Abstract

Fast diagnosis of diseases or detection of their pathogens is in many cases crucial. For example, recognition of antigens that could lead to sepsis would help to prepare an accurate therapy before patient's state is deteriorated. Unique mechanical properties of microsystems provide sensors of very high sensitivity, capable of detecting minute mass or stress change. Thus, there is a need for functionalization of sensor’s surface, enabling specific interaction with selected antigens. This can be done in two processes. Firstly, by attaching aminothiols to gold coating or aminosilanes to silicon dioxide surface of sensor, respectively, to produce self organized monolayer of molecules, capable of transducing molecular interactions into sensors’s mechanical response, that can be further converted into electrical signal. Secondly, by attachment of specific antibodies, to provide selectivity. In our poster measurement setup for characterization of different biosensors based on quartz tuning fork, silicon microcantilever, and quartz crystal microbalance will be presented, including sample resonant curves of functionalized sensors.