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(54) Title: ELECTRODE ARRAY DEVICE HAVING AN ADSORBED POROUS REACTION LAYER

(57) Abstract: There is disclosed an electrode array device having an adsorbed porous reaction layer for improved synthesis quality. The array comprises a plurality of electrodes on a substrate, wherein the electrodes are electronically connected to a computer control system. The array has an adsorbed porous reaction layer on the plurality of electrodes, wherein the adsorbed porous reaction layer comprises a chemical species having at least one hydroxyl group. In the preferred embodiment, the reaction layer is sucrose. A method for preparing an electrode array for improved synthesis quality is disclosed. The method comprises a cleaning method and a method of attachment of a reaction layer. The cleaning method comprises a plasma cleaning method and a chemical cleaning method. The reaction layer is attached after cleaning by exposing the microarray to a solution containing the chemical species having at least one hydroxyl group.