

TABLE 3 Physical numbers for DNA packing in $\phi 29$, taken from Tao et al. (1998)

Expression	Description	Number
R	Capsid radius	30 nm
t_c	Capsid thickness	2 nm
R_p	Pore radius	2 nm
N	Number of pores	10
X	Sheath length	50 nm
D	Inner sheath radius	1.3 nm
d	DNA radius	1.0 nm
V	DNA velocity	100 bp/s \approx 30 nm/s
R_G	Unpackaged genome radius of gyration	300 nm

Since the $\phi 29$ capsids are aspherical, we use an average diameter that gives the correct volume.