long chain hydrocarbons such as polytetrafluoroethylene (Figure 1c). The intensity (*i.e.*, the amount) of CH stretch absorption at 2800 cm^{-1} in Figure 1b is similar to that found in the spectrum of a 1% solution of mineral oil $(CH_2)_n$ in perfluorokerosene $(CF_2)_n$. This agrees with the microanalysis which indicates that there is approximately 1% residual hydrocarbon in the fluorinated specimen. Since relatively thick mats of polyethylene single crystals were fluorinated, the interior regions of the polymer single crystal mats may remain partially hydrogenated. This could account for the traces of CH_3 and CH_2 absorption that remain in Figure 1b. There is no indication of olefinic structures (C=C) in the 900–1000-cm^{-1} region. This is evidence that virtually all the hydrogen atoms have been replaced by fluorine.

Monolayer single crystals of polyethylene treated with fluorine in a fashion similar to the polyethylene single crystal mats were extracted in refluxing xylene for 24 hr and examined (Figure 2). Single crystals not exposed to fluorine were completely soluble in the refluxing solvent. Fluorinated single crystals were insoluble and, as can be seen from Figure 2, showed no obvious evidence of morphological rearrangement. Apparently, fluorine atoms can be incorporated into the carbon skeleton without disrupting the structure. Since no solvents are available for these materials, the extent of cross-linking, if any, cannot be assessed. Preliminary electron diffraction results suggest that in the *c*-axis projection chain packing similar to that of the orthorhombic polyethylene unit cell is maintained but with expanded *a* and *b* dimensions. This is in contrast to the hexagonal symmetry found in polytetrafluoroethylene. X-Ray and electron diffraction studies are being continued.

Other single crystal hydrocarbon polymers should be amenable to fluorination to prepare novel perfluorinated single crystals.

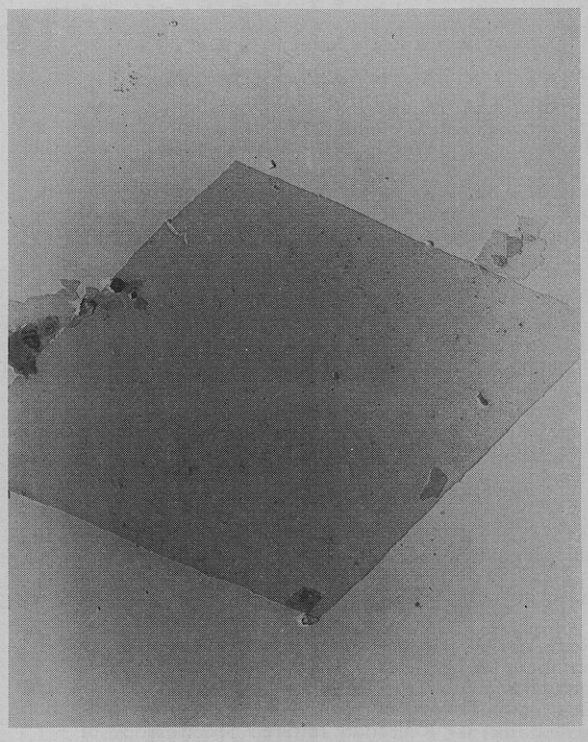

Figure 2. Fluorinated monolayer single crystal of Marlex 6050 polyethylene after extraction with refluxing xylene.

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Page 413. The last sentence in the Experimental Section should read as follows. A third diastereoisomer, D,L-alanylalanine, was also observed, although for reasons to be indicated in the Results, it was not specifically included in the conformational energy calculations. (The remaining isomer, D,D, is obviously enantiomorphous with the L,L isomer and does not require separate study.)