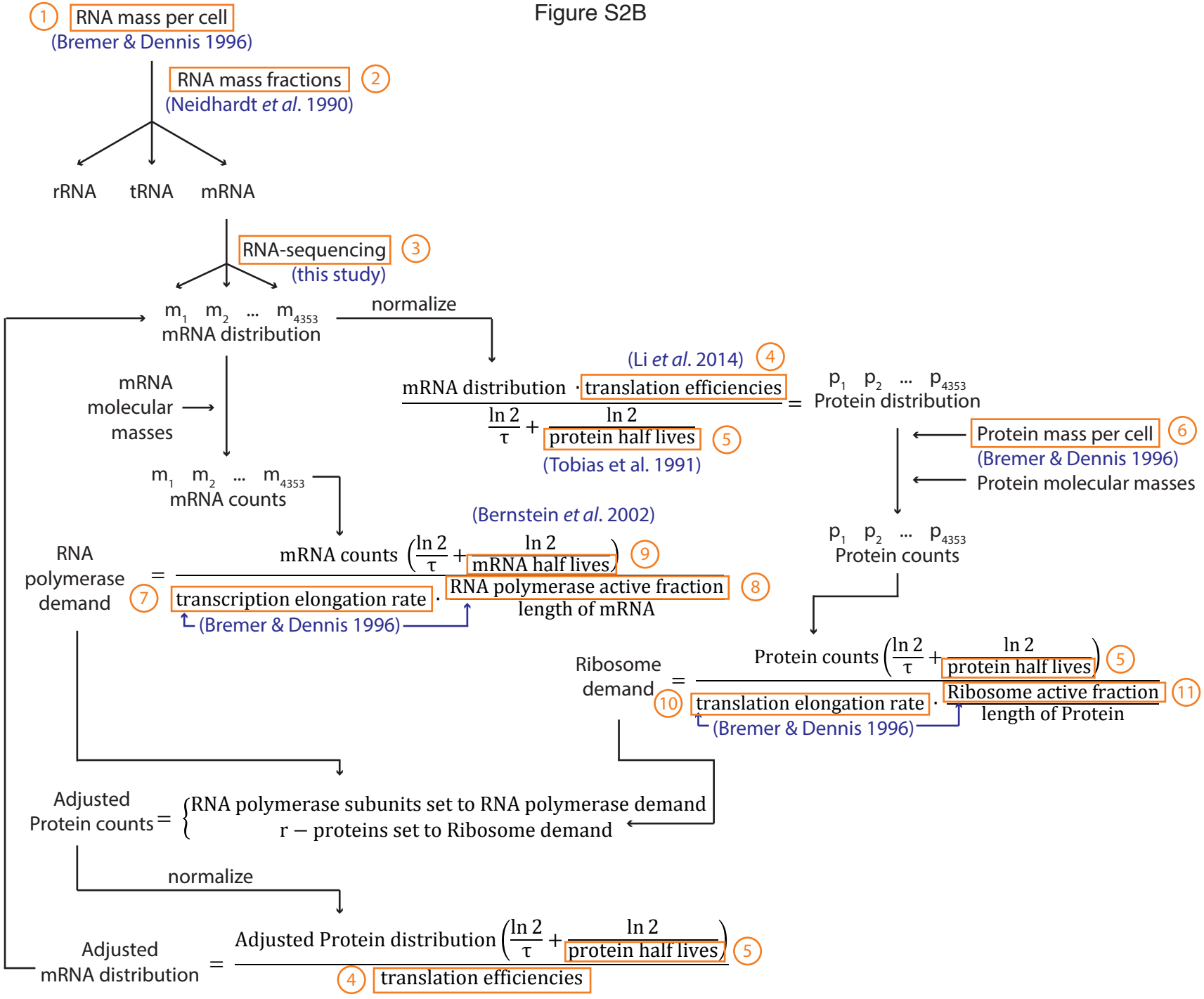
Figure S2B


1 RNA mass per cell
(Bremer & Dennis 1996)
RNA mass fractions 2
(Neidhardt et al. 1990)
rRNA tRNA mRNA
RNA-sequencing 3
(this study)
m1 m2 ... m4353
mRNA distribution
normalize
mRNA molecular masses
m1 m2 ... m4353
mRNA counts
(Li et al. 2014) 4
mRNA distribution · translation efficiencies / (ln 2/τ + ln 2/protein half lives) 5
(Tobias et al. 1991)
= p1 p2 ... p4353 Protein distribution
Protein mass per cell 6
(Bremer & Dennis 1996)
Protein molecular masses
p1 p2 ... p4353
Protein counts
(Bernstein et al. 2002)
RNA polymerase demand 7 = mRNA counts (ln 2/τ + ln 2/mRNA half lives) 9 / transcription elongation rate · RNA polymerase active fraction 8 / length of mRNA
(Bremer & Dennis 1996)
Ribosome demand 10 = Protein counts (ln 2/τ + ln 2/protein half lives) 5 / translation elongation rate · Ribosome active fraction 11 / length of Protein
(Bremer & Dennis 1996)
Adjusted Protein counts = RNA polymerase subunits set to RNA polymerase demand
r − proteins set to Ribosome demand
normalize
Adjusted mRNA distribution = Adjusted Protein distribution (ln 2/τ + ln 2/protein half lives) 5 / 4 translation efficiencies