Synthetic study of slaframine
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Abstract: Slaframine is an indolizidine alkaloidal mycotoxin compound produced by Rhizoctonia leguminicola. In our research, we are exploring the possibility of employing anti-Baldwin 5-endo-trig cyclization to form the indolizidine ring system of slaframine. For this purpose, we synthesized 4-methoxystyrene-tethered glutarimide intermediate 2 from N-butenylglutarimide 1 using two synthetic routes. First, cross metathesis, catalyzed by Grubb’s 2nd generation catalyst, between 1 and p-methoxystyrene was focused. The second route employed the oxidative cleavage of the terminal double bond of 1 and Wittig olefination with phosphonium ylide derived from 4-methoxybenzyl chloride.

Keywords: Oxidative-cleavage; Wittig olefination; Cross-metathesis; L-Asparagine; Slaframine