Algorithm 1 KMER Uniform

1: **function** "KMER RANDOM"(*sequence*)
2:     $KMerDict \leftarrow CountKMER(sequence)$ ▷ Use Hash Table to count Kmerfrequency
3:     **loop**"words in KMerDict.keys"   ▷ Loop each key of the dict
4:         **if** "words has N" **then**
5:             $frequency \leftarrow KMerDict[words]$
6:             **loop**"p in (A,U,G,C)"   ▷ Loop possible nucleotide
7:                 $words \leftarrow words.replace(N, p)$ ▷ Replace possible nucleotide
8:                 $KMerDict[words] \leftarrow frequency/4$
9:             **end loop**
10:         **end if**
11:         **if** "words has B" **then** "replace word with randomnucleotide"
12:             $frequency \leftarrow KMerDict[words]$
13:             **loop**"p in (U,G,C)"   ▷ Loop possible nucleotide
14:                 $words \leftarrow words.replace(N, p)$ ▷ Replace possible nucleotide
15:                 $KMerDict[words] \leftarrow frequency/3$
16:             **end loop**
17:         **end if**
18:     **end loop**
19:
20:     **return** $KMerDict$
21: **end function**