

On the structure of cadmium isopropylxanthate. Corrigendum

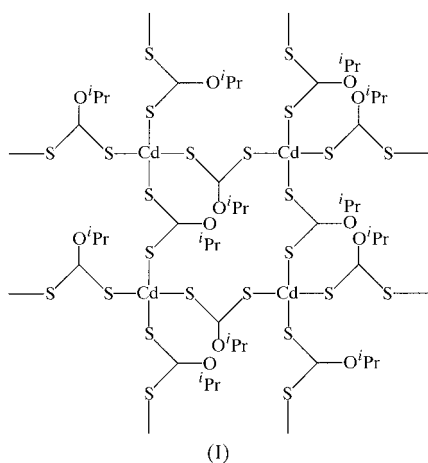
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A full description for the structure of bis(*O*-isopropylthiocarbonato)cadmium(II), $[\text{Cd}(\text{C}_4\text{H}_7\text{OS}_2)_2]$, is presented. The structure comprises an interconnected network of 16-membered $[-\text{Cd}-\text{S}-\text{C}-\text{S}-]_4$ rings that arises from the presence of bidentate bridging ligands. The resultant layers are stacked along the *a* axis.

Comment

The structural chemistry of the binary zinc, cadmium and mercury 1,1-dithiolates {e.g. xanthate ($^-\text{S}_2\text{COR}$), dithiocarbamate ($^-\text{S}_2\text{CNR}_2$) and dithiophosphate [$^-\text{S}_2\text{P}(\text{OR})_2$]} is rich in its diversity with many varied motifs being found (Cox & Tiekink, 1997). Hence, isolated monomeric, dimeric and cyclotetrameric structures are known, as are linear, layer and three-dimensional polymeric arrays. Often the structures are quite complicated and open to interpretation owing to the variety of metal–ligand interactions. In this context, two



distinct motifs are known for $[\text{Cd}(\text{S}_2\text{COR})_2]$. A square-planar geometry is found in the structure with $R = \text{CH}_2\text{CH}_2\text{OMe}$ (Abrahams *et al.*, 1988), with weak $\text{Cd} \cdots \text{S}$ interactions above and below the square plane. The other motif features tetra-

hedrally coordinated Cd, *i.e.* when $R = \text{Et}$ (Imura *et al.*, 1972) and $R = \text{Bu}$ (Rietveld & Maslen, 1965). The recently reported structure of $[\text{Cd}(\text{S}_2\text{COC}_3\text{H}_7)_2]$ also conforms to this motif (Tomlin *et al.*, 1999). The structure of $[\text{Cd}(\text{S}_2\text{COC}_3\text{H}_7)_2]$, (I), is shown in Fig. 1. Each Cd atom is tetrahedrally coordinated by four S atoms, each of which is derived from a bridging xanthate ligand; molecular dimensions are as given in the original report. The structure is best described as being based on a square of Cd atoms, with each edge defined by a bridging xanthate, as emphasized in Fig. 1. The 16-membered $[-\text{Cd}-\text{S}-\text{C}-\text{S}-]_4$ rings that are thus formed are connected to neighbouring rings *via* bridging ligands to form a layer structure. Symmetry-related layers stack along the crystallographic *a* axis separated by hydrophobic interactions.

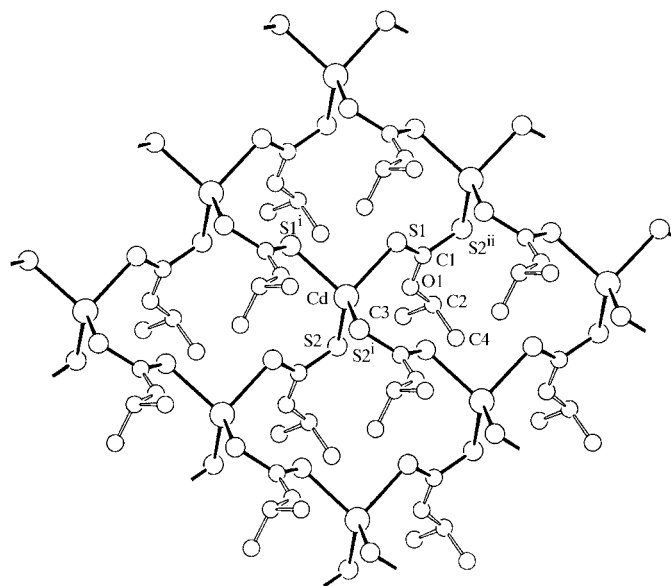


Figure 1

A portion of the layer structure for $[\text{Cd}(\text{S}_2\text{COC}_3\text{H}_7)_2]$ viewed approximately down the *a* axis. The 16-membered rings are emphasized. The diagram was drawn with *ORTEP*II (Johnson, 1976) using arbitrary ellipsoids. [Symmetry codes: (i) $1-x, 1-y, z$; (ii) $x, y-\frac{1}{2}, z-\frac{1}{2}$.]

Supplementary data for this paper are available from the IUCr electronic archives (Reference: BK1523). Services for accessing these data are described at the back of the journal.

References

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