10.1.2.52
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REP Needs to know no. of chains per lattice pt. by interpret. of Patterson (quote 71B photo A form)

Volume of complete unit cell ~~240,450~~ 24450 A^3

Wt of nucleotide 330

Volume of dry nucleotide 336 A^3 ($d = 1.63$)

Density wet ~ 1.55

Using this approx. value for wet density,

M. Wt of wet unit cell = $1.55 \times 2.4845 \times 10^4 / 1.66 = 2.285 \times 10^4$
M. Wt per primitive cell = 1.143×10^5

Suppose whole number of water molecules per nucleotide, and n between 4 and 8

	4	5	6	7	8	
then MWt per unit is	402,	420,	438,	456	or 474	
And no. nucleotides/primitive cell is	28.4	27.2	26.1	25.1	24.1	22.0
% H_2O	21.8%	27.3%	33.0%	38.2%	43.6%	

If phosphates are in pairs, ~~the~~ there are 24, 26 or 28 per primitive cell

If 2 chains in primitive cell are equivalent,

there are 24 or 28 nucleotides in primitive cell

If odd no. pairs per chain (to account for peaks at 13, 14 but not 15)

there are 28 nucleotides per unit cell.

This is also suggested by 76B

Density 1.52

M. Wt wet cell = 22.4×10^3
M. Wt primitive cell 11.2×10^3

∴ for 22 nucleotides, wt/unit = $\frac{11.2 \times 10^3}{22} = 509$

Wt water = 509 − 330 = 179
~~10%~~ = 10 molecules/nucleotide

or 54% of dry weight

For density 1.47, MWt wet cell, primitive $11.2 \times \frac{1.47}{1.52} = 10.82 \times 10^3$
wt/unit = $10.82 \times 10^3 / 22 = 492$
Wt water = 492 − 330 = 162
= 49%