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(21) International Application Number: PCT/US99/09112 (22) International Filing Date: 27 April 1999 (27.04.99) (30) Priority Data: 09/073,084 5 May 1998 (05.05.98) US (71) Applicant: EXXON RESEARCH AND ENGINEERING COMPANY [US/US]; 180 Park Avenue, P.O. Box 390, Florham Park, NJ 07932-0390 (US). (72) Inventors: SWAN, George, Alexander, III; 18437 Wildlife Way Drive, Baton Rouge, LA 70817 (US). BEDELL, Michael, Walter; 245 Meadow Bend Drive, Baton Rouge, LA 70820 (US). LADWIG, Paul, Kevin; 9 Cottonwood Drive, Randolph, NJ 07869 (US). ASPLIN, John, Ernest; 18822 Windward Lane, Houston, TX 77058 (US). STUNTZ, Gordon, Frederick; 12217 Lake Lingham Circle, Baton Rouge, LA 70816 (US). WACHTER, William, Augustine; 14040 Eastridge Avenue, Baton Rouge, LA 70817-2865 (US). HENRY, Brian, Erik; 17846 West Colony Way, Baton Rouge, LA 70810 (US). (74) Agents: NAYLOR, Henry, E. et al.; Exxon Research and Engineering Company, P.O. Box 390, Florham Park, NJ 07932-0390 (US).		(81) Designated States: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, UZ, VN, YU, ZA, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: TWO STAGE FLUID CATALYTIC CRACKING PROCESS FOR SELECTIVELY PRODUCING C ₂ TO C ₄ OLEFINS (57) Abstract A two stage process for selectively producing C₂ to C₄ olefins from a gas oil or resid. The gas oil or resid is reacted in a first stage comprised of a fluid catalytic cracking unit wherein it is converted in the presence of conventional large pore zeolitic catalyst to reaction products, including a naphtha boiling range stream. The naphtha boiling range stream is introduced into a second stage comprised of a process unit containing a reaction zone, a stripping zone, a catalyst regeneration zone, and a fractionation zone. The naphtha feedstream is contacted in the reaction zone with a catalyst containing from about 10 to 50 wt.% of a crystalline zeolite having an average pore diameter less than about 0.7 nanometers at reaction conditions which include temperatures ranging from about 500 to 650 °C and a hydrocarbon partial pressure from about 10 to 40 psia. Vapor products are collected overhead and the catalyst particles are passed through the stripping zone on the way to the catalyst regeneration zone. Volatiles are stripped with steam in the stripping zone and the catalyst particles are sent to the catalyst regeneration zone where coke is burned from the catalyst, which is then recycled to the reaction zone.		