Synthesis of the Pyrrole-Imidazole Alkaloid Syentrin from the Marine Sponge Agelas sventres

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The marine pyrrole-imidazole alkaloid sventrin (1) and the hitherto unknown dehydrooroidin (3) have been synthesized stereoselectively via alkyne intermediates. The pathways start from a 2-azido-4-alkynylimidazole which can be chemo- and stereoselectively reduced to the corresponding amino alkene using NaAlH₂(OCH₂CH₂OMe)₂ (Red-Al) or, alternatively, to the amino alkyne. Selective removal of simultaneously present Boc or trityl protecting groups was possible employing either p-TsOH or acetic resp. formic acid.

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