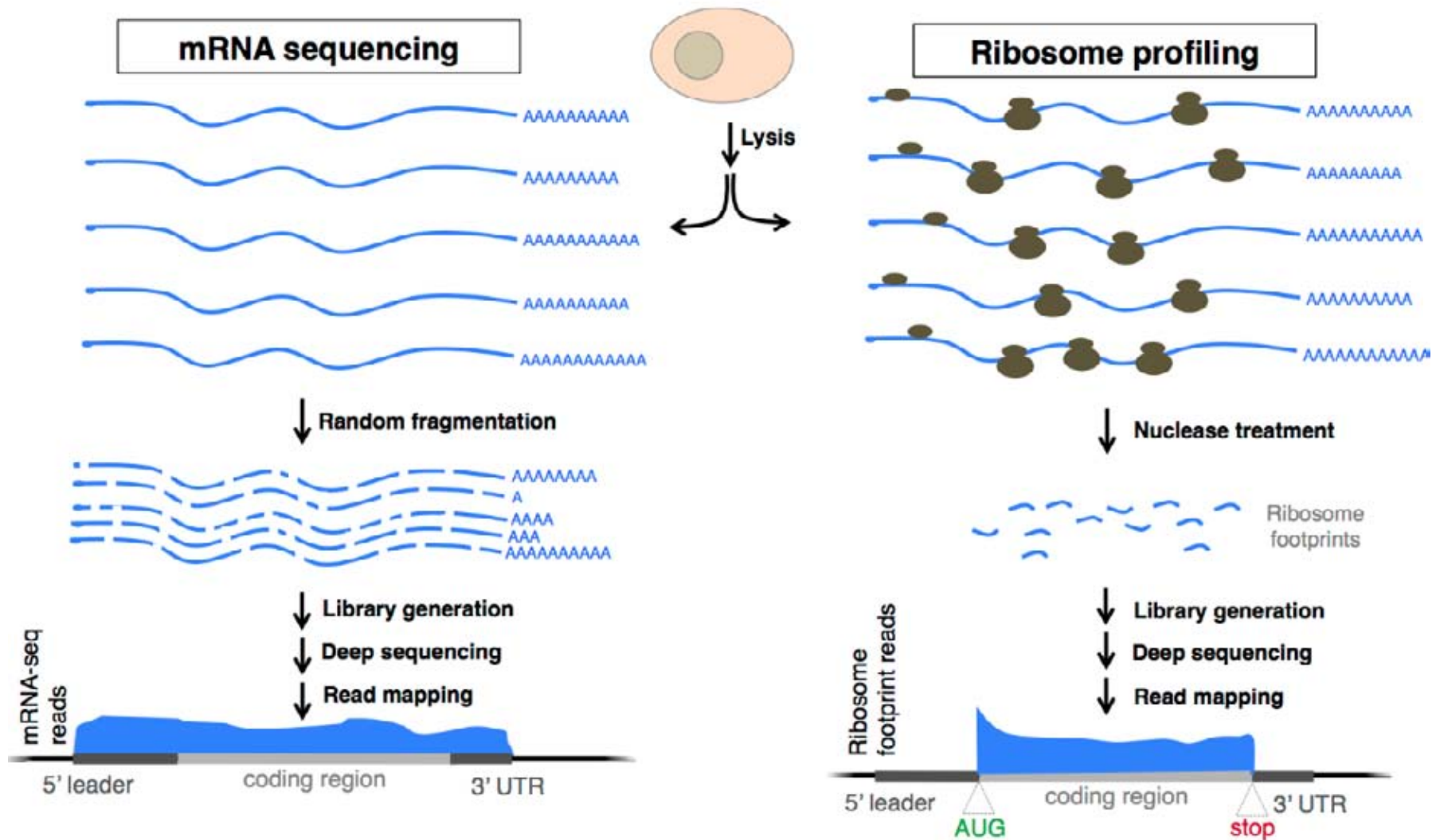


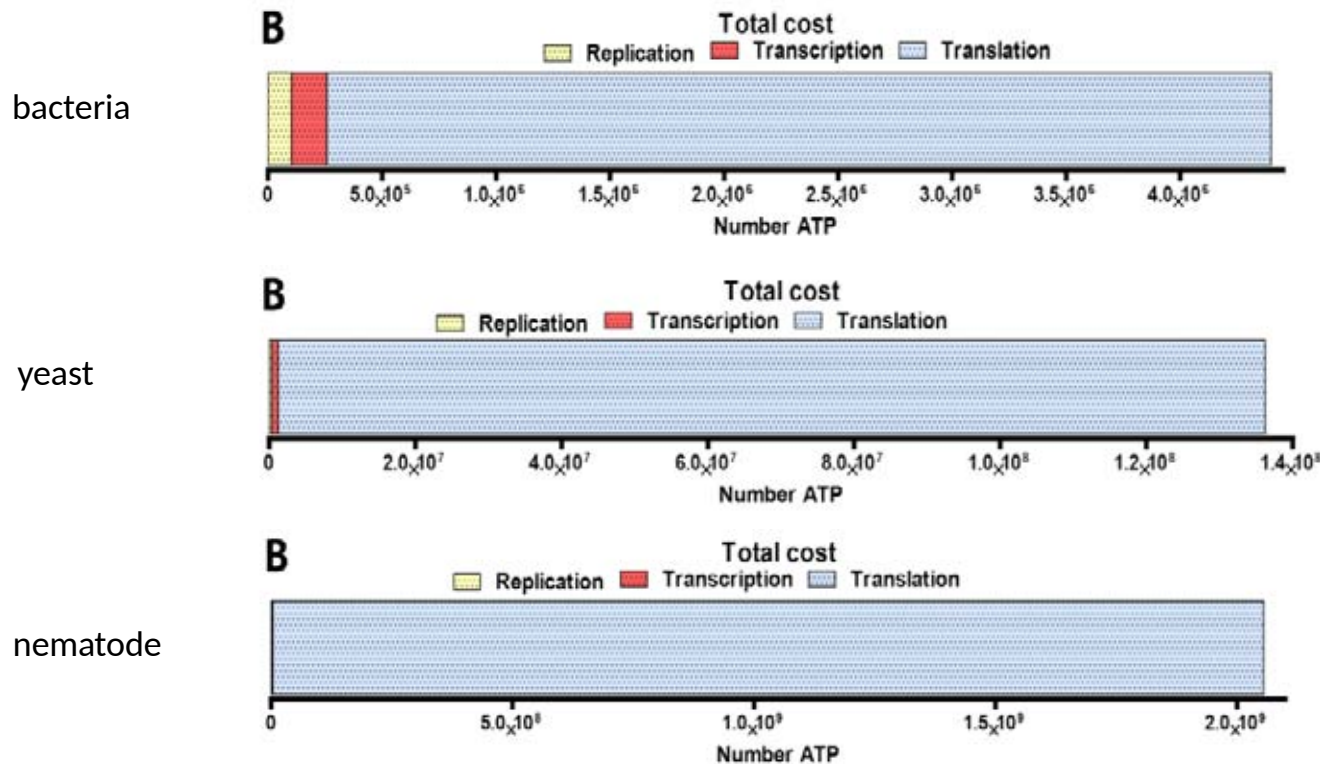
# Wysokoprzepustowe metody badania translatomu



