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Title

Nitrate of 2,6-diacetylpyridine-bis(picolinoylhydrazone)-bis(aqua)iron(III)–hydrate(1/2,5) with stimulating properties on exocellular lipase synthesis for the *Rhizopus arrhizus* CNMN FD 03 fungal strain and nutrient medium for cultivation

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Description EN

The invention relates to coordination chemistry and biotechnology, in particular to the synthesis of a new coordination compound of iron(III) and 2,6-diacetylpyridine bis(picolinoylhydrazone), with biostimulatory properties on exocellular lipase synthesis in mycelial fungal strain *Rhizopus arrhizus* CNMN FD 03 that may be used in the development of biotechnologies to obtain lipolytic enzymes.

According to the invention, a novel coordination compound of 2,6-diacetylpyridine-bis(picolinoylhydrazone)-bis(aqua)iron(III)–hydrate(1/2,5) with the formula $[Fe(H_2L)(H_2O)_2](NO_3)_3 \cdot 2{,}5H_2O$, where H_2L represents 2,6-diacetylpyridine bis(picolinoylhydrazone), is claimed. The claimed compound is highly soluble in water, which ensures a practical use as a component of nutrient mediums.

A nutrient medium is claimed, as well, for submerged cultivation of *Rhizopus arrhizus* CNMN FD 03 fungal strain containing soy flour, $(NH_4)_2SO_4$, KH_2PO_4, water and the above-mentioned stimulant in the following quantitative ratio of components (g): soy flour – 35,0; $(NH_4)_2SO_4$ – 1,0; KH_2PO_4 – 5,0; $[Fe(H_2L)(H_2O)_2](NO_3)_3 \cdot 2{,}5H_2O$ – 0,005…0,015; potable water – up to 1 L. The biostimulator ensures the increasing of lipases biosynthesis in the producer by 17,4...82,7% and reduction of duration of cultivation by 24 h.

Class no. 3. Agriculture and Food Industry