Supporting information for

Large-area 2D microgel colloidal crystals fabricated via benzophenone-based photochemical reaction

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Fig. S1. Hydrodynamic diameter ($D_h$) of the microgels measured at various temperatures. pH=3.5.

Fig. S2. Absorption spectra of the desorbed Toluidine Blue O dye from bare quartz slide (black), and the silanized slide before (red) and after coupling with 4-aminobenzophenone (blue).
Fig. S3. Large area optical microscopy image (A) and AFM image (B) of a 2D CC fabricated from the 1450 nm microgel. The scale bar is 10 μm. Scanning size of the AFM image is 100.143μm ×89.164 μm.
Fig. S4. Pair correlation function, \( g(r) \), of the 2D CC from 880 (A), 1550 (B) and 1800 nm microgel (C). Dash vertical lines indicate the peaks of \( g(r) \) of an ideal hexagonally packed monolayer generated numerically. The inset highlights the centers of the particles as found from the automated particle location procedure.
Fig. S5. Single-sided power spectra Fourier transforms (FT) of $g(r)$ compared to FT of the corresponding perfectly ordered arrays (dash line). The power spectra were scaled to have identical maxima at $f/f_0 = 1.0$. 