Electronic Supplementary Material (ESI) for Biomaterials Science.

Transforming Sustained Release to on-demand Release: Self-healing Guanosine-Borate Supramolecular Hydrogel with Multiple Responsiveness for Acyclovir Delivery

Cheng-guang Wu [a,1], Xiang Wang [a,1], Yun-feng Shi [a], Bin-cheng Wang [a], Wei Xue [a] *, Yi Zhang [b] *

[a]Guangdong Provincial Engineering and TechnologicalResearch Center for Drug Carrier Development, Department of Biomedical Engineering, Jinan University, Guangzhou 510632, China.

[b]School of Life Science, South China Normal University, Guangzhou 510631, China

* Corresponding authors: Yi Zhang (zhangyi_0424hot@163.com)

ORCID: 0000-0003-4769-6642

Wei Xue (weixue_jnu@aliyun.com)

[1] These authors contributed equally to this work and should be considered co-first authors

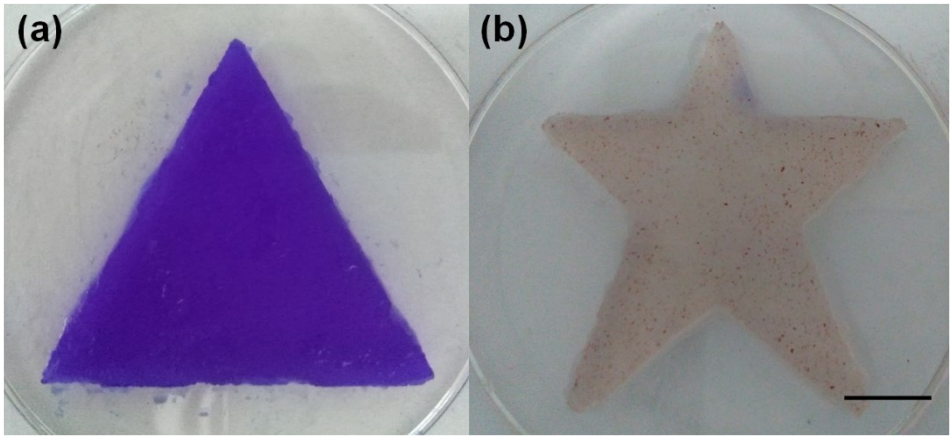

Figure S1. Shaped forming of GB hydrogel by dropping hydrogel into a (a) triangle and (b) star-shaped model with Bromophenol Blue and Sudan Red IV dye respectively. Scale bar: 1 cm.

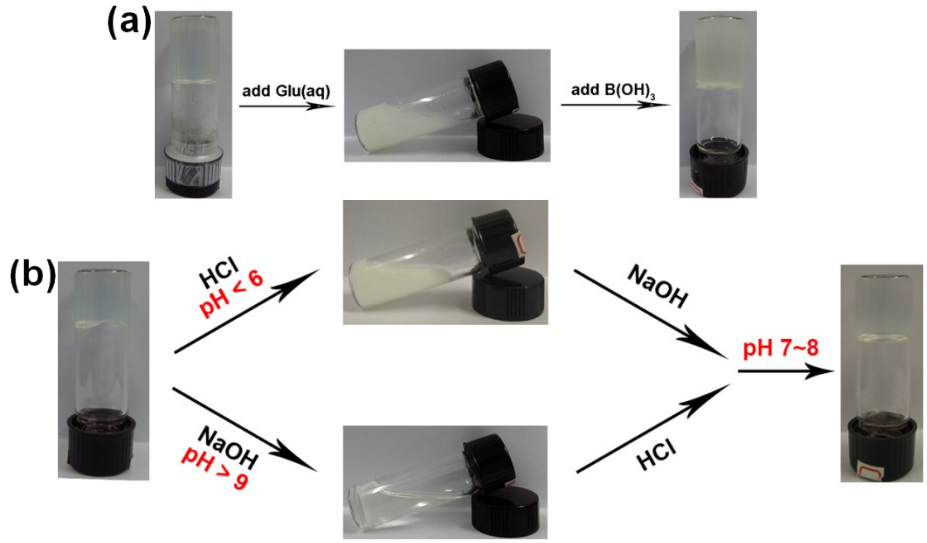

Figure S2. The reversible gel-sol phase transition of GB hydrogel regulated by (a) glucose/boric acid and (b) pH value.

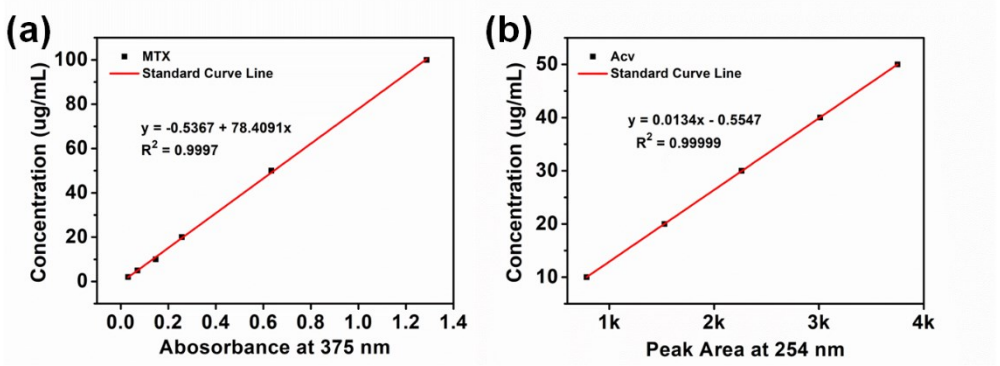

Figure S3. Standard curve line of MTX (a) and Acv (b), respectively, where MTX was measured at 375 nm by UV spectrophotometer, Acv was determined at 254 nm by high performance liquid chromatography (HPLC).

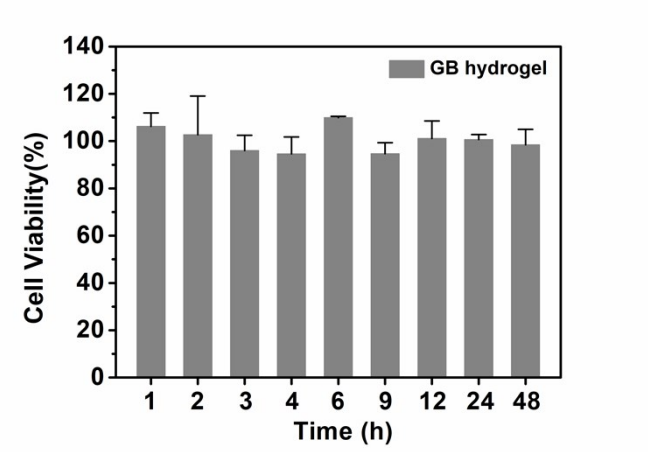

Figure S4. *In vitro* cytotoxicity of GB hydrogel to 3T3 cell measured at pre-determined time points.