

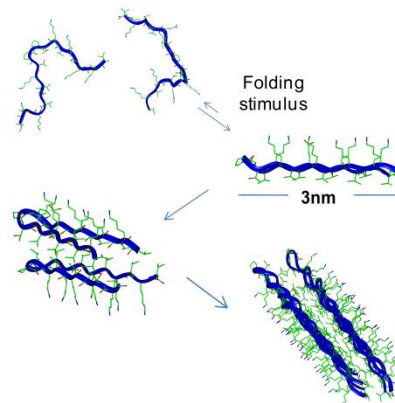
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PEPTIDES AS BUILDING BLOCKS FOR HYBRID NANOMATERIALS

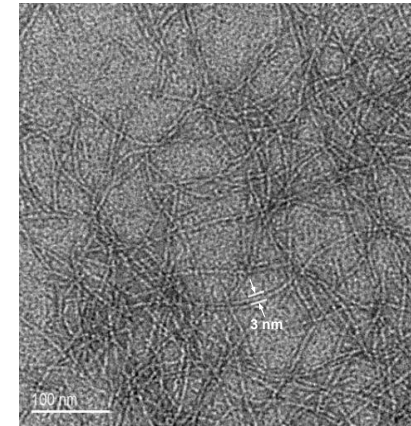
- ◆ Peptides adopt secondary, tertiary and quaternary conformations in solution that assemble into hierarchical nano-scale architectures.
- ◆ Their nanostructure, gelation kinetics and elastic modulus depend on the peptide's primary sequence and can thus be conveniently tuned by changing the primary sequence.
- ◆ Functionality may be engineered at specific sites due to ease and versatility of the solid phase synthesis process
- ◆ Simple solution self-assembly construction methods can be utilized for the fabrication of nano-scale composites

PEPTIDE SELF ASSEMBLY MECHANISM



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PEPTIDE FIBRIL MORPHOLOGY



TEM image of negatively stained peptide fibrils

TUNABLE SHEAR MODULI OF HYBRID NETWORKS

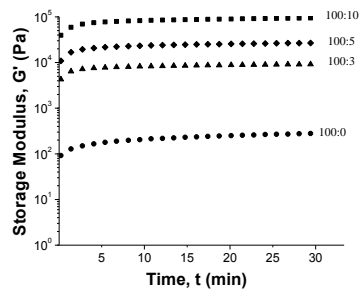
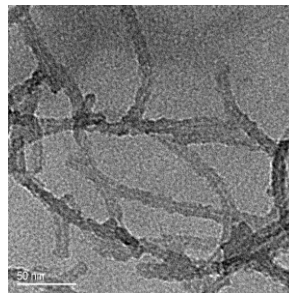


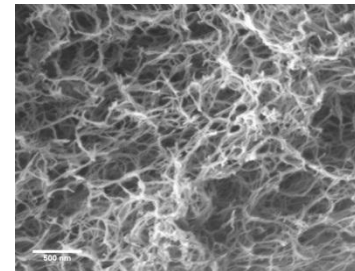
Chart showing the tunable rheological behavior of hybrid peptide-silica networks

SILICIFIED PEPTIDE FIBRILS NANOSTRUCTURE



TEM image of silicified peptide fibrils

SILICIFIED PEPTIDE FIBRILS MICROSTRUCTURE



SEM image of silicified peptide fibrils

ACKNOWLEDGEMENTS

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