TITLE: ENZYME CATALYZED ORGANOSILICON CARBOHYDRATES

Abstract: Methods for forming structurally defined organosilicon carbohydrates are provided. Additionally, structurally defined organosilicon carbohydrates are provided. The structurally defined organosilicon carbohydrates may be formed by contacting a hydrolase enzyme with an organosilicon reactant and a carbohydrate reactant. The enzyme may catalyze the formation of an ester bond between carboxylic acid, ester, or amide functional groups of the organosilicon or carbohydrate reactant and alcohol functional groups of the carbohydrate or organosilicon reactant. The enzyme may catalyze the formation of an amide bond between carboxylic acid, ester, or amide functional groups of the organosilicon or carbohydrate reactant and amine functional groups of the carbohydrate or organosilicon reactant.
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

30 September 2004
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : C07H 1/00, 3/00; C08B 37/00; C12Q 1/34; C07F 7/18
US CL : 536/123.1, 124; 556/400; 435/18
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)
U.S. : 536/123.1, 124; 556/400; 435/18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST, STN-Registry, CAPLUS

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>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
* "A" document defining the general state of the art which is not considered to be of particular relevance
* "B" earlier application or patent 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)
* "Q" document referring to an oral disclosure, use, exhibition or other means of disclosure not in written form
* "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
* "V" 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
12 January 2004 (12.01.2004)

Date of mailing of the international search report
10 AUG 2004

Name and mailing address of the ISA/US
Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703)305-3230

Authorized officer
EVERETT WHITE
Telephone No. (703)308-1235

Form PCT/ISA/210 (second sheet) (July 1998)