

The Chemistry of Hair Relaxing Notes (Key)

Complete each section with the correct answer.

Chemical Hair Relaxing

- A process or service that rearranges the structure of curly hair into a straighter or smoother form

Chemical Hair Structure

- Hair is made up of:
 - Protein – 90%
 - Carbon – 51%
 - Oxygen – 21%
 - Hydrogen – 6%
 - Nitrogen – 17%
 - Sulfur – 5%

Hair Analysis

- Hair proteins are made of amino acids
- The cortex is made up of polypeptide chains
- These chains are cross-linked by side bonds
- Types of side bonds include:
 - Hydrogen bonds
 - Salt bonds
 - Disulfide bonds

Disulfide Bonds

- Strong, chemical side bond
- Cannot be broken by water
- Can be broken by chemical hair relaxers
- Alters the shape of the hair

Thio Relaxers

- pH factor of 10 and higher
- Thicker which helps hold hair in a straight position
- Hair softens and swells during the relaxer process and disulfide bonds are broken
- A neutralizer is used to rebuild disulfide bonds

Hydroxide Relaxers

- Active ingredient is hydroxide ion
- Highly alkaline product ranging usually from a pH of 12-14
- Types include:
 - Sodium
 - Potassium
 - Lithium
 - Guanidine hydroxide

Sodium Hydroxide (NaOH)

- Commonly called lye relaxers
- Most common type of hair relaxer
- Highly caustic
- pH is often over 13.5 which is highly corrosive

Warning

- Caution is advised as relaxers can literally dissolve or melt the hair