Organic Chemistry



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DEVELOPMENT OF SYNTHESIS PATHWAYS FOR THE LIMONOID OCTAHYDRO-1H-2,4-METHANOINDENE SCAFFOLD

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The octahydro-1H-2,4-methanoindene scaffold is present in various limonoid natural products, such as phragmalin, xyloccensins and others. Limonoid natural products exhibit a wide range of pharmacological properties, including anti-HIV, antibiotic, anti-cancer, anti-malarial, and anti-viral activities, therefore, are of high synthetic interest.

In this work, we explore a pathway for a stereodefined assembly of the scaffold with a substitution pattern beneficial for further functionalisation. The synthesis pathway involves the modification of the Hajos-Parrish ketol to obtain compounds, which after being subjected to Aldol/Claisen type condensations, yield the octahydro-1H-2,4-methanoindene scaffold.

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