Development of Chemical Sensors based on Organic Thin Film Transistors Functionalized with Molecular Recognition Materials

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**Abstract:** In the realm of electronics, organic thin film transistors (OTFTs) are one of the most interesting devices owing to their flexibility, printability, ultra-small thickness, and low manufacturing costs. Although OTFTs have been thus far largely applied to rollable displays, interest in OTFTs and their advantages have extended beyond information displays to sensor applications. OTFT-based physical sensors are being researched extensively, while chemical sensors are still in their early stages. In that regard, we have successfully demonstrated OTFT-based chemical sensors functionalized with supramolecular artificial receptors, the latest results of which will be discussed in my presentation.

**Fig. 1.** A research concept of OTFT-based chemical sensors functionalized with molecular recognition materials.

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