

## **ABSTRACT**

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Title of diploma thesis: Dichloroquinoxalinodicyanide – the precursor for quinoxalinoporhyrazines

This diploma thesis deals with preparation of 2,3-dichloroquinoxaline-6,7-dicyanide, precursor for synthesis of quinoxalinoporhyrazines.

In the theoretical part, the main topic is methodology of preparation of two crucial compounds or their derivatives to obtain the final product. The ways of synthesis of 4,5-diaminophthalonitrile are described in the first part together with advantages and disadvantages of each of them and they are further debated in the discussion. The second part shows the possibilities of synthesis of various quinoxaline derivatives and emphasizes their positives and negatives. Individual methods are systematically arranged according to character of initial substances of individual reaction and reaction conditions, respectively.

The experimental part shows procedures, which were used during processing of this diploma thesis. 2,3-dichloroquinoxaline-6,7-dicyanide was prepared by condensation of 4,5-diaminophthalonitrile and diethylxalate and by subsequent nucleophilic substitution of product by thionyl chloride. This chapter emphasizes mainly the optimization of synthesis of benzo[c][1,2,5]thiadiazole-5,6-dicyanide, which is further reduced to 4,5-diaminophthalonitrile.

Within the discussion part, there is further knowledge put into more details, which mainly came as results from experimental part and also from processing of research in the theoretical part.