

**SYNTHESIS AND CHARACTERIZATION OF MONO-6-  
DEOXY-6-AMMONIUM- $\beta$ -CYCLODEXTRIN CHLORIDE  
SALTS**



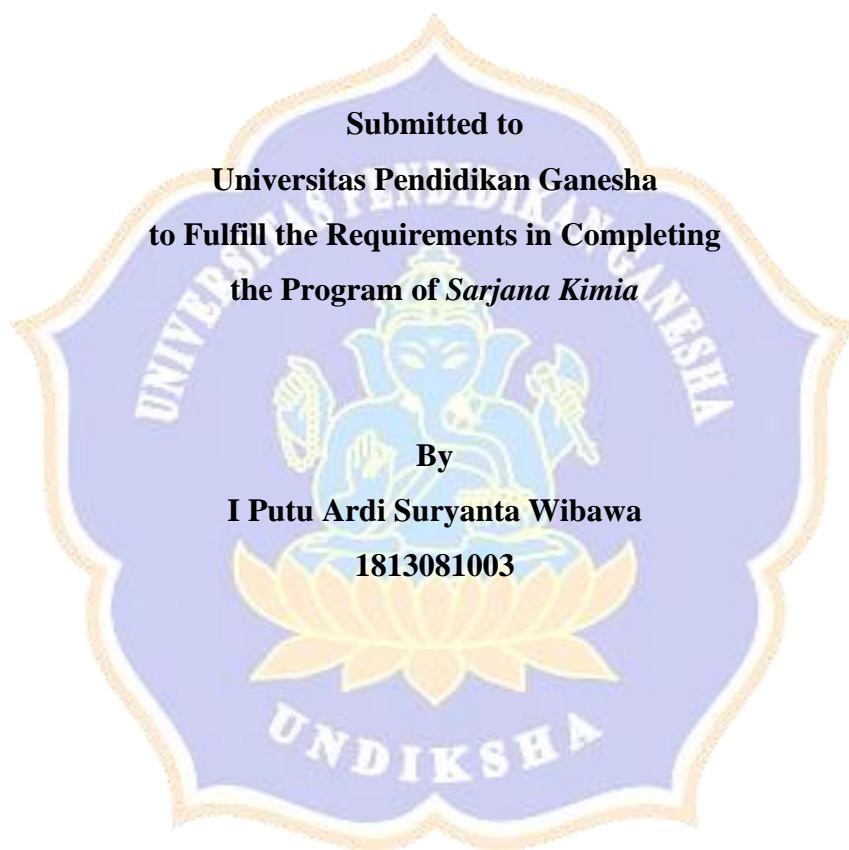
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**CHEMISTRY DEPARTMENT  
FACULTY OF MATHEMATICS AND NATURAL SCIENCES  
UNIVERSITAS PENDIDIKAN GANESHA  
SINGARAJA**

**2022**

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6-DEOXY-6-AMMONIUM- $\beta$ -CYCLODEXTRIN  
CHLORIDE SALTS**

**THESIS**



**CHEMISTRY DEPARTMENT  
FACULTY OF MATHEMATICS AND NATURAL SCIENCES  
UNIVERSITAS PENDIDIKAN GANESHA  
SINGARAJA  
2022**



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### DECLARATION OF AUTHENTICITY

With this statement, I declare that the thesis entitled “SYNTHESIS AND CHARACTERIZATION OF MONO-6-DEOXY-6-AMMONIUM- $\beta$ -CYCLODEXTRIN CHLORIDE SALTS” and all its contents are true of my own work. I declare also that no plagiarism and it is no citing works without following the scientific ethics. On this statement, I prepare to bear the risks/penalties impose on me if it is found a violation of the scientific or disorder ethics on my work.



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## ACKNOWLEDGMENT

First of all, I would like to express my greatest praise and gratitude to Almighty God for all His graces and bless so that the author was able to complete the thesis entitled "**SYNTHESIS AND CHARACTERIZATION OF MONO-6-DEOXY-6-AMMONIUM- $\beta$ -CYCLODEXTRIN CHLORIDE SALTS**" on time. In conducting research and preparing this thesis, the author has received guidance, assistance, and motivation from various parties. Herewith, the author would like to say thank you to:

