

Supporting information

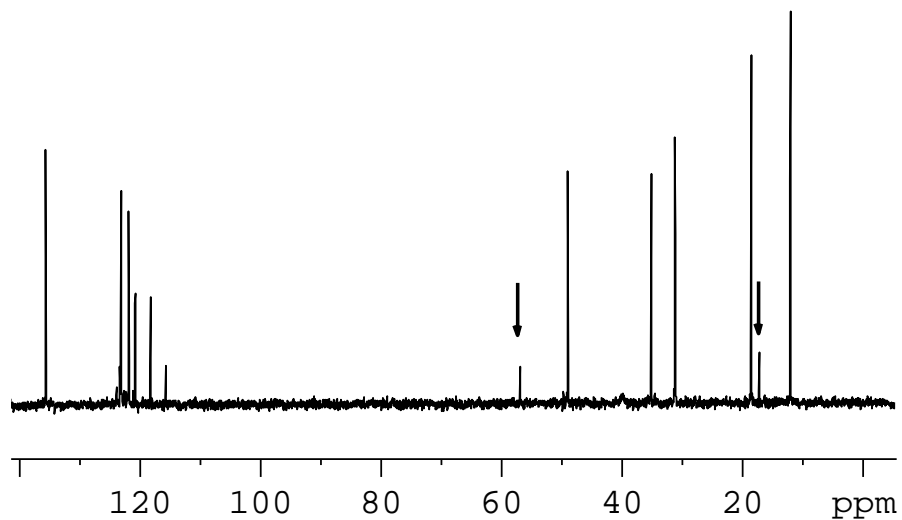


Figure 1: ^{13}C spectrum of $[\text{BMIM}][\text{Tf}_2\text{N}]$ containing a drop of ethanol. The spectrum has been acquired with ^2H lock on a 5 mm BBI probe. Marked signals are attributed to ethanol.

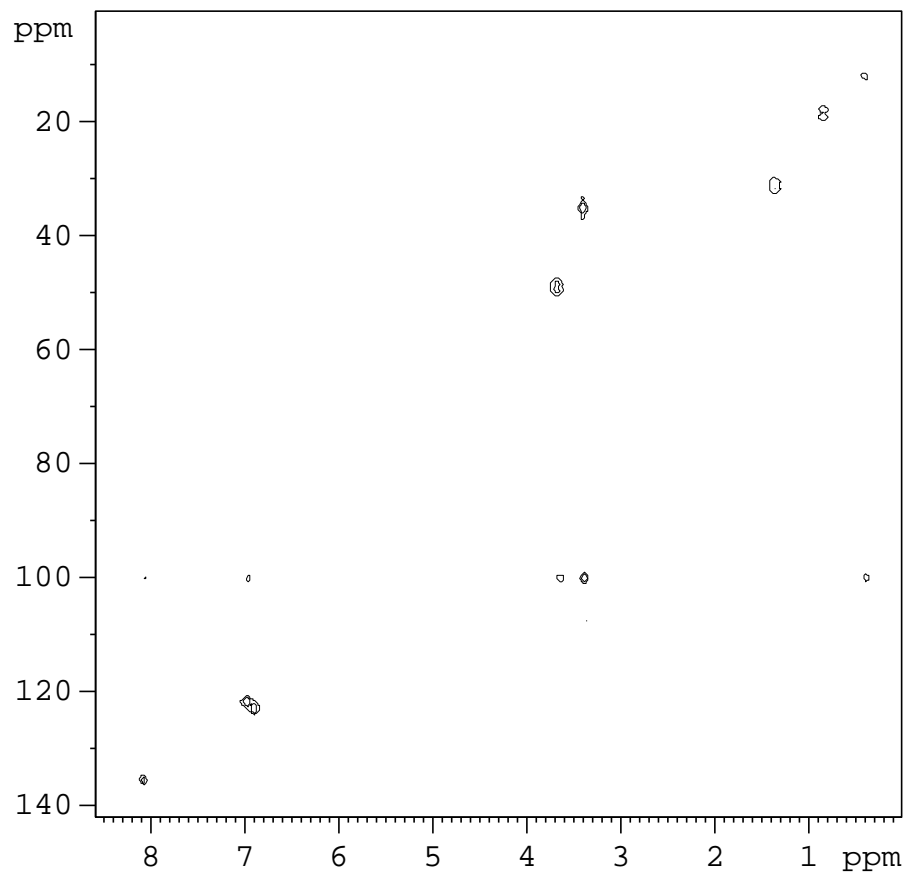


Figure 2: Gradient-selected HMQC spectrum of [BMIM][Tf₂N]. The spectrum has been acquired ^2H lock on a 5 mm BBI probe.

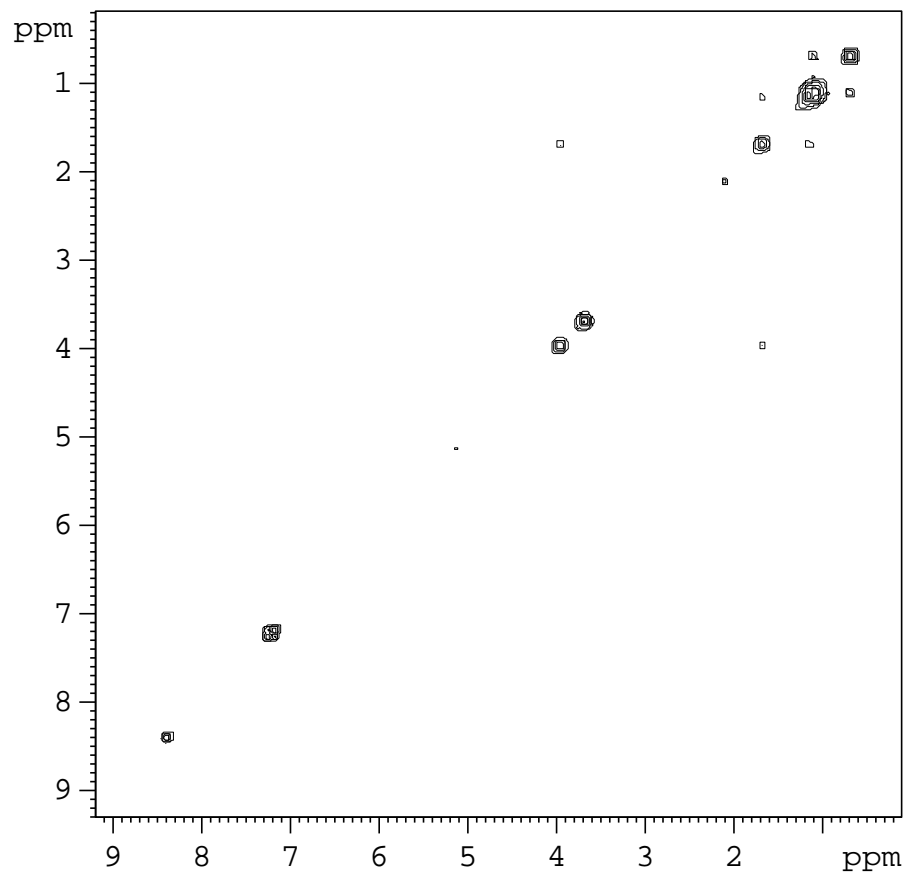


Figure 3: Gradient-selected COSY spectrum of [C₁₀MIM][Tf₂N]. The spectrum has been acquired with ¹⁹F lock on a 10 mm TXO probe.