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(54) **PROCESSES FOR ISOLATING BITTER COMPOUNDS FOR USE IN FOOD AND BEVERAGE PRODUCTS**

VERFAHREN ZUR ISOLIERUNG BITTERER VERBINDUNGEN ZUR VERWENDUNG BEI NAHRUNGSMITTELEN UND GETRÄNKEPRODUKTEN

METHODES DESTINEES A ISOLER DES COMPOSES AMERS UTILISABLES DANS DES PRODUITS ALIMENTAIRES OU A BOIRE

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(56) References cited:  
**EP-A1- 0 687 661 WO-A-86/01508**  
**WO-A1-02/100192 GB-A- 2 089 639**  
**US-A- 3 100 224 US-A- 5 401 858**  
**US-A1- 2003 013 758**

• **BENNAT, C.; ENGELHARDT, U. H.; KIEHNE, A.; WIRRIES, F.-M.; MAIER, H. G.: "HPLC Analysis of chlorogenic acid lactones in roasted coffee" ZEITSCHRIFT FÜR LEBENSMITTELUNTERSUCHUNG UND -FORSCHUNG, vol. 199, no. 1, 1994, pages 17-21, XP008071988 Institut für Lebensmittelchemie der Technischen Universität, Braunschweig, Germany**

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**EP 1 893 034 B8**

- DATABASE FSTA [Online] INTERNATIONAL FOOD INFORMATION SERVICE (IFIS), FRANKFURT-MAIN, DE; 19 July 1991 (1991-07-19), SCHOLZ-BÖTTCHER B M ET AL: "(In Quatorzieme colloque scientifique international sur le cafe. San Francisco, 14-19 juillet 1991.' Paris, France; Association Scientifique Internationale du Cafe. ISBN 2-900212-13-8 ((see FSTA (1992) 24 6H103)).)" XP002409843 Database accession no. 92-1-06-h0126
- GINZ, M.; ENGELHARDT, U. H.: "Analysis of Bitter Fractions of Roasted Coffee by LC-ESI-MS - New Chlorogenic Acid Derivatives" 19TH ED. COLLOQUE SCIENTIFIQUE INTERNATIONAL SUR LE CAFÉ, 2001, pages 248-252, XP008072068 cited in the application
- DATABASE WPI Derwent Publications Ltd., London, GB; AN 1990-053891 & JP 2 005 825 A (HASEGAWA CO LTD) 10 January 1990
- DATABASE WPI Derwent Publications Ltd., London, GB; AN 1990-366278 & JP 2 265 433 A (HASEGAWA CO LTD) 30 October 1990
- DATABASE WPI Derwent Publications Ltd., London, GB; AN 1999-061080 & CN 1 193 479 A (XU J) 23 September 1998
- NAGEL, C. W. ET AL: "A Research Note: Is Chlorogenic Acid Bitter ?", JOURNAL OF FOOD SCIENCE, vol. 52, no. 1, 1987, pages 213-213,
- Hoffmann, T.: "Battling bitter coffee - chemists vs. main source of coffee bitterness", American Chemical Society , 21 August 2007 (2007-08-21), Retrieved from the Internet: URL:[http://www.eurekalert.org/pub\\_releases/2007-08/acs-bbc080907.php](http://www.eurekalert.org/pub_releases/2007-08/acs-bbc080907.php) [retrieved on 2010-07-01]