1. Which of the following events is MOST likely to be due to bacterial conjugation?

Top of Form

* A strain of Corynebacterium diphtheriae produces a toxin encoded by a prophage.
* A gene encoding resistance to gentamicin in the Escherichia coli chromosome appears in the genome of a bacteriophage that has infected E. coli.
* A strain of Pseudomonas aeruginosa produces β-lactamase encoded by a plasmid similar to a plasmid of another gram-negative organism.
* An encapsulated strain of Streptococcus pneumoniae acquires the gene for capsule formation from an extract of DNA from another encapsulated strain.

1. What bacterial gene transfer process is most sensitive to extracellular nucleases?Top of Form

* Transformation
* Generalized transduction
* Homologous recombination
* Specialized transduction
* Conjugation

1. Which of the following mechanisms is most likely to be involved in multiple drug resistance transfer from one cell to another?

Top of Form

* Transformation of chromosomal genes
* Conjugation with a cell with a free plasmid carrying drug resistance
* Conjugation with a cell with chromosomal drug resistance appears in the genome of a bacteriophage that has infected it.
* Transposition
* Specialized transduction of a chromosomal gene for drug resistance

1. Which one of the following processes involves a sex pilus?

Top of Form

* Transposition of a mobile genetic element
* Conjugation resulting in transfer of an R (resistance) factor
* Integration of a temperate bacteriophage
* Transduction of a chromosomal gene