

Concept	Variable	Value
Avg. Molecular formula of a base pair (pair of nucleotides)	$X_{bp}$	$C_{19.5}N_{7.5}P_2$
Avg. volume of a Base pair	$v_{bp}$	$(1\text{nm})^2(0.34\text{ nm})\pi$
Volume-filling fraction	$fill$	$0.53 \pm 0.04$
Avg. thickness of the capsid	$h$	$2.5 \pm 0.3\text{ nm}$
Molecules of carbon per volume of protein	$d_C$	$31 \pm 1\text{ atoms/nm}^3$
Molecules of nitrogen per volume of protein	$d_N$	$8.7 \pm 0.4\text{ atoms/nm}^3$

Table S1: Parameters used for the viral elemental composition calculation.