



CRC

for

Premium

Quality

Wool

Fundamental Processes in Aqueous Scouring: Detergency & Felting

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

removal of soil

- **Soil**
 - wax
 - particulate matter
- **Substrate**
 - wool fibre

requirements

- **Surfactant**
- **Wetting**
- **Agitation**
- **Prevent re-deposition**
 - emulsion
 - suspension

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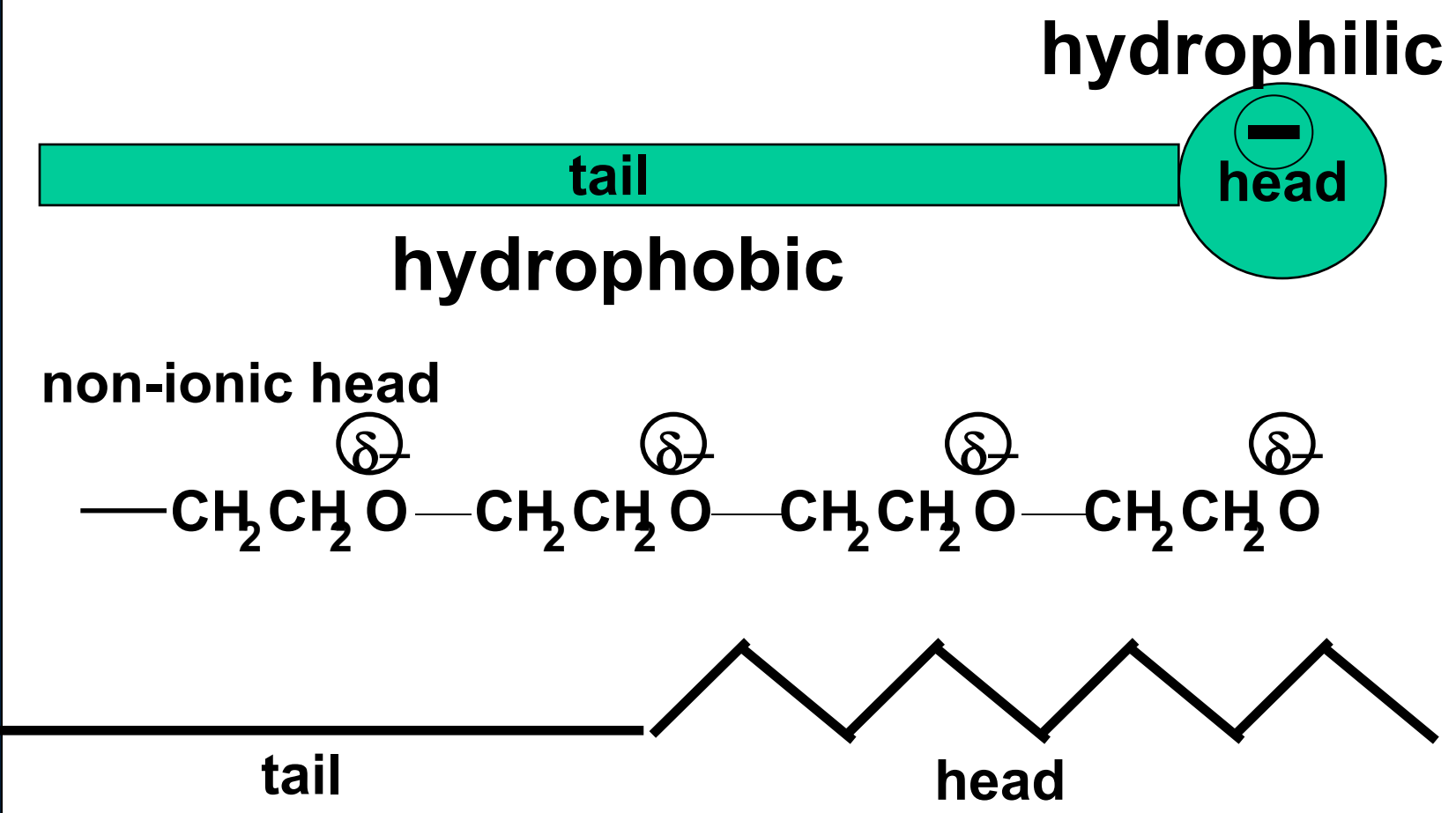
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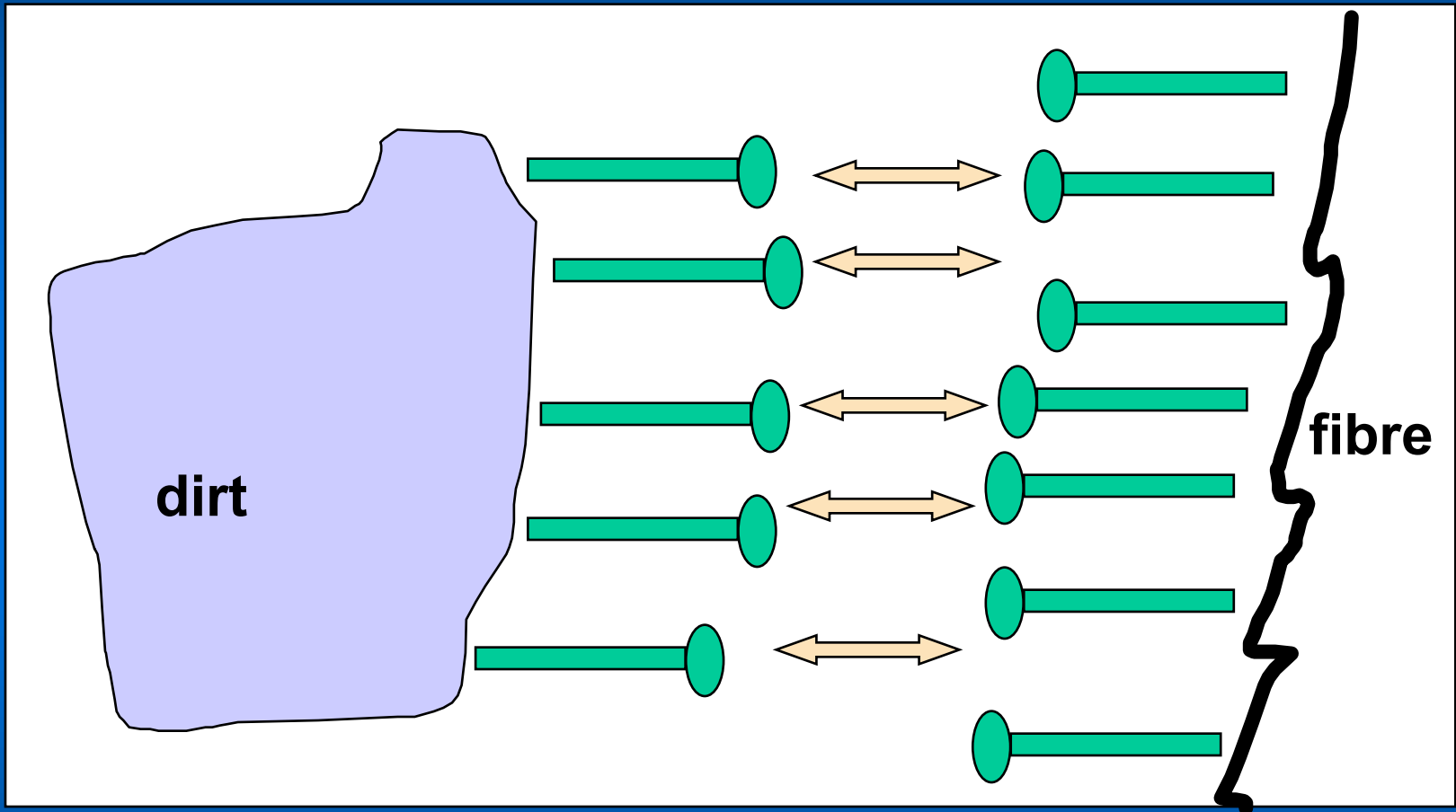
Surfactants

