

## **CONCLUSION**

Extraction of anacardic acid from cashew nut shell using organic solvent was successfully demonstrated through a series of physical and chemical treatments. Effects of solvent-to-CNS ratio, extraction temperature, and type of organic solvent were investigated. Findings from this work can be summarized as follows.

### **1. Separation of Anacardic acid from calcium anacardate**

Acid-base reaction is an efficient way to isolate anacardic acid from CNSL. From these experiments, CNSL dissolved in solvent was separated in the form of calcium anacardate, which was converted to anacardic acid by means of concentrated hydrochloric acid.

### **2. Effect of solvent and CNS-to-solvent ratio**

For solvent extraction and acid base reaction, solvent-to-CNS ratio of 80:10 was sufficient to extract all of anacardic acid from the crushed cashew nut shell. Comparable extraction performance resulted for all organic solvents including ethanol, methanol, and n-hexane. However, ethanol was considered the choice of solvent for this process.

### **3. Effect of temperature on extraction**

Increasing the extraction temperature from 30°C to 50°C provided slight improvement on the extraction performance. The marginal gain appeared too small to be adopted.

#### **4. Decarboxylation of Anacardic acid**

Anacardic acid decomposed upon heating at 200°C for a period of 30 minutes. The product of decarboxylation was cardanol and other substances.