Supporting Information

Formation of Hexacarbonylmanganese(I) Salts, $[Mn(CO)_6]^+X^-$, in Anhydrous HF

Jens Geier, Helge Willner, Christian W. Lehmann and Friedhelm Aubke

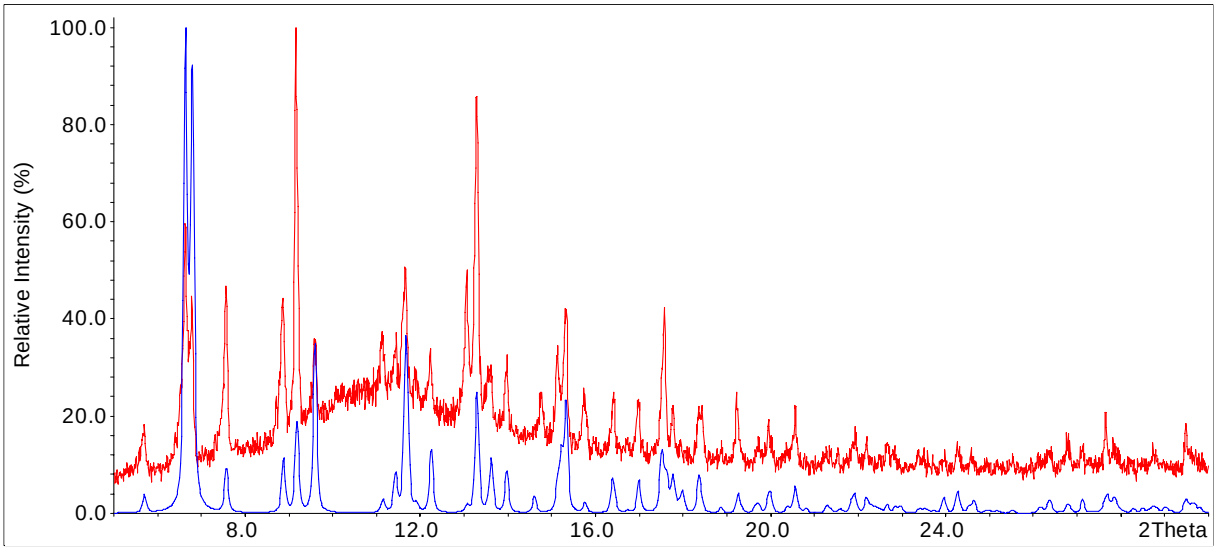

Figure S1. Experimental (red) and theoretical (blue) powder pattern of $[Mn(CO)_6][BF_4]\cdot SO_2$. The calculation of the theoretical powder pattern utilises the atomic parameters of the 100 K single crystal structure in combination with the RT cell parameters of the experimental powder pattern.

