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(54) Title: CHOCOLATE FORMULATIONS WITH FUNCTIONAL PROPERTIES

(57) Abstract: This invention relates to methods of concentrating bioactive substances from cacao (*Theobroma spp.*) seeds. The invention further relates to methods of processing, and concentrating various classes of chemical compounds from foodstuffs so that a full spectrum food concentrate containing all of the major compound classes present in the raw foodstuff is extracted retaining the full nutritional or bioactive value of the starting material. The invention also relates to formulations, pharmaceutical preparations, nutritional preparations, and dietary supplements that may be prepared with the extracted materials and their uses to treat various ailments or nutritional deficiencies.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/45376

<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61K 36/00; A61K 9/68 (2007.01) USPC - 424/776; 424/440 According to International Patent Classification (IPC) or to both national classification and IPC</p>																				
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) USPC: 424/776; 424/440</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC: 366/69; 425/406</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WEST and Google Scholar: chocolate, theobroma cacao, euterpe oleracea, acai, extract, cholesterol, sterol, sterolin, mechanical shearing, conching</p>																				
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Category*</th> <th style="width:70%;">Citation of document, with indication, where appropriate, of the relevant passages</th> <th style="width:20%;">Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td align="center">Y</td> <td>US 2004/0033281 A1 (LEE et al.) 19 February 2004 (19.02.2004); para [0019], [0021] and [0038]</td> <td align="center">1-3</td> </tr> <tr> <td align="center">Y</td> <td>US 2003/0215558 A1 (KEALEY et al.) 20 November 2003 (20.11.2003); para [0038], [0039], [0051], [0056], [0212], [0512], [0513] and [0550]</td> <td align="center">1-3</td> </tr> <tr> <td align="center">Y</td> <td>ASSUNCAO A.B. et al. Hygroscopic behavior of the powdered ACAI (Euterpe oleracea). 2nd Mercosur Congress on Chemical Engineering/4th Mercosur Congress on Process Systems Engineering. August 14th-18th, 2005; Retrieved from the Internet 21 August 2007 <http://www.enpromer2005.eq.ufrj.br/nukleo/pdfs/0737_article_acai.pdf>; Introduction</td> <td align="center">2</td> </tr> <tr> <td align="center">Y</td> <td>US 2004/0166183 A1 (RUSELER-VAN EMBDEN et al.) 26 August 2004 (26.08.2004), para [0003], [0007], [0013]-[0015], [0020], [0021] and [0063].</td> <td align="center">3</td> </tr> <tr> <td align="center">A</td> <td>Xocai Product Launch [online]. Northern Brands, L.L.C., 10 June 2005; Retrieved from the internet: 21 August 2007 <http://web.archive.org/web/20050610004704/http://www.myxocai.com/xocai.html>.</td> <td align="center">2</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y	US 2004/0033281 A1 (LEE et al.) 19 February 2004 (19.02.2004); para [0019], [0021] and [0038]	1-3	Y	US 2003/0215558 A1 (KEALEY et al.) 20 November 2003 (20.11.2003); para [0038], [0039], [0051], [0056], [0212], [0512], [0513] and [0550]	1-3	Y	ASSUNCAO A.B. et al. Hygroscopic behavior of the powdered ACAI (Euterpe oleracea). 2nd Mercosur Congress on Chemical Engineering/4th Mercosur Congress on Process Systems Engineering. August 14th-18th, 2005; Retrieved from the Internet 21 August 2007 <http://www.enpromer2005.eq.ufrj.br/nukleo/pdfs/0737_article_acai.pdf>; Introduction	2	Y	US 2004/0166183 A1 (RUSELER-VAN EMBDEN et al.) 26 August 2004 (26.08.2004), para [0003], [0007], [0013]-[0015], [0020], [0021] and [0063].	3	A	Xocai Product Launch [online]. Northern Brands, L.L.C., 10 June 2005; Retrieved from the internet: 21 August 2007 <http://web.archive.org/web/20050610004704/http://www.myxocai.com/xocai.html>.	2
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<p>Date of the actual completion of the international search</p> <p>21 August 2007 (21.07.2007)</p>		<p>Date of mailing of the international search report</p> <p align="center">29 APR 2008</p>																		
<p>Name and mailing address of the ISA/US</p> <p>Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer:</p> <p align="center">Lee W. Young</p> <p>PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>																		