

ห้องสมุดงานวิจัย สำนักงานคณะกรรมการการวิจัยแห่งชาติ



E42140



A NEW APPROACH TO THE SYNTHESIS OF CYCLIC VINYL BROMIDES
USING RING-CLOSING METATHESIS REACTION

POTCHANEE PANDOKRAK

A THESIS PRESENTED TO RAMKHAMHAENG UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE
(APPLIED CHEMISTRY)

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พจนีย์ พันดอกกรักษ์

วิทยานิพนธ์เสนอต่อมหาวิทยาลัษรามคำแหง
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ABSTRACT

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Thesis Title	A New Approach to the Synthesis of Cyclic Vinyl Bromides Using Ring-closing Metathesis Reaction
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2. Asst. Prof. Dr. Boon-ek Yingyongnarongkul

Metathesis-based methodology has been developed for the synthesis of a variety of heterocyclic and carbocyclic compounds containing brominated double bonds. Ring-closing metathesis (RCM) has been shown to be a viable method for providing a regio-controlled approach to cyclic vinyl bromo-olefins, which in turn can be useful for subsequent synthetic transformations. A number of 5-, 6- and 7-membered ring precursors were synthesized following established methods. Sulfamide-linked dienes were obtained from the alkylation of the key sulfamide with 2,3-dibromopropene under basic conditions. Additional substrates were prepared from diethylmalonate and sulfonamide. RCM of vinyl bromodienes can be proceeded by using the second generation Grubbs catalyst (15 mol%, PhH, 65 °C) to produce 7-membered vinyl bromides in good yields. The metathesis

products have been suggested as a useful building block for the subsequent synthetic transformations especially Suzuki cross coupling reaction. The metathesis methodology was also applied to the synthesis of tricyclic heterocycle which may have interesting biological activities.

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Potchanee Pandokrak

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