



# ABSTRACTS

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**SYNTHESIS OF 4-(2'-BENZOTHAZOLYLAZO)-3,5-DIMETHYLPYRAZOLE,  
A REAGENT FOR SPECTROPHOTOMETRIC DETERMINATION OF  
SILVER(I)**

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In this work, the more simple method for synthesis of 4-(2'-Benzothiazolylazo)-3,5-dimethylpyrazole(BTADMP) was obtained by, diazotization of 2-Aminobenzothiazole in concentrated H<sub>2</sub>SO<sub>4</sub> and then coupling with 3,5-Dimethylpyrazole. The crude product was purified by recrystallization with a mixture of ethanol and water to gave 4-(2'-Benzothiazolylazo)-3,5-dimethylpyrazole(61.27% yield) as orange crystal, melting point 232°C. The molecular structure of the product was characterized by spectroscopic method. 4-(2'-Benzothiazolylazo)-3,5-dimethylpyrazole formed a yellow 1:1 complex with silver(I) in a solution of 1:1 ethanol and dichloromethane. The complex exhibit absorption maxima at 420 nm. Conformity to Beer's law at 511 nm(molar absorptivity,  $2.48 \times 10^3 \text{ M}^{-1}$ ) was obtained for up to 11.87 ppm of silver(I) with the correlation coefficient of 0.999. The detection limit is 0.174 ppm absolute and the coefficient of variation on the measure of silver(I) at 6.47 ppm is 1.32 %.