The application of various transition metal catalyzed cross coupling reactions is a powerful tool in synthetic organic chemistry.\(^\text{[1]}\) While cross coupling reactions on carbocyclic systems are well covered in the literature, heterocyclic systems are by far less investigated\(^\text{[2]}\) and methods which give excellent yields on carbocyclic systems are often not applicable to heterocyclic systems or give considerably lower yields. Being interested in selected, unsymmetrically substituted bithiazoles as precursors for potential protein kinase inhibitors (PKI)\(^\text{[3],[4]}\), we closer investigated cross coupling reactions on various thiazole systems. Besides the Negishi and the Stille methodology, Suzuki-Miyaura reactions were also taken into account, although to the best of our knowledge no thiazoleboronic acids are described in the literature, so far. Despite the fact, that thiazoleboronic acids turned out to be unstable, we were able to develop the synthesis of the first thiazoleboronic acid esters and we showed also that they can successfully be used in cross coupling reactions. In the course of the presentation the investigated cross coupling methodologies will be compared regarding the yields and the practicability of the method. Different side reactions observed during the search for optimized conditions were also investigated and had influence on the choice of the most useful cross coupling method in each case.

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