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Engineering hydrogel viscoelastic mechanics with bio-inspired supramolecular metal-coordinate dynamics. NIELS HOLTEN-ANDERSEN, Massachusetts Inst of Tech-MIT — Growing evidence supports a critical role of metal-coordinate transient crosslinking in soft biological complex material properties. Given their exploitation in desirable material applications in nature, bio-inspired metal-coordinate transient crosslinking provides unique possibilities to further our understanding of how to engineer synthetic polymer materials with advanced properties. Using simple bio-inspired metal-binding polymers, new fundamental insights on how hydrogel mechanics can be strongly coupled to supramolecular crosslink dynamics are emerging. Early lessons from such studies of metal-coordinate supramolecular chemo-mechanical couplings will be presented.

Niels Holten-Andersen
Massachusetts Inst of Tech-MIT

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