## SUMMAR OF THE ORIGINAL WORK

The pressent work deals with synthesis and reactions of 4-(p-tolyl)-5,6,7,8-tetrabromo 1(2H) phthalazinone with some electrophiles e.g. ethyl bromoacetate and methyliodide; and some nucleophiles e.g. carbon nucleophiles (Grignard reagents), and chlorine nuclophiles ($POCl_3/PCl_5$). The phthalazinone derivative reacts with ethyl bromoacetate in dry acetone and anhydrous potassium carbonate as a catalyst and gives 1-O-carboethoxymethylphthalazine derivative as a sole product. On the other hand, when the reaction was carried out in the presence of pyridine as a catalyst 2-ethoxycarbonylmethyl derivative was obtained as a sole product (i.e N-alkyl derivative and no O-alkyl derivative was obtained). Similarly, methyliodide reacted with the phthalazinone derivative by using pyridine as catalyst and gave 2-methyl-4-p-(tolyl)-5,6,7,8-tetrabromophthalazine. The latter compound having methyl group activated by heteroaromatic moiety, and its reactivity was tested by condensation with aromatic aldehydes and phthalimide. Also in this work the author planed to investigate the reactivity of the titled phthalazinone which contains two reaction sites for reaction with alkyl or aralkyl magnesium halide under Grignard reaction conditions ( C=O and -C=N), the results cited there in the texet.

This work also deals with preparation of the chlorophthalazine via the interaction of the titled phthalazinone with $POCl_3/PCl_5$ mixture, the chloroderivative having chlorine atom activated by heteryl moiety, therefore, nucleophilic substition reaction by nitrogen nucleophiles took place readily with the chloro substrate.

Structure of all synthesised compounds had been elucidated via chemical tools and physical tools e.g. IR spectra and $^1H$-NMR spectra.