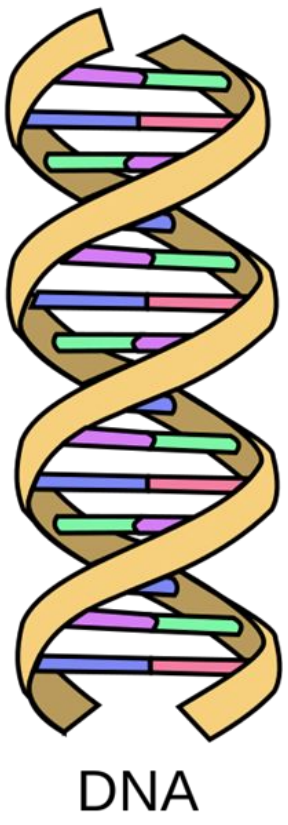
Laboratory 1.2

Recall concepts:



DNA

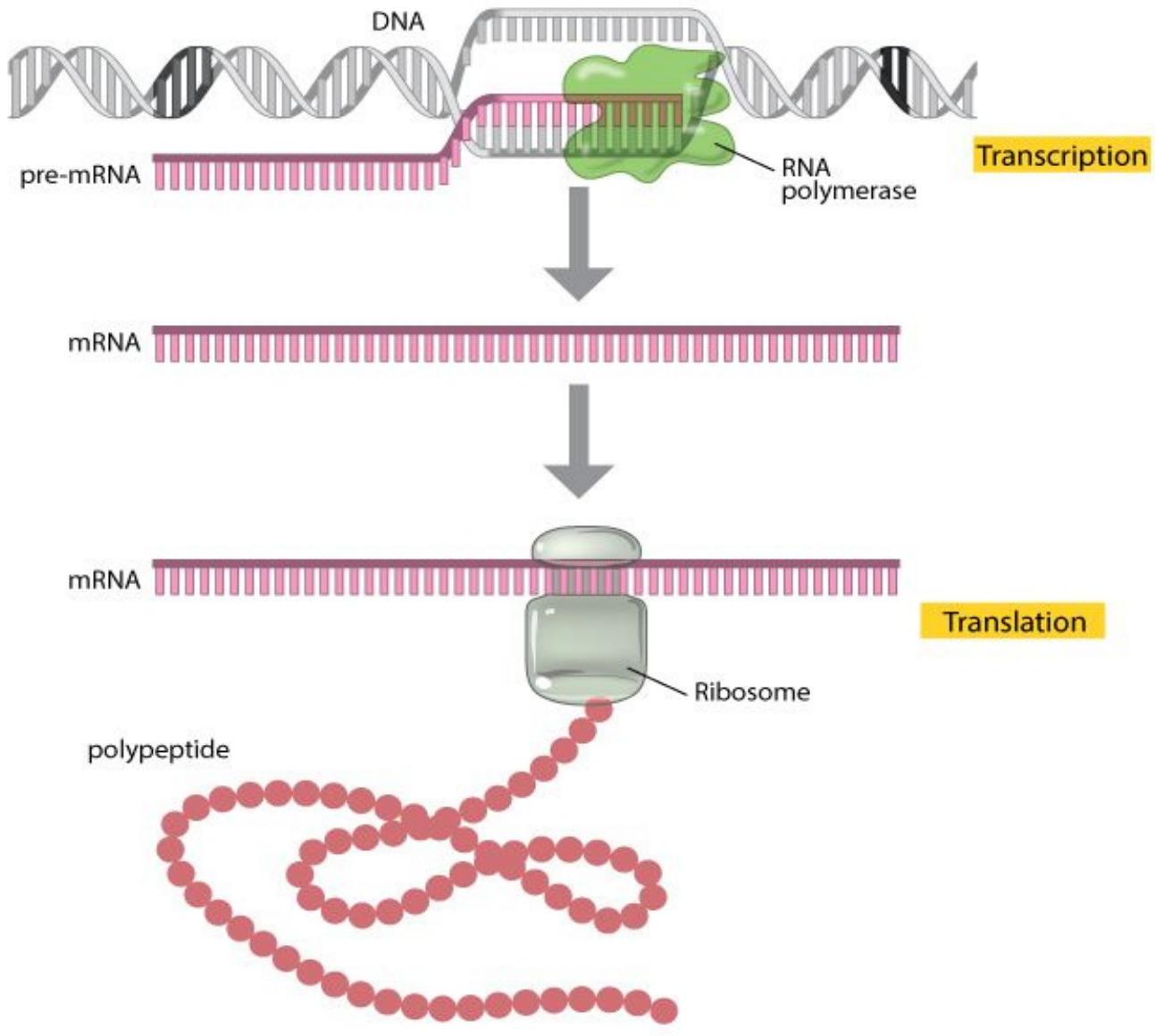
= Adenine

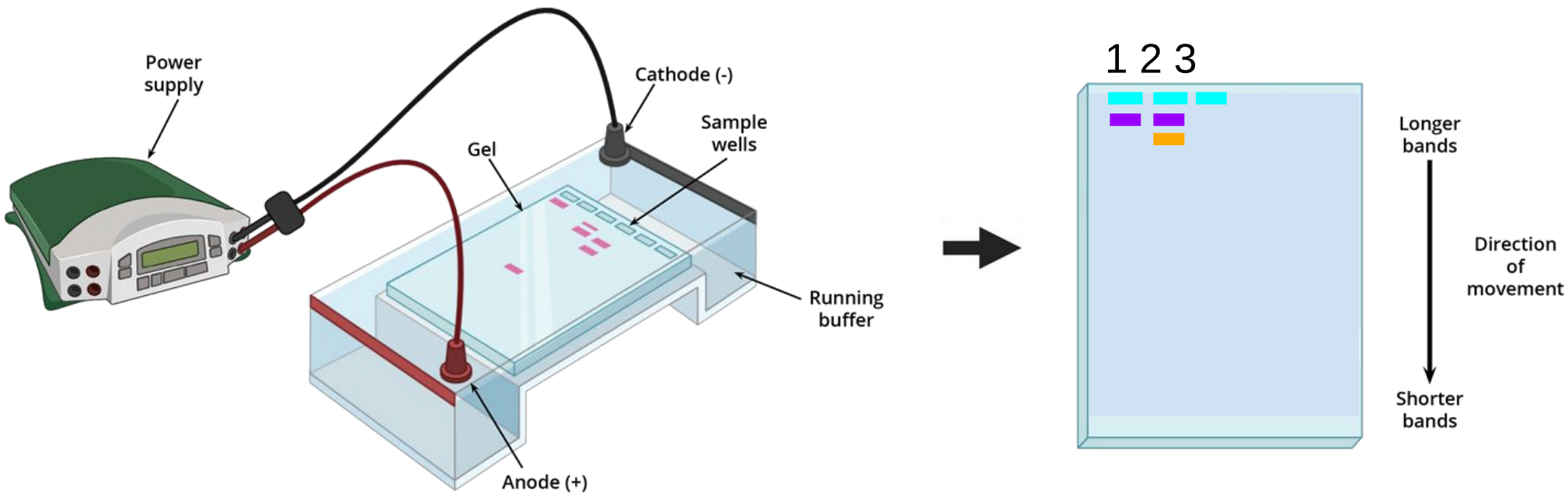
= Thymine

= Cytosine

= Guanine

= Phosphate backbone





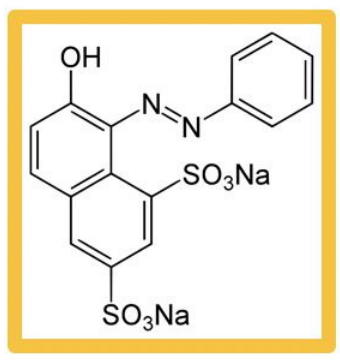
What factors affect biomolecule movement through a gel matrix?

Biomolecule (DNA)

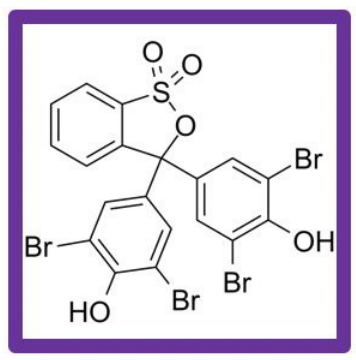
Size: the distance biomolecules travel through a gel varies primarily according to their size, although molecular shape and degree of charge also influence their movement.

Shape: Longer or branched molecules will be tangled up in the gel and will move more slowly than shorter or more compact molecules even if they have the same weight and charge.

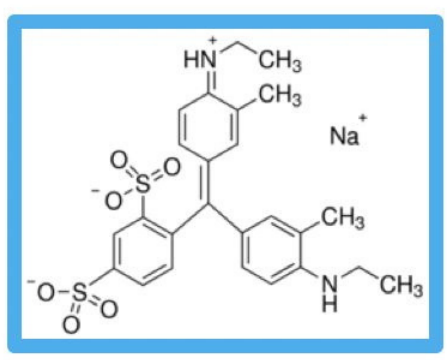
