where n=5 (I), 6 (II) and 7 (III). An X-ray study of I and II was also performed. In crystal I polymorphizes very rapidly (stack packing, $S_1=3.56$ Å, $S_2=42.4^\circ$), II polymorphizes slowly (stack packing, two types of intermolecular contacts between diacetylene rods; $S_1=5.82$ Å, $S_2=67.5$ Å, 63.4°). III does not polymorphize at all. The molecules I and II have different conformations (trans-planar for I, skew for II) possibly resulting in the different structure of stacks of diacetylene rods in their crystals and consequently in a different tendency to the solid state polymerization.

Molecular structure of II

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09.3-5 SHORT HYDROGEN-BOUND, COLUMN-STACKED STRUCTURE OF BIS(ALPHA-FURL DIOXIMATO)PALLADIUM(II).

By M. Sakhawat Hussain, Department of Chemistry, University of Petroleum and Minerals, Dhahran, Saudi Arabia

The single crystal X-ray structure of the title compound was done due to its importance having electrical conductive properties and exhibiting intramolecular short hydrogen bond. The compound crystallizes in the orthorhombic space group Pnab with $a=6.930(3)$, $b=14.284(2)$ and $c=15.837$ Å. The structure was solved using intensity data collected on an Enraf-Nonius CAD-4 diffractometer and SHELX in TTYRAY 230 system. The final R value at the present stage of refinement is 7.62.

The most important features of the structure are shown in the figure. The central metal atom has planar geometry with oxime oxygen atoms forming an intramolecular hydrogen bond. The complex molecules are stacked above one another along the a axis with adjacent molecules rotated by 30 degrees with respect to each other. The column stack structure in this compound is similar to the structures of chelatizes exhibiting one-dimensional electrical conductive properties. The oxygen atoms of the furane moieties in the complex are oriented at an angle of 47 degrees and are at a non-bonded distance of 2.66 Å. The Pd-Pd distance of 3.662(4) Å is similar to the palladium complexes having desirable conduction properties. The infrared spectra and the chemical shifts of the bridged proton were studied and efforts were made to find some co-relations between the shifts in infrared absorptions and chemical shifts and the 0—0 distance. The infrared spectra of several other vic-dioximates and alpha-amine dioximates will be discussed and compared with the title compound.

09.3-6 THE MOLECULAR STRUCTURE OF BIS(η^5-CYCLOPENTADIENYL)BIS(ETHYLTHIOLATO)TITANIUM(IV), (η^5-C5H5)2Ti(ET)(C2H5). By N.L.A.P. de O.O. Carreño and C.F. Frassao, Centro de Química Estrutural, Complexo I, I.S.T., 1000 Lisboa, Portugal.

The molecular structures of complexes of the type $\text{[H(C₅H₅)₂L₂]}$ (L=η^5-Ti, η=polycarbollid ligand) have been published recently (Carreño and Jaffrey, Acta Cryst. (1983), C39, 42; Carreño and Domingos, J. Organomet. Chem. (1983), 255, 53; Carreño, Marías and Jeffrey, Acta Cryst. in the press). We are now reporting preliminary results for the structure analysis of the title complex. A single crystal was used to collect 1413 hkl intensities on a CAD-4 X-ray diffractometer (offered to the Coimbra University by the Deutscher Akademischer Austauschdienst and the German Agency for Technical Cooperation); $a=10.345(6)$ Å, $b=112.18(4)$°. The crystal structures of several novel metal-coordination compounds are difficult to obtain, prepare, or stabilize. Group VI transition metal carbonyls were used as starting materials during metal template syntheses. The crystal structures of several novel metal-coordination compounds were determined as part of a research programme concerned with the synthesis of organic compounds that are difficult to obtain, prepare, or stabilize. The crystal structures of several novel metal-coordination compounds were determined as part of a research programme concerned with the synthesis of organic compounds that are difficult to obtain, prepare, or stabilize.

09.3-7 STRUCTURAL PARAMETERS OF SULPHUR AND SELENIUM-CONTAINING TRANSITION METAL COMPLEXES. By G.J. Kroger and H.G. Reubenheimer, Chemistry Dept., Rand Afrikaans University, Box 524, Johannesburg 2000, South Africa

The crystal structures of several novel metal-coordinated S and Se-containing transition metal complexes were determined as part of a research programme concerned with the synthesis of organic compounds that are difficult to obtain, prepare, or stabilize. Group VI transition metal carbonyls were used as starting materials during metal template syntheses. Among the complexes whose structures are reported are: the first thiocarboxylic acid, $[\text{Cr(CO)}]_2\text{[H(S=CHCH=S(C(SET))]}$; the 1,2-dithiole-3-thione, $[\text{H(CO)}]_2\text{[Se-S-S-C(Ph)=C(Ph)}]_2$; and the novel selenocarbene, $[\text{W(CO)}]_2\text{[Se-Se-C(Ph)=C(Ph)}]_2$.

The comparable S-5 and Se-5 bonds in the last two complexes have lengths of 2.056(8) and 2.295(2) Å respectively.