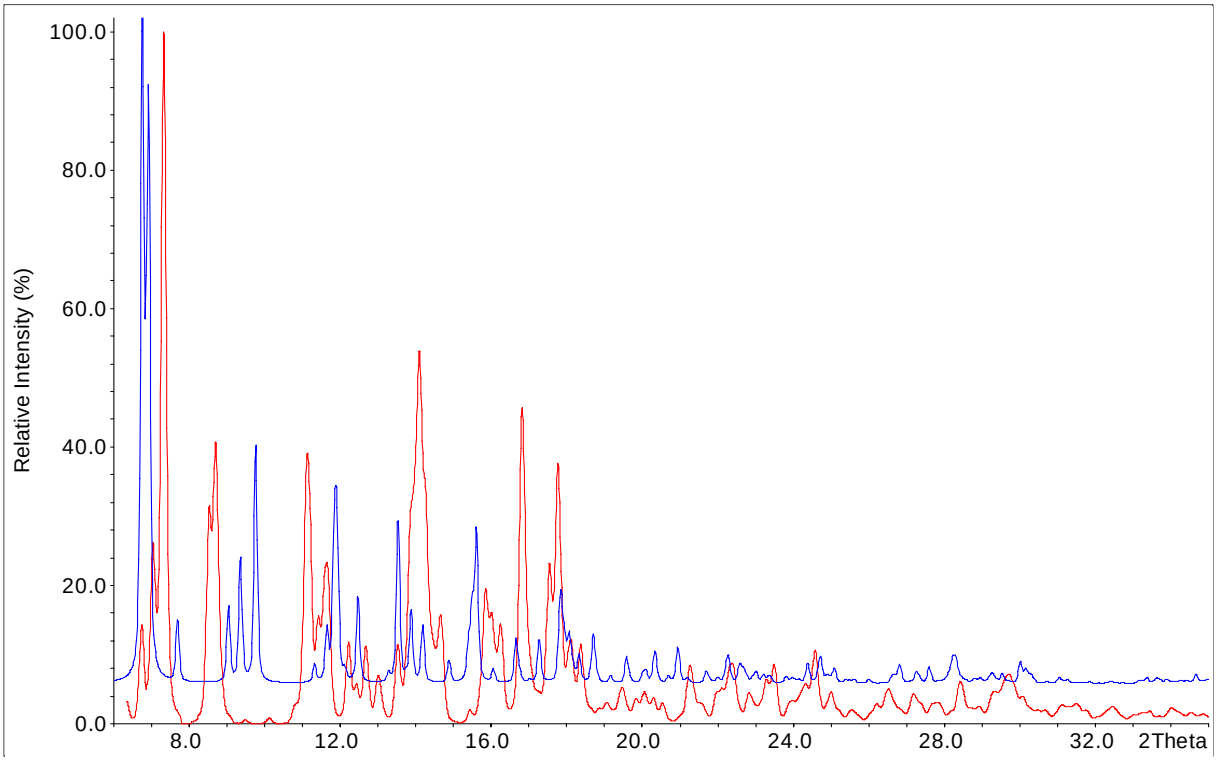

Figure S2. Comparison of the theoretical powder patterns of $[Mn(CO)_6][BF_4] \cdot SO_2$ (blue) and $[Mn(CO)_6][BF_4]$ (red) derived from single crystal intensity data (SO_2-free crystals were obtained from nitromethane solution; there quality was insufficient for a satisfying structure refinement).

