

What conformation is this DNA/RNA?

Is it Z-form?

Yes

No

Key:

Visible in both representations

More visible in surface mode

More visible in atomic mode

Visible in cartoon representation

- Left handed
- Jagged phosphate backbone
- Very deep minor groove
- Syn/anti pattern of glycosidic bonds (purines)
- Sugar orientation alternates within a strand
- Sugar oriented same way within a base pair
- DNA or RNA

- Right handed
- Smooth phosphate backbone
- Sugar oriented same way within a strand
- Sugar orientation opposite across base pair

A or B form?

A

B

- Bases offset from helical axis (hole in middle)
- Deep major groove, shallow minor groove
- Base pairs are tilted
- C3'-endo ribose
- DNA or RNA (+/- 2'OH)

- Bases overlap helical axis (no hole in middle)
- Major and minor grooves are similar depth
- Base pairs have little tilt
- C2'-endo ribose
- Only DNA (no 2'OH)