

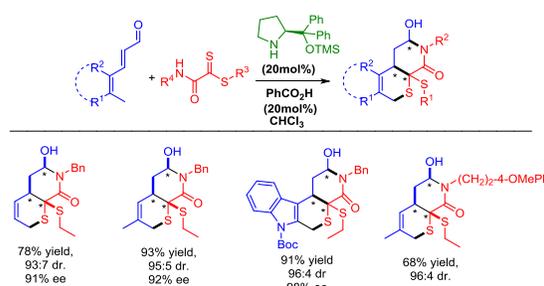


Organocatalytic Thio-Diels-Alder/Ring-closing Cascade Reactions for Access to New Thio-Pyrano-Piperidone Fused Rings by Trienamine Activation.

M.Sc. Suhas Balasaheb Mitkari, Dr. Clarisa Villegas Gómez*, Dr. David Cruz Cruz*.

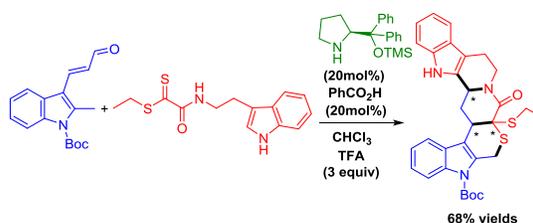
Departamento de Química, Campus Guanajuato, Universidad de Guanajuato. (Noria Alta S/N, CP 36050). Guanajuato, Gto, México
E-mail (alumini): suhasmitkari@gmail.com

Nowadays, research focused in the development of the organocatalytic cascade reactions has attracted great attention due the easy and efficient way in which simple and complex molecules are prepared.^[1] The expansion of newly developed activation mode such as trienamine activation bring great attention to this project. In the present research, we have proposed explore the diversification of different substituted dithioamide through an organocatalytic cascade reaction, which will furnish fused bicyclic, and tetracyclic compound with up to three stereogenic centres. In this context, we report a new organocatalytic cascade reaction to access highly enantioenriched heterocyclic compounds through an asymmetric [4+2] thio-Diels-Alder/nucleophilic ring closing sequence to furnish enantioenriched thio-pyrano-piperidone fused rings compounds via trienamine intermediate with good to excellent yields and excellent stereoselectivities (Scheme 1).



Scheme 1: Synthesis of thio-pyrano-piperidone fused rings.

It is notable that by introducing tryptamine moiety instead benzyl group in dithioamide, a Pictet-Spengler type reaction can be followed after the cascade sequence, leading to complex frameworks in a one pot reaction (Scheme 2).



Scheme 1: Synthesis of thio-pyrano-quinolizine..

1. K. L. Jensen, G. Dickmeiss, H. Jiang, L. Albrecht, K. A. Jørgensen, *Acc. Chem. Res.* **2012**, 45, 248.