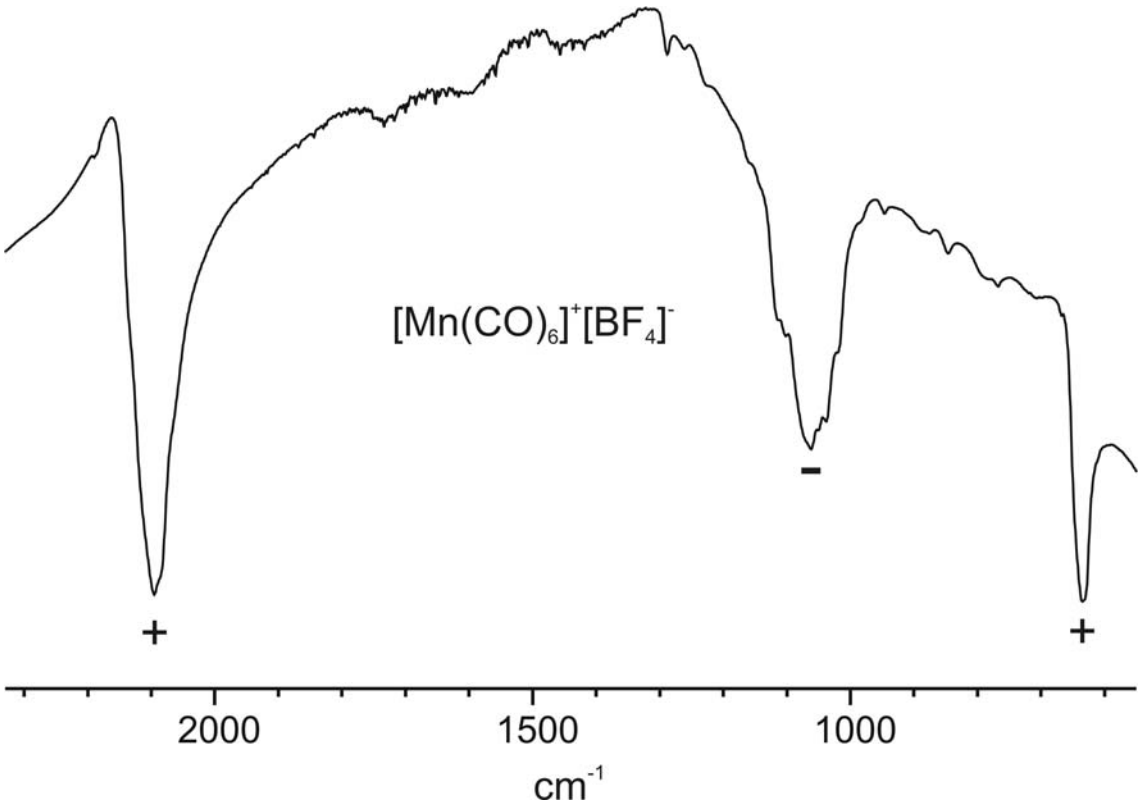

Figure S3: IR spectrum of solid $[Mn(CO)_6][BF_4]$. Cation bands +, Anion bands -.

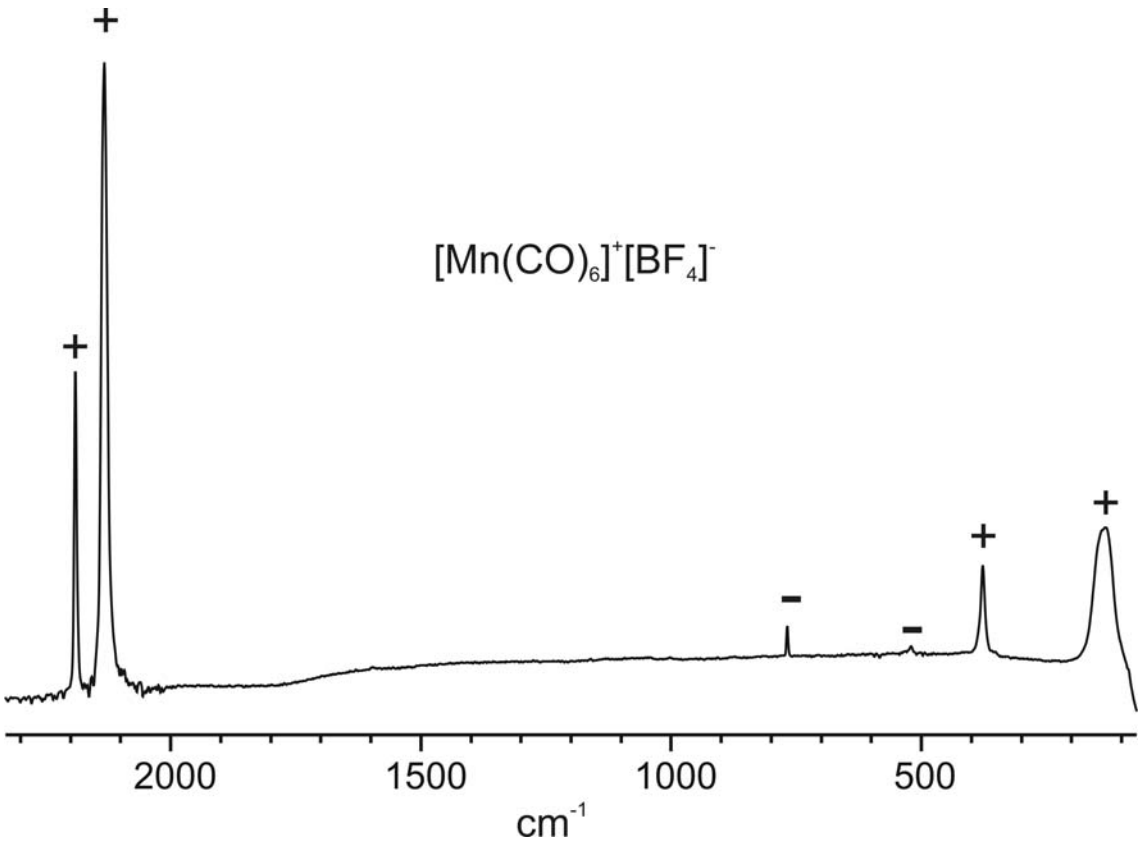

Figure S4: Raman spectrum of solid $[Mn(CO)_6][BF_4]$. Cation bands +, Anion bands -.

