



5th NATIONAL
**INORGANIC
CHEMISTRY
CONGRESS**
ABSTRACT BOOK
APRIL 22-25, 2015

V. ULUSAL
**ANORGANİK
KİMYA
KONGRESİ**
ÖZET KİTABI
22-25 NİSAN 2015

Publication No: 41

MERSİN
UNIVERSITY
PUBLICATIONS

MERSİN
ÜNİVERSİTESİ
YAYINLARI

Yayın No: 41



MERSİN UNIVERSITY MERSİN ÜNİVERSİTESİ

5th NATIONAL
**INORGANIC
CHEMISTRY
CONGRESS**

ABSTRACT BOOK
APRIL 22-25, 2015

MERSIN UNIVERSITY PRESS

5th NATIONAL INORGANIC CHEMISTRY CONGRESS
ABSTRACT BOOK
APRIL 22-25, 2015
MERSİN - TURKEY

MERSIN UNIVERSITY PUBLICATIONS NO: 41

CHAIR OF ORGANIZING COMITEE

Prof.Dr. Nevzat KÜLCÜ (Chairman)
Prof.Dr. Hakan ARSLAN (Vice-Chairman)
Asist.Prof.Dr. Göktürk AVŞAR (Coordinator)

V. ULUSAL
**ANORGANİK
KİMYA
KONGRESİ**

ÖZET KİTABI
22-25 NİSAN 2015

MERSİN ÜNİVERSİTESİ YAYINEVİ

V. ULUSAL ANORGANİK KİMYA KONGRESİ
ÖZET KİTABI
22-25 NİSAN 2015
MERSİN - TÜRKİYE

MERSİN ÜNİVERSİTESİ YAYINLARI NO: 41

ORGANİZASYON KOMİTESİ BAŞKANLIĞI

Prof.Dr. Nevzat KÜLCÜ (Kongre Başkanı)
Prof.Dr. Hakan ARSLAN (Kongre Başkan Yardımcısı)
Yrd.Doç.Dr. Göktürk AVŞAR (Koordinatör)

ISBN NO: 978 – 975 – 6900 – 47 – 5



9 789756 900475 >

P-259

Synthesis, Characterization and Crystal Structure of *Bis*[4-flouro-*N*-(diethylcarbamothioyl)benzamide- κ^2 O,S] platinum(II)

İLKAY GÜMÜŞ¹, ÜMMÜHAN SOLMAZ¹, GÜN BİNZET², GÜLTEN KAVAK BALCI³, ÖMER ÇELİK⁴,
HAKAN ARSLAN¹

¹ DEPARTMENT OF CHEMISTRY, FACULTY OF ARTS AND SCIENCE, MERSIN UNIVERSITY,
CIFTLIKKOY CAMPUS, MERSIN, 33343, TURKEY

² DEPARTMENT OF ELEMENTARY SCIENCE EDUCATION, FACULTY OF EDUCATION, MERSIN
UNIVERSITY, YENISEHIR CAMPUS, 33160, MERSIN, TURKEY

³ DEPARTMENT OF PHYSICS, EDUCATION FACULTY, DICLE UNIVERSITY, SUR, DİYARBAKIR,
21280, TURKEY

⁴ SCIENCE AND TECNOLOGY APPLIED AND RESEARCH CENTER, DICLE UNIVERSITY, SUR,
DİYARBAKIR, 21280, TURKEY

Bis[4-flouro-*N*-(diethylcarbamothioyl)benzamide- κ^2 O,S]platinum(II) complex was synthesized and characterized by elemental analyses, FT-IR and NMR techniques. The obtained metal complex was also characterized by a single crystal X-ray diffraction study. Crystal data of platinum complex, C₂₄H₂₆F₂N₄OPtS₂ (M = 699.7 g/mol); Tetragonal, Space group I41/a (no. 88), *a* = 19.7530(4) Å, *c* = 13.7137(3) Å, *V* = 5350.83(19) Å³, *Z* = 1, *D*_{calc} = 1.737 g/cm³, 22509 reflections measured (3.62° ≤ 2Θ ≤ 68.16°), 5473 unique (*R*_{int} = 0.0290, *R*_{sigma} = 0.0272) which were used in all calculations. The final *R*₁ was 0.0426 (*I* ≥ 2σ(*I*)) and *wR*₂ was 0.1793 (All data). A tetrahedron coordination geometry is formed around the Pt atom by two S atoms and two O atoms of the 4-flouro-*N*-(diethylcarbamothioyl)benzamide ligand. The bond distance Pt1-O1 and Pt1-S1 are 2.037(3) Å and 2.2197(13) Å, and bond angles O1-Pt1-S11 and O1-Pt1-O11 are 178.08(10)° and 84.77(16)°, respectively.

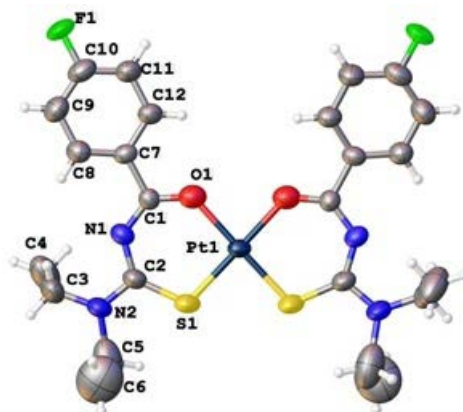


Figure 1. Molecular structure of title compound.

Acknowledgement: This study was supported by the Research Fund of Mersin University in Turkey with Project Number: BAP-ECZ F TEB (HA) 2010-5A.

Keywords: Platinum complex, Thiourea, Benzoyl thiourea, X-ray single crystal diffraction, Synthesis.