



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁵ : C07D 213/30, 211/22</p>	<p>A3</p>	<p>(11) International Publication Number: WO 92/19596</p> <p>(43) International Publication Date: 12 November 1992 (12.11.92)</p>
<p>(21) International Application Number: PCT/US92/03596</p> <p>(22) International Filing Date: 29 April 1992 (29.04.92)</p> <p>(30) Priority data: 693,687 30 April 1991 (30.04.91) US</p> <p>(60) Parent Application or Grant (63) Related by Continuation US 693,687 (CIP) Filed on 30 April 1991 (30.04.91)</p> <p>(71) Applicant (for US only): GOE, Mary, Ellen (legal representative of the deceased inventor) [US/US]; 4021 West Fairview Road, Greenwood, IN 46142 (US).</p> <p>(71) Applicant (for all designated States except US): REILLY INDUSTRIES, INC. [US/US]; 1510 Market Square Center, Indianapolis, IN 46204 (US).</p>		<p>(72) Inventors; and (75) Inventors/Applicants (for US only) : MURUGAN, Ramiah [US/US]; 622 Waterview Drive, Indianapolis, IN 46224 (US). SCRIVEN, Eric, F., V. [GB/US]; 515 Lazy Lane, Greenwood, IN 46142 (US).</p> <p>(72) Inventor: GOE, Gerald, L. (deceased).</p> <p>(74) Agents: REEVES, Charles, R. et al.; Woodard, Emhardt, Naughton, Moriarty & McNett, Bank One Center/Tower, Suite 3700, 111 Monument Circle, Indianapolis, IN 46204 (US).</p> <p>(81) Designated States: AT (European patent), AU, BE (European patent), BR, CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), HU, IT (European patent), JP, KR, LU (European patent), MC (European patent), NL (European patent), PL, SE (European patent), US.</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(86) Date of publication of the international search report: 29 April 1993 (29.04.93)</p>
<p>(54) Title: PROCESSES FOR PRODUCING α-PYRIDYL CARBINOLS</p>		
<p>(57) Abstract</p>		
<p>Disclosed are preferred processes for producing α-2-pyridyl α-aryl carbinol or α-4-pyridyl α-aryl carbinol compounds.</p>		

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INTERNATIONAL SEARCH REPORT

PCT/US 92/03596

International Application

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. 5 C07D213/30; C07D211/22		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
Int.Cl. 5	C07D	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X,P	CHEMICAL ABSTRACTS, vol. 115, no. 7, 19 August 1991, Columbus, Ohio, US; abstract no. 71411p, J. CAI ET AL. 'Preparation of 4-pyridinecarbinol derivatives.' page 776 ; see abstract	1-30
X	& CN,A,1 046 897 14 November 1990	1-30
A	--- JOURNAL OF HETEROCYCLIC CHEMISTRY. vol. 27, no. 7, 1990, PROVO US pages 1903 - 1908 P. MCDEVITT ET AL 'The electron-transfer reactions of cyano-substituted pyridines and quinolines with thermally generated diphenyl ketyl.' cited in the application see the whole document ---	1-30
		-/--
¹⁰ 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 document 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 "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. "A" document member of the same patent family		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search		Date of Mailing of this International Search Report
08 FEBRUARY 1993		23.03.93
International Searching Authority		Signature of Authorized Officer
EUROPEAN PATENT OFFICE		P. BOSMA

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
A	JOURNAL OF THE AMERICAN CHEMICAL SOCIETY. vol. 97, no. 15, 1975, GASTON, PA US pages 4397 - 4398 B.M. VITTIMBERGA ET AL. 'Photoinitiated electron transfer-substituted reaction of diphenyl ketyl with protonated 4-cyanopyridine.' cited in the application see the whole document	1-30
Y	JOURNAL OF ORGANIC CHEMISTRY. vol. 26, 1961, EASTON US pages 4084 - 4088 F.J. MCCARTY ET AL. 'Central depressants. Phosphoramidates derived from alpha,alpha-disubstituted 4-piperidinemethanols' see page 4084, scheme, method F see page 4088	31-39
Y	EP,A,0 228 893 (A.H. ROBINS COMPANY, INCORPORATED) 15 July 1987 see page 11	31-39
Y	CHEMICAL ENGINEERING SCIENCE vol. 41, no. 7, 1986, OXFORD pages 1765 - 1770 R.A. RAJADHYAKSHA ET AL. 'Solvent effects in catalytic hydrogenation.' see the whole document	31-39

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 92/03596

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

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

1. Claims 1 - 30
2. Claims 31 - 39

For further information please see Form PCT/ISA/206 dated 28/10/92

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 an additional fee, this Authority did not invite payment of any additional fee.
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.
- No protest accompanied the payment of additional search fees.

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.**

US 9203596
SA 60447

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 08/02/93

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0228893	15-07-87	US-A- 4810713	07-03-89
		AU-A- 6247286	25-06-87
		EP-A- 0235463	09-09-87
		JP-A- 62148468	02-07-87
		US-A- 4950674	21-08-90
		AU-B- 594972	22-03-90
		AU-A- 6247386	23-07-87
		JP-A- 62169763	25-07-87

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82