

Microbial Genomes Essay Questions

1. Outline the processes involved in obtaining a complete genome sequence for a microorganism including library construction, sequencing, gap filling etc.
2. Predicted Open Reading Frames (ORF) in annotated microbial genomes fall into three categories – ORF's of known function, conserved ORF's of unknown functions and unique ORF's of unknown function. Describe each of these categories and discuss possible approaches for characterising ORF's of unknown function.
3. Horizontal transfer is an important evolutionary process in microbes – discuss how data obtained from microbial genome sequences has improved our knowledge of this process. Give a specific example of a sequenced microbial genome that appears to contain significant levels of horizontally transferred genes.
4. Choose one published complete genome sequence and discuss how the genome sequence has aided in understanding the metabolism, physiology and specific genetic adaptations of this organism.
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