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Suspension of particles



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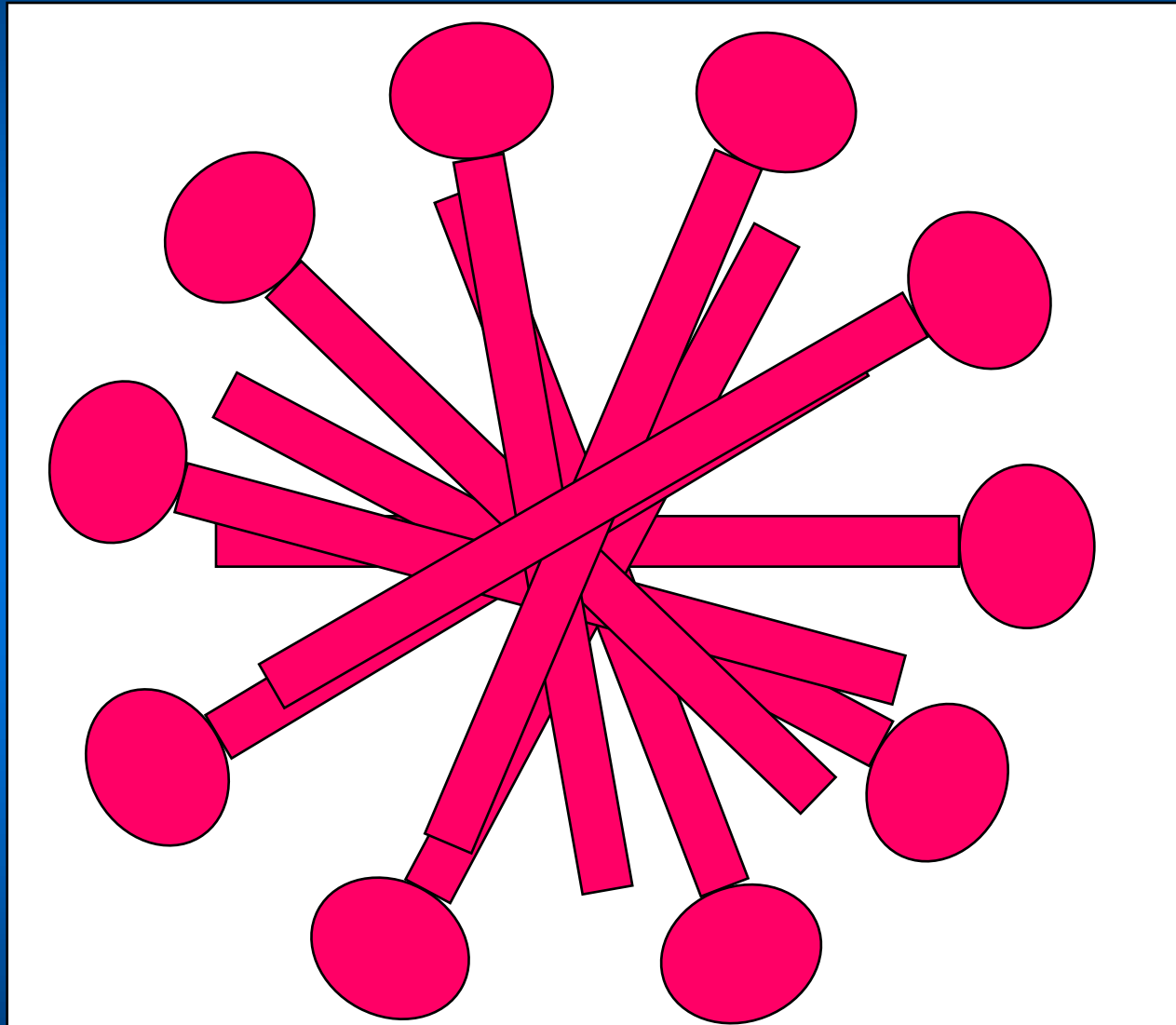
Wool

