(b)

tRNA

tRNA

tRNA

Ribosome

(c)

tRNA

tRNA Synthetase

anticodon

GGGGUAUCGCCAAGCGG
UAAGGCACCGGAUUCUG
AUUCCGGCAUUCCGAGG
UUCGAAUCCUCGUACCC
CAGCCA

(a)

Histone tail

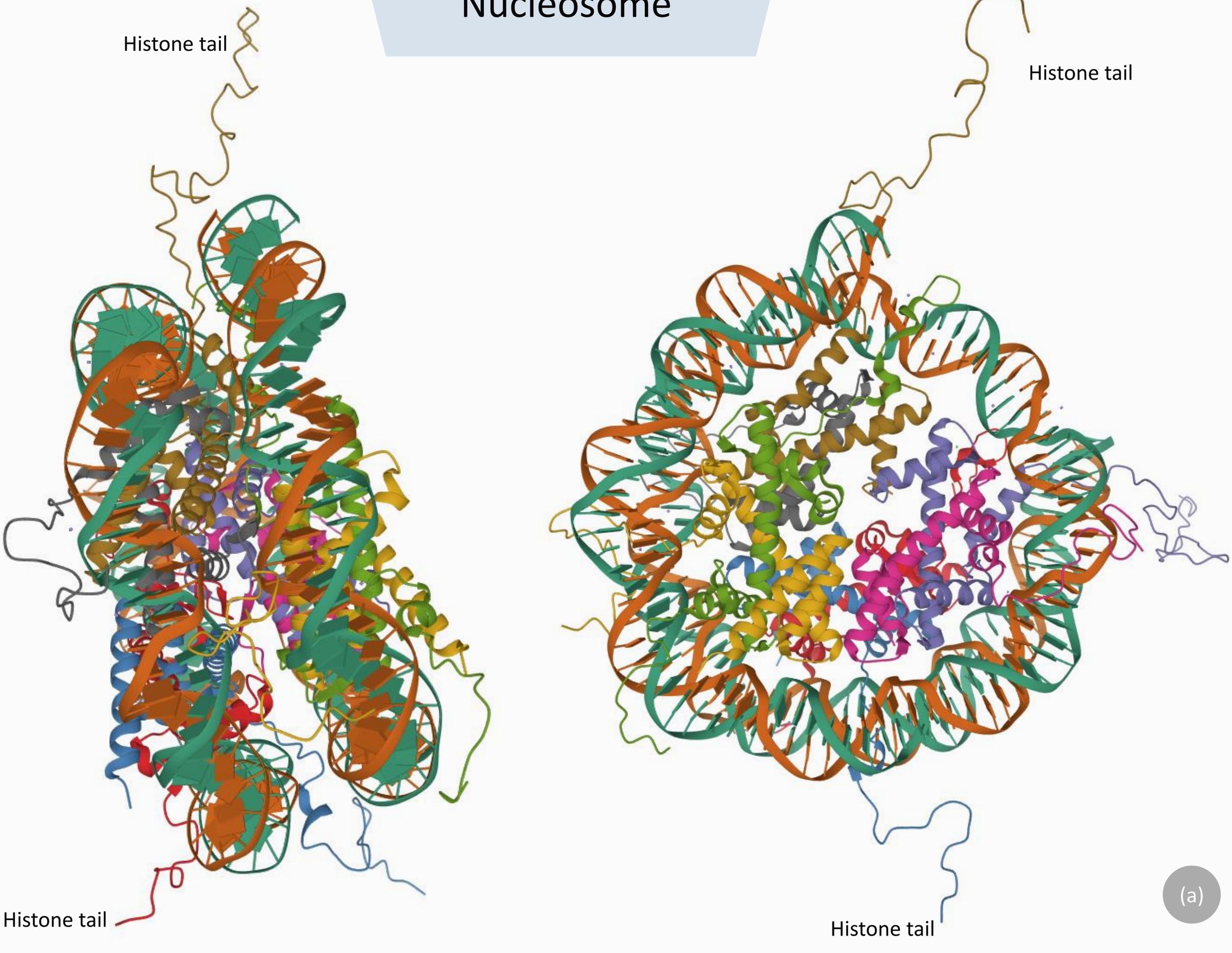
Histone tail

Histone tail

Histone tail

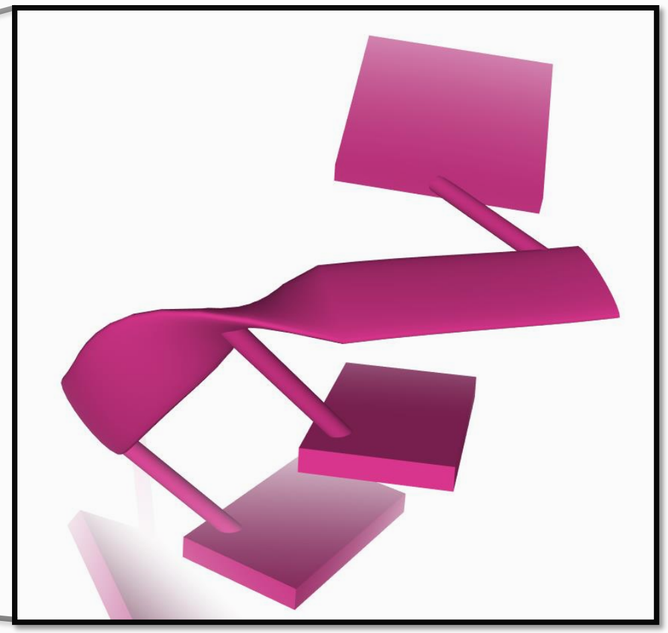
Nucleosome

Nucleosome



(a)

