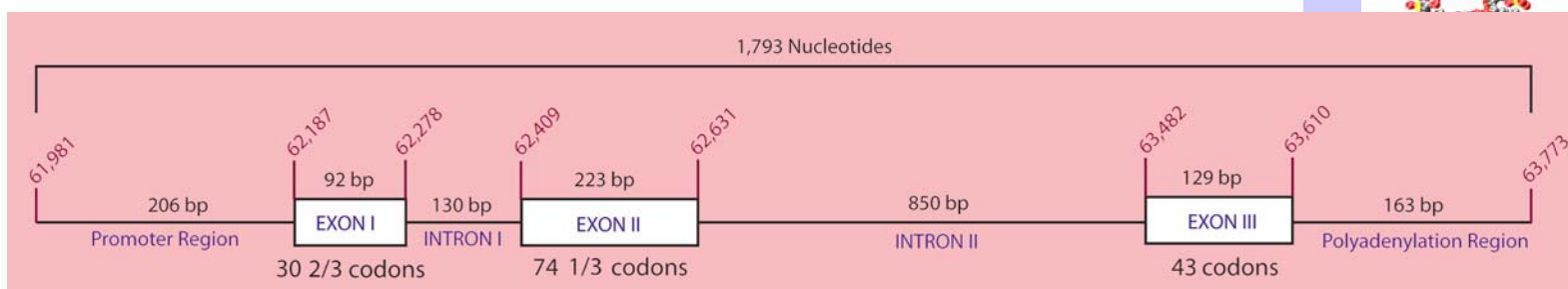


A 3DMD Paper BioInformatics Activity®

The β -Globin Gene Exercise

Summary of the Human β -Globin Gene*



The β -Globin Gene consists of:

- A 5' promoter region.
- 3 Exons interrupted by 2 introns.
- The 3 exons contain 148 codons, but since the last codon is the **UAA STOP** codon and since the N-terminal Met amino acid is removed from the protein following its synthesis, the final β -globin protein consists of 146 amino acids. Note that the red numbers on the map above indicate the starting and ending nucleotides (inclusive) of the exons as well as the entire sequence.
- A 3' regulatory region involved in cleavage and polyadenylation.
- Landmark amino acids include
 - Glu6 — site of sickle cell mutation
 - His63 — the distal histidine
 - His92 — the proximal histidine that binds the heme group.

*Human β -globin region on chromosome 11; gi|455025|gb|U01317.1|HUMHBB[455025]

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