Supporting Information

Responsive photonic barcodes for sensitive multiplex bioassay

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Author contribution. C.X.L carried out the experiments, analyzed data and wrote the paper; Y.J.Z. conceived the idea, designed the experiment and revised the paper; Y.S.X, F.F.F, H.W and Q.H.X. helped carry out the experiments, analyze data and write the paper; B.A.C contributed to scientific discussion of the article.

Supporting Figures:

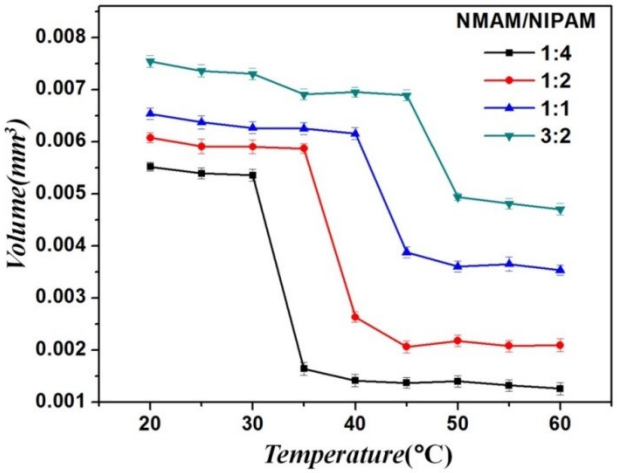

Figure S1. VPTT of volume changes of PhC barcodes made by different ratios of NIPAM to NMAM 4:1, 2:1, 1:1 and 2:3(mass ratio), 8% PEGDA,5% AA, NIPAM to BIS 20:1(mass ratio) and 1% HMPP. Error bars stand for standard deviations.

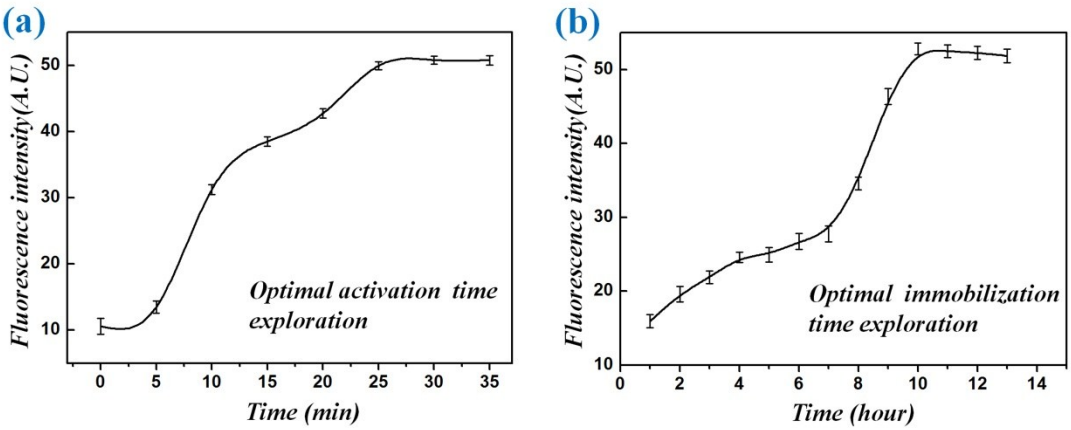

Figure S2. Effects of (a) activation time and (b) immobilization time on fluorescence intensity. The number of replicates at every time point was three. Error bars stand for standard deviations.

