

BACTERIAL CELL STRUCTURE

ESSENTIAL

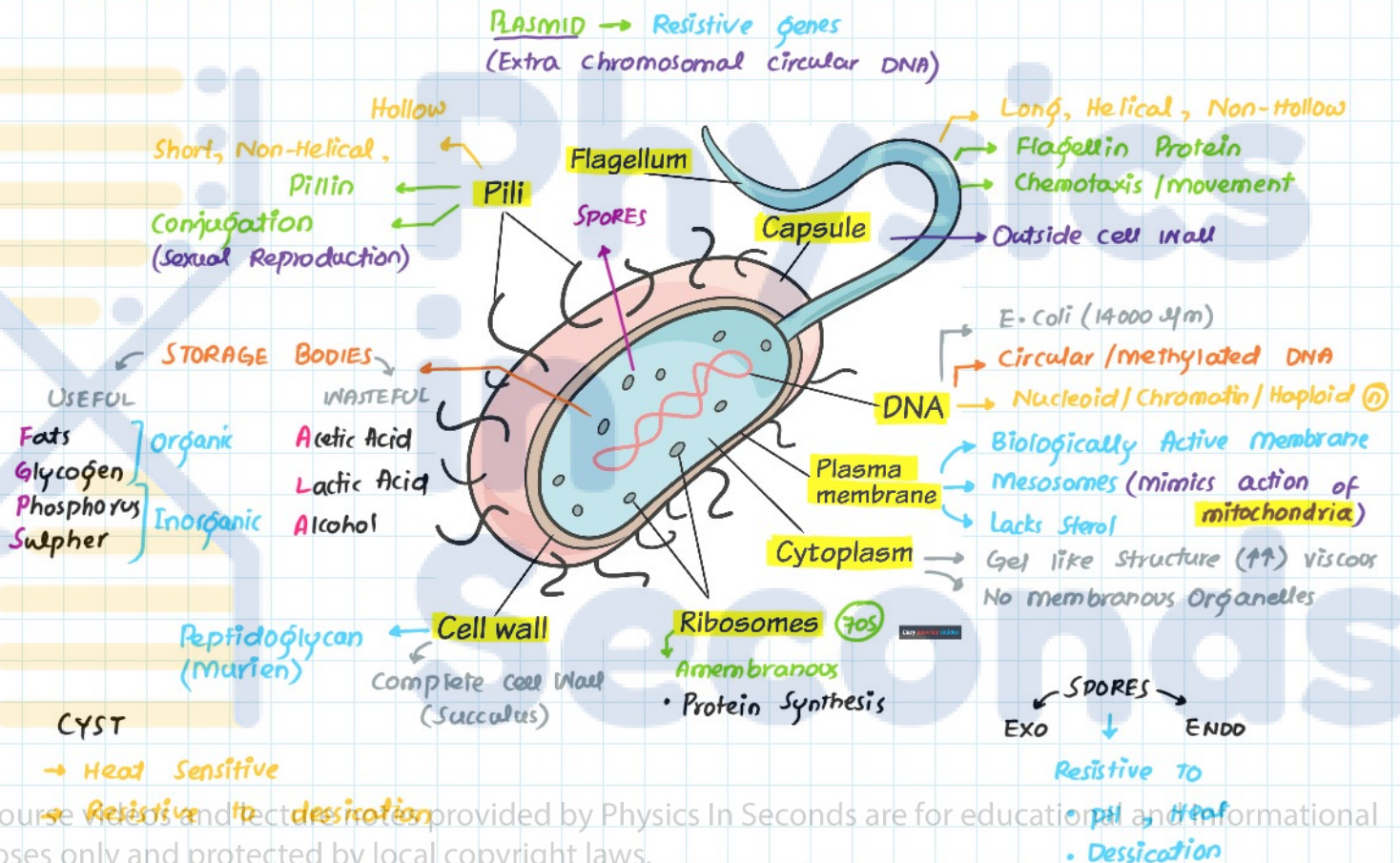
- Cell Membrane
- Cytoplasmic Matrix
- Ribosomes
- Nuclear material

MOSTLY FOUND

- Cell wall

RARELY

- Slime/Capsule
- Flagella
- Pili
- Fimbriae



CELL ENVELOPE → Macro-molecules

CELL WALL

• **Peptidoglycan**

• **Shape maintenance**

SLIME

→ **Loose Soluble Sheath**

- Lipoproteins
- Mostly Lipid
- Pathogenicity
- Virulence

CAPSULE

→ **Tightly bound**

• **Proteinaceous**

- **Encapsulation**
- **Colony formation**

CLASSIFICATION

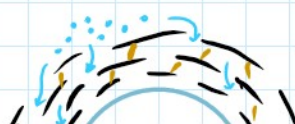
1. **GRAM +ive**
2. **GRAM -ive**

GRAM -ive

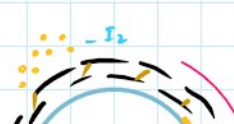
GRAM STAINING

- Slide Fixation
- P^o-dye (CV)
- Alcohol Wash
- I₂-Solution
- S^o-dye

CV - I₂
(Purple)



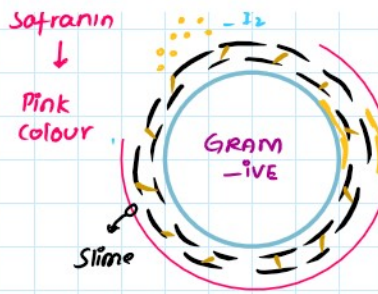
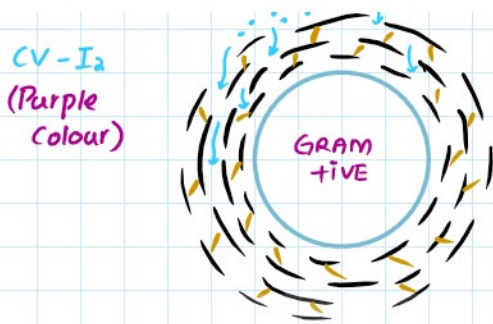
Safranin
↓
Pink



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- HICODI INAS n
- I_2 - Solution
- S^o - dye (Safranin)
- * Differentiate from mycoplasma

	2	LAYERS	2
	↑↑	PERMEABLE	↓↓
	↓↓	RESISTIVE	↑↑
Rarely found	↓↓	PERIPLASMIC SPACE	Always found
	↑↑	LIPID	↑↑
	↓↓	PEPTIDO - GLYCAN	↓↓
BROAD SPECTRUM		ANTI - BIOTICS	NARROW SPECTRUM

FLAGELLA → Trichous
 Chemotaxis (+ive, -ive)
 → Cocci rarely have flagella

Atrichous

Mono-Trichous

Loph-Trichous

Amphi-trichous

PERI-Trichous

PILI → Pillin Protein
 Attachment pili → Fimbrae
 True Pili → Conjugation

(Gram -ive)



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