Primary structure

sequence of amino acids

hemoglobin transports O₂ and CO₂
4 protein chains 300 amino acids

Sickle cell anemia

6th amino acid from R
N-terminus

$$\begin{array}{ccc}
\mathbf{R} & \mathbf{Glu} & \longrightarrow & \mathbf{Val} \\
-\mathbf{CH}_2\mathbf{CH}_2\mathbf{-CO}_2\mathbf{H} & & -\mathbf{CH}(\mathbf{CH}_3)_2
\end{array}$$
water soluble
water insoluble