Electronic Supplementary Information

Group 12 metal zwitterionic thiolate compounds: preparation and structural characterization

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Fig. S1 Perspective view of 1D chain structure of 3 formed *via* hydrogen bonding interactions. All hydrogen atoms except those involved in hydrogen bonding interactions have been omitted for clarity.



Fig. S2 (a) View of the 2D H-bonded network (extending along the *bc* plane) formed *via* H-bonding interactions in $4.2(H_2O)_{0.5}$. (b) View of the 2D H-bonded network (extending along the *ab* plane) formed via H-bonding interactions in 5.2DMF. All H atoms except the water H atoms and those involved in hydrogen bonds are omitted for clarity.

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Fig. S3 Perspective view of the 1D chain formed by hydrogen bonding interactions in **6**. The hydrogen atoms except those involved in hydrogen bonding interactions have been omitted for clarity.



Fig. S4 (a) View of the 2D H-bonded network formed by intermolecular H-bonding interactions in $8 \cdot 2DMF \cdot 2H_2O$. The hydrogen atoms except those involved in hydrogen bonding interactions have been omitted for clarity; (b) View of the 3D structure formed by hydrogen bonding interactions in $8 \cdot DMF \cdot 2H_2O$ (looking down *b* axis).