainly BINOL derived phosphoric acids) and hydrogen bond donors (mainly ureas and thioureas). In this context, we have shown that BINOL-derived chiral Brønsted acids catalyze the intermolecular α-amidoalkylation of a bicyclic α-hydroxylactams, obtained by Parham cyclyzation of the corresponding *N*-phnethylimides, with indole derivatives. Thus, a convenient enantioselective synthesis of 12b-substituted isoindoloisoquinolines (*ee* up to 95 %) has been achieved.[2]



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