# Seth Darst · RNA polymerase of E.coli
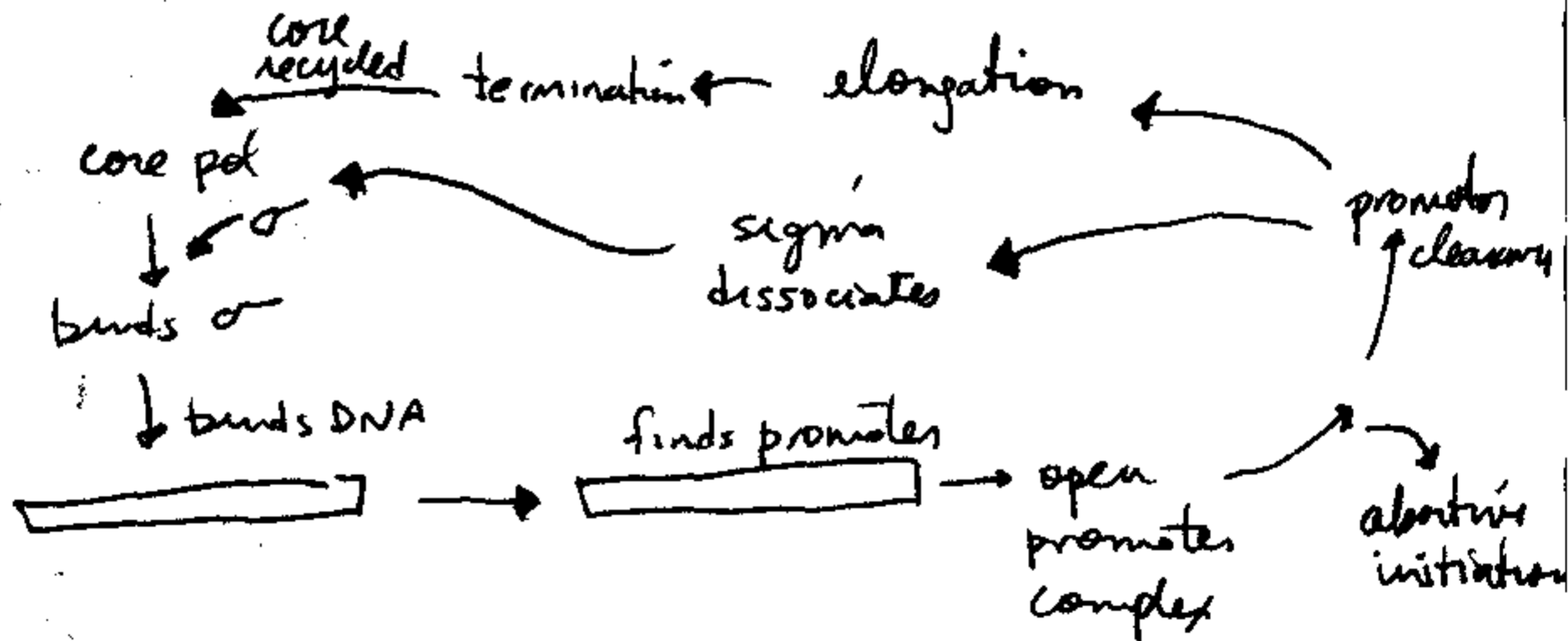
## T7 vs. E.coli vs. Yeast RNA polymerase