(b)

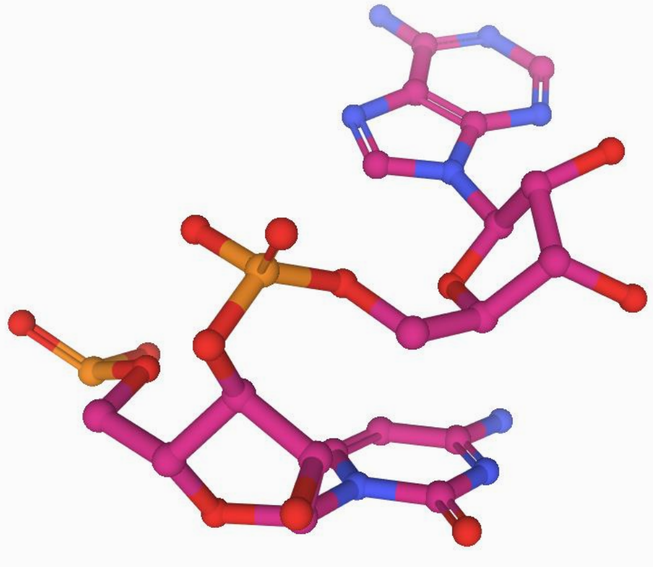


tRNA

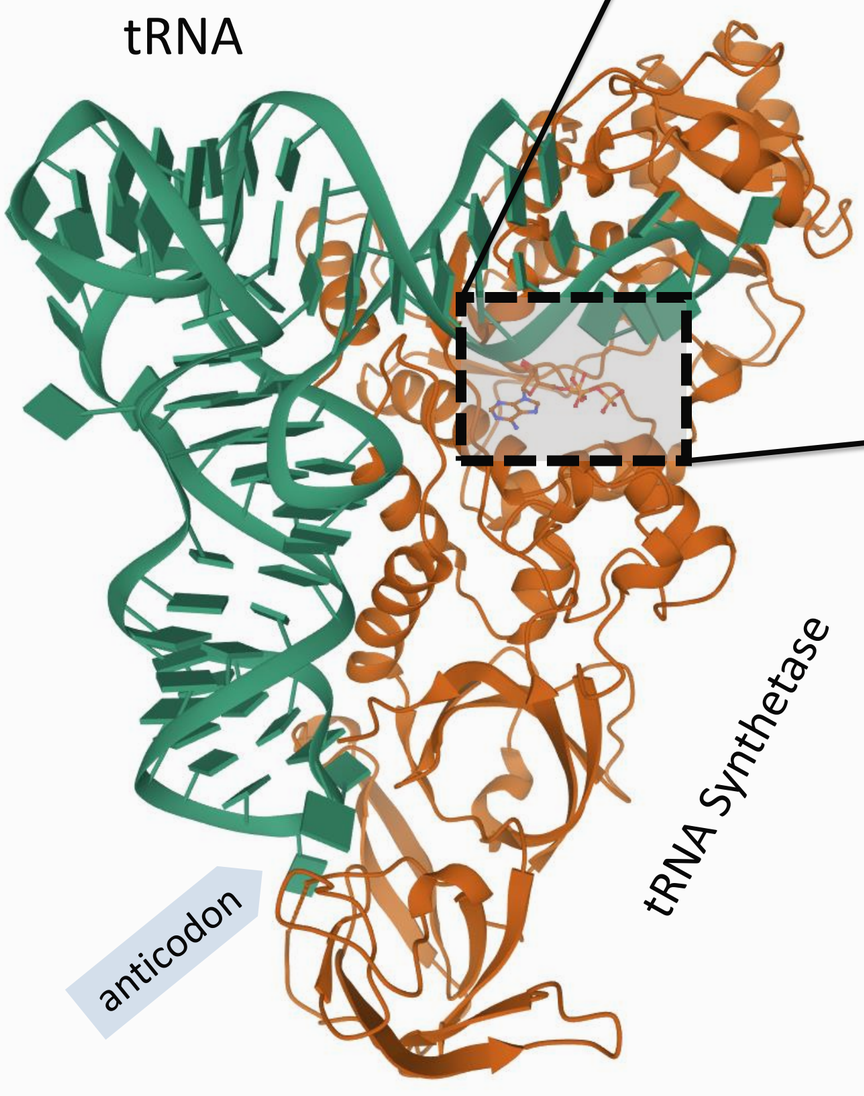
tRNA

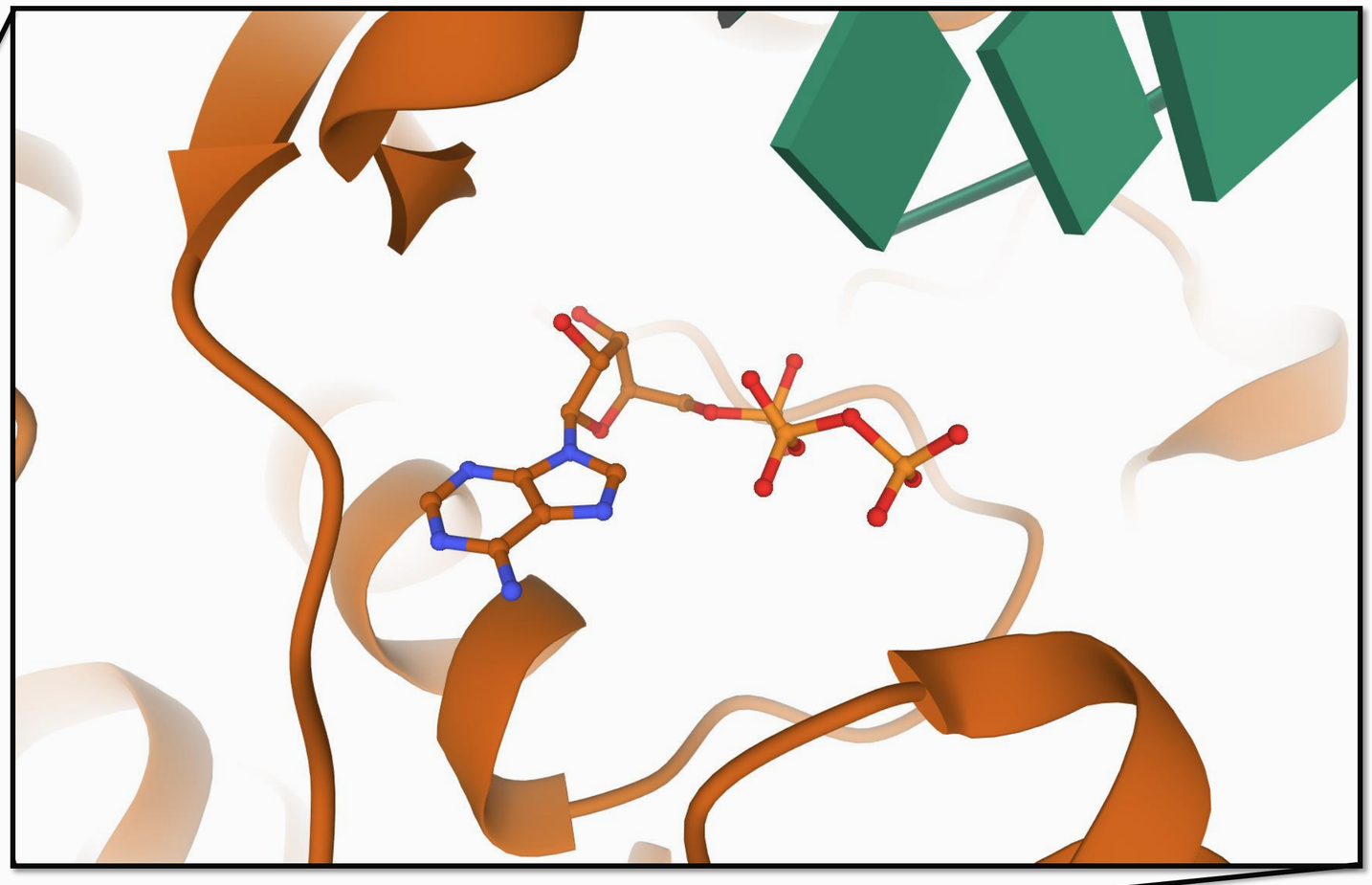
tRNA

Ribosome



(c)





GGGGUAUCGCCAAGCGGUAAGGCAC
CGGAUUCUGAUUCCGGCAUUCCGAG
GUUCGAAUCCUCGUACCCCAGCCA

Molecular representations

Molecular representations. (**a**) Shows the structure of the nucleosome core particle [52, 53]. (**b**) Shows the path of mRNA through the ribosome by pointing out the collinearity between the tRNA anticodons [54, 53]. The window highlights the binding region between an amino acid and a tRNA. (**c**) Shows the Escherichia coli glutaminyl transfer RNA synthetase complexed with transfer RNA(Gln) and ATP [55, 53]. The tRNA sequence is presented next to this ribonucleoprotein particle. The last letters in the sequence correspond in reverse order to the region in the tRNA highlighted by the dotted line window (i.e. “ACCG …”). The position of the tRNA anticodon is also highlighted here..