REVERSIBLE DATA HIDING SCHEMES FOR DEOXYRIBONUCLEIC ACID (DNA) MEDIUM

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Abstract. *Nowadays, plenty of data hiding schemes are proposed. To have the stego data unnoticeable, the stego-media must be meaningful. Different from the products of the data hiding schemes and the traditional encryption ones, DNA is not only random but also significant. Thus some schemes based on DNA have been presented. In this paper, two data hiding schemes are proposed. In the schemes, secret messages are hidden in a DNA sequence so that the stego data will not be detected. Moreover, the host DNA sequence can be reconstructed after the reverse operation, which far differs from the previous schemes also based on DNA. This property not only ensures the security of the secret data but also preserves the functionality of the original DNA.*
Keywords: DNA, Nucleotide, Information hiding, Reversible data embedding

1. **Introduction.** Recently, network technologies have improved a lot so that more and more people access the remote facilities and send or receive various kinds of digital data over the Internet. For example, the user can complete a business transaction remotely via the networks instead of personally going to a stock exchange market, and the electronic version of the traditional newspapers is also available on the Internet. However, the