Charge: molecules with more negative electric charge will move faster than molecules with less negative electric charge if they have the same weight.



Orange G
Mo. Wt. 452.4



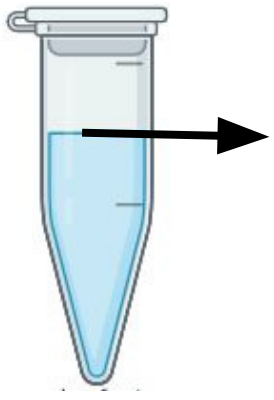
Bromophenol Blue
Mo. Wt. 691.9



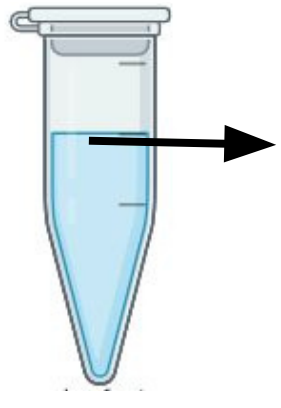
Xylene Cyanole
Mo. Wt. 538.6

Consider the gel results:
Xylene cyanole migrates more slowly than bromophenol blue although it is smaller because bromophenol blue has a greater negative charge-to-mass ratio.

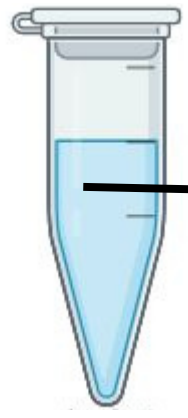
What's in my tubes?



Solution 1 :
- xylene cyanole
- bromophenol blue



Solution 2 :
- xylene cyanole
- bromophenol blue
- Orange G



Solution 3:
- xylene cyanole

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