

SENSOR AND SENSING SYSTEM

ABSTRACT

A sensor includes two electrodes and a modulatable electrically conductive channel attached to the two electrodes. The modulatable electrically conductive channel includes a modified, partially double stranded nucleic acid polymer electrically connected to the two electrodes and bridging the space between the two electrodes. The modified, partially double stranded nucleic acid polymer includes two polynucleotide chains partially bonded together, a gap in a first of the polynucleotide chains wherein nucleotide bases are missing, and a plurality of nucleotide bases of a second of the polynucleotide chains exposed at the gap in the first of the polynucleotide chains.