

S37-3 New Developments and Applications of Capillary Microextraction Techniques

○Hiroyuki KATAOKA¹

¹Shujitsu Univ., Sch. Pharm.

In recent years, drug abuse, poison contamination case, and pollution problem of harmful chemical materials to food and environment have been highlighted. Therefore simple and rapid analyses from various samples are demanded. Although improvement of sensitivity, high speed, specificity, and operability of instruments have been achieved, most of these instruments cannot handle the sample matrices directly and require time-consuming pre-treatment of complex matrices such as biological, food and environmental samples. Therefore, Sample preparation has been recognized as the main bottleneck of the method development and analytical process. Although traditional liquid-liquid extraction and solid phase extraction have been widely used for these samples, recent trends in sample preparation have focused on miniaturization, high-throughput performance, automation, on-line coupling with analytical instruments and low-cost operations through extremely low or no solvent consumption. For efficient sample preparation technique, liquid-phase microextraction and solid-phase microextraction (SPME) have been developed and applied to various sample analyses. Among SPME techniques, in-tube SPME using a capillary column as extraction device can be coupled on-line with HPLC or LC-MS and is suitable for automation. This symposium focused on novel capillary microextraction techniques and their characteristics and applications to biomedical, pharmaceutical, food and environmental analyses are discussed.