dirt

fibre



Emulsion of wax in micelle



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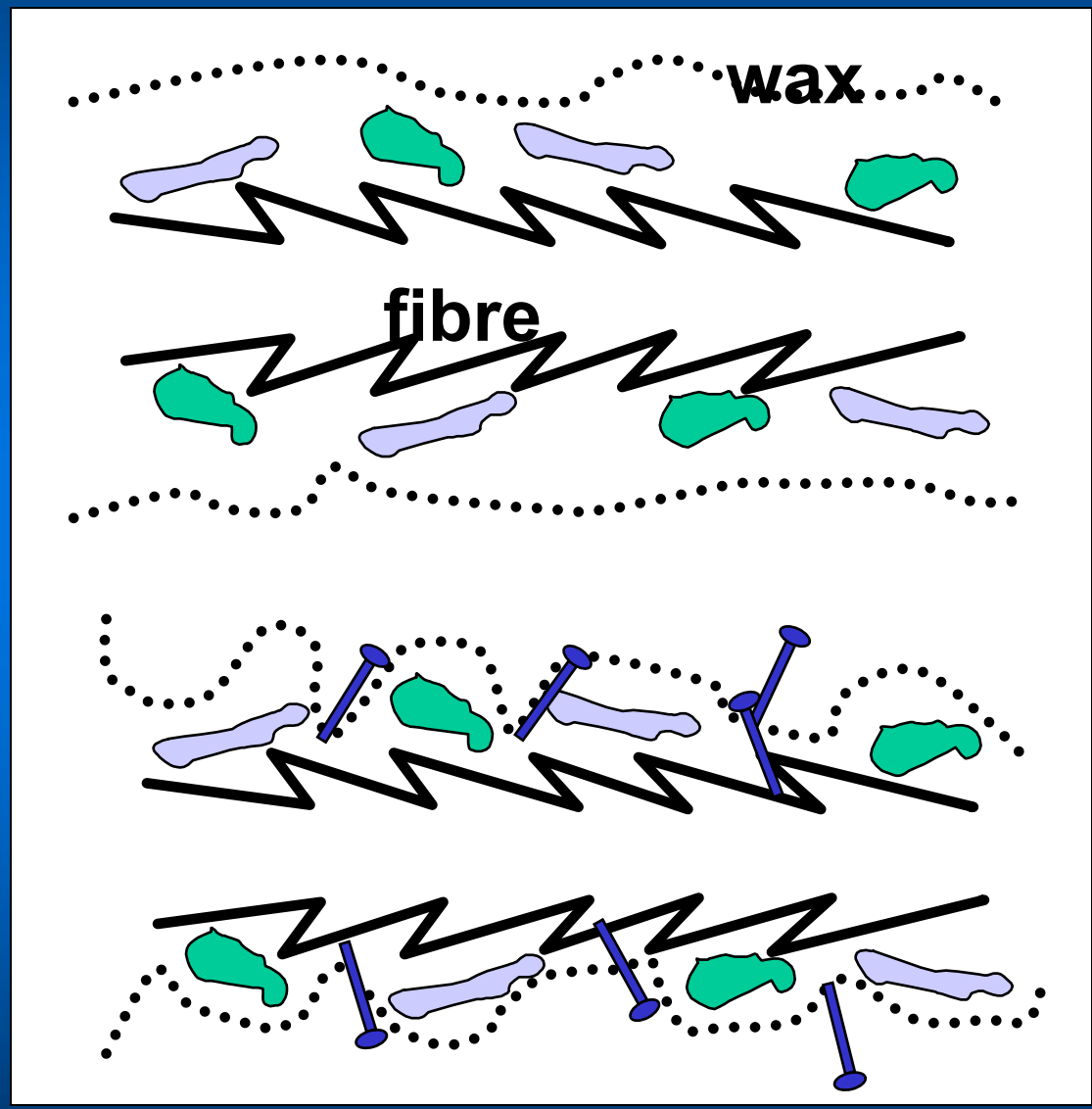
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Contaminant Removal Sequence