# Translatom i translatomika

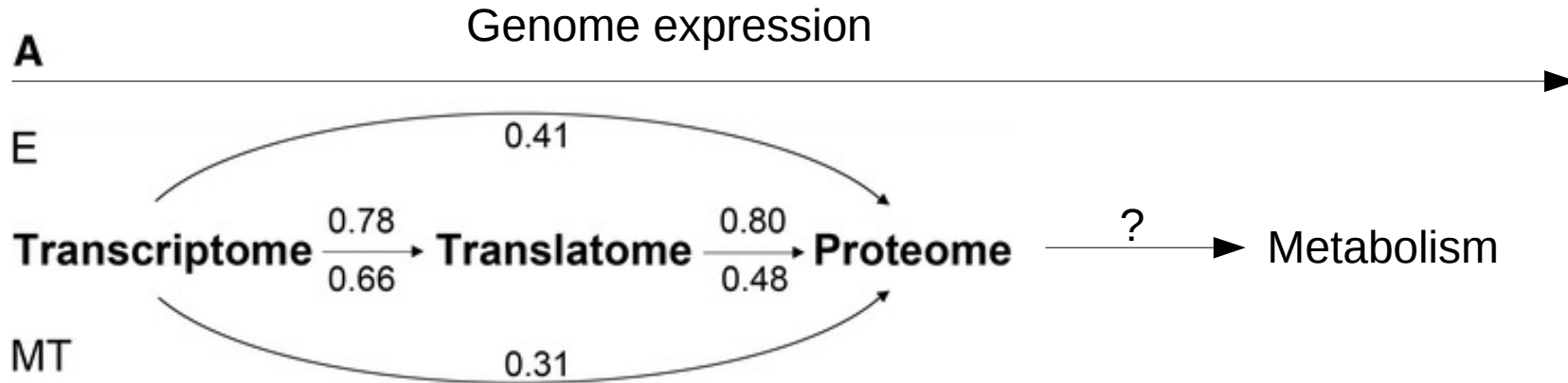
- Transkryptom: zbiór transkryptów
- Translatom: zbiór wydarzeń translacyjnych

# ATPs required per average gene during a single cell production

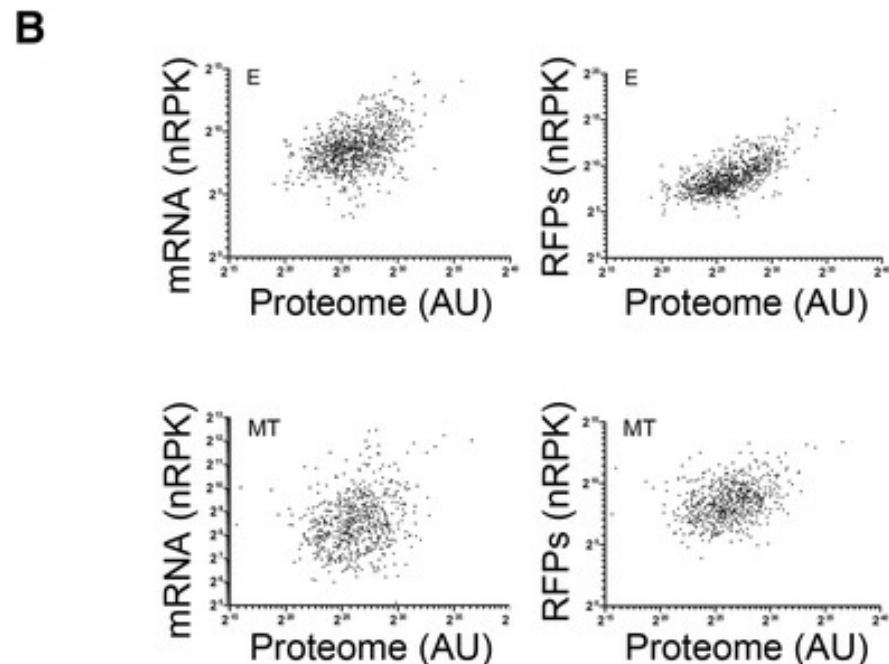


Source: Lynch & Marinov Proc Natl Acad Sci U S A. 2015 The bioenergetic costs of a gene. 112:15690-5

