Supporting Information

Paper-based microfluidic devices based on 3D network polymer hydrogel for the determination of glucose in human whole blood

Rong-Yu He,[a] Hsin-Yi Tseng,[a] Hsia-An Lee,[a] Yu-Ci Liu,[a] Igor O. Koshevoy,[b] Sheng-Wei Pan*[c,d,e] and Mei-Lin Ho*[,a]

[a] Department of Chemistry, Soochow University, No. 70, LinShih Rd., Shih-Lin, Taipei 11102, Taiwan. E-mail: meilin_ho@scu.edu.tw (M.-L. Ho)

[b] University of Eastern Finland, Department of Chemistry, 80101, Joensuu, Finland

[c] Department of Chest Medicine, Taipei Veterans General Hospital, Taipei 11217, Taiwan. E-mail: swpan25@gmail.com (S.-W. Pan)

[d] School of Medicine, National Yang-Ming University, Taipei 11221, Taiwan

[e] Institute of Public Health, National Yang-Ming University, Taipei 11221, Taiwan

Supplementary materials:

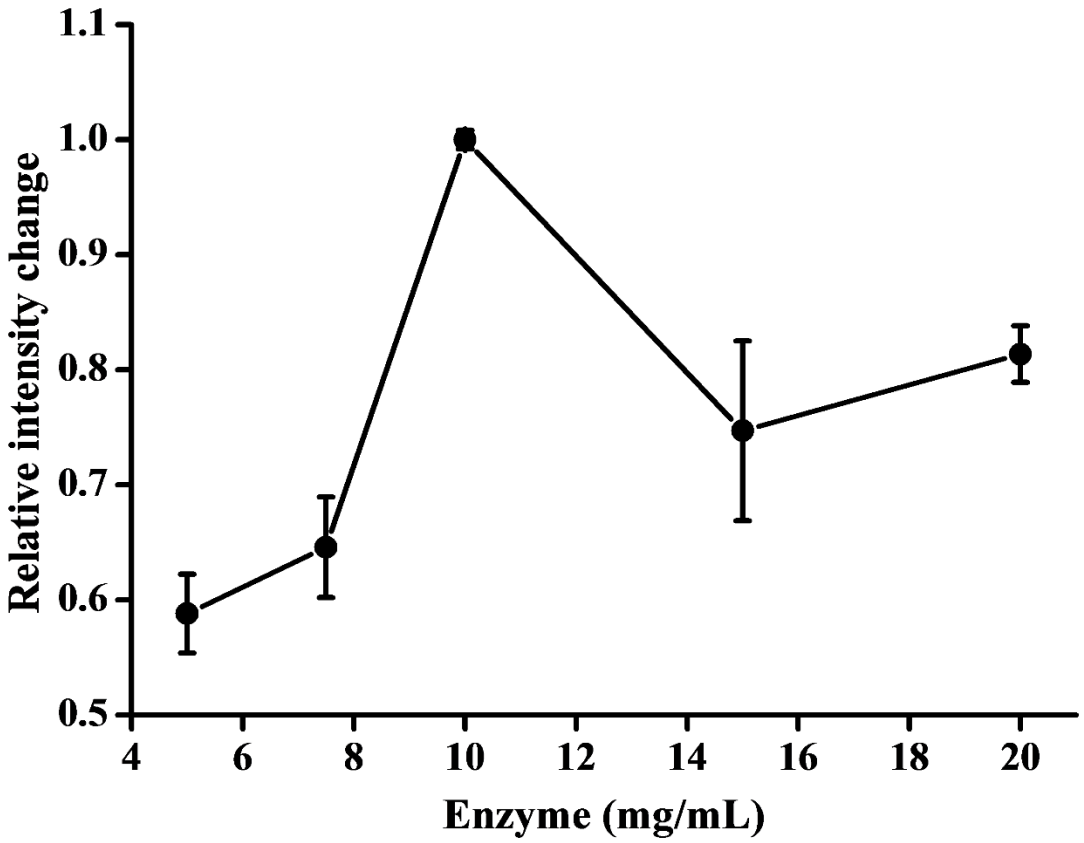

Figure S1. Emission intensity change of PAM hydrogels with different concentrations of enzyme (pH = 6). Error bars represent the SD of three independent experiments.

