

Erratum

Design of shortest double-stranded DNA sequences covering all k -mers with applications to protein-binding microarrays and synthetic enhancers

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In the above paper, there were several mistakes due to copyediting error. In Theorem 1 ‘if’ should be replaced by ‘iff’ and should read as follows: For odd k , an RC complete sequence s achieves the lower bound (Proposition 1) iff there exist two edge-disjoint paths with no repeating edges, corresponding to s and $RC(s)$, that together cover all edges of the de Bruijn graph of order $k - 1$.

In Algorithm 1 ‘although’ should be replaced by ‘while’, and should read as follows:

1. Initially all edges are unmarked, $\mathcal{F} = \mathcal{R} = \emptyset$, and $A = \{u\}$, an arbitrary vertex.
2. While $A \neq \emptyset$ do
3. $F = R = \emptyset$.
4. Pick any starting vertex $v = [x_1, \dots, x_{k-1}]$ from A .
5. While there exists an unmarked edge $e = (x_1, \dots, x_k)$ outgoing from v do
6. Append e to F . Prepend $RC(e)$ to R .
7. Mark e and $RC(e)$.
8. Set $v = [x_2, \dots, x_k]$; $A = A \cup \{v\}$.
9. Remove v from A .
10. If $F \neq \emptyset$, add F to \mathcal{F} ; add R to \mathcal{R} ;
11. Merge the cycles in \mathcal{F} to obtain a single forward path.
 Do the same for \mathcal{R} .