



(51) International Patent Classification:

C07D 409/12 (2006.01) *A61P 35/00* (2006.01)
C07D 495/04 (2006.01) *A61K 31/4365* (2006.01)

(21) International Application Number:

PCT/US2018/031945

(22) International Filing Date:

10 May 2018 (10.05.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/504,956 11 May 2017 (11.05.2017) US

(71) Applicant: **BRISTOL-MYERS SQUIBB COMPANY**
 [US/US]; Route 206 and Province Line Road, Princeton,
 New Jersey 08543 (US).

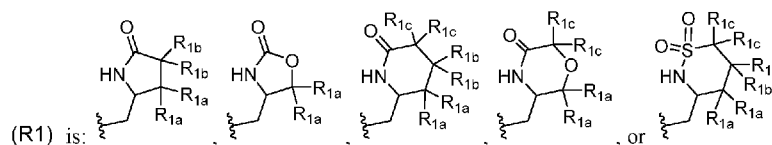
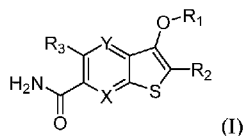
(72) Inventors: **AHMAD, Saleem**; c/o Bristol-Myers Squibb
 Company, Route 206 and Province Line Road, Prince-
 ton, New Jersey 08543 (US). **LI, Ling**; c/o Bristol-My-
 ers Squibb Company, Route 206 and Province Line Road,
 Princeton, New Jersey 08543 (US). **NEGASH, Lidet A.**; c/
 o Bristol-Myers Squibb Company, Route 206 and Province
 Line Road, Princeton, New Jersey 08543 (US). **HYNES,**
John; c/o Bristol-Myers Squibb Company, Route 206 and
 Province Line Road, Princeton, New Jersey 08543 (US).

(74) Agent: **GREENBLATT, Gary, D.** et al.; Bristol-Myers
 Squibb Company, Route 206 and Province Line Road,
 Princeton, New Jersey 08543 (US).

(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, BN, BR, BW, BY, BZ,
 CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
 DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
 HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,
 KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME,
 MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
 OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,
 SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ,
 UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
 TM), European (AL, 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, RS, SE, SI, SK, SM,
 TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
 KM, ML, MR, NE, SN, TD, TG).

(54) Title: THIENOPYRIDINES AND BENZOTHIOPHENES USEFUL AS IRAK4 INHIBITORS



(57) Abstract: Disclosed are compounds of Formula (I) or a salt or prodrug thereof, wherein: X is CR₄ or N; Y is CR₅ or N; provided that only one of X and Y is N; (R1) is: or; wherein R₁, R_{1a}, R_{1b}, R_{1c}, R₂, and R₃ are define herein. Also disclosed are methods of using such compounds as modulators of IRAK4, and pharmaceutical compositions comprising such compounds. These compounds are useful in treating, preventing, or slowing inflammatory and autoimmune diseases, or in the treatment of cancer.

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

Published:

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