

**Table S2. Protonation states of titratable side chains and phosphate groups in pol  $\mu$ .**

Residue	Charge	pKa
Phosphate groups in DNA	−1	1.2
Asp	−1	3.9
Glu	−1	4.3
His	0	6.5
Lys	+1	10.8
Arg	+1	12.5