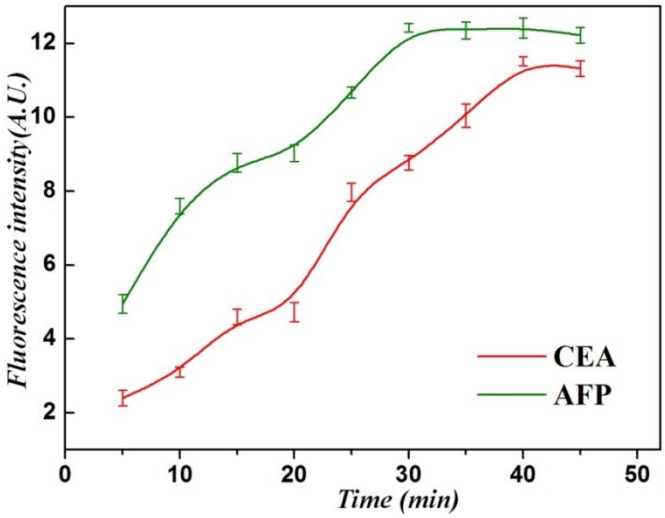

Figure S3. The relation of incubation time and fluorescence intensities (at 500 ng/mL for AFP and CEA). The number of replicates at any time point was three. Error bars stand for standard deviations.

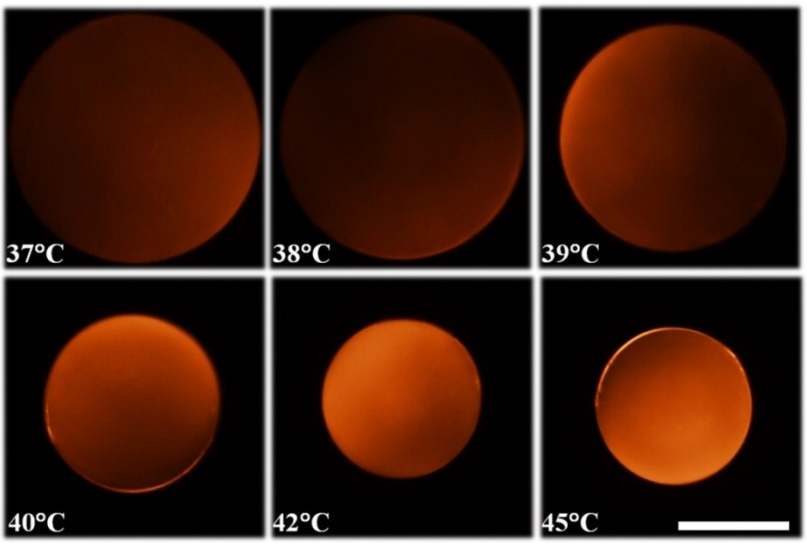

Figure S4. Thermal response resulted change of the volume and fluorescence intensity of the PhC barcodes. Using an example of AFP at 1000 ng/mL. The scale bar is 100 μm.

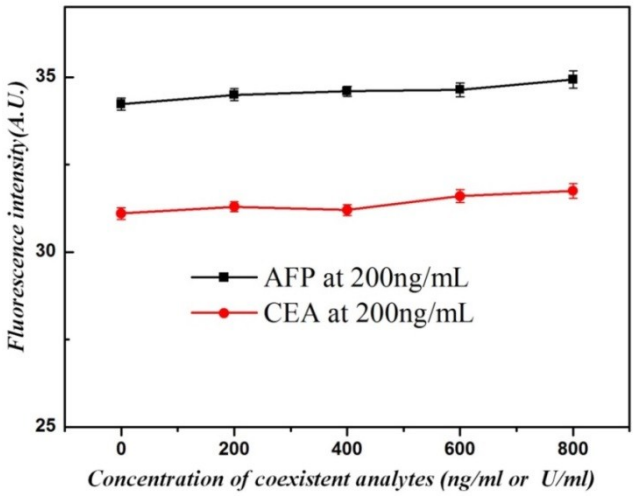

Figure S5. Evaluation of cross-reactivity. The cross-reactivity of AFP was examined by comparing the fluorescence signals at 200 ng/mL with increasing levels of CEA and CA125; the cross-reactivity of CEA was examined by comparing the fluorescence signals at 200 ng/mL with increasing concentrations of AFP and CA125.The number of replicates at every concentration was three. Error bars represent standard deviations.