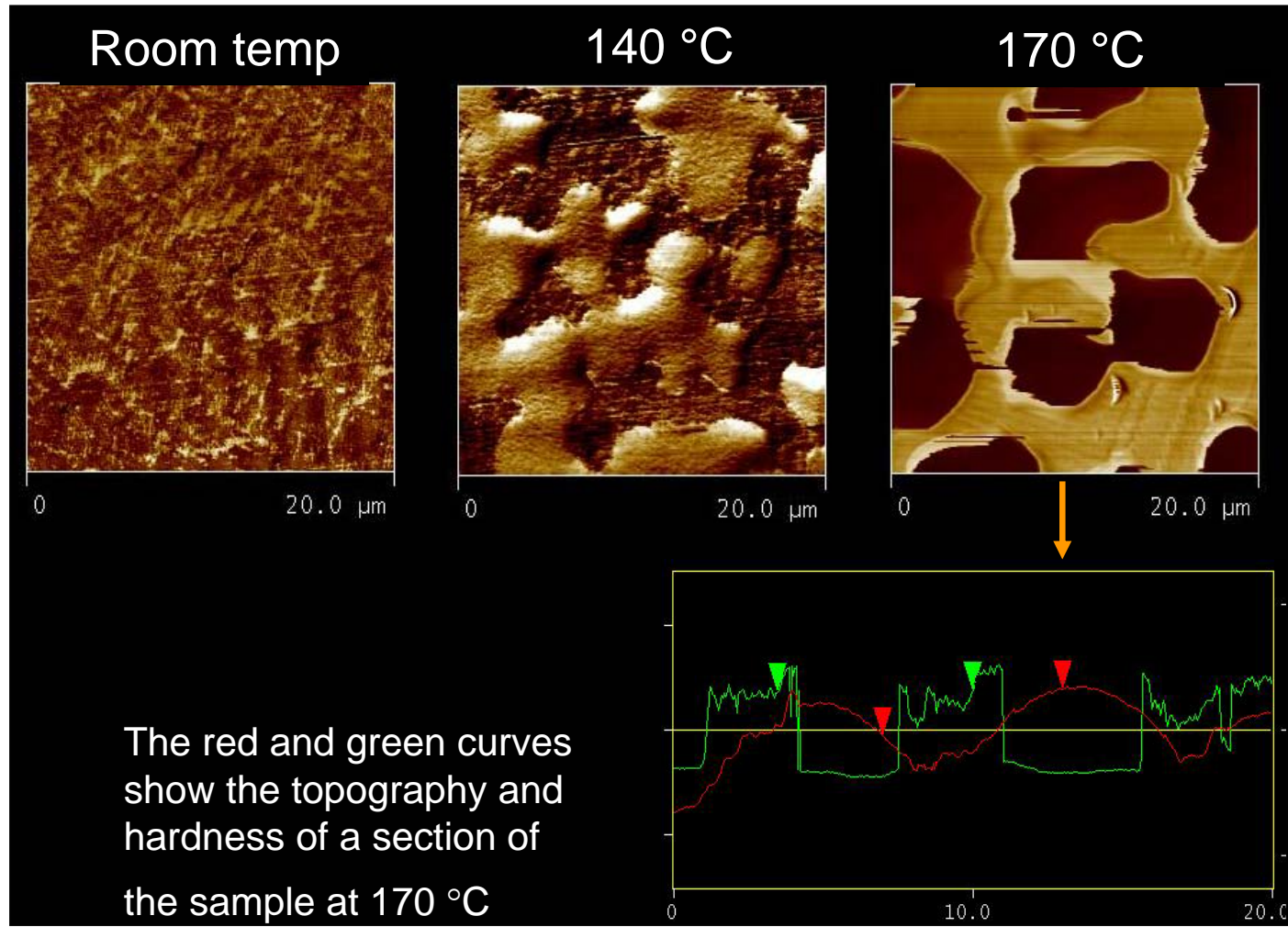


# Glass Transition of Polymers

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- By coupling the flexural and torsional modes of an AFM cantilever, we are able to measure the tip-sample forces with high temporal resolution.
- The tip-sample force reveals physical information, with softer materials having contacts of longer duration than harder samples.
- In an experimental demonstration, a blended polymer film of polystyrene and polycarbonate is imaged as it is heated to the glass transition temperature of polystyrene. The different polymers can clearly be distinguished as the temperature is increased.
- We believe this is the first time the glass transition temperature has been observed on the nanometer scale.



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