Abstract

Digital data has changed the use and access of information. Everyday lot of data is produced and this requires high-density storage devices which can retain values for a long time[1]. Deoxyribonucleic acid (DNA) can be potentially used for these purposes as it is not much different from the conventional method used in a computer. DNA can be used as a robust and high-density storage device even under unfavourable conditions[2]. Theoretically, one can encode 2 bits per nucleotide in DNA which can store 455 exabytes per gram maximum data in single-stranded DNA (ssDNA)[3]. In this paper, the method described can be used to store text data in DNA by compressing, storing multiple copies along with providing security to data.

References

Digital Data Storage on DNA


Index Terms

Computer Science  
Databases

Keywords
DNA, data storage, encoding, compression, storage mechanism, digital data, secured storage