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With digital data increasing exponentially, available space and longevity of energy demanding data centres are reaching their limit. With regards to storage density and durability, archiving data in DNA provides a sustainable solution (1). Rapidly evolving DNA synthesis and sequencing technologies have permitted such concepts to be achieved. Accordingly, raising questions around security and confidentiality is crucial to store information securely, particularly by regularly re-encrypting this massive amount of molecular data. An efficient strategy would be to perform these operations at the molecular level, without the use of a digital intermediary (2). In this work, we investigate an experimental *in vitro* DNA cryptography operation. Combining concepts of DNA origami and cryptography, a design involving a message containing DNA strand, written using a designed character to codon basis, can be encrypted by the formation of a ciphered DNA sequence.

Bibliography

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