Public Abstract

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Title:SYNTHESIS OF FLUORESCENT 7-AMINO-2,1-BENZOTHAZINES
AND TOTAL SYNTHESIS OF BUDDLEDONE A

The development of new fluorescent compounds has been reported continuously due to their application as sensors and optical devices for material, biological and chemical applications. This dissertation reports the syntheses of several novel fluorescent 7-amino-2,1-benzothiazines using palladium-catalyzed N-arylation of a sulfoximine with various 4-amino-2-halobenzaldehydes and the reaction between 7-fluoro-2,1-benzothiazine with amines. Structural modification of these compounds at C-7 provided a slight improvement in fluorescent properties.

In the second chapter, the total synthesis of buddledone A using ring-closing metathesis as a key step is presented. Efforts toward synthesis of zerumbone from buddledone A using several conditions were reported. Unfortunately, the conversion of buddledone A to zerumbone failed to give the desired product.