

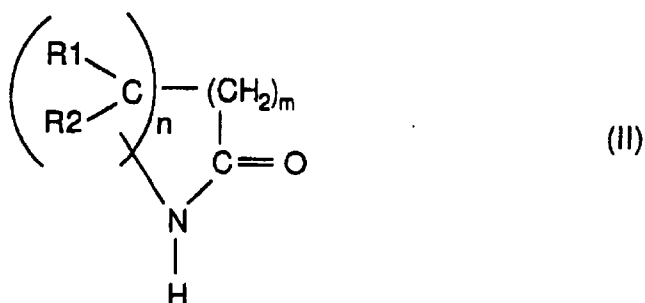
Preparation of cyclic lactams



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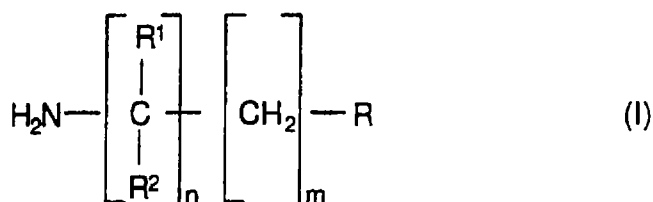
Abstract

- 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

- 25 a) the compound (I) is reacted with steam in the gas 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,
30 to give a mixture (IV) containing a lactam (II),
- b) the mixture (IV) is converted, before or after the separation of ammonia, under quantity, pressure and temperature conditions such that the diluent
35 (III) and water are liquid and exhibit a miscibility gap, to give a two-phase system

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),

- 5
- c) the phase (V) is separated from the phase (VI),
and
- 10
- 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).