**Table 1.** The original values of the six physical structural properties taken from Goni et al.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Dinucleotide | Twist | Tilt | Roll | Shift | Slide | Rise |
| $$ H\_{1}(R\_{i}R\_{i+1})$$ | $$H\_{2}(R\_{i}R\_{i+1})$$ | $$H\_{3}(R\_{i}R\_{i+1})$$ | $$H\_{4}(R\_{i}R\_{i+1})$$ | $$H\_{5}(R\_{i}R\_{i+1})$$ | $$H\_{6}(R\_{i}R\_{i+1})$$ |
| AA | 0.026 | 0.038 | 0.020 | 1.69 | 2.26 | 7.65 |
| AC | 0.036 | 0.038 | 0.023 | 1.32 | 3.03 | 8.93 |
| AG | 0.031 | 0.037 | 0.019 | 1.46 | 2.03 | 7.08 |
| AT | 0.033 | 0.036 | 0.022 | 1.03 | 3.83 | 9.07 |
| CA | 0.016 | 0.025 | 0.017 | 1.07 | 1.78 | 6.38 |
| CC | 0.026 | 0.042 | 0.019 | 1.43 | 1.65 | 8.04 |
| CG | 0.014 | 0.026 | 0.016 | 1.08 | 2.00 | 6.23 |
| CT | 0.031 | 0.037 | 0.019 | 1.46 | 2.03 | 7.08 |
| GA | 0.025 | 0.038 | 0.020 | 1.32 | 1.93 | 8.56 |
| GC | 0.025 | 0.036 | 0.026 | 1.20 | 2.61 | 9.53 |
| GG | 0.026 | 0.042 | 0.019 | 1.43 | 1.65 | 8.04 |
| GT | 0.036 | 0.038 | 0.023 | 1.32 | 3.03 | 8.93 |
| TA | 0.017 | 0.018 | 0.016 | 0.72 | 1.20 | 6.23 |
| TC | 0.025 | 0.038 | 0.020 | 1.32 | 1.93 | 8.56 |
| TG | 0.016 | 0.025 | 0.017 | 1.07 | 1.78 | 6.38 |
| TT | 0.026 | 0.038 | 0.020 | 1.69 | 2.26 | 7.65 |

**Table 2.** The values obtained from Table S1 via the standard conversion of equation (6).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Dinucleotide | Twist | Tilt | Roll | Shift | Slide | Rise |
| $$H\_{1}^{0}\left(R\_{i}R\_{i+1}\right)$$ | $$H\_{2}^{0}\left(R\_{i}R\_{i+1}\right)$$ | $$H\_{3}^{0}\left(R\_{i}R\_{i+1}\right)$$ | $$H\_{4}^{0}\left(R\_{i}R\_{i+1}\right)$$ | $$H\_{5}^{0}\left(R\_{i}R\_{i+1}\right)$$ | $$H\_{6}^{0}\left(R\_{i}R\_{i+1}\right)$$ |
| AA | 0.063 | 0.502 | 0.092 | 1.587 | 0.111 | -0.109 |
| AC | 1.502 | 0.502 | 1.195 | 0.126 | 1.289 | 1.044 |
| AG | 0.783 | 0.359 | -0.276 | 0.679 | -0.241 | -0.623 |
| AT | 1.071 | 0.215 | 0.827 | -1.019 | 2.513 | 1.171 |
| CA | -1.376 | -1.364 | -1.011 | -0.861 | -0.623 | -1.254 |
| CC | 0.063 | 1.077 | -0.276 | 0.560 | -0.822 | 0.242 |
| CG | -1.664 | -1.220 | -1.359 | -0.822 | -0.287 | -1.389 |
| CT | 0.783 | 0.359 | -0.276 | 0.679 | -0.241 | -0.623 |
| GA | -0.081 | 0.502 | 0.092 | 0.126 | -0.394 | 0.711 |
| GC | -0.081 | 0.215 | 2.98 | -0.348 | 0.646 | 1.585 |
| GG | 0.063 | 1.077 | -0.276 | 0.560 | -0.822 | 0.242 |
| GT | 1.502 | 0.502 | 1.195 | 0.126 | 1.289 | 1.044 |
| TA | -1.233 | -2.368 | -1.379 | -2.243 | -1.511 | -1.389 |
| TC | -0.081 | 0.502 | 0.092 | 0.126 | -0.394 | 0.711 |
| TG | -1.376 | -1.364 | -1.011 | -0.861 | -0.623 | -1.254 |
| TT | 0.063 | 0.502 | 0.092 | 1.587 | 0.111 | -0.109 |