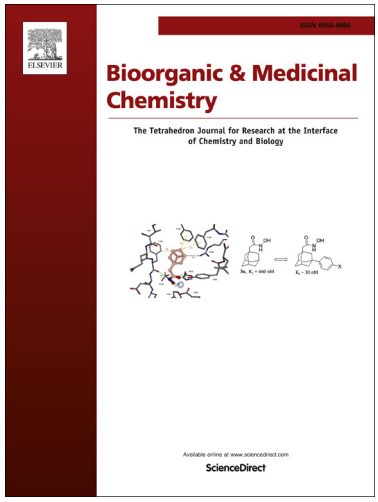
Accepted Manuscript



Polymer Supported Synthesis of a Natural Product-Inspired Oxepane Library

Sudipta Basu, Herbert Waldmann

PII: S0968-0896(14)00388-5
DOI: http://dx.doi.org/10.1016/j.bmc.2014.05.039
Reference: BMC 11600

To appear in: *Bioorganic & Medicinal Chemistry*

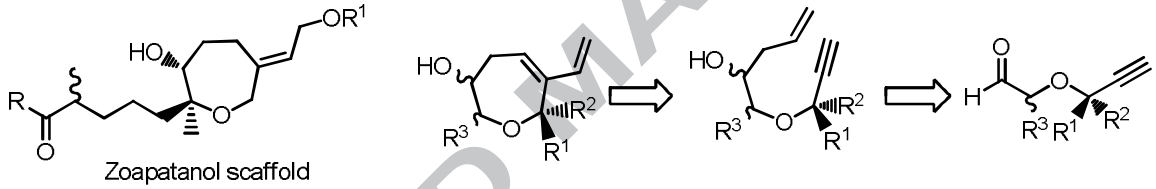
Received Date: 25 March 2014
Revised Date: 14 May 2014
Accepted Date: 16 May 2014

Please cite this article as: Basu, S., Waldmann, H., Polymer Supported Synthesis of a Natural Product-Inspired Oxepane Library, *Bioorganic & Medicinal Chemistry* (2014), doi: http://dx.doi.org/10.1016/j.bmc.2014.05.039

Polymer Supported Synthesis of a Natural Product-Inspired Oxepane Library

Sudipta Basu and Herbert Waldmann*

* Prof. Dr. H. Waldmann, Dr. Sudipta Basu
Max-Planck-Institut für molekulare Physiologie,
Otto-Hahn Strasse 11, 44227 Dortmund (Germany) and
Technische Universität Dortmund, Fachbereich Chemische Biologie,
Otto-Hahn-Str. 6, 44227 Dortmund, Germany
Fax: (+49) 321-133-2499
E-mail: herbert.waldmann@mpi-dortmund.mpg.de



Abstract

Natural product inspired compound collections are prevalidated due to the evolutionary selection of the natural product scaffolds. Their synthesis requires the development of novel strategies amenable to formats suitable for library build-up. We describe a method for the synthesis of an oxepane library inspired by the core structure of oxepane natural products endowed with multiple bioactivities. Core aspects of the strategy are the establishment of a one-pot method employing different immobilized scavengers, the employment of an enyne ring closing reaction and diversification by means of different transformations, e. g. cycloadditions and cross-metathesis reactions. In total, a collection of 115 oxepanes was obtained in 5-6-step reaction sequences.