(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 September 2009 (03.09.2009)

PCT

(10) International Publication Number
WO 2009/106445 A1

(51) **International Patent Classification**:
C07D 487/04 (2006.01) ***A61P 29/00*** (2006.01)
C07D 519/00 (2006.01) ***A61K 31/5025*** (2006.01)

(21) **International Application Number**:
PCT/EP2009/051761

(22) **International Filing Date**:
16 February 2009 (16.02.2009)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
61/031,035 25 February 2008 (25.02.2008) US
61/146,528 22 January 2009 (22.01.2009) US

(71) **Applicant** *(for all designated States except US)*: **F. HOFFMANN-LA ROCHE AG** [CH/CH]; Grenzacherstrasse 124, CH-4070 Basel (CH).

(72) **Inventors; and**

(75) **Inventors/Applicants** *(for US only)*: **DU BOIS, Daisy, Joe** [US/US]; 1180 Welch Road, Apt. 821, Palo Alto, California 94304 (US). **ELWORTHY, Todd, Richard** [US/US]; 172 Eleanor Avenue, Los Altos, California 94022 (US). **HENDRICKS, Robert, Than** [US/US]; 25 Maple Way, San Carlos, California 94070 (US). **HERMANN, Johannes, Cornelius** [DE/US]; 1049 Carolina, San Francisco, California 94107 (US). **KONDRU, Rama, K.** [IN/US]; 1035 Aster Avenue, #2118, Sunnyvale, California 94086 (US). **LOU, Yan** [CN/US]; 1740 Fallbrook Avenue, San Jose, California 95130 (US). **OWENS, Timothy, D.** [US/US]; 938 Clark Avenue, No. 37, Mountain View, California 94040 (US). **PARK, Jaehyeon** [KR/US]; 945 S. Bernardo Avenue, Sunnyvale, California 94087 (US). **SMITH, David, Bernard** [US/US]; 218 West 40th Avenue, San Mateo, California 94403 (US). **SOTH, Michael** [US/US]; 2321 Edsel Drive, Milpitas, California 95035 (US). **YEE, Calvin, Wesley** [US/US]; 343 Barbara Lane, Daly City, California 94015 (US).

(74) **Agent**: **HEIROTH, Ulrike**; Grenzacherstrasse 124, CH-4070 Basel (CH).

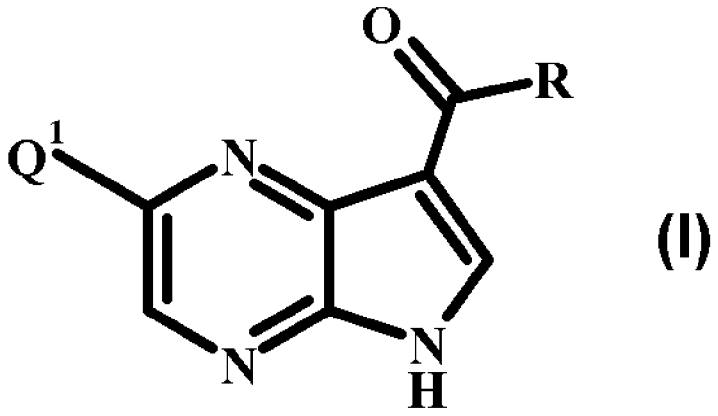
(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG,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

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(54) **Title**: PYRROLOPYRAZINE KINASE INHIBITORS



(I)

(57) **Abstract**: The present invention relates to the use of novel pyrrolopyrazine derivatives of Formula (I), wherein the variables Q^1 and R are defined as described herein, which inhibit JAK and SYK and are useful for the treatment of auto-immune and inflammatory diseases.

WO 2009/106445 A1