

**Exercise #17. Fermentation of Sugars (glucose or lactose) Procedure p. 46**

<p><b>Day 1</b> <b>Wed</b> <b>7/15/09</b></p>	<p><b>Procedure:</b></p> <ul style="list-style-type: none"> <li>• work in groups of 3 or 4</li> <li>• inoculate both glucose and lactose broth tubes with controls and unknowns</li> <li>• tubes:             <ul style="list-style-type: none"> <li>○ 4 control organisms x 2 broth tubes = 8 tubes,</li> <li>○ plus unknowns (3 or 4 x 2 broth tubes = 6 or 8 tubes);</li> <li>○ Number of tubes TOTAL: 14 or 16</li> </ul> </li> <li>• INCUBATE: 37°C, 24 hours</li> </ul>	<p><b>Organisms:</b></p> <p><b>Controls:</b></p> <ol style="list-style-type: none"> <li>1. <i>E. coli</i></li> <li>2. <i>A. faecalis</i></li> <li>3. <i>P. vulgaris</i></li> <li>4. <i>S. aureus</i></li> </ol> <p><b>Your Unknowns:</b></p> <ol style="list-style-type: none"> <li>5. Unknowns (# of unknowns inoculated = the number of people in your group, 3 or 4)</li> </ol>
<p><b>Day 2</b> <b>Mon</b> <b>7/20/09</b></p>	<p><b>Results:</b></p> <ul style="list-style-type: none"> <li>• observe tubes, look for:             <ul style="list-style-type: none"> <li>○ gas production</li> <li>○ acid [yellow]</li> <li>○ acid + gas [yellow + gas in Durham tube]</li> <li>○ alkaline [red]</li> </ul> </li> <li>• record results on pp. 31-2 &amp; 47 for unknowns &amp; knowns</li> <li>• answer questions</li> <li>• refer to dichotomous key on p 33-34 for comparison of results to knowns (controls)</li> </ul>	

**Possible phenol red tube results include:**

- A. Formation of acid and gas (bubble is indicated by arrow)
- B. Formation of acid
- C. Uninoculated control
- D. alkaline byproducts
- E. No acid or gas formation

