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Photometric determination of thiourea with the use of sodium nitroprusside

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Abstract

Conditions for the formation of the colored compound in the reaction of thiourea with sodium nitroprusside and the products of its transformations were studied. A procedure for the photometric determination of thiourea was developed. The procedure is based on the complexation of thiourea with pentacyanoferrate(II) ion, which can be obtained by the basic hydrolysis of sodium nitroprusside at $\text{pH} \geq 12$, followed by acidification of the solution to $\text{pH} 6$. When the reagent is present in excess, the absorbance of the solution of the complex at 590 nm is linearly proportional to the thiourea concentration in the solution within the range 4×10^{-6} - 1×10^{-4} M. © 1997 MAEe Cyrillic signK Hayka/Interperiodica Publishing.
