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**Perturbing Effects of Bulky Comonomers on the Chain Conformation of Poly(vinylidene fluoride)** SURIYAKALA RAMALINGAM, YUNING YANG, SHAW L. HSU, University of Massachusetts Amherst — The comonomer effect on structures of poly(vinylidene fluoride- hexafluoropropylene) copolymers P(VDF-HFP) was analyzed by Raman spectroscopy. The HFP content of these copolymers varies from 5% to 15%. Because of steric interactions involving the bulky HFP comonomers, the predominant chain conformation has extensively more gauche conformers in comparison to pure PVDF. Based on both experimental and simulation studies, specific spectroscopic features in the  $700\text{ cm}^{-1}$  region have been identified that are characteristic of irregular chain conformations elucidating the perturbing effect of HFP on the equilibrium chain statistics of PVDF in the amorphous phase. In addition, these spectroscopic features were revealed to be extremely sensitive to the relative placement of  $\text{CF}_3$  units respective to other fluorine atoms along the chain.

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