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(21) International Application Number: PCT/US99/23194 (22) International Filing Date: 5 October 1999 (05.10.99) (30) Priority Data: 60/104,340 15 October 1998 (15.10.98) US (71) Applicant (for all designated States except US): E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MORKEN, Peter, Arnold [US/US]; 6 Weilers Bend, Wilmington, DE 19810 (US). RESNICK, Paul, R. [US/US]; 104 Rivergreen Court, Cary, NC 27511 (US). WANG, Lin [CN/US]; 112 Brook Run, Hockessin, DE 19707 (US). (74) Agent: SIEGELL, Barbara, C.; E.I. du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).		(81) Designated States: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, EE, GD, 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, US, UZ, VN, YU, ZA, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, 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: POLYMERS, CONTAINING A FLUOROCYCLOBUTYL RING AND THEIR PREPARATION $\begin{array}{c} \text{C} \begin{array}{l} \text{F}_2 - \text{CFR}_f \\ \quad \\ \text{H}_2 - \text{CH} - \text{R} - \text{CH} = \text{CH}_2 \end{array} \\ \text{C} \end{array} \quad (III)$ $\begin{array}{c} \\ \text{O} - \text{CF}_2 - \text{R}' - \text{CF}_2\text{SO}_2\text{YZ}_m \end{array} \quad (II)$ (57) Abstract This invention concerns terminally unsaturated olefins of formula (III) wherein R is oxygen or an alkylene or alkylene ether group wherein one or more of the hydrogens may be substituted by halogen, and R_f is a radical of formula (II), wherein R'_f is a bond or is a fluoroalkylene or fluoroalkylene ether group, when m = 0 then y is F and when m = 1 then Y is O, Z is a univalent metal. The invention further concerns a process of polymerisation of these olefins and the polymers formed, as well as the use of the polymers in which m = 1 and Z = hydrogen or an alkali metal in an ionically conductive composition, particularly for use in an electrochemical cell.		