



CRC

for

Premium

Quality

Wool

Chemical Bonding in the Fibre

Produced for the CRC for Premium Quality Wool undergraduate program by;
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Exercise

When a wool fibre is extended it first offers stiff resistance, then it gives somewhat, then it stiffens again and finally breaks.

1. What could be happening to the IF's in
 - a) the initial phase, and
 - b) the middle phase?
2. What could be the role of the inter-tetramer S-S bonding within the subfilament during extension?
3. What could be the role of S-S which might connect HS protein chains in the matrix to LS protein chains in the IF's?

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Exercise

- **Water swells the fibre.**
 - **Water does not penetrate and swell IF's.**
 - **Why?**
 - **Most of the swelling due to water penetration occurs in the matrix.**
 - **How is this fact relevant to the question of whether the disulfide bonding in the matrix is intermolecular or intramolecular?**

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