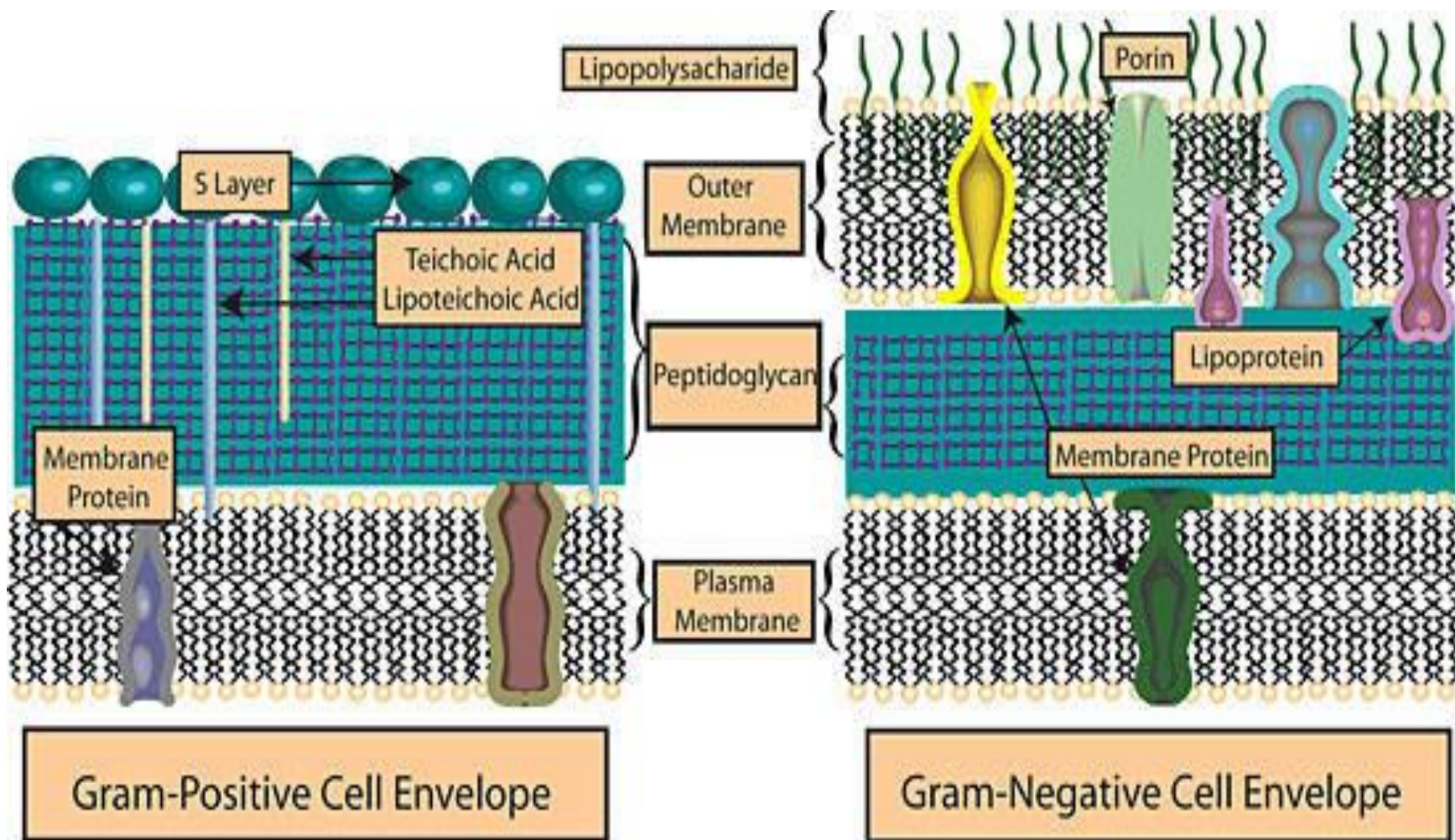


Practical 3

- Gram staining

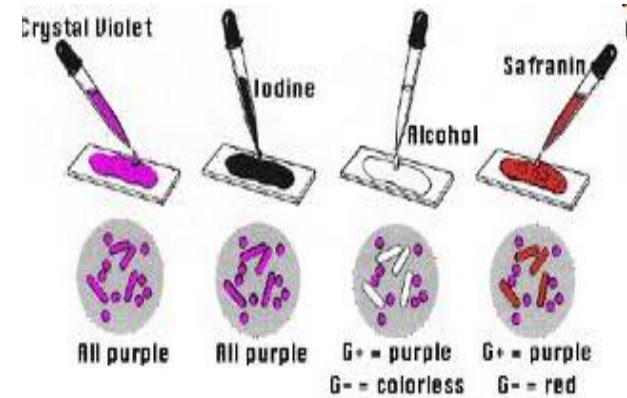
Differential staining

- Acceptance of stains is an important property of bacteria and is the base division of bacteria to 2 principal groups Gram positive and Gram negative in taxonomy.
 - Gram staining

