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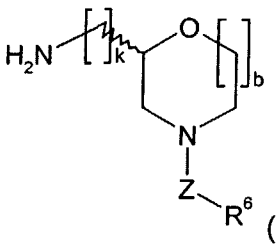
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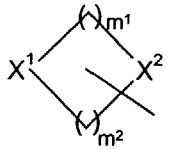
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(54) Title: PROCESS FOR THE PREPARATION OF MORPHOLINE DERIVATIVES AND INTERMEDIATES THEREFORE



(IIIA)



(K)

(57) Abstract: Processes for the preparation of a compound of formula (IIIA)(I), or a salt thereof; wherein; Z represents a bond, CO, SO_2, $CR^{10}R^7(CH_2)_n$, $(CH_2)_nCR^{10}R^7$, $CHR^7(CH_2)nO$, $CHR^7(CH_2)_nS$, $CHR^7(CH_2)_nOCO$, $CHR^7(CH_2)_nCO$, $COCHR^7(CH_2)_n$ or $SO_2CHR^7(CH_2)_n$; R^6 represents C_{1-6} alkyl, C_{2-6} alkenyl, aryl, heteroaryl, aryl-C_{2-6} alkenyl-, -CN or a group of formula $-Y^2-J^3$; R^7 represents hydrogen, C_{1-4} alkyl, $CONR^8R^9$ or $COOC_{1-6}$ alkyl;a and b represent 1 or 2, such that a+b represents 2 or 3;n represents an integer from 0 to 4; M represents a C_{3-8} cycloalkyl or C_{3-8} cycloalkenyl group fused to a monocyclic aryl or monocyclic heteroaryl group; J^3 represents a moiety of formula (K): (II), wherein X^1 represents oxygen, NR^{11} or sulphur, X^2 represents CH_2, oxygen, NR^{12} or sulphur, m^1 represents an integer from 1 to 3 and m^2 represents an integer from 1 to 3, provided that m^1+m^2 is in the range from 3 to 5, also provided that when both X^1 and X^2 represent oxygen, NR^{11}, NR^{12} or sulphur, m^1 and m^2 must both not equal less than 2, wherein (K) is optionally substituted by one or more (eg. 1 or 2) $-Y^3$-aryl, $-Y^3$-heteroaryl, $-Y^3$-CO-aryl, $-COC_{3-8}$ cycloalkyl, $-Y^3$-CO-heteroaryl, $-C_{1-6}$ alkyl, $-Y^3$-$COOC_{1-6}$ alkyl, $-Y^3$-COC_{1-6} alkyl, $-Y^3$-W, $-Y^3$-CO-W, $-Y^3$-$NR^{15}R^{16}$, $-Y^3$-$CONR^{15}R^{16}$, hydroxy, oxo, $-Y^3$-$SO_2NR^{15}R^{16}$, $-Y^3$-SO_2C_{1-6} alkyl, $-Y^3$-SO_2aryl, $-Y^3$-SO_2heteroaryl, $-Y^3$-$NR^{13}C_{1-6}$ alkyl, $-Y^3$-$NR^{13}SO_2C_{1-6}$ alkyl, $-Y^3$-$NR^{13}CONR^{15}R^{16}$, $-Y^3$-$NR^{13}COOR^{14}$ or $-Y^3$-$OCONR^{15}R^{16}$ groups, and is optionally fused to a monocyclic aryl or heteroaryl ring; R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13} and R^{14} independently represent hydrogen or C_{1-6} alkyl; R^{15} and R^{16} independently represent hydrogen or C_{1-6} alkyl or R^{15} and R^{16} together with the nitrogen atom to which they are attached may form a morpholine, piperidine or pyrrolidine ring; R^{17} and R^{18} independently represent hydrogen or C_{1-6} alkyl; W represents a saturated or unsaturated, non-aromatic 5-7 membered ring containing between 1 and 3 heteroatoms selected from nitrogen, oxygen or sulphur, optionally substituted with one or more C_{1-6} alkyl, halogen or hydroxy groups; Y^1, Y^2 and Y^3 independently represent a bond or a group of formula $-(CH_2)_pCR^cR^d(CH_2)_q-$ wherein R^c and R^d independently represent hydrogen or C_{1-4} alkyl or R^c and R^d may together with the carbon atom to which they are attached form a C_{3-8} cycloalkyl group, and p and q independently represent an integer from 0 to 5 wherein p + q is an integer from 0 to 5;, and; k is 1 or 2;are disclosed.

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