

The original values of the 6 physical structural properties (DNA) taken from Goni et al. (2007)

Physicochemical properties	AA	AC	AG	AT	CA	CC	CG	CT	GA	GC	GG	GT	TA	TC	TG	TT
Rise (DNA)	7.65	8.93	7.08	9.07	6.38	8.04	6.23	7.08	8.56	9.53	8.04	8.93	6.23	8.56	6.38	7.65
Roll (DNA)	2.26	3.03	2.03	3.83	1.78	1.65	2	2.03	1.93	2.61	1.65	3.03	1.2	1.93	1.78	2.26
Shift (DNA)	1.69	1.32	1.46	1.03	1.07	1.43	1.08	1.46	1.32	1.2	1.43	1.32	0.72	1.32	1.07	1.69
Slide (DNA)	0.026	0.036	0.031	0.033	0.016	0.026	0.014	0.031	0.025	0.025	0.026	0.036	0.017	0.025	0.016	0.026
Tilt (DNA)	0.02	0.023	0.019	0.022	0.017	0.019	0.016	0.019	0.02	0.026	0.019	0.023	0.016	0.02	0.017	0.02
Twist (DNA)	0.038	0.038	0.037	0.036	0.025	0.042	0.026	0.037	0.038	0.036	0.042	0.038	0.018	0.038	0.025	0.038

The normalized values of the the 6 physical structural properties (DNA) taken from Goni et al. (2007)

Physicochemical properties	AA	AC	AG	AT	CA	CC	CG	CT	GA	GC	GG	GT	TA	TC	TG	TT
Rise (DNA)	-0.11	1.04	-0.62	1.17	-1.25	0.24	-1.39	-0.62	0.71	1.59	0.24	1.04	-1.39	0.71	-1.25	-0.11
Roll (DNA)	0.11	1.29	-0.24	2.51	-0.62	-0.82	-0.29	-0.24	-0.39	0.65	-0.82	1.29	-1.51	-0.39	-0.62	0.11
Shift (DNA)	1.59	0.13	0.68	-1.02	-0.86	0.56	-0.82	0.68	0.13	-0.35	0.56	0.13	-2.24	0.13	-0.86	1.59
Slide (DNA)	0.06	1.5	0.78	1.07	-1.38	0.06	-1.66	0.78	-0.08	-0.08	0.06	1.5	-1.23	-0.08	-1.38	0.06
Tilt (DNA)	0.09	1.19	-0.28	0.83	-1.01	-0.28	-1.38	-0.28	0.09	2.3	-0.28	1.19	-1.38	0.09	-1.01	0.09
Twist (DNA)	0.5	0.5	0.36	0.22	-1.36	1.08	-1.22	0.36	0.5	0.22	1.08	0.5	-2.37	0.5	-1.36	0.5