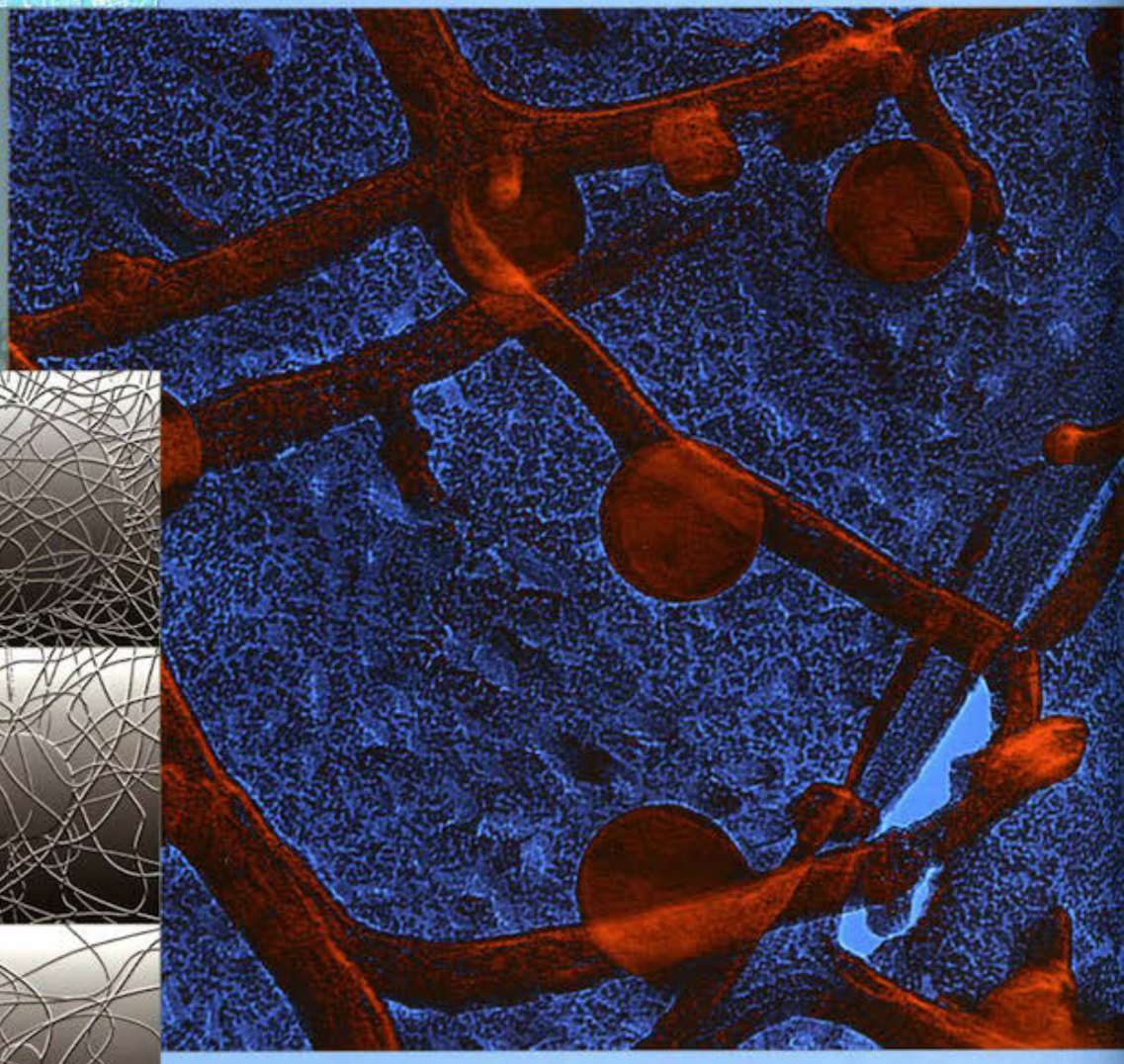
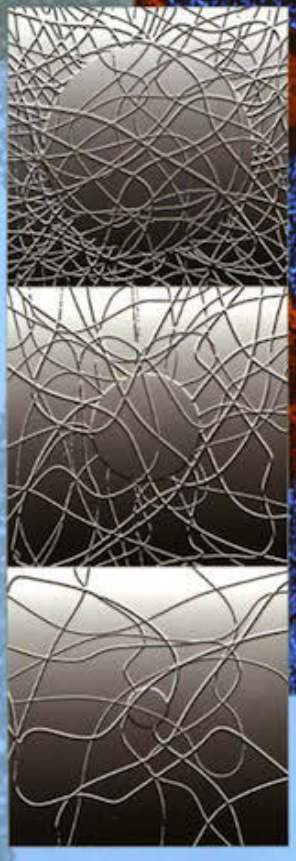
FILAMENTS MADE FROM ROPES OF SMALL PEPTIDES FORM A DENSE FIBROUS MAT.

EMBEDDED WITHIN THIS MATRIX ARE BEADS THAT CAN BE USED TO PROBE THE PROPERTIES OF THE GEL.

BACKGROUND: A SINGLE HELICAL FILAMENT BUILT FROM KFE8.



PROCESS



PROBING MATRICES

KFE8, a short chain of amino acids, arrives in the lab as a simple white powder. Add water, and these chains assemble into long, rope-like filaments that bundle together and weave themselves into a dense fibrous mat. By tracking the movement of fluorescent beads added to the forming gel, DMA researchers find they can probe the mechanical properties of the filament network. Beads small enough to dart in and out of the spaces within the thicket reveal the gel's viscosity; beads ten times larger get trapped inside the tangle, and their struggles provide information about the elasticity of the mesh. Such knowledge could prove useful to biologists who hope to employ filament networks as systems for controlled release of medicines or as scaffolds for rebuilding or repairing damaged tissues.