A compact microelectrode array chip with multiple measuring sites for electrochemical applications - DTU Orbit (31/03/2019)

In this paper we demonstrate the fabrication and electrochemical characterization of a microchip with 12 identical but individually addressable electrochemical measuring sites, each consisting of a set of interdigitated electrodes acting as a working electrode as well as two circular electrodes functioning as a counter and reference electrode in close proximity. The electrodes are made of gold on a silicon oxide substrate and are passivated by a silicon nitride membrane. A method for avoiding the creation of high edges at the electrodes (known as lift-off ears) is presented. The microchip design is highly symmetric to accommodate easy electronic integration and provides space for microfluidic inlets and outlets for integrated custom-made microfluidic systems on top. © 2014 by the authors; licensee MDPI, Basel, Switzerland.

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