# Functionalized 1,1-Ethene Dithiolates as Ligands, V [1]. Synthesis and Crystal Structure of Palladium(II) and Platinum(II) Complexes with Dithioylidene Barbituric Acid Ligands. Molecular Structure of a 2,6-Diaminopyridine-Platinum(II) Barbiturate Complex

Wolfgang Weigand[*,a], Veronika Plener[a], Heinrich Nöth[#,b], Ingo Krossing[#,b], Jörg Knizek[#,b], Martin Schmidt[#,b]

[a] Institut für Anorganische und Analytische Chemie der Friedrich-Schiller-Universität Jena, August-Bebel-Straße 2, D-07743 Jena

[b] Institut für Anorganische Chemie der Ludwig-Maximilians-Universität München, Meiserstraße 1, D-80333 München

*Dedicated to Professor Dr. Dr. h. c. Dieter Seebach on the occasion of his 60th birthday*

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Intermolecular Hydrogen-Bonding, Supramolecular Self-Assembly, Dithioylidene Barbituric Acid, Palladium Complex, Platinum complexes

The 1,1-ethene dithiolato ligands (dithioylidene barbituric acids) **2a - f** react with palladium(II) and platinum(II) compounds $L_2MCl_2$ [M = Pd, Pt; L = $PEt_3$, $PBu_3$, $PPh_3$, 1/2 dppe, 1/2 (-)-DIOP, 1/2 2,9-dimethyl phenanthroline] to give the 1,1-ethene dithiolato metal complexes $L_2M[S_2C{=}C\text{-}C(O)\text{-}NR^1\text{-}C(O)\text{-}NR^2\text{-}C(O)]$ **3 - 7**. Compound **4a** forms a 1:1 adduct (**8**) with 2,6-diaminopyridine. The compounds were characterised on the basis of their IR and NMR ($^1H$, $^{13}C$, $^{31}P$) spectra. Complexes **4a**, **4c**, and **5a** were further studied by X-ray structural analysis. The barbituric unit in **4a** undergoes self-assembly through multiple hydrogen-bonding with complementary 2,6-diaminopyridine yielding the supramolecular complex **8**.

* Reprint requests to Prof. Dr. Wolfgang Weigand; E-mail: c8wewo@rz.uni-jena.de