TECHNOLOGY OFFER

NOVEL SULFONYLIMINES AS VALUABLE REAGENTS AND ANTIBACTERIAL AS WELL AS ANTIFUNGAL AGENTS

This technology offers a new reaction to prepare sulfonylimines with an open chain diene structure via a new ring cleavage reaction of dihydropyridines with sulfonylhalogenides. The formed sulfonylimines can be yielded in an isomeric pure form. Such sulfonylimines are valuable reagents for further reactions, like the syntheses of heterocycles and Diel-Alder reactions and show antibacterial as well as antifungal potency.

BACKGROUND

Sulfonylimines are electron-rich compounds and as such valuable starting points (synthons) for cyclo-addition reactions. For example, they are used for preparing heterocycles such as e.g. tetrahydropyridines. However, available sulfonylimines and methods for preparing them are limited regarding the potential substitution pattern. There is a need for new sulfonylimines with various substituents and processes for preparing such compounds allowing for more structural variability in these valuable synthons for further reactions. Moreover, certain sulfonylimines are described to exhibit agrochemical and pharmaceutical activities. Sulfonylimines have been investigated for their use in cancer therapy and in treating bacterial infections, they are also useful as agents for crop protection as pesticides and herbicides.

TECHNOLOGY

This new reaction provides access to novel sulfonylimines with a diene side chain. It was discovered, that open chain sulfonylimines can be obtained upon reacting 2,3-dihydropyridine-4-amines with sulfonylhalides. The product is only one specific out of several possible isomers and therefore a separation of isomers is not necessary.

ADVANTAGES

- Access to novel sulfonylimines.
- Access to novel products of reactions with those sulfonylimines like Diels-Alder products and heterocycles.
- No cytotoxicity.

APPLICATIONS

- Novel compounds with antibacterial potency.
- Novel compounds with antifungal potency.
- Novel reagents for e.g. the syntheses of heterocycles and Diel-Alder reactions.

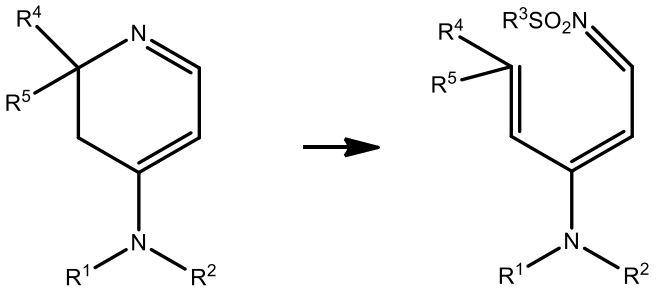

Fig. 1 – Ring cleavage reaction of 2,3-dihydropyridine-4-amines

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KEYWORDS:
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