

CHAPTER 4

CONCLUSION

Palladium catalyzed three-component cascade reaction of quinazolinone allene, in combination with an aryl iodide and secondary amines were found to be regio- and stereoselective and occurred under mild condition. The reaction took place via the expected *syn* and *anti- π* -allyl palladium complex to afford *Z*- and *E*-trisubstituted olefins. In case we employed 1,3,4-triazole-substituted tropane as nucleophile, the *Z*-trisubstituted olefins were obtained in good yield except for 2-iodothiophene afforded the mixture *Z:E*-isomer. In case of the use of 5-iodoindole and quinazolinone allene to react with piperazines the mixture of *Z:E*-isomers in good to moderate yield were obtained.

Identification of products was established using spectroscopic data.