↓

single     ~5-6     ~10-15
subunit    subunits    subunit
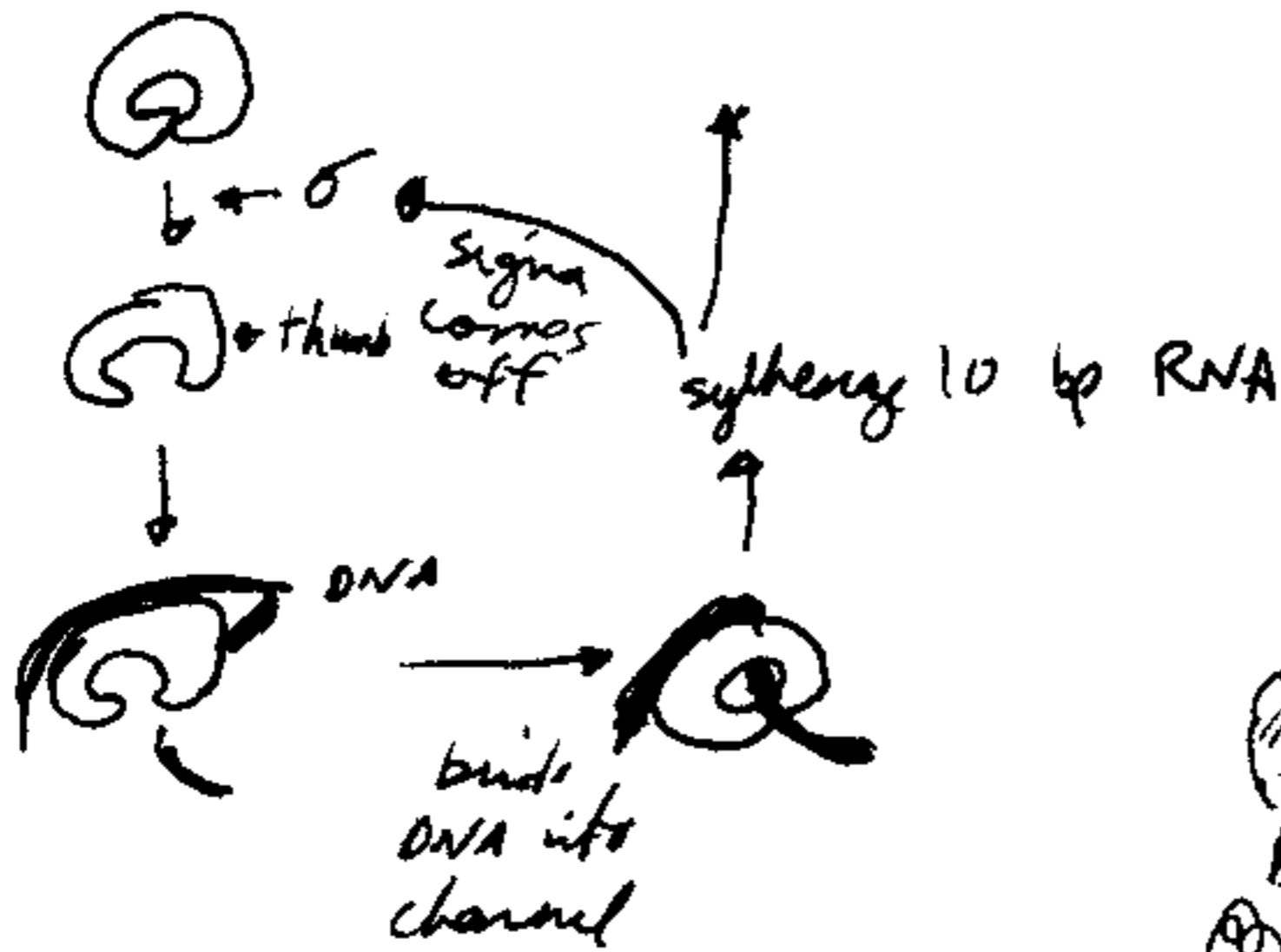
. Many X-tal structures of single subunit RNApols

- As well as of similar proteins (e.g. Klenow)