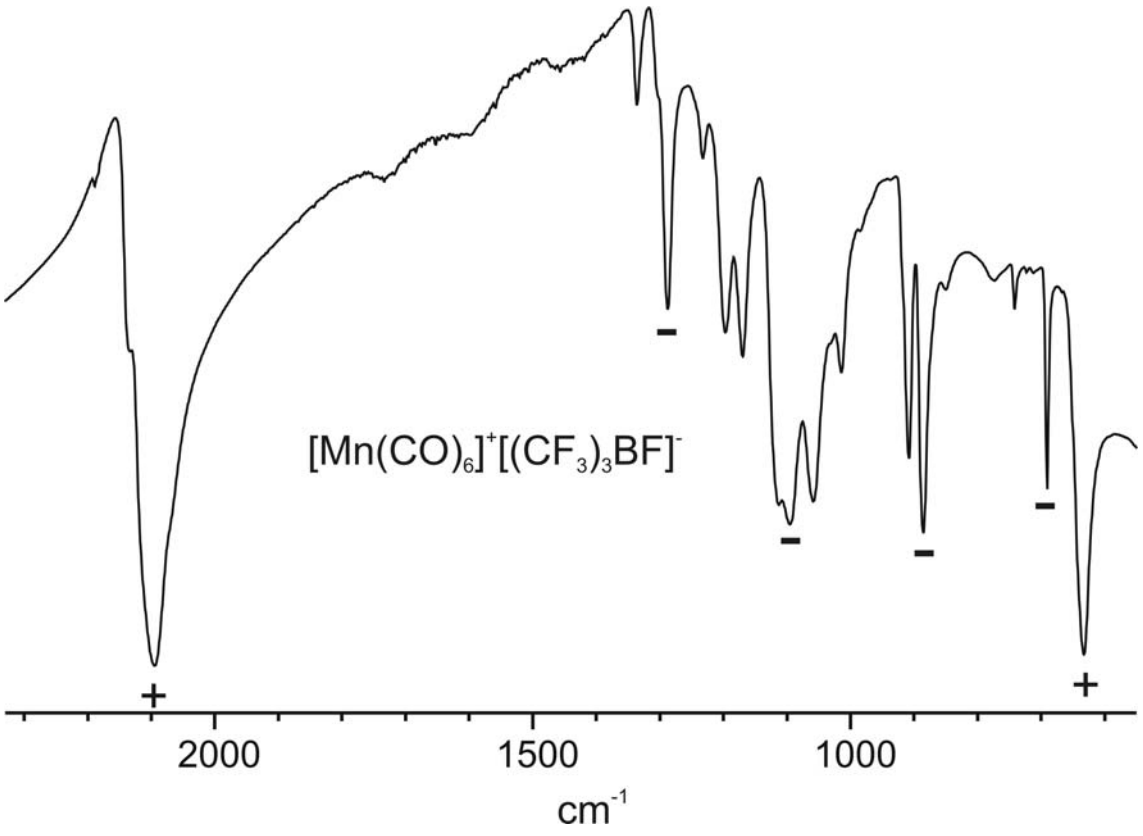

Figure S5: IR spectrum of solid $[Mn(CO)_6][(CF_3)_3BF]$. Cation bands +, Anion bands -

