

(51) International Patent Classification:
C08F 110/06 (2006.01)(21) International Application Number:
PCT/US2010/033332(22) International Filing Date:
3 May 2010 (03.05.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/187,347 16 June 2009 (16.06.2009) US(71) Applicant (for all designated States except US):
EXXONMOBIL CHEMICAL PATENTS INC.
[US/US]; A Corporation Of The State Of Delaware, 5200
Bayway Drive, Baytown, TX 77520 (US).

(72) Inventors; and

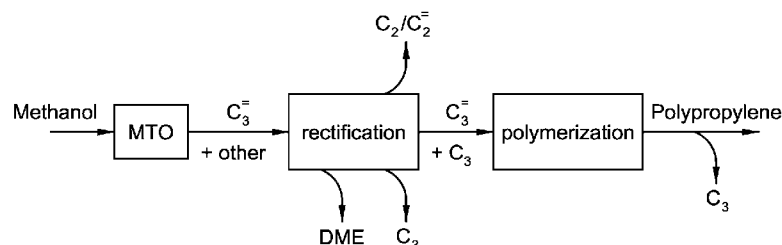
(75) Inventors/Applicants (for US only): **MCGLAMERY
Jr., Gerland, G.** [US/US]; 3824 Oberlin Street, Houston,
TX 77005 (US). **SMITH, Lawrence, C.** [US/US]; 2604
Chenevert Street, Houston, TX 77004 (US). **BAN-
CROFT, Jennifer, L.** [US/US]; 2810 Prairie Hill Court,
Houston, TX 77059 (US).(74) Agents: **FAULKNER, Kevin, M.** et al.; Exxonmobil
Chemical Company, P.O.Box 2149, Baytown, TX
77522-2149 (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, 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, 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))

(54) Title: INTEGRATED DIMETHYL ETHER RECOVERY FROM AN OXYGENATE-TO-OLEFINS PROCESS AND PRO-
DUCTION OF POLYPROPYLENE

Fig. 1



(57) Abstract: Provided is a method of producing polypropylene comprising contacting an oxygenate stream with a molecular sieve to form an olefin stream comprising propane, propylene and dimethylether; introducing the olefin stream into a propylene rectification tower possessing from less than 200 theoretical stages; withdrawing from the propylene rectification tower a bottom stream comprising dimethylether, a sidestream comprising propane, and an overhead stream comprising propane and propylene; introducing the overhead to a condenser to accumulate a propylene-rich stream; passing the propylene-rich stream to a splitter to produce (i) a first propylene stream that is introduced into a polypropylene reactor to contact a polyolefin catalyst, and (ii) a second propylene stream that is re-introduced into the rectification tower, the first and second propylene streams introduced at a desirable ratio; and recirculating the dimethylether stream to contact the molecular sieve.