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Spectrophotometric determination of Cholesterol by using procaine as coupling reagent

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Abstract:A new, simple, sensitive and rapid spectrophotometric method is proposed for the determination of cholesterol. The method is based on the diazotization reaction of procaine hydrochloride with sodium nitrite in hydrochloric acid medium to form diazonium salt, which is coupled with cholesterol in alkaline medium to form soluble products. The reaction product with cholesterol was azoxy which showed maximum absorption at 428nm. After optimization, the calibration curves were constructed, and subsequently. Result was found that Beer's law obeyed within concentration ranges of 1–15 µg.mL^{-1}of cholesterol. The molar absorptivity was 1.824×104 L.mol^{-1}.cm^{-1}, Sandell's sensitivity was0.0213 µg.cm^{-2}, R.S.D% was 0.578% , with a correlation coefficient of 0.9798 for cholesterol . The interferences were studied, they didn't effect on concentration determination of cholesterol. The method was successfully applied for determinationof cholesterol in serum blood and milk.

Keywords: cholesterol, spectrophotometry, milk, serum blood.

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