- Many subunits are homologous

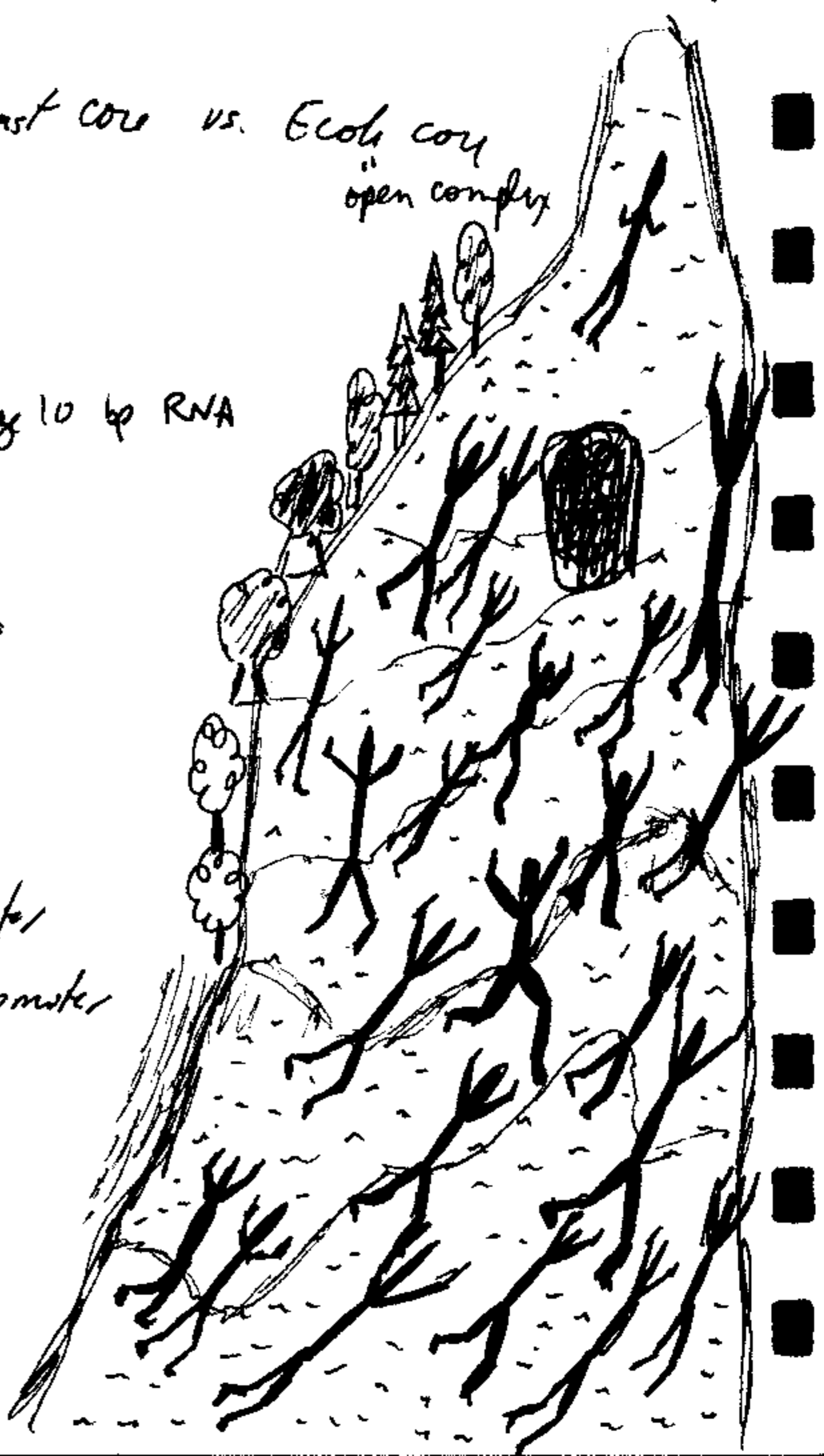core
recycled ← terminating ← elongation ←

core pol ←——————————— ←
↓ ⤶ σ      sigma
binds σ      dissociates ←—————— promoter
                        ↑ clearance
↓ binds DNA     finds promoter

———————→ ————————→ open → abortive
                            promoter   initiation
                            complex

