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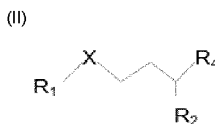
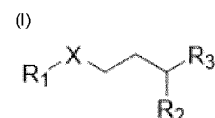
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(54) Title: A METHOD FOR ENZYMATIC PRODUCTION OF AN AMIDE COMPOUND



(57) Abstract: The invention concerns a method for preparing a compound of formula (I) and its use for producing methionine and analogs thereof wherein formula (I) is (I) in which X is selected from S and Se; R₁ is selected from H, alkyl groups, aryl groups and alkylaryl groups; R₂ is selected from OH, NR₅R₆ where R₅ and R₆ are identical or different and are selected from H and alkyl groups; and R₃ is C(O)NR₇R₈ where R₇ and R₈ are identical or different and are selected from H and alkyl groups; which method comprising the reaction of a compound of formula (II) in which X, R₁ and R₂ are as defined above for the compound of formula (I); and R₄ is CN; in the presence of an enzyme having a nitrile hydratase activity and comprising at least an α-subunit and a β-subunit, said α-subunit being defined by SEQ ID No: 1 and said β-subunit being defined by SEQ ID No: 2, wherein said α-subunit has at least one mutation selected from the group consisting of Leu6, Ile13, Ala19, Thr36, Asp40, Ala43, Asn48, Arg71, Asp92, Met94, Phe126, Gly148 and Val204, and/or said β-subunit has at least one mutation selected from the group consisting of Val4, Thr10, Val24, Phe37, Phe41, Met46, Leu48, Phe51, His79, Gln96, Pro107, Glu108, Phe118, Leu127, Arg160, Leu186, Ala200, Gly205, Pro206, Ser212, Tyr215, Ala230 and Ala231, said amino acid in said position(s) being replaced by anyone of alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, or valine.

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