## **Supporting Information**

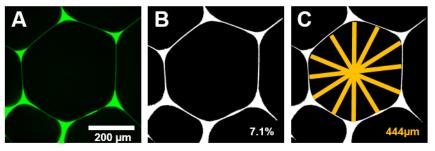
## Evolution of hierarchical porous structures in supramolecular guest-host hydrogels

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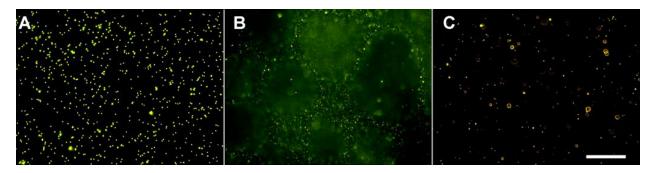
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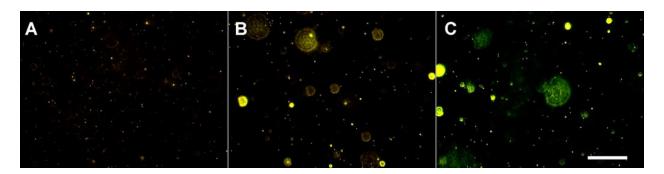
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**Figure S1.** Methodology for determining pore void fraction and diameter. Fluorescent images were thresholded (**A**) and converted to binary for quantification of polymer void fraction (**B**). From these same images, the diameter of pores was determined by averaging multiple transverse segments (orange, **C**).



**Movie S1.** Microbead motion when fixed to a surface (non-diffusive control,  $\bf A$ ), embedded within the hydrogel ( $\bf B$ ), and within PBS (diffusive control,  $\bf C$ ). Scale bar: 50  $\mu$ m. Video acquired at 62.5 fps, 30 sec, 4.25x playback.



**Movie S2.** Microbead motion within control dilutions of hyaluronic acid, including 2.5 wt% (**A**), 5.0 wt% (**B**), and 10 wt% (**C**), indicating high sensitivity of the methodology toward viscosity changes. Scale bar: 50 µm. Video acquired at 62.5 fps, 30 sec, 4.25x playback.