# Wnioskowanie

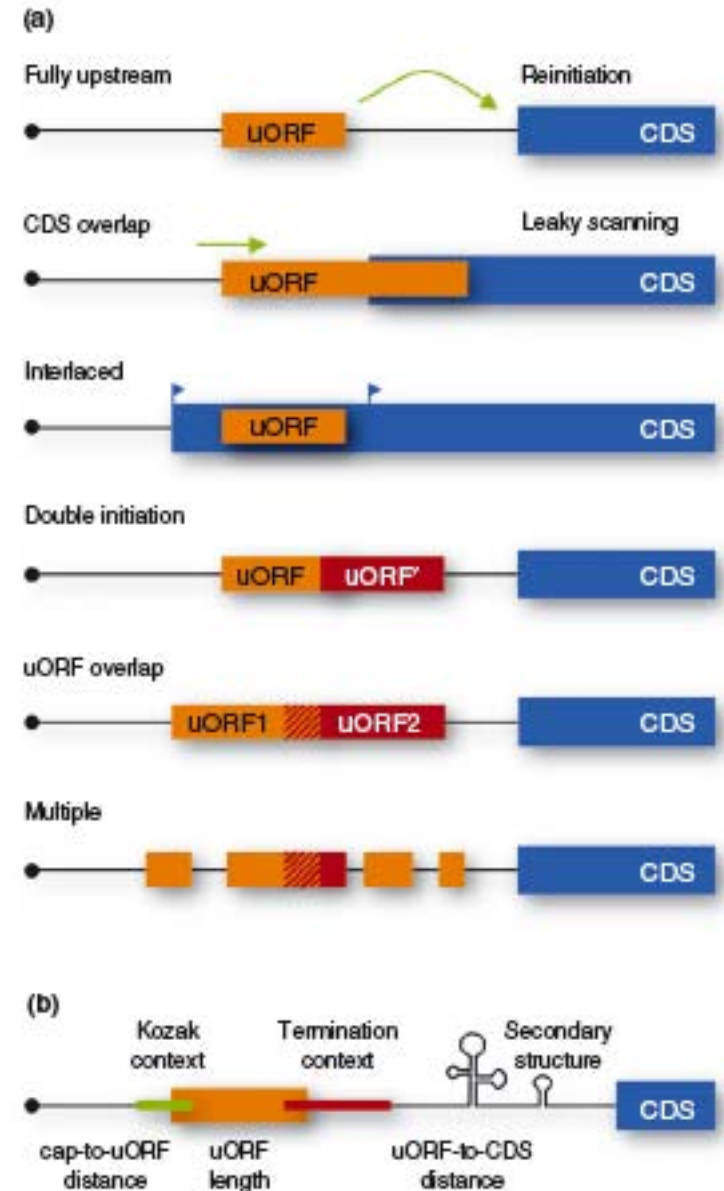
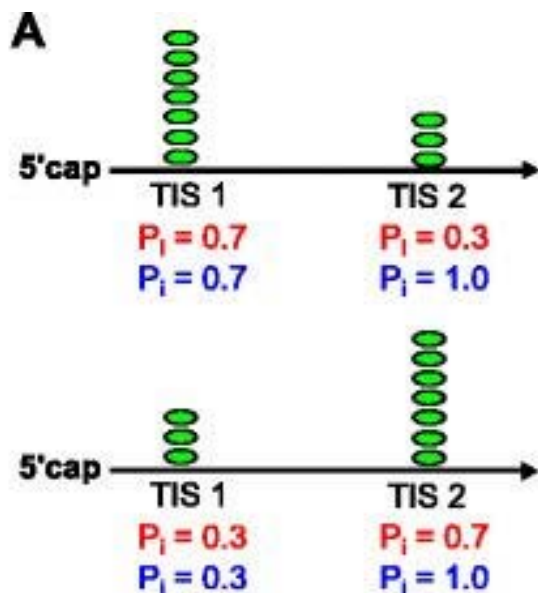


Często za całą miarę ekspresji genu przyjmuje się poziom transkryptu!



