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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
6 March 2008 (06.03.2008)

PCT

(10) International Publication Number
WO 2008/027220 A2

(51) International Patent Classification:
C07D 487/04 (2006.01)

(21) International Application Number:
PCT/US2007/018305

(22) International Filing Date: 17 August 2007 (17.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/840,648	28 August 2006 (28.08.2006)	US
60/851,951	14 October 2006 (14.10.2006)	US

(71) Applicant *(for all designated States except US)*: **SCHERING CORPORATION** [US/US]; 2000 Galloping Hill Road, Kenilworth, NJ 07033 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **CHEN, Frank, Xing** [US/US]; 12 Bradford Lane, Plainsboro, NJ 08536 (US). **KEERTIKAR, Kartik, M.** [US/US]; 24 Columbia Avenue, East Windsor, NJ 08520 (US). **KUO, Shen-Chun** [US/US]; 140 Glenwood Court, Union, NJ 07083 (US). **LEE, Hong-Chang** [US/US]; 56 Lee Road, Livingston, NJ 07039 (US). **RAGHAVAN, Ramani, R.** [IN/US]; 6103 Lexington Ridge Drive, Lexington, MA 02421 (US). **WU, George, G.** [US/US]; 88 Vanderveer Drive, Basking Ridge, NJ 07920 (US). **XIE, Ji** [CN/US]; 17 L. Reading Road, Edison, NJ 08817 (US).

(74) Agent: **FISCHER, H., Eric**; Schering Corporation, Patent Dept. K-6-1 1990, 2000 Galloping Hill Road, Kenilworth, NJ 07033 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, 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, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, 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:

— *without international search report and to be republished upon receipt of that report*

WO 2008/027220 A2

(54) **Title:** PROCESS AND INTERMEDIATES FOR THE SYNTHESIS OF (3-ALKYL-5-PIPERIDIN-1-YL-3,3A-DIHYDRO-PYRAZOLO[1,5-A]PYRIMIDIN-7-YL)-AMINO DERIVATIVES AND INTERMEDIATES

(57) **Abstract:** This application discloses a novel process to synthesize (3-alkyl-5-piperidin-1-yl-3,3a-dihydro-pyrazolo[1,5-a]pyrimidin-7-yl)-amino derivatives, and intermediates useful in the synthesis thereof. The subject (3-alkyl-5-piperidin-1-yl-3,3a-dihydro-pyrazolo[1,5-a]pyrimidin-7-yl)-amino derivatives are useful as cyclin-dependent kinase inhibitor compounds (CDK inhibitors) in pharmaceutical preparations.