

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
21 April 2022 (21.04.2022)



(10) International Publication Number
WO 2022/081685 A1

(51) International Patent Classification:

C07F 7/00 (2006.01) C08F 4/64 (2006.01)
C07F 7/28 (2006.01)

(21) International Application Number:

PCT/US2021/054751

(22) International Filing Date:

13 October 2021 (13.10.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/091,975 15 October 2020 (15.10.2020) US

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(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, IT, 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,

(54) Title: OLEFIN POLYMERIZATION CATALYSTS BEARING A 6-AMINO-N-ARYL AZAINDOLE LIGAND

Table 1. Polymerization Data

Metal-Ligand Complex	M	R ³	T (°C)	Loading (μmol)	Yield (g)	Efficiency (g/g) ¹	Mw (g/mol)	PDI	Tm (°C)	[C ₅] (mol%)
1	Hf	Mesityl	150	0.1	0.6	33,615	55,777	6.9	126.4	ND
2	Zr	Mesityl	150	0.1	0.2	21,924	ND	ND	ND	ND
3	Hf	4-fluoro	150	1.6	0.8	2241	112,685	4.5	119.6	2.9
4	Zr	4-fluoro	150	2.0	2.3	12,606	74,948	5.7	120.4	2.2
5	Hf	Neopentyl	150	0.1	0.8	44,820	244,316	5.9	125.9	5.6
6	Zr	Neopentyl	150	ND ²	ND	ND	ND	ND	ND	ND
7	Hf	Mesityl	120	0.3	1.9	35,483	138,018	2.9	ND	13.9
8	Zr	Mesityl	120	2	0.4	2192	659,182	8.2	131	ND
9	Hf	Mesityl	120	0.1	0.4	22,410	151,709	3.4	70.4	8.8
10	Zr	Mesityl	120	1.5	0.8	5846	816,979	6.5	131	2
11	Hf	Mesityl	120	0.5	1.8	20,169	145,926	2.5	59.4	12.9
12	Zr	Mesityl	120	2	0.7	3,837	260,993	9.4	126	9.4
13	Hf	2,6-diisopropyl	120	0.5	34.2	383,215	255,111	3.5	71.7	7.8
13	Hf	2,6-diisopropyl	150	0.4	23.8	333,352	230,899	4	106	15.8
14	Zr	2,6-diisopropyl	120	1.0	0.5	5,481	130,166	5.8	109.4	6.5
15	Hf	2,6-diisopropyl	150	1.0	18.7	104,768	143,075	3.7	95.7	9.2
16	Hf	2,6-dimethyl	120	1.0	6.9	38,658	277,051	4.0	58.4	9.8
17	Hf	2,6-diisopropyl	150	1.5	17.0	63,496	101,601	3.6	124	6.0
18	Hf	2,6-diisopropyl	120	0.5	7.5	84,038	120,410	2.9	111	7.8
19	Hf	2,6-dimethyl	120	1.0	0.7	3922	ND	ND	ND	ND
20	Hf	2,6-diisopropyl	150	4.0	2.3	3221	125,173	3.8	ND	9.5
21	Hf	2,6-diisopropyl	120	1.5	0.3	1121	ND	ND	ND	ND
22	Hf	2,6-diisopropyl	120	5.0	1.9	2129	162,755	14.7	103.1	9.5

FIGURE

(57) Abstract: Embodiments are directed to a metal-ligand complex of formula (I). In addition, a polymerization process includes polymerizing at least one olefin in the presence of a catalyst system comprising the metal-ligand complex and at least one activator to produce an olefinic polymer.

[Continued on next page]

WO 2022/081685 A1

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, 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).

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))*

Published:

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