

Hemocompatible electrochemical sensors for continuous monitoring of blood parameters

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Real-time monitoring of physiological parameters is essential for point-of-care testing. While nowadays routine tests are done through *ex vivo* analysis on frequently extracted blood, placing implantable sensors monitoring key blood parameters such as lactate, glucose, ions, and oxygen would suppose a giant step forward in the care of critically ill patients, improving the response time in emergencies and diminishing the invasiveness of the measurements. The recent advances in microelectronics and nanotechnology [1] is a promising technology enabling moving in that direction. The goal of our work is to develop arrays of electrochemical sensors with selective and hemocompatible coatings [2], allowing future implementation of such measurements in patients. We perform the analysis of blood parameters in a label-free and electrochemical manner which is compatible with the inevitable miniaturization in a real application. The tuneable composition of the layer will allow to pursue further applications in the future by modification of the receptor molecules and their concentrations.

References:

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