

Supplementary Material

In the refinement of the structure of compounds **2** and **4** the MeNH_3^+ and EtNH_3^+ cations and water molecules were located on a ΔF map but their atoms have a very large thermal motion because of the disorder. For this reason the atomic coordinates and the isotropic displacement parameters of the MeNH_3^+ cation and water molecule in **2** and the carbon atoms of the EtNH_3^+ cation in **4** were not refined.

The residual agreement factors for reflections with $I > 2\sigma(I)$ for **2** and **4** respectively are $R1 = 0.0611$, $wR2 = 0.1582$, and $R1 = 0.0297$, $wR2 = 0.0844$.

In the refinement of the structure of compound **3** was not possible to find a reasonable model for the disordered Me_2NH_2^+ and solvent. The contribution of the disordered cations to the diffraction pattern (16 molecules located in the voids of the channels of the lattice that amount to 43.7% of the unit cell) were subtracted from the observed data by the "SQUEEZE" method as implemented in PLATON (A. L. Spek, *Acta Cryst.*, **1990**, A46, C34 and P. Van der Sluis, A. L. Spek, *Acta Cryst.*, **1990**, A46, 194: The SQUEEZE-Bypass method referred therein is widely used in crystallographic analysis of compounds containing substantial amounts of disordered solvent/counterions that can not be located precisely from diffraction data.)

The residual agreement factors for reflections with $I > 2\sigma(I)$ before SQUEEZE are $R1 = 0.1067$, $wR2 = 0.2524$, and after $R1 = 0.0767$, $wR2 = 0.1750$.

The final formulation of the compound is in agreement with the residual electron density and volume.

Testing the two enantiomeric models of the crystal **2**, **3** and **4** with a final refined Flack parameter of 0.46(5), 0.45(9), and 0.46(2) respectively, shows that the handedness was not uniquely determined.