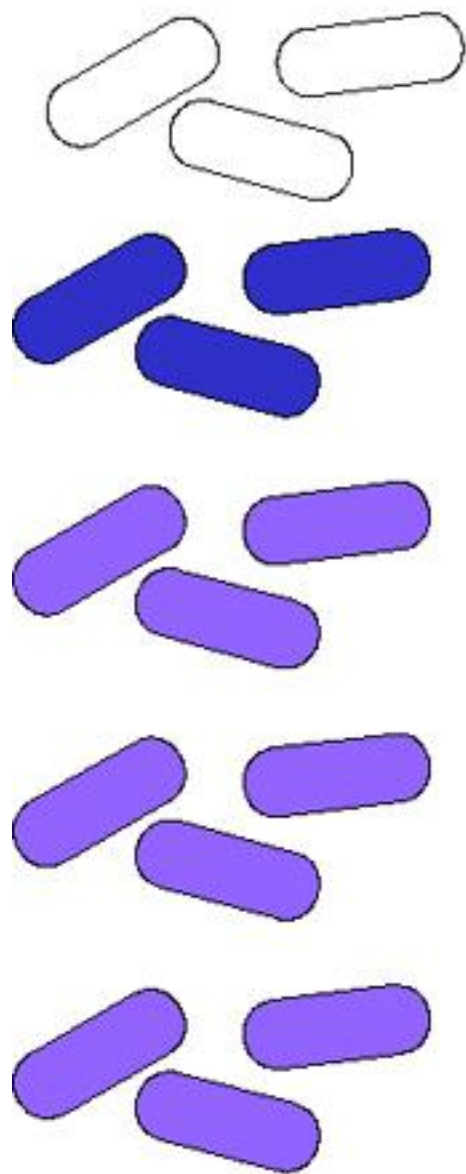


GRAM STAINING PROCEDURE

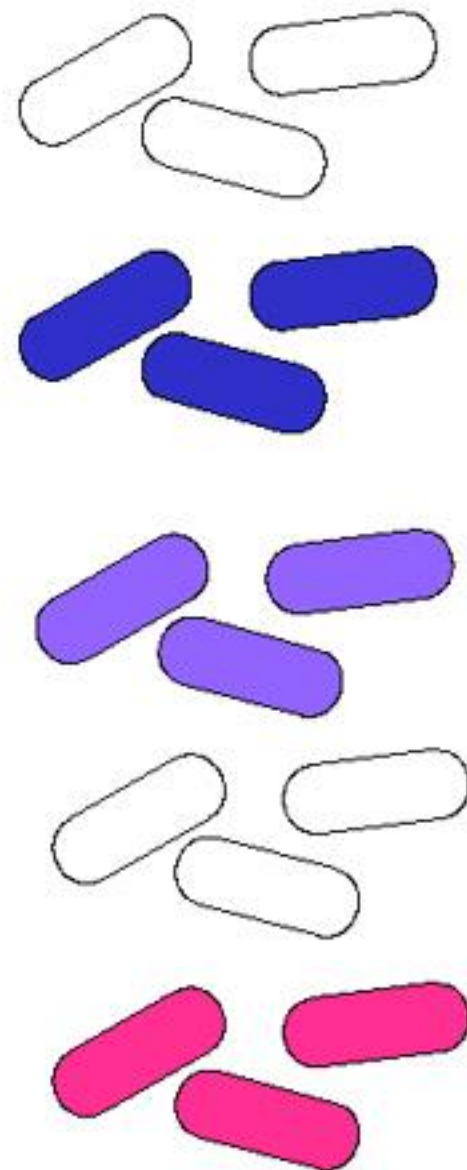
- Prepare a heat fixed smear of the culture you wish to examine
- Flood the smear with crystal violet (30 sec. to 2 min)
- Quickly and gently wash off excess stain (2 seconds)
- Flood the smear with Grams iodine (1 minute)
- Decolorize with alcohol (10-20 seconds or until the excess alcohol which flow off the slide is colorless)
- Quickly and gently wash off excess stain (2 seconds)
- Flood the smear with safranin (carbol-fuchsin) (30 sec to 2 min.)
- Quickly and gently wash off excess stain (2 seconds)
- Blot dry with bibulous paper
- Examine your slide under the microscope. Record sketches of the organisms, size, color, morphology, and culture identification.