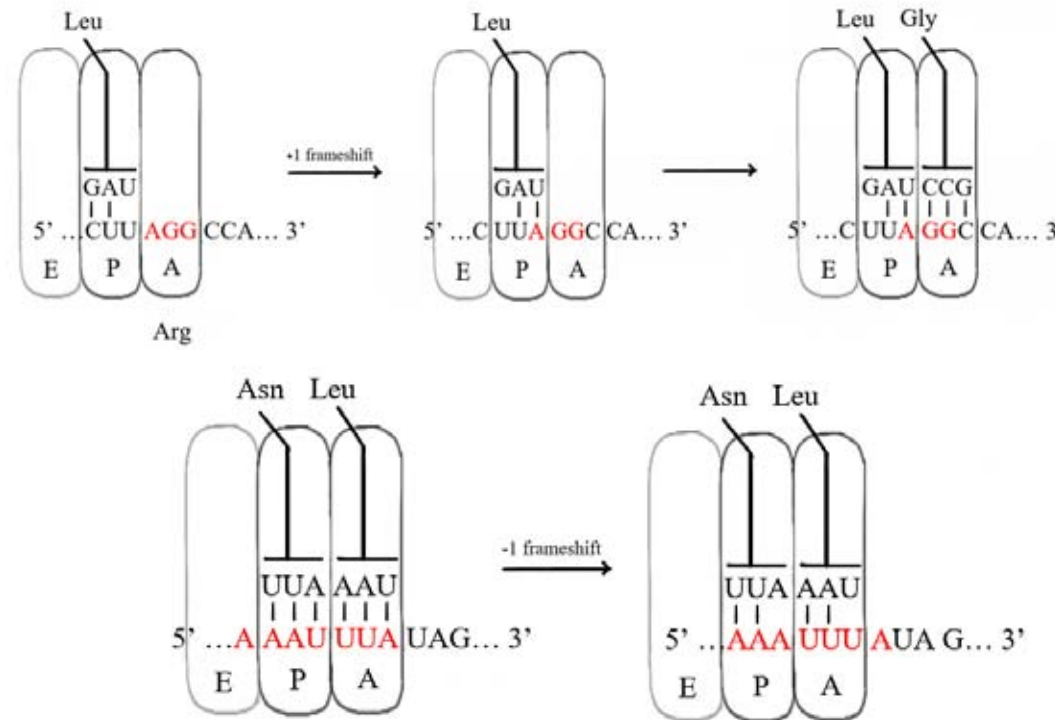
# Initiation

- Leaky scanning
- Non-AUG initiation
- uORF translation
- IRES



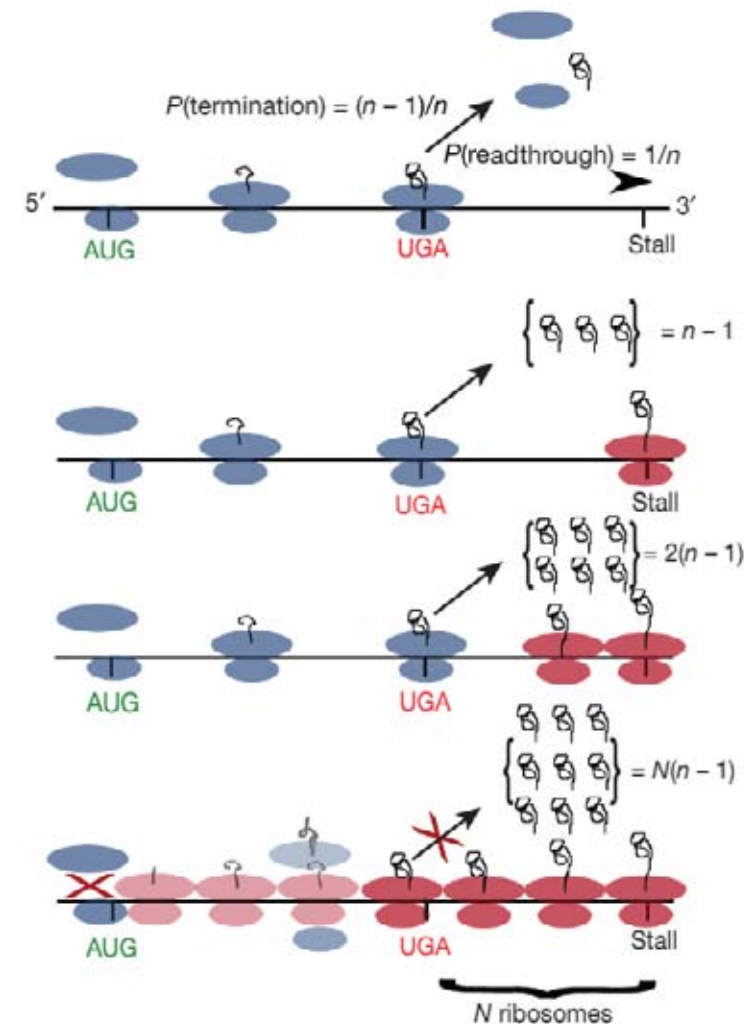
# Elongation

- Pausing
- Queuing
- Abortive translation
- tRNA mischarging
- tRNA misincorporation
- Frameshifting (+1 and -1)



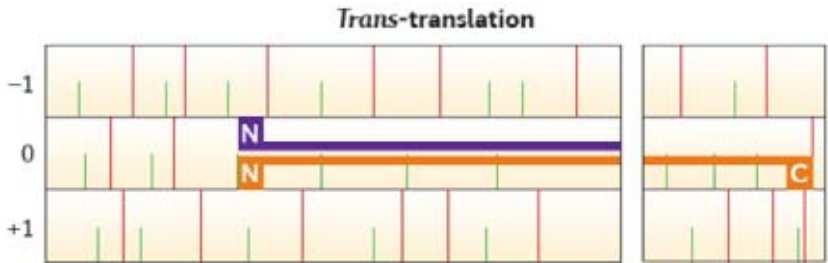
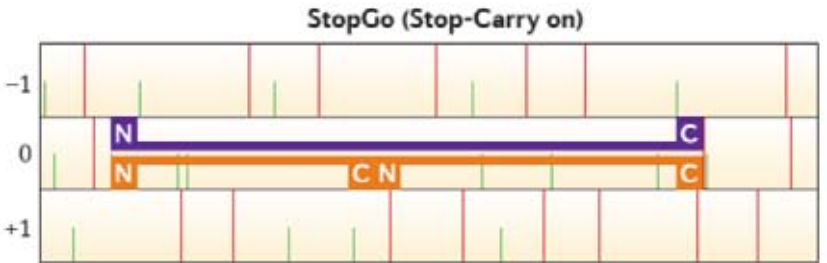
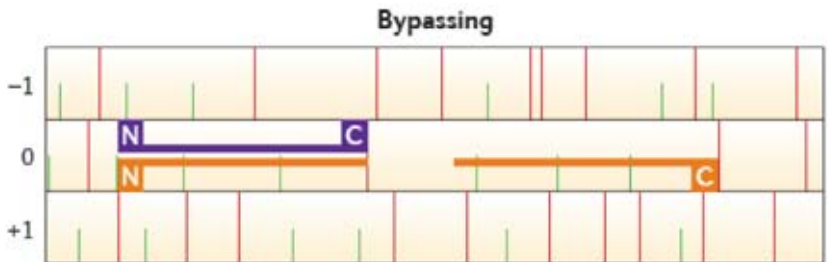
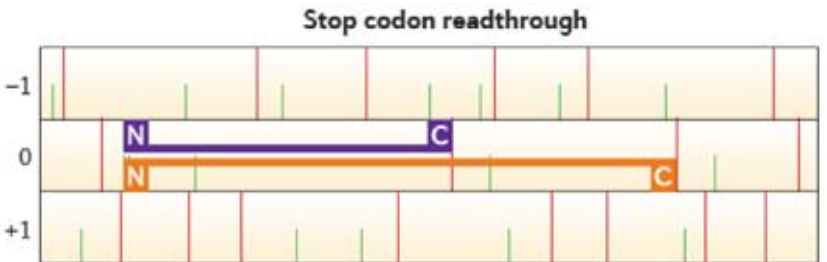
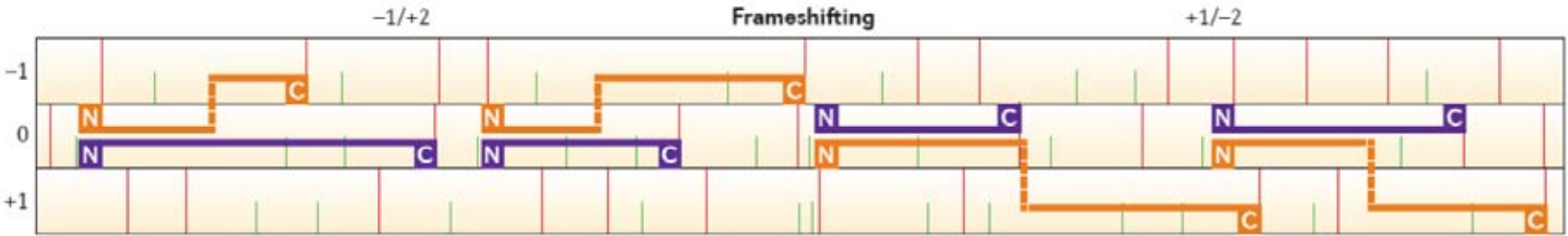
# Termination

- Stop Codon Readthrough
- Stop-Go
- Selenocysteine insertion
- Pausing on stop codon





