

## Point of care testing for biomarkers by intelligent photonic hydrogels

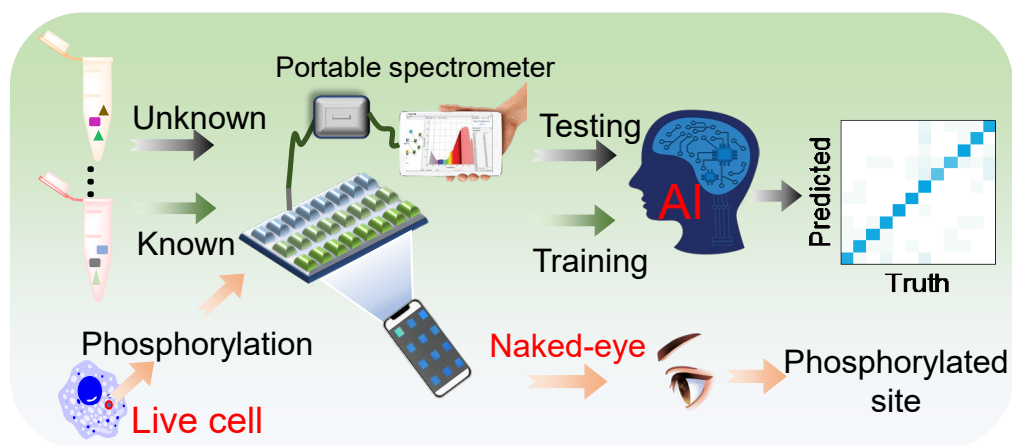
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Sensors capable of detecting different types of biomolecules have widespread applications in the field of biomedical research, but despite many years of research, the development of biosensors suitable for point-of-care (POC) applications in resource-limited areas is still extremely challenging. Sensors based on photonic crystal hydrogels (PCHs) hold much promise in this regard because of their numerous advantages over other existing bioanalytical methods. All current PCH biosensors are however restricted in the types of analytes

they can detect sensitively with good selectivity. We reported a series of intelligent PCH sensors capable of naked-eye detection or recognition of various biomolecules (e.g., proteins, peptides, and small molecules)<sup>1</sup> with high sensitivity and selectivity and minimal background and excellent reversibility. We showed such PCH designs could be extended to the fabrication of different biosensors for disease related biomarkers, such as recognition/detection for the protein post-translational modifications.<sup>2</sup>



**Figure 1.** Wearable sensing system based on photonic crystal hydrogels.

### References

<sup>1</sup> Qin, J.; Li, X.; Cao, L.; Du, S.; Wang, W.; Yao, S. Q. *J Am Chem Soc* **2020**, *142* (1), 417-423.

<sup>2</sup> Qin, J.; Guo, J.; Tang, G.; Li, L.; Yao, S. Q. *Angew. Chem. Int. Ed.* **2023**, *62*, e202218412.



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