1. Dr. Drs. I Wayan Suja, M.Si., as the chairman of chemistry department, for providing guidance during my study in chemistry department
2. Dr. I Dewa Ketut Sastrawidana, S.Si., M.Si., as the chairman of chemistry study program, for providing guidance during my study in chemistry department
3. Drs. I Wayan Muderawan, M.S., Ph.D, as the first advisor for providing guidance, assistance, advice, and motivation in completing research and writing this thesis
4. Ni Wayan Martiningsih, S.Si., M.Sc., as the second advisor for providing guidance and motivation in completing research and writing this thesis
5. All lecturers and staff of the chemistry department for all their knowledge and assistance during my study in the chemistry department
6. My beloved family for all the support, prayers, and encouragement that have been given so that the author can complete the study
7. Fellow students in chemistry department and all parties that the author cannot mention one by one for their help and support

Finally, the author hopes that this thesis can have a positive impact on interested parties and for the development of science and technology.

Singaraja, 13 Juli 2022

Author

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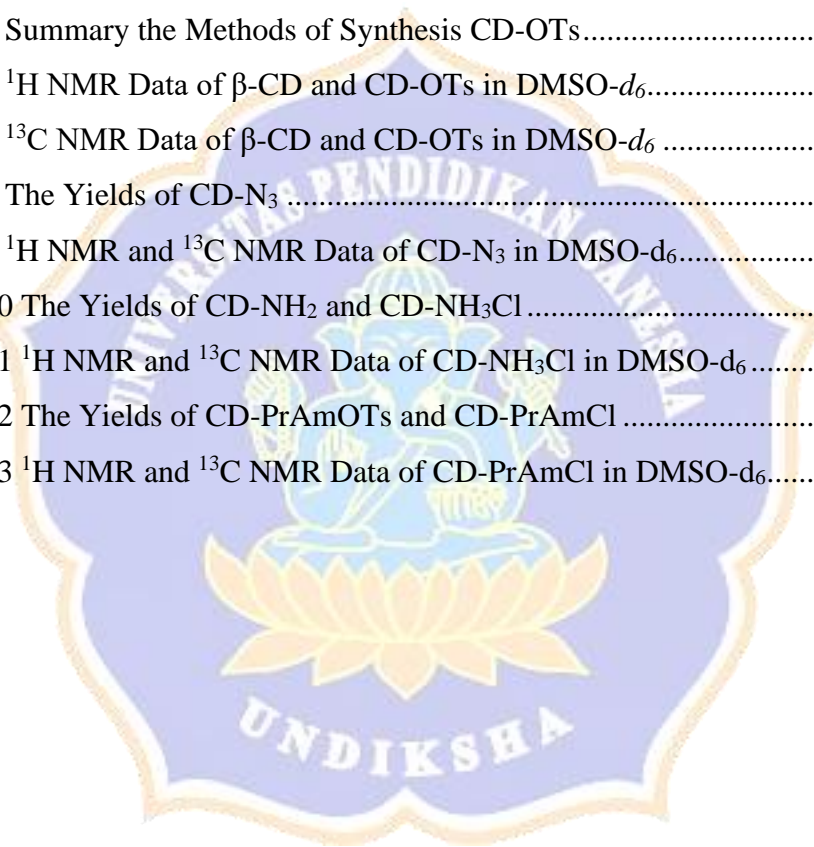
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## LIST OF ABBREVIATIONS

CD	Cyclodextrin
Ts	<i>p</i> -Toluenesulfonyl, tosyl
TsCl	Tosyl chloride, <i>p</i> -toluenesulfonyl chloride
TsIm	Tosyl imidazole, <i>p</i> -toluenesulfonyl imidazole
TsO <sub>2</sub>	Tosyl anhydride, <i>p</i> -toluenesulfonic anhydride
CD-OTs	Mono-6-O-( <i>p</i> -toluenesulfonyl)- $\beta$ -cyclodextrin, tosyl CD
CD-N <sub>3</sub>	Mono-6-deoxy-6-azido- $\beta$ -cyclodextrin
CD-NH <sub>2</sub>	Mono-6-deoxy-6-amino- $\beta$ -cyclodextrin
CD-NH <sub>3</sub> Cl	Mono-6-deoxy-6-ammonium- $\beta$ -cyclodextrin chloride
CD-PrAmOTs	Mono-6-deoxy-6-(propylammonium)- $\beta$ -cyclodextrin tosylate
CD-PrAmCl	Mono-6-deoxy-6-(propylammonium)- $\beta$ -cyclodextrin chloride
DCM	Dichloromethane
DMF	<i>N,N</i> -dimethylformamide
FTIR	Fourier transform infrared spectroscopy
NMR	Nuclear magnetic resonance

