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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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- (88) Date of publication of the international search report:

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(54) Title: CONJUGATES HAVING A DEGRADABLE LINKAGE AND POLYMERIC REAGENTS USEFUL IN PREPARING SUCH CONJUGATES

(57) Abstract: The present invention provides conjugates having a degradable linkage and polymeric reagents useful in preparing such conjugates. The conjugates as well as the polymeric reagents used to form the conjugates include at least one of each the following: an aromatic moiety comprising an ionizable hydrogen atom, a spacer moiety, and a water-soluble polymer. Methods of making polymeric reagents and conjugates, as well as methods for administering conjugates and compositions, are also provided.





## INTERNATIONAL SEARCH REPORT

International application No PCT/US2006/023504

A. CLASSIFICATION OF SUBJECT MATTER INV. A61K47/48 C07C323/12

C07D213/70

C07K14/605

A61P3/10

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) A61K C07C C07D C07K

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)

EPO-Internal, EMBASE, BIOSIS, CHEM ABS Data, WPI Data

C. DOCUM	ENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of	the relevant passages	Relevant to claim No.		
K	LOTTNER CHRISTIAN ET AL: "Hematoporphyrin-derived solu porphyrin-platinum conjugates combined cytotoxic and photot antitumor activity." JOURNAL OF MEDICINAL CHEMISTR vol. 45, no. 10, 9 May 2002 ( pages 2064-2078, XP002436051 ISSN: 0022-2623 compounds 8-13	1,8,10, 12,15, 18,44, 49,59, 61-64,66			
(	EP 1 249 846 A (KOREA RES INST CHEM TECH [KR]) 16 October 2002 (2002-10-16)		1,8,10, 12,15, 18,44, 49,59, 61-64,66		
X Furt	examples 39-43,57-65,70-73 her documents are listed in the continuation of Box C.	-/ X See patent family annex.			
Special of A' docume consider of docume other of docume later the special of the	categories of cited documents:  ent defining the general state of the art which is not lered to be of particular relevance document but published on or after the international	"T" later document published after the in or priority date and not in conflict wincited to understand the principle or invention  "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the cannot be considered to involve an document is combined with one or ments, such combination being obvin the art.  "&" document member of the same pater.	th the application but theory underlying the e claimed invention to be considered to document is taken alone e claimed invention inventive step when the more other such docu- ious to a person skilled		
	June 2007	08/10/2007			
lame and i	mailing address of the ISA/  European Patent Office, P.B. 5818 Patentlaan 2  NL – 2280 HV Rijswijk  Tel. (+31–70) 340–2040, Tx. 31 651 epo nl,	Authorized officer  SCHLEIFENBAUM, A			

## INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/023504

0/0	DOCUMENTS CONCIDEDED TO BE DELEVANT	PC1/U32006/023504
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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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	compound 10	
X	WO 2005/014049 A (NOVO NORDISK AS [DK]; BEHRENS CARSTEN [DK]; DOERWALD FLORENCIO ZARAGOZ) 17 February 2005 (2005-02-17)  the whole document	1,2,8, 10,12, 14-18, 20,30, 31,37, 39,41, 43-47, 49,59-70
A	BORDWELL FG, BAUSCH MJ, CHEN J-P, CRIPE TH, KYNCH T-Y, MUELLER ME: "Steric Inhibition of Synergistic Radical Stabilizing Effects" J. ORG. CHEM., vol. 55, 1990, pages 58-63, XP002436052 table VI	

International application No. PCT/US2006/023504

## **INTERNATIONAL SEARCH REPORT**

Box II Observations where certain claims were found unsearchable (Continuation of item 2 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. X Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Although claim 70 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
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 III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
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.:
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.:  See annex
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

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 8, 10, 12, 14-18, 20, 30, 37, 39, 41, 43, 44, 45-47, 49, 59-70 (all in part) and 2, 31 (all completely)

Polymeric reagent according to the claims, in particular formula II; corresponding conjugates and methods.

2. claims: 1, 8, 10, 12, 14-18, 20, 30, 37, 39, 41, 43, 44, 45-47, 49, 59-70 (all in part) and 3, 5, 22-28, 32, 34, 51-57 (all completely)

Polymeric reagent according to formula III; corresponding conjugates and methods.

3. claims: 1, 8, 10, 12, 14-18, 20, 30, 37, 39, 41, 43, 44, 45-47, 49, 59-70 (all in part) and 4, 33 (all completely)

Polymeric reagent according to formula IV; corresponding conjugates and methods.

4. claims: 15-17, 44, 45, 46, 62-70 (all in part) and 6, 7, 9, 11, 13, 19, 21, 29, 35, 36, 38, 40, 42, 48, 50, 58 (all complete)

Polymeric reagent comprising an aromate-containing moiety bearing an ionizable hydrogen and one water-soluble polymer moiety; corresponding conjugates and methods.

## **INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No PCT/US2006/023504

	Patent document cited in search report		Publication Patent family date member(s)		Publication date	
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