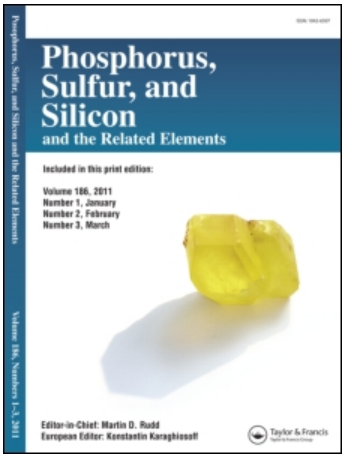

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A NEW METHOD FOR PREPARATION OF β-LACTAM SULFOXIDES

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A NEW METHOD FOR PREPARATION OF β-LACTAM SULFOXIDES

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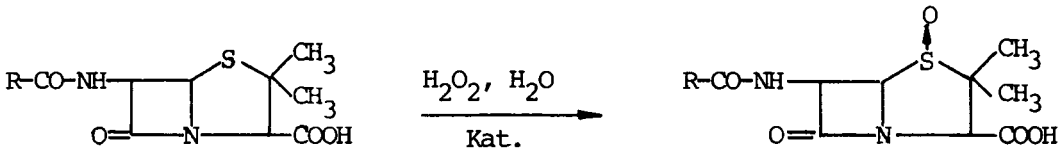
Penicillin sulfoxides (II) are key intermediates in chemical transformations of penicillins to cephalosporins. Oxidation of the sulfur atom in penicillin nucleus (I) to the sulfoxide (II) has been studied and a new economically feasible method developed.



I. II.

Utilisation of phosphor-wolfram acid as a catalyst in sulfoxidation has introduced a simple way of oxidation of fermentation - produced penicillins with hydrogen peroxide in aquaous media. Method has also proved to be very successful in oxidation of some sensitive semi-synthetic penicillins and in general gives products in very high yields and of good purity.
In our new approach to sulfoxidation of penicillins formation of undesirable sulfones has not been detected.