

Description of Additional Supplementary Files

Supplementary Movie 1. In-situ observation of full-field x-strain mappings and strain profiles derived from marked linear pathways (e.g., X and Y) of HC-50 hydrogel films when stretching along the y direction.

Supplementary Movie 2. In-situ observation of full-field x-strain mappings and strain profiles derived from marked linear pathways (e.g., X and Y) of HC-90 hydrogel films when stretching along the y direction.