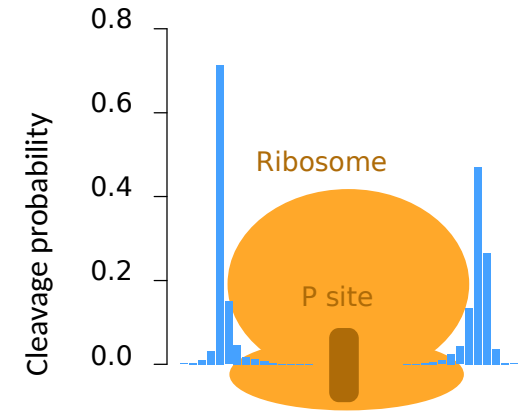
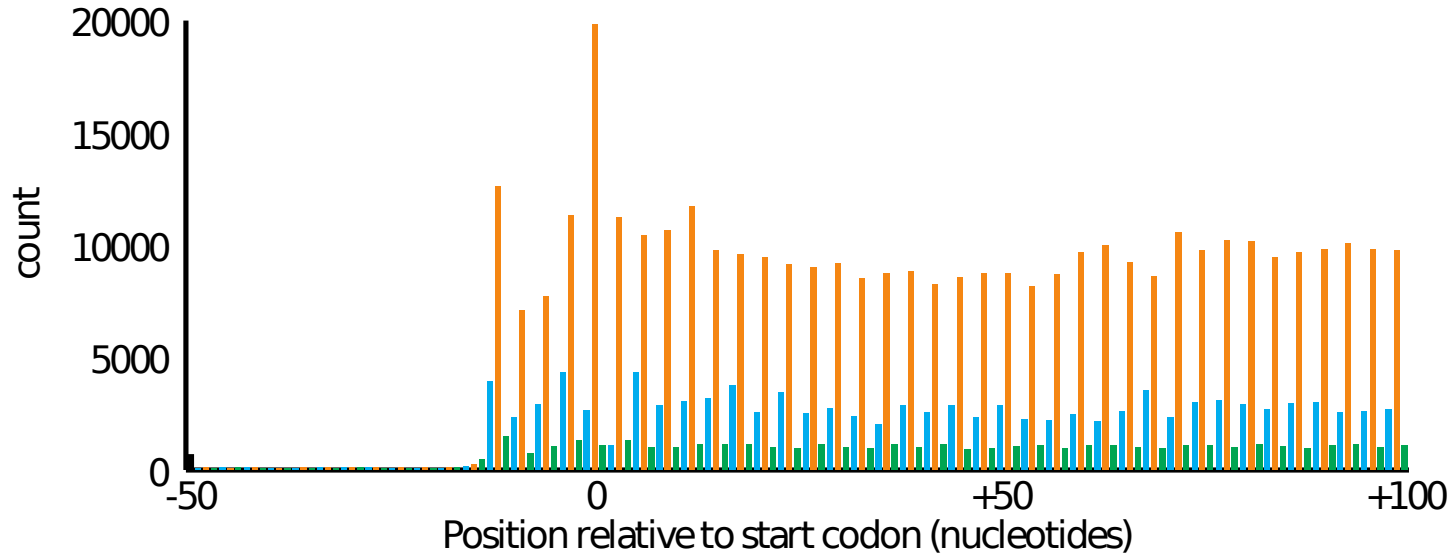
# Recoding



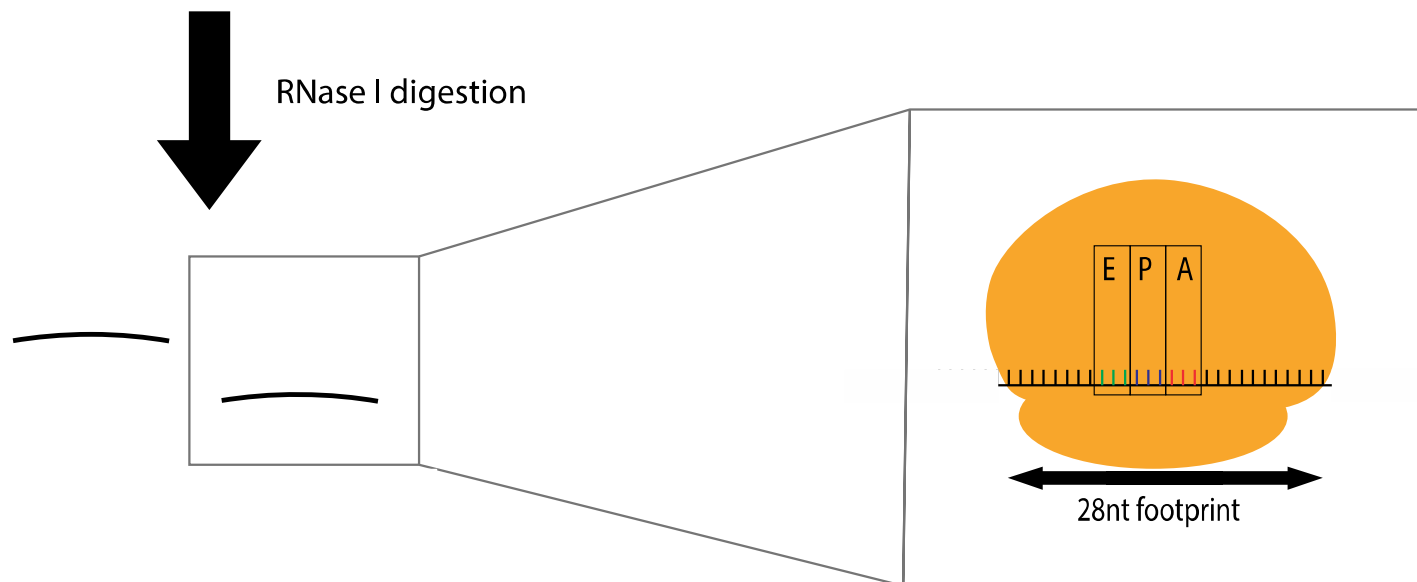
tmRNA

Start codon	N N	Protein N terminus	—	Product of canonical decoding	-1, 0, +1 reading frames in RNA
Stop codon	C C	Protein C terminus	—	Product of alternative decoding	

