

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

(19) World Intellectual Property  
Organization

International Bureau

(43) International Publication Date  
11 November 2021 (11.11.2021)



(10) International Publication Number  
**WO 2021/226423 A1**

(51) International Patent Classification:

C08F 210/16 (2006.01) C08F 4/64 (2006.01)

C07F 5/02 (2006.01) C08F 2/06 (2006.01)

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.

(21) International Application Number:

PCT/US2021/031233

(22) International Filing Date:

07 May 2021 (07.05.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/021,419 07 May 2020 (07.05.2020) US

(71) Applicant: **DOW GLOBAL TECHNOLOGIES LLC**  
[US/US]; 2211 H.H. Dow Way, Midland, Michigan 48674  
(US).

(72) Inventors: **HUACUJA, Rafael**; c/o The Dow Chemical  
Company, 230 Abner Jackson Parkway, Lake Jackson,  
Texas 77566 (US). **KEATON, Richard J.**; c/o The Dow  
Chemical Company, 230 Abner Jackson Parkway, Lake  
Jackson, Texas 77566 (US). **KLOSIN, Jerzy**; c/o Dow  
Global Technologies LLC, 1776 Building, Office D7A,  
Midland, Michigan 48674 (US). **MUKHOPADHYAY,  
Sukrit**; c/o Dow Global Technologies LLC, 76 Building,  
Office D1B, Midland, Michigan 48674 (US). **PEARSON,  
David M.**; c/o The Dow Chemical Company, 230 Ab-  
ner Jackson Parkway, Lake Jackson, Texas 77566 (US).  
**SENECAL, Todd D.**; c/o The Dow Chemical Company,  
1776 Building, Office E10, Midland, Michigan 48674 (US).  
**WOODWARD, William H.H.**; c/o The Dow Chemical  
Company, 1897 Building, Office F16, Midland, Michigan  
48674 (US).

(74) Agent: **LUNN, Jennifer H.** et al.; c/o Dinsmore & Shohl  
LLP, Fifth Third Center, One South Main Street, Suite 1300,  
Dayton, Ohio 45402 (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, 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,

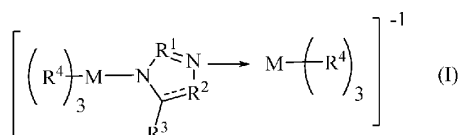
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,

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).

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: OLEFIN POLYMERIZATION BIMETALLIC ACTIVATORS



(57) Abstract: Processes of polymerizing olefins. The process includes polymerizing contacting ethylene and a (C<sub>3</sub>-C<sub>40</sub>)alpha-olefin comonomer in the presence of a catalyst system comprising a procatalyst and a bimetallic activator complex. The bimetallic activator complex includes an anion and a counteranion. The anion having a structure according to formula (I).



WO 2021/226423 A1