Title: A NEW NUTRACEUTICAL COMPOSITION FROM GARCINIA MANGOSTANA

Abstract: Disclosed herein are improved pharmaceutical, cosmetic, nutraceutical and dietary compositions affluent in γ-mangostin and other demethylated xanthones from Garcinia mangostana and the process for preparation thereof. These enriched fractions exhibit potent antioxidative activity and reduce inflammation. The method of treating TNF-α and p38 mediated disorders using these compositions are also disclosed.
A. CLASSIFICATION OF SUBJECT MATTER
   IPC(8) - A23K 1/00; A23F 3/00 (2009.01)
   USPC - 426/49; 426/507
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
   Minimum documentation searched (classification system followed by classification symbols)
   IPC(8): A23K 1/00; A23F 3/00 (2009.01)
   USPC: 426/49; 426/507

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   USPC: 426/635; 426/2; 426/53; 426/725; 424/195.17; 424/729; 424/744; 424/769; 424/755; 424/757; 424/764; 424/773 424/774; 424/777

   Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 2006/0292255 A1 (MOFFETT et al.) 28 Dec 2006 (28.12.2006), para [0014]-[0019], [0068], [0071], [0074]-[0081], [0082], [0136], [0219], [0242]-[0257], [0293]</td>
<td>1-11</td>
</tr>
<tr>
<td>Y</td>
<td>BALUNAS, et al. Xanthones from the Botanical Dietary Supplement Mangosteen (Garcinia mangostana) with Aromatase Inhibitory Activity. J. Natl. Prod. 11 Jan 2008, 71(7):1161-1166, Abstract; Table 1; Fig 1 and 2, pg 1162, col 2, para 1 to pg 1164, col 1, para 1</td>
<td>1-11</td>
</tr>
<tr>
<td>Y</td>
<td>WO 2007/43058 A1 (GOKARAJU et al.) 19 Apr 2007 (19.04.2007), pg 1, para 1; pg 4, para 4 to pg 8, para 2</td>
<td>5-11</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance.
  "E" earlier application or patent but published on or after the international filing date.
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified).
  "O" document referring to an oral disclosure, use, exhibition or other means.
  "P" document published prior to the international filing date but later than the priority date claimed.

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"&" document member of the same patent family.

Date of the actual completion of the international search: 04 March 2009 (04.03.2009)
Date of mailing of the international search report: 26 MAR 2009

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PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774
# INTERNATIONAL SEARCH REPORT

**Box No. II**  Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. □ Claims Nos.:
   because they relate to subject matter not required to be searched by this Authority, namely:

2. □ Claims Nos.:
   because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ✗ Claims Nos.: 12 and 13
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III**  Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. □ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. □ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. □ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. □ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- □ The additional search fees were accompanied by the applicant’s protest and, where applicable, the payment of a protest fee.
- □ The additional search fees were accompanied by the applicant’s protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- □ No protest accompanied the payment of additional search fees.

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Form PCT/ISA/210 (continuation of first sheet (2)) (April 2007)