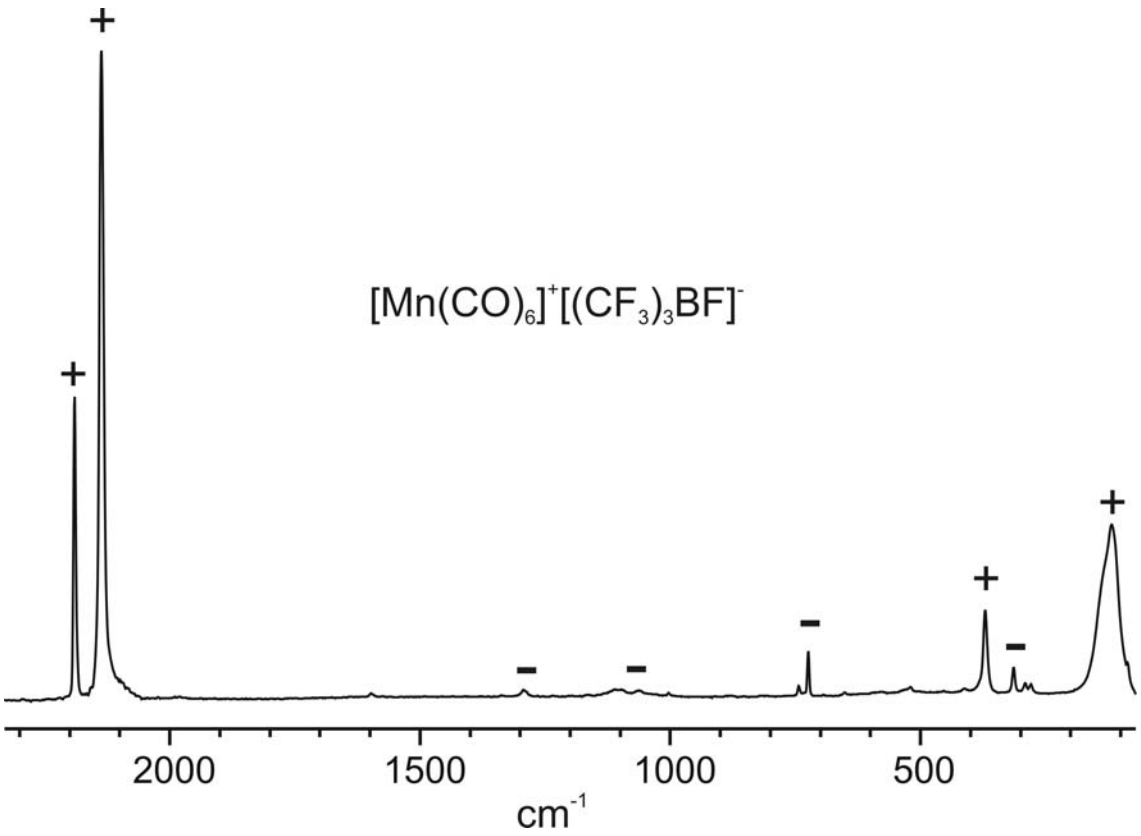

Figure S6: Raman spectrum of solid $[Mn(CO)_6][(CF_3)_3BF]$. Cation bands +, Anion bands –

