



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification⁵ : A61K 49/04</p>	<p>A3</p>	<p>(11) International Publication Number: WO 94/19025 (43) International Publication Date: 1 September 1994 (01.09.94)</p>
<p>(21) International Application Number: PCT/GB94/00375 (22) International Filing Date: 25 February 1994 (25.02.94) (30) Priority Data: 9303992.3 26 February 1993 (26.02.93) GB (71) Applicant (for all designated States except US): NYCOMED IMAGING AS [NO/NO]; Nycoveien 1-2, N-0401 Oslo (NO). (71) Applicant (for GB only): MATTHEWS, Derek, Peter [GB/GB]; Imperial House, 15-19 Kingsway, London WC2B 6UZ (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): KLAVENESS, Jo [NO/NO]; Midtåsen 5, N-1166 Oslo 11 (NO). STRANDE, Per [NO/NO]; Nordengveien 78, N-0755 Oslo 7 (NO). (74) Agent: FRANK B. DEHN & CO.; Imperial House, 15-19 Kingsway, London WC2B 6UZ (GB).</p>		<p>(81) Designated States: JP, NO, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published 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. (88) Date of publication of the international search report: 13 October 1994 (13.10.94)</p>
<p>(54) Title: CONTRAST AGENTS</p>		
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\begin{array}{c} \text{CH}_2\text{-OR}^1 \\ \\ \text{CH -OR}^2 \\ \\ \text{CH}_2\text{-OR}^3 \end{array} \quad (\text{I})$ </div> <div style="text-align: center;"> $\begin{array}{c} \text{O} \qquad \qquad \text{O} \\ \qquad \qquad \quad \\ \text{-C-O-CR}^4\text{R}^5\text{-O-C-(O)}_n\text{-A-R}^6 \end{array} \quad (\text{II})$ </div> </div>		
<p>(57) Abstract</p>		
<p>Compounds of formula (I) wherein R¹, R² and R³ are independently selected from: (i) saturated or unsaturated fatty acyl groups, preferably having from 14 to 24 carbon atoms, more preferably of a type found in nature; (ii) groups of formula (II) wherein R⁴ and R⁵ are independently selected from hydrogen atoms, C₁₋₄ alkyl group and aryl groups, preferably C₆₋₁₀ aryl groups, n represents the integers 0 or 1, A represents either a chemical bond or a straight or branched C₁₋₆ alkylene chain and R⁶ is a triiodinated phenyl group which may also carry other substituents.</p>		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GB	United Kingdom	MR	Mauritania
AU	Australia	GE	Georgia	MW	Malawi
BB	Barbados	GN	Guinea	NE	Niger
BE	Belgium	GR	Greece	NL	Netherlands
BF	Burkina Faso	HU	Hungary	NO	Norway
BG	Bulgaria	IE	Ireland	NZ	New Zealand
BJ	Benin	IT	Italy	PL	Poland
BR	Brazil	JP	Japan	PT	Portugal
BY	Belarus	KE	Kenya	RO	Romania
CA	Canada	KG	Kyrgystan	RU	Russian Federation
CF	Central African Republic	KP	Democratic People's Republic of Korea	SD	Sudan
CG	Congo	KR	Republic of Korea	SE	Sweden
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LU	Luxembourg	SN	Senegal
CN	China	LK	Sri Lanka	TD	Chad
CS	Czechoslovakia	LV	Latvia	TC	Togo
CZ	Czech Republic	MC	Monaco	TJ	Tajikistan
DE	Germany	MD	Republic of Moldova	TT	Trinidad and Tobago
DK	Denmark	MG	Madagascar	UA	Ukraine
ES	Spain	ML	Mali	US	United States of America
FI	Finland	MN	Mongolia	UZ	Uzbekistan
FR	France			VN	Viet Nam
GA	Gabon				

