

Title (en)

METHOD FOR PRODUCING ZIRCONIUM DIOXIDE NANOPARTICLES IN THE PRESENCE OF AN AMINO ACID

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ZIRKONDIOXID-NANOPARTIKELN IN GEGENWART EINER AMINOSÄURE

Title (fr)

PROCEDE DE PREPARATION DE NANOPARTICULES DE DIOXYDE DE ZIRCONIUM EN PRESENCE D'ACIDE AMINE

Publication

**EP 3887316 A1 20211006 (FR)**

Application

**EP 19832565 A 20191128**

Priority

- FR 1872183 A 20181130
- EP 2019082930 W 20191128

Abstract (en)

[origin: WO2020109477A1] The present invention relates to a method for producing zirconium dioxide,  $ZrO_2$ , nanoparticles by hydrothermal treatment of a zirconium IV compound in the presence of water, at a pH below 7, and of at least one amino acid comprising at least 4 carbon atoms, said amino acid being present in an acid function to amine function ratio greater than or equal to 1. The invention also relates to zirconium dioxide nanoparticles which exhibit a transmittance in the visible spectrum of greater than or equal to 20% at 400 nm and greater than or equal to 95% at 800 nm, measured in water at a concentration of 40% by weight.

IPC 8 full level

**C01G 25/02** (2006.01)

CPC (source: EP KR US)

**C01G 25/00** (2013.01 - EP KR); **C01G 25/02** (2013.01 - EP KR US); **C01P 2002/84** (2013.01 - EP KR); **C01P 2004/04** (2013.01 - EP KR US); **C01P 2004/51** (2013.01 - EP KR); **C01P 2004/64** (2013.01 - EP KR US); **C01P 2006/22** (2013.01 - EP KR US); **C01P 2006/80** (2013.01 - EP KR)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2020109477 A1 20200604**; CN 113165900 A 20210723; CN 113165900 B 20230718; EP 3887316 A1 20211006; FR 3089136 A1 20200605; FR 3089136 B1 20240322; JP 2022510347 A 20220126; KR 20210096611 A 20210805; SG 11202104964U A 20210629; US 12071355 B2 20240827; US 2022009790 A1 20220113

DOCDB simple family (application)

**EP 2019082930 W 20191128**; CN 201980078973 A 20191128; EP 19832565 A 20191128; FR 1872183 A 20181130; JP 2021531375 A 20191128; KR 20217015998 A 20191128; SG 11202104964U A 20191128; US 201917293208 A 20191128