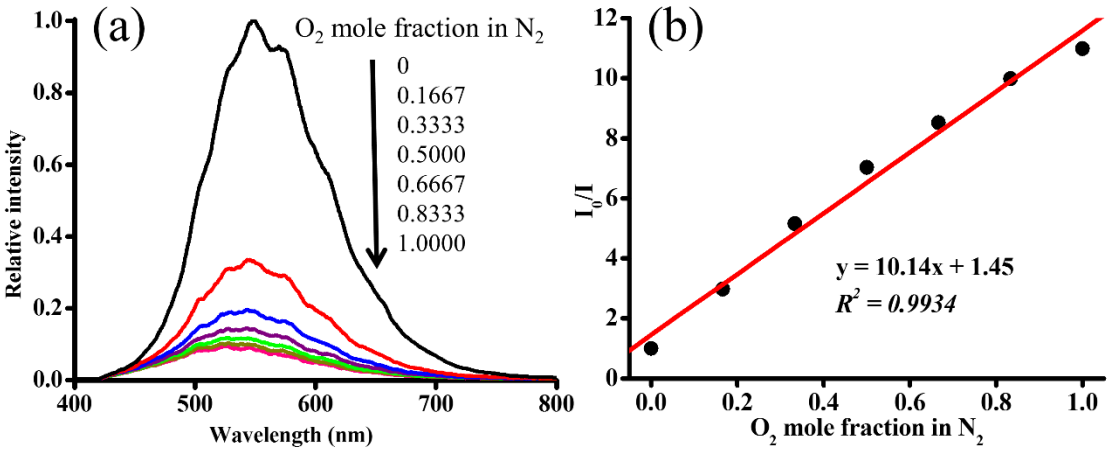

Figure S2. (a) Emission spectra for Cu4c excited at 406 nm under varying concentrations of O_2 in N_2. (b) Stern-Volmer plots versus mole fraction of O_2 in N_2 for Cu4c; the line is the appropriate linear regression fit with R^2 = 0.9934.

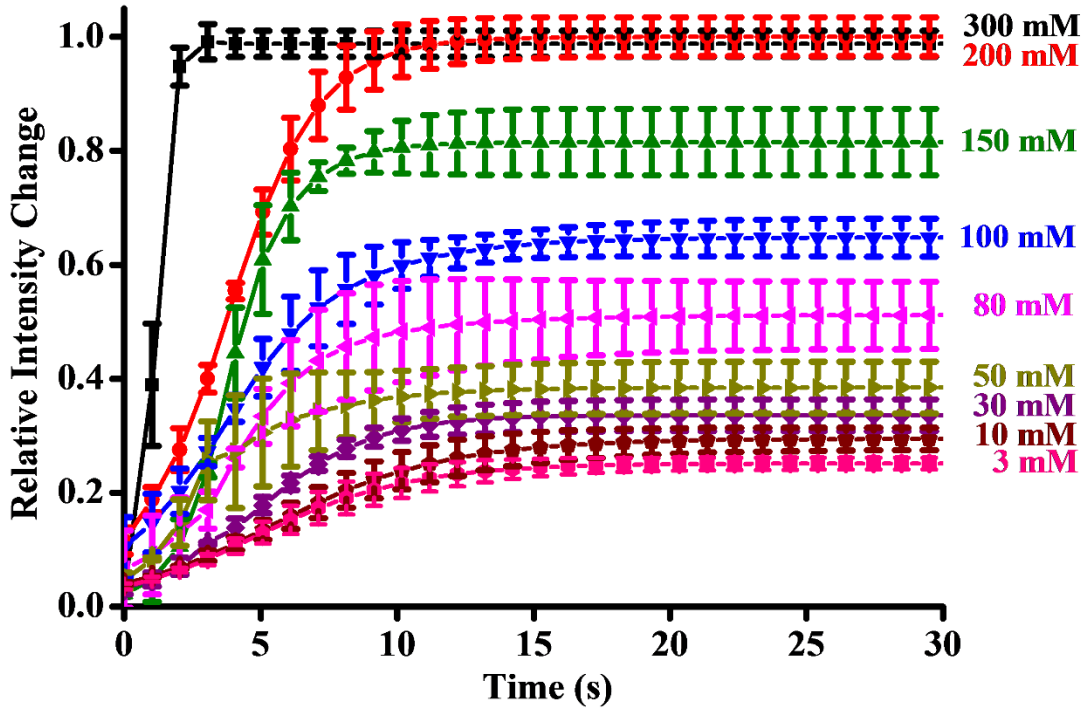

Figure S3. Effect of the glucose level on the emission intensity change. Error bars represent the SD of three independent experiments.