# Cykliczność trinukleotydydowa

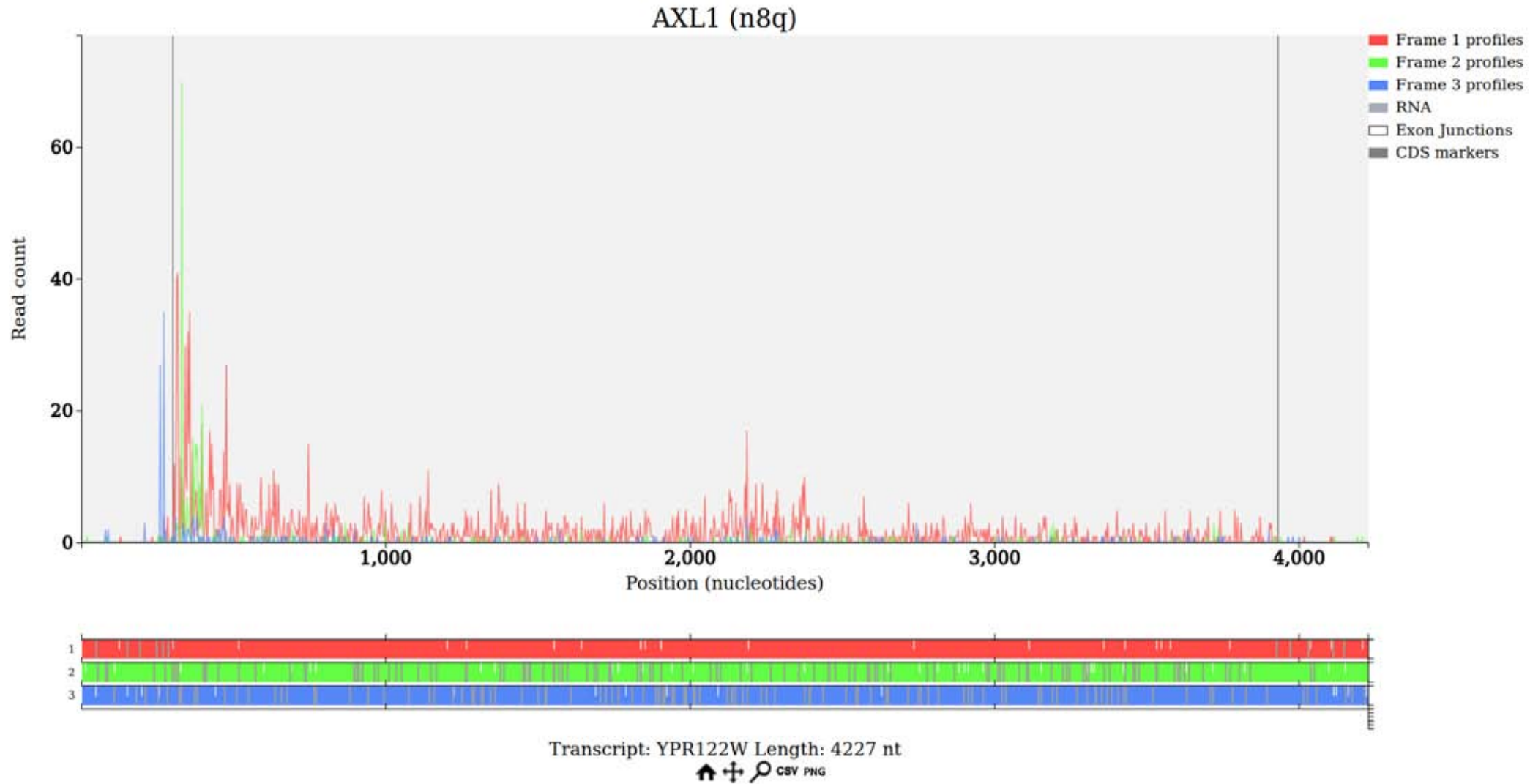


AAAAAAA

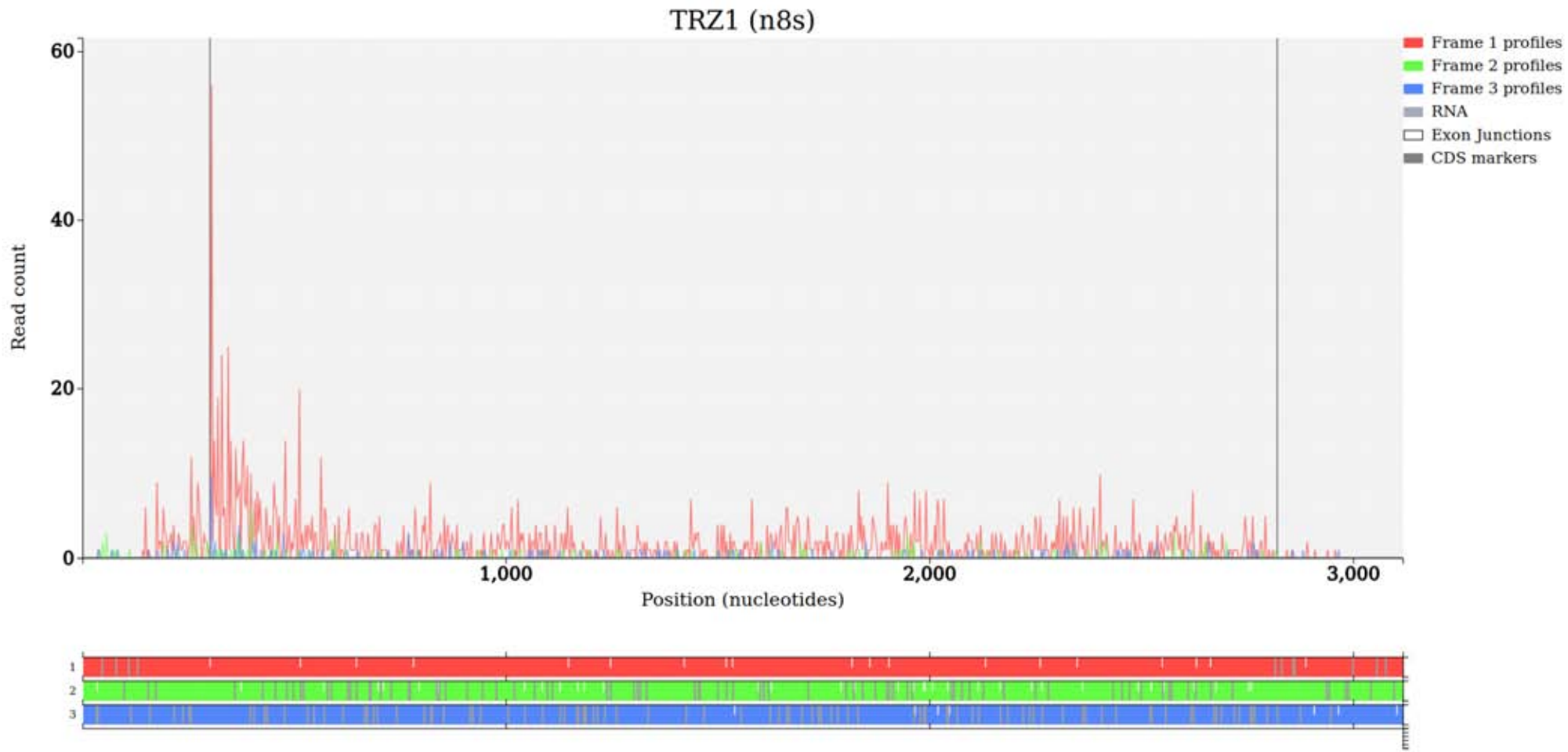




