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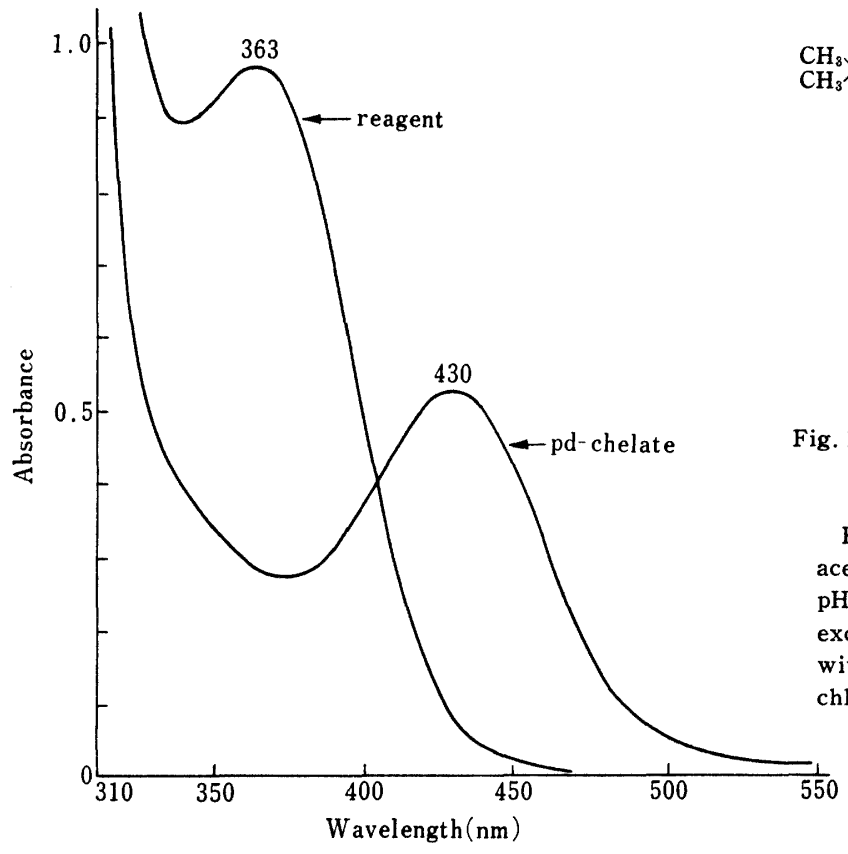
A new chelating agent for Pd(II), *N,N,*-dimethyl-N′-(4-*p*-nitrophenyl-5-nitro-2-thiazolyl) thiourea **1** was synthesized. The reagent **1** and its Pd chelate have absorption maxima (λ_{max}) at 363 nm and 430 nm, respectively while the λ_{max} of *N,N*-dimethyl-*N′*-(4-methyl-5-nitro-2-thiazolyl)thiourea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



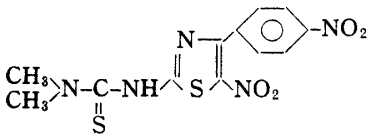


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Fig. 1. UV Spectra of reagent **1** and its Pd-chelate in chloroform
Reagent **1**: 0.5ml (2mM acetone soln.); Pd(II): 20μg; pH: 2.0; Pd-chelate: The excess reagent was washed with 1N-NaOH soln.; Ref: chloroform.

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