

# **Lab practice E03**

# Gram Staining: defining diversity based on structural differences

## Procedure

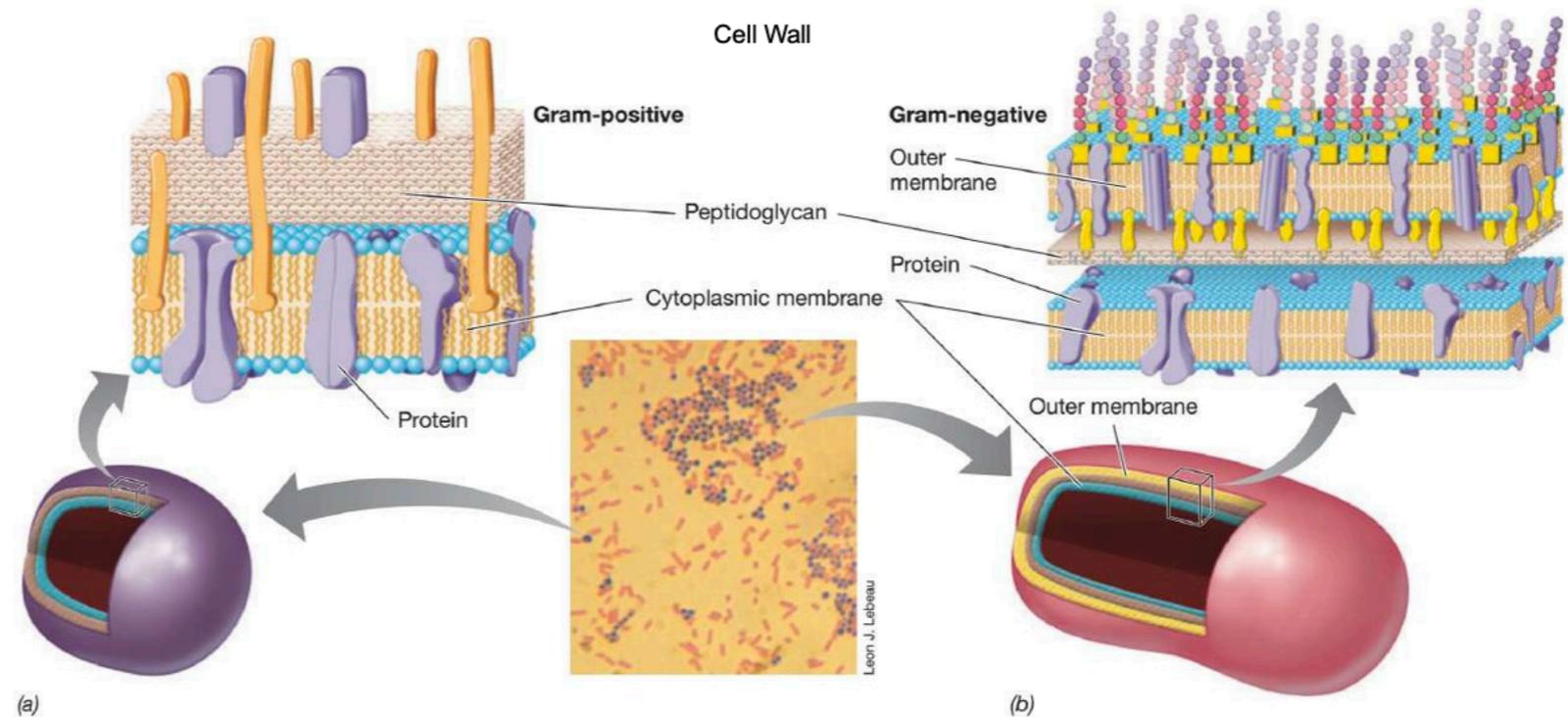
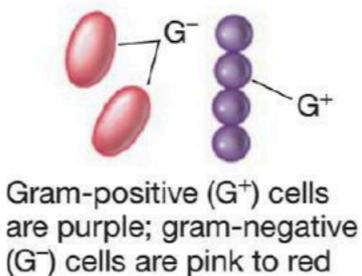
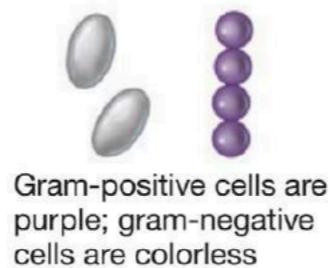
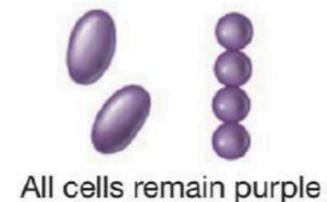
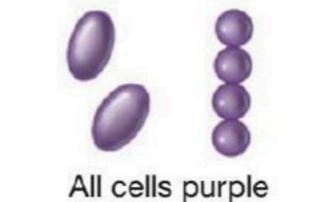
1. Flood the heat-fixed smear with crystal violet for 1 min

