METHOD OF DNA SEQUENCE REPRESENTATION BY USING DNA SURFACE CHARGE PATTERNS AND ITS APPLICATION TO IDENTIFY DNA BINDING SITE

ABSTRACT

The present invention provides a DNA sequence represented by a sequence of surface charge patterns. In one embodiment of the present invention, the DNA surface charge pattern sequence includes surface charge patterns of each single nucleotide base and 'di-nucleotides'; wherein the each single nucleotide base is selected from the group of A, T, G, and C; wherein the 'di-nucleotides' is selected from the group of AA, AC, AG, AT, CA, CC, CG, CT, GA, GC, GG, GT, TA, TC, TG and TT; and wherein the 'di-nucleotides' are inserted into the inter-space between two adjacent nucleotide base and consist of the two nucleotide bases abutting the insertion point. The present invention also provides a method of DNA sequence representation by using surface charge patterns. The present invention further provides a method for identifying a DNA binding site by using the DNA sequences represented by a sequence of surface charge patterns.

FIG 1