Gram Positive



Gram Negative



Fixation



Crystal violet



Iodine treatment

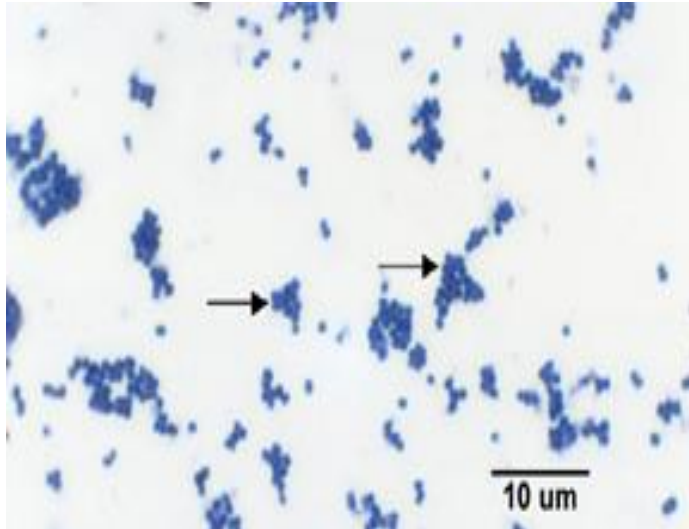


Decolorization

