

Title	N, N-dimethyl-N'-(4-p-nitrophenyl-5-nitro-2-thiazolyl) thiourea. a new chelating agent for palladium.
Sub Title	
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Publisher	共立薬科大学
Publication year	1983
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.28 (1983. ) ,p.85- 85
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	<a href="https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000028-0085">https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000028-0085</a>

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***N,N*-Dimethyl-*N'*-(4-*p*-nitrophenyl-5-nitro-2-thiazolyl)thiourea.  
A New Chelating Agent for Palladium.\***

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A new chelating agent for Pd(II), *N,N*-dimethyl-*N'*-(4-*p*-nitrophenyl-5-nitro-2-thiazolyl)thiourea **1** was synthesized. The reagent **1** and its Pd chelate have absorption maxima ( $\lambda_{\max}$ ) at 363 nm and 430 nm, respectively while the  $\lambda_{\max}$  of *N,N*-dimethyl-*N'*-(4-methyl-5-nitro-2-thiazolyl)thiourea and its Pd chelate are at 362 nm and 413 nm, respectively.

Thus the replacement of methyl group by *p*-nitrophenyl group caused a large red shift in Pd(II) chelate. The Pd(II)-ligand ratio in the chelate was proved to be 1 : 2 by the molar ratio method and by continuous variation method. The analytical procedure for the determination of Pd(II) with **1** is described. The method permits the accurate determination of Pd(II) in solution and was applied to the Pd(II) analysis in palladium-asbestos.

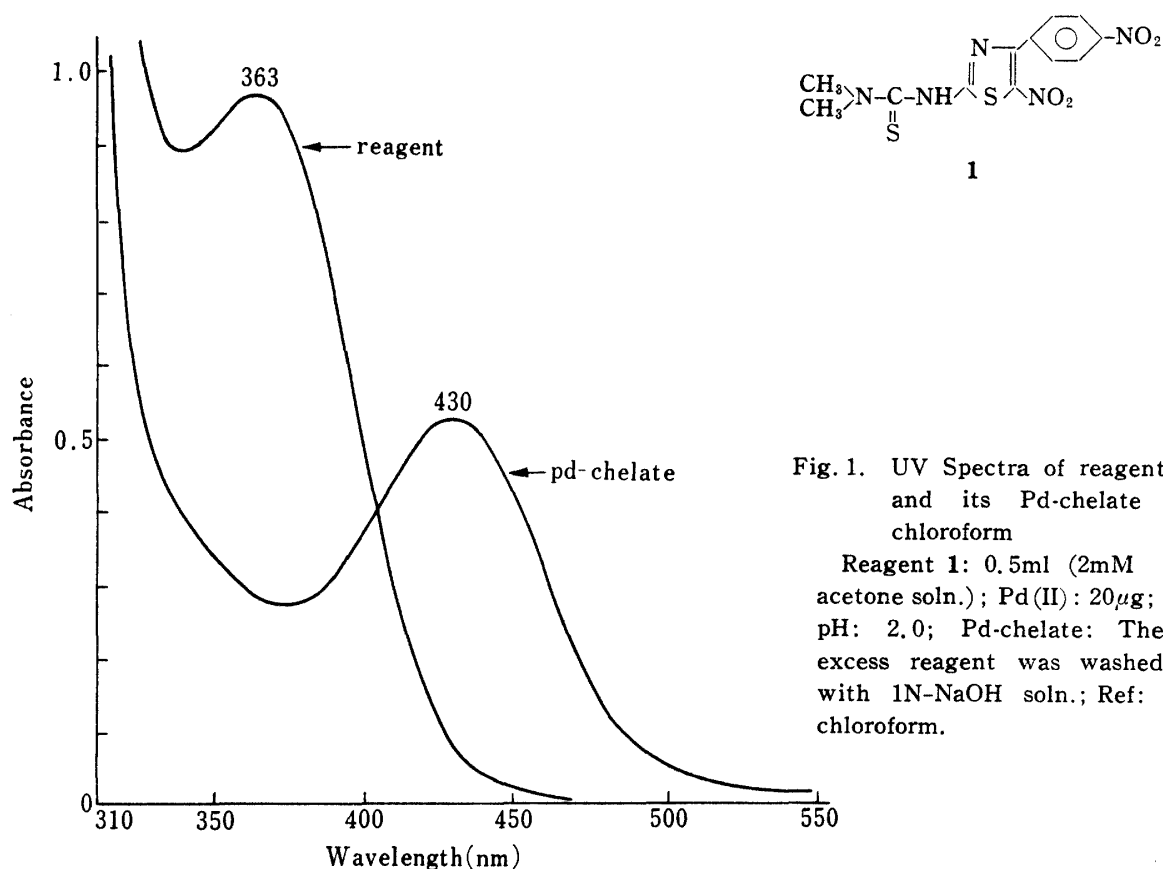


Fig. 1. UV Spectra of reagent **1** and its Pd-chelate in chloroform

Reagent **1**: 0.5ml (2mM acetone soln.); Pd(II): 20 $\mu$ g; pH: 2.0; Pd-chelate: The excess reagent was washed with 1N-NaOH soln.; Ref: chloroform.

\* 本報告は *Microchimica Acta* [Wien] 1983 II, 75—83 に発表