## Highly Fluorinated Silver Carboxylate Layered Structures

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Previously we have reported the design and synthesis of a family of layered coordination networks based upon silver trifluoroacetate dimers linked through a variety of neutral ditopic ligands. The surfaces of these layers contain the CF<sub>3</sub> groups of the coordinated anions, which interdigitate with adjacent layers, [1], [2]. Here we describe two new families of layered silver carboxylates in which the interlayer region is more highly fluorinated. The first series, of general formula {Ag(CF<sub>3</sub>(CF<sub>2</sub>)<sub>n</sub>CO<sub>2</sub>)Q}<sub>∞</sub>, where n = 0-3, Q = quinoxalene, projects fluoroalkyl chains into the interlayer region. A family of compounds has been characterised in which interlayer spacing can be controlled. The second series employs fluoroaromatic groups through coordination of the pentafluorophenylacetate ion, C<sub>6</sub>F<sub>5</sub>CH<sub>2</sub>CO<sub>2</sub><sup>-</sup>.



[1] Brammer L., Burgard M. D., Rodger C. S., Swearingen J. K., Rath N. P., *Chem. Commun.*, 2001, 2468-2469. [2] Brammer L., Burgard M. D., Eddleston M. D., Rodger C. S., Rath N. P., Adams H., *CrystEngComm*, 2002, 4, 239-248. Keywords: crystal engineering, coordination polymer, fluorine