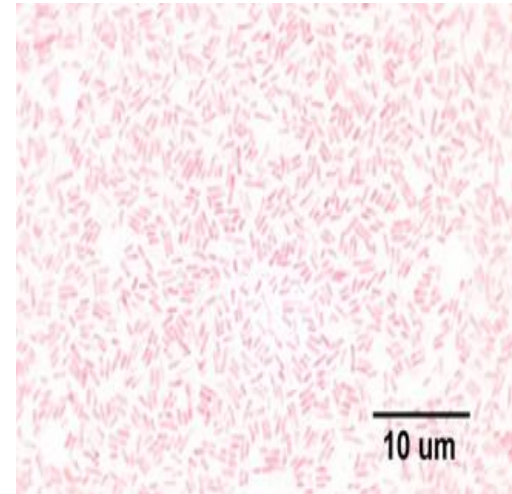


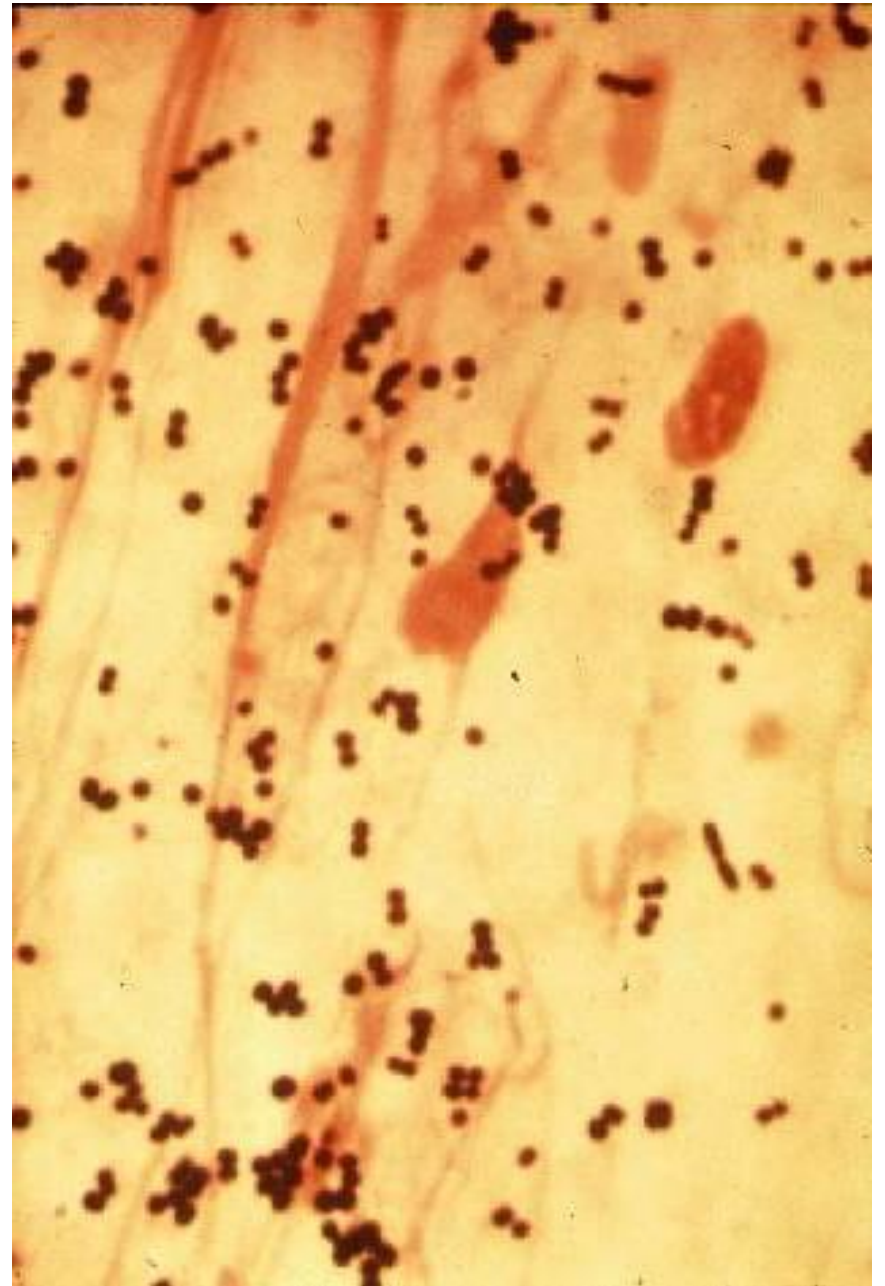
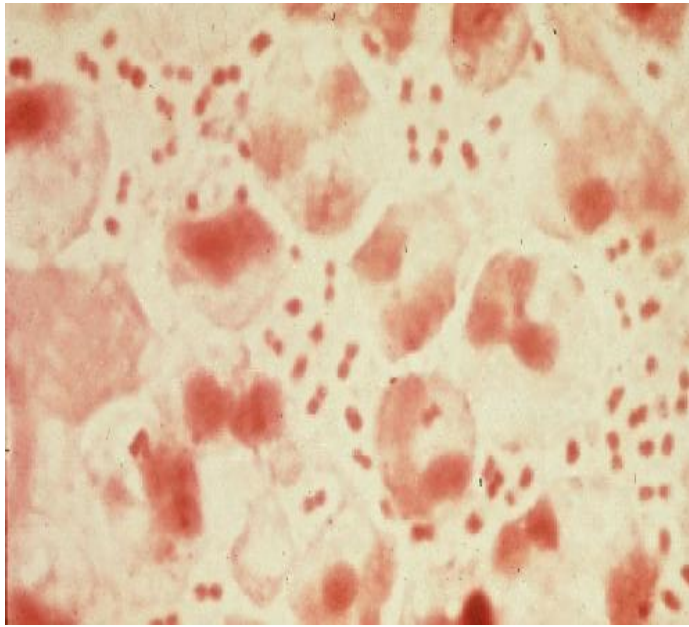
Counter stain
safranin