INTERNATIONAL SEARCH REPORT

II. National Application No
PCT/GB 94/00375

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 A61K49/04

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 5 A61K

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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>PATENT ABSTRACTS OF JAPAN vol. 013, no. 236 (C-602) 30 May 1989 & JP,A,01 045 351 (MITSUI TOATSU CHEM INC) 17 February 1989 see abstract & DATABASE WPI Week 8913, Derwent Publications Ltd., London, GB; AN 89-097124 see abstract & CHEMICAL ABSTRACTS, vol. 110, no. 25, 19 June 1989, Columbus, Ohio, US; abstract no. 231292c, see abstract</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	1-10

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* 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 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

5 August 1994

Date of mailing of the international search report

16. 08. 94

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentaan 2
NL - 2280 HV Rijswijk
Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+ 31-70) 340-3016

Authorized officer

Dullaart, A

INTERNATIONAL SEARCH REPORT

 International Application No
 PCT/GB 94/00375

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DATABASE WPI Section Ch, Week 8944, Derwent Publications Ltd., London, GB; Class B05, AN 89-318126 & ES,A,2 006 961 (JUSTE QUIM FARM SA) 16 May 1989 see abstract & CHEMICAL ABSTRACTS, vol. 114, no. 7, 18 February 1991, Columbus, Ohio, US; abstract no. 61709g, see abstract ---	1-10
Y	WOLFF M. E., EDITOR 'BURGER'S MEDICINAL CHEMISTRY, ED. 4, PART 3' 1979, WILEY & SONS., NEW YORK, US see page 1147 - page 1203 ---	1-10
Y	WO,A,91 12231 (RHONE POULENC FARMA S.A.E.) 22 August 1991 see page 1 - page 3; claims; examples ---	1-10
Y	US,A,4 567 034 (CHARLES ET ALL.) 28 January 1986 see column 1 - column 2 see column 4 see claims see column 6 ---	1-10
Y	EP,A,0 498 482 (STERLING WINTHROP INC.) 12 August 1992 see examples ---	1-10
Y	EP,A,0 153 992 (DR. FRANZ KÖHLER CHEMIE GMBH) 11 September 1985 see claims; examples ---	1-10
Y	EP,A,0 436 316 (M. NOVAK) 10 July 1991 see claims; example 3 ---	1-10
P,Y	EP,A,0 543 454 (STERLING WINTHROP INC.) 26 May 1993 see claims -----	1-10

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB94/00375

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:
Remark: Although claim 10 is directed to a method of treatment of the human or animal body (PCT Rule 39.1(iv)), the search has been carried out and based on the alleged effects of the compound/composition.
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:

please see enclosure ../..
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. 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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

INCOMPLETE SEARCH (continuation)
II. OBSCURITIES,...

In view of the large number of compounds, which are defined by the general formulae of all claims, the search had to be restricted for economic reasons. The search was limited to the compounds for which pharmacological data was given and/or the compounds mentioned in the claims and to the general idea underlying the application (see guidelines, Part B, Chapter III, paragraph 3.6).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 94/00375

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO-A-9112231	22-08-91	AU-A- 7189991	03-09-91
		JP-T- 4505461	24-09-92

US-A-4567034	28-01-86	NONE	

EP-A-0498482	12-08-92	US-A- 5145684	08-09-92
		AU-B- 642066	07-10-93
		AU-A- 1014592	30-07-92
		AU-A- 1014792	30-07-92
		EP-A- 0499299	19-08-92
		JP-A- 4317053	09-11-92
		JP-A- 4295420	20-10-92
		US-A- 5318767	07-06-94

EP-A-0153992	11-09-85	DE-A- 3407473	05-09-85
		DE-C- 3447970	30-06-88
		JP-B- 5001782	11-01-93
		JP-A- 60248651	09-12-85
		US-A- 4607123	19-08-86

EP-A-0436316	10-07-91	AU-B- 637435	27-05-93
		AU-A- 6791090	13-06-91
		CA-A- 2031739	09-06-91
		JP-A- 4208232	29-07-92

EP-A-0543454	26-05-93	US-A- 5233995	10-08-93
		AU-A- 2722292	27-05-93
		CA-A- 2083109	22-05-93
		FI-A- 925284	22-05-93
