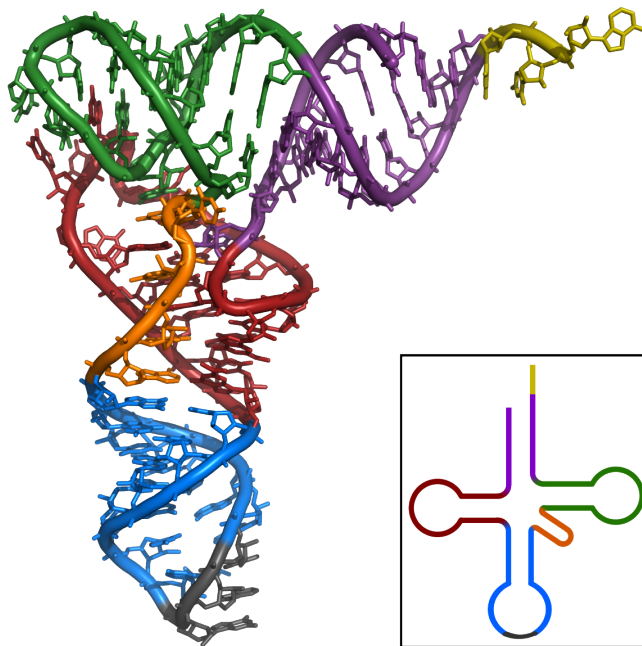


## CONCEPT: DNA VS. RNA

- RNA \_\_\_\_\_ from DNA in many crucial ways
  - RNA contains the base **Uracil (U)** in place of Thymine (T)
  - RNAs are more commonly found as single-stranded polymers compared to double stranded polymers
  - RNAs have the ability to form complex 3D structures – whereas DNA forms only a double helix
    - *Hairpins*: small 5-10 pairing of bases with each other
    - *Stem loops*: base pairing of >10 nucleotides that contains an unpaired loop
  - RNAs can have catalytic activities (*Ribozymes*) and DNAs cannot

### EXAMPLE: A 3D RNA structure



**PRACTICE:**

1. Which of the following is not a property of RNA?
  - a. Contains the base Uracil instead of Thymine
  - b. RNA can form 3D structures with complex functions
  - c. RNA is commonly found as a double helix
  - d. RNA can act as enzymes
  
2. Which of the following differences between RNA and DNA is not true?
  - a. RNA has Uracil, DNA has Thymine
  - b. RNA is single stranded, DNA is double stranded
  - c. RNA can act as an enzyme, DNA cannot act as an enzyme
  - d. RNA contains the base cytosine, DNA contains the base Uracil