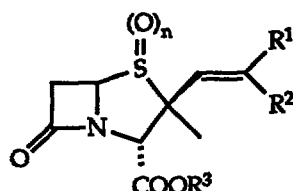


THIS SHEET HAS BEEN
REPLACED

RAN 4410/238

Abstract

5 The present invention is concerned with penam derivatives, in particular it is concerned with 2 β -alkenyl-penam derivatives of the general formula



I This Sheet Has Been Replaced.

10

wherein

one of R¹ and R² signifies -COR⁴, -CN, -CH₂R⁵, halogen, -CH=CHR⁶ or Q and the other signifies hydrogen or lower alkyl or both together signify a γ -lactam ring,

15 R³ signifies hydrogen, lower alkyl, aryl-alkyl, allyl or a residue which is cleavable in vivo,

R⁴ signifies hydrogen, lower alkyl, lower alkoxy, benzyloxy, amino, lower alkylamino or lower alkyl-lower alkoxyamino,

20 R⁵ signifies hydroxy, -OCONHR⁷, -CONH₂ or a five- or six-membered hetero-aromatic ring which contains N,S and/or O and which is linked via a nitrogen atom,

R⁶ signifies -CN or CHO,

R⁷ signifies -COCH₂Cl,

25 Q signifies a five- or six-membered hetero-aromatic ring which contains N, S and/or O and

n signifies 0, 1 or 2,

as well as pharmaceutically compatible salts of these compounds.

30 These compounds are good β -lactamase inhibitors. They can be used for the prevention or treatment of bacterial infections, optionally together with a β -lactam antibiotic.