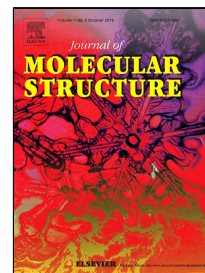


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Synthesis and spectroscopic characterization of cyclobutyl hydantoins

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Abstract

The hydantoin moiety has proved to be an important pharmacophore that confers a wide range of biological properties to different derivatives. Thus, synthetic methods have been developed to obtain such molecules. Herein, we describe the heterocyclization process to obtain imidazolidine-2,4-diones (hydantoin compounds) from methylcyclobutyl ketones and cyclobutanones derived from (-)-(1S)- α -pinene and (-)-(1S)-verbenone through the Bucherer-Berg reaction. The methylcyclobutyl hydantoins and the spirohydantoin obtained were fully characterized, determining their absolute stereochemistry by nuclear magnetic resonance experiments and theoretical calculations.

Keywords: methylcyclobutyl ketones, cyclobutanones, Bucherer-Berg reaction, hydantoins, nuclear magnetic resonance

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