

Microbiology Lab Experiment Changes

- Experiment #:** 5-2, 5-3, 5-7, 5-15, 5-18
- Title:** Carbohydrate Fermentation (Phenol Red broth), Indole Production, Methyl Red, Voges/Proskauer, Citrate, Hydrogen Sulfide, Urease Tests
- Live Organisms:** *E. coli*, *Staph. aureus*, *Micrococcus. luteus*, *Proteus vulgaris*, *Enterobacter aerogenes*
- Changes:** Procedure: work in groups
1. Inoculate media as follows:

Carbohydrate Fermentation:

<u>Glucose, Lactose, and Mannitol Broth</u>	<u>Indole (Tryptone broth)</u>	<u>MR/VP</u>
<i>E.coli</i>	<i>E. coli</i>	<i>E. coli</i>
<i>M. luteus</i>	<i>E. aerogenes</i>	<i>E. aerogenes</i>
<i>P. vulgaris</i>		
<i>S. aureus</i>		

<u>Citrate</u>	<u>Hydrogen Sulfide (SIM)</u>	<u>Urease</u>
<i>E. coli</i>	<i>E. coli</i> (stab deep)	<i>E. coli</i> (stab deep)
<i>E. aerogenes</i>	<i>P. vulgaris</i> “	<i>P. vulgaris</i> “

Take Home Lesson: See chart on handout. You need to know the substrates, type of enzymes, which enzymes are involved, the products for which the tests are being performed and positive and negative test results.

IMViC tests: used to differentiate gram (-) enteric rods. You should memorize the results for *E. coli* (++--) and *Enterobacter aerogenes* (--++).