Supporting Information

Graphene@Poly(phenylboronic acid)s Microgels with Selectively Glucose-Responsive Volume Phase Transition Behavior at a Physiological pH

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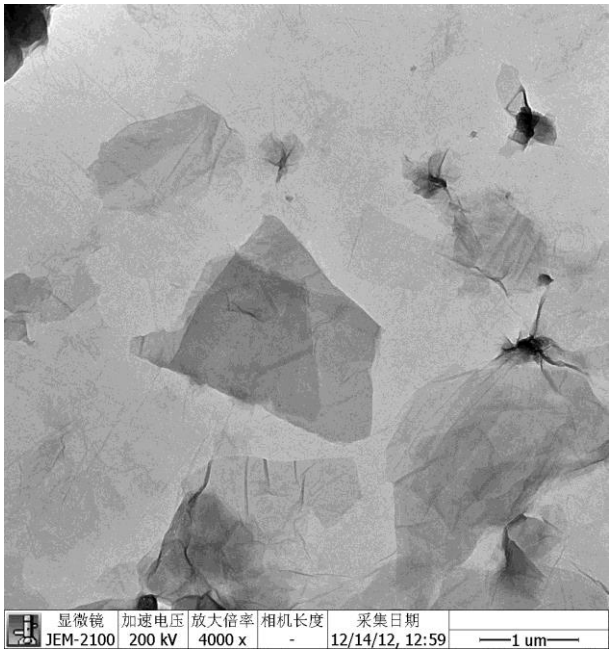

Figure S1. TEM image of alkenyl-GO.

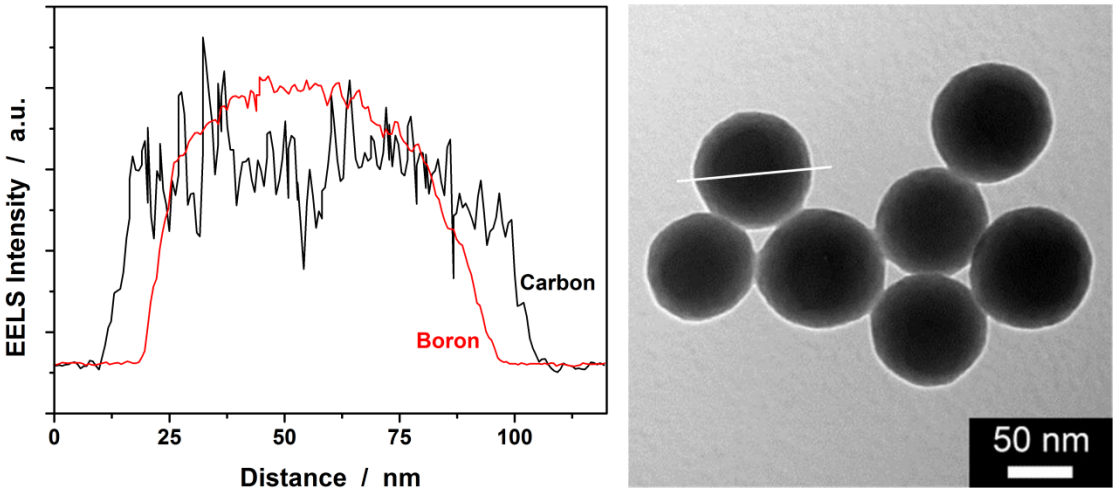

Figure S2. A typical electron energy loss spectroscopy of GS@pPBAs microgels along the line in the TEM image.

