

“QCM and its applications”

“Detection of LAMP using QCM”

“Odor sensing system based on QCM”



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日時: 平成30年10月4日(木) 15:00~16:30

場所: 東京医科歯科大学 生体材料工学研究所

22号館1階 第2会議室

Abstract: Quartz crystal microbalance (QCM) is an interesting piezoelectric device that can be used for detecting any targeted analytes in all phases no matter it is in gas, liquid or solid phase. Basically the operating principle of the QCM is based on the piezoelectric effect. That means it is sensitive to the mass (gas or solid) loading on its surface or the viscosity of liquid sample that it contacts with. A label-free detection system can be realized using the QCM. Some applications of the QCM such as the measurement of the E2 protein in the dengue detection, the cell growth monitoring, the DNA detection via loop-mediated isothermal amplification (LAMP), and the odor sensing will be shown and discussed.

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