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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 November 2011 (17.11.2011)

PCT

(10) International Publication Number
WO 2011/141180 A1

(51) International Patent Classification:
C07D 409/14 (2006.01) *A61P 11/00* (2006.01)
A61K 31/4709 (2006.01)

(21) International Application Number:
PCT/EP2011/002376

(22) International Filing Date:
13 May 2011 (13.05.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10382118.7	13 May 2010 (13.05.2010)	EP
61/365,045	16 July 2010 (16.07.2010)	US

(71) Applicants *(for all designated States except US)*: **ALMIRALL, S.A.** [ES/ES]; Ronda del General Mitre 151, E-08022 Barcelona (ES). **CATURLA JAVALOYES, Juan Francisco** [ES/ES]; C/Laureà Miró, 408-410, 08980 Sant Feliu de Llobregat, Bacelona (ES).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PRAT QUINONES, Maria** [ES/ES]; C/ Laureà Miró 408-410, E-08980 Sant Feliu de Llobregat, Barcelona (ES). **FONQUERNA POU, Silvia** [ES/ES]; C/ Laureà Miró 408-410, E-08980 Sant Feliu de Llobregat, Barcelona (ES). **PUIG DURAN, Carlos** [ES/ES]; C/ Laureà Miró 408-410, E-08980 Sant Feliu de Llobregat, Barcelona (ES). **LUMERAS AMADOR, Wenceslao** [ES/ES]; C/ Laureà Miró 408-410, E-08980 Sant Feliu de Llobregat, Barcelona (ES). **AIGUADE BOSCH, Jose** [ES/ES]; C/ Laureà Miró 408-410, E-08980 Sant Feliu de Llobregat, Barcelona (ES).

(74) Agent: **SRINIVASAN, Ravi, Chandran**; J. A. Kemp & Co, 14 South Square, Gray's Inn, London WC1R 5JJ (GB).

(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, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Published:

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

WO 2011/141180 A1

(54) Title: NEW CYCLOHEXYLAMINE DERIVATIVES HAVING β2 ADRENERGIC AGONIST AND M3 MUSCARINIC ANTAGONIST ACTIVITIES

(57) Abstract: The present invention relates to novel compounds having β2 adrenergic agonist and M3 muscarinic antagonist dual activity, to pharmaceutical compositions containing them, to the process for their preparation and to their use in respiratory therapies.