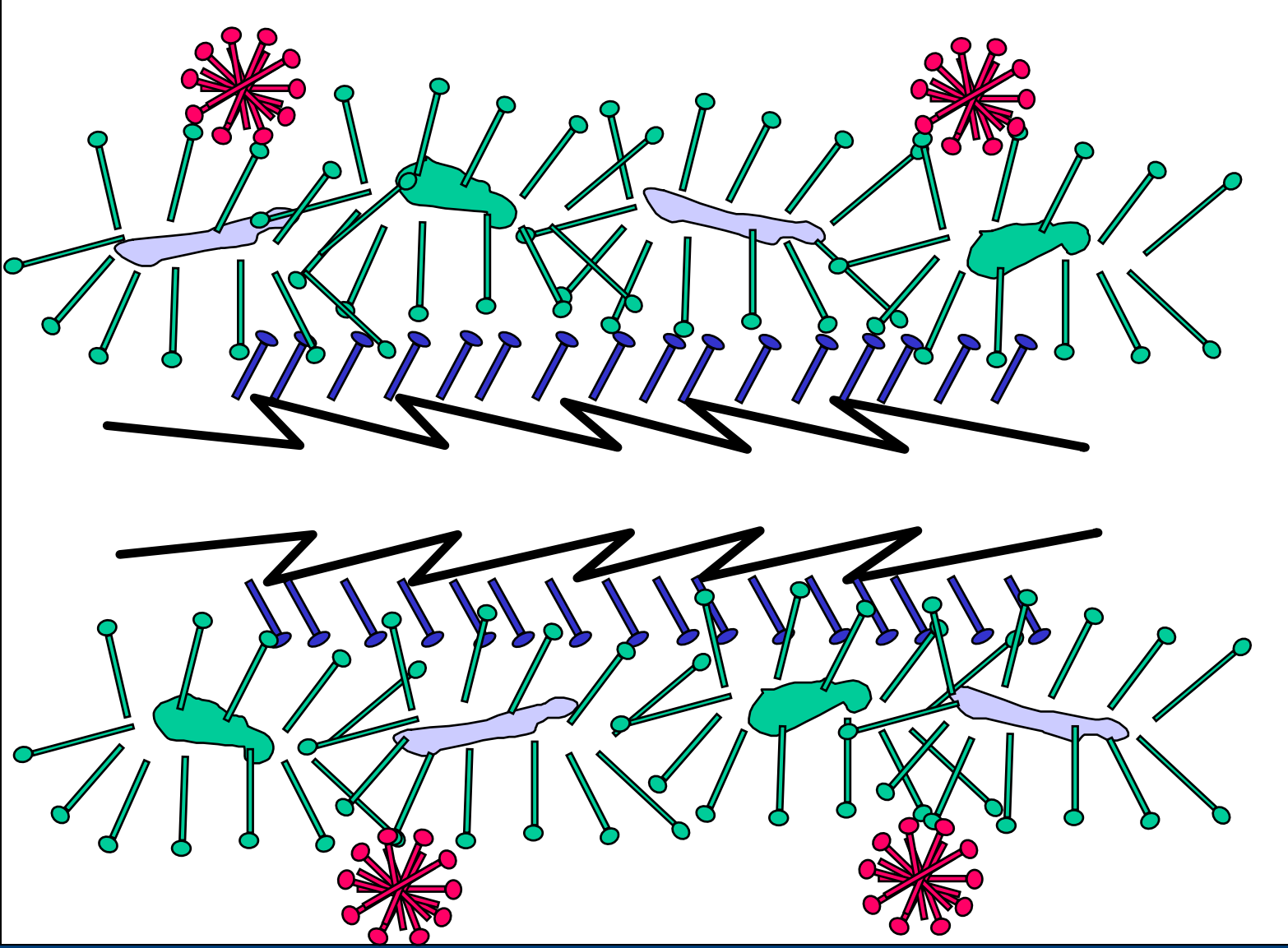
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Contaminant Removal Sequence

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Felting Requirements

- **fibre configuration**
 - freedom to move
 - contact with other fibres
 - opposed scales
- **water**
 - not essential but promotes felting
 - lubricant
 - scales raised
 - flexibility increased
- **agitation - essential**
- **DFE - essential**

