Supporting Information

Figure 1S. Schematic illustration of the honeycomb-like layer. Capital letter A stands for a top-capped $C_2@Ag_7$ cage, \overline{A} indicates a bottom-capped $C_2@Ag_7$ cage, B presents a trigonal lantern $[Ag_6(\mu_3-F)(\mu_3-CF_3SO_3)_2]$, and Tf denotes a pair of head-to-head triflate guest molecules.

Figure 2S. Perspective view of a cross-section normal to *b*, showing the accommodation of a dimeric (CF₃SO₃⁻)₂ guest species in a hexagonal cavity of a honeycomb-like layer.

The host-guest Ag···O interactions and F···F contacts between adjacent layers are indicated by dotted lines.

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Figure 1S

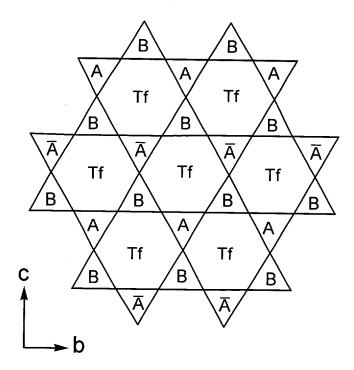


Figure 2S

