### Summary of Dissertation Review

**Degree**  
博士（農学）

**Author**  
NGUYEN VAN QUAN

**Title of Dissertation**  
**Medicinal and Pharmaceutical Properties of Momilactones A and B**

**Dissertation Committee Member**  

| Chairman (Chair) | Tran Dang Xuan, Associate Professor, IDEC, Hiroshima University |
| Committee Member | Teruo Maeda, Professor, IDEC, Hiroshima University |
| Committee Member | Masaoki Tsuzuki, Professor, IDEC, Hiroshima University |
| Committee Member | Tetsuro Hosaka, Associate Professor, IDEC, Hiroshima University |
| Committee Member | Yoshiharu Fujii, Professor, Tokyo University of Agriculture and Technology (外部審査員) |

**Summary of Research**  
This research was carried out to isolate momilactones A (MA) and B (MB) from rice husk bran, and white grain. The applicant also developed novel analytical methods to identify and quantify MA and MB in rice organs as well as cooked rice, using column chromatography, HPLC, GC-MS, LC-MR, IR, NMR, and UPLC. The biological activities of MA and MB including anti-diabetes, anti-obesity, and anti-skin-aging disease were also surveyed.


Findings of this research revealed that MA and MB are potent to inhibit diabetes, obesity, and skin-aging disease in vitro assays. It shows that the presence of MA and MB in rice organs, such as rice bran and rice husk are potential for development to supplements to control diabetes and obesity. MA and MB are also promising to develop cosmetics to treat skin-aging disease. In addition, some momilatone-like compounds found in rice husk were inhibitory against emergence of invasive plant species and weeds. These compounds are suggested as sources to develop natural herbicides.

From the achievements noted above, the applicant Nguyen Van Quan has published 3 papers (Molecules, IF 3.060, 2 papers; Saudi Pharmaceutical Journal, IF 3.643, 1 paper) as first name. After carefully examined the results from presentation, graduate thesis, achievements, and the responses on the questions raise from the examiners. The judged committee has agreed that the applicant passed the exam.