

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 May 2025 (15.05.2025)



(10) International Publication Number
WO 2025/099660 A1

- (51) **International Patent Classification:**
C07D 487/04 (2006.01) *A61K 31/5025* (2006.01)
A61P 25/00 (2006.01)
- (21) **International Application Number:**
PCT/IB2024/061091
- (22) **International Filing Date:**
08 November 2024 (08.11.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
202341076908 10 November 2023 (10.11.2023) IN
- (71) **Applicant: SUVEN LIFE SCIENCES LIMITED**
[IN/IN]; 6th Floor, Serene Chambers, Road No. 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN).
- (72) **Inventors: NIROGI, Ramakrishna;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN). **SHINDE, Anil Karbhari;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN). **MOHAMMED, Abdul Rasheed;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN). **BOJJA, Kumar;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN). **SHAIKH, Aamer;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN). **JAYARAJAN, Pradeep;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN). **BENADE, Vijay Sidram;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034

(IN). **JASTI, Venkateswarlu;** Suven Life Sciences Limited, 6th Floor, Serene Chambers, Road – 5, Avenue – 7, Banjara Hills, Hyderabad, Telangana 500034 (IN).

(74) **Agent: WASUJA, Sonica et al.;** Subramaniam & Associates, 7th Floor, M3M Cosmopolitan, Sector 66, Golf Course Extension Road, Gurugram, National Capital Region 122001 (IN).

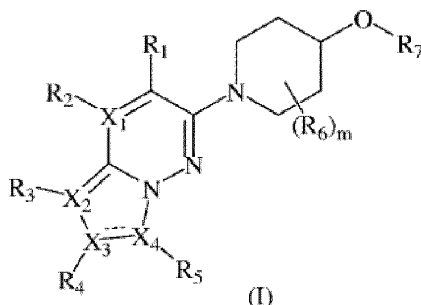
(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

(54) **Title:** PIPERIDINE SUBSTITUTED COMPOUNDS AS MUSCARINIC M4 RECEPTOR POSITIVE ALLOSTERIC MODULATORS (M4 PAMS)



(57) **Abstract:** The present invention relates to piperidine substituted compounds of formula (I), or an isotopic form, a stereoisomer, or a pharmaceutically acceptable salt thereof as muscarinic M4 receptor positive allosteric modulators (M4 PAMs). The present invention also relates to pharmaceutical compositions comprising such compounds, chemical processes of preparation of such compounds and use of such compounds in the treatment of psychiatric and/or neurological disorders.

WO 2025/099660 A1

[Continued on next page]

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE