Title (en)

METHOD FOR RECOVERING LIPIDS USING A BALL MILL

Title (de)

VERFAHREN ZUR AUFBEREITUNG VON LIPIDEN MITTELS EINER KUGELMÜHLE

Title (fr)

PROCÉDÉ DE RÉCUPÉRATION DES LIPIDES AU MOYEN D'UN BROYEUR À BILLES

Publication

EP 3156474 A1 20170419 (FR)

Application

EP 16193842 A 20161014

Priority

FR 1559840 A 20151016

Abstract (en)

[origin: JP2017074039A] PROBLEM TO BE SOLVED: To provide methods for fractionating lipids contained in microalgal biomass neither drying the biomass nor using solvents, to obtain compositions whose various ingredients are easily separated afterward.SOLUTION: The invention relates to a method for treating a microalgal biomass, comprising the following steps: providing a microalgal biomass containing at least 15 mass% of lipids relative to the total weight of the biomass and having a dry matter concentration of between 1 g/L and 200 g/L, milling the biomass by a bead mill under the following conditions: the diameter of the beads (d) ranges from 0.2 to 2.5×10m, preferably from 0.4 to 1.0×10m, preferably approximately 0.6×10m, the blade-tip agitation speed (v) ranges from 4 to 50 m/s, preferably from 5 to 20 m/s, more preferably approximately 8 m/s; and recovering thus obtained composition.SELECTED DRAWING: None

Abstract (fr)

La présente invention un procédé de traitement d'une biomasse micro-algale caractérisé en ce qu'il comprend les étapes suivantes : - disposer d'une biomasse micro-algale comprenant au moins 15 %, en poids de lipides par rapport à la masse totale de ladite biomasse et présentant une concentration en matière sèche comprise entre 1 g/l et 200 g/l, - broyer ladite biomasse au moyen d'un broyeur à billes mis en oeuvre dans les conditions suivantes : - le diamètre moyen des billes (d GM) varie de 0,2 à 2,5.10 -3 m, de préférence de 0,4 à 1,0 10 -3 m et de manière préférée est d'environ 0,6 10 -3 m, - la vitesse d'agitation en bout de pale (u) varie de 4 à 50 m.s -1 , de préférence de 5 à 20 m.s -1 et de manière préférée est d'environ 8 m.sec -1 ; - le taux de remplissage en billes du broyeur varie de 50 % à 80 % volume/volume, - récupérer la composition obtenue.

IPC 8 full level

C11B 1/04 (2006.01); **C11B 1/06** (2006.01)

CPC (source: EP US)

C11B 1/02 (2013.01 - US); **C11B 1/04** (2013.01 - EP US); **C11B 1/06** (2013.01 - EP US); **C11B 1/10** (2013.01 - US)

Citation (applicant)

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- HONGLI ZHENG ET AL.: "Disruption of Chlorella vulgaris Cells for the Release of Biodiesel-Producing Lipids : A Comparison of Grinding, Ultrasonication, Bead Milling, Enzymatic Lysis, and Microwaves", APPL. BIOCHEM BIOTECHNOL, vol. 164, 2011, pages 1215 - 1224

Citation (search report)

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DOCDB simple family (application)

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