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(21) International Application Number: PCT/GB87/00253 (22) International Filing Date: 15 April 1987 (15.04.87) (31) Priority Application Numbers: 8609369 8615383 8629049 (32) Priority Dates: 17 April 1986 (17.04.86) 24 June 1986 (24.06.86) 4 December 1986 (04.12.86) (33) Priority Country: GB (71) Applicant (for all designated States except US): JOU-HAR, Akbar, Jan [GB/GB]; Information Transfer International, P.O. Box 62, Beaconsfield, Buckinghamshire HP9 2NY (GB). (71)(72) Applicants and Inventors: SPECKAMP, Willem, Nico [NL/NL]; OOSTVEEN, Everardus, Arnoldus [NL/NL]; Laboratory of Organic Chemistry, University of Amsterdam, Nieuwe Achtergracht 129,	NL-1018 WS Amsterdam (NL). (74) Agent: G.F. REDFERN & CO.; Marlborough Lodge, 14 Farncombe Road, Worthing, West Sussex BN11 2BT (GB). (81) Designated States: AT (European patent), AU, BE (European patent), BR, CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), NO, SE (European patent), US. Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 28 January 1988 (28.01.88)	
(54) Title: INDOLOQUINONE COMPOUNDS		
<div style="text-align: center;"> </div>		
(57) Abstract <p>Indoloquinone compounds useful as cytostatic agents have formula (I), where R₂ and R₃ are in each case, hydrogen, halogen, an alkyl group (which may be substituted), an alkoxy group or an aryloxy group, an alkylthio group or an arylthio group, a primary or secondary amino group, hydroxy group or an amino group; R₅ is hydrogen, a hydroxy group, an alkoxy group, an alkyl group (which may be substituted), or a carbohydrate moiety; R₆ and R₇ are in each case hydrogen, halogen, or an alkyl group; R₈ is a group -CH₂X₁, a group -CO₂M⁺, where M⁺ is a metal ion; a group -CO₂R₁₀, where R₁₀ is hydrogen or an alkyl group (which may be substituted); a group -CONR'R'', where R' and R'' are hydrogen or alkyl groups (which may be substituted); R₉ is a group -CR₁₁R₁₂X₂, a group -CO₂M⁺, where M⁺ is a metal ion; a group -CO₂R₁₃, where R₁₁, R₁₂ and R₁₃ are in each case hydrogen or an alkyl group (which may be substituted); a group -CONR'R'', where R' and R'' are in each case hydrogen or an alkyl group (which may be substituted); and X₁ and X₂ (when present) are hydrogen, or groups selected from OH, OR, -OC=OR, -OCO₂R, -OC=ONRR, SH, SR, -SC=OR, -SC=SR, -SCO₂R, -SC=SOR, -SC-ONRR, -SC-SNRR, and -NRR [where R is hydrogen, an alkyl group (which may be substituted), or an aryl group (which may be substituted)], -OSOR, -OSO₂R and OP(OR)₂ [where R is hydrogen, an alkyl group (which may be substituted), an aryl group (which may be substituted), or a carbohydrate moiety]; and X₁ and X₂ may be the same or different. Preferred compounds and methods for their manufacture are provided.</p>		

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INTERNATIONAL SEARCH REPORT

International Application No **PCT/GB 87/00253**

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) *				
According to International Patent Classification (IPC) or to both National Classification and IPC				
IPC ⁴ : C 07 D 209/42; 403/06; 401/06; 413/06				
II. FIELDS SEARCHED				
Minimum Documentation Searched ⁷				
Classification System	Classification Symbols			
IPC ⁴	C 07 D 209/00			
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 ⁹	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³		
A	GB, A, 1087325 (AMERICAN CYANAMID CO.) 18 October 1967 see the whole document	1-17		
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A	US, A, 3265698 (G.R. ALLEN Jr.) 9 August 1966 see the whole document	1-17		

<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; border: none;"> <p>¹⁰ Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </td> <td style="width: 50%; vertical-align: top; border: none;"> <p>"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</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"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.</p> <p>"&" document member of the same patent family</p> </td> </tr> </table>			<p>¹⁰ Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"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.</p> <p>"&" document member of the same patent family</p>
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IV. CERTIFICATION				
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report			
16th November 1987	08 JAN 1988			
International Searching Authority	Signature of Authorized Officer			
EUROPEAN PATENT OFFICE	M. VAN MOL			

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

GB 8700253
SA 16850

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date				
GB-A- 1087325		BE-A- 653057 US-A- 3267117 US-A- 3226385 US-A- 3215705	15-03-65				
<table border="0" style="width: 100%;"> <tr> <td data-bbox="212 741 571 815">US-A- 3265698</td> <td data-bbox="571 741 794 815"></td> <td data-bbox="794 741 1150 815">None</td> <td data-bbox="1150 741 1369 815"></td> </tr> </table>				US-A- 3265698		None	
US-A- 3265698		None					

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