# Rozdzielczość subkodonowa

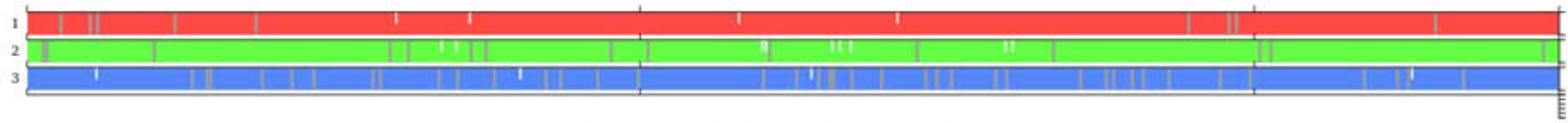
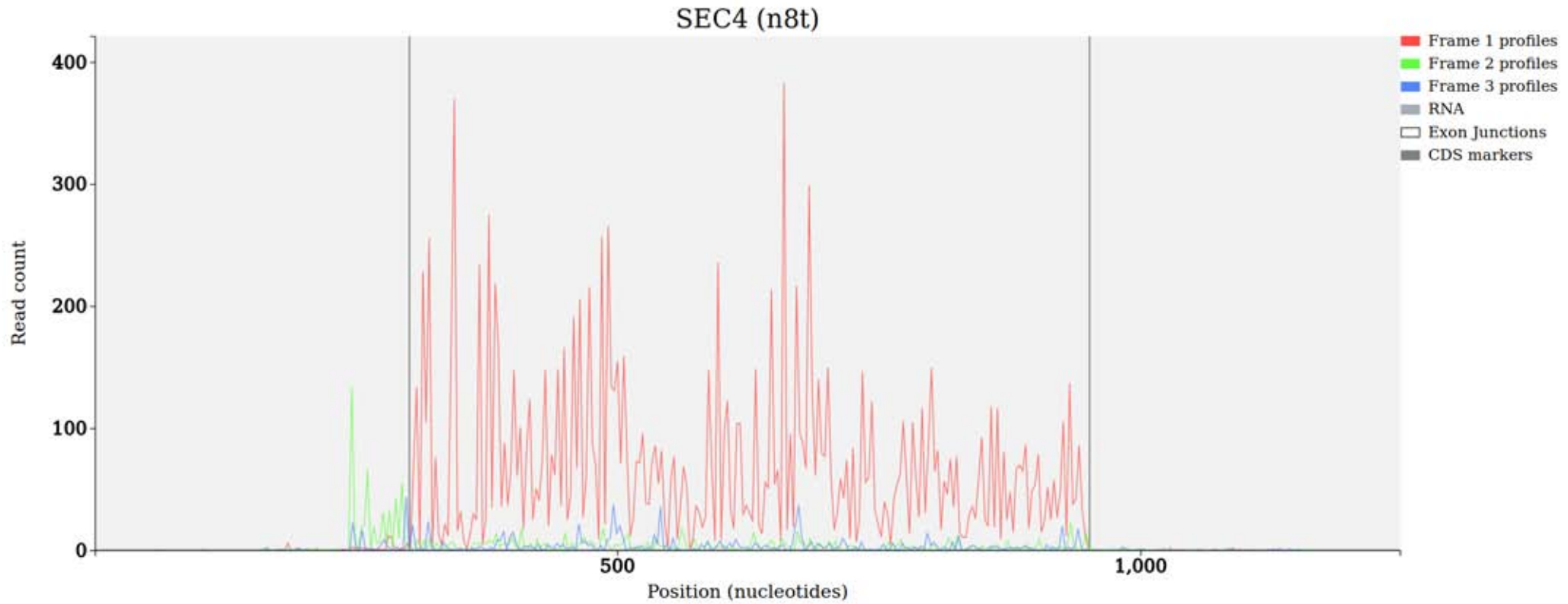


