## **CONCEPT:** REVIEW OF PROKARYOTIC SURFACE STRUCTURES

•Now let's review the different prokaryotic cell surface structures:

|            | Structure    | Description                                                      |                                           |
|------------|--------------|------------------------------------------------------------------|-------------------------------------------|
| Glycocalyx |              | Highly organized layer of polysaccharides anchored to the cell.  | FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF    |
| Glycocalyx | Slime Layers | organized layer of polysaccharides loosely attached to the cell. | ten ben ben ben ben ben ben ben ben ben b |
|            | Pili         | Long protein filaments that from the cell surface.               |                                           |
|            |              | Short filaments extending from the cell, used for attachment.    | Zamare.                                   |
|            | Hami         | Short protein filaments only found in cells.                     |                                           |
|            | Flagella     | Long protein filaments that drive swimming                       | <b>m</b> ~                                |

## **Types of Cell Motility**

| Motility Type | Structure Used | Mechanism                                                             |
|---------------|----------------|-----------------------------------------------------------------------|
| Twitching     |                | 1 Extension Pilus Bacterium  2 Attachment Cell Movement Cell Movement |
| Gliding       |                | Cell Rotates  Motor Proteins  Cell Movement  Cell Movement            |
| Swimming      |                |                                                                       |

**PRACTICE:** Which prokaryotic cell surface structure is *correctly* matched with its function?

- a) Hami: Short protein filaments that hold bacterial cells together.
- b) Flagella: Long protein filaments that allow cells to swim.
- c) Fimbriae: Short pilin filaments which hold archaea cells together.
- d) Pili: Long filaments of pilin that are only used in DNA transfer between bacterial cells.