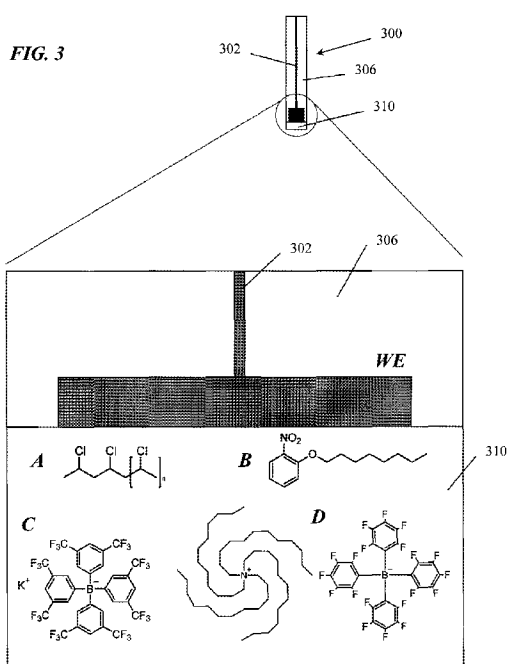




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[Continued on next page]

(54) Title: IMPROVED METHOD AND DEVICE FOR DETECTION OF BIOAVAILABLE DRUG CONCENTRATION



(57) Abstract: The present invention is directed to an electrochemical sensor involving an electrode and a coating that surrounds the electrode, the coating comprising a structural component, a water immiscible solvent, a resistance decreasing component, and an ion exchange component, wherein the coating selectively partitions an electrochemically active drug from a fluid or vapor sample whereby an electrochemical signal within the coating can be measured using the electrode. Devices and methods for using this electrochemical sensor are also disclosed.