Ecoli holoenzyme vs. Yeast core vs. Ecoli core open complex

b ← σ

sigma comes off

+ thing

synthesis 10 bp RNA

DNA

binds DNA into channel

## Sigma Factor

- a sigma binding factor is required for promoter binding

TS

HEPA
POL
MFD
GRE

– RNA binding
protein

RNA
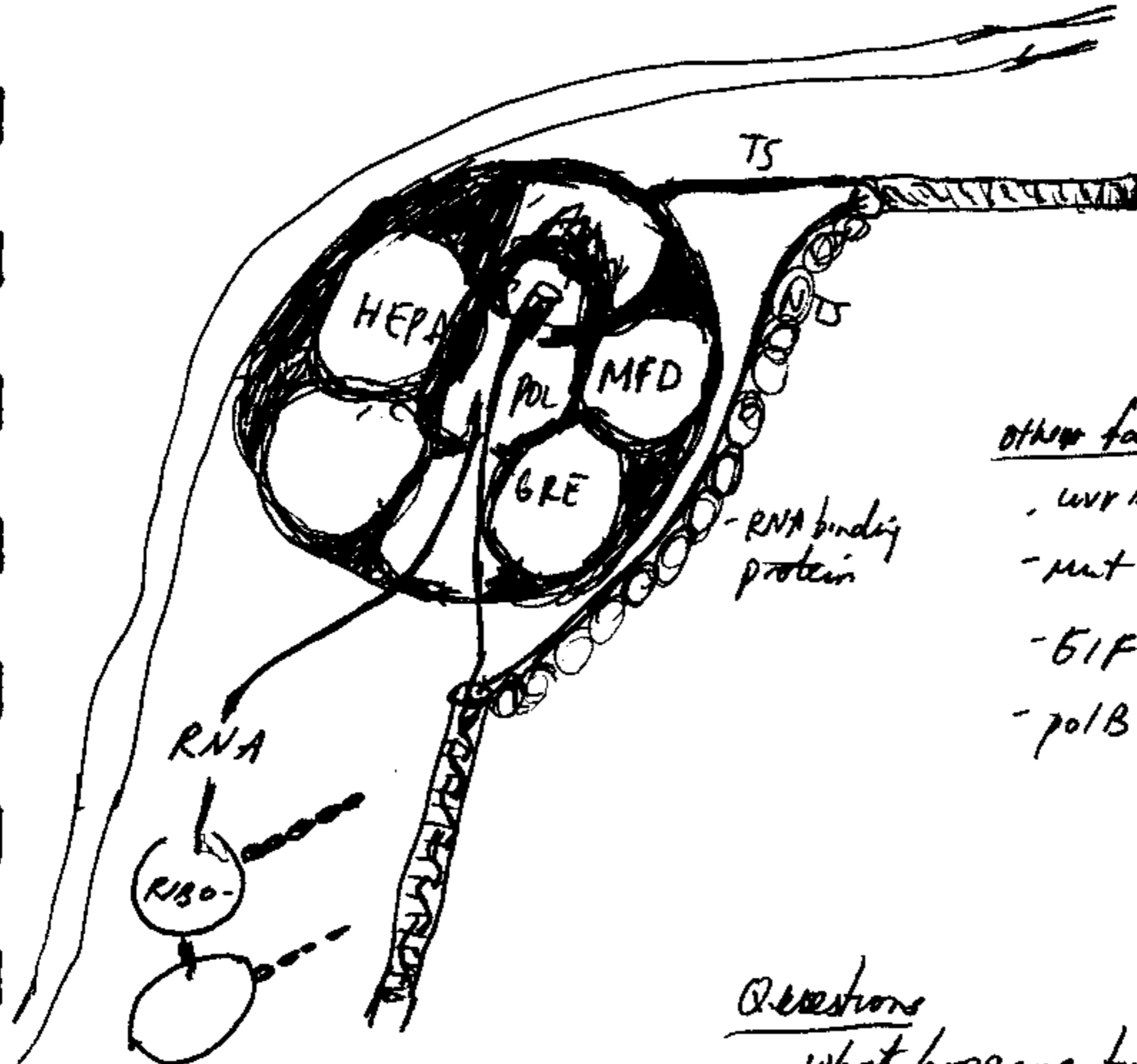
RIBO-

other factors
. uvr A, B, C
– mut L, S
– EIF4A
– polB = repair pol

Questions

what happens to RNA pol

– what happens to NTS

. how re-syn. TS w/o moving

– how attach to membrane

~ is DNA packaged

– does translation matter

– σ factor?
– does anything bind
NTS?