

s13.m38.p1 **A Three-dimensional Network Coordination Adipato-Bridged Barium (II) Polymer.** F. Balegroune^a, A. Djeghri^a, A. Guehria-Laidoudi^a, P. Briard^b and T. Roisnel^b, ^aLaboratoire de Cristallographie- Thermodynamique, Faculté de Chimie, USTHB, BP32, El-Alia, Bab-Ezzouar, Alger, Algérie. ^bLaboratoire de Cristallographie et Inorganique Moléculaire, Université de Rennes I, Avenue du Général Leclerc, 35042, Rennes Cedex, France. E-mail: fadilabalegroune@yahoo.fr

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Metal organic polymers with extended structures are currently of considerable interest owing to their possible applications in catalysis, biology, and medicine.

In this family metal dicarboxylates have been extensively studied.

To our knowledge previous structure determination involving barium α,ω -dicarboxylate complexes are limited to those of barium oxalate [1], barium malonate [2] and barium succinate [3]. At this point, our interest has been extended to study the behaviour of the barium (II) moiety upon lengthening the chain of the dicarboxylic acids.

A new unhydrated barium (II) adipate complex has been synthesized via gel technique route. The complex has been characterized by elemental analysis, IR spectroscopy and single crystal X-ray diffraction technique. It crystallizes in the tetragonal space group P4b2, with $a=8.5059(6)$ Å, $c=10.5228(6)$ Å, $V=761.3$ Å³, $Z=2$. The barium is eight-co-ordinated, the co-ordination polyhedron around the Ba(II) atom is a slightly distorted dodecahedron formed by eight oxygen atoms belonging to eight equivalent adipate groups. The dicarboxylate ligand is unidentate and coordinate polymerically by its four oxygen atoms, bridging two different barium atoms and leading to a binuclear cage involving eight μ -1,3 oxo-bridges exhibiting eight membered-ring Ba₂C₂O₄ forming wide empty channels parallel to the [010] direction. The two-dimensional layered structure is built up from an infinite array of hydrocarbon chains sandwiched BaO₈ polyhedra.

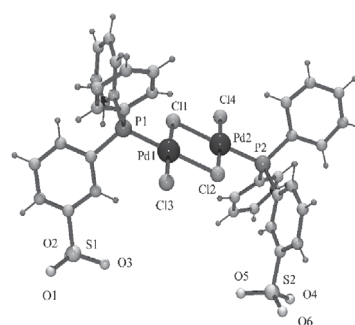
The general structural features are identical to those barium (II) pimelate [4] and barium (II) suberate [5].

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s13.m38.p2 **Coordination versus Hydrogen Bond and Packing: bis(μ -chloro)-bis(chloro-triphenylphosphane-palladium) and its Water Soluble Analog.** Attila Bényei^a and Ágnes Kathó^a, ^aInstitute of Physical Chemistry, University of Debrecen, Hungary. E-mail: abenyei@delfin.klte.hu

Keywords: Coordination compound; Packing interaction; Hydrogen bond

Palladium chloro complexes are important in homogeneous catalytic reactions. Structure of [PdCl₂PPh₃]₂ is known till 1997[1] while its benzene solvate has been published recently[2]. We've prepared and determined the structure of its water soluble analog i.e. *Trans*-di-chloro-bis[chloro(3-sulfonatophenyl-diphenyl-phosphane)palladium] which contains guanidinium as counter ion of sulfonate groups. Comparison of this new structure with literature results reveals, that coordination around the central palladium atom is very similar, bond length and angle data are almost identical.



This series of compounds may serve as an crystal engineering example to compare role of secondary interactions (van der Waals, stacking), hydrogen bonds and coordination in determining the lattice and crystal structure. Financial support from Hungarian Research Fund OTKA Grant No. T043365 and I. Széchenyi fellowship for A.C.B and Á.K. is gratefully acknowledged.

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