

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
21 February 2019 (21.02.2019)



(10) International Publication Number
WO 2019/036534 A1

(51) International Patent Classification:

C07D 407/14 (2006.01) *A61K 31/4523* (2006.01)
C07D 409/14 (2006.01) *A61K 31/437* (2006.01)
C07D 471/04 (2006.01) *A61K 31/416* (2006.01)
A61P 25/00 (2006.01)

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).

(21) International Application Number:

PCT/US2018/046801

(22) International Filing Date:

16 August 2018 (16.08.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/546,290 16 August 2017 (16.08.2017) US

(71) Applicant: VANDERBILT UNIVERSITY [US/US]; 305
Kirkland Hall, Nashville, Tennessee 37240 (US).

(72) Inventors: CONN, P. Jeffrey; 9012 Grey Point Ct, Brent-
wood, Tennessee 37027 (US). LINDSLEY, Craig W.;
9281 Wardley Park Lane, Brentwood, Tennessee 37027
(US). FELTS, Andrew; 5677 Oakes Drive, Brentwood,
Tennessee 37027 (US). NISWENDER, Colleen M.; 9634
Brunswick Drive, Brentwood, Tennessee 37027 (US).
CAPSTICK, Rory A.; 305 Kirkland Hall, Nashville, Ten-
nessee 37240 (US). SPEARING, Paul K.; 305 Kirkland
Hall, Nashville, Tennessee 37240 (US). BOLLINGER,
Sean; 2843 Elijah Drive, Murfreesboro, Tennessee 37129
(US).

(74) Agent: MYERS JR., Richard S et al.; Suite 800, 401 Com-
merce Street, Nashville, Tennessee 37219 (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,

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))

(54) Title: INDAZOLE COMPOUNDS AS MGLUR4 ALLOSTERIC POTENTIATORS, COMPOSITIONS, AND METHODS OF
TREATING NEUROLOGICAL DYSFUNCTION

(57) Abstract: Indazole compounds which are useful as allosteric potentiators/positive allosteric modulators of the metabotropic gluta-
mate receptor subtype 4 (mGluR4); synthetic methods for making the compounds; pharmaceutical compositions comprising the com-
pounds; and methods of using the compounds, for example, in treating neurological and psychiatric disorders or other disease states
associated with glutamate dysfunction.

WO 2019/036534 A1