

## Breath Ethanol Imaging System Using Real Time Biochemical Luminescence for Evaluation of Alcohol Metabolic Capacity

**Authors :** Xin Wang, Munkbayar Munkhjargal, Kumiko Miyajima, Takahiro Arakawa, Kohji Mitsubayashi

**Abstract :** The measurement of gaseous ethanol plays an important role of evaluation of alcohol metabolic capacity in clinical and forensic analysis. A 2-dimensional visualization system for gaseous ethanol was constructed and tested in visualization of breath and transdermal alcohol. We demonstrated breath ethanol measurement using developed high-sensitive visualization system. The concentration of breath ethanol calculated with the imaging signal was significantly different between the volunteer subjects of ALDH2 (+) and (-).

**Keywords :** breath ethanol, ethnaol imaging, biochemical luminescence, alcohol metabolism

**Conference Title :** ICSRD 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020