

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

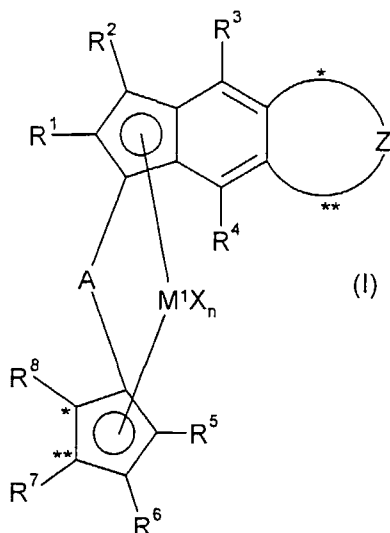
PCT

(10) International Publication Number
WO 2005/058916 A3

- (51) International Patent Classification⁷: **C08F 10/08**, 4/64, C07F 17/00, 7/08
- (21) International Application Number: PCT/EP2004/013827
- (22) International Filing Date: 6 December 2004 (06.12.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
103 58 082.4 10 December 2003 (10.12.2003) DE
60/541,668 3 February 2004 (03.02.2004) US
- (71) Applicant (for all designated States except US): **BASELL POLYOLEFINE GMBH** [DE/DE]; Brühler Str. 60, 50389 Wesseling (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **OKUMURA, Yoshikuni** [JP/DE]; Horst-Schork-Strasse 138, 67069 Ludwigshafen (DE). **NIFANT'EV, Ilya** [RU/RU]; 26 Bakinskih Komissarov St., 12-3-60, Moscow, 117526 (RU). **ELDER, Michael** [US/DE]; Schumannstr. 64, 60325 Frankfurt am Main (DE). **IVCHENKO, Pavel** [RU/RU]; 2nd Mosfilmoskiy per., 24, appt.5, Moscow, 119285 (RU). **BAGROV, Vladimir** [RU/RU]; Stoletova, St. 4 appt. 71, Moscow, 119192 (RU).
- (74) Agent: **BASELL POLYOLEFINE GMBH**; Intellectual Property, Industriepark Hoechst -E 413, 65926 Frankfurt a.M. (DE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, MC, 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:**
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 3 November 2005

[Continued on next page]

(54) Title: ORGANOMETALLIC TRANSITION METAL COMPOUND, BISCYCLOPENTADIENYL LIGAND SYSTEM, CATALYST SYSTEM AND PREPARATION OF POLYOLEFINS



(57) Abstract: The present invention relates to organometallic transition metal compounds of formula (I) where M^1 , X , n , Z , R^1 - R^8 and A are as defined in the claims, biscyclopentadienyl ligand systems having such a substitution pattern, catalyst systems comprising at least one of the organometallic transition metal compounds of the present invention, a process for preparing polyolefins by polymerization or copolymerization of at least one olefin in the presence of one of the catalyst systems of the present invention, the use of the biscyclopentadienyl ligand systems of the present invention for preparing organometallic transition metal compounds and a process for preparing organometallic transition metal compounds using the biscyclopentadienyl ligand systems.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.