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(21) International Application Number: PCT/US98/11875 (22) International Filing Date: 8 June 1998 (08.06.98) (30) Priority Data: 08/872,585 10 June 1997 (10.06.97) US (71) Applicant: EXXON CHEMICAL PATENTS INC. [US/US]; 5200 Bayway Drive, Baytown, TX 77520-5200 (US). (72) Inventors: CHEN, Tan-Jen; 5615 Lofty Magnolia Court, Kingwood, TX 77345 (US). ROWE, J., T.; 1112 Cherokee, Pasadena, TX 77506 (US). (74) Agents: ZBORAY, James, A.; Exxon Chemical Company, P.O. Box 2149, Baytown, TX 77522-2149 (US) et al.		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ARIPO patent (GH, GM, KE, LS, MW, SD, 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, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: HYDROCARBON CRACKING WITH POSITIVE REACTOR TEMPERATURE GRADIENT (57) Abstract The invention provides an improvement in processes for cracking hydrocarbons to prime olefins, ethylene and propylene, which comprises applying a positive temperature gradient across a catalyst contact zone. The temperature gradient may be uniform or stepwise, may be one reactor or a series of reactors so long as at least one down stream cracking zone is operated at a higher temperature than an upstream zone.		