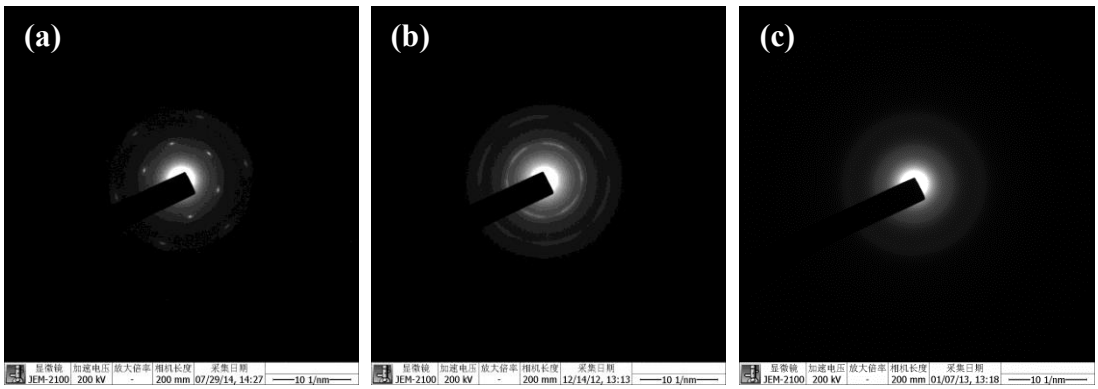

Figure S3. SAED patterns of (a) GO and (b) GS@pPBAs microgels. The result for the microgels synthesized without any graphene is also presented in (c) as a control.

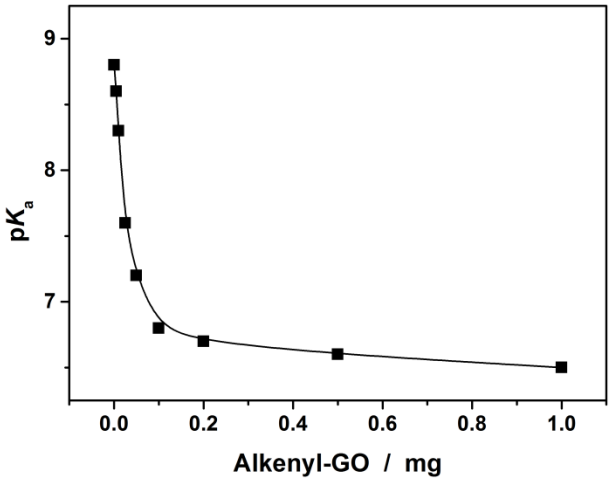

Figure S4. The pK_a the PBA groups, measured by titration, as a function of the feeding amount of alkenyl-GO in the synthesis of the microgels.

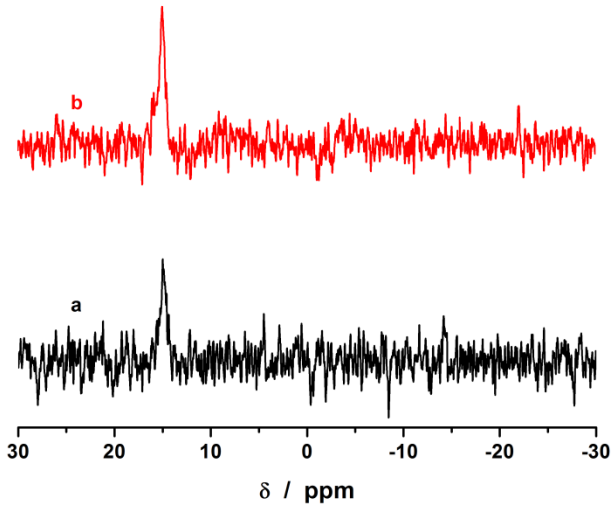

Figure S5. ^{11}B NMR spectrum of (a) a control sample synthesized without adding graphene, and (b) a mixture of this sample and graphene upon simple mixing, in D_2O of pH = 7.4, measured at 25.0 ^{o}C.

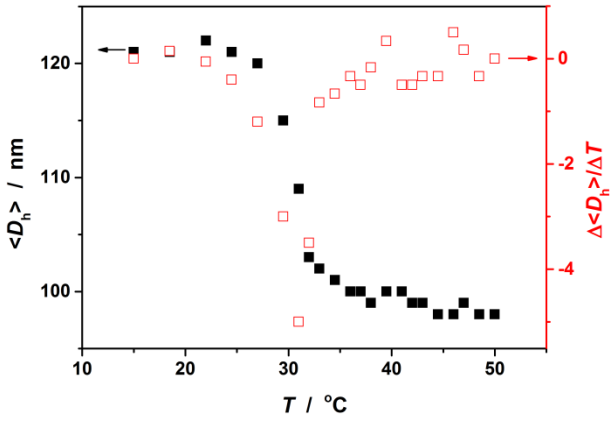

Figure S6. The solution temperature-dependent hydrodynamic diameter, $<D_h>$, of GS@pPBAs microgels. All measurements were made in PBS of pH = 7.4.

