

Accepted Manuscript

Title: UV Light-Mediated Decarboxylative Cross-Coupling Reaction of Aryl Acetic Acids

Authors: Lei Tao, Junlei Wang, Junjie Zeng, Guo-Lin Gao, Chao Yang, Wujiong Xia



PII: S1010-6030(17)30798-0
DOI: <http://dx.doi.org/10.1016/j.jphotochem.2017.08.044>
Reference: JPC 10819

To appear in: *Journal of Photochemistry and Photobiology A: Chemistry*

Received date: 8-6-2017
Revised date: 14-8-2017
Accepted date: 18-8-2017

Please cite this article as: Lei Tao, Junlei Wang, Junjie Zeng, Guo-Lin Gao, Chao Yang, Wujiong Xia, UV Light-Mediated Decarboxylative Cross-Coupling Reaction of Aryl Acetic Acids, *Journal of Photochemistry and Photobiology A: Chemistry* <http://dx.doi.org/10.1016/j.jphotochem.2017.08.044>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

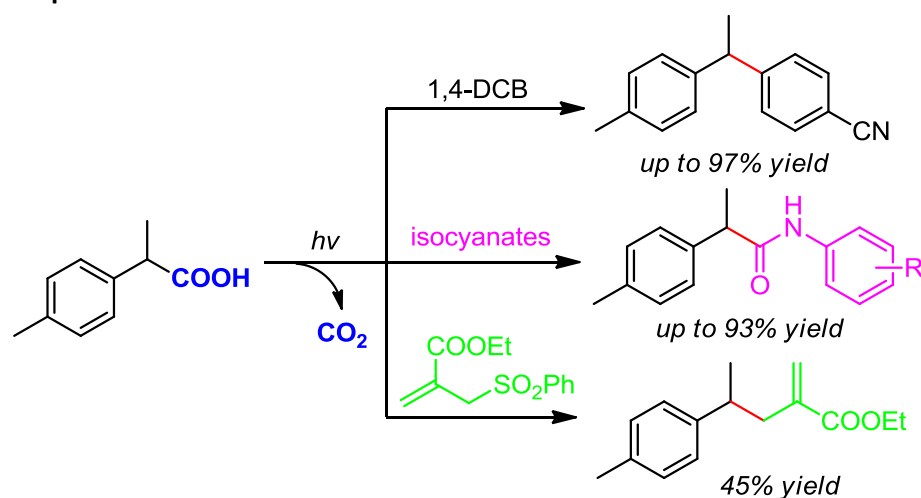
UV Light-Mediated Decarboxylative Cross-Coupling Reaction of Aryl Acetic Acids

Lei Tao, Junlei Wang, Junjie Zeng, Guo-Lin Gao, Chao Yang*, and Wujiong Xia*

^aState Key Lab of Urban Water Resource and Environment, Harbin Institute of Technology (Shenzhen), Shenzhen, China 518055. Fax: (+86)-451-86403760

E-mail: xyyang@hit.edu.cn (C.Y.); xiawj@hit.edu.cn (W.X.)

Graphical abstract



Highlights

1. This protocol was a metal-free, efficient, environmentally friendly decarboxylative cross-coupling method using inexpensive aryl acetic acid and 1,4-dicyanobenzene to obtain diarylmethane derivatives in moderate to good yields under mild conditions.
2. The decarboxylative coupling reaction has also been applied to isocyanates, olefins, and the corresponding products, amides and terminal alkenes were obtained.

Abstract

A photochemical decarboxylative cross-coupling reaction of aryl acetic acids with 1,4-dicyanobenzene (1,4-DCB) was developed. Under UV light irradiation, the inexpensive aryl acetic acids coupled with 1,4-DCB, isocyanates and alkene derivatives through decarboxylation which led to the corresponding diarylmethanes, amides and alkene derivatives were obtained in moderate to good yields under mild conditions.

Key words: UV light; Decarboxylation; Aryl acetic acids; Cross-coupling

1. Introduction

Diarylmethane derivatives are momentous chemical raw materials and intermediates for organic synthesis, and they are also important structural units of pharmaceutically active molecules, and complex natural products (Fig. 1) [1–4].

Download English Version:

<https://daneshyari.com/en/article/6492752>

Download Persian Version:

<https://daneshyari.com/article/6492752>

[Daneshyari.com](https://daneshyari.com)