

Report of the Work Done

Title :Synthesis of some sesquiterpenoids using some solid state and microwave assisted reactions

Brief Objective

In view of the need to develop ecofriendly procedures, techniques, reagents, solvents, catalysts, alternative heating sources etc. it was planned to develop the synthetic route for the synthesis of sesquiterpenoids viz. calamenene and nor-calamenene and to use Microwave heating in place of conventional heating as the Green chemical approach.

Work Done So Far

Synthesis of two sesquiterpenoids viz calamenene and 1-nor-calamenene had been achieved by using synthetic schemes involving steps for which microwave oven was used as the source of heating instead of conventional heating. Advantage of using MW heating was that

- Reactions required lesser time.
- Yields of the products were better.

The structures of the intermediate products and final products were confirmed by using spectral analysis. The results and other details are reported in the form of bond report.

► **publication** : One research paper has been published in the reputed refereed journal.

1. Microwave assisted synthesis of calamenene

Name of the Journal : Chemistry - An Indian Journal, Vol 1(5), Feb. 2004, 327-329.

► **Presentation** : Two Research papers have been presented in National Symposia

1. The new synthesis of calamenene

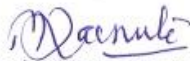
4th National symposium in Chemistry, NCL, Pune, 1-3. Feb 2002.

2. The synthesis of 1-nor calamenene

National symposium in frontiers in Organic chemistry, Shivaji University, Kolhapur, 7-8. 02.2002

Other Impact :

The synthesis of calamenene and nor-calamenene implies that conventional heating sources like gas burner, heating mantles can be replaced by non-conventional sources like microwave heating at least in some steps of the synthetic sequence. This prevents pollution, reduces time required and cost also.


Principal Investigator
(M. T. Bachute)