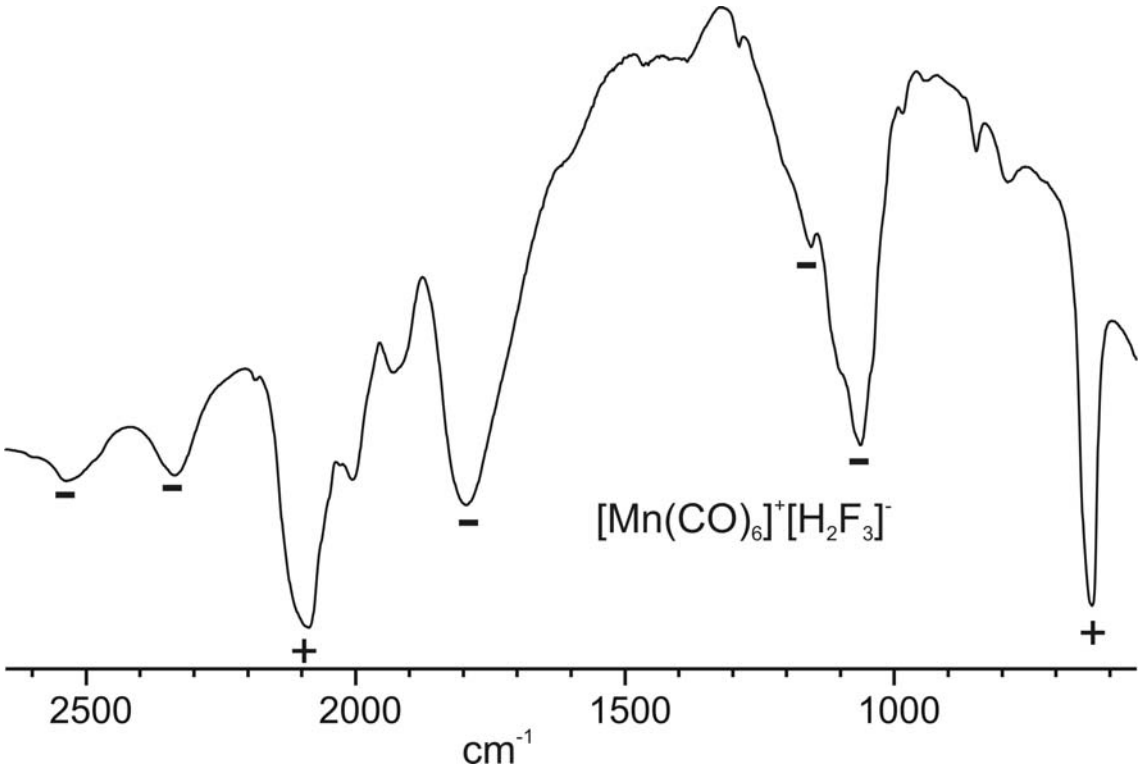

Figure S7: IR spectrum of solid $[Mn(CO)_6][H_2F_3]$. Cation bands +, Anion bands -

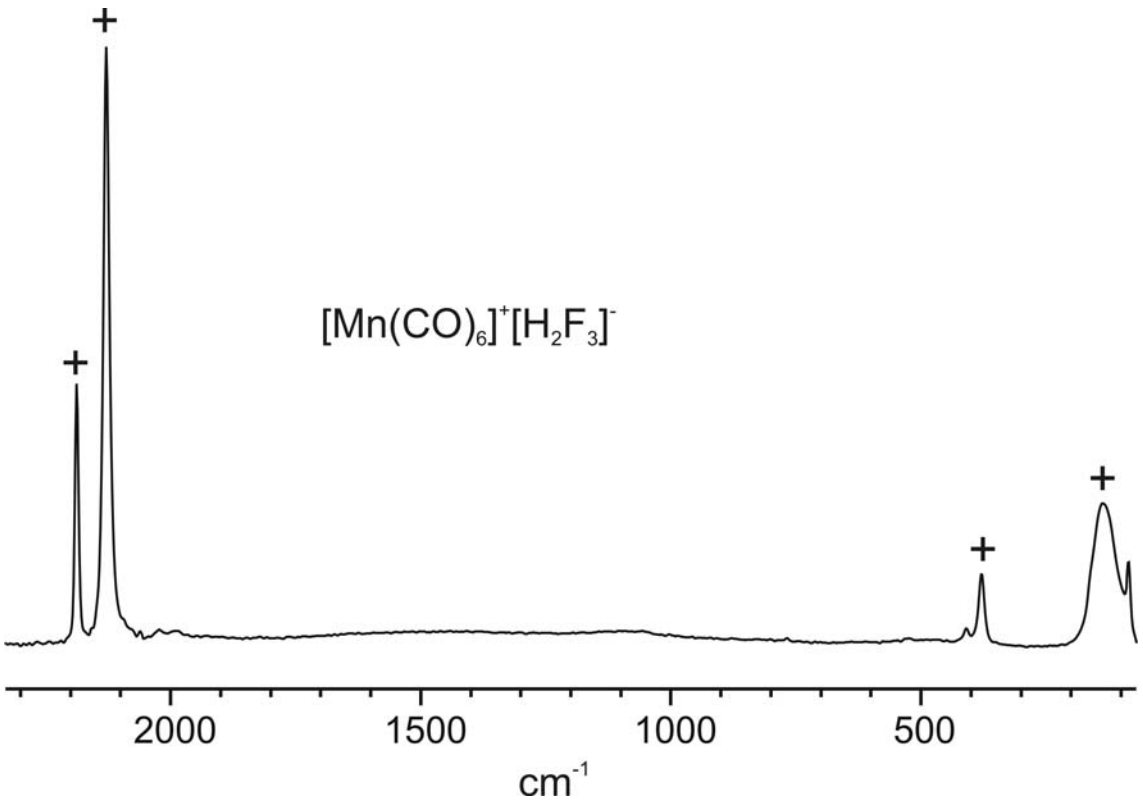

Figure S8: Raman spectrum of solid $[Mn(CO)_6][H_2F_3]$. Cation bands +, Anion bands -