1. **No.**

   FP01910162

2. **Title**

   Analysis of Tobacco Smoke Formation from Heat-not-burn Cigarettes and Electronic Cigarettes

3. **Period**

   2018-2020

4. **Summary**

   We demonstrated a new analytical methodology for the characterization of cigarette mainstream smoke from the heat-not-burn cigarettes on the basis of soft ionization mass spectrometry such as photoionization mass spectrometry (PI), Lithium ion attachment mass spectrometry (IA), and chemical ionization mass spectrometry (CI). The aim of this research is to understand the evolution behaviors of chemical components from heat-not-burn cigarettes. Under the rapid heating conditions, the evolved chemical components were analyzed in real time. Although glycerol was observed as one of the main chemical components from the heat-not-burn cigarettes below 200℃, little emission of glycerol from normal cigarettes was observed. We revealed that the heat-not-burn cigarettes used under 350 ℃ evolve the chemical components containing tobacco leaves with glycerol vapor. The mass spectrometric methods performed in this study, which are possible to control the heating conditions, are effective for understanding the emission behavior of environment tobacco smoke from the heat-not-burn cigarettes.