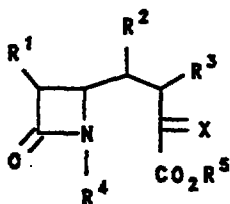
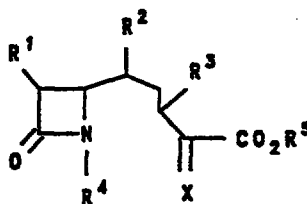


ABSTRACT
NOVEL 4-SUBSTITUTED AZETIDINONES AS PRECURSORS
TO 2-SUBSTITUTED-2-CARBOXY CARBAPENEM
ANTIBIOTICS AND A METHOD OF PRODUCING THEM

New 4-substituted azetidinones having the
 formulae I and II:



I



II

with R¹, R², R³, R⁴, R⁵ and X defined hereafter, which
 are intermediates for the preparation of carbapenem and
 carbacephem antibacterials and processes for producing
 such antibacterials through the utilization of an acid
 mediated ring closure reaction.