



000310

METHYLENE CYCLOPENTENONES:

SYNTHESES AND REACTIONS

BY

TIWA SIWAPINYOYOS

A THESIS SUBMITTED IN FULFILLMENT OF

THE REQUIREMENT FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

(ORGANIC CHEMISTRY)

IN

THE FACULTY OF GRADUATE STUDIES

OF

MAHIDOL UNIVERSITY

1984

Copyright by Mahidol University

อธิบดีมหาวิทยาลัย

จาก

มหาวิทยาลัยมหิดล มหาวิทยาลัยมหิดล

ABSTRACT

The first part of this thesis deals with two important discoveries, the use of the methyl acrylate-anthracene adduct (A) as the masked acrylate unit and the direct three-carbon cyclopentenone annelation (equation B).

Combination of these two discoveries has led to the preparation of various α -methylene cyclopentenones of type (C) including methylenomycin B.

Total synthesis of the antibiotic, sarkomycin (D), and regio-specific Michael addition of nucleophiles to the exocyclic cisoid enone double bond of α -methylene cyclopentenone (E) are described in the last part of the thesis.

