



Article

Development of a New Arylamination Reaction Catalyzed by Polymer Bound 1,3-(Bisbenzimidazolyl) Benzene Co(II) Complex and Generation of Bioactive Adamantane Amines

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Abstract: We herein report the preparation and characterization of an inexpensive polymer supported 1,3-bis(benzimidazolyl)benzeneCo(II) complex [PS-Co(BBZN)Cl₂] as a catalyst by using the polymer (divinylbenzene cross-linked chloromethylated polystyrene), on which 1,3-bis(benzimidazolyl)benzeneCo(II) complex (PS-Co(BBZN)Cl₂) has been immobilized. This catalyst was employed to develop arylamination reaction and robustness of the same reaction was demonstrated by synthesizing various bioactive adamantanyl-tethered-biphenylamines. Our synthetic methodology was much improved than reported methods due to the use of an inexpensive and recyclable catalyst.

Keywords: arylamination reactions; adamantanyl-tethered-biphenylamines; polymer-supported catalyst; cobalt complex; Buchwald–Hartwig reaction

1. Introduction

Transition metal-catalyzed cross-coupling reactions between aryl halides and primary/secondary amines to obtain aminated aryl compounds has been an area of interest due to the wide applications of arylamines in the synthetics and pharmaceutical industries [1–5]. In this direction, the Buchwald–Hartwig cross-coupling reaction was performed by using transition metal catalysts, ligands and bases