Supporting Information

Harmer et al., "Catalytic Reactions Using Superacids in New Types of Ionic Liquids"

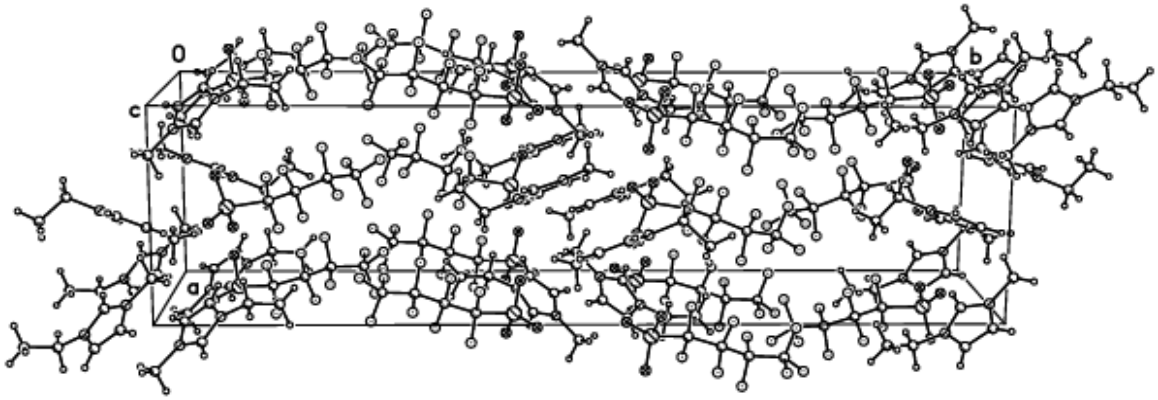

Figure 1. Crystal Packing of EMIM-nanoflate with left-right layers of EMIM-SO3 and fluoroalkyl regions.

Crystal data for EMIM-nanoflate (05219): $C_{10}H_{11}F_9N_2O_3S$, FW = 410.27, monoclinic, space group P21/c, a = 9.178(4) Å, b = 34.444(13) Å, c = 10.022(4) Å, β = 91.711(7) °, U = 3167(2) Å^3, T = -100.°C, Z = 8, D_{calcd}=1.72g/cm^3. Data were collected using a Bruker Apex-II CCD system equipped with MoKα radiation on a non-merohedrally twinned crystal. Cell_now, Saintplus and Twinabs used to integrate data on two domains yielding 11349 total reflections. Structure solved and refined on F^2 using SHELXTL (Sheldrick, G. *Shelxtl Software Suite*, Version 5.1; Bruker AXS Corp: Madison, Wisconsin, 1996). All non-hydrogen atoms were refined with anisotropic thermal parameters. Hydrogen atoms were idealized using a riding model. The final R values were wR_2 = 0.258 and R_1 = 0.171 using all data. The high-r factors are attributed to some un-modeled overlap twinned

crystal. Crystallographic data have been deposited at the Cambridge Crystallographic Data Centre with deposition numbers CCDC ######.