2. Add iodine solution for 1 min

3. Decolorize with alcohol briefly — about 20 sec

4. Counterstain with safranin for 1–2 min

## Result



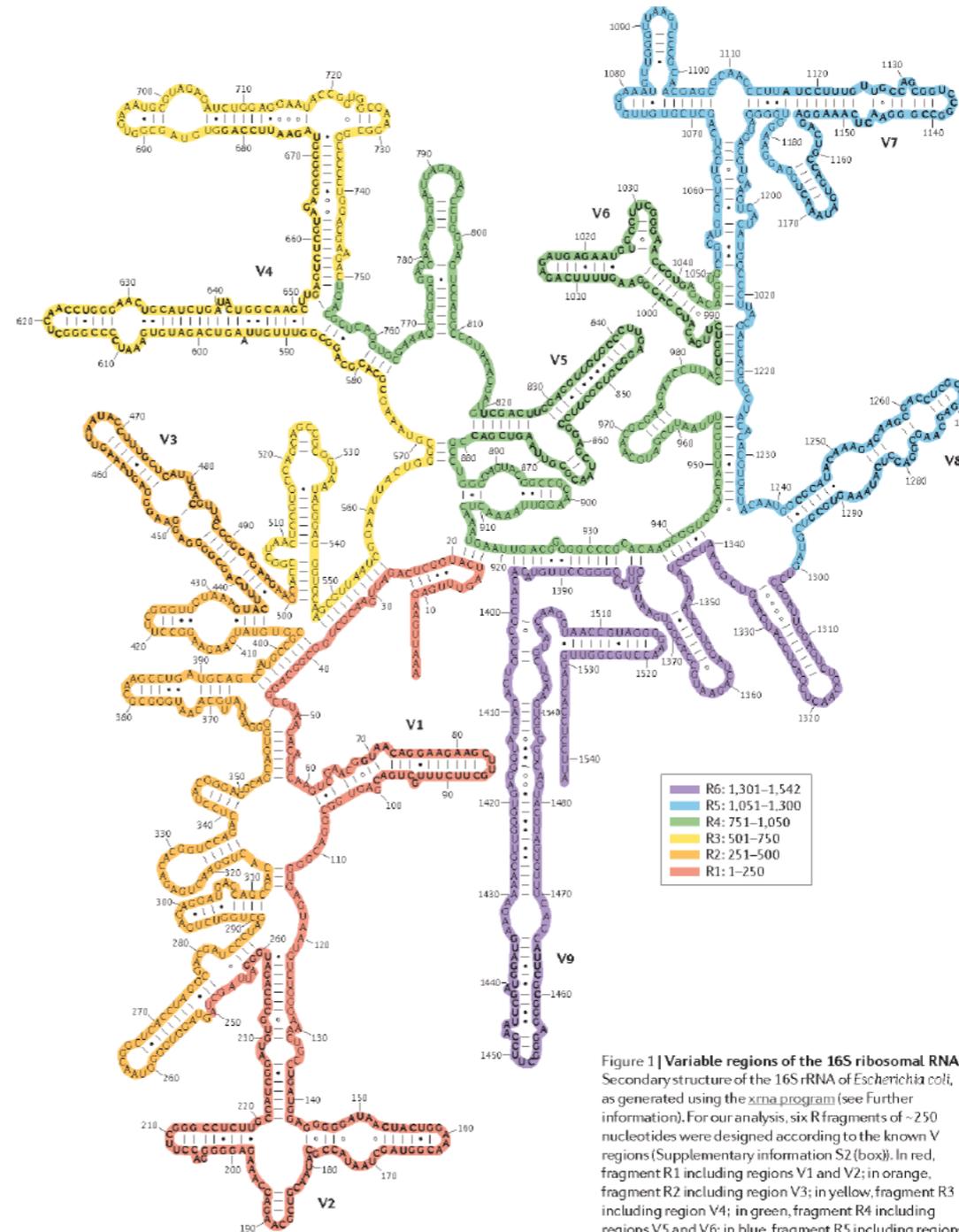
Madigan et al. 2018

# Woese

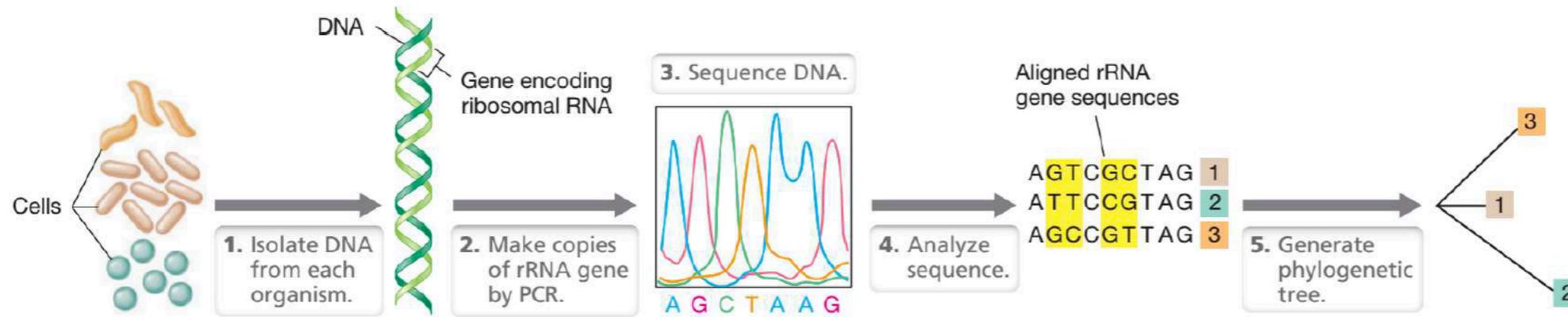


