

Selective copper(II) catalyzed amination of aryl-himachalene to secondary benzylamines derivatives in water via chloromethylation

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1. Introduction

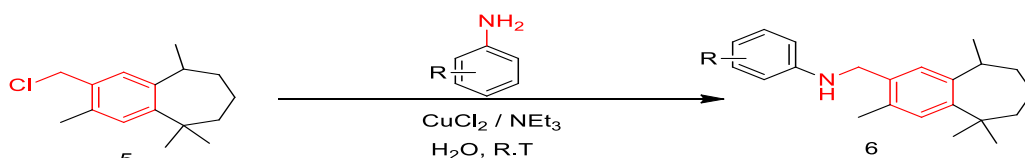
The benzylamines moiety is a significant building block since they are frequently encountered motifs in several molecules used in different fields. They play a prominent role in numerous pharmaceutically compounds such as : Imatinib, a standard anti-cancer drug for the treatment of chronic myelogenous leukaemia and gastrointestinal tumours [1].

As part of our efforts to develop methods for natural terpenes functionalization, we recently reported the synthesis of allylic amines from terpenic chlorides catalysed by copper in water as solvent [2]. To examine the catalytic activity of copper (II), we are interested to the extension of this catalytic system to the sesquiterpene derivatives that can be able to find applications in several fields.

Herein, we report the catalytic amination of benzyl chloride derivative having aryl-himachalene skeleton. We first targeted the synthesis of the derived benzyl chloride by a chlorination of the natural sesquiterpene aryl-himachalene.

A range of secondary aryl-himachalene benzylamines derivatives are prepared using various aromatic amines (figure 1).

2. Results and Discussion



3. Conclusions

In conclusion, we have shown that the copper(II) catalyzed amination of arylhimachalene is a simple and efficient route for the preparation of new sesquiterpenic amines. The prepared compounds have wide application in organic synthesis. Under mild conditions, the reaction satisfies the requirement of sustainable chemistry and environment.

4. References

1. Fischer, C.; Koenig, B. *Beilstein J. Org. Chem.* **2011**, 7, 59.
2. Boualy, B.; Harrad, M.A.; El Houssame, S.; El Firdoussi, L.; Ait Ali, M.; Karim, A. *Journal of Catalysis Communications*, **2012**, 19, 46.