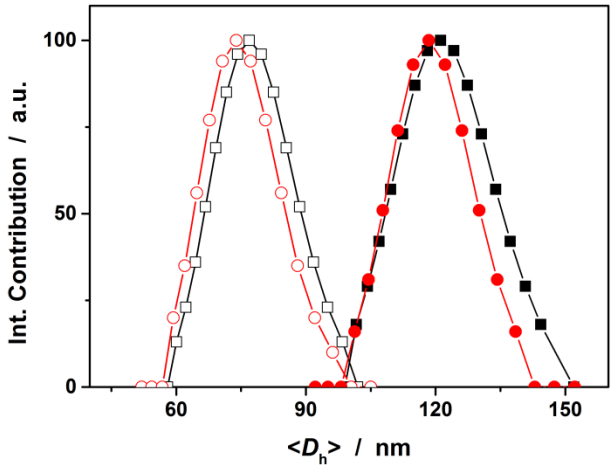

Figure S7. The $<D_h>$ distribution of GS@poly(4-VPBA) (open symbols) and GS@pPBAs (solid symbols) microgels upon adding 0.0 mM (□,■) or 200.0 mM (○,●) glucose.

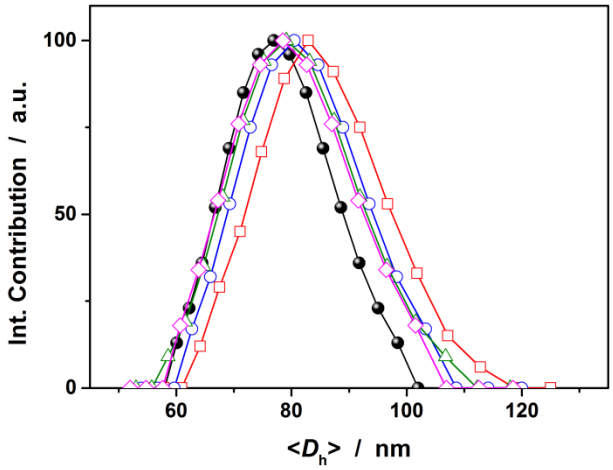

Figure S8. The $<D_h>$ distribution of GS@poly(4-VPBA) microgels in the absence (spherical symbol) and presence of absorbed dextran (M_r~6,000) (□), dextran (M_r~40,000) (○), dextran (M_r~100,000) (Δ) or RNase B (◊).

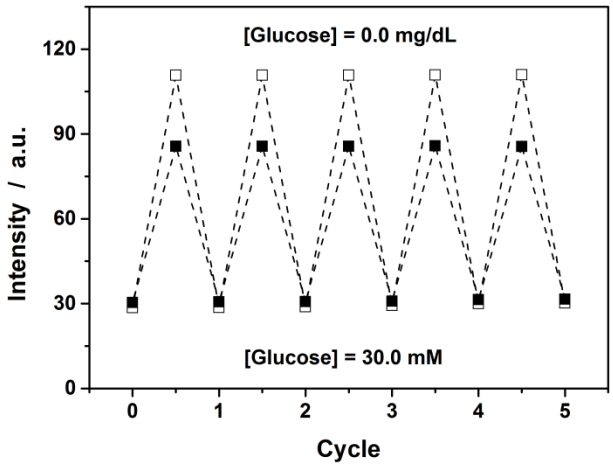

Figure S9. PL recovery cycles of GS@poly(4-VPBA) (open symbols) and GS@pPBAs (solid symbols) microgels upon the repeated additing (30.0 mM) and removing (0.0 mM) of glucose in the bathing medium.