

## **ABSTRACT**

### **Direct activation of C-H bond in tetrazoles**

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Within the framework of this diploma thesis, direct arylation and alkenylation of 1-substituted tetrazoles at C5 was developed and optimized. An economical preparation of a range of 1,5-disubstituted tetrazoles was thus made possible. In these reactions, Pd-catalysis in the presence of CuI and Cs<sub>2</sub>CO<sub>3</sub> was found as optimal. Contrary to similar reactions of imidazoles and purines, it was necessary to incorporate phosphine ligands in order to stabilize Pd – intermediates and prevent them from a premature decomposition into cyanamides. A library of 1,5-disubstituted tetrazoles with very promising yields has been prepared using this method.