Supporting Information.

Supramolecular cations of the $m$-fluoroanilinium(dibenzo[18]crown-6) in ferromagnetic salt

Toru Endo, Tomoyuki Akutagawa*, Shin-ichiro Noro$^{a,b}$
and Takayoshi Nakamura*$_{a,b}$
**Fig. S1** Thermogravimetry analysis of salt 1. Thermal analysis station using an Al$_2$O$_3$ reference in the temperature range from 298 to 773 K with a heating rate of 10 K min$^{-1}$ under nitrogen. The existence of one CH$_3$OH and CH$_3$CN in salt 1 was confirmed by the weight-loss of 8.7 % at 450 K in the thermogravimetry measurement. Since the weight loss of the salt began already at room temperature and both of the CH$_3$OH and CH$_3$CN molecules were gradually removed from the salt. The decomposition of the salt was observed at 520 K.
Fig. S2 UV - vis - NIR - IR spectrum (KBr pellet) of 1. Absorption bands due to Cr$^{III}$ appeared at around $10.6 \times 10^3$, $17.5 \times 10^3$ and $23.4 \times 10^3$ cm$^{-1}$.

Fig. S3 Magnetic properties of 1. The out-phase signal in the AC susceptibility measurements was measured at temperatures between 2 to 20 K in an applied AC field of ±3 Oe at frequencies of 1, 10, 100, and 1000 Hz. The out-of-phase signal becoming nonzero at 5.5 K, which defines $T_c$ for this material.