G+

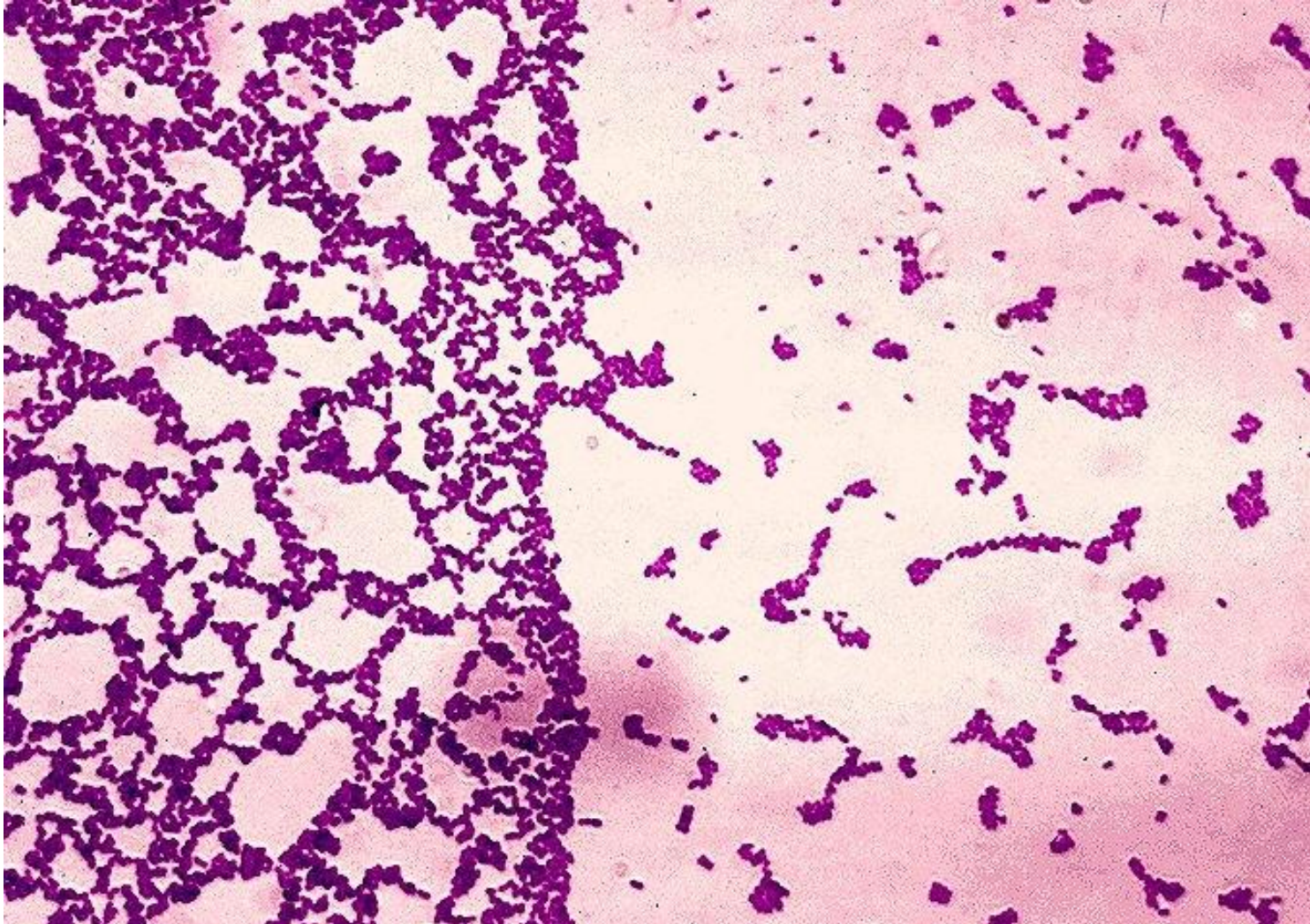


G-

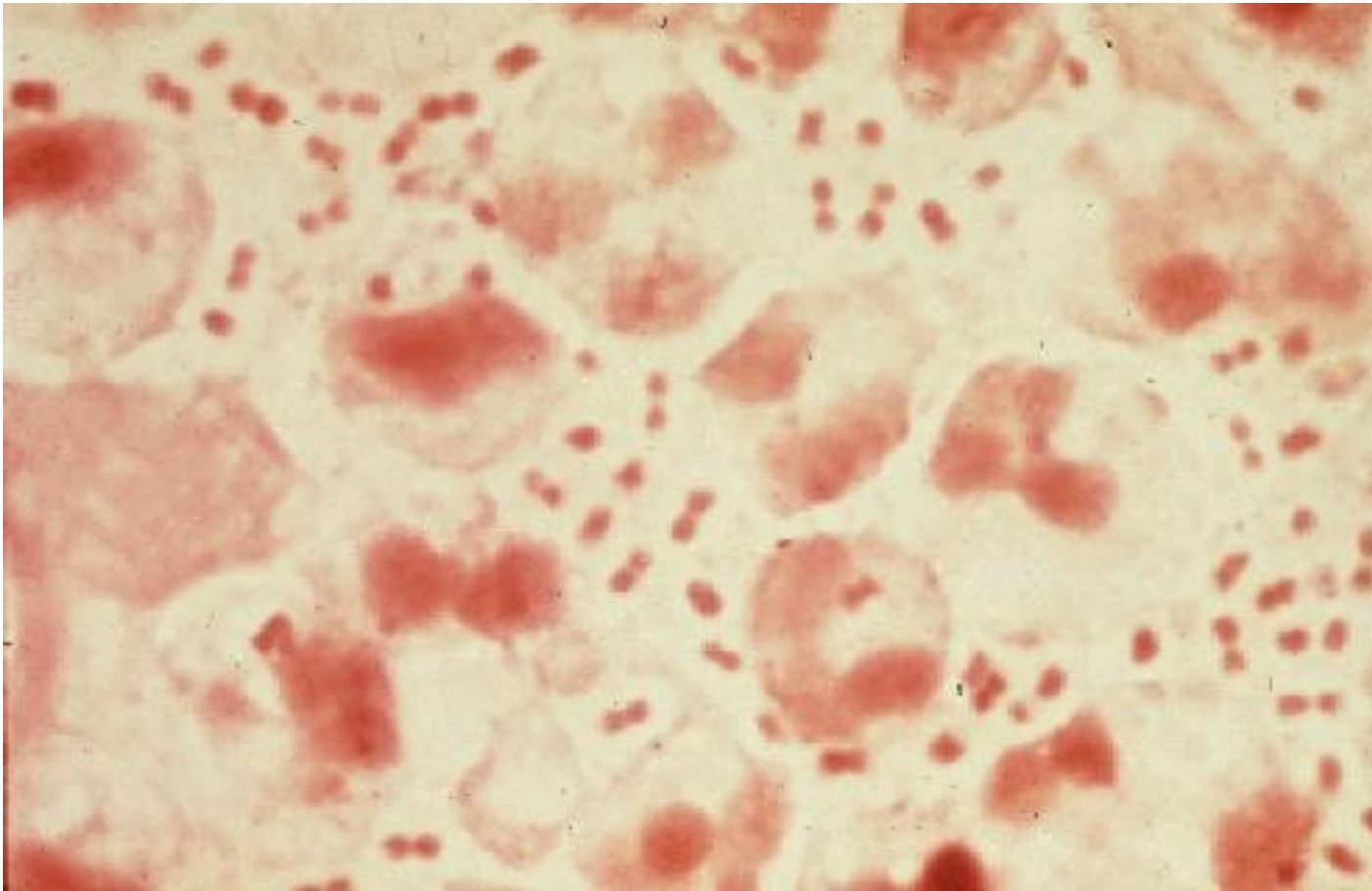




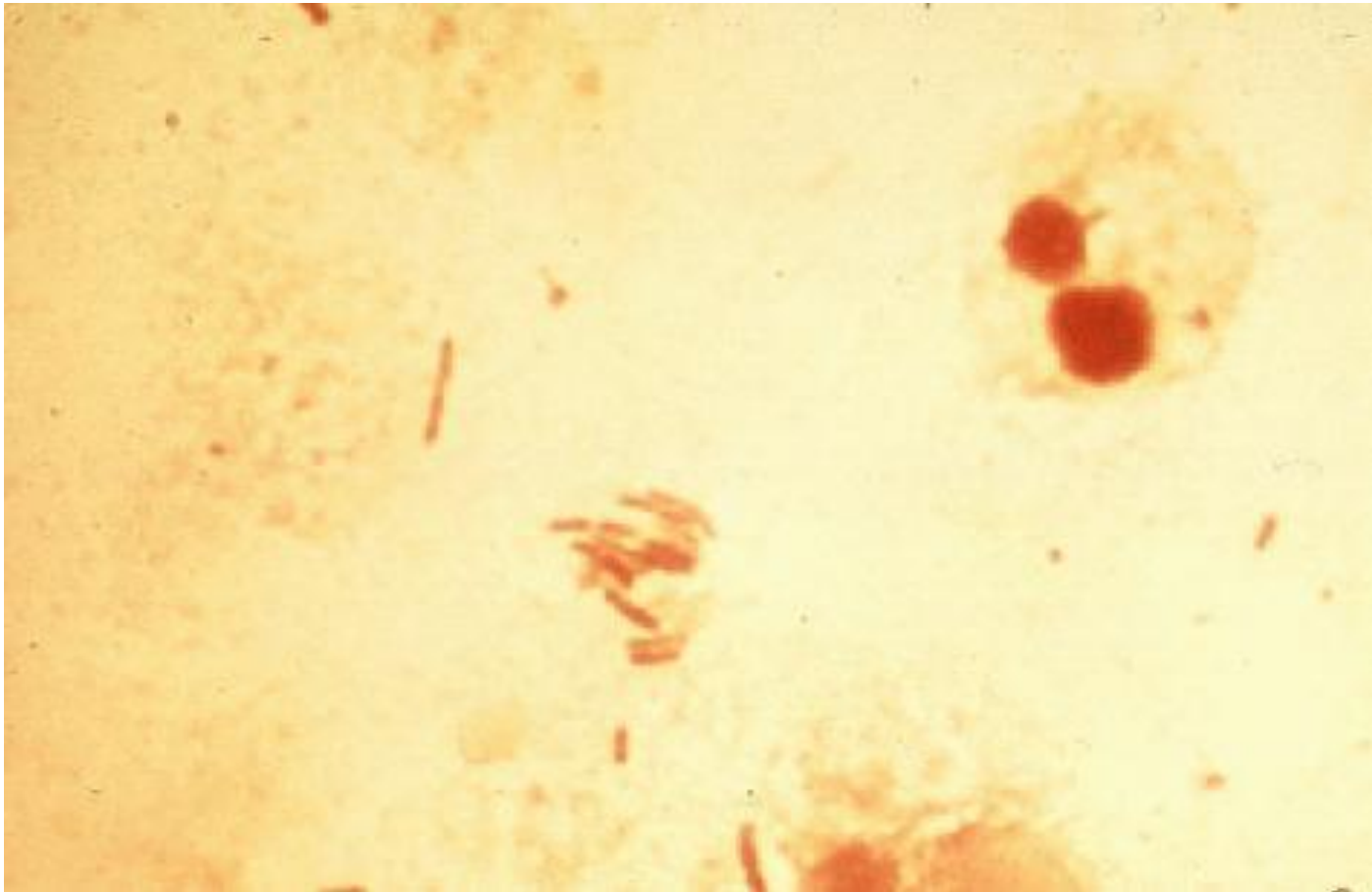
G+ cocci



G-cocci in pairs - diplococci – N.
gonorrhoeae in and out PMNL
