

Synthesis of New Diamine Macrocycles for Engineering of Polar Crystals

We previously prepared a series of polar crystals composed of hydrogen-bonded dipolar **mPD** molecules which assemble via a “folded” conformation into a polar network of aligned dipoles. Here, we report the synthesis of an analog structure, **macro-mPD**, containing a macrocyclic ring that enforces the folded conformation needed for polar self-assembly. Using this strategy, an **mPD** (X=H) molecule which gives a nonpolar crystal structure has been successfully “crystal engineered” to yield a polar crystal structure in its **macro-mPD** form.