Oxo-Bridged (Haloarylimido)[tris(3,5-dimethylpyrazolyl)borato]molybdenum(V) Complexes: Crystal Structures of Geometric Isomers of [MoTp*(O)Cl](μ -O)[MoTp*(Cl)(\equiv NC₆H₄Br)]

Isil Topaloglu-Sozuer^a, Seckiner Dulger Irdem^a, John J. Jeffery^b, Hayrullah Hamidov^b, and Ozan Sanlı Senturk^c

^a Department of Chemistry, Faculty of Science, Izmir Institute of Technology, Gulbahce Kampusu, Urla-35430, Izmir, Turkey

^b School of Chemistry, University of Bristol, Cantock's Close, Bristol BS8 1TS, United Kingdom

^c Steacie Institute for Molecular Sciences, National Research Council of Canada, 100 Sussex Drive, Ottawa, Ontario, Canada, K1A 0R6

Reprint requests to Dr. I. Topaloglu-Sozuer. Fax: + 90-232-7507509. E-mail: Isiltopaloglu@iyte.edu.tr

Z. Naturforsch. 60b, 15-21 (2005); received July 7, 2004

The reaction between $[MoTp^*(O)Cl_2]$, $[Tp^* = hydrotris(3,5-dimetylpyrazol-1-yl)borate]$ and 4-bromoaniline in refluxing toluene gave geometric isomers of $[MoTp^*(O)Cl](\mu-O)[MoTp^*(Cl)(\equiv NC_6H_4Br)]$ (**1a**, *cis*; **1b**, *trans*), but a similar reaction between $[MoTp^*(O)Cl_2]$ and 4-chloroaniline yielded only one product, $[MoTp^*(O)Cl](\mu-O)[MoTp^*(Cl)(\equiv NC_6H_4Cl)]$ (**2**) as a red crystalline solid. The new compounds were characterized by microanalytical data, mass, IR and ¹H NMR spectroscopy. The X-ray structure analysis of **1a** and **1b** revealed that the complexes are geometric isomers, the two chloro ligands being *cis* in **1a** and *trans* in **1b**. Both compounds have Mo-O-Mo linkages and nearly linear arylimido moieties.

Key words: Imido Complexes, Molybdenum Complexes, Oxo Bridged Mo(V) Complexes, Oxo Complexes, (Pyrazol)borato Complexes