

DATE: Day 28 Month 04 Year 2026

SUMMARY of
FY2025 RESEARCH RESULTS REPORT
For International Collaborative Research with IPR, The University of Osaka

Research Title		Structural and functional study on the survival-essential factors from bacterial pathogens for the development of novel antibiotics which induce suicide effect (phase IV)
Applicant	Name	Bong-Jin Lee
	Affiliation	Seoul National University
	Present Title	Professor
Research Collaborator (Host PI)		Atsushi Nakagawa
Summary Protein crystals were successfully obtained and transported to the SPring-8 synchrotron radiation facility for X-ray diffraction analysis. Experimental parameters, including appropriate attenuation, exposure time, and detector distance, were optimized based on the initial diffraction patterns of the crystals. For samples with known space groups, the total number of frames required was strategically determined according to their specific symmetry. This approach ensured maximum data completeness while effectively minimizing radiation damage to the protein crystals during the diffraction experiment. The collected data were stored on a portable hard drive. For a set being capable of molecular replacement, we tried to solve a structure using a structural template which was prepared by AlphaFold2 with Phenix or CCP4i program suites. Data was processed using XDS. Structural determination was tried using various programs including CCP4, CNS, and Phenix with either manual or automated method. Experimental Results MNT-metal ion-AMPPNP complex - Unsuccessfully diffracted ~5.0Å - further optimizations are needed Ph-Doc-DNA complex - Unsuccessfully diffracted ~7.0Å - further optimizations are needed		

***Deadline: May 11, 2026**

***Please submit it to E-mail: tanpakuken-kyoten@office.osaka-u.ac.jp.**

***Please describe this summary within 1 sheet. Please DON'T add some sheets.**

***This summary will be published on the web.**