**Ribosomal RNAs** are components of ribosomes, the structures that synthesize new proteins in the process of translation

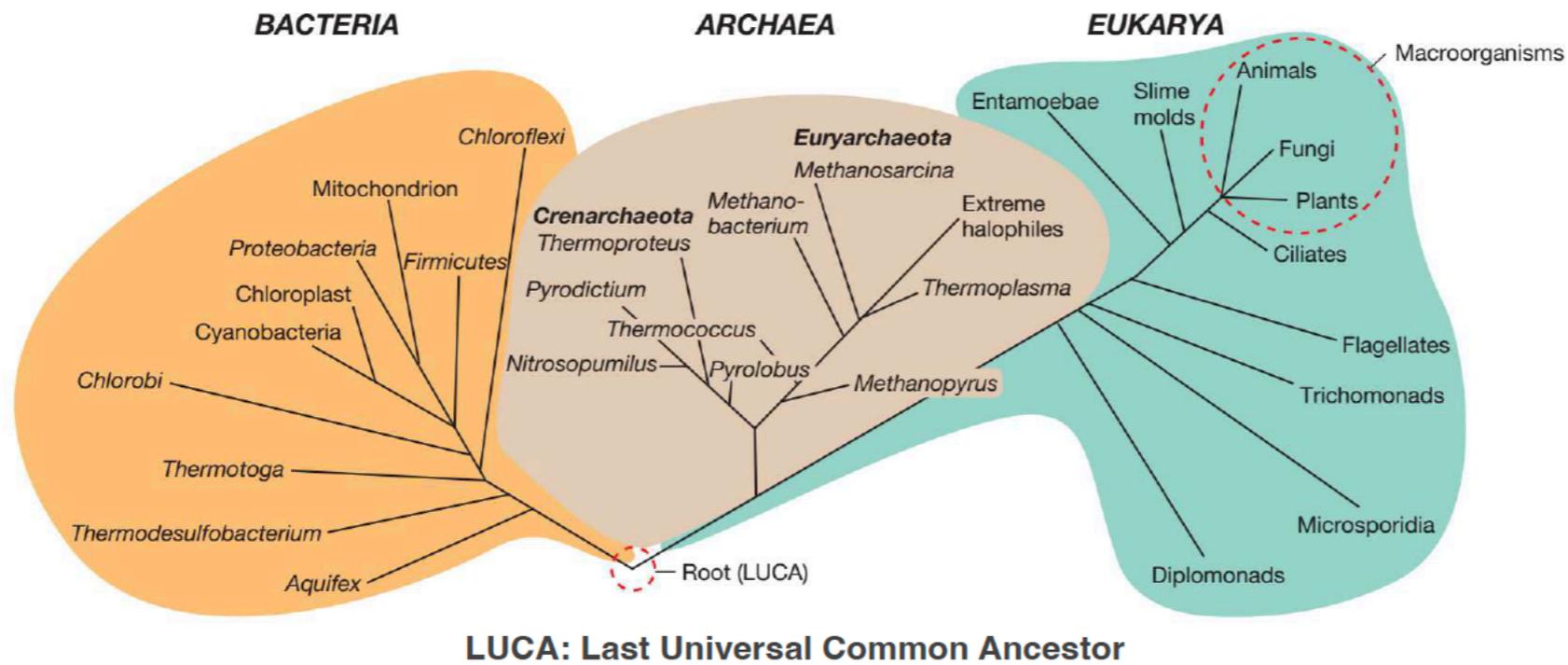
# 16S ribosomal RNA



# Step-by-step technology for evolutionary classification of microbes



Phylogenetic Tree of Life



Madigan et al. 2018

Woese