

**Title**                    **Extraction and Chemical Characterization of Essential Oils from leaves of *Camellia sinensis***

**Members**            **1. Dr. Patcharee Pripdeevech**                    **Head of the project**  
                                 **2. Miss Sasikan Toso**                                    **Member**

### **Abstract**

The volatile flavor components of different teas growing in Thailand were extracted using the simultaneous distillation and extraction (SDE) technique. These volatiles were investigated by GC-MS. At least 54 components representing 76.51-83.32% of all samples were identified. Hotrienol, geraniol and linalool were found to be the major components in Green Oolong tea. Green Assam tea contained linalool, geraniol and  $\alpha$ -terpineol as the key flavor constituents. Oolong tea No. 17 was dominated by linalool, indole and *cis*-jasmone while the major flavor volatiles of Oolong tea No. 12 were *trans*-nerolidol, *cis*-jasmone and geraniol. Indole, geraniol and *cis*-jasmone were detected as the main constituents in Four Season tea. Change of quality and quantity of volatile flavor components was related to fermentation methods that increased volatiles were illustrated by the semi-fermented tea processing method. Green Assam tea infusion extract was evaluated to have the strongest antioxidant activities with the highest amount of phenol content followed by Four Season tea, Oolong tea No. 17, Oolong tea No. 12 and Green Oolong tea, respectively.