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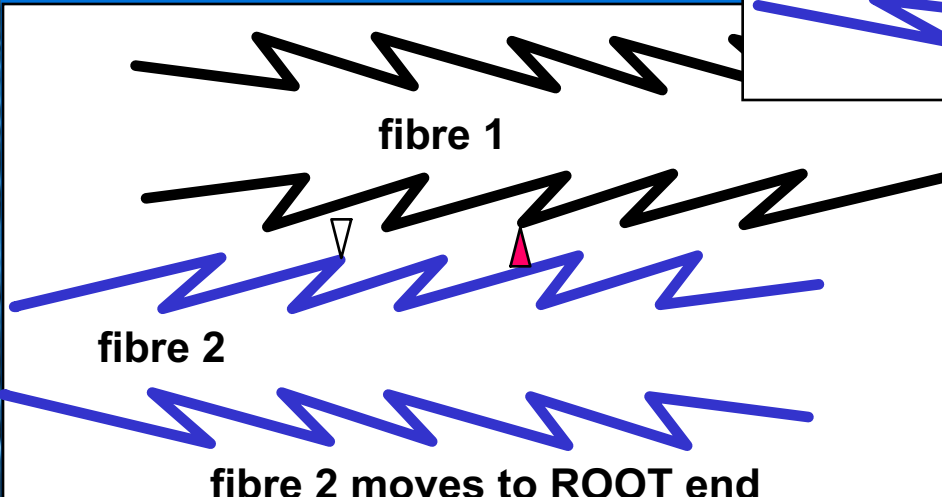
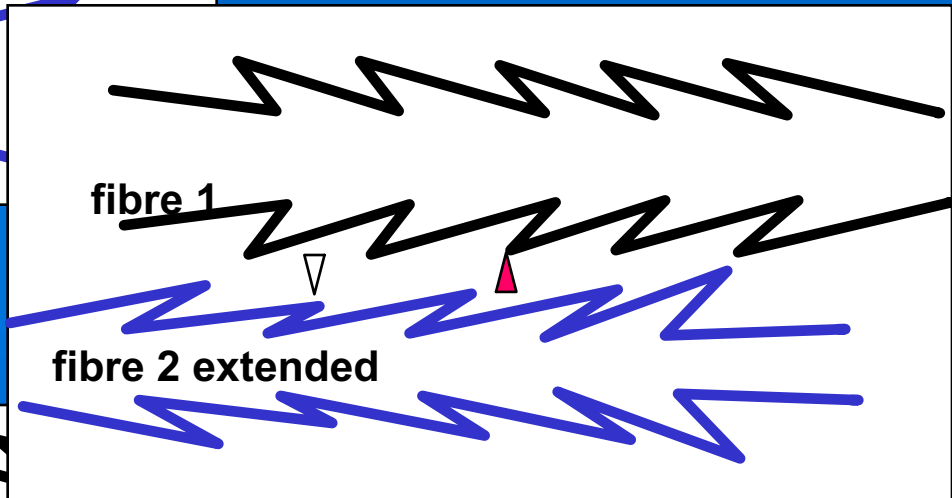
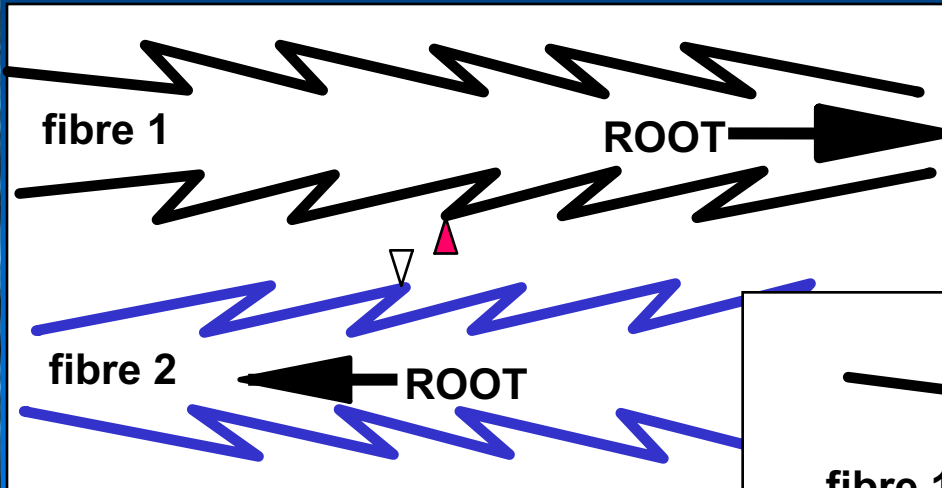
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Directional Frictional Effect



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