

Name: \_\_\_\_\_

## Microbiology Staphylococcus/Micrococcus Differentiation

### Materials required:

- Blood Agar plate (BAP) 1
- Mannitol Salt Agar plate (MSA) 1
- 3% H<sub>2</sub>O<sub>2</sub>
- Plasma, citrated
- Glass slides, clean
- Bacteriologic loop, sterile pipette
- 18-24 hour broth cultures: *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Micrococcus luteus*

**Preparation Day 1:** Work in pairs. Make subcultures of the Staphylococci on one third of a BAP and MSA.

### Procedure:

1. Observe results of the blood agar plate. Record colony morphology observations (size, color, and hemolysis) for each organism under Blood colony description below.
2. Perform a catalase test on all isolates using a well isolated colony. Record your observations.
3. Coagulase, slide: Place a medium sized drop of the plasma in the middle of a clean glass slide. Using a sterile loop pick up a Staphylococcus colony and place it into the plasma. Using your loop homogenize the mixture. Continue mixing for approximately 1 minute. Observe and record your reaction.
4. Mannitol Salt Agar (MSA): Observe plate for growth and for mannitol fermentation.

### Blood agar colony description:

*Staphylococcus aureus*: \_\_\_\_\_

*Staphylococcus epidermidis*: \_\_\_\_\_

*Micrococcus luteus*: \_\_\_\_\_

Name: \_\_\_\_\_

**Testing Results:**

	Catalase	Coagulase	MSA growth	MSA ferment (color)
<i>Staphylococcus aureus</i>				
<i>Staph. epidermidis</i>				
<i>Micrococcus luteus</i>				

1. What is the gram stain and morphology for these organisms? (1 pt)
  
  
  
  
  
  
  
  
  
  
2. How can genome sequencing affect the treatment of MRSA? (1 pt)
  
  
  
  
  
  
  
  
  
  
3. What is the significance of isolating each of these organisms from a clinical specimen such as a blood culture? (In this case, are these organisms: commonly a pathogen, an opportunistic pathogen, or rarely a pathogen when isolated from this source)? (3 pt)

*Staphylococcus aureus*: \_\_\_\_\_

*Staphylococcus epidermidis*: \_\_\_\_\_

*Micrococcus luteus*: \_\_\_\_\_