2016 IEEE International Conference on Automatic Control and Intelligent Systems (I2CACIS), 22 October 2016, Shah Alam, Malaysia

Observation on SPME Different Headspace Fiber Coupled with GC-MS in Extracting High Quality Agarwood Chipwood

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Abstract—**Agarwood is well known as one of the expensive woods in the world. It has a unique scent which brings it to have wide usages especially in perfumery ingredient, as incense, in traditional medical preparation, and as symbol of wealth. Due to that, this paper presents the analysis on chemical profiles of agarwood chipwood, as a part of agarwood grading system. The work involved of Solid Phase Microextraction (SPME) coupled with Gas Chromatography – Mass Spectrometry (GC-MS) GC-MS in extracting high quality. Three headspace fibers; PDMS-DVB, CAR-PDMS and DVB-CAR-PDMS were used during the extraction to identify the compounds with the sampling time of 60 minutes. The result showed that high quality agarwood chipwood is made up of terpene group which are monoterpene hydrocarbon, sesquiterpene hydrocarbon and oxygenated sesquiterpene. The relative peak areas (%) for compounds are tabulated and plotted. The finding in this study confirmed that the difference in compounds extracted and their relative peak area (%) are due to different fiber's polarity and absorbent, Thus, it is significant and benefit especially in agarwood oil quality grading and its related area.**

Keywords-SPME fiber, high quality, garwood, GC-MS