

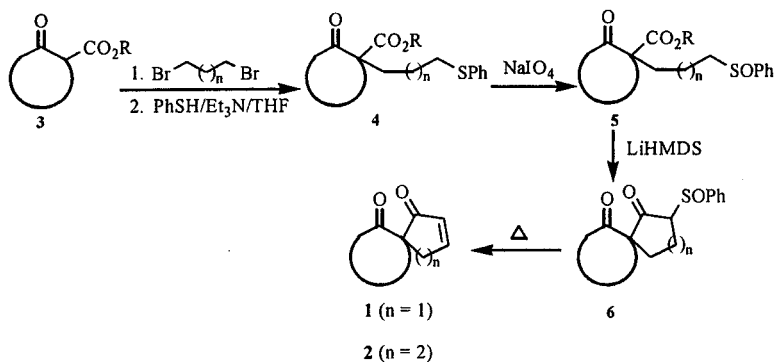
4036400 SCOC/M : MAJOR : ORGANIC CHEMISTRY ; M.Sc. (ORGANIC CHEMISTRY)

KEY WORDS : α -SULFINYL CARBANION / SPIRO COMPOUND /

SUBSTITUTION REACTION / ELIMINATION REACTION

TANASRI BUNLAKSANANUSORN : SPIROCYCLIC SYSTEMS VIA INTRAMOLECULAR ACYLATION OF α -SULFINYL CARBANIONS : A CONVENIENT SYNTHESIS OF SPIRO[4.n]ALK-2-ENE-1,6-DIONES AND SPIRO[5.n]ALK-2-ENE-1,7-DIONES. THESIS ADVISORS : MANAT POHMAKOTR, Dr. rer. nat., PATOOMRATANA TUCHINDA, Ph.D. 102 P. ISBN 974-662-963-8

The spirocyclic compounds **1** and **2** have been proposed to be synthesized by using our recently developed cyclopentenone and cyclohexenone annulation based on the intramolecular acylation of α -sulfinyl carbanion, starting from simple cyclic β -keto ester as outlined below.



The starting sulfoxides **5** were synthesized by base-catalyzed alkylation of the cyclic β -keto esters **3**, which are commercially available, with dibromoalkanes followed by phenylthiolation with PhSH/Et₃N and oxidation of the resulting sulfides **4** with sodium metaperiodate. Cyclisation of the sulfoxides **5** with lithium hexamethyldisilazide (LiHMDS) in tetrahydrofuran (THF) provided the spirocyclic diones **6**. Pyrolysis of **6** led to the expected spiro[4.n]alk-2-ene-1,6-diones **1** and spiro[5.n]alk-2-ene-1,7-diones **2**. Asymmetric synthesis of 5-alkyl substituted 2-cyclopentenones was also attempted (Chapter II).