sample of pus from pyogenic arthritis



G- rods in and out PMNL –
sample of urene in patient with
cystitis caused by E. coli

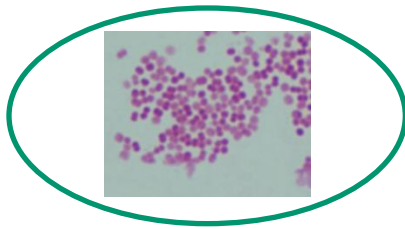


Gram stain

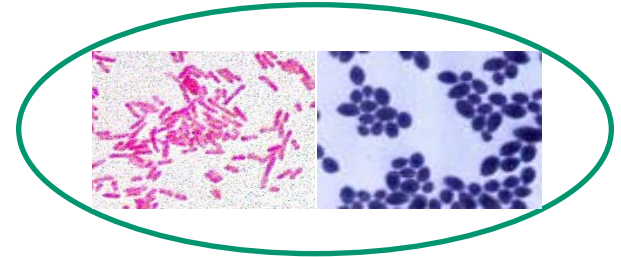
1. *Staphylococcus epidermidis*



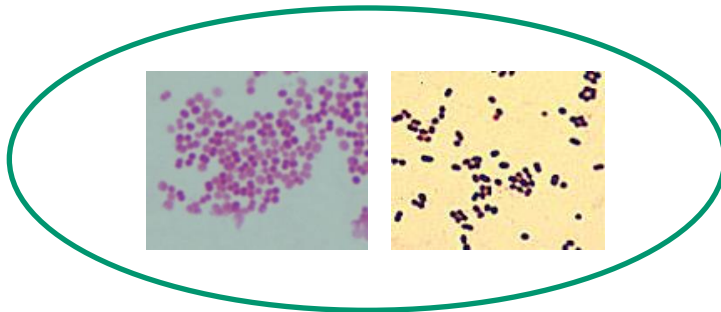
2. *Moraxella catarrhalis*



3. *E.coli*, *C.albicans*



4. *Moraxella catarrhalis*, *Streptococcus pneumoniae*



5. *B.cereus*, *E.coli*

