

(※本報告書は英語で記述してください。ただし、産業利用課題として採択されている方は日本語で記述していただいても結構です。)

 <b>MLF Experimental Report</b>	提出日 Date of Report November 20, 2014
課題番号 Project No. 2014A0308 実験課題名 Title of experiment Determination of heavy metal concentrations in loquat leaves used as a herbal remedy. 実験責任者名 Name of principal investigator YUKIO YOSHIZAWA 所属 Affiliation The Jikei University School of Medicine	装置責任者 Name of responsible person Yosuke Toh 装置名 Name of Instrument/(BL No.) ANNRI (BL-4) 実施日 Date of Experiment From April 27, 2014 to April 28, 2014 From May 24, 2014 to May 25, 2014

試料、実験方法、利用の結果得られた主なデータ、考察、結論等を、記述して下さい。(適宜、図表添付のこと)  
 Please report your samples, experimental method and results, discussion and conclusions. Please add figures and tables for better explanation.

1. 試料 Name of sample(s) and chemical formula, or compositions including physical form.  1. Cadmium selenide (CdSe) 2. Wood's alloy (50% bismuth, 26.7% lead, 13.3% tin, and 10% cadmium by weight) 3. Low melting point alloys (various amount of cadmium)
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2. 実験方法及び結果 (実験がうまくいかなかった場合、その理由を記述してください。) Experimental method and results. If you failed to conduct experiment as planned, please describe reasons.  The dried loquat leaves had been analyzed with the pulsed neutrons experiments at J-PARC MLF in 2013. In this year, we have attempted to make calibration curve of cadmium using the following substances as standard. 1. Cadmium selenide (58.7 % cadmium by weight) 2. Wood's metal (10% cadmium by weight) 3. Low melting point alloys (LMA, 10 to 1000 ppm cadmium by weight)  The samples were packed in fluorinated ethylene propylene (FEP) bags and analyzed using ANNRI for one hour on the high cadmium concentration samples or four hour on the low concentration ones. The FEP bag has been measured for two hour to determine the background value.
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## 2. 実験方法及び結果(つづき) Experimental method and results (continued)

Results: On-site analysis shows clear peak in cadmium selenide, Wood's metal and LMA that contains more than 1 % of cadmium within one minute. In the case of the LMA of 1000 ppm cadmium, one hour measurement is necessary for obtaining the clear peak. The huge data obtained by the experiments should be analysis further to determine the detection limit of cadmium.