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102547313

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Hideo HASHIMOTO, Tadashi URAI  
  
10.24.02  
Additional name(s) of conveying party(ies) attached?  Yes  No

2. Name and address of receiving party(ies)  
Name: Takeda Chemical Industries Ltd.  
Internal Address: \_\_\_\_\_  
Intellectual Property Department  
Street Address: 1-1, Doshomachi 4-chome  
Chuo-ku  
City: Osaka State: Japan Zip: 540-8645  
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3. Nature of conveyance:  
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4. Application number(s) or patent number(s):  
If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_  
A. Patent Application No.(s)  
B. Patent No.(s)  
10276109  
Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:  
Name: Mark Chao, PhD, JD  
Internal Address: \_\_\_\_\_  
Takeda Pharmaceuticals North America, Inc.  
Intellectual Property Department  
Street Address: Suite 500  
475 Half Day Road  
City: Lincolnshire State: Illinois Zip: 60069

6. Total number of applications and patents involved:  1  
7. Total fee (37 CFR 3.41).....\$ 40.00  
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*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*  
Mark Chao, PhD, JD Reg. No. 37,293  
Name of Person Signing Signature Date 10/24/02

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### ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, each of the undersigned inventor hereby sells and assigns, to **TAKEDA CHEMICAL INDUSTRIES, LTD.**, a corporation of Japan, 1-1, Doshomachi 4-chome, Chuo-ku, Osaka-shi, Osaka 541-0045 Japan (hereinafter ASSIGNEE) all right, title and interest for the United States, its territories and possessions in and to the following invention and U.S. application filed thereon, and the entire right, title and interest in and to any and all Letters Patents which may be granted therefor in the United States, to be held and enjoyed by said ASSIGNEE, its successors, legal representatives and assigns to the full end of the term or terms for which any and all such Letters Patent may be granted as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made.

**Title of Invention :** PROCESS FOR PRODUCING OPTICALLY ACTIVE SULFOXIDE  
DERIVATIVE

**United States Patent Application :**

- executed concurrently herewith
- executed on \_\_\_\_\_
- Serial No. \_\_\_\_\_ Filed \_\_\_\_\_

Each of the undersigned acknowledges that this sale and assignment includes any and all divisions or continuations of said United States Patent application, and any and all Letters Patent of the United States which may issue on any such applications, including any and all reissues or extensions thereof.

Each of the undersigned hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all such Letters Patent to said ASSIGNEE, its successors or assigns in accordance herewith;

Each of the undersigned warrants and covenants that he has the full and unencumbered right to sell and assign the interests herein sold and assigned and that he has not executed and will not execute any document or instrument in conflict herewith;

Each of the undersigned further covenants and agrees he will communicate to said ASSIGNEE, its successors, legal representatives or assigns all information known to him relating to said invention or patent application and that he will execute and deliver any papers, make all rightful oaths, assist in and testify in any related proceedings including interferences or lawsuits concerning this application or continuation, division or reissue thereof, and perform all other lawful acts deemed necessary or desirable by said ASSIGNEE, its successors, legal representatives or assigns to obtain a grant of a valid United States Patent on said invention;

Each of the undersigned hereby grants ASSIGNEE and its legal representatives, the power to insert in this Assignment any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for recordation of this Assignment and specifically, the power to insert in the space provided above, the filing date and application number of the application when known.

In witness hereof, executed by the undersigned on the date(s) opposite the undersigned names.

**NAMES AND SIGNATURES OF INVENTORS**

|                         |                                   |                       |
|-------------------------|-----------------------------------|-----------------------|
| 1.Name: Hideo HASHIMOTO | Signature: <i>Hideo Hashimoto</i> | Date: August 28, 2002 |
| 2.Name: Tadashi URAI    | Signature: <i>Tadashi Urai</i>    | Date: August 28, 2002 |

**NAMES AND SIGNATURES OF WITNESSES\***

|                                     |                                 |                       |
|-------------------------------------|---------------------------------|-----------------------|
| Name/ Tomoyo KOZAWA<br>For: 1 and 2 | Signature: <i>Tomoye Kozawa</i> | Date: August 28, 2002 |
| Name/<br>For:                       | Signature:                      | Date:                 |

\*Notice for Witnesses! Please indicate which inventor(s) you are signing for by writing the corresponding numbers after "For."