

9<sup>th</sup> January 2024

→ What causes the twisting of DNA to make supercoils?

(\*) Topoisomerases cut and join DNA helices.

↳ Not just for supercoiling → Helps in replication, etc.

(\*) Lysine and arginine proportion in histones is abnormal -

it should be roughly  $1/20$  of total for each.

In reality it is 20-40%.

What is the significance?

DNA is mostly negatively charged (due to phosphate backbone)

So these two amino acids, among the most +ve amino acids. This creates the salt-like ionic charge interaction,

b/w arginine/lysine and DNA.

(\*) 10nm histone coil structure leads to 30nm compaction structure.