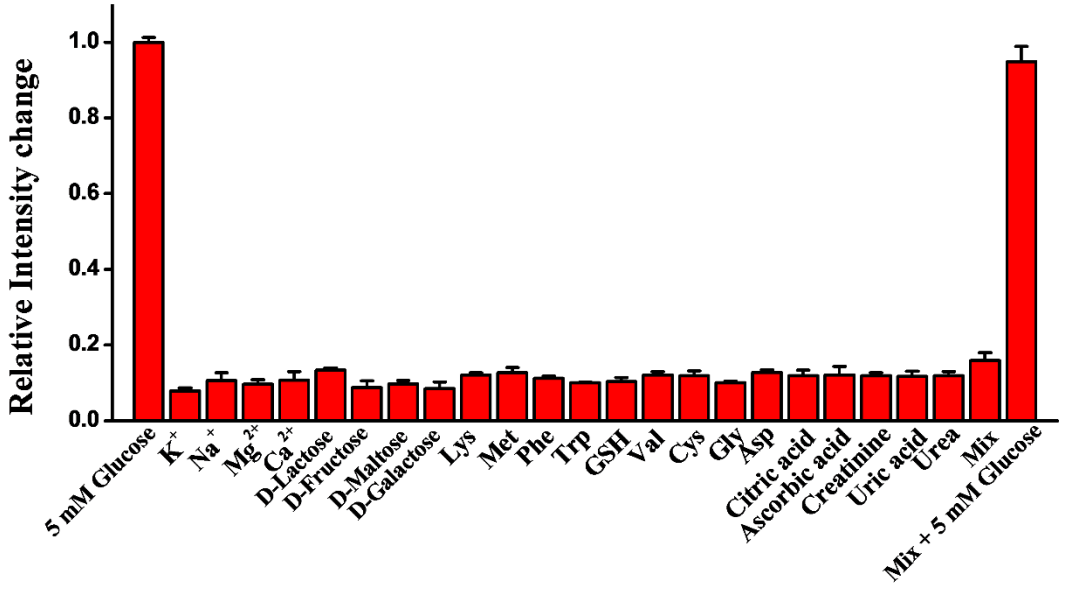

Figure S4. Selectivity of the 3D luminescent network hydrogel against other potential interferent species in blood. Mix means the coexistence of all interferents. Error bars represent the SD of three independent experiments.

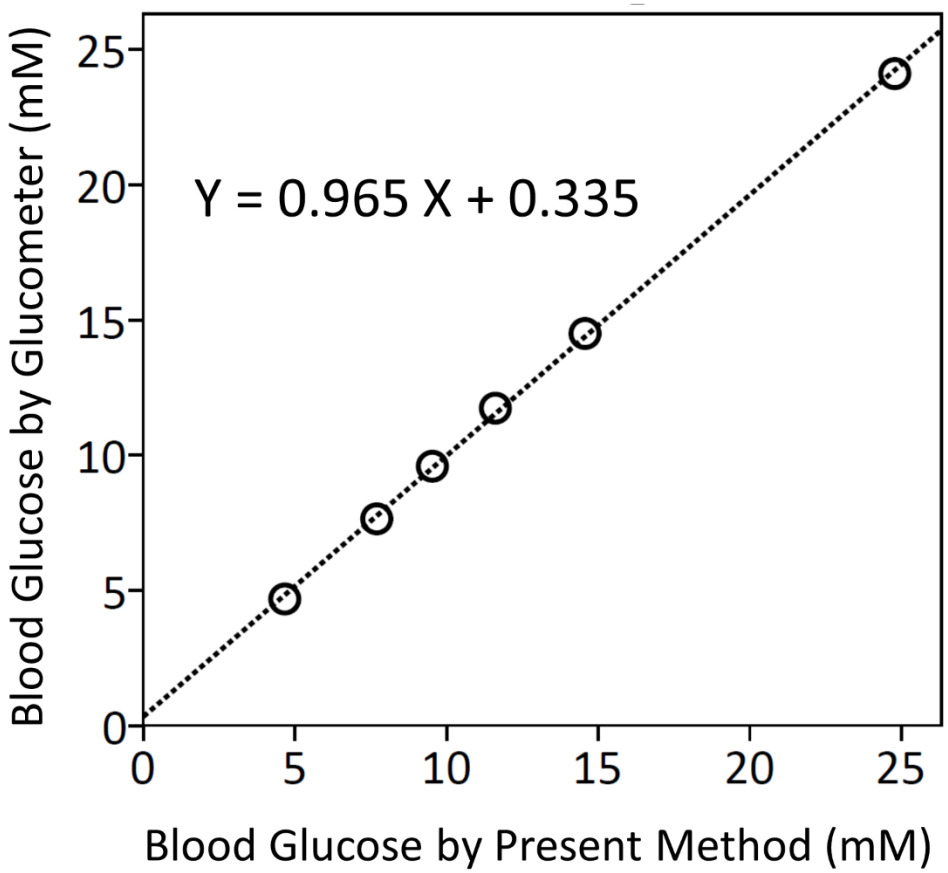

Figure S5. The fitted linear regression line of glucose levels measured by the present method versus those measured by glucometer (6 blood samples).