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(71) Applicant (*for all designated States except US*): **DSM IP Assets B.V.** [NL/NL]; Het Overloon 1, NL-6411 TE Heerlen (NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BERG, VAN DEN, Marco Alexander** [NL/NL]; Voorstraat 31b, NL-2685 EH Poeldijk (NL). **BOVENBERG, Roelof, Ary, Lans** [NL/NL]; Kralingse Plaslaan 10, NL-3062 DA Rotterdam (NL). **NOORMAN, Hendrik, Jan** [NL/NL]; De Vriesstraat 31, NL-2613 CA Delft (NL). **ROMEIN, Bastiaan** [NL/NL]; Papenstraat 39, NL-2611 JB Delft (NL).

(74) Agents: **MISSET, Onno** et al.; DSM Intellectual Property, Delft Office (600-0240), P.O. Box 1, NL-2600 MA Delft (NL).

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(54) Title: PRODUCTION OF BETA-LACTAM ANTIBIOTICS BY GENETICALLY MODIFIED NON-NATURALLY PRODUCING MICROORGANISMS

(57) Abstract: The present invention describes the transformation of a microorganism that does not naturally produce a beta-lactam compound with polynucleotides involved in the biosynthesis of beta-lactam compounds and the use of such transformed microorganisms in the production of beta-lactam compounds or in the identification of genes or factors involved in the synthesis of a beta-lactam compound. For example, the genes encoding ACV, IPNS, AT and PCL from *P. chrysogenum* are inserted into *S. cerevisiae* by genetic engineering.



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