Journal of Sulfur Chemistry

ISSN: 1741-5993 (Print) 1741-6000 (Online) Journal homepage: http://www.tandfonline.com/loi/gsrp20

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To cite this article: Seyed Esmail Sadat-Ebrahimi, Leila Karim, Setareh Moghimi, Azadeh Yahya-Meymandi, Mohammad Mahdavi, Mohsen Vosooghi, Alireza Foroumadi & Abbas Shafiee (2017) An efficient, four-component reaction for the synthesis of novel carbamodithioates, Journal of Sulfur Chemistry, 38:1, 43-51, DOI: 10.1080/17415993.2016.1225215

To link to this article: http://dx.doi.org/10.1080/17415993.2016.1225215

JOURNAL OF SULFUR CHEMISTRY, 2017
VOL. 38, NO. 1, 43–51
http://dx.doi.org/10.1080/17415993.2016.1225215

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An efficient, four-component reaction for the synthesis of novel carbamodithioates

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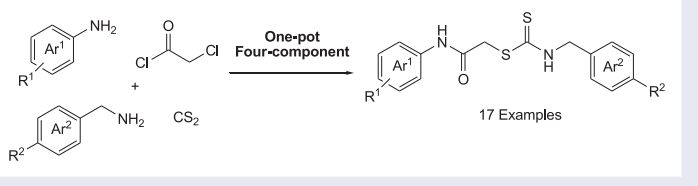
ABSTRACT

A series of substituted phenylcarbamoyl methyl benzylcarbamodithioates have been synthesized using the multicomponent condition. The reaction proceeded under mild practical condition and afforded the desired products in good yields.



ARTICLE HISTORY
Received 8 May 2016
Accepted 13 August 2016

KEYWORDS
Dithiocarbamate; four-component; one-pot; CS_2; chloroacetyl chloride

1. Introduction

The multi-component reaction (MCR) plays an undeniable role for the interfacing of chemistry with biology to introduce novel biologically active molecules [1]. The advantageous features of this reaction make this protocol well suited for the one-pot generation of drug targets. Despite the presence of few drugs based on multicomponent synthesis in the market [2], there is an ever increasing effort directed toward combinatorial library construction [3,4] with the hopes for finding interesting scaffolds, exhibiting reasonable levels of bioactivities.

In the literature, dithiocarbamates have been identified as a potent building block in a number of useful biomolecules [5–16]. The presence of this moiety in phytoalexins brassinin [17–22], the antimicrobial agent produced by genus *Brassica* in the case of exposure to chemical and biological stress [23,24], along with its incorporation as a side chain into various cores [25] like quinazoline [26–29] and pyrrolidine [30] led to the significant

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Supplemental data for this article can be accessed here. http://dx.doi.org/10.1080/17415993.2016.1225215