UNIVERSITAS
GADJAH MADA
**Genomic Characterization of a Multidrug-resistant Streptococcus pneumoniae Isolate from a Pediatric
Patient alongside Mechanistic Studies of Pneumococcal Pathogenesis in In Vitro and Ex Vivo Models**
Tiara Putri, Prof. Dr. Budi S. Daryono (UGM) dan Prof. Dr.rer.nat. Sven Hammerschmidt (University of Greifswald)
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DISSERTATION

GENOMIC CHARACTERIZATION OF A MULTIDRUG-RESISTANT *Streptococcus pneumoniae* ISOLATE FROM A PEDIATRIC PATIENT ALONGSIDE MECHANISTIC STUDIES OF PNEUMOCOCCAL PATHOGENESIS IN *IN VITRO* AND *EX VIVO* MODELS

by:
Tiara Putri
19/450146/SBI/00174

Has been defended before the Board of Examiners on **17th July 2026**
and has been declared to have fulfilled the requirements.

Board of Examiners

Chair of the Examination Committee

Prof. Dr. Bambang Retnoaji, M.Sc.

1st Examiner/Promotor

Prof. Dr. Budi Setiadi Daryono, M.Agr. Sc.

2nd Examiner/Promotor

Prof. Dr. rer. nat. Sven Hammerschmidt

3rd Examiner/Co-promotor

Prof. Dr. Eko Agus Daryono, M.App. Sc.

4th Examiner/Co-promotor

Prof. Dr. Endah Retnaningrum, S.Si, M. Eng.

5th Examiner/Co-promotor

Dodi Safari, Ph.D.

6th Examiner/Chair of the Evaluation Committee

Prof. Dr. Niken Satuti Nur Handayani, M.Sc.

7th Examiner/Evaluation Committee Member

Prof. dr. Tri Wibawa, Ph.D., Sp.MK(K)

8th Examiner/Evaluation Committee Member

Prof. Dr. Ir. I Made Artika, M.App.Sc.

This dissertation has been accepted as one of the requirements for the award of the degree of Doctor.

Date: 23 JUL 2026

Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc.
Dean/Head of the Doctoral Program in Biology
Faculty of Biology, Universitas Gadjah Mada

UNIVERSITAS GADJAH MADA
**Genomic Characterization of a Multidrug-resistant Streptococcus pneumoniae Isolate from a Pediatric
Patient alongside Mechanistic Studies of Pneumococcal Pathogenesis in In Vitro and Ex Vivo Models**
Tiara Putri, Prof. Dr. Budi S. Daryono (UGM) dan Prof. Dr.rer.nat. Sven Hammerschmidt (University of Greifswald)
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

This dissertation
of Doc

Date: 23 JUL 2026

Prof. Dr. Budi Setiadi Daryono, M.Agr.Sc.
Dean
Faculty of Biology
Universitas Gadjah Mada