

# エンド型閉環反応を基盤とする効率的ヘテロ中員環構築法の開発

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# 2003 Fiscal Year Final Research Report Summary

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## Development of efficient method for construction of medium-sized heterocycles based on endo mode cyclization

Research Project

### Project/Area Number

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14571998

### Research Category

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Grant-in-Aid for Scientific Research (C)

### Allocation Type

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Single-year Grants

### Section

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一般

### Research Field

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Chemical pharmacy

### Research Institution

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KANAZAWA UNIVERSITY

### Principal Investigator

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### Project Period (FY)

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2002 – 2003

### Keywords

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endo mode cyclization / medium-sized ring / oxygen-containing heterocycle / nitrogen-containing heterocycle / phenylsulfonyl group / active methane group / phenylsulfinyl group / Baldwin rules

### Research Abstract

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The base-catalyzed endo mode ring-closing reaction of 1-allenyl sulfoxides having a suitable alkyl side chain with the terminal oxygen atom proceeded as to afford the corresponding 5~7-membered oxacycles. Changing the sulfinyl group of the allenes to the sulfonyl group brought some improvement resulting in the formation of 5~8-membered oxacycles. This novel endo mode ring-closing reaction of allenes was applied to the congeners possessing the terminal nitrogen functionality and active methane group to give the corresponding cyclized products in acceptable yields. Thus, this method was demonstrated to be applicable to various kinds of allenes.


## Research Products (6 results)

All Other


All Publications (6 results)


[Publications] Chisato Mukai, Haruhisa Yamashita, Miyoji Hanaoka: "A New Entry to Oxacycles via Base-Catalyzed Endo Mode Cyclization of Allenyl Sulfoxides and Sulfones"Organic Letters. 3. 3385-3387 (2001) 

[Publications] Chisato Mukai, Rie Ukon, Norikazu Kuroda: "A new entry to carbocycles : synthesis of cyclopentene and cyclohexene derivatives through endo-mode ring closure of allenyl sulfones"Tetrahedron Letters. 44. 1583-1586 (2003) 

[Publications] Chisato Mukai, Minoru Kobayashi, Shoko Kubota, Shinji Kitagaki: "Construction of Azacycles Based on Endo Mode Cyclization of Allenes"The Journal of Organic Chemistry. 69(in press). (2004) 

[Publications] Chisato Mukai, Haruhisa Yamashita, Miyoji Hanaoka: "A New Entry to Oxacycles via Base-Catalyzed Endo Mode Cyclization of Allenyl Sulfoxides and Sulfones"Organic Letters. 3. 3385-3387 (2001) 

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