

Title (en)

CO2 CAPTURE WITH CARBONIC ANHYDRASE AND MEMBRANE FILTRATION

Title (de)

CO2-ERFASSUNG MIT CARBOANHYDRASE UND MEMBRANFILTRATION

Title (fr)

CAPTURE DE CO2 AVEC UNE ANHYDRASE CARBONIQUE ET UNE FILTRATION SUR MEMBRANE

Publication

EP 2776143 A4 20160127 (EN)

Application

EP 12846957 A 20121113

Priority

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- CA 2012050802 W 20121113

Abstract (en)

[origin: WO2013067648A1] The method for CO2 capture includes operating a CO2 capture system with a large temperature swing in between the absorption stage and the desorption stage; utilizing a hybrid solvent comprising water, carbonic anhydrase and an absorption compound in the absorption stage; membrane filtering the carbonic anhydrase out of the hybrid solvent in between the absorption stage and the desorption stage and prior to the large temperature swing; and recycling the filtered carbonic anhydrase back into the absorption stage to maintain high enzyme concentration in the absorption stage.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [X1] WO 2011014955 A1 20110210 - CO2 SOLUTION INC [CA], et al
- [XP] WO 2012103653 A1 20120809 - CO2 SOLUTIONS INC [CA], et al
- [Y] CA 2714304 A1 20030113 - CO2 SOLUTION INC [CA]
- [Y] WO 2008095057 A2 20080807 - NOVOZYMES AS [DK], et al
- [X1] WO 2008072979 A1 20080619 - SINVENT AS [NO], et al
- [A] US 2007246406 A1 20071025 - DIBEL KEVIN R [US], et al
- [T] SNEHAL WANJARI ET AL: "Immobilization of carbonic anhydrase on mesoporous aluminosilicate for carbonation reaction", MICROPOROUS AND MESOPOROUS MATERIALS, ELSEVIER SCIENCE PUBLISHING, NEW YORK, US, vol. 160, 3 April 2012 (2012-04-03), pages 151 - 158, XP028402005, ISSN: 1387-1811, [retrieved on 20120414], DOI: 10.1016/J.MICROMESO.2012.04.005
- See references of WO 2013067648A1

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