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- (71) **Applicant: FOREST LABORATORIES HOLDINGS LIMITED** [IE/—]; 18 Parliament House, Milner House, Hamilton, Bermuda, HM12 (BM).
- (72) **Inventors; and**
- (71) **Applicants :** **DIEP, Nhut** [US/US]; 14 North Dorado, Apt. 1D, Hauppauge, NY 11788 (US). **KALYAN, Yuriy, B.** [US/US]; 21 Waterview Court, Staten Island, NY 10305 (US).
- (74) **Agents: STEEN, Jeffrey, S.** et al.; Carter DeLuca Farrell & Schmidt, LLP, 445 Broad Hollow Road, Suite 420, Melville, NY 11747 (US).
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(54) **Title:** SYNTHESIS OF 1,3-SUBSTITUTED AMINOURACILS AND OTHER XANTHINE-RELATED COMPOUNDS

(57) **Abstract:** Methods for the synthesis of disubstituted aminouracils and xanthine and/or xanthine-related compounds are provided.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US13/43880

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C07D 239/70; A61K 31/517, 31/513 (2013.01)

USPC - 544/310, 311; 514/263.2

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(8): C07D 239/70; A61K 31/517, 31/513, 31/535; A01N 43/90; A61P 35/00; C07D 401/12, 403/04, 403/12, 407/12 (2013.01)

USPC: 514/235.8, 234.2, 263.2, 263.21; 544/123, 31, 311, 313

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 practicable, search terms used)

MicroPatent (US Granted, US Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A); DialogPro; Google/Google Scholar/Google Patent; PubMed; *urea*, reaction, synthesis, conjugation, coupling, ethyl-2-cyanoacetate, *aminouracil, dimethyl, alkoxide, boronic, 3-amino-3-ethoxy-acrylate, palladium, nitroso, xanthine, alkylation, acylation

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y -- A	US 8044061 B2 (MÜLLER, CE et al.) October 25, 2011; column 40, lines 35-67; column 41, lines 18-25; column 41, lines 54-57; column 43, line 61	1-23, 29-39 ----- 24-28, 40-60
Y -- A	US 7943625 B2 (TIDÉN, AK et al.) May 17, 2011; column 12, lines 21-23; column 12, lines 26-30	1-23, 29-39 ----- 24-28, 40-60
Y -- A	KATRITZKY, AR et al. Comprehensive Organic Functional Group Transformations, Volume 1. Elsevier, 1995, page 149. [Retrieved on 2013-10-16]. Retrieved from the Internet: <URL: <http://books.google.com/>	1-23, 29-39 ----- 24-28, 40-60
Y	US 8101655 B2 (SMITH, GA et al.) January 24, 2012; column 8, lines 19-42	7-10
Y	US 8148383 B2 (MAEKAWA, T et al.) April 03, 2012; column 72, lines 7-28	15
Y	US 8071586 B2 (AEBI, J et al.) December 06, 2011; column 14, lines 58-64	17-18
Y	US 7601723 B2 (WANG, G et al.) October 13, 2009; column 8, line 42; column 14, lines 16-25; column 24, line 53; column 10; column 12; claim 1	22-23, 30, 32-39
A	US 4469698 A (PHILIPPOSIAN, G et al.) September 4, 1984; entire document	1-60
A	US 8163761 B2 (NG, H et al.) April 24, 2012; entire document	1-60

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"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

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Facsimile No. 571-273-3201

Authorized officer:

Shane Thomas

PCT Helpdesk: 571-272-4300

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