SYNTHESIS, CHARACTERIZATION, AND REACTIONS OF MODEL COMPOUND FOR USE IN PREPARATION OF NLO PENDANT POLYMER.

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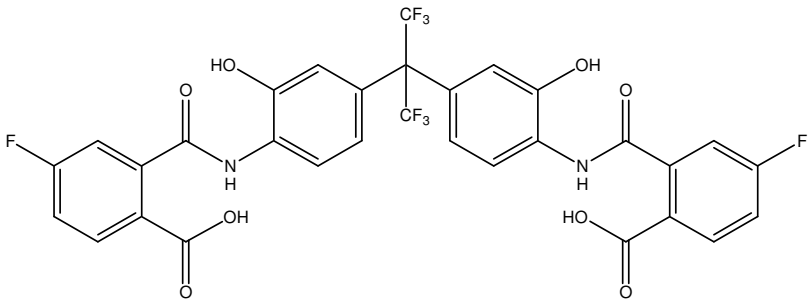
A compound was synthesized from a 1:2 mole ratio of 2,2-bis(3-amino-4-hydroxyphenyl) hexafluoropropane (APAF) and 4-fluorophthalic anhydride (FPA) in order to model a portion of a nonlinear optical (NLO) pendant polymer. This model compound was characterized by TLC and IR spectroscopy, as well as both 1-D and 2-D NMR. The model compound was imidized to simulate the process in the analogous polyamic acid, the precursor to a backbone polyimide chain. In a second reaction, a cross-linking group, cinnamoyl chloride, was added in a 2:1 ratio to the unimidized trimer. Assignments and analagous reaction conditions will be utilized in the preparation and characterization of a NLO pendant polymer.



Model Compound