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Anisotropic mechanical responses of composites having water microchannels

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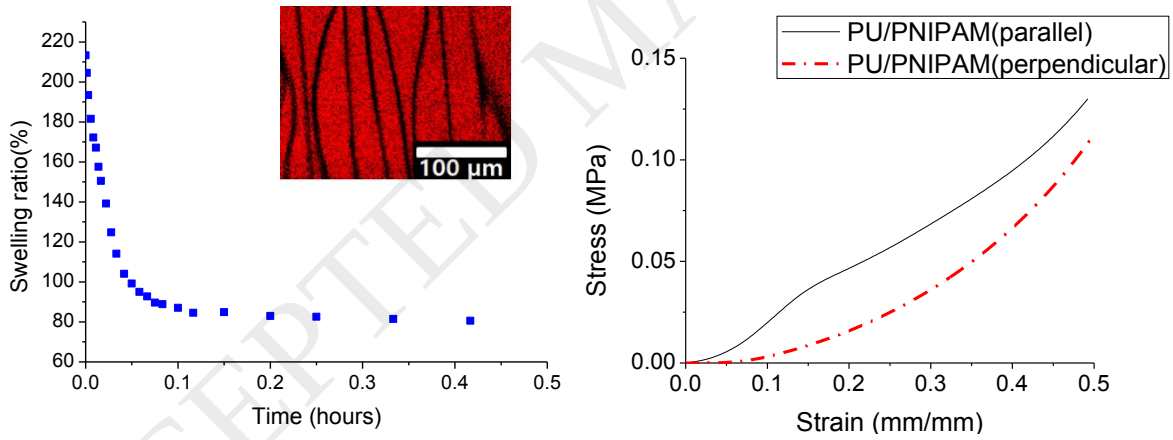
Graphical abstract

Novel composites having two separate and distinct phases of extremely different properties showed surprisingly fast deswelling kinetics and unique anisotropic mechanical responses.



Highlights

- The mechanical properties of novel composites having two separate and distinct phases were studies.
- The two phases, a water-swellable and a hydrophobic rubber phases, were combined into 3D co-continuous composites.
- Surprisingly fast deswelling kinetics and unique anisotropic mechanical responses were found.