



162162

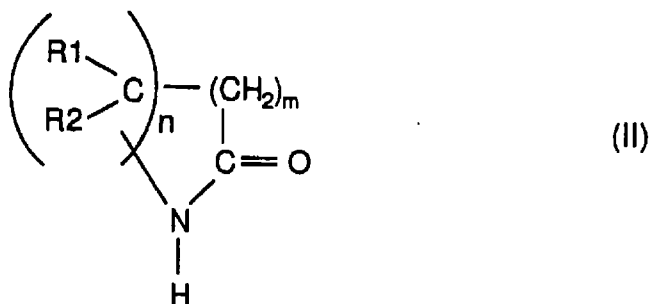
Preparation of cyclic lactams



G00002

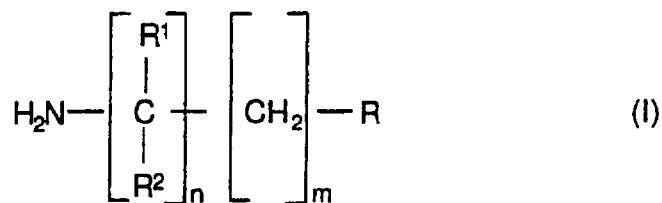
Abstract

5 A process is provided for the preparation of cyclic
lactams of formula (II):



10 in which n and m can each have the values 0, 1, 2, 3,
4, 5, 6, 7, 8 and 9 and the sum of n + m is at least 3,
preferably at least 4, and R¹ and R² are C₁-C₆-alkyl,
C₅-C₇-cycloalkyl or C₆-C₁₂-aryl groups,

15 by reacting a compound (I) of the formula



in which R^1 , R^2 , m and n are as defined above and R are
20 [sic] nitrile, carboxamide and carboxylic acid groups,

with steam in the gas phase, wherein

a) the compound (I) is reacted with steam in the gas
25 phase with the addition, before or after the
reaction, of an organic diluent (III) which

exhibits a miscibility gap with water under specific quantity, pressure and temperature conditions,

to give a mixture (IV) containing a lactam (II),

5

- b) the mixture (IV) is converted, before or after the separation of ammonia, under quantity, pressure and temperature conditions such that the diluent (III) and water are liquid and exhibit a miscibility gap, to give a two-phase system

10

consisting of a phase (V) containing a higher proportion of diluent (III) than water, and a phase (VI) containing a higher proportion of water than diluent (III),

15

- c) the phase (V) is separated from the phase (VI), and

- d) the diluent (III) and optionally by-products selected from the group consisting of low-boiling component [sic], high-boiling component [sic] and unreacted compound (I) are separated from the phase (V) to give a lactam (II).

20