# Leaky scanning



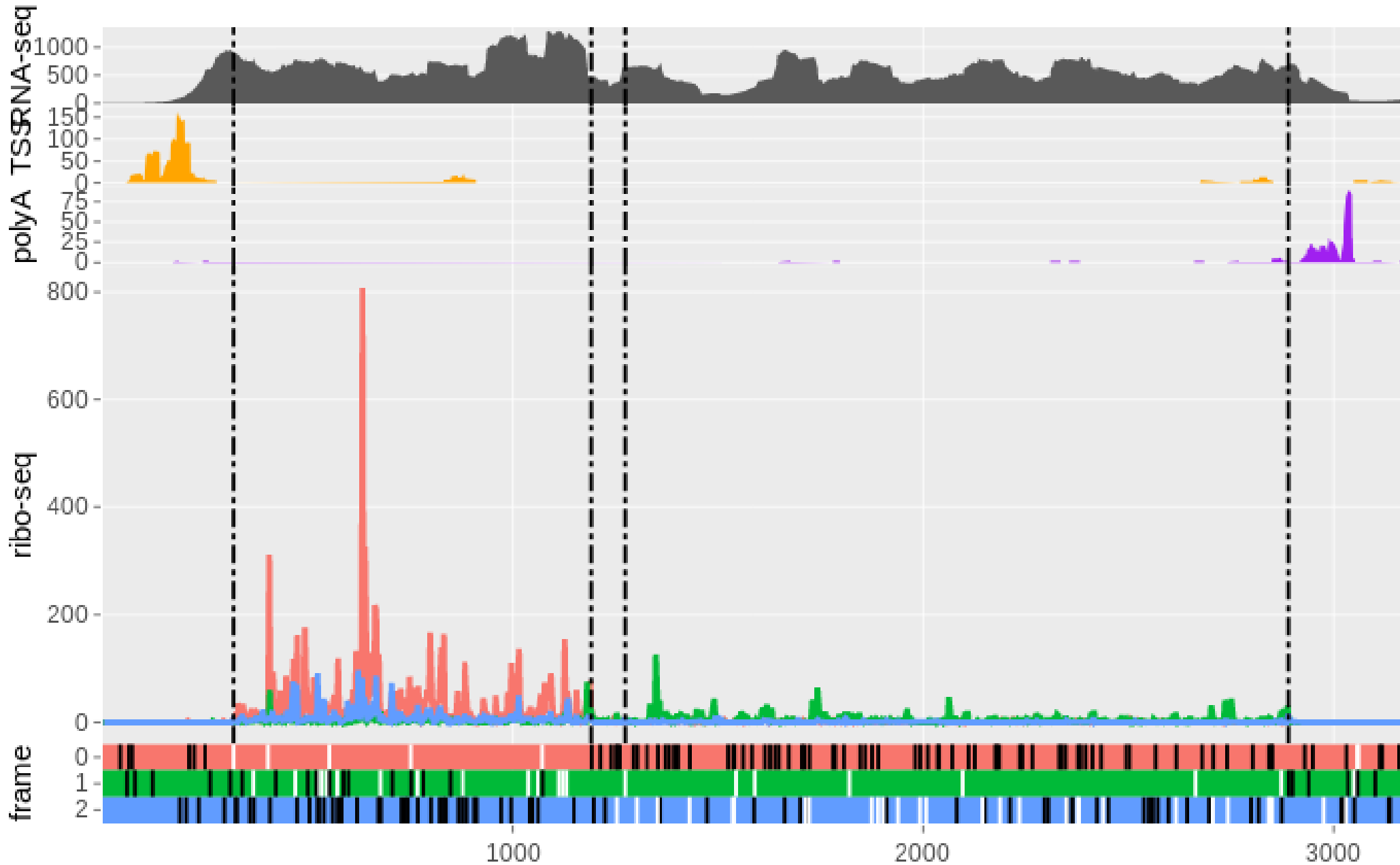
Transcript: YKR079C Length: 3117 nt

# uORF

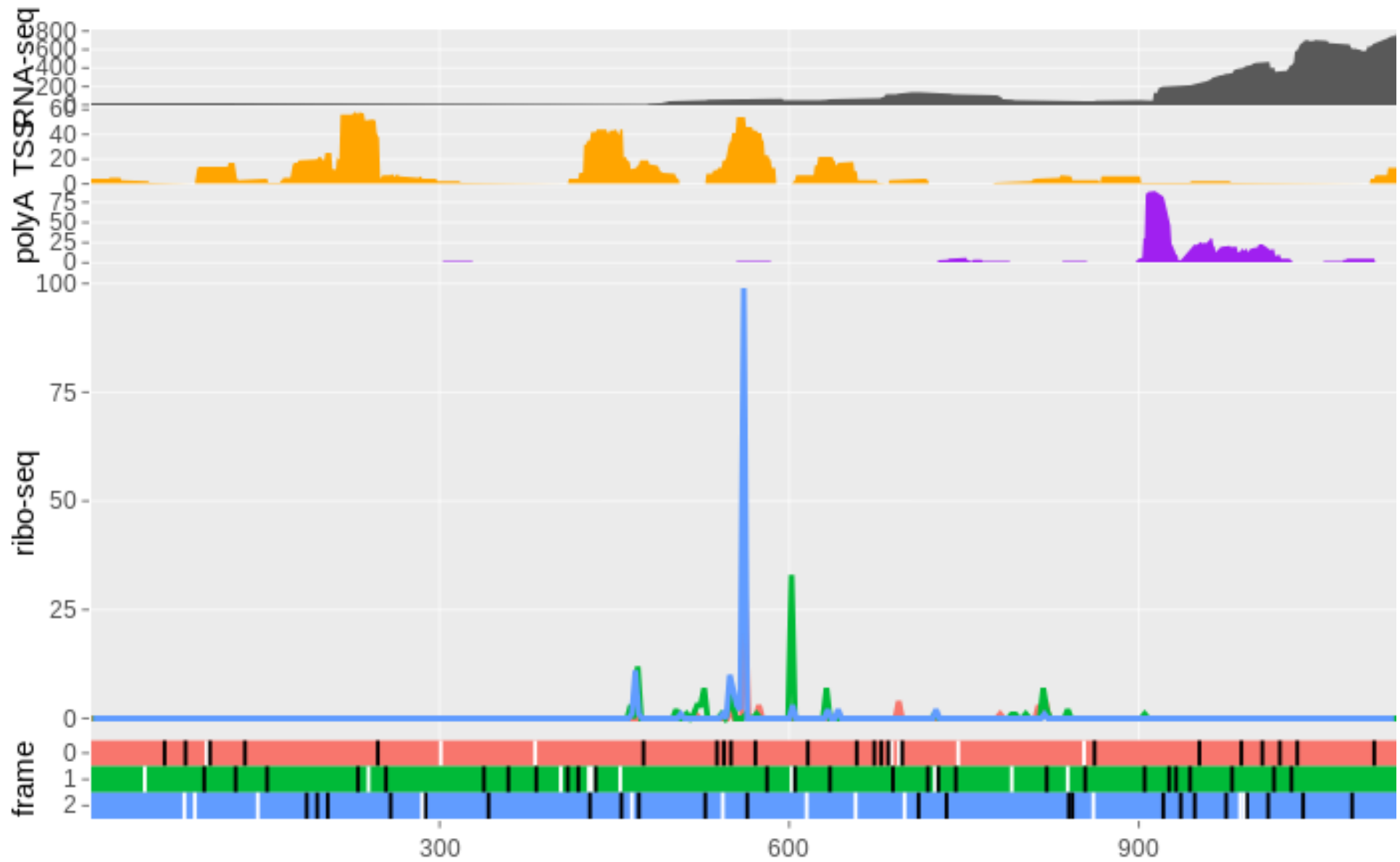


Transcript: YFL005W Length: 1248 nt

# Jeden transkrypt + frameshifting?



# Transkrypt “niekodujący”



# Warianty

- TI-seq
- Inhibitors cocktail
- 40S profiling
- Disome profiling

